

Jim Gleason's Guitar Encyclopedia

Advanced Guitar

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QUICK CONTENTS

	<u>Page</u>
Introduction	2
Contents	3
Theory Examples On Tape	10
Melodic Examples On Tape	11
Rhythm Tracks On Tape	11
Fretboard Diagrams	12
Notational Symbols	14
Tablature	15
Progressive Lesson Guide	16

PART 1: THEORY AND READING

Chapter 1: Review Of Music Notation	29
Chapter 2: Ear Training	32
Chapter 3: Major Scale Tone Chords And Modes	33
Chapter 4: Modes Of Other Heptatonic Scales	37
Chapter 5: Altering Major Scale Tone Modes	41
Chapter 6: Expressive Series Of Substitute Major Scale Modes	69
Chapter 7: Intervallic Types Of Harmony	83
Chapter 8: Chord Families	87
Chapter 9: Chord Voicing	91
Chapter 10: Counterpoint (Contrapuntal Harmony)	95

PART 2: TECHNIQUE

Chapter 11: Picking Exercises	113
--	------------

PART 3: FINGERING

Chapter 12: Scale Fingering	115
Chapter 13: Chord Fingering	149
Chapter 14: Arpeggio Fingering	170

PART 4: MELODY

Chapter 15: Phrasing, Melodic Contour and Drive	199
Chapter 16: Choosing The Right Scale In Melodic Improvising	206
Chapter 17: Order Of Melodic Importance	209
Chapter 18: Melodic Arpeggio Exercises	213
Chapter 19: Non Chordal Tones	223
Chapter 20. Blue Notes And Chromatics	227
Chapter 21: Polytonality In Improvising	237
Chapter 22: Fragment Patterns	238

PART 5: RHYTHM AND CHORD PROGRESSION

Chapter 23: Rhythmic Reading	271
Chapter 24: Uses Of Chord Progressions	282
Chapter 25: Scale Tone Chord Progression	283
Chapter 26. Other Types Of Chord Progression	295
Index	305

CONTENTS

	<u>Page</u>	<u>CD/Track</u>
Introduction	2	
Contents	3	
Theory Examples On CD	10	3-1/36-61
.....		and 3-2/1-16
Melodic Examples On CD	11	3-1/21-35
Rhythm Tracks On CD	11	3-1/1-20
Fretboard Diagrams	12	
Notational Symbols	14	
Tablature	15	

Progressive Lesson Guide 16

Part 1: Theory and Reading

Chapter 1: Review Of Music Notation..... 29

A. Letter Names Of Notes	29
B. Time Values	29
C. Fretboard Note Names	30
D. Abbreviations & Symbols Used In Chord Names	31

Chapter 2: Ear Training..... 32 3-2/17-44

Chapter 3: Major Scale Tone Chords And Modes..... 33

A. Major Scale Tone Chords	33
B. Major Scales In All Keys.	33
C. Mode Formulas	34
D. Renumbering For Modal Tone Centers	34
E. Modal Scale Tone Chords	35

Chapter 4: Modes Of Other Heptatonic Scales 37

A. Harmonic Minor Scale Tone Chords And Modes	37
B. Melodic Minor Scale Tone Chords And Modes	38
C. Lydian Diminished Scale Tone Chords And Modes	39
D. Harmonic Major Scale Tone Chords And Modes	40

Chapter 5: Altering Major Scale Tone Modes 41

A. Major Scale Tone Modes	
1. Stepwise Cycle Of Seven Mode Fingerings	41
2. Major Scale Mode Examples In All Keys	48
B. Major Scale Tone Modes By Formula Alteration	
1. Mode Formulas	61
2. Altering Major Scale Tone Modes	62
3. Alteration Cycle Of Mode Seven Mode Fingerings	65

	<u>Page</u>
Chapter 6: Expressive Series Of Substitute Major Scale Modes	69
A. Melodic Use of The Expressive Series	69
1. Accommodating Chords	69
2. Substituting Modes For Expressive Purposes	73
B. Harmonic Use Of The Expressive Series	76
1. Use Of The Expressive Series In Composition And Arranging	77
2. "Comping" (Accompaniment)	80
 Chapter 7: Intervallic Types Of Harmony	
A. Tertian Harmony	83
B. Quartal And Quintal Harmony	84
 Chapter 8: Chord Families	
A. General Chord Sounds	87
B. Tertian Triad "Families"	88
1. Major	88
2. Minor	88
3. Augmented	88
4. Diminished	88
C. Non-Tertian Triad Families	89
1. Suspended	89
2. Add Tone	90
3. Alter Tone	90
 Chapter 9: Chord Voicing	
A. Chord Inversion	91
B. Close And Open Voicing	91
C. Essential Chord Tones	91
D. Voice Leading (Melodic Lines Within Chord Progressions)	92
 Chapter 10: Counterpoint (Contrapuntal Harmony)	95
A. Types Of Motion	
1. Similar motion	95
2. Parallel motion	95
3. Contrary motion	95
4. Oblique motion	96
B. Species Of Counterpoint	96
1. Note Against Note	96
2. Two Or Three Notes Per Melody Note	97
3. Four Or Six Notes Per Melody Note	97
4. Two Or Three Notes Per Melody Note, Syncopation	97
5. Combination Of The Other Species	98

	<u>Page</u>
C. General Rules Of Harmony	98
D. Two Part Parallel Harmony	99
1. Harmony In Thirds and Sixths	99
2. Use Of Same Or Different Timbre	100
3. Fingering thirds and sixths	101
Musical Examples for Chapter 10	105

PART 2: TECHNIQUE

Chapter 11: Picking Exercises	113
A. Alternate Picking Exercises	113
B. Sweep Picking Exercises	113
C. Economy Picking Exercises	113

PART 3: FINGERING

Chapter 12: Scale Fingering

A. Multiplying Your Knowledge Of Scale Fingerings With Modes	115
B. Major scale by finger number	120
C. Major scales modes by scale step	
1. Major scale	122
2. Mixolydian mode	124
3. Dorian mode	126
4. Aeolian mode (natural minor scale)	128
5. Phrygian mode	130
6. Lydian mode	132
D. Harmonic minor scale	134
E. Phrygian major third scale	138
F. Melodic minor (ascending) scale	142
G. Lydian diminished scale	143
H. Harmonic major scale	144
I. Pentatonic (5 tone) Scale Fingering	
1. Minor 7/11 pentatonic scale	145
2. Major 6/9 pentatonic scale	145
3. Dominant 7/11 pentatonic scale	145
4. Minor 6/9 pentatonic scale	145
5. Minor 7/11 flat five pentatonic scale	145
6. Dominant 9 pentatonic scale	146
7. Minor 9th pentatonic scale	146
8. Major 9th pentatonic scale	146
9. Major 7/11 pentatonic scale	146
10. 9b5, 9#5 and 7b5/#5 pentatonic scales	147
J. Chromatic Scale Fingering	148

Chapter 13: Chord Fingering

A. Essential Chord Tone Fingering	149
1. Dominant Seventh Type Chords.....	149
2. Minor Seventh Type Chords.....	150
3. Major Seventh Type Chords	151
4. Add Nine, Minor Add Nine, Sixth, Minor Sixth, Six Nine And Minor Six Nine Chords.....	152
5. Suspended Type Chords	153
6. Whole Tone Type Chords.....	154
7. Other Altered Dominant Chords.....	155
8. Diminished Type Chords.....	156
9. Minor Major Seventh Type Chords.....	157
B. Perfect Fourth Chord Cycles.....	157
C. Chromatically Descending From The Chord Root	160
D. Scale Tone Chords In All Major Keys	162

Chapter 14: Arpeggio Fingering

A. Triad	
Major	170
Minor	172
B. Seventh	
Dominant Seventh	173
Minor Seventh	176
Major Seventh	178
Minor Seventh Flat Five	180
C. Sixth and Diminished Seventh	
Major Sixth	182
Minor Sixth	183
Diminished Seventh Arpeggio.....	186
Diminished Scale	186
D. Full Fretboard Chord Tones.....	187
E. "Skimmed" Arpeggios	
1. Dominant Thirteenth Skimmed Arpeggios.....	188
2. Minor Thirteenth Skimmed Arpeggios.....	190
3. Major Thirteenth Sharp Eleven Skimmed Arpeggios	192
F. Ninth, Eleventh And Thirteenth Arpeggios	193
G. Suspended Fourth	194
I. Whole Tone Type Arpeggios And Scale.....	195
J. Other Altered Dominant Arpeggios	198

Page

PART 4: MELODY

Chapter 15: Phrasing, Melodic Contour and Drive

A. Phrase Defined	199
B. Beginning The Phrase	199
C. Ending The Phrase And Connecting Phrases	199
D. Melodic Contour And Drive	200

Chapter 16: Choosing The Right Scale In Melodic Improvising

A. Chord/Scale Chart.....	203
B. Determining The Scale According To Chords Used In The Accompaniment	206
C. Determining The Scale According To Notes Used In The Accompaniment	206
D. Determining The Scale By Ear	207

Chapter 17: Order Of Melodic Importance 209

A. Primary Chord Tones	209
B. Chord Coloring Tones	209
C. Blue Notes	210
D. Non-Chordal Tones	211

Chapter 18: Melodic Arpeggio Exercises

A. Chord Progressions With Stepwise Root Movement	213
B. Chord Progressions With Root Movement In Perfect Fourths	218
C. Sixth Arpeggio Exercises	220
D. Add Nine Arpeggio Exercises	220

Chapter 19: Non-Chordal Tones. 223

A. Rhythmically Weak Non-Chordal Tones	223
1. Passing Tone	223
2. Neighboring Tone	223
3. Suspension	224
4. Anticipation	224
5. Escape Tone And Cambiata	224
B. Rhythmically Strong Non-Chordal Tones	
1. Leaning Tone	225
C. Pedal Point And Pivot Point	225

Chapter 20. Blue Notes And Chromatics 227

A. Blue Notes	227
B. Common Descending Figures	228
C. Common Ascending/Descending Figures.....	228

	<u>Page</u>	<u>CD/Track</u>
D. Filling In-Between Scale Tones	228	
E. Filling In-Between Arpeggio Tones	228	
Chapter 21: Polytonality In Improvising.....	237	
Chapter 22: Fragment Patterns	238	

PART 5: RHYTHM AND CHORD PROGRESSION

Chapter 23: Rhythmic Reading.....	271 3-2/17-44
--	------------	------------------------

Chapter 24: Uses Of Chord Progressions

A. Composing	282
B. Conceiving Rhythm Guitar Parts And Comping	282
C. Superimposing Chord Progressions In Comping and Soloing	282

Chapter 25: Scale Tone Chord Progression

A. Heptatonic Scale Tone Chord Progression	283
1. Major Scale Tone Chord Root Movement	285
2. Harmonic Minor Scale Tone Chord Root Movement	287
3. Melodic Minor (Ascending) Scale Tone Chord Root Movement	290
4. Harmonic Major Scale Tone Chord Root Movement	290
B. Scale Tone Chord Progression With Inversions	
1. Scale Tone Stepwise Bass With Chord Inversions	291
2. Scale Tone Bass Movement In Perfect Fourths With Chord Inversions .	292
C. Change Of Mode and Key	
1. Changing Tone Center In The Same Key Signature	292
2. Changing Tone Center In The Same Mode	293
3. Altering The Mode On The Same Tone Center	293

Chapter 26: Other Types Of Chord Progresslon

A. Chord Progressions With Connecting Chords	295
1. Inserting Scale Tone Chords	295
2. Chromatic Embellishing Chords	295
3. Chromatic Passing Chords	295
4. Diminished Type Connecting Chords	296
5. Whole Tone Type Connecting Chords	296
B. Common Tone Chord Progressions	296
C. Chord Progression Embracing A "Line"	
1. Chord Progressions Embracing A Scale-Tone Line	296
2. Chord Progressions Embracing A Chromatic Line	297
D. Parallel Movment Of A Single Chord Type	
1. Symmetrical Use Of A Single Chord	299
2. Harmonizing A bass Line With A Single Chord Type	299

	<u>Page</u>
E. Substitute Chord Progressions	300
1. Extended Chords.....	300
2. Modified Chords	301
3. Upper Or Lower Third Substitute Chord.....	302
4. Alternate Connecting Chords For Original Connecting Chord	302
5. "Flat Five Substitute"	302
6. Substitute Chord Groups (Turnarounds)	303
Index	305

THEORY EXAMPLES ON CD

All synthesizer, drum and guitar parts by James Gleason

- 4B2a Accommodating chords #1*
- 4B2a Accommodating chords #2*
- 4B2b Bluesy substitutes*
- 4B2b Darkening moods*
- 4B2b Substitute Lydian for major*
- 4B2b Substitute Dorian for Aeolian*
- 4B3a Major/Aeolian*
- 4B3a Dorian/Aeolian/harmonic minor*
- 4B3b Substitute Dorian for major*
- 4B3b Substitute Mixolydian for Dorian*
- 5A2 Quartal harmony*
- 5A2 Quintal harmony*
- 5A2 3rds and 4ths*
- 5A2 3rds, 4ths and 5ths*
- 5A2 Textural*
- 5C1 Superimposing*
 - (1) original chords without melody
 - (2) substitute chords without melody
 - (3) substitute chords with melody written for them
 - (4) original chords with melody written for substitute chords
- 5D2 Chord solo ("Fallen Isis" from Book 3)*
- 5F1 Good morning, Brad*
- 5F3 Good evening, Brad'
- 5F3 Pachelbel's Canon in D major**
- 5F4 Bach chorale
- 5F5 Mozart piano sonata, K498a
- 5F6 Tchaikovsky's "Romeo and Juliet"
- 5F7 Sauce*
- 5F7AB Melody in 3rds; same timbre, different timbre
- 5F7CD Melody in 6ths (high); different timbre, same
- 5F7EF Melody in 6ths (low); different timbre, same
- 5F7GH Melody in 10ths, different timbre, same timbre
- 5F8 Circle*
- 5F8A Theme
- 5F8B Theme and imitation
- 5F9 Bach Fugue in C#m
- 5F10 Fugue IX from: Bach's "Art of the Fugue"
- 5F11 Fugue #8 from Bach's "Well-Tempered Clavier"
- 5F11A Theme in bass part ``
- 5F11B Bass theme half as fast in middle part
- 5F11C Bass theme up a perfect 4th in top part
- 5F12 Fanfare (Alfred Uhl's "Festfanfare", additional music by Jim Gleason)
- 5F13 Canon N from Bach's "Art of the Fugue"

* Written and arranged by Jim Gleason

* Arranged by Jim Gleason

MELODIC EXAMPLES ON CD

All synthesizer, drum and guitar parts by James Gleason

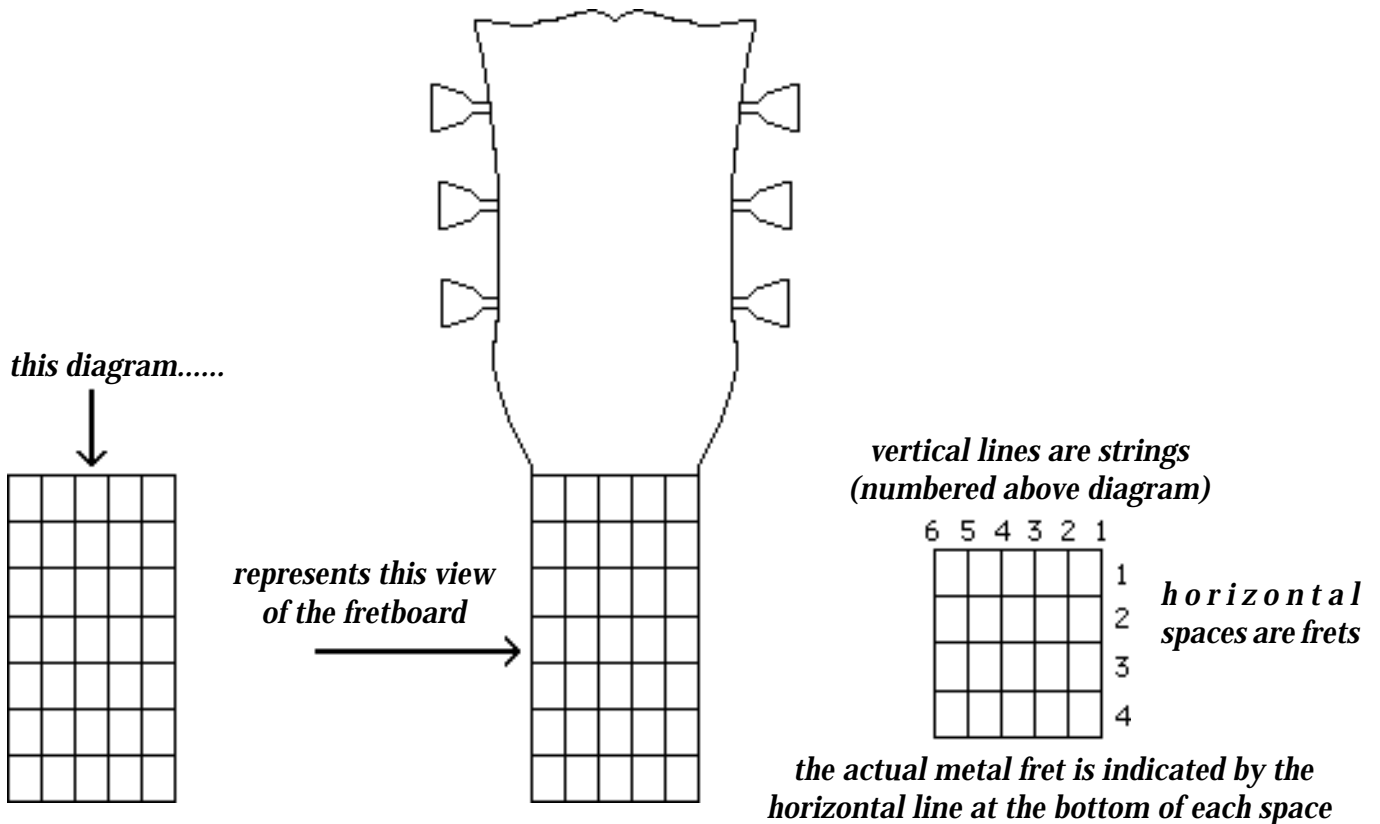
All examples composed by James Gleason

- 6B1 Primary Chord Tones
- 6B2 Chord Coloring Tones
- 6B3 Blue Notes
- 6B4 Non-Chordal Tones
- 6B5 Chromatic Tones
- 6C3 Pedal Point
- 6C3 Inverted Pedal Point
- 6D1-12 . Blue Notes And Chromatics
- 6E2 Chromatic Decent On A Thirteenth Chord
- 6E3 "Be-Bop" Encircling With Skips
- 6E3 "Be-Bop" Encircling Exercise On Ninth Chord
- 6E3 "Be-Bop" Encircling Exercise On Thirteenth Chords

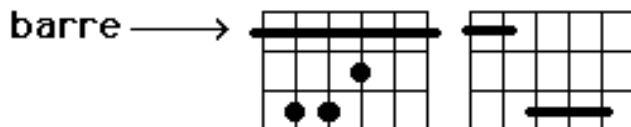
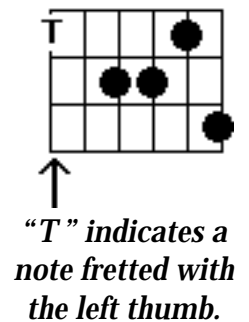
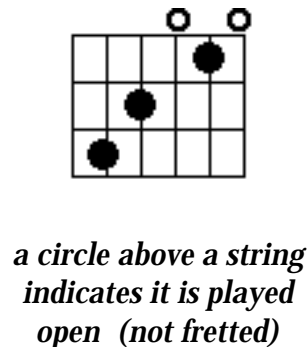
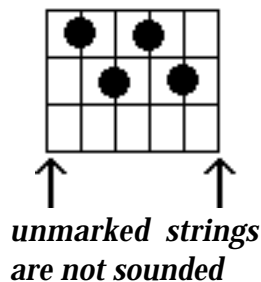
RHYTHM TRACKS ON CD

<u>Track</u>	<u>Mode</u>
1	A Aeolian
2	F Aeolian
3	C# Aeolian
4	D Aeolian
5	E Aeolian
6	G Aeolian
7	A Dorian
8	E Dorian
9	G Dorian
10	B Dorian
11	C Dorian
12	D Dorian
13	A major
14	C major
15	C major
16	C major and A Aeolian
17	D Mixolydian
18	A Mixolydian
19	A Mixolydian
20	E Mixolydian

FRETBOARD DIAGRAMS



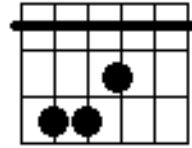
Dots in these diagrams indicate fingered notes. Chord tones are fingered simultaneously. Scale or arpeggio tones are fingered individually.



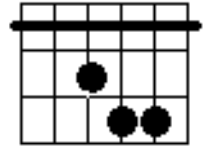
The **barre** is a group of notes all on the same fret of two or more strings fingered with a straight portion of one finger. It uses the classical wrist position. Finger (fret) the barre with the harder edge of your finger when you can. Avoid the creases opposite your knuckles, since they can mute notes.

Left handed guitarists. Interpret references to the right hand as left hand and vice versa. All diagrams must be imagined in “mirror image”:

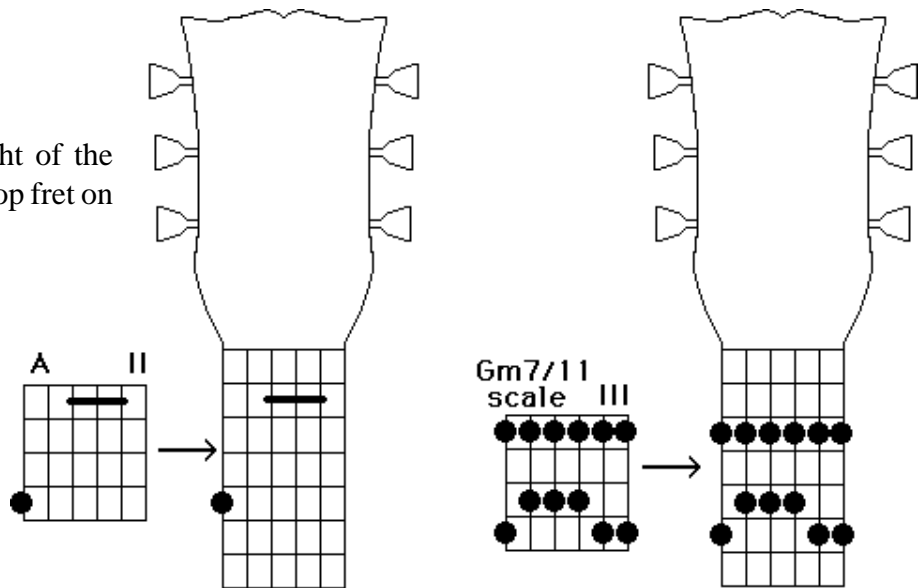
as shown:



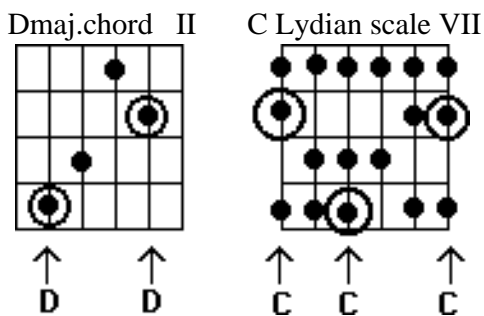
mirror image:



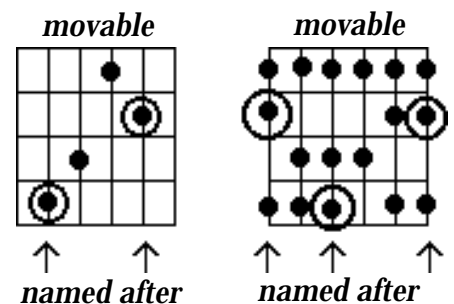
A roman numeral above the top right of the diagram indicates the number of the top fret on the diagram:



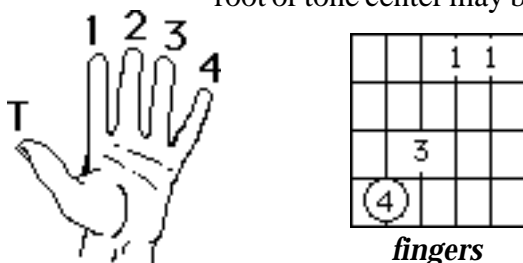
A chord root is the note after which a chord is named (“D” is the root of a D major chord). **A tone center** is the note after which a scale is named (“C” is the tone center of a C Lydian scale).



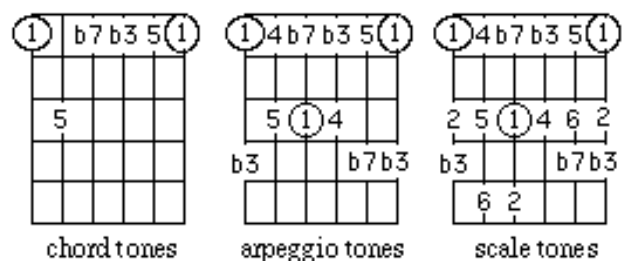
Movable diagrams have no roman numeral on their upper right and therefore have no specified top fret number. They may be placed anywhere on the fretboard according to their chord root(s) or tone center(s). If notes on a diagram are indicated by dots, a circled or enlarged dot indicates the chord root or tone center.



The numbers 1, 2, 3 and 4 within diagrams indicate left hand fingers. The finger number on the chord root or tone center may be circled.



When numbers higher than 4 are used in a diagram, all of the numbers indicate scale, chord or arpeggio tones.

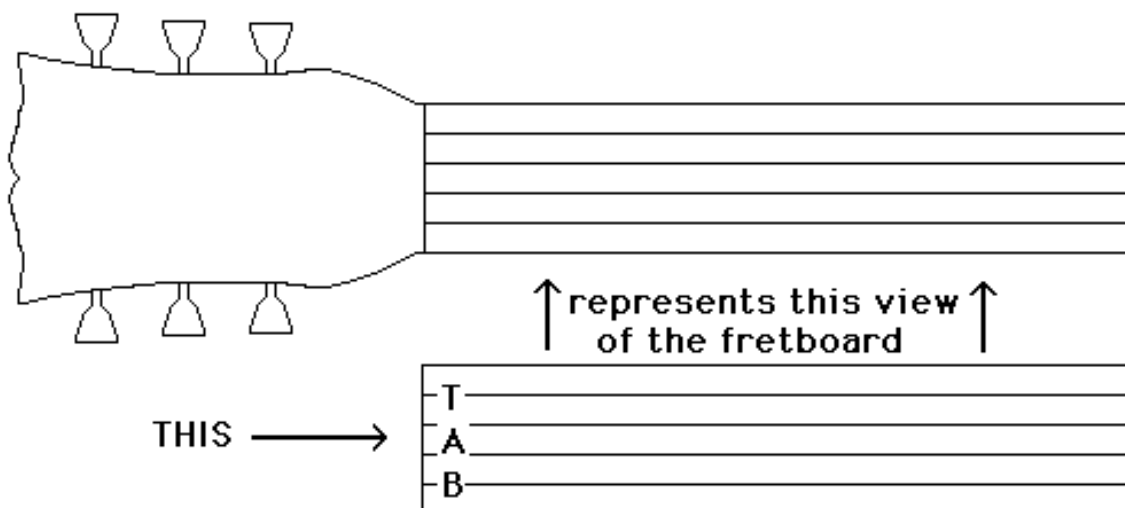


NOTATIONAL SYMBOLS

- B1 = bend an interval of 1 fret (a half step or one semitone).
 B2 = bend an interval of 2 frets (a whole step or two semitones).
 R = release bent note (note: all bends have a silent release unless “R” is indicated).
 (B1) = bend 1 fret before picking. Note was bent 1 fret previous to the current note
 (B2) = bend 2 frets before picking. Note bent 2 frets previous to the current note
 S = slide.
 H = hammer on.
 P = pull off.
 + = “blue note”, a slight bend for expression (less than 1 fret).
 GR = gradual release of a bent note.
 TD1 = tremolo drop 1 fret. Press the tremolo bar toward the guitar to drop the pitch an interval of 1 fret (one half step).
 TD2 = tremolo drop 2 frets. Press the tremolo bar toward the guitar to drop the pitch an interval of 2 frets.
 TB1 = tremolo bend 1 fret. Pull the tremolo bar away from the guitar to raise the pitch an interval of one fret.
 TB2 = tremolo bend 2 frets. Pull the tremolo bar away from the guitar to raise the pitch an interval of two frets.
 TR = tremolo release. Release pressure on the tremolo bar and allow it to return to its resting point.
 (TD1) = tremolo drop 1 fret before picking. Before executing the current note, press the tremolo bar toward the guitar to drop the pitch an interval of 1 fret.
 (TD2) = tremolo drop 2 frets before picking. Before executing the current note, press the tremolo bar toward the guitar to drop the pitch an interval of 2 frets.
 (TB1) = tremolo bent 1 fret before picking. Before executing the current note, pull the tremolo bar away from the guitar to raise the pitch an interval of 1 fret.
 (TB2) = tremolo bent 2 frets before picking. Before executing the current note, pull the tremolo bar away from the guitar to raise the pitch an interval of 2 frets.
 (H) = right hand hammer.
 (P) = right hand pull off.
 (S) = right hand slide.
 (F) = “flick” the string with a downward motion of a right hand fingertip.
 SK = “skim”: play all the notes within the bracket labeled “SK” in one stroke, muting each note with the left hand as soon as it is played. Optionally, the last note may be sustained.
 ◇ = harmonic.
8va — = play the section of music within the bracket one octave higher than written. Tablature shown below any such section already reflects the octave change.

TABLATURE

This system of notation is simply a graph of the guitar strings from the perspective of looking down on the guitar as you're playing it (see below). The numbers on the strings indicate frets and are written from left to right in the sequence they are to be played. In this book, tablature is written below all music notation. The tablature indicates where each note is fretted.



Symbols *below* each fretted note indicate the suggested fretting finger. Right hand finger symbols are “p” (pulgar = thumb in Spanish), “i” (indice = index finger in Spanish), “m” (medio = middle finger in Spanish) and “a” (anular = ring finger in Spanish).

PROGRESSIVE LESSON GUIDE

PROGRESSIVE LESSON 3-1

Preliminary. Look through the lists of Examples and Rhythm Tracks on tape, immediately after the Table Of Contents. Study the information on fretboard diagrams, notational symbols and tablature immediately after the lists of Examples and Rhythm Tracks.

Chapter 1: Review Of Music Notation. Read through the Chapter. If you are not familiar with all of the terms symbols and values, be ready to refer back to it as you study the rest of this book.

Chapter 2: Ear Training. Listen to the tape and study *Intervals* 1-40.

Chapter 3: Major Scale Tone Chords & Modes. Read the chapter.

Chapter 7: Intervallic Types Of Harmony. Read Section A: *Tertian Harmony*.

Chapter 8: Chord Families. Study and play all of the chords in Section A: *General Chord Sounds*.

Chapter 11: Picking Exercises. Study the introduction (before Section A).

Chapter 12: Scale Fingering. Study Section A: *Multiply Your Knowledge Of Scale Fingerings With Modes*. Play each example as you read through the text.

Chapter 13: Chord Fingering. Section A: *Essential Chord Tone Fingering* breaks chord fingerings into nine types. Make up one fingering for each of the first five types (7th, m7, $\Delta 7$, add9&6 and suspended). You must include the blackened dots, but make use any combination of hollowed dots.

Practice the *C Major Scale Tone Chords* in Section D.

Chapter 14: Arpeggio Fingering. Play every “two octaves and one arpeggio tone” fingering in section A: *Triad Arpeggios*. As you play, think of each note name and the chord name.

Chapter 15: Phrasing, Melodic Contour and Drive. Read the entire chapter.

Chapter 16: Choosing The Right Scale In Melodic Improvising. The *Chord/Scale Chart* in Section A will show you which scales can be used in improvising over any single chord.. Study the rest of the chapter for a perspective on the theory and ear training you have ahead of you.

Chapter 18: Melodic Arpeggio Exercises. Practice the *I Δ 7 to II m7 in C major* exercise in Section A.

Chapter 22: Fragment Patterns. Practice Fragment Pattern 10.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Start from example 1 and go at your own pace.

Chapter 24: Uses Of Chord Progressions. Read this short chapter as an introduction to Chapters 25 and 26.

Chapter 25: Scale Tone Chord Progression. Read Section A. *Heptatonic Scale Tone Chord Progression*.

PROGRESSIVE LESSON 3-2

Chapter 2: Ear Training. Review *Intervals* 1-40. Listen to the examples on *Tone Center* and attempt to sing the tone center before it is played on the tape.

Chapter 3: Major Scale Tone Chords & Modes. Review.

Chapter 7: Intervallic Types Of Harmony. Review Section A: *Tertian Harmony*.

Chapter 8: Chord Families. Study and play all of the chords in Section A: *General Chord Sounds*.

Chapter 9: Chord Voicing. Study Section A: *Chord Inversion* and Section B: *Close and Open Voicing*. Play the examples.

Chapter 11: Picking Exercises. Study Section A: *Alternate Picking Exercises*. Practice all of the pentatonic scale fingerings which have two notes per string in Chapter 12, Section I: *Pentatonic Scale Fingerings*.

Chapter 12: Scale Fingering. Review Section A: *Multiply Your Knowledge Of Scale Fingerings With Modes*. Play each example as you read through the text.

Chapter 13: Chord Fingering. Make up two fingerings for each of the first five types (7th, m7, Δ 7, add9&6 and suspended) and one for each of the other types. You must include the blackened dots, but make use any combination of hollowed dots.

Practice the *G Major* Scale Tone Chords in Section D.

Chapter 14: Arpeggio Fingering. Play every “two octaves and one arpeggio tone” fingering in section B: *Seventh Chord Arpeggios*. As you play, think of each note name and the chord name.

Chapter 15: Phrasing, Melodic Contour and Drive. Review the chapter..

Chapter 18: Melodic Arpeggio Exercises. Practice the *I to IIm in C major* exercise in Section A.

Chapter 22: Fragment Patterns. Practice Fragment Pattern 13.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Read Section A. *Heptatonic Scale Tone Chord Progression*.

PROGRESSIVE LESSON 3-3

Chapter 2: Ear Training. Review *Intervals* 1-40. Listen to the examples on *Tone Center* and *Chord Root*. Attempt to sing them before they are played on the tape.

Chapter 3: Major Scale Tone Chords & Modes. Review. You may need to refer to the *Major Scale Tone Chords* chart in *Section A* while studying other parts of this book.

Chapter 4: Modes Of Other Heptatonic Scales. Study the Chapter. As with *Chapter 3*, you may need to refer to the *Scale Tone Chord* charts in while studying other parts of this book.

Chapter 5: Altering Major Scale Tone Modes. Study *Section A: Major Scale Tone Modes*. Play through the *Major Scale Stepwise Fingering Cycle*.

Chapter 7: Intervallic Types Of Harmony. Review *Section A: Tertian Harmony*.

Chapter 8: Chord Families. Study and play all of the chords in *Section A: General Chord Sounds*.

Chapter 9: Chord Voicing. Review *Section A: Chord Inversion* and *Section B: Close and Open Voicing*. Play the examples.

Chapter 11: Picking Exercises. Review *Section A: Alternate Picking Exercises*. Practice all of the pentatonic scale fingerings which have two notes per string in *Chapter 12, Section I: Pentatonic Scale Fingerings*.

Chapter 12: Scale Fingering. Review *Section A*. Memorize the seven “one vertical position” scale fingerings in *Section B: Major Scale By Finger Number*.

Chapter 13: Chord Fingering. Make up three fingerings for each of the first five types (7th, m7, $\Delta 7$, add9&6 and suspended) and one for each of the other types. You must include the blackened dots, but make use any combination of hollowed dots.

Practice the *F Major Scale Tone Chords* in *Section D*.

Chapter 14: Arpeggio Fingering. Play every “two octaves and one arpeggio tone” fingering in *section C: Sixth and Diminished Seventh Arpeggios*. As you play, think of each note name and the chord name.

Chapter 18: Melodic Arpeggio Exercises. Practice the *IIm to IIIIm in C major* exercise in *Section A*.

Chapter 19: Non-Chordal Tones. Read the entire chapter and listen to the melodic examples on tape when referred to in the text.

Chapter 22: Fragment Patterns. Practice *Fragment Patterns* 14 and 15.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Play the *C major and G major scale chord root movement* chord progressions in perfect fourths and stepwise (both ways around the circle) in *Section A1*.

PROGRESSIVE LESSON 3-4

Chapter 2: Ear Training. Review *Intervals* 1-40. Listen to the examples on *Tone Center* and *Chord Root*. Attempt to sing them before they are played on the tape. Listen to the tape and study *Chord Quality* 1-10.

Chapter 5: Altering Major Scale Tone Modes. Study Section A: *Major Scale Tone Modes*. Play through the *Major Scale* and *Dorian Stepwise Fingering Cycles*.

Chapter 8: Chord Families. Study and play all of the chords in Section A: *General Chord Sounds*.

