Fretboard THEORY
Volume II

Book two in the series on guitar theory, scales, chords, progressions, modes, songs and more.

Discover the secrets to songs by:

Led Zeppelin
The Eagles
Eric Clapton
Jimi Hendrix
The Beatles
Santana
Grateful Dead
Guns N' Roses
The Rolling Stones
Stevie Ray Vaughan
Allman Brothers Band
U2 and many more!

- *Dominant function and voice leading*
- *Tonics, key centers and new number systems*
- *Passing chords, diminished and augmented chords*
- *Key changes, borrowed chords and modal interchange*
- *Harmonic minor chord progressions and scale patterns*
- *Lead patterns, outlining chords and chord progressions*

Acoustic Guitar
Electric Guitar
Bass

Desi Serna

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Made in the United States of America

I thank God for the gift of music.
"Through him all things were made; without him nothing was made that has been made."
John 1:3

Contents

Introduction

Welcome to *Fretboard Theory Volume II*! This book picks up where *Fretboard Theory* left off, taking your guitar playing and musical knowledge to the next level. You learn many advanced applications and new musical concepts. The information in this book is suitable for intermediate to advanced players of acoustic and electric guitars, including both rhythm and lead players. Bass players, improvisors and composers should also find this book useful.

What You Will Learn

Chapter 1 explains different ways musicians refer to a song's key. You receive additional insight on keys, modes and key signatures.

Chapter 2 shows how musicians analyze chord progressions starting from a song's tonal center, rather than from its parent major scale. This technique is essential for understanding how most musicians use Roman numerals for chord progressions.

Chapter 3 demonstrates the use of dominant function and voice leading in both major and harmonic minor songs. Understanding the concept of a chord with a dominant function is crucial to understanding the theory behind both melody and harmony.

Chapter 4 reveals the most common ways that songs change keys and combine scales. This includes discussions on modulations, borrowed chords and modal interchange. If you have ever wondered why some songs do not seem to fit into any one key, or have wanted to know how to add more variety to your compositions, you will find the answers here.

Chapter 5 teaches how to fill the gaps between chords with chromatic passing chords, diminished chords and augmented chords. These chords are common in popular music. Knowing how to use them will also help prepare you to study more complicated styles of music like jazz.

Chapter 6 explores skills useful to lead guitarists. You will learn how lead patterns are built out of sections of the pentatonic patterns that guitarists favor. By narrowing your focus to these few essential patterns, your playing will improve. These lead patterns will form the basis of the material in the remaining chapters.

Chapter 7 simplifies the use of major scale patterns and modes by comparing them to the different lead patterns taught in Chapter Six.

Chapter 8, the longest chapter in the book, combines lead patterns and CAGED arpeggios. Here you learn how to outline chords and chord progressions. Instead of just playing randomly up and down a scale pattern, you use chord tones as your guide, giving your solos more direction.

Chapter 9 adds some exotic flare to your melodies and solos with harmonic minor scale patterns.

Chapter 10 introduces you to a composition technique called pedal point. Sustained notes help create rich sounding harmonies out of familiar chord progressions.

Chapter 11 wraps up the book with some tips on how to continue to develop your playing and further your understanding of music.

Songs

I could not write a book without referencing numerous popular songs. Each chapter includes lists of song titles that help you apply the material in a practical context. You discover new things about the songs and guitar players you know and love. Of course, I can't notate and teach how to play the songs specifically. You'll need to look up and learn the songs on your own. But I reveal many useful details that will help you in the process.

How to Use this Book

As you work through this book, be sure to take breaks from your reading to practice and play what you learn in each section. You may also find that taking a break from a particular topic or concept all together, perhaps even reviewing an earlier one for a while, will prevent you from getting burned out, which could halt your progress.

Remember that it is not necessary to completely master each topic, especially when you first see it. For some topics, you may simply consider the material as an introduction, saving a more comprehensive study for a later time. You may even find that you will skip a topic completely. For example, you may wish to focus only on what you are most likely to use or most comfortable playing. It's more important that you understand and remember the main concepts. Then you can apply these ideas when the need arises.

Distinguishing Between Text and Musical Letters

In order to prevent you from confusing note and chord names from the regular text, I use a bold font. For example, the notes **A**, **B** and **C** or an **A** chord. Also, flat and sharp signs are put in superscript for chords but not for notes or keys. For example, an $\mathbf{F}^{\sharp}$ chord in the key of **F♯** uses the note **F♯**.

Due to formatting limitations in some of the music software I have used, you may not see this formatting applied consistency in the examples and illustrations. My hope is that context will provide clarity.

Graphic Illustrations

I would like to mention and recommend the two programs I used for the graphic illustrations in this book. For fretboard examples I used the Neck Diagrams program available at neckdiagrams.com. For tab and notation examples I used Guitar Pro 6 available at guitar-pro.com.

Special Thanks

I want to extend a very special thanks to Thomas Evdokimoff for his excellent editing skills and musical insight. I recommend that you learn about his classical guitar playing, writing and music instruction by visiting his website at evdokimoff.com.

Contact Me

I'm online every day answering questions, writing new blog posts, sharing news and messaging with social media followers. Be sure to stay connected with me by joining my mailing list, subscribing to my blog, liking my Facebook page and following me on Twitter. Also, watch my videos on YouTube and listen to my podcasts.

