

Music Theory is Not Nuclear Physics!

E = F^b

A Complimentary Music Theory Overview for the Guitarist, by Steve Ono

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MUSIC THEORY-*Space*

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MUSIC THEORY-*Time*

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Thanks for downloading this little book, which was written in the hope that we all play better. If you like it please check out the other Onomuse books.

Beginnings: 12 Lessons for the Fresh Guitarist

Can Ambitious Guitarists Even Dream?

Cheap Tricks for the Lazy Guitarist

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MUSIC THEORY-*Space*

Music Theory is the lifelong study of all musicians and applies to all instruments of the western world. Here's a Sketch of "The System".

The Twelve Musical notes of the Chromatic Scale (All notes flats & sharps included) are like the letters of the Alphabet. Scales are like languages. Chords are like words; each "spelled" with certain notes.

The Basic Musical Structures are:

Intervals: The smallest interval is the **half step** (one fret) or **minor 2nd (m2)**. A Scale made of half steps is the **Chromatic Scale**.

The next smallest interval is the **whole step** (two frets) or **Major 2nd (M2)**. A Scale made of whole steps is called a **Whole Tone Scale**.

The **Minor 3rd (m3)** is common to all "minor" scales & chords. The **Major 3rd (M3)** is common to all "major" scales & chords.

All of the basic Intervals are listed below with half step counts.

The First "Octave"

R m2 M2 m3 M3 P4 b5 P5 #5 M6 m7 M7 R

0 1 2 3 4 5 6 7 8 9 10 11 12

Root The Second "Octave" Root

R b9 9 #9 M10 11 #11 P12 b13 13 m14 M14 R

12 13 14 15 16 17 18 19 20 21 22 23 24

Root Root

Every different type of scale, chord/arpeggio and pair of notes has a unique and specific INTERVAL FORMULA.

Scales: The 12 Chromatic notes are grouped into twelve 7 note Diatonic Major and/or Minor Scales each with the same whole/half step interval structure but a different group of flats or sharps. Scale steps are Numbered 1-7 in Alphabetical Order. If the 7th of "A" should be the note "G" it might be "G#" or "Gb", but it has to be "G" something. Is it a m7 or M7?

The eighth note is called the "Octave" and has the same name as the first note.

Each Key has a Key Signature with specific sharps or flats to keep the interval structure intact.

There is much more about different scales and interval formulas in my book: INTERVAL GRAPHICS.



The most basic moods of Music are split into two groups of sounds: the **Major Keys & Minor Keys**. I like to call them the Good Guys and the Bad Guys. Listen to the hero's theme from a movie and compare it to the villains.

Each pair of 7 note **Major and Natural Minor Scales** have exactly the same notes counted from **two different Root Notes in alphabetical order**. The **8th Note up or down is called the Octave** and will have the same note name you started with.

C Major Scale

Half Steps

C **D** **E** **F** **G** **A** **B** **C**
1 **2** **3** **4** **5** **6** **7** **8**

The **C Major Scale** and **A Natural Minor Scale** are from the only Keys with no Flats or Sharps. Every other key needs at least one flat or sharp.

A Natural Minor Scale

Half Steps

A **B** **C** **D** **E** **F** **G** **A**
1 **2** **3** **4** **5** **6** **7** **8**

Chords/Arpeggios: The Diatonic scale is “Harmonized” into **Triad chords** (3 notes) & **Seventh Chords** (4 notes) by taking every other note in the scale and playing them all at once. In a Major Key Triads the 1st, 3rd and 5th scale steps is the One (**I**) Chord and the 2nd, 4th and 6th is the Two (**II**) Chord and so on.

C Major Triad Chords


C **Dm** **Em** **F** **G** **Am** **Bdim** **C**
I **II** **III** **IV** **V** **VI** **VII** **I**

The Relative Minor

The VI^m is the Relative Minor Chord and becomes the “One” chord (I^m) of the Relative Minor Key. Eg: C - A^m.

This is the Bad Guy Key’s Main Chord renumbered as one instead of six. The order of Chord types, Major, Minor & Diminished, is unchanged.

A Minor Triad Chords

A^m	B^{dim}	C	D^m	E^m	F	G	A^m
							
I	II	III	IV	V	VI	VII	I

Three Chord Rock

You might notice that the I, IV and V chords of the major Key are all Major and that the I, IV, and V chords of the minor key are all Minor.

The Major I - IV - V & the Minor I^m - IV^m - V^m are the basic triad chord progressions.

Major Keys (Triads) One - Four - Five (I - IV - V)

Minor Keys (Triads) One - Four - Five (I^m - IV^m - V^m)

In a Major Key, the **Three Major Chords** are the **primary chords** (I, IV & V) and the three Minor chords are the secondary chords (II^m, III^m & VI^m).

In a Minor Key, the **Three Minor Chords** are the **primary chords** (I^m, IV^m & V^m) and the three Major chords are the secondary chords (III, VI & VII).

The V can be V7 in Major & Minor:

There is only one Dominant 7 chord in any key, Major or Minor, and **its number is V**. Use of the V7 with I & IV Triads is traditional in folk music. The Minor V7 is a result of the Harmonic Minor Scale and is used with Im & IVm triads. The 3 chords now are: **I - IV - V7 & Im - IVm - V7**.

All Three chords are Dominant 7 in the Blues (I7 - IV7 - V7).

