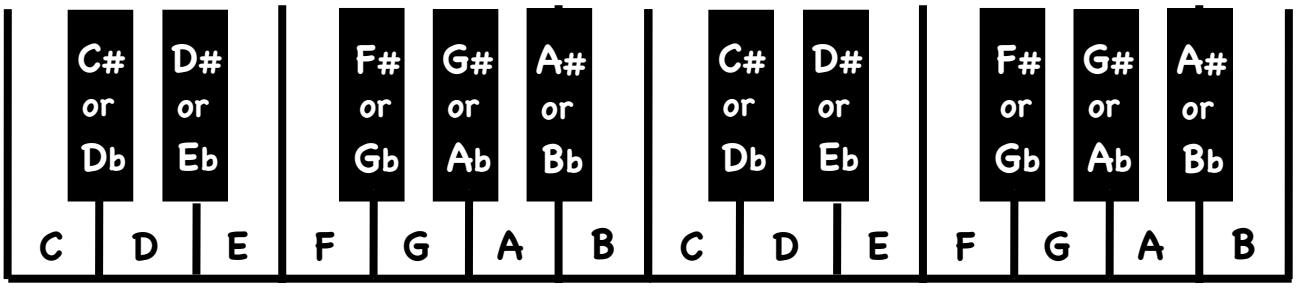
CHAPTER 2

Intro to the MAJOR KEY

Essential Concepts / Skills
covered in chapter 2

- Treble and bass clef notation
- Major scales, diatonic triads in major keys
- Common chord progressions in the major key using I, IV, V, VIm chords in pop song examples
- Signature major key riffs, major pentatonic scale
- Songwriting devices for creating focal points
- Ear training – listening for tension / resolution, key centers, I, IV, V, and VIm chords

Just to review some basics, you probably know that our system of music (Western European tradition) has 12 different pitches, named with the first seven letters in the alphabet. Occasional **sharps (#)** or **flats (b)** are then added between some letter names. The 12 notes are written below as they would appear on a piano keyboard, with the notes going up in pitch as you move left to right. (If you have downloaded a virtual keyboard for this course like Musicca or Online Pianist, play up and down to hear the pitches.)



Of course this represents only a small section of a full-sized piano keyboard (88 total keys). If you wanted to go beyond the diagram to the right, the next note after B would be another C, then another C#, and so on. Going down (to the left), the next note would be another B, then another Bb, etc. Notice that the note between C and D (the first black key) can be called "C sharp" (moving up from C) or "D flat" (moving down from D). This is called "**enharmonic spelling**" — all the black keys have two possible names like this. On rare occasions, the E note may also be called Fb or the F note may be called E#. This is also true for the other adjacent white keys — the B may be called Cb, and the C may be called B#.

When you move to the very next note, regardless of the key color, the distance between notes is called a **half step**. Therefore, going up in pitch, E to F is a half step, and F to F# would be another half step. Jumping up from E to F# is called a **whole step** (2 half steps = 1 whole step). If you take a big leap, the distance between E and the next higher E is called an **octave**.

WRITTEN EXERCISE

To practice moving up and down in half steps and whole steps, complete **Exercise 2.1** (see "Textbook Contents"/ "Volume 1" / "Written Exercises").

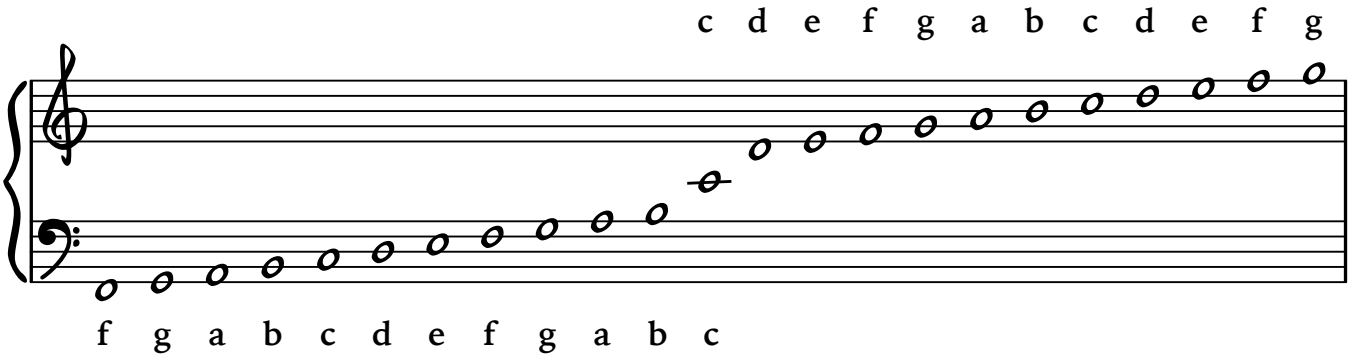
In Chapter One, we introduced standard musical notation (5-line staff), and also our new alternative system of graphic notation. However, in that chapter we were only concerned with the rhythm values of notes. Now we want to learn the pitch names (ie. letter name) of each note.

Like Chapter One, we will start by presenting this concept in standard notation first, then follow with the alternative system. You will recall from the Preface that both types of notation will be used in this book. Excerpts from pop songs will be written in the new graphic notation in an effort to keep the book at an affordable price (there are a large number of pop examples, and the expense of using copyrighted standard notation on all these excerpts would quickly become cost-prohibitive due to legal issues.) Theory concepts

like scale and chord construction will still be presented in standard notation, however, the notes will also be clearly labeled with letter names for non-staff readers.

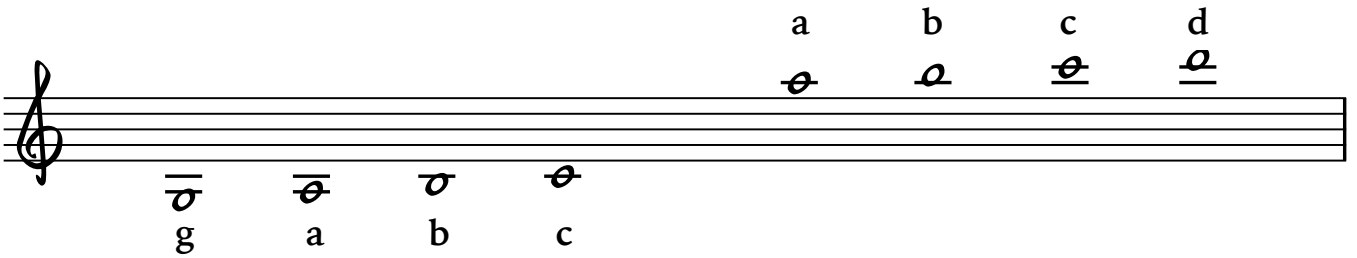
To read pitches in standard notation, you must pay close attention to where the note is located on the staff in terms of lines and spaces. Notes are written in two main clefs — **treble clef** and **bass clef**, as shown below. The top line is written in the treble clef, as indicated with the clef sign to the far left that looks like a fancy "6" with a line through it. The bottom line is in the bass clef, starting with a symbol that resembles the shape of a comma. When both clefs are joined together like this, it is called a **Grand Staff**.

GRAND STAFF



The middle note between the clefs ("middle C") is roughly in the center of a full piano keyboard. Since the notes rise in pitch moving left to right, you can see that the bass clef is used mainly for low pitches (**lower register**) and the treble for high pitches (**higher register**).

Sometimes it is more convenient to write a given part or melody line using only one clef. When notes occasionally need to extend beyond the normal boundaries for that clef, the staff can be extended using short, extra lines called "**ledger lines**." In fact, middle C is one of these notes — notice the ledger line going through it. Shown below are some notes that need extra ledger lines when written in the treble clef.



Becoming a fluent reader of standard notation obviously requires memorizing all these note locations. Most students start with a small group, such as memorizing the notes on the treble clef between middle C and the next higher C, and then gradually adding more when ready. Several traditional memory aids may help, such as:

— In treble clef, notes on the spaces in ascending order spell the word F - A - C - E

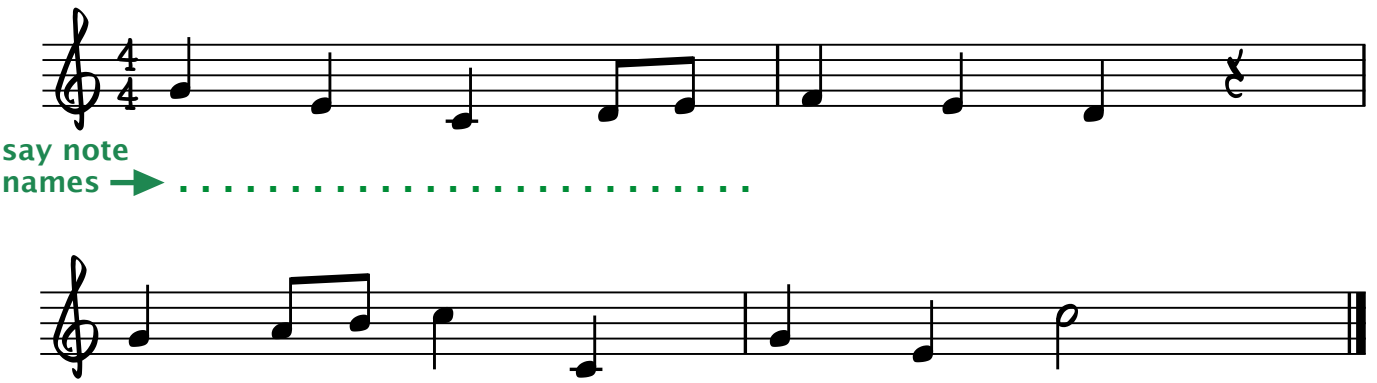
— Once again in treble clef, notes on the lines in ascending order are E, G, B, D, F, remembered with the sentence “Every Good Boy Does Fine.”

— In bass clef, notes on the spaces in ascending order - A, C, E, G - can be memorized by the sentence “All Cows Eat Grass.”

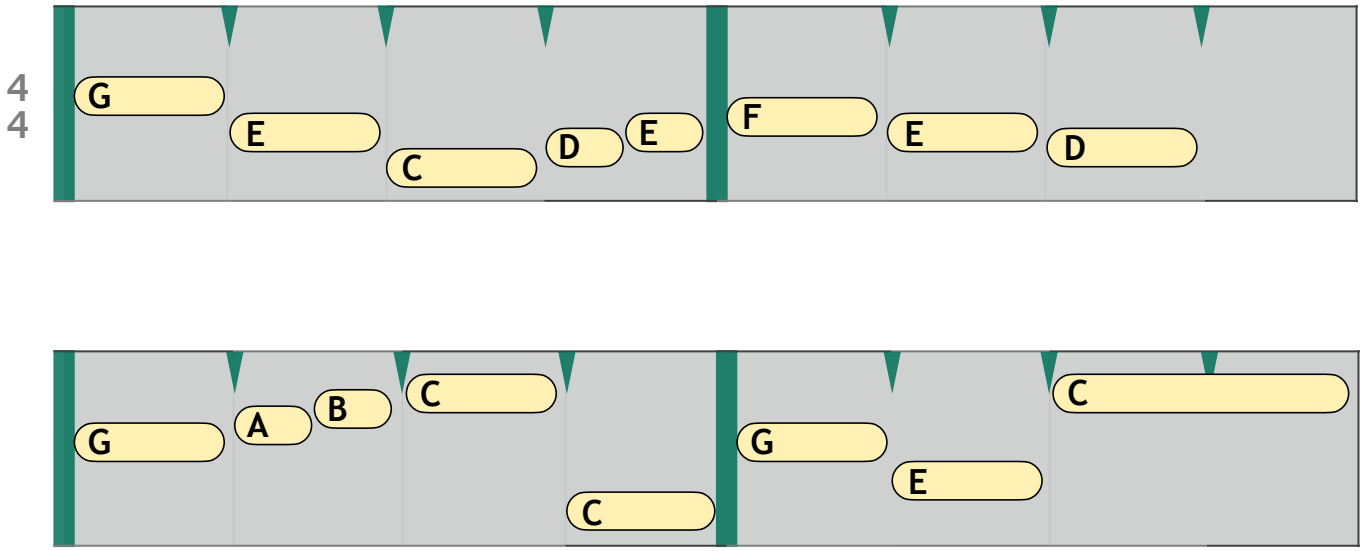
PRACTICE DRILLS

The following drills will help introduce or review the notes on the staff. Practice 1 is in treble clef, and Practice 2 is written in bass clef. **Say the note names out loud - first without any rhythm.** Then after some practice, try saying the note names in the **correct rhythm at a slow, steady tempo.** Once again, if you have a musical instrument or virtual keyboard, play the notes as you say them.

Practice 1

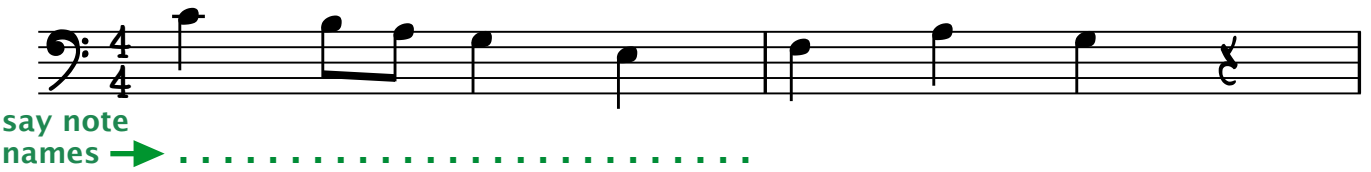


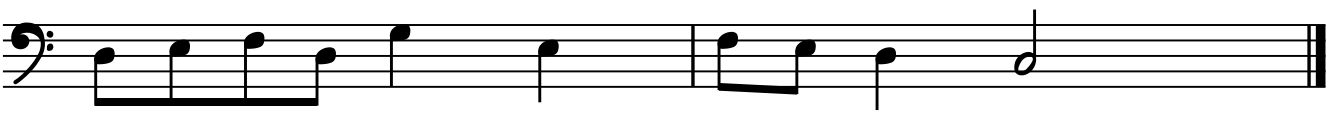
Here is what the previous drill would look like in the new graphic notation discussed in Chapter One:



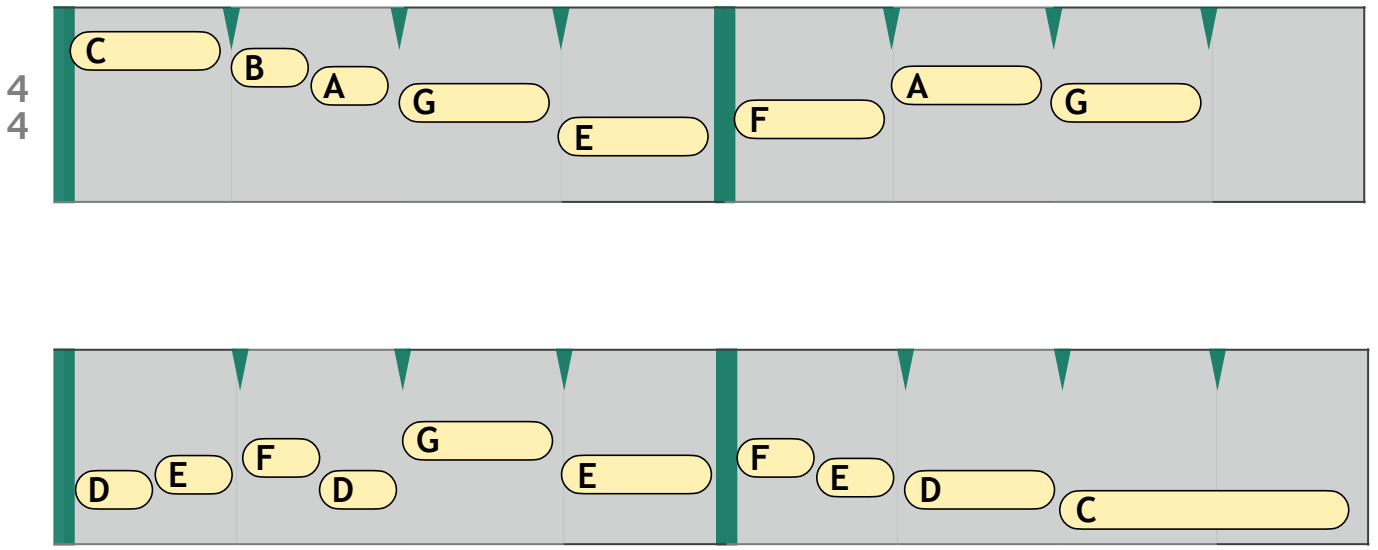
Practice 2

Remember that this exercise is written in bass clef, so the note locations are different from the previous treble clef exercise.