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About Copyrights

GUITARS TUNED DOWN TO E♭: *Many of the recordings that I list have the guitars tuned down to **E♭**. This means that all the strings are tuned down one half-step lower. The open sixth string **E** is tuned one half-step lower to **E♭**, the open fifth string **A** is tuned one half-step lower to **A♭**, and so on.*

*Players may choose **E♭** tuning for few reasons:*

1. They can play in a lower key while still using open strings.

2. They can lower a song's key by a half-step to help the singer hit the high notes more easily.

3. String tension is lower on the guitar, allowing the player to bend notes more easily.

*When you want to play along with a song in **E♭** tuning you can either re-tune your guitar, or, in some cases, simply transpose your patterns one fret lower. You will need to re-tune if you will be using open strings and chords.*

Chapter 1
What is the "Key" of a Song?

In this Chapter

1. The tonic
2. Major and minor keys
3. Relative major and relative minor
4. Key signatures
5. The terms accidentals and diatonic

Fretboard Theory

In my earlier book *Fretboard Theory*, I always referred to keys by the parent major scale and, when necessary, the mode. I did this because I wanted to train you as a guitarist to recognize the parent major scale, its chords, and modes. Probably more importantly, I also wanted to show that you do not need to learn a new pattern for each of the seven modes. Instead, you simply use the same parent major scale patterns, but play them over a chord or chord progression that focuses on a different scale degree. See *Fretboard Theory*, Chapter 8 for a full discussion.

Now that you have been trained to identify a key by its parent major scale, I want to expand on that skill here in *Fretboard Theory Volume II*. You are going to begin to think about keys in a new way, and learn some new concepts and terminology along the way. Let's get started by looking at an important idea explored in this book: the *tonic* of a song.

The Tonic

I would like to clarify the meaning of a musical term that that I did not use in *Fretboard Theory*, but you will see quite frequently throughout this book: the term *tonic*. In this book I will use *tonic* in a way similar to the way I used the term *root* in my earlier volume. The tonic is the tonal center of a piece of music, the primary pitch or chord that the music centers around. As you will see, the tonic is not always the same as the parent major scale because of the possibility of modes.

Tonal Center

A song's tonal center includes the main chord and pitch that the rest of the music revolves around. It is usually where the music begins and ends. It is also the music's main goal and point of rest or *resolution*, where the music has a sense of completion and stability. Nevertheless, we do occasionally find music that is intentionally left unresolved.

The tonal center of a song may be a major chord or a minor one. You also might find that sometimes it centers on just a pitch, while the chord's *quality*, major or minor, either changes or is not clearly defined.

Modes

The actual key of a song is not always the same as the parent major scale. The tonic chord can be in any of the seven possible modes. Nevertheless, most musicians only consider the tonic chord when determining the main key of a piece of music.

Major and Minor Keys

If the tonic chord of a song is major, many musicians think of the music as being in a major key. Unfortunately, they do not always say which major mode. Similarly, if the tonic chord is minor, then players say it is in a minor key, although once again, not everyone identifies which minor mode.

Major Scales

A major scale has two main features that give it its sound quality. The interval from the first scale degree to the third is a major third. Secondly, the triad built on the first scale degree is a major triad. Three of the modes have both of these features and are considered a type of major scale. Ionian, Lydian, and Mixolydian mode all have a major third above their first scale degree as well as a major triad built on the first scale degree.

Usually we think of the Ionian mode as simply a major scale. Many musicians never even use the term "Ionian mode." Instead, they think of the scale as simply a plain old major one. In practice, musicians only identify the mode when it is something other than Ionian. Even then, that is if they identify the mode at all!

Minor Scales

A minor scale also has two main features that give it its sound quality: a minor third from its first to third scale degree, and a minor triad built from the first, third and fifth scale degrees. The Aeolian, Dorian and Phrygian modes are all types of minor scales because all three share these features. The Aeolian mode is actually what we usually call a minor scale. Technically speaking it's a *natural minor* scale. You may be aware that there are also harmonic and melodic minor scales, which are variants of this basic one. We will look at the harmonic minor scale in some detail in another chapter.

Just like with the Ionian mode, musicians usually do not use the term "Aeolian" to describe the mode of a piece of music. Instead, they simply call it minor. Musicians only identify the mode when it's something other than a plain minor scale, such as Dorian or Phrygian. Again, that is if they identify the mode at all.

Relative Major and Relative Minor

A tonic chord can be in any of seven possible modes. The most common modes are Ionian and Aeolian, the first and sixth modes. We often describe the relationship between these modes, the major and minor scale, as being *relative* to one another. This is also true for the first and sixth chords. For example, in the key of **C** the I chord is **C** major and the vi chord is **A** minor. **C** major is the *relative major* of **A** minor, and **A** minor is the *relative minor* of **C** major. This relationship is true in all keys. In the key of **G** I and vi are **G** and **Em**. They too are relative major and minor chords and scales. In written music, relative major and minor keys actually share the same key signature. Technically, all the modes are related, but I and vi get all the attention.

Key Signatures and Written Music

Publishers usually write music as if it were in plain major or natural minor. For example, we usually see **C** major, **C** Lydian, and **C** Mixolydian songs written using the key signature of **C** major. Similarly, **A** Aeolian, **A** Dorian and **A** Phrygian songs are often written using the key signature for **A** minor. Notes that fall outside of the written key signature are notated in the staff with sharps, flats and natural signs.