Major Keys (Folk) One - Four - Five(seven) (I - IV - V7)

Minor Keys One - Four - Five(seven) (Im - IVm - V7)

Blues One - Four - Five(seven) (I7 - IV7 - V7)

Secondary Dominant (V of V)

In the Key of C, the second chord (II), is a minor chord: "Dm". If you see a "D7" we are not in "C" anymore. D7 is the V7 of "G"; G7 is the V7 of "C". D7 is the "V of V" AKA Secondary Dominant.

This a Key Center Change to a neighboring Key. If we are in the Key of "C" then the new Key is "G" or "Gm" and the "V7" of "G" or "Gm" is D7. This also helps determine which scale(s) the Lead Player uses for soloing.

Key of "C" Secondary Dominants

D7 G / A7 Dm / E7 Am / B7 Em / C7 F

II' V / VI' II / III' VI / VII' III / I' IV

Key of "C" Secondary Dominants cont.

E7 A7 D7 G7 / B7 E7 A7 D7

III' VI' II' V' VII' III' VI' II'

If you need to know what Key you're in, **count** the scale **backwards five steps** to find the **root of the I or Im chord**. Or you can count up four steps to get the same note.

Up 4 or down 5, it adds up to NINE!

If you go to the Fifth of any chord, you can create a Secondary Dominant Chord that leads back to that chord and each time it is in a new Key. Other chords from that Key might show up now too, particularly the II Chord.

You can even step back from one Secondary Dominant to another and create a chain of them, the V of V of V etc. The Old Timers called this "going around the Horn".

Five of Five (V of V) Key of C (I - VI7 - II7 - V7)

One - Six(seven) - Two(seven) - Five(seven)

C A7(V7 of D) D7(V7 of G) G7(V7 of C)

These are the Main Chord Movements.

They are the basis of everything in music that doesn't sound strange. In other words, if it sounds "conventional" it is most likely inside this system.

Remember illiterate folk musicians have known and used this system for centuries and they couldn't even read and write.

Any combination of chords is possible, of course, but only a few are real classics.

Here are a few “Basic Changes”.

Basic Changes for Major Keys

<u>One - Five(seven)</u>	<u>(I - V7)</u>
<u>One - Four</u>	<u>(I - IV)</u>
<u>One - Four - Five</u>	<u>(I - IV - V) AKA 3 Chord Rock</u>
<u>One - Six - Two - Five</u>	<u>(I - IVm - IIIm - V7) AKA Oldies</u>
<u>One - Two - Three - Four</u>	<u>(I - IIIm - IIIIm - IV)</u>
<u>One - Three - Four - Five</u>	<u>(I - IIIIm - IV - V7)</u>
<u>One - Five - Six - Four</u>	<u>(I - V - VIIm - IV)</u>

Basic Changes for Minor Keys

<u>One - Five(seven)</u>	<u>(Im - V7)</u>
<u>One - Four</u>	<u>(Im - IVm)</u>
<u>One - Four - Five</u>	<u>(Im - IVm - V7) AKA Sicilian</u>
<u>One - Seven</u>	<u>(Im - VII)</u>
<u>One - Seven - Six - Seven</u>	<u>(Im - VII - VI - VII)</u>
<u>One - Seven - Six - Five</u>	<u>(Im - VII - VI - V7)</u>
<u>One - Six - Two - Five</u>	<u>(Im - IV - IIIm7b5 - V7)</u>
<u>One - Six - Five</u>	<u>(Im - VI - V7)</u>
<u>Two - Five</u>	<u>(IIIm - V7) Dorian / Mixolydian</u>

Space: A Quick Review

Before you start shaking your head in confusion remember these facts:

There are only **Twelve** Chromatic Notes each one a Half Step apart.

There are only **Seven** Notes used in any Major or Natural Minor Scale.

They are **counted one to seven in alphabetical order.** There is no Zero!

The Eighth Note, **the Octave**, is always the **same note as the First.**

The **Interval Formulas** remain the same in **all** Keys! Each Major/Minor Key has the same interval structure, the same order of whole steps and half steps.

Flats & Sharps happen in **all Keys except C/Am** but the **notes always remain in Alphabetical order** (Db or D# instead of D).

Triad Chords have **Three Notes.** **Seventh Chords** have **Four Notes.**

There are **Three Primary Chords** of Any Major or Minor Key. They are the **One (I), Four (IV) & Five (V).**

The **Three Minor** chords are **secondary chords of the Major Key.**

The **Three Major** Chords are also **secondary chords of the Minor Key.**

Any **Dominant Seventh Chord is some Key's V (Five) chord.**

Chord Changes can be called using a **Number System** and these are **not** big numbers like in math class.


Can you count to thirteen on your fingers and say the alphabet from A to G over and over?

MUSIC THEORY-*Time*

All Rhythms are based on Groupings AKA Time Signatures and Divisions: 1/8 notes, triplets & more!

The Only Important numbers are 2 & 3.

Time Signatures

	Common Time	Cut Time	Waltz Time
			
Count	1 2 3 4	1 + 2 +	1 2 3
Strum	▼ ▼ ▼ ▼	▼ ▲ ▼ ▲	▼ ▼ ▼ ▼ ▼ ▼

The **Top Number** indicates “How Many” notes.

The **Bottom Number** tells us “What Kind” of note.


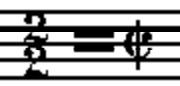
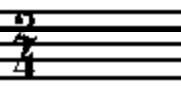
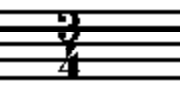
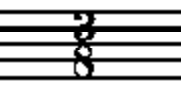
4/4, Cut, 3/4, and Beat Counting

The most “Common Time” is “C” or “4/4” meaning four quarter notes per measure or bar. Next is **Cut Time: 2/2**

AKA “Two Step” and the three count **Waltz: 3/4 & 3/8**.

