



THE
PROGRESSIVE
GUITARIST

PRACTICAL THEORY FOR GUITAR

...A PLAYER'S GUIDE TO
ESSENTIAL MUSIC THEORY IN
WORDS, MUSIC, TABLATURE
AND SOUND.

DEMO RECORDING AND
PLAY-ALONG TRACKS INCLUDED

by **DON LATARSKI**



THE PROGRESSIVE GUITARIST

PRACTICAL THEORY FOR GUITAR

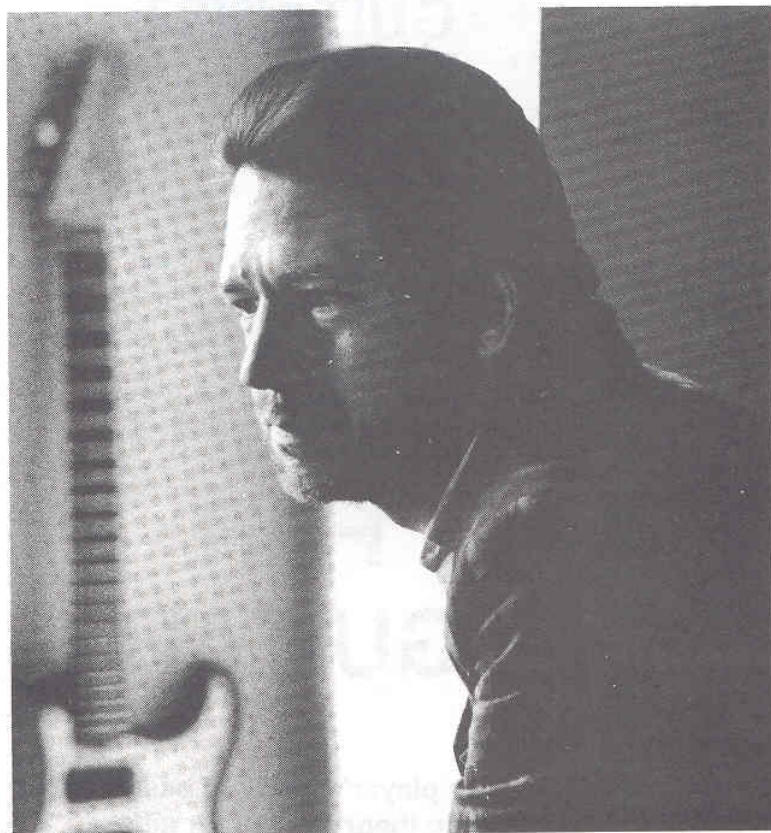
**... a player's guide to essential
music theory in words, music,
tablature and sound.**

by Don Latarski

© 1993 CPP/Belwin Inc.
International Rights Secured
All Rights Reserved

Cover Design: Joann Carrera

Warning: Any duplication, adaptation
or arrangement of the compositions
contained in this collection, without the
written consent of the owner, is an
infringement of U.S. copyright law and
subject to the penalties and liabilities
provided therein.



About the author . . .

Don Latarski has been playing the guitar since 1963. He began teaching at the ripe old age of 13 and is currently adjunct faculty at the University of Oregon School of Music as the Jazz Guitar Instructor. In addition to this book, he's written a number of others: *An Introduction to Chord Theory*, *Arpeggios*, *Chord Embellishments*, *Chord Orbits*, *Moveable Chords* and *Scale Patterns*. Known nationally as a gifted guitarist and composer; Don performs frequently with his group at Jazz Festivals and Clubs in the Pacific Northwest and composes for TV, video and radio. His national releases include: *Haven*, Inner City Records, *Private Affair*, DoLa Disques, *Lifeline*, Pausa Records, and most recently, *How Many Ways*, DoLa Disques, P.O. Box 10232, Eugene, OR 97440. Originally a Michigan native, Don has made Eugene, Oregon his home since 1973 where he builds and rides recumbent bicycles when it's not raining.

Table of Contents

CD Directory	4	The Augmented Scale	99
Introduction	5	The Chromatic Scale	101
Reading Tablature and Chord Boxes	6	Synthetic Scales	103
Intervals	9	Bebop Scales: Major, Minor and Dominant	104
Harmonic and Melodic Intervals	9	Pentatonic Scales	106
Half-steps	9	Superimposition	107
Whole-steps	9	Chord Construction	110
Interval Identification	10	Three Note Chords	110
Interval Quality	10	Doublings and Voicings	111
Perfect and Major Intervals	11	Visualizing Triads	112
Minor, Diminished and Augmented Intervals	12	Spelling Chords in Sharp and Flat Keys	113
Intervals on the Fingerboard	14	Four Note Chords	114
Enharmonic Equivalents	16	Chord Families	115
Inversion of Intervals	17	Inversion	116
More About the Major Scale	17	Practical Uses of Inversion	117
The Circle of Fifths	19	Slash Chords	119
The Relative Minor	20	Sixth Chords	119
Sequence of Sharps and Flats	20	Chord Extensions and Alterations	121
Determining Interval Number and Quality	20	Five Note Chords	122
Practical Uses of Intervals	22	Six Note Chords	122
Unusual Intervals	26	Seven Note Chords	123
Major Scale Modes	28	Omitting Notes in Chords	124
Ionian Mode	30	Chord Symbol Notation	125
Dorian Mode	34	Common Chord Formulas	125
Phrygian Mode	37	Chord Forms	126
Lydian Mode	40	Scale and Mode Harmonization	130
Mixolydian Mode	43	C Major Scale Harmonization	130
Aeolian Mode	46	Minor Scale Harmonizations	131
Locrian Mode	49	C Natural Minor Harmonization	132
Melodic Minor (Jazz Minor) Modes	52	C Harmonic Minor Harmonization	132
Jazz Minor	53	C Melodic Minor Harmonization	133
Dorian $\flat 2$	56	The Composite Minor Scale	133
Lydian-Augmented	58	Modal Harmonization	135
Lydian Dominant	60	Rock and Roll Harmony	138
Mixolydian $\flat 6$	62	Chord Progressions	140
Locrian $\sharp 2$	64	Tension and Release	140
Super Locrian	66	Root Movement	141
Harmonic Minor Modes	69	Common Tone Substitution	142
Harmonic Minor Mode 1	70	Harmonic Rhythm	144
Harmonic Minor Mode 2	73	Secondary Dominants	145
Harmonic Minor Mode 3	76	Diminished Chords	146
Harmonic Minor Mode 4	78	Tritone Substitution	147
Harmonic Minor Mode 5	81	Borrowed Chords	148
Harmonic Minor Mode 6	84	Changing Chord Quality	149
Harmonic Minor Mode 7	87	On Creating Chord Progressions	150
The Blues Scale	90	Appendix	
The Whole-Tone Scale	94	Chord and Scale Relationships	151
The Diminished Scales	96	Chord and Scale Syllabus	152
		Major Scales in all Keys	154
		Glossary of Terms	155
		Bibliography	159

CD DIRECTORY

	Track #	Page #		Track #	Page #
Tuning	1		Simple Chord Progressions	30	131
Major Scale Modes			Composite Minor Progressions	31	134
Ionian Mode.....	2	33	Modal Harmony	32	135
Dorian Mode.....	3	36	Creating Chord Progressions	33	141
Phrygian Mode.....	4	39	Harmonic Rhythm	34	144
Lydian Mode.....	5	42	Secondary Dominants	35	145
Mixolydian Mode.....	6	45	Tritone Substitution Chords	36	147
Aeolian Mode.....	7	48	Borrowed Chords	37	149
Locrian Mode.....	8	51	Changing Chord Quality	38	149
Melodic Minor (Jazz Minor) Modes			Soloing Approaches	39	151
Jazz Minor.....	9	55			
Dorian ♭2.....	10	56			
Lydian-Augmented.....	11	58			
Lydian-Dominant.....	12	60			
Mixolydian ♭6.....	13	62			
Locrian #2.....	14	64			
Super Locrian.....	15	68			
Harmonic Minor Modes					
Harmonic Minor Mode 1.....	16	72			
Harmonic Minor Mode 2.....	17	75			
Harmonic Minor Mode 3.....	18	76			
Harmonic Minor Mode 4.....	19	80			
Harmonic Minor Mode 5.....	20	83			
Harmonic Minor Mode 6.....	21	86			
Harmonic Minor Mode 7.....	22	89			
The Blues Scale	23	93			
The Whole-Tone Scale	24	95			
The Diminished Scales	25	98			
The Augmented Scale	26	99			
Symmetrical Scale Riffs	27	102			
Whole Tone					
Diminished (half/whole)					
Diminished (whole/half)					
Chromatic					
Augmented					
Pentatonic Scales	28	108			
Chord Voicing	29	117			
Root Position					
1st Inversion					
2nd Inversion					
3rd Inversion					

Introduction

For most guitarists, studying music theory is about as popular as studying Chinese. Yet for those who wish to go beyond the common rock scales and chords, it's a necessity. Theory provides the insights into the workings of music: understand the theory and you have the power and freedom to experiment, tinker and alter. Theory provides the curious with explanations. My theory studies had the effect of opening up the fingerboard to me. I began to see the possibilities for the first time.

A basic understanding of theory will give you the ability to choose appropriate scales to play over chord progressions, to form your own chords, arpeggios and scales, enhance your reading and allow you to communicate both verbally and on paper with other musicians. Theory is also helpful for aspiring writers by providing options for chord progressions. And most importantly, theory will open up your ear; giving you the ability to attach *meaning to sound*.

Unlike most theory books which are piano based, this one will illustrate all of the concepts on the fingerboard. It is meant to be a practical book, one you can learn from easily. To this end, many musical examples are included. These examples will demonstrate all of the important concepts, attaching a sound to an idea.

Many guitarists rely on shapes when learning new chords, scales and arpeggios and there is nothing wrong with this approach. The guitar lends itself to this way of learning. Whenever possible, this book will use a picture in place of, or along with words. Music is not words, nor is it pictures, but the combination of words, pictures and sounds will make learning as easy as possible.

It's my sincere desire that you will find the material in this book both easy to understand and relevant to your musical aspirations.

Lastly, if you like the approach I've taken in this book, you may enjoy some of my others: *Moveable Chords, An Introduction to Chord Theory, Arpeggios, Chord Orbits, Chord Embellishments and Scale Patterns* all available from CPP/Belwin, Inc.

Don Latarski

Reading Tablature and Chord Boxes

Tablature

Many examples appear throughout the book. These examples are illustrated using a graphic way of representing pitches on the fingerboard called TAB, which is short for tablature. In TAB, each line represents a string on the guitar. The top line represents the 1st string and the bottom line the 6th string. The numbers which appear on these various lines indicate which frets to play the notes on. The rhythms for these notes are indicated in the treble clef above the TAB staff.



Even though you don't have to be able to read standard music notation to use TAB, you do need to understand how rhythms work. (Rhythms are not covered in this book, but any beginning book on notation will give you the information you need to get started with reading music on the guitar.)

Chord and Finger Boxes

In the chord boxes, black dots always indicate the chord root. This is the "1" or tonic of the chord. The other circles represent other chord tones. The numbers next to all of these circles indicate which fingers to use to fret these notes. These fingerings are suggestions only. You may find better fingerings. The letter "T" may appear next to a note on the 6th string. This indicates the use of the thumb to play this string. If you're not used to using the thumb, work out a different fingering. The numbers which appear under each chord box indicate the voicing of the chord - these are the notes which make up the chord and their location in a chord shape, from the lowest to the highest pitch. (The subject of chord voicing is covered in detail later in the book.) An X above any string means that that string should be muted if you're strumming the chord or just not plucked if you're using individual fingers to sound the notes, as a classical guitarist would. Any note which is shaded in, represents an assumed root note. This note is not to be played, but is shown as a way of letting you know where the root of a chord would be. (Some chord forms will not have a root.)

When a barre symbol appears, use the finger indicated to cover all of the notes under this little umbrella.

chord symbols

X = muted string

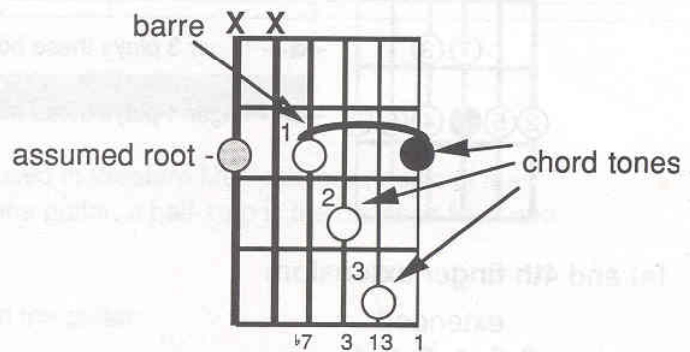
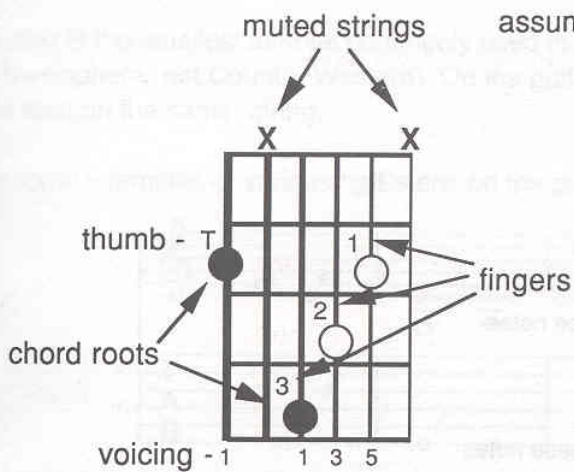
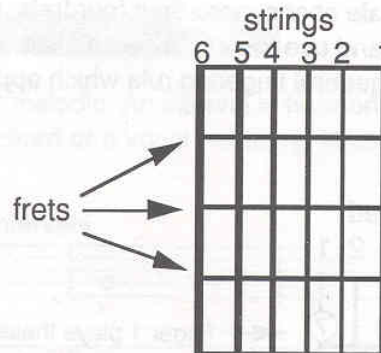
● = chord root

○ = assumed root

○ = chord tone

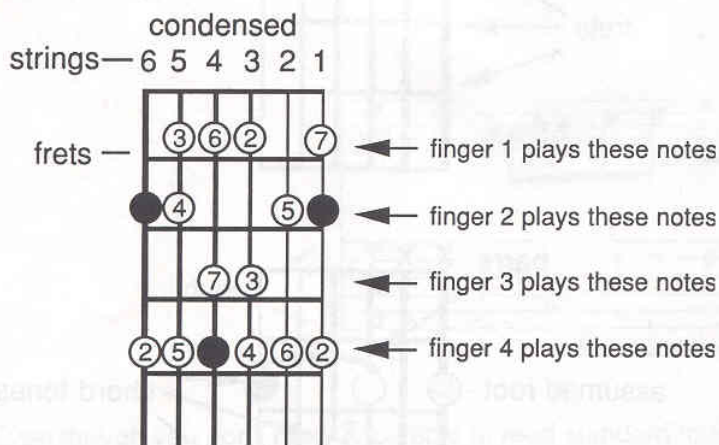
— = barre symbol

T = use of thumb

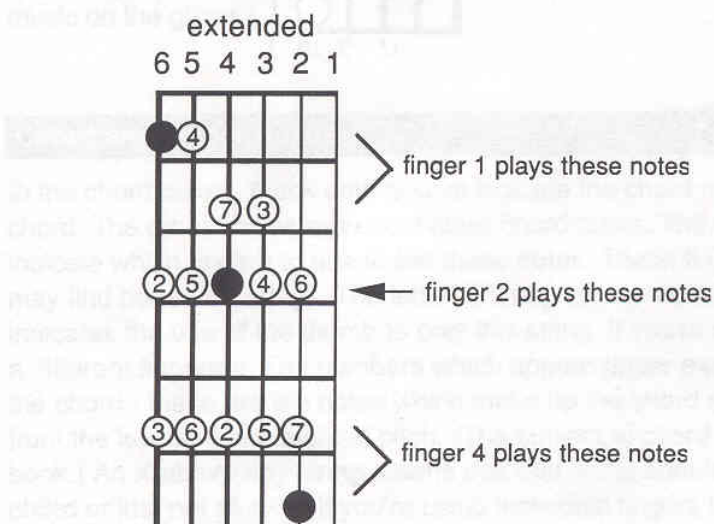


Scale patterns are shown frequently, but fingerings are not indicated. Use the *one finger per fret* rule as a starting point. This rule states that if you need to cover a four fret span on the finger-board, use finger 1 (index) to cover those notes on the fret closest to the nut, use finger 2 (middle) to cover the notes on the next fret up the neck (toward the body of the instrument) and finger 3 (ring) to cover the next fret up and the 4th (pinky) to cover the notes closest to the body of the guitar. If the scale spans more than four frets, use the 1st finger to slide out of position for notes toward the nut and use the 4th finger to slide up to reach the notes toward the body of the instrument. This is a general fingering rule which applies to all styles of music.

one finger per fret



1st and 4th finger extension:



Intervals

An interval is the musical distance between any two notes. A basic understanding of intervals is necessary before any meaningful discussion of scales, chords or arpeggios can take place. Intervals are the equivalent of atoms; they are the building blocks of theory.

Harmonic and Melodic Intervals

There are only two types of intervals: harmonic and melodic. An interval is harmonic when two notes are sounding at the same time, such as in a chord or a vocal harmony. Melodic intervals are like melodies: a succession of single notes.

harmonic intervals				melodic intervals			
T	1	1	0	T	1	1	0
A	2	2	0	A	2	2	0
B	3	2	2	B	3	2	2

Half-steps

The half-step is the smallest interval commonly used in Western Music theory (music of the western hemisphere, not Country Western). On the guitar, a half-step is the distance from one fret to the next on the same string.

Here are some examples of various half-steps on the guitar:

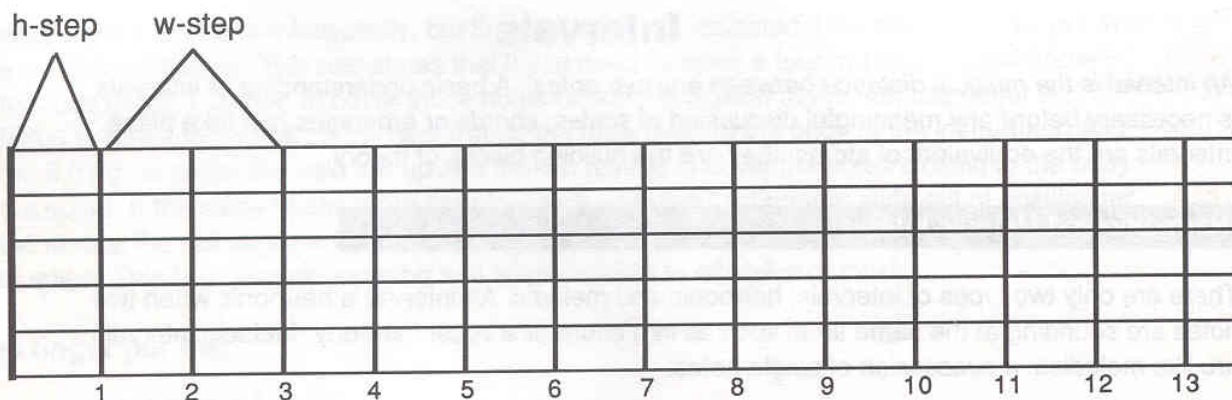
T	2	3	4
A	2	3	4
B	0	1	2

Whole-steps

One whole-step is equal to two half-steps. On the fingerboard, this is the distance of two frets.

Here are some whole-steps on the fingerboard:

T	0	2	4
A	0	2	4
B	0	2	4



Interval Identification

Intervals have two attributes: size and quality. Put another way, you need to know how big an interval is (size) and how to describe the nature of its sound (quality). The size of an interval tells us how many lines and spaces separate one note from another. This is an easy task as long as you remember to count the lowest note as 1. For example: The distance from C to D is 2, not 1. C to E is 3. Remember, all intervals are calculated from the lowest note to another note above it.

The following chart shows the size of the most common intervals. They are: unisons (this is the same as a 1), 2nd's, 3rd's, 4th's, 5th's, 6th's, 7th's, 8th's (same as an octave), 9th's, 10th's, 11th's, 12th's and 13th's. Other intervals exist which are above the 13th, but they are rarely used.

Interval	1st unison	2nd	3rd	4th	5th	6th	7th	8th octave	9th	10th	11th	12th	13th
Lines (T)	0	1	2	3	4	5	6	7	8	9	10	11	12
Spaces (A)	0	0	1	2	3	4	5	6	7	8	9	10	11
Bottom (B)	0	3	3	0	3	3	3	3	3	3	3	3	3

The chart also includes a musical staff with notes for each interval and a bracket indicating that intervals from 1st to 8th are 'simple intervals' and intervals from 9th to 13th are 'compound intervals'.

Any interval which is within an octave is called simple; any larger than an octave are called compound.

Interval Quality

The quality of an interval describes its sound. The terms which are used to describe these sounds are: perfect, major, minor, diminished and augmented. These are the same terms which will later be used to describe certain chord sounds.

To help determine the quality of an interval, it's necessary to look at the interval numbers and qualities which exist in the major scale. This scale is used as a yardstick in music theory.

The arrangement of two whole-steps, one half-step, three whole-steps and one half-step (w-w-h-w-w-h) is the formula or definition of the major scale. The notes must be spaced according to this formula in order for the scale to have the sound we call major. Any other arrangement of whole and half-steps will result in some other scale or mode.

The C Major Scale

scale degrees: 1 2 3 4 5 6 7 8

T
A
B

Perfect and Major Intervals

There are only two different qualities of intervals found in the major scale: *perfect* and *major*. The perfect intervals occur on the unison (1st), 4th, 5th and octave (8th). The 2nd, 3rd, 6th and 7th are major intervals. The compound intervals are really a repeat of the simple intervals. The 11th and 12th are perfect, while the 9th, 10th and 13th are major.

1st unison 2nd 3rd 4th 5th 6th 7th 8th octave 9th 10th 11th 12th 13th

perfect major major perfect perfect major major perfect major major perfect perfect major

T
A
B

simple intervals compound intervals

The intervals which occur above the 8th are really just repeating those intervals found earlier in the scale. The 9th note has the same name as the 2nd note. The 10th note is the same as the 3rd and so on. These larger intervals are included in the major scale because many chords and arpeggios use them. For practical purposes, the scale begins over on the 8th note.

Intervals in the major scale (measured from the 1st note of the scale)

Perfect intervals

1st's (unisons)
4th's
5th's
8th's (octaves)
11th's (same as 4th)
12th's (same as 5th)

Major intervals

2nd's
3rd's
6th's
7th's
9th's (same as 2nd)
10th's (same as 3rd)
13th's (same as 6th)

Minor, Diminished and Augmented Intervals

The major scale contains only two of the five different qualities of intervals. This leaves minor, diminished and augmented intervals. These intervals are produced by altering the perfect and major intervals.

Altering the major and perfect intervals is done in one of two ways: by bringing two notes closer together (contraction) or by placing them further apart (expansion). It's important to remember that altering an interval does not mean that the number of the interval is going to change; only the quality will change.

There are a few different symbols used to bring notes closer together or place them further apart. One symbol is the sharp sign (#). This symbol raises the sound of a note by one half-step. Another type of sharp sign is used, but less frequently. It's called the double-sharp (x) sign. When placed in front of a note, this symbol has the effect of raising the pitch by 2 half-steps or 1 whole-step. The symbol used to lower a pitch by one half-step is the flat sign (b). Less common, is the double flat sign (bb). This symbol lowers a note in pitch by 2 half-steps or 1 whole-step. These symbols are called *accidentals*.

Effect of accidentals on the sound of a note

- sharp - # raises the pitch by one half-step
- double sharp - x raises the pitch by two half-steps
- flat - b lowers the pitch by one half-step
- double flat - bb lowers the pitch by two half-steps

For the sake of simplicity, the various interval qualities will be abbreviated with the following letters:

- P = perfect
- M = major
- m = minor
- A = augmented
- d = diminished

Whenever a perfect interval is expanded by one half-step, it becomes augmented.

	P1st (unison)	A1st (Aug unison)	P4th	A4th	P5th	A5th	P8th (octave)	A8th (Aug octave)
T								
A								
B	8	3	8	4	3	3	3	4

Whenever a perfect interval is contracted by one half-step, it becomes diminished.

	P5th	d5th	P4th	d4th	P5th	d5th	P8th (octave)	d8th (d-octave)
T	1	0						
A	3	3	3	3	5	4	5	4
B			3	2	3	3	3	3

(Some of you may be thinking that it would have been much easier to write a B note in measures one and four of the above example instead of a C flat, and an E note instead of an F flat in measure two. After all, they sound the same. True, but to change the C flats to B's and the F flat to an E would have meant changing the numerical value of the interval.

This is the extent of the changes which are common to perfect intervals. Now it's time to look at what can happen to major intervals.

Whenever a major interval is expanded by one half-step, it becomes augmented (just like the perfect intervals).

	M2nd	A2nd	M3rd	A3rd	M6th	A6th	M7th	A7th
T								
A	0	1	2	3	2	3	0	1
B	3	3	3	3	3	3	3	3

Whenever a major interval is contracted by one half-step, it becomes minor.

	M2nd	m2nd	M3rd	m3rd	M6th	m6th	M7th	m7th
T								
A	5	4	2	1	2	1	4	3
B	8	8	3	3	3	3	3	3

Whenever a minor interval is contracted by one half-step, it becomes diminished.

The diagram shows a musical staff with notes for various intervals: m2nd (C to D-flat), d2nd (C to D), m3rd (C to E-flat), d3rd (C to E), m6th (C to A-flat), d6th (C to A), m7th (C to B-flat), and d7th (C to B). Below the staff is a fretboard diagram with strings T, A, and B. Fingerings are indicated by numbers 1-3 on the strings.

To summarize, there are three changes which can occur to major intervals: they can become minor when contracted by one half-step and become diminished when contracted by two half-steps. When expanded by one half-step, they become augmented. (Both major and perfect intervals turn into augmented intervals when expanded.)

Intervals on the Fingerboard

Notes on the fingerboard are not easy to find and identify. Notes of the same pitch are scattered up and down the neck. In some cases, you can play the same written pitch in as many as five different places. This complicates the process of visualization. It's not always easy to know when an interval is being contracted or expanded.

On a piano keyboard, it's easy to see when an interval is contracted or expanded because it's laid out in front of you. If you visualize an interval on only one string of the guitar, it is easier to see the changes which occur to it.

Here are some charts which show what happens to the various intervals when they are altered. Remember that when an interval is augmented, the distance between the notes will expand. When they are minored and diminished, they are brought closer together. This will be easy to see in the following examples.

The diagram shows two musical staves. The first staff shows the interval C-F (perfect fourth) with fretboard positions 1 and 6. The second staff shows the interval C-F^b (diminished fourth) with fretboard positions 1 and 5.

A perfect interval lowered by one half-step becomes a diminished interval.

The diagram shows two fretboard diagrams. The first diagram shows a perfect fourth (P4th) interval between fret 1 and fret 6 on a single string. The second diagram shows a diminished fourth (d4th) interval between fret 1 and fret 5 on the same string, labeled '2nd string'.

C F

T 1 6

A

B

C F#

T 1 7

A

B

C E

T 1 5

A

B

C E#

T 1 6

A

B

C E

T 1 5

A

B

C Eb

T 1 4

A

B

C Ebb

T 1 3

A

B

A perfect interval raised by one half-step becomes an augmented interval.

P4th

1 2 3 4 5 6 7 8

2nd string

A4th

1 2 3 4 5 6 7 8

A major interval raised by one half-step becomes an augmented interval.

M3rd

1 2 3 4 5 6 7 8

2nd string

A3rd

1 2 3 4 5 6 7 8

A major interval lowered by one half-step becomes a minor interval.

M3rd

1 2 3 4 5 6 7 8

2nd string

m3rd

1 2 3 4 5 6 7 8

A major interval lowered by two half-steps becomes diminished.

d3rd

1 2 3 4 5 6 7 8

Inversion of Intervals

To invert an interval, take the upper note of the pair and transpose it down one octave (or in some cases two octaves) so that what was the upper note becomes the lower or bass note.

P5th → P4th M2nd → m7th m3rd → M6th A4th → d5th d5th → A4th

Interval	T	A	B
P5th	0	2	2
P4th		2	2
M2nd		5	3
m7th		1	0
m3rd		5	3
M6th		0	5
A4th		5	6
d5th		4	5
d5th		4	6
A4th		3	4

When Perfect intervals are inverted, they remain perfect.

Major intervals become minor.

Minor intervals become major.

Diminished become Augmented.

Augmented become diminished.

P stays P
M goes to m
m goes to M
d goes to A
A goes to d

Numerical changes to intervals when inverted:

2nd's become 7th's

3rd's become 6th's

4th's become 5th's

5th's become 4th's

6th's become 3rd's

7th's become 2nd's

8th's stay the same

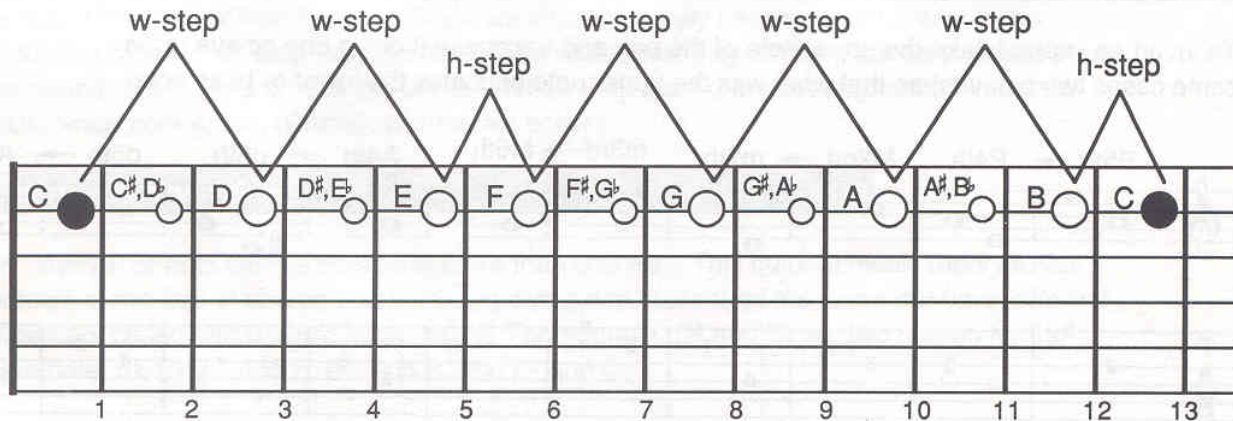
Hint: To find the numerical value of any inverted interval, subtract the value of the original interval from 9. This new number will be the value of the inverted interval. If your original interval is a 2nd, subtract this number from 9. The inverted interval will be some type of 7th.

More About The Major Scale

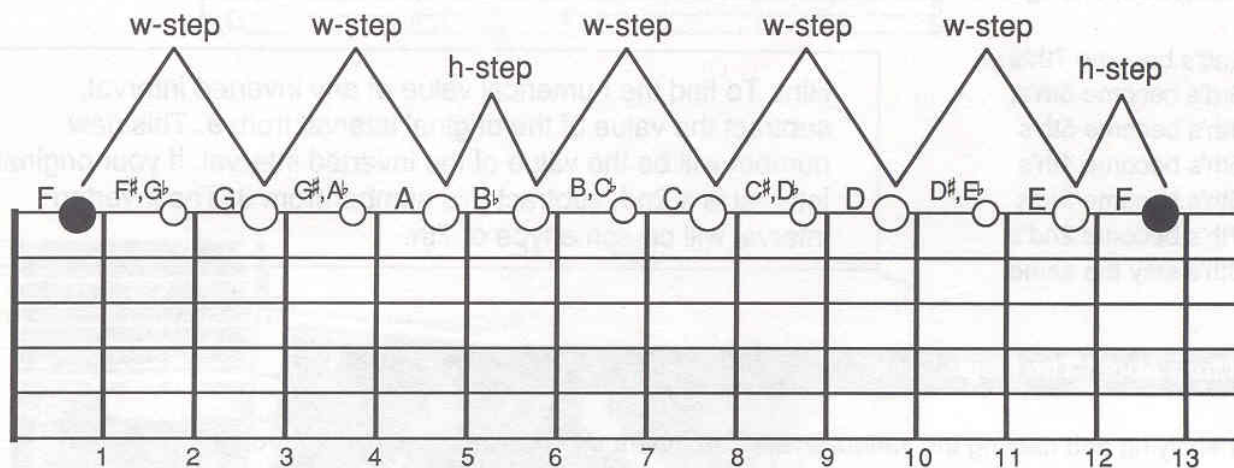
Identifying and naming the various interval numbers and qualities requires a thorough understanding of the major scale. The major scale is by far the most important single scale in all music theory. This scale was briefly mentioned earlier, now it's time to take a closer look.

All scales have formulas which show how the whole and half-steps are arranged. In the major scale, this order is always: W-W-H-W-W-W-H. (This applies from the lowest to the highest notes.)

In the key of C major, which is the only scale without accidentals (sharps or flats), the notes are: C-D-E-F-G-A-B-C. The easiest way to see this scale and its whole and half-steps is to lay it out in a linear fashion on one string of the guitar.

C major scale on 2nd string of the guitar:**F major scale on the 1st string of the guitar:**

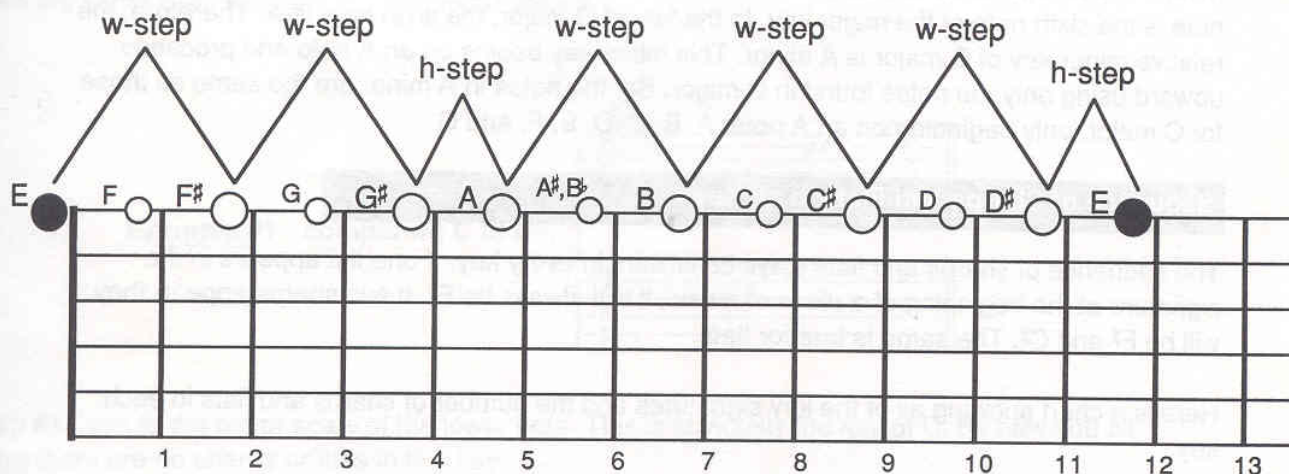
By starting on the F note (1st fret, 1st string) it's easy to see why flats are a necessary part of notation. In order to maintain the correct order of whole and half-steps from the F, the B must be flatted.



You may be wondering why a flatted note was put in this scale rather than just adding an A# note. When constructing any major scale, you must include some type of A, B, C, D, E, F and G. They will be altered with accidentals from time to time, but one of each is needed. (There will be some exceptions that will turn up later in those scales which contain more than seven different notes.)

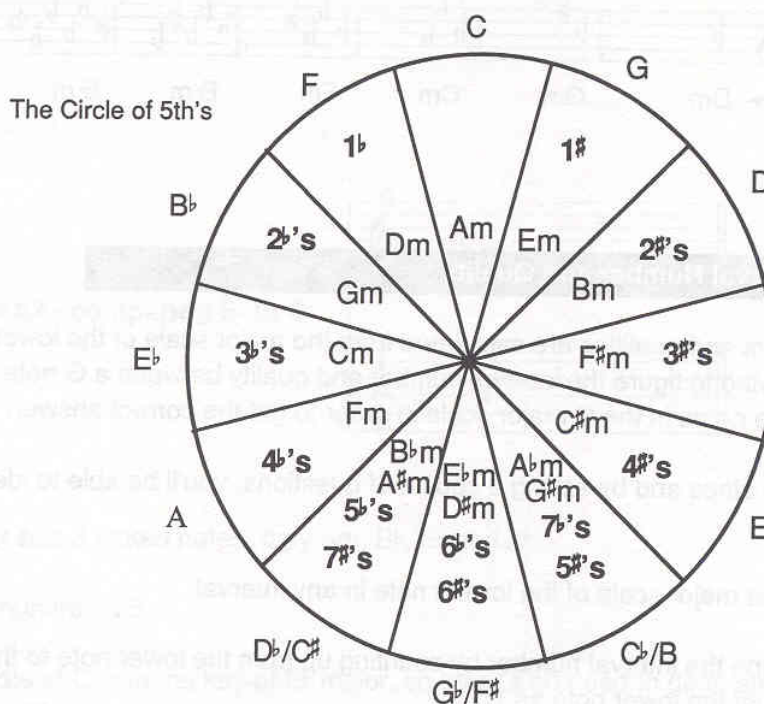
A quick look at the E major scale will show why it must have four sharps.

E major scale on the 1st string of the guitar:



The Circle of 5th's

The circle of fifth's is a quick way to see just how many sharps and flats each major key and its corresponding relative minor actually has. Going clockwise around this chart takes you up by intervals of a P5th. C major is shown at the top of the chart, the scale in the one o'clock position is G major. It is a perfect fifth above C major. Counter clockwise shows the keys which contain flats. These keys are each a 4th apart. F is a perfect fourth above C, B $\flat$ is a perfect fourth above F.



The bottom of this circle of 5th's chart shows what happens when the flat keys meet the sharp keys. The key of D $\flat$ major has the same sound as the key of C $\sharp$ major, yet they would look very different on paper. As you can see from the chart, the key of D $\flat$ has five flats; the key of C $\sharp$ has seven sharps. The term applied to this situation is *enharmonic equivalent*. This term popped up in the previous study of intervals and it applies here in the same way.

The Relative Minor

Every major key contains a corresponding minor key. This minor key is called the *relative minor*. This minor scale is also called the natural minor scale or aeolian mode. Its beginning note is the sixth note of the major key. In the key of C major, the sixth note is A. Therefore, the relative minor key of C major is A minor. This minor key begins on an A note and proceeds upward using only the notes found in C major. So, the notes in A minor are the same as those for C major, only beginning on an A note: A, B, C, D, E, F, and G.

Sequence of Sharps and Flats in all Keys

The sequence of sharps and flats stays consistent in every key. If one flat appears in the signature at the beginning of a piece of music, it will always be F $\flat$. If two sharps appear, they will be F $\sharp$ and C $\sharp$. The same is true for flats.

Here is a chart showing all of the key signatures and the number of sharps and flats in each key:

major keys	→ C	G	D	A	E	B	F $\sharp$	C $\sharp$
relative minor	→ Am	Em	Bm	F $\sharp$ m	C $\sharp$ m	G $\sharp$ m	D $\sharp$ m	A $\sharp$ m
major keys	→ F	B $\flat$	E $\flat$	A $\flat$	D $\flat$	G $\flat$	C $\flat$	
relative minor	→ Dm	Gm	Cm	Fm	B $\flat$ m	E $\flat$ m	A $\flat$ m	

Determining Interval Number and Quality

All interval numbers and qualities are calculated from the major scale of the lowest sounding pitch. If you are trying to figure the interval number and quality between a G note and a B note, you must know the notes in the G major scale in order to get the correct answer.

By following a few steps and by asking a couple of questions, you'll be able to identify and name any interval.

Step #1 - Go to the major scale of the lowest note in any interval.

Step #2 - Determine the interval number by counting up from the lower note to the upper note. Don't forget to count the lower note as 1.

Step #3 - Determine if the upper note is in the major scale of the lower note. If it is, then the interval must be either perfect or major. If it isn't, then the interval will be either minor, diminished or augmented.

Step #4 - If the upper note is not normally in the major key of the lower note, you need to determine if it is sharpened or flatted. In other words, has it been altered to make it sound more distant from the lower note (an augmented sound), or is it closer (a minor or diminished sound).

Here are some real life examples with explanations:

Example #1 - comparing C to B $\flat$

Step #1 Look to the major scale of the lower note. This is obviously the key of C. By now you all know there are no sharps or flats in this key.

Step #2 Determine the interval number. By counting the lines and spaces up from C, the number 7 results. So, this is some type of 7th interval.

Step #3 Look to see if the upper note is normally in the key of the lower. Since C major has no sharps or flats, this interval is altered. There are no B $\flat$'s in the key of C.

Step #4 Determine the quality of the interval. Because the 7th is normally a major interval in the major key, this interval must be a minor 7th. The flat sign has the effect of bringing the B note closer to the C note by one half-step. When a major interval is lowered by one half-step, it becomes a minor.

Example #2 - comparing E $\flat$ to C

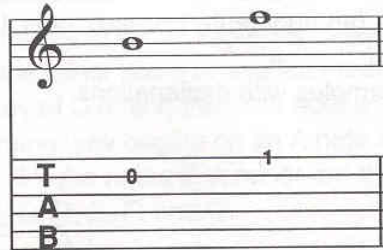
Step #1 - the key of E $\flat$ has 3 flatted notes, they are: B $\flat$, E $\flat$ and A $\flat$.

Step #2 - the interval number is 6.

Step #3 - the upper note of C is in the key of E $\flat$ major, so there's no need to go to step four. The answer is: a major 6th interval.

Things can become a little murky when working in keys with many flats or sharps.

Example #3 - comparing B to F



Step #1 - the key of B has 5 sharps: F#, C#, G#, D#, and A#.

Step #2 - the interval number is 5.

Step #3 - the upper note in this interval would normally be an F#, a perfect 5th. This is not the case here, so the interval is some sort of altered sound. Just because there are no sharps or flats is no reason to automatically think that the interval is not an altered one.

Step #4 - the absence of the sharp sign means that this note has been lowered by one half-step. Whenever a perfect interval is lowered by one half-step, it becomes a diminished. So this is a diminished 5th.

By following this four step approach and practicing a little, you should be able to identify and name any interval. This skill will be extremely important when it comes to understanding scales, chords and arpeggios.

Practical Uses of Intervals

Intervals are often used as a way of embellishing the sound of a chord, as little fills in between chords and as lead lines. The most common interval sounds are 3rds, both major and minor, and 6ths, both major and minor. (Remember that 6ths are inversions of 3rds.) Both 3rds and 6ths are easy to play on the guitar. Here are some of the shapes used for these intervals:

These shapes will produce the sound of the major and minor 3rd intervals on strings: 1 & 2, 3 & 4, 4 & 5 and 5 & 6. Different shapes are needed to achieve the same sounds on strings 2 & 3.		These are the shapes which are used to produce the sound of the major and minor 3rds on string 2 & 3.	
major 3rd	minor 3rd	major 3rd	minor 3rd
strings— 6 5 4 3 2 1	strings— 6 5 4 3 2 1	strings— 6 5 4 3 2 1	strings— 6 5 4 3 2 1
frets —	frets —	frets —	frets —

*The solid black dot in these examples represents the bass (lower) note of the interval.

The major 3rd shapes have the sound of a major chord and the minor 3rd shapes the sound of a minor chord. In this sense, they function like miniature chords even though most chords normally have more than two notes. But the interesting use of these shapes comes in using them up and down the fingerboard. Here's an example played over an E major chord:

E

T								
A	1	2	4	6	8	9	11	13
B	2	4	6	7	9	11	13	14

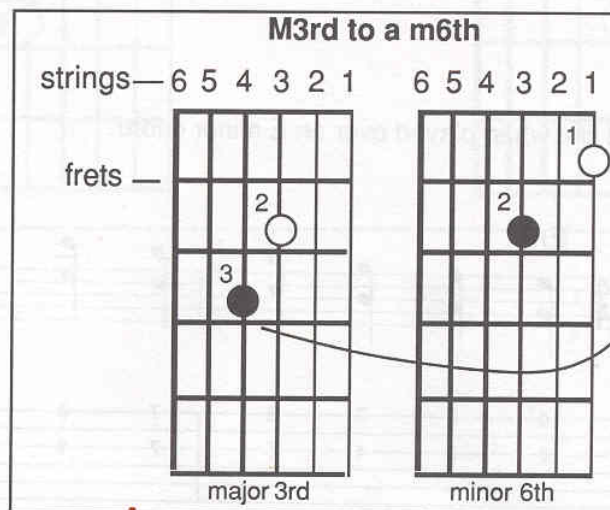
All of these shapes will work over an E major chord. Some will sound more like an E major chord than others. Let your ears pick out the shapes to hang on and those to pass over. (Try droning the low E on the 6th string when playing these shapes. Or hit strings 1 and 2 as open sounds while moving the 3rd's up and down the fingerboard.)

These same shapes will sound great over minor chords too. Here's how to use them over an Em sound:

Em

T								
A	0	2	4	5	7	9	11	12
B	2	4	5	7	9	10	12	14

The inversion of the 3rd is the 6th. It too is heard frequently in nearly all styles of music. The shapes for the 6th are a little different than the 3rd. You can make the 6th by taking the lower note of the 3rd and transposing it up one octave.



Both major and minor 6th's can be used in place of major and minor 3rd's because both intervals contain the same notes.

One technical problem must be overcome when playing 6th's. There is a string in between the lower and upper notes. This string must either be muted with the left hand or you must pluck each note separately with the picking hand. Each method of solving the problem has its advantages and drawbacks. Muting allows for percussive strumming. Plucking the individual strings results in a cleaner sound. Each has its place, so experiment with both techniques.

These shapes will produce the sound of the major and minor 6th intervals on strings: 3 & 5 and 4 & 6. Different shapes are needed to achieve the same sounds on strings 1 & 3 and 2 & 4.

major 6th

strings— 6 5 4 3 2 1

frets —

minor 6th

strings— 6 5 4 3 2 1

frets —

These are the shapes which are used to produce the sound of the major and minor 6th on strings 1 & 3 and 2 & 4.

major 6th

strings— 6 5 4 3 2 1

frets —

minor 6th

strings— 6 5 4 3 2 1

frets —

*The solid black dot in these examples represents the bass (lower) note of the interval.

Here's what 6ths sound like when played over an E major chord:

E

T								
A	1	2	4	6	8	9	11	13
B	2	4	6	7	9	11	12	14

Here's what 6ths sound like when played over an E minor chord:

Em

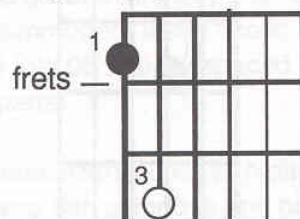
T	0	2	3	5	7	8	10	12
A	0	2	4	5	7	9	11	12
B								

Other common interval sounds are the perfect 5th (power chord), perfect 4th and octave.

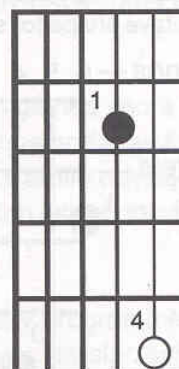
This shape will produce the sound of the P5th interval on strings: 5 & 6, 4 & 5, 3 & 4 and 1 & 2. A different shape is needed to achieve the same sound on strings 2 & 3.

P5th on strings 2/3

perfect 5th
strings— 6 5 4 3 2 1



6 5 4 3 2 1



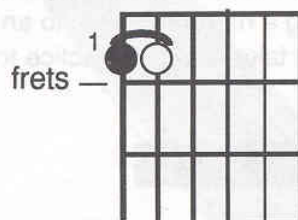
The perfect 5th is neither major or minor, so it has an open sound. This is by far the most common sound heard in rock music.

The perfect 4th is the inversion of the perfect 5th. This sound is used more in lead lines rather than as a chordal sound. Remember those famous Chuck Berry riffs?

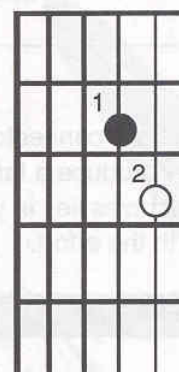
This shape will produce the sound of the P4th interval on strings: 5 & 6, 4 & 5, 3 & 4 and 1 & 2. A different shape is needed to achieve the same sound on strings 2 & 3.

P4th on strings 2/3

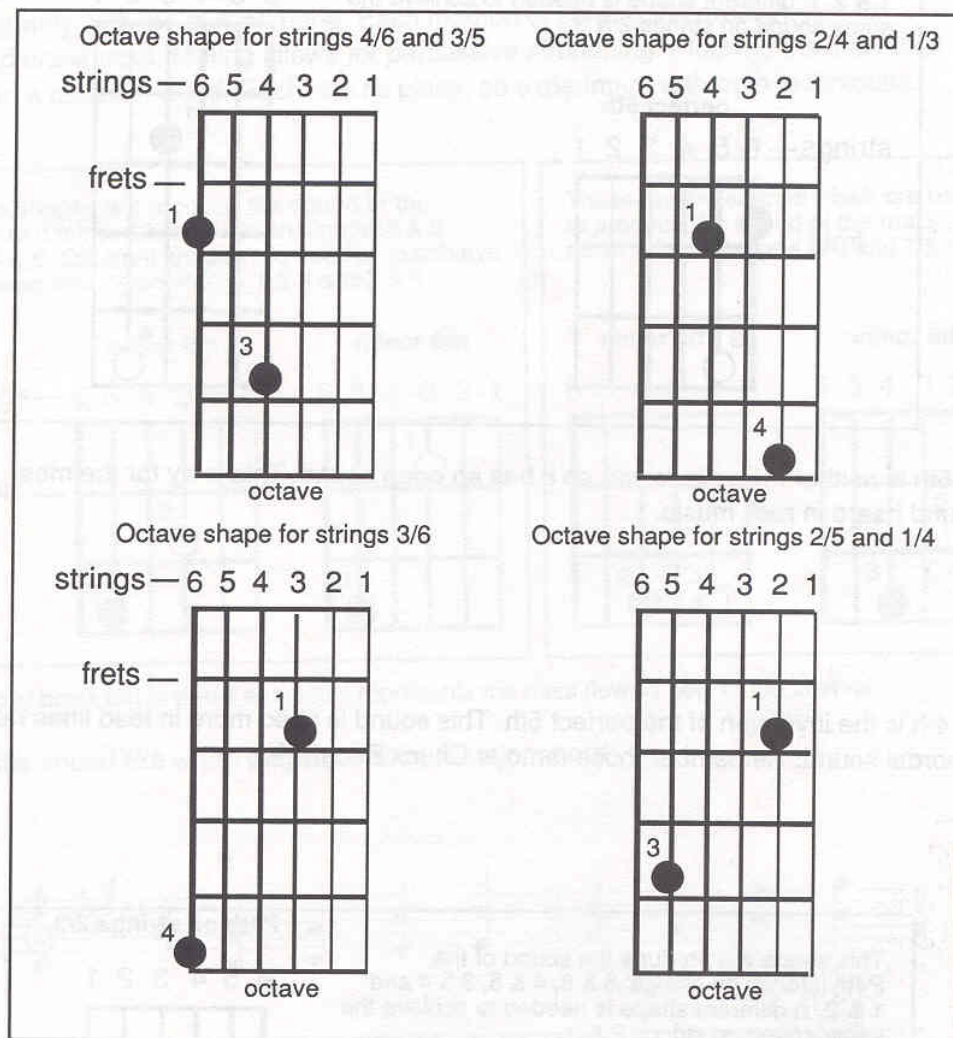
perfect 4th
strings— 6 5 4 3 2 1



6 5 4 3 2 1



Octaves are also a popular interval sound used extensively by jazz guitarists, the most famous being Wes Montgomery. As with the 6th's, there is a string that must be muted here. Use muting or pluck them individually. There are a number of different octave shapes. Here are some of the most common:



Octaves are great as chord connectors - notes to play between chords. They work really well for lead lines too. They produce a fat sound; almost like using a harmonizer set to an octave below. The trick with octaves lies in your muting technique. It takes a bit of practice to get it down, but it's well worth the effort.

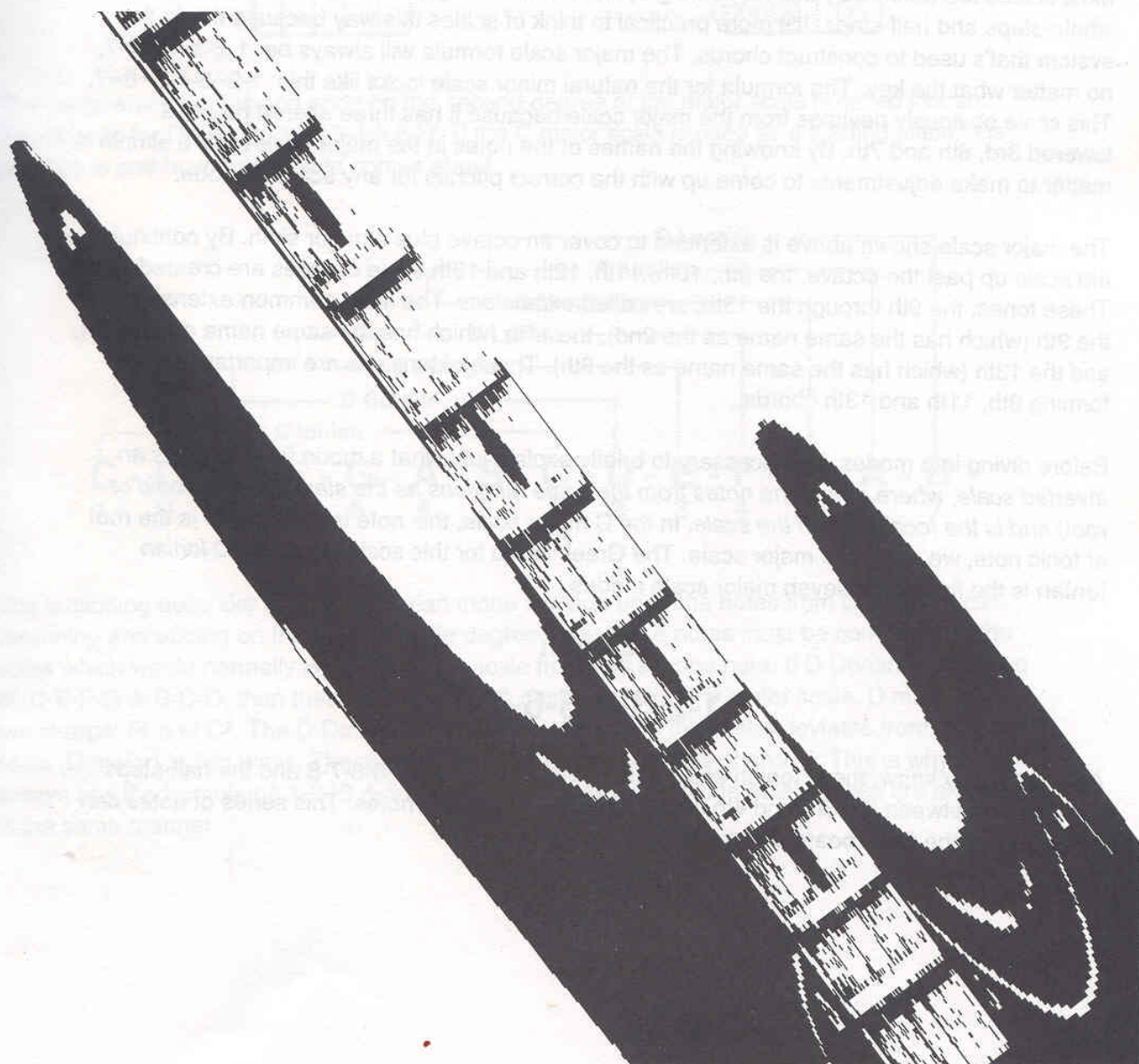
Unusual Intervals

There are other intervals which guitarists frequently use which are smaller than the half-step. By dividing the half-step in half, a quarter-tone results. Still other smaller intervals exist which are called microtones. Microtones have been an integral part of Asian music for many centuries. It's possible to play both microtones and quarter-tones on the guitar by bending notes. Blues music uses these smaller intervals frequently to give a more human, vocal-like quality to the sound. When you begin to experiment with bending notes, you soon realize that you can pick out quite a few different pitches between any two frets.