Here is what Practice 2 would look like in the alternative notation:



As you can see from the standard notation, the lowest note in Practice 1 is middle C and all other notes are above it, ranging to the next higher octave of C. However, Practice 2 is written in bass clef, so middle C is now the highest note, and all other notes are below it, ranging to the next lower octave of C. If this is not clear, refer back to the notated diagram of the Grand Staff.

This illustrates a limitation of our new graphic notation. In the new system, there is no indication of clef or pitch register. However, keep in mind that the new notation is not meant for learning an unfamiliar piece by sight reading only. All examples in the new notation will be excerpts from familiar pop songs and are meant to be studied while listening to the accompanying audio file. It will be obvious from the audio whether the example is illustrating low bass notes or high treble notes. In fact, understanding the overall register of these examples is not the important issue. Rather, the excerpts are notated to illustrate other elements such as melodic contour, range, pitch variety, phrase and note length, or the type of scale or harmony being used.

WRITTEN EXERCISES

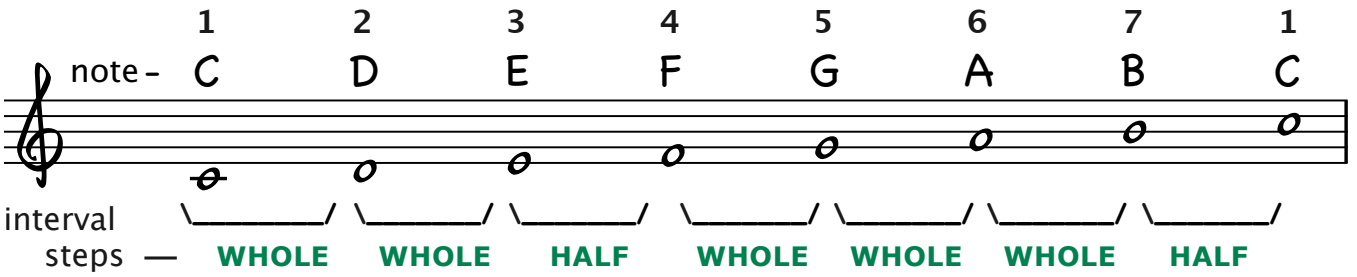
For extra practice reading note locations in standard notation, complete **Exercises 2.2, 2.3, 2.4, and 2.5** (see "Textbook Contents"/ "Volume 1" / "Written Exercises").

The Major Scale

Songs in a major tonality (key) are built from the **major scale**. This means that the melody and accompanying chords are predominantly or exclusively constructed from notes of the scale. The C major scale starts on a C note, then progresses upwards in a series of whole or half steps until arriving at another C, one octave higher:

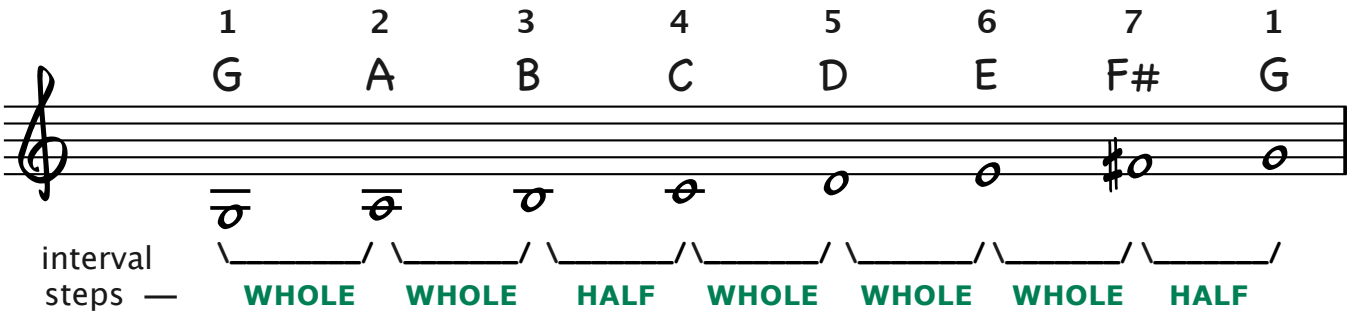
C MAJOR SCALE **ex. 1**

For AUDIO, see "Theory Examples" on top-right sidebar, and click on ex. 1



Although the starting point used above is a C note, the major scale can be constructed by starting on any of the 12 different pitches in our music system. As long as the sequence of intervals remains exactly the same, the sound will always be a major tonality. When starting on C, the interval formula never falls on a black key, so the key of C major has no sharps or flats. If the starting point is shifted to G, the sequence of intervals would produce the following notes, landing on one black key (F#) on the seventh note:

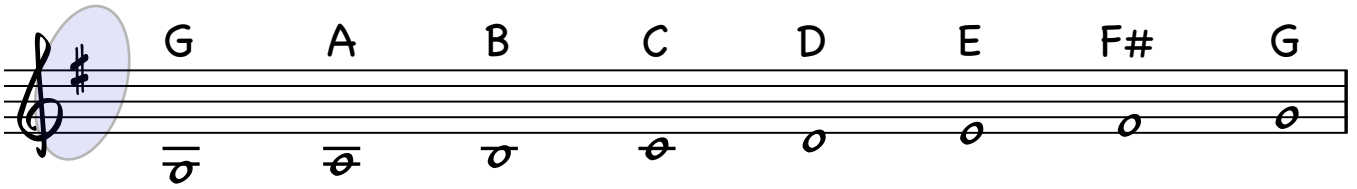
G MAJOR SCALE **ex. 2**



KEY SIGNATURES

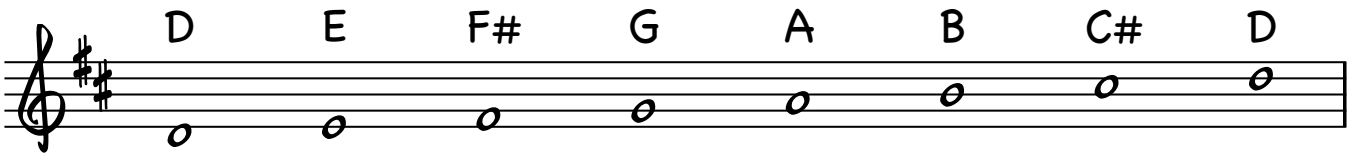
For a song in the key of G, the sharp sign (#) is not repeatedly written next to every F# note in standard notation, but is instead written immediately after the treble clef sign (shown below, circled). This is called the **key signature**. The sharp is placed on the top line where a high F would be written, but it applies to any octave of F. In this case, the key signature tells the player to automatically sharp all the F's in the score without having to write the sharp sign by each one.

G MAJOR SCALE (with key signature)

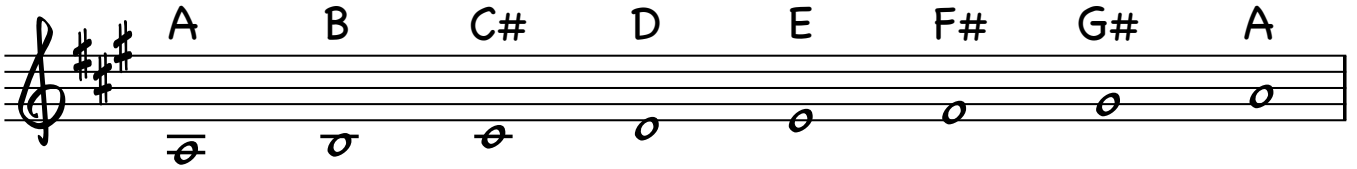


As you look down the following scores, you will see all the other major scales written in standard notation. Notice the various key signatures on the left, progressing from two sharps (D major) through seven sharps (C# major), then one flat (F major) through seven flats (Cb major).

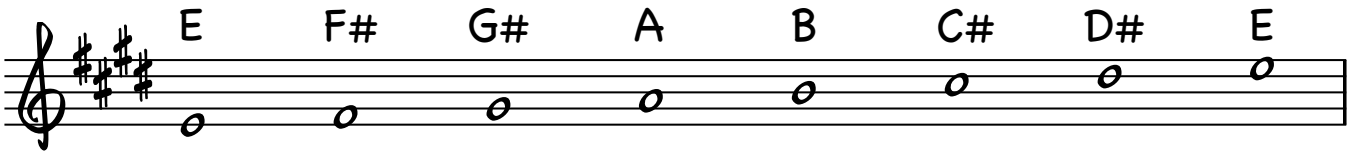
D MAJOR SCALE



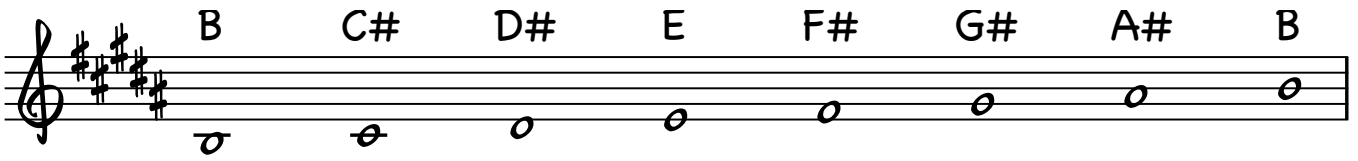
A MAJOR SCALE



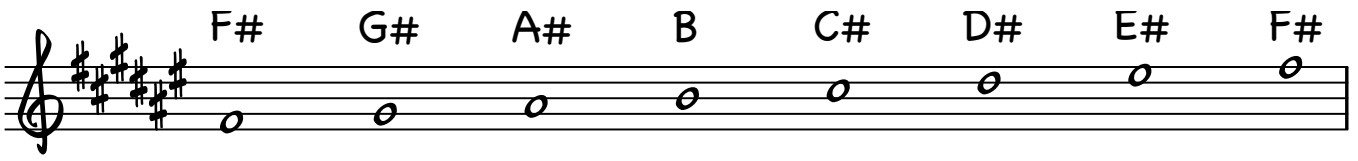
E MAJOR SCALE



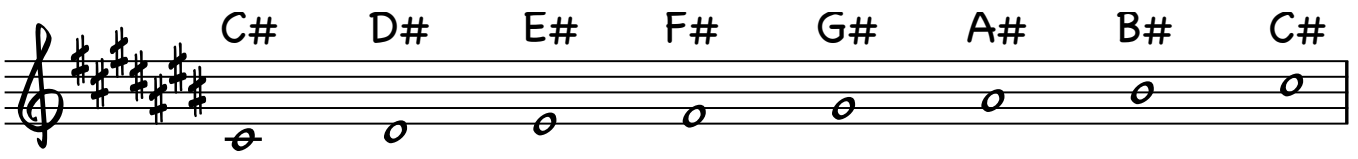
B MAJOR SCALE



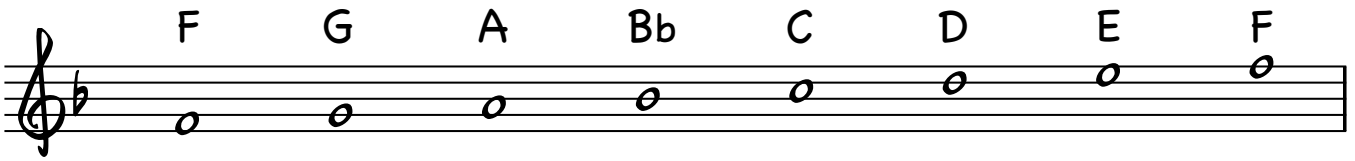
F# MAJOR SCALE



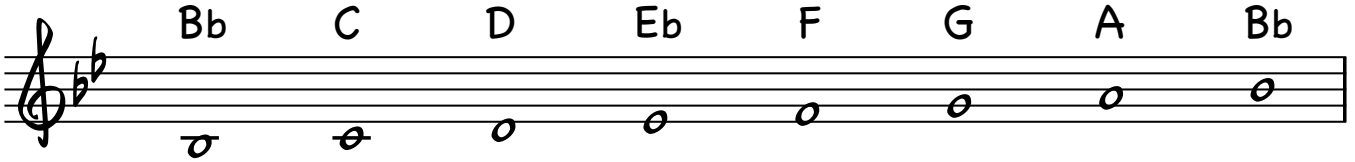
C# MAJOR SCALE



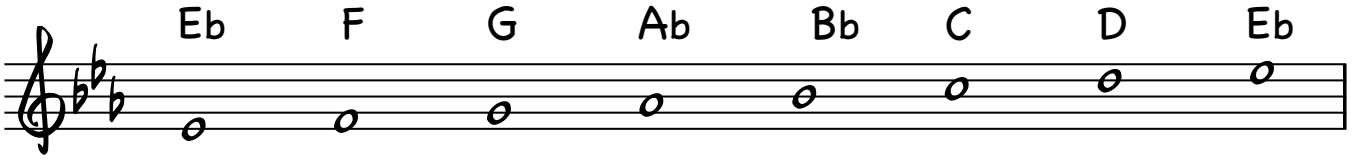
F MAJOR SCALE



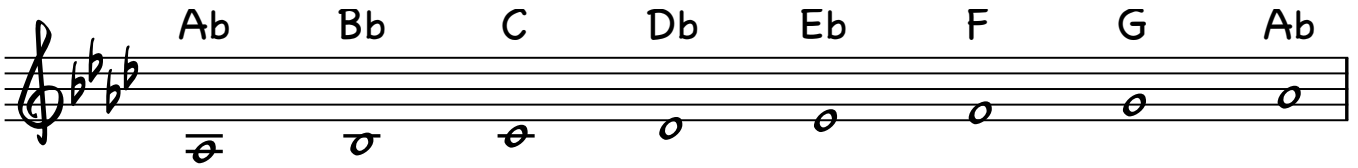
Bb MAJOR SCALE



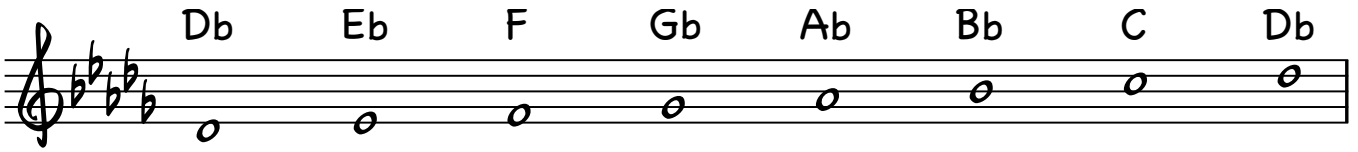
Eb MAJOR SCALE



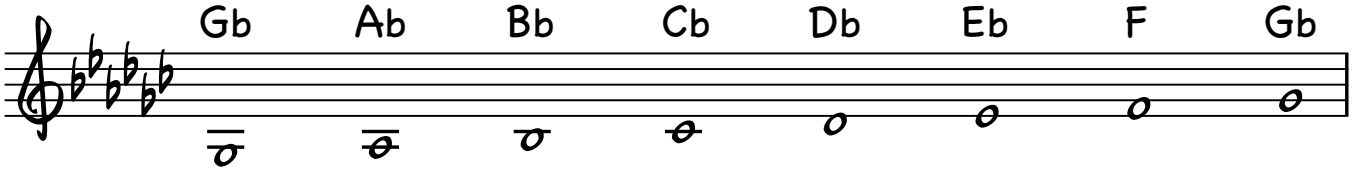
Ab MAJOR SCALE



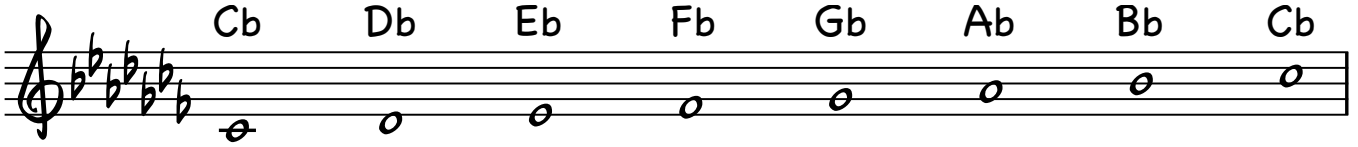
Db MAJOR SCALE



Gb MAJOR SCALE



Cb MAJOR SCALE



WRITTEN EXERCISE

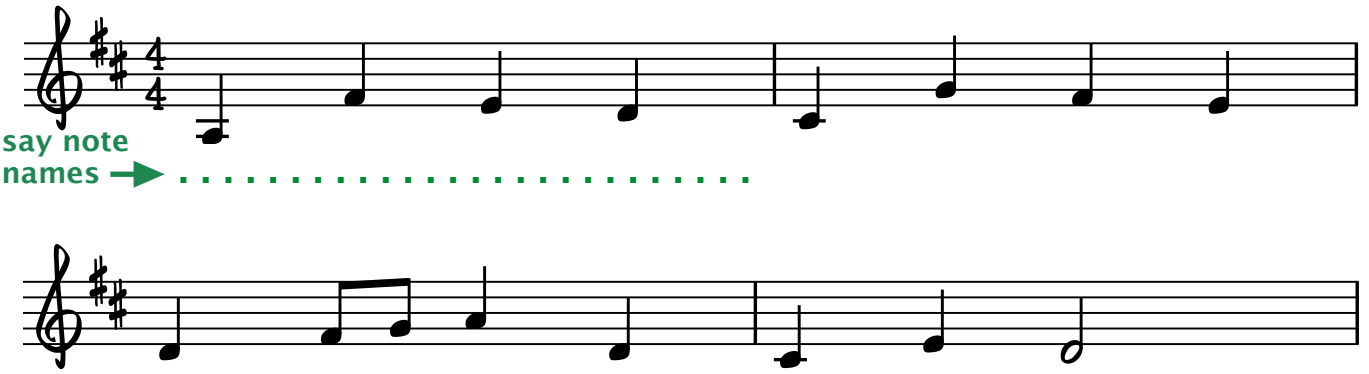
For extra practice spelling some of these major scales, complete **Exercise 2.6** (see “Textbook Contents”/ “Volume 1” / “Written Exercises”).