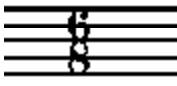
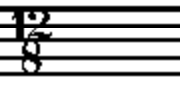


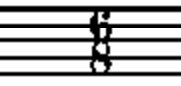
Time Signatures

Simple Meters

Group by 4	Group by 2	Group by 3		
				
4/4 AKA	2/2 AKA	2/4 AKA	3/4 AKA	3/8 AKA
Common Time	Cut Time	two step	Waltz Time	Waltz Time
4 Beats	2 Beats	2 Beats	3 Beats	3 Beats
Quarter Note	Half Note	Quarter Note	Quarter Note	Eighth Note

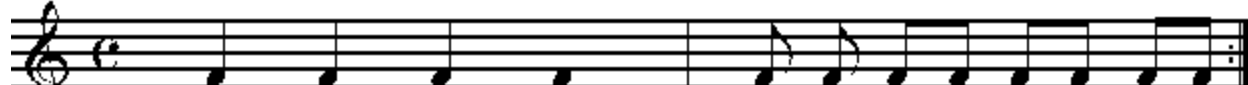
Compound Meters

Odd Meters

				
6/8	12/8	5/4	7/4	7/8
Six Eight	Stroll Time	Five Four	Seven Four	Seven Eight
6 Beats	12 Beats	5 Beats	7 Beats	7 Beats
Eighth Note	Eighth Note	Quarter Note	Quarter Note	Eighth Note

Division by 2: Eighth Notes

Half as long? Or twice as fast? Both statements are true about eighth notes compared to quarter notes.

Quarters & Eighths				Flags & Beams									
													
Count	1	2	3	4	1	+	2	+	3	+	4	+	
Strum	v	v	v	v	Folk	v	^	v	^	v	^	v	^
					Rock	v	v	v	v	v	v	v	v

The Eighth Note count: 1 and 2 and 3 and 4 and

Division by 3: Triplets/Compound Meter

Three is the other division of rhythm in music. In 4/4 time, **Triplets** are indicated by the “3” over or under the group of three notes. This is called a “**Triplet sign**” and squeezes three notes into the time usually reserved for two.

Quarter Notes				Eighth Note Triplets									
													
	1	2	3	4	1	trip-let	2	trip-let	3	trip-let	4	trip-let	
						v	^	v	^	v	^	v	^

Triplets can be fixed as the normal division of rhythm with **Compound Meters** such as **6/8 & 12/8**.

If you want two **straight eighth notes** in **6/8** you need to use a **duplet sign**, a “2” instead of a “3”.

Dots & Ties

Ties are Rhythmic Glue.

Tying a half note to a quarter note makes a 3 beat note.

Dots add 1/2 value.

Dotting a Half note also makes it 3 beats long.

Tying a quarter note to an eighth note makes it worth one and a half beats.

Dotting the Quarter Note also make it worth one and a half beats.

Dots work only within the Measure.

Ties can cross the Bar Lines.

The number of beats tied is calculated by basic addition.

The first staff shows a 4/4 measure with a half note on beat 1 tied to a quarter note on beat 2, followed by quarter notes on beats 3 and 4. The counts below are: 1 (2) (3) 4, 1 (2) (3) 4, 1 + (2) 3 + (4).

The second staff shows a 4/4 measure with a dotted half note on beat 1 tied to a quarter note on beat 2, followed by quarter notes on beats 3 and 4. The counts below are: 1 (2) (3) (4), (1) (2) 3 (4), (1) 2 (3) (4), (1) 2 3 (4).

This is a real popular beat! The “and” of beat two is tied to beat three, then the “and” of three is struck leading into beat four.

This is called “Syncopation”. We play the **off beats!**

1 Quarter / 6 Eighths (Tie)

The staff shows a 4/4 measure with a quarter note on beat 1 tied to a quarter note on beat 2, followed by six eighth notes on beats 3 and 4. The counts below are: 1 2 + + 4 +, 1 2 + + 4 +. The strumming pattern below is: v v ^ ^ v ^ v v ^.


Division by 4: Sixteenth Notes

The count is **1 e & a, 2 e & a, 3 e & a, 4 e & a**

The picking is always **Down /Up.**

These **double beam or flag** notes make the groove happen in **Funk and R & B.**

Eighths & Sixteenths



Musical notation showing a sequence of eighth and sixteenth notes on a treble clef staff. The notes are grouped into four measures: the first measure has a quarter note, the second a quarter note, the third two eighth notes, and the fourth four sixteenth notes. The notes are beamed in pairs.

Count	1	+	2	+	3	+	4	+	1e+a	2e+a	3e+a	4e+a
Strum	v	^	v	^	v	^	v	^	vava	vava	vava	vava

Division by 6: Sixteenth Note Triplets & New Jack Swing

Beginning with James Brown and nurtured By Jimi Hendrix, Swing Sixteenth rhythms have become the foundation of the new Hip-Hop beats.

Sixteenth Note Triplets



Musical notation showing sixteenth note triplets on a treble clef staff. The first measure has a quarter note, the second a quarter note, and the following four measures each contain two groups of sixteenth note triplets. The triplets are beamed together.