Santana's rendition of "Oye Como Va" uses the chords **Am^{7}** and **D^{9}**. These chords are clearly the ii and V chords from **G** major, which has an **F♯**. Nevertheless, we usually see this song notated with a key signature of **C** major/**A** minor, which has no sharps or flats. This is why when we are called to play a **D^{9}** chord, which requires an **F♯**, we see a sharp sign written next to the **F** note on the staff. Someone who is reading the music needs this information to play the correct notes in the chord, otherwise they would play a plain **F** natural that is reflected in the key signature, and in this case, a wrong note. We also see this sharp sign on the **Fs** during the guitar and organ solos, because they too are using notes of **G** major, not **C**.

Between the indicated chords and the written music, "Oye Como Va" is clearly in **A** Dorian, not **A** Aeolian. The key signature for **G** not **C** would make the most sense here. Unfortunately, music publishers generally disregard the mode and write everything as if it were in a plain major or natural minor key. They then use any necessary accidentals (sharps, flats, or natural signs) for notes that fall outside of the key signature. Many musicians seem to think about keys in this way as well.

A Dorian mode with C major key signature

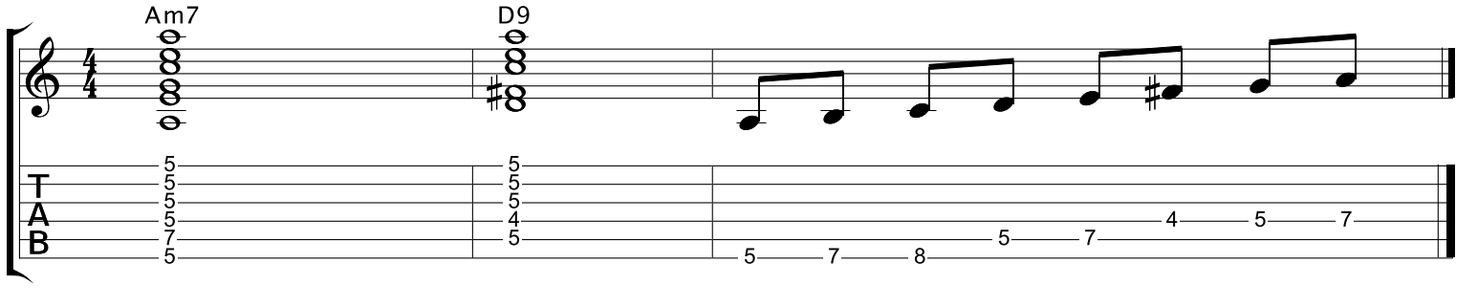

Figure 1-01

A Dorian mode with G major key signature

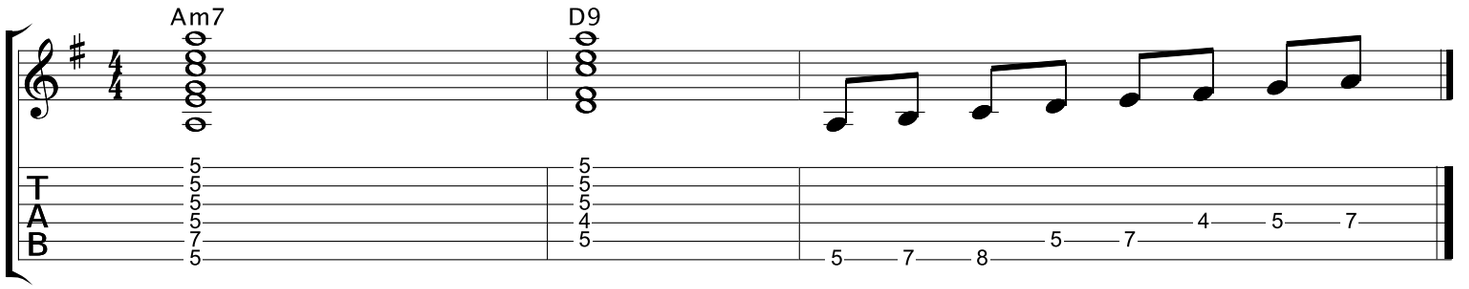

Figure 1-02

Because of this discrepancy between the notated and actual keys, you need to watch for modal songs that are presented as in a natural minor key. Dorian is perhaps the most common one you will find, while Phrygian is rare, and the Locrian mode isn't really used at all.

The Mixolydian mode is almost always treated as plain major. More on this mode later on. Meanwhile, let's take a look at the Lydian mode, which needs some explanation.

I have found that artists often use the Lydian mode only temporarily in their songs. Because of its unresolved sound, the Lydian mode quickly dissipates when you move to a more stable tonic such as the I chord. In these songs it is very common for a section to focus on the IV chord creating a Lydian mode, followed by another section that centers on chord I creating an Ionian mode. This shift from the Lydian to Ionian mode often happens between a verse and chorus. Publishers usually notate the song according to the tonic in the chorus, which matches the true parent major scale.

Nevertheless, musicians are still more likely to refer to these types of songs by their first chords. In other words, if a song starts on a IV chord and the chord is **F**, then they are likely to call it the key of **F**, even though the music may move to the written major scale of **C** later.

For example "Just Remember I Love You" by Firefall starts with a progression that centers on an **F** chord before moving the tonic to **C** for the chorus. The parent major scale is really **C** throughout, but it is easy to miss that initially.