If you play these scales on an instrument, you will notice that the sound of the pitches for the F# scale and Gb scale are exactly the same — the notes are just spelled differently (enharmonic spelling). This is also true for two other pairs - C# major is sometimes written as Db major, and Cb major is sometimes written as B major. However, in terms of sound alone (without enharmonic spelling), there are only 12 different major scales.

PRACTICE DRILL

As mentioned earlier, you must keep the key signature in mind when reading standard notation in different keys. Here's a drill to practice reading in the key of D major. Remember to sharp all the F's and C's as you go through the letter names. As before, **say the note names out loud - first without any rhythm.** Then after some practice, try saying the note names in the **correct rhythm at a slow, steady tempo.**

Practice 3 - key of D (two sharps)



WRITTEN EXERCISES

For extra practice reading standard notation in different keys, complete **Exercises 2.7 - 2.11** (see "Textbook Contents"/ "Volume 1"/ "Written Exercises").

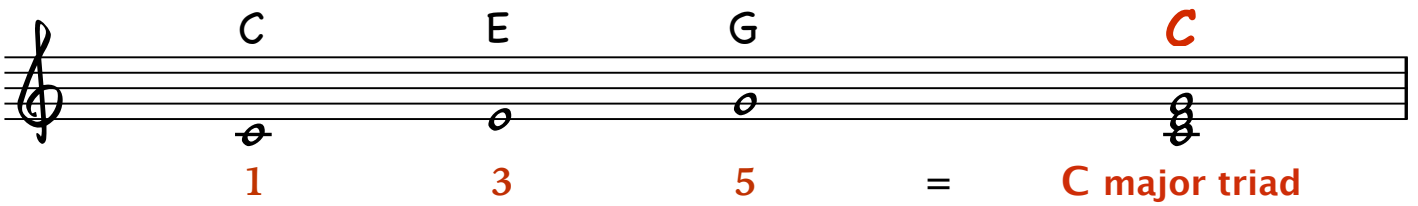
[NOTE - When reading song examples in our new graphic notation, there is no key signature required, since the letter names of the notes will always be spelled out with the correct sharps or flats.]

Triad Chords

MAJOR TRIAD

When several notes are sounded together, it is called a **chord**. This book will cover many types of chords, but we will start with just a few basic ones. The first is a major triad, built with the 1st, 3rd, and 5th degrees of the major scale. The word "**triad**" refers to chords that have exactly 3 different notes.

ex.3

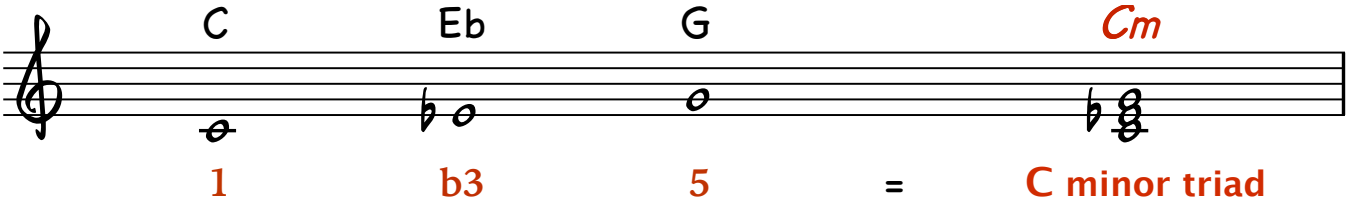


Notice that the chord symbol C (just the letter name) is written over the chord. You can apply this formula using any major scale, so there are 12 major triads. For example, if you combine the 1st, 3rd, and 5th degrees of the D major scale (D, F#, and A) you hear a D major chord.

MINOR TRIAD

When the 3rd degree is flatted (lowered one half step), the chord becomes a minor triad, with a somewhat darker or sadder sound.

ex.4



Notice that the chord symbol written over the chord (C m) adds the lower case "m." Just as there were 12 major chords, there are also 12 minor chords. Using Dm as another example, you would combine the notes D, F, and A to make a D minor triad. The F note represents the flatted 3rd of the D scale (F# lowered one half step).

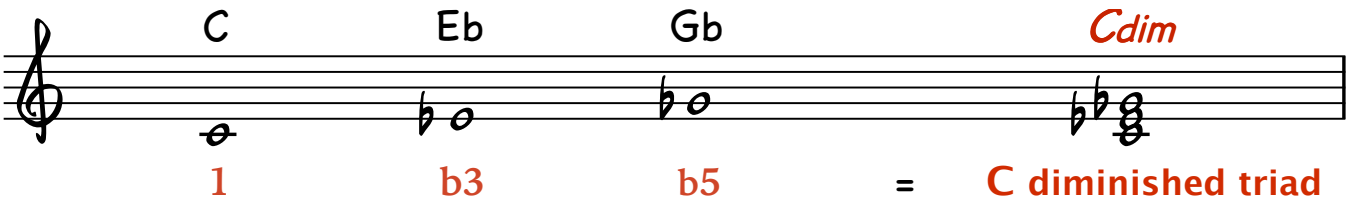
WRITTEN EXERCISE

Practice spelling some common triads by completing **Exercise 2.12** (main menu / "Exercises" tab / "Written Exercises").

DIMINISHED TRIAD

The diminished triad flats the 5th degree in addition to the 3rd degree:

ex. 5



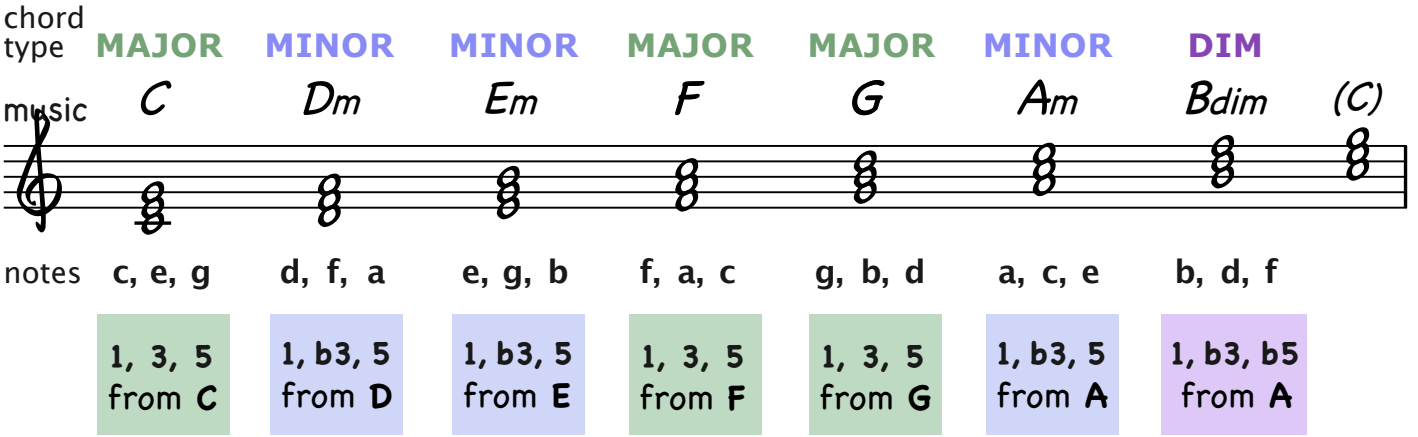
This time the chord symbol (C dim) adds the lower case "dim." As before, there are 12 different diminished triads. If you wanted to make a D dim chord, you would combine D, F, and Ab notes, with the Ab representing the flatted 5th. Diminished triads are not nearly as common as the major and minor chords. However, they are part of the next important topic: diatonic triads.

Diatonic Triads

As mentioned earlier, a song in a major key is generally based on a major scale. This means that the melody and chords come directly from the scale. It is fairly easy to see how a melody could be constructed — simply re-arrange the scale tones in a specific order until it sounds like a "tune." But what about the chords? How can you know which chords will sound good with a given melody? It turns out there are a whole set of triads built directly from the notes of the major scale. These are called **diatonic triads**. (The word "diatonic" means constructed exclusively from notes of the scale.)

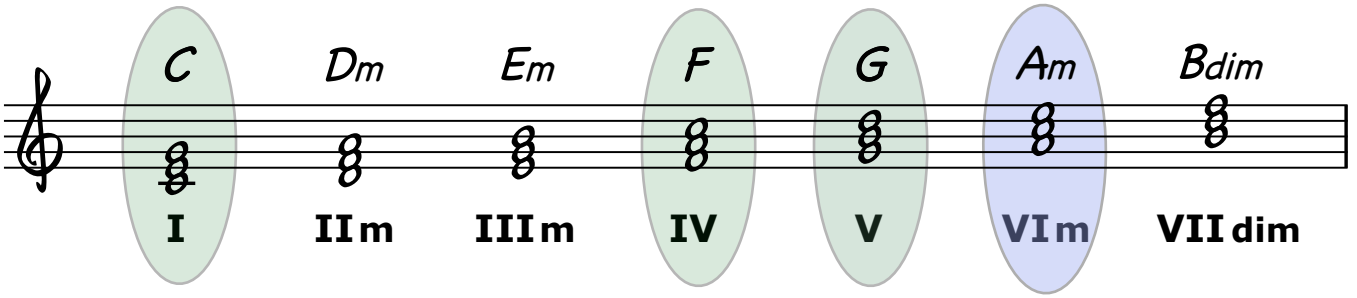
A triad chord can be built on each step of the major scale, stacking the notes in a specific order, as in the following diagram.

ex.6



The three notes of each chord represent either a 1, 3, 5 (major triad), 1, b3, 5 (minor triad), or 1, b3, b5 (diminished triad), figured from the lowest note (**root note**). Notice that there are no sharps or flats in any chord, meaning that every note must be part of the overall C major scale. This is what determines whether a given chord will be major, minor, or diminished.

The formula for constructing diatonic chords can be applied to any major scale, so there are 12 sets of diatonic triads, one for each key. Although the letter names may change, the chord types will remain constant. Therefore, the first chord is always major, second chord always minor, etc. In standard musical analysis, the chords are given **roman numerals**, as shown below:



Although any of these diatonic chords could be used to accompany a melody in C major, certain chords will sound better than others when paired with a given melody note. Usually, the melody note is a **chord tone** (a note found somewhere inside the chord). For example, in the key of C major, an A note would sound best with either the Dm, F, or Am chords because all these chords contain an A note. However, some melody notes can be

non-chord tones, which may temporarily clash or harmonize with the chord before moving on to the next note. More will be said about chord / melody relationships in later chapters.

Overall, there are certain chords that occur more often than others in a typical major key song. The most common chords are **I, IV, and V**, also known as the **tonic, sub-dominant,** and **dominant**, respectively. These are highlighted in green in the previous diagram. In fact, there are dozens of well-known pop and rock hits that only have these three chords. The next most common chord would be the **VIm** (highlighted in blue), and the least common is the VIIdim. The following chart shows the diatonic triads for all 12 major keys, with the I, IV, V, and VIm chords highlighted.

DIATONIC TRIADS – MAJOR KEYS

(key) **I**	IIm	IIIm	**IV**	**V**	VIm	VIIdim
A	Bm	C#m	**D**	**E**	F#m	G#dim
Bb	Cm	Dm	**Eb**	**F**	Gm	Adim
B	C#m	D#m	**E**	**F#**	G#m	A#dim
C	Dm	Em	**F**	**G**	Am	Bdim
Db	Ebm	Fm	**Gb**	**Ab**	Bbm	Cdim
D	Em	F#m	**G**	**A**	Bm	C#dim
Eb	Fm	Gm	**Ab**	**Bb**	Cm	Ddim
E	F#m	G#m	**A**	**B**	C#m	D#dim
F	Gm	Am	**Bb**	**C**	Dm	Edim
F#	G#m	A#m	**B**	**C#**	D#m	E#dim
G	Am	Bm	**C**	**D**	Em	F#dim
Ab	Bbm	Cm	**Db**	**Eb**	Fm	Gdim
tonic			sub-dominant	dominant		

The preceding chord chart should eventually be memorized, for it is extremely useful to all musicians who improvise or write songs. Aspiring songwriters can use it as a starting point, instead of staring at a blank sheet and wondering where to begin. The chart would be

especially helpful if a song needed to be written on deadline or literally on the spot. Writers can also use the chart to flesh out an existing melody that has no accompaniment.

Improvisers playing along with either a recording or in a live jam session might not have the music score in front of them, and they need to recognize the chord changes by ear in order to keep up. If the chart is memorized, it will help guide the ears, and even predict what chord will come next. Finally, the chart is for all those players who get frustrated by mistake-filled song postings online. Sometimes it is just better to figure out the chords yourself from the recording.

WRITTEN EXERCISE

Start your memorization of the chord chart by writing the diatonic triads for some common keys in **Exercise 2.13** (see "Textbook Contents"/ "Volume 1" / "Written Exercises").

Further Exercises –
USING THE SONG EXAMPLES THROUGHOUT THIS BOOK

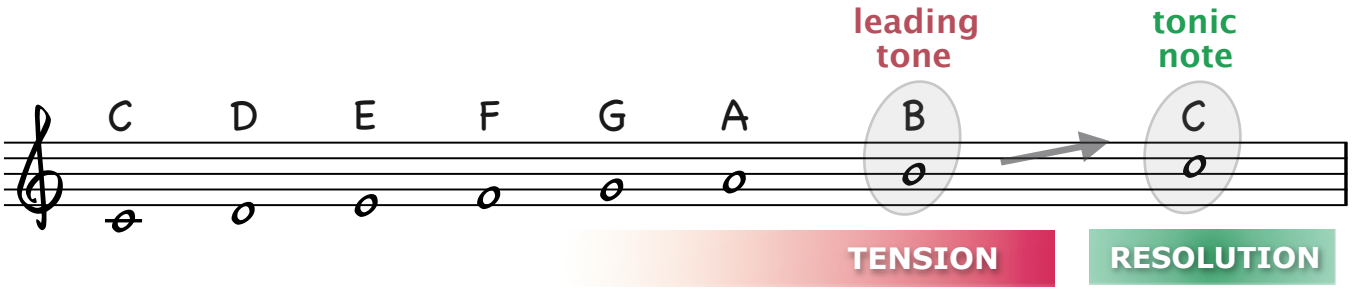
The numerous song examples throughout this book can be used for further practice memorizing diatonic chords (similar to Written Exercise 2.15). **The key of each song** is shown in a **blue box** to the right of the song title, and the chord progressions are usually written with only roman numeral analysis. Initially, you could write out the chord letter names like Exercise 2.15. However, the best way to eventually memorize the diatonic triads is to play the chords on your instrument reading only the roman numerals (without writing out letters). This may strike some as cruel and unusual punishment, but alas, the purpose of this book is to learn theory and harmony, not just new songs. Besides, it's a lot more fun than memorizing the chord chart like a shopping list.