Some American classical music composers have experimented with the use of these subtle shadings in their music. If you are interested in hearing music which uses quarter-tones, which divides the octave up into 24 parts instead of our usual 12, check out some of the music by: Boulez, Stockhausen, Charles Ives (Quarter-tone Chorale for Strings, Quarter-tone Pieces for Two Pianos and his Fourth Symphony), Hans Barth (Concerto for quarter-tone piano and strings) and Krzystof Penderecki (Anaklasis). Your public library may have some of their music. (Look under Classical music.)

Still other systems of dividing the octave exist. One system that has gained some appeal is where the octave is divided into 31 parts. Some composers have gone so far as to build special instruments to accommodate these exotic interval schemes. Julian Carrillo devised a system of dividing the octave into 96 equally spaced intervals. And Harry Partch came up with a system using 43 unequal parts!

Many of today's synthesizers come with different tuning tables already programmed in. With the touch of a button, you can compose and perform in a variety of octave division schemes. Such is not the case with the guitar. In order to get unusual octave divisions, a fingerboard would need either additional frets, angled frets, split frets or some combination of these.



Major Scale Modes

So far, the major scale has been defined by the arrangement of half-steps and whole-steps. Another way to look at a scale, is to number each scale tone:

C major scale

one octave + major sixth

scale degree numbers →

Scale Degree	1	2	3	4	5	6	7	8	9	10	11	12	13
T													
A													
B	3	5	2	3	5				3	5	6	3	5

Most scales are defined by this numbering system rather than by the ordering and placement of whole-steps and half-steps. It's more practical to think of scales this way because this is the system that's used to construct chords. The major scale formula will always be: 1-2-3-4-5-6-7, no matter what the key. The formula for the natural minor scale looks like this: 1-2- $\flat$ 3-4-5- $\flat$ 6- $\flat$ 7. This scale obviously deviates from the major scale because it has three altered notes: a lowered 3rd, 6th and 7th. By knowing the names of the notes in the major scales, it's a simple matter to make adjustments to come up with the correct pitches for any scale or mode.

The major scale shown above is extended to cover an octave plus a major sixth. By continuing the scale up past the octave, the 9th, 10th, 11th, 12th and 13th scale degrees are created. These tones, the 9th through the 13th, are called *extensions*. The most common extensions are the 9th (which has the same name as the 2nd), the 11th (which has the same name as the 4th), and the 13th (which has the same name as the 6th). These extensions are important when forming 9th, 11th and 13th chords.

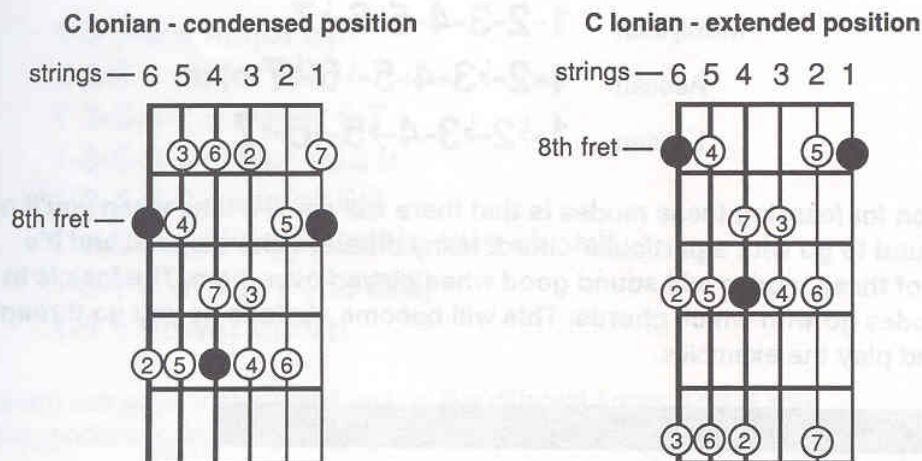
Before diving into modes, it's necessary to briefly explain just what a mode is. *A mode is an inverted scale, where one of the notes from the scale functions as the starting point (tonic or root) and is the focal point of the scale.* In the C major scale, this note is C. When C is the root or tonic note, we call it a C major scale. The Greek name for this scale would be *C Ionian*. **Ionian** is the first of the seven major scale modes.

C Ionian

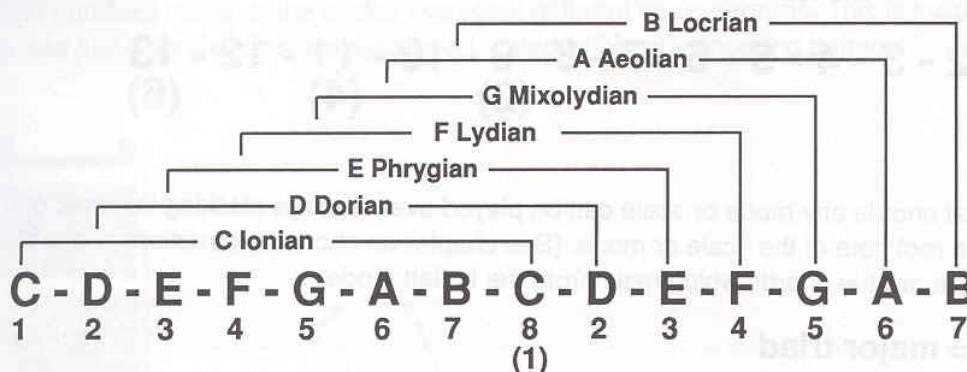
1-2-3-4-5-6-7-8

As you already know, the C Ionian scale has a formula of: 1-2-3-4-5-6-7-8 and the half-steps are located between the 3rd and 4th notes, and the 7th and 8th notes. This series of notes can be played on the fingerboard using many different patterns.

It is possible to play any scale or mode pattern using a condensed or expanded handshape. A condensed position keeps all of the fretting fingers as close together as possible. An extended position requires the fretting hand to stretch. Neither approach is better than the other, they are simply different. Experiment to see which approach you prefer. The patterns which accompany each mode will show both approaches.



The mode which begins and ends on the second degree of the major scale is called Dorian. The formula for Dorian is: 1-2- $\flat$ 3-4-5-6- $\flat$ 7. If the C major scale is used as a starting place, it is possible to see how this formula comes about.



The reasoning goes like this: If the Dorian mode is made up of the notes from the major scale beginning and ending on the second scale degree, then these notes must be compared to the notes which would normally be in the major scale from this second note. If D Dorian is made up of: D-E-F-G-A-B-C-D, then these notes must be compared to the D major scale. D major has two sharps: F $\sharp$ and C $\sharp$. The D Dorian mode has no sharps, so this mode deviates from its major scale (D major) in two ways. These deviations are expressed as a $\flat$ 3 and $\flat$ 7. This is why Dorian always has the formula of: 1-2- $\flat$ 3-4-5-6- $\flat$ 7. The formulas for all of the other modes are arrived at in the same manner.

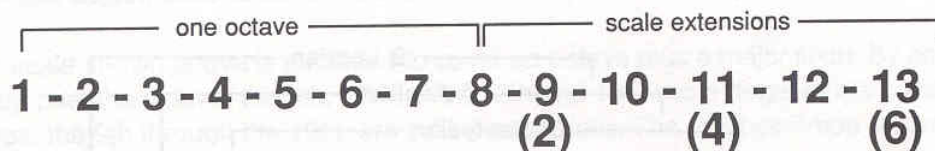
The formulas for all of the modes are:

Ionian	1-2-3-4-5-6-7
Dorian	1-2- $\flat$ 3-4-5-6- $\flat$ 7
Phrygian	1- $\flat$ 2- $\flat$ 3-4-5- $\flat$ 6- $\flat$ 7
Lydian	1-2-3- $\sharp$ 4-5-6-7
Mixolydian	1-2-3-4-5-6- $\flat$ 7
Aeolian	1-2- $\flat$ 3-4-5- $\flat$ 6- $\flat$ 7
Locrian	1- $\flat$ 2- $\flat$ 3-4- $\flat$ 5- $\flat$ 6- $\flat$ 7

The main reason for learning these modes is that there will come a time when you'll need a particular sound to go with a particular chord. Many different chords exist and it's likely that one of these modes will sound good when played over them. The task is to learn which modes go with which chords. This will become obvious as you go through this chapter and play the examples.

Ionian Mode

Every scale has certain distinguishing features. *The identity of a scale is most often defined by the 3rd and 7th scale degrees.* The Ionian is probably the most familiar of all the modal sounds because it is the major scale. The 3rd and 7th degrees are the critical tones and account for the major sound.



To discover what chords any mode or scale can be played over requires stacking intervals of a 3rd on top of the root note of the scale or mode. (See chapter on chord construction for more information.) Here are the chords which result from the Ionian mode:

1-3-5 = major triad

1-3-5-7 = major 7th

1-3-5-7-9 = major 9th

1-3-5-7-9-11 = major 11th (dysfunctional)

1-3-5-7-9-11-13 = major 13th (dysfunctional)

This procedure will not always result in chords which are usable. The major 11th and major 13th chords are not very useful chords. The 11th note (same as the 4th degree is sound) is very dissonant when heard at the same time as a major 3rd. For this reason, the major 11th and major 13th chords are really only theoretical possibilities. **They are rarely used. (In jazz, the major 11th and major 13th chords contain the raised 11th, see Lydian mode).**

There are other chords which can be constructed from the notes of this mode which are very useful, but aren't built by stacking 3rd's. Any combination of notes, excluding the 4th or 11th, can be used as a major sound. The major scale will sound very good over any of these hybrid chords. (When soloing over any of these chords, avoid resolving to the 4th or 11th scale degrees. These pitches will sound harsh against the chord.)

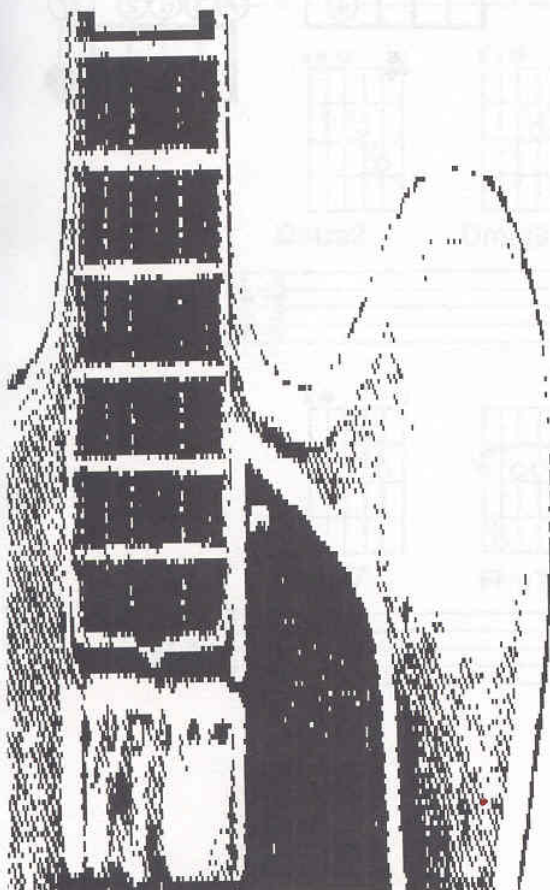
Some possible hybrid major sounding chords from the major scale:

- 1-3-5-6 = major 6th**
- 1-3-6 = major 6th**
- 1-3-5-6-7 = major 6/7**
- 1-3-5-9 = major add 9**
- 1-3-5-6-9 = major 6/9**
- 1-2-5 = sus 2 (no 3rd in this chord)**
- 1-5-7 = major 7 (no 3rd)**
- 1-5 = power chord**

The fingerboard can usually be divided up into five different areas. This is why there are five condensed fingerings and five extended.

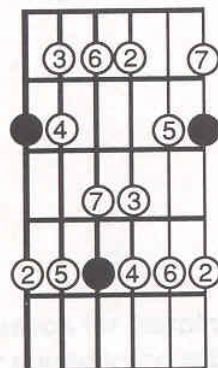
The following patterns are completely movable. They can be slid up and down the fingerboard to allow for key changes. The root notes (those solid dots) must have the same name as the root of the chord which they are being played over. For example, if you want to use these patterns over a C major 7th chord, each black dot in each pattern must be on a C note.

*Note: The numbers inside of the circles represent different scale degrees. This is included so you may see just where each scale degree is located within any fingering pattern.



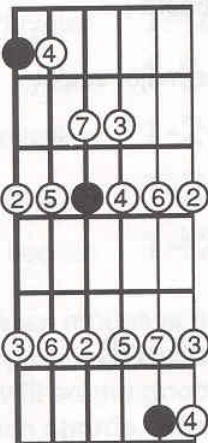
Ionian Mode Fingering Patterns

condensed
6 5 4 3 2 1

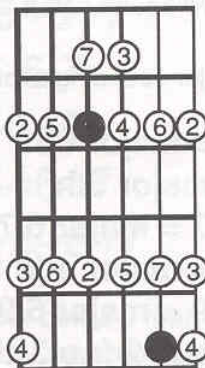


1

extended
6 5 4 3 2 1

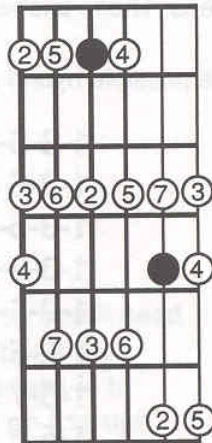


condensed
6 5 4 3 2 1

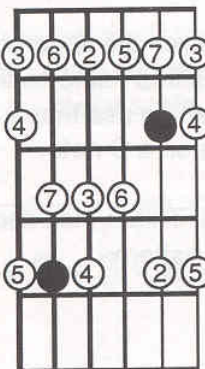


2

extended
6 5 4 3 2 1

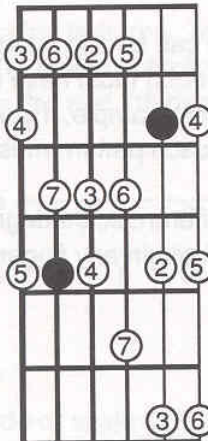


condensed
6 5 4 3 2 1

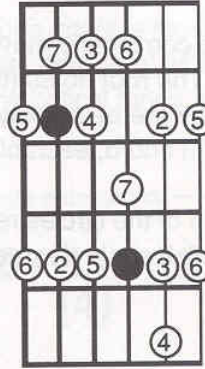


3

extended
6 5 4 3 2 1

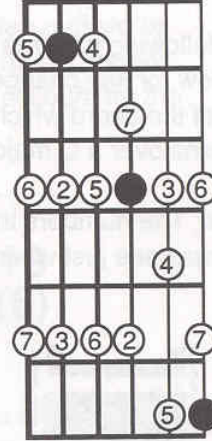


condensed
6 5 4 3 2 1

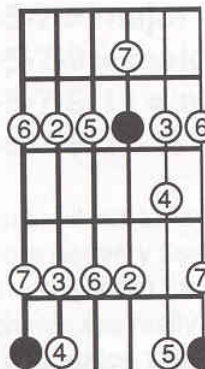


4

extended
6 5 4 3 2 1

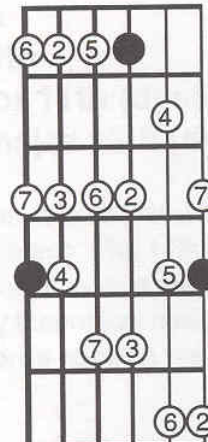


condensed
6 5 4 3 2 1



5

extended
6 5 4 3 2 1

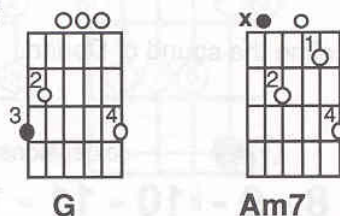


Besides being able to use the **Ionian** mode over major sounding chords, it's possible to use it over chord progressions which are *diatonic*. Diatonic means all within one key. (Scale and mode harmonization are covered extensively in the chapter on harmonized scales.)

Every major key has a set of chords which are built from the notes found in the scale. These chords can be organized into a progression to build vamps (a repeated series or one or two chords) or an entire song.

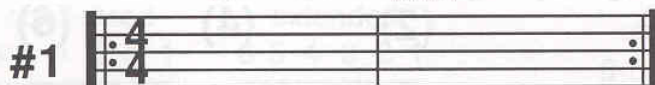
Here are some good vamps to practice soloing over: (make sure you line up the fingering patterns so that each black dot is on the correct scale root.)

CD Track #2



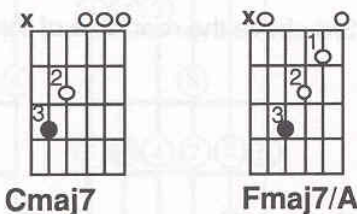
G

Am7



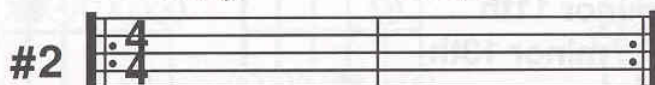
#1

Use G major
(all black dots on G notes)



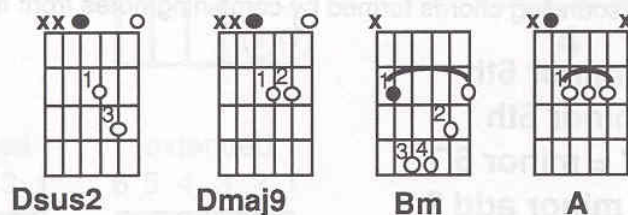
Cmaj7

Fmaj7/A



#2

Use C major
(all black dots on C notes)

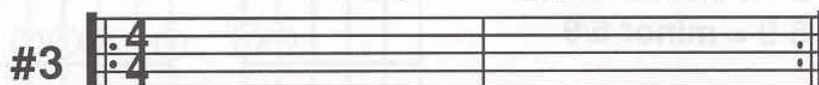


Dsus2

Dmaj9

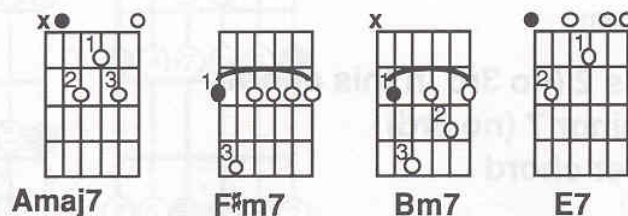
Bm

A



#3

Use D major

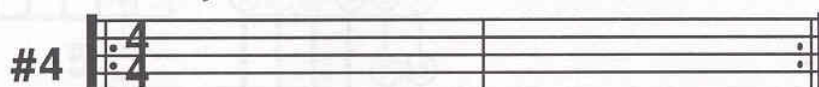


Amaj7

F#m7

Bm7

E7

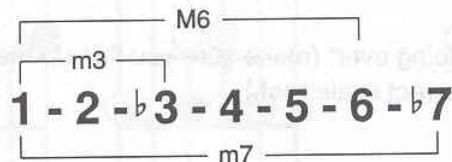


#4

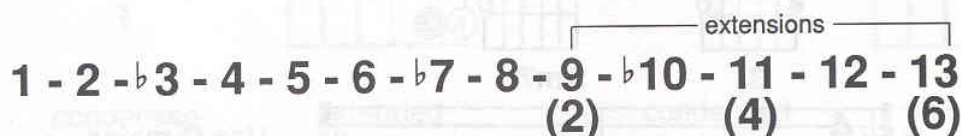
Use A major

Dorian Mode

The Dorian mode is the second mode of the major scale. In this mode, the half-steps are found between the 2nd and 3rd and the 6th and 7th notes. This shifting of the half-steps results in a minor 3rd and a minor 7th interval. The formula for the Dorian mode is:



The minor 3rd, minor 7th and major 6th intervals define the sound of Dorian.



The chords generated by stacking intervals of a 3rd above the root note of the scale are:

- 1- $\flat$ 3-5 = minor triad
- 1- $\flat$ 3-5- $\flat$ 7 = minor 7th
- 1- $\flat$ 3-5- $\flat$ 7-9 = minor 9th
- 1- $\flat$ 3-5- $\flat$ 7-9-11 = minor 11th
- 1- $\flat$ 3-5- $\flat$ 7-9-11-13 = minor 13th

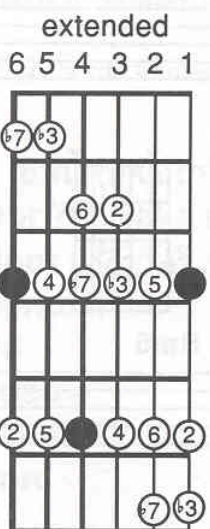
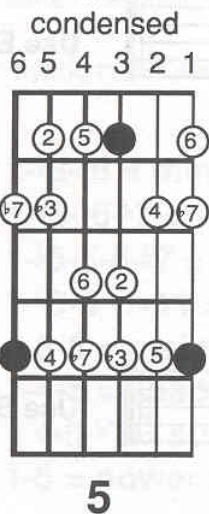
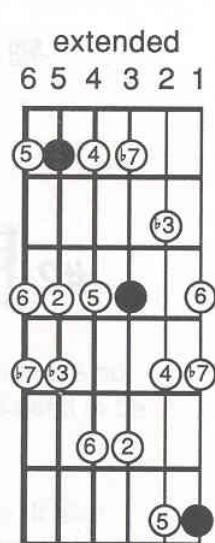
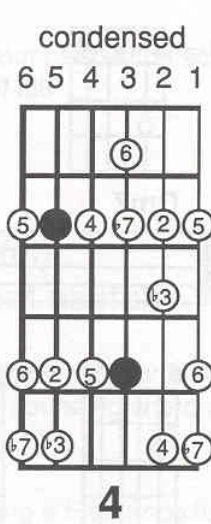
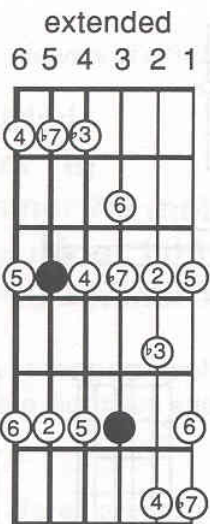
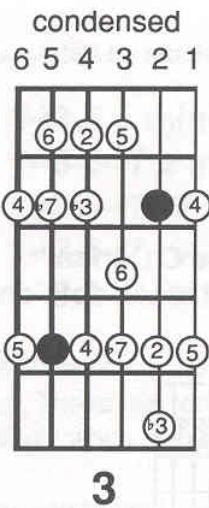
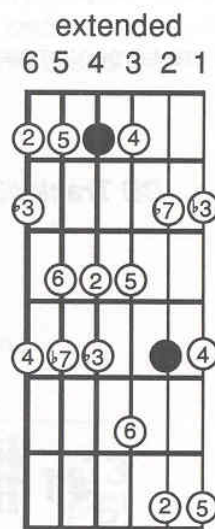
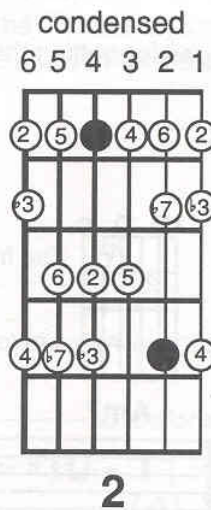
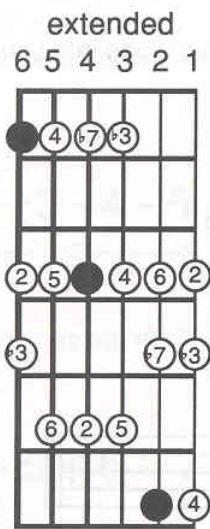
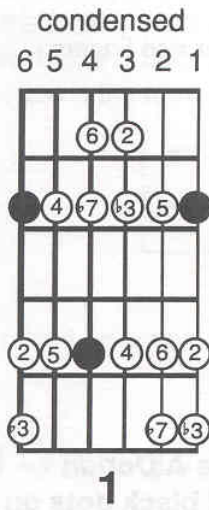
Some possible hybrid minor sounding chords formed by combining notes from this mode:

- 1- $\flat$ 3-5-6 = minor 6th
- 1- $\flat$ 3-6 = minor 6th
- 1- $\flat$ 3-5-6- $\flat$ 7 = minor 6/7
- 1- $\flat$ 3-5-9 = minor add 9
- 1- $\flat$ 3-5-6-9 = minor 6/9

Even though these next chords aren't clearly minor (they contain no 3rd), it is still possible to use the Dorian mode over them.

- 1-2-5 = sus 2 (no 3rd in this chord)
- 1-5- $\flat$ 7 = minor 7 (no 3rd)
- 1-5 = power chord

Dorian Mode Fingering Patterns

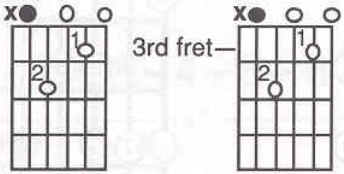


The Dorian mode is most frequently used over minor chords. Be sure to emphasize the sound of the $\flat 3$, natural 6 and $\flat 7$. These are the pitches which define the sound of this mode.

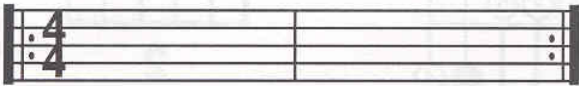
Here are some vamps to use for getting the sound of this mode into your ear and fingers:

CD Track #3

#1

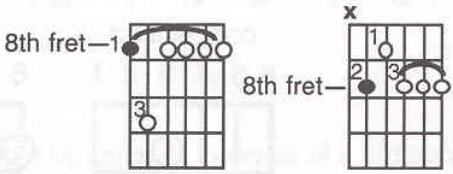


Am7 Am13



Use A Dorian
(all black dots on A notes)

#2

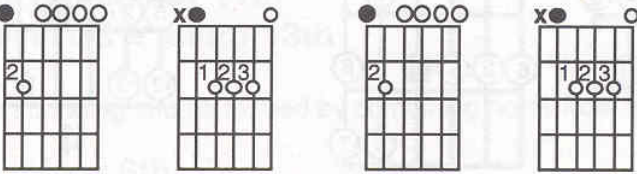


Cm7 F9

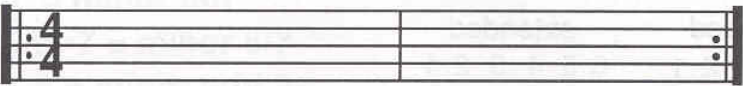


Use C Dorian
(all black dots on C notes)

#3

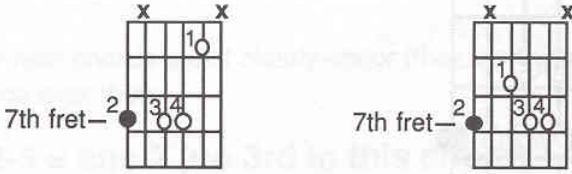


Em7 A Em7 A

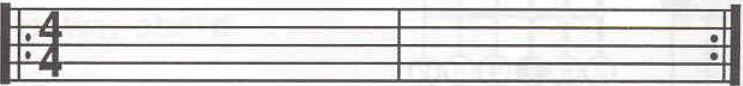


Use E Dorian

#4



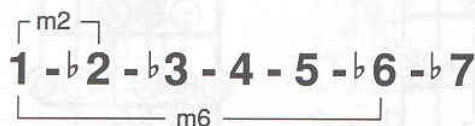
Bm11 Bm6



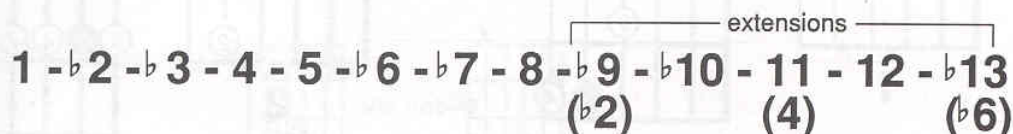
Use B Dorian

Phrygian Mode

Phrygian is the name given to the third mode of the major scale. This mode has a very unique sound due to the location of the half-steps, which are between the first and second, and fifth and sixth notes. Like the Dorian mode, it also has a lowered 3rd and 7th, so its overall sound will be minor. Here is the formula:



The $\flat$ 2, when raised an octave, becomes the $\flat$ 9. This note is known as an *altered tone*.



The chords generated by stacking intervals of a 3rd above the root note of the scale are:

1- $\flat$ 3-5 = minor triad

1- $\flat$ 3-5- $\flat$ 7 = minor 7th

1- $\flat$ 3-5- $\flat$ 7- $\flat$ 9 = minor 7 $\flat$ 9 (not useful)

1- $\flat$ 3-5- $\flat$ 7- $\flat$ 9-11 = minor 11 $\flat$ 9 (not useful)

1- $\flat$ 3-5- $\flat$ 7- $\flat$ 9-11- $\flat$ 13 = minor 11 $\flat$ 9 $\flat$ 13 (not useful)

Because of the lowered 6th and 2nd tones, many of the chords generated by this mode are not commonly used. These two tones are dissonant against a minor sounding chord and need to be treated accordingly when soloing.

This mode does sound great when played over major triads, giving a Flamenco flavor. It also sounds great when used over sus4 and sus7 chords. The use of this scale over major chords is not obvious because the scale contains a lowered 3rd, not a major 3rd.

Some possible hybrid minor sounding chords formed by combining notes from the Phrygian mode:

1- $\flat$ 3- $\flat$ 6 = minor $\flat$ 6th *(aka min $\sharp$ 5)

1- $\flat$ 3- $\flat$ 6- $\flat$ 7 = minor 7 $\flat$ 6 *(aka min7 $\sharp$ 5)

1- $\flat$ 3-5-6- $\flat$ 7 = minor 6/7

1- $\flat$ 3-5- $\flat$ 7-11 = minor 11

1-3-5 = maj triad

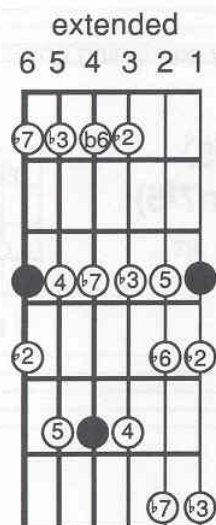
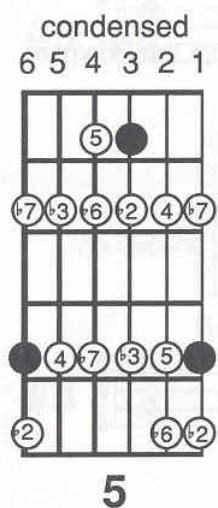
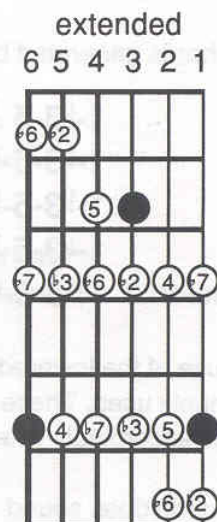
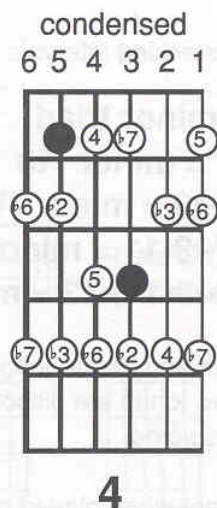
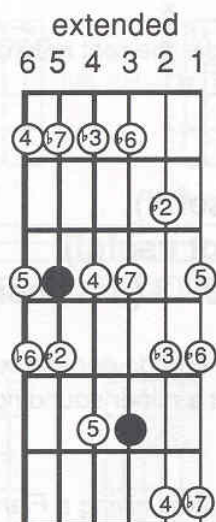
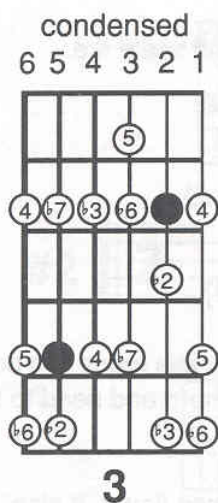
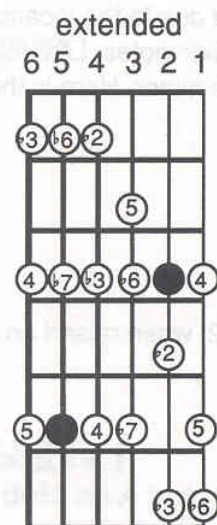
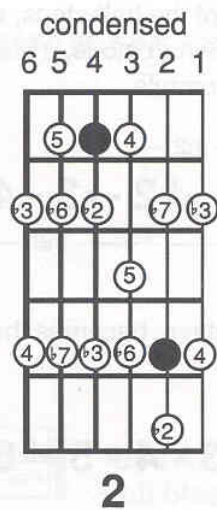
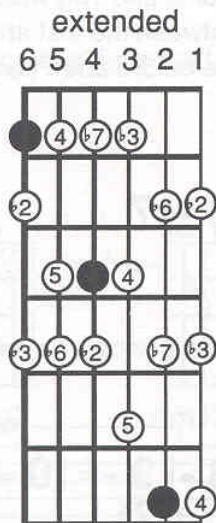
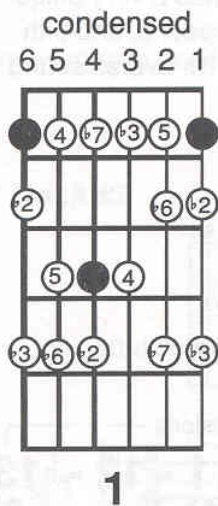
1-4-5 = suspended 4

1-4-5- $\flat$ 7 = suspended 7

1-5 = power chord

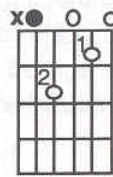
*the $\sharp$ 5th is the enharmonic equivalent of the $\flat$ 6

Phrygian Mode Fingering Patterns



Here are some **Phrygian** vamps:

CD Track #4



Am7

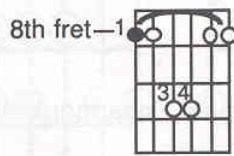


Bbmaj7

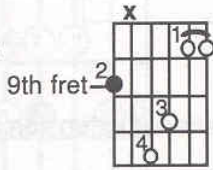
#1



Use A Phrygian
(all black dots on A notes)



Csus4

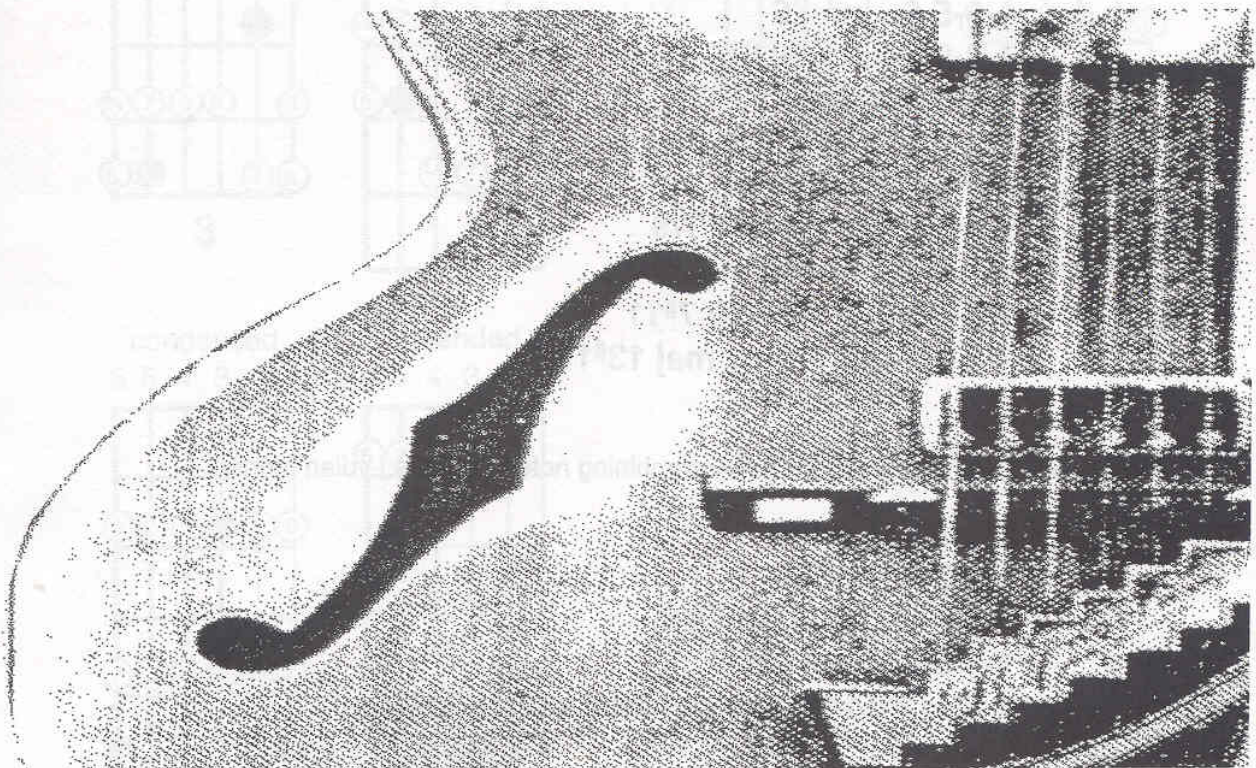


Dbmaj7b5

#2

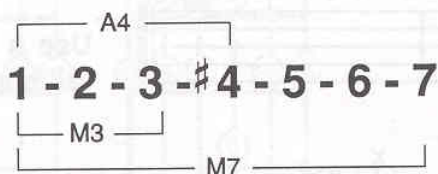


Use C Phrygian
(all black dots on C notes)

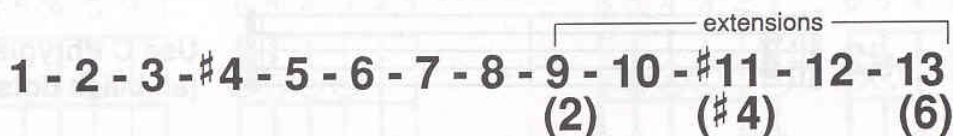


Lydian Mode

Lydian is the fourth mode of the major scale. It's a very important sound in jazz because this mode contains a raised 4th. And for Jazz musicians, this is the mode that's usually used when soloing over major chords. The Lydian mode is exactly like the major scale except for the raised 4th. The half-steps are found between the $\sharp 4/5$ and $7/8$. It's generally agreed that the $\sharp 4$ is less dissonant than the natural 4th found in the major scale. So a Lydian sound will always feature this raised 4th tone. The formula for this mode is:



When the $\sharp 4$ is raised an octave, it becomes an altered extension tone. Enharmonically, the $\sharp 4$ can also be called a $\flat 5$.



There are many useful chords generated from the Lydian mode. Here are some of them:

- 1-3-5 = major triad**
- 1-3- $\flat 5$ = major $\flat 5$ ($\flat 5$ has same sound as $\sharp 4$)**
- 1-3-5-6 = maj 6**
- 1-3-5-6-7 = maj 6/7**
- 1-3-5-7 = maj 7**
- 1-3- $\flat 5$ -7 = maj 7 $\flat 5$**
- 1-3-5-7-9 = maj 9**
- 1-3-5-6-7-9 = maj 6/7/9**
- 1-3- $\flat 5$ -7-9 = maj 9 $\flat 5$**
- 1-3-5-7-9- $\sharp 11$ = maj 7 $\sharp 11$**
- 1-3-5-7-9- $\sharp 11$ -13 = maj 13 $\sharp 11$**

Some possible hybrid chords formed by combining notes from the Lydian mode:

- 1-2- $\flat 5$ = sus2 $\flat 5$**
- 1-2-5 = sus2**
- 1-5-7-9 = maj9 (no 3rd)**
- 1-3-5-9 = maj add9**
- 1- $\flat 5$ = tritone (aka diminished 5th interval)**

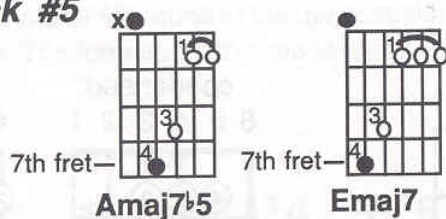
Lydian Mode Fingering Patterns

Notice how similar these patterns are to those for the Phrygian mode. Phrygian begins on the third note of the major scale and Lydian on the 4th. You can use the same patterns to play both modes. Just shift the emphasis, or focus note, up a half-step when playing Phrygian. This eliminates the need to learn a new set of fingering patterns.

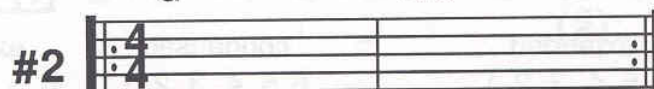
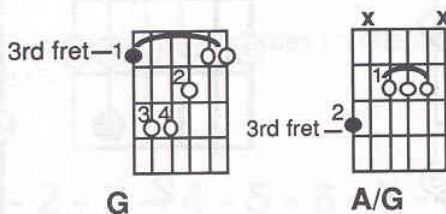
condensed 6 5 4 3 2 1 1	extended 6 5 4 3 2 1	condensed 6 5 4 3 2 1 2	extended 6 5 4 3 2 1
condensed 6 5 4 3 2 1 3	extended 6 5 4 3 2 1	condensed 6 5 4 3 2 1 4	extended 6 5 4 3 2 1
condensed 6 5 4 3 2 1 5	extended 6 5 4 3 2 1		

When soloing over the following vamps, don't avoid hanging on the #4. This is not considered a dissonant tone. It may sound somewhat mysterious at first, but stress it. It's the essence of the **Lydian** sound.

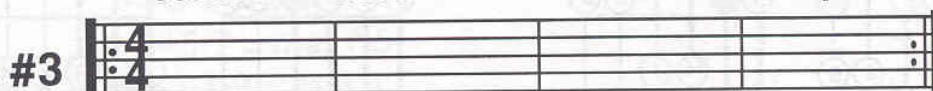
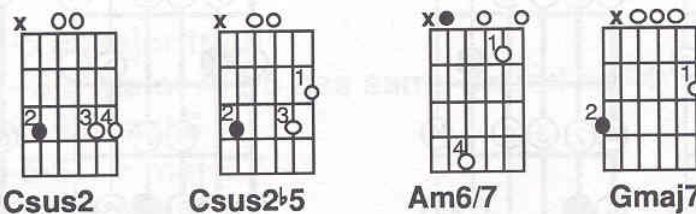
CD Track #5



Use A Lydian
(all black dots on A notes)



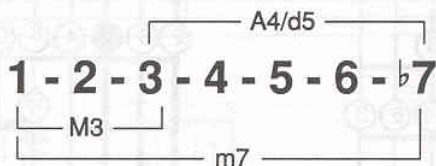
Use G Lydian
(all black dots on G notes)



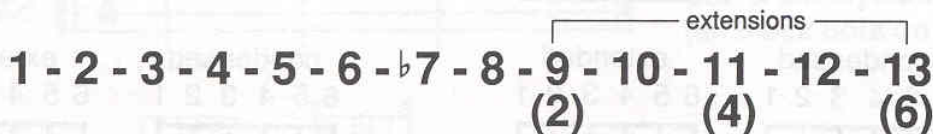
Use C Lydian

Mixolydian Mode

Mixolydian is the fifth mode of the major scale. It's a very important mode because it contains the natural 3rd and lowered 7th. The interval which occurs between these two notes is a tritone (3 whole-steps), also known as an A4th or d5th. This is the same interval which is found in most dominant functioning chords. (See the section on chord construction.) The half-steps in this mode are between 3/4 and 6/7. The formula for this scale is similar to that of the major (Ionian) mode.



This mode is the source for all of the unaltered dominant chords.



There are many useful chords generated from the Mixolydian mode. Here are some of them:

1-3-5 = major triad

1-3-5- $\flat 7$ = dominant 7

1-3-5- $\flat 7$ -9 = dominant 9

1-3-5- $\flat 7$ -9-11 = dominant 11 (usually called sus9)

1-3-5- $\flat 7$ -9-11-13 = dominant 13 (usually called sus13)

Other hybrid chord possibilities from this mode:

1-2-5 = sus2

1-5 = power chord

1-4-5 = suspended 4

1-4-5- $\flat 7$ = suspended 7

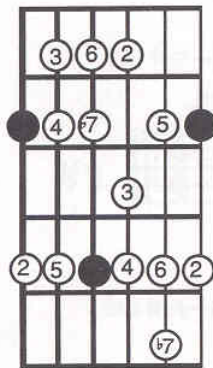
1-4-5- $\flat 7$ -9 = suspended 9

1-4-5- $\flat 7$ -9-13 = suspended 13

Mixolydian Mode Fingering Patterns

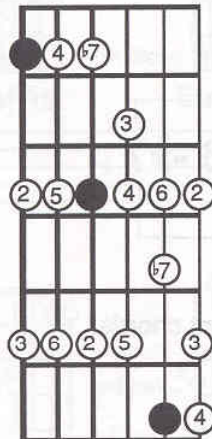
The fingering patterns for the Mixolydian mode will be the same as for the other major scale modes. The root note will be in a different position within each pattern.

condensed
6 5 4 3 2 1

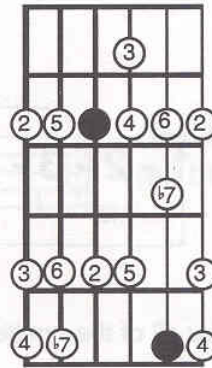


1

extended
6 5 4 3 2 1

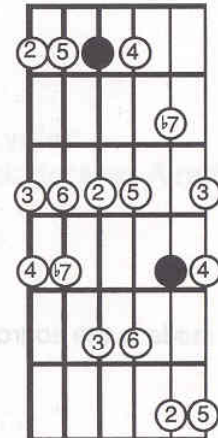


condensed
6 5 4 3 2 1

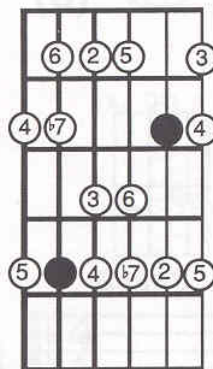


2

extended
6 5 4 3 2 1

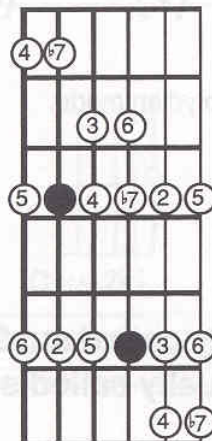


condensed
6 5 4 3 2 1

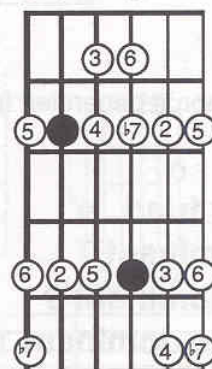


3

extended
6 5 4 3 2 1

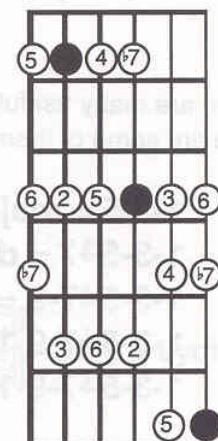


condensed
6 5 4 3 2 1

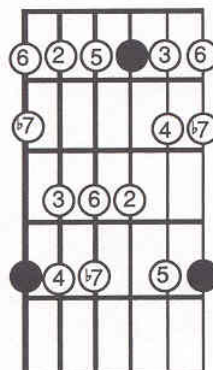


4

extended
6 5 4 3 2 1

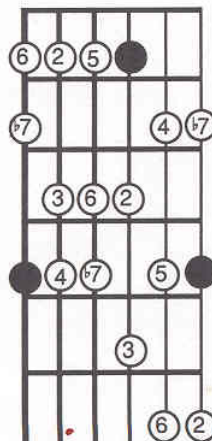


condensed
6 5 4 3 2 1



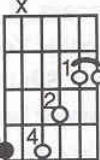
5

extended
6 5 4 3 2 1

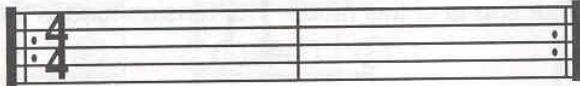


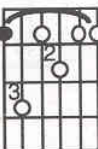
Mixolydian vamps: (stress the $\flat 7$ and the 3rd) Mixolydian can have a bluesy sound if you bend or slide into the 3rd (from a half-step below), 5th and $\flat 7$ th.

CD Track #6

5th fret—1  5th fret—3 

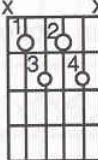
A **Asus9**

#1  **Use A Mixolydian**
(all black dots on A notes)

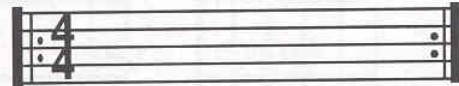
8th fret—1  8th fret—1 

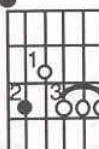
C7 **F** **C7** **F**

#2  **Use C Mixolydian**
(all black dots on C notes)

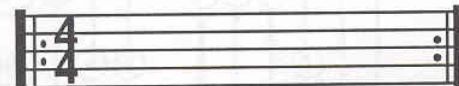
1  1 

F#13 **F#9**

#3  **Use F# Mixolydian**

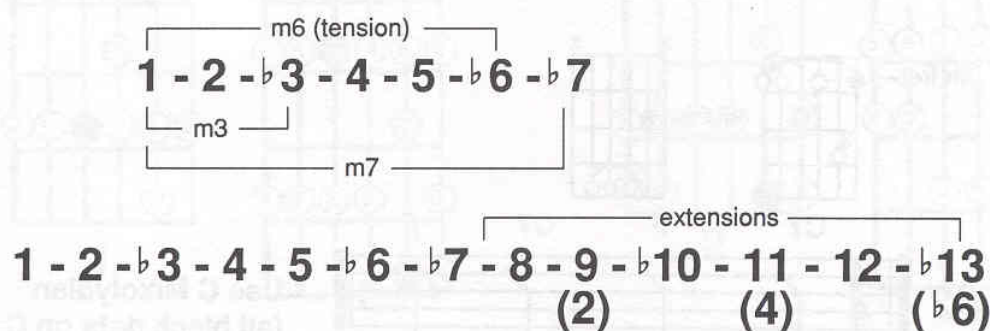
7th fret— 

E9

#4  **Use E Mixolydian**

Aeolian Mode

Aeolian is the sixth mode of the major scale. It's also known as the natural or pure minor scale. This scale is also known as the relative minor scale. It is related to the major scale whose root is a minor 3rd up from the root of the Aeolian scale. You could also put it another way and say that the root of the relative major scale is a major 6th below the root of the Aeolian mode. As an example, G Aeolian is the relative minor of B $\flat$ major because B $\flat$ is a minor 3rd above G, or a major 6th below G. (Remember the section on inversion of intervals? Inverting a minor 3rd results in a major 6th). The half-steps in Aeolian are found between 2 $\flat$ 3 and 5 $\flat$ 6. The lowered 3rd and 7th degrees account for the minor sound of this mode. The tension tone is the $\flat$ 6.



There are many useful chords generated from the Aeolian mode. Here are some of them:

- 1- $\flat$ 3-5 = minor triad
- 1- $\flat$ 3-5- $\flat$ 7 = minor 7
- 1- $\flat$ 3-5- $\flat$ 7-9 = minor 9
- 1- $\flat$ 3-5-9 = minor add9
- 1- $\flat$ 3-5- $\flat$ 7-9-11 = minor 11
- 1- $\flat$ 3- $\sharp$ 5 = minor $\sharp$ 5 ($\sharp$ 5 is enharmonic of $\flat$ 6)
- 1- $\flat$ 3- $\sharp$ 5- $\flat$ 7 = minor 7 $\sharp$ 5

Some possible hybrid chords which can be built from the Aeolian mode:

- 1-2-5 = sus2
- 1-5 = power chord
- 1- $\flat$ 3-9 = minor 9
- 1- $\flat$ 3-11 = minor 11

Aeolian Mode Fingering Patterns

condensed
6 5 4 3 2 1

1

extended
6 5 4 3 2 1

2

condensed
6 5 4 3 2 1

3

extended
6 5 4 3 2 1

4

condensed
6 5 4 3 2 1

5

extended
6 5 4 3 2 1

6

condensed
6 5 4 3 2 1

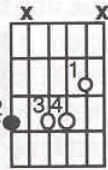
7

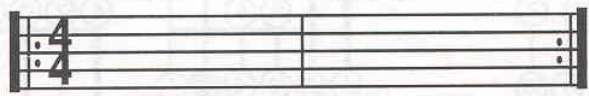
extended
6 5 4 3 2 1

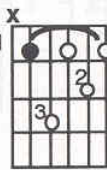
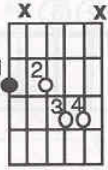
8

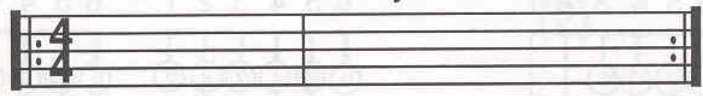
Aeolian vamps: (stress the $\flat 3$ and $\flat 7$, use the $\flat 6$ as a tension tone). This tone will normally resolve to the 5th.