Tom Petty writes something similar in **E** in "Here Comes My Girl." This song has an opening section and verse centering around the IV chord, **A**. The chorus then moves to **E**.

While songs like those mentioned here can cause confusion among musicians, I have always seen them notated with key signatures reflecting their true parent major scales.

Although the practice of notating music as if it were plain major or natural minor is standard procedure for music publishers, you will occasionally come across a score that truly reflects the mode, such as the Lydian examples above. For example, if a song is in **A** Dorian mode, the score might actually use the key signature for **G** major, its true parent major scale. Perhaps the score will include a performance note such as: "**A** minor tonality" or maybe even "**A** Dorian mode." Likewise, if a song is in **A** Mixolydian mode, we might see the key signature for **D** major and a comment such as: "**A** major tonality," or maybe even "**A** Mixolydian mode." I have come across these kinds of scores, but not very often, so don't count on it!

When a song is in a mode that does not correspond to the given key signature, it's probably going to be up to you to figure that out. You may also find that other musicians, both those who read and those who do not, will disregard the mode of a song and think only in terms of plain major or natural minor.

Detective Work

Since a key signature will only give you the tonal center of a piece of music, but not necessarily the mode, the parent major scale, or what scales to use, you will need to do some detective work.

When you are learning a new piece of music, you can follow a few simple steps:

1. Locate the pitch center.
2. Determine whether the tonic chord is major or minor.
3. Sort out the rest of the chords in the progression.
4. Determine which parent major scale the chords belong.

Now you can work out the music's correct mode and which scales to use. Knowing the *key* beforehand only helps you with the first and sometimes second steps. You have to figure out the rest.

THE TERMS 'ACCIDENTALS' AND 'DIATONIC': *Notated music uses sharps, flats and natural signs to show notes that fall outside of the written key signature. These symbols are also called accidentals.*

We can also describe notes as being diatonic or non-diatonic. Diatonic pitches are those found in the parent scale of the music. Non-diatonic notes are those that fall out-side of the parent scale or key. An example of a non-diatonic note is a chromatic passing tone. This passing tone requires an accidental when notated on the staff.

Major Key Songs

Now that you know the term key only refers to the tonal center of a song, and you are beginning to realize that more work needs to be done before truly understanding the music, let's take a closer look at some popular songs.

We usually think of the following three songs as being in the key of **F**:

"The Lion Sleeps Tonight" by The Tokens,
"Tequila" by The Champs,
and "Dreams" by Fleetwood Mac.

Since we think of these songs as being in **F**, we might assume that they all use an **F** major scale. Let's take a closer look at the main section for each of these songs.

"The Lion Sleeps Tonight" begins with an **F** major chord. **F** is the tonic and the music includes a **B♭** and **C** chord.

"Tequila" starts with an **F** major chord. **F** is the tonic and its progression includes an **E♭** chord.

"Dreams" starts on an **F** major chord and it's played together with a **G** chord.

When you play the chords to "The Lion Sleeps Tonight" on your guitar, you will immediately recognize that the chords **F**, **B♭** and **C** correspond to I, IV and V from the **F** major scale. No big surprise, here, that's what we expected.

If you play the chords to "Tequila," however, you will see that they do not fit into an **F** major scale. Rather, **F** and **E♭** are V and IV from the **B♭** major scale. Two major chords a whole-step apart can only be chords IV and V from a major scale. If **E♭** is IV and **F** is V, then **B♭** is I. You can work this out on the guitar using the chord patterns you studied in *Fretboard Theory*.

Similarly, the chords to "Dreams" really do not fit into an **F** major scale either. Just as with "Tequila," we have two major chords a whole-tone apart: **F** and **G**. They must be IV and V of **C** major. Go ahead and work this out on your guitar.

We can now determine that "The Lion Sleeps Tonight" is in **F** Ionian mode, or just a plain **F** major scale. "Tequila," however, is not in **F** major, it's actually in **F** Mixolydian, which has a parent scale of **B♭** major. Similarly, "Dreams" does not use the **F** major scale. It's actually in **F** Lydian, which comes from the **C** major scale. It is because each of these songs center on **F**, that we commonly think of them in **F** major.

The different versions of the sheet music that I have seen for "Tequila" all have a key signature of **F** major, and then use accidentals for the **E♭**s, both chords and melody notes. By contrast, "Dreams" is often notated with the correct key signature of **C**, no accidentals in the score. Go figure!

You can now see that there can be more going on in a song than indicated by the key signature. I suspect this is why so many guitar players do not really understand modes and have trouble choosing what scales to play. When guitarists are taught to think only in terms of relative major or relative minor, they miss all the other modes. They try to improvise using a major or minor scale, and it clashes with the chords. Not understanding why, they get frustrated. Has this ever happened to you?

Minor Key Songs

Now let's take a look at a few songs in minor keys. We usually think of the following three songs as in the key of **E** minor:

"Livin' On a Prayer" by Bon Jovi,
"A Horse With No Name" by America,
and "War" by Joe Satriani (guitars tuned down one half-step to **E♭**).

The verse to "Livin' On a Prayer" uses the chords **Em**, **C** and **D**. If you play these chords on your guitar, you should be able to see that they are vi, IV, and V from **G** major. **Em** is the tonic and vi is the relative minor, so we would think of this song as in the key of **Em**. That's great, because that's what we expected!