					3	3	3	3	3	3	3	3		
Count	1	2	3	+	4	+	1 triplet	+ triplet	2 triplet	+ triplet	3 triplet	+ triplet	4 triplet	+ triplet
Strum	v	v	v	^	v	^	v	^	v	^	v	^	v	^

Swing Sixteenths



Musical notation showing swing sixteenth notes on a treble clef staff. The notes are grouped into four measures, each containing two groups of sixteenth notes. The notes are beamed together.

					3	3	3	3	3	3	3	3				
Count	1	-let	+	-let	2	-let	+	-let	3	-let	+	-let	4	-let	+	-let
Strum	v	va		av	va		av	va		av	va		av	va		av

Eighth Notes Rock. Triplets Roll.

Sixteenth Notes Run.

Sixteenth Note Triplets Hop.

Time: A Quick Review

Fractions you can dance to: that's what the beat of that OLE' Jungle Drum really is. The ancient Greeks thought of Music as a branch of Mathematics. We just need to count the beats, then play what we count. Here are the Facts!

There are only **Two Small Numbers, 2 & 3**, that are the basis of all Rhythmic Grouping and Division.

Key Signatures tell us the **Grouping & Beat Count**.

Cut Time	(2)	1 2
Waltz	(3)	1 2 3
Common Time	(4)	1 2 3 4
Five/Four	(5)	1 2 3 4 5
Six/Eight	(6)	1 2 3 4 5 6
Seven/Four (or Eight)	(7)	1 2 3 4 5 6 7
Two bars of four	(8)	1 2 3 4 1 2 3 4
Nine/Eight	(9)	1 2 3 4 5 6 7 8 9
Twelve/Eight	(12)	1 2 3 4 5 6 7 8 9 10 11 12

Note Values show us the **Divisions** of the Beat:

Divide by 2 = 1/8 notes March, Rock

Divide by 3 = 1/8 triplets Stroll, Swing

Divide by 4 = 16th notes Funk, R&B

Divide by 6 = 1/16 triplets HipHop, Alternative

Is there a **Divide by 5**? Yes, a **Quintuplet**. Is there a **divide by 7**? Yes, a **Septuplet**. And, of course, **Divide by 8** is **32nd notes**.

Quintuplet Septuplet 32nd Notes

1 2 3 4 5 1 2 3 4 5 6 7

Three Ways to Learn a Song

1) Show it to me. Watch someone's hands and imitate their chord movements. It is very important that a guitarist learn how to do this well. You must recognize the chords or notes when other guy is playing them and learn how to anticipate the changes.

2) Reading Music and Chord Charts. The Traditional skill of reading Music Notation is very very handy and will improve your musical communication with all instruments. Reading Chord Charts is an absolute must! Hours of hard rehearsal can be saved.

3) Playing By Ear. Since the Sheet Music for most pop tunes comes out after the song has left the charts, learning a hit song by ear has been essential since the 1940's.

Always write a chord chart so you don't have to figure it all out again and, if you can, transcribe the important part and solos. Transcription is writing in music notation the notes & chords that you figure out by ear.

The Usual Suspects

In order to **Play by Ear**, you need to be a good detective. Play a Recording of a song you want to learn.

Fact: the Bass Note is the lowest note of the chord.

1) Search the low E string fret by fret until you find a Bass Note that works most of the time, especially the first downbeat (1). Remember that if you are not in tune you will **never** find a matching note. **Is it the Very First Bass Note?**

2) Look that note up on the Note Map; let's say it was the note "A". So "A" becomes our First Suspect. **Does the chord above the bass note sound Major or Minor?**

3) If it is A Major, check out the D and the E (E7) for the

next chord or two. If they both work then we're in the **Key of A**. Secondary chords are the **Relative Minors: F#m, Bm & C#m**.

4) If it is **A minor**, check out the **Dm** and the **Em (E7)** chords. If they both work then we're in the **Key of Am**. Other possibilities are the **Relative Majors: C, F and G**.

5) What happens if none of these chords work?

Major: the "A" Major chord is also in the Keys of **D** and **E**, any chords from the keys of D or E could happen too.

Suspects for A Minor

	Key of Am:	
	Am	
Key of Dm:	Dm	Key of Em:
Dm	Em(E7)	Em
Gm	C	Am
Am(A7)	F	Bm(B7)
F	G(G7)	G
Bb		C
C(C7)		D(D7)

	Suspects for A Major	
	Key of A:	
	A	
Key of D:	D	Key of E:
D	E(E7)	E
G	F#m	A
A(A7)	Bm	B(B7)
Bm	C#m(C#7)	C#m
Em		F#m
F#m(F#7)		G#m(G#7)

This adds the Key of D's **G, Em & A7** to our **Major Key Suspect List** along with the Key of E's **B, B7 & G#m**.

Minor: **Am** is also in the Keys of **Dm** and **Em** and any chords from the keys of Dm or Em could happen too. That adds the Key of

Dm's Gm, Bb & A7 along with the Key of **Em's Bm, B7 & D Chords** to our **Minor Key Suspect List**.

These Keys are related to the Original Key.

It is more likely that chord changes from the Keys that are nearby and related to the original key will be used than changes from Keys that are far away and which have nothing in common.

Deep Space


Seventh Chords

Chords are **Stacks of Notes**. **Three Note Stacks** are called **Triads**. **Four Note Stacks** are called **Seventh Chords**.

The **Note Numbers** are recounted from the Root of each Chord (**Arabic Numeral “1”** for the scale step).