Ear Training

In order to find the key of a song by ear or distinguish the difference between basic chords like the I, IV, and V, you must improve your ability to hear a basic element of all music — tension vs. resolution.

TENSION vs. RESOLUTION

Most pieces of music, regardless of style or genre, have certain periods where there is a feeling of temporary tension or anticipation, followed by a satisfying resolution. This is what helps give music its power and emotion. In terms of major scales or melodies, the first note of the scale, also called the **key note** or **tonic note**, is the resolving point or "home base" where all other notes eventually return. The note with the most tension is the seventh degree, also called the **leading tone**. These notes are labeled below for the C major scale.



The leading tone B is considered most unstable because it is only a half step away from returning to home base (the tonic C). Try playing or singing the scale in ascending order, but **stop on the B note** . . . . . You will feel the tension until you eventually play the tonic C note to resolve the sound. For this reason, the last melody note at the very end of a song is almost always the tonic note.

The diatonic chords have similar characteristics in terms of tension and resolution. The I chord acts as home base and all other chords will carry some tension until the progression eventually resolves back to I. Therefore, most songs also end on the I chord (unless there is a fade out).

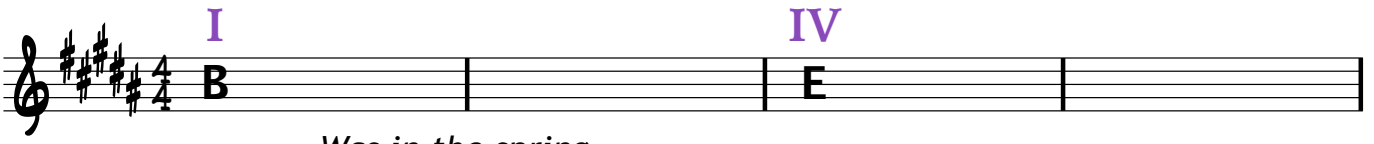
In terms of tension, the VII dim triad (B dim chord in the key of C) certainly has instability with the leading tone B as its root note, but this chord is very rare in pop and rock. We will focus instead on the V chord — another strong tension producer with the leading tone in the middle of the chord. (In the key of C, this would be a G chord, containing the notes G, B, and D.) Of the three most common chords in any major key - I, IV, and V - it is the dominant V that has the greatest feeling of anticipation:

tonic	**I chord**	**"home base" resolution point — no tension**
sub-dominant	**IV chord**	**transition — small amount of tension**
dominant	**V chord**	**building anticipation — maximum tension**

In pop & rock songs, tension is often at its greatest in the last two or three bars of the verse or pre-chorus, leading into the chorus. In the following example, **try stopping the recording briefly at 1:02 just before the chorus**. You will feel the tension until you press start again and let the song continue into the chorus. The key is B major. START LISTENING AT **0:29**

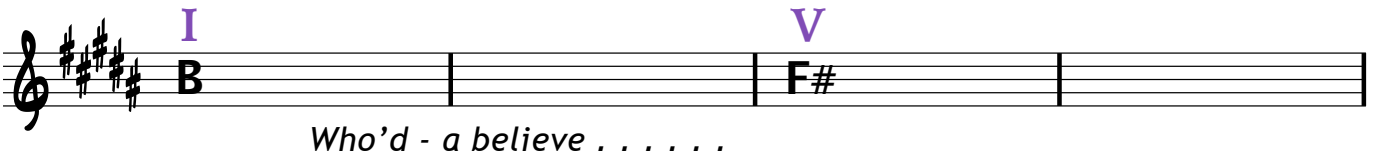
"Sweet Caroline" — Neil Diamond — 1969 | **B major** | 1

For AUDIO, see the "Song Examples" playlist in the right sidebar, and click on track 1 song title. To navigate within the audio track, slide the progress bar forward to the desired starting point.

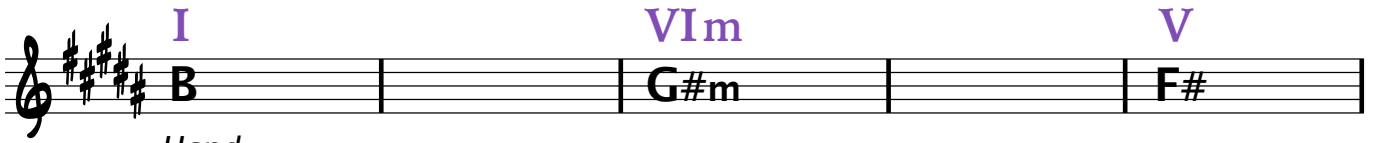


0:29 VERSE

Was in the spring . . . . . .

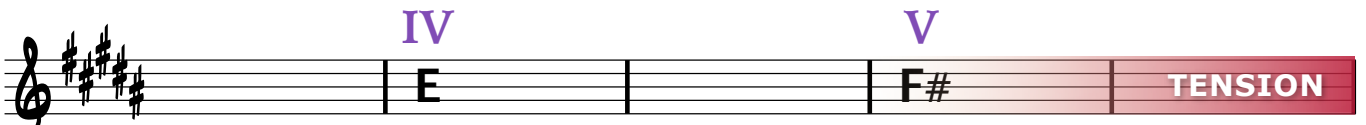


Who'd - a believe . . . . . .



Hand . . . . . .

0:44 PRE-CHORUS



touchin' me *touchin' you*

Sweet Caro - line . . . . . .

1:03 CHORUS

In “Sweet Caroline,” there is maximum tension during the V chord at the end of the pre-chorus. When the resolving chorus enters, there is a satisfying, uplifting feeling created by the brief return to the “home” chord (I). Also note that the I chord is avoided during the last eight bars of the pre-chorus. This only increases the tension, for the longer you avoid the I chord, the more tension is built up.

The place where the tension is resolved (beginning of the chorus) can be called a **focal point**. There are many other devices in rhythm, melody, and harmony that can create tension and a focal point, but these devices will be discussed at the end of the chapter in a section called “Songwriting Focal Points.” For now, we are focusing on just the chord progression.

Ear Training Exercise

KNOWING THE KEY – FINDING THE CHORDS

To tune your ears, try this exercise — pick a key note and keep it firmly in your head by humming it. As you hum, play the I chord on your instrument, then the IV, and finally the V in that key. You are trying to measure the tension of each chord, remembering how it sounds against the key note. The I chord will “match” perfectly with no tension or dissonance, because the key note is the all-important **root note** that anchors the I chord. The key note is also in the IV chord, but the IV will have a slight amount of tension compared to the I. This is because the key note is only the **5th degree** (like a harmony note), rather than the root note of the chord. When you hear the V chord against the key note, it sounds a bit jarring — almost like a wrong chord with strong dissonance and tension. This is partly because the key note is not found in the V. Also, as mentioned previously, the V chord contains the tension-filled leading tone of the scale. (Note: You must maintain the correct key note with your hum at all times, even against the dissonance of the V chord.)

Listening for tension is one way to recognize the difference between the I, IV, and V chords, but there are other strategies. A more traditional approach to finding chords involves focusing solely on the root (bass) notes, rather than the overall chord sound and

feeling of tension. For example, in the key of C you would try and measure the distance between the root of the I chord (a C note) and the root of the V chord (a G note) in order to recognize the V. (If the movement ascends from C to G, this interval is called a "Perfect 5th"). With this method, you would first need to memorize the names and sounds of various intervals by sight singing melodies with solfege syllables.

If you have tried this method, you know that learning melodic intervals can be tricky. When moving from a I chord (C bass note) to a V chord (G bass note), the movement can either go up or down, depending on which octave of G you pick. You'll have to memorize both the sound of C jumping up to G (a Perfect 5th), and the somewhat different sound of C dropping down to a lower G (a Perfect 4th). Either situation is possible. To help you get started, the first seven ear training exercises for this chapter (2.1e - 2.7e), will provide an extra hint about the root motion between the chords.

As mentioned in the Preface, melodic intervals are something traditionally covered in a first-semester ear training course. Since this book will only cover **harmonic** ear training (chord progressions), not melodic exercises, ***it is highly recommended that you take an introductory solfege course before trying to master the ear training in this book.***

EAR TRAINING EXERCISES

To improve your listening skills and recognize chord progressions by ear, you must practice ear training with the same dedication that you have probably applied to your instrument or voice (think about all those hours practicing chords, scales, and songs.)

To get started, practice **Ear Training Exercises 2.1e - 2.7e** (see "Textbook Contents"/ "Volume 1"/ "Ear Training Exercises").

Further Exercises –

USING THE SONG EXAMPLES THROUGHOUT THIS BOOK

As discussed earlier, roman numeral chord progressions are shown for most of the song examples in this book, and these can be used for extra practice in learning diatonic chords (by converting roman numerals to letter names). However, these songs can also be used as exercises for finding chords by ear. Try the following 3 steps for each song:

1. Cover the chord progressions (these will be your "answer sheet")
2. Notice the key in the blue box. As you listen to the song, hum the key note continuously or play it repeatedly on your instrument.
3. As before, identify each chord by measuring against the key note, listening for tension vs. resolution. Also pay close attention to the bass notes (root notes) of each chord.

[NOTE: Because you are listening for bass notes to help you hear the chord changes, do not rely on the small built-in speakers on your laptop or tablet. Always use head phones or bigger external speakers to make sure you have adequate sound in the bass range.]

Ear Training Exercise

LISTENING TO CHORDS – FINDING THE KEY

In order to find the key of a song by ear, you will essentially do something like the previous exercise in reverse. First, pick any song from the chapter that has the progression written out. The chords will be a given (in roman numerals), and the key note will be a mystery (as long as you don't look at the key info in the blue boxes). While listening to the changes and watching the roman numerals, try moving up and down all possible notes on your instrument, searching for the one note that seems to anchor the piece like a home base. You will recall from our previous discussion about tension/resolution that your potential key note should sound pretty good with the IV chord and even better with the I chord. However, the key note will occasionally sound dissonant when a V chord appears.

One way to check if your potential key note is correct is to stop the recording during any I chord that lasts for two or more bars. Immediately play your chosen note, and try to imagine the song ending on that note. If your choice is correct, there will be a feeling of completeness or closure. If not, there will be tension.

This exercise can also be done on songs where you don't know the exact chord progression, such as the numerous "Additional Listening" lists found throughout every chapter. Just cover the key information for a particular song (again listed in the blue boxes), and repeat the process of searching for the anchoring key note while listening to the music. This time you won't know whether you are listening to the I, IV, or V at any given moment, but you can try listening to the overall sound and see if you can recognize the places of resolution. This will tell you where the all-important I chord occurs.

Again, remember that even the correct key note will clash whenever the V chord appears. This is only temporary. Don't immediately abandon your choice of key note. Wait until the next chord change when the sound should resolve somewhat with a IV or I chord. If necessary, you could even employ a few short cuts. Fast forward to the very end of the recording, since virtually all songs end on the I chord, or move to the very beginning, which often starts on the I.

Regardless of your approach, have patience. Training your ears takes time, as in weeks, months, years, just like learning your instrument. You will probably find that knowing the key and searching for the chords is easier than trying to find the key note.

Common Chord Progressions

TWO CHORD VAMP

Most pop & rock hits have at least three or more chords, arranged in a specific sequence. However, a chord progression can be as simple as only two chords alternating for the entire piece. When a short progression like this is repeated for an extended period it is sometimes called a "**vamp,**" with the chords changing every one or two measures. Playing a vamp in the intro section of a song is quite common in live performances, because it is an easy way to coordinate the start of a piece. The band members just keep "vamping" until the singer is finally ready to start.

Here's an example of a two-chord vamp that lasts for almost the entire recording. The key is F# major and the alternating chords are F# and G#m (I and IIm in the key). Each chord lasts for one bar. START LISTENING AT **0:31**.

"Heaven" — Los Lonely Boys — 2004 | **F# major** | 2

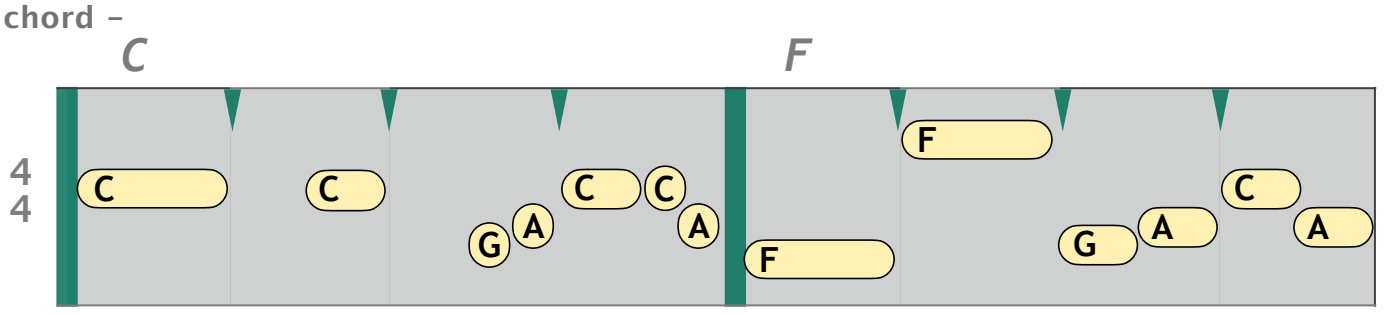
— 0:31 (verse) - Listen for the **organ** and **guitar**. The **I** chord alternates with the **IIm** chord. (Alternations are approximately every 2 ½ seconds.)

On their 1972 hit "I'll Take You There," The Staple Singers' also used a two-chord vamp, alternating between the I and the IV chord. START LISTENING AT **0:12.**

"I'll Take You There" — Staple Singers — 1972 | **C major** | 3

— 0:12 (verse) **-** Listen for the **guitar** and **bass**. The **I** and **IV** alternate, one bar each (approximately every 2 ½ seconds).

If you have trouble hearing when the chords change on "I'll Take You There," listen closely to the **bass line**. The root note is heard on the first beat of each chord change. Although this bass pattern is fairly active (other notes are introduced later in the measure), you should focus on beat one to hear the switch between the C and F chords. The repeating two-bar bass pattern is shown below in our graphic notation.



0:12 VERSE – bass pattern

The next song features an alternation between the I and V chords, but the alternation is not as obvious, since each chord lasts for four bars.

"Blurred Lines" - Robin Thicke feat. T.I. & Pharrell - 2004 | **G major** | 4

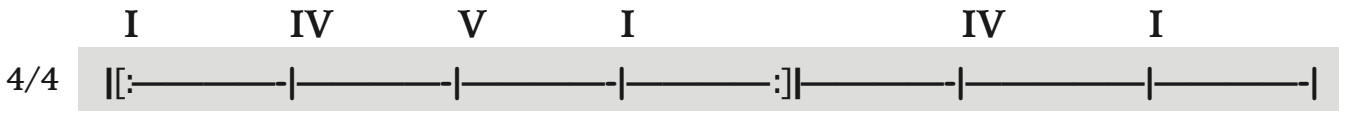
— 0:18 (verse) - **Keyboard** chords are staccato 8th notes on each upbeat. The chords alternate **I** and **V** every 4 bars. (approximately every 8 sec.) The **bass** plays mainly root notes.

I, IV, V CHORDS – Root Bass

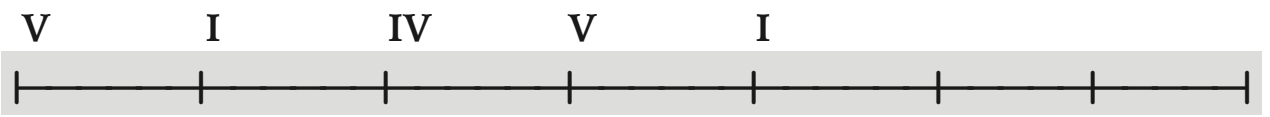
As mentioned, the three most common chords in the major key are I, IV, and V. These can be in any order. The chord progression to The Crystals hit "Da Doo Ron Ron" is shown below, with most chords lasting one bar each. The simple bass line clearly defines the changes, providing steady root notes on every beat.