CD Track #7

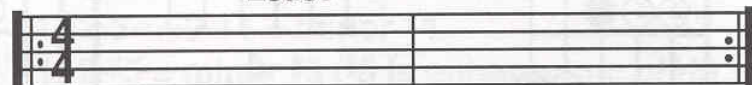
5th fret—1  **Am7** 7th fret—2  **Bm7 $\flat$ 5**

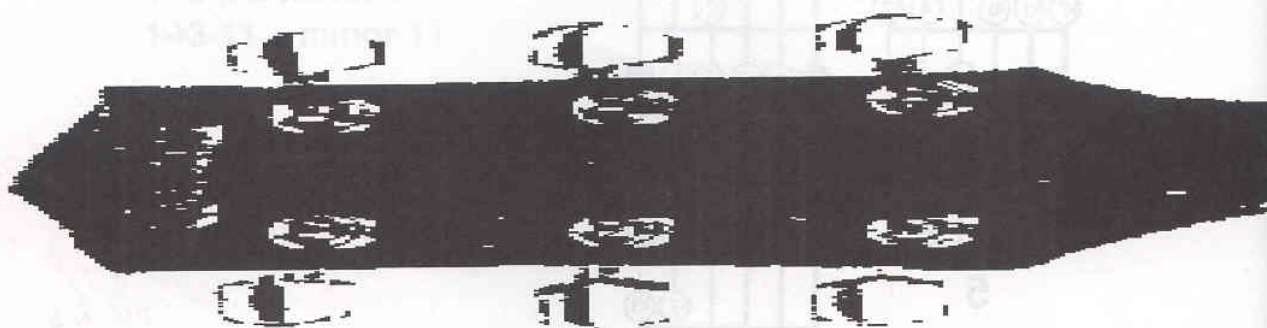
#1  **Use A Aeolian**
(all black dots on A notes)

3rd fret—1  **Cm7** 4th fret—1  **A $\flat$ maj7** 3rd fret—1  **G7 $\sharp$ 5**

#2  **Use C Aeolian**
(all black dots on C notes)

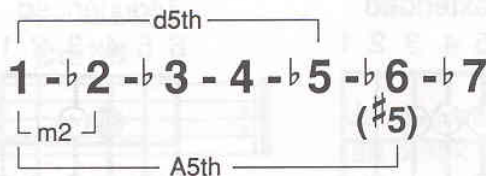
7th fret—1  **Em7** 7th fret—1  **Esus9** 5th fret—1  **Am7**

#3  **Use E Aeolian**

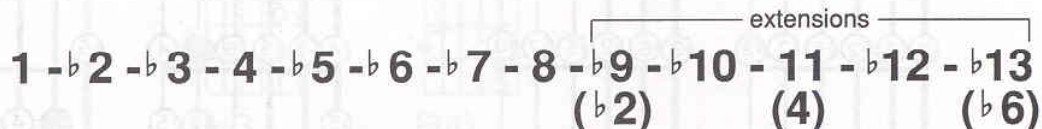


Locrian Mode

Locrian is the last mode derived from the major scale. It is not a mode that is used much due to its interval makeup. The half-steps fall between 1^b2 (same as Phrygian) and 4^b5 . One of the distinguishing aspects of this mode is the lowered 5th (This is responsible for the d5th interval between the root of the mode and the b5 th.) By respelling the b6 as a $\#5$, an augmented interval exists between the root of the scale and this note.



By extending the mode up past the octave, two altered extensions result: the b9 and b13 .



The chords which this mode produces are used less than most of those seen so far.

$1 - ^b3 - ^b5$ = diminished triad

$1 - ^b3 - ^b5 - ^b7$ = minor 7^b5 (aka half-diminished chord)

$1 - ^b3 - ^b5 - ^b7 - ^b9$ = minor $7(^b5^b9)$

$1 - ^b3 - ^b5 - ^b7 - ^b9 - ^b11$ = minor $11(^b5^b9)$

$1 - ^b3 - ^b5 - ^b7 - ^b9 - ^b11 - ^b13$ = minor $11(^b5^b9^b13)$

$1 - ^b3 - \#5$ = minor $\#5$ triad (b6 is enharmonic of $\#5$)

$1 - ^b3 - \#5 - ^b7$ = minor $7\#5$

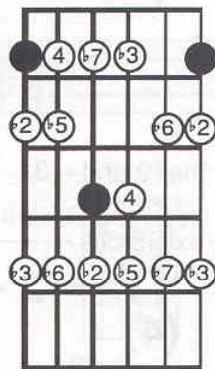
The most common and useful chord from the above list is the minor 7^b5 . This chord is also known as a half-diminished. (More on this in the section on chords.) This chord occurs often in minor keys and less frequently in major keys. It is not used as either a major chord or minor, but as a passing dominant sound. The tension in these chords makes them want to resolve to another chord, usually a dominant. It is rare to just vamp on a minor 7^b5 , but for getting the sound of the scale into your ears and fingers, it's not a bad idea.

Locrian Mode Fingering Patterns

Notice how similar these patterns are to those for the major scale. The focus note of Locrian is the 7th note of the major scale, which is only one-half step below the tonic of the major scale. You can use the major scale patterns you learned earlier, but focus on the note one half-step below the major scale root. It will make learning these patterns easier.

condensed

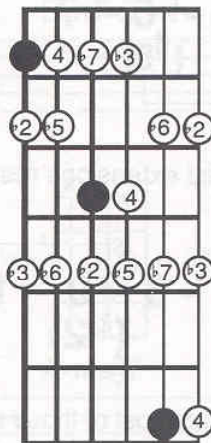
6 5 4 3 2 1



1

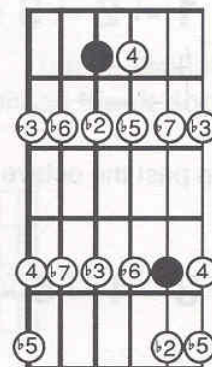
extended

6 5 4 3 2 1



condensed

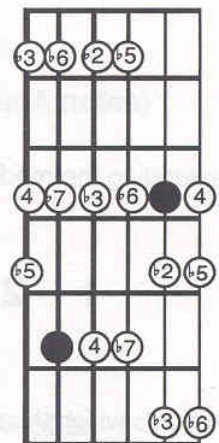
6 5 4 3 2 1



2

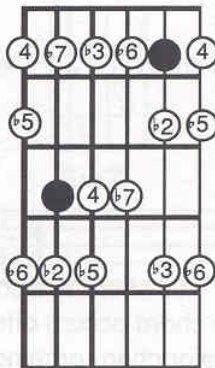
extended

6 5 4 3 2 1



condensed

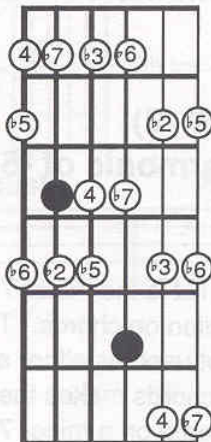
6 5 4 3 2 1



3

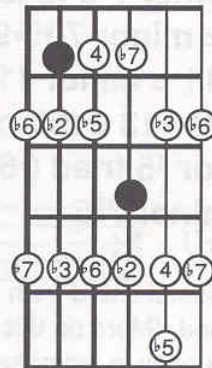
extended

6 5 4 3 2 1



condensed

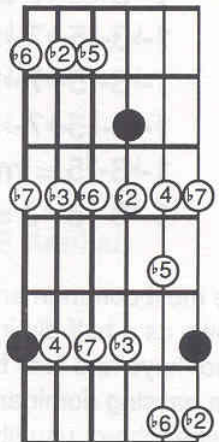
6 5 4 3 2 1



4

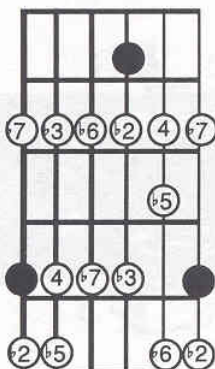
extended

6 5 4 3 2 1



condensed

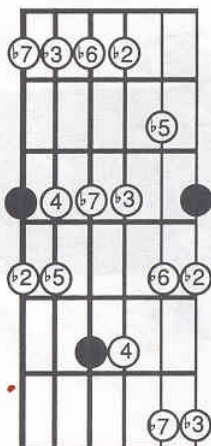
6 5 4 3 2 1



5

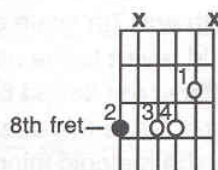
extended

6 5 4 3 2 1



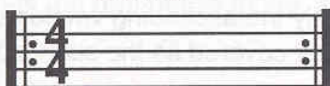
Locrian vamps: (Stress the $\flat 3$, $\flat 7$ and $\flat 5$. Use the $\flat 2$ as a tension tone)

CD Track #8

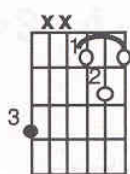


Cm7 $\flat 5$

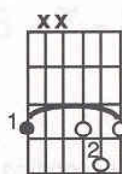
#1



Use C Locrian
(all black dots on C notes)

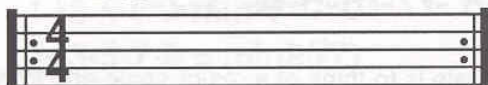


D $\flat$ /G

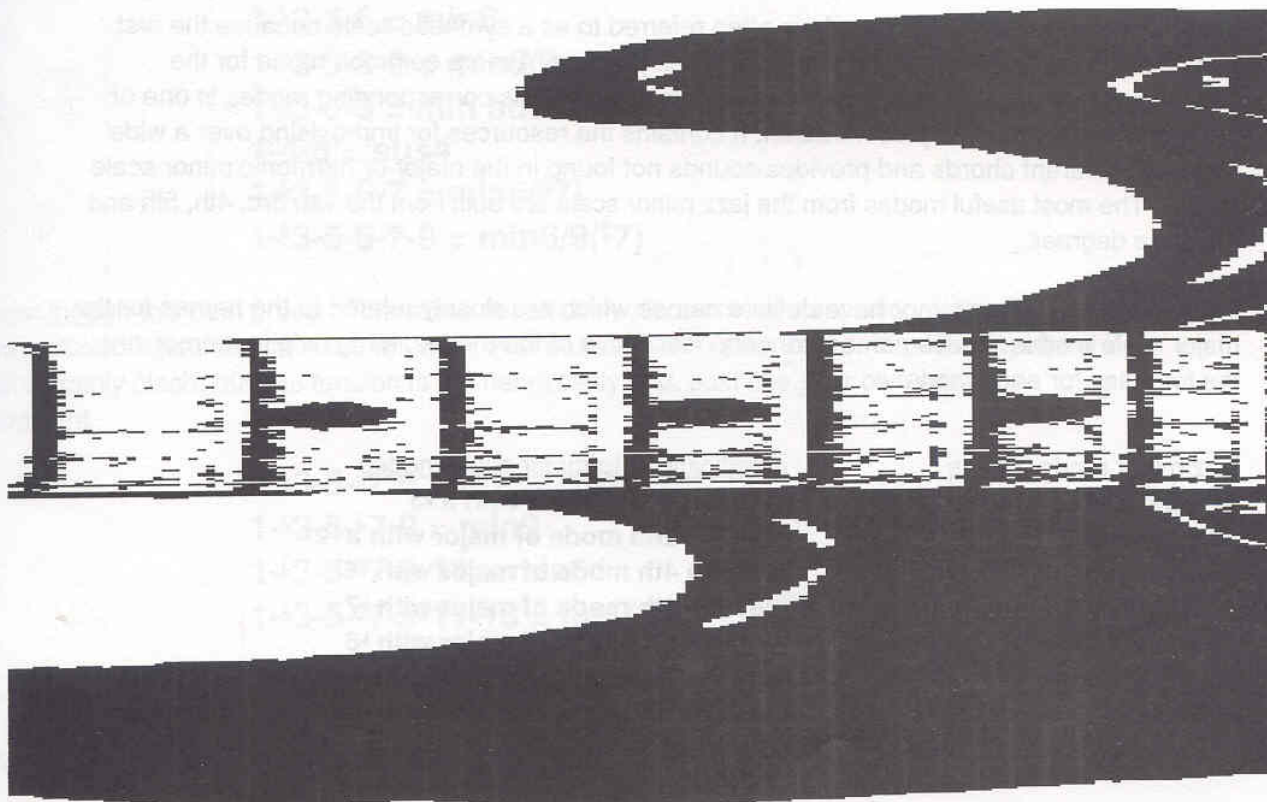


E $\flat$ /G

#2



Use G Locrian
(all black dots on G notes)



Melodic Minor (Jazz Minor) Modes

The Melodic Minor scale is one of several minor sounding scales used by improvisers. It exists in two forms: ascending and descending. This scale evolved from the natural minor scale. Composers would modify the natural minor scale by raising the 6th and 7th scale degrees in ascending melodic passages. In descending passages, they would revert to the natural minor form of the scale, with its lowered 6th and 7th scale degrees. Without the flatted 6th and 7th, a descending passage wouldn't sound minor, but would sound major. Since this scale has its basis in melodic practice, and in particular vocal music, it's called the melodic minor. This is the reason we have one set of notes for the ascending melodic minor scale and another set for the descending version. For the purposes of improvisation, only the ascending version of the melodic minor is used. The natural minor scale was already covered as the sixth mode of the major scale.

natural minor — 1-2- $\flat$ 3-4-5- $\flat$ 6- $\flat$ 7

harmonic minor — 1-2- $\flat$ 3-4-5- $\flat$ 6-7

traditional ┌── ascending ──┐ ┌── descending (nat.min.) ──┐
melodic minor — 1-2- $\flat$ 3-4-5-6-7-8 - $\flat$ 7- $\flat$ 6-5-4- $\flat$ 3-2-1

Perhaps the easiest way to remember this scale is to think of a major scale and lower the 3rd. It's also possible to modify the natural minor (raise the 6th and 7th).

major scale — 1-2-3-4-5-6-7

Jazz minor — 1-2- $\flat$ 3-4-5-6-7

The ascending melodic minor scale is often referred to as a synthetic scale because the first half of it is minor sounding while the second half is major. A more common name for the ascending version is the Jazz Minor Scale. This scale and its corresponding modes is one of the most important to the jazz musician. It contains the resources for improvising over a wide variety of different chords and provides sounds not found in the major or harmonic minor scale modes. The most useful modes from the jazz minor scale are built from the 1st, 3rd, 4th, 5th and 7th scale degrees.

The modes of the jazz minor have definite names which are closely related to the names for the major scale modes. These names are very descriptive of the modes; a big help in memorizing the formulas for each mode.

jazz minor mode names

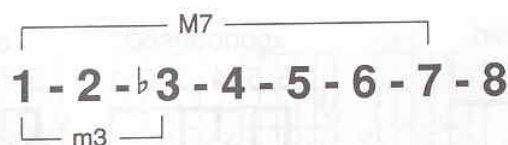
- #1 = Jazz Minor**
- #2 = Dorian $\flat$ 2**
- #3 = Lydian-Augmented**
- #4 = Lydian Dominant**
- #5 = Mixolydian $\flat$ 6**
- #6 = Locrian #2**
- #7 = Super Locrian**

modifications to major scale modes

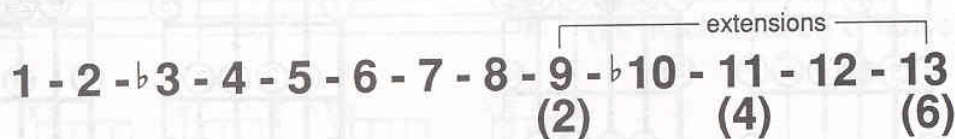
- just like major scale with a $\flat$ 3**
- just like 2nd mode of major with a $\flat$ 2**
- just like 4th mode of major with #5**
- just like 4th mode of major with $\flat$ 7**
- just like 5th mode of major with $\flat$ 6**
- just like 7th mode of major with natural 2**
- just like 7th mode of major with $\flat$ 4**

Jazz Minor

The first mode of melodic minor is the one known to most people. It is almost identical to the major scale, but the $\flat 3$ changes its usage dramatically. The most important features of this mode are the $m3$ and $M7$ intervals.



By stacking 3rds above the root of this mode, a series of minor sounding chords result.



- 1- $\flat 3$ -5 = min triad
- 1- $\flat 3$ -5-7 = min $\sharp 7$ *
- 1- $\flat 3$ -5-7-9 = min9($\sharp 7$)
- 1- $\flat 3$ -5-7-9-11 = min11($\sharp 7$)
- 1- $\flat 3$ -5-7-9-11-13 = min13($\sharp 7$)

It's possible to construct other chords from the notes of this mode which are either not built by stacking notes in 3rd's or are incomplete chords. These hybrid chords can be very useful.

- 1- $\flat 3$ -5-6 = min6
- 1- $\flat 3$ -5-6-9 = min6/9
- 1- $\flat 3$ -5-9 = min add9
- 1-4-5 = sus4
- 1- $\flat 3$ -5-6-7 = min6($\sharp 7$)
- 1- $\flat 3$ -5-6-7-9 = min6/9($\sharp 7$)

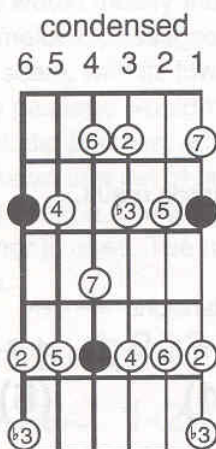
Even though this next group of chords is not officially a correct harmonization of this mode, they are included because this scale will work over basically any minor chord. The $\flat 7$ and natural 7 will certainly clash, but this tension is not necessarily bad. Just use your own ears and judgment.

- 1- $\flat 3$ -5- $\flat 7$ = min7
- 1- $\flat 3$ -5- $\flat 7$ -9 = min9
- 1- $\flat 3$ -5- $\flat 7$ -9-11 = min11
- 1- $\flat 3$ -5- $\flat 7$ -9-11-13 = min13

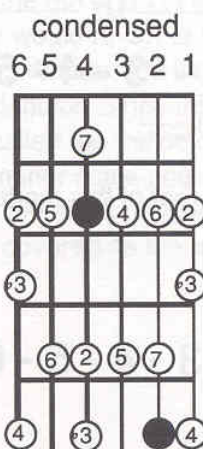
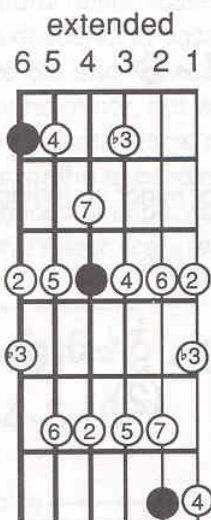
* Whenever the natural 7th occurs in a minor chord, it is often called a $\sharp 7$ in the chord symbol.

Jazz Minor Fingering Patterns

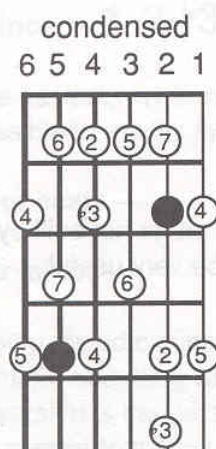
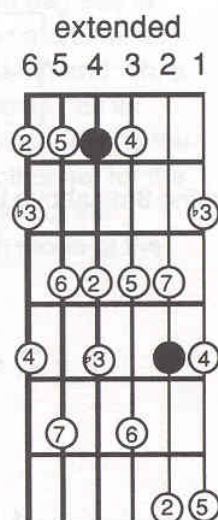
Notice that these fingerings are exactly the same ones used for the major scales with one modification: the 3rd is flatted.



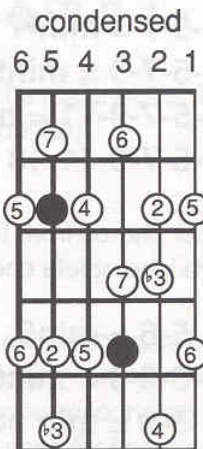
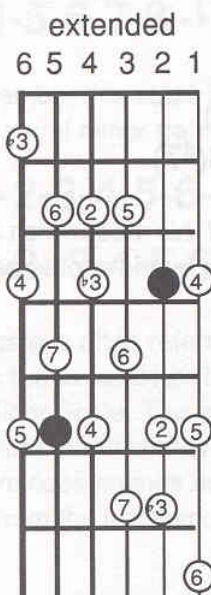
1



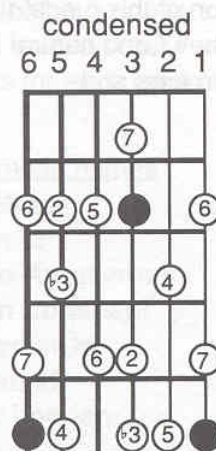
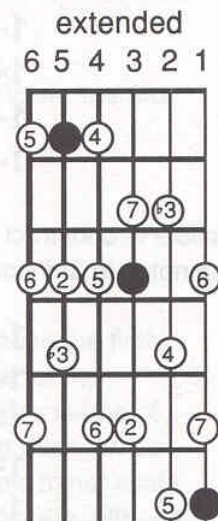
2



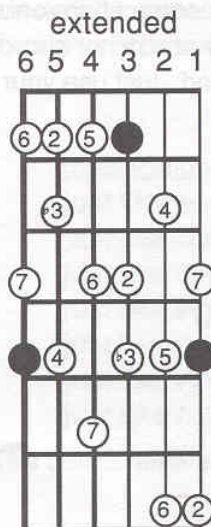
3



4



5



Jazz minor vamps - The first vamp is a common progression to use melodic minor over. This progression stresses the natural 7 and 6. Vamp #2 is similar to #1. Hang on the $\flat 3$, 6 and 7.

CD Track #9

#1

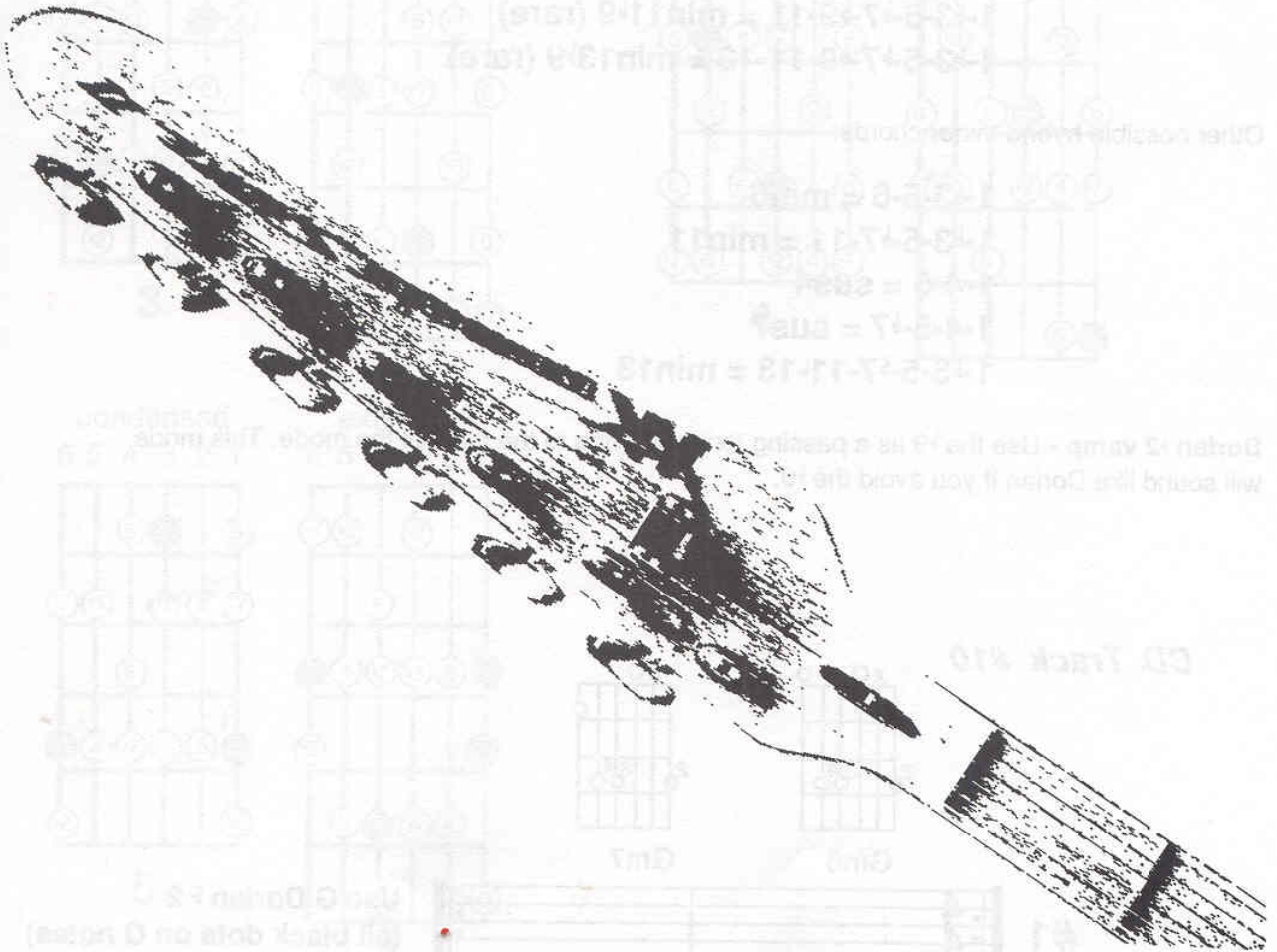
Gm#7 Gm6 Gm#7 Gm

Use G Melodic minor
(all black dots on G notes)

#2

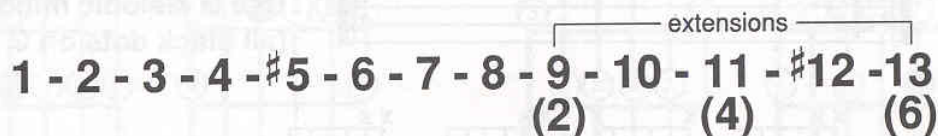
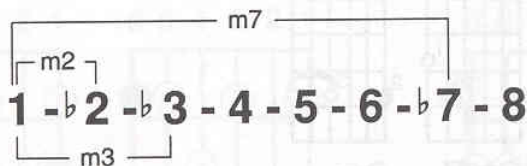
Cm6 Cm6 Cm6 Cm9(#7)

Use C Melodic minor
(all black dots on C notes)



Dorian $\flat 2$ (2nd mode of jazz minor)

This mode has the characteristics of the Dorian mode from the major scale with a modification to the 2nd scale degree. In the Dorian $\flat 2$ mode, the 2nd is lowered. This change actually makes this scale less useful as a resource for soloing over minor type chords. So this mode is not used often.



By stacking 3rds above the root of this mode, a series of minor sounding chords result.

1- $\flat 3$ -5 = min triad

1- $\flat 3$ -5- $\flat 7$ = min7

1- $\flat 3$ -5- $\flat 7$ - $\flat 9$ = min7 $\flat 9$ (rare)

1- $\flat 3$ -5- $\flat 7$ - $\flat 9$ -11 = min11 $\flat 9$ (rare)

1- $\flat 3$ -5- $\flat 7$ - $\flat 9$ -11-13 = min13 $\flat 9$ (rare)

Other possible hybrid minor chords:

1- $\flat 3$ -5-6 = min6

1- $\flat 3$ -5- $\flat 7$ -11 = min11

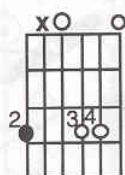
1-4-5 = sus4

1-4-5- $\flat 7$ = sus7

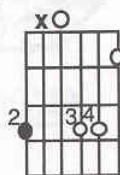
1- $\flat 3$ -5- $\flat 7$ -11-13 = min13

Dorian $\flat 2$ vamp - Use the $\flat 9$ as a passing tone resolving to the tonic of the mode. This mode will sound like Dorian if you avoid the $\flat 9$.

CD Track #10



Gm6



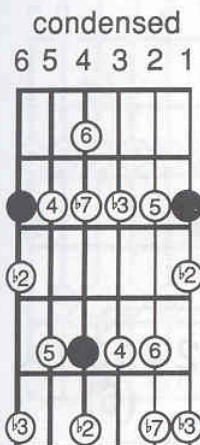
Gm7



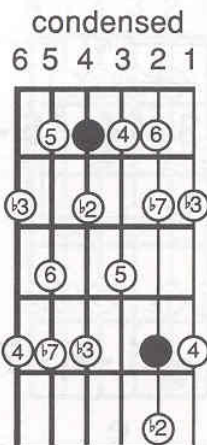
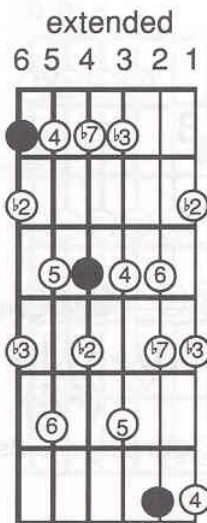
Use G Dorian $\flat 2$
(all black dots on G notes)

Dorian $\flat 2$ Fingering Patterns

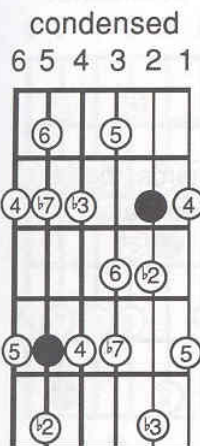
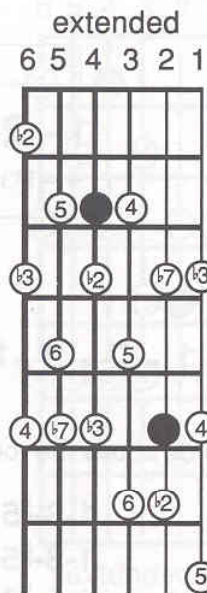
Notice the similarity between these fingerings and those of the Dorian from the major scale.



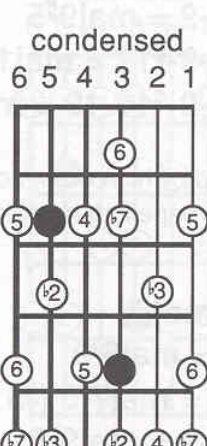
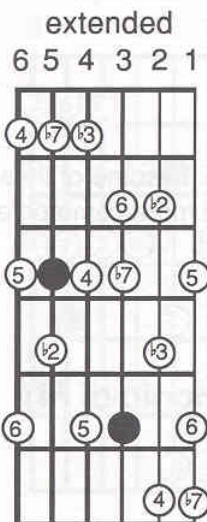
1



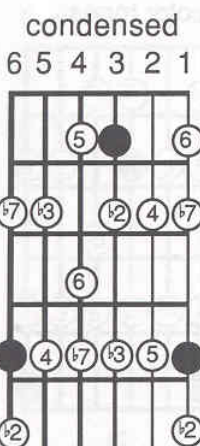
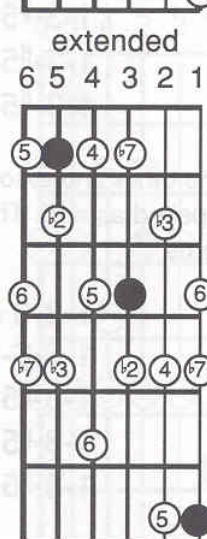
2



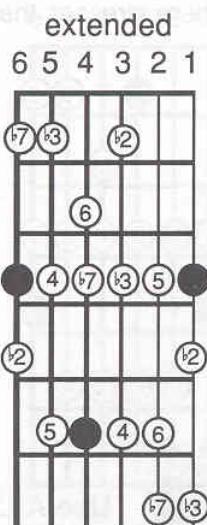
3



4

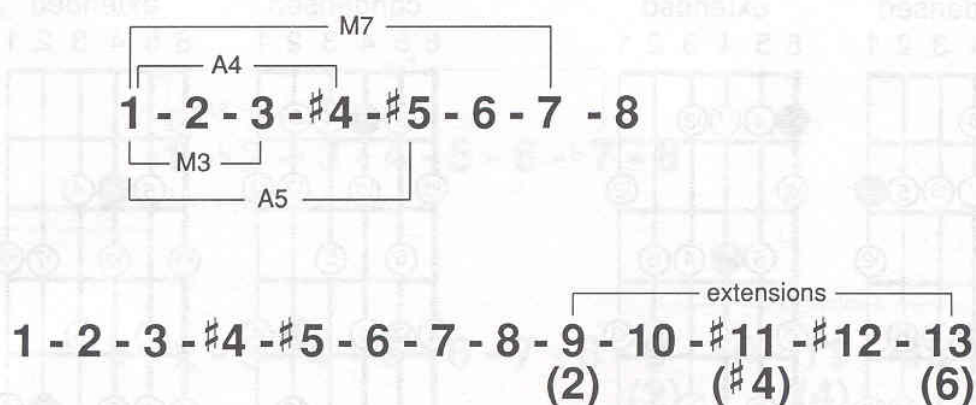


5



Lydian-Augmented (3rd mode of jazz minor)

The Lydian in the name refers to the #4 note, while the augmented refers to the #5. The #5 is not usually a chord tone in major chords, but does come up from time to time. This mode, along with the 3rd mode of the harmonic minor, is a good choice to use over maj7#5 chords.



By stacking 3rds above the root of this mode, a series of major sounding chords result.

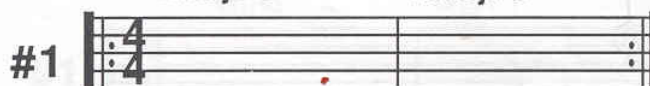
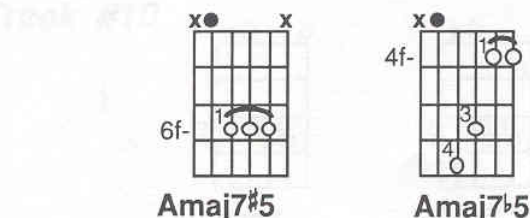
- 1-3-#5 = aug triad
- 1-3-#5-7 = maj7#5
- 1-3-#5-7-9 = maj9#5
- 1-3-#5-7-9-#11 = maj11#5
- 1-3-#5-7-9-#11-13 = maj13#5

Here are some other chord sounds which do not contain the #5. In some of these chords, the #4 has been respelled as a b5. This respelling reveals some of the more common altered major sounding chords.

- 1-3-6 = maj6
- 1-3-6-9 = maj6/9
- 1-3-b5-7 = maj7b5 (b5 is enharmonic of #4)
- 1-3-b5-7-9 = maj9b5
- 1-3-b5-7-9-13 = maj13b5

Lydian-Augmented vamp: The essence of this mode lies in its major sound, due to the 3rd and 7th. The #4 and #5 are the "color" tones. The chord vamp here stresses these color tones.

CD Track #11

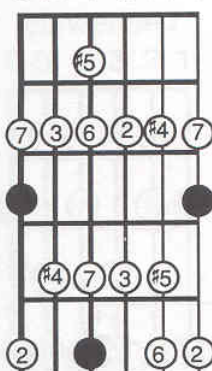


Use A Lydian-Augmented
(all black dots on A notes)

Lydian-Augmented Fingering Patterns

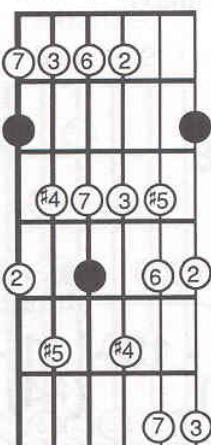
These patterns are similar to the Lydian patterns from the major scale.

condensed
6 5 4 3 2 1

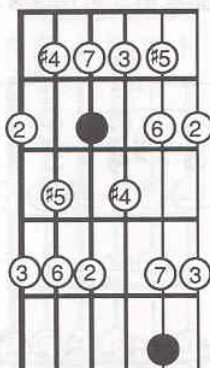


1

extended
6 5 4 3 2 1

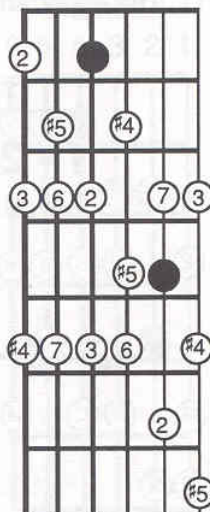


condensed
6 5 4 3 2 1

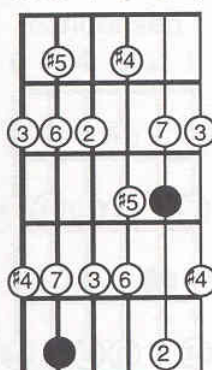


2

extended
6 5 4 3 2 1

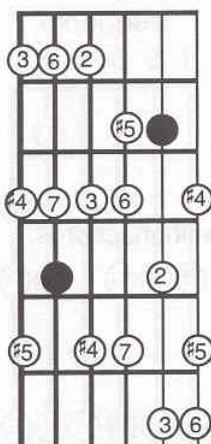


condensed
6 5 4 3 2 1

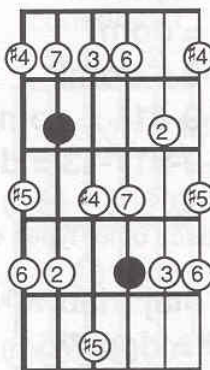


3

extended
6 5 4 3 2 1

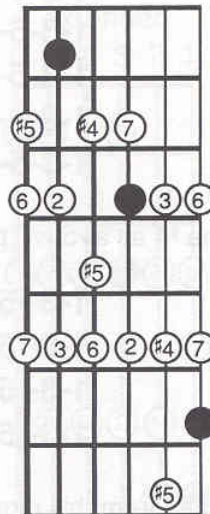


condensed
6 5 4 3 2 1

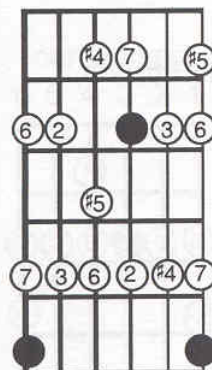


4

extended
6 5 4 3 2 1

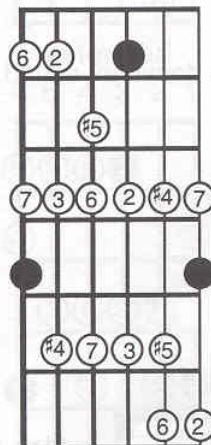


condensed
6 5 4 3 2 1



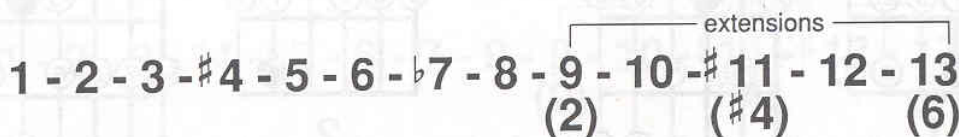
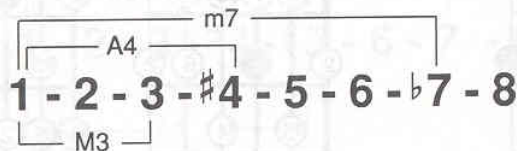
5

extended
6 5 4 3 2 1



Lydian-Dominant (4th mode of jazz minor)

This mode combines the sound of the mixolydian mode (5th mode from the major scale) with the lydian sound, the raised 4th. As well as being called lydian-dominant, this mode is also known as the Overtone scale. This mode is very useful over dom7 type chords, especially those with a $\flat 5$ or $\sharp 11$. The important notes in this mode are the 3, $\sharp 4$ and $\flat 7$.



By stacking 3rds above the root of this mode, a series of dominant sounding chords result.

- 1-3-5 = maj triad
- 1-3-5- $\flat 7$ = dom7
- 1-3-5- $\flat 7$ -9 = dom9
- 1-3-5- $\flat 7$ -9- $\sharp 11$ = dom9 $\sharp 11$
- 1-3-5- $\flat 7$ -9- $\sharp 11$ -13 = dom13 $\sharp 11$

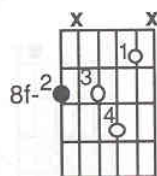
Respelling the $\sharp 4$ as a $\flat 5$ will produce other types of altered dominant chords.

- 1-3- $\flat 5$ = maj triad w/ $\flat 5$
- 1-3- $\flat 5$ - $\flat 7$ = dom7 $\flat 5$
- 1-3- $\flat 5$ - $\flat 7$ -9 = dom9 $\flat 5$
- 1-3- $\flat 5$ - $\flat 7$ -9-13 = dom13 $\flat 5$

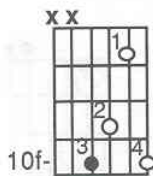
All of the chords from this mode are very useful to jazz musicians since so much jazz music uses altered dominant chords. (For more on altered dominant chords, see the section on chord construction.)

Lydian-Dominant vamp - The essence of this mode lies in its dominant sound. The 3rd, $\flat 7$ th, and $\sharp 4$ are the tones to focus on.

CD Track #12

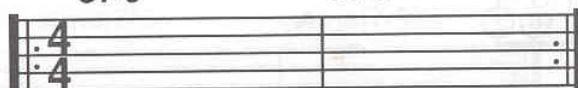


C7 $\flat 5$



C9 $\flat 5$

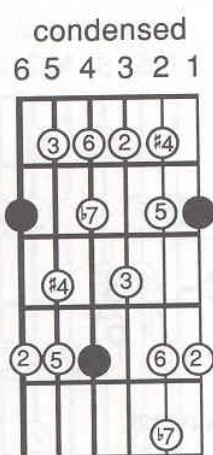
#1



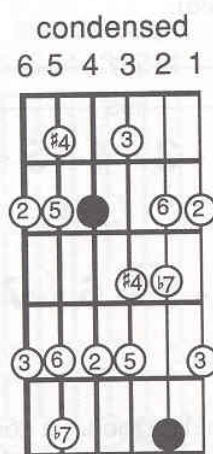
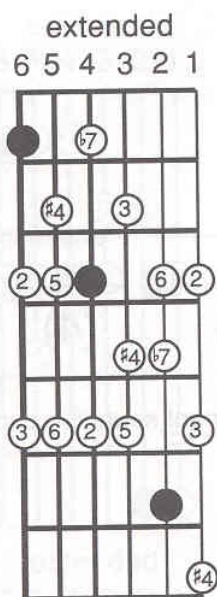
Use C Lydian-Dominant
(all black dots on C notes)

Lydian-Dominant Fingering Patterns

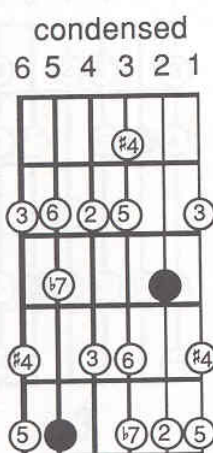
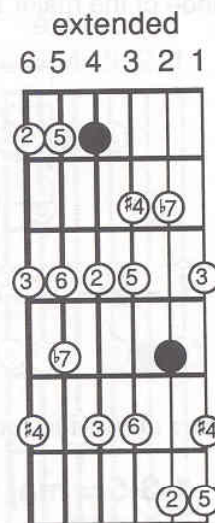
These patterns are a modification to the mixolydian patterns (5th mode of the major scale). Here, the 4th has been raised by one half-step.



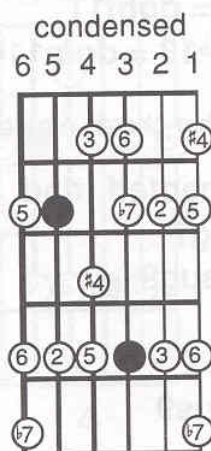
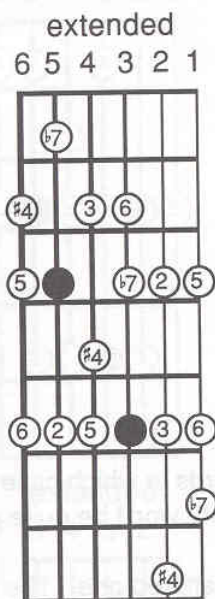
1



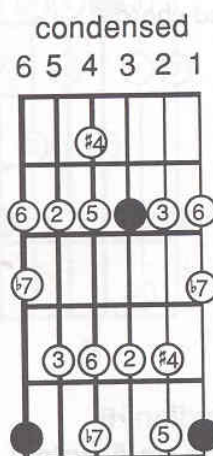
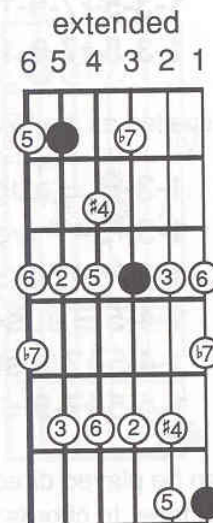
2



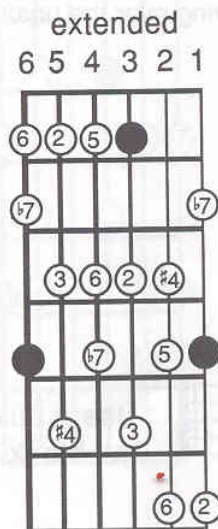
3



4

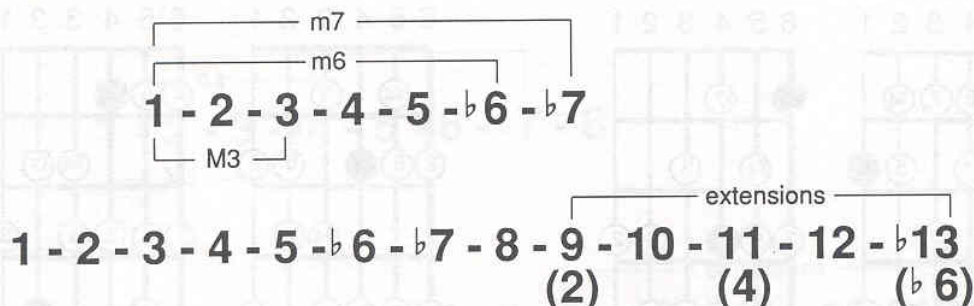


5



Mixolydian $\flat 6$ (5th mode of jazz minor)

This mode also has a dominant sound due to the 3rd and $\flat 7$ th pitches. The only alteration to the scale occurs on the $\flat 6$, which is the enharmonic of the $\sharp 5$. This mode is similar to the mixolydian mode (5th mode of the major scale).



By stacking 3rds above the root of this mode, a series of dominant sounding chords result.

- 1-3-5 = maj triad
- 1-3-5- $\flat 7$ = dom7
- 1-3-5- $\flat 7$ -9 = dom9
- 1-3-5- $\flat 7$ -9-11 = dom11
- 1-3-5- $\flat 7$ -9-11- $\flat 13$ = dom11 $\flat 13$

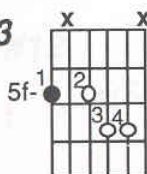
If the $\flat 6$ is respelled as the $\sharp 5$, other chords emerge.

- 1-3- $\sharp 5$ = augmented triad
- 1-3- $\sharp 5$ - $\flat 7$ = aug7
- 1-3- $\sharp 5$ - $\flat 7$ -9 = aug9
- 1-4-5 = sus4
- 1-4-5- $\flat 7$ = sus7
- 1-4-5- $\flat 7$ -9 = sus9

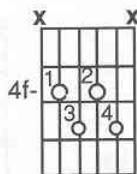
This mode can be played directly over unaltered dominant chords in which case the $\flat 6$ will be a strong tension tone. In chords which contain the $\flat 6$ ($\sharp 5$), this note won't be quite so tense.

This vamp is made up of an altered dominant chord and an unaltered one. (The one with the $\sharp 5$ is the altered chord.) Listen for the tension tone ($\flat 6$) when playing over the unaltered chord. Resolve this note to the 5th if you feel the need.

CD Track #13



A7 $\sharp 5$



A9 (C $\sharp$ m7 $\flat 5$)

#1

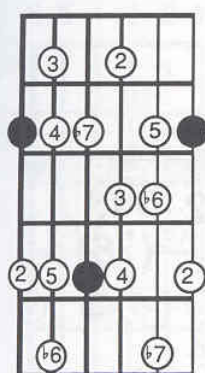


Use A Mixolydian $\flat 6$
(all black dots on A notes)

Mixolydian $\flat 6$ Fingering Patterns

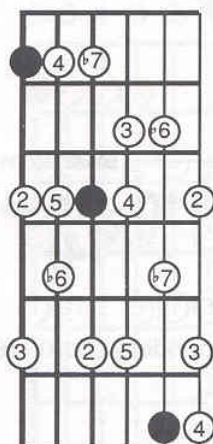
These fingerings are a modification to the mixolydian patterns (5th mode of the major scale). Here, the 6th has been lowered by one half-step.

condensed
6 5 4 3 2 1

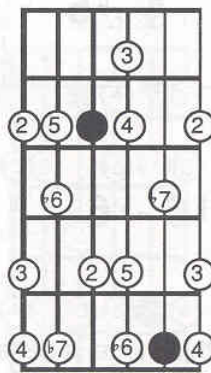


1

extended
6 5 4 3 2 1

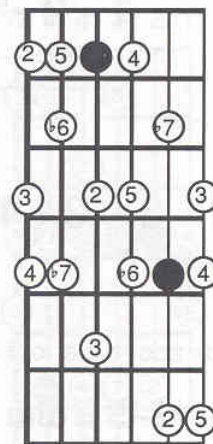


condensed
6 5 4 3 2 1

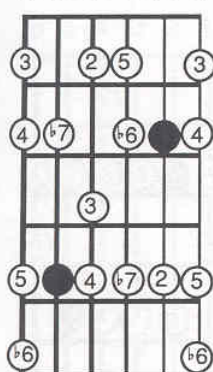


2

extended
6 5 4 3 2 1

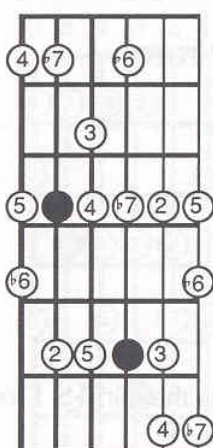


condensed
6 5 4 3 2 1

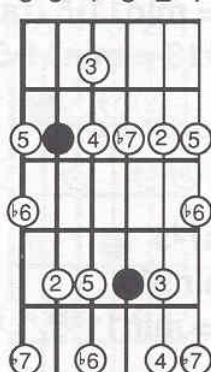


3

extended
6 5 4 3 2 1

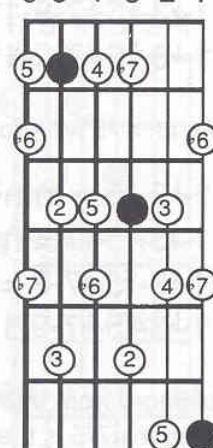


condensed
6 5 4 3 2 1

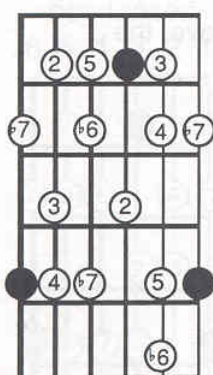


4

extended
6 5 4 3 2 1

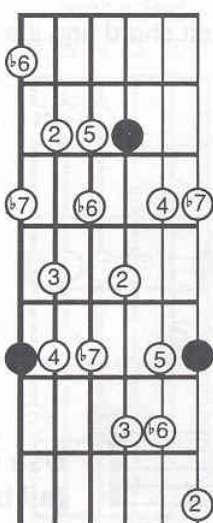


condensed
6 5 4 3 2 1



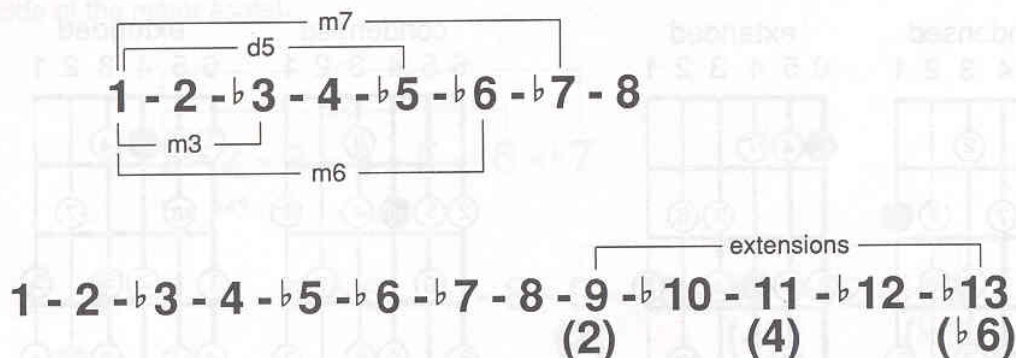
5

extended
6 5 4 3 2 1



Locrian #2 (6th mode of jazz minor)

This mode suggests a minor sound due to the $\flat 3$ and $\flat 7$ pitches. However, the inclusion of the $\flat 5$ and $\flat 6$ cause tension in minor chords.



By stacking 3rds above the root of this mode, a series of minor sounding chords result.

- 1- $\flat 3$ - $\flat 5$ = dim triad
- 1- $\flat 3$ - $\flat 5$ - $\flat 7$ = min7 $\flat 5$ (aka half-diminished)
- 1- $\flat 3$ - $\flat 5$ - $\flat 7$ -9 = min9 $\flat 5$ (rare)
- 1- $\flat 3$ - $\flat 5$ - $\flat 7$ -9-11 = min11 $\flat 5$ (rare)
- 1- $\flat 3$ - $\flat 5$ - $\flat 7$ -9-11- $\flat 13$ = min11 $\flat 5$ $\flat 13$ (very rare)

Respelling the $\flat 6$ as a $\sharp 5$ will produce other types of minor chords.

- 1- $\flat 3$ - $\sharp 5$ = min $\sharp 5$
- 1- $\flat 3$ - $\sharp 5$ - $\flat 7$ = min7 $\sharp 5$
- 1- $\flat 3$ - $\sharp 5$ - $\flat 7$ -9 = min9 $\sharp 5$
- 1- $\flat 3$ - $\sharp 5$ - $\flat 7$ -9-11 = min11 $\sharp 5$

The most useful chord from the first harmonization of this mode is the min7 $\flat 5$. From the second harmonization, the min7 $\sharp 5$ is the most common.