Chapter 9: Chord Voicing. Review Section A: *Chord Inversion* and Section B: *Close and Open Voicing*. Play the examples. Study Section C: *Essential Chord Tones*.

Chapter 11: Picking Exercises. Review Section A: *Alternate Picking Exercises*. Practice playing all of the “one vertical position” and “three notes per string” major scale fingerings in Chapter 12C, with strict down-up alternate picking.

Study Section B: *Sweep Picking Exercises*. Practice picking all of the “two octaves and a fifth” scale fingerings in Chapter 12, Sections C, D and E with strict sweep picking.

Chapter 12: Scale Fingering. Review Section A. Memorize the seven “three notes per string” scale fingerings in Section B: *Major Scale By Finger Number*. Use the same fingerings to play through all of the modes in Section C: *Major Scale Modes By Scale Step*.

Chapter 13: Chord Fingering. Make up four fingerings for each of the first five types (7th, m7, Δ 7, add9&6 and suspended) and one for each of the other types.

Practice the *D Major Scale Tone Chords* in Section D.

Chapter 14: Arpeggio Fingering. Play all the arpeggios in section G: *Suspended 4th Arpeggios*.

Chapter 17: The Order Of Melodic Importance. type over

Chapter 17: The Order Of Melodic Importance. Read the Chapter and listen to the melodic examples on tape, as referred to in the text.

Chapter 18: Melodic Arpeggio Exercises. Practice the *IV to V in C major* exercise in Section A.

Chapter 19: Non-Chordal Tones. Review the entire chapter.

Chapter 20: Blue Notes and Chromatics. Read the entire chapter. Listen to the melodic examples on tape when referred to in the text. Practice the twelve examples at the beginning of the chapter.

Chapter 22: Fragment Patterns. Practice Fragment Patterns 16 and 17.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Play the *E major and D major scale chord root movement* chord progressions in perfect fourths and stepwise (both ways around the circle) in Section A1.

PROGRESSIVE LESSON 3-5

Chapter 2: Study *Intervals* 1-80. Listen to the examples on *Tone Center* and *Chord Root*. Attempt to sing them before they are played on the tape. Review *Chord Quality* 1-10. Study *Scale Type* 1-14.

Chapter 5: Altering Major Scale Tone Modes. Study Section A: *Major Scale Tone Modes*. Play through all of the *Stepwise Fingering Cycles*.

Chapter 7: Intervallic Types Of Harmony. Review Section A: *Tertian Harmony*.

Chapter 8: Chord Families. Study and play all of the chords in Section A: *General Chord Sounds*.

Chapter 9: Chord Voicing. Review Section A: *Chord Inversion* and Section B: *Close and Open Voicing*. Play the examples. Review Section C: *Essential Chord Tones*. Study section D: *Melodic Lines Within Chord Progressions*.

Chapter 10: Counterpoint. Study Section A: *Types of Motion* and play the examples.

Chapter 11: Picking Exercises. Review Section A: *Alternate Picking Exercises*. Practice playing all of the “one vertical position” and “three notes per string” harmonic minor scale fingerings in Chapter 12D, with strict down-up alternate picking.

Chapter 12: Scale Fingering. Review Section A. Review the seven “three notes per string” scale fingerings in Section B: *Major Scale By Finger Number*. Use the same fingerings to play through all of the modes in Section C: *Major Scale Modes By Scale Step*.

Chapter 13: Chord Fingering. Practice the *A Major* and *E major* Scale Tone Chords in Section D.

Chapter 14: Arpeggio Fingering. Play all the arpeggios in Section F: *9th, 11th and 13th Arpeggios*.

Chapter 18: Melodic Arpeggio Exercises. Practice the *V to IV in C major* exercise in Section A.

Chapter 20: Blue Notes and Chromatics. Review the entire chapter. Listen to the melodic examples on tape when referred to in the text. Practice the twelve examples at the beginning of the chapter.

Chapter 21: Polytonality In Improvising. Read the short chapter.

Chapter 22: Fragment Patterns. Practice Fragment Patterns 18 and 19.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Play the *A harmonic minor E harmonic minor scale chord root movement* chord progressions in perfect fourths and stepwise (both ways around the circle) in Section A2.

PROGRESSIVE LESSON 3-6

Chapter 2: Review *Intervals* 1-80. Listen to the examples on *Tone Center* and *Chord Root*. Attempt to sing them before they are played on the tape. Study *Chord Quality* 1-25. Review *Scale Type* 1-14.

Chapter 5: Altering Major Scale Tone Modes. Study Section B: *Major Scale Tone Modes By Formula Alteration*. Play each musical example as you read through the text. In Section A2: *Major Scale Mode Examples In All Keys*, play all of the related scales on the pages for *C major*, *G major* and *F Major*.

Chapter 6: Expressive Series Of Substitute Major Scale Modes. Read the introduction (at the beginning of Chapter 6, before Section A). Read Section A: *Melodic Use Of the Expressive Series*. Listen to the theory examples on tape, as referred to in the text. Play each example on the guitar also, at least wherever the music notation includes tablature.

Chapter 7: Intervallic Types Of Harmony. Read Section B: *Quartal and Quintal Harmony*. Listen to the related theory examples on tape, as referred to in the text.

Chapter 8: Chord Families. Study Section B: *Tertian Triad Families*.

Chapter 9: Chord Voicing. Review the entire Chapter.

Chapter 10: Counterpoint. Review Section A: *Types of Motion* and play the examples.

Chapter 11: Picking Exercises. Study Section C: *Economy Picking Exercises*. Practice playing all “two octaves and one arpeggio tone” arpeggios in Chapter 14A: *Triad Arpeggios* with *economy picking*.

Chapter 12: Scale Fingering. Memorize the seven “three notes per string” scale fingerings in Section D: *Harmonic Minor Scale By Finger Number*. Use the same fingerings to play through all of the modes in Section D: *Phrygian Major Third Scale*.

Chapter 13: Chord Fingering. Practice the *Dominant Seventh Chords Perfect Fourth Cycle* in Section B. Practice the *Bb Major Scale Tone Chords* in Section D.

Chapter 14: Arpeggio Fingering. Play all the fingerings in Section H: *7th Suspended Fourth Arpeggios*.

Chapter 18: Melodic Arpeggio Exercises. Practice the *VI^m to V* in *C major* exercise in Section A.

Chapter 20: Blue Notes and Chromatics. Review the entire chapter. Practice the *BeBop Encircling On Ninth Chords In C* in VIII and X position exercise near the end of the chapter.

Chapter 22: Fragment Patterns. Practice Fragment Patterns 20 and 21.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Play the *A melodic minor scale chord root movement* chord progressions in perfect fourths and stepwise (both ways around the circle) in Section A3.

Study Section B: *Scale Tone Chord Progressions With Inversions* and Section C: *Change Of Mode and Key*. Play the examples as you read the text.

PROGRESSIVE LESSON 3-7

Chapter 2. Review *Intervals* 1-80. Listen to the examples on *Tone Center* and *Chord Root*. Attempt to sing them before they are played on the tape. Review *Chord Quality* 1-25. Study *Scale Type* 1-20.

Chapter 5: Altering Major Scale Tone Modes. Review Section B: *Major Scale Tone Modes By Formula Alteration*. In Section A2: *Major Scale Mode Examples In All Keys*, play all of the related scales on the pages for *C major*, *G major*, *F Major* *D major* and *Bb major*.

Chapter 6: Expressive Series Of Substitute Major Scale Modes. type over

Chapter 7: Intervallic Types Of Harmony. type over

Chapter 8: Chord Families. Review Section B: *Tertian Triad Families*.

Chapter 9: Chord Voicing. Review.

Chapter 10: Counterpoint. Study Section B: *Species Of Counterpoint*. Play the examples written in music notation with tablature and listen to the theory examples on tape as referred to in the text..

Chapter 11: Picking Exercises. Study Section C: *Economy Picking Exercises*. Practice playing all “two octaves and one arpeggio tone” arpeggios in Chapter 14B: *Seventh Chord Arpeggios* with *economy picking*.

Chapter 12: Scale Fingering. Memorize the seven “three notes per string” scale fingerings in Section F: *Melodic Minor Scale By Finger Number*.

Chapter 13: Chord Fingering. Practice the *Dominant Ninth Chords Perfect Fourth Cycle* in Section B. Practice the *Eb Major Scale Tone Chords* in Section D.

Chapter 14: Arpeggio Fingering. Play all the fingerings in Section I1: *Whole Tone Scale*.

Chapter 18: Melodic Arpeggio Exercises. Practice the *I, IV and V in C major* exercise in Section A.

Chapter 20: Blue Notes and Chromatics. Review the entire chapter. Practice the *BeBop Encircling On Thirteenth Chords In C* in III position exercise near the end of the chapter.

Chapter 22: Fragment Patterns. Practice Fragment Patterns 22 and 23.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Play the *A harmonic major chord root movement* chord progressions in perfect fourths and stepwise (both ways around the circle) in Section A4.

PROGRESSIVE LESSON 3-8

Chapter 2: Review *Intervals* 1-80. Listen to the examples on *Tone Center, Chord Root*. Attempt to sing them before they are played on the tape. Study *Chord Quality* 1-40. Review *Scale Type* 1-20. Listen to the examples on *Major Scale Tone Chords*.

Chapter 5: Altering Major Scale Tone Modes. Review Section B: *Major Scale Tone Modes By Formula Alteration*. Play all through each *Cycle Of Mode Fingerings* at the end of the chapter.

Chapter 6: Expressive Series Of Substitute Major Scale Modes. Review Section A: *Melodic Use Of the Expressive Series*.

Chapter 7: Intervallic Types Of Harmony. Review Section B: *Quartal and Quintal Harmony*.

Chapter 8: Chord Families. Study Section C: *Non-Tertian Triad Families*.

Chapter 9: Chord Voicing. Review.

Chapter 10: Counterpoint. Review Section B: *Species Of Counterpoint*. Play the examples written in music notation with tablature and listen to the theory examples on tape as referred to in the text..

Chapter 11: Picking Exercises. Study Section C: *Economy Picking Exercises*. Practice playing all “two octaves and one arpeggio tone” arpeggios in Chapter 14C: *Sixth and Diminished Seventh Chord Arpeggios* with *economy picking*.

Chapter 12: Scale Fingering. Memorize the seven “three notes per string” scale fingerings in Section G: *Lydian Diminished Scale By Finger Number*. Use the same fingerings to play through all of the modes in Section H: *Harmonic Major Scale*.

Chapter 13: Chord Fingering. Practice any two cycles in Section B. Practice the *B Major Scale Tone Chords* in Section D.

Chapter 14: Arpeggio Fingering. Play all the fingerings in Section I2: *Tritone*. Review all previous arpeggios.

Chapter 18: Melodic Arpeggio Exercises. Practice the “*Major and Harmonic Minor Modulating Through Six Keys*” exercise in Section A.

Chapter 20: Blue Notes and Chromatics. Review the entire chapter. Practice the *BeBop Encircling On Thirteenth Chords In C* in V position exercise near the end of the chapter.

Chapter 22: Fragment Patterns. Practice *Fragment Patterns* 24 and 25.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 25: Scale Tone Chord Progression. Study Section B: *Scale Tone Chord Progressions With Inversions* and Section C: *Change Of Mode and Key*. Play the examples as you read the text.

Review Section B: *Scale Tone Chord Progressions With Inversions* and Section C: *Change Of Mode and Key*. Play the examples as you read the text.

Chapter 26: Other Types Of Chord Progression. Study Section A: *Connecting Chord Progressions*. Play the examples as you read the text.

PROGRESSIVE LESSON 3-9

Chapter 2: Review *Intervals* 1-80. Listen to the examples on *Tone Center*, *Chord Root*. Attempt to sing them before they are played on the tape. Review *Chord Quality* 1-40. Study *Scale Type* 1-26. Listen to the examples on *Major Scale Tone Chords* and *Harmonic Minor Scale Tone Chords*.

Chapter 5: Altering Major Scale Tone Modes. Review Section B: *Major Scale Tone Modes By Formula Alteration*. Play all through each *Cycle Of Mode Fingerings* at the end of the chapter.

Chapter 6: Expressive Series Of Substitute Major Scale Modes. Read Section B: *Harmonic Use Of the Expressive Series*. Listen to the theory examples on tape, as referred to in the text. Play each example on the guitar also, at least wherever the music notation includes tablature.

Chapter 7: Intervallic Types Of Harmony. Review Section B: *Quartal and Quintal Harmony*.

Chapter 8: Chord Families. Review Section C: *Non-Tertian Triad Families*.

Chapter 10: Counterpoint. Study Section C: *General Rules Of Harmony* and listen to the theory examples on tape as referred to in the text.

Chapter 11: Picking Exercises. Study Section C: *Economy Picking Exercises*. Practice playing all “two octaves and one arpeggio tone” arpeggios in Chapter 14E: *Skimmed Arpeggios* with *economy picking*. The “skimmed” portion of each arpeggio in Chapter 14, Section E is a form of sweep picking with little of the “dipping” mentioned in Chapter 11B.

Chapter 12: Scale Fingering. Review.

Chapter 13: Chord Fingering. Practice the *Chromatically Descending From The Chord Root* progression which begins with the “A” chord in Section C. Practice the *Ab Major Scale Tone Chords* in Section D.

Chapter 14: Arpeggio Fingering. Play all the fingerings in Section I3: *Augmented Arpeggio*. Review all previous arpeggios.

Chapter 18: Melodic Arpeggio Exercises. Practice the exercise in Section B.

Chapter 20: Blue Notes and Chromatics. Review the entire chapter. Practice the *BeBop Encircling On Thirteenth Chords In C* in VIII position exercise near the end of the chapter.

Chapter 22: Fragment Patterns. Practice Fragment Patterns 26 and 27.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 26: Other Types Of Chord Progression. Study Section B: *Common Tone Chord Progressions*. Play the examples as you read the text.

PROGRESSIVE LESSON 3-10

Chapter 2. Study intervals 1-120. Listen to the examples on *Tone Center, Chord Root*. Attempt to sing them before they are played on the tape. Study *Chord Quality* 1-55. Review *Scale Type* 1-26. Listen to the examples on *Major Scale Tone Chords* and *Harmonic Minor Scale Tone Chords*.

Chapter 6: *Expressive Series Of Substitute Major Scale Modes*. Review Section B: *Harmonic Use Of the Expressive Series*.

Chapter 7: *Intervallic Types Of Harmony*. Review the entire chapter.

Chapter 8: *Chord Families*. Review the entire chapter.

Chapter 10: *Counterpoint*. Review Section C: *General Rules Of Harmony* and listen to the theory examples on tape as referred to in the text.

Chapter 11: *Picking Exercises*. Review Section C: *Economy Picking Exercises*. Practice playing all “two octaves and one arpeggio tone” arpeggios in Chapter 14F: *9th, 11th and 13th Arpeggios* with *economy picking*.

Chapter 12: *Scale Fingering*. Review.

Chapter 13: *Chord Fingering*. Practice the *Chromatically Descending From The Chord Root* progression which begins with the “D” chord in Section C. Practice the *Db Major Scale Tone Chords* in Section D.

Chapter 14: *Arpeggio Fingering*. Play all the fingerings in Section I4: *Seventh Flat Five Arpeggio* and Section I5: *Seventh Sharp Five Arpeggio*. Review all previous arpeggios.

Chapter 18: *Melodic Arpeggio Exercises*. Practice the exercise in Section C.

Chapter 20: *Blue Notes and Chromatics*. Review the entire chapter. Practice the *BeBop Encircling On Thirteenth Chords In C* in VIII position (moving to X position) exercise near the end of the chapter.

Chapter 22: *Fragment Patterns*. Practice Fragment Patterns 28 and 29.

Chapter 23: *Rhythmic Reading*. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 26: *Other Types Of Chord Progression*. Study Section C: *Chord Progression Embracing A Line*. Play the examples as you read the text.

PROGRESSIVE LESSON 3-11

Chapter 2. Study intervals 1-120. Listen to the examples on *Tone Center, Chord Root*. Attempt to sing them before they are played on the tape. Study *Chord Quality* 1-65. Study *Scale Type* 1-32. Listen to the examples on *Major Scale Tone Chords* and *Harmonic Minor Scale Tone Chords*.

Chapter 6: *Expressive Series Of Substitute Major Scale Modes*. Review the entire chapter.

Chapter 7: *Intervallic Types Of Harmony*. Review.

Chapter 10: *Counterpoint*. Study Section D: *Two Part Parallel Harmony*. Play the examples written in music notation with tablature and listen to the theory examples on tape as referred to in the text.

Chapter 11: *Picking Exercises*. Practice each arpeggio exercise in Chapter 18: *Melodic Arpeggio Exercises* with *strict alternate picking*, then with *economy picking*.

Chapter 12: *Scale Fingering*. Review (that *does* mean something).

Chapter 13: *Chord Fingering*. Practice the *Chromatically Descending From The Chord Root* progression which begins with the “C” chord in Section C. Practice the *F#* and *Gb* Major Scale Tone Chords in Section D.

Chapter 14: *Arpeggio Fingering*. Play all the fingerings in Section I6: *Ninth Flat Five*, Section I7: *Ninth Sharp Five and Augmented Scale*. Review all previous arpeggios.

Chapter 18: *Melodic Arpeggio Exercises*. Practice the exercise in Section D.

Chapter 20: *Blue Notes and Chromatics*. Review the entire chapter. Practice the last *BeBop Encircling On Thirteenth Chords In C* exercise.

Chapter 22: *Fragment Patterns*. Practice Fragment Patterns 30 and 31.

Chapter 23: *Rhythmic Reading*. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 26: *Other Types Of Chord Progression*. Study Section D: *Parallel Movement Of A Single Chord Type*. Play the examples as you read the text.

PROGRESSIVE LESSON 3-12

Chapter 2: Ear Training. Listen to and study the entire ear training lesson on tape.

Chapter 6: Expressive Series Of Substitute Major Scale Modes. Review.

Chapter 10: Counterpoint. Study Section E: *Imitative Counterpoint*. Listen to the theory examples on tape as referred to in the text.

Chapter 11: Picking Exercises. Practice each arpeggio exercise in Chapter 18: *Melodic Arpeggio Exercises* with *strict alternate picking*, then with *economy picking*.

Chapter 12: Scale Fingering. Review.

Chapter 13: Chord Fingering. Practice the *Chromatically Descending From The Chord Root* progression which begins with the “G” chord in Section C. Practice the *C#* and *Cb* Major Scale Tone Chords in Section D.

Chapter 14: Arpeggio Fingering. Play all the fingerings in Section J: *Other Altered Dominant Arpeggios*. Review all previous arpeggios.

Chapter 18: Melodic Arpeggio Exercises. Review all of the exercises.

Chapter 20: Blue Notes and Chromatics. Play all of the *BeBop Encircling* exercises.

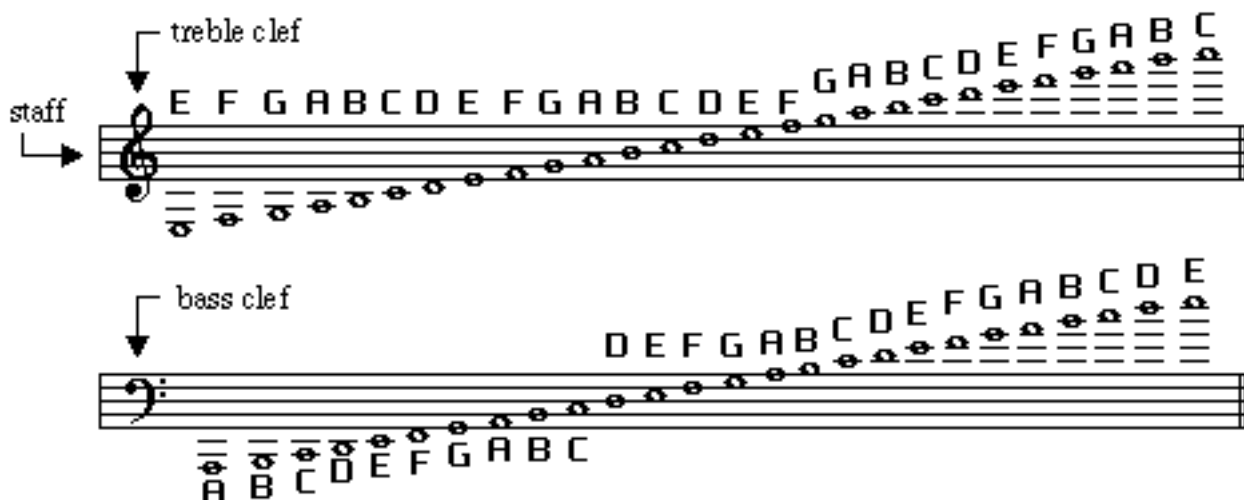
Chapter 22: Fragment Patterns. Practice Fragment Patterns 32 and 33.

Chapter 23: Rhythmic Reading. Practice rhythmic reading for at least one half hour each week. Attempt to play each of the examples along with the tape. Pick up where you left off in the last lesson and go at your own pace.

Chapter 26: Other Types Of Chord Progression. Study Section E: *Substitute Chord Progressions*. Play the examples as you read the text.

CHAPTER 1: REVIEW OF MUSIC NOTATION

A. LETTER NAMES OF NOTES



B. TIME VALUES

A *measure* (or *bar*) is a time unit in music notation between two bar lines. A *time signature* is a fraction, with the top number indicating the number of beats—a whole note.



On the staves below, any number may occur on the top of the time signature. Each note gets the number of beats shown below it.

Double the values on the bottom staff for time signatures with “8” on the bottom and halve them for time signatures with “2” on the bottom.

C. FRETBOARD NOTE NAMES AND STAFF LOCATIONS

string: 6 5 4 3 2 1

OPEN STRINGS

1st fret

2nd fret

3rd fret

4th fret

5th fret

6th fret

7th fret

8th fret

9th fret

10th fret

11th fret

12th fret

13th fret

14th fret

15th fret

16th fret 8va higher than written

17th fret 8va higher than written

18th fret 8va higher than written

19th fret 8va higher than written

20th fret 8va higher than written

21st fret 8va higher than written

22nd fret 8va higher than written

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

D. ABBREVIATIONS & SYMBOLS USED IN CHORD NAMES

$\Delta 7$	=	major seventh chord
$\Delta 9$	=	major ninth chord
/9	=	major add 9 chord
m/9	=	minor add 9 chord
6/9	=	major 6 add 9 chord
m6/9	=	minor 6 add 9 chord
$^{\circ}7$	=	diminished seventh chord
\emptyset	=	minor seventh flat five chord
nr	=	no root (C7nr = C7 chord, no root)
n3	=	no third (C7n3 = C7 chord, no third)
n5	=	no fifth (Cn5 = C major triad, no fifth)
n9	=	no ninth (C13n9 = C13, no ninth)
n11	=	no ninth (C13n11 = C13, no eleventh)

CHAPTER 2: EAR TRAINING

A. Interval (played by piano on tape).

- 1-20 Perfect intervals.
- 21-40 Perfect intervals, thirds and sixths.
- 41-80 Perfect intervals, thirds, sixths, seconds, sevenths and diminished fifth.
- 81-120 Perfect intervals, thirds, sixths, seconds, sevenths, diminished fifth, ninths, tenths, elevenths and twelfths.

B. Tone Center (played by band on tape).

- 1-20 Excerpts from rhythm tracks in various keys.

C. Scale Type (played by string section on tape).

- 1-14 Major, Mixolydian, Dorian, Lydian.
- 15-20 Aeolian and harmonic minor.
- 21-26 Melodic minor (ascending form), Lydian diminished.
- 27-32 Phrygian and Phrygian major third.
- 33-60 Review.

D. Chord Root (played by piano on tape).

- 1-10 Triads.
- 11-25 Seventh chords.

E. Chord Quality (played by brass section on tape).

- 1-10 Triads.
- 11-25 Scale tone seventh chords.
- 26-40 Add tone chords.
- 41-55 Scale tone ninth chords.
- 56-65 Suspended chords (larger than triads).
- 66-80 Alter tone chords.

F. Major Scale Tone Chords (played by brass on tape).

- 1-15 Pairs of chords with stepwise root movement.
- 16-30 Pairs of chords with perfect fourth root movement.
- 31-45 Pairs of chords with root movement in thirds.

G. Harmonic Minor Scale Tone Chords (played by strings on tape).

- 1-10 Pairs of chords with stepwise root movement.
- 11-20 Pairs of chords with perfect fourth root movement.
- 21-30 Pairs of chords with root movement in thirds.

Most guitarists find it difficult to discipline themselves to study ear training. On this tape, the material for study is played, then identified immediately afterwards. You can either just listen to the tape to familiarize yourself with the various intervals, chords, and scales involved, or try to think of the correct answer before it is stated on tape.

In section B of the tape, the answer is a tone center played after each example with a single note, along with a verbal identification of the scale used in the composition.

CHAPTER 3: MAJOR SCALE TONE CHORDS AND MODES

A. MAJOR SCALE TONE CHORDS

The chart below lists all the useful chords that can be constructed on each step of the major scale. The chord names in the left column (such as “diad,” “triad” and “7th”) indicate a general type of chord. Within each chord type there may be many specific chords due to the differences in major or minor thirds (flatted third or natural third), major or minor sevenths (flatted seventh or natural seventh), and so on.

Major scale steps are numbered in Roman numerals across the top of the chart. The specific chord that would occur on any particular major scale step using only tones of the major scale is listed below the roman numeral and the chord type is indicated at the far left. See *Chapter 1D: Abbreviations & Symbols Used In Chord Names*.

Major Scale Tone Chords and Modes

<u>Chord Type</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>
<u>mode name</u>	<u>major</u>	<u>Dorian</u>	<u>Phrygian</u>	<u>Lydian</u>	<u>Mixolydian</u>	<u>Aeolian</u>	<u>Locrian</u>
<u>mode formula</u>	1 2 3 4 5 6 7	1 2 b3 4 5 6 b7	1 b2 b3 4 5 b6 b7	1 2 3 #4 5 6 7	1 2 3 4 5 6 b7	1 2 b3 4 5 b6 b7	1 b2 b3 4 b5 b6 b7
<u>chord type</u>							
diad	M3	m3	m3	M3	M3	m3	m3
triad	Major	minor	minor	Major	Major	minor	diminished
7th	Δ7	m7	m7	Δ7	7	m7	m7b5
9th	Δ9	m9	—	Δ9	9	m9	—
11th	—	m11	—	Δ9#11	11	m11	—
13th	—	m13	—	Δ13#11	13	—	—
11n3	—	11n3	—	—	11n3	11n3	—
13n11	Δ13n11	m13n11	—	Δ13n11	13n11	—	—
6	6	m6	—	6	6th	—	—
/9 (add9)	/9	m/9	—	/9	/9	m/9	—
6/9	6/9	m6/9	—	6/9	6/9	—	—
sus.4	sus.4	sus.4	sus.4	—	sus.4	sus.4	—
sus.2	sus.2	sus.2	—	sus.2	sus.2	sus.2	—
7sus.4	Δ7sus.4	7sus.4	7sus.4	—	7sus.4	7sus.4	—
7/11	Δ7/11	m7/11	m7/11	Δ7/#11	7/11	m7/11	m7/11b5
13sus.	—	13sus.4	—	Δ13#11sus2	13sus.4	—	—

B. MAJOR SCALES IN ALL KEYS

The *Major Scales In All Keys* chart below lists the names of the notes in all major scales. The note name under the “I” (roman numeral “one”) column is the first step and name of each major scale. The remaining notes of each scale read to the right, with the scale steps numbered with roman numerals above.

Major Scales In All Keys

<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>
C	D	E	F	G	A	B
Db	Eb	F	Gb	Ab	Bb	C
D	E	F#	G	A	B	C#
Eb	F	G	Ab	Bb	C	D
E	F#	G#	A	B	C#	D#
F	G	A	Bb	C	D	E
F#	G#	A#	B	C#	D#	E#
Gb	Ab	Bb	Cb	Db	Eb	F
G	A	B	C	D	E	F#
Ab	Bb	C	Db	Eb	F	G
A	B	C#	D	E	F#	G#
Bb	C	D	Eb	F	G	A
B	C#	D#	E	F#	G#	A#

C. MODE FORMULAS

Chord progressions composed exclusively from the notes of one major scale may theoretically have any chord in the progression as a tonic or “main” chord. The tonic chord is the most emphasized. The progression seems to weave itself through to the tonic chord. The listener would expect the song to end on the main chord, although there are “deceptive cadences” which can end a song on an unexpected chord.

The root of the main chord is the tone center. Any scale tone may be the tone center of a chord (as implied above). If major scale tone “II” is established as the tone center, the scale is named with the letter name of major scale tone “II.”

Study the *Major Scale Tone Mode Formulas* chart below.

Major Scale Tone Mode Formulas

Mode:	major	Dorian	Phrygian	Lydian	Mixolydian	Aeolian	Locrian
Formula:		b3,b7	b2,b3,b6,b7	#4	b7	b3,b6,b7	b2,b3,b5,b6,b7

Each mode provides a name for the new scale that would occur if a particular major scale tone were used as a tone center. These major scale tone mode formulas use the new tone center as a point of reference instead of the tone center of the major scale from which the mode originated. Here are a few examples:

Example 1. Using the notes of the “C” major scale, if “G” is established as the tone center, the mode is “G” Mixolydian. The formula is then derived by comparing the resulting notes “G, A, B, C, D, E, F, G” (“C” major scale from “G” to “G”) to the major scale of the new tone center. In this case, the new tone center is “G,” so the notes “G, A, B, C, D, E, F, G” are compared to the “G” major scale: “G, A, B, C, D, E, F#, G.” What alteration of the “G” major scale is necessary to change it to “G” Mixolydian (G, A, B, C, D, E, F, G)?.....The seventh step of the “G” major scale, “F#” would have to be lowered. So the formula for Mixolydian is “b7.”

Example 2. Using the notes of the “F” major scale: “F, G, A, Bb, C, D, E, F,” if “G” is established as the tone center, the mode is “G” Dorian. Comparing the resulting notes, “G, A, Bb, C, D, E, F, G” to the “G” major scale (G, A, B, C, D, E, F#, G), the third and seventh tones of the “G” major scale must be flatted to alter it to “G” Dorian. Therefore, the formula for Dorian is “b3, b7.”

Example 3. Using “G” major scale tones (G, A, B, C, D, E, F#, G) with “C” established as the tone center, the mode is “C” Lydian. Comparing the “C” Lydian tones “C, D, E, F#, G, A, B, C” to those of “C” major (C, D, E, F, G, A, B, C), the fourth tone of “C” major must be sharpened to change it to “C” Lydian. The formula for Lydian is “#4.”

Formulas are standard. Mixolydian is always “b7,” Dorian is always “b3, b7,” Lydian is always “#4” and so on.

D. RE-NUMBERING FOR MODAL TONE CENTERS

Once the formula has been determined for the mode, the tones may be re-numbered to conform to the formula. The tone center of the mode would be re-numbered “1” and the following tones (going up in pitch) would be numbered according to the mode’s formula.

Dorian mode, for example would originally use major scale tones “2 through 2.” Look at the chart below. When re-numbered according to the Dorian formula, major scale tone “2” would become “1,” major scale tone “3” would become “2,” major scale tone “4” would become “b3” and so on.

RE-NUMBERING FOR MODAL TONE CENTERS

major	1	2	3	4	5	6	7
Dorian	b7	1	2	b3	4	5	6
Phrygian	b6	b7	1	b2	b3	4	5
Lydian	5	6	7	1	2	3	#4
Mixolydian	4	5	6	b7	1	2	3
Aeolian	b3	4	5	b6	b7	1	2
Locrian	b2	b3	4	b5	b6	b7	1

E. MODAL SCALE TONE CHORDS

The scale tone chords for the major scale modes are identical to those for the major scale, but numbered differently. They are the same chords, of course, since they use the same notes. The chords built on any particular major scale tone are the same for the mode when the scale tones are re-numbered for the mode. For example, in Phrygian mode, all chords which were built on major scale tone III now apply to Phrygian mode tone I. In Aeolian mode, all chords which were built on major scale tone VII now apply to Aeolian mode tone II. Study the *Re-numbering For Modal Tone Centers* and *Major Scale Tone Chord* charts shown earlier.

CHAPTER 4: MODES OF OTHER HEPTATONIC (7 TONE) SCALES

A. HARMONIC MINOR SCALE TONE CHORDS AND MODES

Harmonic Minor Scale Tone Chords

<u>Chord Type</u>	I	II	bIII	IV	V	bVI	VII
diad	m3	m3	M3	m3	M3	M3	m3
triad	minor	diminished	augmented	minor	Maj.,aug.	Major	dim.,aug.
7th	min.(ma7)	m7b5,°7	Δ7#5	m7,°7	7,7#5	Δ7/°7	°7
9th	m9(ma7)	—	Δ9#5	m7	7b9,7#5b9	—	—
11th	—	—	—	—	11b9(rare)	—	—
13th	—	—	—	—	—	—	—
6th	—	—	—	m6	—	6	—
/9(add9)	m/9	—	—	m/9	—	—	—
6/9	—	—	—	m6/9	—	—	—
sus.4	sus.4	—	—	—	sus.4	—	—
sus.2	sus.2	—	—	sus.2	—	—	—
7sus.4	Δ7sus.4	—	—	—	7sus.4	—	—
7/11*	m(ma7)/11	m7/11b5	—	m7/#11	7/11	Δ7/#11	—
13sus.	—	13sus.4	—	Δ13#11sus.2	13sus.4	—	—

* the 7/11's are usually used only as pentatonic scales

mode:	harmonic minor	har.min. mode II	har.min. mode III	har.min. mode IV	Phrygian major 3rd	har.min. mode VI	har.min. mode VII
formula:	b3,b6	b2,b3,b5,b7	#5	b3,#4,b7	b2,b6,b7	#2,#4	b2,b3,b5, b6,bb7

Harmonic Minor Scales In All Keys

I	II	bIII	IV	V	bVI	VII
C	D	Eb	F	G	Ab	B
C#	D#	E	F#	G#	A	B#
D	E	F	G	A	Bb	C#
Eb	F	Gb	Ab	Bb	Cb	D
E	F#	G	A	B	C	D#
F	G	Ab	Bb	C	Db	E
F#	G#	A	B	C#	D	E#
G	A	Bb	C	D	Eb	F#
Ab	Bb	Cb	Db	Eb	Fb	G
A	B	C	D	E	F	G#
Bb	C	Db	Eb	F	Gb	A
B	C#	D	E	F#	G	A#

Harmonic minor chord progression is shown in Chapter 25, Section A2. The tones that make up each of the “A” harmonic minor diminished seventh chords are scale tones 2, 4, b6 and 7 (B, D, F and G#). So, of course, the diminished seventh chords occur on those same four scale steps. The formula for a diminished seventh chord is “1, b3, b5, bb7.” “Double flat seven” is the same as “6,” so the formula could be translated to “1, b3, b5, 6.” The B°7 chord below displays this formula.

The D°7 chord below shows the formula “1, b3, #4, 6.” Since “#4” is the same as “b5,” this too is another version of “1, b3, b5, bb7.”

A Harmonic Minor Scale

1 2 b3 4 5 b6 7 1 2 b3 4 5 b6 7 1

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

T 1 2 3 1 2 3 1 2 4 1 2 4 1 3 4

A 5 7 8 6 7 4 5 7 9 6 9 10

B 5 7 8 5 7 8 6 7 4 5 7 9 6 9 10

Bo7 Do7 Fo7 G#o7

BDFG# DFG#B FG#BD G#BDF

C+ E+ G#+

CEG# EG#C G#CE

(+ = Augmented)

The tones that comprise an augmented chord are all a major third (four frets) apart. The notes that make up each of the three harmonic minor augmented chords are the same; scale tones “b3, 5 and 7.” The formula for an augmented triad is “1, 3, #5.” The “E” augmented chord below indicates the formula “1, 3, b6,” which is the same as “1, 3, #5.” The “G#” augmented chord above indicates the formula “1, b4, b6,” which is the same as “1, 3, #5.”