"A Horse With No Name" uses the chords **Em** and **F♯m**. If you play these chords you will see that they fit into the **D** major scale. Any time you have two minor chords a whole-step apart, they correspond to ii and iii of a major scale. **Em** must be ii and **F♯m** must be iii, making **D** I. This song is in **E** Dorian mode and its parent major scale is **D**.

"War" begins with the chords **E**^{5} and **F**^{5}. Since these chords are only a half-step apart, and since the **E**^{5} doesn't have a flat fifth, they must be iii and IV. The only other two chords in the major scale that are a half-step apart are vii and I, but vii has a flattened fifth. Listen carefully to the guitar melody and you will hear that it uses notes from the **C** major scale. Since this song centers on the iii chord, it is in **E** Phrygian.

Once again we can see that there can be more going on than just what is indicated in the notated key. A guitar player attempting to use only an **E** natural minor scale over these songs would run into trouble. This is why it's so important to focus not just on the tonic of a song, but to take the whole chord progression into consideration. Then you will be able to pick out the song's actual mode and parent major scale.

Other Considerations

You will find that there are a few more ways in which musicians will refer to the key of a piece of music. Some musicians will always name the key after the first chord, even if it is not the real tonic of the song. Some musicians will identify a key without considering its major or minor quality. Some musicians think about the key based on the notes in the melody, rather than the chords. Guitar players might confuse the key of a song with the type of pentatonic scale they are playing.

For example, "Sweet Home Alabama" by Lynyrd Skynyrd is tonally centered around a **G** chord and most of the guitar solos are based on **G** major pentatonic. Nevertheless many guitar players say that the song is in the key of **D** simply because the chord progression starts on a **D** chord.

Often musicians don't even use the terms "major" or "minor" when describing a key, creating further confusion. For example, many musicians would say that "Black Magic Woman" by Santana and "Twist and Shout" by The Beatles are both in the key of **D**. You would just have to know that one is minor and one is major, which have two completely different parent major scales.

The Blues

Many blues songs feature minor melodies and solos over major chords. For example, the vocal melody in "Give Me One Reason" by Tracy Chapman outlines notes from **F**♯ minor played over an **F**$^♯$ major chord. For this reason, it is possible that a musician, particularly a singer, would think that the song is in the key of **F**♯ minor.

"Pride and Joy" by Stevie Ray Vaughan is tonally centered around an open **E** major chord. (The guitars are tuned down a half-step to **E**♭.) Much of the guitar solos, nevertheless, are based on an **E** minor pentatonic scale, leading some guitar players to say that the song is in the key of **E** minor.

Key Changes

A piece of music does not have to stay in one key. In fact, it is fairly common for songs to change tonics or parent major scales at some point. Key changes do occur during some of the songs we have looked at in this chapter. I will be discussing this topic more in Chapter 4.

No Parent Major Scale

I have a final situation for you to consider. Some pieces of music do not even have a complete parent major scale. They simply focus on a tonic by means of some basic intervals, but not enough to piece together full chords, a chord progression, or an entire major scale. We see this in the songs "Boom Boom" by John Lee Hooker, "Voodoo Child (Slight Return)" by Jimi Hendrix and Led Zeppelin's "Whole Lotta Love." All three songs use mostly minor pentatonic scales. In some hard rock and heavy metal songs, we see power chords and chromatic steps without any parent major scale represented in the chords, the chord progression, or even the melody itself.

How To Clarify What You Mean

We can see that the common usage of the word "key" may not correctly describe what is actually happening in a piece of music. Nevertheless, you certainly can give people more information when you speak about a song.

Remember that everyone has their own way of thinking about music, and musicians will never completely agree on how to name keys. The more you can clarify what you mean, the better the chance that others will understand your intentions. You might find that during this process you can teach someone something new or maybe even gain new insight yourself!

By the way, there are additional ways that the songs in this chapter can be described. I'll be discussing these in Chapter 2.

NAMING MODES: *Technically speaking, we should call modes by their tonics, not their parent major scales. For example, if you're playing notes and chords from the* ***E*** *major scale, but the V chord* ***B*** *is functioning as the tonal center, then you would call it* ***B*** *Mixolydian, rather than* ***E*** *Mixolydian. In* ***B*** *Mixolydian:* ***B*** *is the tonic and it is the fifth mode of* ***E*** *major. If* ***B*** *is V, then* ***E*** *is I. The parent major scale's name does not become part of the mode's name. You must figure this information out yourself! Remember, however, mode names are not usually used. We usually find the key named after the tonic chord while the mode is disregarded. Many musicians would simply say: "key of* ***B,****" not "****B*** *Mixolydian Mode."*

Sometimes It's Best To Shut Up And Play Your Guitar

When you are playing with others who might not know music theory that well, and they have little interest in learning about it, there is probably little point in arguing key names with them. In fact you might just irritate them instead. Sometimes you just need to shut up, play, and hope the other musicians follow. We see many great musicians who play primarily by ear and work musical concepts out in their own way.

Conclusion

As we have seen in this chapter, musicians use the term "key" in many different and sometimes contradictory ways. The key describes the tonal center of the music, but it may not be the actual parent scale, leaving you with some detective work to do: is the song in a plain major or minor key, or is it in a mode? The written key signature may not give you this information.