Locrian #2 vamp - stress the chord tones (1- $\flat 3$ - $\flat 5$ - $\flat 7$) over the first chord and the $\flat 6$ over the second chord.

CD Track #14

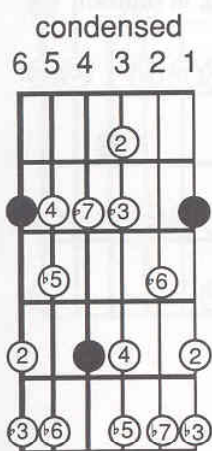
Gm7 $\flat 5$ Gm7 $\sharp 5$

#1

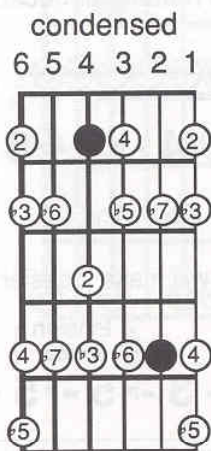
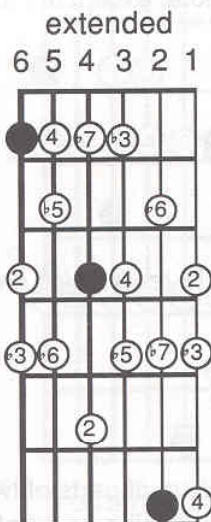
Use G Locrian #2
(all black dots on G notes)

Locrian #2 Fingering Patterns

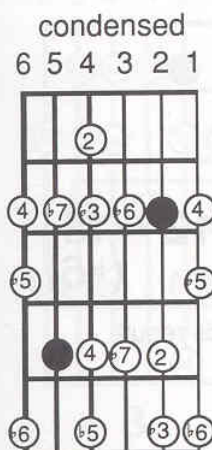
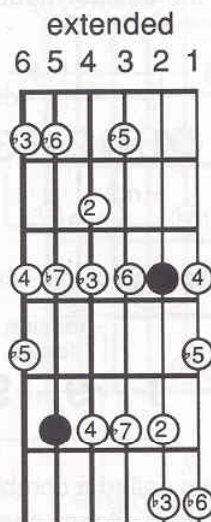
These patterns differ from the Locrian (7th mode of major scale) by only one note. Locrian #2 has a natural 2nd degree, whereas the Locrian has a lowered 2nd. The 2nd in the Locrian #2 mode is really a natural 2nd. It is called a raised 2nd in relation to the $\flat 2$ found in the Locrian mode.



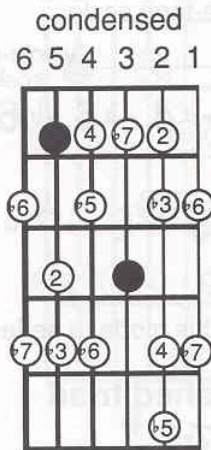
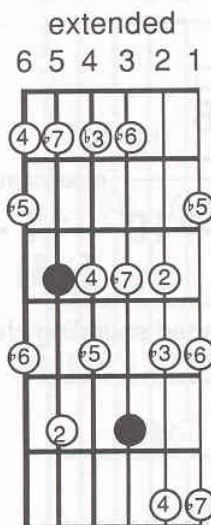
1



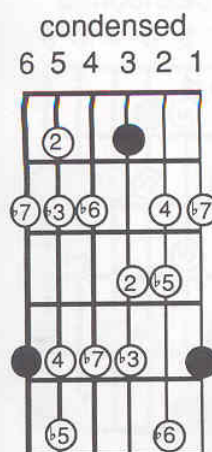
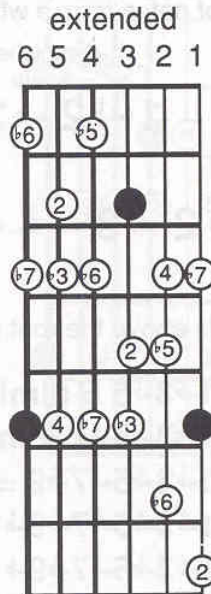
2



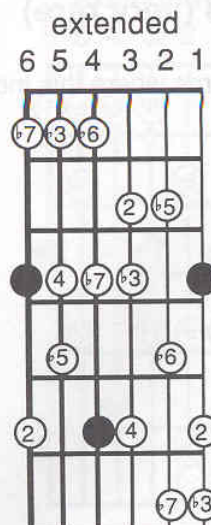
3



4

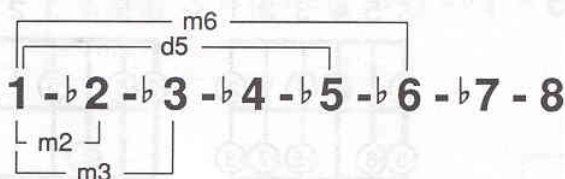


5

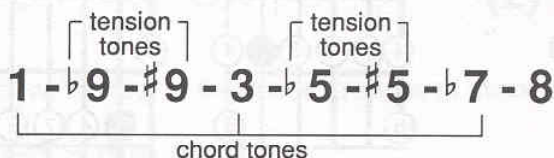


Super Locrian (7th mode of jazz minor)

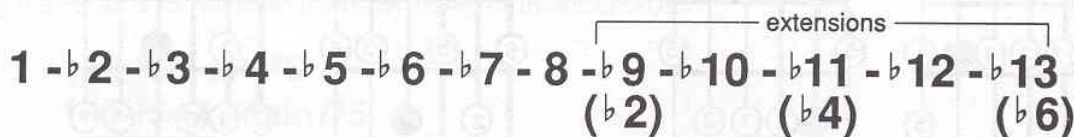
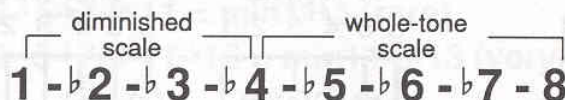
For many jazz musicians, this is the most useful mode from the melodic minor scale. It is also known as the "altered" scale. The reason for this name, is because it contains every potential tension tone commonly heard in dominant 7th chords. These notes are the $\flat 5$, $\sharp 5$ ($\flat 6$), $\flat 9$ ($\flat 2$) and $\sharp 9$ ($\flat 3$). It's the easiest mode to remember because every note, except the tonic, is flattened!



An enharmonic spelling of this scale will make it easier to see what's really going on.



This mode is also called a combination scale because it is made up of parts of two different scales. The first four pitches come from the diminished scale (beginning on a half-step). The second group of notes form a whole-tone scale.



By stacking 3rds above the root of this mode, a series of diminished sounding chords result.

1- $\flat 3$ - $\flat 5$ = diminished triad

1- $\flat 3$ - $\flat 5$ - $\flat 7$ = min7 $\flat 5$

1- $\flat 3$ - $\flat 5$ - $\flat 7$ - $\flat 9$ = min7 $\flat 5$ $\flat 9$ (rare)

1- $\flat 3$ - $\flat 5$ - $\flat 7$ - $\flat 9$ - $\flat 11$ = min7 $\flat 5$ $\flat 9$ $\flat 11$ (extremely rare)

1- $\flat 3$ - $\flat 5$ - $\flat 7$ - $\flat 9$ - $\flat 11$ - $\flat 13$ = min7 $\flat 5$ $\flat 9$ $\flat 11$ $\flat 13$ (very rare)

Respelling the $\flat 6$ as a $\sharp 5$, and the $\flat 4$ as a 3 will produce the chords where this mode is commonly used.

1-3- $\flat 5$ = maj $\flat 5$ triad

1-3- $\flat 5$ - $\flat 7$ = dom7 $\flat 5$

1-3- $\flat 5$ - $\flat 7$ - $\flat 9$ = dom7 $\flat 5$ $\flat 9$

1-3- $\flat 5$ - $\flat 7$ - $\sharp 9$ = dom7 $\flat 5$ $\sharp 9$

1-3- $\sharp 5$ - $\flat 7$ = dom7 $\sharp 5$ (aka aug7)

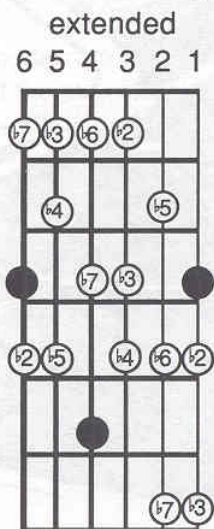
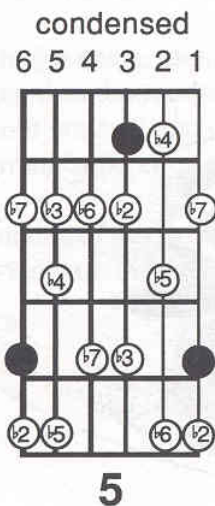
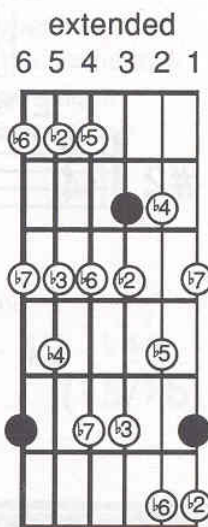
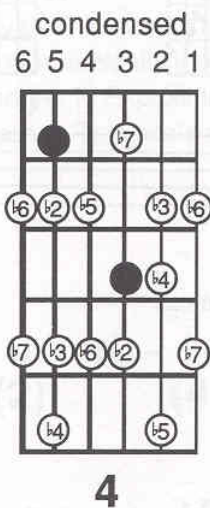
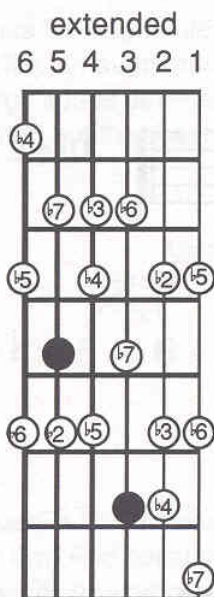
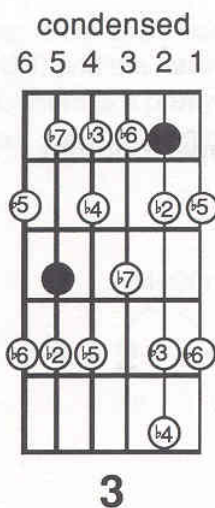
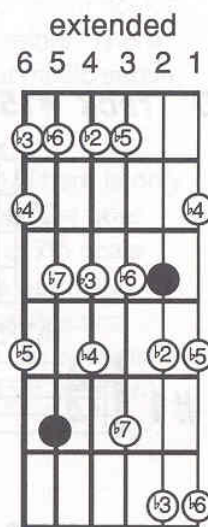
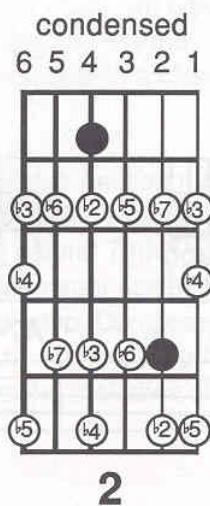
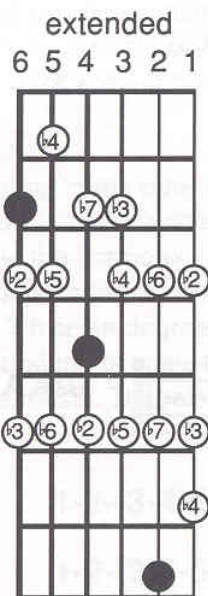
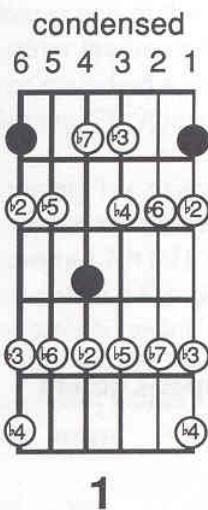
1-3- $\sharp 5$ - $\flat 7$ - $\flat 9$ = dom7 $\sharp 5$ $\flat 9$

1-3- $\sharp 5$ - $\flat 7$ - $\sharp 9$ = dom7 $\sharp 5$ $\sharp 9$

1-3- $\flat 5$ - $\flat 7$ - $\flat 9$ - $\sharp 9$ = dom7 $\flat 5$ $\flat 9$ $\sharp 9$

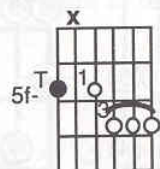
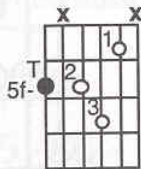
1-3- $\sharp 5$ - $\flat 7$ - $\flat 9$ - $\sharp 9$ = dom7 $\sharp 5$ $\flat 9$ $\sharp 9$

Super-Locrian Fingering Patterns

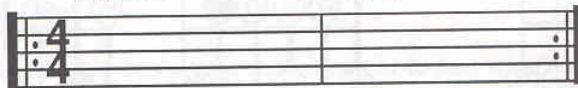


Super-Locrian vamps - bring out the tension tones in this mode ($\flat 9$, $\sharp 9$, $\flat 5$ and $\sharp 5$). This is what it's all about.

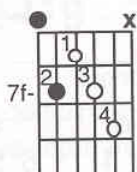
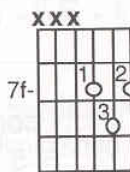
CD Track #15

A7 $\sharp 5\flat 9$ A7 $\flat 5$

#1



Use A Super-Locrian

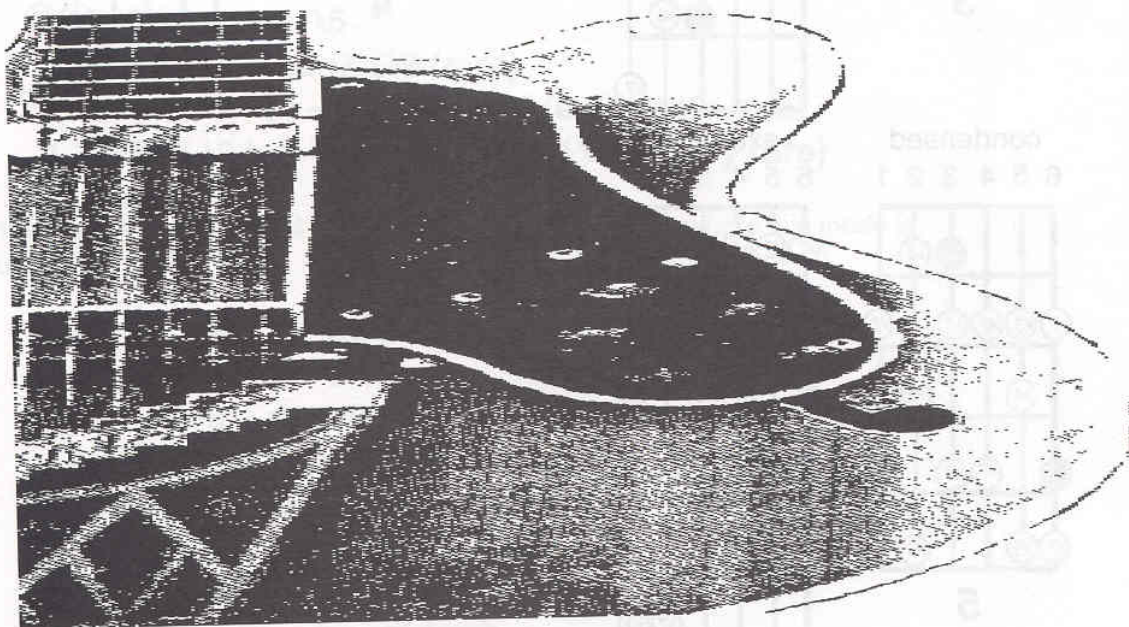
E7 $\sharp 9$ 

G

#2



Use E Super-Locrian



Harmonic Minor Modes

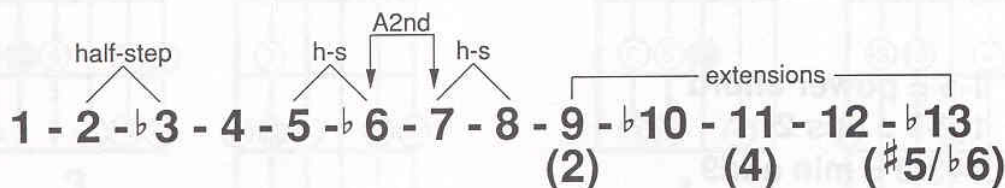
Harmonic minor is one of the three traditional minor scales. The other two types of minor scales are the pure minor (same as the natural minor or Aeolian mode) and the melodic minor. There are other minor sounding scales which are not considered traditional in a classical music sense, such as Dorian and Phrygian.

The harmonic minor is closely related to the pure minor scale (see Aeolian mode). There is only one difference between these two scales: this difference is in the 7th scale degree. The pure minor has a lowered 7th ($\flat 7$), while the harmonic minor has a natural 7 (this natural 7th scale degree is often called a $\sharp 7$). So it's possible to convert any pure minor scale into a harmonic minor scale by simply raising the 7th scale degree by one half-step. Composers of classical music would often modify the natural minor scale by raising the 7th to strengthen the cadential (places of resolution) points in the music. The raised 7th gave the melody a stronger sense of momentum and arrival.

natural minor ——— 1-2- $\flat 3$ -4-5- $\flat 6$ - $\flat 7$

harmonic minor ——— 1-2- $\flat 3$ -4-5- $\flat 6$ -7

The harmonic minor scale contains the augmented 2nd interval. This occurs between the lowered 6th ($\flat 6$) and the natural 7th. An augmented 2nd is enharmonically the same sound as a minor 3rd, so there is a pretty large space between the $\flat 6$ and the 7. Exploiting this unique feature in your solos will really bring out the essence of this scale. This scale also has three half-steps.



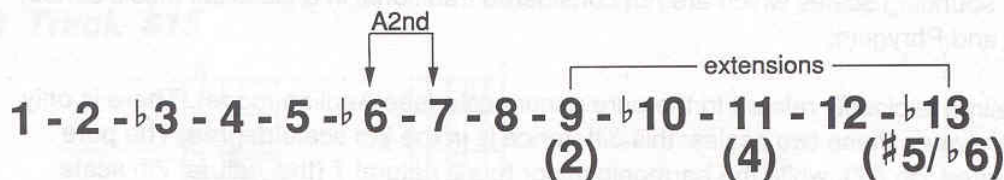
The augmented 2nd gives the scale a "middle eastern" flavor. This scale was also favored by jazz musicians during the bebop era. And because this scale sounds so "classical" in a Baroque sense, it is favored by many "metal" players.

As with the major scale, many modes are possible with the harmonic minor. Not all them are as commonly used as the modes of the major scale. The chords generated by the harmonic minor scale are more unusual and rare. (If you are unclear how to harmonize a scale, see the section on scale harmonization.)

Unlike the modes of the major scale, these modes don't have common names like Ionian, Dorian, etc. Instead, they are identified by the starting note, such as Harmonic Minor Mode 1.

Harmonic Minor Mode 1

This mode is used for soloing over minor sounding chords. Here are some of the chords produced from mode 1 by stacking intervals of a 3rd on the root note:



Triadic chords from the harmonic minor scale:

- 1- $\flat$ 3-5 = min triad**
- 1- $\flat$ 3-5-7 = min $\sharp$ 7 (aka min $\sharp$ 7)**
- 1- $\flat$ 3-5-7-9 = min $\sharp$ 7/9**
- 1- $\flat$ 3-5-7-9-11 = min $\sharp$ 7/11**
- 1- $\flat$ 3-5-7-9-11- $\flat$ 13 = min $\sharp$ 7/ $\flat$ 13 (very rare)**

You can use this scale over any of the chord fragments from this list or over some of the hybrid sounds below. Also, it sounds very good to play this scale over a min7 chord even though the 7 in this type of chord is flatted. This holds true for the min9, min11, and min $\sharp$ 5 ($\sharp$ 5 is enharmonic of $\flat$ 6). Keep your mind and ears open!

- 1-5 = power chord**
- 1-2-5 = sus 2**
- 1- $\flat$ 3-9 = min add9**
- 1- $\flat$ 3- $\sharp$ 5 = min $\sharp$ 5**
- 1- $\flat$ 3-7-9 = min add9($\sharp$ 7)**
- 1- $\flat$ 3- $\sharp$ 5-9 = min add9($\sharp$ 5)**

There are many possible fingerings for the harmonic minor modes. Here are a couple of different ones. As in the major scale modes, two different types of fingering patterns are offered: condensed and extended (3 notes per string). The solid black dots represent the root note of the mode.

Harmonic Minor Mode 1 Fingering Patterns

condensed extended condensed extended

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

1

2

condensed extended condensed extended

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

3

4

condensed extended

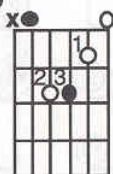
6 5 4 3 2 1 6 5 4 3 2 1

5

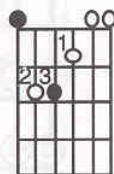
Detailed description of the diagrams:
 Pattern 1: Condensed shows a sequence of notes across the fretboard with fingers 7, 2, 7, 4, b3, 5, b6, 7, b6, 2, 5, 4, 2, b3, b6. Extended shows a similar sequence with additional notes and fingers.
 Pattern 2: Condensed shows notes with fingers 7, 2, 5, 4, 2, b3, b6, 2, 5, 7, 4, b3, b6, 4. Extended shows notes with fingers 2, 5, b3, b6, b3, 2, 5, 7, 4, b3, b6, 4, 7, 2, 5.
 Pattern 3: Condensed shows notes with fingers 2, 5, 4, b3, b6, 4, 7, 5, 4, 2, 5, b6, 7, b3, b6. Extended shows notes with fingers b3, b6, 2, 5, 4, b3, b6, 4, 7, 5, 4, 2, 5, 7, b3, b6.
 Pattern 4: Condensed shows notes with fingers 7, 5, 4, 2, 5, b6, 7, b3, b6, 2, 5, b6, b3, b6, 4. Extended shows notes with fingers 5, 4, b6, 7, b3, b6, 2, 5, b6, b3, b6, 4, 7, 2, 7.
 Pattern 5: Condensed shows notes with fingers b6, 7, b3, b6, 2, 5, b6, b3, b6, 4, 7, 2, 7, 4, 5. Extended shows notes with fingers b3, b6, 7, 2, b6, 4, b3, 5, b6, 7, b6, 2, 5, 4, 2, b3, 7.

When soloing with this scale, stress the $\flat 3$ and natural 7. These are the two pitches which define the sound of this scale. The $\flat 6$ is considered a dissonant tone and should resolve to the 5th.

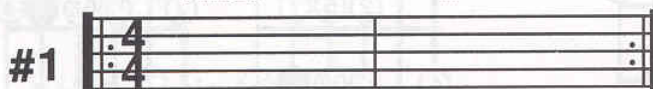
CD Track #16



Amin

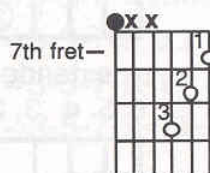


E

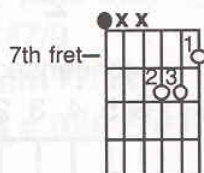


#1

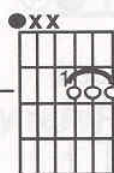
Use A harmonic minor
(all black dots on A notes)



Em



Em#7

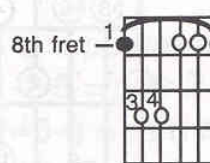


Cm/E

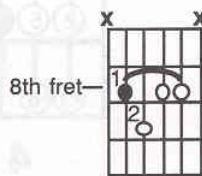


#2

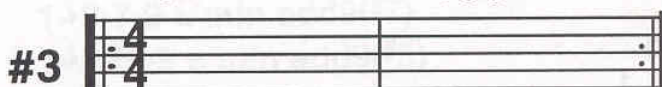
Use E harmonic minor
(all black dots on E notes)



Cm

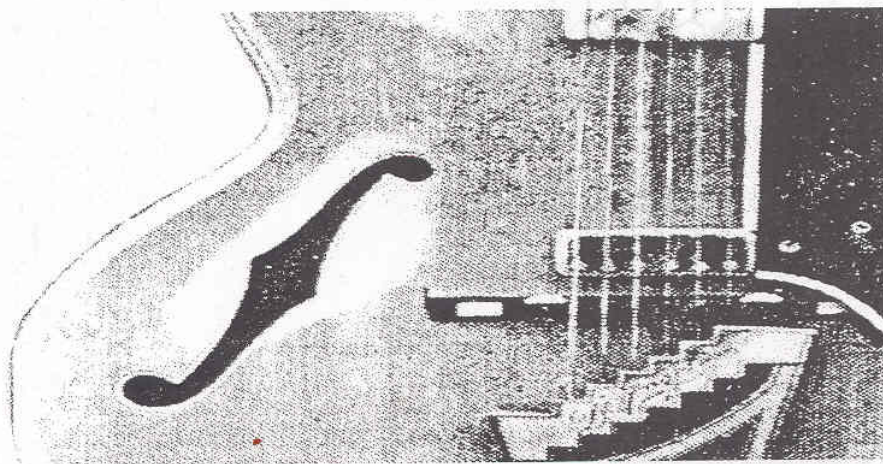


F9#5



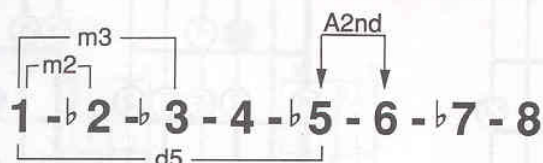
#3

Use C harmonic minor

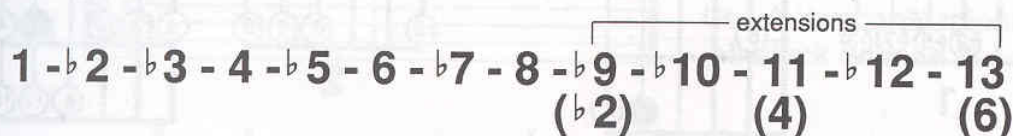


Harmonic Minor Mode 2

This mode has a dark sound resulting from the m2nd, $\flat$ 3rd and d5th intervals. The A2nd falls between the $\flat$ 5 and 6 scale degrees. This scale is also known by the name of Locrian natural 6. (The Locrian mode is the 7th mode from the major scale and its formula is 1- $\flat$ 2- $\flat$ 3-4- $\flat$ 5- $\flat$ 6- $\flat$ 7). Like the Locrian, this scale is another possibility to consider when improvising over the min7 $\flat$ 5 chord.



Another interesting feature of this mode is its bluesy sound. This effect is produced because of the $\flat$ 3, $\flat$ 5 and $\flat$ 7; all common blues notes.



By stacking intervals in 3rd's from the extended scale, the harmonies from this mode reveal themselves. They will all be minor in sound because of the lowered 3rd. However, the $\flat$ 5 does affect the overall sound of the chord, giving them a diminished flavor.

1- $\flat$ 3- $\flat$ 5 = dim triad

1- $\flat$ 3- $\flat$ 5- $\flat$ 7 = min 7 $\flat$ 5 (aka half-diminished)

1- $\flat$ 3- $\flat$ 5- $\flat$ 7- $\flat$ 9 = min 7($\flat$ 5 $\flat$ 9)

1- $\flat$ 3- $\flat$ 5- $\flat$ 7- $\flat$ 9-11 = min 11($\flat$ 5 $\flat$ 9)

1- $\flat$ 3- $\flat$ 5- $\flat$ 7- $\flat$ 9-11-13 = min 13($\flat$ 5 $\flat$ 9)

Chords formed by stacking intervals in 3rd's are not necessarily chords that are all that common. They do exist, at least in theory, and may be worth exploring.

There are other chordal sounds which can be constructed from this mode. These chords are combinations of notes not necessarily based on stacking 3rd's. In fact, many of these chords won't have 3rd's at all. They are hybrid chords. Experiment with them. They can be useful.

1- $\flat$ 5- $\flat$ 7 = incomplete m7 $\flat$ 5

1- $\flat$ 5- $\flat$ 7- $\flat$ 9 = incomplete m7($\flat$ 5 $\flat$ 9)

1-4- $\flat$ 7- $\flat$ 9 = sus 7 $\flat$ 9

1- $\flat$ 3-6- $\flat$ 7 = min 6/7

1- $\flat$ 3- $\flat$ 7-11 = min 11

This mode could also be played over a variety of altered dominant chords for an "outside" or altered sound. It works in this application because the $\flat$ 3 of the mode can be thought of enharmonically as the $\sharp$ 9, a common chord alteration. Try this mode over any altered dominant chord which contains either a $\flat$ 5, $\sharp$ 11, $\flat$ 9, $\sharp$ 9 or any combination of these.

1-3- $\flat$ 7 = dom 7

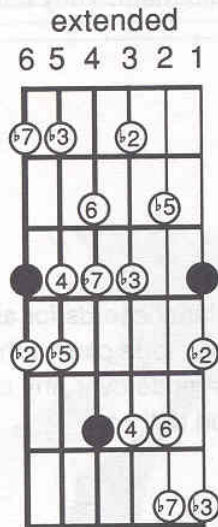
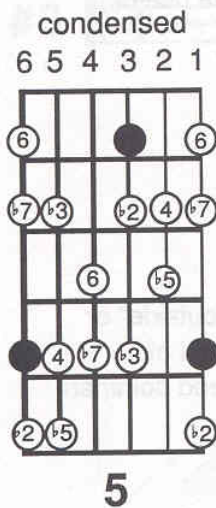
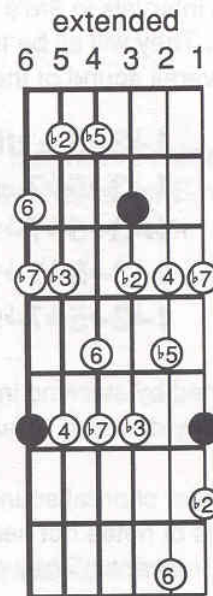
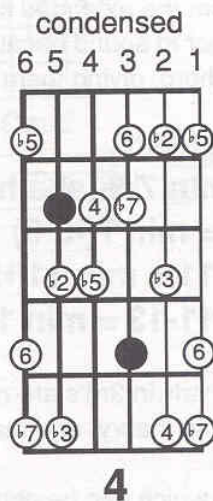
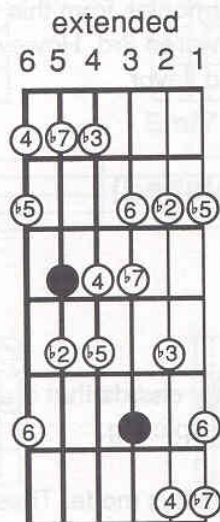
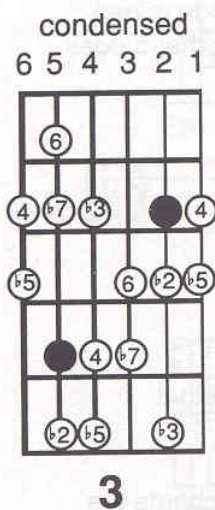
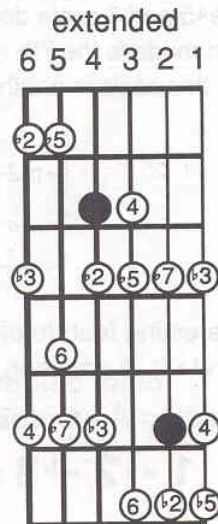
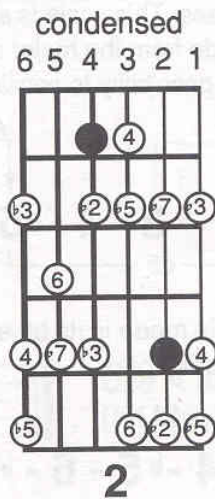
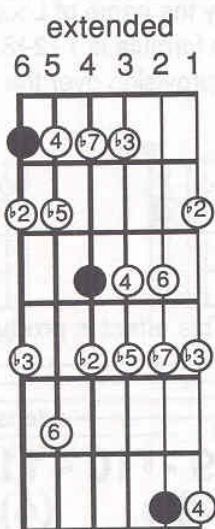
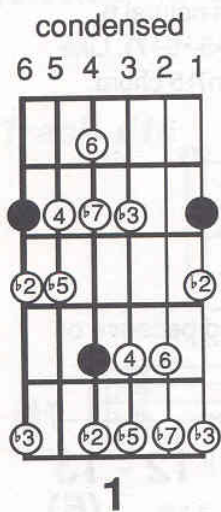
1-3- $\flat$ 5- $\flat$ 7 = dom 7 $\flat$ 5

1-3- $\flat$ 5- $\flat$ 7- $\flat$ 9 = dom 7($\flat$ 5 $\flat$ 9)

1-3- $\flat$ 5- $\flat$ 7- $\flat$ 9- $\sharp$ 9 = dom 7($\flat$ 5 $\flat$ 9 $\sharp$ 9)

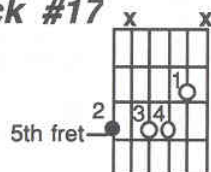
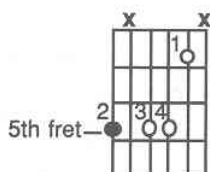
1-3- $\flat$ 7- $\sharp$ 11 = dom 7 $\sharp$ 11

Harmonic Minor Mode 2 Fingering Patterns



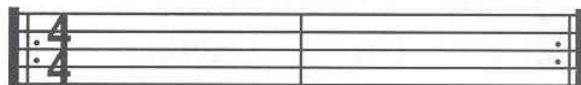
If you use this mode over the $m7^b5$ chord, the $b2$ ($b9$) and the 6 will be dissonant. The $b2$ will pull to the 1 and the 6 to the $b7$. If you choose to use it over some of the altered dominant chords, the $b3$ ($\#9$), $b5$ and $b2$ tones will be the tension tones. Use your ear and resolve them if you have to.

CD Track #17

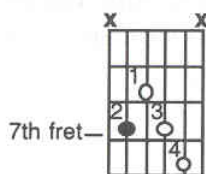
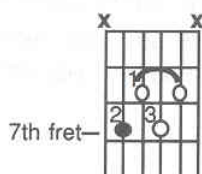
Am7 $b5$ 

Am11

#1



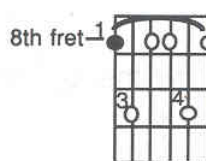
Use A harmonic minor #2
(all black dots on A notes)

E7 $\#9$ E7 $b9$

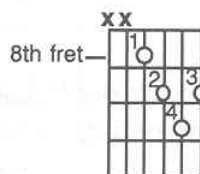
#2



Use E harmonic minor #2
(all black dots on E notes)



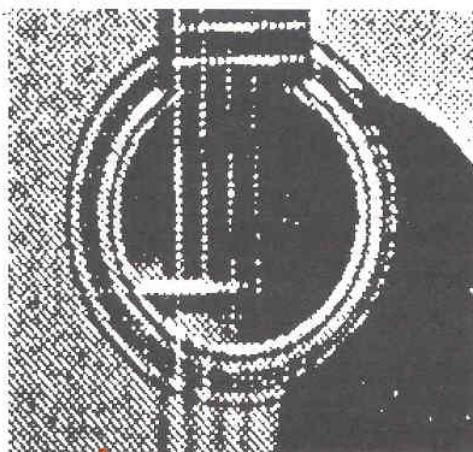
Cm13

C13 $b9$

#3

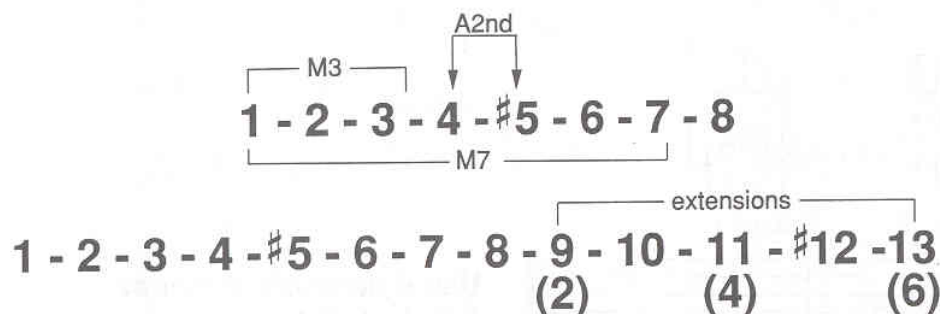


Use C harmonic minor #2



Harmonic Minor Mode 3

Mode #3 is unusual because it contains a #5 and a natural 3 and 7. The 3 and 7 suggest a major 7 chord, but the #5 is a dissonant tone in this type of chord. These distinguishing features make this mode less frequently used than some of the others.



The chords from this mode are unusual in that they don't conform to the normal major sound most of us are used to. However, composers such as Herbie Hancock and Chick Corea have been known to use these chords in some of their jazz music.

1-3-#5 = augmented triad

1-3-#5-7 = maj 7#5

1-3-#5-7-9 = maj 9#5

1-3-#5-7-9-11 = maj 11#5 (very rare)

1-3-#5-7-9-11-13 = maj 13#5 (very rare)

Try this mode over this vamp. The chord is meant to bring out the sound of the #5. This is the tension tone and the pitch which defines the personality of this mode.

CD Track #18

5th fret

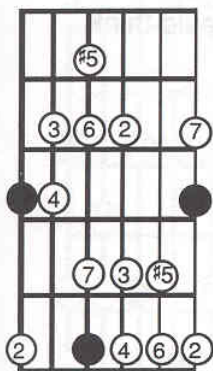
Amaj7#5

#1

Use A harmonic minor #3
(all black dots on A notes)

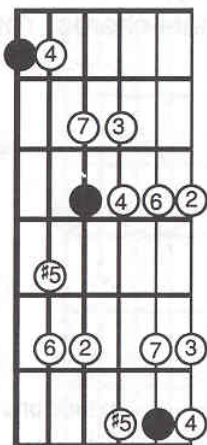
Harmonic Minor Mode 3 Fingering Patterns

condensed
6 5 4 3 2 1

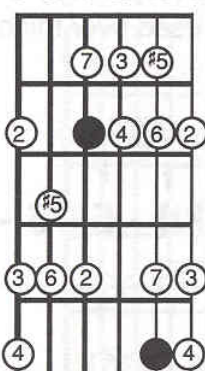


1

extended
6 5 4 3 2 1

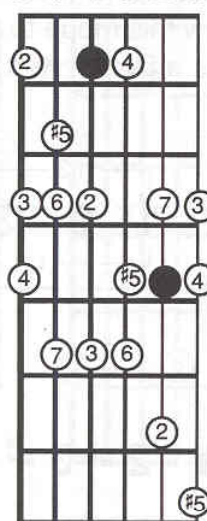


condensed
6 5 4 3 2 1

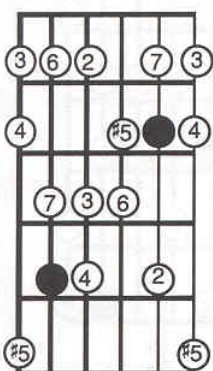


2

extended
6 5 4 3 2 1

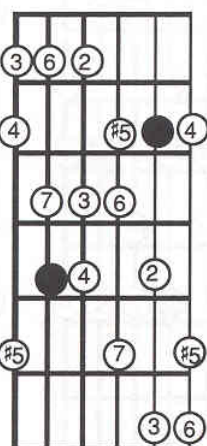


condensed
6 5 4 3 2 1

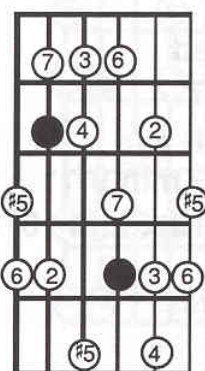


3

extended
6 5 4 3 2 1

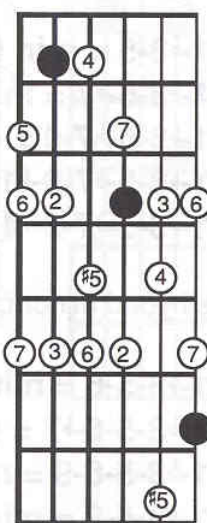


condensed
6 5 4 3 2 1

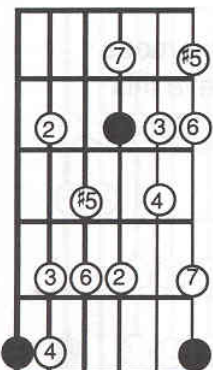


4

extended
6 5 4 3 2 1

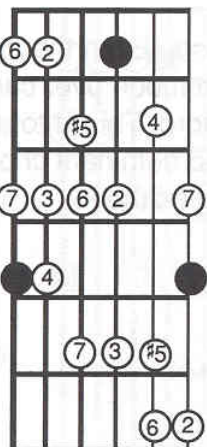


condensed
6 5 4 3 2 1



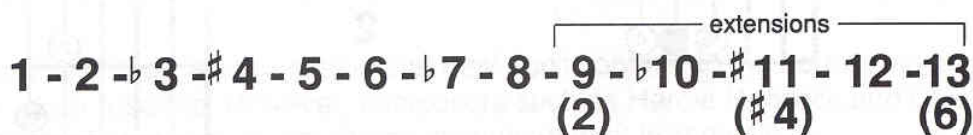
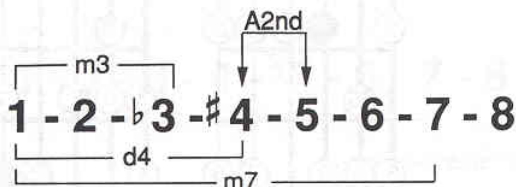
5

extended
6 5 4 3 2 1



Harmonic Minor Mode 4

The fourth mode of harmonic minor is very useful for several reasons: It contains the $\flat 3$, $\sharp 4$ and $\flat 7$ pitches. All of these are very bluesy notes. Secondly, the inclusion of the $\flat 3$ and the $\flat 7$ allow this mode to be used over minor and dominant chords. You could think of this mode as a Dorian with a $\sharp 4$.



Harmonizing this mode produces some useful chords.

- 1- $\flat 3$ -5 = min triad
- 1- $\flat 3$ -5- $\flat 7$ = min 7
- 1- $\flat 3$ -5- $\flat 7$ -9 = min 9
- 1- $\flat 3$ -5- $\flat 7$ -9- $\sharp 11$ = min 9 $\sharp 11$
- 1- $\flat 3$ -5- $\flat 7$ -9- $\sharp 11$ -13 = min 13 $\sharp 11$

Other possible hybrid minor chords:

- 1- $\flat 3$ -5-6 = min 6
- 1- $\flat 3$ -5-6- $\flat 7$ = min 6/7
- 1- $\flat 3$ -5-6-9 = min 6/9
- 1- $\flat 3$ -5-9 = min add9
- 1- $\flat 3$ -5- $\flat 7$ = min 7 $\flat 5$ ($\flat 5$ is same as $\sharp 4$)

There are many other useful chords which this scale suggests. Even though the mode doesn't contain a natural 3, the chord you choose to use the mode over can have this note. The $\flat 3$ in the mode will sound as the $\sharp 9$ against the chord. This is totally acceptable when using this mode over a dominant or altered dominant chord. Remember too that the $\sharp 4$ can be enharmonically thought of as the $\flat 5$.

- 1-3-5- $\flat 7$ = dom 7
- 1-3-5- $\flat 7$ -9 = dom 9
- 1-3-5- $\flat 7$ -9- $\sharp 11$ = dom 7 $\sharp 11$ or dom 7 $\flat 5$
- 1-3-5- $\flat 7$ -9- $\sharp 11$ -13 = dom 13 $\sharp 11$
- 1-3-5- $\flat 7$ - $\sharp 9$ = dom 7 $\sharp 9$
- 1-3- $\flat 5$ - $\flat 7$ = dom 7 $\flat 5$

Harmonic Minor Mode 4 Fingering Patterns

condensed extended condensed extended

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

1

2

condensed extended condensed extended

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

3

4

condensed extended

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

5

Detailed description of the diagrams: The page displays five pairs of guitar fretboard diagrams, each pair representing a different fingering pattern for Harmonic Minor Mode 4. Each pair consists of a 'condensed' version (left) and an 'extended' version (right). The fretboards are oriented with the 6th string on the left and the 1st string on the right. Fingerings are indicated by numbers 1 through 6 inside circles. Accidentals are indicated by symbols: #4 (sharp 4), b7 (flat 7), and b3 (flat 3). Black dots on the strings indicate specific fret positions. The patterns are numbered 1 through 5. Pattern 1 shows a sequence of notes across the fretboard. Pattern 2 shows a different sequence. Pattern 3 and 4 show more complex sequences with multiple accidentals. Pattern 5 shows a sequence with a specific fret position marked by a black dot on the 6th string.

This mode is useful in a wide variety of situations. Since many songs use both dominant and minor chords, you may discover many opportunities for using this sound. When playing this mode against minor chords as in example 1, you may find that the #4 is dissonant. Resolve it to the 5th. When using it over dominant chords as in examples 2 and 3, the #4 and $\flat 3$ (#9) are the tension tones. Resolve these notes to the closest notes either up or down. Lastly, if you choose to use this mode over the minor7 $\flat 5$ chord, the tension tone is the natural 5th. Resolve it down to the #4.

CD Track #19

#1

Am7 Am6/7

#2

E9 E7#9

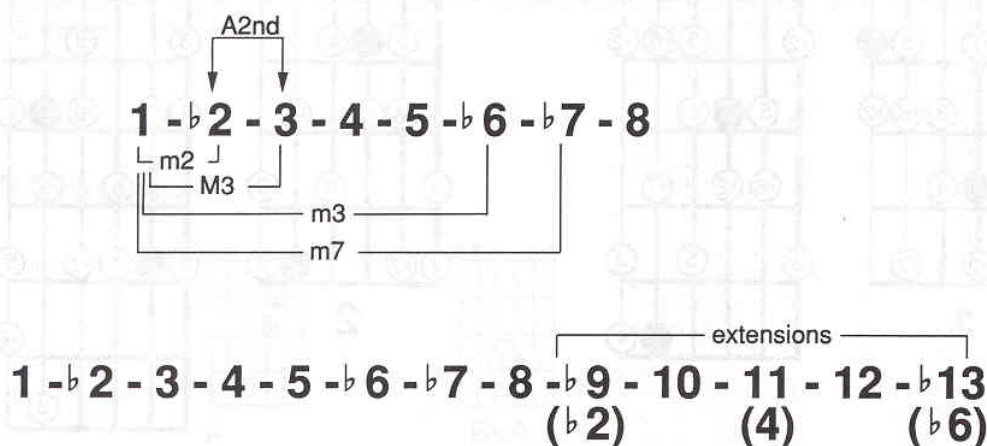
#3

C7 $\flat$ 5 C7#9

Use C harmonic minor #4

Harmonic Minor Mode 5

This mode is defined by the M3, m7, m2 and m6 intervals. These intervals suggest an altered dominant sound. The $\flat 2$ will be heard as a $\flat 9$ and the $\flat 6$ as a $\sharp 5$. Dominant chords which contain either a $\flat 9$, $\sharp 5$ or combination of these notes will work well with this mode. This mode is also known as the Phrygian-Dominant scale.



Chords generated by stacking intervals of a 3rd:

- 1-3-5 = maj triad**
- 1-3-5- $\flat 7$ = dom 7**
- 1-3-5- $\flat 7$ - $\flat 9$ = dom 7 $\flat 9$**
- 1-3-5- $\flat 7$ - $\flat 9$ -11 = dom 11 $\flat 9$**
- 1-3-5- $\flat 7$ - $\flat 9$ -11- $\flat 13$ = dom 13 $\flat 9$**

Other possible hybrid chords:

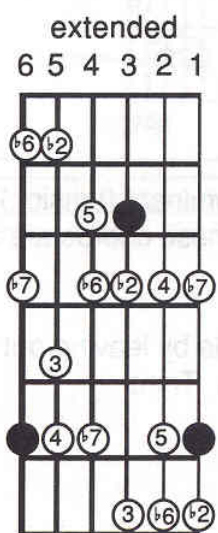
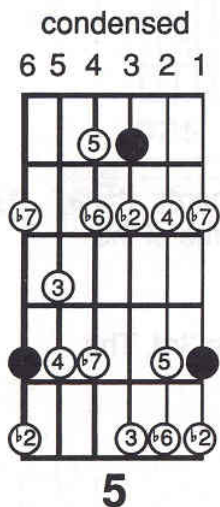
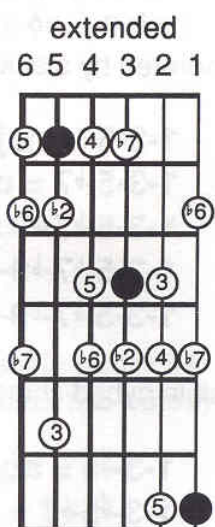
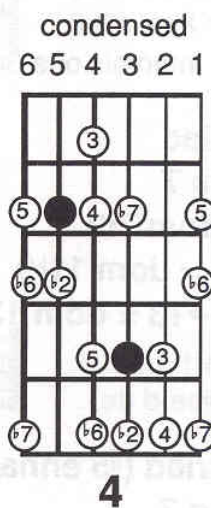
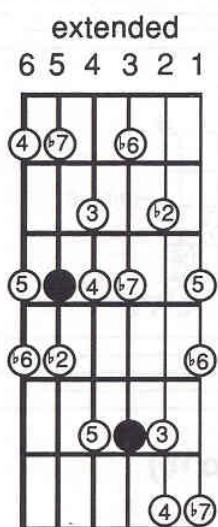
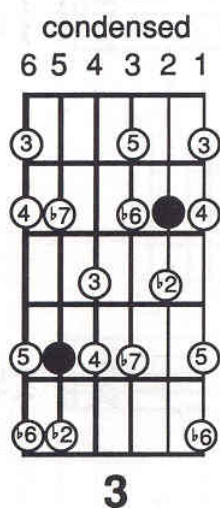
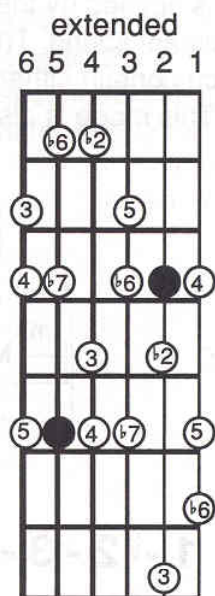
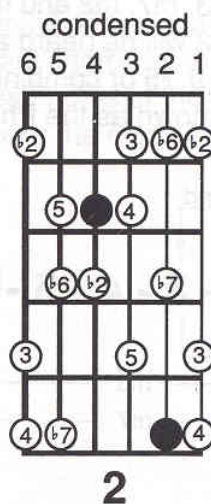
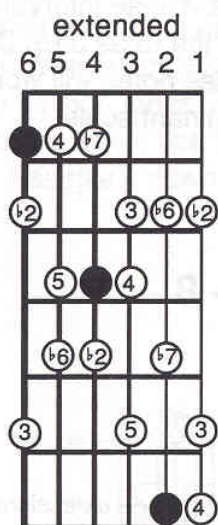
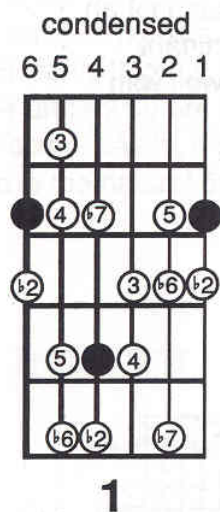
- 1-3- $\sharp 5$ = aug triad ($\sharp 5$ enharmonic to $\flat 6$)**
- 1-3- $\sharp 5$ - $\flat 7$ = aug 7**
- 1-3- $\sharp 5$ - $\flat 7$ - $\flat 9$ = dom 7($\sharp 5\flat 9$)**
- 1-4-5 = sus 4**
- 1-4-5- $\flat 7$ = sus 7**
- 1-4-5- $\flat 7$ - $\flat 9$ = sus7 $\flat 9$**

All of the chords produced from this mode function as dominant (tension) chords. It may take some time to get used to these sounds. However, these chords are some of the standard harmonies used in jazz.

An interesting 6 note scale can be created from this mode by leaving out the 3rd. The sound of this new scale is very "Japanese" and mystical. Try it!

1- $\flat 2$ -4-5- $\flat 6$ - $\flat 7$ -8

Harmonic Minor Mode 5 Fingering Patterns



One of the best ways to hear the tension tones in a scale or mode is to lay down a basic four note chord which doesn't contain the tension tones. This will make it easier to hear where the tensions want to resolve. Example 1 is such a groove. Listen how the $\flat 2$ ($\flat 9$) pulls to the 1 and how the $\flat 6$ needs to go to the 5. Example 2 includes some of the tension tones in the chords. The purpose of this exercise is to train your ear to recognize the sounds of altered chords. In this exercise, the tension tones don't need to be resolved because they are being constantly reiterated in the chord. Try emphasizing the $\flat 2$ and $\flat 6$ notes.

CD Track #20

#1

A B $\flat$ /A

Use A harmonic minor #5
(all black dots on A notes)

#2

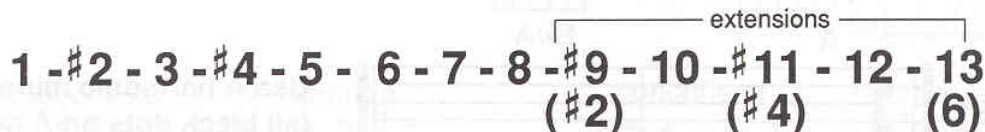
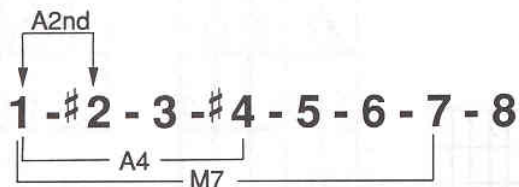
7th fret 7th fret

Esus7 E7 $\sharp 5 \flat 9$

Use E harmonic minor #5
(all black dots on E notes)

Harmonic Minor Mode 6

This mode leans toward the major sound because of the M3 and M7 intervals. The one dissonant tone is the #2, heard enharmonically as the #9. There aren't many major sounding chords which contain this note. The blues scale does contain a b3, which is an enharmonic spelling of the #2. (Remember that the #2, b3 and #9 all sound the same.) This mode is capable of producing a bluesy sound over major chords. The #4 (b5) is not really a dissonant tone over major chords. This pitch is less dissonant than the natural 4 which occurs in the major scale. This #4 will give a Lydian feel to this mode. You could almost think of this mode as a Lydian blues sounding scale.