[NOTE: The first and fifth bar lines are called **repeat signs**. When you come to a repeat sign like this :]I with dots on the left (end of bar four), you must go back to wherever the previous repeat sign is with dots on the right I[: (in this case, the beginning of the verse) and repeat everything between the two repeat signs before moving on.]

"Da Doo Ron Ron" — The Crystals — 1963 | **Eb major** | 5

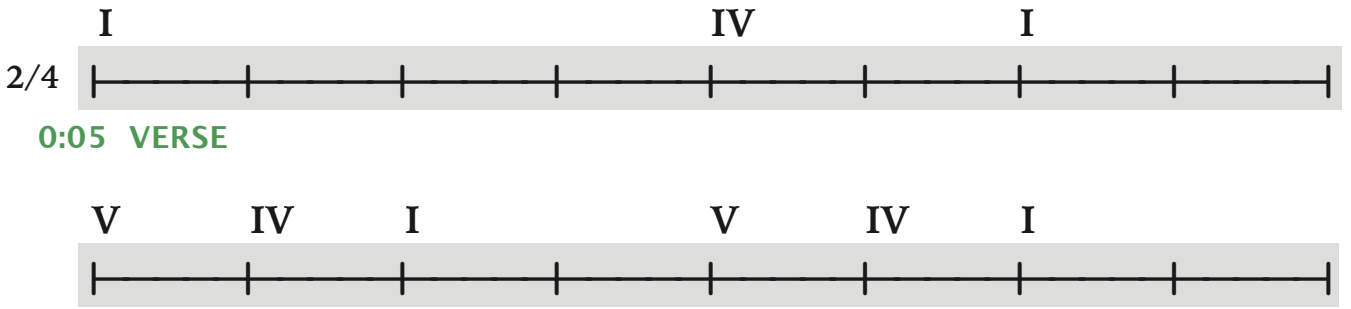


0:07 VERSE



Here's another example with clear bass — this time in 2/4 with root notes on every beat.

"We're Going to Be Friends" — White Stripes — 2001 | **G major** | 6



The following list features more songs with a clear root in the bass. As mentioned earlier, there are many "Additional Listening" lists like this throughout the book that can be used for ear training or improvisation practice.

Additional songs with I, IV, V CHORDS – ROOT BASS

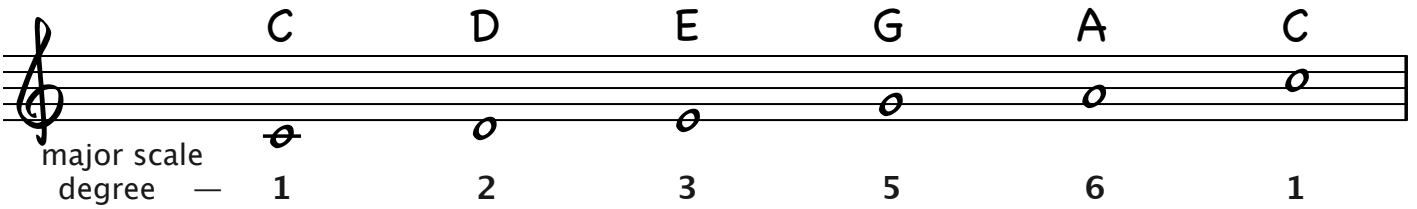
1960	***He'll Have To Go***	**Jim Reeves**	**Db major**
1963	***Another Saturday Night***	**Sam Cooke**	**A major**
1965	***Mr. Tambourine Man***	**Byrds (orig. Bob Dylan)**	**D major**
1971	***Me and Bobby McGee***	**Janis Joplin**	**G, A major**
1974	***Willie & the Hand Jive***	**Eric Clapton**	**A major**
1984	***Sad Songs Say So Much***	**Elton John**	**C major**
1988	***End of the Line***	**Traveling Wilburys**	**D major**
2000	***How Do You Like Me Now***	**Toby Keith**	**C major**

To practice ear training with this list, try to find the key or chord progression for a particular song. Remember to use the diatonic chord chart for help with the chords. These songs are almost exclusively three-chord songs, with only I, IV, and V throughout. When you find the right line (key) on the chart, the odds are 50/50 that you'll guess the next chord. For example, if you're on I, the next chord is either the IV or the V, etc., etc.

Regarding improvising with this list, one of the first steps for improvising is to find the key of the song. This will help you pick the right scale for soloing. Since sheet music (with key info) is rarely used in pop and rock performance settings, pop musicians are often expected to find the key by ear. Think of situations like playing along with the radio, CD's, audio files, or simply sitting in with other musicians during an informal jam session. There's nothing more embarrassing than having to ask "what key are we in" if you're trying to fit in with some good players.

To practice finding the key by ear, follow the steps outlined earlier under Exercise 2.24. Of course the key will give you the letter name for your potential improv scale, and since all songs in this chapter are in a major key, the 7-note major scale is an obvious choice. However, the melodies, riffs, and instrumental solos of many pop hits are actually based on a simpler 5-note scale known as the **major pentatonic** (a sub-scale using only the 1st, 2nd, 3rd, 5th, and 6th degrees of the full major scale). The C major pentatonic scale is shown below.

C MAJOR PENTATONIC SCALE ex. 7

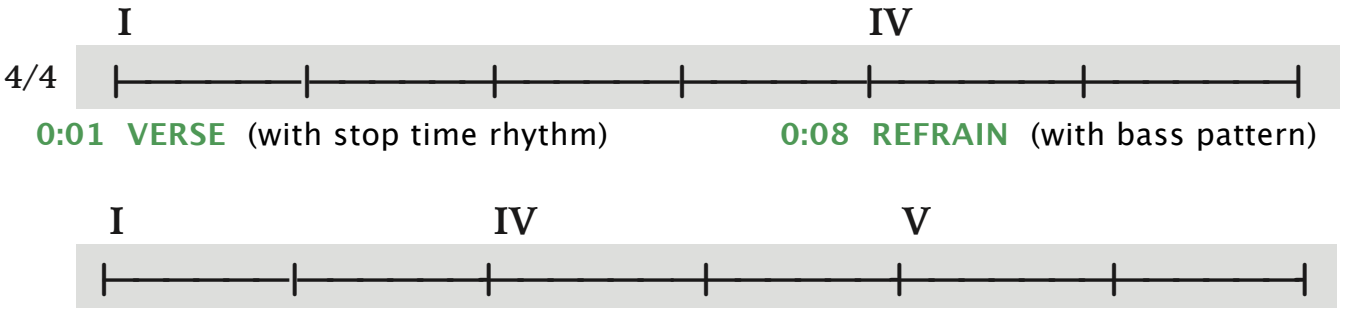


As with the full major scale, there are 12 different major pentatonic scales, one for each key. For much more information about scale patterns and improvisation, see the supplemental guitar workbook that is meant to accompany this main text. The workbook follows the same chapter outline found here, providing scales for practicing improv with every song example in this book.

I, IV, V CHORDS – Active Bass

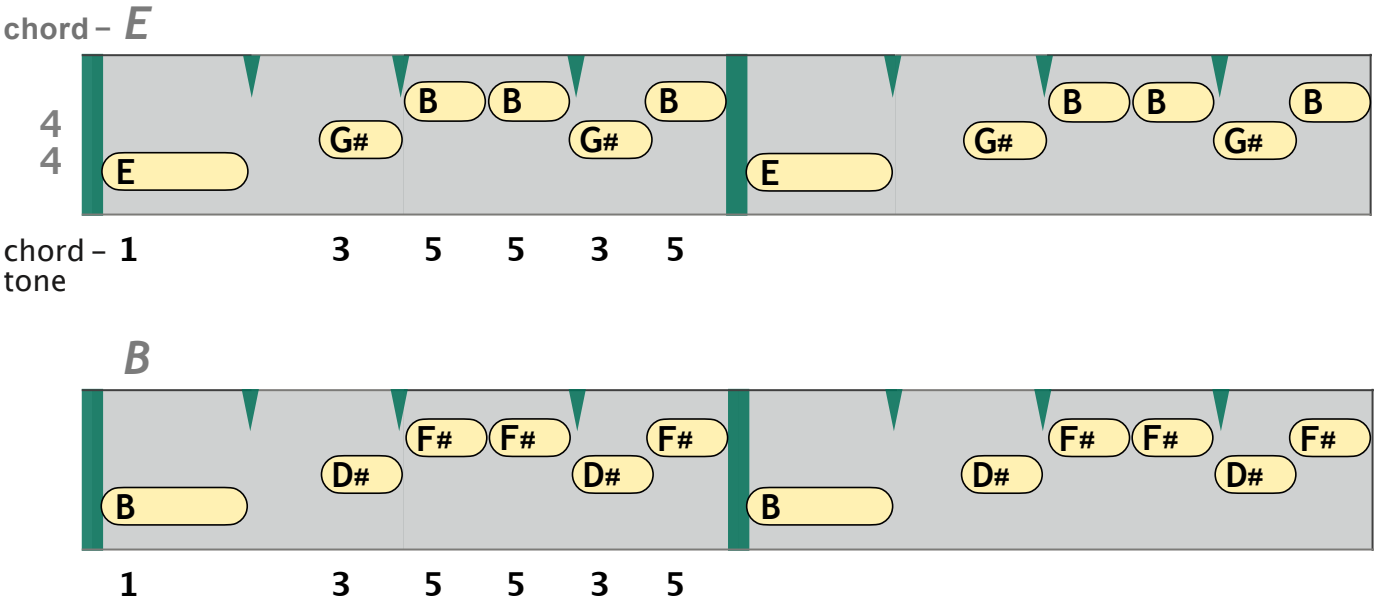
While the previous "Additional Listening" list contained I - IV - V songs with a clear root in the bass, other songs like "I'll Take You There"(heard earlier) can have quite an active bass with more than just root notes. See if you can hear the **repeating bass pattern** in the refrain of the next classic by Fats Domino. The pattern is doubled on the guitar/sax, and shifts to follow each chord change:

"Ain't That a Shame" — Fats Domino — 1955 | **B major** | 7



The bass pattern uses all the chord tones of the triad (1, 3, and 5), and is shown below for the IV and I chords that start the refrain.

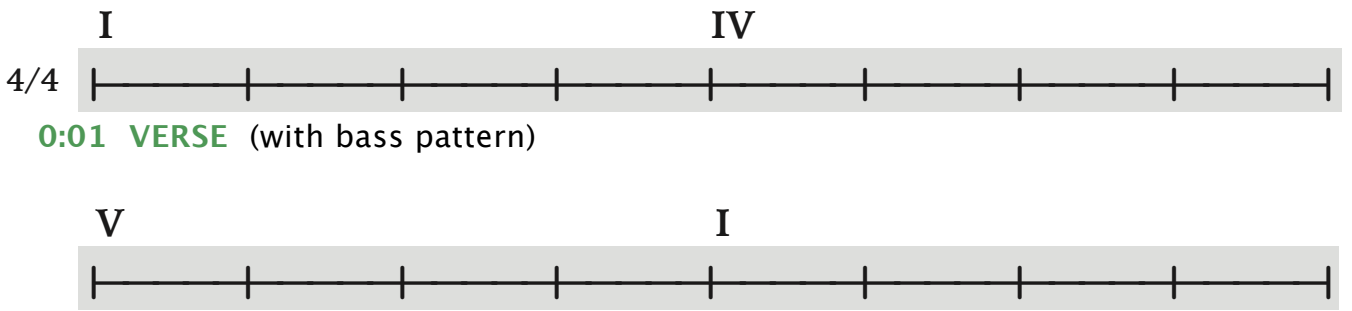
0:08 bass pattern



Although the letter names of the bass notes change when moving to the B chord, they still represent the same sequence of chord tones (numbers) in relation to the new chord. As on "I'll Take You There," the first beat of each chord change gives you the naming note (root note) of the chord, although this time a one-bar pattern is repeated before moving on to the next chord. Many hits from the 1950s and 60s featured a repeating bass pattern like this, including Pat Boone's 1957 recording "Don't Forbid Me," and several other Fats Domino tunes.

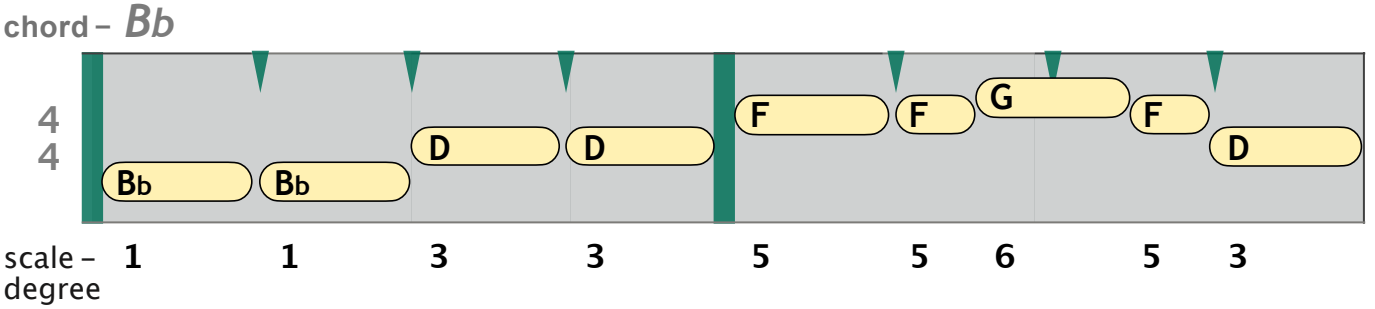
On this next Halloween classic by Gene Simmons, the 6th degree of the scale is added to the bass pattern. First, here is the basic progression:

"Haunted House" — Gene Simmons — 1964 **Bb major** 8



The bass pattern for "Haunted House" lasts for two bars, and is repeated before shifting to the next chord. A saxophone joins the bass the first time, but the second time it is bass only. The pattern for the I chord is shown below:

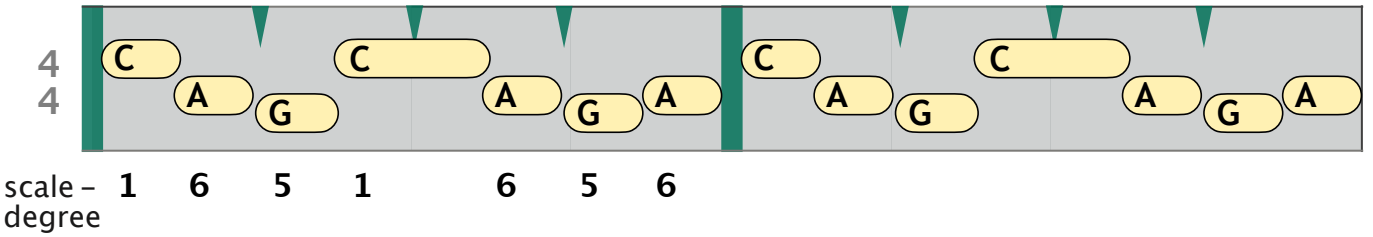
0:01 bass pattern



On the next example shown below, the repeating bass pattern is a simple figure that uses only the 1, 5, and 6 degrees. This pattern was also used on a lot of Motown hits from the 1960s. As before, the pattern shifts to match the different chords.