I have presented some ways for you to think about keys, as well as some techniques to help you sort out the actual mode of a song. Remember that the way you think about a song may be different from others, and the proof is in the playing, which is what we all really want to do anyways.

What's Next?

In Chapter 2 we are going to renumber the chords of the major scale according to which one is the tonic, a technique that is fairly standard procedure.

Chapter 2
Renumbering Chord Progressions

In this Chapter

1. Counting from key centers
2. Revisiting the modes
3. Comparing scales
4. Looking at popular songs
5. Renumbering chord progressions

Key Center

As I taught in my earlier book *Fretboard Theory*, the major scale has seven notes, which serve as the root notes for seven different chords. Any of these chords could function as the tonic of a progression. A song can focus on the I, ii, iii, IV, V or vi chord. We rarely find the vii chord as the tonic. The focus of a progression on any one of these chords will result in different sound qualities of the progression, which we can describe as different modes.

Renumbering Chord Progressions

In *Fretboard Theory* I always identified chord progressions relative to the parent major key regardless of which chord was functioning as the tonic, or the resulting mode. For example, if the progression was in a Mixolydian mode, the tonic chord was still identified as the V chord, rather than renaming it to I. The other chords in the progression were identified similarly.

Chapter 3
Dominant Function, Harmonic Minor Chord Progressions, and Voice Leading

In this Chapter

1. Chord function and the dominant chord
2. The leading tone of a scale
3. Secondary dominants
4. The harmonic minor scale
5. Harmonic minor chord progressions
6. Voice leading

In my earlier book *Fretboard Theory*, and so far in *Fretboard Theory Volume II*, I have focused on teaching major scales and its modes, including pentatonic scales. As I have stated before, the majority of popular music is based on these scale patterns. There are, however, other types of scales that have pitches that fall outside of a major scale or pentatonic pattern. Most of these scales are rare in popular music, but one, the harmonic minor, occurs quite regularly. Understanding this scale will help you better understand both melody and harmony.

Before diving into the harmonic minor scale, we are going to spend a bit of time on the dominant chord, the chord built on the fifth degree of a scale. The dominant chord is a fairly important chord in music. Its structure and its tendency towards the tonic chord really helps to define the tonal center of a progression. We will also take a look at secondary dominants, a way of using the dominant sound to strengthen a progression towards chords other than the tonic.

Chapter 4
Key Changes

In This Chapter:

1. Modulations
2. Modal interchanges and borrowed chords
3. Circle of fifths and fourths
4. Blues changes

In the first volume of *Fretboard Theory* you learned about chord progressions and how to play by numbers. Although a great approach to many songs, you may have realized that not all of them fit into this system of numbered barre chord patterns. In this chapter you are going to learn why. Here we will look at several related topics including: modulation, key changes, modal interchange, borrowed chords and the circle of fifths, also known as the circle of fourths.

Modulation

We usually think of a song as having a main tonic chord or parent scale. Many songs, however, actually change their tonic at some point. For example, a song's chord progression may be moved, or *transposed* up or down by a particular interval for a section. The song's tonic will then change by that same interval.

A bridge or other major section in a song may have a completely different set of chord changes in a new key or tonal center. The song may change from major to minor, or even from one mode to another.

Chapter 5
Chromatic Passing Chords, Diminished and Augmented Chords

In This Chapter:

1. Filling spaces and using half-step motion
2. Playing diminished chords and inversions
3. Playing augmented chords and inversions
4. Creating chromatic voice leading

In this chapter, I am going to explain how chords a whole-step apart are sometimes connected with *passing chords,* similar to the way players use chromatic passing tones to connect different scale degrees. We will look at both chromatic passing chords and diminished seventh chords. We will also take a look at V^7 substitutions and augmented chords. This chapter will help you understand chords that seem to neither belong to the parent key nor to be borrowed from another one.

Chromatic Passing Chords

Composers and players use passing chords in a progression similar to the way they use passing notes in a scale. Just as you can use chromatic passing notes between different scale degrees, you can use chromatic passing chords to connect different chords. A common approach is to simply move by half-steps as you change from one chord to another. For example, if a progression moves from V to IV, you could add in another chord between them. See *Figure 5-01* for an example in the key of **F**.

Chapter 6
Lead Patterns

In This Chapter:

1. Major and minor lead patterns
2. Riff boxes
3. Reference barre chords
4. Blues scale patterns

About Lead Patterns

In my previous book and DVD, I teach the pentatonic scale as five separate patterns. These patterns cover every position on the neck and connect together to make one giant fretboard pattern. This method is how many guitar players initially learn pentatonic scales. But when it comes to actually using the scale to play melodies, riffs, lead guitar solos, and bass lines, it's not necessary to utilize every position or every part of every pattern. Most guitar players, including some of the most famous ones, favor only a few particular sections of these different patterns that work well together. When viewed together, these sections are sometimes called lead patterns.

Lead patterns make it easier for you to keep track of the root note of a chord, shift from position to position, duplicate licks in different registers, and use the first three, and strongest fingers of your fretting hand. You will also be able to find your way around the neck better, becoming more proficient at what you play as you narrow your focus to a few essential patterns. In this chapter I am going to teach you two lead patterns, each one having a major and a minor form. In the following chapters you will see how these lead patterns are filled in with major scales, harmonic minor scales, modes and arpeggio patterns.