B. MELODIC MINOR (ASCENDING) SCALE TONE CHORDS AND MODES

Melodic Minor (ascending) Scale Tone Chords

chord type	I	II	III	IV	V	VI	VII
diad	m3	m3	M3	M3	M3	m3	m3
triad	minor	minor	+,Maj.b5	Ma,Mab5	Maj,+	dimin.	dim,ma+5
7th	min.(ma7)	m7	Δ7#5,Δ7b5	7,7b5	7,7#5	m7b5	7b5,7#5
9th	m9(ma7)	—	Δ9#5,Δ9b5	9,9b5	9,9#5	m9b5	7+5+9
11th	—	—	Δ9#11	—	11,11#5	—	—
13th	—	—	Δ13#11n5	—	—	—	—
6th	m6	m6	—	6	—	—	—
/9 (add9)	m/9	—	/9 n5	/9	/9	—	—
6/9 (pentatonic)	m6/9	—	6/9 n5	6/9	—	—	—
sus.4	sus.4	sus.4	—	—	sus.4	—	—
sus.2	sus.2	—	—	sus.2	sus.2	—	—
7sus.4	Δ7sus.4	7sus.4	—	—	7sus.4	7sus.4 n5	—
7/11 (pentatonic)	m(ma7)/11	m7/11	—	7/#11	7/11	m7/11b5	—
13sus.	Δ13sus.4	—	—	—	—	—	—
mode:	melodic	mel.Min.	mel.Min.	mel.Min.	mel.Min.	mel.Min.	mel.Min.
	minor	mode II	mode III	mode IV	mode V	mode VI	mode VII
formula:	b3	b2,b3,b7	#4,#5	#4, b7	b6, b7	b3,b5, b6,b7	b2,b3,b4, b5,b6,b7

Melodic Minor (ascending) Scales In All Keys

<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>
C	D	E♭	F	G	A	B
C♯	D♯	E	F♯	G♯	A♯	B♯
D	E	F	G	A	B	C♯
E♭	F	G♭	A♭	B♭	C	D
E	F♯	G	A	B	C♯	D♯
F	G	A♭	B♭	C	D	E
F♯	G♯	A	B	C♯	D♯	E♯
G	A	B♭	C	D	E	F♯
A♭	B♭	C♭	D♭	E♭	F	G
A	B	C	D	E	F♯	G♯

Bb	C	Db	Eb	F	G	A
B	C#	D	E	F#	G#	A#

C. LYDIAN DIMINISHED SCALE TONE CHORDS AND MODES.

Lydian Diminished Scale Tone Chords

<u>Chord Type</u>	<u>I</u>	<u>II</u>	<u>bIII</u>	<u>#IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>
diad	m3	M3	M3	m3	M3	m3	m3
TRIAD	minor	Major	aug.,dim.	diminished	Maj.,aug.	diminished	maj.,aug.
7th	m(ma7),°7	7	Δ7+5,°7	°7	Δ7,Δ7#5	m7b5,°7	7,7#5
9th	m9(ma7)	7b9	—	—	Δ9,Δ9#5	—	7+9,7#5+9
11th	—	—	—	—	—	—	—
13th	—	—	—	—	—	—	—
6th	m6	6	—	—	—	—	—
/9 (add9)	m/9	—	—	—	/9	—	—
6/9 (pentatonic)	m6/9	—	—	—	—	—	—
sus.4	—	sus.4	—	—	sus.4	—	—
sus.2	—	—	—	—	sus.2	—	—
7sus.4	—	7sus.4	—	—	Δ7sus.4	—	—
7/11 (pentatonic)	—	7/11	—	—	Δ7/11	m7/11b5	—
mode:	Lydian	Lyd.dim.	Lyd.dim.	Lyd.dim.		Lyd.dim.	Lyd.dim.
	<u>dimin.</u>	<u>mode II</u>	<u>mode III</u>	<u>mode IV</u>	<u>Har. Maj.</u>	<u>mode VI</u>	<u>mode VII</u>
formula:	b3,#4	b2, b7	#2,#4,#5	b2,b3,b5, b6,bb7	b6	b3,b5,b7	b2,b3,b4, b6,b7

Lydian Diminished Scales In All Keys

<u>I</u>	<u>II</u>	<u>bIII</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>
C	D	Eb	F#	G	A	B
Db	Eb	Fb	G	Ab	Bb	C
D	E	F	G#	A	B	C#
Eb	F	Gb	A	Bb	C	D
E	F#	G	A#	B	C#	D#
F	G	Ab	B	C	D	E
F#	G#	A	B#	C#	D#	E#
G	A	Bb	C#	D	E	F#
Ab	Bb	Cb	D	Eb	F	G
A	B	C	D#	E	F#	G#
Bb	C	Db	E	F	G	A
B	C#	D	E#	F#	G#	A#

D. HARMONIC MAJOR SCALE TONE CHORDS AND MODES.

Harmonic major is the same as harmonic minor with a natural third.
The mode on the fourth step of harmonic major is the same as Lydian diminished.

Harmonic Major Scale Tone Chords

<u>chord type</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>bVI</u>	<u>VII</u>
DIAD	M3	m3	m3	m3	M3	M3	m3
TRIAD	Maj.,aug.	diminished	maj.,aug.	minor	Major	aug.,dim.	diminished
7th	$\Delta 7, \Delta 7\#5$	$m7b5, ^\circ 7$	$7, 7\#5$	$m(ma7), ^\circ 7$	7	$\Delta 7+5, ^\circ 7$	$^\circ 7$
9th	$\Delta 9, \Delta 9\#5$	—	$7+9, 7\#5+9$	$m9(ma7)$	7b9	—	—
11th	—	—	—	—	—	—	—
13th	—	—	—	—	—	—	—
6th	—	—	—	m6	6	—	—
/9 (add9)	/9	—	—	m/9	—	—	—
6/9 (pentatonic)	—	—	—	m6/9	—	—	—
sus.4	sus.4	—	—	—	sus.4	—	—
sus.2	sus.2	—	—	—	—	—	—
7sus.4	$\Delta 7sus.4$	—	—	—	7sus.4	—	—
7/11 (pentatonic)	$\Delta 7/11$	$m7/11b5$	—	—	7/11	—	—
mode:	harmonic	har.maj.	har.maj.	har.maj.	har.maj.	har.maj.	har.maj.
	<u>major</u>	<u>mode II</u>	<u>mode III</u>	<u>mode IV</u>	<u>mode V</u>	<u>mode VI</u>	<u>mode VII</u>
formula:	b6	b3,b5,b7	b2,b3,b4, b6,bb7	b3,#4	b2, b7	#2,#4,#5	b2,b3,b5, b6,b7

Harmonic Major Scales In All Keys

<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>bVI</u>	<u>VII</u>
C	D	E	F	G	Ab	B
C#	D#	E#	F#	G#	A	B#
D	E	F#	G	A	Bb	C#
Eb	F	G	Ab	Bb	Cb	D
E	F#	G#	A	B	C	D#
F	G	A	Bb	C	Db	E
F#	G#	A#	B	C#	D	E#
G	A	B	C	D	Eb	F#
Ab	Bb	C	Db	Eb	Fb	G
A	B	C#	D	E	F	G#
Bb	C	D	Eb	F	Gb	A
B	C#	D#	E	F#	G	A#

CHAPTER 5: ALTERING MAJOR SCALE TONE MODES

A. MAJOR SCALE TONE MODES

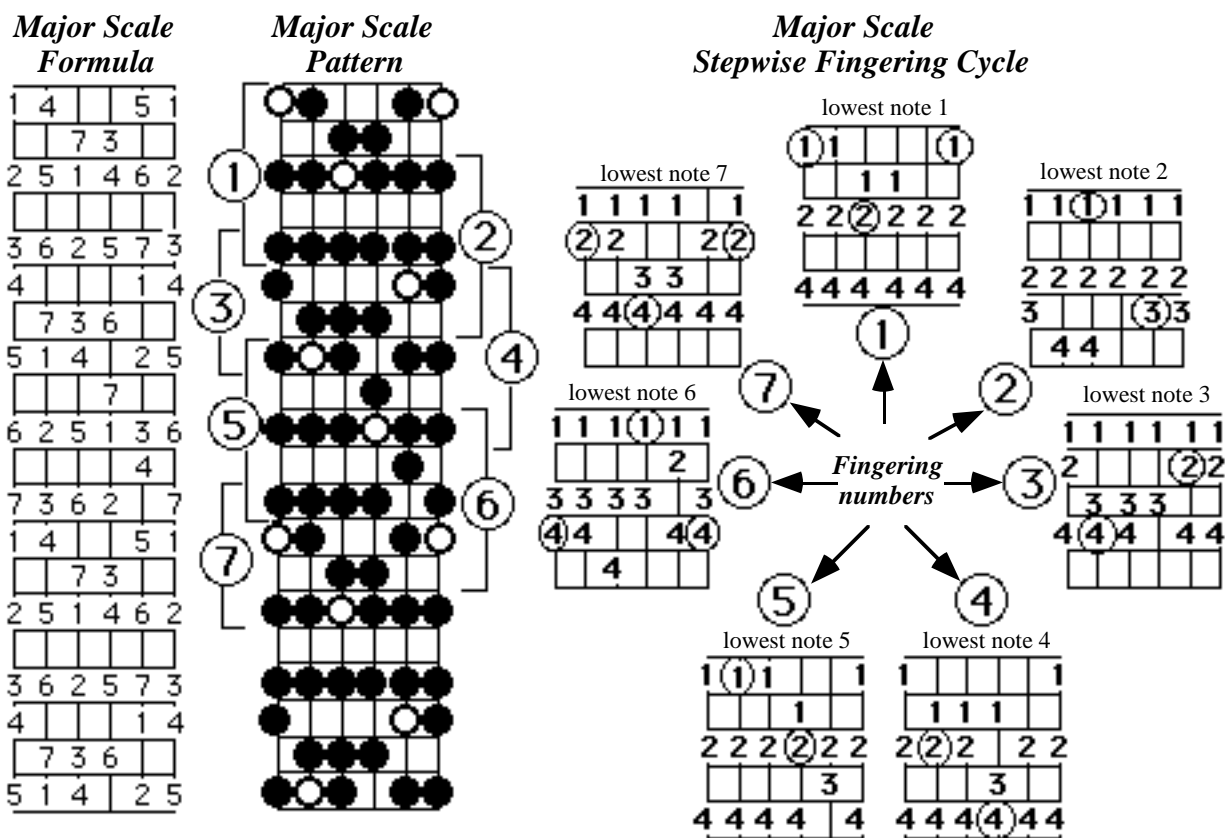
1. Stepwise Cycle Of Seven Mode Fingerings.

There are seven basic major scale fingerings which can each be played in a span of four or five frets. These are illustrated in the cycle of fingerings at the right below. These fingerings break up the full fretboard major scale pattern into seven vertical fingerings.

The *Major Scale Formula* and *Major Scale Pattern* diagrams indicate the same notes. The *major scale formula* diagram numbers each scale tone from 1, without indicating left hand fingers. On the *major scale pattern*, the hollow dots are the major scale tone centers. The major scale pattern is divided into the seven fingerings, as numbered “1” through “7” in the center of the cycle.

Each diagram in the *Major Scale Stepwise Fingering Cycle* has a different numbered tone as its lowest tone on the sixth string. “Lowest note 1” has major scale tone 1 as its lowest note, “lowest note 2” has major scale tone 2 as its lowest note, and so on. The numbers on the diagrams in the stepwise fingering cycle indicate left hand fingers and tone centers are circled.

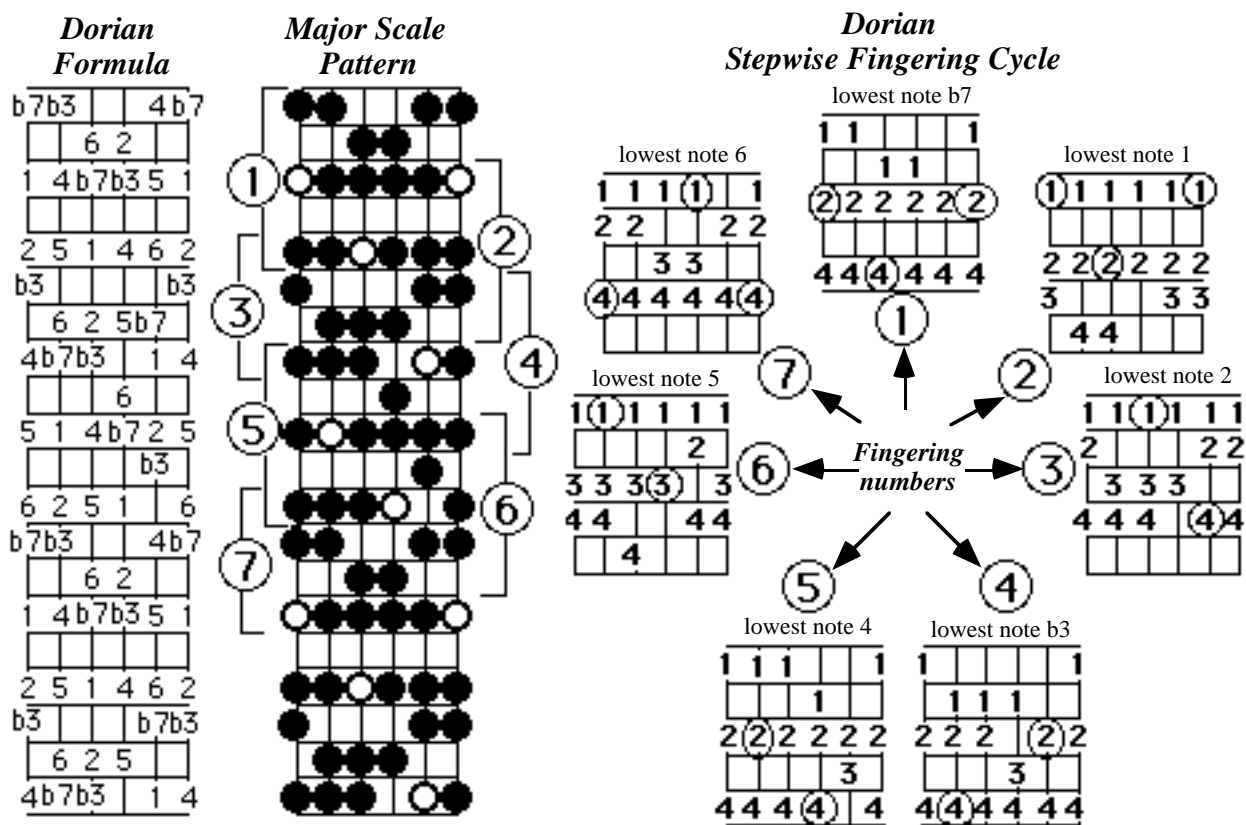
For each mode on the following pages, the *Major Scale Pattern* diagram is identical to the one below, with different tone centers. This illustrates that major scale modes all originate from the major scale pattern. The major scale pattern may begin at any fret.



Sometimes, alternative fingerings are more suited to particular needs in soloing (see the *Alternative Fingerings* at the end of Chapter 12B).

The circled notes on the diagrams below are Dorian scale tone 1 (the tone center for Dorian mode). The numbers on the diagrams in the stepwise fingering cycle indicate left hand fingers and tone centers are circled.

Notice that the *Major Scale Pattern* is identical to the one on the previous page, except that the hollow dot is now placed on each major scale tone “2”, designating the Dorian tone center. In the *Dorian Formula* diagram, the scale tones are numbered with that new tone center as “1.”



On the next three pages, as with Dorian mode above, the hollow dots are the tone centers. The numbers on the diagrams in the cycles indicate left hand fingers. The tone centers compare to the major scale as follows:

<u>mode</u>	<u>original major scale step which is now the mode's tone center</u>
Phrygian	3
Lydian	4
Mixolydian	5
Aeolian	6
Locrian	7

Phrygian Formula

b6	b2		b3	b6	
	5	1			
b7	b3	b6	b2	4	b7
1	4	b7	b3	5	1
b2				b6	b2
	5	1	4		
b3	b6	b2		b3	
			5	b7	
4	b7	b3	b6	1	4
			b2		
5	1	4	b7		5
b6	b2		b3	b6	
	5	1			
b7	b3	b6	b2	4	b7
1	4	b7	b3	5	1
b2				b6	b2
	5	1	4		
b3	b6	b2		b3	

Major Scale Pattern

Phrygian Stepwise Fingering Cycle

lowest note b6

1	1			1	
	1	(1)			
2	2	2	2	2	2
4	4	4	4	4	(4)

lowest note 5

1	(1)	1	1	1	
2	2		2	2	
	3	(3)			
4	4	4	4	4	4

lowest note b7

1	1	1	1	1	1
2	2	2	2	2	(2)
3				3	3
				4	(4)

lowest note 1

1	1	1	1	(1)	1
2				2	2
	3	(3)	3		
4	4	4	4	4	4

lowest note 4

1	1	1	1	(1)	1
				2	
3	(3)	3	3	3	
4	4			4	4
				4	

lowest note b3

1	(1)	1			1
		1			
2	2	2	2	(2)	2
				3	
4	4	4	4		4

lowest note b2

1					1
	1	(1)	1		
2	2	2	2		2
				3	
4	4	4	4	(4)	4

Fingering numbers

Lydian Formula

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

Major Scale Pattern

Lydian Stepwise Fingering Cycle

lowest note 5

1	(1)				1
	1	1			
2	2	2	(2)	2	2
4	4	4	4	4	4

lowest note #4

1	1	1	1		1
2	(2)			2	2
	3	3			
4	4	4	(4)	4	4

lowest note 6

1	1	1	(1)	1	1
2	2	2	2	2	2
3				3	(3)
				4	4

lowest note 7

1	1	1	1	1	1
2				2	(2)
	3	3	3		
4	4	4	4	4	4

lowest note 3

1	1	1	1	1	1
				(2)	
3	3	3	3	3	
4	(4)			4	4
				4	

lowest note 2

1	1	(1)			1
		1			
2	2	2	2	2	2
				(3)	
4	4	4	4		4

lowest note 1

1					(1)
	1	1	1		
2	2	(2)	2	2	
			3		
4	4	4	4	4	4

Fingering numbers

Mixolydian formula

b7			4b7
3	6	2	
1	4b7	5	1
	3		
2	5	1	4
6	2	5	b7
3	6	2	5b7
4b7		1	4
	3	6	
5	1	4b7	2
6	2	5	1
b7			4b7
3	6	2	
1	4b7	5	1
	3		
2	5	1	4
3	6	2	5b7
4b7		1	4

Major Scale pattern

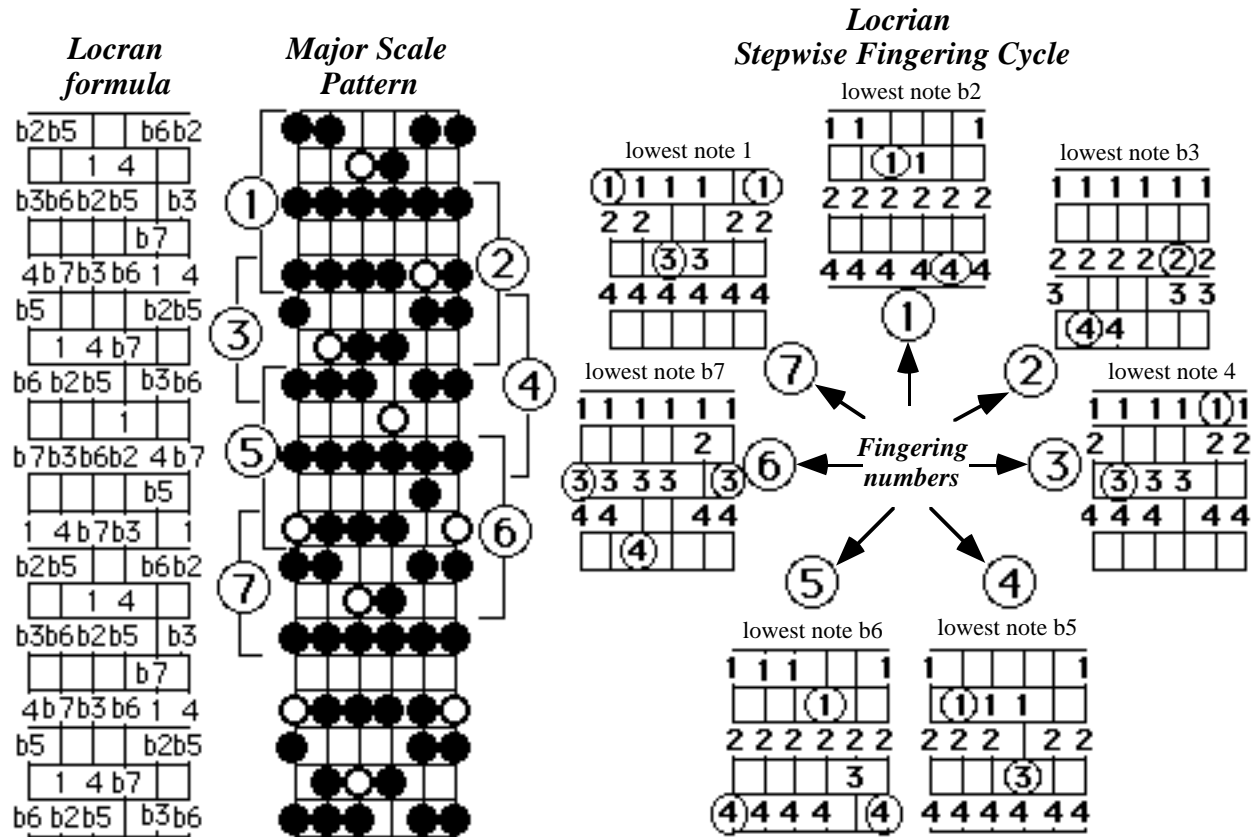
Mixolydian Stepwise Fingering Cycle

Aeolian formula

b3b6			b3
	2	5b7	
4b7b3	b6	1	4
5	1	4	b7
b6			b3b6
	2	5	1
b7b3b6		4	b7
		2	
1	4	b7b3	5
			b6
2	5	1	4
b3b6			b3
	2	5b7	
4b7b3	b6	1	4
5	1	4	b7
b6			b3b6
	2	5	1
b7b3b6		4	b7

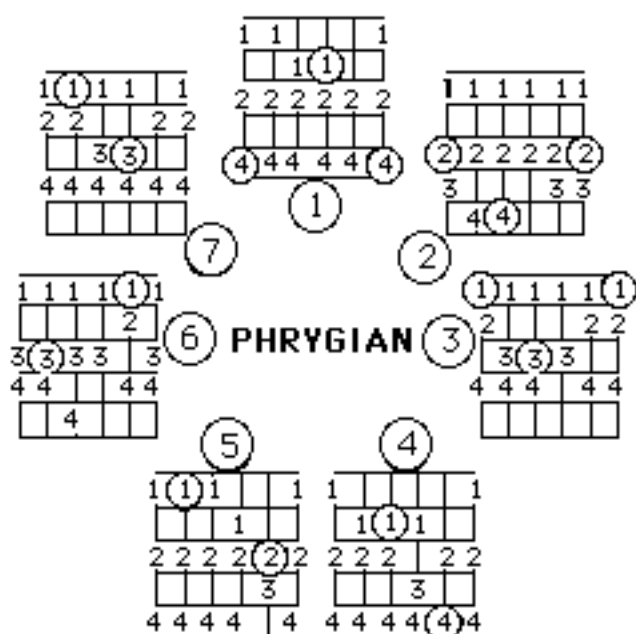
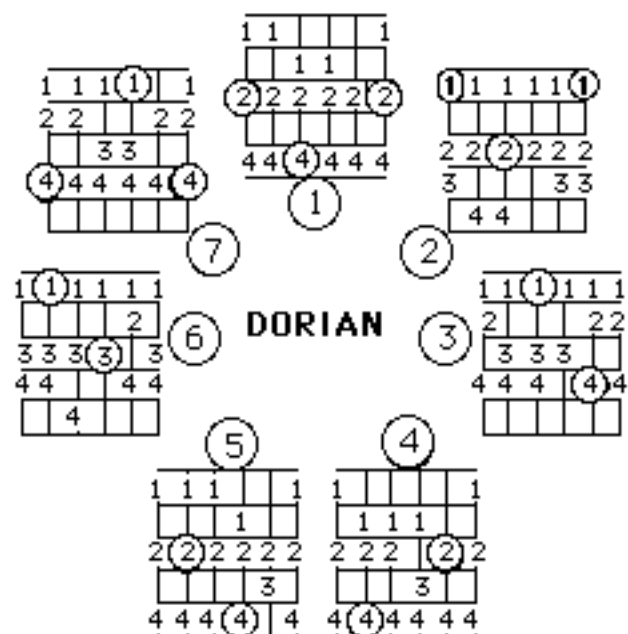
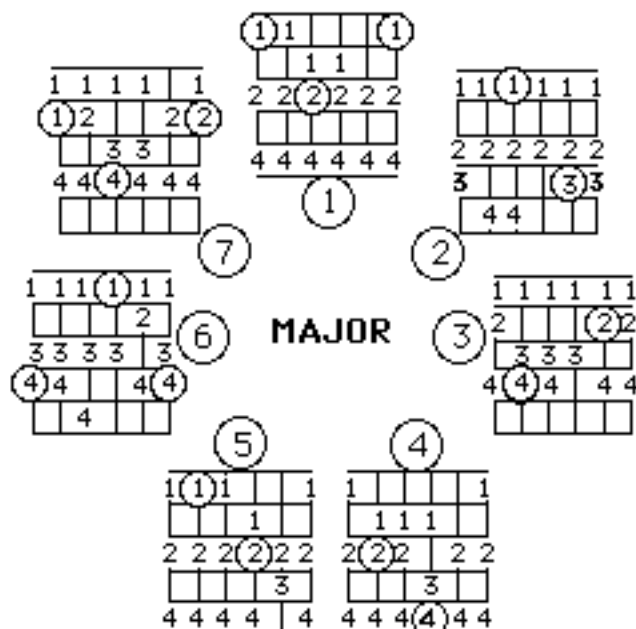
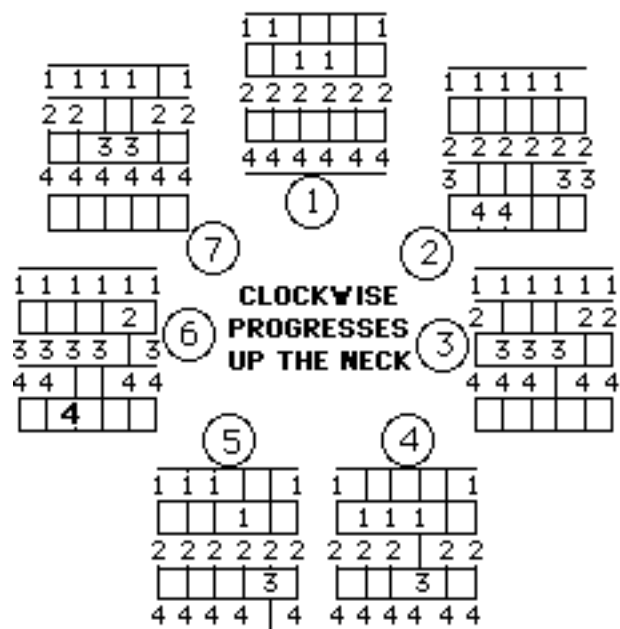
Major Scale Pattern

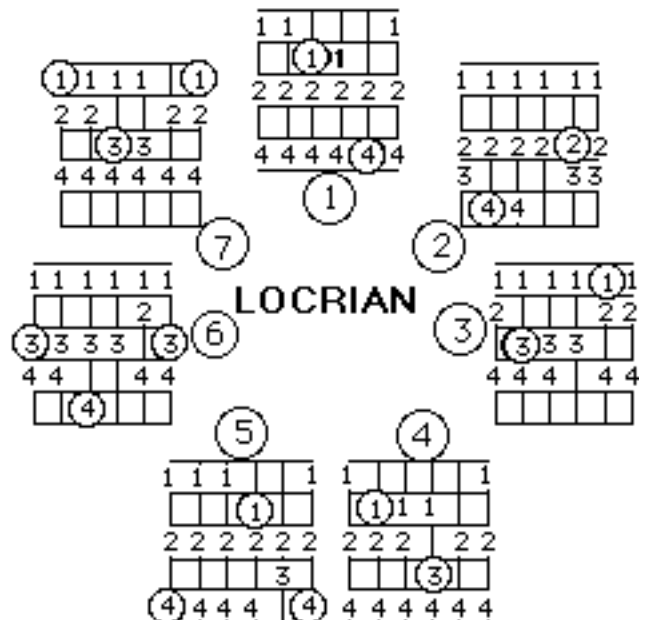
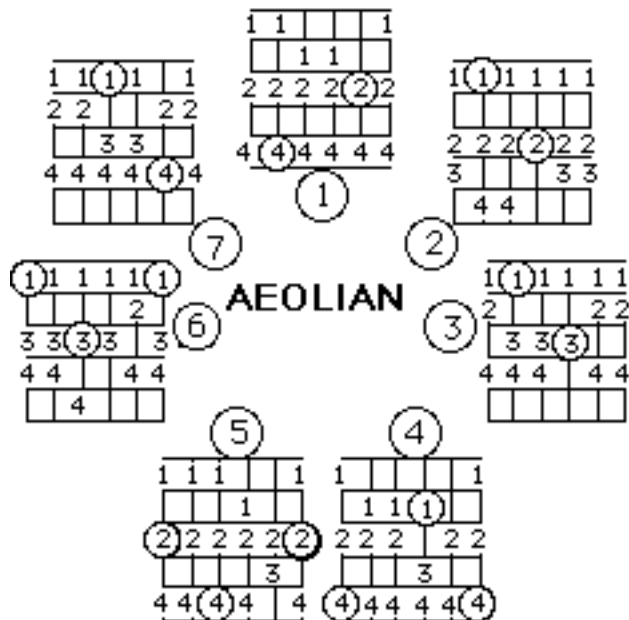
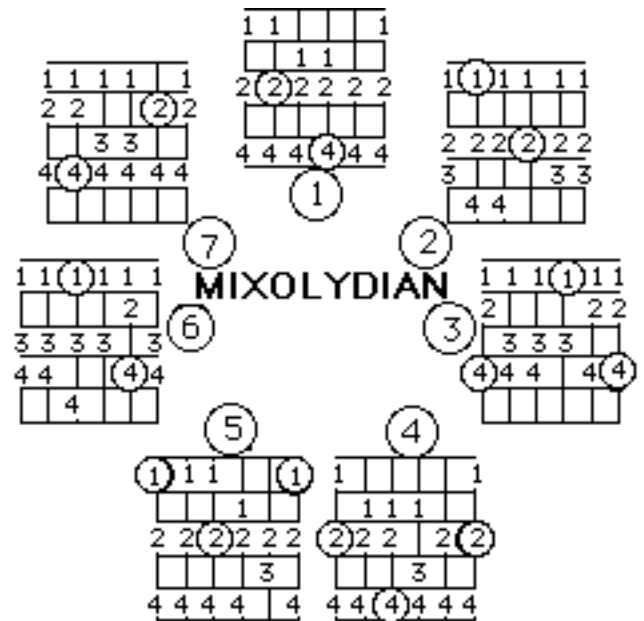
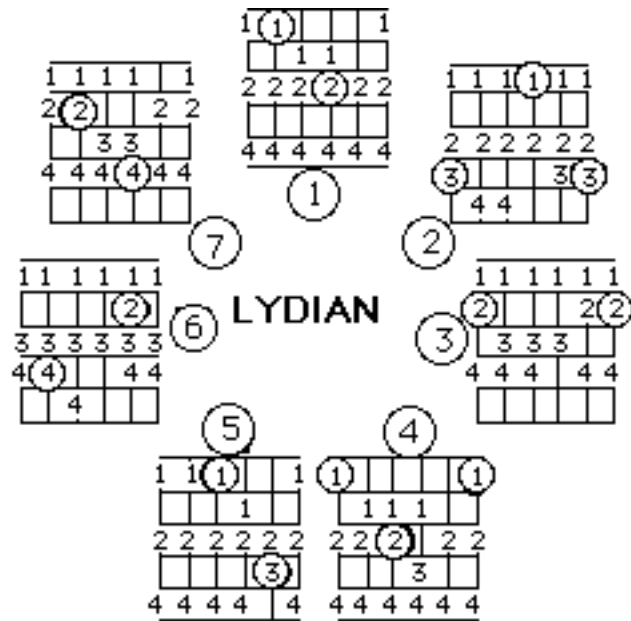
Aeolian Stepwise Fingering Cycle



SUMMARY OF STEPWISE MODE CYCLES

STEPWISE FINGERING CYCLE





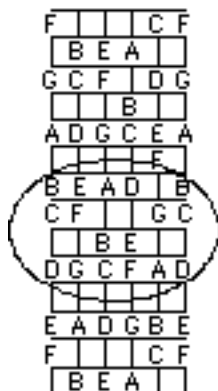
2. Major Scale Mode Examples In All Twelve Keys

The diagrams on the next twelve pages illustrate how each major scale can be used as seven different scales by using the same notes with a different tone center. In C major, for example, the following seven modes have the notes “A, B, C, D, E, F and G,” each with a different tone center:

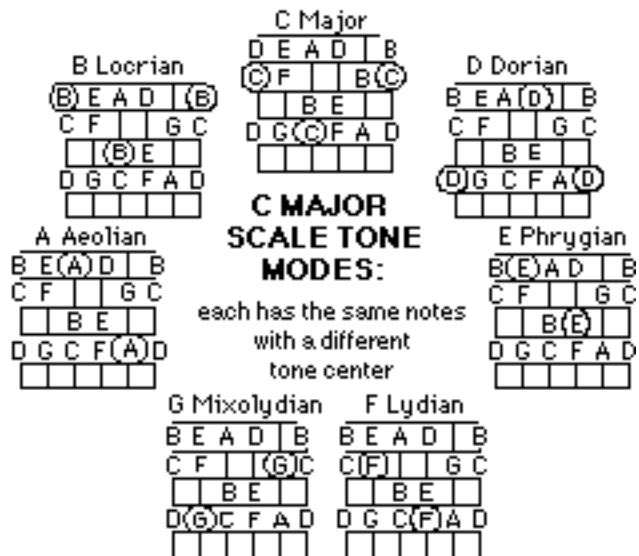
<u>mode name</u>	<u>notes for one octave</u>
C Ionian (=C major)	C D E F G A B C
D Dorian	D E F G A B C D
E Phrygian	E F G A B C D E
F Lydian	F G A B C D E F
G Mixolydian	G A B C D E F G
A Aeolian	A B C D E F G A
B Locrian	B C D E F G A B

On the top half of each page (see reduction below), the diagrams show the modes created by each of the twelve major scales. The tall diagram on the upper left of each page shows all the notes in the major scale from the first to fourteenth frets. The circled area on the tall chart shows the area also displayed on the seven smaller mode charts arranged in a circle on the upper right of each page. Note that each of the seven major scale modes have the same notes with a different tone center. The tone centers are circled.