Triads: 1 (Root), 3rd and 5th

Seventh Chords: 1 (Root), 3rd, 5th and 7th

Triad Chords							Seventh Chords							
I	II	III	IV	V	VI	VII	I	II	III	IV	V	VI	VII	I
														
C Dm Em F G Am Bdim C							Cmaj7 Em7 G7 Bm7b5 Dm7 Fmaj7 Am7 Cmaj7							

The Root position stacks above are almost unplayable on a guitar but easy on piano.

Any combination of the same notes will give you another different “**Chord Voicing**”.

Seventh Chords are much more colorful than triads.

Major Seventh (maj7) is used for Romantic or heavenly sounds.

Dominant Seventh (7) has a positive, playful mood but also Bluesy

Minor Seventh Chord (m7) is a softer smoother nicer minor sound.

Minor Seventh Flat Five (m7b5) has a much darker more dramatic sound than the minor triad.

Modes

The Major / Minor sound of the diatonic scale is a matter of point of view, since all of the notes are the same.

There is a point of view for each note, the Modes of the Major Scale. Each Chord has a Scale called a Mode. Each Mode has a chord:

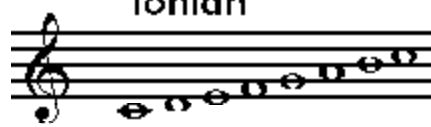
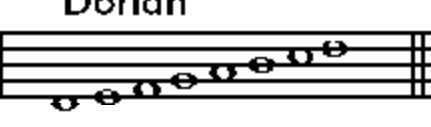
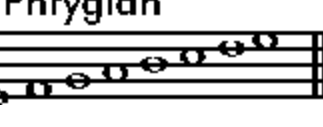


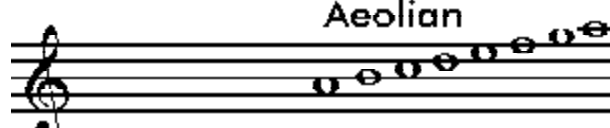

<u>"Imaj7"</u>	<u>Ionian (Major)</u>	<u>"IIm7"</u>	<u>Dorian</u>
<u>"IIIm7"</u>	<u>Phrygian</u>	<u>"IVmaj7"</u>	<u>Lydian</u>
<u>"V7"</u>	<u>Mixolydian</u>	<u>"VIIm7"</u>	<u>Aeolian</u> (Natural Minor)
	<u>"VIIIm7b5"</u>	<u>Locrian</u>	

Ionian & Aeolian are The Main Modes and the Main Key Centers for Traditional Classical Harmony.

Modes are used for Improvisation

Over a **Major 7** chord, two modes can be used: **Ionian & Lydian**. Over a **Minor 7** chord, three modes can be used: **Dorian, Aeolian & Phrygian**. The **Dominant 7** chord gets the **Mixolydian** Mode and the **Minor 7 flat 5** chord gets the **Locrian** Mode.

Major Modes of C

Ionian	Dorian	Phrygian
		
C D E F G A B C 1 2 3 4 5 6 7 8	D E F G A B C D 1 2 3 4 5 6 7 8	E F G A B C D E 1 2 3 4 5 6 7 8
Lydian	Mixolydian	
		
F G A B C D E F 1 2 3 4 5 6 7 8	G A B C D E F G 1 2 3 4 5 6 7 8	
Aeolian	Locrian	
		
A B C D E F G A 1 2 3 4 5 6 7 8	B C D E F G A B 1 2 3 4 5 6 7 8	

Harmonic Minor

The Harmonic Minor Variation of the Natural Minor Scale has a Major Seventh instead of the **Minor Seventh** in the Interval Formula: **R M2 m3 P4 P5 m6 M7 R**

The Harmonization is more dramatic than the Natural Minor is: **Im/maj7 IIIm7b5 IIIImaj7#5 IVm7 V7 VIImaj7 VIIIdim7 Im/maj7**

This is the Classical Minor Scale used in Flamenco & Sicilian Music.

The “I” is **Minor /Major Seventh (m/maj7)** in theory only. In practice, a normal **Minor Triad (m)** is used.

The “IV” is a **Minor or Minor Seventh Chord**.

And the “V” is a **Dominant Seventh Chord (7)** often with a Flat 9 (b9) or Sharp Five (#5).

Another common “Change”: “II” (m7b5) “V” (Dom7). It is usually mixed in with the Natural Minor:

Im VII VI V7

Im7 VIImaj7 IIIm7b5 V7

A Harmonic Minor Scale

Half Steps

A B C D E F G# A
1 2 3 4 5 6 7 8

Seventh Chords

Am/maj7 Bm7b5 Cmaj7#5 Dm7 E7 Fmaj7 G#dim7 Am/maj7

I II III IV V VI VII I

Melodic Minor

The Melodic Minor Variation of the Natural Minor could also be looked at as a Major Scale with a Minor Third. There is now a **Major Sixth** to go along with the **Major Seventh** in the Interval Formula: **R M2 m3 P4 P5 M6 M7 R**

The Harmonization creates some interesting parallel ascending chords: **Im/maj7 IIm7 IIImaj7#5 IV7 V7 VIIm7b5 VIIIm7b5 Imaj7**

We call the Melodic Minor scale: **Jazz Minor**.
All Three Scales; Natural Minor (Major), Harmonic Minor & Melodic Minor, have “Modes”.

Some of the Melodic Minor Modes have names.

