Guitar Techniques

NOTES AND TAB

MUSIC THEORY FOR GUITAR

AN INTRODUCTION TO THE ESSENTIALS

- Circle Of Fifths
- Triads
- Transposition
- Secondary Dominants

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Guitar Techniques

MUSIC THEORY FOR GUITAR

Contents

FOREWORD

Music theory is the language of musical construction. Understanding it will help you play better and improvise better. It will give you the tools to write better songs and to better understand other Artist's songs you have learned.
In this book you will learn many of the basics of how the music you listen to is constructed.

To get the most out of this book:

First – Go through the book in sequence. Each idea introduced in the book is built on the ideas introduced before it.

Second – Work out all the examples. They will help you put the ideas you are learning into practice, and help you use these ideas sooner.

Third –Try to use the tools you are learning to analyze music that you play.

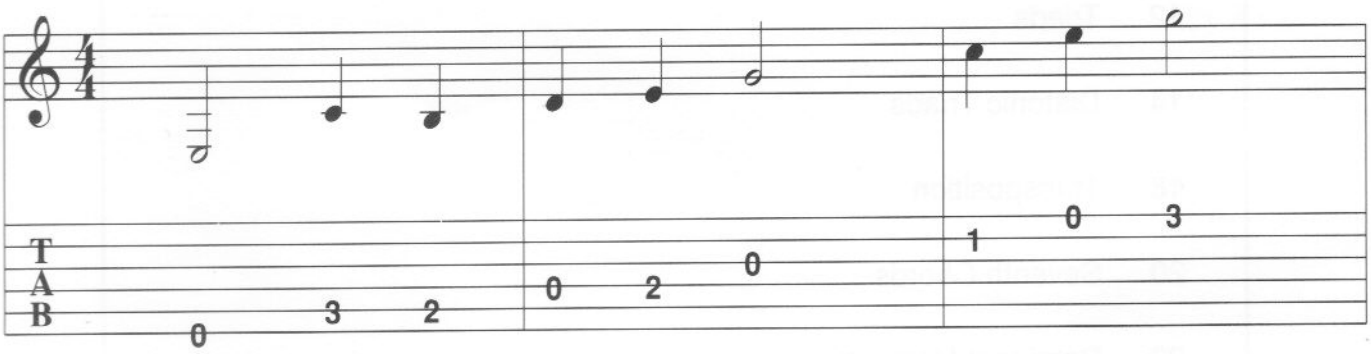
Fourth – Refer back to the book periodically. Understanding will come gradually with repeated exposure to these ideas.

Fifth – Don't give up!! It may take a while, but theory will make sense to you if you stay with it.

PLAYING GUIDE

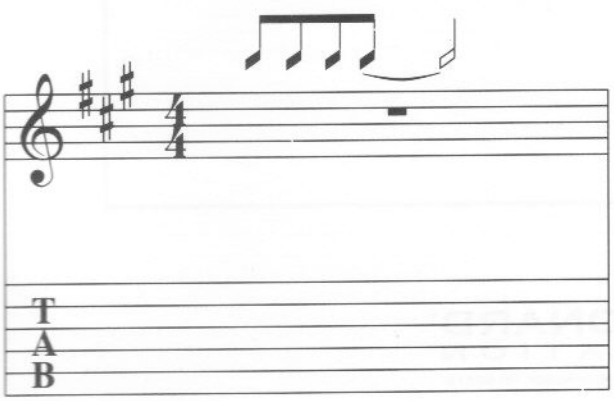
Musical examples in this book are written in both standard music staff notation and tablature.

Standard Notation



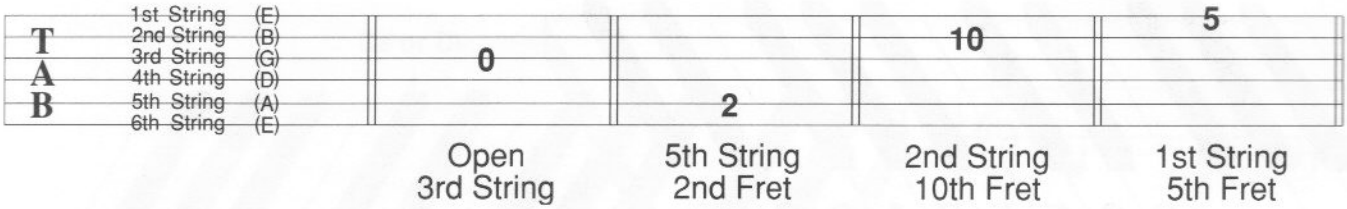
Tablature

Rhythm slashes are used to indicate strumming patterns for chords.

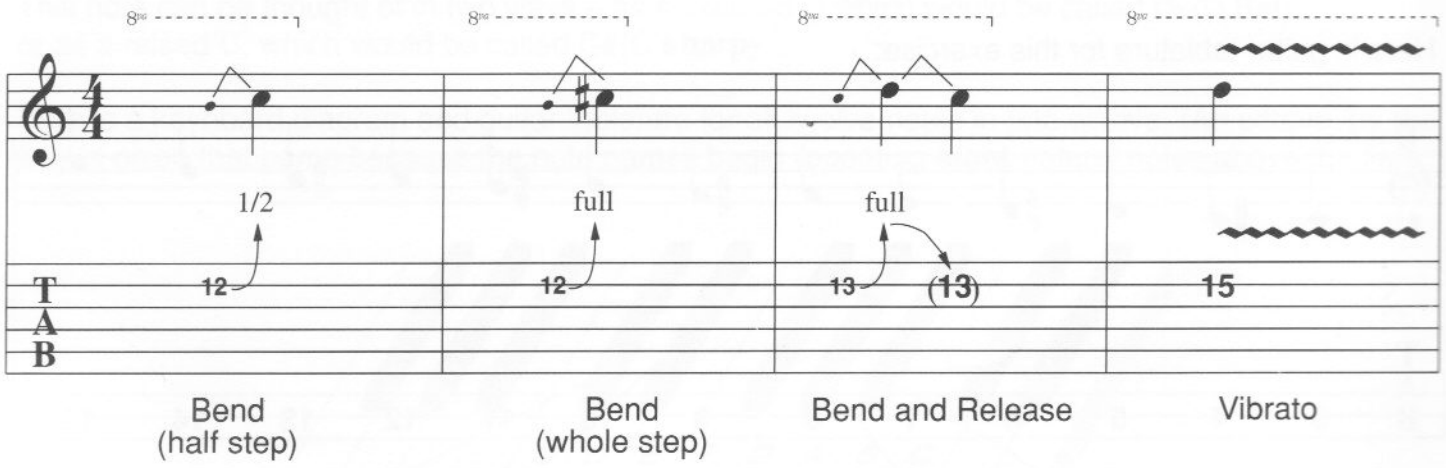


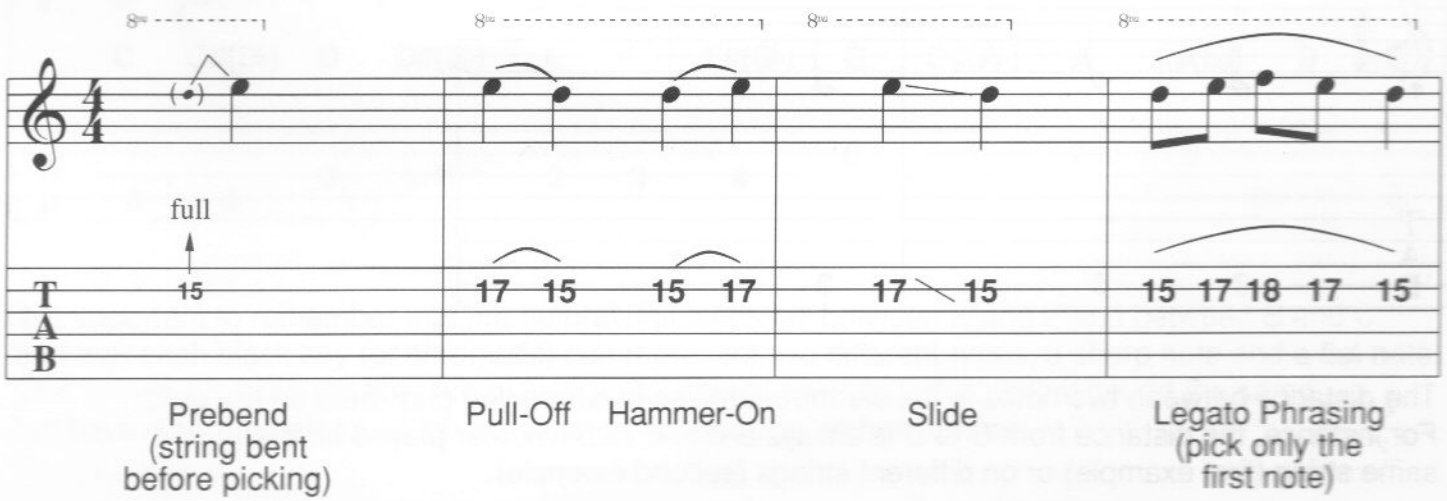
GUITAR TABLATURE GUIDE

Guitar tablature (TAB) is a special staff that graphically represents the guitar fingerboard. Each line represents a string of the guitar. The numbers on these lines indicate at which frets to place your fingers. A "0" on a line indicates an open string.



LEGEND OF SPECIAL GUITAR TECHNIQUES

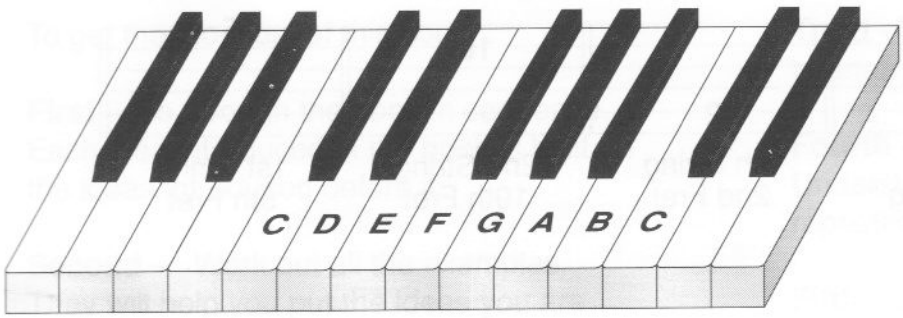




WHOLE STEPS AND HALF STEPS

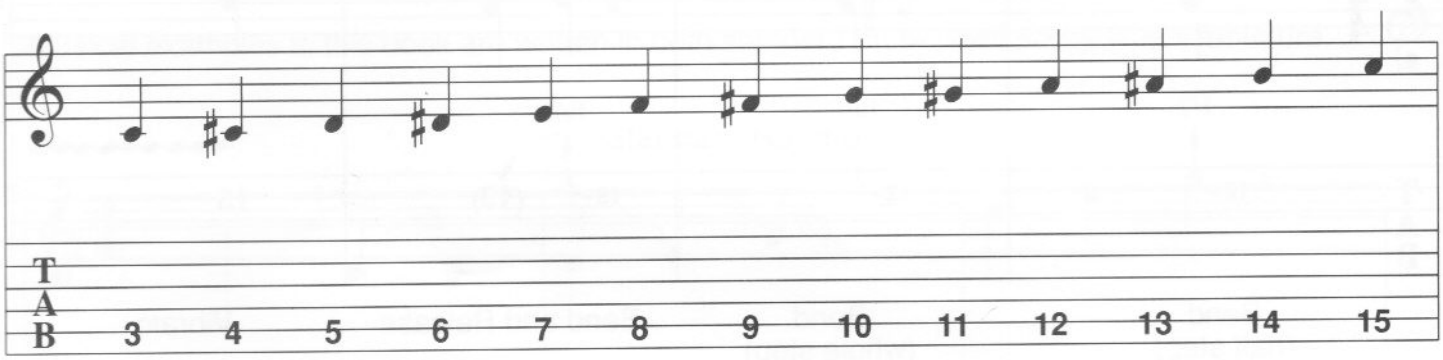
The basic building block of Western music is the half-step.

Pictured below is piano keyboard with the keys named:



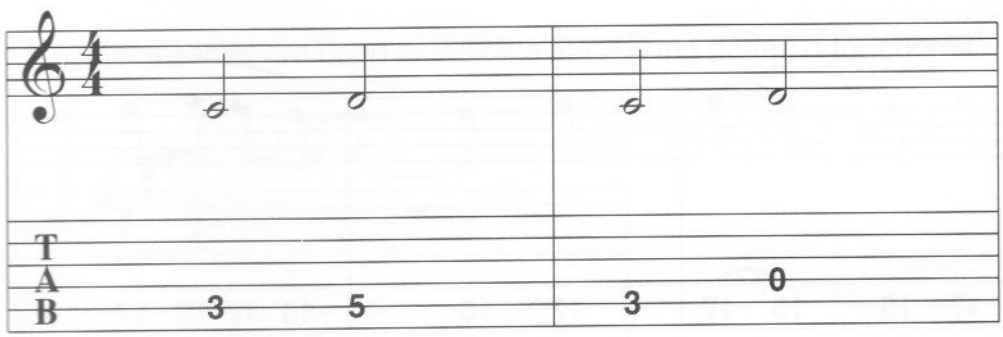
The notes produced by striking these keys are called the **natural notes**. Notice that if you move up the keyboard starting at C and striking each key (including black keys) until you reach the next C note (one octave higher), you will move up twelve times. Each of these moves is one **half step.**

Here is guitar tablature for this exercise:



Notice here that each move up is a move of one fret. The distance from one fret to the next fret on the guitar is a distance of one half step.

Two half steps equal one whole step. On the guitar the distance of two frets equals one whole step:

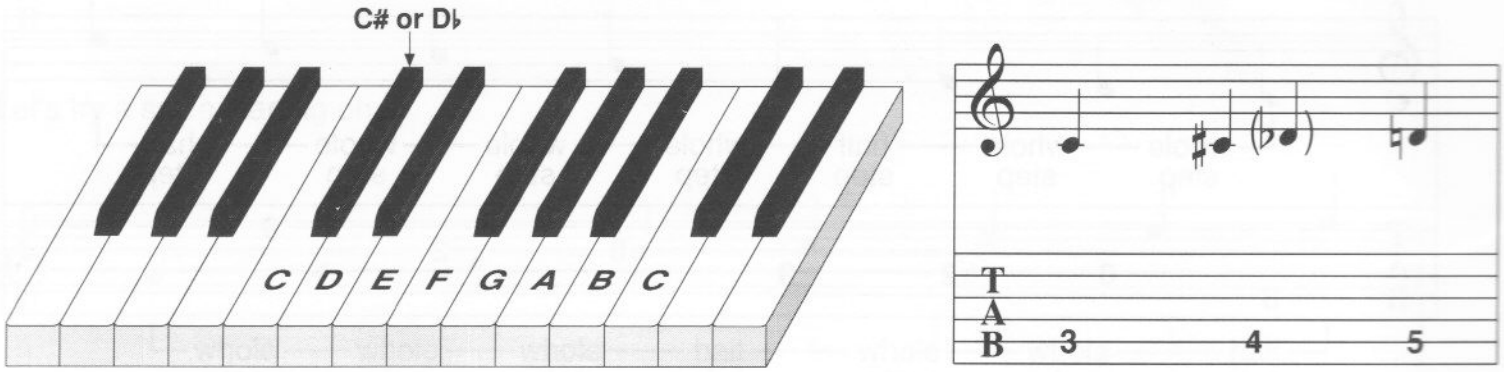


The distance between two notes is the same regardless of where you play them on the guitar. For instance, the distance from C to D is always a whole step whether played on the same string (first example) or on different strings (second example).

Referring back to the piano keyboard diagram, notice that the only half steps that occur between natural notes are the half step between E and F, and the half step between B and C. The distance between all the other adjacent natural notes are whole steps.

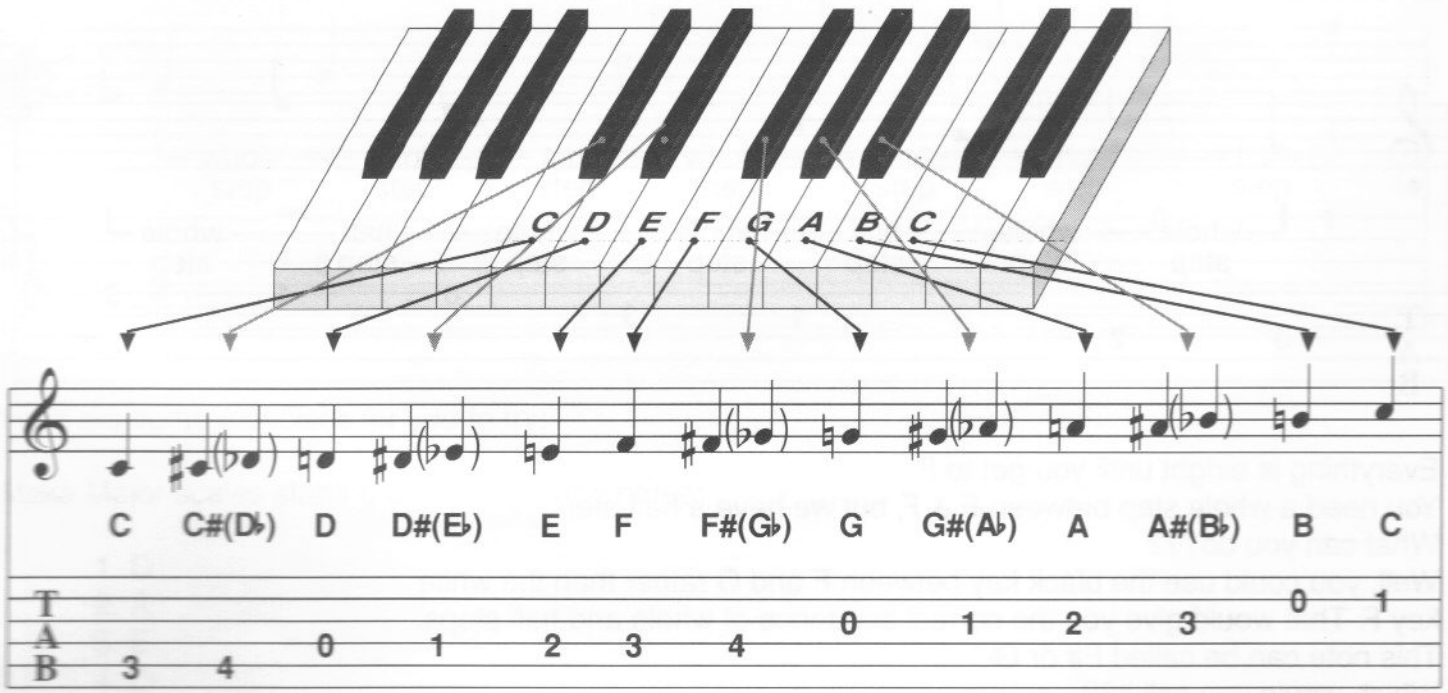
Between each of the natural notes that are a whole step apart is another note, called an **accidental** or **chromatic** which is played by a black key on the piano, or by the fret in between the two natural notes on the guitar.

For example, between C and D:



This note can be thought of in two ways – as a lowered D which would be called D♭ (D **flat**), or as a raised C, which would be called C#(C **sharp**).

Here is a keyboard diagram and guitar tablature for all twelve notes in one octave. (An octave, by the way is given that name because the note names begin repeating **eight** natural notes above the first):

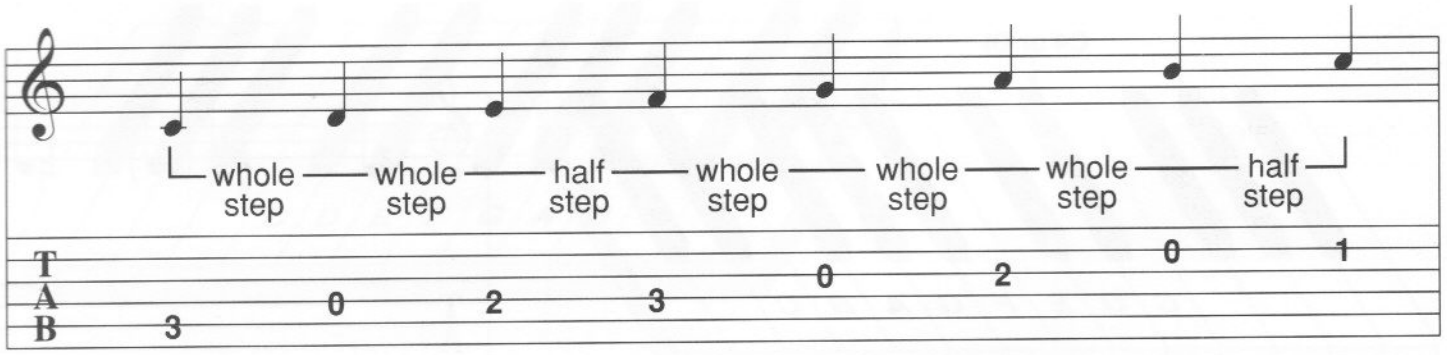


It is important to remember that the natural half steps fall between E and F and between B and C, and that each black key (or chromatic) can represent two different notes, a sharp note and a flat note. This is true even though they are played at the same key or fret. Notes that sound the same but have different names, (such as C# and D♭) are called **enharmonics**.

MAJOR SCALE PATTERN

A Major scale is the easiest and most logical way to organize the notes belonging to one Major key. All music theory is derived from the Major scale.

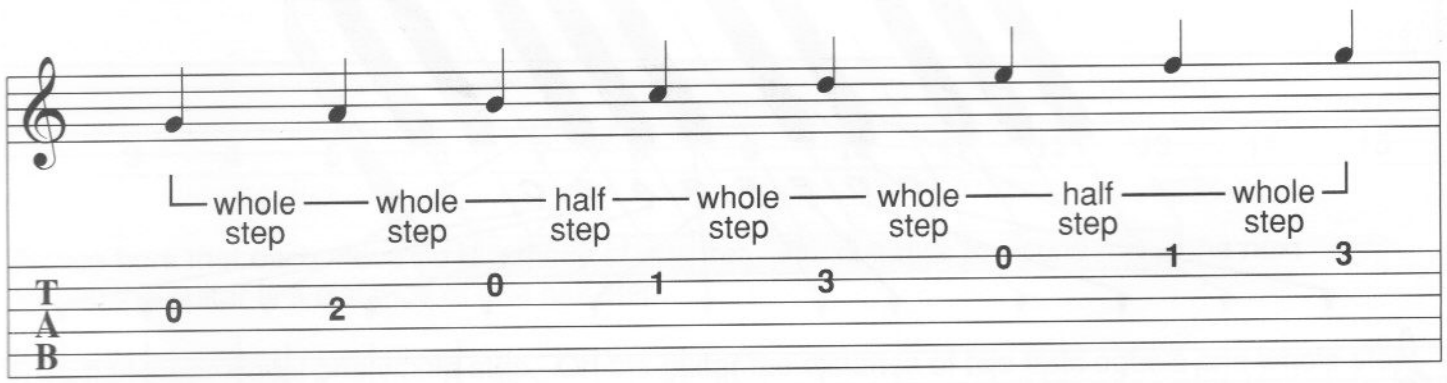
Here are the natural notes again, this time with whole and half steps marked:



There are two things to notice here:

1. **Pattern of steps.** First there are two whole steps, then one half step, then three whole steps, and finally one more half step. This pattern holds for every Major scale.
2. **Sequence of note names.** All Major scales proceed through each note name in sequence – no skips, no repeats. (It is this ladder-like pattern that gives rise to the word **scale**, which is derived from the Greek word **scœlum**, which means ladder.)

Let's see how this would work if we started on G instead of C:

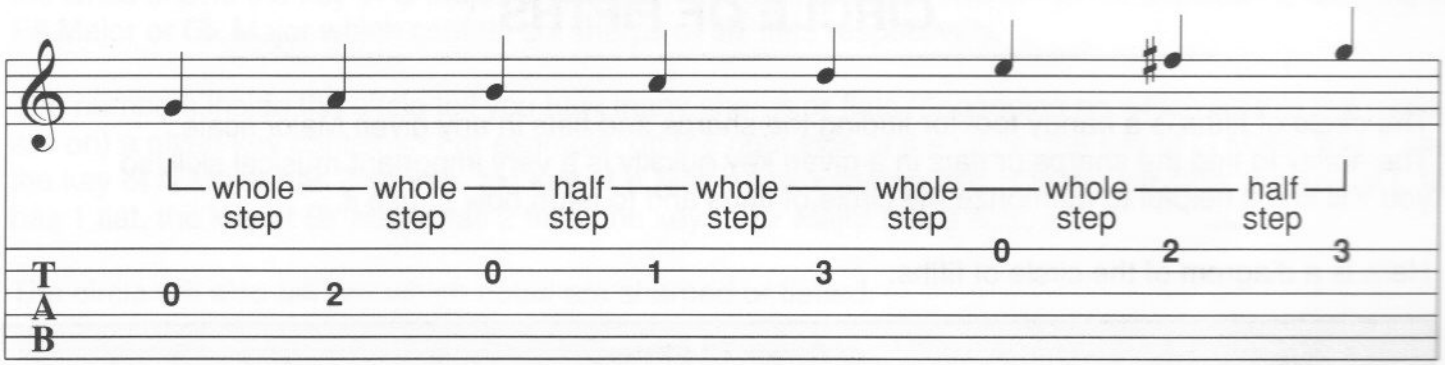


Everything is alright until you get to F
You need a whole step between E & F, but we have a half-step.
What can you do???
Well, you could use the black key between F and G rather than the white key F. That would give you the correct sequence of whole and half steps.
This note can be called F# or G♭.
Which would you call it??
You must call it F# otherwise you would be skipping a note name and repeating another which goes against rule 2 above.

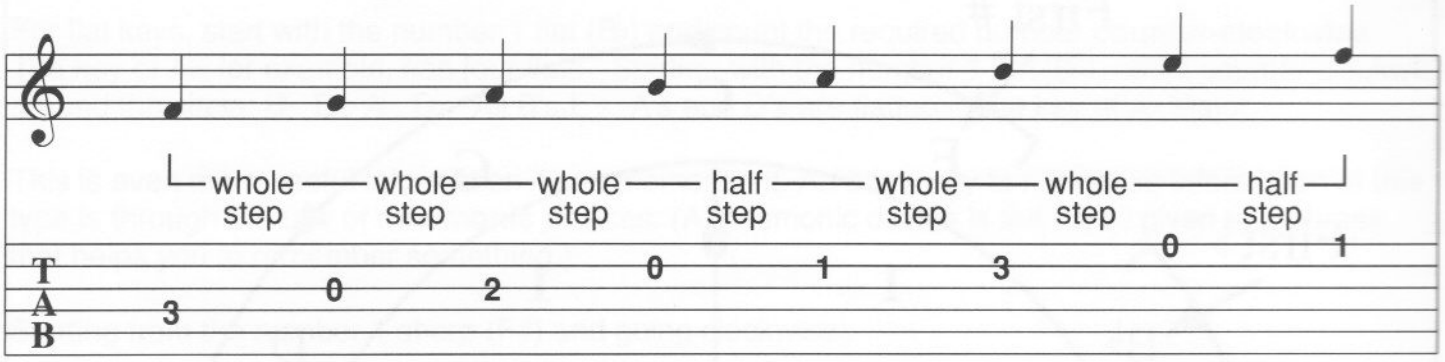
This gives us a third rule:

3. **Sharps or flats.** A Major scale may contain sharps or flats, but not both.