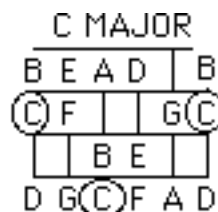
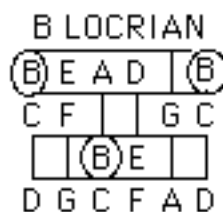
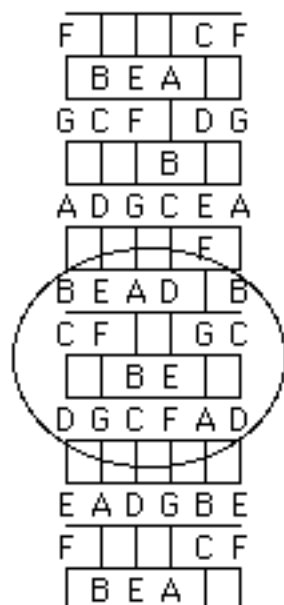
C MAJOR



SCALE TONE MODES



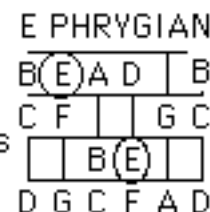
C MAJOR



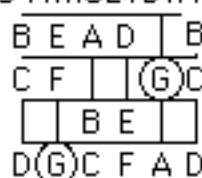
C MAJOR SCALE TONE MODES:



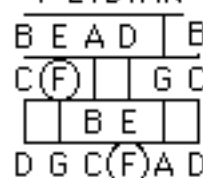
each has the same notes with a different tone center



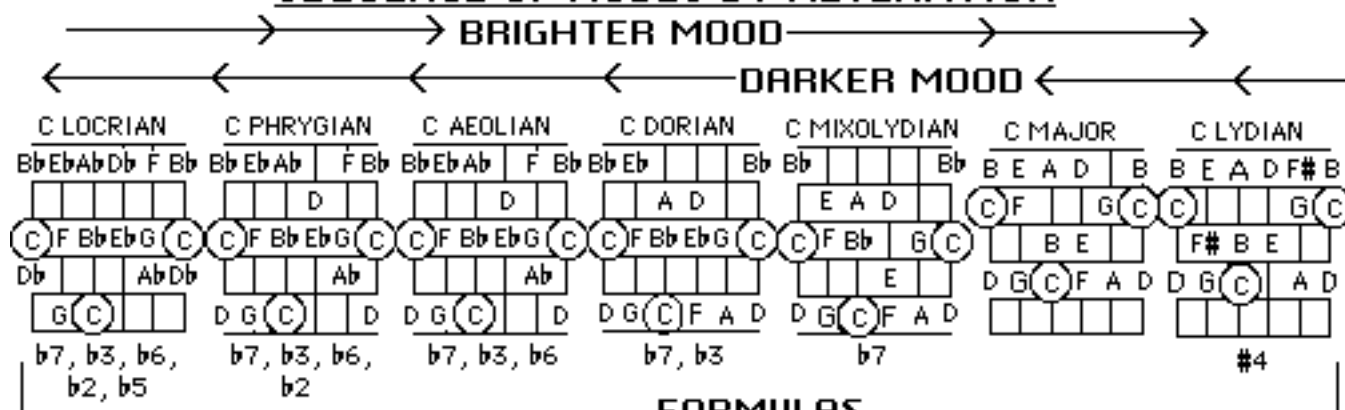
G MIXOLYDIAN



F LYDIAN



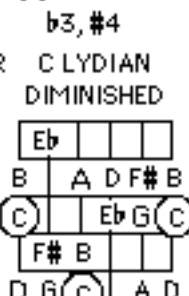
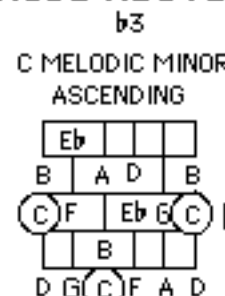
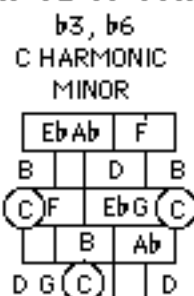
SEQUENCE OF MODES BY ALTERATION

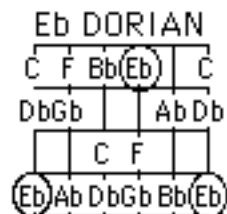
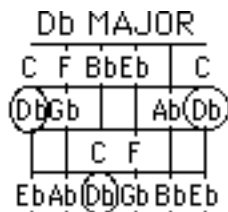
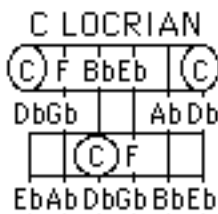
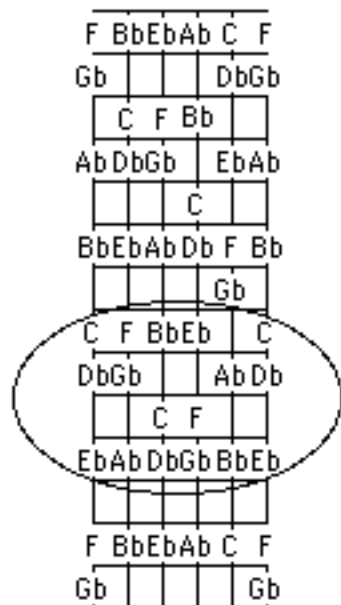


FORMULAS

← ACCUMULATING FLATS

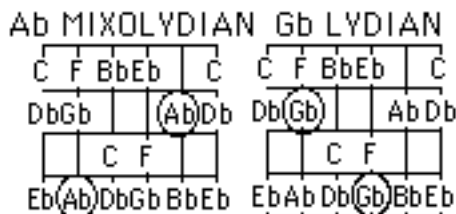
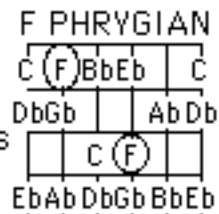
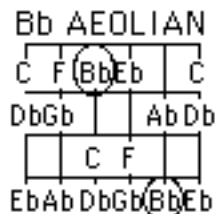
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



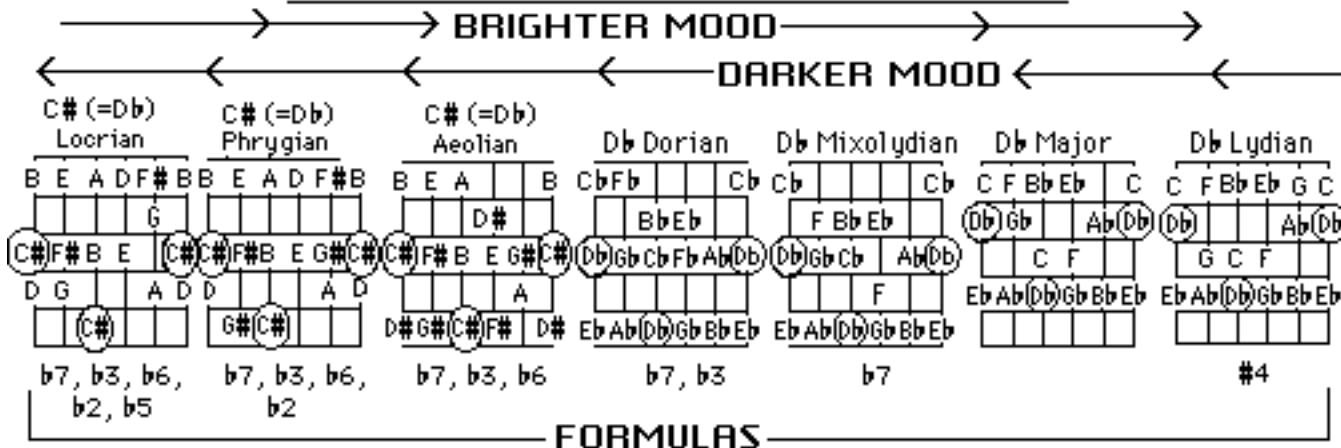
Db MAJOR

Db MAJOR
SCALE TONE
MODES:

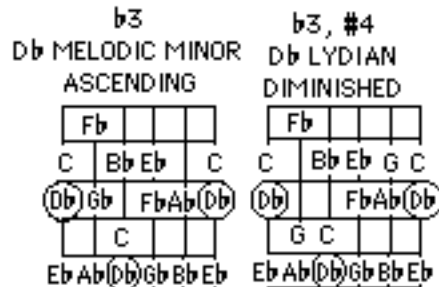
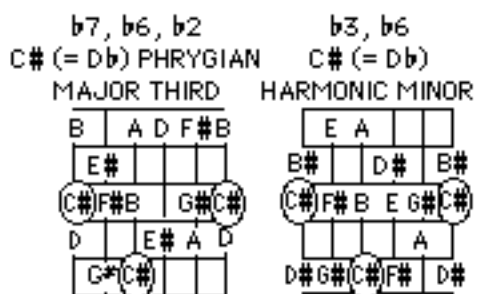
each has the same notes
with a different
tone center



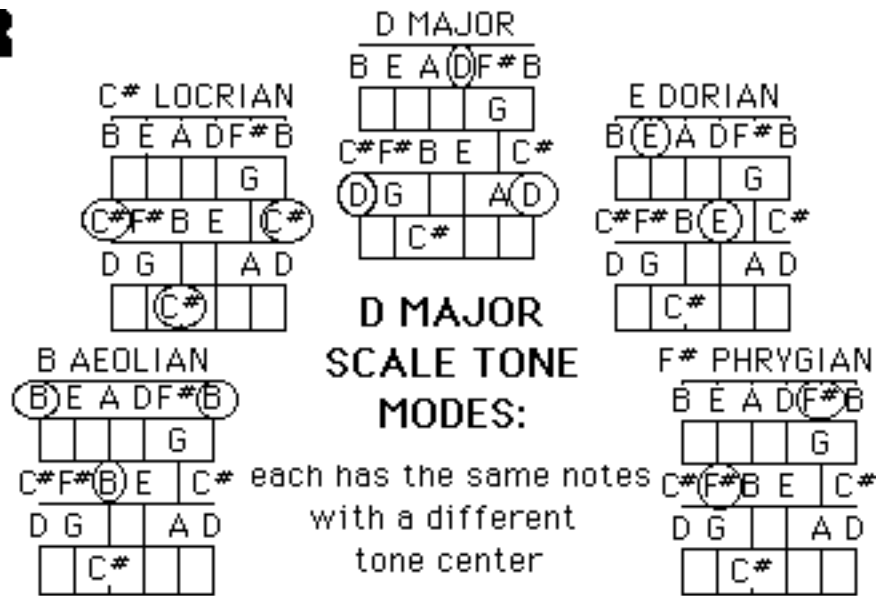
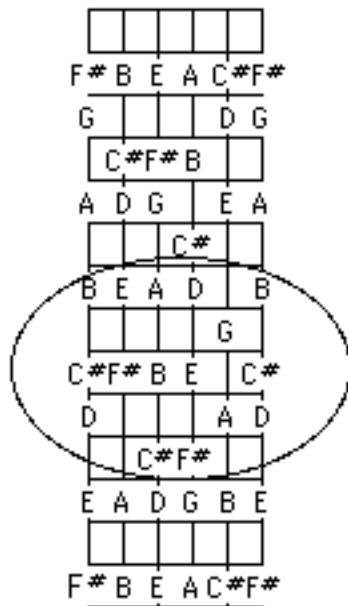
SEQUENCE OF MODES BY ALTERATION



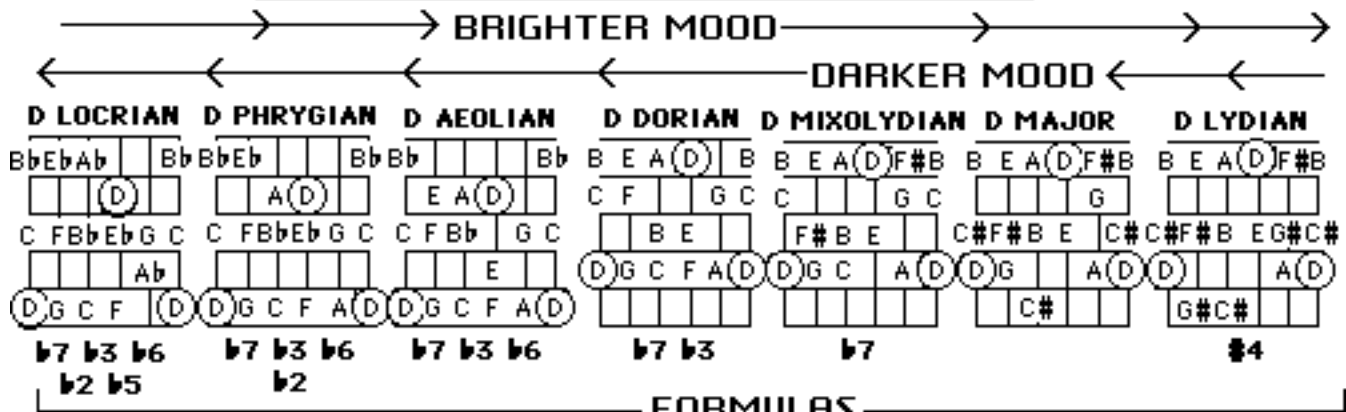
←←←← ACCUMULATING FLATS
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



D MAJOR



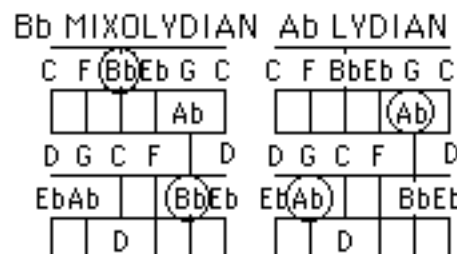
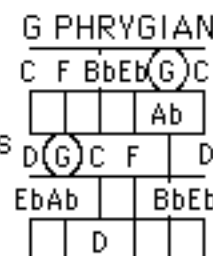
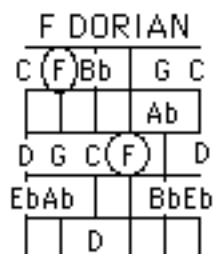
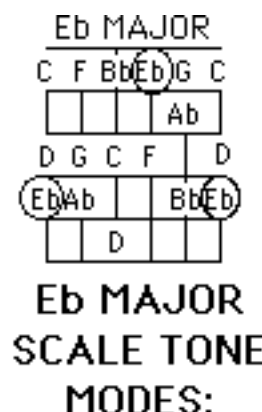
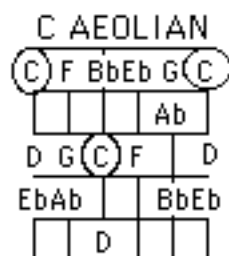
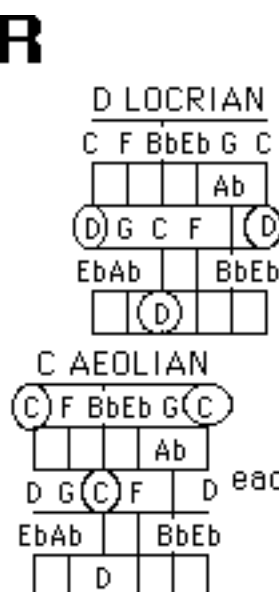
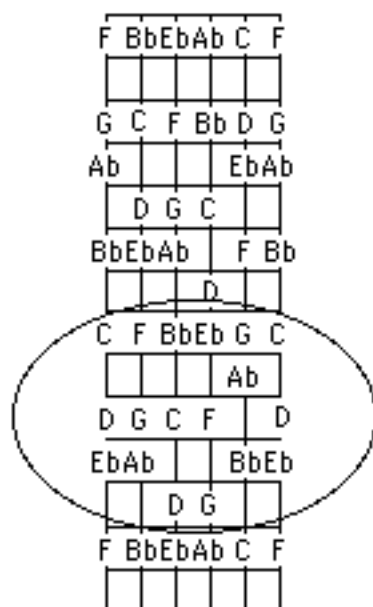
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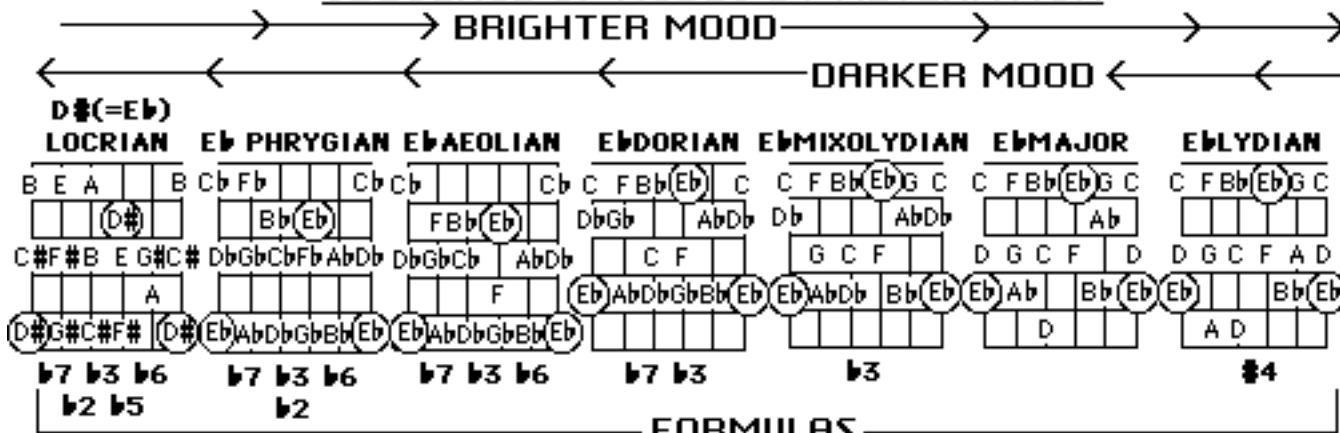
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



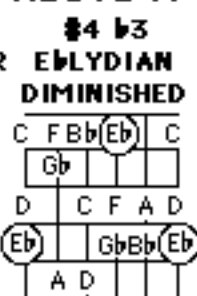
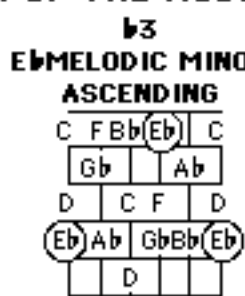
E \flat MAJOR



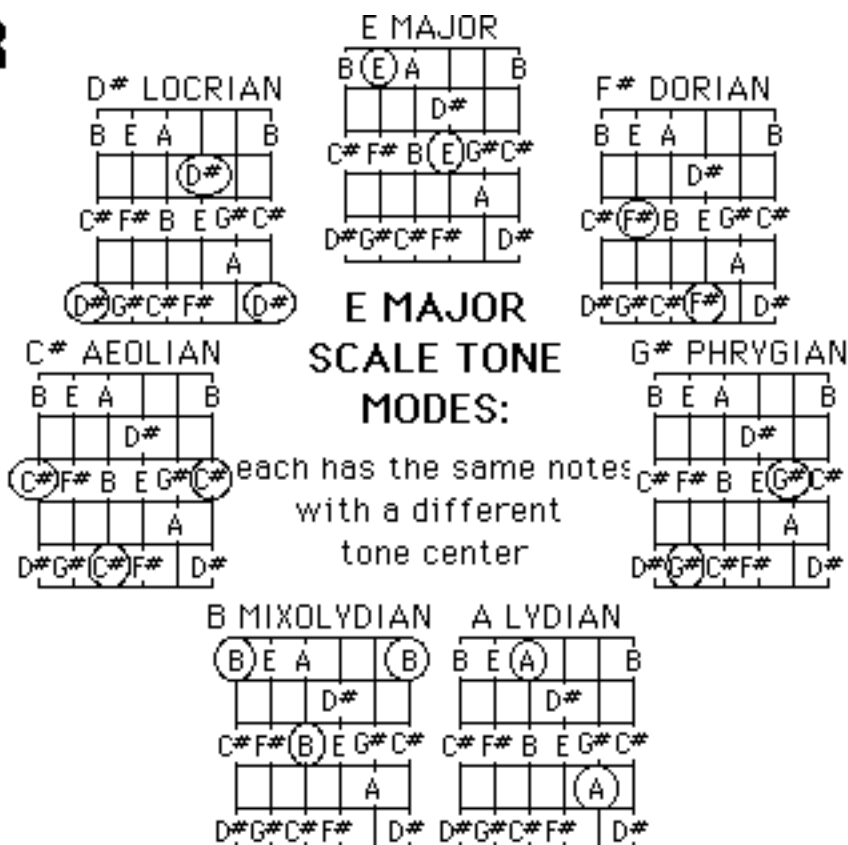
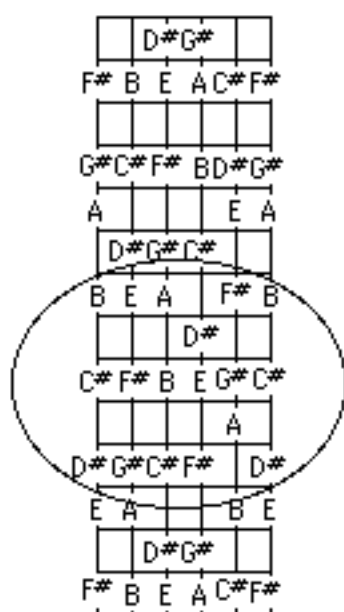
SEQUENCE OF MODES BY ALTERATION



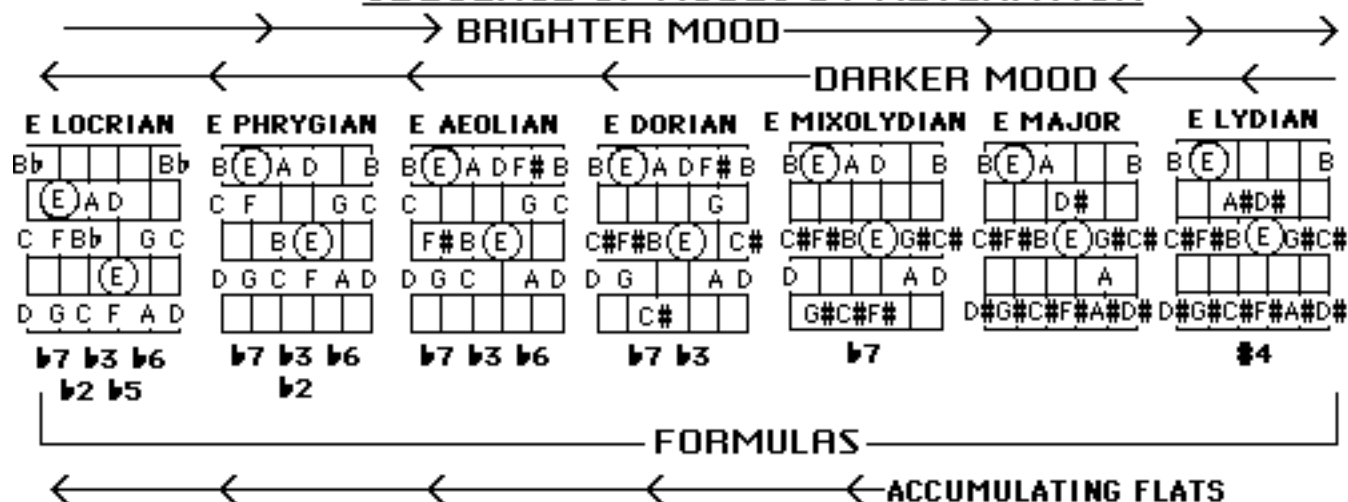
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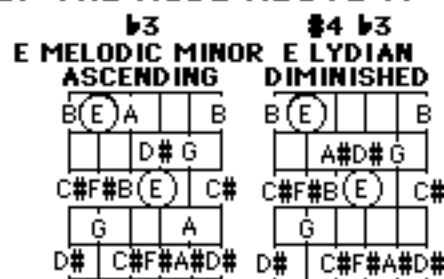
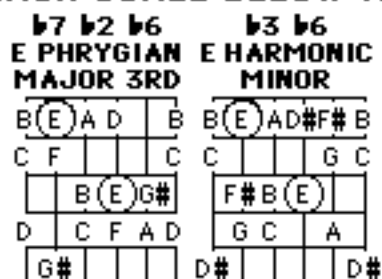
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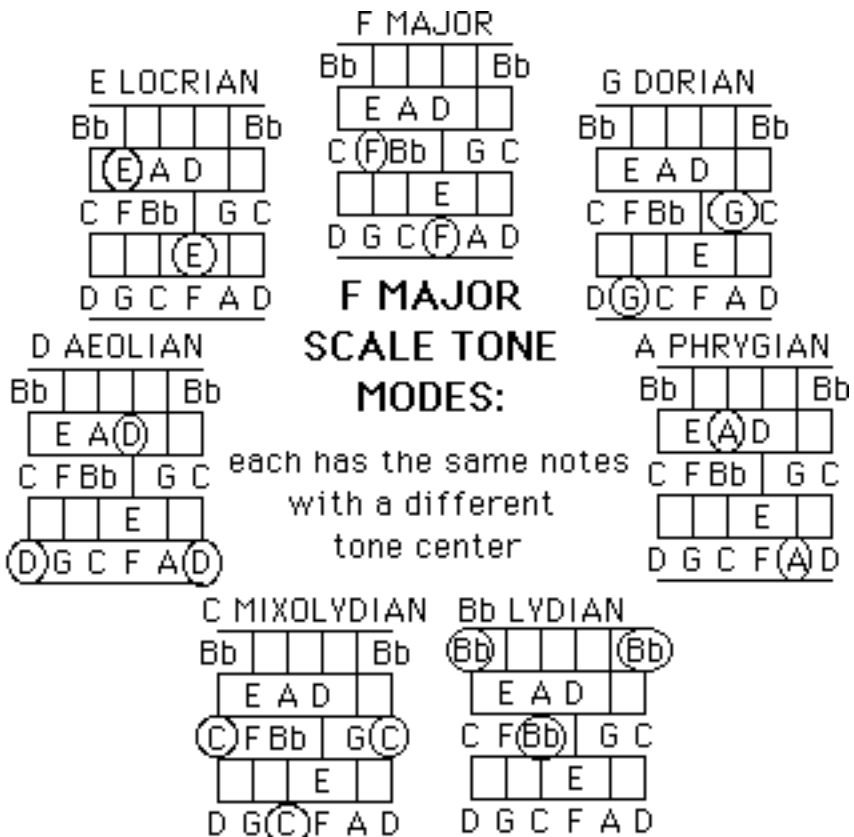
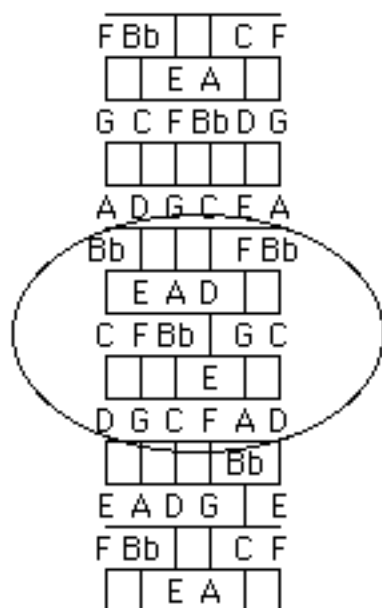
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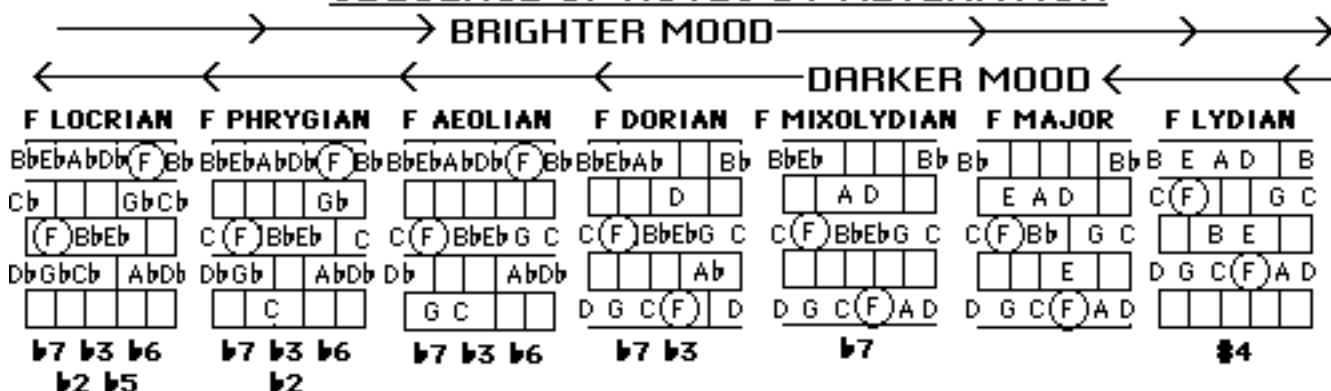
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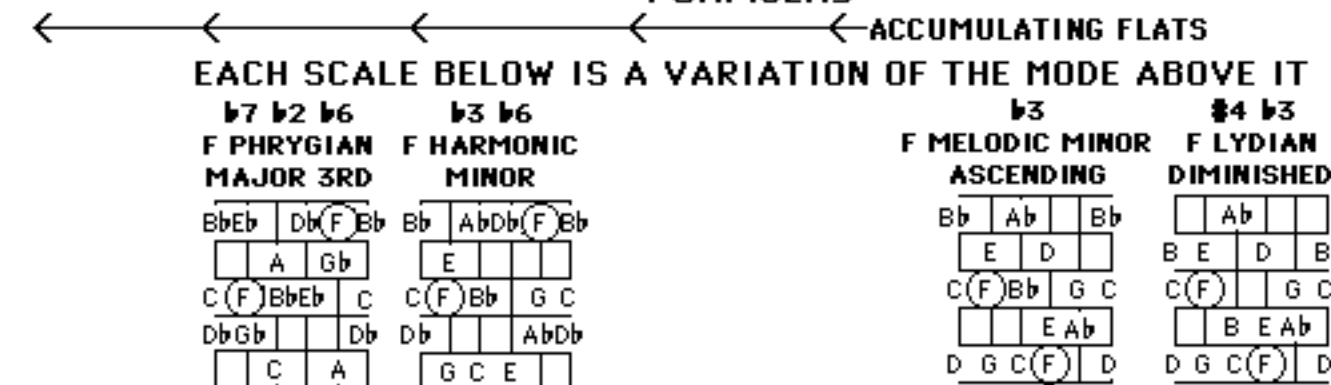
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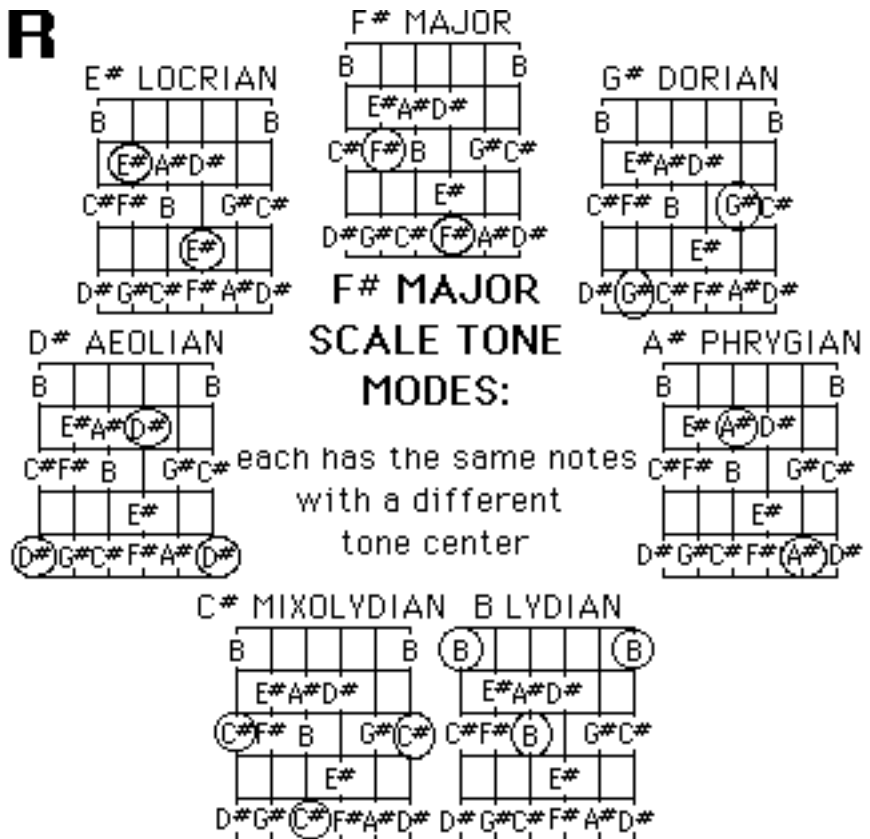
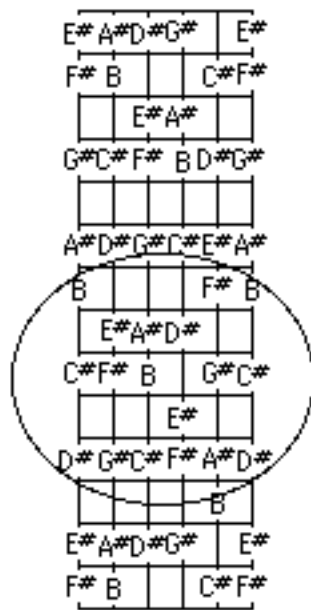
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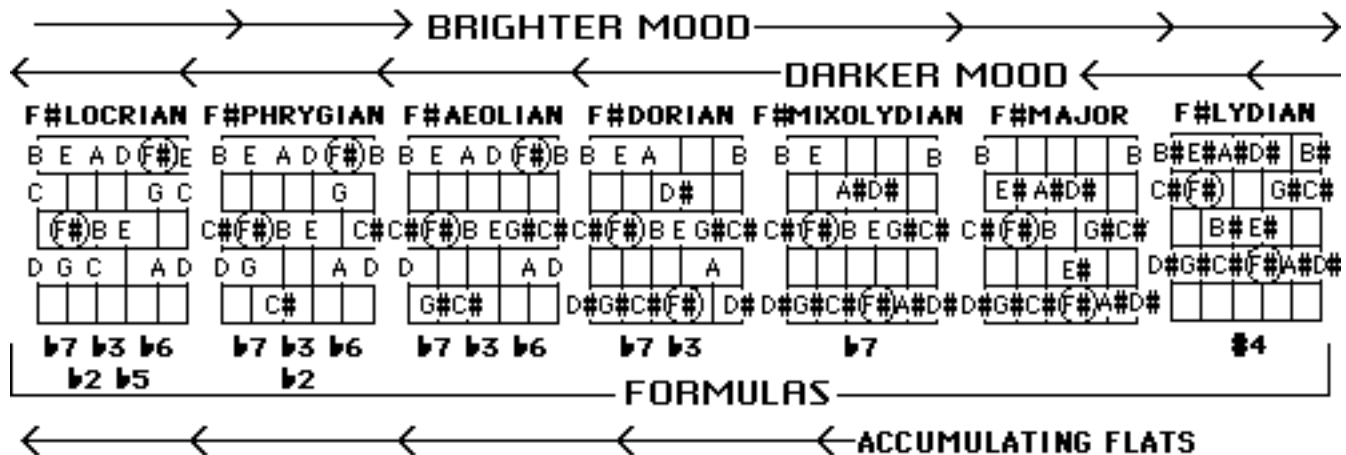
FORMULAS



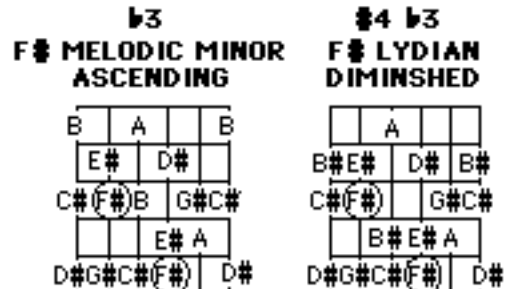
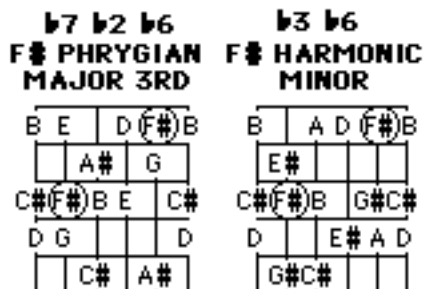
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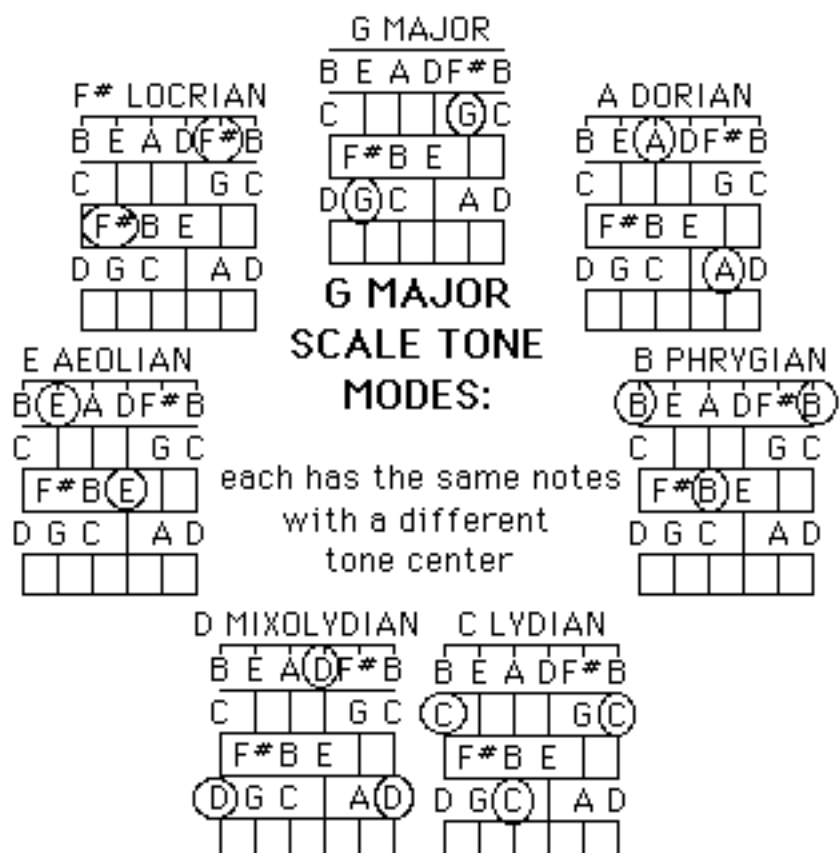
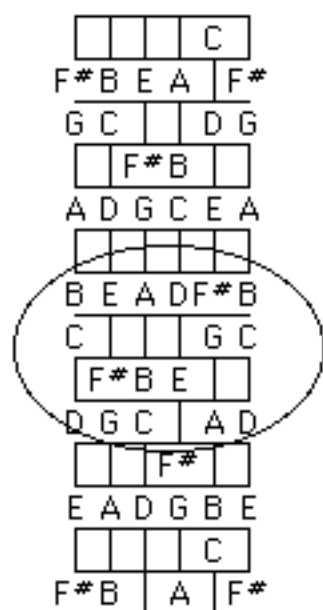
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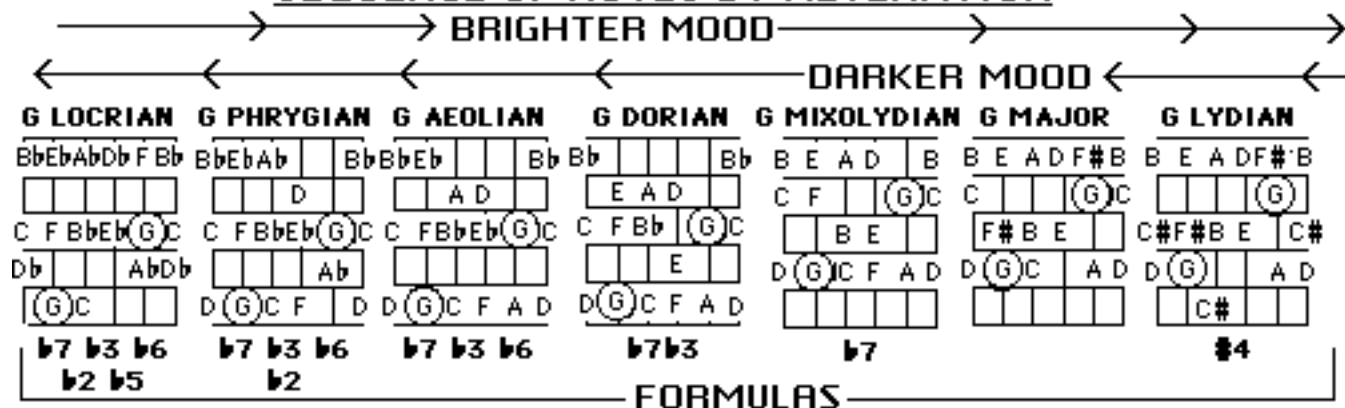
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