“I” Minor/Major

“III” Lydian Augmented

“IV” Lydian Dominant

“VI” Half Diminished or Locrian #2

“VII” Diminished Whole Tone

A Melodic Minor Scale

Half Steps

A musical staff in treble clef showing the A Melodic Minor Scale. The notes are A, B, C, D, E, F#, G#, A. Above the staff, a 'V' is placed above the C note and another 'V' is placed above the G# note. Below the staff, the notes are labeled with letters and fingerings: A (1), B (2), C (3), D (4), E (5), F# (6), G# (7), A (8).

Seventh Chords

Am/maj7 Bm7 Cmaj7#5 D7 E7 F#dim7 G#dim7 Am/maj7

A musical staff in treble clef showing the seventh chords for the A Melodic Minor Scale. The chords are: I (Am/maj7), II (Bm7), III (Cmaj7#5), IV (D7), V (E7), VI (F#dim7), VII (G#dim7), and I (Am/maj7). Below the staff, the chords are labeled with Roman numerals: I, II, III, IV, V, VI, VII, I.

Substitution

In **Jazz and Modern Classical Music** many of the rules of Harmony and Melody have been expanded and altered. Jazz Musicians have come up with Chord Substitution Systems to guide them in creating and releasing chord tensions.

Enharmonic Substitution

If the chords have exactly the same notes but in a different order, substitute them.

Diatonic Substitution

If the chords share three out of four notes they can be substituted for each other as well.

Here are the major Key

I^{maj7} - III^{m7} - V^{m7}, IV^{maj7} - II^{m7}

Diatonic Subs.

V⁷ - VI^{im7b5}, VI^{m7} - VI^{maj7}

Diminished

Substitution

The Dominant 7^{b9} without the root is a Full Diminished chord based on the ^{b9} & all of the other Chord Tones!

G^{7b9} = G B D F A^b

A^bdim⁷ = A^b B D F

Flat Five Substitution

Dominant 7 Flat 5 chords whose root notes are a Flat 5th apart have exactly the same notes:

G^{7b5} = G B D^b F

D^b7^{b5} = D^b F G C^b

They & their related chords can be swapped.

Shared notes means Substitutable chords

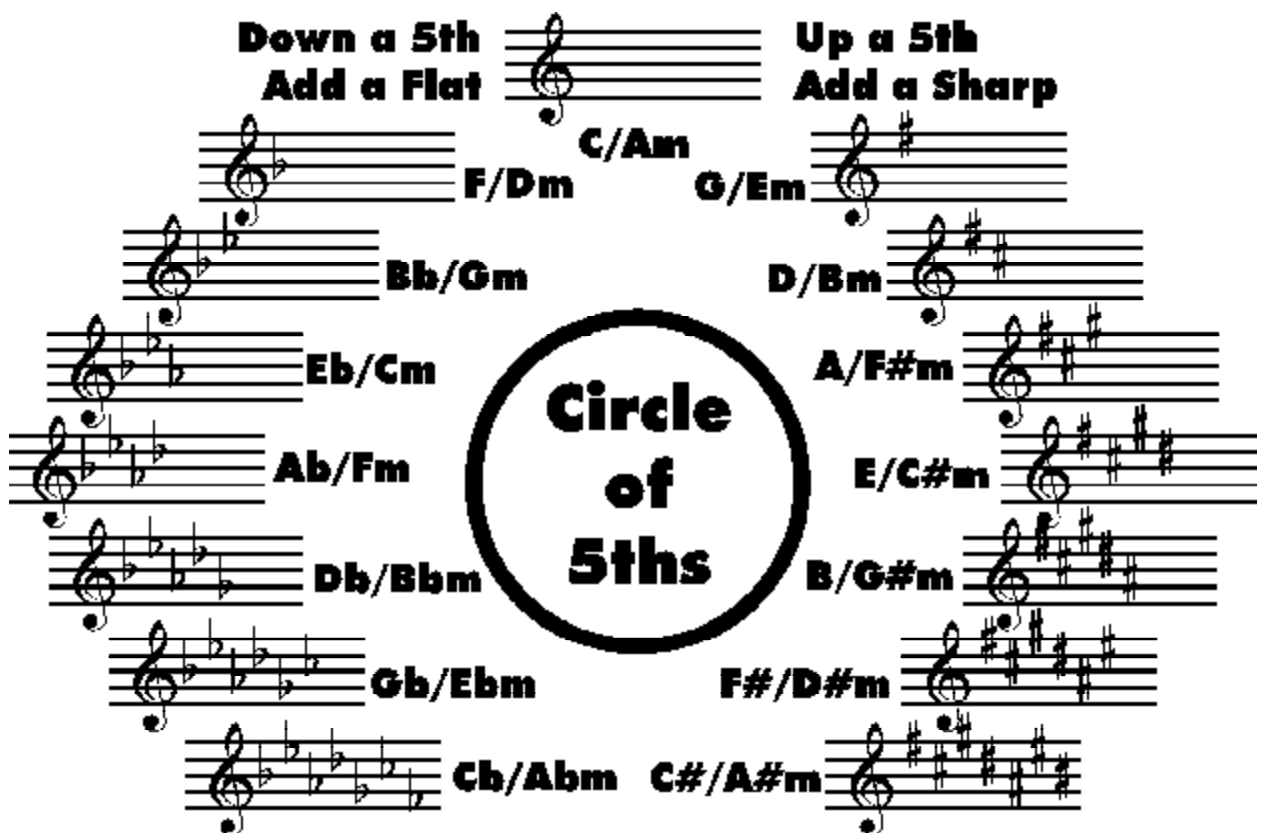
Keys / The Circle of 5ths

Keys other than “C” are made by Flattening (b) or Sharping (#) certain notes to maintain the Major Scale pattern.