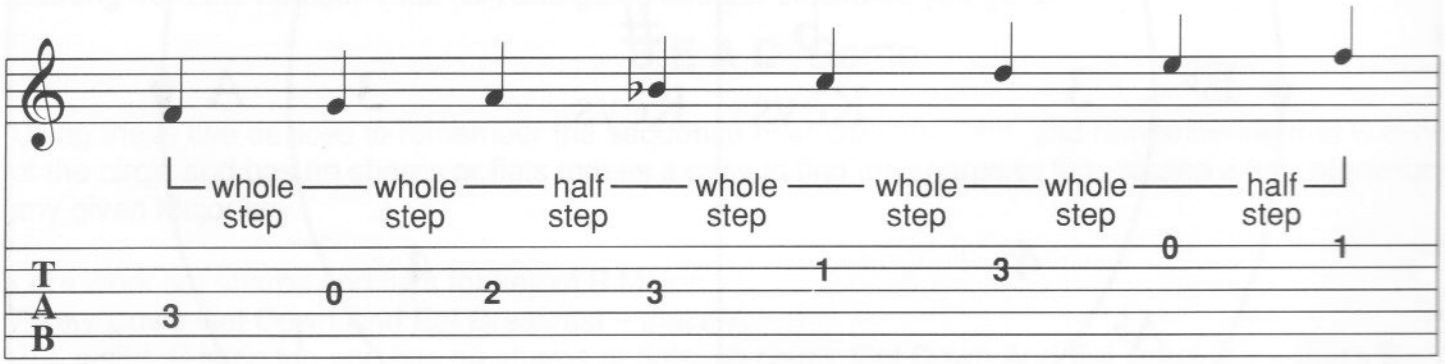
Here is the corrected G Major scale:



Let's try a scale starting on F:



What do you do about the whole step between A and B where you need a half step??
You flat the B, and everything falls into place:



Here are some exercises for you to try:

Make Major scales starting on the following notes:

1. D
2. A
3. E
4. B♭
5. E♭
6. A♭

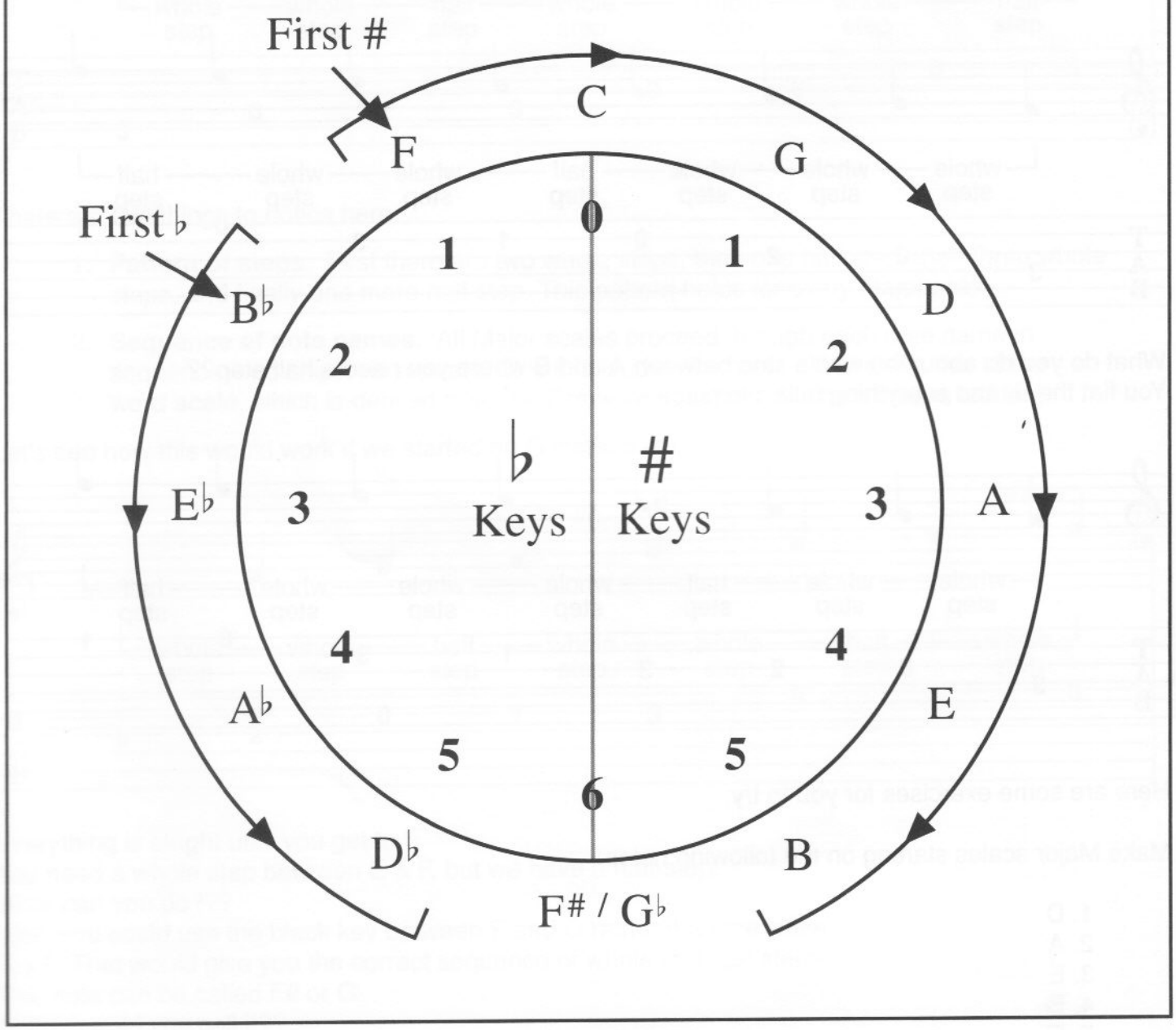
Answers are on page 31.

CIRCLE OF FIFTHS

The circle of fifths is a handy tool for finding the sharps and flats in any given Major scale. The ability to find the sharps or flats in a given key quickly is a very important musical skill, so you will find it helpful to memorize the circle of fifths and to learn how to use it.

Here is a diagram of the circle of fifths:

Circle of Fifths



You can find a lot of information in this circle.

It will tell you how many sharps or flats are in a given key.
It will tell you which notes are flatted or sharped.
It will give you information about chord relationships within a key.

The left side of the circle lists keys containing flats. The right side lists keys containing sharps. The top of the circle shows the key of C Major which has no sharps or flats. The bottom of the circle shows the key of F# Major or G♭ Major which contain six sharps or six flats respectively.

The numbers inside the circle tell you how many sharps or flats (depending on which side of the circle you are on) a given key contains. For example, on the right side of the circle, the key of G Major has 1 sharp, the key of D Major has 2 sharps, the key of A Major has 3 sharps, etc. On the left side, the key of F Major has 1 flat, the key of B♭ Major has 2 flats, the key of E♭ Major has 3 flats, etc.

The circle will also tell you which notes are sharped or flatted.

For sharp keys, start with the number 1 sharp (F#) and count the required number **clockwise**. Thus, the key of E Major has 4 sharps. Starting with the number 1 sharp (F#), count clockwise around the circle: F, C, G, D. E Major, then will have all F's, C's, G's and D's sharped!

For flat keys, start with the number 1 flat (B♭) and count the required number **counter-clockwise**. The key of A♭, for example, has four flats. Starting with the number 1 flat (B♭), count counter-clockwise around the circle: B♭, E♭, A♭, D♭. All B's,E's, A's and D's are flatted in the key of A♭ Major.

This is even more useful information if you memorize it. An easy way to memorize information of this type is through the use of **mnemonic** devices. (A mnemonic device is the name given to a phrase that helps you to remember something.)

Starting from the number 1 sharp (F#) and going clockwise:

Funky **C**ows **G**et **D**own **A**nd **E**at **B**reakfast **F**ood

(You must remember that the second F (Food) is for F#)

Starting from the number 1 flat (B♭) and going counter-clockwise you get a

B E A D Game

Using these two devices to remember the sequence of sharps and flats, and remembering that C is on top of the circle and has no sharps or flats makes it easy to find the sharps or flats (called a **key signature**) for any given Major key.

Let's work out sharps and flats for key of B Major:
Funky **C**ows **G**et **D**own **A**nd **E**at **B**reakfast – that's **7**.
But, wait!! **C** is on top and has no sharps or flats, so count: **G**et **D**own **A**nd **E**at **B**reakfast – that's **5**.
5 what?? 5 sharps (We're on the right side of the circle).
Which 5 sharps?? F#, C#, G#, D# and A# (**F**unky **C**ows **G**et **D**own **A**nd **E**at).
Pretty easy, right??

Now, let's do the key of D♭ Major**: B E A D** – that's **4**.
But, remember, **C** is on top and has no sharps and flats, so F must have 1 flat
(we're on the left side of the circle).
Thus: **F – B E A D** – that's **5.**
5 what? 5 flats (As we said, we're on the left side of the circle)
Which 5 flats?? B♭, E♭, A♭, D♭, and G♭, (**B E A D G**ame)

You should try to determine sharps and flats for the eleven most commonly used Major keys: C, G, D, A, E, B, F,B♭, E♭, A♭, D♭. (Answers are on page 31) It is common practice to refer to Major keys by their letter name only. Any other type of key or scale will always be referred to by both it's letter name and it's type (Minor, pentatonic, etc).

INTERVALS

Once you can find key signatures, you are ready to learn about intervals.
An interval is a group of two notes. They may be played melodically (one after the other) or harmonically (simultaneously).

An interval will belong to one of two families, the **Major-Minor** family or the **Perfect** family.

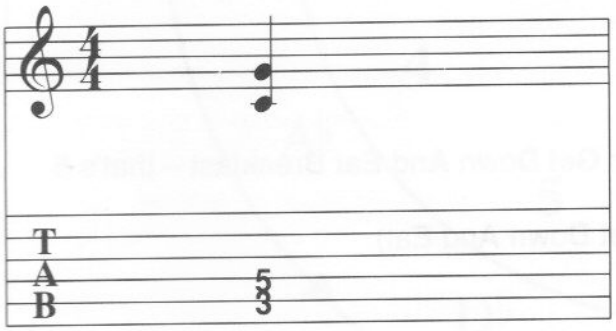
An interval will have two names, a **general** name (which is a number) and a **specific** name (which is a description of its qualities).

Here is a table of intervals:

Table of Intervals

MAJOR-MINOR FAMILY (2nds, 3rds,6ths and 7ths)		**PERFECT FAMILY** (4ths, 5ths, octaves(8ths))
	LARGER	
Augmented (+)		Augmented (+)
Major(M)	**IF IN KEY**	Perfect (P)
Minor (m or min)		Diminished (dim)
Diminished (dim)	SMALLER	

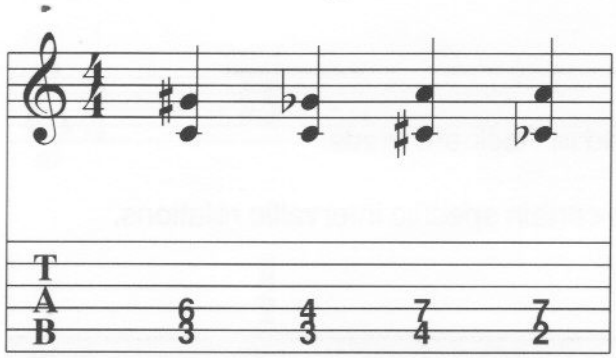
Let's look at an example and see how to use this table. Here is an interval :



First, find the general name of the interval. This can be done by counting consecutive lines and spaces on the staff, or by counting sequential letter names between notes. In this case, there are five lines and spaces, and five letter names (C,D,E,F,G) between these notes. This interval, then, is a **fifth** of some type.

To find the specific name, or type of interval, assume that the lower note is the first note of a Major scale. If the upper note is a note in that scale, the interval is Perfect (if it belongs to the Perfect family) or Major (if i belongs to the Major-Minor family). In this case, the lower note is C, so we need to know if G is a note in the C Major scale. Since the key of C has no sharps or flats, G *is* a note in the C Major scale. We know that fifths belong to the Perfect family of intervals, so this interval (from C to G) is a **Perfect fifth**.

What happens if the upper note is not in the scale of the lower note? Here are a few more examples:



The interval from C to G is still a fifth of some type. Remember, general names are determined by how many lines and spaces (or how many letter names) apart the two notes are. Whether the notes are sharped, flatted or natural the general name does not change, only the specific name (or quality) of the interval.

We already know from the last example that the note G is in the C Major scale. The G# in the first interval and the G♭ in the second, then, are not in the scale. Now we have to decide what these accidentals do to the intervals – make them larger or make it smaller.

In the first example, the upper note has moved up a half-step away from the lower note (which is unchanged), making the interval one half-step larger. If we move up one specific name on the chart, we find that this interval from C to G# is an augmented fifth.

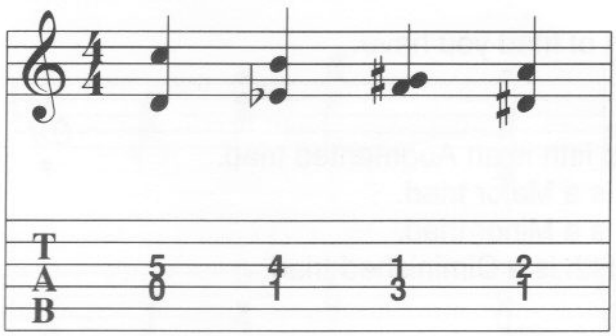
In the second interval, the upper note is a half-step closer to the lower note, making the interval one half-step smaller. Moving down one specific name on the chart, this interval from C to G♭ is a Diminished fifth.

When the lower note is not on the circle of fifths, as in the third and fourth intervals, ignore the accidental while finding the general name. These two intervals are sixths of some type.

Then, consider what the accidental does to the distance between the notes. In the third interval, the lower note has moved up one half-step closer to the upper note, making the interval one half-step smaller. Moving down one specific name (because the interval is smaller) on the Major-Minor side of the chart (because sixths belong to the Major-Minor family) we find that this interval from C# to A is a Minor sixth.

Similarly, the fourth example is one specific name larger than Major and therefore an augmented sixth.

Here are a few intervals for you to identify:



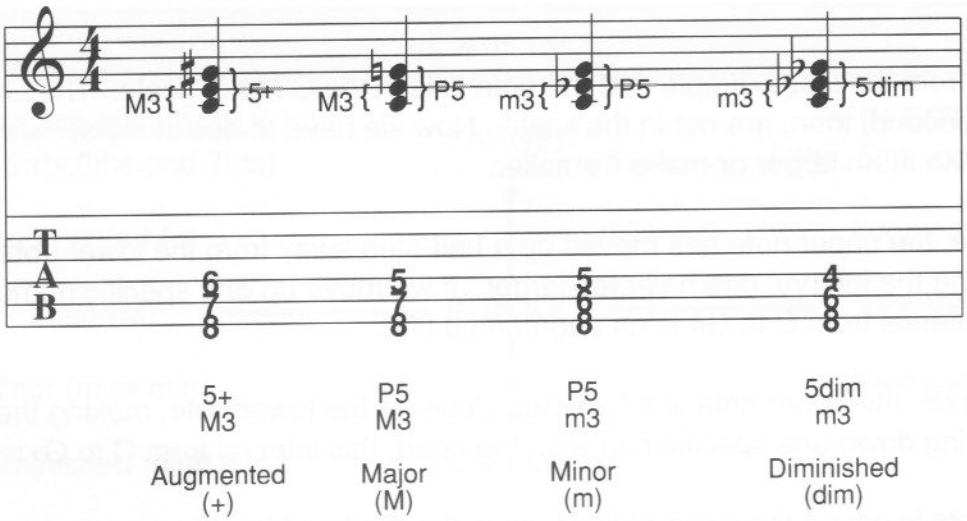
(Answers are on page 32.)

TRIADS

Triads are the backbone of Rock. Most of the chords played in Rock are triads.

A triad is a three note chord in which the three notes are in certain specific intervallic relations. Here is a table of triads:

Table of Triads



The lowest of the three notes in each triad in this table is called the **root**. This is the note that will name the triad. (These four triads, from left to right, are C Augmented, C Major, C Minor and C Diminished).

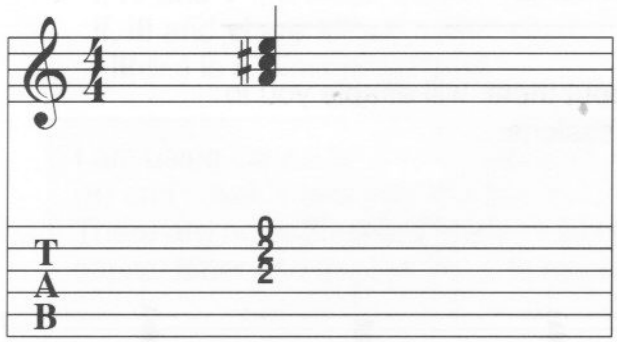
Counting up from the root, we find that each triad consists of two intervals: a third of some kind and a fifth of some kind. For example, in the C Augmented triad, C to E is a Major third, C to G# is an Augmented fifth. Both intervals use the root as their lower note.

Combining the two intervals, the chart will tell you what kind of triad you have:

A triad that contains a Major third and an Augmented fifth is an Augmented triad.
A triad that contains a Major third and a Perfect fifth is a Major triad.
A triad that contains a Minor third and a Perfect fifth is a Minor triad.
A triad that contains a Minor third and a Diminished fifth is a Diminished triad.

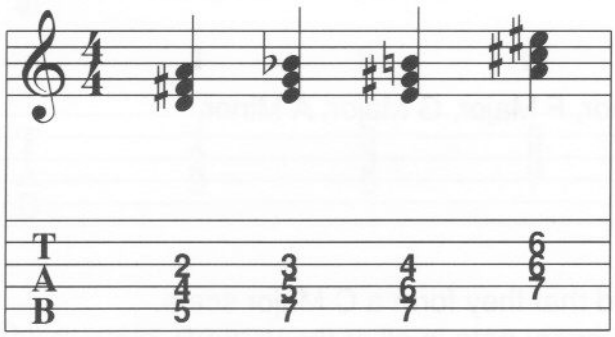
Other combinations are possible, but are not widely used.

Let's work out an example:



Starting with the lowest note, A, we find that we have a Major third (A to C#) and a Perfect fifth (A to E). Referring to the table of triads, we find that this example is an A Major triad.

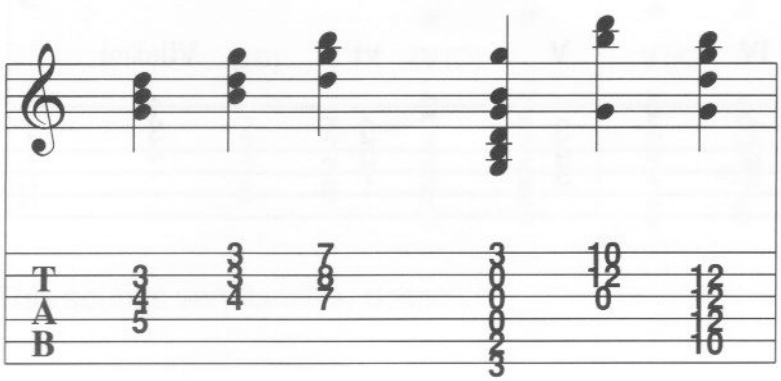
Here are four more for you to work out. (Answers on page 32):



There are two more things that you need to know about triads:

1. You may play the notes in a triad in any sequence, and they still form the same triad, just in a different **inversion** (or order). The first three examples below are all G Major Triads.

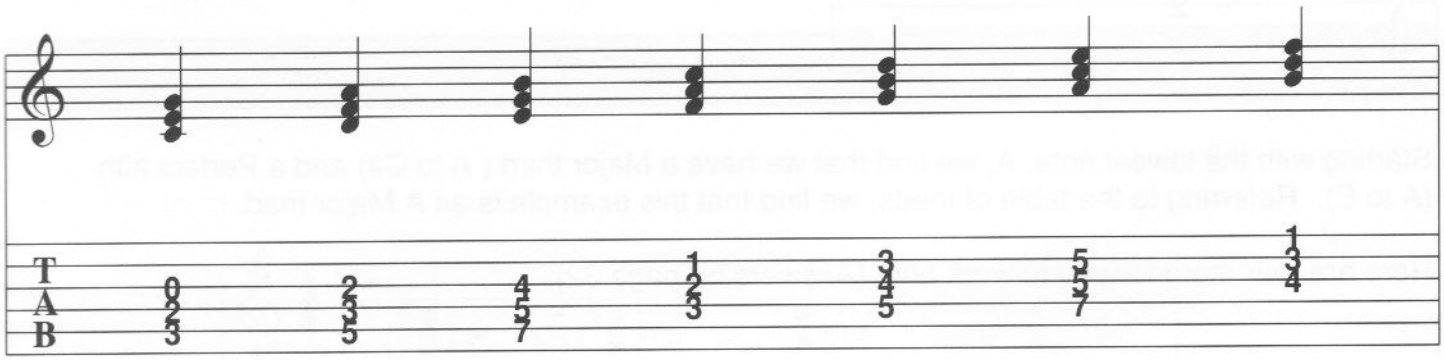
2. You may have as many of any of the notes in a triad as you wish, and in any octaves and as long as you have at least one of each of the three notes that form the triad and no other notes, it is still the same triad. The last three examples below are all G Major triads. You are probably used to thinking of these as G chords – Major triads (like Major scales) are commonly referred to by their letter name only. A **G chord** means a G Major triad. A **G scale** means a G Major scale.



DIATONIC TRIADS

Diatonic triads are the chords for a given key. Learning about them will enable you to harmonize melodies and understand common chord progressions.

Here are seven triads to work out:



These triads are, from left to right, C Major, D Minor, E Minor, F Major, G Major, A Minor, and B Diminished.

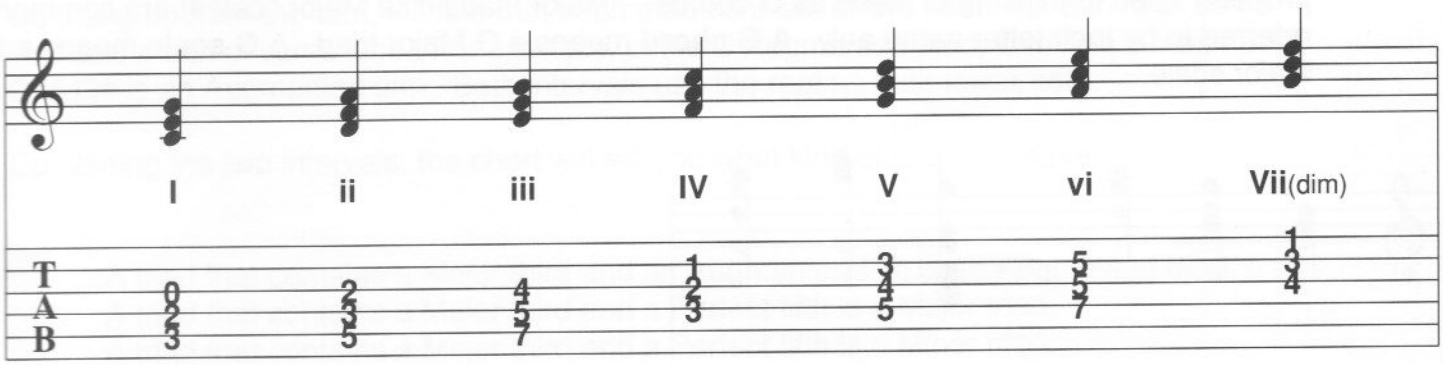
What is important about this sequence of triads?

If you look only at the lowest note of each triad, you will find that they form a C Major scale. If you look at all the notes in these triads , you will see that every note in all of these triads is a note that is in a C Major scale.

In short, we have taken a C Major scale and created triads using only other notes in the same scale!

Triads formed in this way are called **diatonic triads**. (What we call Major scales are formally referred to as diatonic Major scales.)

Let's look at these again, but this time let's number them by the scale step on which they begin. (I am using Roman numerals to number them):

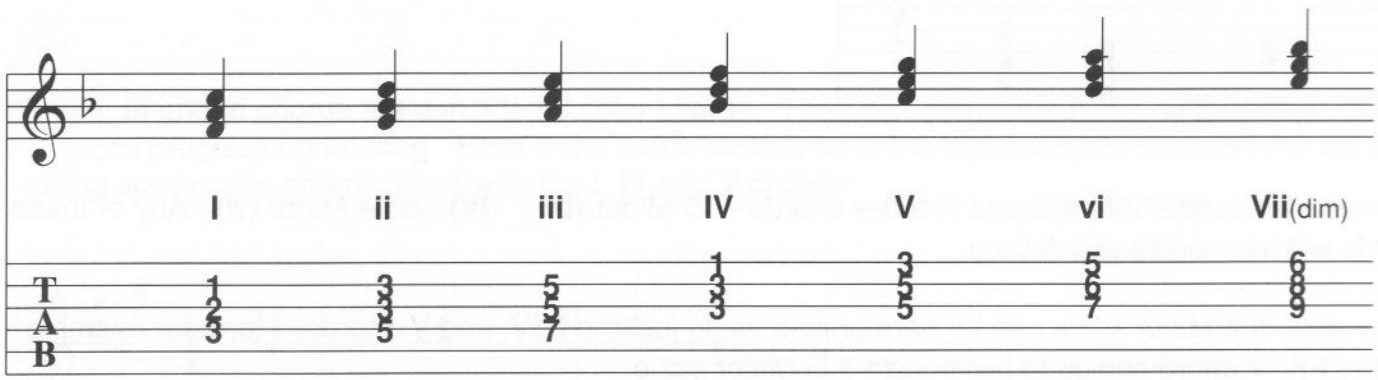


Looking at this further, we find that:

I, **IV** and **V** are Major triads
ii, **iii** and **vi** are Minor triads
vii(dim) is a Diminished triad.

> I am using capital letters to represent Major triads (**I**), small letters to represent Minor triads (**ii**) and small letters plus the abbreviation (**dim**)to represent Diminished triads (**vii**(dim)). There are no augmented triads in this particular sequence, but, if there were, I would use a capital letter and the symbol **+** to represent them.

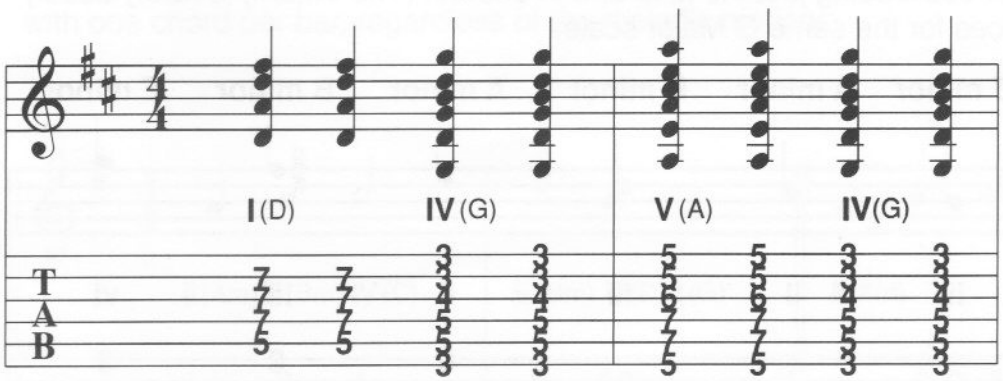
The relationships we have found among diatonic triads for the key of C hold true for any key. Here, for example are the diatonic triads for key of F:



Once again, we find:

I, **IV** and **V** are Major triads
ii, **iii** and **vi** are Minor triads
vii(dim) is a Diminished triad.

Now you know what is meant by a **I-IV-V** chord progression. It is simply a chord progression that uses only the three Major chords in a given key. Here is one such progression in the key of D:

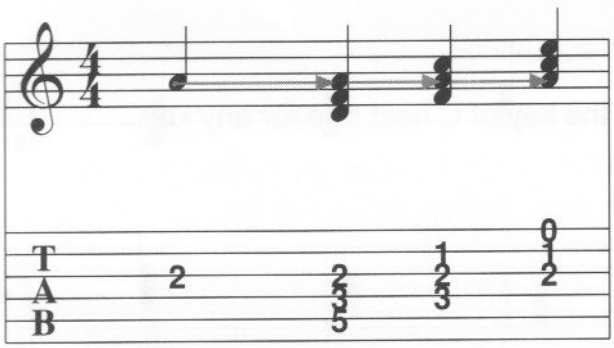


This sounds very familiar, doesn't it?

DIATONIC TRIADS (cont.)

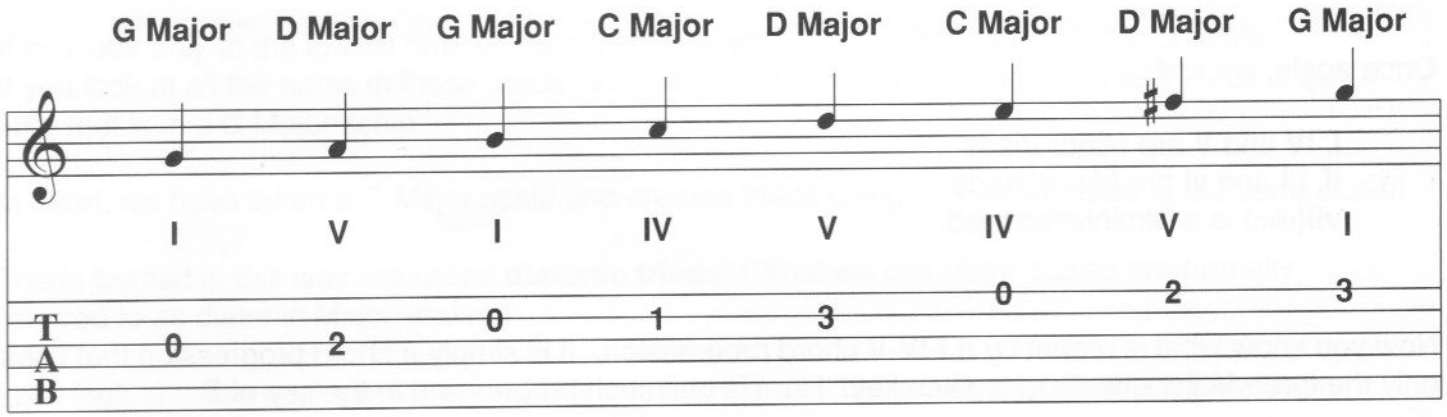
Now, let's look at how these chords are used to harmonize melodies. When you say that a particular chord harmonizes a note, what you mean is that the note in question is one of the notes in that chord.

For example, in the key of C:

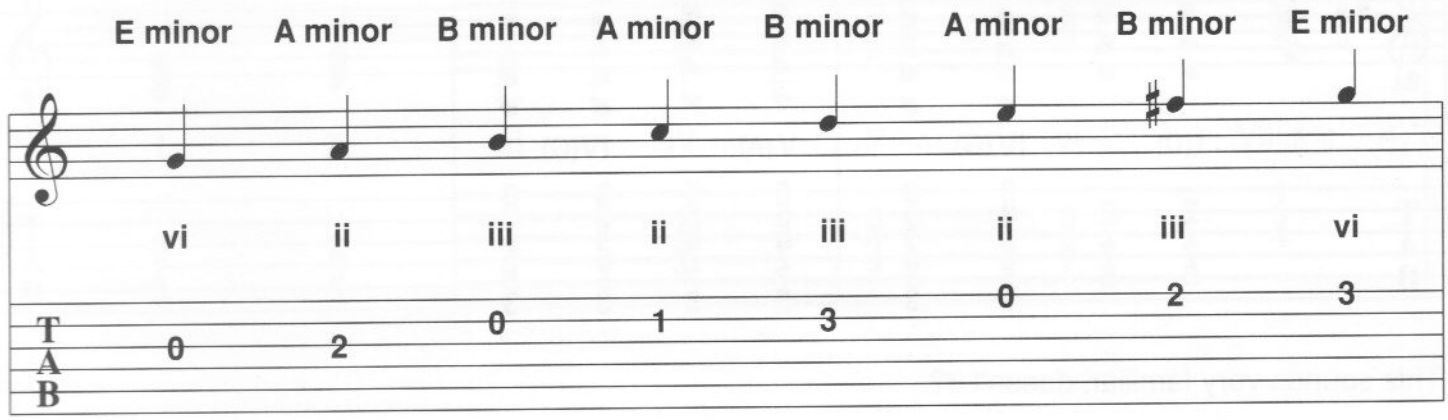


The note A is a note that is found in three chords – D Minor (**ii**), F (**IV**) and A Minor (vi). Any of these chords will harmonize any A note.