G MAJOR



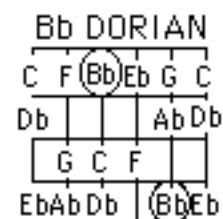
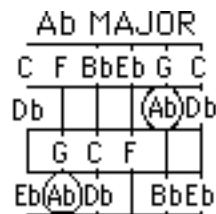
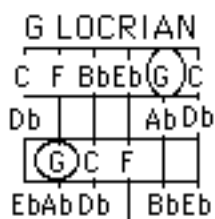
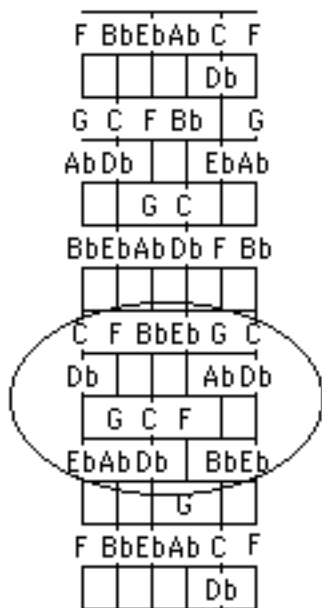
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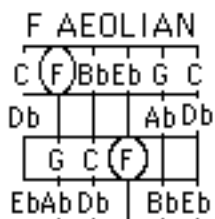
← ← ← ← ← ACCUMULATING FLATS
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



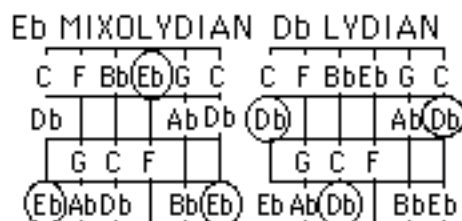
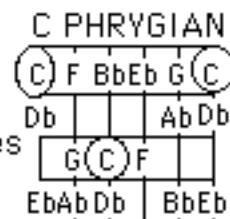
Ab MAJOR



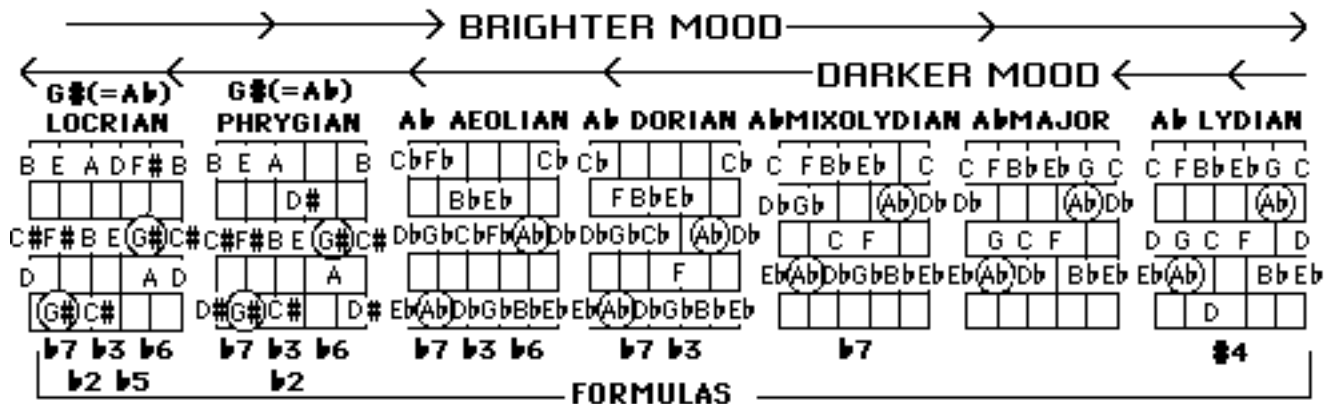
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SCALE TONE
MODES:



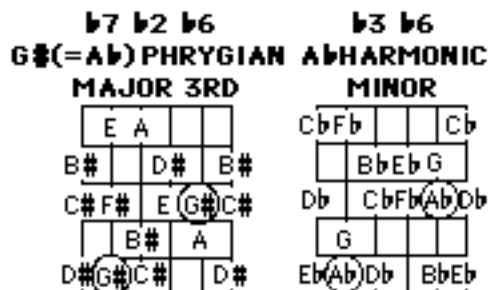
each has the same notes
with a different
tone center



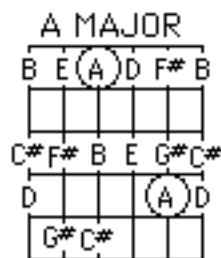
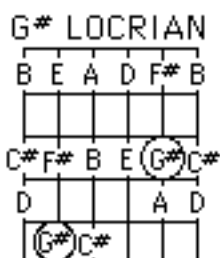
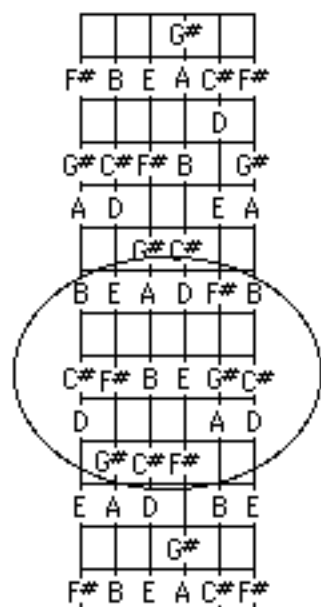
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EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT

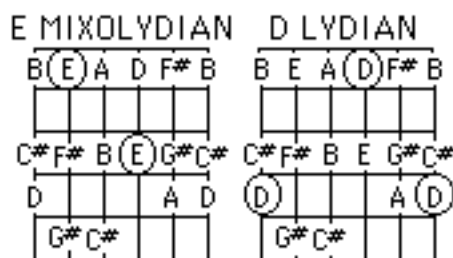
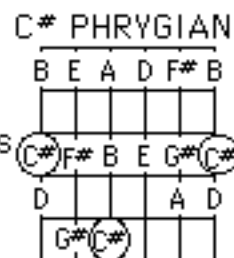
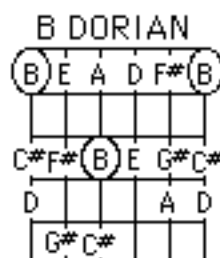
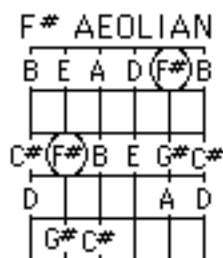


A MAJOR

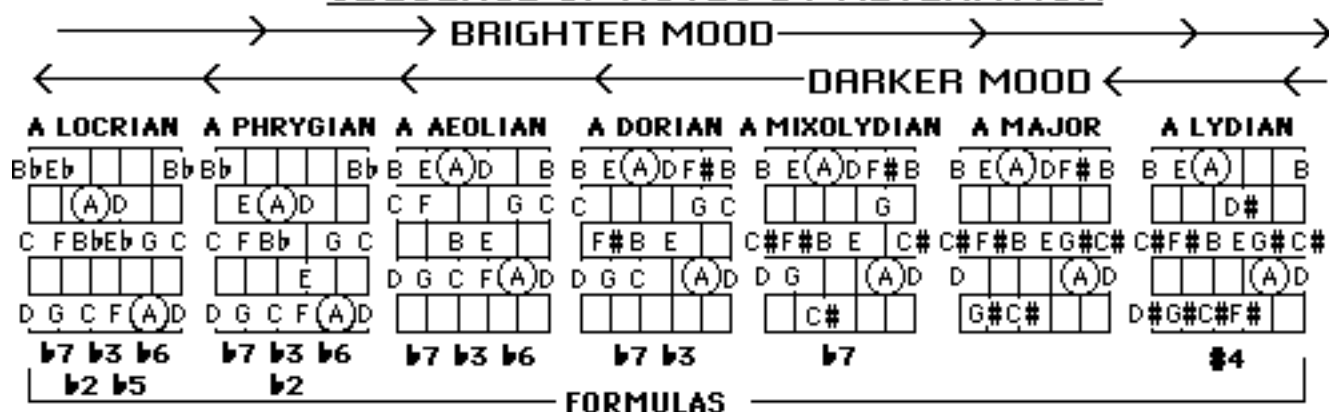


A MAJOR SCALE TONE MODES:

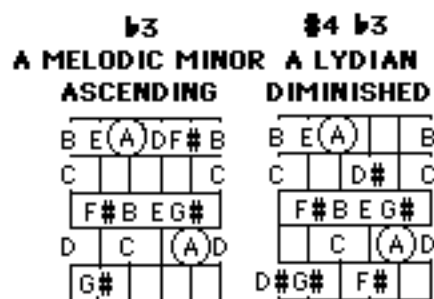
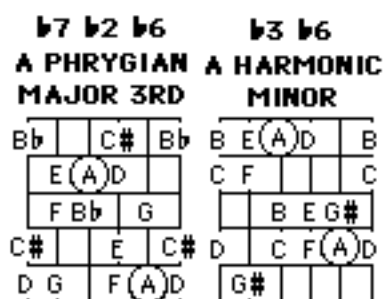
each has the same notes with a different tone center



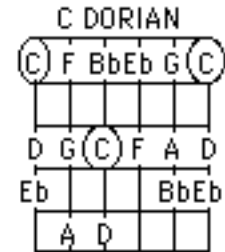
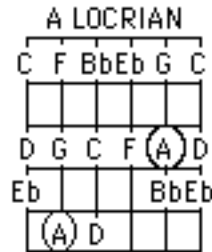
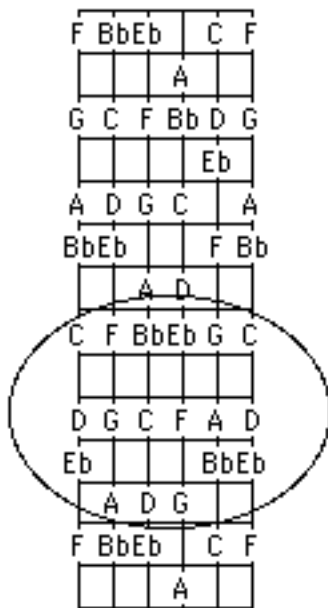
SEQUENCE OF NOTES BY ALTERATION



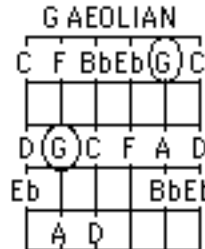
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



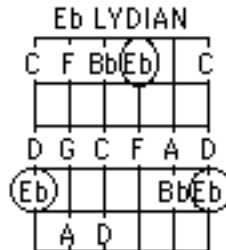
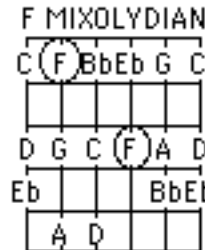
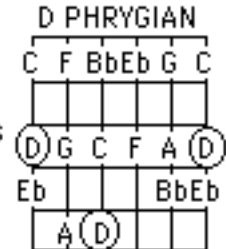
Bb MAJOR



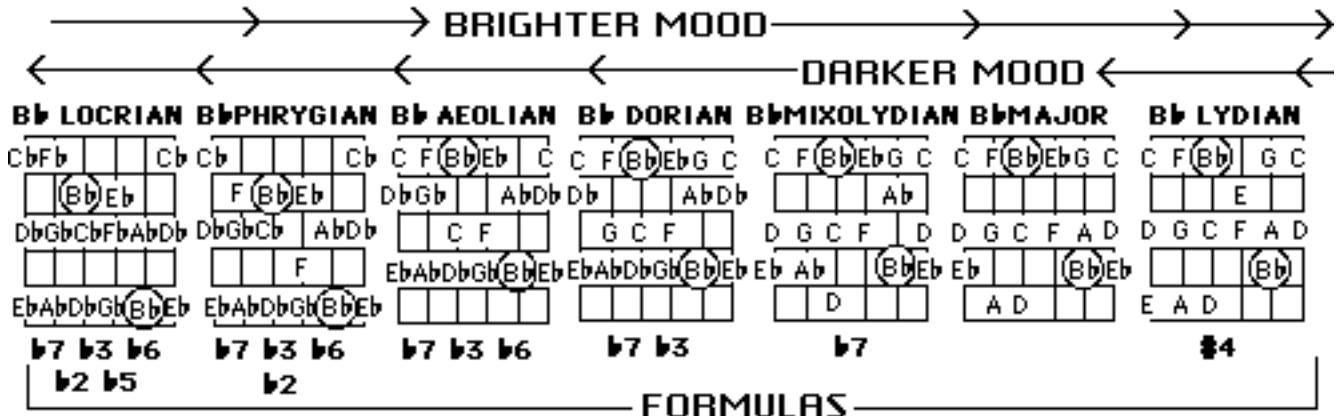
Bb MAJOR SCALE TONE MODES:



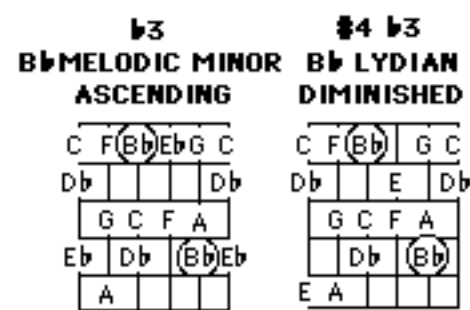
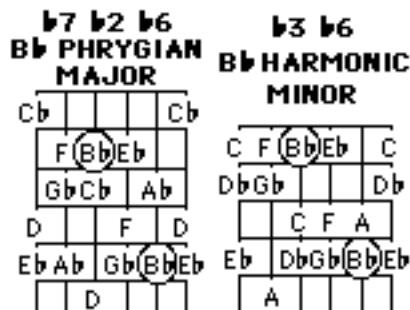
each has the same notes with a different tone center



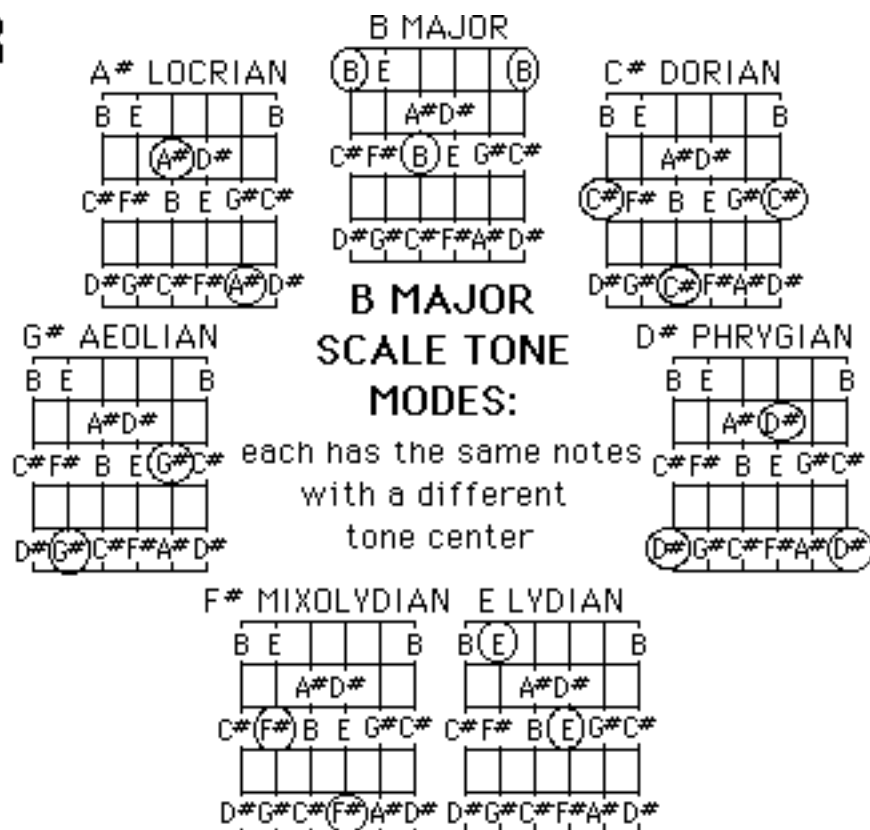
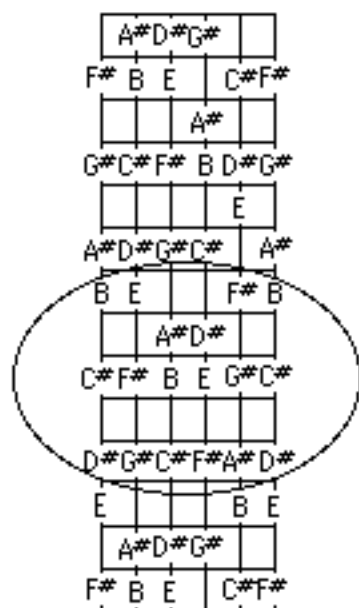
SEQUENCE OF MODES BY ALTERATION



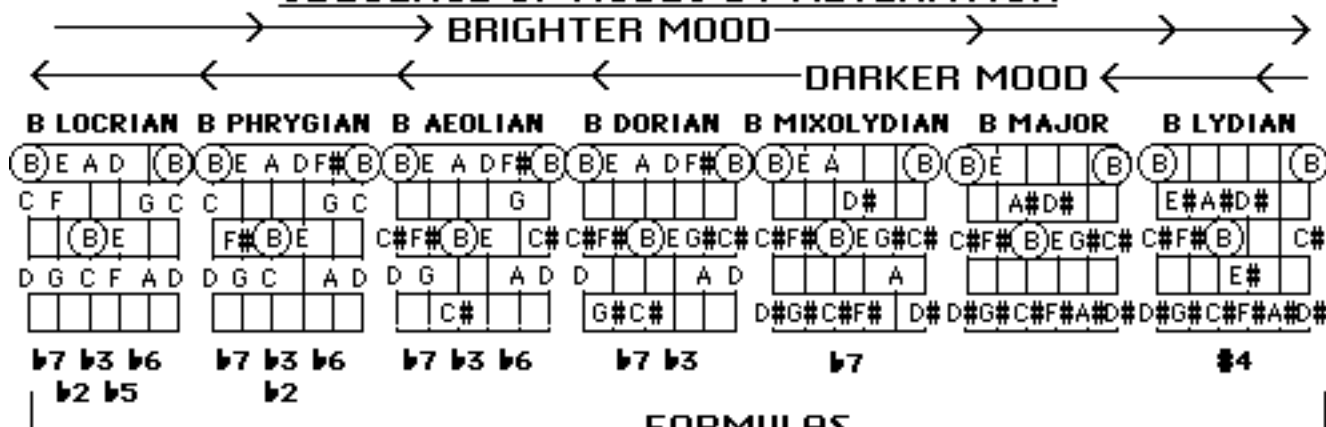
EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



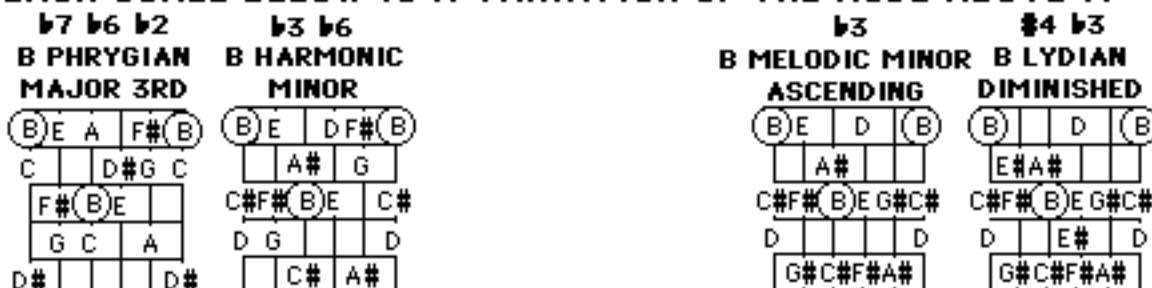
B MAJOR



SEQUENCE OF MODES BY ALTERATION



EACH SCALE BELOW IS A VARIATION OF THE MODE ABOVE IT



B. MAJOR SCALE TONE MODES BY FORMULA ALTERATION

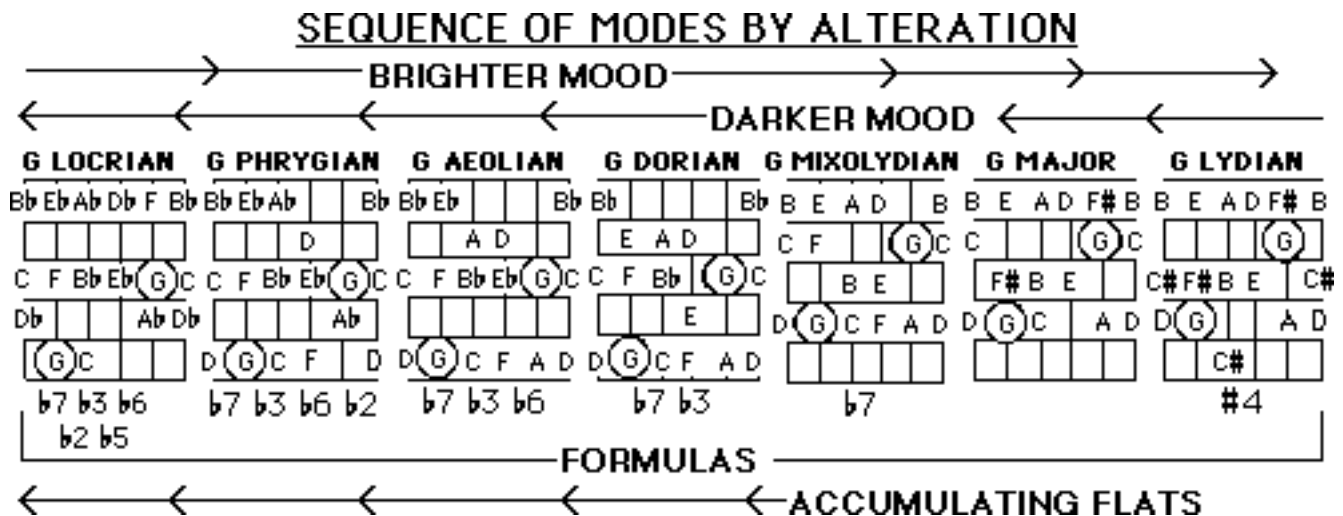
1. Mode Formulas.

Each major scale mode produces a different mood. To compare the various moods of the major scale, the bottom half of each of the last twelve pages (see below) illustrates the seven major scale modes with the same tone center. Each set of seven modes with the same tone center originated in a different major scale.

The system of key signatures makes all major scales relative so any major scale may be altered to produce Mixolydian mode on the same tone center by flattening the seventh note in the scale. Likewise, flattening the seventh and the third in any major scale produces Dorian mode on the same tone center. There is a series of five major scale alterations where flats “accumulate” to produce a particular order of modes:

<u>flatted note(s)</u>	<u>mode name</u>
b7	Mixolydian
b7, b3	Dorian
b7, b3, b6	Aeolian
b7, b3, b6, b2	Phrygian
b7, b3, b6, b2, b5	Locrian

This series is illustrated with diagrams on the bottom half of the last twelve pages, shown below for the key of “G.” Notice that the one remaining mode, Lydian, requires a sharped fourth alteration to the major scale.



During a composition, the mode often changes without changing tone center. As long as the tone center stays the same, the key stays the same, even though other notes may change. This is done to fit the mood intended by the composer. Generally, the more flats in the alteration of the major scale (see above), the darker, sadder, or more solemn the mood.

2. Altering Major Scale Tone Modes.

A formula is a numerical expression with sharps (#) and/or flats (b) used to indicate the changes made to a major scale to produce a desired scale or chord. Scale formulas are derived by comparing the scale in question to a major scale built on its tone center.

C major scale

C harmonic minor scale = b3, b6

Chord formulas are derived by comparing the notes of the chord in question to a major scale built on the chord's root.

Cm7 arpeggio

Cm7 chord

Cm7 VIII

Harmonic minor, Phrygian major third, melodic minor (ascending), and Lydian diminished scales are shown in Section A2 at the bottom of each page. Their formulas are above them.

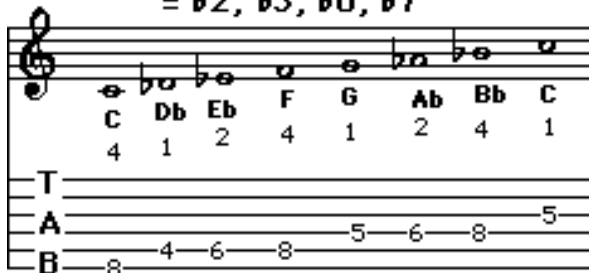
Harmonic minor can be derived by flattening the third and sixth, as in Aeolian mode, but without flattening the seventh. Aeolian mode's formula is "b3, b6, b7," while harmonic minor's is "b3, b6, natural seventh."

C Aeolian mode
= b3, b6, b7

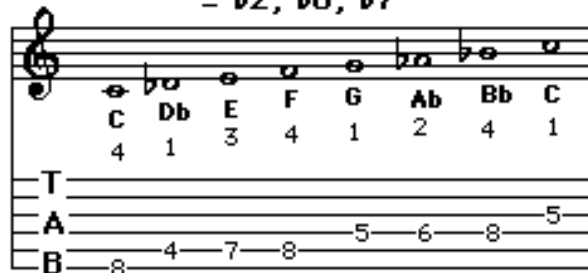
C harmonic minor scale
= b3, b6

Phrygian major third can be derived by flattening the second, sixth and seventh, as in Phrygian mode without flattening the third. Phrygian mode's formula is "b2, b3, b6, b7," while Phrygian major third's formula is "b2, b6, b7" (natural third, making an interval of a "major third" above the tone center).

C Phrygian mode
= b2, b3, b6, b7

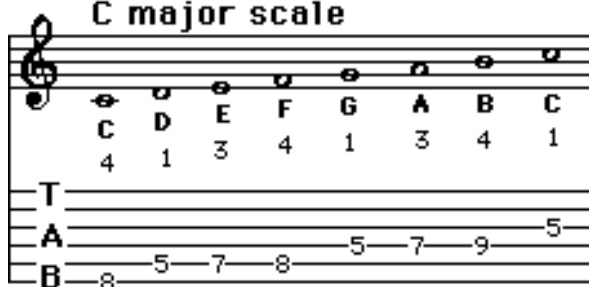


C Phrygian major third scale
= b2, b6, b7



Melodic minor (ascending form) can be derived by flattening the third of a major scale.

C major scale



C melodic minor (ascending) scale
= b3



Lydian diminished can be derived by sharpening the fourth, as in Lydian mode, and flattening the third. Lydian's formula is "#4," while Lydian diminished's formula is "b3, #4."

Lydian mode = #4



C Lydian diminished scale
= b3, #4



Harmonic major is the same as major scale with a flattened sixth.

C major scale



C harmonic major = b6



Harmonic major is the same as harmonic minor with a natural third.

C harmonic minor scale = $\flat 3, \flat 6$

C harmonic major = $\flat 6$

Harmonic major is also the mode on the fifth step of Lydian diminished scale. In this example, playing F Lydian diminished scale from “C” to “C” produces C harmonic major scale.

F Lydian diminished scale = $\flat 3, \sharp 4$

C harmonic major = $\flat 6$

In the following example, playing C Lydian diminished scale from “G” to “G” produces G harmonic major scale.

C Lydian diminished scale = $\flat 3, \sharp 4$

G harmonic major

Modal scale relationships and “source scales.” With any scale relationship like the one above where a scale occurs on a particular step of another scale (the “source”), you must figure out the “source scale.” The relationship: “G harmonic major is built on the fifth step of C Lydian diminished” could be expressed for all keys by saying: “Harmonic major is the fifth mode of Lydian diminished.”

Since “G” is the fifth step of C Lydian diminished and playing “G” to “G” in C Lydian diminished produces G harmonic major, playing from the fifth step to the fifth step in any Lydian diminished scale produces a harmonic major scale. Note that playing from the fifth to the fifth step in F Lydian diminished produced C harmonic major in the example above.

3. Alteration Cycle Of Seven Mode Fingerings.

The *Cycle Of Mode Fingerings* shown at the end of this chapter illustrate the seven basic major scale Fingerings with six alterations to each fingering. These alterations produce the seven modes of the major scale as follows:

<u>mode name:</u>	<u>on major scale step:</u>	<u>alterations:</u>
major	1	none
Dorian	2	b7, b3
Phrygian	3	b7, b3, b6, b2
Lydian	4	#4
Mixolydian	5	b7
Aeolian	6	b7, b3, b6
Locrian	7	b7, b3, b6, b2, b5

Music theory is very mathematical. One particular number pattern occurs in at least four different aspects of guitar fingering and music theory. This pattern is “7, 3, 6, 2, 5, 1, 4.”

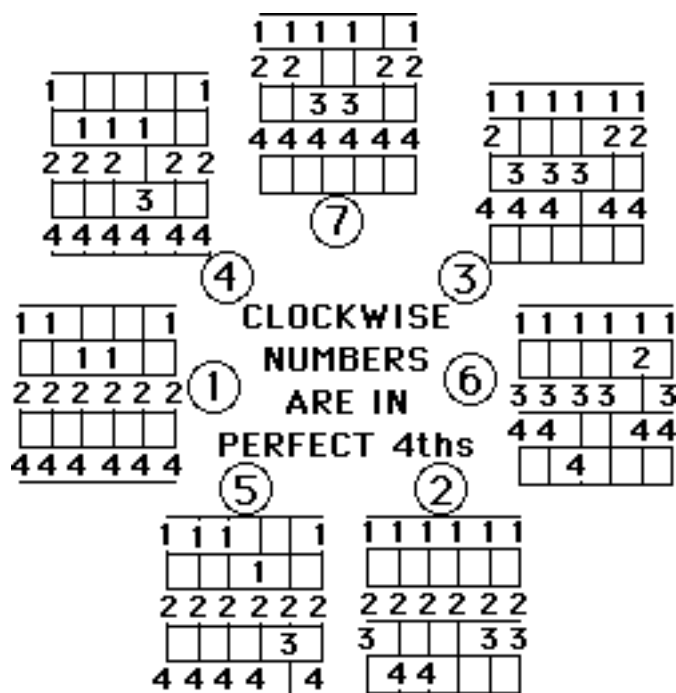
The major scale is the *only* heptatonic (seven tone) scale which may have all its tones arranged in an order of perfect fourths. This order is “7, 3, 6, 2, 5, 1, 4.” Perfect fourths is the most common root movement in chord progression.

When the modes are arranged in order “4, 1, 5, 2, 6, 3, 7” (“7, 3, 6, 2, 5, 1, 4” backwards), an interesting pattern of formulas occurs in the “5, 2, 6, 3, 7” part of the sequence. The flats accumulate in the order “7, 3, 6, 2, 5”:

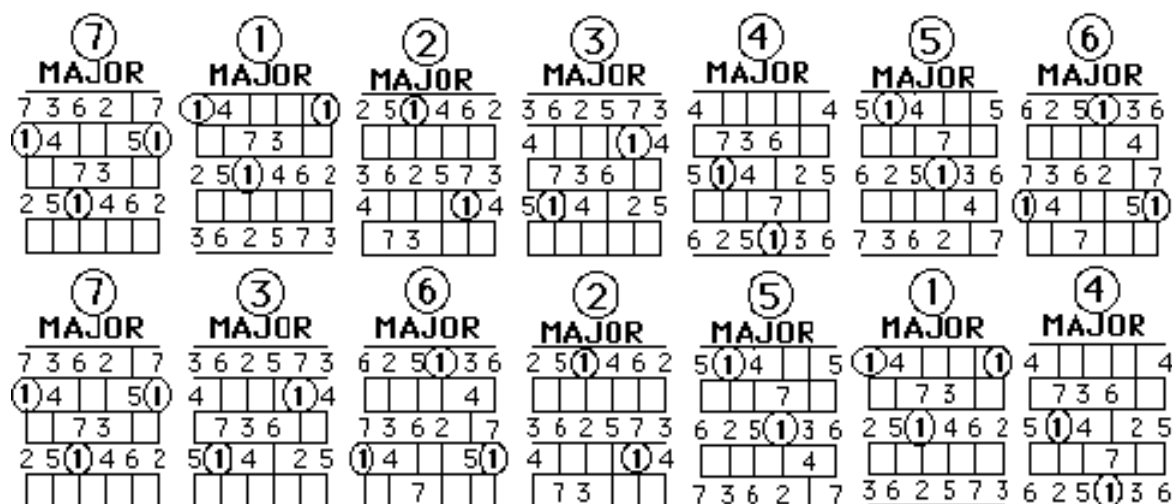
<u>mode name:</u>	<u>on major scale step:</u>	<u>alterations:</u>
Lydian	4	#4
major	1	NONE
Mixolydian	5	b7
Dorian	2	b7, b3
Aeolian	6	b7, b3, b6
Phrygian	3	b7, b3, b6, b2
Locrian	7	b7, b3, b6, b2, b5

The *Cycle Of Mode Fingerings* illustrates the seven basic major scale fingerings in a “7, 3, 6, 2, 5, 1, 4” series of fingering numbers. Moving counterclockwise from major mode, the next five modes are derived by adding flats to the major scale formula. As you can see, first “b7” is added, then “b7 and b3”; then “b7, b3 and b6,” and so on. This is referred to as “accumulating flats” in order “b7, b3, b6, b2, b5.” Moving to the next fingering clockwise from major mode, Lydian mode is derived by sharpening the fourth of major mode. The sequence of major scales in the alteration cycle is as follows (note the “7, 3, 6, 2, 5, 1, 4” cycle):