Keys are indicated by a Key Signature written right after the Clef in Music notation as shown in the Circle of Fifths. Each Major Key has a Relative Minor Key.

Each Flat Key begins 5 Major Scale Steps Down from the Root note of the Previous Key and keeps any Flats it had. A New Flat is added at the 4th Step.

Each Sharp Key begins 5 Major Scale steps Up from the Root of the Previous Key and Keeps it's Sharps. A New Sharp is added at the 7th Step.



The Keys of Db & C#, Gb & F# and Cb & B are Enharmonic Keys.

Scale Spellings

How long has $2 \times 2 = 4$? Since Euclid wrote it down or since the Dawn of Time?

Major Scale Spellings

K	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	K
1	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	1
2	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	2
3	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	3
4	Fb	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	4
5	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	5
6	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	6
7	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	7

The Scale Spellings, like the Multiplication tables, are not going to change any time soon and should be memorized.

Major & Natural Minor Scales are the same Notes with

Minor Scale Spellings

K	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	K
1	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	1
2	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	2
3	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	3
4	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	4
5	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	5
6	Fb	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	6
7	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	7

different starting numbers.

There is a #7 in the Harmonic Minor Scale and a #6 &

Harmonic Minor Scale Spellings

K	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	K
1	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	1
2	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	2
3	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	3
4	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	4
5	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	5
6	Fb	Cb	Ob	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	6
7	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	F##	C##	D##	7

#7 in the Melodic Minor Scale.

Chord Changes from Harmonic Minor are often mixed in with Natural Minor.

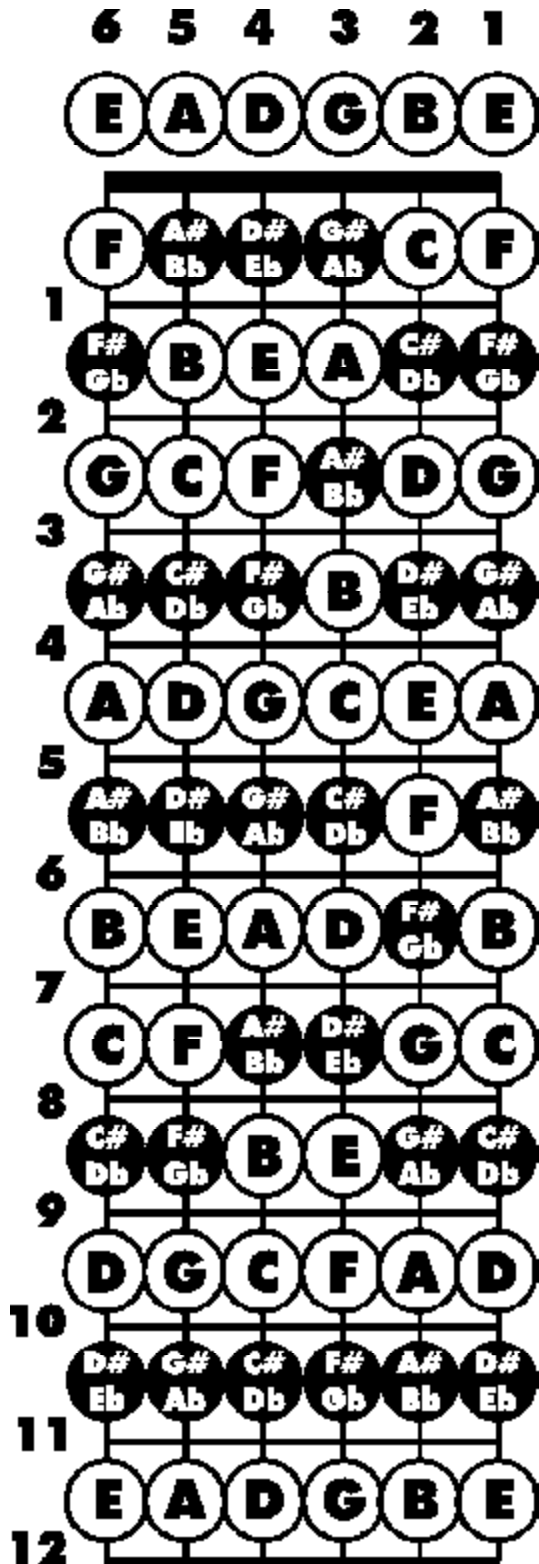
Chord Changes from Melodic Minor are used in Jazz mostly.

Melodic Minor Scale Spellings

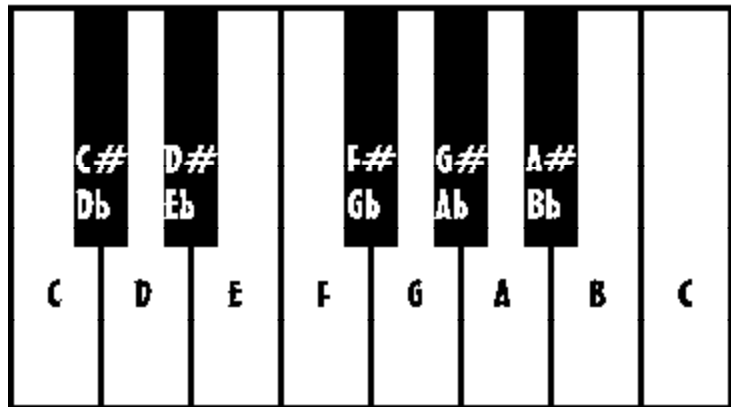
K	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	K
1	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	1
2	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	2
3	Cb	Gb	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	3
4	Db	Ab	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	4
5	Eb	Bb	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	5
6	F	C	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	F##	6
7	G	D	A	E	B	F#	C#	G#	D#	A#	E#	B#	F##	C##	D##	7

The Note Maps

The Keyboard Note Map has all notes lined up in order with white keys for Natural Notes and black keys for Accidentals.