Every note in a Major scale can be harmonized using just the **I**, **IV**, and **V** chords. Here, for example, are the **I**-**IV**-**V** chord choice to harmonize a G Major scale:



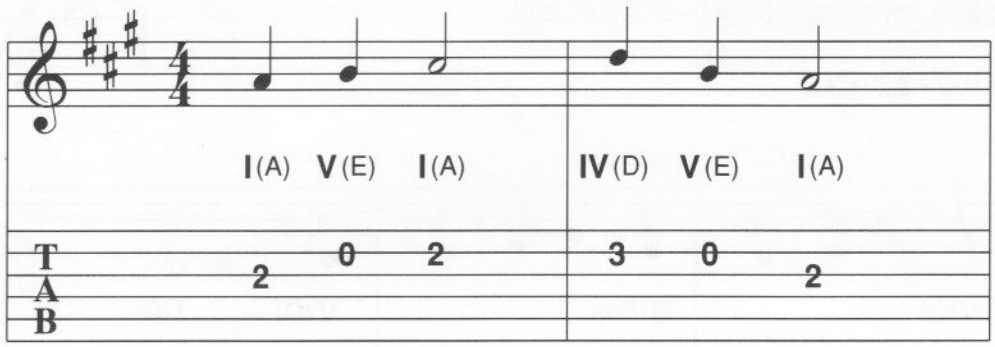
You can also harmonize a Major scale using just the **ii**, **iii** and **vi** chords. (The **vii**(dim) is rarely used.) Here are the **ii**-**iii**-**vi** chord choices for the same G Major scale:



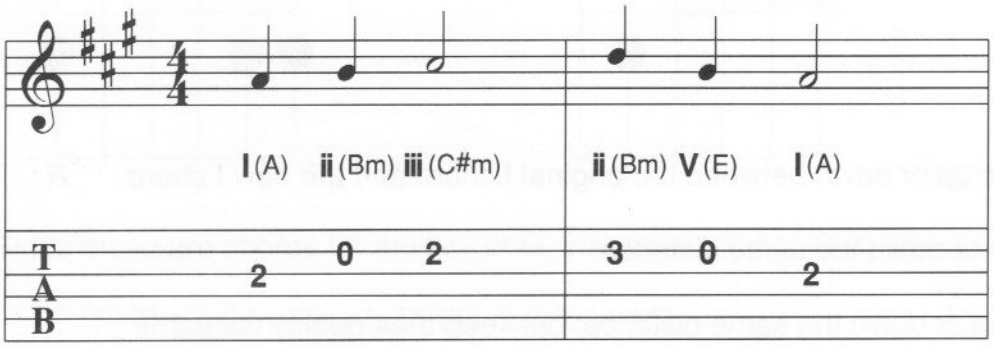
This harmony gives you a very different sound than the **I**-**IV**-**V** harmony!

The **I**, **IV**, and **V** chords are thought of as the pillar chords in a key. You can hear a song as being clearly in a particular Major key even when just these three chords are used.

Here is a melody with chords that uses just **I**, **IV** and **V** in the key of A:

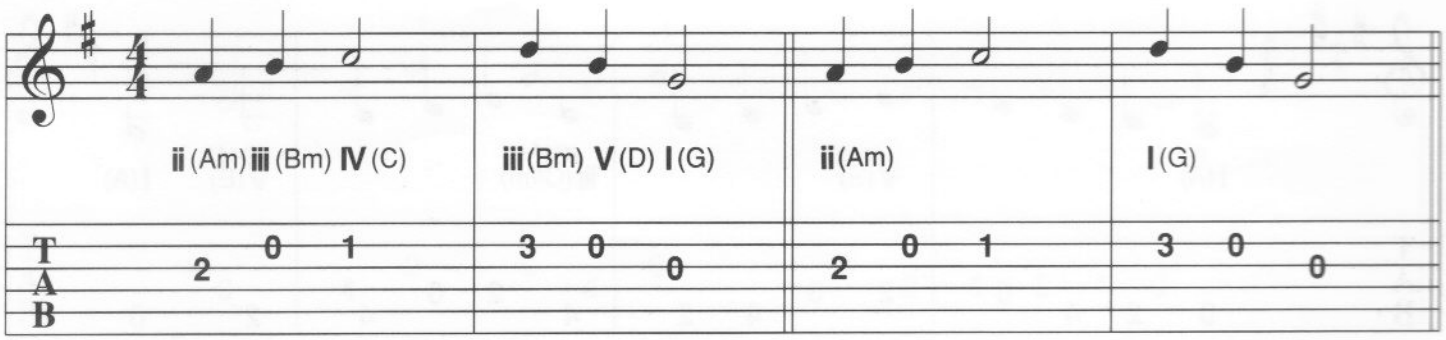


The **ii**, **iii** and **vi** chords are considered color chords. They can add some spice, or a change of feel to a chord progression or song. Here is the same melody from the last example, but this time we are using some color chords along with the **I**, **IV** and **V** chords:



In the examples given so far, I have harmonized every note with a different chord. While this is commonly done in classical music, popular music usually harmonizes only the most important notes and allows the notes around them to move without requiring a chord change

For example, the first two bars in the progression below are harmonized with one chord per melody note. The second two (which contain the same melody as the first two) are harmonized with one chord per bar, regardless of the melodic motion:

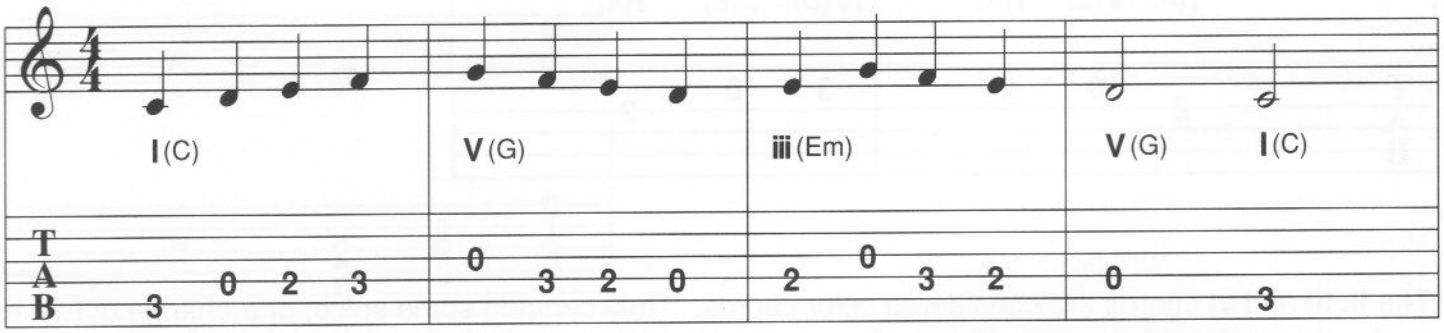


The second two bars sound more like Rock chord progressions usually do.

TRANSPOSITION

Transposition gives you the tools to take a song or progression and move it into any key. This is often used to put songs into keys that you can sing in more easily.

Here is a melody with chords in the key of C:



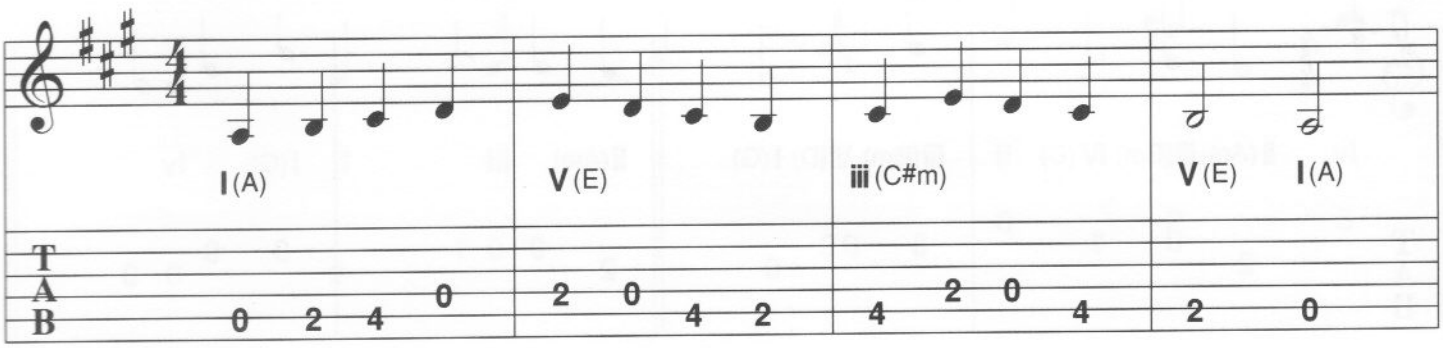
Maybe this melody in this key is a little high for your voice, and you want to move it.

Here's how to do it:

1. Pick the new key.
2. Determine the interval up or down between the original **I** chord and the new **I** chord.
3. Move all the notes up or down the same distance.
4. Move all the chords up or down the same distance, but keep their quality the same. (Majors stay Major, Minors stay Minor, etc.)

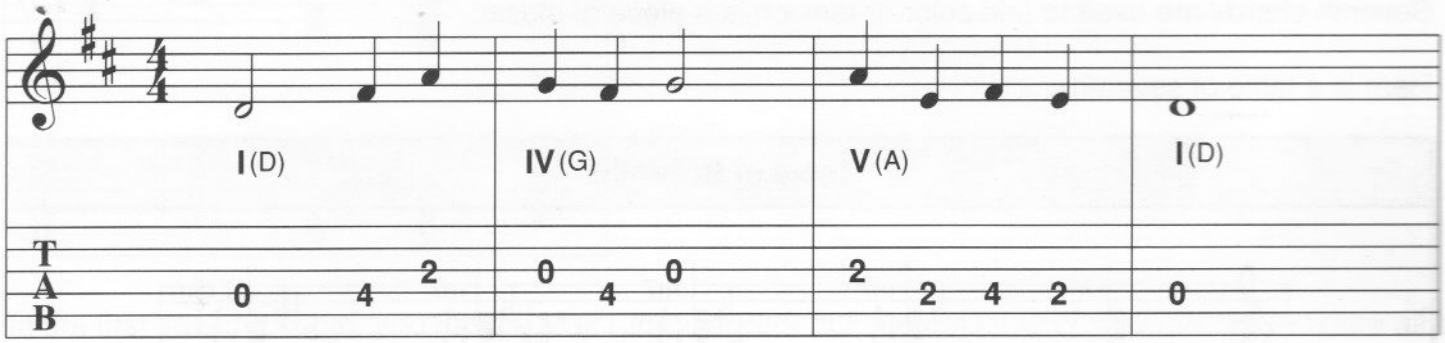
Let's move the melody from the last example down to the key of A:

1. The new key is A.
2. The interval from C **down** to A is a Minor 3rd (3 half-steps).
3. Moving all the notes and chords down a Minor 3rd, we get:

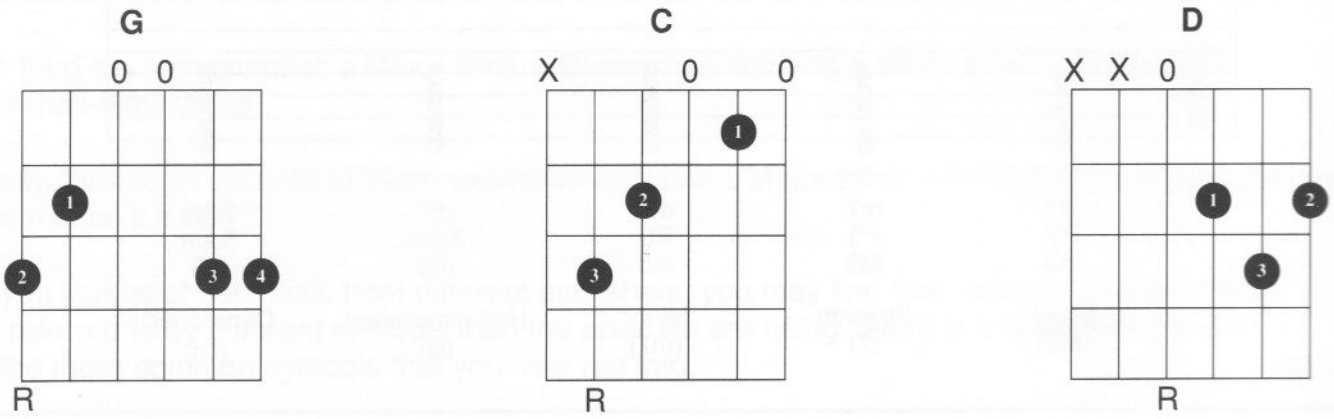


Transposition has another important use for guitarists. It lets you use a capo to obtain certain chord qualities in any key.

Lets say you have the following melody and chords in the key of D (This is a **I-IV-V** progression):



Suppose that you really like the ringing, open string sound of the G, C and D chords diagrammed below:



Since these are chords for the key of G, you must transpose to key of D to find your capo position.

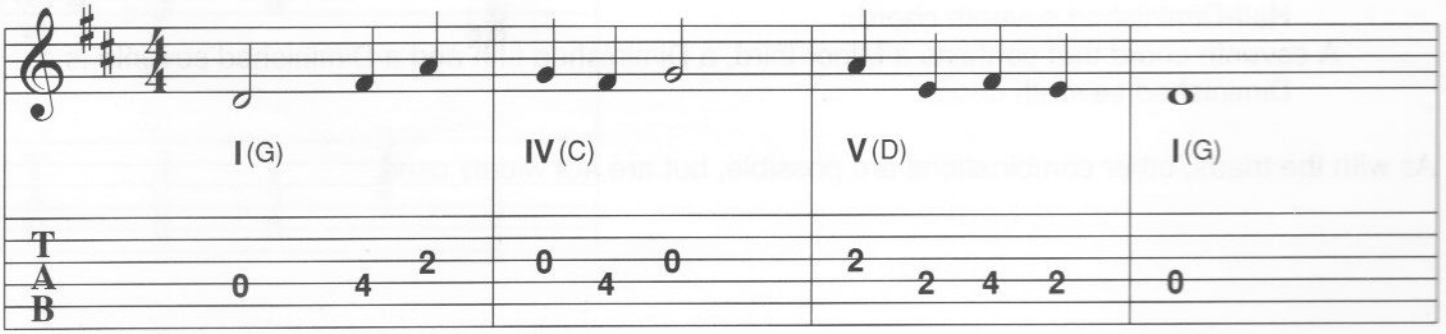
1. The original key is D, the new key is G.

2. The distance from G down to D is a Perfect fifth (seven half-steps)

3. Move all the chords down a Perfect fifth. Now you are in the key of G.

4. Put your capo on at the seventh fret and play the new chords. Leave the melody where it is. The capo is transposing the new chords back to the original key (D). Remember, in this case, we are transposing in order to use certain chord forms, not to change the actual key.

Here is the melody with the new chords (to be played with the capo at seventh fret):

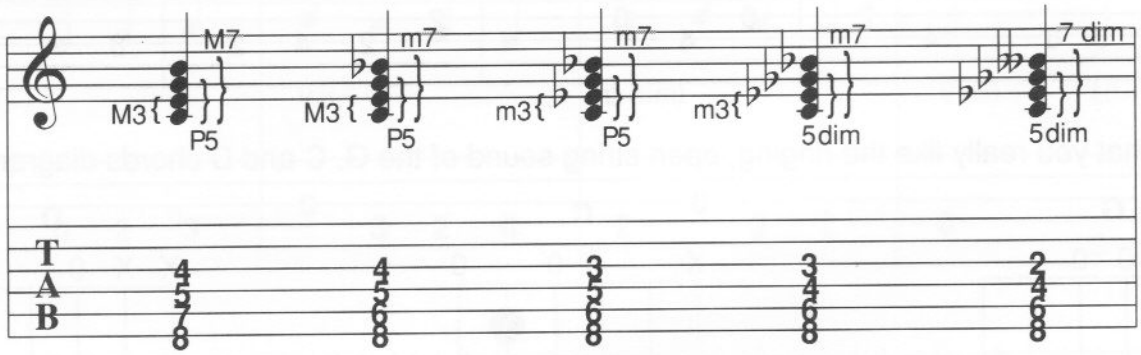


SEVENTH CHORDS

Seventh chords are used to add color or tension in a piece of music.

Here is a table of sevenths:

Table of Sevenths



M7 P5 M3	m7 P5 M3	m7 P5 m3	m7 5dim m3	7dim 5dim m3
Major (M7)	Seventh (7)	Minor (m7)	Half-diminished (ø)	Diminished (o)

In the same way that triads are constructed of two superimposed intervals (a third and a fifth) from the same root, seventh chords are constructed of three superimposed intervals (a third, a fifth, and a seventh) from the same root.

Combining the three intervals, the chart will tell you what kind of seventh you have:

A seventh chord that contains a Major third, a Perfect fifth and a Major seventh is a Major seventh chord.

A seventh chord that contains a Major third, a Perfect fifth and a Minor seventh is a Dominant type seventh chord, commonly referred to as simply a seventh chord.

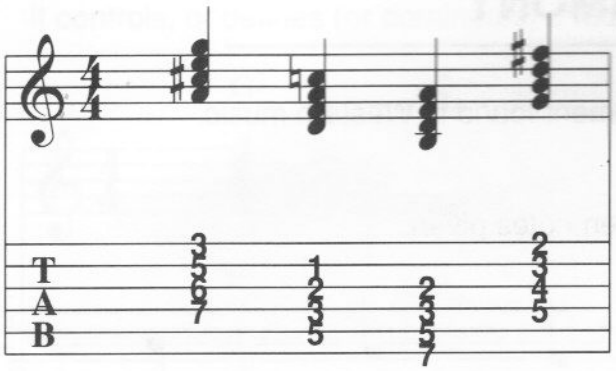
A seventh chord that contains a Minor third, a Perfect fifth and a Minor seventh is a Minor seventh chord.

A seventh chord that contains a Minor third, a Diminished fifth and a Minor seventh is a Half-Diminished seventh chord.

A seventh chord that contains a Minor third, a Diminished fifth and a Diminished seventh is a Diminished seventh chord.

As with the triads, other combinations are possible, but are not widely used.

Let's work a few examples:



In the first seventh chord, you have a Major third, a Perfect Fifth and a Minor seventh, if you figure all the intervals from the root (lowest note). This chord, then, is an A7.

The second seventh contains a Minor third, a Perfect fifth and a Minor seventh, making it a Dm7.

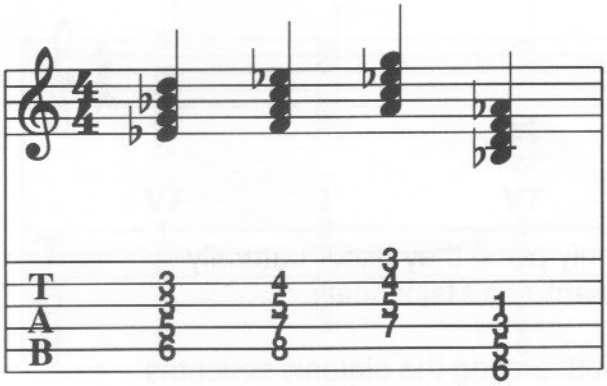
The third seventh contains a Minor third, a Diminished fifth and a Minor seven. This one is a B^{ø} (half-diminished).

Finally, the fourth seventh of these examples contains a Major third, a Perfect fifth and a Major seventh. That makes it a GM7.

As you look at sheet music from different publishers, you may find that various seventh chords are referred to by different symbols than the ones we are using. Here is a table listing a few of the more common symbols that you may run into:

Seventh	Commonly Used Symbols	Examples
Major seventh	Δ, Maj7, M7	BΔ, D Maj7, C#M7
Dominant type seventh	7	D♭7
Minor seventh	min7, m7	F#min7, A♭m7
Half-diminished seventh	ø, min7^{-5} m7^{-5} min7$^{♭5}$ m7$^{♭5}$	C^{ø} E min7^{-5} Fm7$^{♭5}$
Diminished seventh	dim, ^{o}	G dim, A^{o}

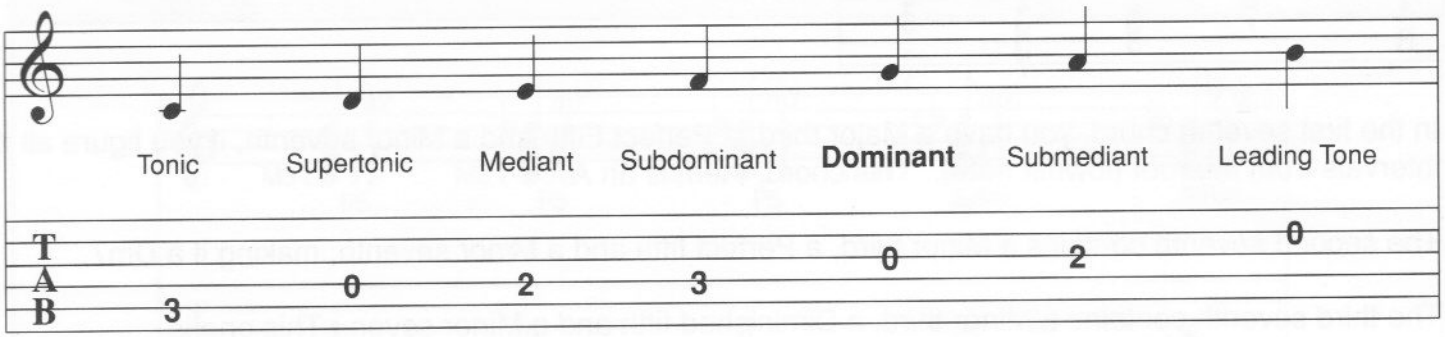
Here are a few sevenths for you to figure out. (Answers are on page 32):



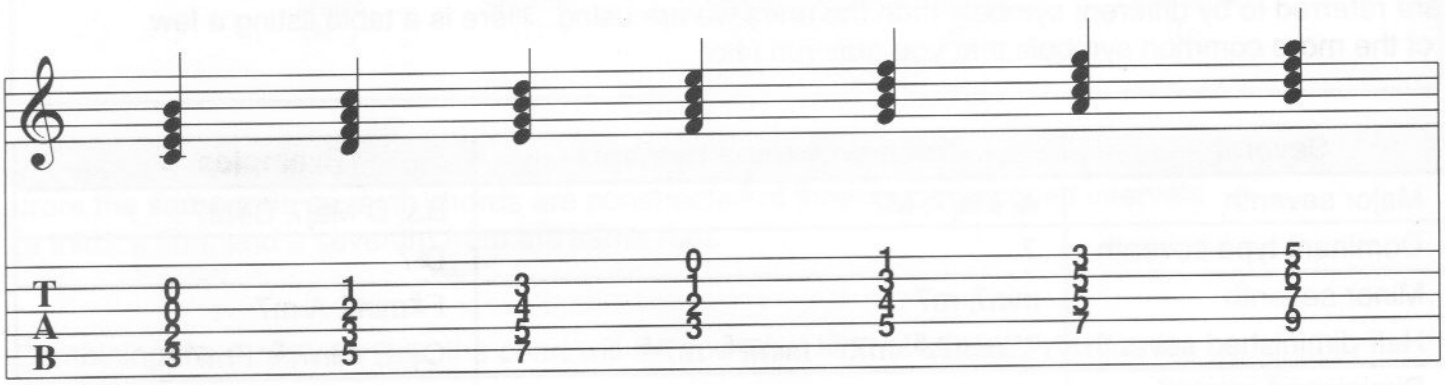
DOMINANT HARMONY

Dominant harmony is the strongest kind of harmonic movement found in Western music. You hear it a lot, and you will use it a lot.

Here is a C Major scale with the function names of the seven notes given.



Diatonic seventh chords can be constructed the same way that diatonic triads are – build a seventh chord on each note of the scale, and use only other notes in the scale to build your thirds, fifths and sevenths.
Here are the diatonic seventh chords for the key of C:



Looking at the types of seventh chords that result we find that:

IM7 and **IV**M7 are Major sevenths

iim7, **iii**m7, and **vi**m7 are Minor sevenths

viiø is a half-Diminished seventh

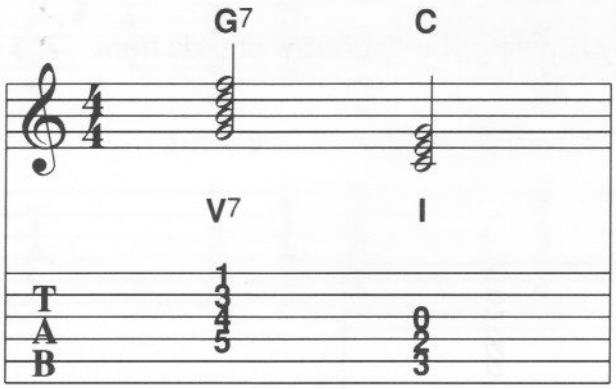
V7 is a Dominant type seventh

Sevenths of the Dominant type are so named because the only place they occur naturally (that is, in diatonic construction) is on the fifth note or **Dominant** of a Major scale.

This is true for all Major keys – the only Dominant type seventh among the diatonic sevenths is the **V**7 or **Dominant seventh** chord.

What is so important about the Dominant??

It controls, or defines (or dominates) a Major key. Play this progression:



This progression from G7 to C is a typical Dominant seventh to Tonic (or **V**7 to **I**) progression. Notice how clearly it says "The End." This is considered the most satisfying chord progression in Western music.

This is true in part because a Dominant type seventh is a **dissonance** and the Major chord to which it resolves is a **consonance**.

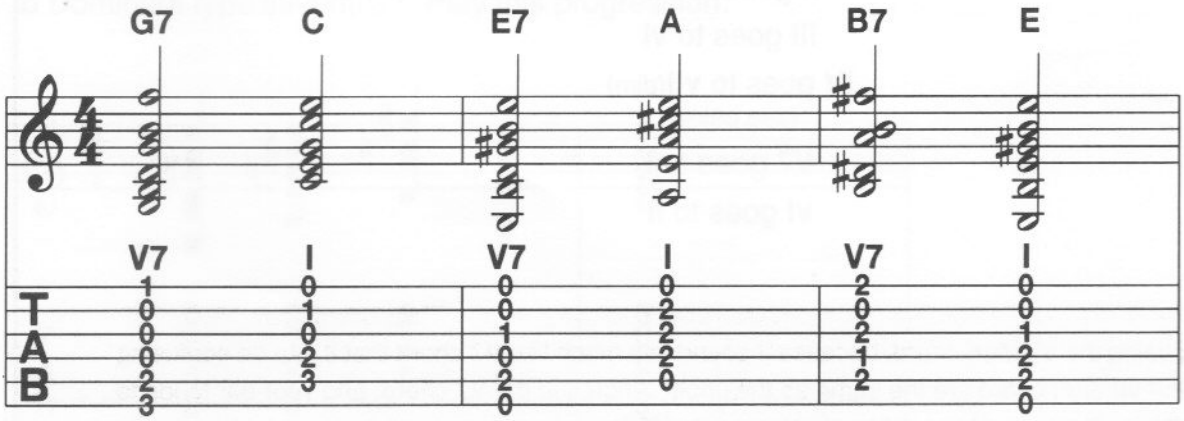
Consonance and Dissonance

A consonance is any chord that will stand on its own. When you hear a consonance, you feel no tension; no need to move to another chord.

A dissonance is any chord that must resolve; that will not stand alone. When you hear a dissonance, you feel tension; you want the dissonance to move to another chord.

People usually think of dissonance as unpleasant or harsh, and consonance as pleasant, but that is not necessarily the case. Dissonance simply means "having a need to resolve."

Here are a few more Dominant (**V**) to Tonic (**I**) progressions in different keys:

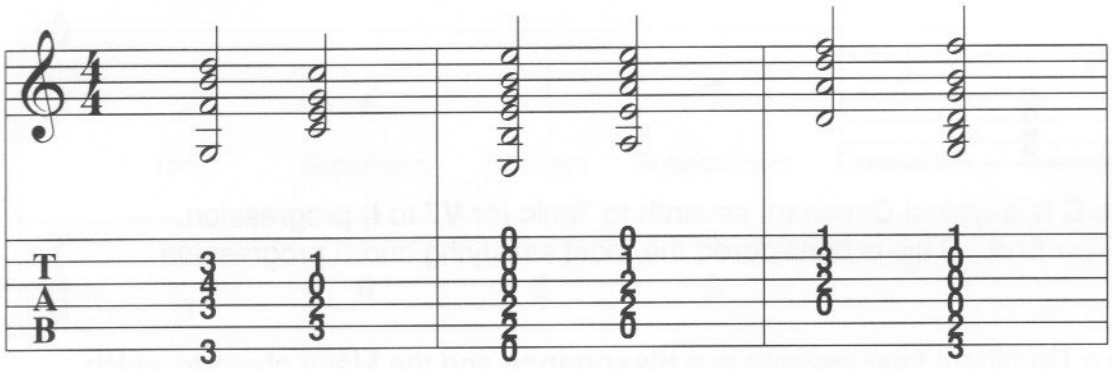


Notice that even though the particular chords in each example sound different, each **V**7 to **I** progression says "The End" quite clearly.

SECONDARY DOMINANTS

Secondary dominants let you expand your chord choices by allowing you to borrow chords from other keys.

Here are three chord progressions:



What do these chord progressions have in common???

In each case the **root movement**, (that is, the distance between the roots of the two chords) is down a Perfect fifth. This is the same root movement you will find in a **V**7 to **I** progression. (In fact, the first progression of the example above *is* a **V**7 to **I** progression.)