Chapter 7
Lead Patterns With Major Scales and Modes

In This Chapter:

1. Using lead patterns, major scales and modes
2. Comparing parallel scales and modes
3. Playing in thirds and sixths

In the last chapter I showed you how to narrowed your focus down from pentatonic scales that cover the complete neck to smaller sections like the lead patterns and riff boxes that many players commonly use. In this chapter I will show you how to use these same patterns for major scales and modes. I will also cover a little theory on how the pentatonic scale relates to the major scale. But first, let's figure out which pentatonic scales will work with what major scales and modes.

You can think of a major pentatonic scale as a mini version of a major scale. Let's look at **C** major pentatonic. Its notes are **C-D-E-G-A**. The complete **C** major scale is **C-D-E-F-G-A-B**. We can see that the **C** pentatonic scale is contained within the major one. Similarly, we can find this pentatonic scale in any of the major modes with the same tonic: **C** Lydian is **C-D-E-F♯-G-A-B** and **C** Mixolydian is **C-D-E-F-G-A-B♭**. Below shows the different **C** major-type scales along with the pentatonic for a more visual comparison:

C major:	C	D	E	F	G	A	B
C Lydian:	C	D	E	F♯	G	A	B
C Mixolydian:	C	D	E	F	G	A	B♭
C major pentatonic:	C	D	E		G	A	

Chapter 8
Outlining Chords and Chord Progressions

In This Chapter

1. Targeting chord tones
2. Outlining chord progressions
3. Using lead patterns with CAGED arpeggios
4. Playing along with tracks and songs

In this chapter you are going to learn how to use CAGED arpeggio patterns to target chord tones while using pentatonic lead patterns. Specifically, you will target the *root*, *third* and *fifth* of each chord as you work through a progression. Targeting chord tones helps you to connect scales more closely to their related chords, as well as outline a particular chord progression. You will intentionally be emphasizing each note of the chord, creating a lead line that relates to the music. This approach is sometimes better than just randomly playing scales through a set of changes. You can apply this outlining technique to improvising, as well as to composing guitar solos, riffs, melodies and bass lines.

We target chord tones by mapping an arpeggio pattern over a particular scale pattern. You will remember that we choose a scale that is related to the chord we are playing over. I presented CAGED arpeggio patterns in *Fretboard Theory, Chapter 3* and *The CAGED Template Chord System DVD.* As you play through a scale pattern visualize each chord change with an arpeggio pattern, then emphasize, or *target*, the notes found in the arpeggio pattern.

Chapter 9
Using Harmonic Minor Scale Patterns

In This Chapter:

1. Building the harmonic minor scale
2. Using lead patterns
3. Outlining V^7 chords
4. Play harmonic minor scale patterns

I introduced the harmonic minor scale to you in Chapter 3 where we looked at the dominant function and minor chord progressions with a V^7 chord. In this chapter we will pick up where Chapter 3 left off, teaching you harmonic minor scale patterns and how to use this scale for improvisation. Be sure that you have completed Chapter 3 so that the material we work with here will make sense.

Building a Harmonic Minor Scale

The harmonic minor scale is a variation on the natural minor scale. To make a harmonic minor scale, start with a natural minor and raise its seventh scale degree a half-step. For example, to make an **A** harmonic minor scale, start with **A** natural minor and raise the pitch **G** in the scale to **G♯**.

A Natural Minor

1	2	♭3	4	5	♭6	♭7
A	**B**	**C**	**D**	**E**	**F**	**G**

A Harmonic Minor

1	2	♭3	4	5	♭6	7
A	**B**	**C**	**D**	**E**	**F**	**G♯**

Chapter 10
Pedal Point

In This Chapter:

1. Sustaining bass notes
2. Sustaining notes throughout a series of chord changes
3. Repeating a melodic figuration over a chord progression

A pedal point in music is a sustained or repeated note sounded against chord progressions and melodies. Pedal points are also called pedal tones and simply, pedals. The term originates from organ music where the player sustains a low tonic or dominant pitch with the foot pedals allowing them to easily play chords and melodies above this note on the keyboards.

In its simplest form, a pedal tone is a sustained or repeated note in the bass register on the tonic or dominant pitch that supports a melodic line as shown in *Figure 10-01*. Here we see a repeating tonic note **D** on an open string that acts as a simple accompaniment to the **D** minor melody.

Pedal point in D minor

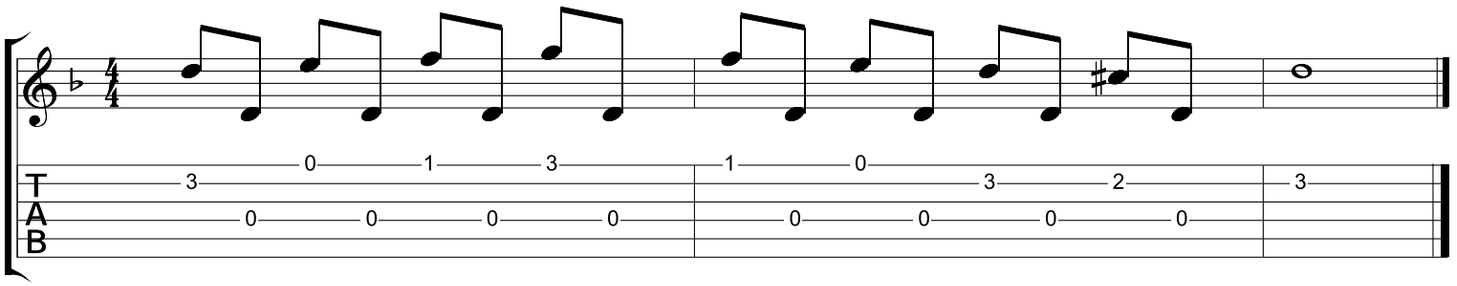

Figure 10-01

Chapter 11
Conclusion: What to Do Next

If you have made it this far and completed all the material in the book, then congratulations! I know you have taken your guitar playing and musical knowledge to the next level. You can continue to learn and progress by practicing everything you have learned and playing as much as you can. You can also study additional resources, learn more songs and find more opportunities to play with others.