Keyboard Notes



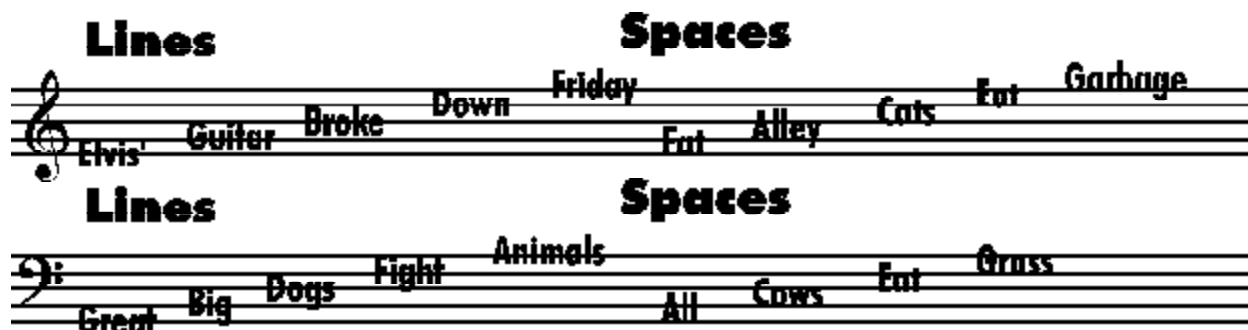
The Guitar Note Map is laid out in a Grid Pattern with White and Black Dots instead of White and Black Keys.

Keep it tuned up in Standard Tuning: E6 A5 D4 G3 B2 E1, these note locations will never change.

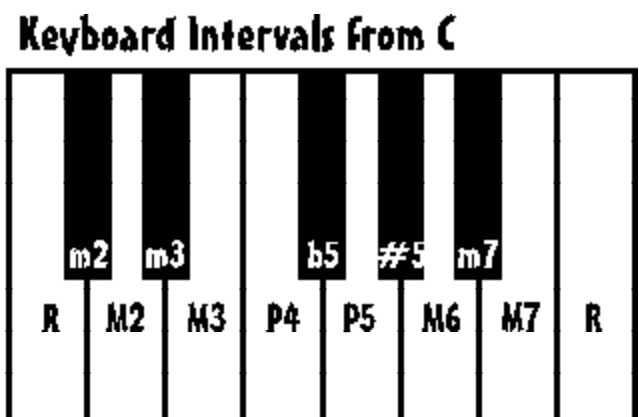
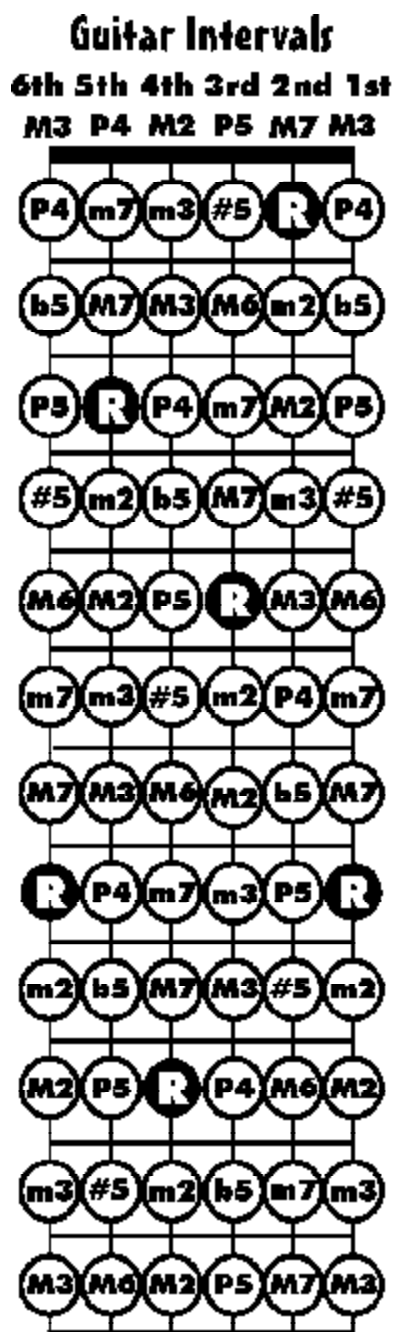
The other instruments have other kinds of Note maps but all of the chromatic notes remain the same.

The Note Map we all share is **Music Notation.**

Remember! Literacy is Good!
Ignorance is Bad!



The Notes of the Treble Clef & Bass Clef are arranged in alphabetical order going up the staff.



These **Interval Maps** show relationships to the note “C” on both the keyboard and the guitar. This Map must shift as the Key or chords change.

For more complete information about **Music Theory** and **Guitar**, check out the other Onomuse Books. **Beginnings: Twelve Lessons for the Fresh Guitarist** **Can Ambitious Guitarists Even Dream?** **Cheap Tricks for the Lazy Guitarist** **Interval Graphics**