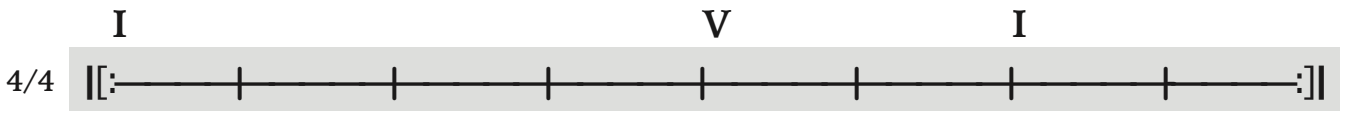
"I Can't Turn You Loose" — Otis Redding — 1968 **C major** 9

0:06 bass pattern

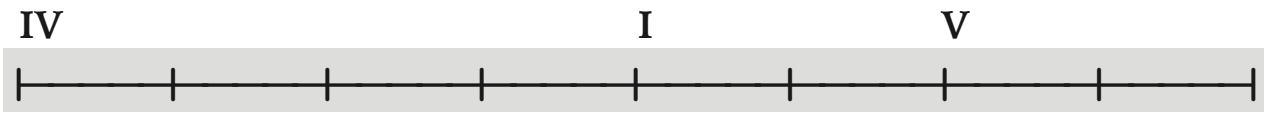


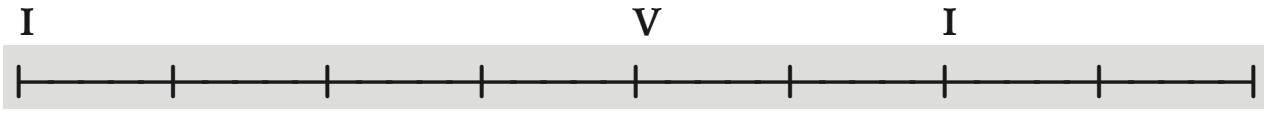
Sometimes the bass pattern simply alternates between the root and 5th, with each note lasting two beats. This is a signature of many country and bluegrass tunes, but it is also found in other styles like reggae or the bossa nova. In most songs the 5th is lower than the root, but in this next song the bass also goes to the 5th above. Alternating bass can be tricky when listening for chord changes at a slow tempo. The 5th degree in this situation can mistakenly sound like a change to the V chord if you are not paying close attention. Here's the slow-tempo "Blue Eyes Crying in the Rain" to test your ears:

"Blue Eyes Crying in the Rain" — Willie Nelson — 1975 **E major** 10



0:04 VERSE (with alternating 1, 5 bass)



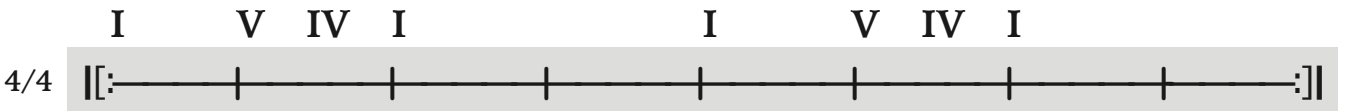


Additional songs with I, IV, V CHORDS - ACTIVE BASS

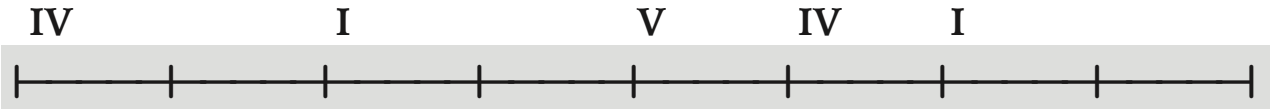
1957	*Don't Forbid Me*	Pat Boone	D major
1960	*Save the Last Dance for Me*	Drifters	E major
1960	*Walking To New Orleans*	Fats Domino	Db major
1963	*Surfin USA*	Beach Boys	Eb major
1966	*634-5789*	Wilson Pickett	D major
1976	*Let Your Love Flow*	Bellamy Brothers	Eb major
1977	*Margaritaville*	Jimmy Buffett	D major
1989	*Angel of Harlem*	U2	C major
2004	*Some Beach*	Blake Shelton	C major
2012	*Island Song*	Zac Brown Band	Ab major

The previous examples have all had fairly slow changes, with at least one bar per chord. When the changes get faster, as in two chords or more per measure, it may be hard for your ears to catch up, especially with a quick tempo. Here's an example from Creedence Clearwater Revival that has a few faster changes.

"Bad Moon Rising" - Creedence Clearwater Revival - 1969 D major 11



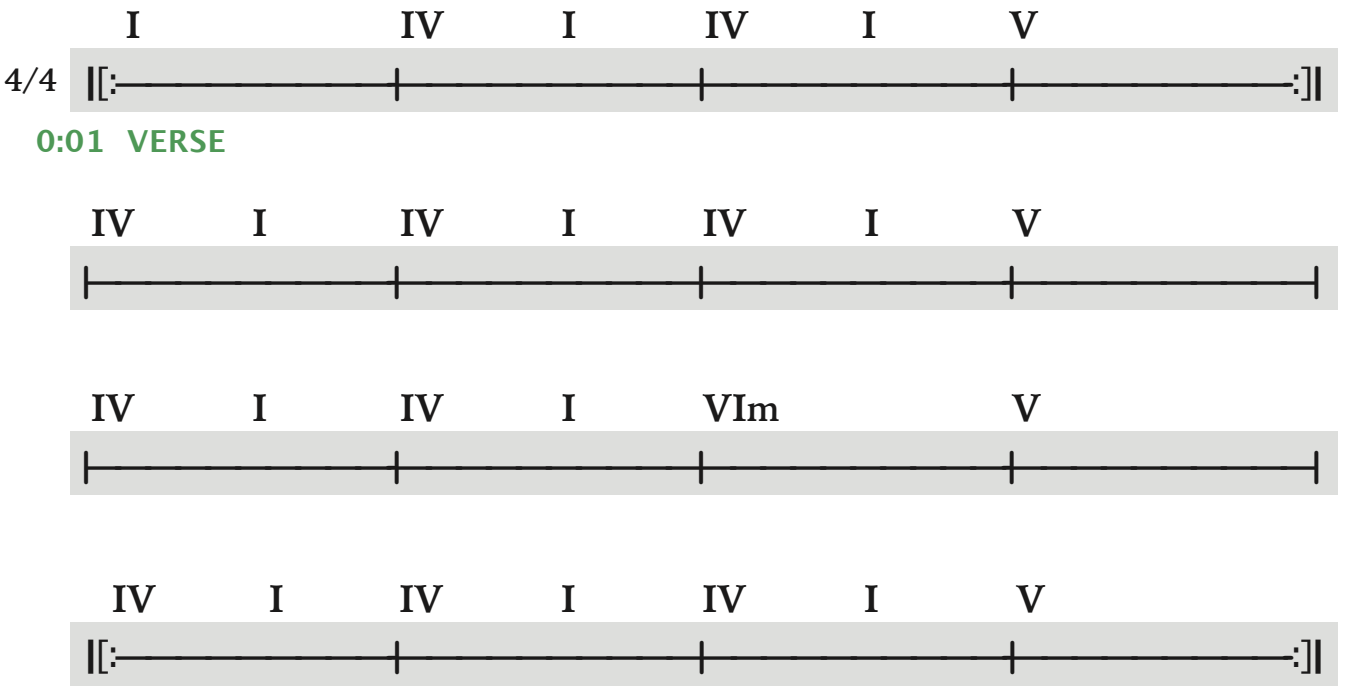
0:05 VERSE



0:27 REFRAIN

The next song is even harder, with most chords lasting only two beats. Notice the VIm chord is briefly added on the third line.

"Some Nights" — Fun. — 2012 | C major | 12

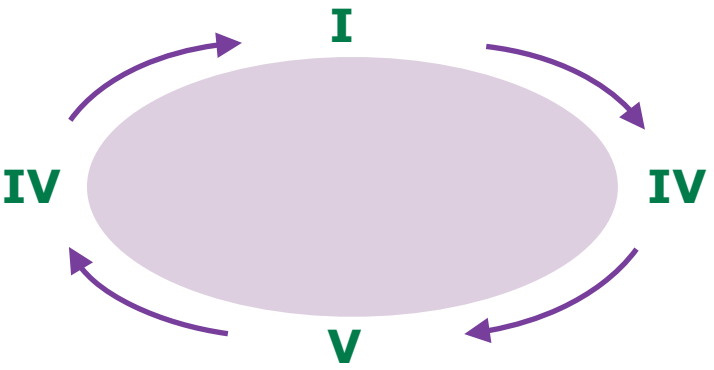


Additional songs with I, IV, V CHORDS - FASTER CHANGES

1966	*I Fought the Law*	Bobby Fuller Four	G major
1977	*Second Hand News*	Fleetwood Mac	A major
1985	*Walk of Life*	Dire Straits	E major
1986	*Under African Skies*	Paul Simon	Eb major
1994	*Hold My Hand*	Hootie & The Blowfish	B major
2005	*Living in Fast Forward*	Kenny Chesney	A major
2008	*A - Punk*	Vampire Weekend	D major
2009	*Say Hey (I Love You)*	Michael Franti & Spearhead	Bb major

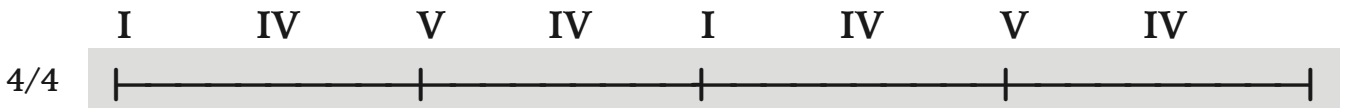
CIRCULAR MAJOR I – IV – V – IV

Some songs contain a repeating sequence that could be described as “circular,” progressing I - IV - V - IV, then restarting again on I. Usually there are two beats per chord.



This progression was heard on several songs in the 1960s, including the following 1965 hit by the McCoys. The progression lasts throughout the entire song.

“Hang On Sloopy” — McCoys — 1965 | **G major** | 13



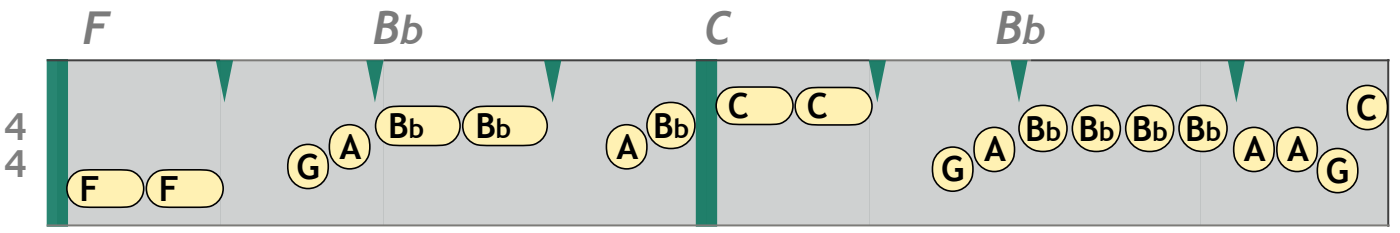
0:08 VERSE and CHORUS

Here’s another song featuring the same circular major progression, this time only on the verse.

“The Joker” — Steve Miller — 1974 | **F major** | 14

Notice the **active bass line**. Once again the root is on first beat of every chord change, which should guide your ears to hear the changes. The basic bass line for “The Joker” is shown below, although there is some slight variation later in the song

0:03 bass line



Additional songs with
CIRCULAR MAJOR I - IV - V - IV PROGRESSION

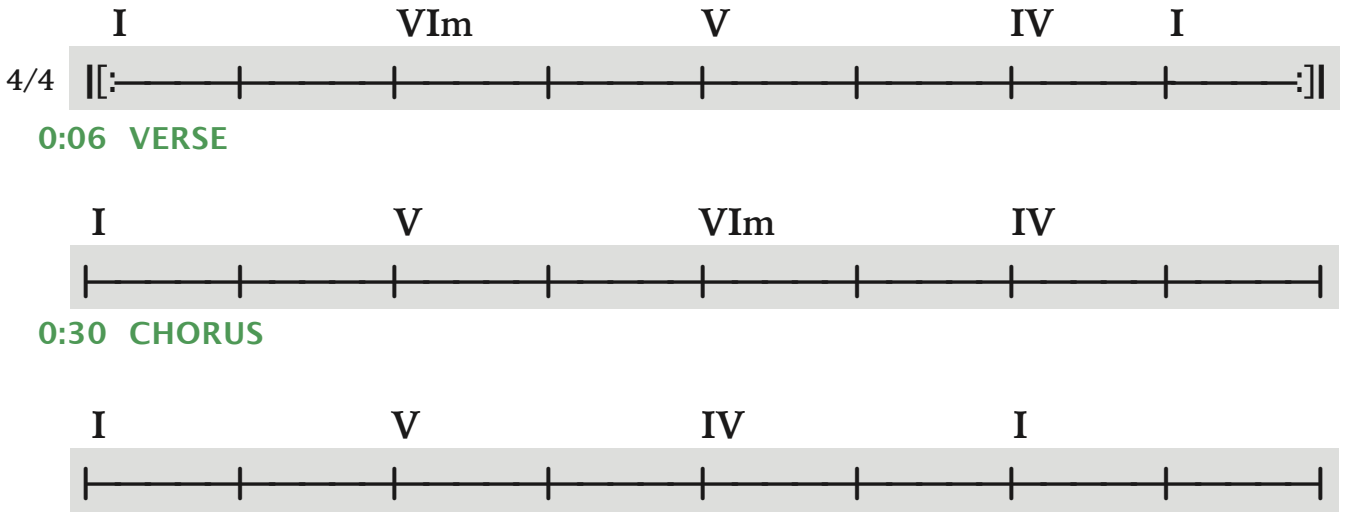
1966	*Good Lovin'*	Rascals	D major
1982	*I Do*	J. Geils Band	G major, G# major
1985	*Walking on Sunshine*	Katrina & The Waves	Bb major
1987	*La Bamba*	Los Lobos (orig. Richie Valens)	C major
1996	*Closer To Free*	Bodeans	G major

ADDING OCCASIONAL VIm CHORDS

As previously mentioned, the next most common chord after the I, IV, and V is the **VIm chord**. This chord tends to stand out when mixed in with the I, IV, and V because it is the only chord in the group that is minor, giving a darker, sadder feeling than the more uplifting, "happy" sound of the major chords.

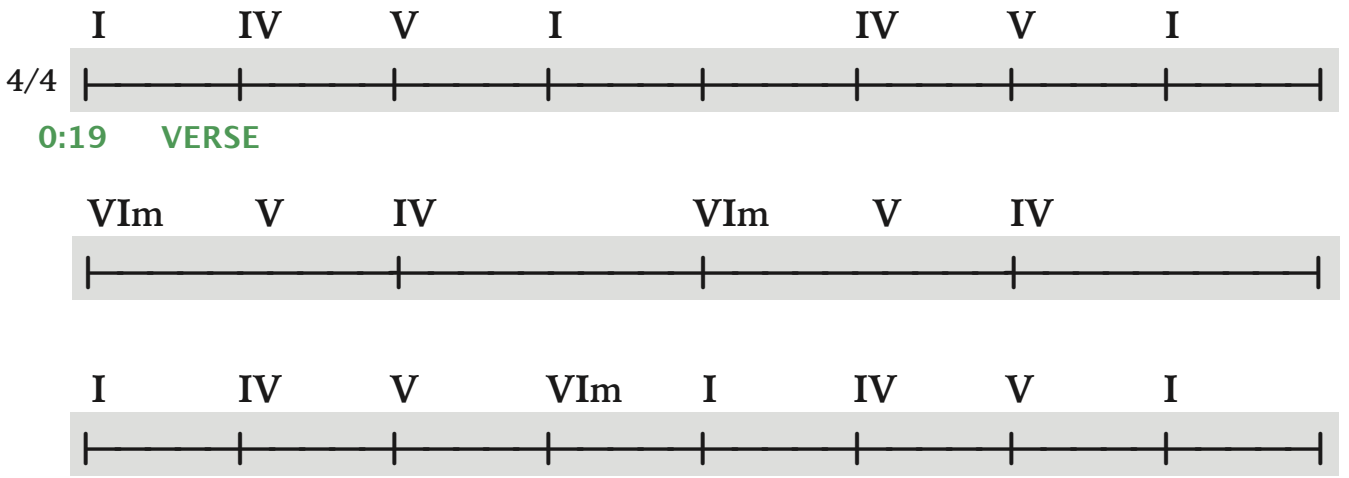
Here's a song example of the VIm added to the I, IV, and V, courtesy of John Denver.

"Take Me Home Country Roads" — John Denver — 1971 **A major** 15



The Cars provide another example of an occasional VIm chord. START LISTENING AT **0:19.**

"You Might Think" — The Cars — 1984 | **D major** | 16



Additional songs with OCCASIONAL VIm CHORD

1970	***Lookin' Out My Back Door***	**Creedence Clearwater Revival**	**Bb major**
1980	***Long Run***	**Eagles**	**C major**
1998	***Time of Your Life***	**Green Day**	**G major**
2002	***Don't Let Me Get Me***	**Pink**	**Eb major**
2003	***Picture***	**Kid Rock & Sheryl Crow**	**G major**
2004	***Are We The Waiting***	**Green Day**	**A major**
2008	***Ticks***	**Brad Paisley**	**E major**
2012	***Simple Song***	**Shins**	**D major**
2016	***Gettin in the Way***	**Keith Urban**	**Bb major**
2017	***Perfect***	**Ed Sheeran**	**Ab major**
2018	***Graffiti***	**Chvrches**	**E major**
2019	***Brenda***	**The Head & The Heart**	**D major**

DOOWOP I – VIm – IV – V

Many songs have the sequence I - VIm - IV - V, a progression so common in the 1950s and 60s that it helped define the sound of the doowop era. Rick Nelson's "Poor Little Fool" is a perfect example, with the doowop sequence continuing for the entire song. Each chord lasts for four beats (one bar)

"Poor Little Fool" — Rick Nelson — 1958 | **C major** | 17

Although the I - VIm - IV - V sequence is often called the "doowop progression," it has proven to be quite resilient, appearing in numerous songs over the decades, including various genres like country, pop, rock, and reggae. Here's a recent example from D J Khaled, hitting the charts in 2017. Once again there is one bar per chord, and the sequence is repeated over the entire song.