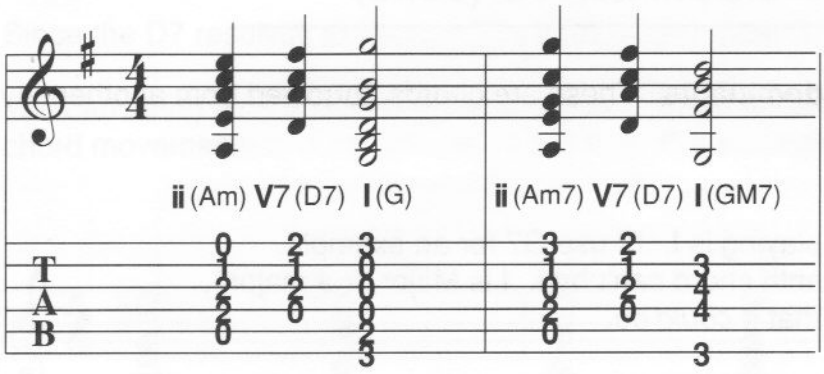
Root movement down a Perfect fifth is considered almost as satisfying as a **V**7 to **I** progression, even when the chords are not a Dominant seventh moving to a Major!

This an easy way to find a good chord to move to from any chord in a key. Here is a table of root movements in a key:

Root Movement of a Perfect Fifth (within a key)
I goes to **IV**
ii goes to **V7**
iii goes to **vi**
IV goes to **vii**(dim) (see below)
V7 goes to **I**
vi goes to **ii**

We are avoiding using the **vii**(dim) chord, because it sounds so much like **V**7 chord that it can be confusing (The 3 notes in the **vii**(dim) chord are the same as the upper 3 notes in the **V**7 chord, and your ear tends to hear it as a **V**7 chord. Because of this, **IV** tends to move to **V**7.

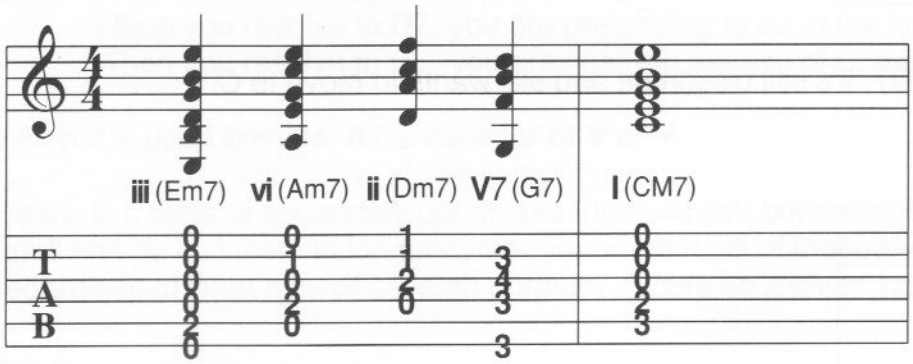
You can combine these motions for longer progressions, for example here are two **ii-V7** to **I** progressions in the key of G:



Notice that while both the progressions move smoothly from one chord to the next, the second progression, which uses sevenths, has a softer, jazzier feel. This is an example of using sevenths for color.

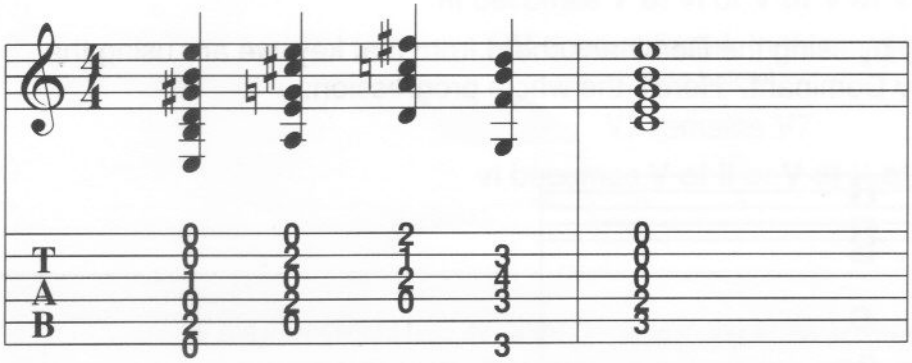
You can use root movement of a fifth to string longer chord progressions together. Just be careful to keep each pair of chords the correct distance apart.

Here is an example of the frequently used **iii-vi-ii-V7** I progression, in the key of C:



Real smooth, isn't it!

What would happen if we changed all of the chords (Except the last one) in the example above to Dominant type sevenths? Play this progression:



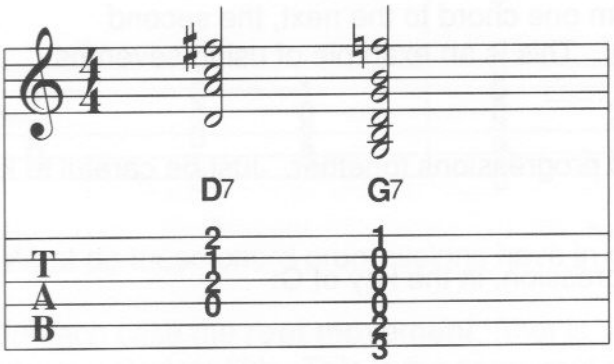
That sounds quite different from the original progression, doesn't it?

SECONDARY DOMINANTS (cont.)

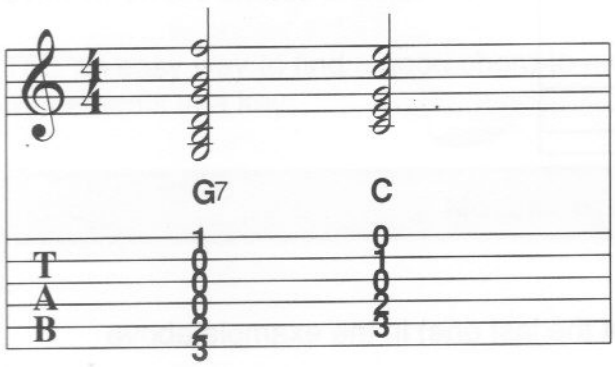
The last example makes use of **secondary dominants**. These are chords borrowed from another key.

Here's how it works:

Pretend that whatever chord you are playing is **I**. I'll use G7 for an example.
Wait a minute!! A Dominant type seventh chord can't be **I**. **I** is Major or a major7.
True! But let's *pretend* for a moment that it *could* be.
If G7 is I, where is **V**7?
Right!! It's **D**7. So now we'll play **V**7 to **I** – D7 to G7:

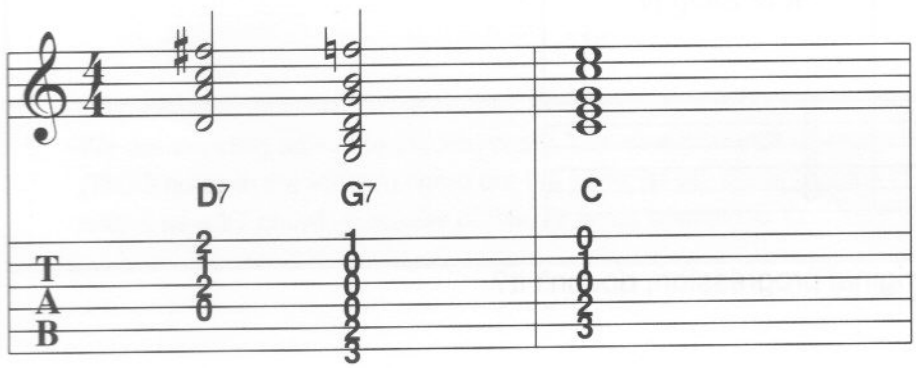


Problem!!!! When we land on G7, it's still dissonant and still wants to move to C.
OK, let's move to C:



That's better! Now we have resolution.

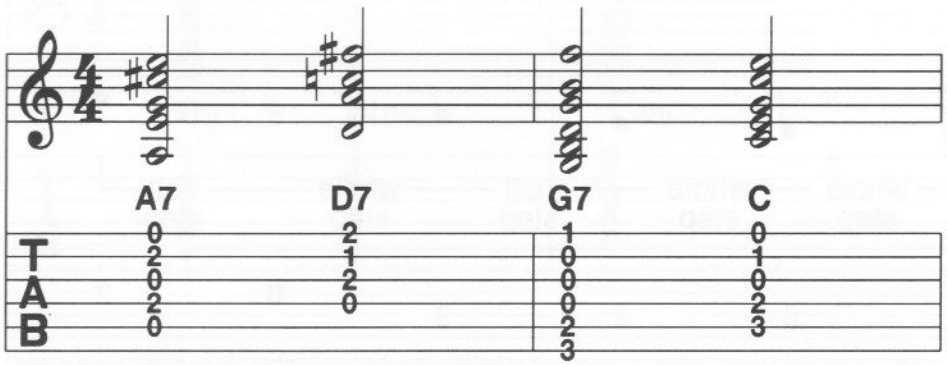
When we pretend to be in another key by using the Dominant chord from that key, we are using the chord (in this case D7) as a secondary Dominant. Here's the whole progression:



It has a real ragtime kind of feel to it now, which is quite different from the smooth jazz/pop feel it had before we changed all the chords to Dominant type sevenths.

Since the D7 resolves to the real **V**7 chord (in this case G7), we will call it **V7 of V**7 or **V of V** for short.

You can string longer progressions together with secondary dominants just like you did with chord movements that remain within one key. For example, once again:



Here, you have a secondary Dominant of a secondary Dominant:

When you play A7, you are pretending to be in the key of D
When you resolve to D7, you are pretending to be in the key of G
When you resolve to G7, you are finally in the key of C, where you will remain.

When it is used like this, A7 is called **V of V of V.**

Below is a table of secondary dominants that tells you both where they resolve within a key and what to call them in longer cycle. Remember, all of these chords are Dominant type sevenths, regardless of what type of seventh normally occurs on a given scale degree.

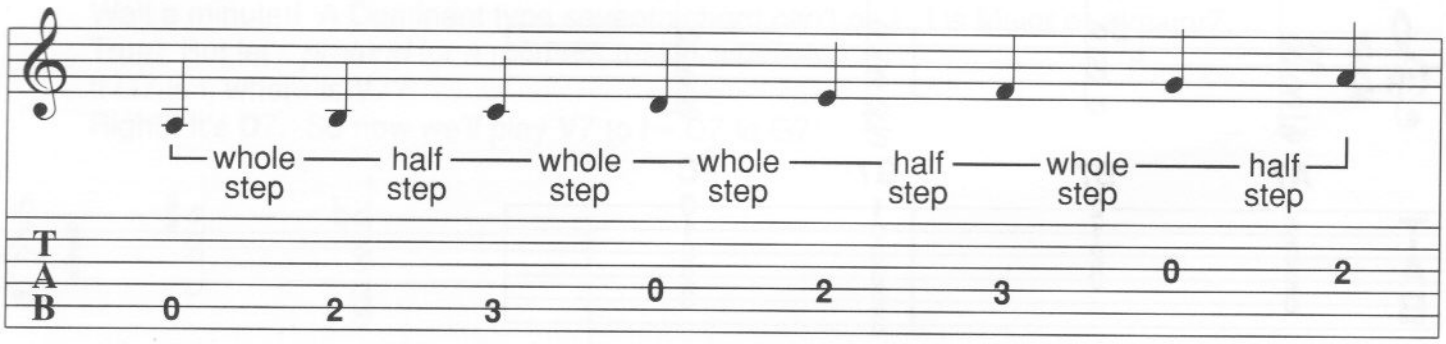
Secondary Dominants
I becomes **V of IV**
ii becomes **V of V**
iii becomes **V of vi** or **V of V of V of V**
IV does not work in this cycle (see below)
V7 remains **V**7
vi becomes **V of ii** or **V of V of V**

IV (as a Dominant type seventh) resolves to the flatted seventh degree of the scale, which is out of key altogether.

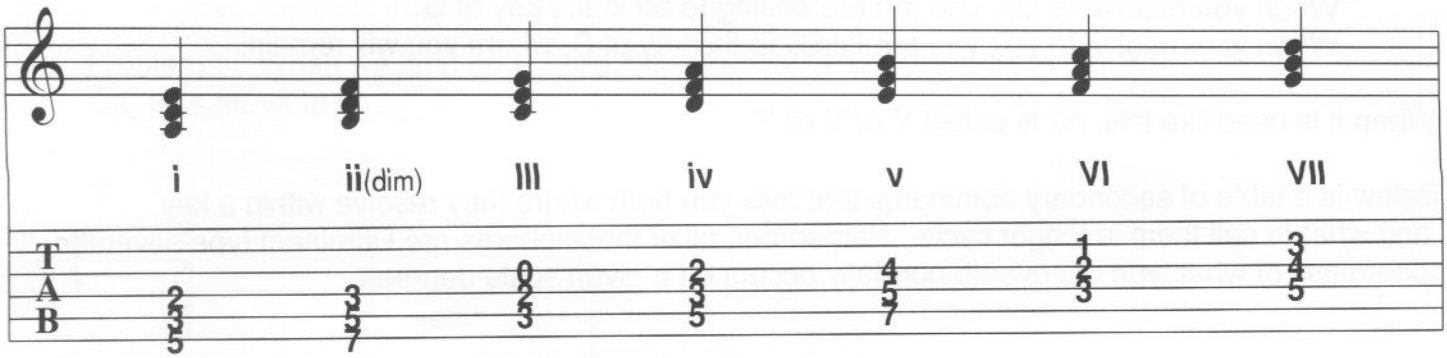
THE RELATIVE MINOR

The Relative Minor gives you an entirely different feel and a different set of harmonic relationships using the same notes as the Major scale.

Here is an A Minor scale:



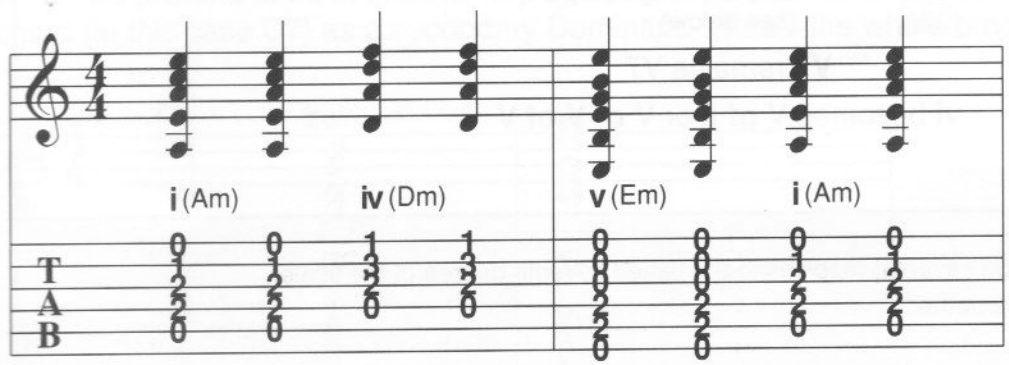
Notice that this scale contains exactly the same notes as the C Major scale. The only difference is that you are starting on A rather than C. But this is a **huge** difference!! With A as Tonic, we can derive the following diatonic triads for the key of A Minor:



Analyzing this, we find that:

i, **iv** and **v** are Minor triads
III, **VI** and **VII** are Major triads
ii(dim) is a Diminished triad.

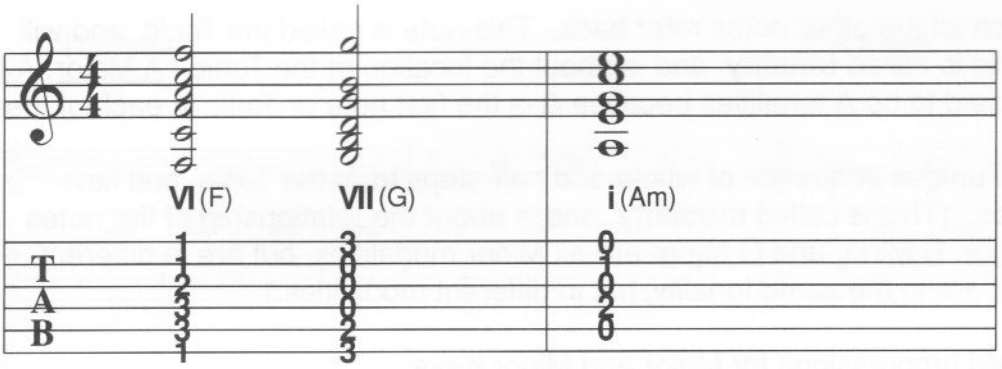
Here is a **i**-**iv**-**v** progression in the key of A Minor:



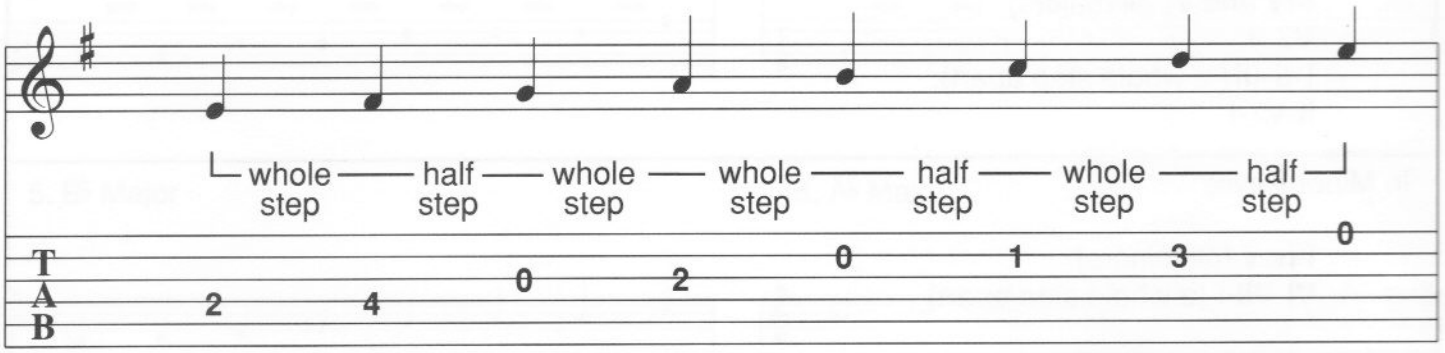
This sounds very different than the **I-IV-V** progressions in Major keys!!

Notice also that the **VII** chord in A Minor is a whole step below **i**. (**vii**(dim) is a half-step below **I** in Major keys.) This means that the seventh degree of a Minor scale is not a leading tone (which, by definition, is a half-step below the Tonic with a strong tendency to move to the Tonic), but is instead a **subtonic**.

This is another important difference. Here is another important Minor key progression – the **VI**-**VII**-**i** progression:



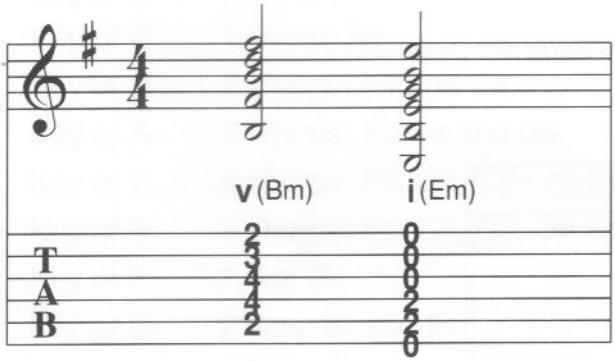
You can make a relative Minor scale for any Major key by playing the Major scale notes, in sequence, but starting on the sixth degree of the Major scale. Then re-number the scale steps for the new Minor scale that you have made. Here is an E Minor scale, which is the relative Minor for G Major:



Now you try a few.

Find the relative minors for the keys of A,D,E♭,and B♭. Answers are on page 32.

Here is a **v**-**i** progression in E Minor:



Notice that it does not have the same compelling pull toward **i** that **V**7 to **I** has in Major. It still defines the key. Any piece of music that has **i**,**iv** and **v** all as Minor chords is in the key of **i** Minor.

THE RELATIVE MINOR (cont.)

What defines a key and scale??

Every key has one note to which all the other notes refer back. This note is called the Tonic, and will be the first step of a scale. (This is called **tonality**, and is about the location of the Tonic. A Major, A Minor and any other A scales are all said to be A tonalities because A is the first note or Tonic in each of them.)

Every type of scale has its own unique sequence of whole and half-steps from the Tonic, and its own unique set of diatonic triads. (This is called **modality**, and is about the relationship of the notes in the scale to the Tonic. A Minor, D Minor and G Minor are all Minor modalities, but are in different tonalities. A Major and A Minor are in the same tonality, but in different modalities.)

Here is a table of definitive chord progressions for Major and Minor Keys:

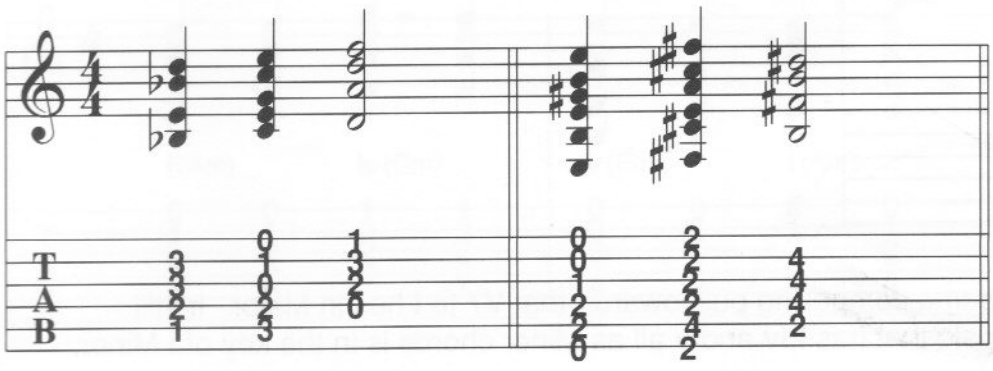
Definitive Chord Progressions
In Major Keys: **I**-**IV** and **V**(all majors) **V**7 -**I** **I**-**ii**-**iii** (a whole step apart). **ii**-**V**7-I
In Minor Keys: **i**-**iv**-**v** (all minors) **VI**-**VII**-**i** (a whole step apart)

To determine the key and scale of a particular song:

Find the Tonic. (Hint – Most songs end on the Tonic chord!!)

Look for progressions from the table. If you find them, they will tell you the modality of the song. (Some songs are in modalities other than Major and Minor. You won't find progressions from the table in them.)

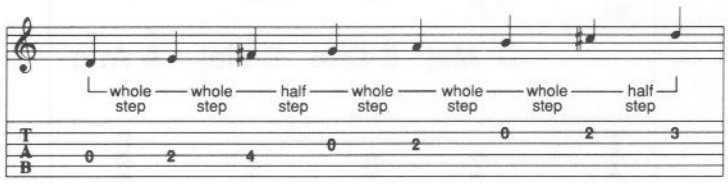
What are the key and scale for these two progressions? (Answer on page 32)



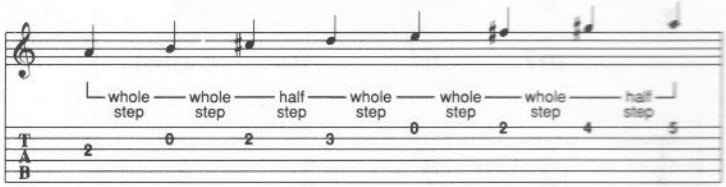
ANSWERS TO EXERCISES

Major Scales (Exercises on page 7.)

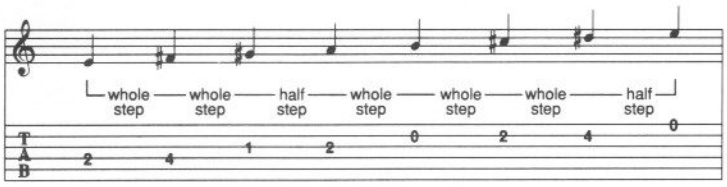
1. D Major



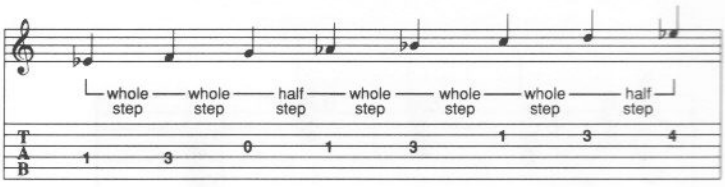
2. A Major



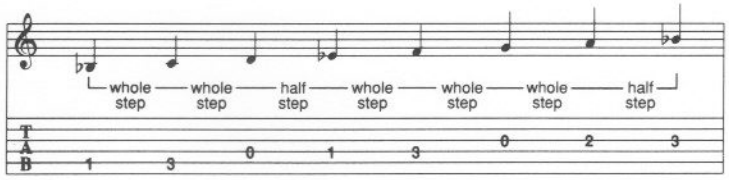
3. E Major



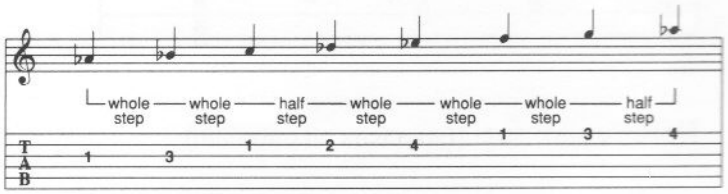
4. E♭ Major



5. B♭ Major



6. A♭ Major

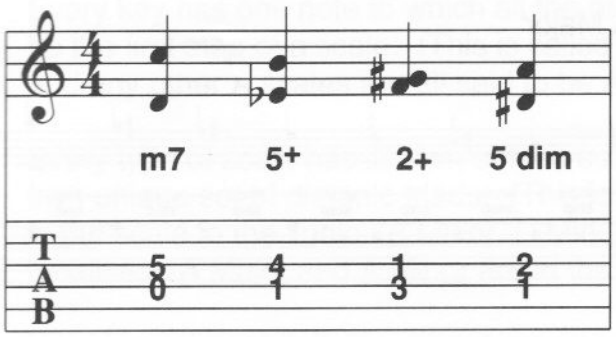


Circle of Fifths (Exercises on page 9.)

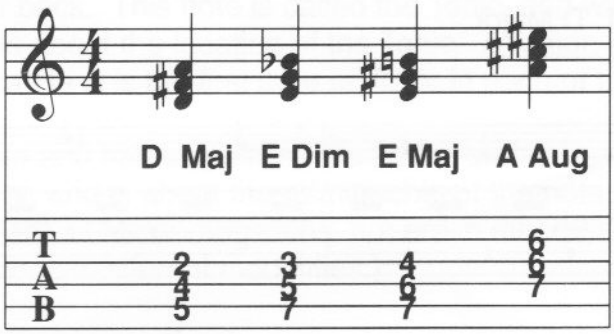
Key of C	No sharps or flats
Key of G	1 sharp: F#
Key of D	2 sharps: F# and C#
Key of A	3 sharps: F#,C# and G#
Key of E	4 sharps: F#, C#, G# and D#
Key of B	5 sharps: F#, C#, G#, D# and A#
Key of F	1 flat: B♭
Key of B♭	2 flats: B♭ and E♭
Key of E♭	3 flats: B♭,E♭ and A♭
Key of A♭	4 flats: B♭,E♭,A♭ and D♭
Key of D♭	5 flats: B♭,E♭,A♭,D♭ and G♭

ANSWERS TO EXERCISES (cont.)

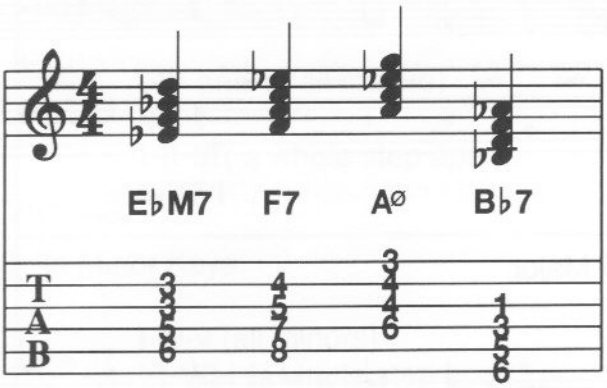
Intervals (Exercises on page 11.)



Triads (Exercises on page 13.)



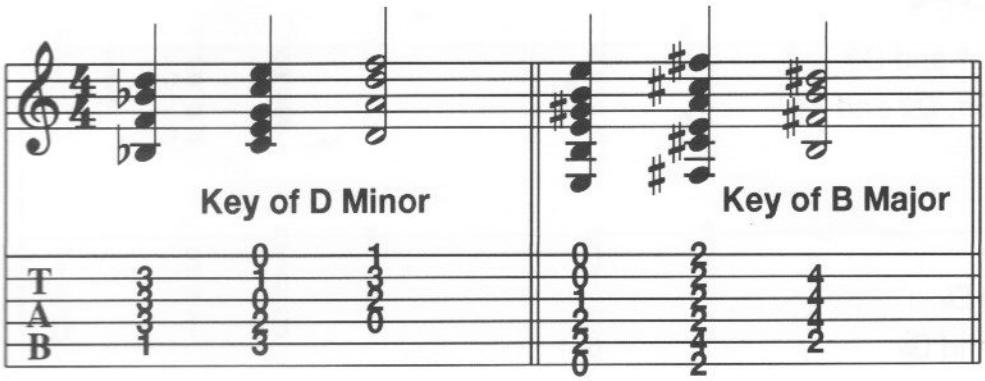
Seventh Chords (Exercises on page 21.)



Relative Minor (Exercises on page 29.)

1. Key of A: the relative minor is F# Minor
2. Key of D: the relative minor is B Minor
3. Key of E♭: the relative minor is C Minor
4. Key of B♭: the relative minor is G Minor

Relative Minor (Exercises on page 30.)



The GUITAR TECHNIQUES Series

The series designed to get you started. Each book clearly presents the essential concepts in tablature and notation, highlighting specific elements of guitar playing and music theory.