Learn Songs

I'm not sure I even need to say this, but learning songs is, in my opinion, the best way to learn and develop as a musician. This is easier than ever to do today. You can get complete and accurate tabs to most popular songs in either songbooks or as individual scores. You can even download songs one at a time. Finding the music to a song today is as easy as searching its title in a search engine. Some resources I recommend include musicnotes.com, sheetmusicplus.com, musicdispatch.com and guitarinstructor.com.

There are also play-along guitar books and tracks, instructional videos and software programs that make the song learning and practicing process easier and more enjoyable.

There are a few resources that catalog songs by their chords and progressions that I found helpful as I compiled some of the material for this book. These include the website chordmine.com and the books *Money Chords* and *Chord Progressions For Songwriters*, both by Richard Scott.

About the Author

Hailed as a "music-theory expert" by *Rolling Stone* magazine, guitarist Desi Serna is the author of *Fretboard Theory Volumes I* and *II* plus several instructional DVD programs. Desi honed his craft through decades of guitar teaching, performing and publishing. He currently lives near Toledo, Ohio where he enjoys spending time with his wife and two daughters. When not working he can usually be found… playing guitar!

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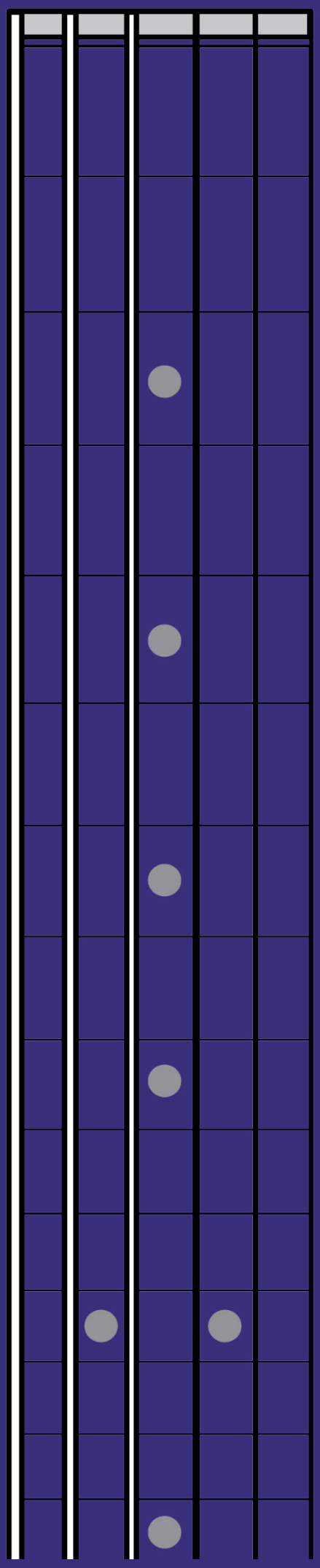
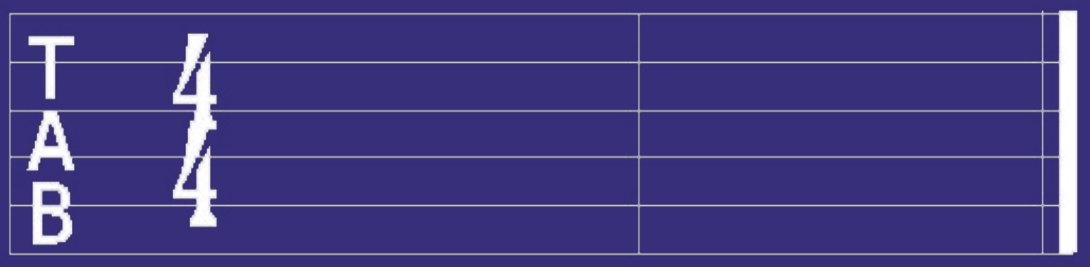


Take Your Playing to the Next Level!

- Apply new number systems
- Discover the harmonic minor scale
- Use the lead patterns preferred by the pros
- Gain new perspective on keys and tonalities
- Change keys, borrow chords and mix modes
- Target chord tones and outline chord progressions
- Bring dominant function and voice leading into play
- Employ chromatic passing, diminished and augmented chords

Advanced Applications, New Concepts & Song References

Fretboard Theory Volume II picks up where the first volume left off and takes your guitar playing and musical knowledge to a whole new level. You learn many advanced applications and new musical concepts. There is information for rhythm guitarists, lead guitarists, improvisers and composers. Each chapter focuses on applications found in popular music and includes familiar song references. Get started today!



PLEASE NOTE: This material is suitable for intermediate level players on up and works on both acoustic and electric guitar. Most of the presentations work for bass too.

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