Left Hand Fingering For the Cycle Of Seven Mode Fingerings



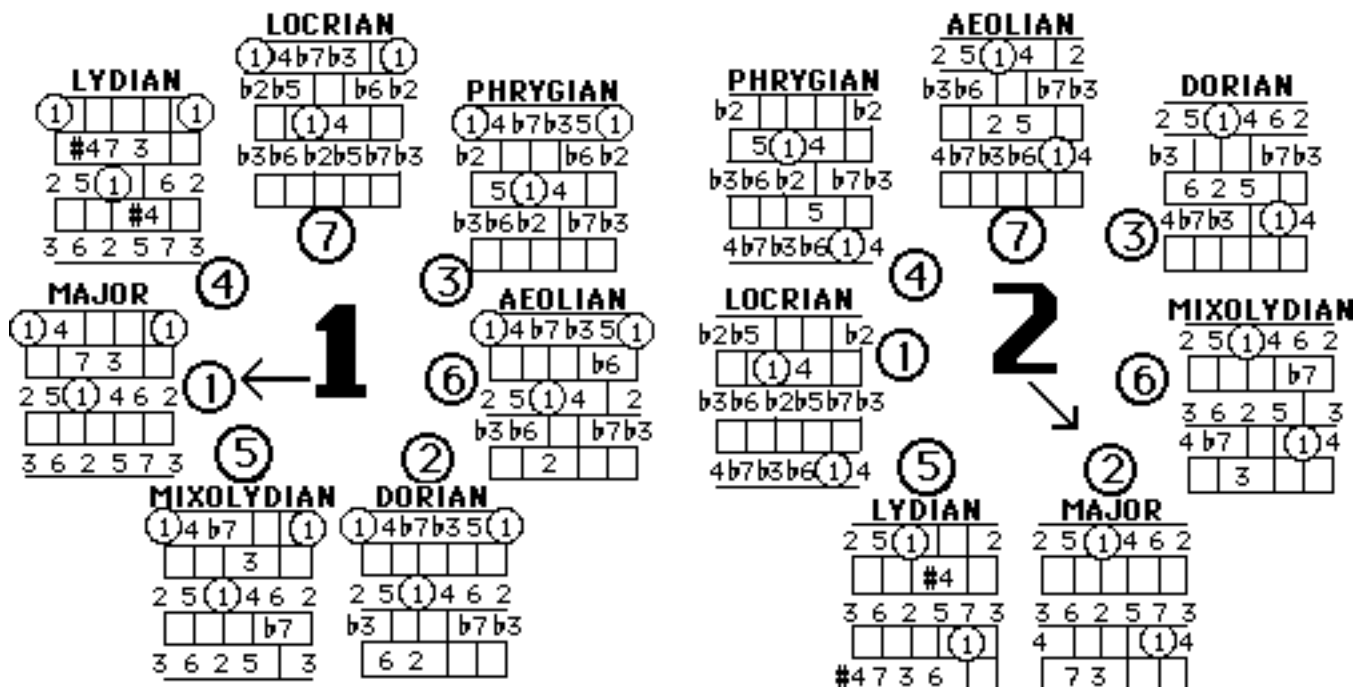
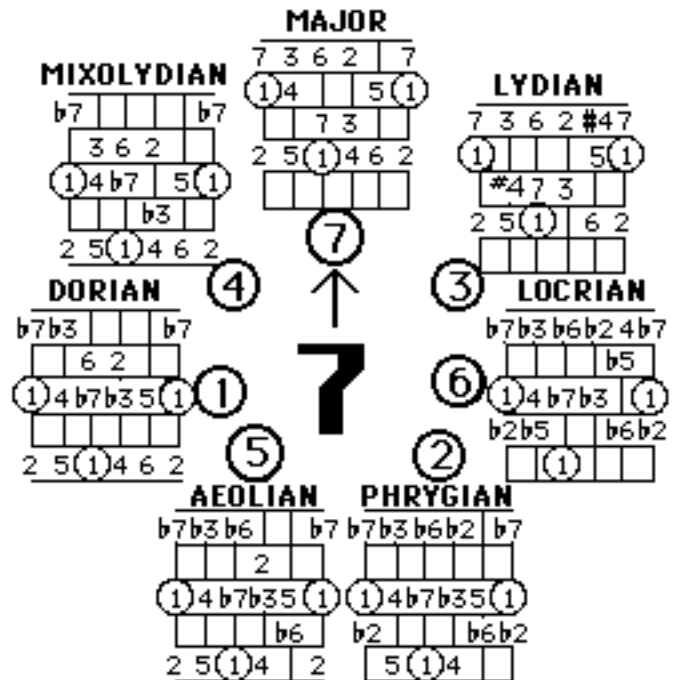
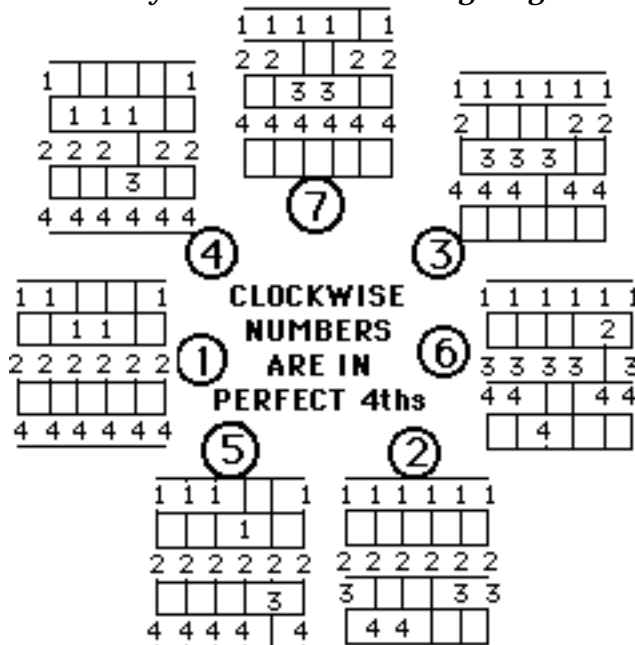
Each cycle is based on one of the seven basic major scale fingerings. A large number is located in the center of each cycle to indicate which basic major scale fingering is being altered throughout the cycle. Notice that the tone centers of the modes in each cycle all have the same configuration. The seven basic major scale fingerings are show below with tone centers circled, first in stepwise order, then in order of fourths (as shown in clockwise order above):

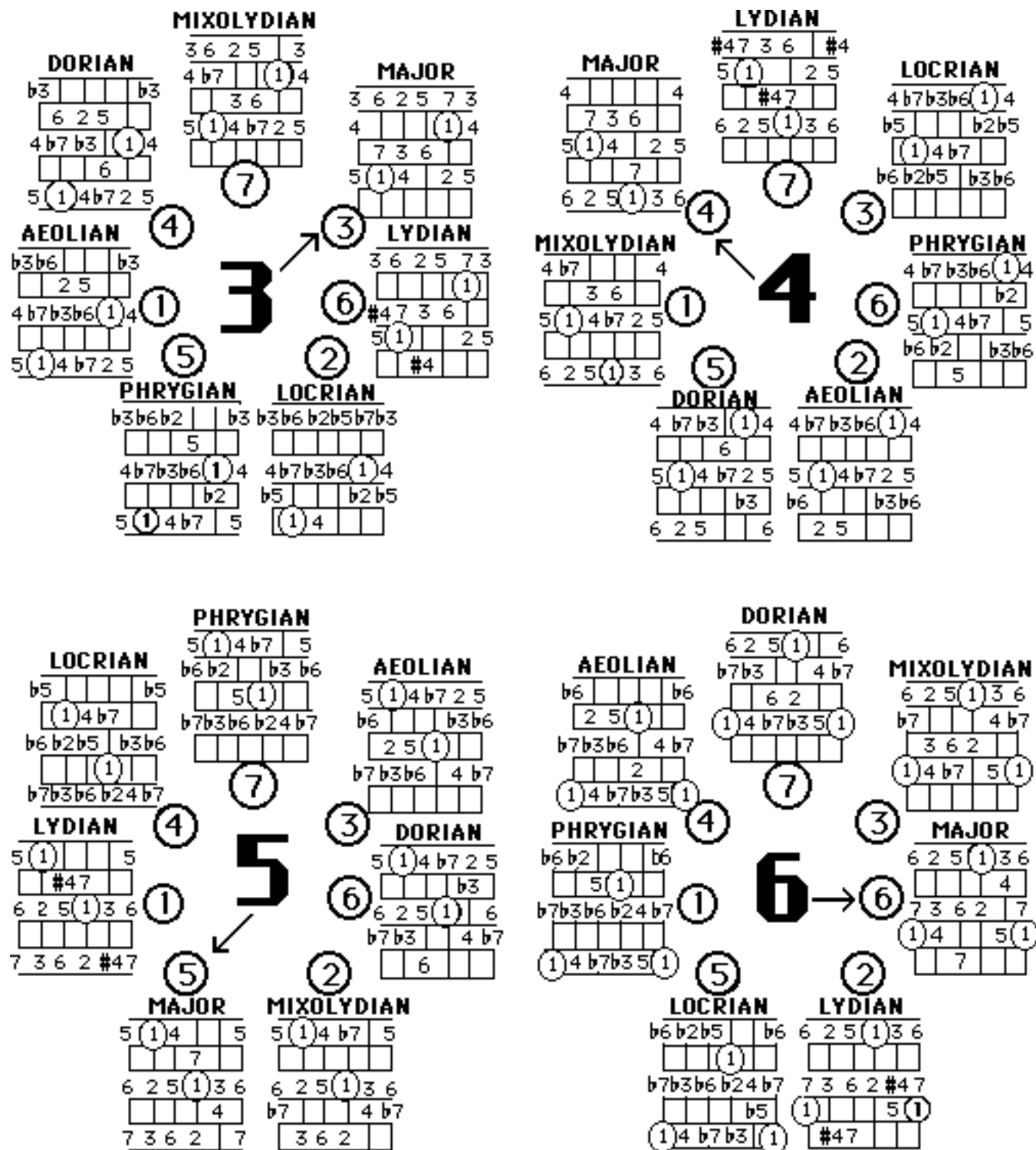


CYCLE OF MODE FINGERINGS

The fingering number for major is in the center of each cycle. Moving around the cycle counterclockwise from major, flats accumulate in order: b7, b3, b6, b2, b5. Moving clockwise from Locrian, flats are removed. #4 must be added to major to produce Lydian, next clockwise from major.

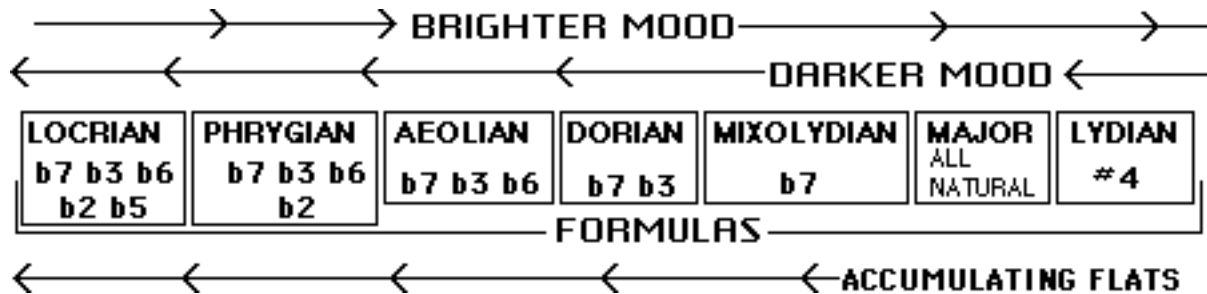
Left Hand Fingering For The Cycle Of Seven Mode Fingerings





CHAPTER 6: THE EXPRESSIVE SERIES OF SUBSTITUTE MAJOR SCALE MODES

Sequence Of Modes By Alteration



The expressive series of substitute major scale modes uses the same series of modes as the alteration cycle in Chapter 5, Section B2. Moving to the right in the expressive series of substitute modes tends to produce brighter, happier moods. Moving left in the expressive series tends to produce darker, sadder moods.

The expressive series may be used melodically or harmonically. Melodic applications (in soloing or composition) involve movement to the right or left in changing the mode to more closely resemble the notes in the accompanying chords (accommodating chords). When melodically substituting for expressive purposes, the expressive series is more often used in “darkening” the mood by moving to the left, adding flats to the mode formula (except in changing from Lydian to major, which removes a sharp). Occasionally, movement to the right in the expressive series is used by melodically substituting Lydian mode for major or Dorian mode for Aeolian. Other movement to the right (brightening moods) is rare in melodic mode substitution. Harmonic applications (the chord progression or other form of accompaniment part) may involve movement in both directions in the series, darkening or brightening the mood.

A. MELODIC USE OF THE EXPRESSIVE SERIES

1. Accomodating Chords.

When the mode you’re using now needs to accommodate more flats because of the upcoming chord(s) in the progression, move to the left in the expressive series from the present mode until you arrive at one which has the flats (in the scale formula) you need. When the present mode needs to accommodate more sharps (according to the upcoming chords), move to the right in the expressive series from the present mode until you get to one with the sharps (in the scale formula) you need.

Strictly speaking, accommodating chords is not substituting modes, and is therefore not using the expressive series to alter the mood. In **Example 4B2a Accommodating Chords #1 (on tape)**, the chord progression sounds as if the tone center is “A.”

Example 4B2a - Accommodating chords #1

Am C D Dm

A dorian
1 3 1 3 4 3 1 3 1 3 3 4 1 4 2 3

A Aeolian
1 3 1 3 4 3 1 3 2 3 2 2 1 4 2

A Major
1 2 3 4 5 6 7 1
A B C# D E F# G# A
3 1 2 3 1 3 4 1
T 5 7 9
A 7 9 6 5 5 6 8 5
B

A Dorian
1 2 b3 4 5 6 b7 1
A B C D E F# G A
3 4 1 3 1 3 4 1
T 5 7 8 5
A 7 9 6 5 5 7 8 5
B

A Aeolian
1 2 b3 4 5 b6 b7 1
A B C D E F G A
3 4 1 3 1 2 4 1
T 5 6 8 5
A 7 9 6 5 5 6 8 5
B

Dm7 I
D A C F

A Phrygian
1 b2 b3 4 5 b6 b7 1
A Bb C D E F G A
3 4 1 3 1 2 4 1
T 5 6 8 5
A 7 8 6 5 5 6 8 5
B

Bb I
Bb F Bb D

Am I C I D I
A E A C E C E G C E D A D F#

The first three chords, Am, C and D are contained in the mode A Dorian. Therefore, the melody during the first three chords was composed using A Dorian.

The next chord, Dm7, contains the note “F,” which is not in A Dorian. By adding one flat (changing to the next mode to the left in the expressive series), a “b6” is added to Dorians’ “b3 and b7,” making A Aeolian. The “b6” in the key of “A” is an “F” note. The melody during the Dm7 chord was composed with the mode A Aeolian to accommodate the “F” note. The next two chords are the same as the first two, so the melody is repeated from the first two measures in A Dorian.

The last chord, “Bb,” uses the notes “Bb” and “F,” which are not in A Dorian. The “Bb” note is not in A Aeolian, either. By adding two flats (moving two modes to the left in the expressive series), the “b2 and b6” are added to Dorians’ “b3 and b7,” making A Phrygian. In this case, the “b2” is “Bb” and the “b6” is “F.” The melody during the “Bb” chord was composed with A Phrygian to accommodate the “Bb” and “F” notes.

Example 4B2a - Accommodating chords #2 (on tape) is a twelve bar blues in a Jazzy style. This is progression #366 in the RPGM Chord Progression Book.

Example 4B2a - Accommodating chords #2

69 **C13** **69 sound** **substitute chords**
Em7 Eb13 Dm7 Db13

1 4 2 4 1 4 2 3 3 4 2 1 1 3 1 3
 G Mixolydian G Dorian Gharmonic minor II (F harmonic minor)

T 7 10-8 10-7-10 8 9-10 8 6 7-9 7 9

C13 **C#o7 (passing chord)** **69** **69 sound** **substitute chords**
Am7 Bm7 Bb9

2 4 1 1 4 4 3 3 2 2 2 3 2 4 3
 G Dorian Gharmonic minor II (F har. minor) G Mixolydian

T 6-7 11-10-9 9 8 9-10 8 10 9

Am7 **D13b9 (D7sound)** **sound: Gma7 Em7 Am7 D7** **substitute chords**
Bm7 Bb9 Am7 Ab9

1 4 4 3 1 1 2 1 1 1 4 4 1 1 4 1 2 4 1 2
 G major (or G Mixolydian for a bluesy feeling or G Dorian for a very bluesy feeling)

T 8-7 7 7 7 7 7-8-10 8

The standard twelve bar Jazzy blues progression in the key of "G" is:

bar 1 G7	bar 2 C7	bar 3 G7	bar 4 G7	bar 5 C7	bar 6 C7
bar 7 G7	bar 8 G7	bar 9 Am7	bar 10 D7	bar 11 Gma7Em7	bar 12 Am7 D7

With a common variation on the seventh and eighth bar:

bar 1 G7	bar 2 C7	bar 3 G7	bar 4 G7	bar 5 C7	bar 6 C7
bar 7 G7 Am7	bar 8 Bm7Em7	bar 9 Am7	bar 10 D7	bar 11 Gma7Em7	bar 12 Am7 D7

It is standard procedure to freely substitute 9th or 13th chords for 7th chords (G9 substitutes for G7 in bar 1, C13 for C7 in bar 2). The substitute chord progression in bars 3 and 4 is used as an alternate route to bar 5. The progression still works. The substitute progression in bars 11 and 12 works in leading back to the beginning of the progression. The substitute chords are closely related to the original chords and the melody can follow the original chords as long as notes that conflict with the substitute chords are avoided or at least unemphasized.

C#o7 in bar 6 is substituted for C7. Diminished 7th chords usually are inserted in progressions as connecting chords. The “C#” note in the middle of bar 2 suggests a C#o7 chord. The implied C#o7 chord leads to the G7(9) sound in bar 3, as the C#o7 in bar 6 leads to the G7(9) sound in bar 7.

The D13b9 chord in the tenth bar is a slightly altered D13 chord sound which creates a feeling of restlessness through dissonance. This resolves with the consonance of the first half of the eleventh bar. See the examples below.

The image displays three musical modes and their associated chords and scale runs:

- G Mixolydian:** Scale: 1 2 3 4 5 6 b7 1 (G A B C D E F G). Fretboard diagram shows notes G, A, B, C, D, E, F, G. Chord diagram for G9 (IX) shows notes G, B, F, A.
- G Dorian:** Scale: 1 2 b3 4 5 6 b7 1 (G A Bb C D E F G). Fretboard diagram shows notes G, A, Bb, C, D, E, F, G. Chord diagram for C13 (V) shows notes C, Bb, E, A.
- G Major:** Scale: 1 2 3 4 5 6 7 1 (G A B C D E F# G). Fretboard diagram shows notes G, A, B, C, D, E, F#, G. Chord diagrams for Gma7 (X), Em7 (IX), Am7 (X), and D7 (X) are shown with their respective notes.

All notes of G9 are in G Mixolydian, so G Mixolydian is used during this chord sound.

All notes of C13 are in G Mixolydian except the “Bb” note. “B” is the third of G Mixolydian. “Bb” would be a “b3.” By moving to Dorian, the next mode to the left in the expressive series, you can obtain the needed flat third.

All notes of the Gma7, Em7, Am7 and D7 chords are in G Mixolydian except the “F#” note. “F” is the flatted seventh of G Mixolydian. “F#” would be a natural seventh. Moving to the right in the expressive series from Mixolydian to major will provide the needed natural seventh.

2. Substituting Modes For Expressive Purposes.

Bluesy substitutes. “Blues” is a feeling of melancholy, depression and despondency. Substituting to the left in the expressive series from major to Mixolydian or Dorian, or from Mixolydian to Dorian produces a bluesy mood or sound. If the present mode is major, you may substitute Mixolydian for a bluesy sound or Dorian for a very bluesy sound. If the present mode is Mixolydian, you may substitute Dorian for a more bluesy sound.

Example 4B2b - Bluesy substitutes (on tape) is a variation on Example 4B2a - Accommodating Chords #2. The chord progression is identical. Five notes have been changed in the melody. These reflect changes of mode to achieve a bluesy sound. The changed notes are identified with an “X” over them.

Example 4B2b - Bluesy Substitutes

69 sound ————— **69 sound** ————— **69 sound** —————

69 **C13** **Em7 Eb13 Dm7 Db13**

substitute chords

G Mixolydian **G Dorian** **G Mixolydian**

T ————— **T** ————— **T** —————

A ————— **A** ————— **A** —————

B ————— **B** ————— **B** —————

C13 **C#o7 (passing chord)** **69** **substitute chords**

Am7 Bm7 Bb9

G Dorian **G Mixolydian**

T ————— **T** ————— **T** —————

A ————— **A** ————— **A** —————

B ————— **B** ————— **B** —————

Am7 **D13b9 (D7sound)** **sound: Gma7 Em7 Am7 D7**

substitute chords

Bm7 Bb9 Am7 Ab9

G Major

T ————— **T** ————— **T** —————

A ————— **A** ————— **A** —————

B ————— **B** ————— **B** —————

The melody in bar one was originally in G Mixolydian. The two “Bb” notes have changed the scale to G Dorian, producing a more bluesy mood. The last note in bar two, a “Bb” note (from G Dorian), has been added to contrast with the “B” natural note (from G Mixolydian) that comes up two notes later. The melody in bar nine was originally in G major. The two “F” notes change the scale to G Mixolydian, expressing a bluesy mood.

There are three phrases in the melody, each followed by a response from the brass section and the snare drum. With the changes in the melody, the beginnings of phrases one and three start out with a dark mood, employing flatted scale tones three and seven respectively and progress to a brighter one when the lowered scale tones are raised to their unaltered form at the end.

Darkening moods. If the present mode is any mode except Lydian or Locrian, you may substitute a mode which adds a flat to the modes’ formula. With the Lydian mode, you may change to #4 to natural 4. These alterations darken the mood. The sequence of alterations is shown for all keys in *Chapter 5, Section A2*. This must be done discretely and is less likely to work if the natural versions of the notes being flatted are sustained or emphasized to any noticeable degree.

Example 4B2b - Darkening Moods (on tape). A modern Caribbean style folk song with a steel drum melody.

The melody shown in the first eight bars of the “Darkening Moods” example is exclusively in C major. The notes marked with an “X” change the mode, and therefore affect the mood created by the melody. In all cases here, the alterations have lowered notes which darken the mood.

The altered notes in the last two staves of the “Darkening Moods” example (marked with an “X”) have been numbered. The first altered tone changed the mode from C major to C Dorian. The second and third altered tones changed the mode to C Mixolydian. Collectively, the fourth, fifth and sixth altered tones changed the mode to C Dorian. The seventh and eighth altered tones changed the mode back to C Mixolydian.

The somber moods created by these modes are brief and each is soon resolved by a major mode, bringing about a brighter mood. Compare the general mood created by the first eight bars with that of the last eight bars. You will probably find the first eight bars of the melody more likeable, but this doesn't mean the melody in the last eight bars is unusable. On the contrary, variations on a theme such as these are useful to provide diversion before returning to the original theme.

Brightening Moods: Substitute Lydian for major. Lydian mode can substitute for major particularly to emulate the Major 13#11 chord sound in the melody. The Lydian mode contains the notes to construct the Major 13#11 chord. The complete Major 13#11 chord has the same seven notes as Lydian mode (with the Major 13#11 root used as the tone center).

This substitution should be avoided during any chord which employs the unaltered fourth, which is sharpened in Lydian mode.

In Example 4B2b - Substitute Lydian for Major (on tape), the accompaniment parts are made up from C major scale tones. The melody is C major with one exception: the "F#" note in the melody (bar 5) changes the scale temporarily to C Lydian. The next to last note, "Bb", is not a scale tone. It is a chromatic passing tone between "B" and "A."

Example 4B2b - Substitute Lydian For Major.

The diagrams below show the sources of the chord tones within the scales.

Brightening Moods: Substitute Dorian for Aeolian. In a similar manner to the Lydian for major substitution, this is particularly used to emulate the Minor 13th chord sound. Dorian mode has the same exact seven notes as the Minor 13th chord (when the Dorian tone center is the same note as the Minor 13th chord root). This substitution should be avoided during any chord which employs the flatted sixth, which is natural in Dorian mode.

In Example 4B2b - Substitute Dorian For Aeolian (on tape), the accompaniment parts are made up exclusively from C Aeolian mode tones. The melody is exclusively C Aeolian exception for the two “A” notes in bar 5 which change the scale temporarily to C Dorian.

Example 4B2b - Substitute Dorian for Aeolian

Chord symbols: Cm/9 Ab/9 Bb11 G11 Cm/9 Ab/9 Bb11 G7sus4

Fingerings: 1 2 4 2 4 1 2 1 2 4 4 4 1 3 3 4 3 3 1 3 1 1 3

Scale: C Aeolian C Dorian

C Major

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

4 1 3 4 1 3 4 1

T
A
B 8-10 7-8-10 7-9-10

C Dorian

1 2 b3 4 5 6 b7 1
C D Eb F G A Bb C

4 1 2 4 1 3 4 1

T
A
B 8-10 6-8-10 7-8-10

Cm13 VIII
C G BbEbA

C Aeolian

1 2 b3 4 5 b6 b7 1
C D Eb F G Ab Bb C

4 1 2 4 1 2 4 1

T
A
B 8-10 6-8-10 6-8-10

Cm/9VIII Ab/9VIII Bb11VIII G7sus4X

C G D Eb G Ab C Eb G F Bb Eb Ab C G C F G

B. HARMONIC USE OF THE EXPRESSIVE SERIES

The expressive series of substitute modes can be used with chord progressions (or other forms of accompaniment parts) and may involve movement in both directions in the series, darkening or brightening the mood.

1. Use Of The Expressive Series In Composing And Arranging.

Composed and arranged accompaniment parts can be more intricate, while comping (improvising) an accompaniment part is more dependent on the musical expression of the other players. Temporary change of mode while using the same tone center may occur for as brief a time as a single beat or for an entire section of a song.

Example 4B3a - Major / Aeolian (on tape) combines the last two examples in the previous section 4B2b. As indicated with brackets above the chord names, the chord structure begins in C major and changes on the 17th bar to C Aeolian. On the 25th bar, it returns to C major.

The scales used during the melody are indicated with the brackets between the staff and the tablature. The melody during the C major chord structure uses C major and C Lydian. It is similar to that in C Aeolian rhythmically, architecturally (in the contour of the melodic line) and in its phrasing. The melody during the Aeolian chord structure uses C Aeolian and C Dorian.

Example 4B3a - Major / Aeolian

System 1 (Measures 1-16): Chords: Cma9, Am9, Fma9, G9, Cma9, Am9, Fma9, G9. Scales: C major (measures 1-16), C Lydian (measures 17-24).
 Tablature: T (1 3 4 3 4 1 2 4 3 4 1 1 1 4 1 3 2 1), A (-7 9 10 7 10 7 7 10 7 9 8 7), B (-7 9 10 7 8 7 10 7 9 8 7).

System 2 (Measures 17-24): Chords: Cma9, Am9, Fma9, G9, Cma9, Am9, Fma9, G9. Scales: C Lydian (measures 17-24).
 Tablature: T (1 2 3 2 3 4 1 1 3 1 3 1 2 1), A (-7 8 9 8 9 10 7 7 9 7 9 7 8 7), B (-7 8 9 8 9 10 7 7 9 7 9 7 8 7).

System 3 (Measures 25-32): Chords: Cm/9, Ab/9, Bb11, G11, Cm/9, Ab/9, Bb11, G7sus4. Scales: C Aeolian (measures 25-32), C Dorian (measures 33-40).
 Tablature: T (1 2 4 2 4 1 2 1 2 4 4 4 1 3 3 4 3 3 1 3 1 1 3), A (-7 8 8 10 7 8 7 8 10 10 7 10 10 10 8 10 8 8 10), B (-7 8 10 10 7 8 10 10 10 10 10 10 10 10 10 8 10 8 8 10).

System 4 (Measures 33-40): Chords: Cma9, Am9, Fma9, G9, Cma9, Am9, Fma9, G9. Scales: C major (measures 33-40), C Lydian (measures 41-48).
 Tablature: T (1 3 4 3 4 1 2 4 3 4 1 1 1 4 1 3 2 1), A (-7 9 10 7 10 7 7 10 7 9 8 7), B (-7 9 10 7 8 7 10 7 9 8 7).

The diagrams below show the scale sources of chord tones used in the example on the previous page.

C Major

Cma9VIII	Am9 V	Fma9VII	G9 IX
C B E G D	A E G C E B	F A E G	G B F A

C Aeolian

Cm/9VIII	Ab/9VIII	Bb11VIII	G7sus4X
C G D Eb G	Ab C Eb G	F Bb Eb Ab C	G C F G

Note that the chord progressions in C major and C Aeolian are very similar. The “F#” notes in the C major sections of the melody substitute C Lydian for C major. The “A” notes in the C Aeolian section of the melody substitute C Dorian for C Aeolian.

Example 4B3a - Dorian / Aeolian / harmonic minor (on tape) involves changes of mode from D Dorian to D Aeolian and to D harmonic minor, a variant of D Aeolian. D Aeolian with a natural seventh (C#) is D harmonic minor.

Example 4B3a - Dorian / Aeolian / harmonic minor.

Bb **C#o7**

D Aeolian D harmonic minor

T
A
B

A **Bb** **A7**

D harmonic minor D Aeolian D harmonic minor

T
A
B

D Major

T
A
B

D Aeolian

Bb III

T
A
B

D Dorian

T
A
B

Dm7 V G III C III F I

C E F C F A C F

D harmonic minor

T
A
B

C#o7 III A II

C# G Bb E A E A C#

2. “Comping” (improvising the accompaniment) With The Expressive Series.

In many situations, the accompanists have freedom of expression through changing modes also. They can alter part of the background to contrast against the rest of the band. One section, such as the brass in the first example below, can alter the arrangement by changing mode while the rest of the band remains in the mode originally intended.

Playing a darker-sounding mode to contrast against the rest of the band. *Example 4B3b - Substituting Dorian For Major* (on tape). The organ part of the first eight bars of the example is in C major mode. In the next eight bars the three upper voices played by the brass (shown in the written example below) use the notes “Bb” and “Eb.” By flatting these notes, the seventh and third, the scale has been altered from C major to C Dorian.

A soloist could use C major or C Dorian to improvise against this, since the background has elements of both. This gives the soloist much freedom of expression, using major sounds for brighter moods and Dorian sounds for darker moods.

Example 4B3b - Substitute Dorian For Major

Since this brass arrangement cannot be easily fingered on the guitar, the upper voices of the arrangement are shown on the diagrams above.

C Major

C Dorian

Playing a brighter-sounding mode to make the soloist sound darker by contrast. *Example 4B3b - Substitute Mixolydian For Dorian* (on tape). In this example, the background (bass, brass, electric piano) and melody (synthesizer/flute) play in Dorian mode during the first eight bars. During bars 9 through 16, the background plays Mixolydian mode (except Dorian mode in the twelfth bar), while the soloist plays the same Dorian melody as was used for the first eight bars.

Note the spelling of the chords used during the D Mixolydian mode sections. Many of the D Mixolydian chords have an “F#” note, which is the particular note that distinguishes D Mixolydian from D Dorian. The melody uses the “F” note from D Dorian in bars 9, 10, 11 and 14. This creates a “bitter sweet” mood during the 9th through 16th bars, since the background plays a brighter Mixolydian mode in contrast to the darker Dorian mode in the melody.

Example 4B3b - Substitute Mixolydian For Dorian

Dm11 Dm7/C G11 G9/F

T 3 4 3 1 4 3 1 4 3

A 7 8 7 5 8 7 5 9 7

B 8 5 7 9 8 5 7 9 5

D9 D13/C Bm11 A11

T 1 2 1 3 1 3 1 4 1 1 3 4

A 5 6 5 7 5 5 5 7 9

B 7 8 5 9

D9 D13/C G/9 G11

(same fingering as the first staff above)

D9 D13/C Bm11 A11

(same fingering as the second staff above)

D Dorian
D E F G A B C D
1 2 b3 4 5 6 b7 1

Dm11VIII Dm7/C V G11 V G9/F III G9/B V

D C F G C D F A D G C F A F B D A B G D F A

D Mixolydian
D E F# G A B C D
1 2 3 4 5 6 b7 1

D9 IV D13/C VII G/9 VII Bm11VII A11 VII

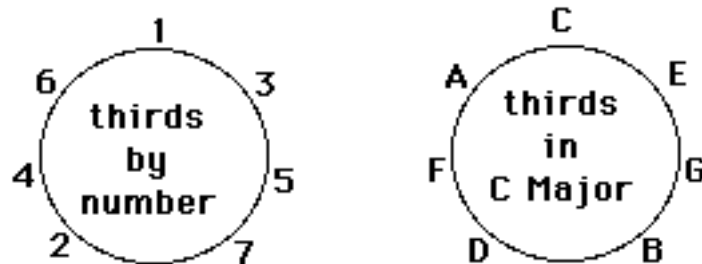
D F# C E A C A D F# B G B D A B F# A E F# A E A D G B

CHAPTER 7: INTERVALLIC TYPES OF HARMONY

A. TERTIAN HARMONY

Contemporary music in the Western World is harmonically based on the major and minor scale system, developed in Europe over the last six or seven centuries. The common minor scales are *Natural Minor*, *melodic minor* and *harmonic minor*. Each of these scales contain seven notes and are therefore *heptatonic scales*.

A cycle of thirds is a repeating series of alternate notes (every other note) in the scale. A structure based on a cycle of thirds called *tertian harmony* became popular during the eighteenth and nineteenth centuries. In the major scale, the scale tones would be in the order “1, 3, 5, 7, 2, 4, 6, 1, 3, etc”. It is called a “cycle of thirds” because the interval from each note to the next is a major third or minor third. Tertian means “made up of thirds”.



The basic method of chord construction uses consecutive groups of scale tone thirds. Diads, triads, and scale tone 7th, 9th, 11th and 13th chords are all tertian chords:

Scale tone diads are pairs of consecutive scale tone thirds (1, 3 or 2, 4, etc.).

Scale tone tertian triads are groups of three consecutive scale tone thirds (1, 3, 5 or 2, 4, 6, etc.).

Scale tone 7th chords have four consecutive scale tone thirds.

Scale tone 9th chords have five consecutive scale tone thirds.

Scale tone 11th chords have six consecutive scale tone thirds.

Scale tone 13th chords have seven consecutive scale tone thirds, thus using every note in the scale.

Study the chart below. Note that “9, 11 and 13” are used in chord formulas. They indicate “2, 4 and 6” (respectively) in the upper octave, implying that the “1, 3, 5, 7” part of the chord is below them. Subtracting “7” from chord formula tones above “7” will give you the equivalent scale tone number, such as an eleventh is the same as a fourth. Scale tone 7th chords are “tertian quadrads”. Scale tone 9th chords are “tertian pentads;” scale tone 11th chords are “tertian sextads” and scale tone 13th chords are “tertian heptads.”

Major Scale Tone Tertian Chords

	scale tones:	1	2	3	4	5	6	7
diad	name	M3	m3	m3	M3	M3	m3	m3
	scale tones	13	24	35	46	57	61	72
	formula	1,3	1,b3	1,b3	1,3	1,3	1,b3	1,b3
triad	name	Major	minor	minor	Major	Major	minor	diminished
	scale tones	135	246	357	461	572	613	724
	formula	1,3,5	1,b3,5	1,b3,5	1,3,5	1,3,5	1,b3,5	1,b3,b5
7th chord	name	Δ7	m7	m7	Δ7	7	m7	m7b5
	scale tones	1357	2461	3572	4613	5724	6135	7246
	formula	1,3,5,7	1,b3,5, b7	1,b3,5,b7	1,3,5,7	1,3,5,b7	1,b3,5,b7	1,b3,b5,b7
9th chord	name	Δ9	m9	—	Δ9	9	m9	m9b5
	scale tones	13572	24613	—	46135	57246	61357	72461
	formula	1,3,5,7,9	1,b3,5,b7,9	—	1,3,5,7,9	1,3,5,b7,9	1,b3,5,b7,9	1,b3,b5b7,9
11th Chord	name	—	m11	—	Δ9#11	11	m11	—
	scale tones	—	246135	—	461357	572461	613572	—
	formula	—	1,b3,5,b7,9,11	—	1,3,5,7,9,#11	1,3,5,	1,b3,5,b7,9,11	—
13th Chord	name	—	m13	—	Δ13#11	13	—	—
	scale tones	—	2461357	—	4613572	5724613	—	—
	formula	—	1,b3,5, b7,9,11,13	—	1,3,5,7,9,#11,13	1,3,5,b7,9,11,13	—	—

B. QUARTAL AND QUINTAL HARMONY

Quartal harmony employs “stacked” perfect fourths. Each note in the stack is an interval of a perfect fourth above the note below it. Here is an illustration of the chords produced by quartal harmony. Notice which note is the root in each example below. The case where the root is the fourth note from the bottom is very difficult to use harmonically, since the sixth of the chord is in the bass.

Bsus4.n5 B7sus4n5 Bm7sus4 Esus.4 E7sus.4 Em7/11 Asus.2 Asus.2/4 A11n3 Am11 D6sus.2 D6/9sus.4 D13sus.4 Dm13

○ root = 7sus.4n5
◇ root = sus. 4
□ root = sus. 2

○ root = m7/11n5
◇ root = 7 sus. 4
□ root = sus. 2/4
△ root = 6 sus. 2

○ root = m7/11
◇ root = 11n3
□ root = 6/9sus.4

○ root = m11
◇ root = 13sus.4

In the last half of *Example 5A2 - Quartal Harmony* (on tape), there are accented chords in the upper range played by the synthesizer. The harmony begins in fifths and octaves. The last 16 accented chords are in quartal harmony, first with three notes in a stack, then four, and finally five notes.

Example 5A2 - Quartal Harmony

5th & 8va. NOT 5th & 8va 5th & 8va.

5th & 8va. QUARTAL

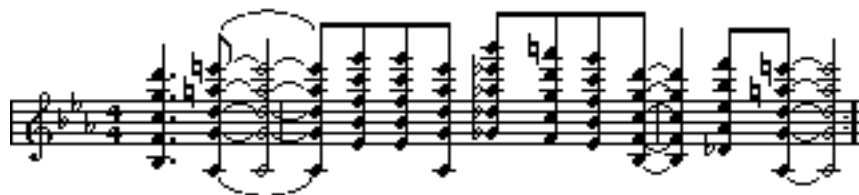
G7sus4 Gm11 QUARTAL

Gsus4 XVII G7sus4 XVII Gm11 XVII

Quintal harmony uses “stacked” perfect fifths. Each note is “stacked” an interval of a perfect fifth above the note below it. Here is an illustration of the chords produced by Quintal Harmony. Notice which note is the root in each example:

In *Example 5A2 - Quintal Harmony* (on tape), the electric piano part employs stacks of 5 perfect fifths. This is an interesting stack, since the fifth note in the a quintal stack is always 2 octaves and a major third above the lowest note. Together, the five notes spell a Major 6/9 chord. The notes of a Major 6/9 chord constitute a Major 6/9 pentatonic scale with the root and tone center respectively on the same note.

Example 5A2 - Quintal Harmony



Combined 3rds, 4ths and 5ths (examples on tape). These two examples combine sequences of harmony in thirds, fourths and fifths. In the first example, sequences of thirds and fourths are combined in the electric piano part.

Example 5A2 - 3rds and 4ths



Example 5A2 - 3rds, 4ths and 5ths (on tape), is the same as Example CH5A2 - 3rds and 4ths, except the electric piano part has been doubled in fifths. Each note of the original electric piano part is accompanied by a note a perfect fifth above.