This Book Introduces:

- Circle Of Fifths
- Intervals
- Triads
- Transposition
- Secondary Dominants

Guitar Techniques

NOTES AND TAB

MUSIC THEORY FOR GUITAR

AN INTRODUCTION TO THE ESSENTIALS

- Circle Of Fifths
- Triads
- Transposition
- Secondary Dominants

By Michael P. Wolfsohn

Guitar Techniques

MUSIC THEORY FOR GUITAR

Contents

FOREWORD

Music theory is the language of musical construction. Understanding it will help you play better and improvise better. It will give you the tools to write better songs and to better understand other Artist's songs you have learned.
In this book you will learn many of the basics of how the music you listen to is constructed.

To get the most out of this book:

First – Go through the book in sequence. Each idea introduced in the book is built on the ideas introduced before it.

Second – Work out all the examples. They will help you put the ideas you are learning into practice, and help you use these ideas sooner.

Third –Try to use the tools you are learning to analyze music that you play.

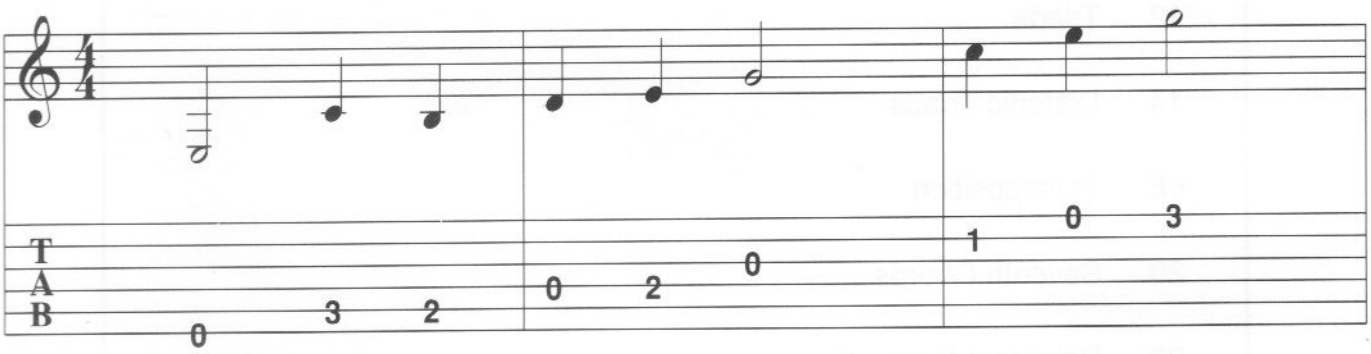
Fourth – Refer back to the book periodically. Understanding will come gradually with repeated exposure to these ideas.

Fifth – Don't give up!! It may take a while, but theory will make sense to you if you stay with it.

PLAYING GUIDE

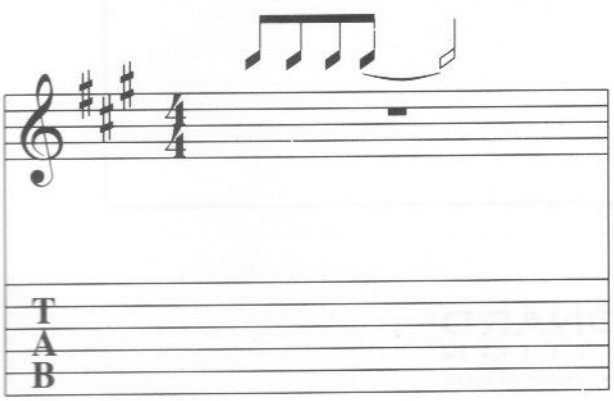
Musical examples in this book are written in both standard music staff notation and tablature.

Standard Notation



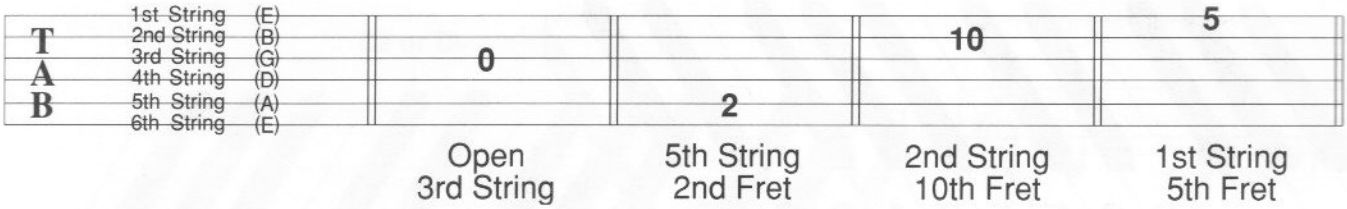
Tablature

Rhythm slashes are used to indicate strumming patterns for chords.

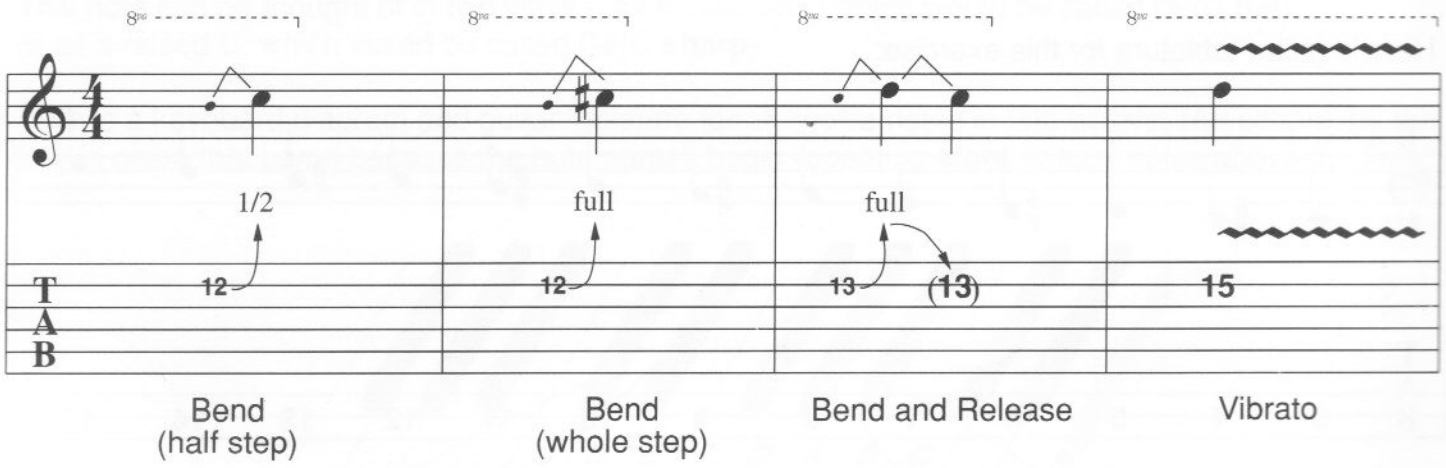


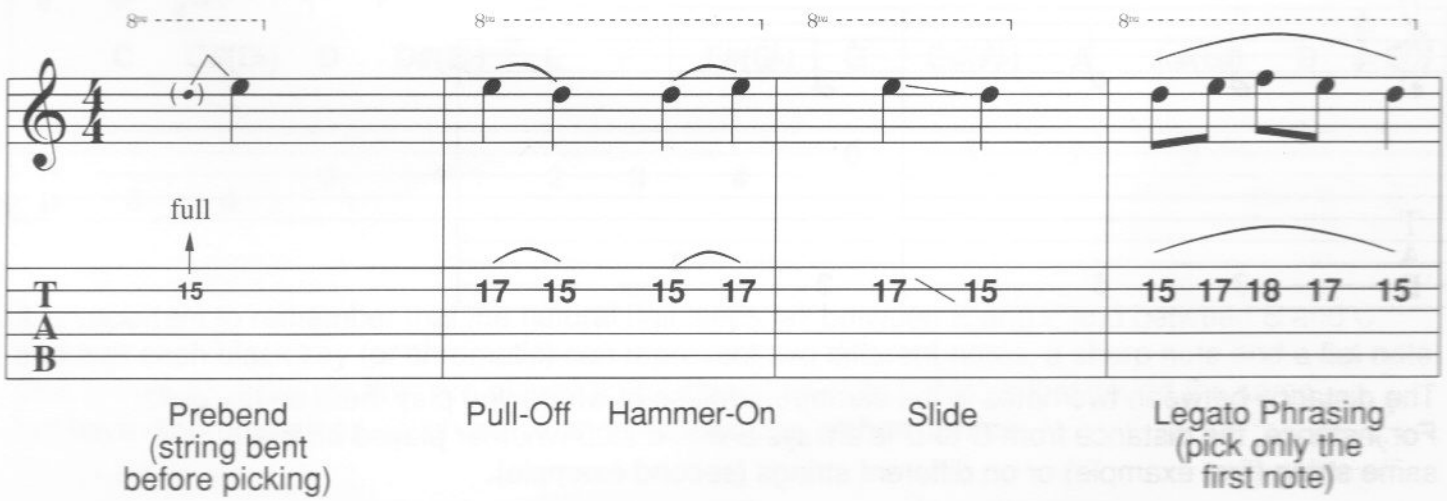
GUITAR TABLATURE GUIDE

Guitar tablature (TAB) is a special staff that graphically represents the guitar fingerboard. Each line represents a string of the guitar. The numbers on these lines indicate at which frets to place your fingers. A "0" on a line indicates an open string.



LEGEND OF SPECIAL GUITAR TECHNIQUES

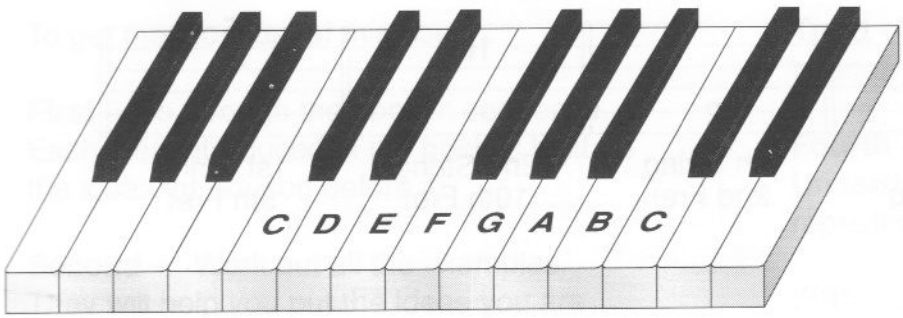




WHOLE STEPS AND HALF STEPS

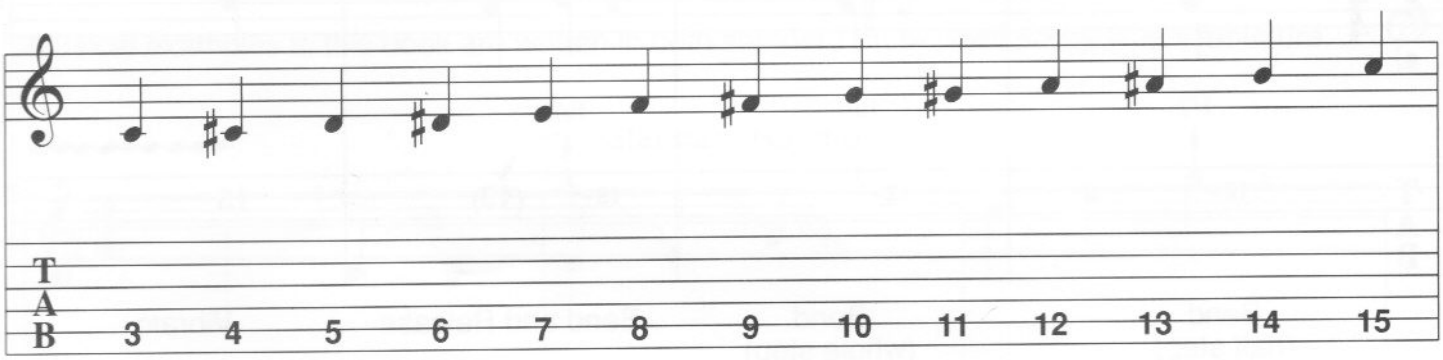
The basic building block of Western music is the half-step.

Pictured below is piano keyboard with the keys named:



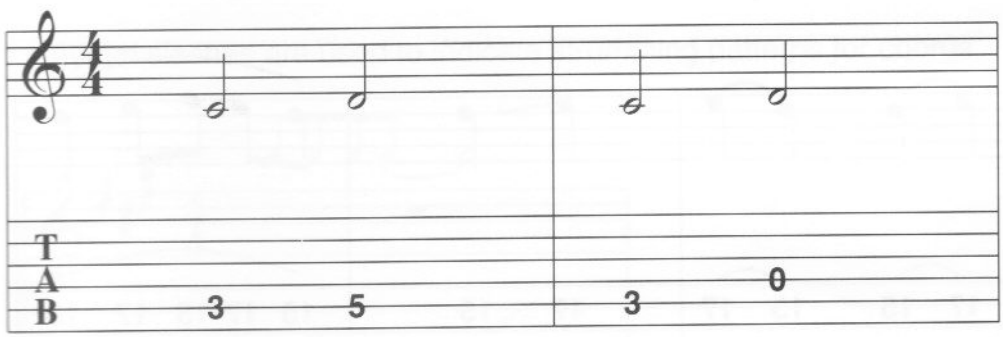
The notes produced by striking these keys are called the **natural notes**. Notice that if you move up the keyboard starting at C and striking each key (including black keys) until you reach the next C note (one octave higher), you will move up twelve times. Each of these moves is one **half step.**

Here is guitar tablature for this exercise:



Notice here that each move up is a move of one fret. The distance from one fret to the next fret on the guitar is a distance of one half step.

Two half steps equal one whole step. On the guitar the distance of two frets equals one whole step:

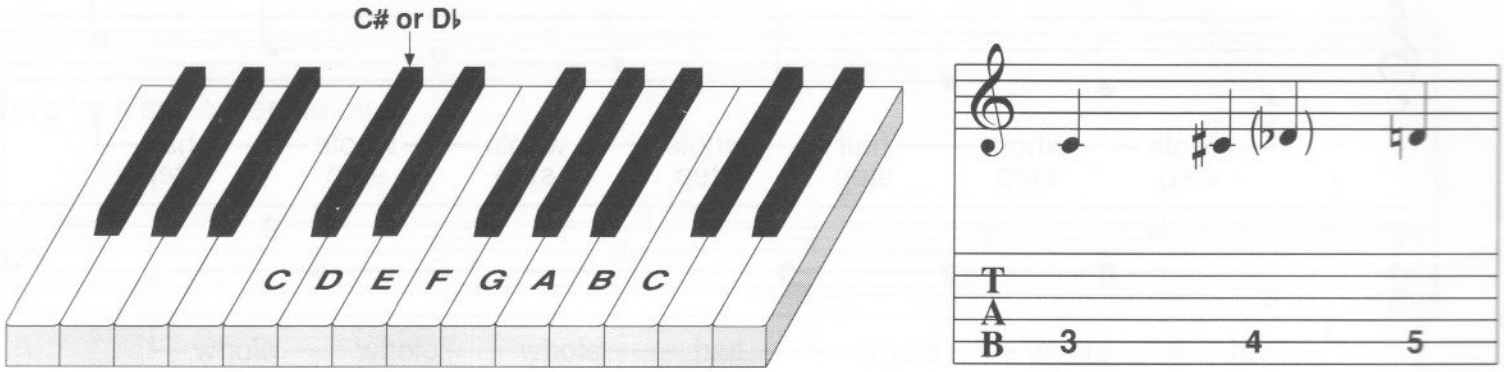


The distance between two notes is the same regardless of where you play them on the guitar. For instance, the distance from C to D is always a whole step whether played on the same string (first example) or on different strings (second example).

Referring back to the piano keyboard diagram, notice that the only half steps that occur between natural notes are the half step between E and F, and the half step between B and C. The distance between all the other adjacent natural notes are whole steps.

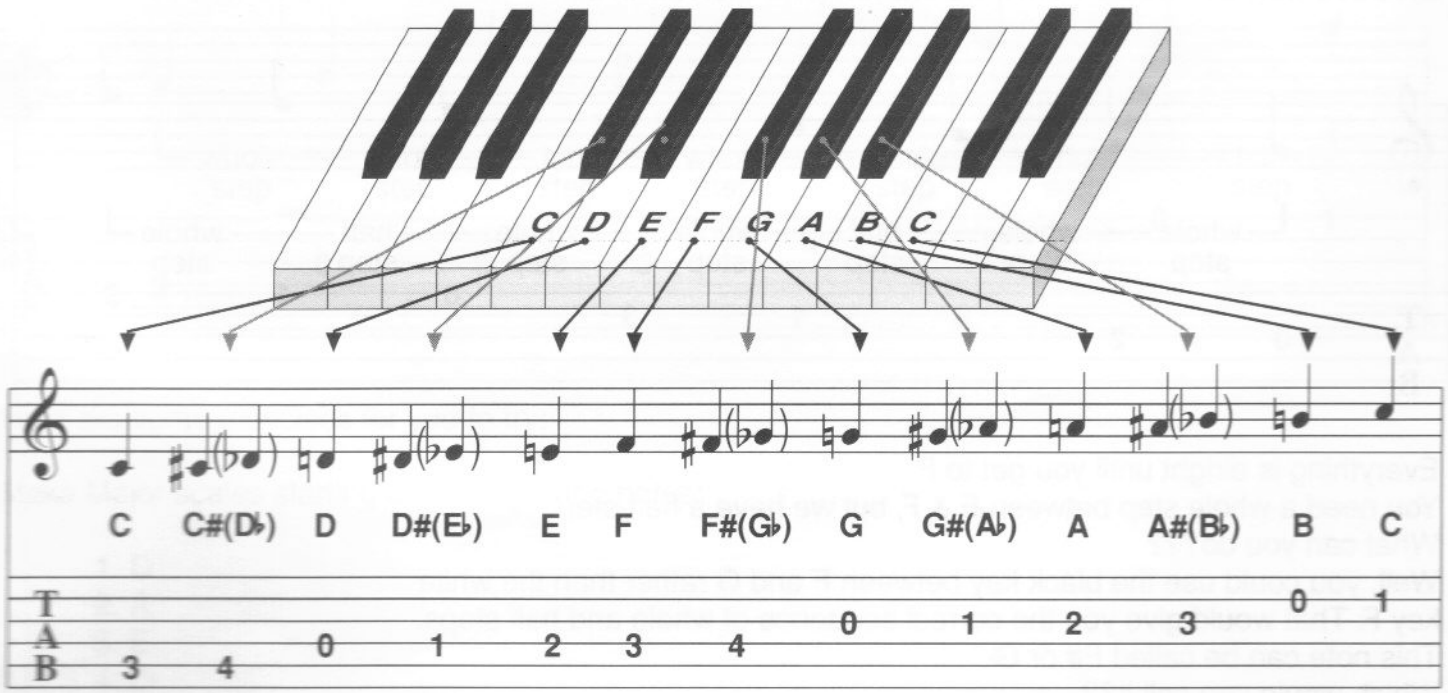
Between each of the natural notes that are a whole step apart is another note, called an **accidental** or **chromatic** which is played by a black key on the piano, or by the fret in between the two natural notes on the guitar.

For example, between C and D:



This note can be thought of in two ways – as a lowered D which would be called D♭ (D **flat**), or as a raised C, which would be called C#(C **sharp**).

Here is a keyboard diagram and guitar tablature for all twelve notes in one octave. (An octave, by the way is given that name because the note names begin repeating **eight** natural notes above the first):

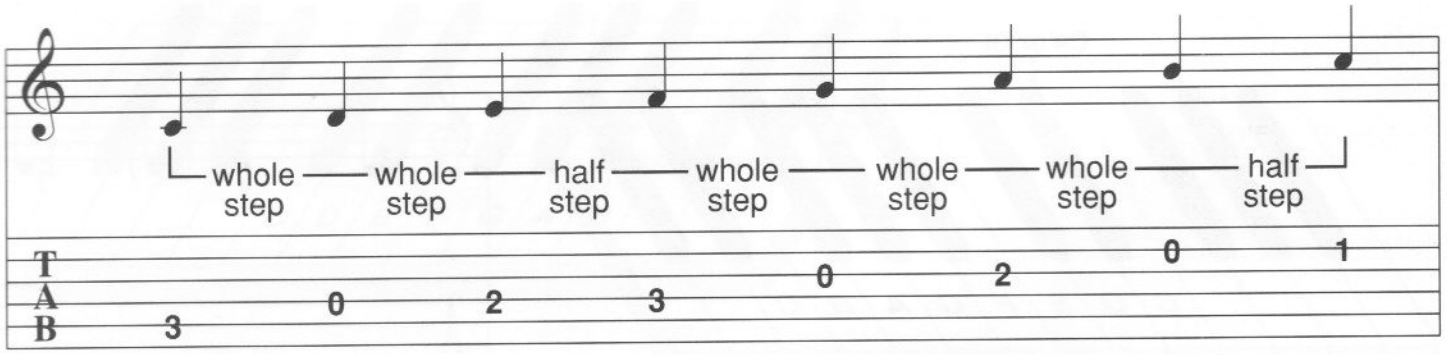


It is important to remember that the natural half steps fall between E and F and between B and C, and that each black key (or chromatic) can represent two different notes, a sharp note and a flat note. This is true even though they are played at the same key or fret. Notes that sound the same but have different names, (such as C# and D♭) are called **enharmonics**.

MAJOR SCALE PATTERN

A Major scale is the easiest and most logical way to organize the notes belonging to one Major key. All music theory is derived from the Major scale.

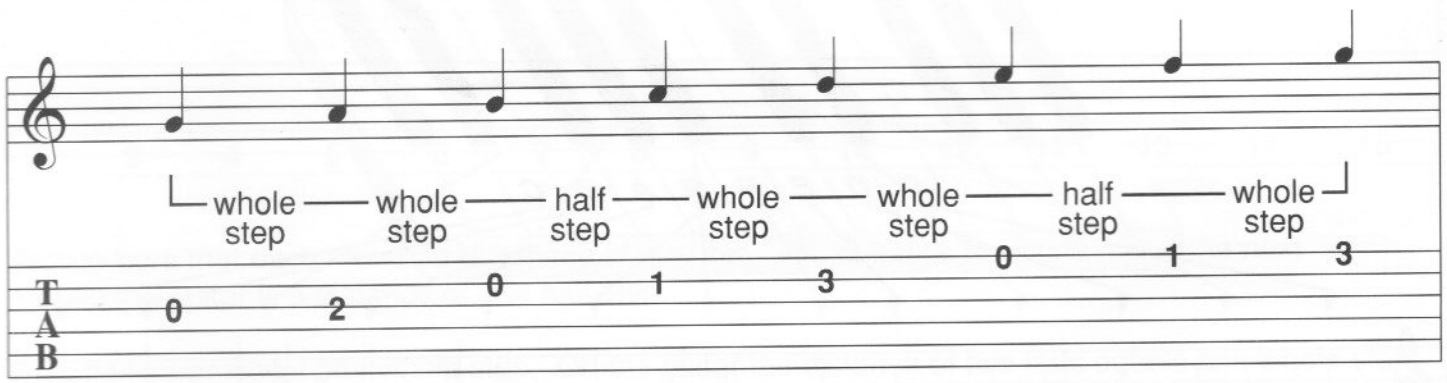
Here are the natural notes again, this time with whole and half steps marked:



There are two things to notice here:

1. **Pattern of steps.** First there are two whole steps, then one half step, then three whole steps, and finally one more half step. This pattern holds for every Major scale.
2. **Sequence of note names.** All Major scales proceed through each note name in sequence – no skips, no repeats. (It is this ladder-like pattern that gives rise to the word **scale**, which is derived from the Greek word **scœlum**, which means ladder.)

Let's see how this would work if we started on G instead of C:

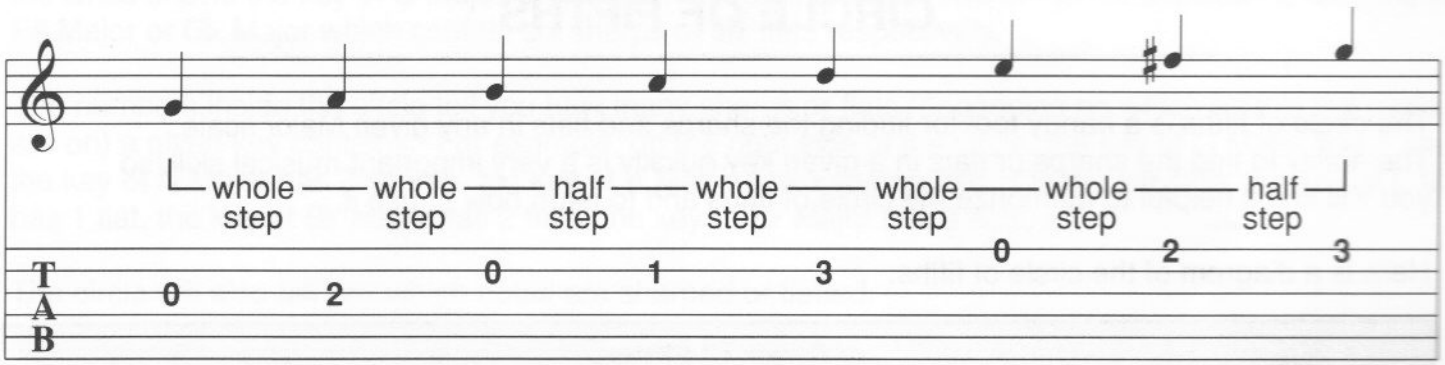


Everything is alright until you get to F
You need a whole step between E & F, but we have a half-step.
What can you do???
Well, you could use the black key between F and G rather than the white key F. That would give you the correct sequence of whole and half steps.
This note can be called F# or G♭.
Which would you call it??
You must call it F# otherwise you would be skipping a note name and repeating another which goes against rule 2 above.

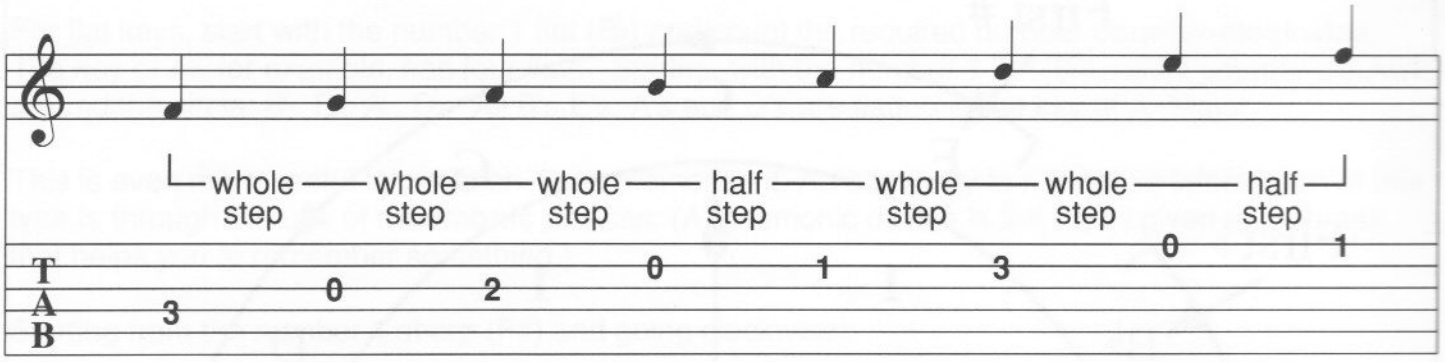
This gives us a third rule:

3. **Sharps or flats.** A Major scale may contain sharps or flats, but not both.