Here are some of the chords generated by stacking intervals in 3rds:

1-3-5 = maj triad

1-3-5-7 = maj 7

1-3-5-7-#9 = maj 7#9 (not common)

1-3-5-7-#9-#11 = maj 7(#9#11) (not common)

1-3-5-7-#9-#11-13 = maj 13(#9#11) (not common)

Other possible hybrid chords:

1-3-b5 = maj triad b5 (b5 enharmonic of #4)

1-3-b5-7 = maj 7 b5

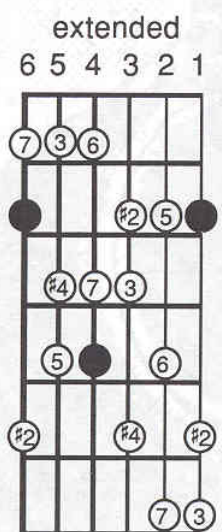
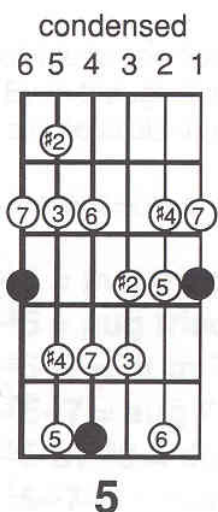
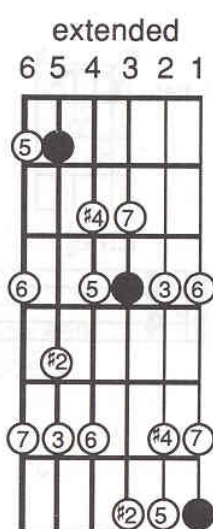
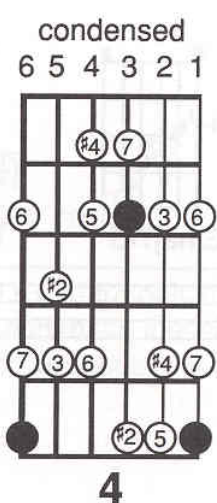
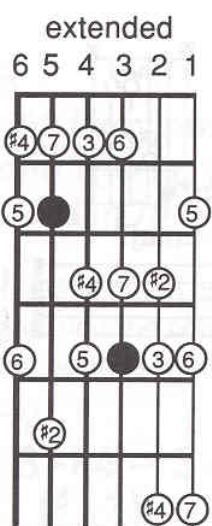
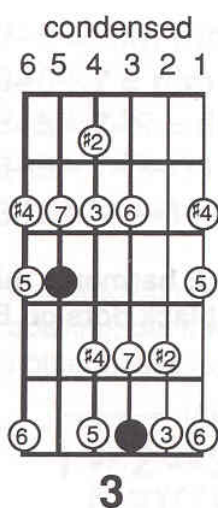
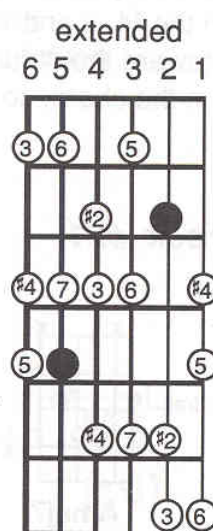
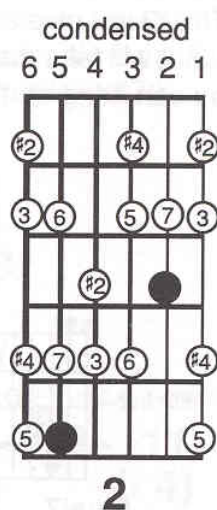
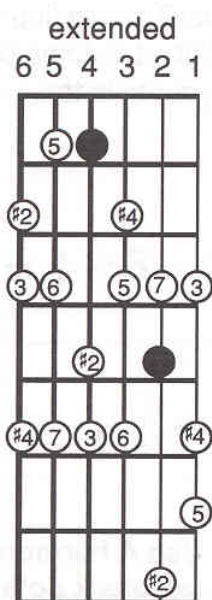
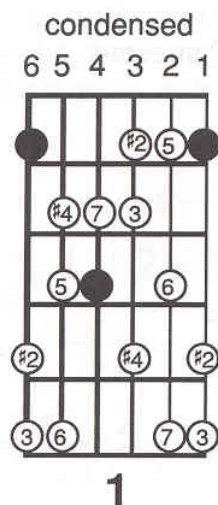
1-3-5-7-#11 = maj 7#11

1-3-5-6 = maj 6

1-3-6-7 = maj 6/7

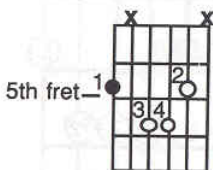
1-3-6-#11 = maj 6#11

Harmonic Minor Mode 6 Fingering Patterns



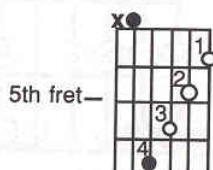
Example 1 is just a one chord vamp on Amaj7. Listen how the #2 ($\flat 9$) pulls toward the natural 3. You may sense some pull from the #4 toward the 5 too. The essence of this mode lies in the #4, 3 and 7. The #2 will give a blues sound. Try bending this note up just a little, toward the natural 3. It will take the edge off of it a bit. Example 2 stresses the #4 note in the chord, so you can hang on this note in your solo too.

CD Track #21



5th fret—

Amaj7



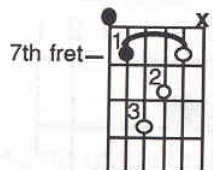
5th fret—

Amaj7

#1

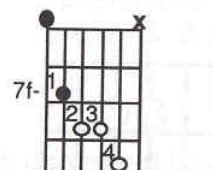


Use A harmonic minor #6
(all black dots on A notes)



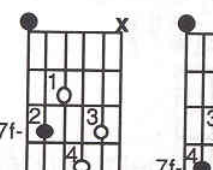
7th fret—

Emaj9



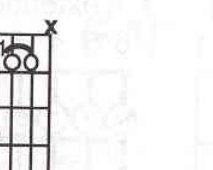
7f—

Emaj7 $\flat$ 5



7f—

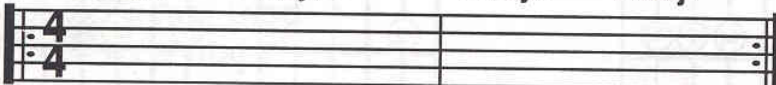
Emaj9



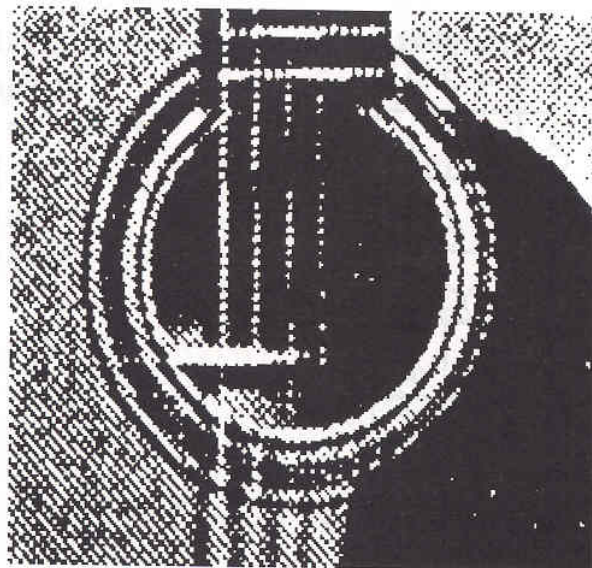
7f—

Emaj7

#2

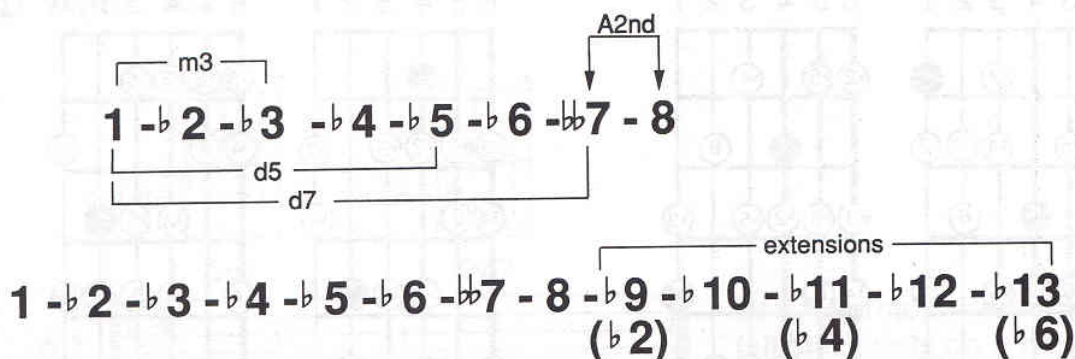


Use E harmonic minor #6
(all black dots on E notes)



Harmonic Minor Mode 7

This is the last of the modes from harmonic minor. Its formula makes it look very complex. It does have many alterations, which makes it suitable for use in a limited way. The main chord which this mode produces is the diminished 7th.



Chords generated by stacking intervals of a 3rd:

1-^b3-^b5 = dim triad

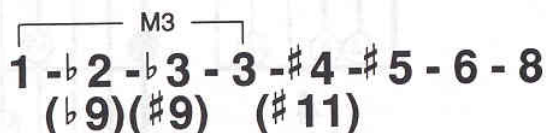
1-^b3-^b5-^b7 = dim 7th

1-^b3-^b5-^b7-^b9 = dim 7^b9 (very rare)

1-^b3-^b5-^b7-^b9-^b11 = dim 7(^b9^b11) (very rare)

1-^b3-^b5-^b7-^b9-^b11-^b13 = dim 7(^b9^b11^b13) (very rare)

It might be easier to comprehend this mode by respelling it enharmonically. This is not the correct spelling, but it will give you the correct sound and make it easier to see some of the other possible chord sounds which may be drawn out of the mode.



Now it's possible to see how some dominant sounding chords might be extracted from this mode. Even though the mode doesn't have a ^b7, an important tone in all dominant chords, it's still possible to use this mode to solo over chords which do contain this pitch.

Here are a few possible chords where this mode would work:

1-3-^b5 = maj triad^b5 (^b5 is enharmonic of [#]4)

1-3-[#]5 = aug triad

1-3-^b5-^b7 = dom 7^b5

1-3-[#]5-^b7 = aug 7

1-3-^b5-^b7-[#]9 = dom 7(^b5[#]9)

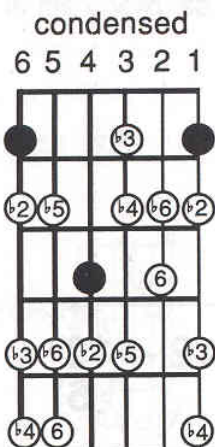
1-3-^b5-^b7-^b9 = dom 7(^b5^b9)

1-3-[#]5-^b7-^b9 = dom 7([#]5^b9)

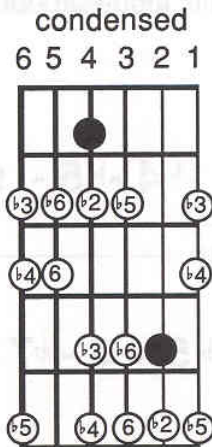
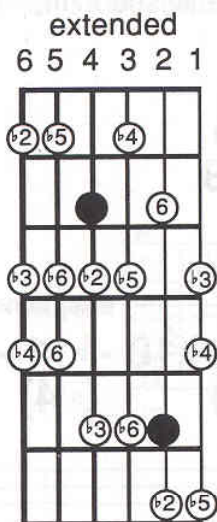
1-3-[#]5-^b7-[#]9 = dom 7([#]5[#]9)

Harmonic Minor Mode 7 Fingering Patterns

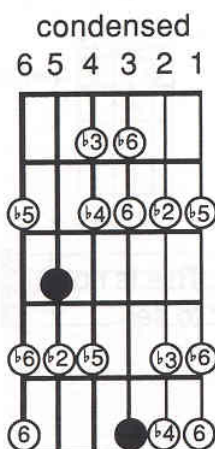
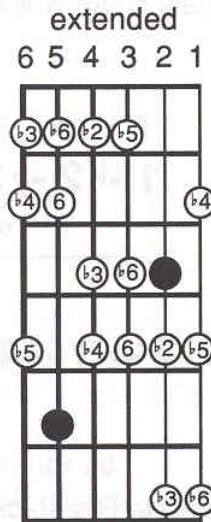
Note: In order to show the scale degrees in the finger circles, the 6 will be shown as the enharmonic equivalent of $\flat 7$.



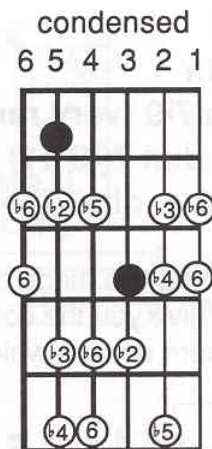
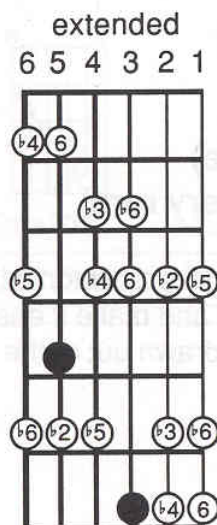
1



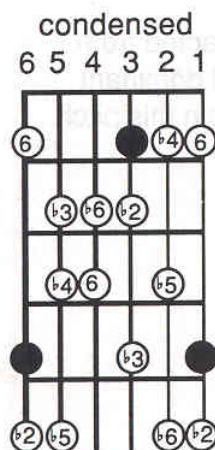
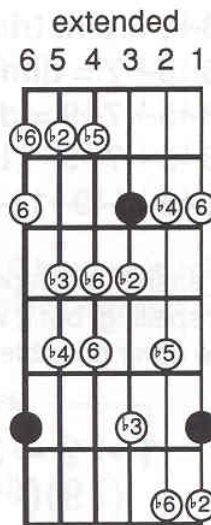
2



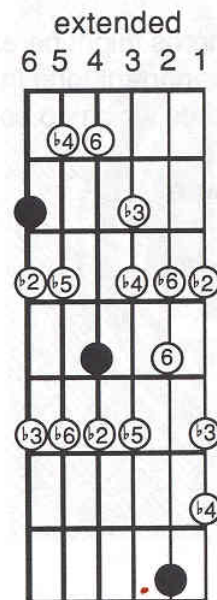
3



4



5

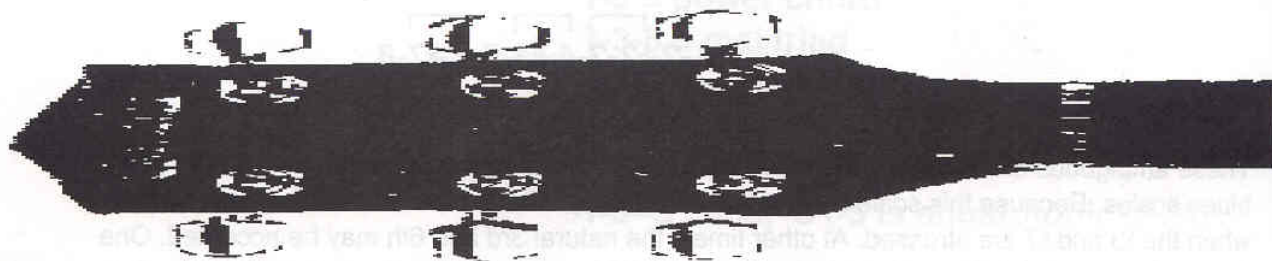


Example 1 is the obvious use of this mode, playing over the dim7 chord. There will be some tension tones in this scale when used over the dim7 chord. Keep your ears open. Example 2 is not so obvious. This exercise uses the altered dominant sound. The first chord has the $\flat 5$ already in it, while the second chord contains the $\sharp 9$ ($\flat 2$). The $\flat 9$ and $\flat 6$ will be additional tension tones.

CD Track #22

Diagram 1 shows two guitar fretboard diagrams. The first diagram is for the 5th fret, showing a triad with notes 2, 3, and 1 (root) on strings 2, 3, and 4 respectively, labeled **Ao7**. The second diagram is for the 6th fret, showing a triad with notes 2, 3, and 4 (root) on strings 2, 3, and 4 respectively, labeled **E $\flat$ o7**. Below these diagrams is a musical staff for Exercise #1, showing a 4/4 time signature and a key signature of one sharp (F#). The staff contains a single measure with a whole note chord symbol **Ao7** and a whole note chord symbol **E $\flat$ o7**. To the right of the staff, the text reads: **Use A harmonic minor #7 (all black dots on A notes)**.

Diagram 2 shows two guitar fretboard diagrams. The first diagram is for the 8th fret, showing a triad with notes 2, 3, and 1 (root) on strings 2, 3, and 4 respectively, labeled **C7 $\flat$ 5**. The second diagram is for the 8th fret, showing a triad with notes 1, 3, and 4 (root) on strings 1, 3, and 4 respectively, labeled **C7 $\sharp$ 9**. Below these diagrams is a musical staff for Exercise #2, showing a 4/4 time signature and a key signature of one sharp (F#). The staff contains a single measure with a whole note chord symbol **C7 $\flat$ 5** and a whole note chord symbol **C7 $\sharp$ 9**. To the right of the staff, the text reads: **Use C harmonic minor #7 (all black dots on C notes)**.



The Blues Scale

The blues scale, or some variation of it, is the most frequently used scale in pop and rock music. It is played over every conceivable type of chord. This scale immediately conjures up images of rock n' roll and is the link with that style of music which is the well spring of most contemporary pop music: the blues.

What is commonly called the blues scale is really only an approximation of what is actually played by experienced musicians. There are many scales that are called "the blues scale" and they will all be listed here and their important features examined.

The different blues scales can be loosely divided into two different categories: those with an overall major sound and those with a minor sound. The most common blues scale leans toward the minor sound.

Here are the formulas for some of the blues scales:

Blues scale #1 (minor pentatonic)	1- $\flat$ 3-4-5- $\flat$ 7-8
Blues scale #2	1- $\flat$ 3-4- $\sharp$ 4-5- $\flat$ 7-8
Blues scale #3	1-2- $\flat$ 3-3-5-6-8
Blues scale #4	1-2- $\flat$ 3- $\sharp$ 4-5-6- $\flat$ 7-8
Blues scale #5	1- $\flat$ 3-3-4- $\sharp$ 4-5- $\flat$ 7-8
Blues scale #6 (mixolydian mode)	1-2-3-4-5-6- $\flat$ 7-8

Every blues scale must make use of the "blue" notes. These special notes are generally described as lying between the $\flat$ 3 and the natural 3, between the 4 and 5 and between the 6 and $\flat$ 7. Normally, these notes are produced by bending up from the lower note into the general area of the higher note and fine tuning according to taste. These blues notes are responsible in large part for the huge variety of sounds possible from what is called the blues scale.

Areas of the scale which produce the "blue notes":



 1-2-3-4-5-6-7-8

These ambiguous areas, where the blue notes live, account for the large number of different blues scales. Because this scale is played over so many different chords, there will be times when the $\flat$ 3 and $\flat$ 7 are stressed. At other times, the natural 3rd and 6th may be accented. One thing is for certain, to develop your own voice with this scale, you must pay particular attention to these areas.

The most common blues scale is probably number two, (1- $\flat$ 3-4- $\sharp$ 4-5- $\flat$ 7). It is a six note scale, like the whole-tone. Bear in mind that certain notes in this scale will need modification from time to time, depending on the sound you're after. It might be best to think of the $\flat$ 3 as also including the natural 3rd because this tone, more than any other, will determine the overall flavor of the scale; being either major or minor.

Although this scale can't be harmonized in the same way that some of the more traditional scales could, by stacking intervals in thirds, it is still possible to extract chords from it.

1 - $\flat$ 3 - 4 - $\sharp$ 4 - 5 - $\flat$ 7 - 8
 ($\sharp$ 9) (11) ($\flat$ 5)
 ($\sharp$ 11)

There are many different chords which can be built from the blues scale. Some of the chords will be minors and majors and others will be both unaltered and altered dominants.

unaltered dominants

1-3-5- $\flat$ 7 = dom 7
 1-3-5- $\flat$ 7-9 = dom 9
 1-3-5- $\flat$ 7-9-13 = dom 13
 1-2-5 = sus 2
 1-4-5 = sus 4
 1-4-5- $\flat$ 7 = sus 7
 1-4-5- $\flat$ 7-9 = sus 9

minor chords

1- $\flat$ 3-5 = min triad
 1- $\flat$ 3-5-6 = min 6
 1- $\flat$ 3-5-6- $\flat$ 7 = min 6/7
 1- $\flat$ 3-5- $\flat$ 7-9 = min 9
 1- $\flat$ 3-5-6-9 = min 6/9
 1- $\flat$ 3-5-9 = min add9
 1- $\flat$ 3-5- $\flat$ 7-9-11 = min 11
 1- $\flat$ 3- $\flat$ 5 = dim triad
 1- $\flat$ 3-5- $\flat$ 7 = min 7 $\flat$ 5

altered dominants

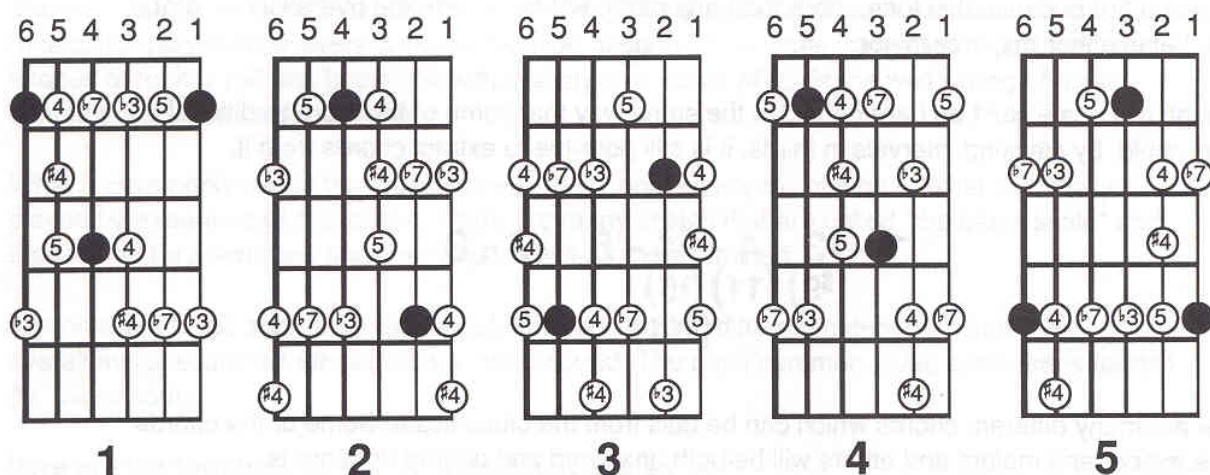
1-3-5- $\flat$ 7- $\sharp$ 9 = dom 7 $\sharp$ 9 ($\sharp$ 9 is enharmonic of $\flat$ 3)
 1-3- $\flat$ 5- $\flat$ 7-9 = dom 7 ($\flat$ 5 $\sharp$ 9)

major chords

1-5 = power chord
 1-3-5 = maj triad
 1-3-5-6 = maj 6
 1-3-5-7 = maj 7
 1-3-5-7-9 = maj 9
 1-3- $\flat$ 5 = maj $\flat$ 5 ($\flat$ 5 is enharmonic of $\sharp$ 4)

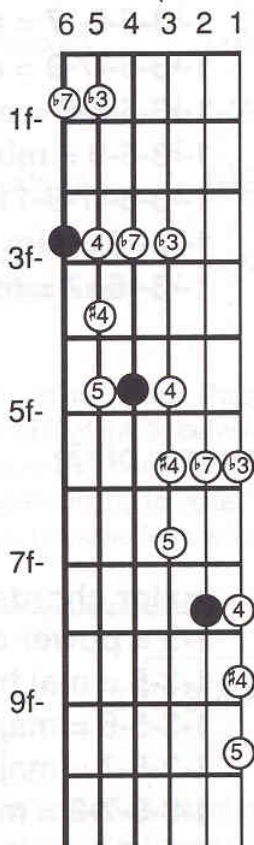
From this list you might be thinking that it would be easier to list the chords where this scale wouldn't work. This scale is the most forgiving of all scales because it can be used over so many different chords. Whenever you want to conjure up a bluesy sound, this is the scale to use. With the major chords, especially those with a natural 7th, you must be careful with the $\flat$ 3 and $\flat$ 7. The $\flat$ 3 should be bent up to the natural 3rd and the $\flat$ 7th should be bent up to the natural 7th.

Blues Scale Fingering Patterns: 1- $\flat$ 3-4- $\sharp$ 4-5- $\flat$ 7

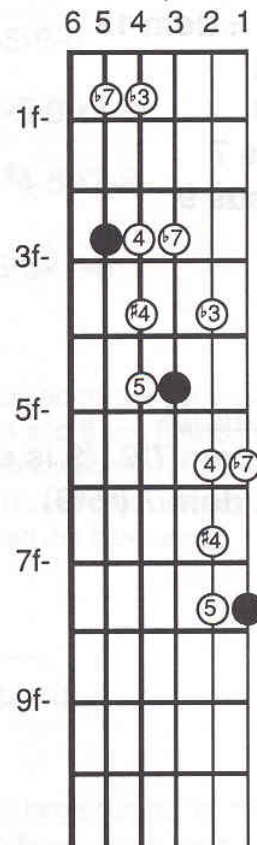


These extended patterns are used for creating runs up the fingerboard. The fingerings are very simple as are the position shifts. When shifting up the neck (toward the body), slide up with your ring finger. When sliding down (away from the body), use your index finger.

extended (root on 6)

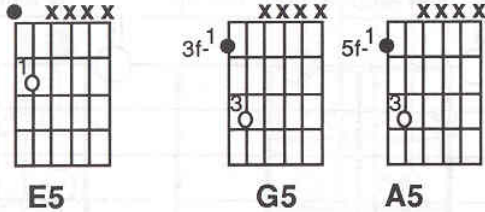


extended (root on 5)

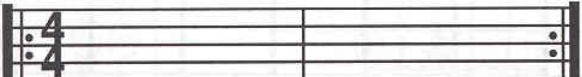


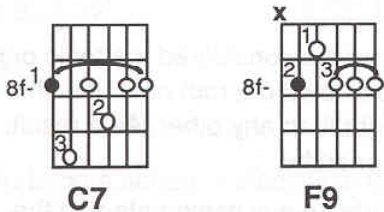
Blues scale vamps - Experiment with the blues notes, especially on chords with the natural 3rd (dominant 7ths and majors). Hang on each tone of the scale so you can hear how each note feels against the chord. Listen for tension. Make subtle bends on the $\flat 3$ and 4.

CD Track #23

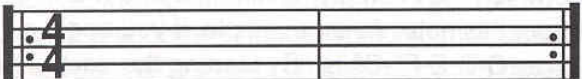


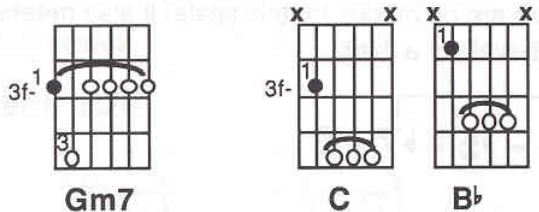
E5 **G5** **A5**

#1  **Use E Blues - stress the $\flat 3$ and $\flat 7$**



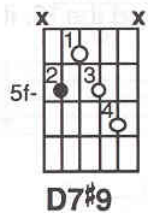
C7 **F9**

#2  **Use C Blues - stress the $\flat 3$ and $\flat 7$**

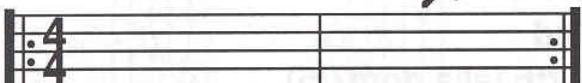


Gm7 **C** **B $\flat$**

#3  **Use G Blues - stress the 3 and $\flat 7$**



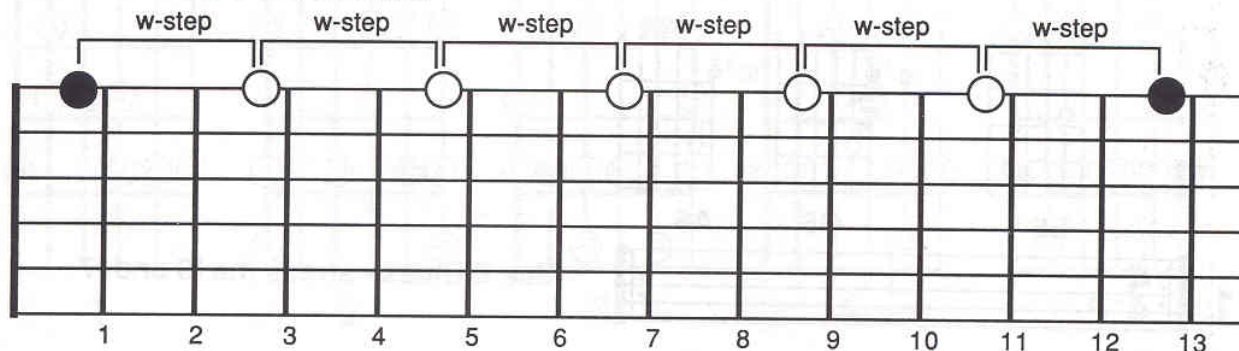
D7 $\sharp 9$

#4  **Use D Blues - stress the $\flat 3$, 3 and $\flat 7$**

The Whole-Tone Scale

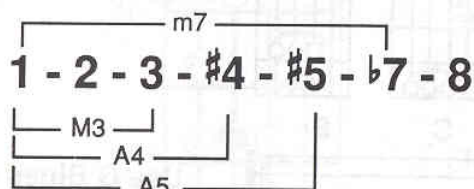
The whole-tone is called a symmetrical scale because the distance between each note is exactly the same: a whole-step. If you begin at the first fret of any string and play up that string by whole-steps, you will arrive at the octave in six moves.

Whole-Tone scale on one string



Because this scale is made up of just whole-steps, any note can be considered the tonic or root note. Without half-steps, this scale doesn't have the normal pull toward a root note. It is the most democratic of all scales; no note carries more tonal weight than any other. As a result, this scale can produce an effect not unlike free-falling or musical anarchy.

There are only two whole-tone scales possible: one which starts on any given note and the other which starts either one half-step up or down from this note. As an example, if you begin a whole-tone scale on C, the pitches would come out as: C-D-E-F[#]-G[#]-B^b. By starting the next scale on C[#], the notes would be: C[#]-D[#]-F-G-A-B. By adding all of these notes together, the chromatic scale is produced. This means that there are no modes for this scale. It also means that you can't harmonize this scale by stacking intervals of a third.



However, because the scale contains a natural 3rd and a b7, it can be assumed that this scale will function over dominant chords. Because this scale also contains the #4(b5) and the #5, it is perfect for use over dominant chords which contain either of these alterations.

Some of the typical kinds of chords you'd use this scale over are:

1-3-b5 = maj b5 triad

1-3-b5-b7 = dom 7b5

1-3-#5 = aug triad

1-3-#5-b7 = aug 7th (aka dom7#5)

1-3-b5-b7-9 = dom 9b5

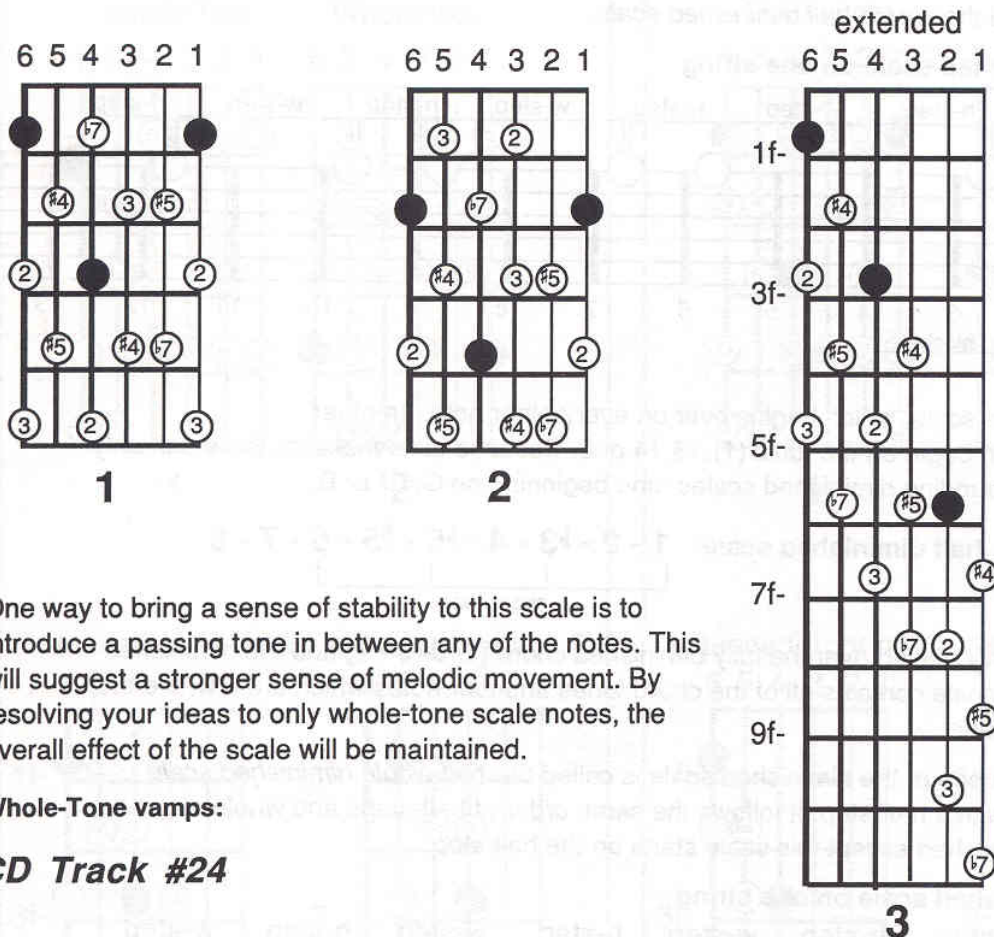
1-3-#5-b7-9 = dom 9#5

1-3-#5-b7-#11 = dom 7#5#11

It's possible to use this scale over unaltered dominant chords if you want an "outside" or dissonant sound. The tension tones, #4 and #5 will certainly stick out, but this practice is very common, especially for interjecting momentary tension in a solo. (See example #1) Beware of chords with altered 9th's (b9 or #9), these tones are not supported by this scale and may cause some unintended tension.

Whole-Tone Scale Fingering Patterns

One of the wonderful aspects of playing patterns like these, is that you can move your ideas up and down the fingerboard by whole-step, creating sequential ideas.



One way to bring a sense of stability to this scale is to introduce a passing tone in between any of the notes. This will suggest a stronger sense of melodic movement. By resolving your ideas to only whole-tone scale notes, the overall effect of the scale will be maintained.

Whole-Tone vamps:

CD Track #24

A7

A9(no root)

#1

Use A, B, C#, D#, F or G Whole-Tone

C7#5

C7b5

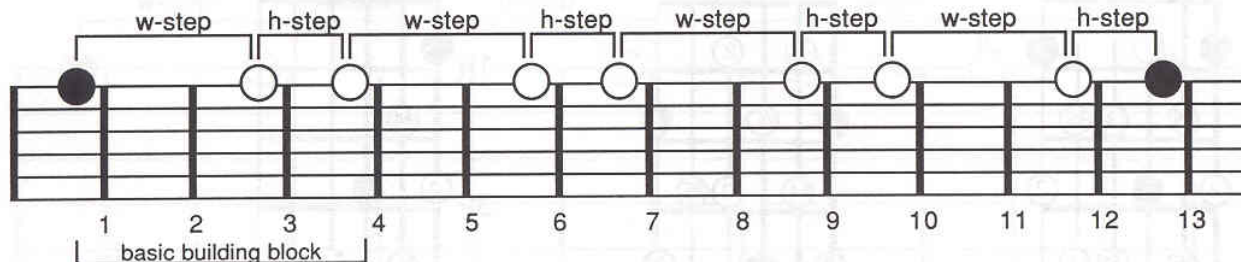
#2

Use C, D, E, F#, G#, F or Bb Whole-Tone

The Diminished Scales

Another type of symmetrical altered scale is the diminished. Like all of the other symmetrical scales, this scale has a consistent order to its interval structure. The symmetry is achieved through a whole-step followed by a half-step arrangement. This is the unit of construction of the scale and it is called the *whole-half diminished scale*.

Whole-half diminished scale on one string



This is an eight-note scale, which begins over on every other note. In other words, the scale can begin on the tonic (1), $\flat 3$, $\sharp 4$ or 6. Because of its makeup, there can only be three different sounding diminished scales: one beginning on C, $C^\sharp$ or D.

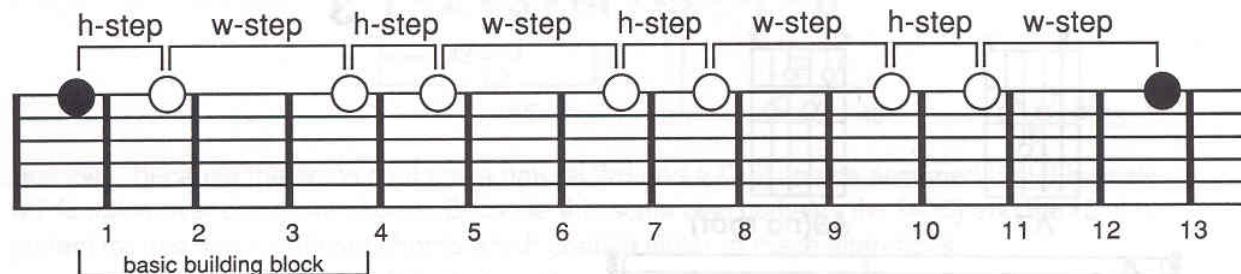
Formula for whole-half diminished scale: 1 - 2 - $\flat 3$ - 4 - $\flat 5$ - $\sharp 5$ - 6 - 7 - 8

└──────────┘
chord tones

This scale is normally played over the fully diminished chord ($1-\flat 3-\flat 5-\flat 7$) and the diminished triad ($1-\flat 3-\flat 5$). The scale contains all of the chord tones and four notes which are a whole-step above each chord tone.

The only possible mode of the diminished scale is called the *half-whole diminished scale* because it begins with a half-step. It follows the same order of half-steps and whole-steps as the whole-half diminished except this scale starts on the half-step.

Half-whole diminished scale on one string



Formula for half-whole diminished scale: 1 - $\flat 2$ - $\flat 3$ - 3 - $\flat 5$ - 5 - 6 - $\flat 7$ - 8

(9)(9) (#11)

This eight-note scale is an important resource for improvisers wishing to solo over altered dominant chords, especially those with $\flat 5$, $\flat 9$, $\sharp 9$ or any combination of these. This is not the best scale choice for chords which contain the $\sharp 5$. Here are some of the possible chords where this scale would work nicely.

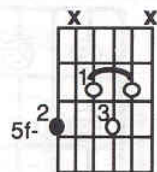
- 1-3-5- $\flat 7$ = dom 7
- 1-3-5- $\flat 7$ - $\flat 9$ = dom 7 $\flat 9$
- 1-3-5- $\flat 7$ - $\sharp 9$ = dom 7 $\sharp 9$
- 1-3- $\flat 5$ - $\flat 7$ = dom 7 $\flat 5$
- 1-3- $\flat 5$ - $\flat 7$ - $\flat 9$ = dom 7($\flat 5\flat 9$)
- 1-3- $\flat 5$ - $\flat 7$ - $\sharp 9$ = dom 7($\flat 5\sharp 9$)
- 1-3-5- $\flat 7$ - $\flat 9$ - $\sharp 11$ = dom 7($\flat 9\sharp 11$)
- 1-3-5- $\flat 7$ - $\sharp 9$ - $\sharp 11$ = dom 7($\sharp 9\sharp 11$)

Diminished Scale Fingerings

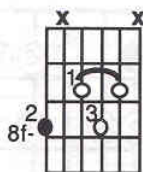
Whole-half		Whole-half		Half-whole		Half-whole	
6 5 4 3 2 1	6 5 4 3 2 1	6 5 4 3 2 1	6 5 4 3 2 1	6 5 4 3 2 1	6 5 4 3 2 1	6 5 4 3 2 1	6 5 4 3 2 1
1	2	1	2	3	4	3	4

The **diminished scale**, being symmetrical, is an example of a scale which works well for sequential riffs; ideas that repeat themselves up or down the fingerboard using the same rhythms but with different notes. Simply take a riff and slide it up or down 3 frets, an interval of a minor 3rd.

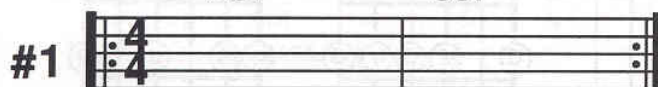
CD Track #25



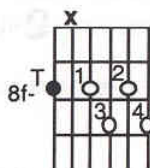
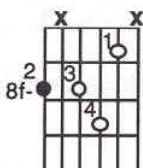
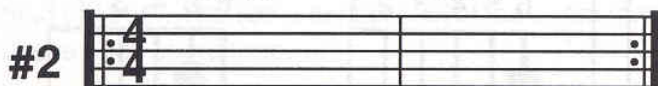
Ao7



Co7

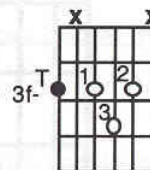


Use A, C, E $\flat$ or G $\flat$ whole-half diminished

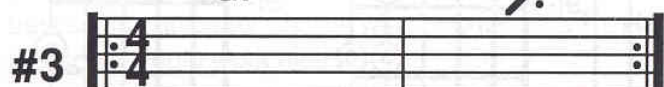
C7 $\flat$ 9C7 $\flat$ 5

Use C, E $\flat$, G $\flat$ or A half-whole diminished

It's possible to superimpose (play a scale, arpeggio or chord whose root is different than the root of the chord over which the superimposed scale, chord or arpeggio is to be played) the half-whole diminished scale over an unaltered dominant chord. Even though the chord doesn't contain the tension tones ($\flat$ 5, $\flat$ 9 or $\sharp$ 9), the scale will still sound great. If the tension tones sound "wrong" to you in this application, don't hang on them. Instead, resolve your phrase to a chord tone. The root of the half-whole diminished scale must be located one half-step above the root of the dominant 7 chord.



G7

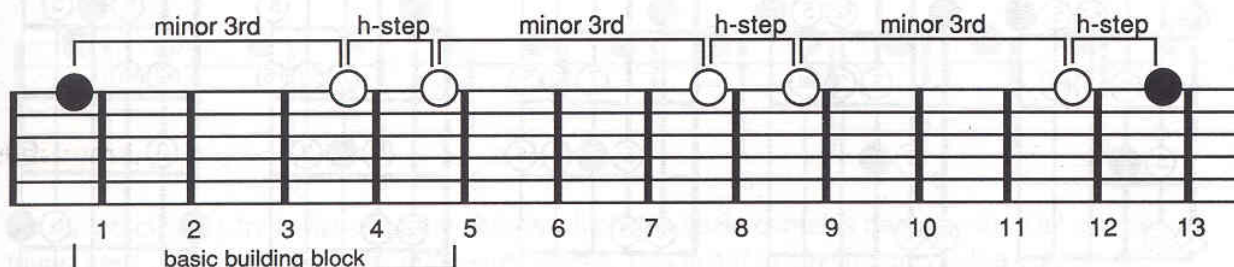


Use A $\flat$, B, D or F half-whole diminished

The Augmented Scale

The augmented scale is another type of symmetrical scale. (Don't confuse this scale with the whole-tone. The whole-tone scale is used over an augmented chord.) It is composed of alternating augmented 2nd's and half-steps. (An augmented 2nd is the same in sound as a minor 3rd.) Only four different versions of this scale are possible: one beginning on C, one on C $\sharp$, one on D and one on E $\flat$. Like the whole-tone scale, this one also has only six notes.

augmented scale on one string



notes on which the scale pattern repeats itself



Formula for augmented scale - 1 - $\sharp 2$ - 3 - 5 - $\flat 6$ - 7 - 8

All symmetrical scales repeat themselves. This one repeats itself every major 3rd interval. This translates to every four frets on the fingerboard. In other words, if you begin this scale on the first fret of the 6th string, you can repeat the fingering pattern beginning at the 5th fret of the same string and at the 9th fret.

Although not as frequently used as some of the other symmetrical altered scales, this scale can be useful for soloing over the following chords:

1-3-5 = maj triad

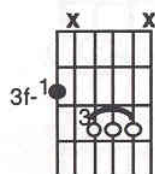
1-3-5-7 = maj 7

1-3- $\sharp 5$ = aug triad

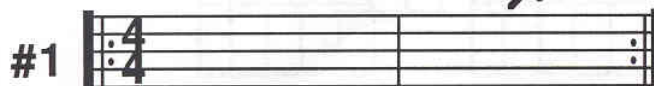
1-3- $\sharp 5$ -7 = maj 7 $\sharp 5$

Vamp using augmented scale:

CD Track #26

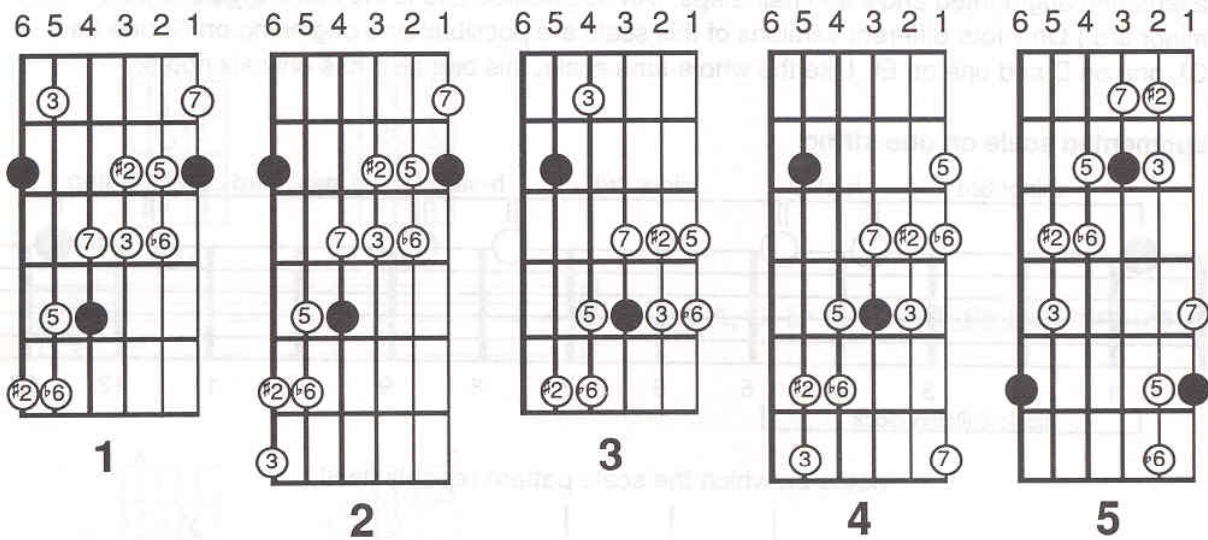


Gmaj7 $\sharp 5$



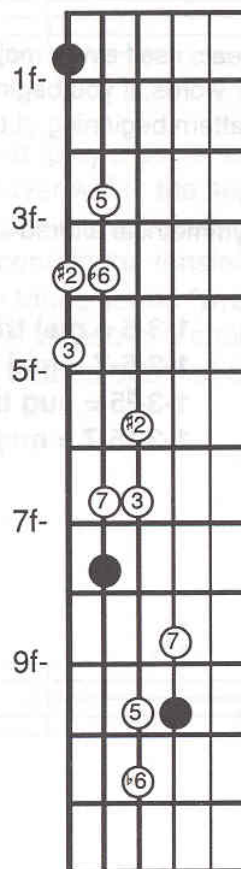
Use G, B or E $\flat$ augmented scales

Augmented Scale Fingering Patterns



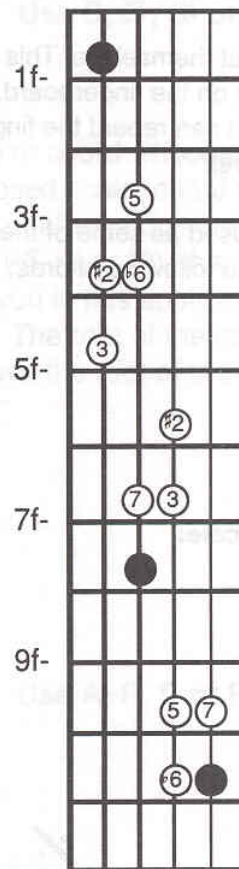
extended (root on 6)

6 5 4 3 2 1



extended (root on 5)

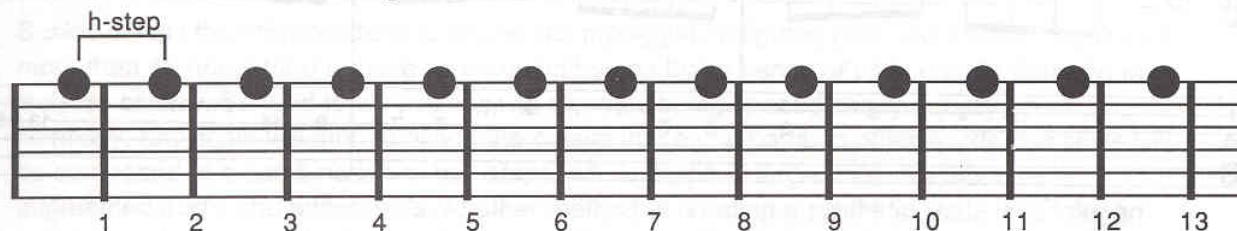
6 5 4 3 2 1



The Chromatic Scale

This scale contains all scale possibilities. It is made up of 12 equally spaced half-steps and this is why it is a member of the symmetrical scale family. As a result, there can only be one chromatic scale. Pick any note and proceed by half-steps up or down the fingerboard. Any note in this scale can be considered the root. Because of the equal distribution of pitches, no single note stands out as being more important than any other.

Chromatic scale on one string



It's not practical to try to list all of the chords which this scale contains because they all can be found here. This scale will work over every chord. This is not to say that this is the only scale you'll ever need to learn! Because this scale is so ungrounded, it must be used sparingly. If overused, your solo will sound rambling, adrift in a sea of notes. It's a good scale to use over various chords which sound ambiguous, such as the $\text{dom7}^{\flat}5$, $\text{dom7}^{\sharp}5$ and diminished 7th chords.

Chromatic scale spellings:

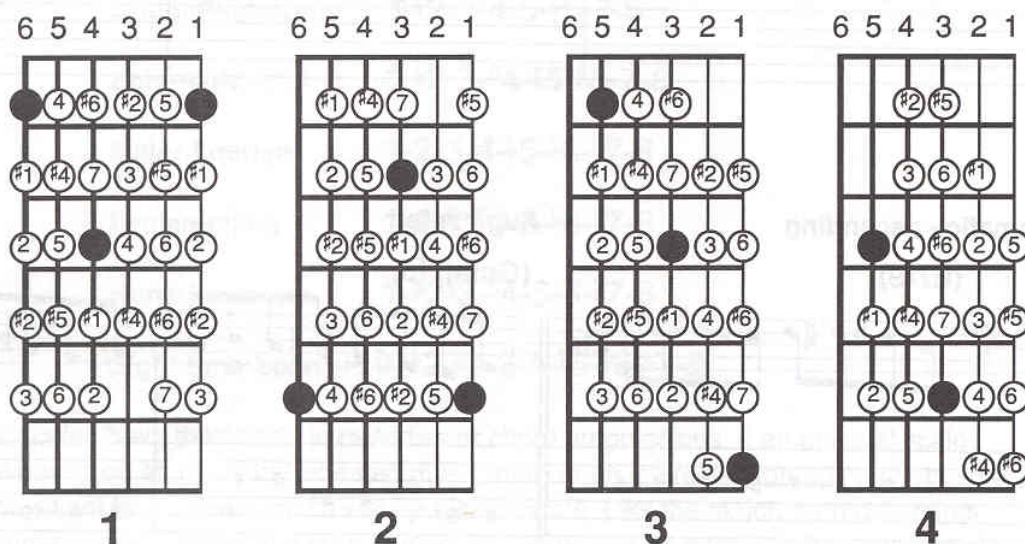
using sharps - **C-C $\sharp$ -D-D $\sharp$ -E-F-F $\sharp$ -G-G $\sharp$ -A-A $\sharp$ -B-C**

using flats - **C-D $\flat$ -D-E $\flat$ -E-F-G $\flat$ -G-A $\flat$ -A-B $\flat$ -B-C**

One possible chromatic scale formula

1- $\flat$ 2-2- $\flat$ 3-3-4- $\flat$ 5-5- $\flat$ 6-6- $\flat$ 7-7-8:

Chromatic Scale Fingering Patterns



Typical sequential ideas using **symmetrical altered scales****CD Track #27****Whole-tone****(A^b7#5)**

T 1 3 1 3 5 3 5 3

A 5 7 5 7 9 7 9 7

B 9 11 9 11 13 11 13 11

Diminished half-whole**(G^b7^b9)**

T 3 4 3 5 6 6 4 3

A 6 7 6 8 9 9 7 6

B 9 10 9 11 12 12 10 9

Diminished whole-half**(F^o7)**

8va

T 1 4 1 3 4 7 4 6

A 7 10 7 9 10 13 10 12

B 13 16 13 15 16 19 16 18

Chromatic - ascending**(E7#9)****Augmented****(Gmaj7#5)**

T 4 5 6 7 5 6 7 8

A 6 5 6 4 5 3 4 3

B 10 9 10 8 9 7 8 7

Synthetic Scales

Any set of notes can be ordered in a logical way to form a scale. Our system of music theory divides the octave into 12 equal half-steps. Some composers have experimented with dividing the octave into smaller intervals. Using these quarter-tone intervals or even smaller, micro-tone intervals, will result in an octave division that exceeds 12 pitches. By reordering the octave into many small intervals, scales with 24 or more notes are possible. For practical purposes, the guitar is limited to scales of between 4 and 11 notes.

Scales of less than 5 notes tend to sound like arpeggiation figures (outlined chords). Scales of more than 10 notes tend to have so many half-steps that a sense of pitch priority (tonicity) is lost; the scale will sound to chromatic, with all notes being spaced nearly equally apart. Normally, any scale will tend to divide the octave into equal parts. In other words, the scale will be composed of a combination of half-steps, whole-steps or larger intervals, such as augmented 2nd's and minor 3rd's. Another method of creating a synthetic scale is to take an existing scale and modify it by raising or lowering one of its pitches. By lowering the 2nd degree of the major scale, a new scale is created which could be called major b2.