Example 5A2 - 3rds, 4ths and 5ths



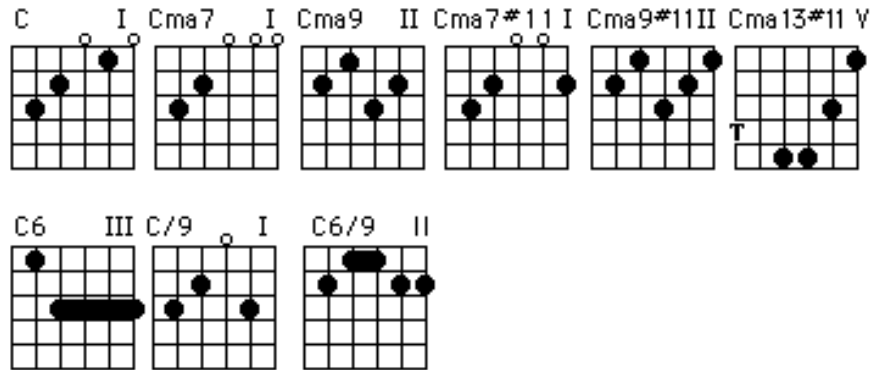
Sometimes harmony is so free in form that it defies classification. *Example 5A2 - Textural (on tape)* uses free form harmony to produce a textural effect.

CHAPTER 8: CHORD FAMILIES

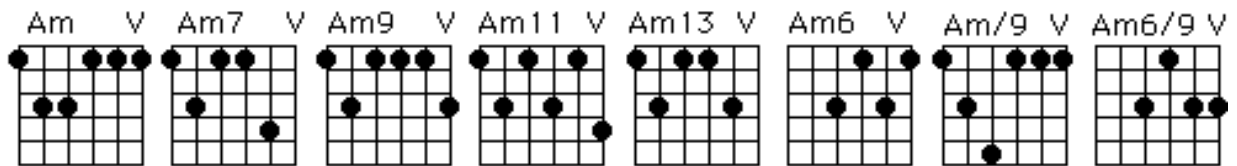
A. GENERAL CHORD SOUNDS

Play each of the chords in the following diagrams to hear its affinity to the sound group in which it was placed:

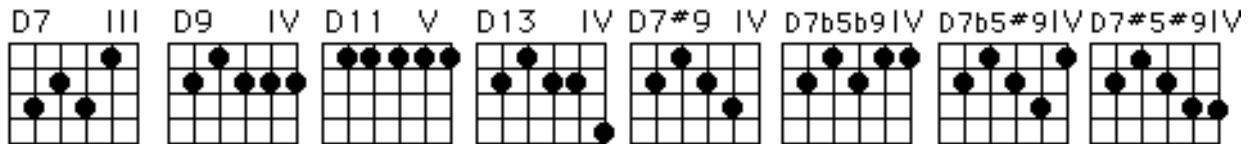
Major



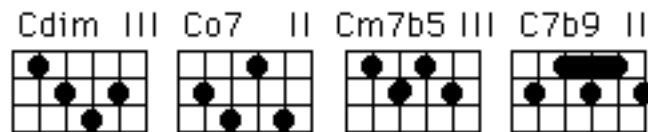
Minor



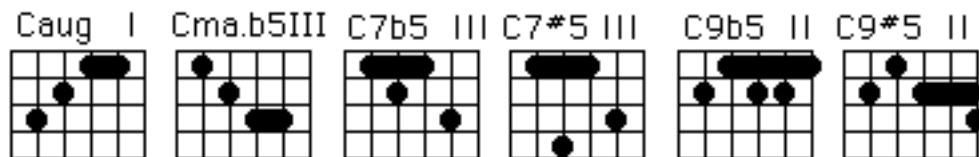
Dominant



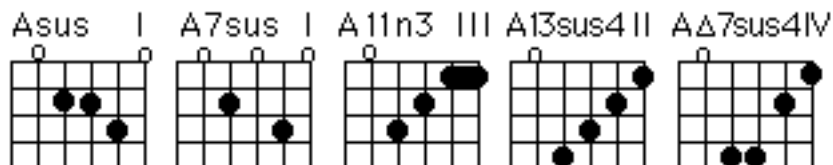
Diminished



Whole Tone / Augmented



Suspended



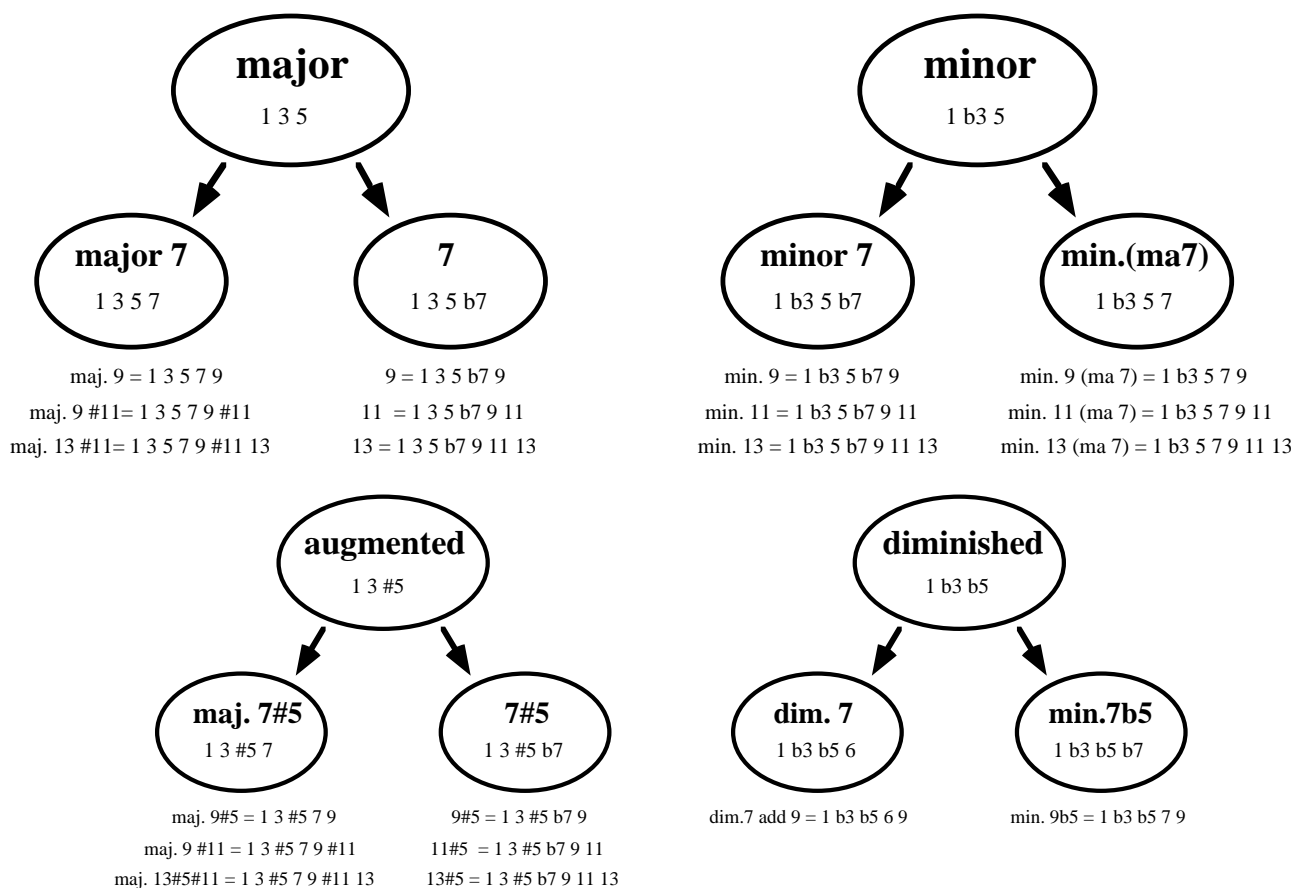
B. TERTIAN TRIAD FAMILIES

There are four *families* of chord sounds: *major*, *minor*, *augmented* and *diminished*. The diagrams below show each of the four “parent” chords (major, minor, augmented, diminished) with their families beneath. The families add tones to the parent chord.

As you can see by the diagrams below, these generalizations can be made about chord formulas:

- All minor chords have flatted thirds.
- All dominant chords have flatted sevenths.
- All minor 7th types have flatted thirds and flatted sevenths.
- All Major 7th and minor (major 7th) type chords have natural sevenths.
- Usually, chords do not include natural third and perfect fourth.
- 11th chords usually have no third.
- Dominant 13th and Major 13th chords usually have no fourth (eleventh).
- Minor 11th and minor 13th chords have no flatted fifth.
- Minor 7th and Major 7th types have no flatted ninth nor sharpened ninth.

The following diagrams display the chords that can be made by adding notes. Formulas are shown for the chords in the ovals. Formulas for the chord names below the ovals can be found in the chord/scale chart at the end of Chapter 4, section D.



C. NON-TERTIAN TRIAD FAMILIES

This section covers exceptions to scale tone chords. Chords such as 6ths, sus.2, add9, etc. do not use strictly every other scale tone from the chord root in their construction (see Chapter 7A1 Tertian Harmony). Rather than part of a “1, 3, 5, 7, 2, 4, 6, 1” pattern, they use variations such as those seen below the ovals in this section’s diagrams.

Tertian chords are scale tone triads, sevenths, ninths, elevenths and thirteenth constructed from part or all of the cycle of scale tone thirds: “1, 3, 5, 7, 2, 4, 6, 1, 3, etc”. In the major scale, they include major, 7, 9, 11, 13, $\Delta 7$, $\Delta 9$, $\Delta 9\#11$, $\Delta 13\#11$, minor, m7, m9, m11, m13, diminished and m7b5. Note that the scale tones indicated on the *Major Scale Tone Tertian Chords* chart in Chapter 7A are all part of this cycle. There are four types of changes made on tertian chords:

Suspension replaces the third of the chord with a second and/or a fourth as indicated by the chord name. Suspended chords always have a perfect fifth (natural “5” in the formula).

Add tone alteration expands the basic tertian chord sound by adding tones (other than the next number in the “1, 3, 5, 7, 2, 4, 6, 1, etc.” tertian series). Added tones may be “6, natural 7, 9, 11 or #11”. “#7” is sometimes used as an indication of a natural 7 added to a minor chord, with the chord name “m#7.” Chord formulas are traditionally related to the major scale, yet the m(#7) chord name indicates the raising of the minor seventh interval in a natural minor scale. The chord names “minor(natural 7)” or “minor (major 7)” are more correct, since they confirm the interval in relation to the major scale.

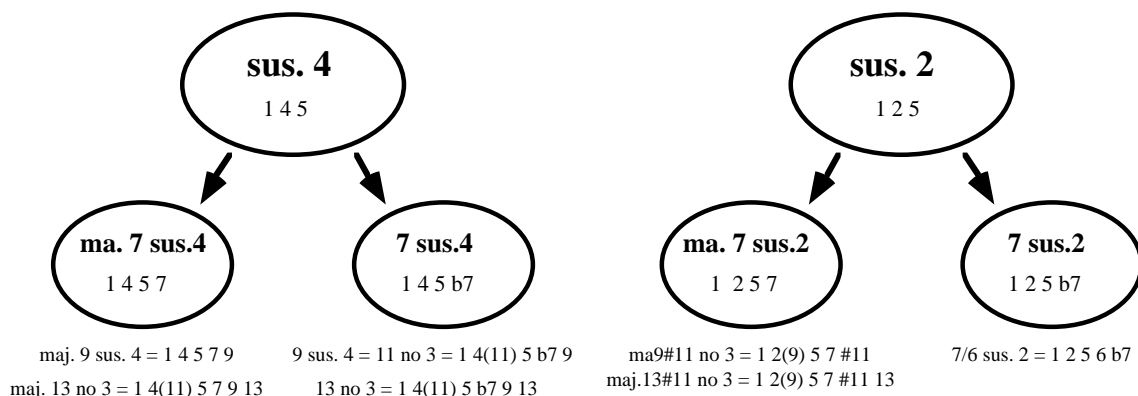
Alter tone chords indicate the change to the basic tertian chord with “# or b” in the chord name. These changes may be “b5, #5, +5 (# and/or b 5), b9, #9, +9 (# and/or b 9)”. Exceptions to this are “#11” in a Major 7th type chord and “b5” in a m7b5 type chord, which are part of basic tertian chords.

Chord over bass note. Any chord may be placed over a bass note, indicating the chord should be played as is with the added bass note below it.

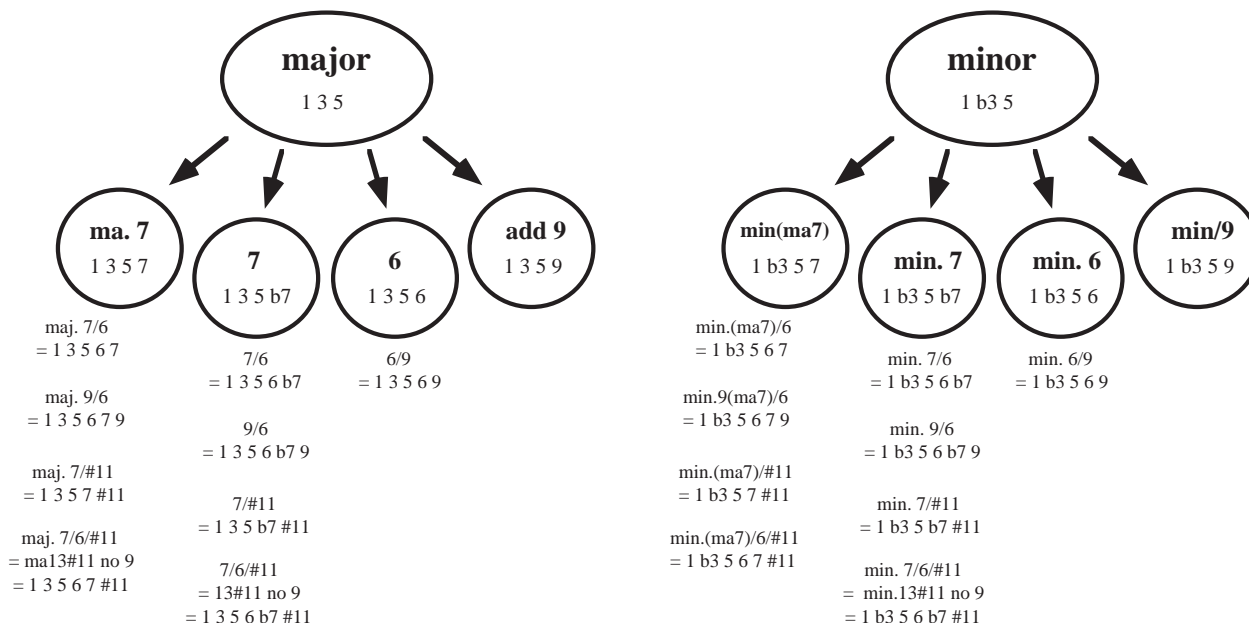


The following diagrams display the chords that can be made by adding notes. Formulas are shown for the chords in the ovals. Formulas for the chord names below the ovals can be found in the chord/scale chart at the end of Chapter 4, section D.

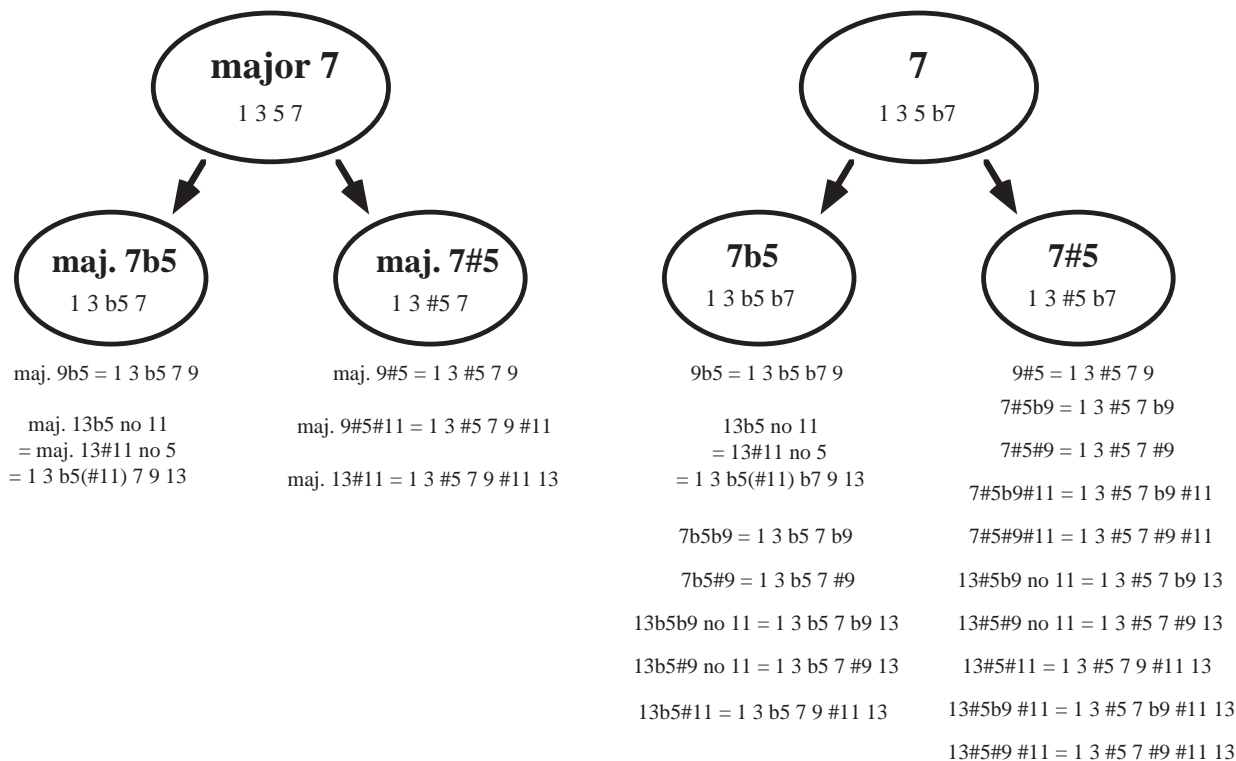
1. Suspended



2. Add Tone



3. Alter Tone



CHAPTER 9: CHORD VOICING.

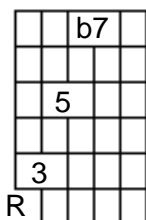
A. CHORD INVERSION.

Root position implies that the chord root is in the bass. *Chord inversion* implies that the notes of a chord are rearranged so the root is not in the bass. First inversion has the third of the chord in the bass (2nd or 4th in the bass if the chord is suspended). Second inversion has the 5th of the chord in the bass. Third inversion has the chord's 7th in the bass.

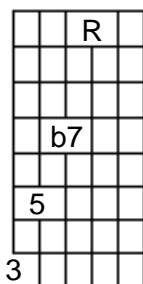
C7 chord in root position C7 chord in 1st inversion C7 chord in 2nd inversion C7 chord in 3rd inversion



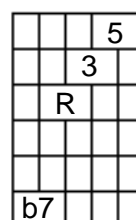
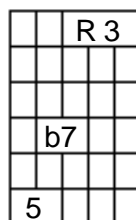
III



V



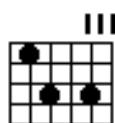
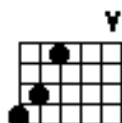
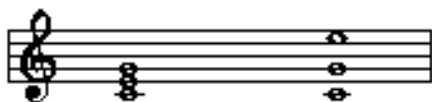
V



B. CLOSE AND OPEN VOICING.

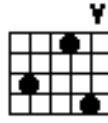
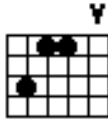
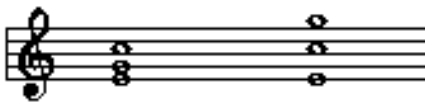
C major chord in root position

close voicing open voicing



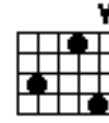
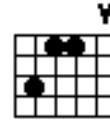
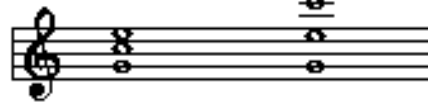
C major chord in first inversion

close voicing open voicing



C major chord in second inversion

close voicing open voicing



C. ESSENTIAL CHORD TONES.

When constructing a chord on the fretboard, you don't always need to include every note. *The important notes are the third and the seventh (if in the chord) and any tone mentioned in the name of the chord, except the root.*

In constructing a chord fingering by formula on the fretboard, you may omit the 5th, 9th and/or 11th if they are not altered. b5, #5, b9, #9, #11 are altered tones. For example, don't omit the 9th in a 9th chord, the 11th in an 11th chord or the b5 in a 7b5 chord. This leaves essential chord tones, which may be described as:

- *The third and the seventh, if involved.* Suspended 4th and suspended 2nd chords have no third. 11th chords usually are played without their third if the third is major. Dominant 13th chords (those with a natural third and flatted seventh) usually are played without the 11th. Triads, 6ths, add9's and 6/9's have no seventh.
- *Any tones mentioned in the quality name of the chord* (all but the letter name of the chord).

- All tones of a diminished triad, *m7b5*, and augmented should be included whenever possible. In many cases, any tone of a diminished 7th chord may be omitted.

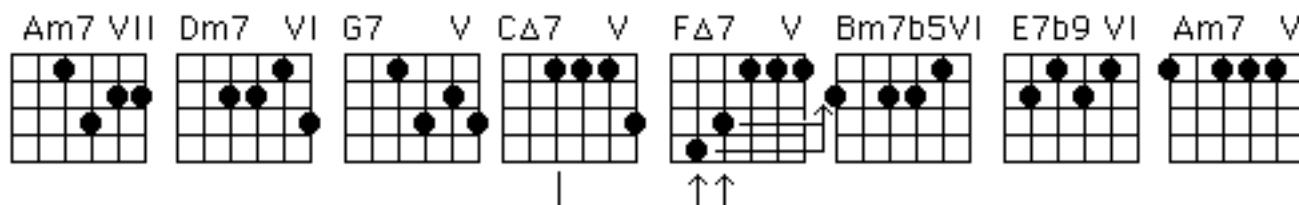
Study *Chapter 13A: Essential Chord Fingerings* where the notes indicated by dots are essential chord tones and the hollowed dots are optional chord tones.

D. MELODIC LINES WITHIN CHORD PROGRESSIONS

Harmony in the present forms of music of the Western World originated in vocal music. In a vocal arrangement, each part (the soprano, alto, tenor and bass) is called a *voice*. This term has been applied to harmonic arrangements in general, so that each part is called a voice. A chordal accompaniment part should be thought of in much the same way as a vocal arrangement. Each note of one chord generally moves to a note in the next chord.

When one chord has four notes and the next has five, it must be considered that one of the four notes in the first chord “splits” into two notes in the five note chord. Likewise, when a larger chord of four notes progresses to the next chord of three notes, two of the notes in the four note chord both move to the same note in the three note chord. This is called *voice leading*.

Here is an example of voice leading. Except for the fourth through sixth chords, the top note of each chord leads to the top note in the next chord; the second from the top leads to the second from the top in the next chord, and so on. The bass note of the Cma7 chord splits off into the two bass notes of the Fma7 chord. The two bass notes of the Fma7 chord combine into the one bass note of the Bm7b5 chord. The weakest part of this progression is probably the wide skips in the movement of the top three notes of the Fma7 chord to the top three of the Bm7b5 chord.



Be aware of the melodic lines created by the highest and lowest “voices” of the chord progression. Avoid skips of over one and a half steps (a three fret interval) from the highest note of one chord to the highest of the next. Avoid skips in the bass of over a fifth.

Use the line created by the highest notes in a chord progression to harmonize with the soloist(s), since the most audible chord tones are usually the highest ones. The line created by the highest notes can be a melody line. In this manner, a *chord solo* can be played, wherein a solo guitarist plays melody and accompaniment at once.

Example 5D2 - Chord Solo ("Fallen Isis" from Book 2) is on the accompanying tape and is written out below.

F#m
IX POSITION

X POSITION

D
VII POSITION

sustain ——— sust. ———

T 10 10-10-10 12

A 11 11-11-11 11

B 9 12

14 13 11

9 10 7 7 7 7 7 7

E
IX POSITION

C#
VI POSITION

sust. ———

T 9 9-9-9 10

A 9 9-9-9 9

B 12 12

9 11 9 6 6 6-6 6 6 6-6-6 6

D
II POSITION

Bm

sust. ——— sust. ———

T 2 2-2-2 4

A 3 3-3-3 3

B 0 0

3 5 3 2 3 4 4 4-4-4 4

C#7sus4

C#7

sust. ———

T 2 2 2 3

A 4 4-4-4 4

B 4 4

2 4 3 2 4 3 2 4 3 2 4

CHAPTER 10: COUNTERPOINT

Monophony is a single, unaccompanied melody. *Homophony* is a single melody with a chordal accompaniment (such as a chord progression). *Polyphony* is the combination of two or more voices (melodies) of individual character.

Counterpoint is the deliberate art of writing polyphony by adding melodic lines together in such a way that notes of the melodies periodically sound together to make chords (vertical alignment on the staff). It came about in the Renaissance (1430 - 1650), as part of a general trend toward the study of perspective.

The word counterpoint was derived from the Latin “punctus contra punctum” meaning note against note. In that sense, it implies disagreement (note against note). Agreement occurs when notes align vertically to sound a chord. Most music today has at least some elements of counterpoint.

A. TYPES OF MOTION

1. Similar (or direct) motion. Two or more voices moving in the same direction (up or down together).

1 0 2 3 3 1 4 1
2 2 4 1 3 2 1 2
T
A 2 2 3 5 5 3 5 2
B 3 2 5 3 5 3 2 3

2. Parallel motion. Two or more voices moving in the same direction at consistently the same interval. The interval number (such as 3rd or 4th) must be consistent, but the specific quality of the interval (such as major third or minor third) need not be.

1 0 2 1 3 1 0 1
2 2 4 2 4 2 1 2
T
A 2 2 3 2 4 2 0 2
B 3 2 5 3 5 3 0 2

3. Contrary motion. Voices moving in opposite directions.

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

4. Oblique motion. One voice sustains or repeats while the other part(s) moves up or down from it.

3 4 2 3 4 2 1 2 4 2 1 3 1 2 3 1

T 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

A 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9

B 8 7 5 8 5 8 7 8 8 7 8 8 7 8 8 7

B. SPECIES OF COUNTERPOINT

Counterpoint developed from around 900 to 1800 A.D., but reached its height around 1700. In the early 18th century, music theorists began to formulate rules of counterpoint at a time when there was much disagreement on the subject. The most significant theorist to write on the subject was Johann Joseph Fux, who completed his “*Gradus Ad Parnassum*” in 1725.

In Latin, “*Gradus ad Parnassum*”, roughly means steps or “grades” to artistry. Parnassum was the fabled Mountain of Muses in Greece. Part 1 of *Gradus Ad Parnassum* included a system of categorizing the levels of complexity in rhythmic texture involved in counterpoint. These levels of rhythmic texture were called “species”. “*Cantus firmus*” is a fixed melody to which one or more others are to be written in the study of counterpoint. The species defined how many notes were played by the second melody (or other melodies) in relation to the “*cantus firmus*”. Here are the 5 species used by Johann Joseph Fux:

1. First species counterpoint: note against note.

1 1 1 2 4 1 1 1 1 1

T 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

A 3 3 5 7 8 5 5 5 4 5

B 3 5 7 8 8 5 3 5 5 7 7 5 5 7 7 5

Example 5F4 - Bach Chorale (on tape, notation at end of this chapter), is primarily first species counterpoint. The second section of *Example 5F1 - Good Morning Brad (on tape)* is first species counterpoint. *Good Morning Brad* is not notated, but the “note against note” counterpoint is easy to hear.

2. Second Species Counterpoint: Two or Three Notes To One.

2 notes to 1

3 notes to 1

Bars 1-8 of *Example 5F3 - Pachelbel's Canon In D Major* (on tape, notation at end of this chapter), is second species counterpoint. Bars 9-16 involve second species counterpoint in the bass and middle parts.

3. Third Species Counterpoint: Four or Six Notes To One.

Four notes to one. *Example 5F5 - Mozart Piano Sonata, K498a* (on tape, notation at end of this chapter), is 4 notes to 1. In Pachelbel's Canon (see above), bars 9-16 involves 4 notes to 1 in the bass and top part and bars 17-24 use primarily 4 notes to 1 in the top and middle parts.

Six notes to one. This is a simplification of the melody and bass part in *Example 5F2 - Good Evening Brad* (on tape, notation at end of chapter). Complete notation is not shown for this example, so listen carefully.

4. Fourth Species Counterpoint: Two Notes Per Melody Note With Syncopation.

Example 5F6 - Tchaikovsky's Romeo and Juliet (on tape, notation at end of this chapter), uses offset syncopation in the clarinet and flute part (shown in notation). Either of these parts constitute fourth species counterpoint when listened to along with the cello parts, which play continuous quarter notes.

Example 5F12 - Fanfare (on tape, notation at end of this chapter), uses syncopation in the lower voice during the first 4 bars.

5. Fifth Species (also called “florid” counterpoint): Combination of the Other Species.

The following are examples of fifth species. They are all on tape and notation is given at the end of this chapter.

- The first section of *Example 5F1 - Good Morning Brad*.
- *Example 5F2 - Good Evening Brad*.
- *Example 5F10- Fugue IX* from Johann Sebastian Bach’s *Art Of The Fugue*.
- *Example 5F13 - Canon IV* from J.S.Bach’s *Art Of The Fugue*.

C. GENERAL RULES OF HARMONY

First practice writing in four voice parts with triads and first species first with all voices moving continuously (see *Example 5F4 - Bach Chorale*). Then in two parts, then in three parts.

Next, the above in second and third species with a few seventh chords (see *Example 5F3 - Pachelbel’s Canon in D Major*). Before attempting fourth and fifth species and more involved chords, it would be good to study counterpoint in depth.

1. Chord Tones.

Be aware of the chords created by the voices when they align vertically. It is convenient to start writing with a chord progression in mind, but be flexible enough to modify the chord progression.

When two consecutive chords have common tones, repeat them in the same voice(s). This occurs often in *Example 5F4 - Bach Chorale*.

If two consecutive chords have no common tones, move the upper tones in the opposite direction to the bass. Note this in the last half of bar 1 through the first half of bar 2 in *Example 5F3 - Pachelbel’s Canon in D Major*.

Changing the voicing from close to open position and vice-versa is desirable to keep the music interesting. Note this in *Examples 5F3, 5F4, 5F5 and 5F11*.

Avoid doubling a chord’s major third or minor seventh, altered chord tones, scale tone fourth or seventh and non-scalar tones.

Resolve non-chordal tones stepwise to a chord tone.

2. Chromatic (non-scale) Tones.

Use non-scalar tones in one voice at a time. Avoid doubling non-scalar tones.

3. Range.

Generally keep each voice within the range of a tenth. You will find few exceptions to this in the examples notated at the end of this chapter.

4. Motion.

Use predominantly stepwise motion but skip freely within the chord. Every skip in *Example 5F3 - Pachelbel’s Canon in D Major* is to a chord tone

Tend to follow skips (by an interval greater than a major second) with movement (preferably stepwise) in the opposite direction.

It is good to vary the intervals formed by the voices. Any repetition of a particular interval such as thirds or sixths may sound good and be useful, but destroys the individuality of the parts. Parallelism in two parts reduces their effect to one part in parallel harmony. You'll find very little parallelism in *Example 5F10 - Fugue IX* from Bach's *Art of the Fugue*. That is why each part comes across with such an individual character.

Avoid overlapping voices (avoid moving above or below another voice). Don't cross voices (don't move one voice above or below another and leave it there).

Avoid parallel fifths and parallel octaves unless used intentionally throughout a passage as octave or fifth "doubling." The clarinet and flute parts in *Example 5F6 - Tchaikovsky's Romeo and Juliet* are each doubled in octaves. *Example 5A2 - Quartal Harmony*, *Example 5A2- Quintal Harmony* and *Example 5A2 - 3rds, 4ths and 5ths* all use doubling (or stacking) in fourths or fifths, but the doubling (or parallelism) is consistent, not occasional.

Avoid moving to a perfect fifth or perfect octave in similar or parallel motion. Moving in this undesirable manner is called hidden fifths and hidden octaves. It is preferable to move to perfect fifths and perfect octaves only by contrary or oblique motion. This rule is broken only occasionally: *Example 5F4 - Bach Chorale* breaks this rule in the two top voices from bar 12 to the first beat of bar 13 (there is usually a logical explanation for exceptions: in this case bar 12 is the ending of a phrase, and bar 13 starts a new phrase, so the voice leading is not as critical as in the middle of a passage).

D. TWO PART PARALLEL HARMONY

Parallel harmony accompanies a melody line with a second line comprised of one note an equal interval away from each melody note. The prevailing sound of the melody and harmony usually harmonizes with the chordal sound of the accompaniment. The harmony line may be above or below the melody and is most commonly (1) in scale tone 3rds with occasional 4ths, 5ths or 6ths or (2) in scale tone 6ths with occasional 5ths, 4ths or 3rds. The occasional 4ths, 5ths, 6ths or 3rds are used as alternatives to thirds or sixths when the other intervals would better harmonize with the background chords.

Sixths are inverted thirds: (1) if a lower harmony in thirds was moved up one octave, it would be an upper harmony in sixths. (2) if an upper harmony in thirds was moved down an octave, it would be a lower harmony in sixths.

1. Harmony In Thirds or Sixths.

Harmony in thirds uses occasional seconds, fourths or fifths. Harmony in sixths uses occasional thirds, fourths, fifths or sevenths.

A melody may be harmonized in scale tone thirds, producing *diads* (two note chords). However, it is usually necessary in homophonic music (a melody with an accompanying chord progression) to use occasional fourths in place of thirds. If a sustained or accented melody note is harmonized with a third or sixth above or below that is not in the chord, it may be preferable to use a fourth in place of the third or a fifth in place of the sixth if those alternatives would produce chord tones.

Harmony in thirds (with one fourth, one fifth and one sixth).

harmony

C F Am G

melody

0 1 1 1 1 1 1 1 4 1 1

1 3 3 1 1 2 2 2 3 2 0

T 0 1 3 0 1 1 1 3 5 1 3

A 1 3 5 1 2 2 4 5 2 0

B

Harmony in sixths (with one fifth, one fourth and one third).

melody

C F Am G

harmony

1 4 4 1 1 2 1 1 1 1 4

2 3 3 2 3 3 2 2 3 2 3

T 1 3 5 1 1 2 2 4 5 2 5

A 2 3 5 2 3 3 3 5 7 3 5

B

In some styles, such as Rock and Country (especially vocal harmonies), an occasional series of parallel 4ths is used because the sound produced is popular in the style. *Example 5F7AB - Sauce Melody in 3rds and 4ths* uses four parallel fourths in a row starting on the second note of the second measure. Listen to the recorded example to familiarize yourself with this use of parallel fourths.

2. Use Of Same Or Different Timbre.

Thirds (or thirds with occasional fourths, fifths or sixths) usually sound best if played with two instruments of the same timbre. Listen to *Example 5F7 - Sauce* (same timbre) and *Example 5F7AB - Sauce Melody in 3rds* (same timbre, then different timbre).

Inversion of 3rds. By lowering the upper part of a parallel harmony in thirds with occasional fourths by an octave, sixths with occasional fifths are produced. Likewise, by raising the lower part by an octave, sixths with occasional fifths are produced. Also, by lowering the lower part by an octave, tenths with occasional elevenths are produced. Compare notation for *Examples 5F7AB* (thirds with occasional fourths), *5F7CD* (same as *5F7AB* with lower part up an octave), *5F7EF* (*5F7AB* with upper part down an octave) and *5F7GH* (*5F7AB* with lower part down an octave).

Sixths (or sixths with occasional fifths, fourths or thirds) tend to sound a little better when played with two instruments of different timbre, but the same timbre sounds fine, too. Listen to *Examples 5F7CD - Sauce Melody in 6ths: High* (different timbre, same timbre) and *5F7EF - Sauce Melody in 6ths: Low* (different timbre,

same timbre).

Inversion of 6ths. By lowering the upper part of a parallel harmony in sixths with occasional fifths by an octave, thirds with occasional fourths are produced. Compare notation (at the end of this chapter) for *Example 5F7CD* and *Example 5F7AB*. Likewise, by raising the lower part by an octave, thirds with occasional 4ths are produced. Compare notation for *Example 5F7EF* and *Example 5F7AB*.

Tenths (or 10ths with occasional 11ths, 12ths or 13ths) usually sound good with instruments of the same or different timbre. This is the same as thirds with occasional fourths, fifths or sixths with an octave added to the harmony. Since tenths are thirds plus an octave, they sound good played with instruments of the same timbre, as thirds do. Like sixths, tenths are wide intervals and also sound good with instruments of different timbre. Listen to *Example 5F7GH - Sauce Melody in 10ths* (different timbre, same timbre).

Inversion of tenths. By raising the lower part of a parallel harmony in tenths by an octave, thirds are produced. Compare notation for *Examples 5F7GH and 5F7AB*.