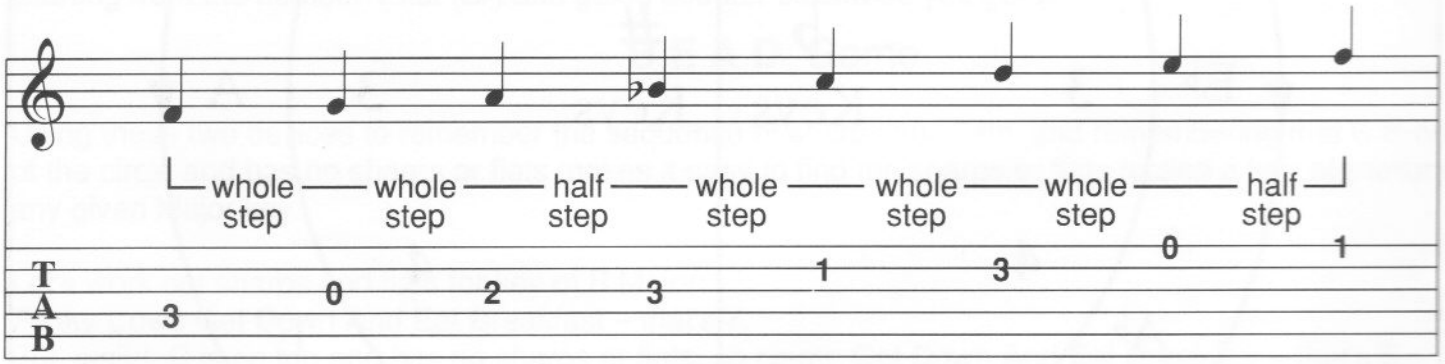
Here is the corrected G Major scale:



Let's try a scale starting on F:



What do you do about the whole step between A and B where you need a half step??
You flat the B, and everything falls into place:



Here are some exercises for you to try:

Make Major scales starting on the following notes:

1. D
2. A
3. E
4. B♭
5. E♭
6. A♭

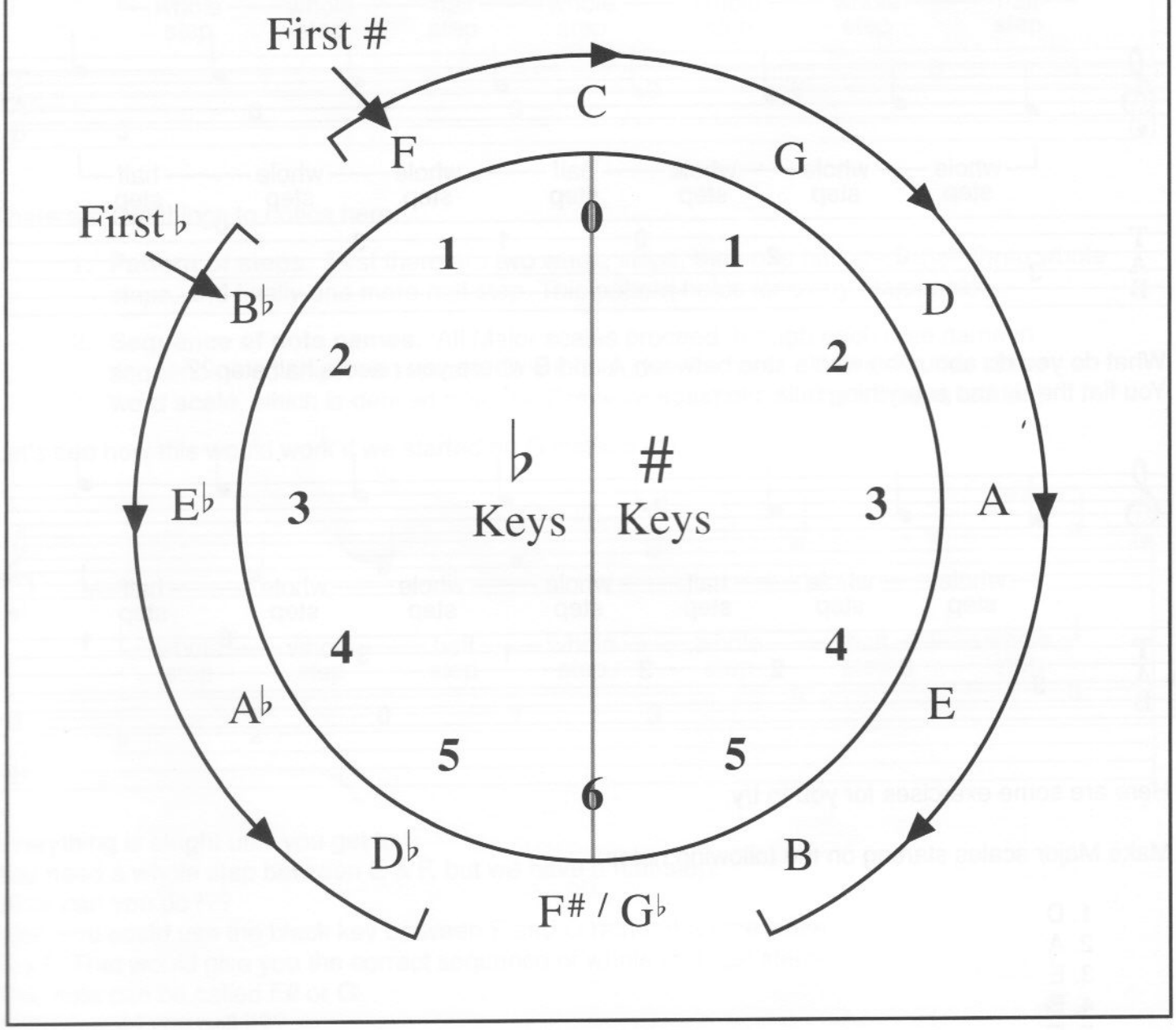
Answers are on page 31.

CIRCLE OF FIFTHS

The circle of fifths is a handy tool for finding the sharps and flats in any given Major scale. The ability to find the sharps or flats in a given key quickly is a very important musical skill, so you will find it helpful to memorize the circle of fifths and to learn how to use it.

Here is a diagram of the circle of fifths:

Circle of Fifths



You can find a lot of information in this circle.

It will tell you how many sharps or flats are in a given key.
It will tell you which notes are flatted or sharped.
It will give you information about chord relationships within a key.

The left side of the circle lists keys containing flats. The right side lists keys containing sharps. The top of the circle shows the key of C Major which has no sharps or flats. The bottom of the circle shows the key of F# Major or G♭ Major which contain six sharps or six flats respectively.

The numbers inside the circle tell you how many sharps or flats (depending on which side of the circle you are on) a given key contains. For example, on the right side of the circle, the key of G Major has 1 sharp, the key of D Major has 2 sharps, the key of A Major has 3 sharps, etc. On the left side, the key of F Major has 1 flat, the key of B♭ Major has 2 flats, the key of E♭ Major has 3 flats, etc.

The circle will also tell you which notes are sharped or flatted.

For sharp keys, start with the number 1 sharp (F#) and count the required number **clockwise**. Thus, the key of E Major has 4 sharps. Starting with the number 1 sharp (F#), count clockwise around the circle: F, C, G, D. E Major, then will have all F's, C's, G's and D's sharped!

For flat keys, start with the number 1 flat (B♭) and count the required number **counter-clockwise**. The key of A♭, for example, has four flats. Starting with the number 1 flat (B♭), count counter-clockwise around the circle: B♭, E♭, A♭, D♭. All B's,E's, A's and D's are flatted in the key of A♭ Major.

This is even more useful information if you memorize it. An easy way to memorize information of this type is through the use of **mnemonic** devices. (A mnemonic device is the name given to a phrase that helps you to remember something.)

Starting from the number 1 sharp (F#) and going clockwise:

Funky **C**ows **G**et **D**own **A**nd **E**at **B**reakfast **F**ood

(You must remember that the second F (Food) is for F#)

Starting from the number 1 flat (B♭) and going counter-clockwise you get a

B E A D Game

Using these two devices to remember the sequence of sharps and flats, and remembering that C is on top of the circle and has no sharps or flats makes it easy to find the sharps or flats (called a **key signature**) for any given Major key.

Let's work out sharps and flats for key of B Major:
Funky **C**ows **G**et **D**own **A**nd **E**at **B**reakfast – that's **7**.
But, wait!! **C** is on top and has no sharps or flats, so count: **G**et **D**own **A**nd **E**at **B**reakfast – that's **5**.
5 what?? 5 sharps (We're on the right side of the circle).
Which 5 sharps?? F#, C#, G#, D# and A# (**F**unky **C**ows **G**et **D**own **A**nd **E**at).
Pretty easy, right??

Now, let's do the key of D♭ Major**: B E A D** – that's **4**.
But, remember, **C** is on top and has no sharps and flats, so F must have 1 flat
(we're on the left side of the circle).
Thus: **F – B E A D** – that's **5.**
5 what? 5 flats (As we said, we're on the left side of the circle)
Which 5 flats?? B♭, E♭, A♭, D♭, and G♭, (**B E A D G**ame)

You should try to determine sharps and flats for the eleven most commonly used Major keys: C, G, D, A, E, B, F,B♭, E♭, A♭, D♭. (Answers are on page 31) It is common practice to refer to Major keys by their letter name only. Any other type of key or scale will always be referred to by both it's letter name and it's type (Minor, pentatonic, etc).

INTERVALS

Once you can find key signatures, you are ready to learn about intervals.
An interval is a group of two notes. They may be played melodically (one after the other) or harmonically (simultaneously).

An interval will belong to one of two families, the **Major-Minor** family or the **Perfect** family.

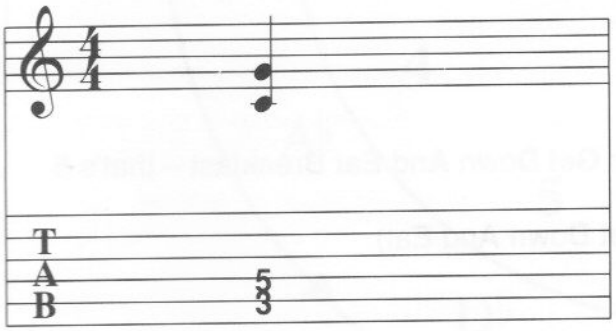
An interval will have two names, a **general** name (which is a number) and a **specific** name (which is a description of its qualities).

Here is a table of intervals:

Table of Intervals

MAJOR-MINOR FAMILY (2nds, 3rds,6ths and 7ths)		**PERFECT FAMILY** (4ths, 5ths, octaves(8ths))
	LARGER	
Augmented (+)		Augmented (+)
Major(M)	**IF IN KEY**	Perfect (P)
Minor (m or min)		Diminished (dim)
Diminished (dim)	SMALLER	

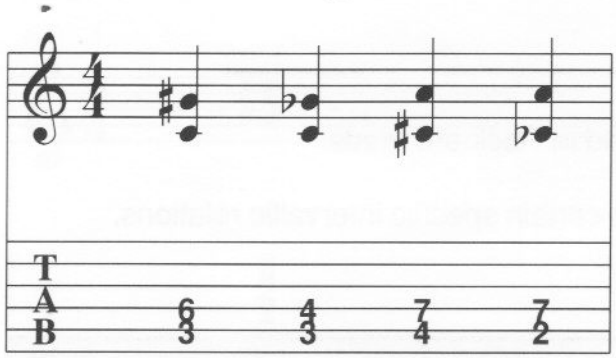
Let's look at an example and see how to use this table. Here is an interval :



First, find the general name of the interval. This can be done by counting consecutive lines and spaces on the staff, or by counting sequential letter names between notes. In this case, there are five lines and spaces, and five letter names (C,D,E,F,G) between these notes. This interval, then, is a **fifth** of some type.

To find the specific name, or type of interval, assume that the lower note is the first note of a Major scale. If the upper note is a note in that scale, the interval is Perfect (if it belongs to the Perfect family) or Major (if i belongs to the Major-Minor family). In this case, the lower note is C, so we need to know if G is a note in the C Major scale. Since the key of C has no sharps or flats, G *is* a note in the C Major scale. We know that fifths belong to the Perfect family of intervals, so this interval (from C to G) is a **Perfect fifth**.

What happens if the upper note is not in the scale of the lower note? Here are a few more examples:



The interval from C to G is still a fifth of some type. Remember, general names are determined by how many lines and spaces (or how many letter names) apart the two notes are. Whether the notes are sharped, flatted or natural the general name does not change, only the specific name (or quality) of the interval.

We already know from the last example that the note G is in the C Major scale. The G# in the first interval and the G♭ in the second, then, are not in the scale. Now we have to decide what these accidentals do to the intervals – make them larger or make it smaller.

In the first example, the upper note has moved up a half-step away from the lower note (which is unchanged), making the interval one half-step larger. If we move up one specific name on the chart, we find that this interval from C to G# is an augmented fifth.

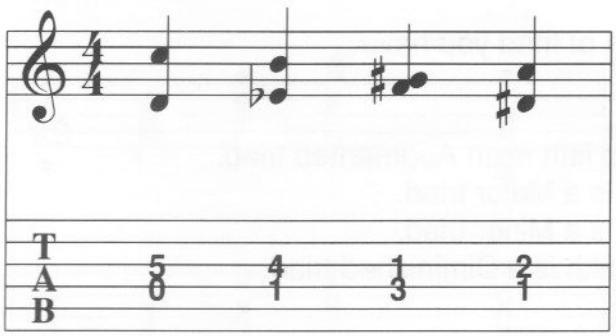
In the second interval, the upper note is a half-step closer to the lower note, making the interval one half-step smaller. Moving down one specific name on the chart, this interval from C to G♭ is a Diminished fifth.

When the lower note is not on the circle of fifths, as in the third and fourth intervals, ignore the accidental while finding the general name. These two intervals are sixths of some type.

Then, consider what the accidental does to the distance between the notes. In the third interval, the lower note has moved up one half-step closer to the upper note, making the interval one half-step smaller. Moving down one specific name (because the interval is smaller) on the Major-Minor side of the chart (because sixths belong to the Major-Minor family) we find that this interval from C# to A is a Minor sixth.

Similarly, the fourth example is one specific name larger than Major and therefore an augmented sixth.

Here are a few intervals for you to identify:



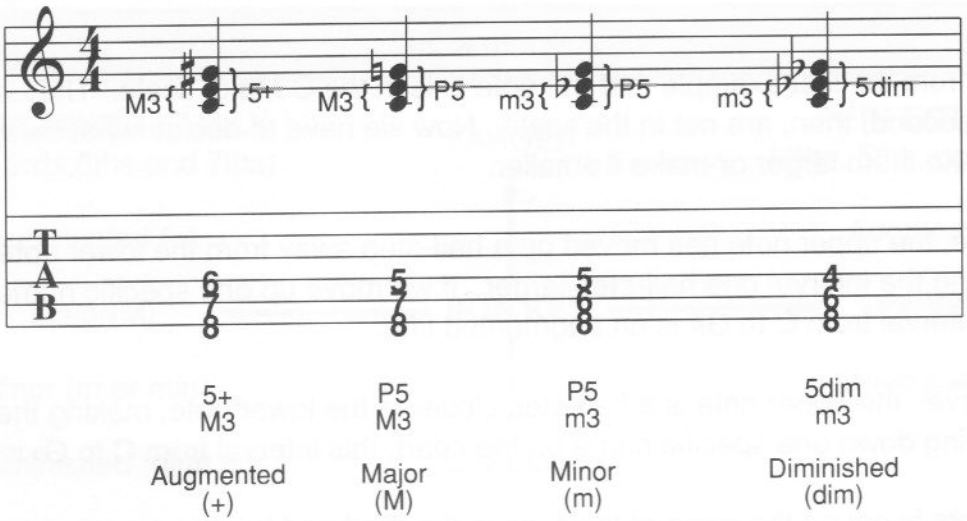
(Answers are on page 32.)

TRIADS

Triads are the backbone of Rock. Most of the chords played in Rock are triads.

A triad is a three note chord in which the three notes are in certain specific intervallic relations. Here is a table of triads:

Table of Triads



The lowest of the three notes in each triad in this table is called the **root**. This is the note that will name the triad. (These four triads, from left to right, are C Augmented, C Major, C Minor and C Diminished).

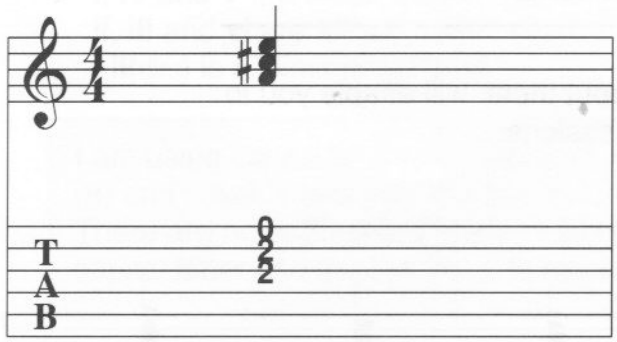
Counting up from the root, we find that each triad consists of two intervals: a third of some kind and a fifth of some kind. For example, in the C Augmented triad, C to E is a Major third, C to G# is an Augmented fifth. Both intervals use the root as their lower note.

Combining the two intervals, the chart will tell you what kind of triad you have:

A triad that contains a Major third and an Augmented fifth is an Augmented triad.
A triad that contains a Major third and a Perfect fifth is a Major triad.
A triad that contains a Minor third and a Perfect fifth is a Minor triad.
A triad that contains a Minor third and a Diminished fifth is a Diminished triad.

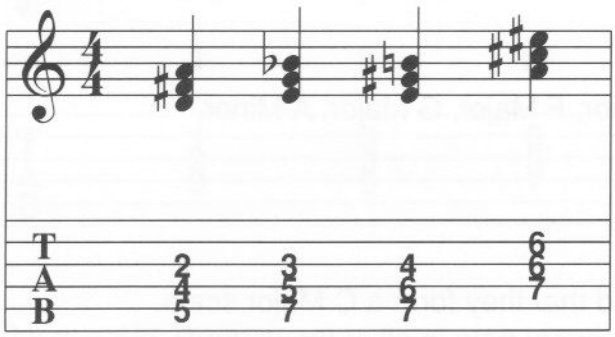
Other combinations are possible, but are not widely used.

Let's work out an example:



Starting with the lowest note, A, we find that we have a Major third (A to C#) and a Perfect fifth (A to E). Referring to the table of triads, we find that this example is an A Major triad.

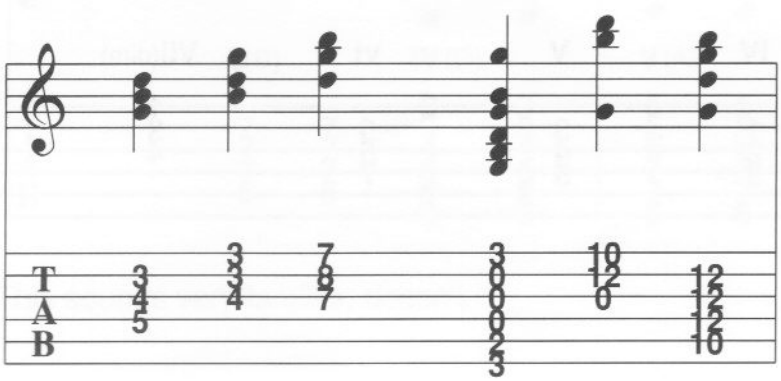
Here are four more for you to work out. (Answers on page 32):



There are two more things that you need to know about triads:

1. You may play the notes in a triad in any sequence, and they still form the same triad, just in a different **inversion** (or order). The first three examples below are all G Major Triads.

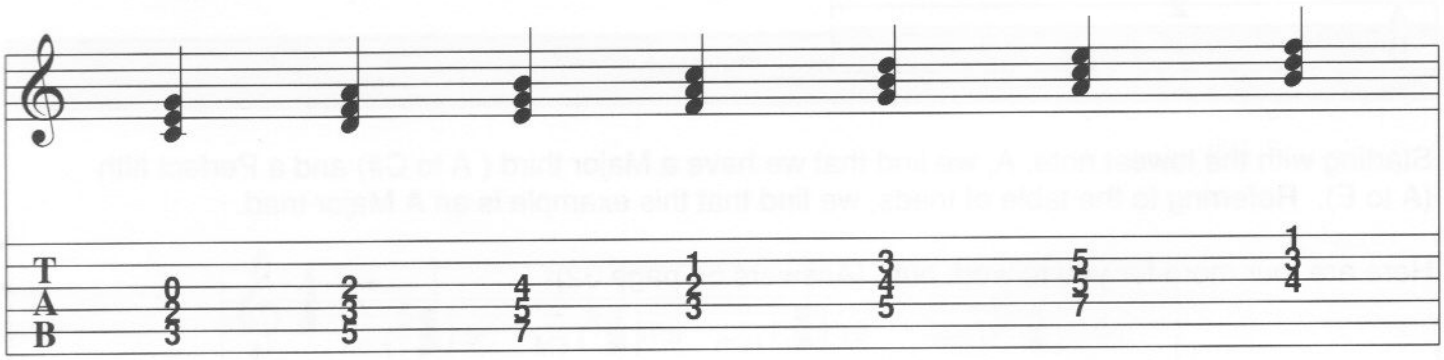
2. You may have as many of any of the notes in a triad as you wish, and in any octaves and as long as you have at least one of each of the three notes that form the triad and no other notes, it is still the same triad. The last three examples below are all G Major triads. You are probably used to thinking of these as G chords – Major triads (like Major scales) are commonly referred to by their letter name only. A **G chord** means a G Major triad. A **G scale** means a G Major scale.



DIATONIC TRIADS

Diatonic triads are the chords for a given key. Learning about them will enable you to harmonize melodies and understand common chord progressions.

Here are seven triads to work out:



These triads are, from left to right, C Major, D Minor, E Minor, F Major, G Major, A Minor, and B Diminished.

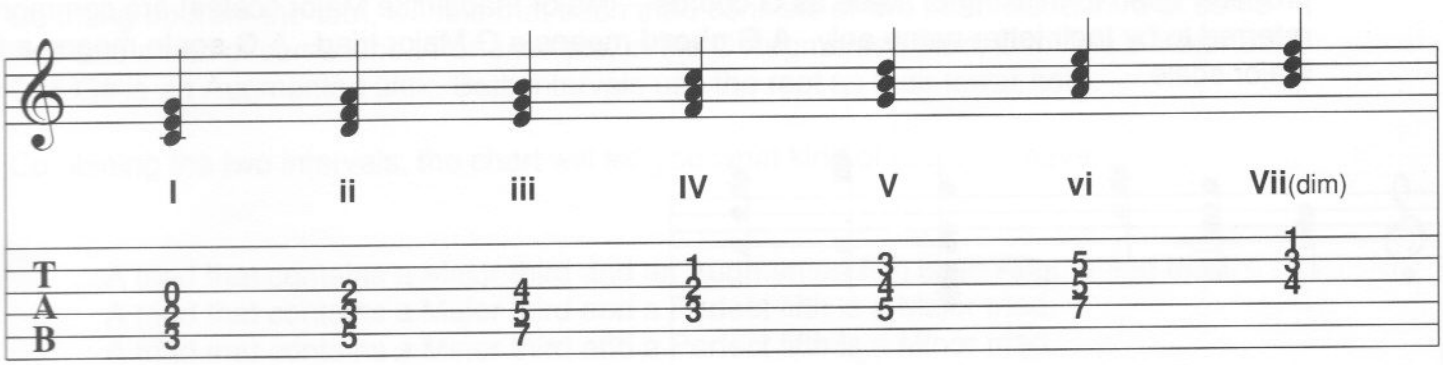
What is important about this sequence of triads?

If you look only at the lowest note of each triad, you will find that they form a C Major scale. If you look at all the notes in these triads , you will see that every note in all of these triads is a note that is in a C Major scale.

In short, we have taken a C Major scale and created triads using only other notes in the same scale!

Triads formed in this way are called **diatonic triads**. (What we call Major scales are formally referred to as diatonic Major scales.)

Let's look at these again, but this time let's number them by the scale step on which they begin. (I am using Roman numerals to number them):

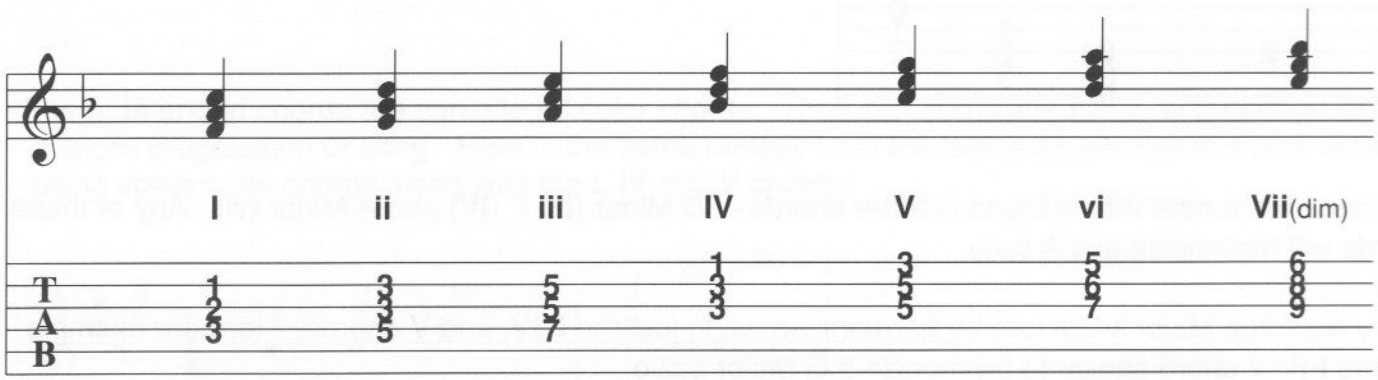


Looking at this further, we find that:

I, **IV** and **V** are Major triads
ii, **iii** and **vi** are Minor triads
vii(dim) is a Diminished triad.

> I am using capital letters to represent Major triads (**I**), small letters to represent Minor triads (**ii**) and small letters plus the abbreviation (**dim**)to represent Diminished triads (**vii**(dim)). There are no augmented triads in this particular sequence, but, if there were, I would use a capital letter and the symbol **+** to represent them.

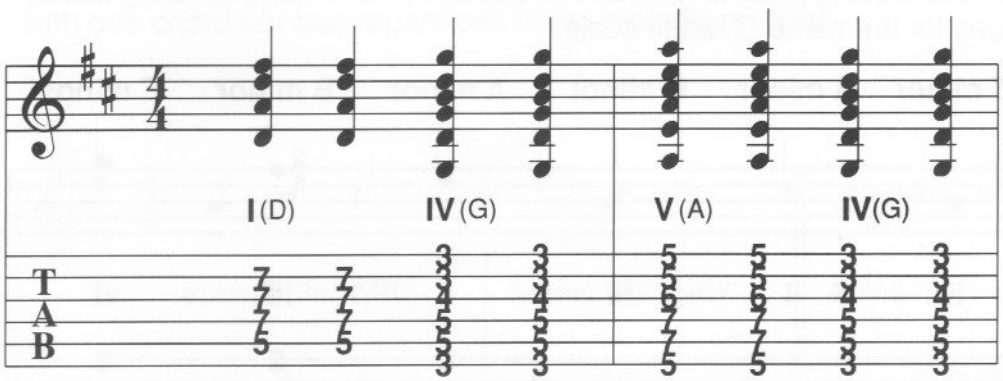
The relationships we have found among diatonic triads for the key of C hold true for any key. Here, for example are the diatonic triads for key of F:



Once again, we find:

I, **IV** and **V** are Major triads
ii, **iii** and **vi** are Minor triads
vii(dim) is a Diminished triad.

Now you know what is meant by a **I-IV-V** chord progression. It is simply a chord progression that uses only the three Major chords in a given key. Here is one such progression in the key of D:

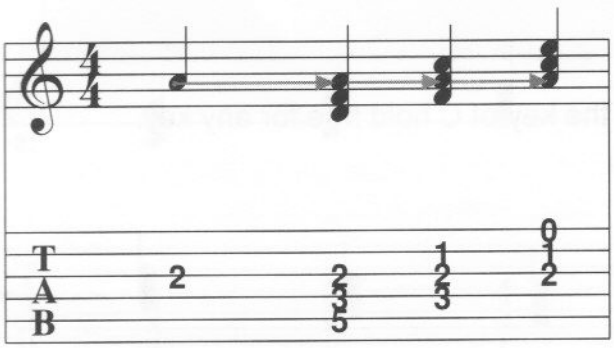


This sounds very familiar, doesn't it?

DIATONIC TRIADS (cont.)

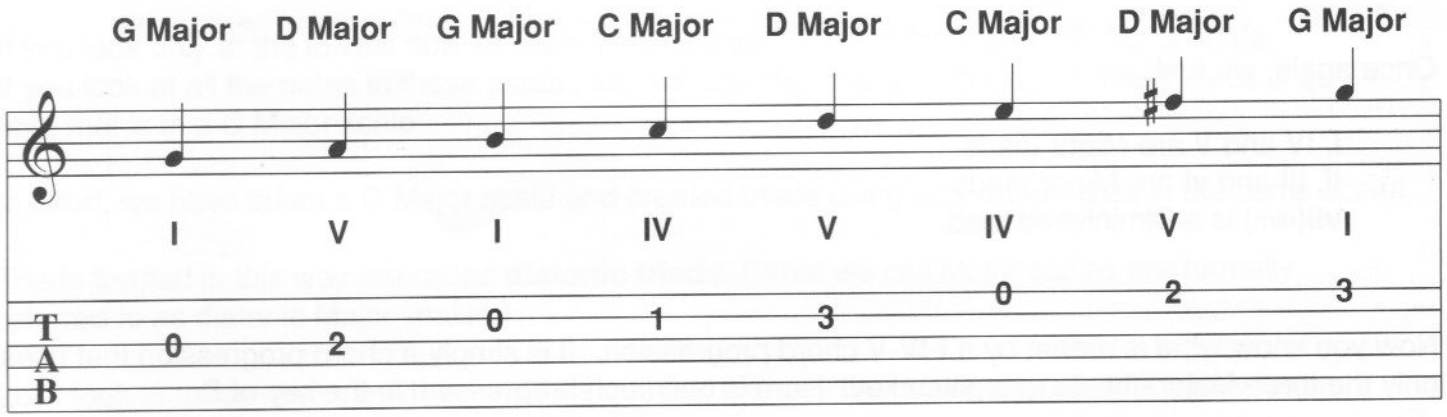
Now, let's look at how these chords are used to harmonize melodies. When you say that a particular chord harmonizes a note, what you mean is that the note in question is one of the notes in that chord.

For example, in the key of C:

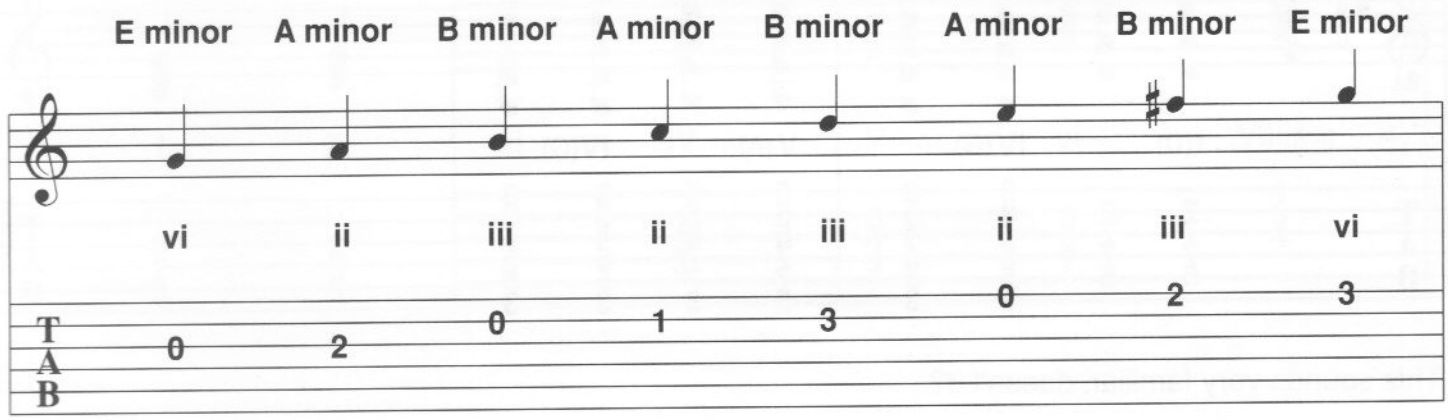


The note A is a note that is found in three chords – D Minor (**ii**), F (**IV**) and A Minor (vi). Any of these chords will harmonize any A note.