Major b2 scale 1-b2-3-4-5-6-7-8

Yet another way of inventing new melodic and harmonic material is to splice two different scales together. By taking the front half of a major scale and attaching it to the back half of the harmonic minor scale, a new scale is formed, the harmonic major.

Harmonic Major scale 1 - 2 - 3 - 4 - 5 - b6 - 7 - 8

The melodies of non-American folk music have long been a source of unusual scales. Some examples of these folk-based scales are included here.

Neapolitan minor	1-b2-b3-4-5-b6-7-8
Neapolitan major	1-b2-b3-4-5-6-7-8
Oriental	1-b2-3-4-b5-6-b7-8
Double Harmonic	1-b2-3-4-5-b6-7-8
Enigmatic	1-b2-3-#4-#5-#6-7-8
Major Locrian	1-2-3-4-b5-b6-b7-8
Lydian minor	1-2-3-#4-5-b6-b7-8
Hunarian major	1-#2-3-#4-5-6-b7-8
Eight-tone Spanish	1-b2-b3-3-4-b5-b6-b7-8

Most synthetic scales have their basis in melodies or chord progressions. If an unusual scale suggests itself based on an ostinato (repeated music idea) or an interesting grouping of unusual chords, you may want to explore it as if it were a type of scale. Like the major, harmonic minor and melodic minor scales, modes and their respective chords can be extracted from any set of pitches. The key to developing your own scales and modes is experimentation.

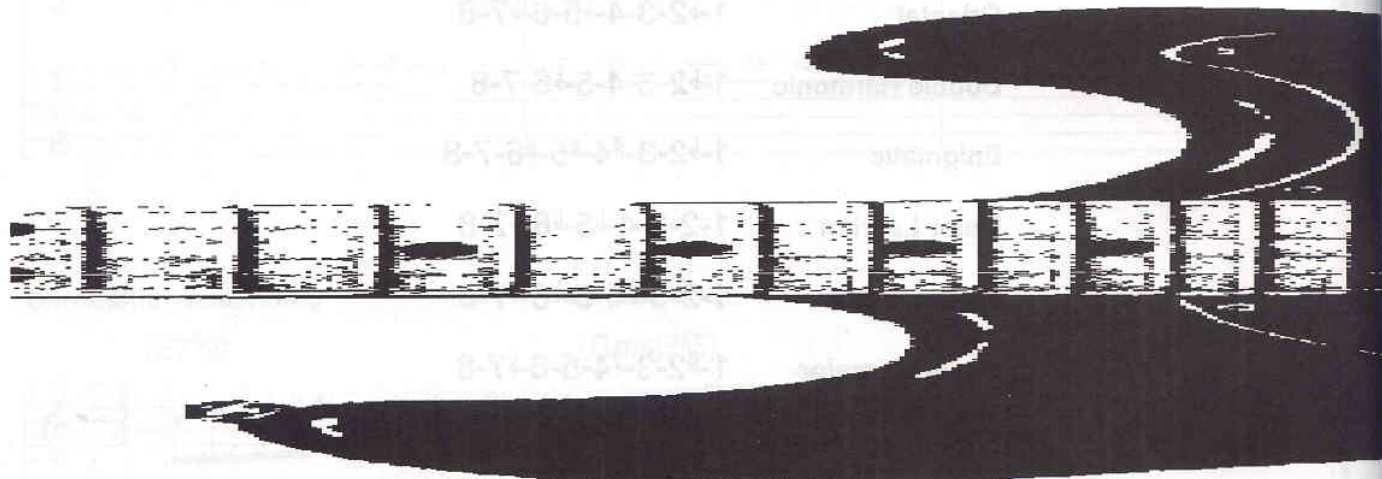
Bebop Scales

Another group of synthetic scales has been developed by players of the jazz style known as bebop. An analysis of many of the solos from musicians as diverse as Louis Armstrong, Lester Young, Coleman Hawkins and Charlie Parker, has resulted in what are called the bebop scales. These scales evolved because many musicians found that by altering the traditional scales slightly, a stronger sense of melodic movement was possible.

The bebop major scale is simply a major scale with the addition of the $\flat 7$. This addition makes for an eight note scale. Another synthetic scale is called the bebop dominant. This scale takes the mixolydian mode and adds a $\sharp 5$ note, again making for an eight note scale. And by adding a natural 3rd to the Dorian mode, the Bebop minor results.

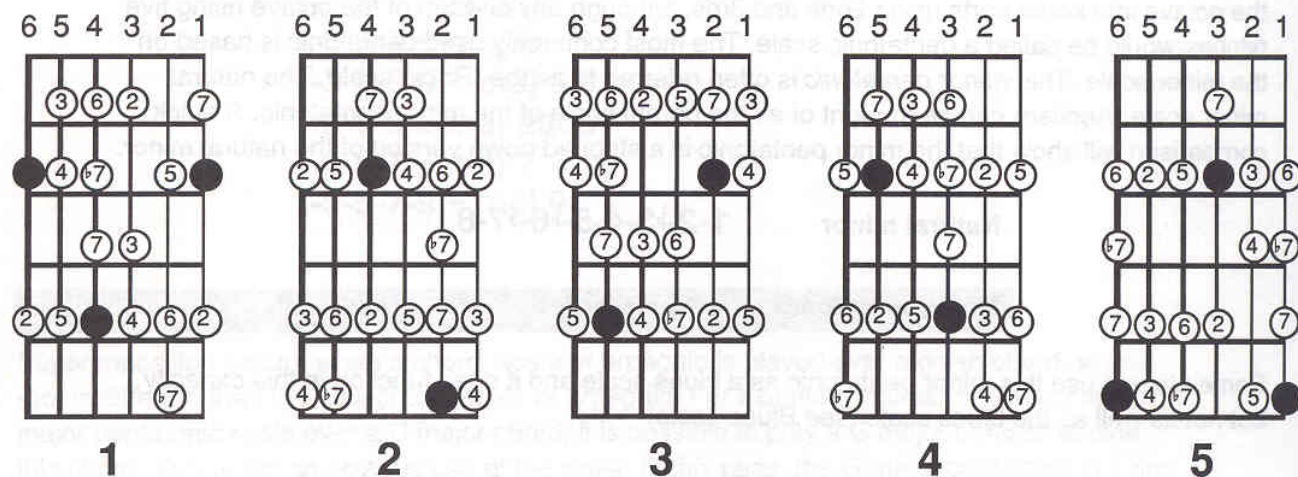
Bebop major	added note 1-2-3-4-5-6-($\flat 7$)-7-8 (Major scale with added $\flat 7$ th)
Bebop dominant	added note 1-2-3-4-5-6-($\sharp 5$)-6-$\flat 7$-8 (Mixolydian mode with added $\sharp 5$ th)
Bebop minor	added note 1-2-$\flat 3$-(3)-4-5-6-$\flat 7$-8 (Dorian mode with added natural 3rd)

For a detailed discussion of these scales, consult "How To Play Bebop", by David Baker. Frangipani Press. Bloomington, IN 47402.



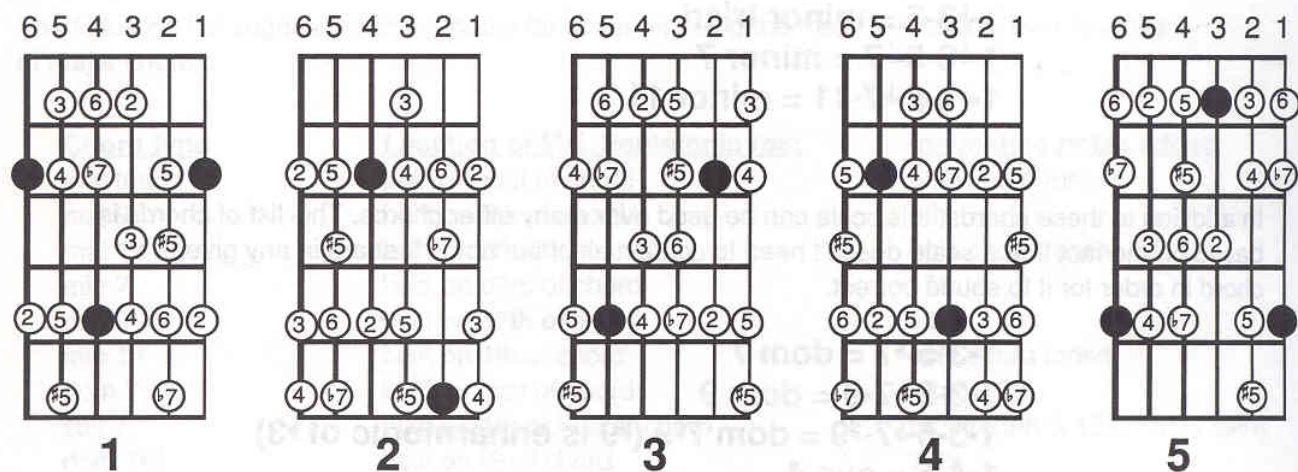
Major Bebop Scale Fingering Patterns (condensed only)

Use these scales as you would use the major scale. (See major scales for more detailed information.)



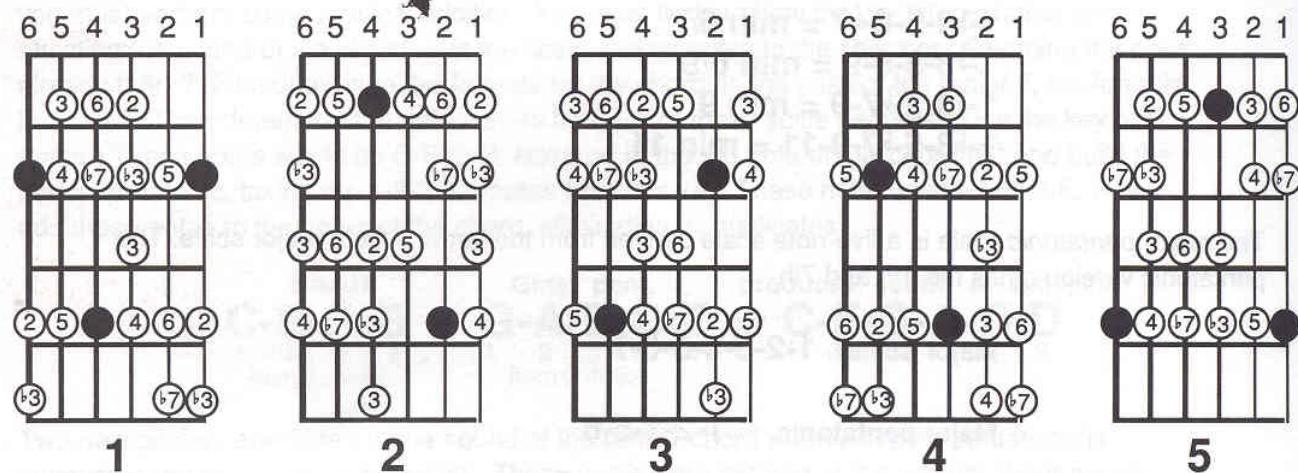
Dominant Bebop Scale Fingering Patterns (condensed only)

Use these scales as you would use the mixolydian mode. (See mixolydian mode for more detailed information.)



Minor Bebop Scale Fingering Patterns (condensed only)

Use these scales as you would use the dorian mode. (See dorian mode for more detailed information.)



Pentatonic Scales

A pentatonic scale is one which has five (penta) tones (tonic). These five notes tend to divide the octave into equal parts using 2nds and 3rds, although any division of the octave using five pitches would be called a pentatonic scale. The most commonly used pentatonic is based on the minor scale. This *minor pentatonic* is often referred to as the "Rock" scale. The natural minor scale (Aeolian) can be thought of as the parent scale of the minor pentatonic. A quick comparison will show that the minor pentatonic is a stripped down version of the natural minor.

Natural minor **1-2-♭3-4-5-♭6-♭7-8**

Minor pentatonic **1-♭3-4-5-♭7-8**

Some players use this minor pentatonic as a blues scale and it does function in this capacity, but not as well as the blues scale (see Blues scale).

Because this scale does contain the 1-♭3-5-♭7, it's possible to derive chords from it.

1-5 = power chord

1-♭3-5 = minor triad

1-♭3-5-♭7 = minor 7

1-♭3-5-♭7-11 = minor 11

In addition to these chords, this scale can be used over many other chords. This list of chords is based on the fact that a scale doesn't need to contain all of the notes that are in any given chord in order for it to sound correct.

1-3-5-♭7 = dom 7

1-3-5-♭7-9 = dom 9

1-3-5-♭7-♯9 = dom 7♯9 (♯9 is enharmonic of ♭3)

1-4-5 = sus 4

1-4-5-♭7 = sus 7

1-4-5-♭7-9 = sus 9

1-♭3-5-6 = min 6

1-♭3-5-6-♭7 = min 6/7

1-♭3-5-6-9 = min 6/9

1-♭3-5-♭7-9 = min 9

1-♭3-5-♭7-9-11 = min 11

The *major pentatonic* scale is a five-note scale derived from the larger 7-note major scale. The pentatonic version omits the 4th and 7th.

Major scale **1-2-3-4-5-6-7**

Major pentatonic **1-2-3-5-6**

This scale is very useful for getting a "country" sound and for soloing over major triads. Use them for soloing over any of the following chords:

1-2-5 = sus 2
 1-3-5 = maj triad
 1-3-5-6 = maj 6
 1-3-5-6-9 = maj 6/9
 1-3-5-9 = maj add9
 1-3-5-7 = maj 7
 1-3-5-7-9 = maj 9

Superimposition

Superimposition occurs when a chord, scale or arpeggio is played over a given chord, whose root is different than the new chord, scale or arpeggio. For example, instead of playing the C major pentatonic scale over a C major chord, it is possible to play a G major pentatonic over this chord. This is not an obvious use of the scale. In this case, the G major pentatonic is being superimposed over the C major chord. G is the 5th of the C major chord, so the major pentatonic beginning on the 5th of the chord is the starting place for the superimposed scale. Superimposition produces some very interesting and useful possibilities.

The following list suggests starting notes for superimposing the major pentatonic over a series of major chords.

<u>Chord type</u>	<u>Location of Maj. Pentatonic root</u>	<u>Interesting notes added</u>
maj triad	built on root of chord	only chord tones
maj 9	built on 5th of chord	6th
maj 13	built on 9th of chord	only chord tones
min 7	built on b3rd of chord	11th
min 9	built on b7th of chord	11th
min 13	built on 4th of chord	only chord tones
dom 7	built on root of chord	9th & 13th
sus 7	built on 4th or b7th of chord	on 4th (9th & 13th) on b7 (9th)
dom 7#9	built on #9 of chord	11th
dom 7#(5#9)	built a tritone from root of chord	b9th & #11th

To determine the resulting sound of superimposing a pentatonic scale over any given chord, you must perform some musical addition. You must find out how the pentatonic notes are affecting the sound of the chord — is the scale adding notes to the chord or reinforcing the ones already there? First determine the formula for the chord. In the case of the major 7, the formula is 1-3-5-7. Then determine the note names for each of these scale degrees. (Use the key of C major.) These notes would be C-E-G-B. Next, go to the 5th note of this chord (G) and build the major pentatonic, taking the 1-2-3-5-6 notes from this key. These notes are G-A-B-D-E. Now add these notes to the notes of the chord, eliminating all duplicates.

$$\begin{array}{c}
 \text{Cmaj7} \\
 \text{C-E-G-B} \\
 \text{1 3 5 7} \\
 \text{from C major}
 \end{array}
 +
 \begin{array}{c}
 \text{Gmaj pent.} \\
 \text{G-A-B-D-E} \\
 \text{1 2 3 5 6} \\
 \text{from G major}
 \end{array}
 =
 \begin{array}{c}
 \text{produces sound of Cmaj6/9} \\
 \text{C-E-G-A-B-D} \\
 \text{1 3 5 6 7 9}
 \end{array}$$

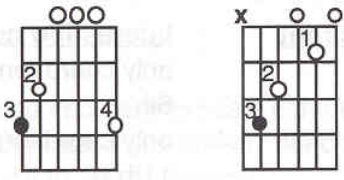
Two new pitches are added to the sound of the Cmaj7 chord when a G maj. pentatonic is superimposed over it: the 6th and 9th. These notes were not part of the original chord sound.

Just as the Aeolian (natural minor) mode is the mode which begins on the 6th note of the major scale, the same is true of the relationship between the minor pentatonic and the major pentatonic. The root of the minor pentatonic scale begins on the 6th of any major pentatonic scale. Given this fact, the previous chart showing superimpositions could be rewritten to show what minor pentatonic scale to use to produce the same note extensions and alterations.

<u>Chord type</u>	<u>Location of Min. Pentatonic root</u>	<u>Interesting notes added</u>
maj triad	built on 6th of chord	only chord tones
maj 9	built on 3rd of chord	6th
maj 13	built on 7th of chord	only chord tones
min 7	built on root of chord	11th
min 9	built on 5th of chord	11th
min 13	built on 9th of chord	only chord tones
dom 7	built on 6th(13th) of chord	9th & 13th
sus 7	built on 2nd(9th) or 5th of chord	on 2nd (9th & 13th) on 5th (9th)
dom 7#9	built on root of chord	11th
dom 7#(5#9)	built on #9 of chord	b9th & #11th

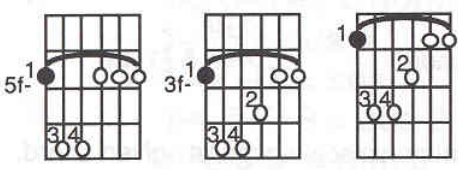
CD Track #28

Pentatonic vamps:



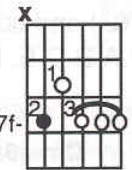
G **C**

Use G major pentatonic
(all black dots on G notes)



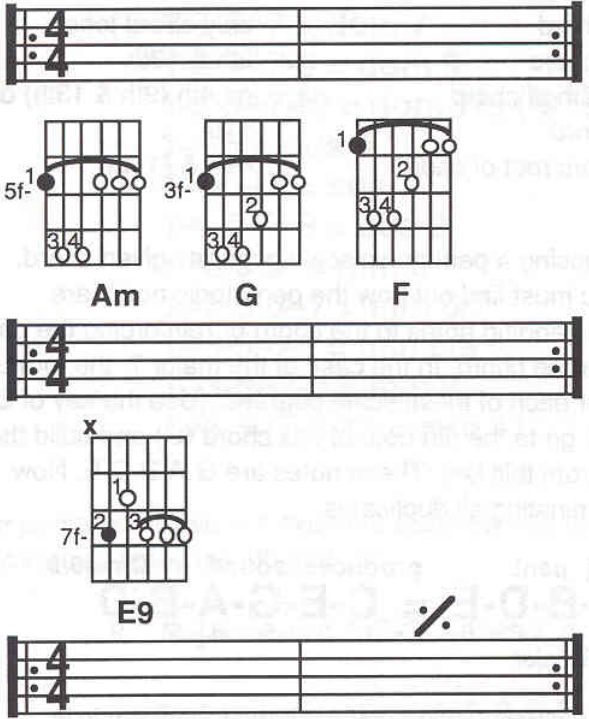
Am **G** **F**

Use A minor pentatonic

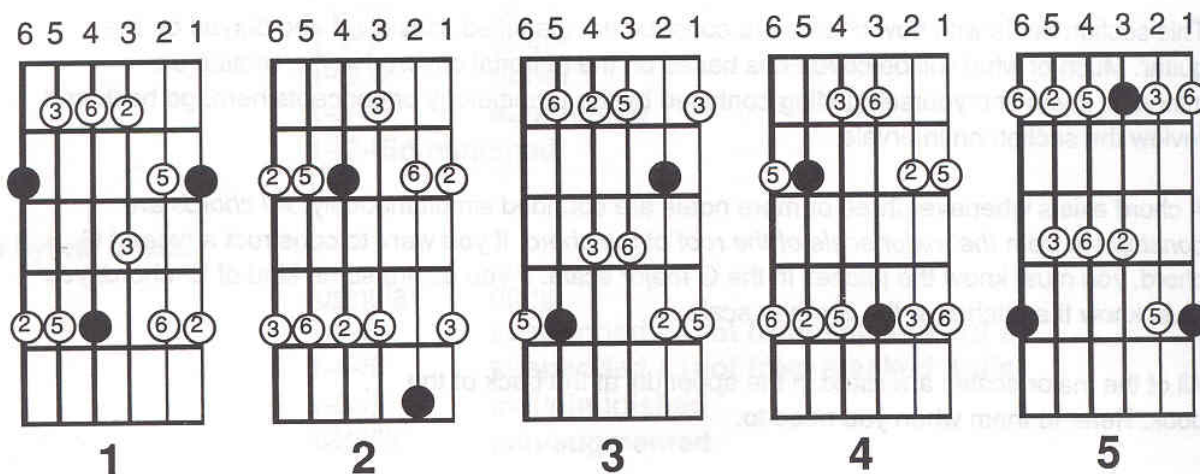


E9

Superimpose B minor pentatonic over this chord

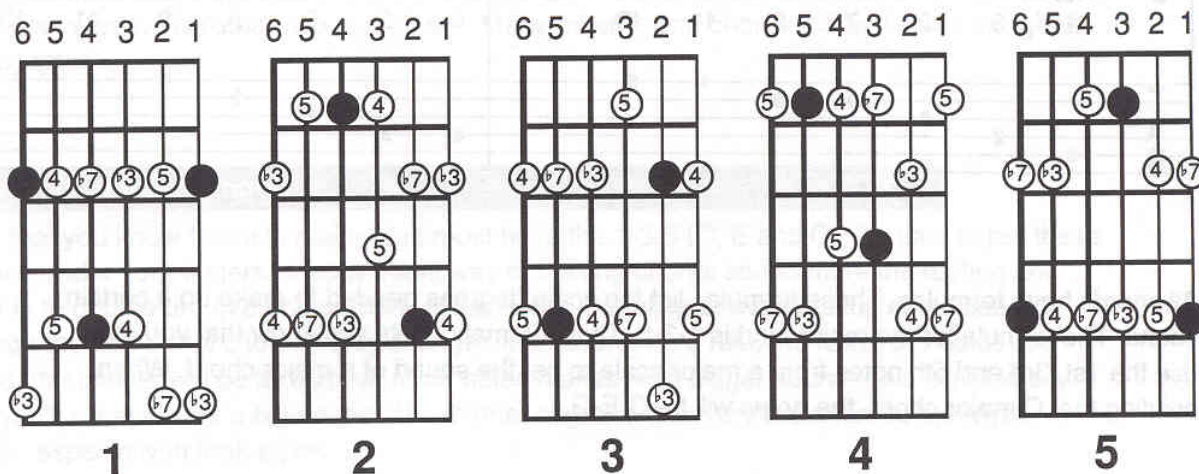


Major Pentatonic Fingering Patterns



Minor Pentatonic Fingering Patterns

Notice that these patterns are the same as those for the major pentatonic patterns, only the root notes have shifted around. Pattern 1 here is the same as pattern 5 above and pattern 2 here is same as pattern 1 above, etc.



Chord Construction

This section deals with how chords are constructed, identified, classified and played on the guitar. Much of what will be covered is based on the material covered in the section on intervals. If you find yourself getting confused by the terminology or concepts here, go back and review the section on intervals.

A chord exists whenever three or more notes are sounded simultaneously. *All chords are constructed from the major scale of the root of the chord.* If you want to construct a type of G chord, you must know the pitches in the G major scale. If you desire some kind of E $\flat$ chord, you must know the pitches in the E $\flat$ major scale.

All of the major scales are listed in the appendix at the back of the book. Refer to them when you need to.

Three Note Chords

Any chord which has only three notes is called a *triad*. There are four different traditional triads: major, minor, diminished and augmented. Other triads exist which are less common, but are heard often enough to be included here. They are: suspended 2, suspended 4, major/diminished and minor/augmented. These last four triads will be called *hybrid* chords.

Our system of chord construction is based on a *tertian* ordering of pitches. The term tertian means "of the third", as in stacking intervals of a third.

stacking intervals of a 3rd

Scale	Notes	T	A	B
Major	1 3 5 7 9 11 13	1 3 5	3 2 0	3 2 0
Minor	1 3 5 7 9 11 13	1 3 7	0 3 2	0 3 2
Diminished	1 3 5 7 9 11 13	1 3 9	0 3 2	0 3 2

All chords have formulas. These formulas list the scale degrees needed to make up a certain sound. The formula for the major triad is 1-3-5. This information lets you know that you must use the 1st, 3rd and 5th notes from a major scale to get the sound of a major chord. When building the C major chord, the notes will be C-E-G.

C major scale with the major triad notes in boxes

Scale Degree	1	2	3	4	5	6	7	8
Note	C	D	E	F	G	A	B	C

the four traditional triads:

<u>formula</u>	<u>name</u>
1-3-5	major
1- $\flat$ 3-5	minor
1-3- $\sharp$ 5	augmented
1- $\flat$ 3- $\flat$ 5	diminished

four hybrid triads:

<u>formula</u>	<u>name</u>
1-2-5	suspended 2 (not from stacked 3rd's)
1-4-5	suspended 4 (not from stacked 3rd's)
1-3- $\flat$ 5	maj/diminished
1- $\flat$ 3- $\sharp$ 5	min/augmented

Building the minor triad (1- $\flat$ 3-5) from the C major scale necessitates lowering the 3rd (E) by one half-step to E $\flat$. This produces a chord made up of C-E $\flat$ -G. The augmented triad (1-3- $\sharp$ 5) differs from the major triad by one note. The 5th must be raised by one half-step; resulting in a G $\sharp$. The notes in a C augmented triad are: C-E-G $\sharp$. The diminished triad must have a lowered 3rd and lowered 5th. The C diminished triad is made up of C-E $\flat$ and G $\flat$ notes. All chords are constructed in this way, no matter how many notes are in them.

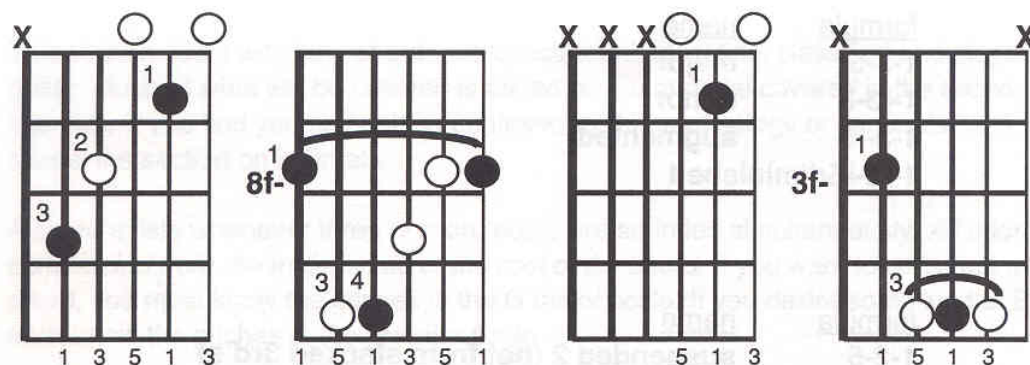
The hybrid triads are chords which exist outside the traditional classical music tradition. They are not chords normally heard in the music of Bach and Beethoven and therefore not chords you'd encounter in an introductory music theory class. They're included here because rock and jazz musicians use them often. The 1-2-5 and the 1-4-5 chords are not constructed by stacking intervals in 3rds. The other two chords are. Many other hybrid chords will be listed throughout this chapter.

Doublings and Voicings

Now that you know that a C major triad must have the 1-3-5 (C, E and G), it's time to put these pitches under your fingers. A convenient way of making chords sound more interesting and fuller is to double or triple one or more of the notes. Doubling or even tripling notes doesn't change the name of a chord, it only changes the texture. As a rule, the fewer the notes in a chord, the thinner will be its texture; more notes makes for a bigger sound. This is not to say that you'll always want a big sound. The thinner sound is also very important to the rhythm player, especially in funk styles.

The ordering of a set of pitches, from the lowest to the highest, is called voicing. As you know, the major triad has to have the 1-3-5, but these notes can be played in any order. They could be played as 3-5-1 or 5-3-1 or any other combination. When notes become doubled or tripled, the number of different ways to voice a chord increases. Following are a few ways to play the C major chord on the guitar. The voicings are shown underneath each chord box. (Read the voicings from left to right, lowest note to highest.)

C major triad voicings: Note that the black dot always represents the location of the chord root, which is the 1 of the chord. Also note the doublings and tripling when present.

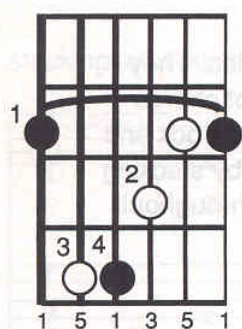


All of these chord forms are called C major, but they all sound very different from one another because of their voicings.

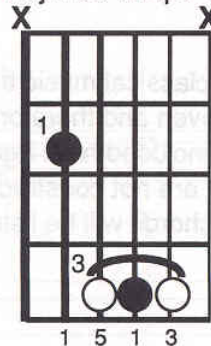
Visualizing Triads

The purpose of learning the voicing of any chord is to give you the power to visualize on the fingerboard in terms of scale degrees. If you know what scale degrees you're playing, you will have the power to make changes to chord forms to create other chords. It's possible to use two common triad shapes to generate all of the various types of triads.

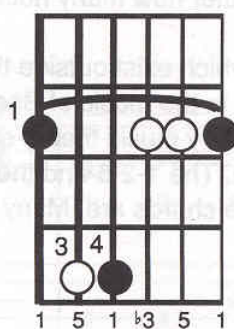
maj.triad-shape #1



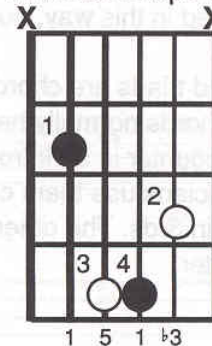
maj.triad-shape #2



min.triad-shape #1

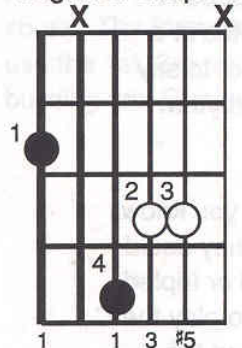


min.triad-shape #2

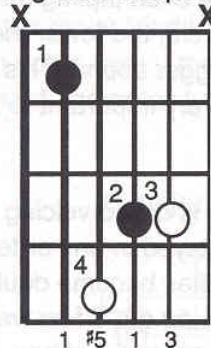


By locating the 3rd's in the major forms and lowering them by one half-step, a minor triad is formed.

aug.triad-shape #1

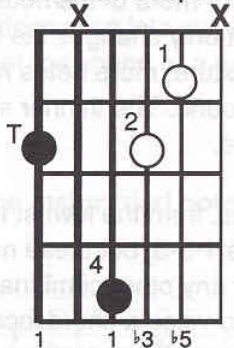


aug.triad-shape #2

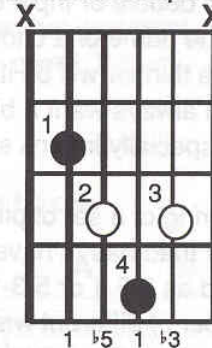


By locating the 5th's in the major forms and raising them by one half-step, the augmented triad is formed.

dim.triad-shape #1



dim.triad-shape #2



By locating the 3rd's and 5th's in the major forms, and lowering them by one half-step, the diminished triad is formed.

Spelling Chords in Sharp and Flat Keys

The addition of accidentals (sharps and flats) in a major key does affect the spelling of chords. An example will reveal what happens when working with a key with many sharps.

E major scale

E-F#-G#-A-B-C#-D#

scale degrees - 1 2 3 4 5 6 7

This scale has 4 sharped notes. You must remember this when building chords with an E root note.

traditional triads spelled from the key of E

major triad (1-3-5) = E, G# & B

minor triad (1- $\flat$ 3-5) = E, G & B

diminished triad (1- $\flat$ 3- $\flat$ 5) = E, G & B $\flat$

augmented triad (1-3- $\sharp$ 5) = E, G# & B#

When the minor triad calls for the third to be lowered ($\flat$ 3), the G# becomes G natural. The diminished triad requires both a lowered third ($\flat$ 3) and a lowered fifth ($\flat$ 5), so the B note is going to become B $\flat$. In the augmented triad, the fifth is raised by one half-step ($\sharp$ 5), to become B#. Now B# is an unusual spelling for what most people call a C note. However, it would be incorrect to spell the E augmented triad with a C note because the formula would then be 1-3- $\flat$ 6 and this is not the correct spelling.

When working in the flat keys, you must learn what pitches are flatted and which aren't. (The major key chart in the appendix will help you learn the major scales.)

A $\flat$ major scale

A $\flat$ -B $\flat$ -C-D $\flat$ -E $\flat$ -F-G

scale degrees - 1 2 3 4 5 6 7

traditional triads spelled from the key of A $\flat$

major triad (1-3-5) = A $\flat$, C & E $\flat$

minor triad (1- $\flat$ 3-5) = A $\flat$, C $\flat$ & E $\flat$

diminished triad (1- $\flat$ 3- $\flat$ 5) = A $\flat$, C $\flat$ & E $\flat$

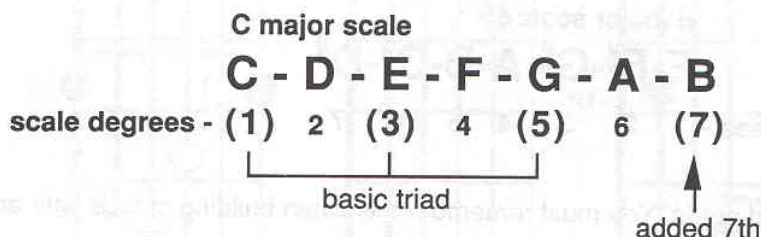
augmented triad (1-3- $\sharp$ 5) = A $\flat$, C & E

Some unusual changes happen when dealing with a key with four flats such as A $\flat$ major. In the minor chord, the $\flat$ 3 results in a C $\flat$. In the diminished triad, the $\flat$ 5 results in a doubly flatted note (E $\flat\flat$). (This is the enharmonic of D, but for the same reason as stated previously, it would be incorrect to change the pitch name.) In the augmented triad, the $\sharp$ 5 results in a naturalized E.

A little practice is all it takes to master the skill of properly spelling chords. The most important piece of information you need to know to solve these little puzzles is what notes are sharped and flatted in all of the major scales. Without knowing this fundamental information, it's impossible to come up with correct chord spelling.

Four Note Chords

Most chords with four different pitches are called 7th chords. The fourth note comes from stacking another interval of a 3rd on top of a triad. This new note will be the 7th of the scale.



C major scale with the major 7th chord notes in boxes

scale degrees →

1	2	3	4	5	6	7	8
T							
A		0	2	3	0	2	0
B	3	0	2	3	0	2	1

Each traditional triad can be made into some type of 7th chord. In addition, other hybrid 4 note chords can be formed by altering the 5th, 7th and by adding the 2nd. These other 4 note chords are very useful, but don't fit neatly into the traditional stacked-third method of building chords. Like the hybrid triads, these chords are used by rock, pop and jazz musicians.

traditional 7th chords

major 7th (1-3-5-7)
 minor 7th (1-♭3-5-♭7)
 diminished 7th (1-♭3-♭5-♭7)
 half-diminished 7th (1-♭3-5-♭7)
 dominant 7th (1-3-5-♭7)
 augmented 7th (1-3-♯5-♭7)

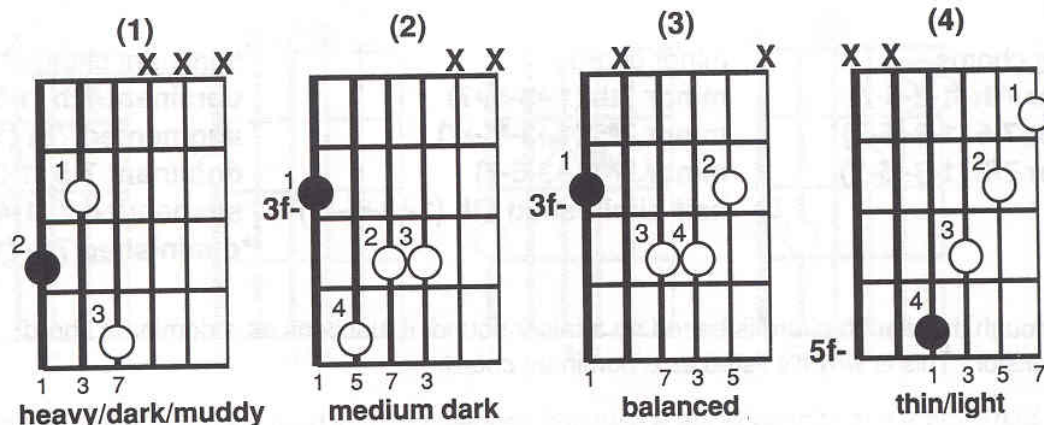
hybrid four-note chords

major 7sus2 (1-2-5-7)
 major 7^b5 (1-3-♭5-7)
 major 7[#]5 (1-3-♯5-7)
 minor 7[#]5 (1-♭3-♯5-♭7)
 minor 7 (1-♭3-5-♯7)
 dominant 7^b5 (1-3-♭5-♭7)
 suspended 7 (1-4-5-♭7)

Notes can be doubled and tripled in larger chords just as they can in triads. It becomes more difficult to double and triple pitches when the chords contain 4 or more notes; You simply run out of strings.

With larger chords, voicing becomes more important. However, voicing is very subjective. What sounds good to one person may sound muddy to another. One person may prefer big full sounding voicings which use all six strings and another may prefer voicings which use only 3 or 4 strings.

Gmaj7 chords - moving from dark (heavy/thick) voicings to lighter (thinner) voicings



The quickest way to achieve a "dark" sound on the guitar is to voice a chord so that an interval of a 4th or smaller occurs between the bass note on the 6th string and the next note in the chord, such as in the first G major7 chord above. In this chord, an interval of a M3rd exists between the root and the 3rd. In the second chord, the lowest interval is a P5th, a common voicing. This P5th interval is not as muddy as the M3rd in the previous chord. The third Gmaj7 is the most balanced of the four here. It has an interval of a M7 between the root of the chord and the next note up. The last voicing avoids a low bass note entirely, making for a lighter texture. All of these chords have their place. It's up to you to experiment with your own voicings and select the appropriate musical situations to play the "dark" and the "light" sounds.

Chord Families

There are only three different families of chords: major, minor and dominant. Each family can be characterized subjectively by how they make us feel. For example, people might say that major chords are "happy", "pleasant" and consonant sounding. Minor chords are "sad" or "morose". Dominant chords are "tense" and dissonant. This is an inexact way of describing the quality of these chords.

A more accurate classification system is achieved by looking at certain interval characteristics common to each chord family. Each family of chords has distinct qualities which can be traced to the 3rd, 5th and 7th scale degrees.

major chords

natural 3rd and 7th
with an occasional
♭5 or #5 for extra
tension

minor chords

♭3 and ♭7
with the occasional
natural 7, ♭5
or #5, all added for
extra tension

dominant chords

natural 3rd and ♭7
with occasional ♭5
and #5 added for
extra tension

Major chords have unaltered 3rds and 7ths. Minors have ♭3rds and the 7th is nearly always flatted too. The dominant chords have an unaltered 3rd (like the major chords), and a flatted 7th (like the minor chords). What happens to the 5th in each chord family is not nearly as important as what happens to the 3rd and 7th.

With this classification system in mind, it's possible to arrange the twelve different 7th chords listed previously into these three chord families.

major chords

major 7th (1-3-5-7)

major 7^b5 (1-3-^b5-7)

major 7[#]5 (1-3-[#]5-7)

minor chords

minor 7th (1-^b3-5-^b7)

minor 7[#]5 (1-^b3-[#]5-^b7)

minor [#]7 (1-^b3-5-7)

half-diminished 7th (1-^b3-^b5-^b7)

dominant chords

dominant 7th (1-3-5-^b7)

augmented 7th (1-3-[#]5-^b7)

dominant 7^b5 (1-3-^b5-^b7)

suspended 7 (1-4-5-^b7)

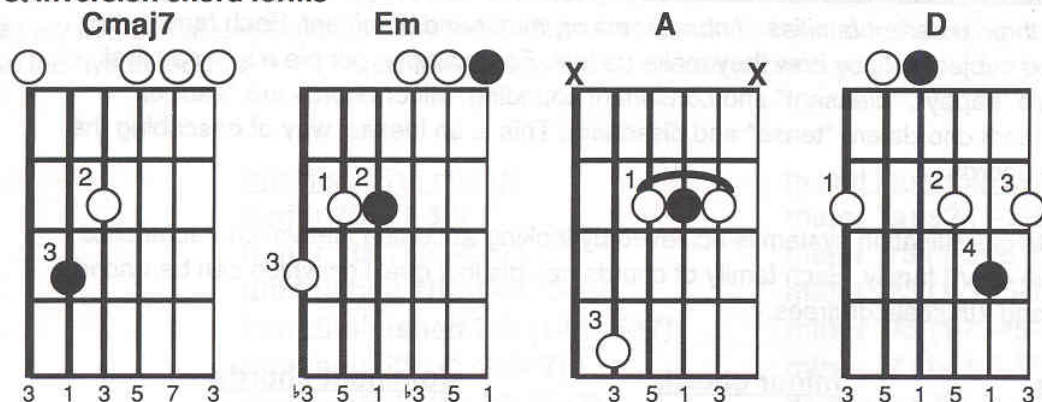
*diminished 7th (1-^b3-^b5-^b7)

*Even though the dim7th chord is based on a minor sound, it functions as a dominant chord; one of tension. This is why it's listed as a dominant chord.

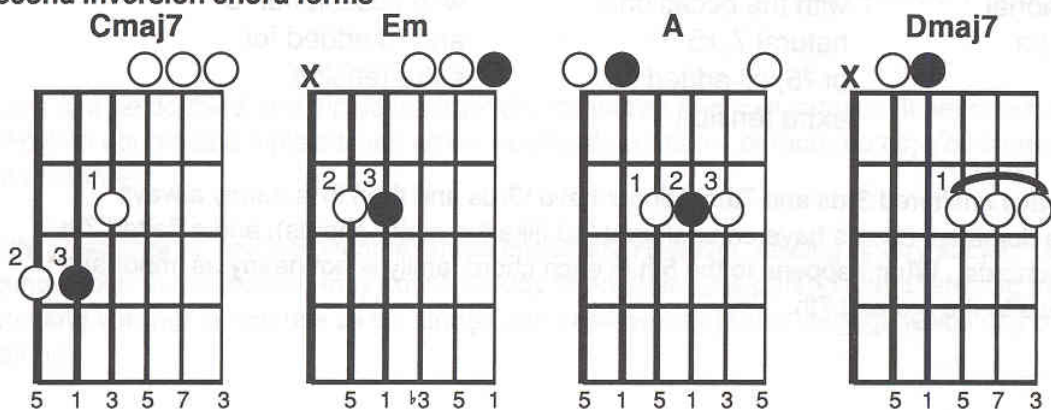
Inversion

So far, most chords have been shown in what is called *root position*. This means that the lowest sounding note in the chord, the bass note, is the root of the chord or tonic. Chords can be voiced with notes other than the root as the bass note. *Whenever a chord has a note other than the root as its bass note, it is in inversion.* Three different forms of inversion are common: *first inversion is where the 3rd of the chord is the bass note, second inversion is where the 5th of the chord is the bass note and third inversion is where the 7th of the chord is the bass note.*

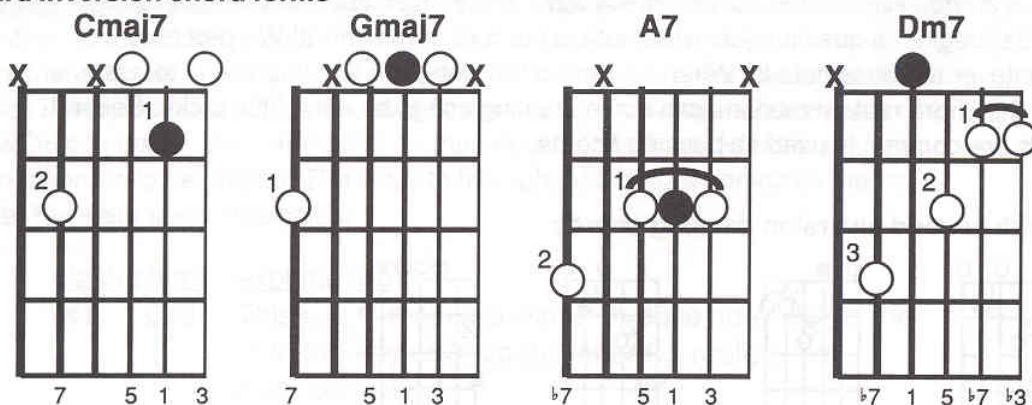
First inversion chord forms



Second inversion chord forms



Third inversion chord forms



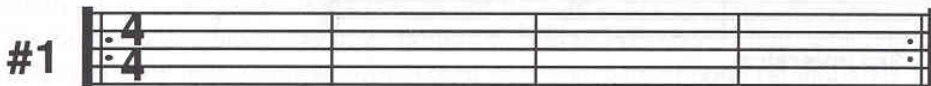
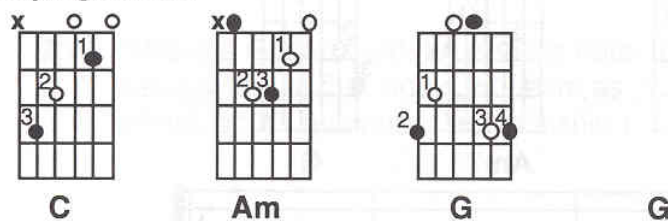
Note: It isn't possible to have a triad in third inversion because a triad doesn't have a 7th. Third inversion chords are only possible with chords which have at least 4 different notes.

Practical Uses of Inversions

Inversions are used in a number of different ways. In most instances, an inverted chord is used to achieve a different and more interesting bass line. Most chords are played in root position, with the bass note being the root of the chord. These are the most practical voicings because they sound stable harmonically. The progression from one root position chord to the next usually results in a logical and predictable bass line.

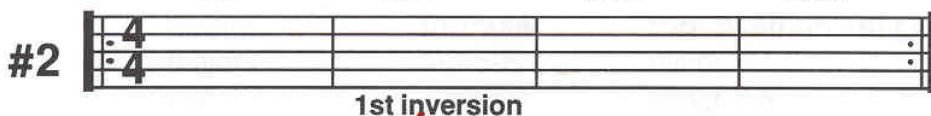
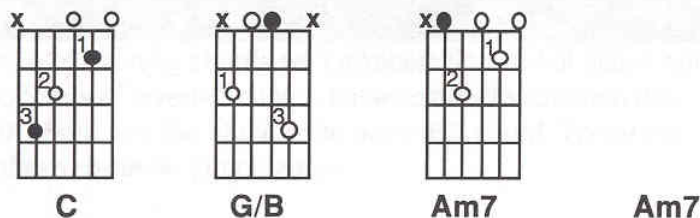
CD Track #29

root position progression



First inversion chords are usually used as passing chords between root progression chords. The overall feel of first inversion chords is one of transition. They don't have the harmonic stability of root progression chords and don't sound resolved.

progression with a passing first inversion chord



Second inversion chords are even more unsettled than first inversion chords. With these inversions, the ear begins to question just what note is the root of the chord. We perceive chords from whatever the bass note is. When we hear a low note, our first impulse is to assume that this note is the chord root. Inversions can make learning songs by ear a little tricky. Second inversion chords are commonly used as passing chords.

progression with second inversion passing chords

Diagram illustrating a progression with second inversion passing chords. The chords shown are C, Dm7/A, C/G, and G. The progression is labeled #3 and is in 4/4 time. The first two measures are marked as "2nd inversion".

Third inversion chords are very unstable harmonically and can often fool the ear into thinking that the 7th (the bass note) is the root of the chord. These chords usually make us feel uncomfortable because of the tension between the bass note and the other notes in the chord. As passing chords, they create a strong sense of movement. But like all chords, can be sustained for as long as you like.

progression with third inversion passing chord

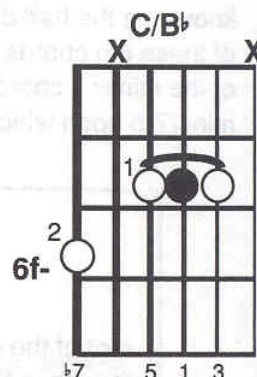
Diagram illustrating a progression with third inversion passing chords. The chords shown are C, C/B $\flat$, Am7, and G. The progression is labeled #4 and is in 4/4 time. The first measure is marked as "3rd inversion".

As a general rule, use inversions when you want a more distinctive bass line and a smoother flow between chords. By combining root position chords with various inversions, unusual and interesting chord and bass movement is possible.

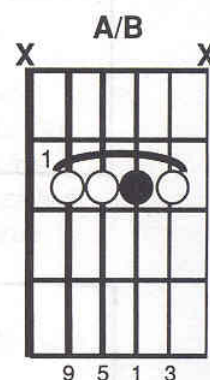
Slash Chords

Another concept closely related to inversion is called "slash chords". This is not a term from the depths of ancient music theory, but is a slang term for a practice which is very common. A slash chord is a way of designating a chord with a specific bass note. The information to the left of the slash mark let's you know what chord is to be played. The letter to the right of the slash indicates the bass note. Here are some examples:

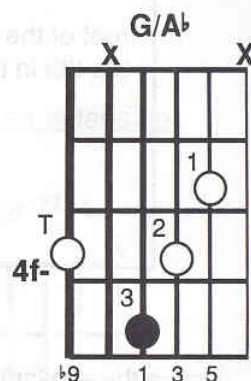
- slash chord** **explanation**
- (#1) **C/B^b** This is a C maj triad with a B^b bass note. (B^b is the ^b7 in the key of C, so this chord is really a 3rd inversion C7.)



- (#2) **A/B** This is an A maj triad with a B bass note. (B is the 9th note in the key of A, so the 9th is the bass note.)



- (#3) **G/A^b** This is a G chord with an A^b bass note. (A^b is not usually a note that would be heard as part of a G chord, so it's an unusual relationship.)



Slash chords can represent three different chord and bass note relationships. The first relationship is the most common; that of notating a chord which is in inversion. The first example above is of this type. The second relationship is where the bass note is a chord extension, such as a 9th, 11th or 13th. It is impractical to talk about chords in 4th, 5th or 6th inversion, so slash chords are used in these cases. Example 2 shows how this would look. Example 3 represents a situation where the bass note is not related to the chord in any conventional way. In jazz, it's common to see chords of this type.

Sixth Chords

As the practice of notating chords with symbols (instead of actual notes) has evolved, two forms of inverted chords have come into common use. One type is the major 6th chord and the other is the minor 6th chord. These chords are inversions of two common 7th chords.

<u>name</u>	<u>formula</u>	<u>root position 7th chord</u>
major 6	1-3-5-6	minor 7
minor 6	1- ^b 3-5-6	minor 7 ^b 5

The minor 6 and major 6 chords are four note chords which clearly don't follow the stacked 3rds principle used to form most chords. If the notes in these chords are rearranged so that they can be stacked in 3rds, it becomes obvious that each of these chords is in first inversion. The major 6th chord is a first inversion minor 7 chord and the minor 6 is a first inversion minor 7^b5 (also known as the half-diminished chord). An easy way to remember where the real root lies in any of these 6th chords is to look to the 6th scale degree. In the major 6th chord, the 6th is the root of the minor 7 chord upon which it is built. In the minor 6th chord, the 6th note is the root of the minor 7^b5 upon which it is built.

C-D-E^b-F-G-A-B^b = Cm7 (1-^b3-5-^b7)
(1) 2 (^b3) 4 (5) 6 (^b7)

root of the min7 becomes
the 6th in the maj 6 chord

E^b-F-G-A^b-B^b-C-D = E^b6 (1-3-5-6)
(1) 2 (3) 4 (5) (6) 7

C-D-E^b-F-G^b-A-B^b = Cm7^b5 (1-^b3-^b5-^b7)
(1) 2 (^b3) 4 (^b5) 6 (^b7)

root of the min7^b5 becomes
the 6th in the min 6 chord

E^b-F-G^b-A^b-B^b-C-D = E^b 6 (1-^b3-5-6)
(1) 2 (^b3) 4 (5) (6) 7

Notice the similarity of sound between the Cm7 and the E^b6 and between the Cm7^b5 and the E^bm6.

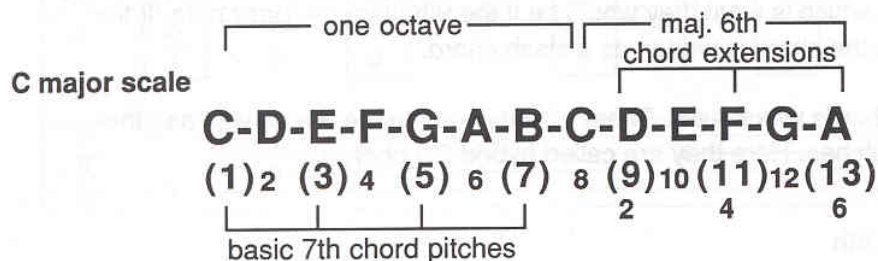
E^b6 is 1st inv. of **Cm7** **E^bm6** is 1st inv. of **Cm7^b5**

6f- 1 3 6 1 3f- 1 5 ^b7 ^b3 5 3f- 1 5 6 ^b3 1 ^b5 ^b7 ^b3

Even though the maj6 and min6 chords are really inversions of other chords, they have come to be used as root position chords.

Chord Extensions and Alterations

By extending the major scale up by a major 6th, it's possible to produce scale degrees beyond the 7th. This is how the pitches for the 9th, 11th and 13th chords are generated.

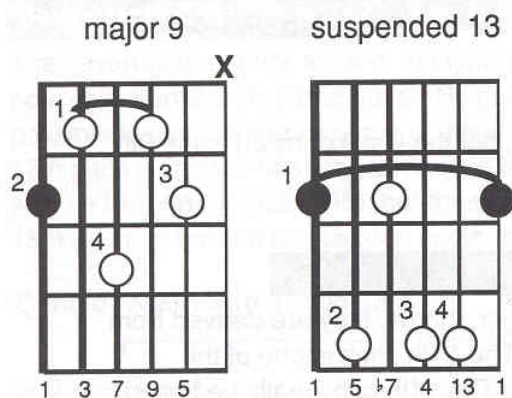


Notice that the 9th scale degree has the same pitch name as the 2nd. The 11th is the same as the 4th and the 13th is the same as the 6th. This fact will help you determine the pitch name of an extension note without the need to count up to the 9th, 11th and 13th. It's a shortcut.