"I'm the One" - DJ Khaled feat. J. Bieber, Quavo - 2017 Chance the Rapper, & Lil Wayne | **G major** | 18

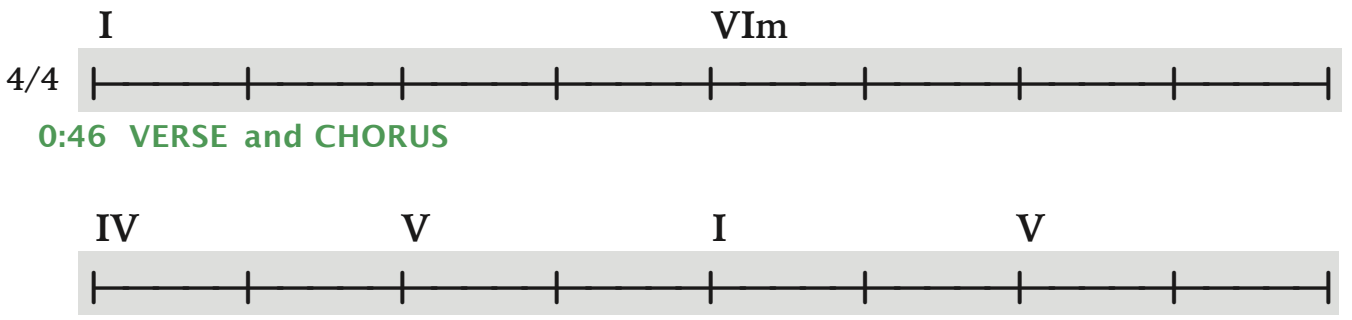
A WORD ABOUT REPEATED 4-CHORD / 4-BAR PROGRESSIONS

The use of a repeated, short chord progression throughout an entire song (covering all parts, including verse, pre-chorus, chorus, etc.) is not uncommon in pop and rock. Earlier in this chapter, we heard 3 songs that were based exclusively on a 2-chord vamp, alternating between I and IV. We also noted that "Hang On Sloopy" repeated the same 4-chord, 4-bar circular progression over the entire song. In fact, the repetition of a 4-bar sequence, usually with 4 different chords like the circular major or doowop progressions, will be encountered many times again — not only in this chapter, but throughout the remaining chapters of Spinning Gold.

Songs based on these repeated progressions are found in all decades of the rock era. However, there has been a decided increase in their usage since 2010. Also of note is the fact that most earlier song examples, particularly from the ‘50s and ‘60s, would use the 4-bar progression for only 80 or 90% of the song. At some point, these songs would introduce a brief release (aka. “bridge”) section with a different chord sequence. This practice has mostly disappeared in the last 15 years, as songwriters have increasingly been content to stick with the same 4-bar progression throughout the entire song. This may be influenced by the recent popularity of performing with audio loops, but there is not usually a literal loop of the exact same audio material. The harmonic progression may be the same, but it is expressed with different instruments and textures in different parts of the song. Since other elements like melody, rhythm, and lyrics are also changing, the listener is not always aware that the same short sequence is repeating in the harmony.

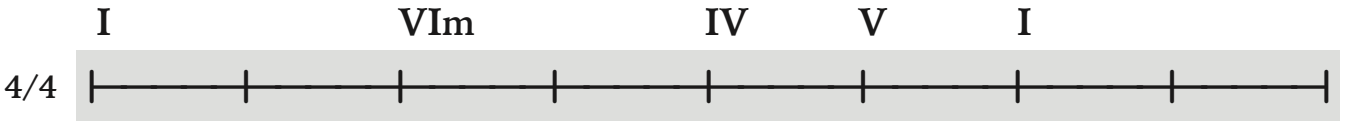
Sometimes the doowop sequence is varied slightly, as in the following example by Marc Anthony. Here the chords last longer, changing every two or four bars. START LISTENING AT **0:46.**

“You Sang to Me” — Marc Anthony — 2000 **Bb major** 19



The next example, “I’ll Be Missing You,” certainly doesn’t sound like doowop, but it has the familiar chord sequence. The song borrows a distinctive guitar picking pattern from The Police recording “Every Breath You Take,” featuring mainly chord tones with a few extra notes mixed in from the G major scale.

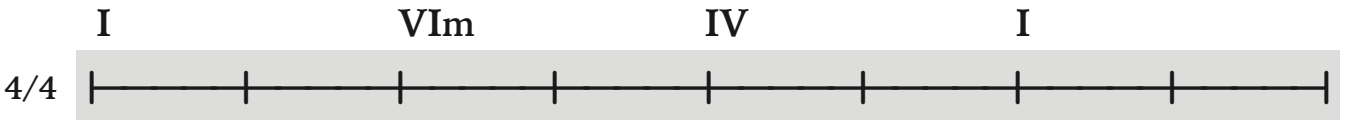
"I'll Be Missing You" - Puff Daddy & Faith Evans - 1997 | **G major** | 20



0:00 INTRO & VERSE (with guitar picking pattern)

This 2010 hit by Bruno Mars features the doowop progression without the V chord. START LISTENING AT **0:52.**

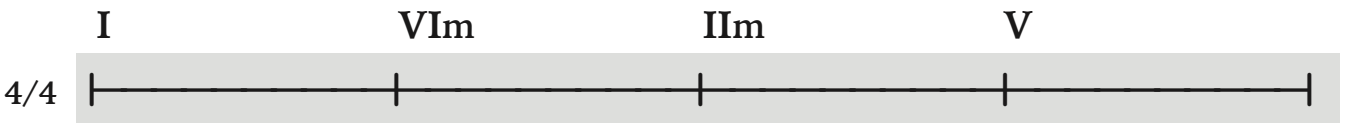
"Just the Way You Are" — Bruno Mars — 2010 | **F major** | 21



0:52 CHORUS

The Elegants' 1959 hit "Little Star" uses the typical four-bar doowop progression, but **substitutes a IIm chord** in place of the IV. There have been several other songs over the years that also feature this variation, including "Come Go with Me" by The Dell-Vikings, and "Twenty-Six Miles," by The Four Preps.

"Little Star" — The Elegants — 1959 | **A major** | 22



0:13 VERSE

Additional songs with DOOWOP PROGRESSION

1957	*Diana*	Paul Anka	G major
1959	*Teenager in Love*	Dion & The Belmonts	Db major
1961	*Blue Moon*	Marcels	G major
1961	*Runaround Sue*	Dion	D major
1961	*Stand By Me*	Ben E. King	A major
1962	*Duke of Earl*	Gene Chandler	F major
1993	*Sweat (A La Long)*	Inner Circle	C major
2002	*Just Like a Pill*	Pink	A major
2017	*Sweetheart*	Thomas Rhett	Eb major
2018	*Why So Serious*	Alice Merton	F major

MODERN ROCK I – V – VIm – IV

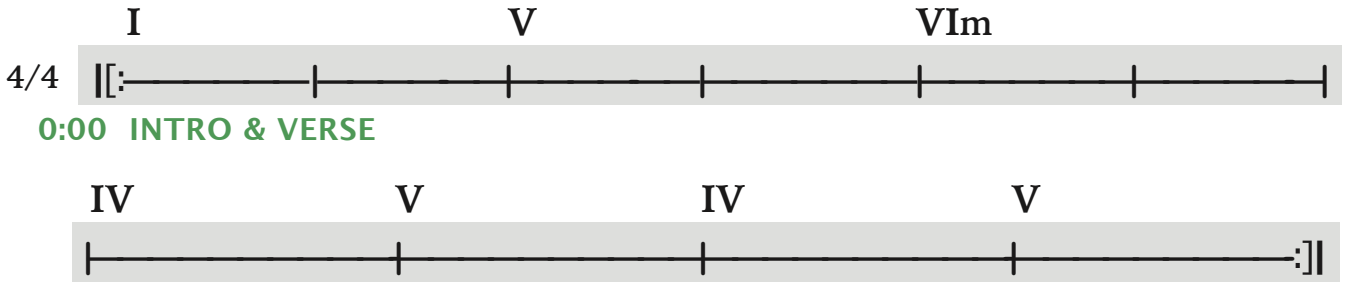
Many Alternative / Modern Rock songs of the 1990s and 2000s featured a different combination, progressing I - V - VIm - IV. This sequence was heard on Bush's 1996 hit "Glycerine," with each chord lasting for one bar.

"Glycerine" — Bush — 1996	F major

23

The Gorillaz song “On Melancholy Hill” features the modern rock progression with a slight variation (shown below). High drone notes make all the synth chords sound similar, so **listen for the bass** to hear the changes.

“On Melancholy Hill” — Gorillaz — 2010 | **D major** | 24

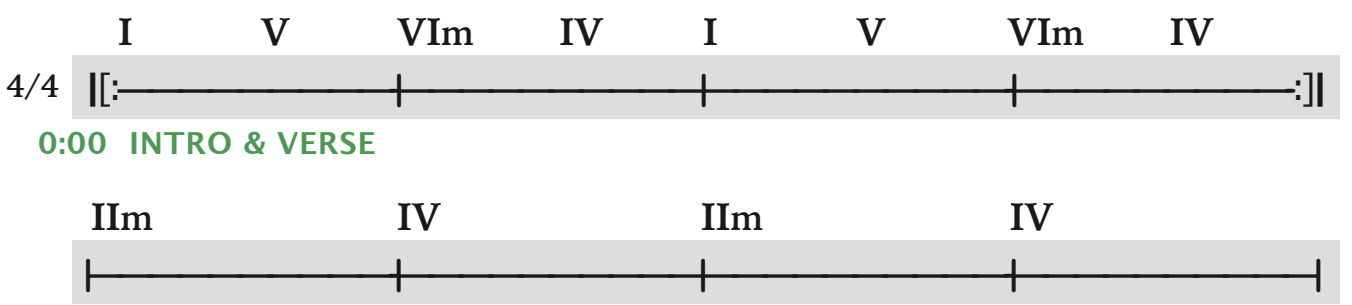


Here’s another example of the modern rock sequence with a slight variation.

“Body Like a Back Road” — Sam Hunt — 2017 | **F major** | 25

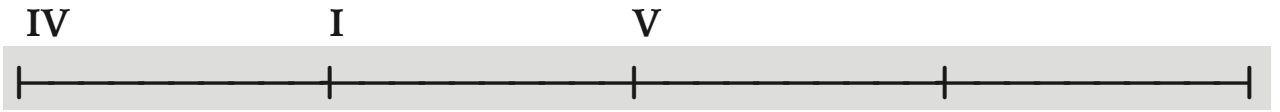
Green Day’s 1994 hit “When I Come Around” features the usual modern rock progression during the verse, but the refrain has a different sequence, introducing the IIm chord.

“When I Come Around” — Green Day — 1994 | **F# major** | 26



Sometimes the modern rock progression is shifted so that the sequence starts on the IV chord, as heard in the next example. START LISTENING AT **0:23.**

"If I Die Young" — The Band Perry — 2010	E major	27



Additional songs with MODERN ROCK I – V – VIm – IV PROGRESSION

1987	*With or Without You*	U2	D major
1989	*We Didn't Start the Fire*	Billy Joel	G major
1995	*Good*	Better Than Ezra	G major
1999	*What's My Age Again*	Blink 182	F# major
2008	*I'm Yours*	Jason Mraz	B major
2008	*Tattoo*	Jordin Sparks	D major
2009	*Already Gone*	Kelly Clarkson	A major
2012	*Good Time*	Owl City & Carly Rae Jepsen	Eb major
2014	*Clean*	Taylor Swift	E major
2016	*Say You Won't Let Go*	James Arthur	Bb major

MODERN ROCK IV – I – VIm – V

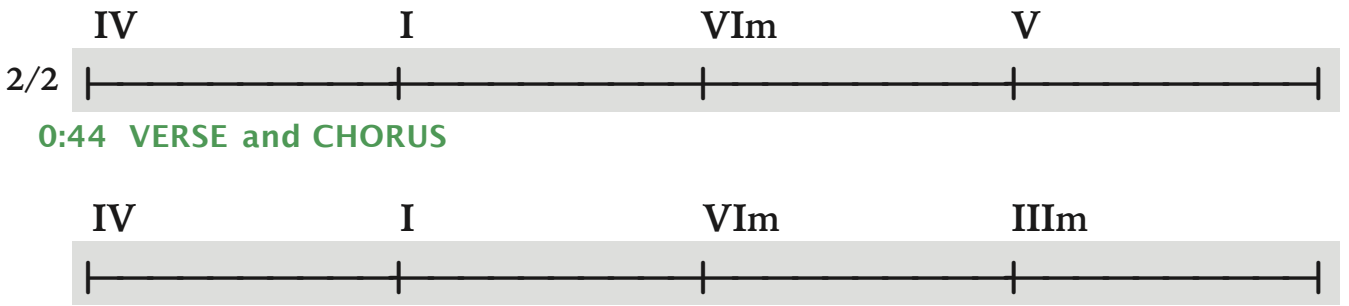
Other songs feature the variation IV - I - VIm - V. Tom Petty's "Learning to Fly" and Kelsea Ballerini's "Club" both have this sequence over the entire song, with two beats per chord.

"Learning to Fly" — Tom Petty — 1991	**C major**	28

"Club" — Kelsea Ballerini — 2019	**G major**	29

The next example has a slight variation the second time through the sequence, adding a IIIm chord in place of the V. START LISTENING AT **0:44.**

"Whatcha Say" — Jason Derulo — 2010	**B major**	30



Additional songs with MODERN ROCK IV – I – VIm – V

2011	***God Gave Me You***	**Blake Shelton**	**D major**
2012	***Payphone***	**Maroon 5**	**B major**
2013	***We Run This Town***	**Luke Bryan**	**E major**
2014	***Safe and Sound***	**Capital Cities**	**C major**
2024	***I Had Some Help***	**Post Malone & Morgan Wallen**	**G major**

EAR TRAINING EXERCISES

For additional practice hearing the VIm chord combined with the I, IV, and V, try **Exercises 2.8e – 2.11e** (see "Textbook Contents"/ "Volume 1"/ "Ear Training Exercises").

Signature Riffs

Many pop & rock songs have a distinctive **repeated riff** (short instrumental phrase of one to four measures) that occurs in the intro, in-between verses or choruses, or even underneath the melody as a vocal accompaniment. If the riff is used only when the vocals are absent, it has basically a melodic function, like a traditional "melodic motif." If the riff is used underneath the vocals throughout the verse or chorus, it has a harmonic function, like the traditional term "ostinato." Of course some riffs can have both functions, depending on placement in the song.

A strong repeated riff is often the most interesting element of the entire song — even more memorable than the vocal melody or chord progression. In fact, some songs are basically "one-chord" songs, meaning there are no chord changes at all. This may sound boring in theory, but these pieces usually have a strong repeated riff that makes the accompaniment a little more interesting. As you will recall, the Staple Singers' "I'll Take You There" had only two chords throughout the entire piece. However, the distinctive repeating bass riff added interest to the otherwise simple accompaniment. (For more on "one-chord" songs see Chapters Three and Four.)

In terms of melody, many pop & rock songs have narrow, blues-based vocals that revolve around only two or three notes. In these songs, a strong ostinato riff can sound more interesting and important than a weak vocal melody. This is true for many of the most famous hits in rock history, like "Satisfaction," "Layla," "Back in Black," or just about any Led Zeppelin classic. Just try identifying "How Many More Times" or "Dazed and Confused" by whistling only the vocal melody, instead of the guitar riff. (For more on weak vs. strong melodies, see Chapter Nine.)