Every note in a Major scale can be harmonized using just the **I**, **IV**, and **V** chords. Here, for example, are the **I**-**IV**-**V** chord choice to harmonize a G Major scale:



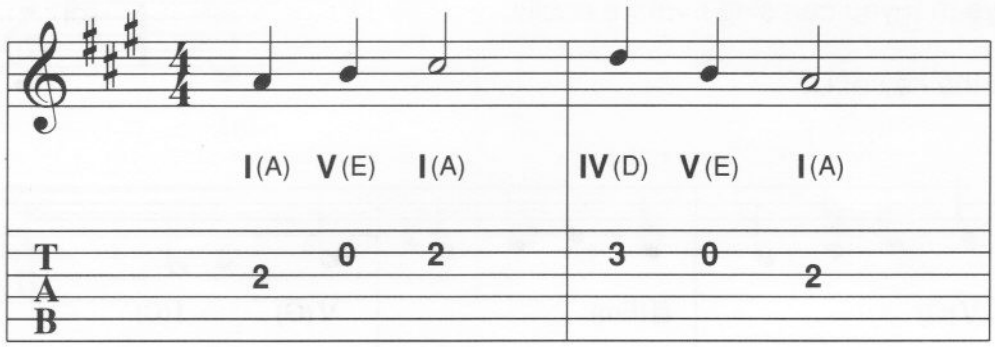
You can also harmonize a Major scale using just the **ii**, **iii** and **vi** chords. (The **vii**(dim) is rarely used.) Here are the **ii**-**iii**-**vi** chord choices for the same G Major scale:



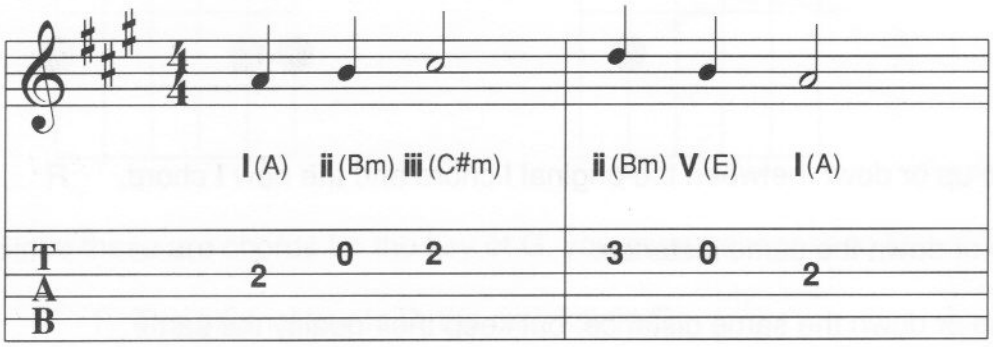
This harmony gives you a very different sound than the **I**-**IV**-**V** harmony!

The **I**, **IV**, and **V** chords are thought of as the pillar chords in a key. You can hear a song as being clearly in a particular Major key even when just these three chords are used.

Here is a melody with chords that uses just **I**, **IV** and **V** in the key of A:

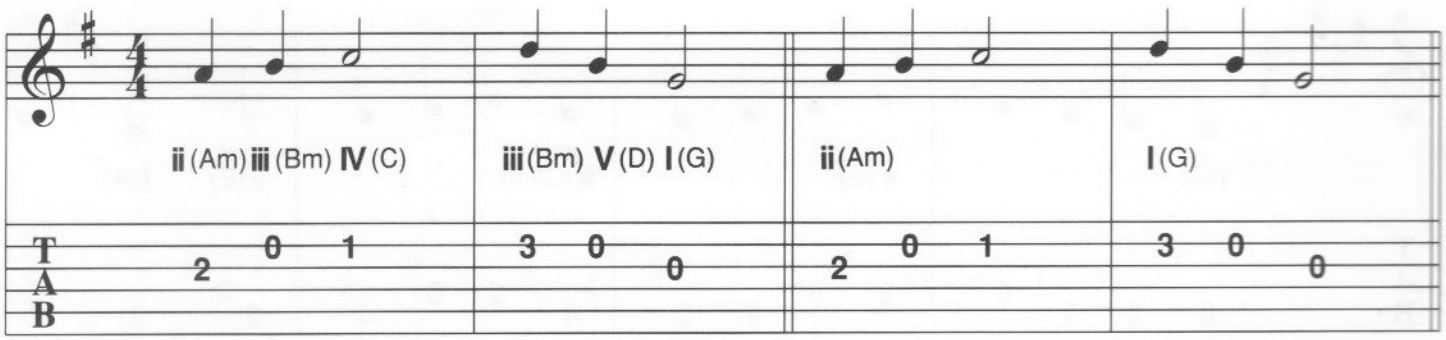


The **ii**, **iii** and **vi** chords are considered color chords. They can add some spice, or a change of feel to a chord progression or song. Here is the same melody from the last example, but this time we are using some color chords along with the **I**, **IV** and **V** chords:



In the examples given so far, I have harmonized every note with a different chord. While this is commonly done in classical music, popular music usually harmonizes only the most important notes and allows the notes around them to move without requiring a chord change

For example, the first two bars in the progression below are harmonized with one chord per melody note. The second two (which contain the same melody as the first two) are harmonized with one chord per bar, regardless of the melodic motion:

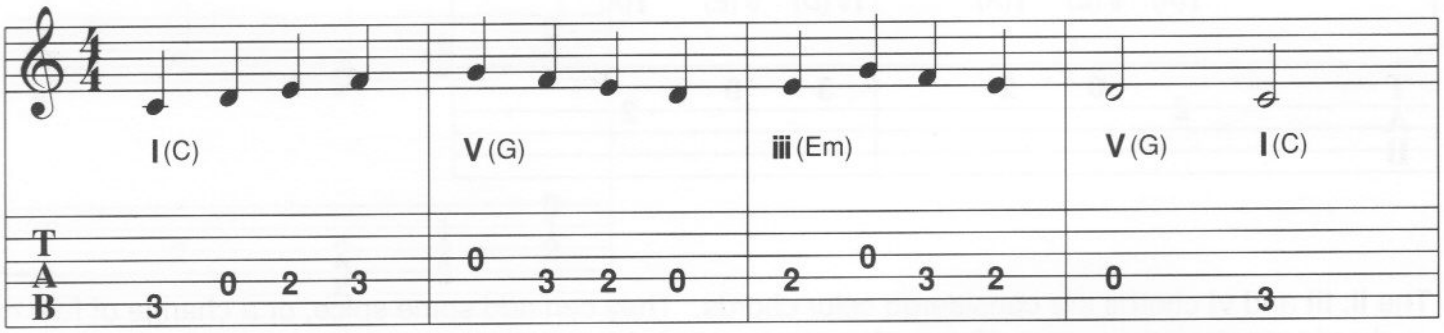


The second two bars sound more like Rock chord progressions usually do.

TRANSPOSITION

Transposition gives you the tools to take a song or progression and move it into any key. This is often used to put songs into keys that you can sing in more easily.

Here is a melody with chords in the key of C:



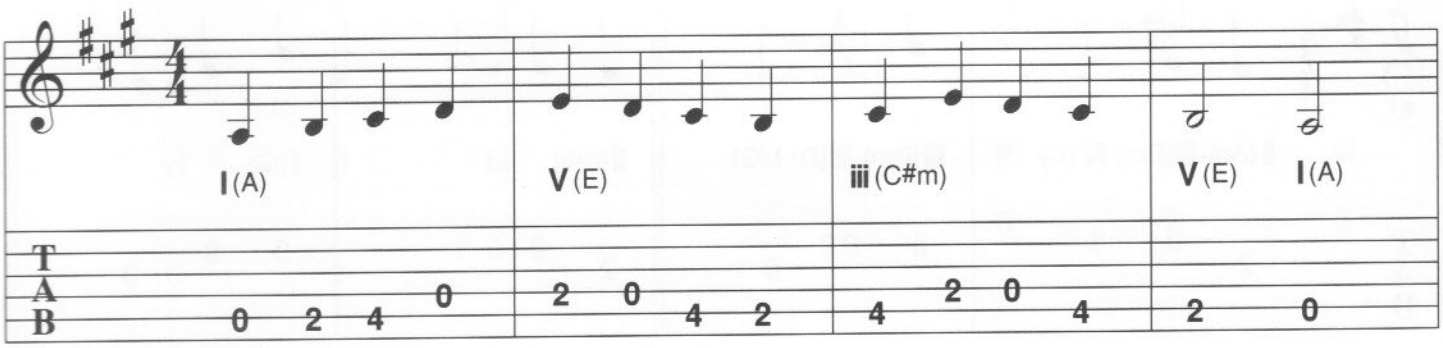
Maybe this melody in this key is a little high for your voice, and you want to move it.

Here's how to do it:

1. Pick the new key.
2. Determine the interval up or down between the original **I** chord and the new **I** chord.
3. Move all the notes up or down the same distance.
4. Move all the chords up or down the same distance, but keep their quality the same. (Majors stay Major, Minors stay Minor, etc.)

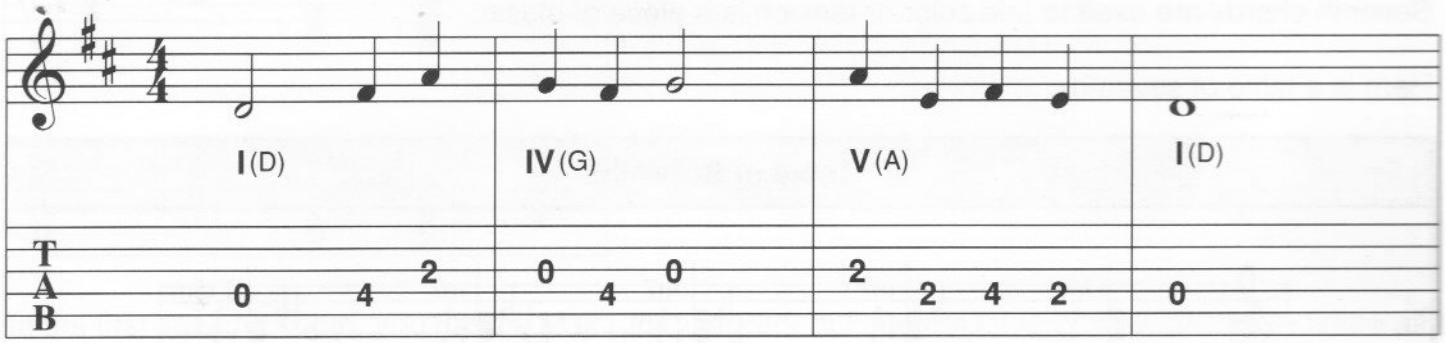
Let's move the melody from the last example down to the key of A:

1. The new key is A.
2. The interval from C **down** to A is a Minor 3rd (3 half-steps).
3. Moving all the notes and chords down a Minor 3rd, we get:

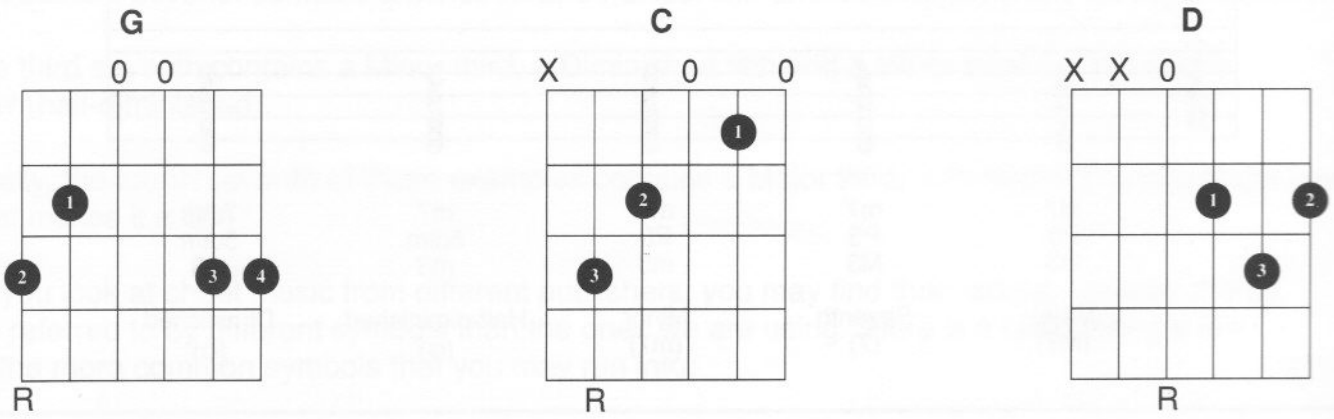


Transposition has another important use for guitarists. It lets you use a capo to obtain certain chord qualities in any key.

Lets say you have the following melody and chords in the key of D (This is a **I-IV-V** progression):



Suppose that you really like the ringing, open string sound of the G, C and D chords diagrammed below:



Since these are chords for the key of G, you must transpose to key of D to find your capo position.

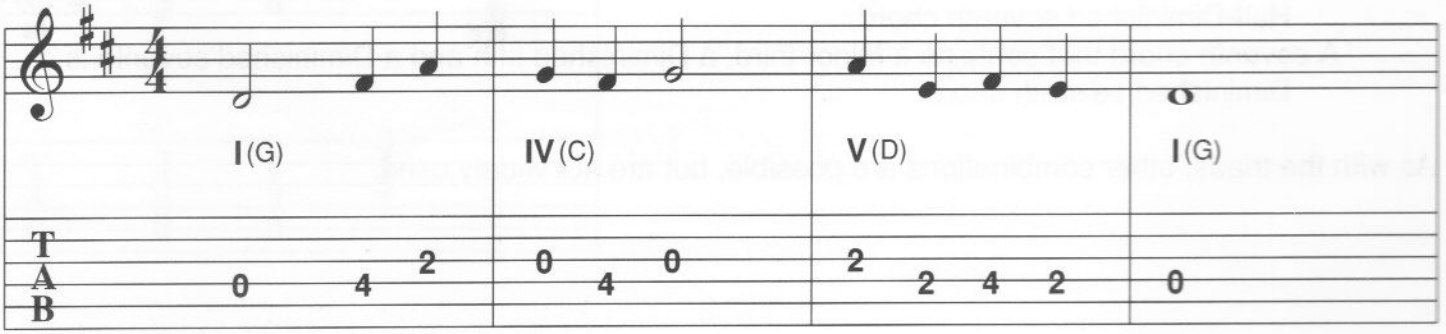
1. The original key is D, the new key is G.

2. The distance from G down to D is a Perfect fifth (seven half-steps)

3. Move all the chords down a Perfect fifth. Now you are in the key of G.

4. Put your capo on at the seventh fret and play the new chords. Leave the melody where it is. The capo is transposing the new chords back to the original key (D). Remember, in this case, we are transposing in order to use certain chord forms, not to change the actual key.

Here is the melody with the new chords (to be played with the capo at seventh fret):

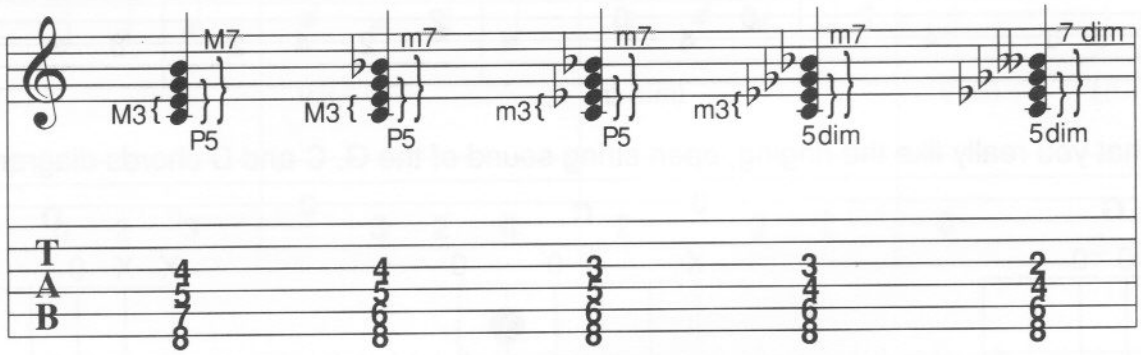


SEVENTH CHORDS

Seventh chords are used to add color or tension in a piece of music.

Here is a table of sevenths:

Table of Sevenths



M7 P5 M3	m7 P5 M3	m7 P5 m3	m7 5dim m3	7dim 5dim m3
Major (M7)	Seventh (7)	Minor (m7)	Half-diminished (ø)	Diminished (o)

In the same way that triads are constructed of two superimposed intervals (a third and a fifth) from the same root, seventh chords are constructed of three superimposed intervals (a third, a fifth, and a seventh) from the same root.

Combining the three intervals, the chart will tell you what kind of seventh you have:

A seventh chord that contains a Major third, a Perfect fifth and a Major seventh is a Major seventh chord.

A seventh chord that contains a Major third, a Perfect fifth and a Minor seventh is a Dominant type seventh chord, commonly referred to as simply a seventh chord.

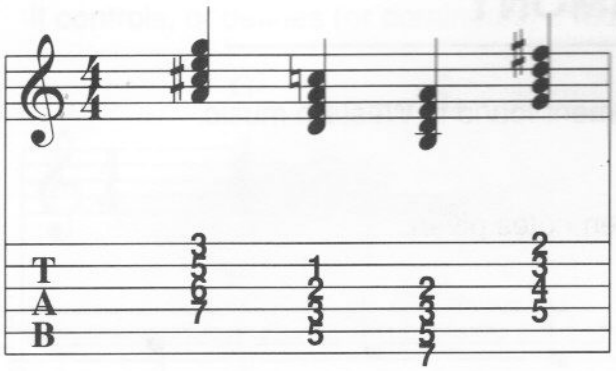
A seventh chord that contains a Minor third, a Perfect fifth and a Minor seventh is a Minor seventh chord.

A seventh chord that contains a Minor third, a Diminished fifth and a Minor seventh is a Half-Diminished seventh chord.

A seventh chord that contains a Minor third, a Diminished fifth and a Diminished seventh is a Diminished seventh chord.

As with the triads, other combinations are possible, but are not widely used.

Let's work a few examples:



In the first seventh chord, you have a Major third, a Perfect Fifth and a Minor seventh, if you figure all the intervals from the root (lowest note). This chord, then, is an A7.

The second seventh contains a Minor third, a Perfect fifth and a Minor seventh, making it a Dm7.

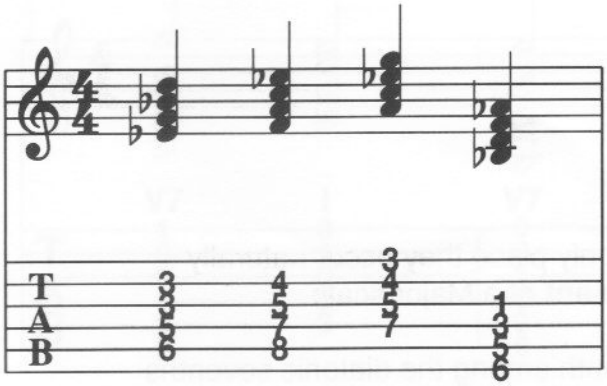
The third seventh contains a Minor third, a Diminished fifth and a Minor seven. This one is a B^{ø} (half-diminished).

Finally, the fourth seventh of these examples contains a Major third, a Perfect fifth and a Major seventh. That makes it a GM7.

As you look at sheet music from different publishers, you may find that various seventh chords are referred to by different symbols than the ones we are using. Here is a table listing a few of the more common symbols that you may run into:

Seventh	Commonly Used Symbols	Examples
Major seventh	Δ, Maj7, M7	BΔ, D Maj7, C#M7
Dominant type seventh	7	D♭7
Minor seventh	min7, m7	F#min7, A♭m7
Half-diminished seventh	ø, min7^{-5} m7^{-5} min7$^{♭5}$ m7$^{♭5}$	C^{ø} E min7^{-5} Fm7$^{♭5}$
Diminished seventh	dim, ^{o}	G dim, A^{o}

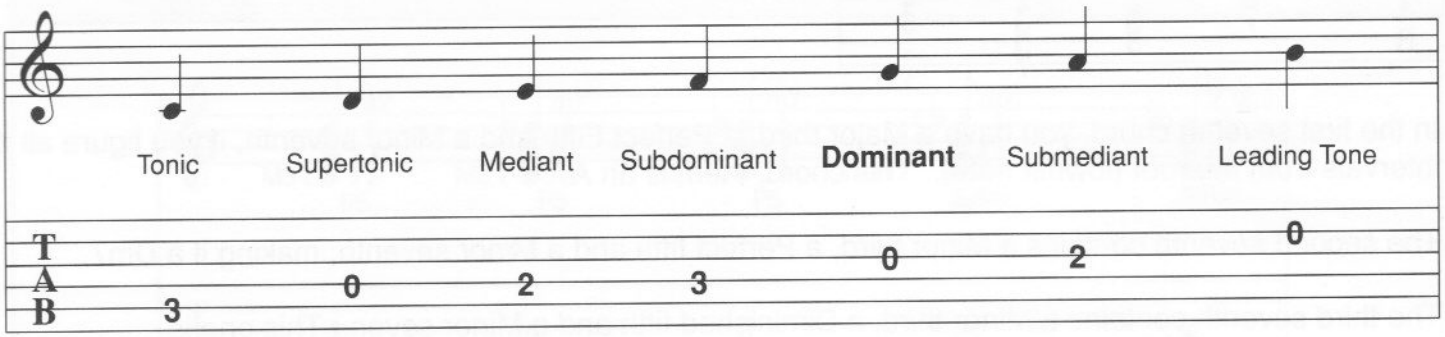
Here are a few sevenths for you to figure out. (Answers are on page 32):



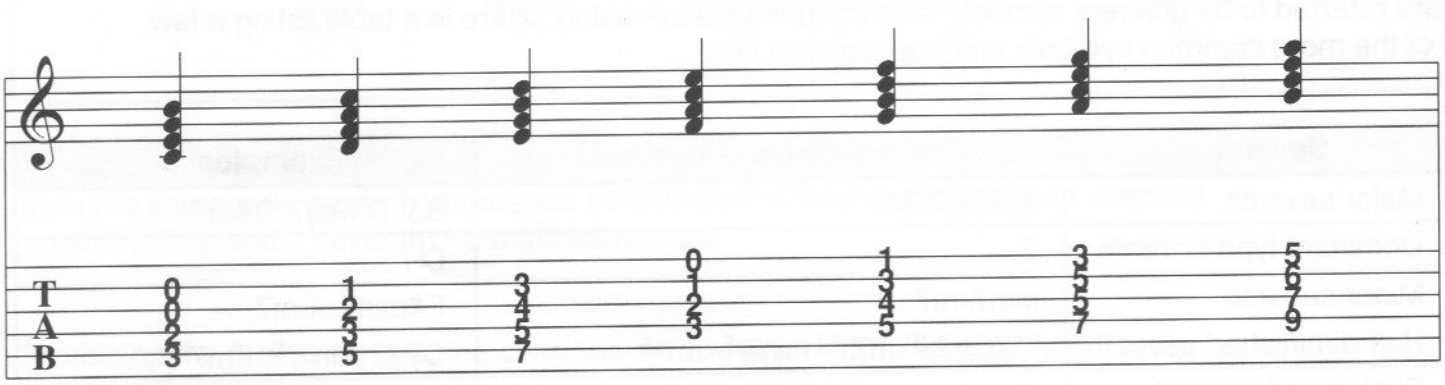
DOMINANT HARMONY

Dominant harmony is the strongest kind of harmonic movement found in Western music. You hear it a lot, and you will use it a lot.

Here is a C Major scale with the function names of the seven notes given.



Diatonic seventh chords can be constructed the same way that diatonic triads are – build a seventh chord on each note of the scale, and use only other notes in the scale to build your thirds, fifths and sevenths.
Here are the diatonic seventh chords for the key of C:



Looking at the types of seventh chords that result we find that:

IM7 and **IV**M7 are Major sevenths

iim7, **iii**m7, and **vi**m7 are Minor sevenths

viiø is a half-Diminished seventh

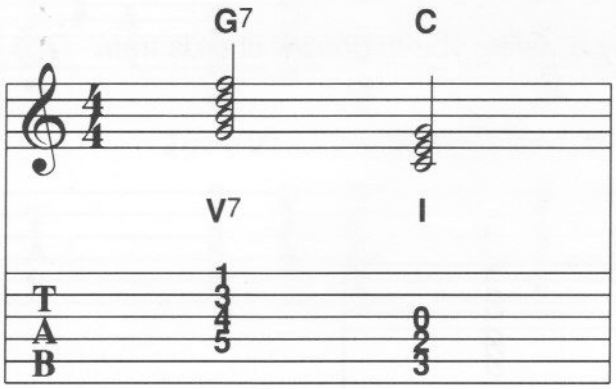
V7 is a Dominant type seventh

Sevenths of the Dominant type are so named because the only place they occur naturally (that is, in diatonic construction) is on the fifth note or **Dominant** of a Major scale.

This is true for all Major keys – the only Dominant type seventh among the diatonic sevenths is the **V**7 or **Dominant seventh** chord.

What is so important about the Dominant??

It controls, or defines (or dominates) a Major key. Play this progression:



This progression from G7 to C is a typical Dominant seventh to Tonic (or **V**7 to **I**) progression. Notice how clearly it says "The End." This is considered the most satisfying chord progression in Western music.

This is true in part because a Dominant type seventh is a **dissonance** and the Major chord to which it resolves is a **consonance**.

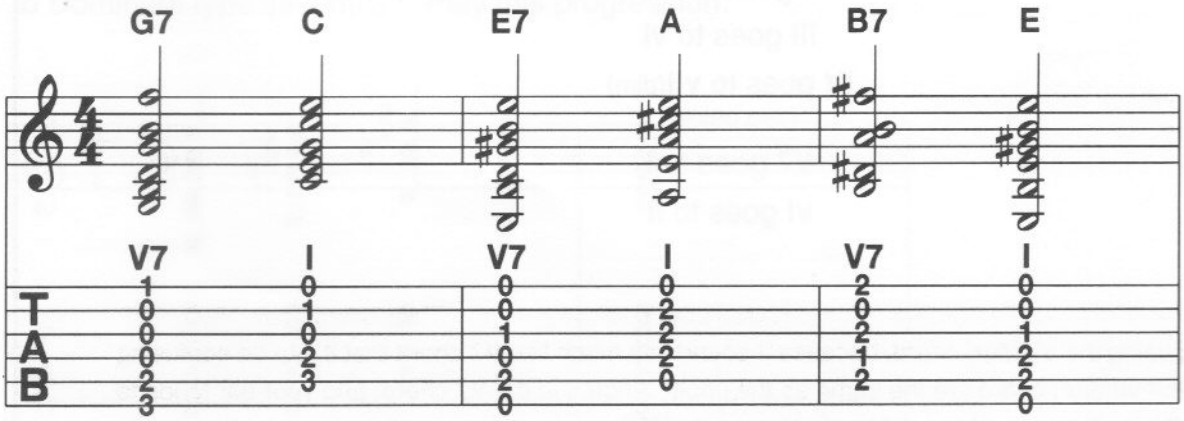
Consonance and Dissonance

A consonance is any chord that will stand on its own. When you hear a consonance, you feel no tension; no need to move to another chord.

A dissonance is any chord that must resolve; that will not stand alone. When you hear a dissonance, you feel tension; you want the dissonance to move to another chord.

People usually think of dissonance as unpleasant or harsh, and consonance as pleasant, but that is not necessarily the case. Dissonance simply means "having a need to resolve."

Here are a few more Dominant (**V**) to Tonic (**I**) progressions in different keys:

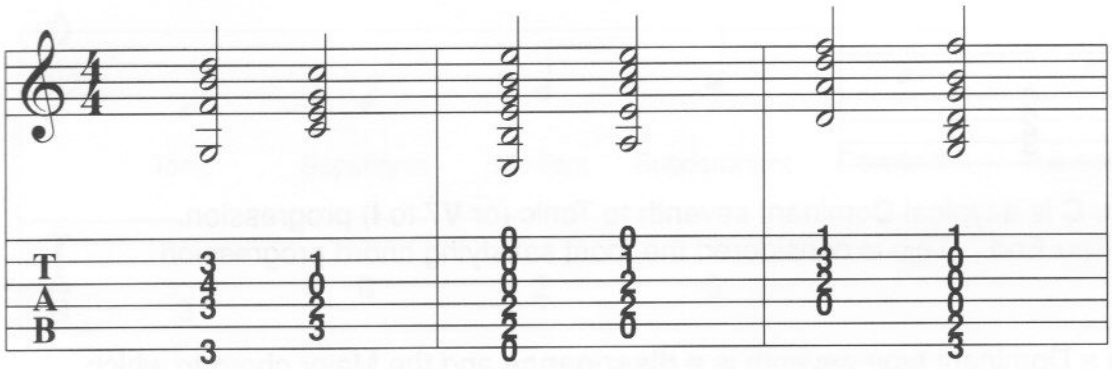


Notice that even though the particular chords in each example sound different, each **V**7 to **I** progression says "The End" quite clearly.

SECONDARY DOMINANTS

Secondary dominants let you expand your chord choices by allowing you to borrow chords from other keys.

Here are three chord progressions:



What do these chord progressions have in common???

In each case the **root movement**, (that is, the distance between the roots of the two chords) is down a Perfect fifth. This is the same root movement you will find in a **V**7 to **I** progression. (In fact, the first progression of the example above *is* a **V**7 to **I** progression.)