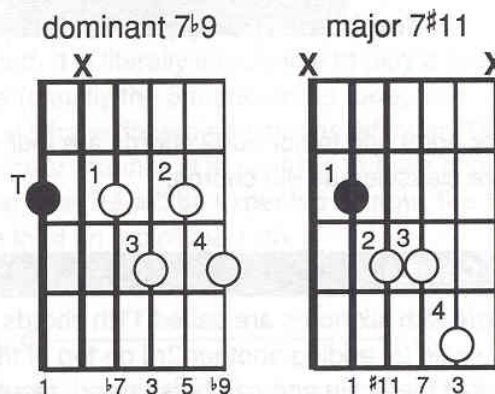
Altered pitches refer to what happens to the 5th, 9th, 11th and 13th when these notes are raised or lowered by one half-step. For example, a $\text{maj}7\flat 5$ is considered an altered major 7th chord because the 5th has been lowered by one half-step. Most altered chords occur in the dominant chord family. *When a 9th, 11th or 13th is added to a chord, these pitches are called extensions. When a $\flat 5$, $\sharp 5$, $\flat 9$, $\sharp 9$, $\sharp 11$ or $\flat 13$ are included in a chord, they are called altered pitches. Any altered 9th, 11th or 13th is considered an altered extension tone.*

Any number of different altered tones can appear in a chord. For example, it's possible to have a chord such as a $\text{dom}7(\flat 5\flat 9\sharp 9)$ or $\text{dom}7(\sharp 5\flat 9)$.

examples of chords with extensions



examples of chords with altered extensions



Five Note Chords

Stacking another 3rd on top of a 7th chord results in a 9th chord. These 5 note chords further extend the basic sound of a 7th chord by either adding an extension (the 9th) or an altered extension, the $\flat 9$ or $\sharp 9$. These chords can be inverted just as any chord can. It's not common to think of chords in 4th inversion, which is what they would be if the 9th were the bass note. If the 9th is desired as the bass note, the chord is written as a slash chord.

There are other useful 5 note chords which exist. These chords contain the 9th as well as other various altered and unaltered pitches. Here they are called hybrid 9th chords.

C major scale with 9th

basic 7th chord tones

add 9th

T
A
B

traditional 9th chords

major 9th (1-3-5-7-9)
 minor 9th (1- $\flat 3$ -5- $\flat 7$ -9)
 dominant 9th (1-3-5- $\flat 7$ -9)
 augmented 9th (1-3- $\sharp 5$ - $\flat 7$ -9)
 dominant 9 $\flat 5$ (1-3- $\flat 5$ - $\flat 7$ -9)
 dominant 7($\flat 5$ 9) (1-3- $\flat 5$ - $\flat 7$ -9)
 dominant 7($\flat 5$ $\sharp 9$) (1-3- $\flat 5$ - $\flat 7$ - $\sharp 9$)
 dominant 7($\sharp 5$ 9) (1-3- $\sharp 5$ - $\flat 7$ -9)
 dominant 7($\sharp 5$ $\sharp 9$) (1-3- $\sharp 5$ - $\flat 7$ - $\sharp 9$)

hybrid 9th chords

major 6/9 (1-3-5-6-9)
 *major add 9 (1-3-5-9)
 major 9 $\flat 5$ (1-3- $\flat 5$ -7-9)
 major 9 $\sharp 5$ (1-3- $\sharp 5$ -7-9)
 minor 6/9 (1- $\flat 3$ -5-6-9)
 minor 9 $\sharp 5$ (1- $\flat 3$ - $\sharp 5$ -7-9)
 minor 9 $\sharp 7$ (1- $\flat 3$ -5-7-9)
 *minor add 9 (1- $\flat 3$ -5-9)
 suspended 9 (1-4-5- $\flat 7$ -9)

*The major add9 and minor add9 chords are four note chords, but the last extension is the 9th, so they are classified as 9th chords.

Six Note Chords

Most chords with six notes are called 11th chords. Like the other chords, they are derived from the major scale by adding another 3rd on top of the 9th note. The 11th pitch is one of the extensions of the scale and can be sharpened, resulting in a $\sharp 11$. The 11th can't really be flatted. To do so results in the 10th, which is the same in sound as the 3rd.

Whenever the 11th is found in a major chord, it is usually sharpened. The 11th, being the enharmonic of the 4th, is extremely dissonant in a major chord and will destroy the essence of the major sound. The natural 11th is common in dominant and minor chords.

C major scale with added 11th

basic 9th chord

added 11th

T
A
B

traditional 11th chords**major 11th (1-3-5-7-9-#11)****minor 11th (1- $\flat$ 3-5- $\flat$ 7-9-11)****minor 11 $\flat$ 5 (1- $\flat$ 3- $\flat$ 5- $\flat$ 7-9-11)****dominant 11th (1-3-5- $\flat$ 7-9-11)****augmented 11th (1-3-#5- $\flat$ 7-9-11)**hybrid 11th chords**major 11#5 (1-3-#5-7-9-#11)****major 6/9/#11 (1-3-5-6-9-#11)****major 6/7/#11 (1-3-5-6-7-#11)****minor 6/9/11 (1- $\flat$ 3-5-6-9-11)****dominant 7#11 (1-3-5- $\flat$ 7-9-#11)****dominant 11 $\flat$ 9 (1-3-5- $\flat$ 7- $\flat$ 9-11)****dominant 11#9 (1-3-5- $\flat$ 7-#9-11)****dominant 11($\flat$ 5#9) (1-3- $\flat$ 5- $\flat$ 7-#9-11)****dominant 11($\flat$ 5#9) (1-3- $\flat$ 5- $\flat$ 7-#9-11)****dominant 11(#5#9) (1-3-#5- $\flat$ 7-#9-11)****dominant 11(#5#9) (1-3-#5- $\flat$ 7-#9-11)*****suspended 11 (1-4-5- $\flat$ 7-9)**

*Even though the suspended 11 chord is a five note chord, it is included here because it is called an 11th chord. The 11th note is the same as the 4th, so a sus9 chord contains the same pitches as a sus11.

Seven Note Chords

The seven note chords are the last type to be examined. It is literally impossible to play a seven note chord on the six string guitar. By omitting pitches (usually the 5th and/or the root), it's possible to capture the essence of these chords and still have fingers and strings left over. The 13th pitch is the same as the 6th and is treated in a similar manner. It is possible to have chords with a $\flat$ 13 (enharmonic to #5), but these are somewhat rare. As will be expected by now, the 13th chord is formed by stacking another interval of a third on top of the 11th.

C major scale with added 13th

basic 11th chord

added 13th

T
A
B

traditional 13th chords

*major 13th (1-3-5-7-9-#11-13)
 minor 13th (1- $\flat$ 3-5- $\flat$ 7-9-11-13)
 minor 13 $\flat$ 5 (1- $\flat$ 3- $\flat$ 5- $\flat$ 7-9-11-13)
 dominant 13th (1-3-5- $\flat$ 7-9-#11-13)
 augmented 13th (1-3-#5- $\flat$ 7-9-#11-13)

hybrid 13th chords

major 13 $\sharp$ 5 (1-3-#5-7-9-#11-13)
 major 13 $\flat$ 5 (1-3- $\flat$ 5-7-9-#11-13)
 dominant 13 $\sharp$ 11 (1-3-5- $\flat$ 7-9-#11-13)
 dominant 13 $\flat$ 5 (1-3- $\flat$ 5- $\flat$ 7-9-#11-13)
 dominant 13 $\flat$ 9 (1-3-5- $\flat$ 7- $\flat$ 9-#11-13)
 dominant 13 $\sharp$ 9 (1-3-5- $\flat$ 7-#9-#11-13)
 dominant 13($\flat$ 5 $\flat$ 9) (1-3- $\flat$ 5- $\flat$ 7- $\flat$ 9-#11-13)
 dominant 13($\flat$ 5 $\sharp$ 9) (1-3- $\flat$ 5- $\flat$ 7-#9-#11-13)
 dominant 13($\sharp$ 5 $\sharp$ 9) (1-3-#5- $\flat$ 7-#9-#11-13)
 dominant 13($\sharp$ 5 $\flat$ 9) 1-3-#5- $\flat$ 7- $\flat$ 9-#11-13)
 *suspended 13 (1-4-5- $\flat$ 7-9-13)

*The major and dominant 13th chords will contain the #11 instead of the expected natural 11th. The natural 11th clashes with the natural 3rd; the #11 is much less dissonant. Even though the sus13 is a six note chord, it is included here because it is used as if it were a true 13th chord. The 11th is the same as the 4th, so a sus13 chord contains only six notes.

Omitting Notes in Chords

The number of notes that are in a chord determines the number of fingerings possible. More notes means fewer choices. You simply run out of fingers and strings. It's possible to omit certain notes of a chord without losing the essence of the chord.

The first note which is omitted is the 5th. If the 5th is altered, (#5 or $\flat$ 5) you need to keep it. The next note that can be omitted is the root. When dealing with larger chords such as 9ths, 11ths and 13ths, you may eliminate every note except the last extension and the respective 3rd and 7th. The 3rd and 7th notes determine the chord family (major, minor or dominant), so these are important tones. In chords with alterations, it is helpful to keep at least one of the altered notes.

Here is a sampling of chords showing notes that should be kept and others that are optional.

<u>chord name</u>	<u>formula</u>	<u>notes to keep</u>	<u>optional</u>
major 9	1-3-5-7-9	3-7-9	1-5
minor 11	1- $\flat$ 3-5- $\flat$ 7-9-11	$\flat$ 3- $\flat$ 7-11	1-5-9
dominant 7 $\flat$ 5	1-3- $\flat$ 5- $\flat$ 7	3- $\flat$ 5- $\flat$ 7	1
dominant 13	1-3-5- $\flat$ 7-9-11-13	3- $\flat$ 7-13	1-5-9-11
dominant 7($\flat$ 5 $\flat$ 9)	1-3- $\flat$ 5- $\flat$ 7- $\flat$ 9	3- $\flat$ 5- $\flat$ 7 or $\flat$ 9	1- $\flat$ 5 or $\flat$ 9
dominant 7($\sharp$ 9 $\flat$ 9)	1-3-5- $\flat$ 7- $\flat$ 9-#9	3- $\flat$ 7-#9 or $\flat$ 9	1-5- $\flat$ 9 or #9
major 13	1-3-5-7-9-#11-13	3-7-13	1-5-9-#11
minor 13	1- $\flat$ 3-5- $\flat$ 7-9-11-13	$\flat$ 3- $\flat$ 7-13	1-5-9-11
augmented 13	1-3-#5- $\flat$ 7-9-#11-13	3-#5- $\flat$ 7-13	1-9-#11
dom 13($\flat$ 5 $\flat$ 9)	1-3- $\flat$ 5- $\flat$ 7- $\flat$ 9-#11-13	3- $\flat$ 5- $\flat$ 7- $\flat$ 9-13	1-#11 ($\flat$ 5 or $\flat$ 9)
sus 13	1-4-5- $\flat$ 7-9-13	4- $\flat$ 7-13	1-5-9

Chord Symbol Notation

There are many different symbols used to represent the same chord. There simply is no one correct way to notate chords. This means that you must be familiar with all of the different symbols which you might encounter. Here is a list which shows most of the symbols used.

<u>Chord type</u>	<u>Symbols used</u>	<u>Example with C as root</u>
major triad	none	C
major 6	ma6 or M6	C6, Cma6 or CM6
major 7 etc.	M7, ma7, maj7, Ma7, 7, Δ7, Δ	CM7, Cma7, Cmaj7, CMA7, C7 CΔ7, CΔ
minor	m, mi, min or -	Cm, Cmi, Cmin or C-
minor 7 ^b 5	m7 ^b 5, mi7-5, mi7 ^b 5, -7-5, -7 ^b 5, Ø7	Cm7 ^b 5, Cmi7-5, Cmi7 ^b 5, C-7-5, C-7 ^b 5, CØ7
minor 7 etc.	m7, -7, mi7, min7	Cm7, C-7, Cmi7 or Cmin7
dominant 7	dom7, 7	Cdom7 or C7
augmented	aug. or +	Caug or C+
diminished	dim. or O	Cdim or CO

One symbol that is used in two different ways is the dash (-). It is used to represent a minor chord and is also used to indicate the flattening of a note as in min7-5, where the 5th is lowered by one half-step. Also, The plus sign (+) is commonly used to indicate a sharped note as in C7+9 or C7+9.

Common Chord Formulas

Here is a summary list of all of the common chords and their formulas.

<u>Major Chords</u>	<u>Formula</u>	<u>Dominant Chords</u>	<u>Formula</u>
maj triad	1-3-5	dominant 7	1-3-5- ^b 7
major 6	1-3-5-6	dominant 7 ^b 5	1-3- ^b 5- ^b 7
major 6/7	1-3-5-6-7	dominant 7 [#] 5	1-3- [#] 5- ^b 7
major 6/9	1-3-5-6-9	dominant 7 ^b 9	1-3-5- ^b 7- ^b 9
major 7	1-3-5-7	dominant 7 [#] 9	1-3-5- ^b 7- [#] 9
major 7 ^b 5	1-3- ^b 5-7	dominant 7(^b 5 ^b 9)	1-3- ^b 5- ^b 7- ^b 9
major 7 [#] 5	1-3- [#] 5-7	dominant 7(^b 5 [#] 9)	1-3- ^b 5- ^b 7- [#] 9
major add9	1-3-5-9	dominant 7([#] 5 ^b 9)	1-3- [#] 5- ^b 7- ^b 9
major 9	1-3-5-7-9	dominant 7([#] 5 [#] 9)	1-3- [#] 5- ^b 7- [#] 9
major 7 [#] 11	1-3-5-7-9- [#] 11	dominant 7 [#] 11	1-3-5- ^b 7-9- [#] 11
<u>Minor Chords</u>		dominant 9	1-3-5- ^b 7-9
minor triad	1- ^b 3-5	dominant 9 ^b 5	1-3- ^b 5- ^b 7-9
minor 6	1- ^b 3-5-6	dominant 9 [#] 5	1-3- [#] 5- ^b 7-9
minor 6/9	1- ^b 3-5-6-9	dominant 11	1-3-5- ^b 7-9-11
minor 7	1- ^b 3-5- ^b 7	dominant 13	1-3-5- ^b 7-9- [#] 11-13
minor 7 [#]	1- ^b 3-5-7	augmented triad	1-3- [#] 5
minor 7 ^b 5	1- ^b 3- ^b 5- ^b 7	augmented 7 (see dom7 [#] 5)	1-3- [#] 5- ^b 7
minor 7 [#] 5	1- ^b 3- [#] 5- ^b 7	diminished triad	1- ^b 3- ^b 5
minor add9	1- ^b 3-5-9	diminished 7	1- ^b 3- ^b 5- ^b 7
minor 9	1- ^b 3-5- ^b 7-9	half-diminished 7 (see m7 ^b 5)	1- ^b 3- ^b 5- ^b 7
minor 11	1- ^b 3-5- ^b 7-9-11	suspended 4	1-4-5
<u>*Special Chords</u>		suspended 7	1-4-5- ^b 7
power chord	1-5	suspended 9	1-4-5- ^b 7-9
sus 2	1-2-5	suspended 13	1-4-5- ^b 7-9-13

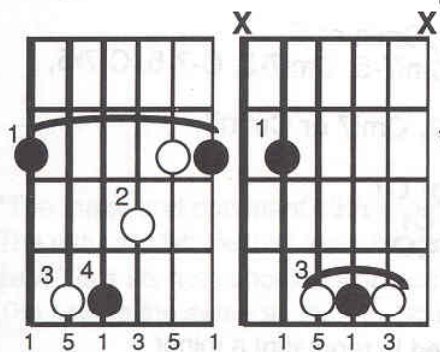
*These chords are neither major, minor or dominant, so may be used in a wide variety of situations as substitutions for these other kinds of chords.

Chord Forms

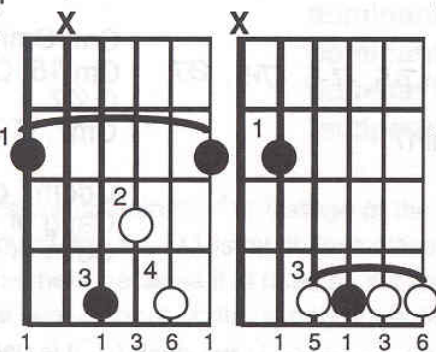
Here are two forms for each commonly heard chord. The first form will have the root on the 6th string, while the second form will have a 5th string root. Pay attention to doubled or tripled notes as well as omitted pitches and strings which must be muted. The voicings are standard and are a good starting point for further exploration. All forms are moveable.

Major Chords

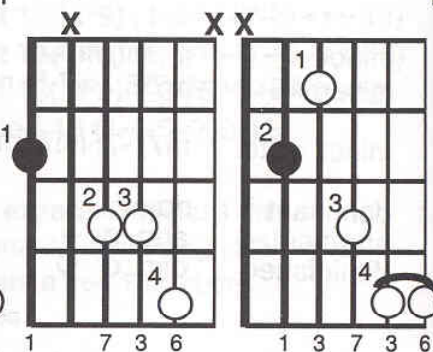
major triad



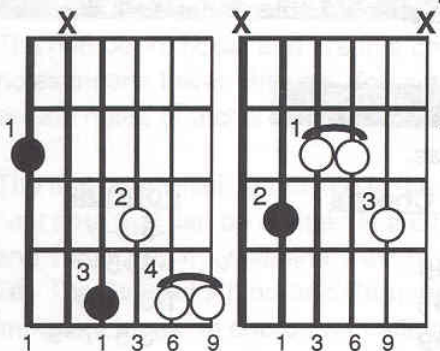
major 6



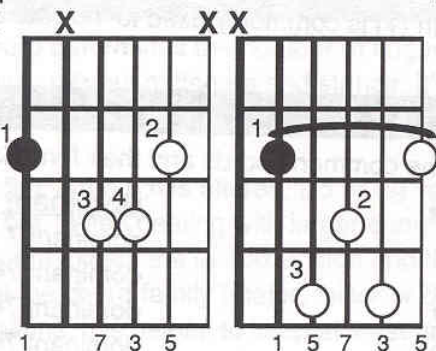
major 6/7



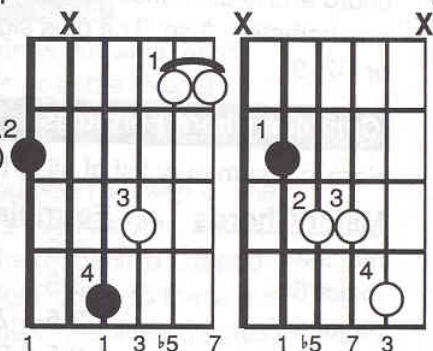
major 6/9



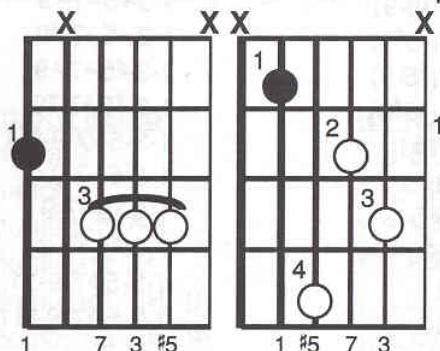
major 7



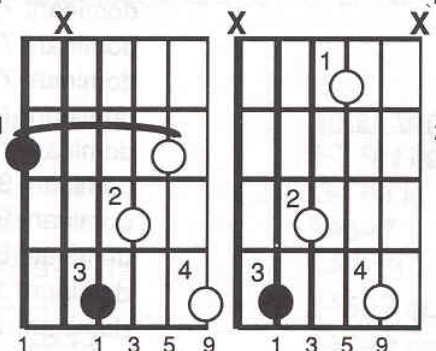
major 7b5



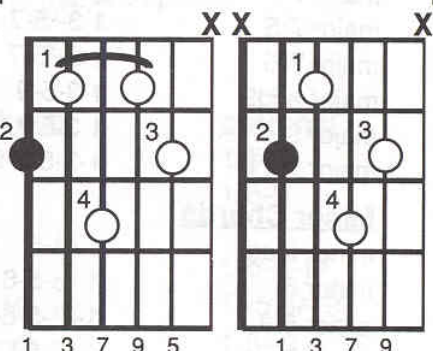
major 7#5



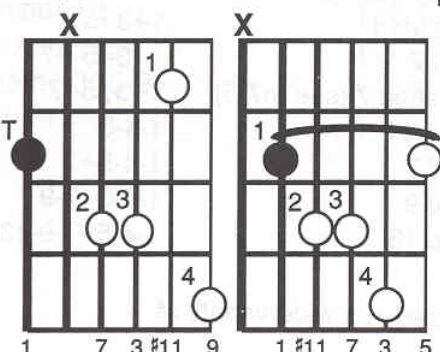
major add9



major 9

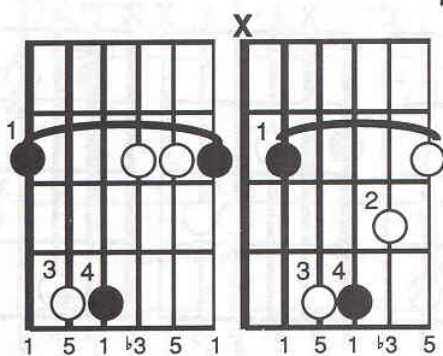


major 7#11

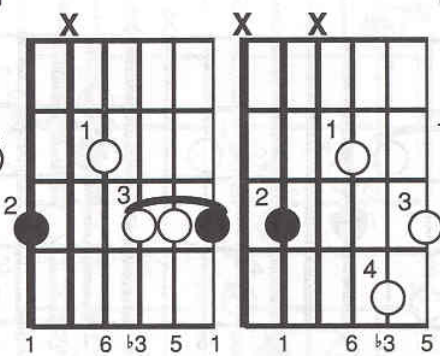


Minor Chords

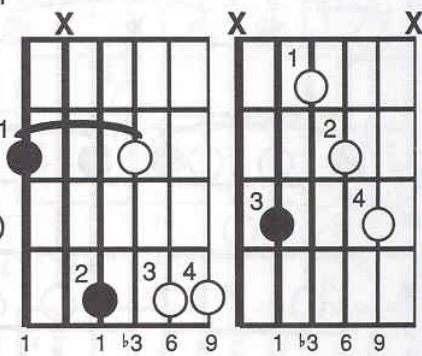
minor triad



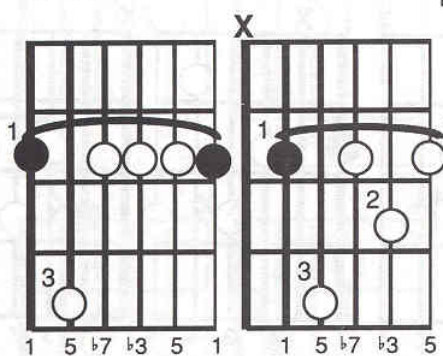
minor 6



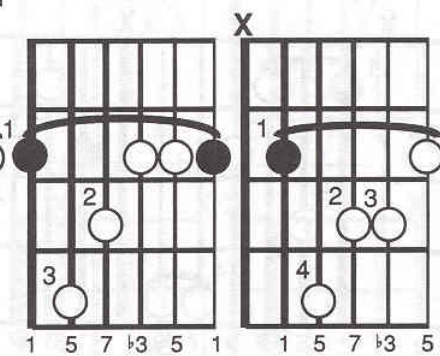
minor 6/9



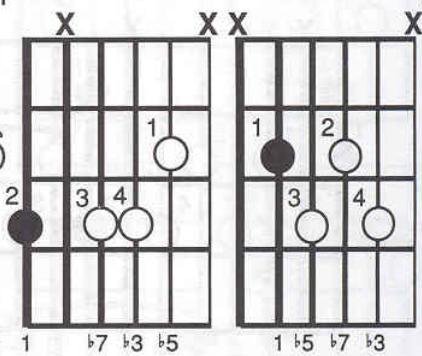
minor 7



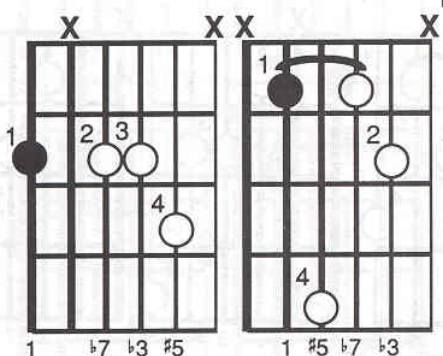
minor #7



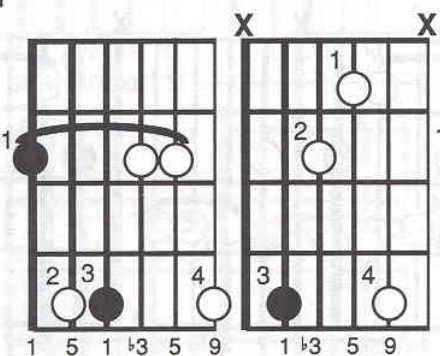
minor 7b5



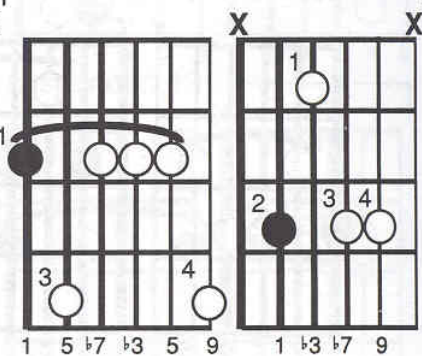
minor 7#5



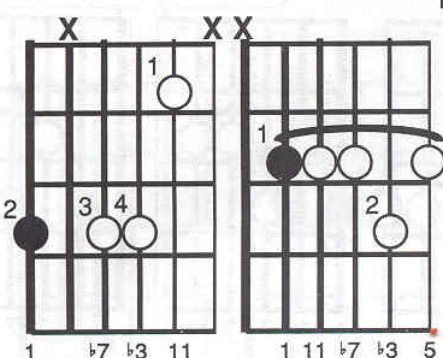
minor add9



minor 9

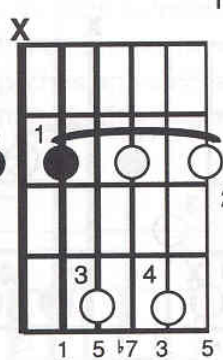
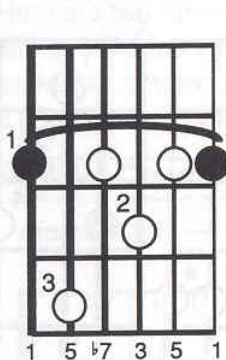


minor 11

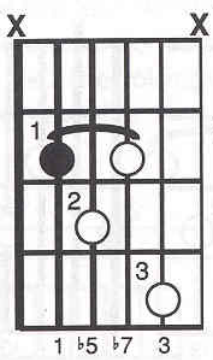
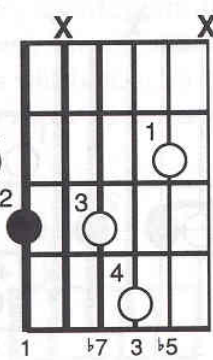


Dominant Chords

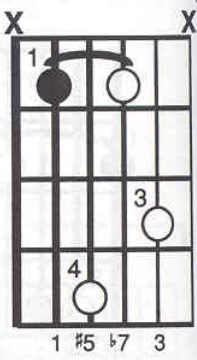
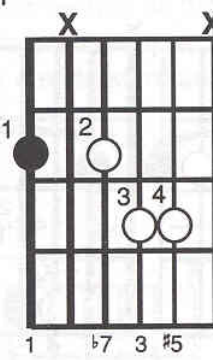
dominant 7



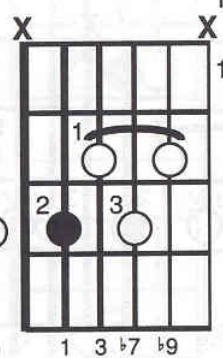
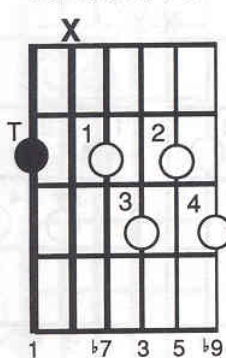
dominant 7b5



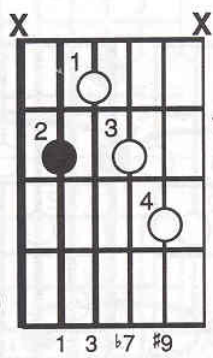
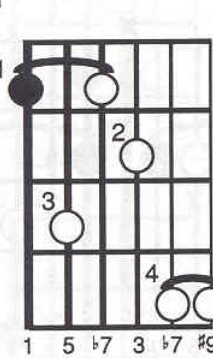
dominant 7#5



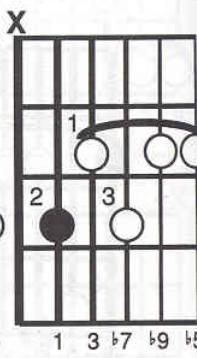
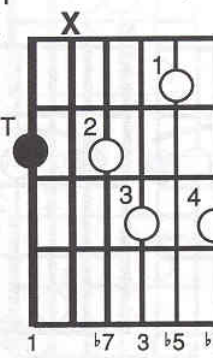
dominant 7b9



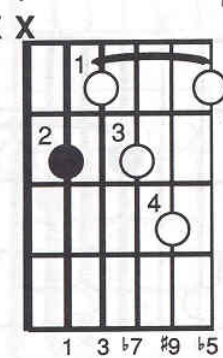
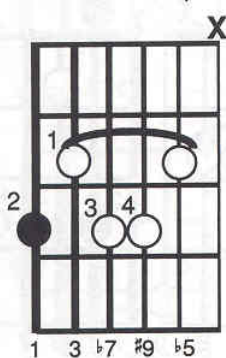
dominant 7#9



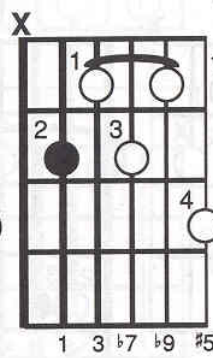
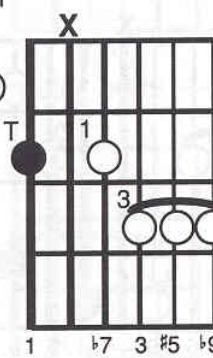
dominant 7(b5b9)



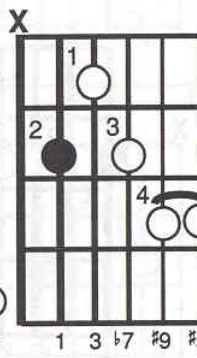
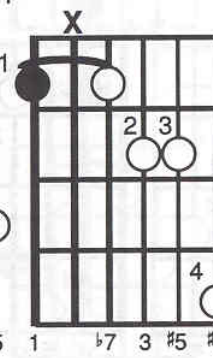
dominant 7(b5#9)



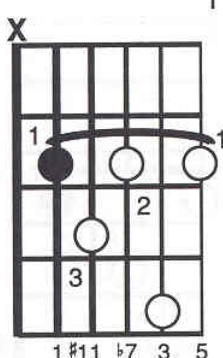
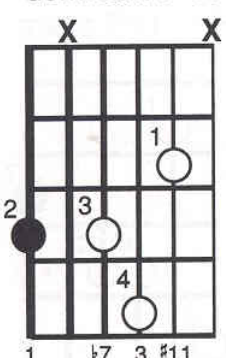
dominant 7(#5b9)



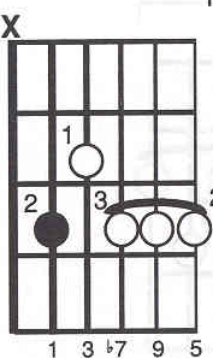
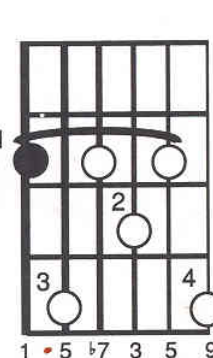
dominant 7(#5#9)



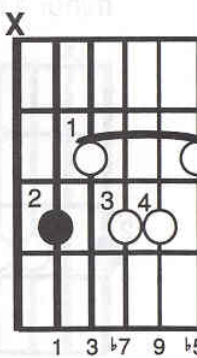
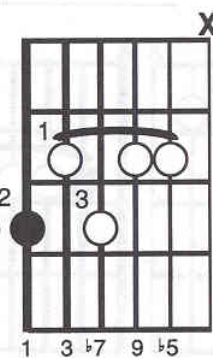
dominant 7#11



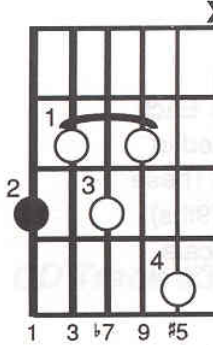
dominant 9



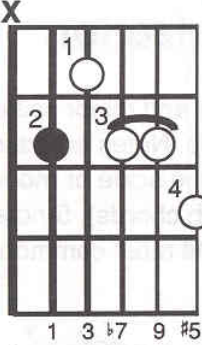
dominant 9b5



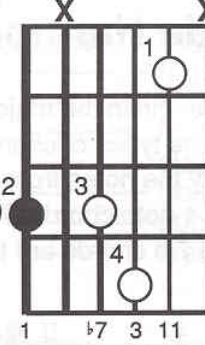
dominant 9#5



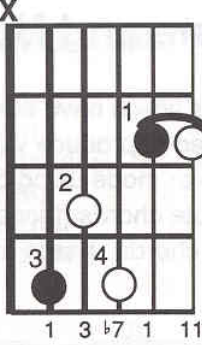
X X



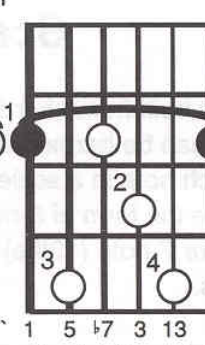
dominant 11



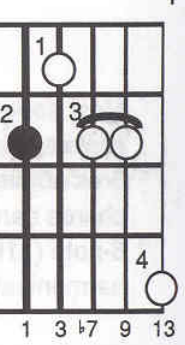
X X



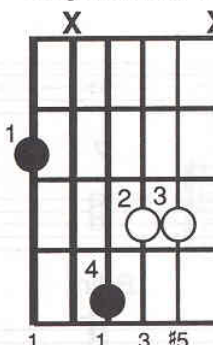
dominant 13



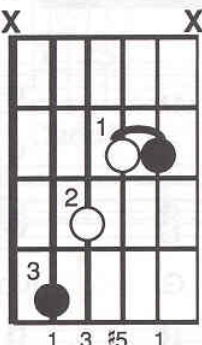
X



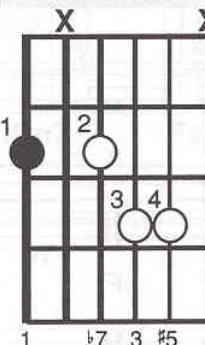
augmented triad



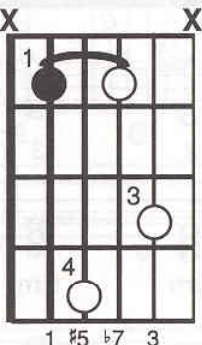
X X



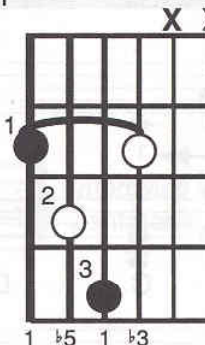
augmented 7



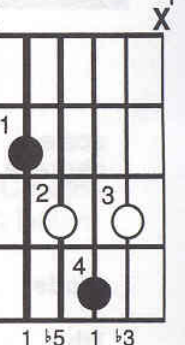
X X



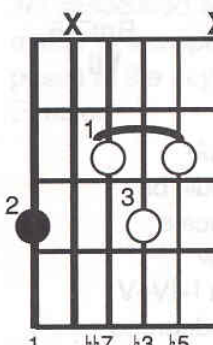
diminished triad



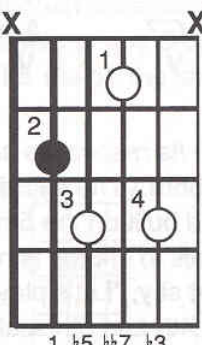
X X X



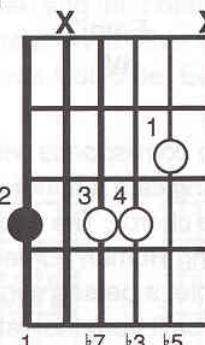
diminished 7



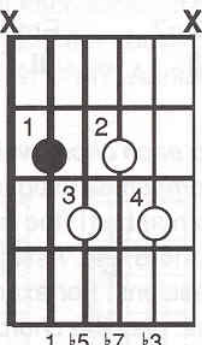
X X



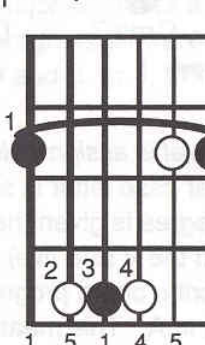
half-diminished



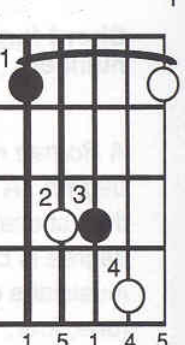
X X



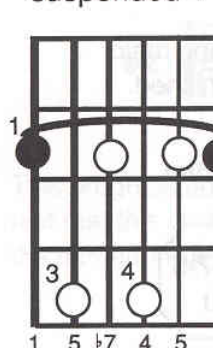
suspended 4



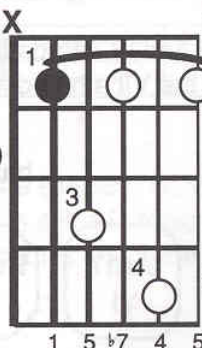
X



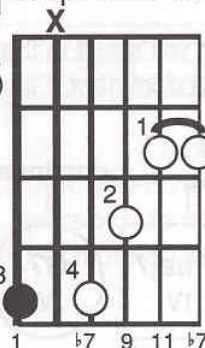
suspended 7



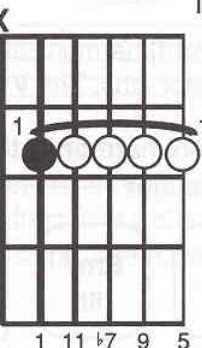
X



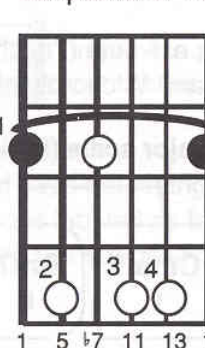
suspended 9



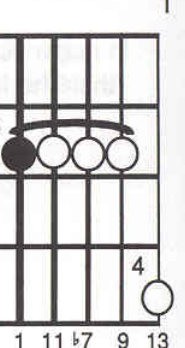
X



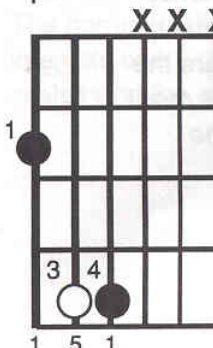
suspended 13



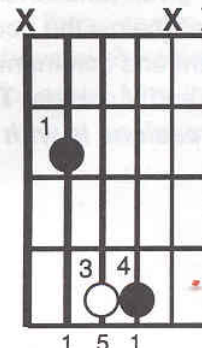
X

**Special Chords**

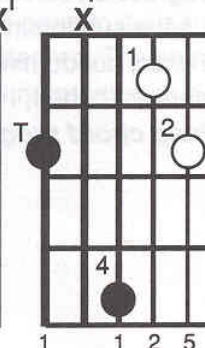
power chord



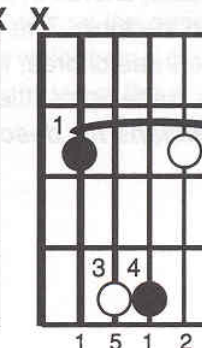
X X X X



suspended 2



X X



Scale and Mode Harmonization

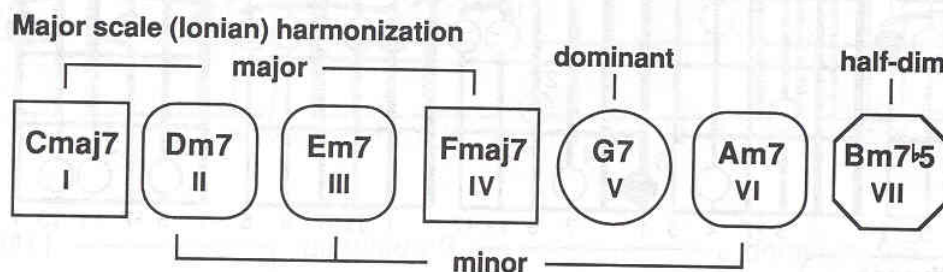
Most songs are built from chords which have their origin in the major and minor scales. Each scale or mode can be harmonized to produce various types of chords. Notes are stacked in 3rds above each note in a scale or mode using only the notes from the scale or mode. These chords can take the form of 3-note chords (triads), 4-note chords (7th chords), 5-note (9ths), 6-note (11ths) or 7-note (13ths) chords. Triads and 7th chords are the most common scale harmonizations.

C Major Scale Harmonization

scale degrees	1	2	3	4	5	6	7
triads	C	Dm	Em	F	G	Am	Bdim
7th chords	Cmaj7	Dm7	Em7	Fmaj7	G7	Am7	Bm7 ^b 5
Chord function numbers	I	II	III	IV	V	VI	VII

A Roman numeral is assigned to each chord which corresponds with its respective scale degree. (A lower case letter is sometimes used to indicate a minor chord.) The chord built on the 1st scale degree is given the number I (the *one* chord). The chord built on the 5th scale degree is called the V (the *five*) chord, etc. Assigning Roman numerals to chords is how musicians describe chord progressions. For example, a person might say, "Let's play a I-IV-V (one, four, five) in A." This means: play the chords built from the 1st, 4th and 5th scale degrees from the key of A major, (A, D and E).

In major scales, a 4-note (7th chord) harmonization will result in the I and IV chords being major 7ths. The II, III and VI chords minor 7ths. The V is a dominant 7 and the VII a half-diminished.



In addition to having a numeric label, chords in a progression can be given functional names. For example, the I chord is called the tonic. The IV is the subdominant (below the dominant) and the V is the dominant. These three chords, the tonic, subdominant and dominant, are the most important. Many songs are made up of little more than the I, IV and V chords. **The most common method used by musicians for describing chord progressions is with the numeric system.**

Numeric name	Functional label
--------------	------------------

I	tonic
II	supertonic
III	mediant
IV	subdominant
V	dominant
VI	submediant
VII	leading tone

CD Track #30

Cadd9	Am7	Fadd9	G

#1

improvise with C major pentatonic or C Ionian

This progression would be described as a I, VI, IV, V in C. By knowing the chord qualities which are associated with each scale degree and the notes of each different major scale, it's a simple matter to transpose this or any progression to other keys. If the above progression were transposed to the key of E major, the chords would be: Eadd9, C#m7, Aadd9 and B, or, I, VI, IV, V in E major.

A	D/F#	A	Esus7

#2

improvise with A major pentatonic or A Ionian

This progression is a simple I, IV, I, V in A. The inversion of the IV chord does not change the fact that this chord is still a D major. Inversions do not affect how a chord is labeled as far as the numbering system is concerned. (For more on inversions, see "Chord Construction".)

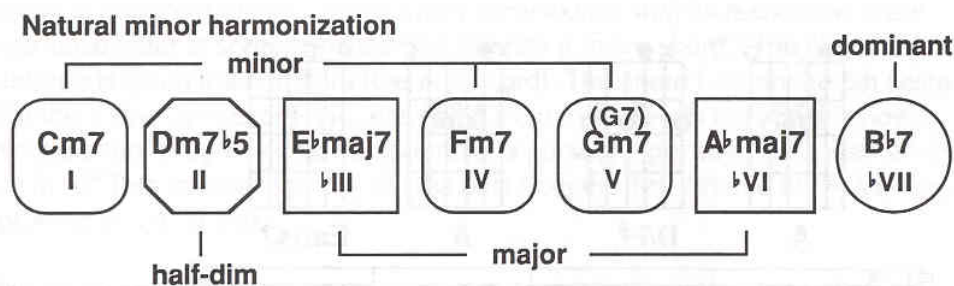
Minor Scale Harmonizations

The natural minor, harmonic minor and melodic minor scales each generate a set of chords. The harmonization of these scales is done in the same way as the major scale, by stacking intervals of a 3rd above each scale degree. The chords which result from harmonizing these scales and the major scale, form the harmonic basis for much of the music heard today.

C Natural Minor Harmonization

scale degrees	1	2	$\flat 3$	4	5	$\flat 6$	$\flat 7$
triads	Cm	Ddim	$E^\flat$	Fm	Gm	$A^\flat$	$B^\flat$
7th chords	Cm7	Dm7 $\flat 5$	$E^\flat$ maj7	Fm7	Gm7	$A^\flat$ maj7	$B^\flat$ 7
Chord function numbers	I	II	$\flat$ III	IV	V	$\flat$ VI	$\flat$ VII

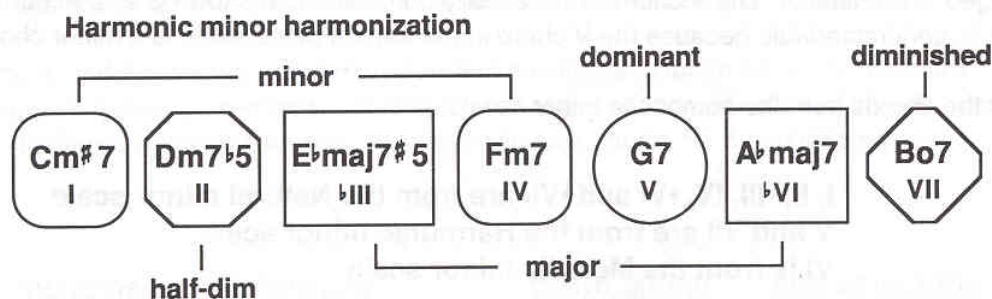
In the harmonized natural minor scale, the I, IV and V chords are minor. For practical purposes, it should be noted that the V chord is usually played as a dominant chord. This is done to create a stronger sense of resolution to the I chord. The $\flat$ III and $\flat$ VI chords are major. The II chord is a minor7 $\flat 5$ and the VII chord is a dominant. The number of notes in a chord doesn't affect its function in the harmonized scale. Any chord could be a simple triad, 7th, 9th, 11th or 13th chord. Triads are used in folk, funk, pop and rock styles. The 4-note chords are also used in pop and rock styles, but are more common in jazz.



C Harmonic Minor Harmonization

scale degrees	1	2	$\flat 3$	4	5	$\flat 6$	7
triads	Cm	Ddim	$E^\flat$ aug	Fm	G	$A^\flat$	Bdim
7th chords	Cm7	Dm7 $\flat 5$	$E^\flat$ maj7 $\sharp 5$	Fm7	G7	$A^\flat$ maj7	$B^\flat$ 7
Chord function numbers	I	II	$\flat$ III	IV	V	$\flat$ VI	VII

The harmonization of the harmonic minor produces some unusual chords: the maj7#5 and the minor #7. The maj7#5 is not used very often, but the min#7 does come up from time to time. This scale produces two major chords (♭III and ♭VI), two minor chords (I and IV), one half-diminished (II), one fully diminished (VII), and one dominant 7th (V).

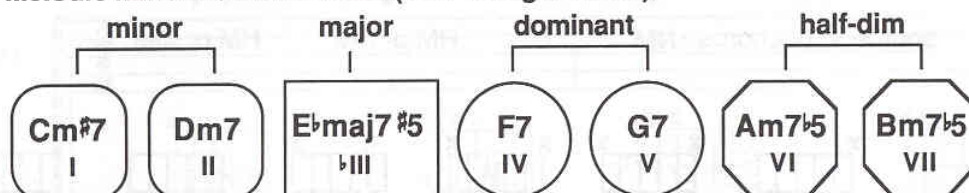


The ascending melodic minor produces pairs of similar chords. The I and II are minors. The chord built on the ♭III is an unusual major 7#5. The IV and V are dominants and VI and VII are half-diminished. Half-diminished chords are not grouped with the minor chords because they aren't used as standard minor chords. Rather, they are usually used as dominant chords.

C Melodic Minor Harmonization (ascending only)

scale degrees	1	2	♭3	4	5	6	7
triads	Cm	Dm	E♭aug	F	G	A♭dim	Bdim
7th chords	Cm#7	Dm7	E♭maj7#5	F7	G7	A♭m7♭5	B♭m7♭5
Chord function numbers	I	II	♭III	IV	V	VI	VII

Melodic minor harmonization (ascending version)



The Composite Minor Scale

There are many different types of chords produced by harmonizing the three minor scales. Some of the chords produced by these scales are rarely used, such as the maj7#5. By combining the most useful chords into one large scale, it's possible to see just what chords composers most often use when working in minor keys.

The composite minor scale chords

Cmin7 Dmin7^{b5} E^bmaj7 Fm7 G7 A^bmaj7 Am7^{b5} B^b7 Bo7
 I — II — ^bIII — IV — V — ^bVI — VI — ^bVII — VII

*It's common for composers to change the quality of chords at will. The IV and ^bVI chords are often changed to dominants. The V chord, while usually dominant, can show up as a minor chord. This is understandable because the V chord in the natural minor scale is a minor chord.

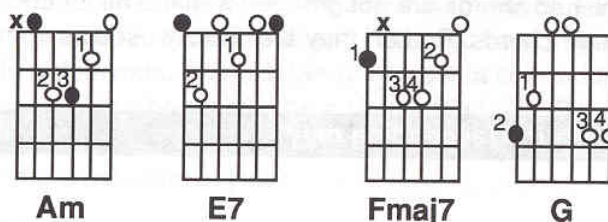
Sources of the chords from the composite minor scale:

I, II, ^bIII, IV, ^bVI and ^bVII are from the Natural minor scale
V and VII are from the Harmonic minor scale
VI is from the Melodic minor scale

Here are some

progressions which contain chords from the composite minor scale. All of the chords used can be traced to the natural, harmonic and melodic minor scale harmonizations.

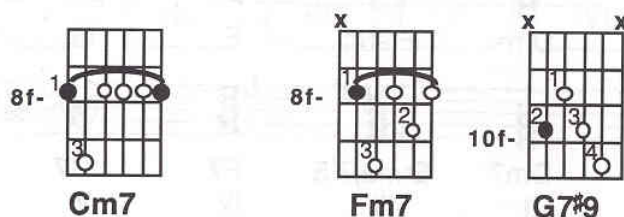
CD Track #31



#1 improvise with A blues, A harmonic min. or A natural min.

I V ^bVI ^bVII

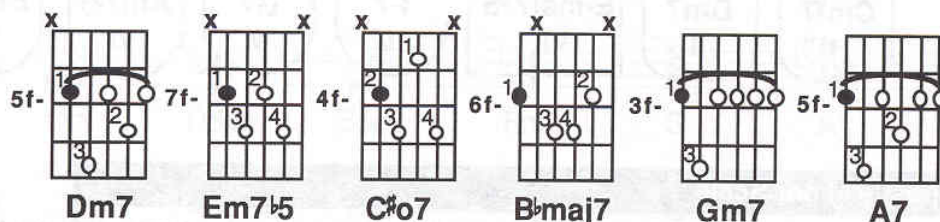
source(s) of chords - HM or NM HM or MM HM or NM NM



#2 improvise with C blues, C harmonic min. or C natural min.

I IV V

source(s) of chords - NM HM or NM HM or MM



#3 improvise with D blues, D harmonic min. or D natural min.

I II VII ^bVI IV V

source(s) of chords - NM HM or NM HM HM or NM HM or NM HM or MM

Modal Harmonization

Modes may be harmonized just like any other scale, by stacking intervals of a 3rd above each note and using only the pitches from within the mode. However, the most common use of modal harmony is in creating variations on a given chord sound. In other words, if you're jamming on a one chord vamp, the question becomes: how to keep from boring the listener and yourself? Modal harmonizations will provide the chordal variety needed in such a situation.

The three most useful modes are dorian, lydian and mixolydian. Dorian will generate many minor sounds and lydian is used for producing altered major sounds. Mixolydian can be used for creating unaltered dominant sounds; very useful in funk, blues, R&B and jazz styles.

<u>mode name</u>	<u>formula</u>	<u>chord sound</u>	<u>character tone</u>
dorian	1-2- $\flat$ 3-4-5-6- $\flat$ 7	minor	6 ($\flat$ 3, $\flat$ 7)
lydian	1-2-3- $\sharp$ 4-5-6-7	major	$\sharp$ 4 (3, 7)
mixolydian	1-2-3-4-5-6- $\flat$ 7	dominant	$\flat$ 7 (3, $\flat$ 7)

To maintain

the identifying sound of a mode, it's necessary to include the pitch or pitches which capture the essence of the mode. This pitch is called the character tone. In the dorian mode, this is the 6th. The $\flat$ 3 and $\flat$ 7 also help to define the minor sound of this mode. In lydian, it's the $\sharp$ 4th. In mixolydian, the $\flat$ 7th. It's possible to randomly select any group of notes from a mode, along with the character tone, and create chords which capture the essence of the mode. Voicing will be an important factor in each chord, so experimentation is necessary.

D dorian

character tone

1 2 $\flat$ 3 4 5 6 $\flat$ 7

T 0 2 3 0 2 0 1

A 0 2 3 0 2 0 1

B 0 2 3 0 2 0 1

CD Track #32

Dm7

original
vamp #1

5f- 4 $\flat$ 7 $\flat$ 3 6

10f- $\flat$ 7 $\flat$ 3 6 9

7f- $\flat$ 7 9 4 6

5f- 4 $\flat$ 7 $\flat$ 3 5

D dorian sounds

dorian variations #1

The 1st vamp has four different chord forms which were created by taking notes from the D Dorian mode. Some of these chords could actually be given names, but it's better to think of them as variations on a Dm7 chord sound. The voicing of each chord is shown underneath each chord box.

Another way to add interest to chord progressions in the modal setting is to use *side slipping*. With this technique, you slide any chord up or down by a half-step from what you might call the "safe" location. In other words, you can take any of the above chord forms and slide them up or down, then back to the starting place. If you hang on these out of position chords too long, you run the risk of sounding like you're playing the wrong chord. Side slipping is an embellishment technique, adding momentary dissonance to a chord progression; like flirting with chaos. This is a technique used by jazz musicians.