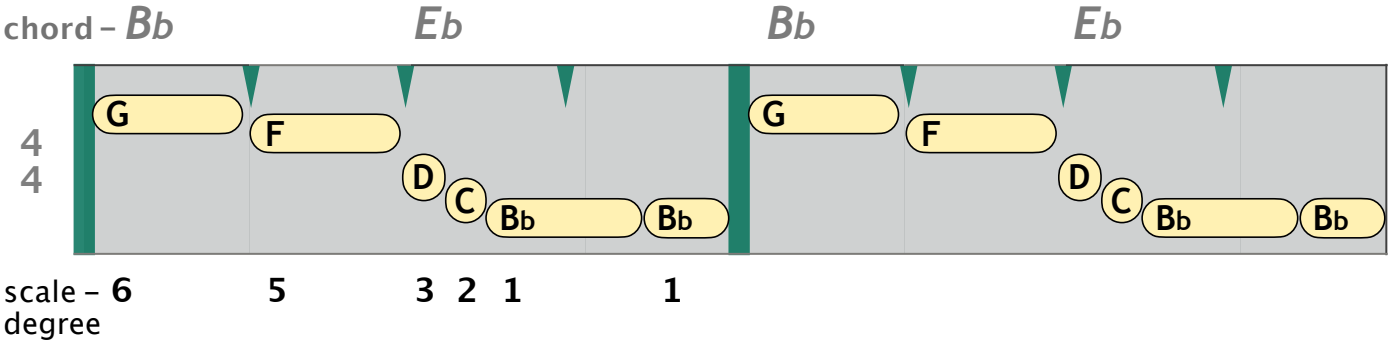
For songs in a major key, the repeated riff is usually based on the major pentatonic scale, discussed earlier in the chapter. (You will recall that the major pentatonic is a sub-scale of the full major scale, using only scale degrees 1, 2, 3, 5, and 6.)

MELODIC FUNCTION RIFFS

The following 1998 hit "Real World" by Matchbox 20 opens with a one-bar repeated guitar riff in the intro, based on the Bb major pentatonic scale (scale degrees are shown below the notes). Notice that the song features both the modern rock progression I - V - VIm - IV, and the circular major sequence.

"Real World" — Matchbox 20 — 1998 **Bb major** 31

0:00 INTRO RIFF (guitar)



— **0:09** (verse 1) - modern rock progression **I - V - VIm - IV**

— **0:33** - intro riff returns

— **0:41** (verse 2) - modern rock progression

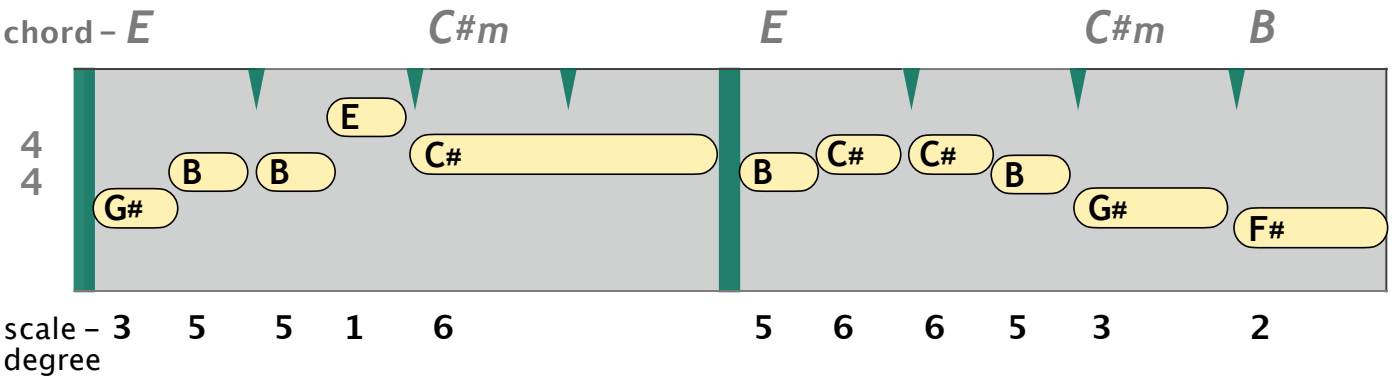
— **1:06** - intro riff

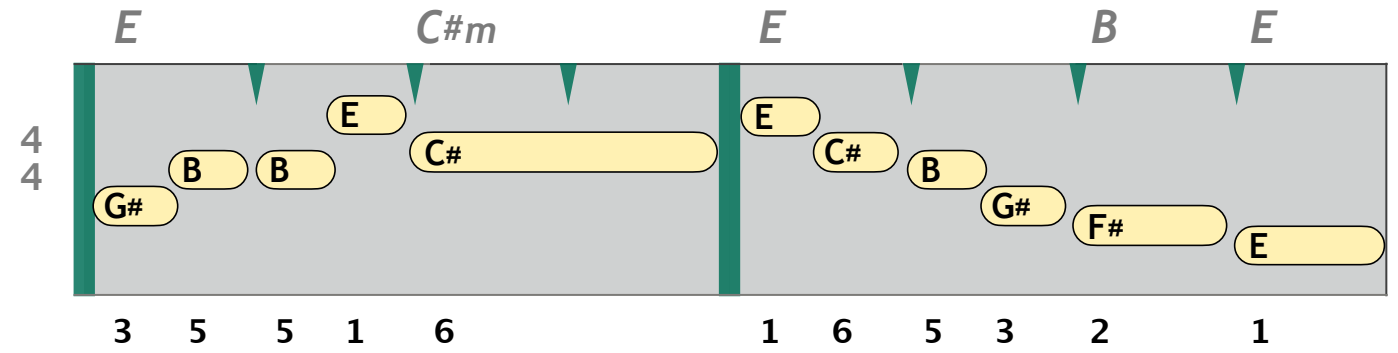
— **1:14** (chorus) - circular major progression **I - IV - V - IV**

The next song also starts with a major pentatonic riff, but this time the riff is a bit longer, lasting four bars before repeating:

"Running from an Angel" - Hootie & The Blowfish - 1995 **E major** 32

0:00 INTRO RIFF (guitar & fiddle)



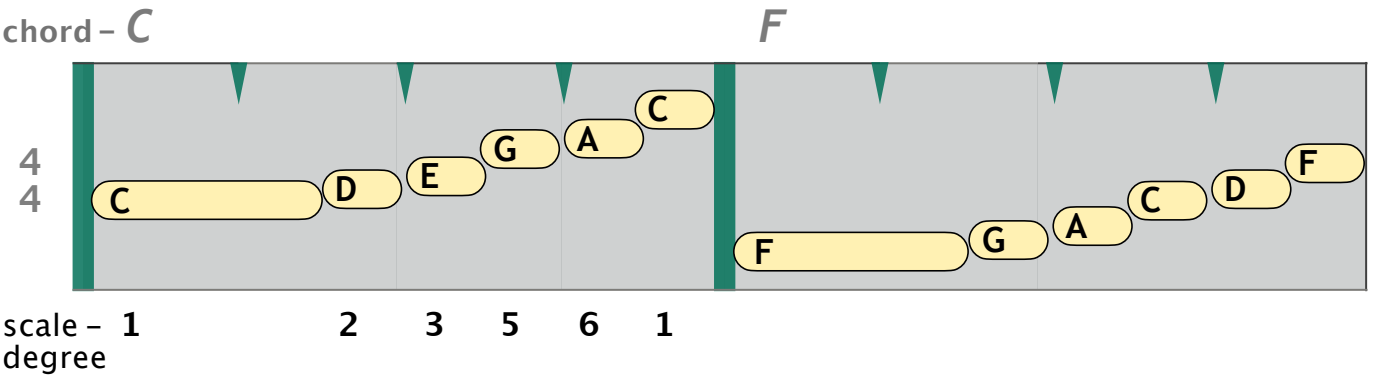


HARMONIC FUNCTION RIFFS

The Temptations' classic "My Girl" features a major pentatonic guitar riff (shown below) with a harmonic function, used underneath the vocals of the verse. The riff shifts to follow the chord changes, just like the earlier bass patterns heard on "Ain't That a Shame," "Haunted House," and "Can't Turn You Loose." Note that the song changes key at the **1:50** mark, rising from C major to D major.

"My Girl" — The Temptations — 1965	C, D major	33

0:10 VERSE RIFF (guitar)



Additional songs with HARMONIC FUNCTION RIFFS (major key)

1980	*You Shook Me All Night Long*	AC / DC	G major
2008	*River of Love*	George Strait	D major
2010	*From the Clouds*	Jack Johnson	G major
2010	*Lover, Lover*	Jerrod Niemann	G major
2011	*All For One*	Chikinki	G major

Songwriting Focal Points
(Devices for Creating the "Hook")

Already in Chapter Two of this book, the mechanics of harmony and melody seem to have taken over the discussion. A quick scroll from the beginning will show lots of number groupings, such as 1, 3, 5, or 1, b3, 5, or 1, 2, 3, 5, 6. Roman numerals are even more frequent, including sequences like I - IV - V, or I - VIm - IV - V, or I - V - VIm - IV. Indeed, music is often compared to mathematics, but don't forget a crucial difference. In

math, numbers are not connected to emotions. In music, however, the roman numeral V (dominant chord) often represents a feeling of tension, and the numeral I (tonic chord) signals a satisfying return to the stability of home.

As we begin to learn more and more about music theory in subsequent chapters, it is essential to remember that music should ultimately be experienced as a feeling, not just numbers. Earlier in this chapter we discussed the importance of recognizing tension and resolution regarding ear training, improvisation, and the ability to distinguish between the I, IV, and V chords. In a typical piece of music, there are several peaks and valleys where tension is built up and then released (like the twists and turns of the plot to a movie or book). This is true of virtually all types of music — whether hard rock, cool jazz, country ballads, or classical symphonies. (Music without these periodic episodes does exist, but it is probably meant to be meditative or soothing and can quickly fall into the background.)

Pop & rock songs are definitely meant to grab the listener's attention, so song-writers try to carefully manipulate the tension so that it peaks at the end of one section (verse or pre-chorus) and resolves at the beginning of the next section (usually a chorus). Earlier in the chapter we noted the focal point that occurred from pre-chorus to chorus on Neil Diamond's "Sweet Caroline." That exact moment of maximum tension, a musical "hook," can be very arresting, and often a listener that has begun to daydream will tune back in for those few seconds. It is no wonder that the song's title and strongest melodic phrase are placed here — whatever happens at the hook will usually be remembered long after the song is done.

Starting with this chapter, and continuing throughout the rest of the book, there will be a brief section titled "Songwriting Focal Points" at the end of each chapter. In these sections one hit song will be analyzed. This song will feature an example of a strong musical hook and also contain several of the new music theory elements that were presented in that chapter.

In addition, the discussion will include various individual devices that the song's composers used to create the memorable focal points. Keep in mind that these song examples serve as merely an introduction to the world of songwriting. Those who wish to explore songwriting and focal points in much greater detail should study the companion book The Art of the Hook after completing this current volume.

Our first example of a strong focal point comes from Bruce Springsteen and his 1973 song "Rosalita," shown below. There are four devices used on this song to create tension and highlight the entrance of the chorus:

V to I Tension - Resolution

The dominant V chord (C in the key of F major) is placed at the end of the pre-chorus, and it resolves to the tonic I (F) chord at the chorus entrance.

I Chord is Avoided

One way to make the tension - resolution point more dramatic is to avoid the I chord for several measures before arriving at the hook. Basically, the longer you stay away from the I, the more you want to hear it. On “Rosalita,” the I chord (F) is avoided for 12 measures leading up to the chorus. This is fairly close to the limit. If a song goes too long without anchoring back to the I, the sense of key center can begin to drift, and soon a new chord will start to sound like “home base,” changing the key.

Extension of V Chord

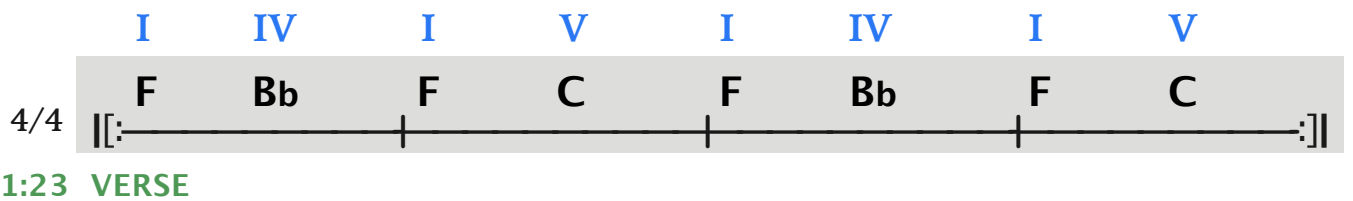
Another way to increase the tension is to linger on the V chord. You will note that the V chord lasts 4 bars at the end of the pre-chorus — twice as long as any previous chord.

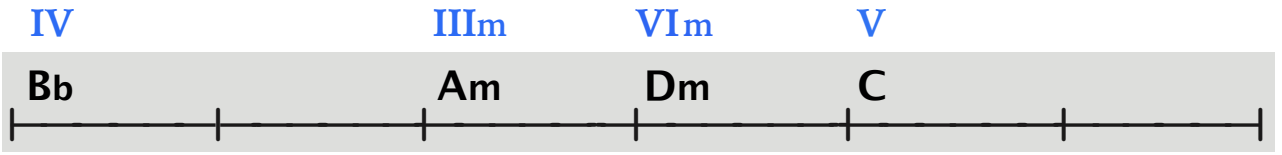
Ascending Pitches in Harmony

Ascending pitches in either the melody or harmony can create extra excitement and tension leading to the chorus. During the long V chord at the end of the pre-chorus, the saxophone plays a sequence of four short figures that gradually rise in pitch, helping to focus our attention and point towards the hook.

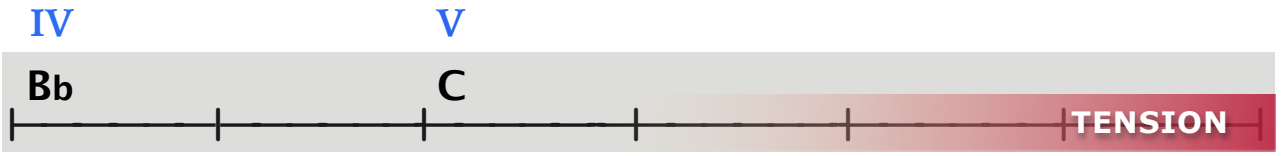
Listen for all these devices, and how they work together to create the strong focal point on “Rosalita.” START LISTENING AT **1:23.**

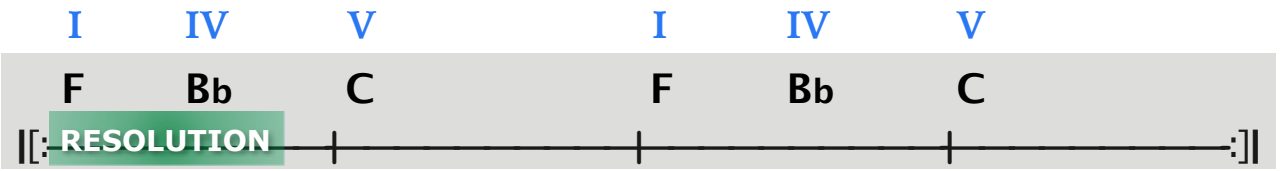
“Rosalita” — Bruce Springsteen — 1973 **F major** 34





1:36 PRE-CHORUS





1:54 CHORUS w Song Title

As we move forward through the remaining chapters, be on the lookout for many additional song examples that also contain the devices introduced here. This concludes our introduction to the major key, but much more will be said about the major tonality in Chapter Five.

Recommended FREE sites for additional practice spelling scales, chords, and reading notes:

WEBSITE	EXERCISE / GAME
ToneSavvy ———————	Note Names, Placed Note Names
Theta Music Trainer ——	Flash Notation (Notes), Number Blaster, Chord Spells
Teoria ————————	Clef Reading, Clef Reading w Key Signature, Chord Construction, Scale Construction
musictheory.net ———–	Note Identification, Scale Identification, Scale Construction

Recommended FREE sites for additional ear training with notes, keys, scales, and chords:

WEBSITE	EXERCISE / GAME
ToneSavvy	Chord Ear Training, Chord Progression Ear Training, Scale Identification Ear Training
Theta Music Trainer	Tone Drops, Flash Tones, Tonic Finder, Speaker Chords
Teoria	Key and Note Ear Training
musictheory.net	Scale Ear Training, Chord Ear Training