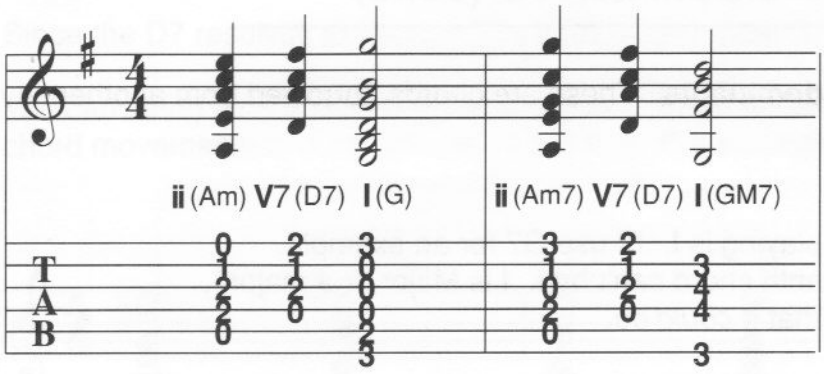
Root movement down a Perfect fifth is considered almost as satisfying as a **V**7 to **I** progression, even when the chords are not a Dominant seventh moving to a Major!

This an easy way to find a good chord to move to from any chord in a key. Here is a table of root movements in a key:

Root Movement of a Perfect Fifth (within a key)
I goes to **IV**
ii goes to **V7**
iii goes to **vi**
IV goes to **vii**(dim) (see below)
V7 goes to **I**
vi goes to **ii**

We are avoiding using the **vii**(dim) chord, because it sounds so much like **V**7 chord that it can be confusing (The 3 notes in the **vii**(dim) chord are the same as the upper 3 notes in the **V**7 chord, and your ear tends to hear it as a **V**7 chord. Because of this, **IV** tends to move to **V**7.

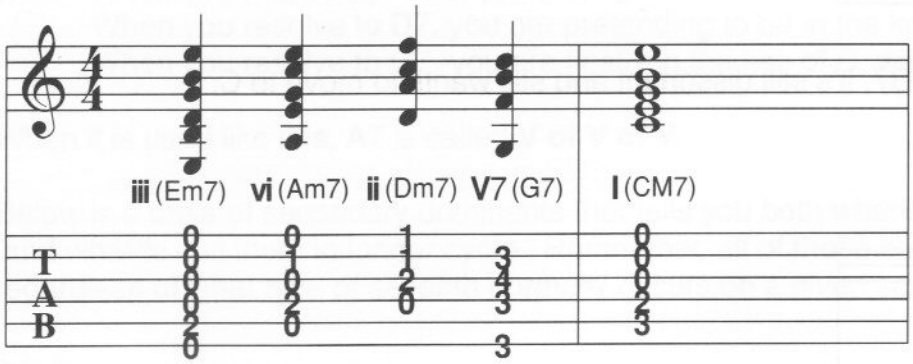
You can combine these motions for longer progressions, for example here are two **ii-V7** to **I** progressions in the key of G:



Notice that while both the progressions move smoothly from one chord to the next, the second progression, which uses sevenths, has a softer, jazzier feel. This is an example of using sevenths for color.

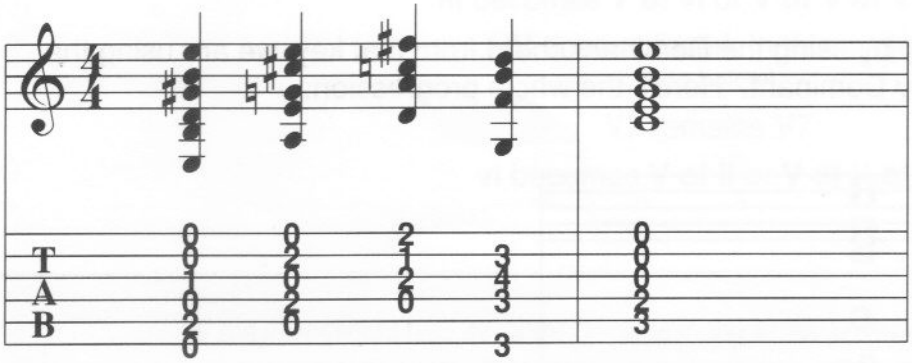
You can use root movement of a fifth to string longer chord progressions together. Just be careful to keep each pair of chords the correct distance apart.

Here is an example of the frequently used **iii-vi-ii-V7** I progression, in the key of C:



Real smooth, isn't it!

What would happen if we changed all of the chords (Except the last one) in the example above to Dominant type sevenths? Play this progression:



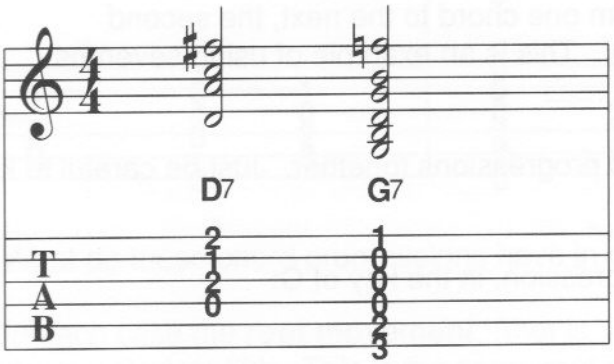
That sounds quite different from the original progression, doesn't it?

SECONDARY DOMINANTS (cont.)

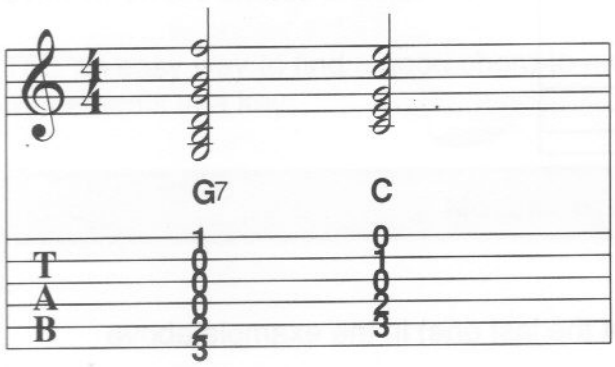
The last example makes use of **secondary dominants**. These are chords borrowed from another key.

Here's how it works:

Pretend that whatever chord you are playing is **I**. I'll use G7 for an example.
Wait a minute!! A Dominant type seventh chord can't be **I**. **I** is Major or a major7.
True! But let's *pretend* for a moment that it *could* be.
If G7 is I, where is **V**7?
Right!! It's **D**7. So now we'll play **V**7 to **I** – D7 to G7:

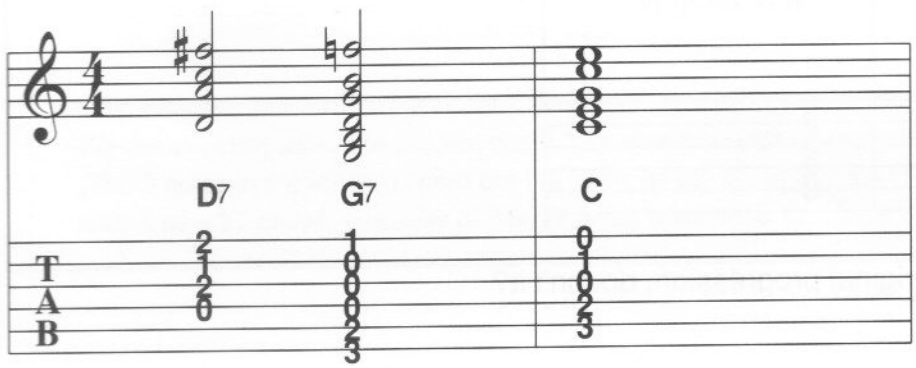


Problem!!!! When we land on G7, it's still dissonant and still wants to move to C.
OK, let's move to C:



That's better! Now we have resolution.

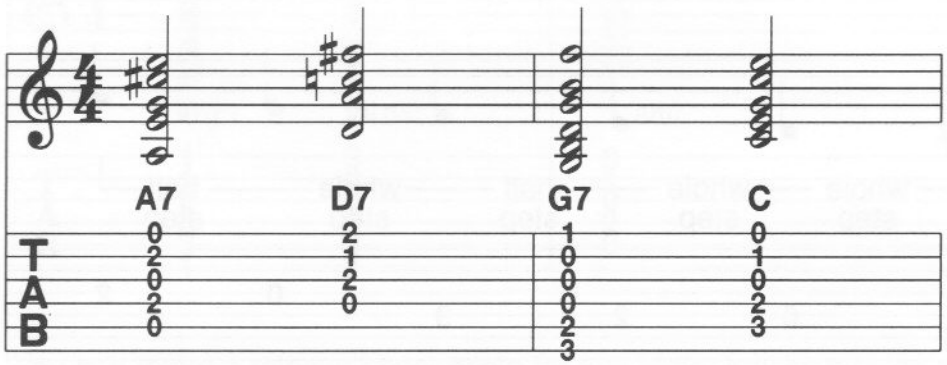
When we pretend to be in another key by using the Dominant chord from that key, we are using the chord (in this case D7) as a secondary Dominant. Here's the whole progression:



It has a real ragtime kind of feel to it now, which is quite different from the smooth jazz/pop feel it had before we changed all the chords to Dominant type sevenths.

Since the D7 resolves to the real **V**7 chord (in this case G7), we will call it **V7 of V**7 or **V of V** for short.

You can string longer progressions together with secondary dominants just like you did with chord movements that remain within one key. For example, once again:



Here, you have a secondary Dominant of a secondary Dominant:

When you play A7, you are pretending to be in the key of D
When you resolve to D7, you are pretending to be in the key of G
When you resolve to G7, you are finally in the key of C, where you will remain.

When it is used like this, A7 is called **V of V of V.**

Below is a table of secondary dominants that tells you both where they resolve within a key and what to call them in longer cycle. Remember, all of these chords are Dominant type sevenths, regardless of what type of seventh normally occurs on a given scale degree.

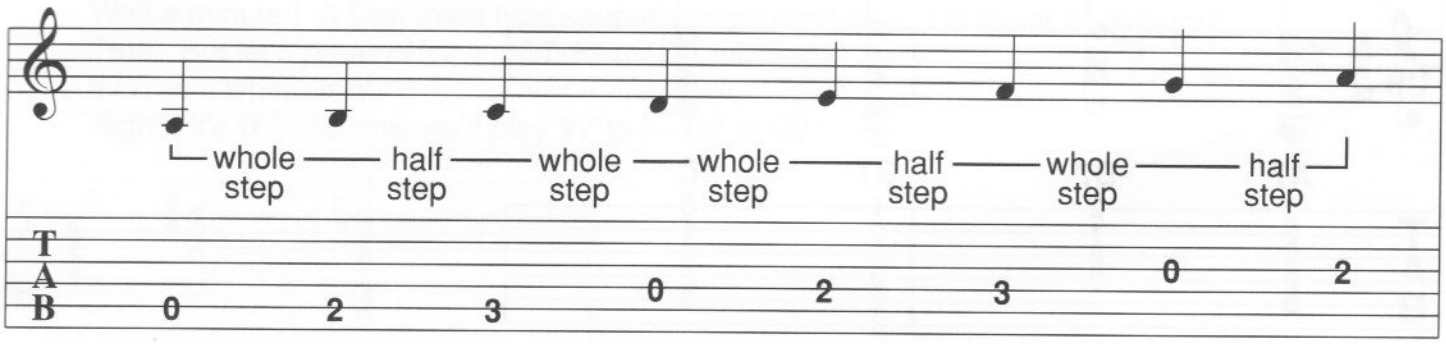
Secondary Dominants
I becomes **V of IV**
ii becomes **V of V**
iii becomes **V of vi** or **V of V of V of V**
IV does not work in this cycle (see below)
V7 remains **V**7
vi becomes **V of ii** or **V of V of V**

IV (as a Dominant type seventh) resolves to the flatted seventh degree of the scale, which is out of key altogether.

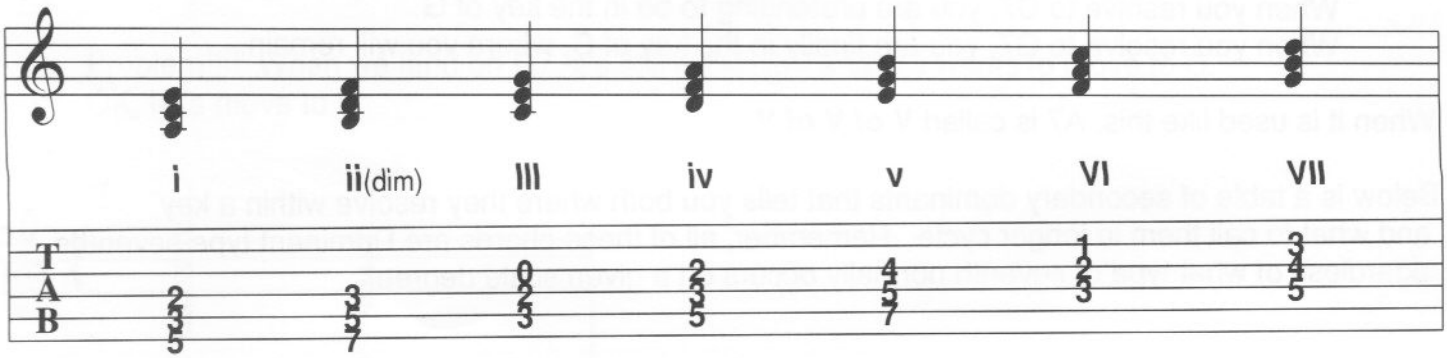
THE RELATIVE MINOR

The Relative Minor gives you an entirely different feel and a different set of harmonic relationships using the same notes as the Major scale.

Here is an A Minor scale:



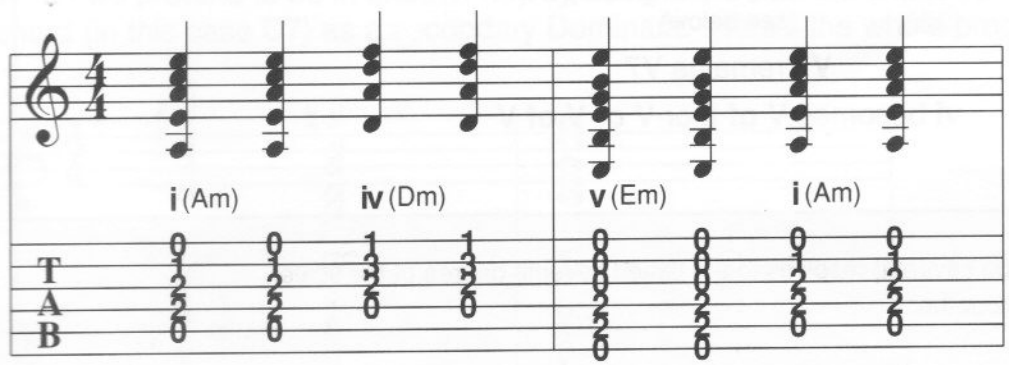
Notice that this scale contains exactly the same notes as the C Major scale. The only difference is that you are starting on A rather than C. But this is a **huge** difference!! With A as Tonic, we can derive the following diatonic triads for the key of A Minor:



Analyzing this, we find that:

i, **iv** and **v** are Minor triads
III, **VI** and **VII** are Major triads
ii(dim) is a Diminished triad.

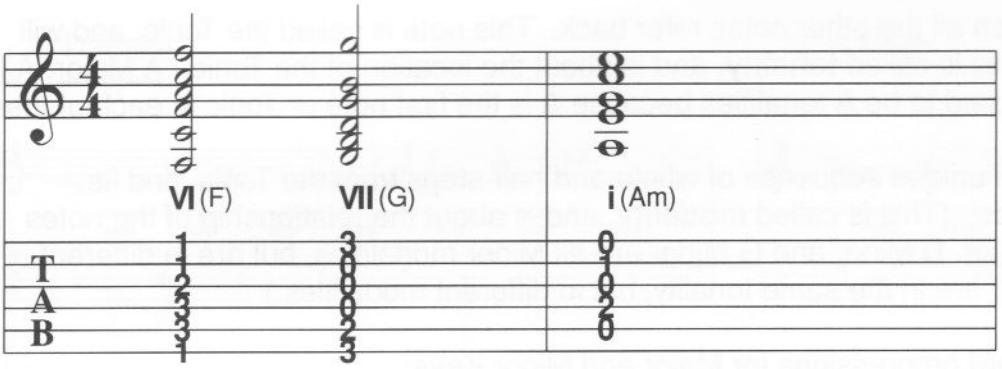
Here is a **i**-**iv**-**v** progression in the key of A Minor:



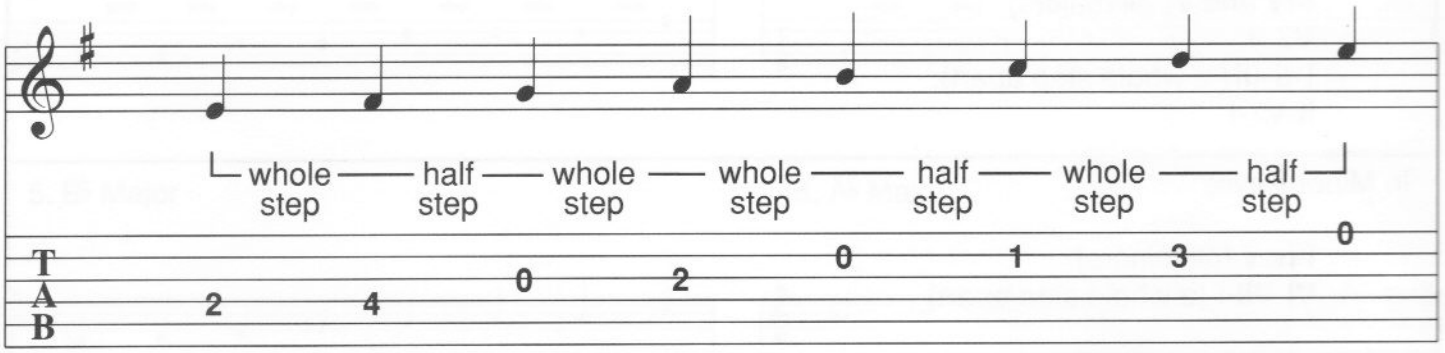
This sounds very different than the **I-IV-V** progressions in Major keys!!

Notice also that the **VII** chord in A Minor is a whole step below **i**. (**vii**(dim) is a half-step below **I** in Major keys.) This means that the seventh degree of a Minor scale is not a leading tone (which, by definition, is a half-step below the Tonic with a strong tendency to move to the Tonic), but is instead a **subtonic**.

This is another important difference. Here is another important Minor key progression – the **VI**-**VII**-**i** progression:



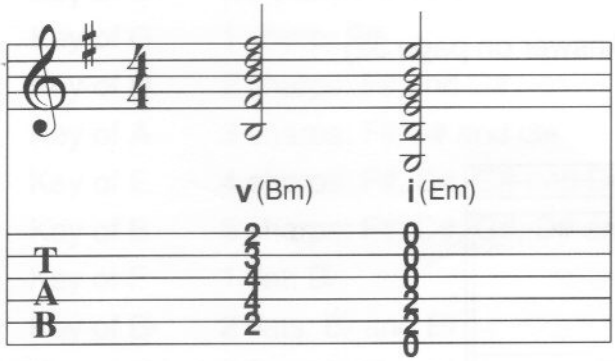
You can make a relative Minor scale for any Major key by playing the Major scale notes, in sequence, but starting on the sixth degree of the Major scale. Then re-number the scale steps for the new Minor scale that you have made. Here is an E Minor scale, which is the relative Minor for G Major:



Now you try a few.

Find the relative minors for the keys of A,D,E♭,and B♭. Answers are on page 32.

Here is a **v**-**i** progression in E Minor:



Notice that it does not have the same compelling pull toward **i** that **V**7 to **I** has in Major. It still defines the key. Any piece of music that has **i**,**iv** and **v** all as Minor chords is in the key of **i** Minor.

THE RELATIVE MINOR (cont.)

What defines a key and scale??

Every key has one note to which all the other notes refer back. This note is called the Tonic, and will be the first step of a scale. (This is called **tonality**, and is about the location of the Tonic. A Major, A Minor and any other A scales are all said to be A tonalities because A is the first note or Tonic in each of them.)

Every type of scale has its own unique sequence of whole and half-steps from the Tonic, and its own unique set of diatonic triads. (This is called **modality**, and is about the relationship of the notes in the scale to the Tonic. A Minor, D Minor and G Minor are all Minor modalities, but are in different tonalities. A Major and A Minor are in the same tonality, but in different modalities.)

Here is a table of definitive chord progressions for Major and Minor Keys:

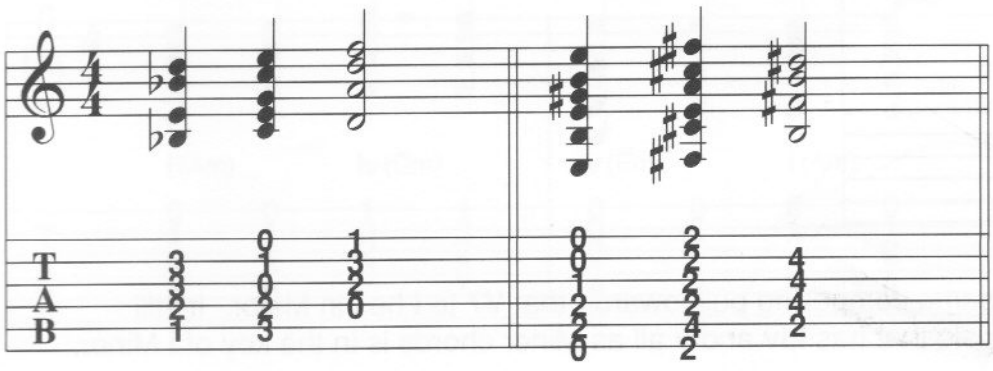
Definitive Chord Progressions
In Major Keys: **I**-**IV** and **V**(all majors) **V**7 -**I** **I**-**ii**-**iii** (a whole step apart). **ii**-**V**7-I
In Minor Keys: **i**-**iv**-**v** (all minors) **VI**-**VII**-**i** (a whole step apart)

To determine the key and scale of a particular song:

Find the Tonic. (Hint – Most songs end on the Tonic chord!!)

Look for progressions from the table. If you find them, they will tell you the modality of the song. (Some songs are in modalities other than Major and Minor. You won't find progressions from the table in them.)

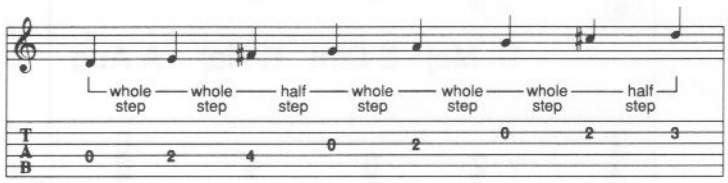
What are the key and scale for these two progressions? (Answer on page 32)



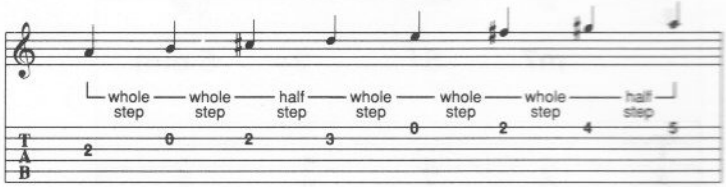
ANSWERS TO EXERCISES

Major Scales (Exercises on page 7.)

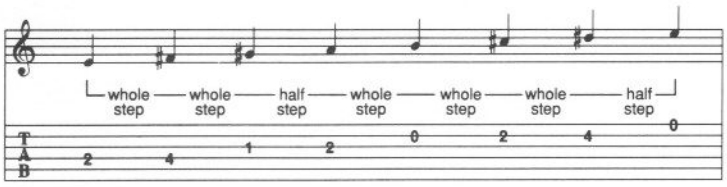
1. D Major



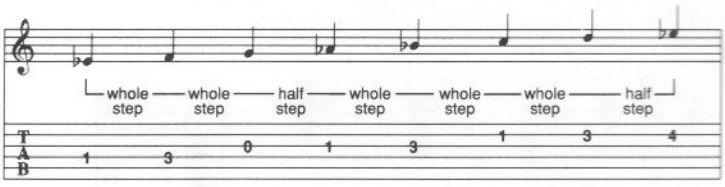
2. A Major



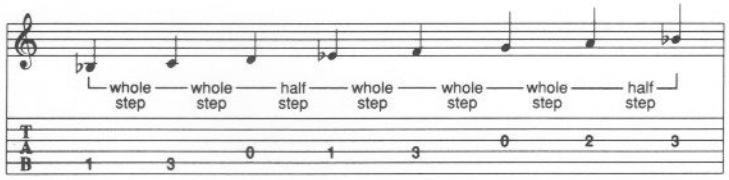
3. E Major



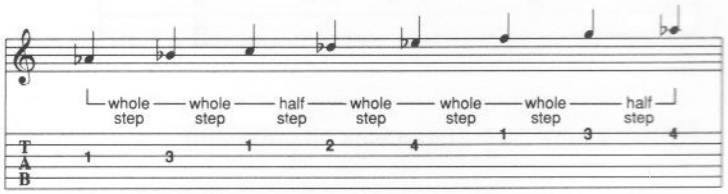
4. E♭ Major



5. B♭ Major



6. A♭ Major

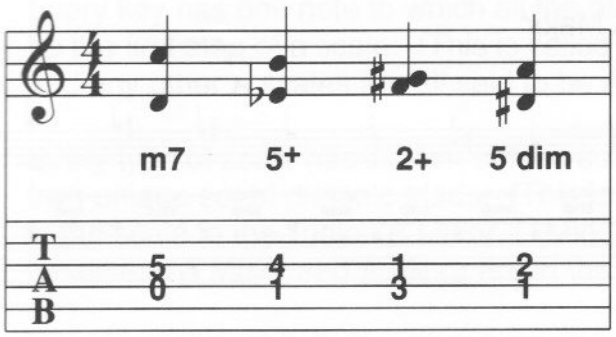


Circle of Fifths (Exercises on page 9.)

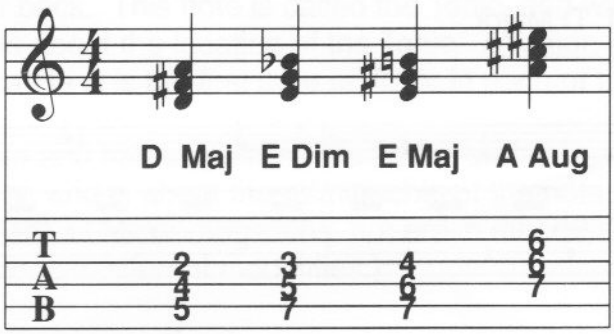
Key of C	No sharps or flats
Key of G	1 sharp: F#
Key of D	2 sharps: F# and C#
Key of A	3 sharps: F#,C# and G#
Key of E	4 sharps: F#, C#, G# and D#
Key of B	5 sharps: F#, C#, G#, D# and A#
Key of F	1 flat: B♭
Key of B♭	2 flats: B♭ and E♭
Key of E♭	3 flats: B♭,E♭ and A♭
Key of A♭	4 flats: B♭,E♭,A♭ and D♭
Key of D♭	5 flats: B♭,E♭,A♭,D♭ and G♭

ANSWERS TO EXERCISES (cont.)

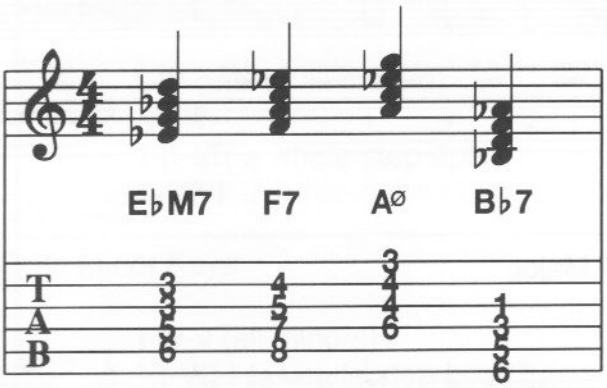
Intervals (Exercises on page 11.)



Triads (Exercises on page 13.)



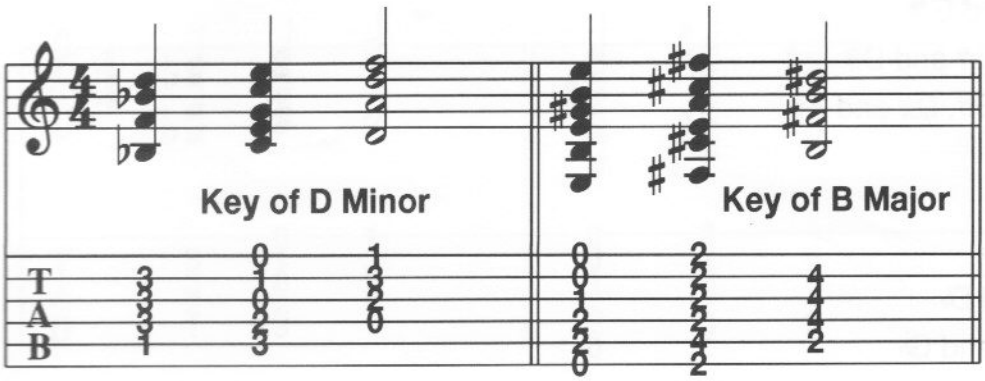
Seventh Chords (Exercises on page 21.)



Relative Minor (Exercises on page 29.)

1. Key of A: the relative minor is F# Minor
2. Key of D: the relative minor is B Minor
3. Key of E♭: the relative minor is C Minor
4. Key of B♭: the relative minor is G Minor

Relative Minor (Exercises on page 30.)



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This Book Introduces:

- Circle Of Fifths
- Intervals
- Triads
- Transposition
- Secondary Dominants