F Lydian **character tone**

T						
A	3	0	2	0	1	3
B						

Fmaj7 b5 %

original vamp #2

F Lydian forms

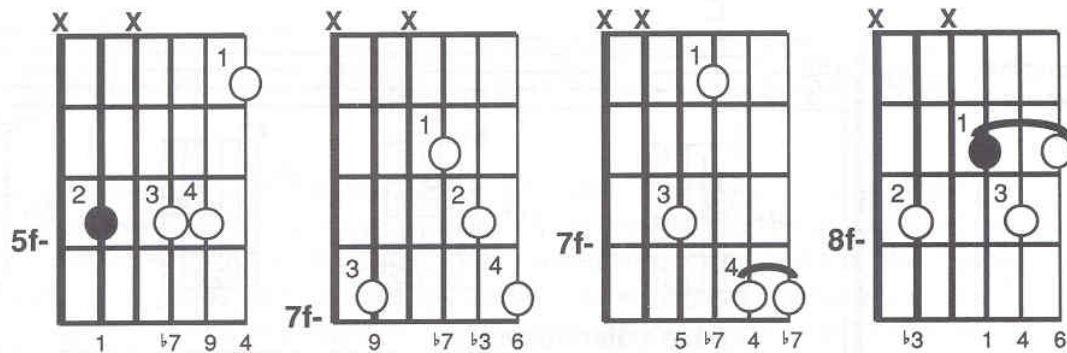
lydian variations #2

There are many similarities between the chord forms for F Lydian, D dorian and G mixolydian. These modes are made up of notes from the same parent major scale of C. So it's possible to use the same chord forms in three different harmonic situations. In each case, a small variation may be necessary to get the character tone(s) in the form, but in most cases, the forms can stay the same.

G mixolydian **character tone**

T						
A	0	2	0	1	3	0
B						

Dorian chords with mixed intervals



Rock and Roll Harmony

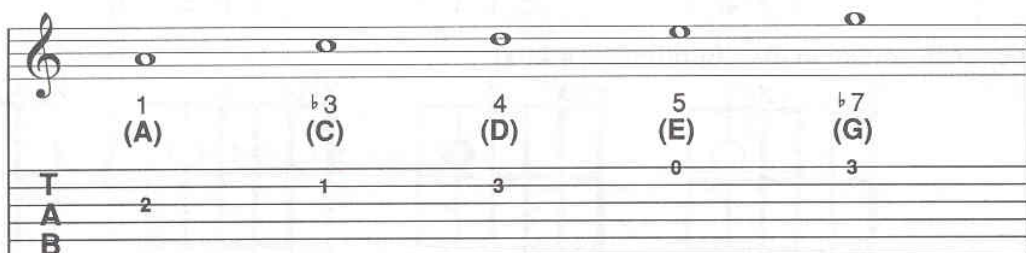
The chords which make up many rock songs are a collection of two-note (diads) and three-note (triads) chords. Most of the two-note chords are made up of the root and perfect 5th, also known as a "power chord". Four-note chords are certainly used in rock, but they are usually dominant chords. Because many of the chords in rock are played by guitarists using distortion, chords which contain the major 3rd are avoided. This interval doesn't react well to distortion. Chords with major 3rds come out sounding very muddy.

One of the main sources of chords for rock and blues music is the minor pentatonic scale. This scale has its origin in the natural minor scale.

natural minor scale - 1-2-b3-4-5-b6-b7

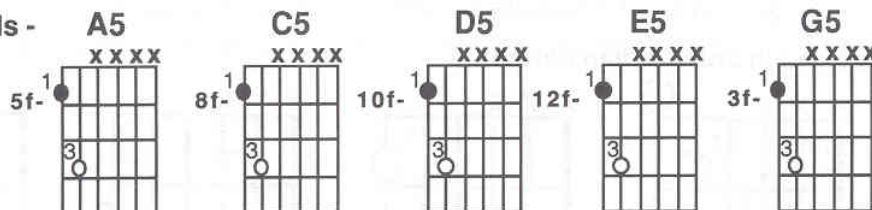
minor pentatonic scale - 1-b3-4-5-b7

A minor pentatonic



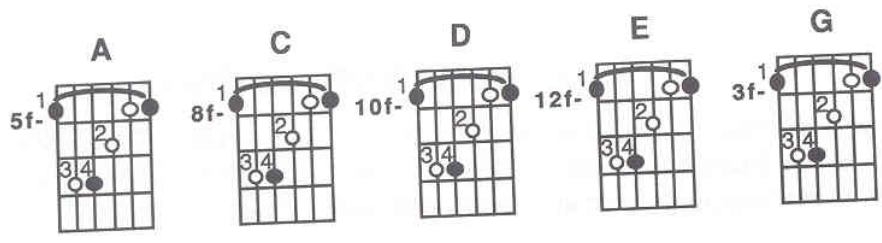
The minor pentatonic can be harmonized in a variety of ways: with power chords, with triads and with dominant chords.

Power Chords -

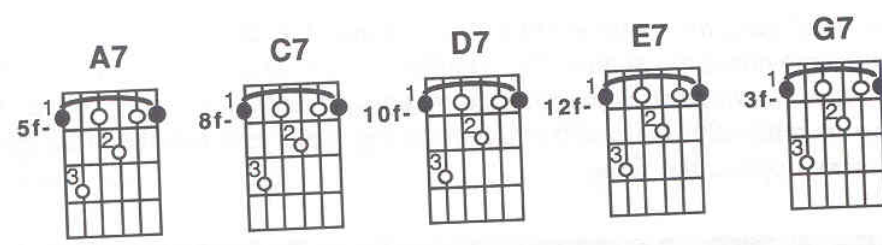


*It should be noted that the harmonization of the minor pentatonic scale is not like harmonizing other scales. It's just a case of arbitrarily building power chords, triads and dominant 7ths on the root of each scale tone.

or triads -



inant 7ths -

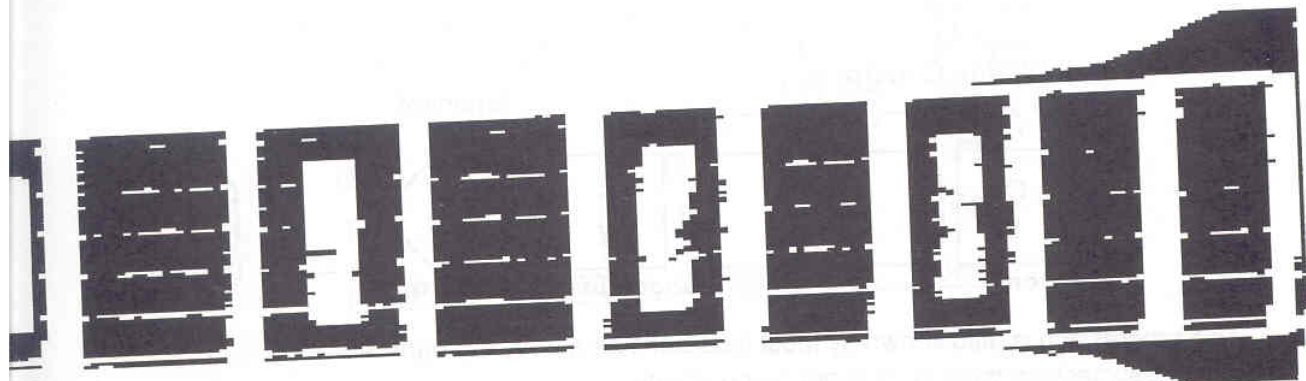


wer chords, major triads and dominant chords can be integrated within the same chord progression. In addition, chords from the other harmonized scales can be combined with these Rock sounds. Combining chords from the Rock scale with those from the harmonized major and minor scales is a common compositional technique. Many songs from the Beatles used such a theme.

ere is an example which uses chords from the Rock scale and from the harmonized scale of A major. Play this example with a strong Rock feel.

Diagram showing a sequence of chords and their corresponding Roman numerals on a guitar fretboard. The chords are A5, D5, C5, Bm, F#m, G, D5, and E5. The Roman numerals are I, IV, III, II, VI, VII, IV, and V. The diagram includes fingerings for each chord and a visual representation of the progression on a fretboard.

- A5:** 1f- (1 on 1st fret, 3 on 3rd fret)
- D5:** 5f- (1 on 5th fret, 3 on 3rd fret)
- C5:** 3f- (1 on 3rd fret, 3 on 3rd fret)
- Bm:** 2f- (1 on 2nd fret, 2 on 2nd fret, 3 on 3rd fret, 4 on 4th fret)
- F#m:** 2f- (1 on 2nd fret, 2 on 2nd fret, 3 on 3rd fret, 4 on 4th fret)
- G:** 3f- (1 on 3rd fret, 2 on 2nd fret, 3 on 3rd fret, 4 on 4th fret)
- D5:** 5f- (1 on 5th fret, 3 on 3rd fret)
- E5:** 7f- (1 on 7th fret, 3 on 3rd fret)



Chord Progressions

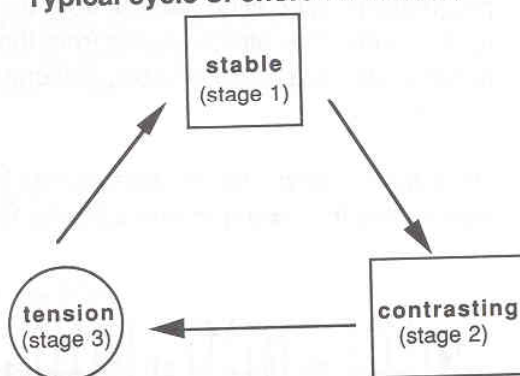
Putting chords together to form songs is not a matter of following a formula. Many people put chords together by intuition; by experimenting until something strikes their fancy. Another way of doing it is to model your progression on some familiar song.

Most professional song writers understand the fundamentals of music theory and the basic rules which govern chord movement. This chapter will look at some of these guidelines and examine the reasons why certain harmonic progressions work. This insight will give the budding composer some material to work with and provide the improviser with the knowledge he or she needs to choose appropriate scales.

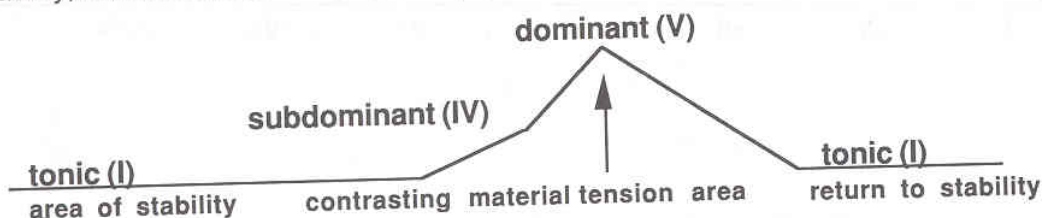
Tension and Release

Chord progressions usually try to create a sense of movement. This movement can be thought of as a cycle. This cycle is made up of three stages: stability, contrast and tension. The stable section is made up of a chord or chords which define the key. The contrasting section is made up of one or more chords which draws the listeners attention away from the tonic or key center. The last section is also made up of one or more chords and provides a sense of tension and anticipates the return to the area of stability. This cycle can be repeated many times in the course of a song.

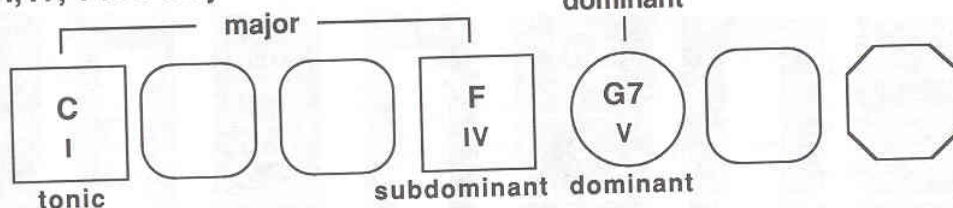
Typical cycle of chord movement



In its most basic form, this cycle is completed by a progression that begins on the I chord (stability), which establishes the key of the progression, moves to the IV chord (contrasting material), then to the V (tension), which resolves back to I (stability). Here is a graph of how this cycle of stability, contrast and tension might be perceived.



I, IV, V in C major



This progression is also known by most musicians as a I, IV, V progression and is the most common of all chord progressions.

The I, IV, V progression in C major

CD Track #33

Diagram illustrating the I, IV, V progression in C major. The progression is shown on a musical staff in 4/4 time, labeled #1. The chords are C (I), F (IV), G7 (V), and C (I). Above the staff are guitar fretboard diagrams for each chord: C (I), F (IV), G7 (V), and C (I).

The I, IV, V progression works exactly the same way in minor keys.

Harmonic minor harmonization

Diagram illustrating the I, IV, V progression in harmonic minor. The progression is shown on a musical staff in 4/4 time, labeled #2. The chords are Em (I), Am (IV), B7 (V), and Em (I). Above the staff are guitar fretboard diagrams for each chord: Em (I), Am (IV), B7 (V), and Em (I). Above the staff are also geometric shapes representing the chords: Em (I), Am (IV), B7 (V), and Em (I).

Root Movement

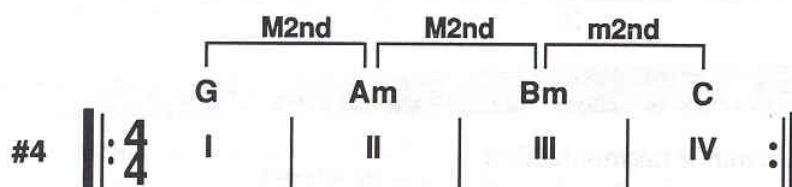
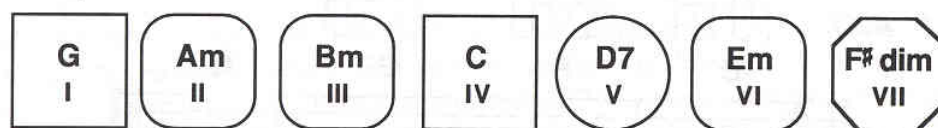
The intervals which occur between the bass notes of chords are responsible for harmonic propulsion. *The strongest sense of movement occurs when the bass notes are either a perfect 4th or perfect 5th apart.* Here is a version of I, IV, V again showing how the bass notes move in 4ths and 5ths.

Diagram illustrating the I, IV, V progression with root movement. The progression is shown on a musical staff in 4/4 time, labeled #3. The chords are G5 (I), C5 (IV), G5 (I), D5 (V), and F5 (bVII). Above the staff are guitar fretboard diagrams for each chord: G5 (I), C5 (IV), G5 (I), D5 (V), and F5 (bVII). Below the staff are brackets indicating the intervals between the bass notes: P4th, P4th, P5th, and m3rd.

In hard rock or metal, where only power chords are used, the intervals between the bass notes determine whether the song is perceived as major or minor. In the case above, the sound would be minor.

Momentum is also created when the bass notes move by an interval of a 2nd. If the chords from the major scale of G are used as a starting point, it's possible to construct a progression which uses chords whose roots are a second apart.

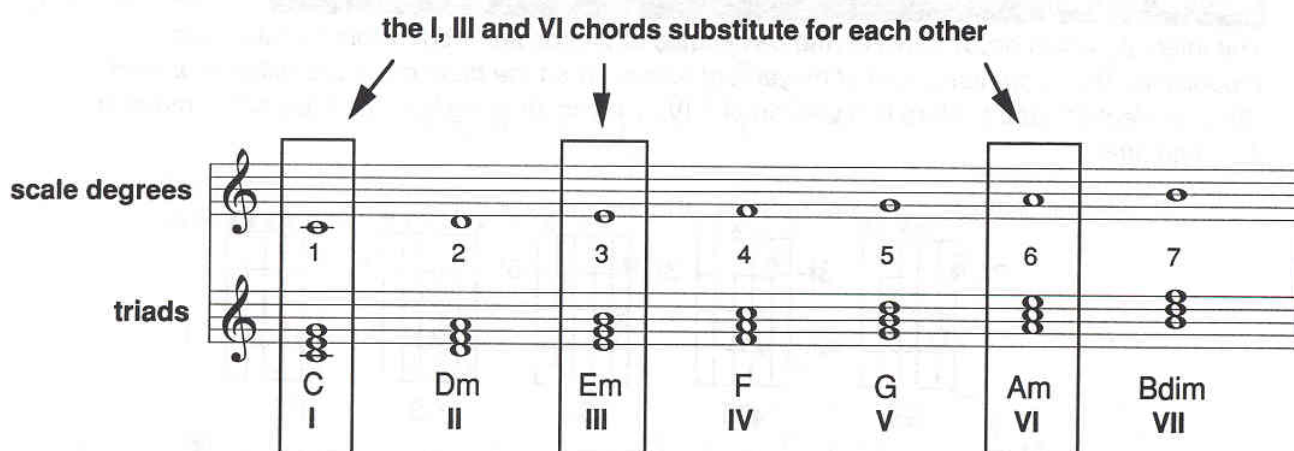
G major scale chords



It is difficult to make a mistake when creating progressions using the chords from either the harmonized major scale or composite minor scale. In each case, the chords all belong to the same key and scale.

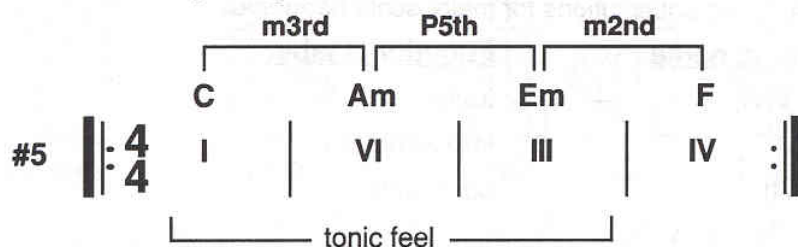
Common Tone Substitution

The harmonized major scale contains chords which share many of the same notes. This is the basis of *common tone chord substitution*. In the major scale, the I, III and VI chords have two notes in common. Because of this, they can be used as substitutes for one another. They function as tonic chords. These are chords which work to define the key and are considered stable, they don't need to move on.

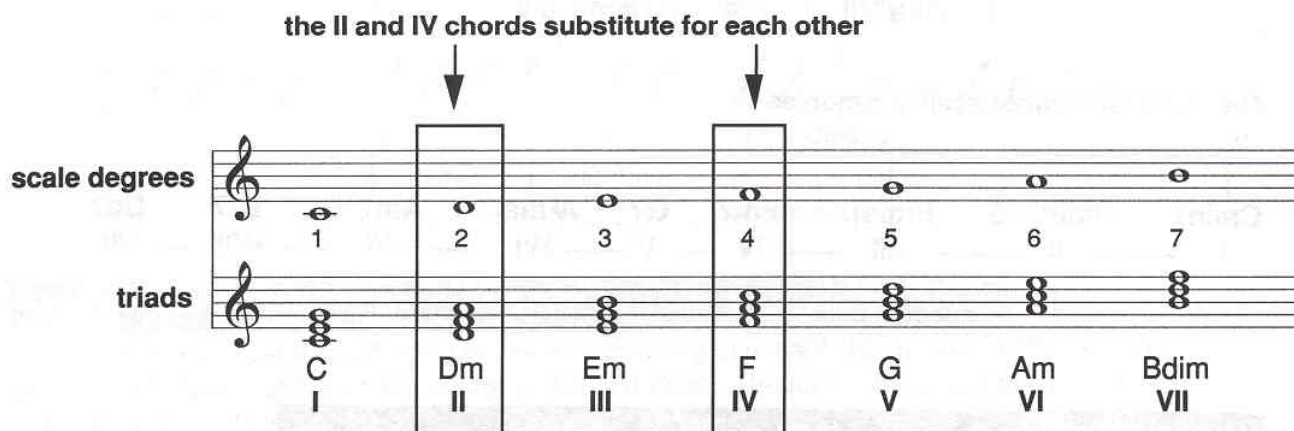


Creating a chord progression using just the I, III and VI chords will soon become boring because this type of chord sequence has no tension. A progression such as this is perfect for creating the illusion of harmonic movement.

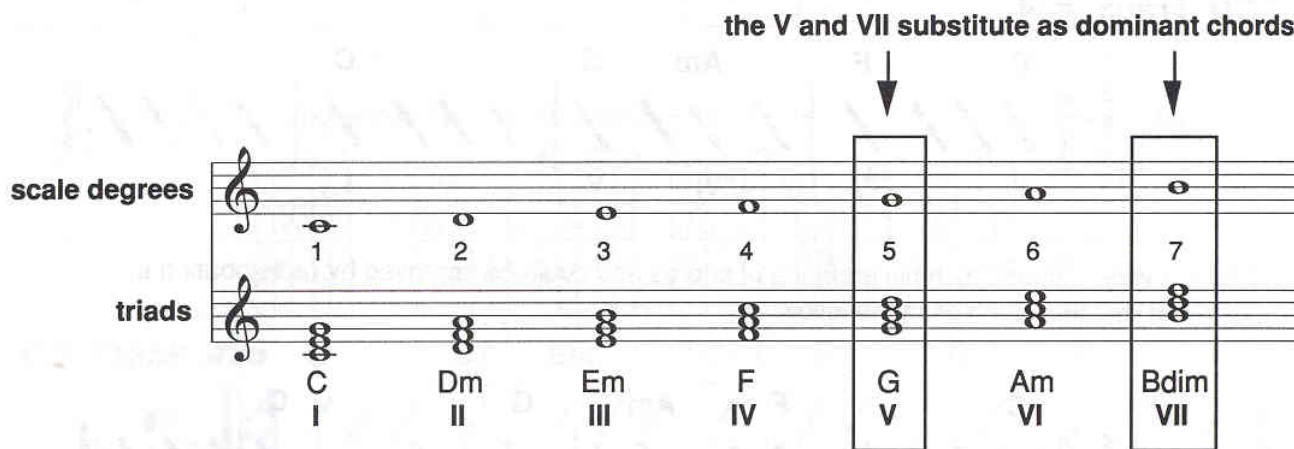
extending the tonic feel by using I, III and VI chords



The II and IV chords also share common tones. These chords provide a sense of contrast to the tonic chords. These chords are normally either major or minor.



Lastly, the V and VII chords substitute for each other. Either will function as a dominant chord. These chords contain inner tension and have a strong tendency to resolve to a tonic or subdominant functioning chord.



As a summary, chords function in three different ways in the harmonized major and minor scales: as tonic (stable chords), as subdominant (chords which present contrasting harmonic material to the tonic chords) and as dominant chords (the tension chords which serve to anticipate the return to the tonic).

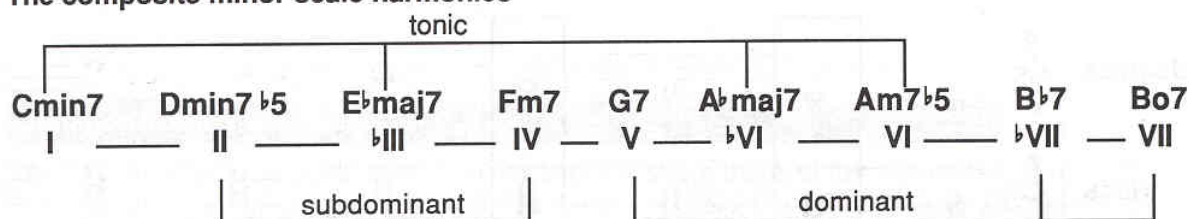
common tone chord substitutions for major scale harmonies

<u>Numeric name</u>	<u>Functional label</u>
I, III & VI	tonic
II & IV	subdominant
V & VII	dominant

common tone chord substitutions for composite minor scale harmonies

<u>Numeric name</u>	<u>Functional label</u>
I, $\flat$ III, $\flat$ VI & VI	tonic
II & IV	subdominant
V, $\flat$ VII & VII	dominant

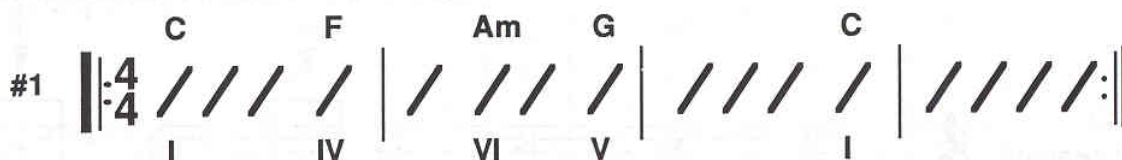
The composite minor scale harmonies



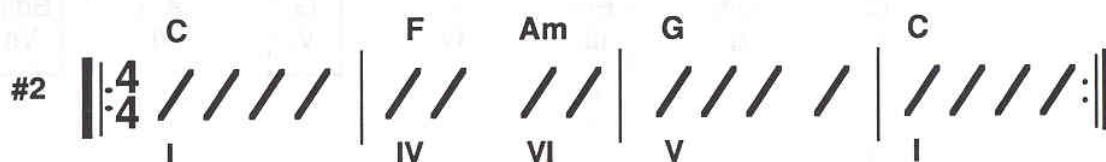
Harmonic Rhythm

Stringing chords together with reasonably good bass movement is not enough to ensure a strong chord progression. The element of *harmonic rhythm* is also important. Harmonic rhythm is the term used to describe the length of time given to each chord in a progression. Here's an example of poor harmonic rhythm:

CD Track #34



This is a very unusual rhythmic grouping of chords and could be improved by redistributing the pattern of rhythms, such as in the following:



Most short progressions will be 4, 8, 12 or 16 measures long. Here is an 8 measure progression which uses good harmonic rhythm, bass movement and basic substitution.

#3

Cadd9	F6/9	Am7	G	Fmaj7
I tonic	IV subdom.	VI tonic substitution	V dom.	IV subdom.

Cadd9	F6/9	Cadd9	Am7	G
I tonic	IV subdom.	I tonic	VI tonic substitution	V dom.

Secondary Dominants

Another technique used by composers involves inserting dominant chords before other chords to create a stronger sense of movement to the next chord. The root of the chord to be inserted is a perfect 5th below the chord it's going to resolve to. Here is the harmonized key of C major with some secondary dominants added.

C major scale harmonies with secondary dominants

C I	A7 V of II	Dm II	B7 V of III	Em III	C7 V of IV	F IV	G7 V	E7 V of VI	Am VI	Bdim VII
---------------	----------------------	-----------------	-----------------------	------------------	----------------------	----------------	----------------	----------------------	-----------------	--------------------

example using secondary dominants in a major key

CD Track #35

C	B7	Em	C7	F	G	C
I tonic	V of III tonic sub.	III	V of IV	IV sub. dom.	V dom.	I tonic

Secondary dominants can precede any chord, but rarely come before diminished chords. Use them in front of major and minor chords.

example using secondary dominants in a minor key

Diagram illustrating a progression of chords in a minor key, showing fretboard positions and functions:

- Cm** (I): tonic
- B^b7** (V of ^bIII): tonic sub.
- E^bmaj7** (^bIII): tonic sub.
- E^b7** (V of ^bVI): dom.
- A^bmaj7** (^bVI): dom.
- G7** (V): dom.
- Cm** (I): tonic

Diminished Chords

It was noted earlier that V chords and VII chords can both function as dominant chords. *When using a diminished chord in place of a V chord, any of the notes in the diminished chord can resolve up by one half-step to the root of the chord being resolved to.* Here are some typical applications which will make this clear.

C major scale harmonies with diminished chords as secondary dominants

Diagram illustrating the C major scale harmonies with diminished chords as secondary dominants:

- C** (I)
- C[#]o** (VII of II)
- Dm** (II)
- D[#]o** (VII of III)
- Em** (III)
- F** (IV)
- F[#]o** (VII of V)
- G7** (V)
- G[#]o** (VII of VI)
- Am** (VI)
- Bdim** (VII)

By using diminished chords as secondary dominants, a chromatic bass line is created. These chords smooth the transition from one chord to the next and provide strong forward momentum. It is also possible to mix dominant and diminished chords as secondary dominants in the same progression. Here is a short progression using a diminished and dominant chord as secondary dominants.

using a diminished chord and dom 7th as secondary dominants

Diagram illustrating a progression of chords using a diminished chord and dom 7th as secondary dominants:

- Cm7** (I): tonic
- E^o7** (VII of IV): subdominant
- Fm7** (IV): subdominant
- Dm7^b5** (II): tonic sub.
- E^bmaj7** (^bIII): tonic sub.
- E^b7** (V of ^bVI): tonic substitute
- A^bmaj7** (^bVI): tonic substitute

Tritone Substitution

This is the term given to the practice of substituting a dominant chord in place of another dominant chord. The root of the new chord is a tritone away from the root of the original chord. If the music contains a C7 chord, an F#7 can be substituted in its place. F# is 3 whole-steps away from C. Three whole-steps is a tritone.

CD Track #36

#1 original progression

C F Am Dm7 **G7** C

I IV VI II V I

#1 progression with tritone substitution

C F Am Dm7 **D#7** C

I IV VI II $\flat$ II I

tritone sub.

The reason the tritone substitution works is because two of the critical tones in the original dominant chord, the 3rd and $\flat$ 7th, are also in the tritone chord. Notice that the 3rd from the C7 chord becomes the $\flat$ 7th in the F#7. Similarly, the $\flat$ 7 from the C7 becomes the 3rd in the F#7. The B $\flat$ is enharmonically respelled as an A# when in an F#7 chord.

C7 F#7

original chord tritone substitution

C7 = C - E - G - B $\flat$

F#7 = F# - A#(B $\flat$) - C# - E

A very easy way to remember how to locate the tritone chord is to simply play a dominant chord whose root is one half-step *above* the root of the chord to be resolved to.

tritone chord root is one half-step above the F chord

F **G#7** F

I $\flat$ II I

half-step

tritone chord root is one half-step above the Gm chord

Gm **A#7** Gm

I $\flat$ II I

half-step

example using tritone substitutions as secondary dominants

#2 $\frac{4}{4}$ / / / / | / / / / | / / / / | / / / / :||

I bII of bVI bVI bII of IV IV V I

tonic tonic sub. sub. dom. dom. tonic

Borrowed Chords

Another technique used by composers to spice up progressions involves borrowing one or more chords from the parallel major or minor key. The parallel key is the one that begins with the same root as the key of the song or progression. If the song is in the key of C major, the parallel key would be C minor. If the song is in C minor, the parallel key is C major. Just substitute a chord from the parallel key in place of the normally expected chord.

In the normal harmonized major scale, the I and IV chords are major. In the parallel minor key,

Parallel keys:

C minor composite harmonies (4 note versions)

Cmin7 Dmin7^{b5} E^bmaj7 Fm7 G7 A^bmaj7 Am7^{b5} B^b7 B^o7

I II bIII IV V bVI VI bVII VII

C major harmonies (4 note versions)

Cmaj7 Dm7 Em7 Fmaj7 G7 Am7 Bm7^{b5}

I II III IV V VI VII

the I and IV are minors. In major, II, III and VI are minor chords. In the parallel minor, the II is a min7^{b5}, the III is a maj7 and so is the bVI. The natural VI is a min7^{b5}. Here is a summary of what chord qualities are normally associated with each scale degree in major and minor keys.

Chord family

major chords

Normal function(s)

I and IV in major keys

bIII and bVI in minor keys

minor keys

II, III and VI in major keys

I, IV and V in minor keys

half-diminished

VII in major keys

II and VI in minor keys

diminished

VII in minor and major keys

dominant

V in major keys

V and bVII in minor key

This progression is in C major mostly. The chords in the boxes are borrowed from the parallel minor key of C minor.

CD Track #37

example using borrowed chords

Diagram showing a 4-measure progression in C major with borrowed chords from C minor. The chords are: Cmaj7, Dm7, Ebmaj7, Am7b5, G7, Cmaj7, G7, Cmaj7. The progression is labeled with Roman numerals: I, II, bIII, VI, V, I, V, I. A box under bIII and VI indicates they are borrowed from the parallel minor. The key signature is one sharp (F#) and the time signature is 4/4.

Changing Chord Quality

This is the last technique which will be examined for enhancing chord progressions. It's very simple: change the quality of any chord whenever you like. Experiment with making major chords dominant or minor or whatever strikes your fancy. This random chord quality changing happens frequently in jazz tunes. The bass notes of the chords normally stay the same, only the quality of the chord changes. Keeping the bass notes the same will give the progression a stronger sense of key. Changing the chord qualities will make things sound a little different.

CD Track #38

diatonic bass notes with chord quality changes

Diagram showing a 4-measure progression in C major with diatonic bass notes and changing chord qualities. The chords are: C, E7, F7, E7, D7. The progression is labeled with Roman numerals: I, III, IV, III, II. The key signature is one sharp (F#) and the time signature is 4/4.

The technique of keeping the bass notes diatonic and changing the chord qualities is at the heart of the blues, where each chord is a dominant. The bass notes, however, are very much in a key.

Diagram showing two 4-measure progressions in C major with diatonic bass notes and changing chord qualities. The first progression has chords E7, A7, and the second has chords E7, B7, A7, E7, B7. The progression is labeled with Roman numerals: I, IV, I, V, IV, I, V. The key signature is one sharp (F#) and the time signature is 4/4.

Many possibilities exist for creating and enhancing chord progressions. Knowing how and why composers assemble chord progressions is an important aspect to musical understanding. Here is a chart which summarizes some of the techniques covered in this chapter.

... On Creating Chord Progressions

- 1- Pay attention to how the bass notes move in your song. Make sure the bass line is singable and is made up of root movements which are mostly a P4th, P5th and 2nd apart. 3rds are fine every so often.
- 2- Try to work with an even number of bar groupings such as 4, 8, 12 or 16 measure phrases.
- 3- Establish the key often by using V and VII chords which resolve to tonic chords.
- 4- Strive for a strong sense of harmonic rhythm.
- 5- Use common tone chord substitution to add interest and variety to the progression.
- 6- Use dominant 7 and diminished 7 chords as secondary dominants for increased harmonic momentum.
- 7- Use the tritone substitution chord in place of the normal V-I resolution.
- 8- Using borrowed chords is also a good way to make your progression sound fresh and different.
- 9- Random chord quality changes also adds interest to chord progressions.
- 10- Analyze and learn other songs to see what "tricks" were used to create the chord progression. Try to figure out where the chords came from. Is the progression logical or quirky?
- 11- Using chords in inversion will result in more independent and melodic bass lines. Don't get locked into always using root position chord forms. Using inversions will promote a smoother flow from chord to chord.
- 12- Trust your ear. Learn the theoretical possibilities normally followed by songwriters, but don't be afraid to break the rules. If it sounds good to you, then go with it.

Appendix

Chord and Scale Relationships

It's usually possible to play more than one scale over any chord. And it's a simple matter to just list the various chords and the scales which might be used with them. However, in just listing the various chords and scales, a serious issue is being avoided: how to choose the "correct" scale.

Songs are made up of chord progressions, not one chord vamps. Because of this, it's necessary to determine the function of a chord in the overall key in order to select an appropriate scale. This is the reason Dorian is not always played over a minor chord. Dorian works great over a minor chord which functions as the II chord in a major key or as the IV chord in a minor key. It will usually not sound great if it is used over a minor chord which is functioning as a VI chord in a major key. It's the same reason Ionian isn't played over all major chords. Ionian is most appropriate over major chords which function as tonic (I) chords in major keys and bIII chords in the minor key. **Chord function determines scale choice.**

After having said this, it must also be noted that it's not necessary to change scales or modes on every chord. What is necessary is to determine how the chords in a progression fit into a key. This means analyzing the progression and assigning Roman numerals to each chord. When a group of chords are all related to a particular key, one scale or mode sound can be applied to all of those chords. This approach, called *horizontal improvisation*, frees the player from having to change scales constantly and allows for melodic development in the solo. The opposite approach is called *vertical improvisation*. In this style, the player goes for a scale sound which will be appropriate for each individual chord. It's as if the player sees only one chord at a time and solos over that chord with the appropriate scale. Both approaches are valid and have their place.

CD Track #39

horizontal approach - one scale played over a group of related chords

	all in C major				A ^b major		C major		
	Cmaj7	Dm7	Fmaj7	G7	A ^b maj7	D ^b maj7	Gsus7	G7	Cmaj7
#1	: 4 / / / /				/ /		/ /	/ /	/ :
	I	II	IV	V	I in A ^b	IV in A ^b	V in C	V	I
	C Ionian				A ^b Ionian		C Ionian		

vertical approach - one scale per chord

	C Ionian	D Dorian	A ^b Ionian	D ^b Lydian	C Lydian
	Cmaj7	Dm7	A ^b maj7	D ^b maj7	Cmaj7
#2	: 4 I in C II in C		/ / IV in A ^b		/ : I in C

The horizontal approach is the easiest to grasp when first starting out. As you get a handle on the various scales, arpeggios and modes, you can begin to integrate the vertical approach. The horizontal approach works well in songs which have no key changes. The vertical approach is most useful in songs where there are frequent key changes or where the chord qualities have been changed, such as in many jazz tunes. The competent improviser can solo using both techniques.

Chord and Scale Syllabus

It would be impossible to list every scale that could be played with every type of chord. To even attempt such a list would be more confusing than helpful. For this reason, this syllabus lists only the most commonly used scales and the chords they are heard over. For a more detailed listing of chords and scales, see "Scale Patterns", by Don Latarski.

	Function	Scale/Mode name	Comments
<u>majors</u>			
major triad	(I)	Ionian	When any of these chords are in the IV position, use Lydian. However, many jazz musicians use Lydian over major chords in the tonic position. Also, the suspended 2 chord is neither major, minor or dominant so it can be used as a substitute for any of these chords.
major 6		Major pentatonic	
major 6/9			
major 7	(IV)	Lydian	
major 6/7			
major 9			
major add9			
suspended 2			
major 7 ^b 5	(I)	Lydian	
major 9 ^b 5			
major 9 [#] 11			
major 7 [#] 11			
major 13 [#] 11			
major 7 [#] 5	(I)	Lydian Augmented	The Lydian Augmented scale is the 3rd mode of the jazz minor scale.
<u>minors</u>			
minor triad	(I)	Aeolian, Harmonic minor, minor pentatonic, Blues	When these minor chords are used as tonic chords in a minor key, use the Aeolian (natural minor), harmonic minor, jazz minor, minor pentatonic or the blues scale with a ^b 3.
minor 7	(II) or (IV)	Dorian, minor pentatonic	
minor 9		Blues or jazz minor	
minor 11	(III) or (VI)	Aeolian or Phrygian	
minor 6	(i) (II) or (IV)	Dorian, minor pentatonic, jazz minor or Blues	With these chords, it's not important whether the chord is functioning as a I or II. All four of these scale choices will work well.
minor 6/9			
minor 13			
minor 7 ^b 5	(II) or (VII)	Locrian or Diminished w/h	
minor [#] 7	any	Jazz minor or harmonic minor	

dominants

dominant 7 dominant 9 dominant 13	any	Mixolydian or Blues	
dominant 7#5 augmented 7	any	Whole-tone or Mixolydian $\flat 6$	
dominant 7 $\flat 5$ dominant 9 $\flat 5$ dominant 7#11	any	Whole-tone, Blues or Lydian $\flat 7$ (Lydian dominant)	The Lydian $\flat 7$ scale is also known as the Lydian Dominant scale and is the 4th mode of the jazz minor scale.
dominant 7 $\flat 9$	any	Diminished h/w or Altered scale	The altered scale is also known as the Super Locrian and is the 7th mode of the jazz minor scale.
dominant 7#9	any	Diminished h/w, Blues, Dorian or Altered Scale	The altered scale is also known as the Super Locrian and is the 7th mode of the jazz minor scale.
dominant 7($\flat 5\flat 9$) dominant 7($\flat 5\sharp 9$) dominant 7($\sharp 5\flat 9$) dominant 7($\sharp 5\sharp 9$)	any	Altered scale	The altered scale is also known as the Super Locrian and is the 7th mode of the jazz minor scale.
dominant 7($\flat 5\flat 9$)	any	Diminished h/w	

suspended

suspended 4 suspended 7 suspended 9 suspended 13	any	Mixolydian or Blues
suspended 7 $\flat 9$	any	Phrygian

diminished

diminished triad diminished 7	any	Diminished w/h
----------------------------------	-----	----------------

Major Scales in All Keys

The image displays the 12 major scales in all keys, arranged in a circle of fifths. Each scale is written on a single staff in treble clef, with notes represented by half notes. The scales are listed from top to bottom: C, G, D, A, E, B, F#, C#, F, Bb, Eb, Ab, Db, Gb, and Cb. The C scale is the only one without sharps or flats. Each subsequent scale has one more sharp or one more flat than the previous one, following the circle of fifths. The notes for each scale are: C (C-D-E-F-G-A-B), G (G-A-B-C-D-E-F#), D (D-E-F#-G-A-B-C), A (A-B-C#-D-E-F#-G), E (E-F#-G#-A-B-C#), B (B-C#-D#-E-F#-G#), F# (F#-G#-A#-B-C#-D#), C# (C#-D#-E#-F#-G#-A#), F (F-G-A-Bb-Cb), Bb (Bb-Cb-Db-Eb-Fb), Eb (Eb-Fb-Gb-Ab-Bb), Ab (Ab-Bb-Cb-Db-Eb-Fb), Db (Db-Eb-Fb-Gb-Ab-Bb), Gb (Gb-Ab-Bb-Cb-Db-Eb-Fb), and Cb (Cb-Db-Eb-Fb-Gb-Ab-Bb).

Glossary of Terms:

Accidentals - These are symbols which have the effect of raising or lowering a pitch. Sharps and flats are the most common accidentals.

Aeolian mode - Alternate name for the natural minor or pure minor scale. It is also the name given to the scale built from the 6th note of the major scale.

Altered extensions - Refers to the flatting or sharpening of the 9th, 11th and 13th. Common examples would be the $\flat 9$, $\sharp 9$, $\sharp 11$ and $\flat 13$.

Altered scale - This is the 7th mode of the melodic minor scale. It is also known as the combination scale, the diminished whole-tone scale, super-locrian and the altered scale. It contains all of the tension tones possible over a dominant chord: $\flat 5$, $\sharp 5$, $\flat 9$ and $\sharp 9$.

Bebop scales - Scales used by jazz musicians for playing bebop music. Three forms are common: the major, dominant and minor.

Blue notes - Term applied to the area of the $\flat 3$ -3, 4- $\sharp 4$ and 6- $\flat 7$ in the blues scale. These notes have to be bent up to on the guitar and result in subtle shadings of sound. They are not exact pitches in a traditional sense, but areas of tension found between the pitches listed here.

Borrowed chords - This refers to a technique where a composer may borrow a chord from the parallel key to use in a chord progression. If a chord progression is mostly in C major, a composer may go to the parallel key of C minor and "borrow" one of these chords to use in the C major progression. This compositional device is useful for making an otherwise predictable progression fresher sounding.

Changing chord quality - This is an embellishment technique used by composers to interject surprise and freshness into a chord progression. The root of a chord is left intact, but the quality of the chord is changed. A C major chord might be changed to a C7.

Character Tone - That tone or tones which give a scale or mode its unique sound. In the Dorian mode, the primary character tone is the 6th. The secondary character tones which define this mode are the $\flat 3$ rd and $\flat 7$ th.

Circle of 5ths - This is a teaching device which is a visual aid to assist in learning certain relationships which exist in music theory. It is useful for learning how many sharps and flats each major and minor key contains and is also useful for demonstrating relationships of a 4th and 5th. By going clockwise around the circle, the sharp keys are displayed. Counter clockwise motion reveals the flat keys.

Combination scale - See Altered scale.

Common tone substitution - This is the term applied to chords which can be substituted for one another based on shared notes. Chords which are substituted for one another usually have at least 2 or more notes in common.

Compound interval - Any interval greater than an octave, typically 9ths, 10ths, 11ths, 12ths and 13ths.

Comping - Jazz term for playing rhythmic accompaniment.

Consonance - Term which means pleasant sounding or without tension.

Diatonic - Term used when a chord progression or melody is composed entirely of notes from one scale or mode.

Diminished whole-tone scale - See Altered scale.

Dissonance - Refers to sounds which are harsh and contain much tension.

Dominant - Term given to the 5th scale degree or chord whose root is the 5th of the scale. This term also can refer to the function of a chord in a progression. A dominant functioning chord is one which occupies a position of tension.

Dorian $\flat 2$ scale - Alternate name given to the 2nd mode of the jazz minor scale.

Dorian mode - Name given to the scale built on the 2nd scale degree of the major scale.

Enharmonic - Term used to describe different spellings for the same sound. For example, a B note sounds the same as a $C^{\flat}$, so $C^{\flat}$ is the enharmonic of B.

Extension - Term is most often used when talking about chords which contain pitches higher than the chordal 7th. The 9th, 11th and 13th are the most common extensions.

Half-step - This is the smallest interval commonly used in Western music, (not Country & Western). On the guitar, it is the distance from one fret to the next.

Horizontal improvisation - An improvisational technique where related chords are grouped according to a tonal center or key. The point of looking for these relationships is so that the improviser might use as few scales as possible to improvise over any given section of music, freeing him/her to explore the melodic aspects of the scale.

Interval - The musical distance between any two notes. This distance is expressed in terms of the number of whole-steps and half-steps separating any two notes (number) and by the quality of the sound.

Inversion - When this term is applied to intervals, it means to take the top note of any two note interval and drop it down one or more octaves, so that it becomes the lowest sounding pitch. When applied to chords, it refers to a change in the bass note of the chord to some pitch other than the chord root. First inversion chords have the 3rd of the chord in the bass. Second inversion chords have the 5th in the bass. Third inversion chords have the chordal 7th as the bass note.

Ionian mode - Alternate name given to the major scale.

Jazz minor scale - This is another name for the ascending melodic minor scale. It's called the jazz minor scale because in jazz improvisation, only the ascending version of the melodic minor scale is used.

Leading tone - Term given to the 7th scale degree or chord whose root is the 7th of the scale.

Lydian $\flat 7$ scale - Also known as Lydian dominant scale. Alternate name given to the 4th mode of the jazz minor scale.

Locrian $\sharp 2$ scale - Alternate name given to the 6th mode of the jazz minor scale.

Locrian natural 6 - Another name for that mode built on the 2nd note of the harmonic minor scale.

Locrian mode - Name given to the scale built on the 7th note of the major scale.

Lydian augmented scale - Alternate name given to the 3rd mode of the jazz minor scale.

Lydian dominant scale - Alternate name given to the 4th mode of the jazz minor scale.

Lydian mode - Name given to the scale built on the 4th note of the major scale.

Mediant - Term given to the 3rd scale degree or chord whose root is the 3rd of the scale. This term can also apply to how a chord functions in a progression.

Mixolydian mode - Name given to the scale built on the 5th note of the major scale.

Mixolydian $\flat 6$ scale - Alternate name given to the 5th mode of the jazz minor scale.

Outside - Slang term given to the practice of using scales which contain extreme dissonance for the purpose of improvising. It also means the same as playing "out".

Overtone Scale - Another name for the Lydian-Dominant scale, which is the 4th mode of the jazz minor scale.

Pentatonic Scale - Any scale with five different pitches.

Parallel key - Term given to the scales which share the same root note. C minor is the parallel key to C major. Similarly, C major is the parallel key to C minor.

Phrygian Dominant Scale - Another name for the 5th mode of the Harmonic Minor scale.

Phrygian mode - Name given to the scale built from the 3rd note of the major scale.

Quartal - Harmony (chords) based on the interval of a fourth.

Quintal - Harmony (chords) based on the interval of a fifth.

Relative major - This is the major scale which begins on the third note of the natural minor (pure minor or Aeolian mode) scale. The notes of the relative major key are the same as those of the minor scale except the tonic of the major is the third note. The relative major key of G minor is $B\flat$ major; $B\flat$ is the third note from the key of G minor. Both keys contain the same number of accidentals and share the same key signature.

Relative minor - This is the minor scale which begins on the sixth note of any major key. The notes of the relative minor key are the same as those of its parent major key except the tonic of the relative minor is the sixth note of the major key. Both keys share the same key signature. The relative key of C major is A minor; A being the sixth note from the key of C.

Rock scale - This is the slang name given to the minor pentatonic scale, which is a 5-note scale derived from the natural minor scale.

Secondary dominants - These are dominant chords which are added to a chord progression to increase the sense of movement from one chord to another. They precede diatonic chords in a progression and can be thought of as temporary V chords which resolve logically to the next chord in the progression.

Sequence - A series of changing notes played with a constant rhythmic pattern.

Side slipping - This is a chording technique where the performer will move entire chords up or down by half-step from their normal position to introduce momentary tension. This tension is usually quickly resolved by returning to the more consonant chord.

Simple intervals - Any interval which is within an octave.

Subdominant - Term given to the 4th scale degree or chord whose root is the 4th of the scale. This can also refer to the function of a chord or chords in a progression.

Submediant - Term given to the 6th scale degree or chord whose root is the 6th of the scale. This can also refer to how a chord is functioning in a progression.

Substitution - In chord theory, substitution refers to the technique of replacing one chord with one or more different chords. It is a technique used by many jazz musicians for reharmonizing songs.

Superimposition - The practice of playing an unexpected arpeggio, chord or scale over an existing chord. The superimposed chord, arpeggio or scale must have some musical relationship to the original chord. Playing an Am9 arpeggio over a Cmaj7 chord is an example of superimposition.

Super Locrian - See Altered Scale.

Supertonic - Term given to the 2nd scale degree or chord whose root is the 2nd of the scale. This can also refer to how a chord is functioning in a progression.

Symmetric scales - This is the term given to those scales which are composed of interval groupings which repeat themselves. The whole-tone, chromatic, diminished and the augmented scales are examples of symmetric scales.

Synthetic scales - These are scales which are derived by altering an existing scale by either adding one or more notes or by altering one of the existing notes. The blues scale may be thought of as a synthetic scale because it is a minor pentatonic with the addition of the raised 4th. Synthetic scales can also be formed by combining parts of existing scales to form a new scale.

Tablature - Also abbreviated as TAB. This is a system of notation which uses lines to represent strings and numbers to represent frets. Rhythms are notated in the conventional way. This system represents a graphic way of representing pitches on the guitar.

Tertian - This term means "of the third", as in "Western theory is based on tertian harmony." Most of the chords in common use are constructed by stacking intervals of a third.

Tonic - The term given to the scale degree which is the first note of a scale. This term is also given to the chord whose root is the first degree of the scale. It can also refer to the function of a chord or chords in a progression.

Transposition - To move a chord progression, melody or other musical passage from one key to another while maintaining all of the correct intervallic relationships. Such a transposition is called exact.

Triad - A simple chord made up of three different pitches. Traditionally, there are major, minor, diminished and augmented triads although others are possible.

Tritone - The term applied to an interval which consists of 3 whole-steps. The tritone is also known as a diminished 5th or augmented 4th interval. In classical music, this interval is called the Diabolus in Musica (the Devil in the music) because it is a difficult interval to harmonize in certain styles of music.

Tritone substitution - This refers to the practice of substituting one chord for another. The substitute chord has a root which is three whole-steps away from the root of the original chord.

Vamp - The term applied to a short chord progression which repeats.

Vertical improvisation - An improvisational technique where the player is concerned with improvising over each chord in a progression as if it existed as a separate harmonic entity. This approach is in contrast to the horizontal approach.

Voicing - The ordering of pitches in a chord from the lowest to the highest. The voicing is often expressed as a series of numbers such as 1-5-3-1.

Whole-step - This is the equivalent of two half-steps.

Bibliography

Many good books exist which expand on the topics touched on in this book. CPP/Belwin, Inc. publishes a catalog of all of the titles you might need. Please consult your local music store for further advice. This partial list will help get you started in the right direction.

General Music Theory

Apel, Willi. Harvard Dictionary of Music. Belknap Press of Harvard University Press, Cambridge, 1975.

Cooper, Paul. Perspectives in Music Theory. Dodd, Mead & Company, New York, 1975.

Jones, George Thaddeus. Music Theory. Harper & Row, New York, 1974.

Persichetti, Vincent. Twentieth-Century Harmony. W. W. Norton & Company, New York, 1961.

Piston, Walter. Harmony. W.W. Norton & Company, New York, 1969.

Music Theory (Jazz)

Coker, Jerry. The Jazz Idiom. Prentice-Hall, Inc., New Jersey, 1975.

Coker, Jerry. Improvising Jazz. Prentice-Hall, Inc., New Jersey, 1964.

Kynaston, Trent P. and Ricci, Robert J. Jazz Improvisation. Prentice-Hall, Inc., New Jersey, 1978.

Haerle, Dan. The Jazz Language. Studio 224, Lebanon, IN, 1980.

Other Sources

Baker, David. How To Play Bebop. Frangipani Press, Bloomington, IN, 1985.

Ferguson, Jim. and Mulhern, Tom. "Chord Construction Primer," Guitar Player. (June 1981), 25-28.

Latarski, Don. Introduction to Chord Theory. CPP/Belwin, Inc., Miami, 1990.

Latarski, Don. Scale Patterns. CPP/Belwin, Inc., Miami, 1990.

Russo, William. Composing Music. Prentice-Hall, Inc., New Jersey, 1983.

THE PROGRESSIVE GUITARIST SERIES

by Don Latarski

ISBN 0-89898-692-3



The **BEST** series
of its kind!

Each book uses a
clear, simple format
to teach the skills
and information
necessary to a
developing musician.

ARPEGGIOS

(F3093GTX)

Shows each arpeggio in five positions in a simple diagram format. For every arpeggio, the corresponding chord form and scale pattern are also shown.

CHORD EMBELLISHMENTS

(F3097GTX)

Shows how to embellish and enhance any chord or chord progression to achieve new and more interesting sounds.

CHORD ORBITS

(F3091GTX)

Explore the sound and shape of a chord's progression up and down the fingerboard. Each chord type is presented in eight fingerings using a cyclic diagram which shows that after the eighth fingering you will have arrived back at the starting point — one octave higher.

AN INTRODUCTION TO CHORD THEORY

(F3096GTX)

A practical step-by-step approach to the fundamentals of chord construction, analysis and function.

MOVEABLE CHORDS

(F3095GTX)

An excellent systematic approach to building a comprehensive chord vocabulary. Shows 40 different chord types in every practical fingering on the guitar neck. All fingerings are based on five basic hand shapes.

SCALE PATTERNS

(F3092GTX)

This book illustrates, in five different positions, all the modes of the major, harmonic minor, melodic minor, pentatonic, blues, diminished and whole tone scales. Don also shows the primary uses for each scale, with an example of each.



WARNER BROS. PUBLICATIONS
15800 N.W. 48th Avenue • Miami, Florida 33014
A Warner Music Group Company



\$24.95

In USA

F3339GTXCD