3. Fingering Thirds and Sixths.

Fingering parallel intervals. Fingering for parallel thirds and for parallel sixths is shown on the next page. When the same finger is used consecutively on the same string in going up or down a scale in thirds or sixths, a legato can be produced.

Learn the fingerings below. Study the scale tones by formula shown on each of the scale diagrams at the bottom of the page to find locations of the sixths as fingered on the top of the page. Thirds and sixths use these pairs of scale tones: "13, 24, 35, 46, 57, 61, 72" (flats or sharps are involved in some scales).

Fingering thirds

LEGATO WITH LIKE INTERVALS LEGATO ON 3rd STRING LEGATO ON 2nd LEGATO ON 2nd LEGATO ON 1st

CIRCLED NOTES ARE THIRDS

THIRDS ARE JOINED WITH HEAVY LINES
SAME FINGERINGS FOR STRINGS 3&4, 4&5, 5&6

Fingering sixths

LEGATO WITH LIKE INTERVALS LEGATO ON 3rd STRING LEGATO ON 1st STRING SAME FOR STRINGS 3&4, 4&5, 5&6 SAME FOR STRINGS 4 AND 6

SAME FOR 2nd & 4th STRINGS
CIRCLED NOTES ARE SIXTHS

SIXTHS ARE JOINED WITH HEAVY LINES

Finger thirds and sixths within the scales below, applying the fingerings above

major	Dorian	Phrygian	Lydian	Mixolydian	Aeolian	har.min.	Phr.maj.3
1 4 5 1	1 4 b7 b3 5 1	1 4 b7 b3 5 1	1 5 1	1 4 b7 5 1	1 4 b7 b3 5 1	1 4 b3 5 1	1 4 b7 5 1
7 3		b2 b6 b2	#4 7 3	3	b6	7 b6	b2 3 b6 b2
2 5 1 4 6 2	2 5 1 4 6 2	5 1 4	2 5 1 6 2	2 5 1 4 6 2	2 5 1 4 2	2 5 1 4 2	5 1 4
3 6 2 5 7 3	6 2 5	b3 b6 b2 b7 b3	3 6 2 5 7 3	3 6 2 5 7 3	3 6 2 5	3 6 2 5 7	3 6 2 5 7
4 1 4	4 b7 b3 1 4	4 b7 b3 b6 1 4	4 1 4	4 b7 1 4	4 b7 b3 b6 1 4	4 b3 b6 1 4	4 b7 b6 1 4
7 3 6	6	b2	#4 7 3 6 #4	3 6		7	3 b2
5 1 4 2 5	5 1 4 b7 2 5	5 1 4 b7 5	5 1 2 5	5 1 4 b7 2 5	5 1 4 b7 2 5	5 1 4 2 5	5 1 4 b7 5
6 2 5 1 3 6	6 2 5 1 6	b6 b2 b3 b6	#4 7	6 2 5 1 3 6	b6 b3 b6	6 2 5 1 3	b6 b2 b7
7 3 6 2 7	b7 b3 4 b7	b7 b3 b6 b2 4 b7	6 2 5 1 3 6	7 3 6 2 4 b7	7 3 6 2 4 b7	7 3 6 2 4 b7	7 3 6 2 4 b7
1 4 5 1	1 4 b7 b3 5 1	1 4 b7 b3 5 1	1 5 1	1 4 b7 5 1	1 4 b7 b3 5 1	1 4 b3 5 1	1 4 b7 5 1
7 3		b2 b6 b2	#4 7 3	3	b6	7 b6	b2 3 b6 b2
2 5 1 4 6 2	2 5 1 4 6 2	5 1 4	2 5 1 6 2	2 5 1 4 6 2	2 5 1 4 2	2 5 1 4 2	5 1 4
3 6 2 5 7 3	6 2 5	b3 b6 b2 b7 b3	3 6 2 5 7 3	3 6 2 5 7 3	3 6 2 5	3 6 2 5 7	3 6 2 5 7
4 1 4	4 b7 b3 1 4	4 b7 b3 b6 1 4	4 1 4	4 b7 1 4	4 b7 b3 b6 1 4	4 b3 b6 1 4	4 b7 b6 1 4
7 3 6	6	b2	#4 7 3 6 #4	3 6		7	3 b2
5 1 4 2 5	5 1 4 b7 2 5	5 1 4 b3 5	5 1 2 5	5 1 4 b7 2 5	5 1 4 b7 2 5	5 1 4 2 5	5 1 4 b7 5

Examples Of Thirds and Sixths

With melodic thirds or sixths, each interval is played one note at a time. With harmonic thirds or sixths, each interval is played together.

C major scale tone thirds for one octave on the first and second strings.

melodic:

Melodic fingering for C major scale tone thirds on strings 1 and 2. The notation shows a treble clef with a key signature of one sharp (F#). The scale is played in two measures. The first measure contains the notes C4, E4, G4, Bb4, D5, F5, Ab5, and C5. The second measure contains the notes C5, B4, Ab4, G4, F4, E4, C4, and B3. Fingerings are indicated by numbers 1-3 on the first string and 1-5 on the second string. The tablature shows the fret numbers for each note.

harmonic:

Harmonic fingering for C major scale tone thirds on strings 1 and 2. The notation shows a treble clef with a key signature of one sharp (F#). The scale is played in two measures. The first measure contains the notes C4, E4, G4, Bb4, D5, F5, Ab5, and C5. The second measure contains the notes C5, B4, Ab4, G4, F4, E4, C4, and B3. Fingerings are indicated by numbers 1-3 on the first string and 1-5 on the second string. The tablature shows the fret numbers for each note.

C major scale tone thirds for one octave within four consecutive positions:

melodic:

Melodic fingering for C major scale tone thirds within four consecutive positions. The notation shows a treble clef with a key signature of one sharp (F#). The scale is played in two measures. The first measure contains the notes C4, E4, G4, Bb4, D5, F5, Ab5, and C5. The second measure contains the notes C5, B4, Ab4, G4, F4, E4, C4, and B3. Fingerings are indicated by numbers 1-3 on the first string and 1-5 on the second string. The tablature shows the fret numbers for each note.

harmonic:

Harmonic fingering for C major scale tone thirds within four consecutive positions. The notation shows a treble clef with a key signature of one sharp (F#). The scale is played in two measures. The first measure contains the notes C4, E4, G4, Bb4, D5, F5, Ab5, and C5. The second measure contains the notes C5, B4, Ab4, G4, F4, E4, C4, and B3. Fingerings are indicated by numbers 1-3 on the first string and 1-5 on the second string. The tablature shows the fret numbers for each note.

C harmonic minor scale tone sixths for one octave on the second and third strings.

melodic:

Melodic fingering for C harmonic minor scale tone sixths on strings 2 and 3. The notation shows a treble clef with a key signature of two flats (Bb, Eb). The scale is played in two measures. The first measure contains the notes C4, Eb4, F4, Ab4, Bb4, C5, Eb5, and F5. The second measure contains the notes C5, Bb4, Ab4, G4, F4, Eb4, C4, and B3. Fingerings are indicated by numbers 1-4 on the second string and 1-5 on the third string. The tablature shows the fret numbers for each note.

harmonic:

Harmonic fingering for C harmonic minor scale tone sixths on strings 2 and 3. The notation shows a treble clef with a key signature of two flats (Bb, Eb). The scale is played in two measures. The first measure contains the notes C4, Eb4, F4, Ab4, Bb4, C5, Eb5, and F5. The second measure contains the notes C5, Bb4, Ab4, G4, F4, Eb4, C4, and B3. Fingerings are indicated by numbers 1-4 on the second string and 1-5 on the third string. The tablature shows the fret numbers for each note.

C harmonic minor scale tone sixths for one octave within five consecutive positions:

melodic:

Melodic fingering for C harmonic minor scale tone sixths within five consecutive positions. The notation shows a treble clef with a key signature of two flats (Bb, Eb). The scale is played in two measures. The first measure contains the notes C4, Eb4, F4, Ab4, Bb4, C5, Eb5, and F5. The second measure contains the notes C5, Bb4, Ab4, G4, F4, Eb4, C4, and B3. Fingerings are indicated by numbers 1-5 on the second string and 1-5 on the third string. The tablature shows the fret numbers for each note.

harmonic:

Harmonic fingering for C harmonic minor scale tone sixths within five consecutive positions. The notation shows a treble clef with a key signature of two flats (Bb, Eb). The scale is played in two measures. The first measure contains the notes C4, Eb4, F4, Ab4, Bb4, C5, Eb5, and F5. The second measure contains the notes C5, Bb4, Ab4, G4, F4, Eb4, C4, and B3. Fingerings are indicated by numbers 1-5 on the second string and 1-5 on the third string. The tablature shows the fret numbers for each note.

E. Imitative Counterpoint

Listen to the following examples on tape and look over the accompanying notation provided on the following pages:

- *Example 5F9 - Bach Fugue in Cm*
- *Example 5F10 - FUGUE IX from Bach's Art of The Fugue,*
- *Example 5F11 - FUGUE 8 from Bach's Well-Tempered Clavier, Book I*
- *Example 5F13 - Bach's Art of The Fugue, Canon IV*

Canon. A contrapuntal technique where melodic phrases heard in the leading voice are soon heard in the following voice or voices. Before the imitation of the melodic phrase is completed in the accompanying voices, the leading voice usually begins another melodic phrase which will also be “echoed” in the following voice or voices. Listen to and read *Canon IV*, mentioned above.

Fugue. Fugues are always written in contrapuntal style, usually in 3 or 4 voices. Fugues usually have two parts to their form, the *exposition* and the *episode*. There is usually a series of expositions, each followed by an episode.

Fugues begin with an *exposition*. The Exposition is much like a canon, with the main melodic idea (starting in any voice) repeated in other voices and overlapping by entry of the next melodic idea before imitation of the first is completed. *Example 5F9 - Bach Fugue in Cm* (on tape, text at end of this chapter) illustrates the main melodic subject and its imitation in a lower voice during the Exposition section of the Fugue.

The *episode* that follows each exposition is usually a development or elaboration of a short motif (melodic idea) in the exposition. The *episodes* are usually freer and lighter in style than the *expositions*.

Augmentation and Diminution. A melodic subject may be imitated half or twice as fast as in its original exposition. *Augmentation* is imitation of a theme with the note values doubled (sounded twice as long). *Diminution* is imitation with the note values halved (sounded half as long). *Example 5F11B* is an imitation of the theme in *Example 5F11A*, played in augmentation (sounded twice as long).

Transposition in imitation. The imitation of a theme is very often in a different key or mode. In *Example 5F9 - Bach Fugue in Cm*, the imitation enters in a key up a perfect fifth. *Example 5F11C - Fugue #8* from Bach's *Well-Tempered Clavier, Book I* is an imitation of the theme played by the bass part (5F11A), transposed up a perfect fourth.

Stretto is the imitation of a fugue's melodic subject in close succession, where the imitation enters before the subject is completed. *Example 5F8B - Circle* (on tape, notation on the following pages).

MUSICAL EXAMPLES FOR CHAPTER 10

5F3 - Pachelbel's Canon In D Major

The musical score for Pachelbel's Canon in D Major is presented in three systems. The first system contains measures 1 through 10, the second system contains measures 11 through 17, and the third system contains measures 18 through 24. The score is written for two staves, treble and bass, in the key of D major (two sharps) and 4/4 time. Measure numbers are placed above the first staff of each system. The music features a repeating eighth-note bass line and a melody in the treble staff that moves in parallel motion with the bass line.

5F4 - Bach Chorale

The musical score for a Bach Chorale is presented in two systems. The first system contains measures 1 through 8, and the second system contains measures 9 through 16. The score is written for two staves, treble and bass, in the key of D major (two sharps) and 4/4 time. The music features a complex, imitative texture with multiple voices moving in various directions, creating a rich harmonic setting.

5F5 - Mozart Piano Sonata, K498a



5F6 - Tchaikovsky's Romeo and Juliet



5F7AB - Sauce Melody in Thirds



5F7CD - Sauce Melody In Sixths (High)



5F7GH - Sauce Melody In Sixths (Low)



5F8A - Sauce Melody in Tenths



5F8A - Circle Theme



5F8B - Circle Theme and imitation



5F9 - Bach Fugue in Cm



5F10 - Fugue IX from Bach's Art Of The Fugue



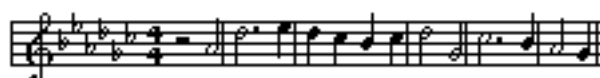
5F11 - Fugue #8 from Bach's Well-Tempered Clavier, Book 1



5F11A - Fugue #8 from Bach's Well-Tempered Clavier, Book1



5F11B - Fugue #8 from Bach's Well-Tempered Clavier, Book1



5F11C - Fugue #8 from Bach's Well-Tempered Clavier, Book1



5F12 - Fanfare



5F13 - Canon IV from J.S. Bach's "Art Of The Fugue"

This musical score is for Canon IV from J.S. Bach's "Art Of The Fugue". It is written for two staves, Treble and Bass, in the key of B-flat major (two flats) and 4/4 time. The piece is a canon in the fourth part, meaning the second voice enters four measures after the first. The score consists of eight systems of two staves each. The first system shows the initial entry of the first voice in the bass staff, followed by the second voice in the treble staff. The subsequent systems show the development of the canon, with various melodic lines and harmonic textures. The piece concludes with a final cadence in the eighth system. The notation includes various musical symbols such as notes, rests, accidentals, and dynamic markings.

The musical score consists of seven systems, each with a treble and bass staff. The key signature is one sharp (F#), indicating G major. The time signature is not explicitly shown but appears to be 4/4 based on the note values. The music is characterized by intricate counterpoint, featuring numerous triplets (indicated by a '3' over the notes) and various slurs. The first system shows a treble staff with eighth and sixteenth notes and a bass staff with a similar rhythmic pattern. The second system introduces more complex triplet patterns in both staves. The third system continues with similar rhythmic motifs. The fourth system features a prominent triplet in the bass staff. The fifth system shows a mix of eighth and sixteenth notes with slurs. The sixth system includes a triplet in the treble staff. The seventh system concludes with a final melodic phrase in the treble and a supporting bass line. The overall texture is dense and rhythmic, typical of advanced counterpoint exercises.

The musical score consists of five systems, each with a treble and bass staff. The key signature has one flat (B-flat). The time signature is 6/8. The notation includes eighth and sixteenth notes, often beamed together. Triplet markings (a '3' over a group of notes) are used in several places. Slurs are used to group phrases of notes. The piece concludes with a double bar line and a final whole note chord in the bass staff.

CHAPTER 11: PICKING EXERCISES

Passages moving across three or more consecutive strings with odd numbers of notes per string of similar rhythmic value lend themselves to sweep picking. Passages moving across three or more consecutive strings with even numbers of notes per string of similar rhythmic value lend themselves to alternate picking.

In alternate picking, notes of similar rhythmic value must be picked strictly down - up - down - up, etc. Changing strings is easier in alternate picking when the last stroke on the current string is in the opposite direction of the first stroke on the next string. Changing strings in the same direction as your last stroke on the current string is awkward, since you have to pass the new string before picking it.

In sweep picking notes of similar rhythmic value, you must change strings in the same direction as your last stroke on the current string. To move to a new string in the same direction as your first stroke on the current string, you must pick an odd number of notes on the current string. To move to a new string in the opposite direction of your first stroke on the current string, you must pick an even number of notes on the current string. Continuing to change strings in the same direction while playing notes of similar rhythmic value demands odd numbers of notes per string, so you can move to the next string in the same direction as the last stroke on the current string.

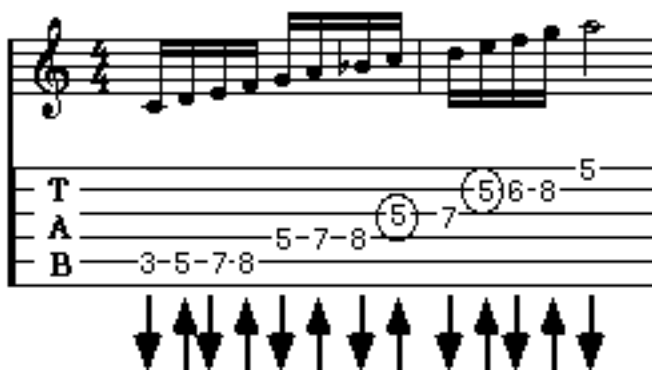
It is critical that the single strokes used to play two or more consecutive notes in sweep picking be timed so the notes still occur at the right time.

Anything can be played with economy (flow) picking. Economy picking accommodates any fingering by mixing alternate and sweep picking. Each time you change strings, you decide whether to use sweep picking or alternate picking:

- when moving to a string in the *same direction* as the last stroke on the current string, use *sweep picking*.
- when moving to a string in the *opposite direction* as the last stroke on the current string, use *alternate picking*.

A. ALTERNATE PICKING EXERCISES.

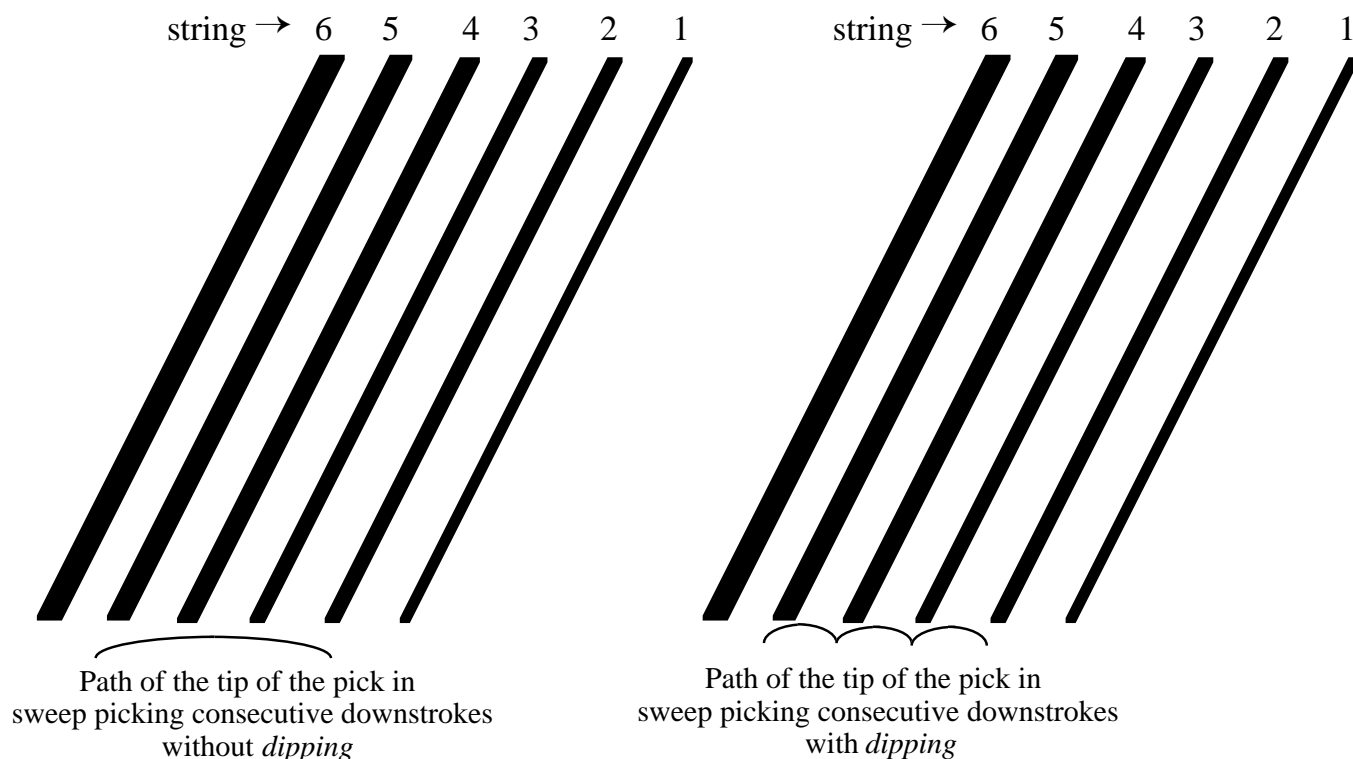
In the following example, the circled notes illustrate the weakness of alternate picking. Each circled note requires passing the string before picking it, which wastes time and requires more accuracy in your stroke.



Practice all of the pentatonic scale fingerings which have two notes per string in *Chapter 12I: Pentatonic Scale Fingerings*.

B. SWEEP PICKING EXERCISES.

It greatly helps to retain rhythmic feeling and articulation including a slight dip in the path of the pick as you approach and contact each string. Here is a view from behind and above the bridge, picking strings 5, 4, 3 and 2:



Practice picking all *Three Notes Per String* scale fingerings in *Chapter 12C*, *Chapter 12D* and *Chapter 12E*.

C. ECONOMY PICKING EXERCISES.

Practice picking all *Two Octaves and A Fifth* scale fingerings in *Chapter 12C*, *Chapter 12D* and *Chapter 12E*. Play each scale from the lowest pitch to the highest and vice versa. Practice picking all *Two Octaves and One Arpeggio Tone* arpeggio fingerings in *Chapter 14A*, *Chapter 14B* and *Chapter 14C*. Play each arpeggio from the lowest pitch to the highest and vice versa. Use sweep picking or alternate picking with each string change as the rules at the beginning of this chapter dictate.

CHAPTER 12: SCALE FINGERING

A *scale fingering* (or *fingering*) is the pattern of left hand fingers used on the fretboard in playing a scale. Finger numbers for a scale are shown on a fretboard diagram or below each note in music notation. Scale tones shown on a fretboard diagram without finger numbers will be referred to as a *scale pattern* (or *pattern*).

A. MULTIPLYING YOUR KNOWLEDGE OF SCALE FINGERINGS WITH MODES.

Relationships like “Aeolian mode is built on the sixth step of major scale” or “Phrygian major third scale is built on the fifth step of harmonic minor” should be explored with examples in various keys.

If you knew which major scale has D Aeolian built on its sixth step, for example, you could use an existing knowledge of major scale patterns and apply them to Aeolian mode.

F major scale

D Aeolian mode

The following F major scale patterns can be used for D Aeolian mode by using the sixth step of the major scale as a tone center. The sixth step has been circled to indicate the Aeolian tone center.

I	III	V	VI	VIII	X	XII
1 4 1	2 5 1 4 (6) 2	3 (6) 2 5 7 3	4 4	5 1 4 5	(6) 2 5 1 3 (6)	7 3 (6) 2 7
2 5 1 4 (6) 2	3 (6) 2 5 7 3	4 1 4	5 1 4 2 5	(6) 2 5 1 3 (6)	7 3 (6) 2 7	1 4 5 1
3 (6) 2 5 7 3	4 1 4	5 1 4 2 5	6 2 5 1 3 6	7 3 (6) 2 7	1 4 5 1	2 5 1 4 (6) 2

If you knew which harmonic minor scale had a Phrygian major third scale built on its fifth step, you could adapt harmonic minor scale patterns for use as Phrygian major third scale.

C harmonic minor scale = b3, b6

G Phrygian Major Third

A *mode* is a version of a scale where the tone center a scale tones *other than* that after which it is named. For instance, each tone in the C major scale can be used to create a mode with the *same notes*, but a *different tone center*.

C major scale

The six modes built on steps two through seven of the C major scale:

<p>D Dorian</p>	<p>E Phrygian</p>	<p>F Lydian</p>
<p>G Mixolydian</p>	<p>A Aeolian</p>	<p>B Locrian</p>

Likewise, each tone in a C harmonic minor scale can create a mode with the *same notes*, but a *different tone center*.

C harmonic minor scale

The six modes built on steps two through seven of the C harmonic minor scale:

<p>C harmonic minor mode II</p>	<p>C harmonic minor mode III</p>	<p>C harmonic minor mode IV</p>
<p>C harmonic minor mode V also G Phrygian major 3rd</p>	<p>C harmonic minor mode VI</p>	<p>C harmonic minor mode VII</p>

Source Scales. A *source scale* is the scale from which a mode was derived. A mode can be built on steps two through seven of any seven tone scale. You need to know these three things to understand modes and source scales:

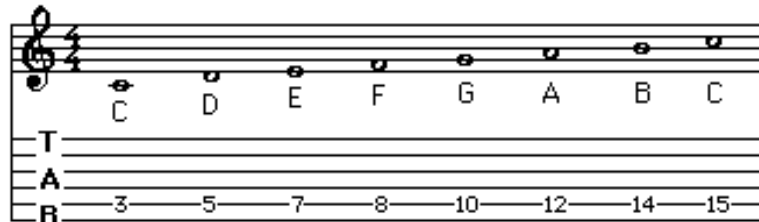
- Know the step-to-step intervals in the major scale.
- Be able to figure out the step-to-step intervals in any scale according to its formula.
- Be able to name the notes in any scale according to its formula.

Review the step-to-step intervals in the major scale: E to F is 1/2 step, and B to C is 1/2 step. A to B, C to D, D to E, F to G, and G to A are 1 whole step.

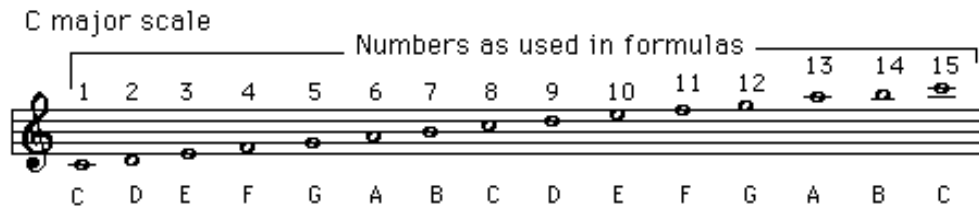
The major scale is spaced as follows:

major scale step	1	2	3	4	5	6	7	1
whole steps apart	1	1	1/2	1	1	1	1/2	
frets apart	2	2	1	2	2	2	1	

EXAMPLE IN C MAJOR on one string to ease interval recognition.



A *formula* expresses intervals with numbers and accidentals, such as “1, b3, 5.” It can represent the intervals involved in any scale, chord, arpeggio, or between any two notes. Formulas are based on the major scale. The numbers “1, 2, 3, 4, 5, 6, 7” represent the major scale in its unaltered form. The number “8” represents the octave. Numbers continue above the octave, starting with “9” to indicate one octave above “2.” In the C major scale, for example:



Scale intervals up from the tone center:

scale steps	steps apart	frets apart
1 to b2	1/2	1
1 to 2	1	2
1 to #2	1 1/2	3
1 to b3	1 1/2	3
1 to 3	2	4
1 to 4	2 1/2	5
1 to #4	3	6
1 to b5	3	6
1 to 5	3 1/2	7
1 to #5	4	8
1 to b6	4	8
1 to 6	4 1/2	9
1 to #6	5	10
1 to b7	5	10
1 to 7	5 1/2	11

Step to step intervals that occur in heptatonic (seven tone) scales:

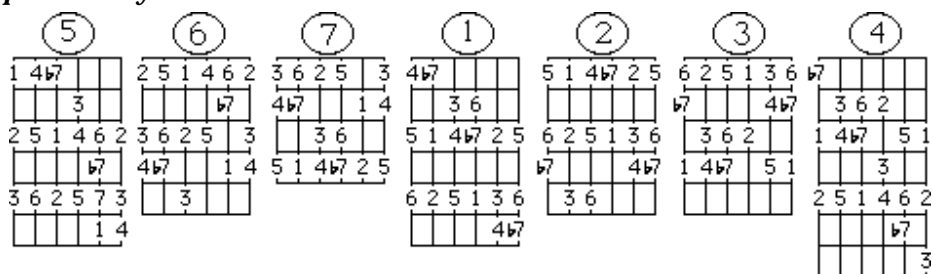
scale steps	steps apart	frets apart
1 to b2	1/2	1
1 to 2	1	2
1 to #2	1 1/2	3
b2 to b3	1	2
b2 to 3	1 1/2	3
2 to b3	1/2	1
2 to 3	1	2
#2 to 3	1/2	1
b3 to 4	1	2
b3 to #4	1 1/2	3
3 to 4	1/2	1
3 to #4	1	2
4 to b5	1/2	1
4 to 5	1	2
4 to #5	1 1/2	3
b5 to b6	1	2
b5 to 6	1 1/2	3
5 to b6	1/2	1
5 to 6	1	2
5 to #6	1 1/2	3
b6 to b7	1	2
b6 to 7	1 1/2	3
6 to b7	1/2	1
6 to 7	1	2
b7 to 1	1	2
7 to 1	1/2	1

Here are examples of two scales with step-to-step intervals and fingerings. Confirm your understanding of the intervals by playing the patterns:

Mixolydian mode by formula: 1, 2, 3, 4, 5, 6, b7, 1

scale tone	1	2	3	4	5	6	b7	1
steps between:	1	1	1/2	1	1	1/2	1	
frets between:	2	2	1	2	2	1	2	

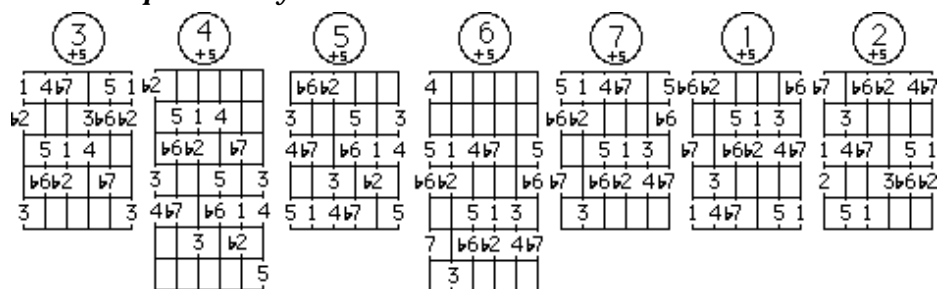
Mixolydian scale patterns by formula



Phrygian major third by formula: 1, b2, 3, 4, 5, b6, b7, 1

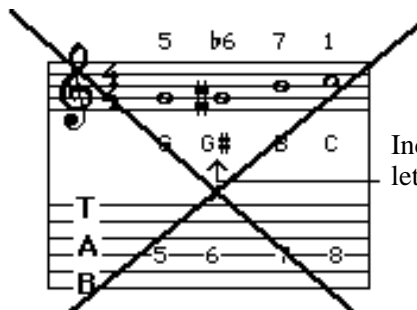
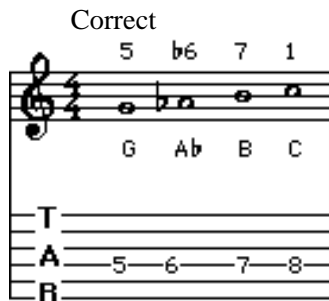
scale tone	1	2	3	4	5	b6	7	1
steps between:	1	1	1/2	1	1/2	1 1/2	1/2	
frets between:	2	2	1	2	1	3	1	

Phrygian major third scale patterns by formula:



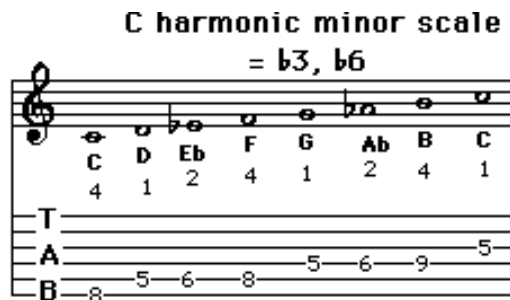
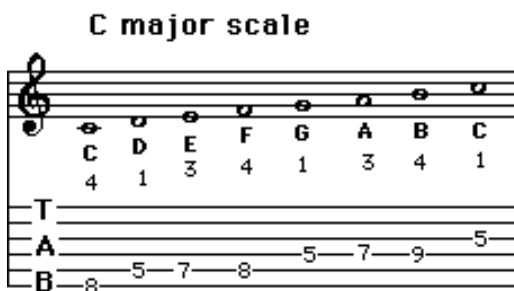
Number the tone center of the desired scale with the step on which it is built in the “unknown” source scale. Recall the formula of the source scale and play up the scale to scale tone “1”.

Let’s apply this to the example above. G Phrygian major third scale should be built on the fifth step of some harmonic minor scale. If “G” is the fifth step of the harmonic minor scale, the tones should progress up to the first step as follows:

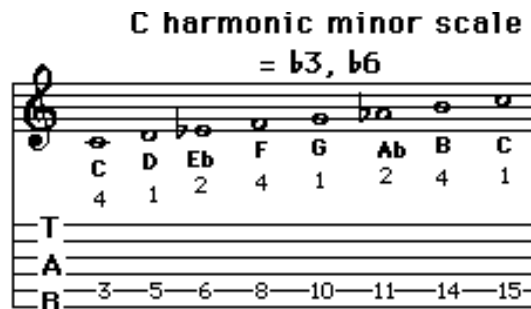
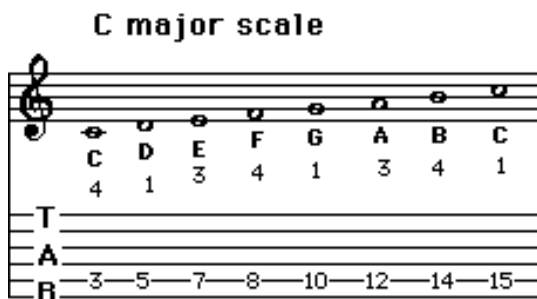


Incorrect letter name: each letter should be used once only.

This identifies the harmonic minor scale as *C harmonic minor*. The harmonic minor scale formula is 1, 2, b3, 4, 5, b6, 7, 1. The two scales on the next page show the comparison. Notice that the the third and sixth steps of the major scale are flatted in the harmonic minor scale.



Play the two scales above. The patterns below show the same scales entirely on the fifth string. This will illustrate the intervals between the scale tones



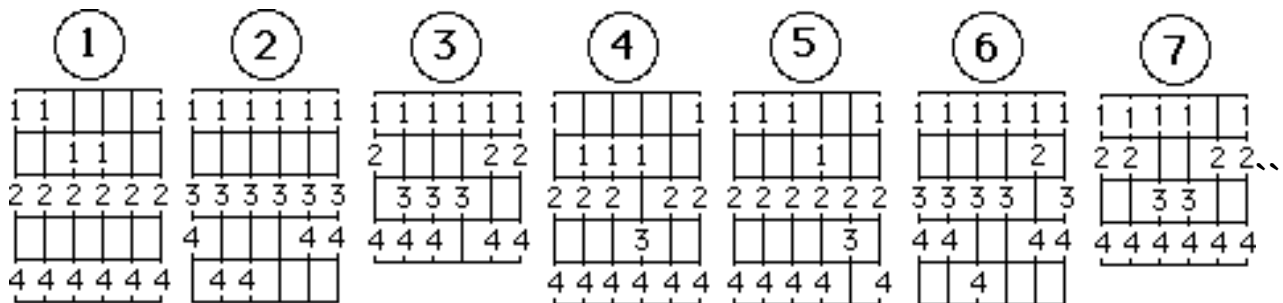
Note that the step-to-step intervals are:

scale tone	1	2	b3	4	5	b6	7	1
steps between:	1	1/2	1	1	1/2	1 1/2	1/2	
frets between:	2	1	2	2	1	3	1	

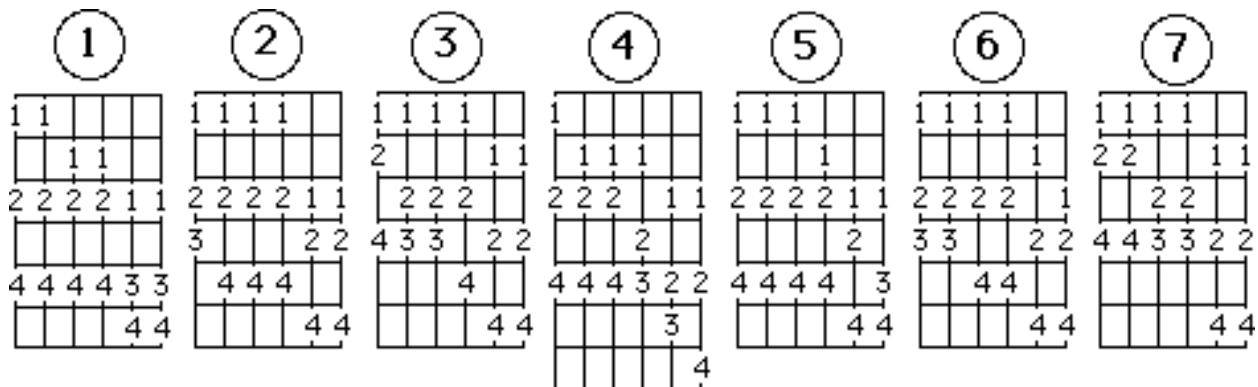
If scale tone 5 is “G”,	up one half step to scale tone b6 would be “Ab”.
If scale tone b6 is “Ab”,	up one and one half steps to scale tone 7 would be “B”.
If scale tone 7 is “B”,	up one half step to scale tone one would be “C”.
So the tone center of the source harmonic minor scale is “C”.	

B. MAJOR SCALE (IONIAN MODE) BY FINGER NUMBER

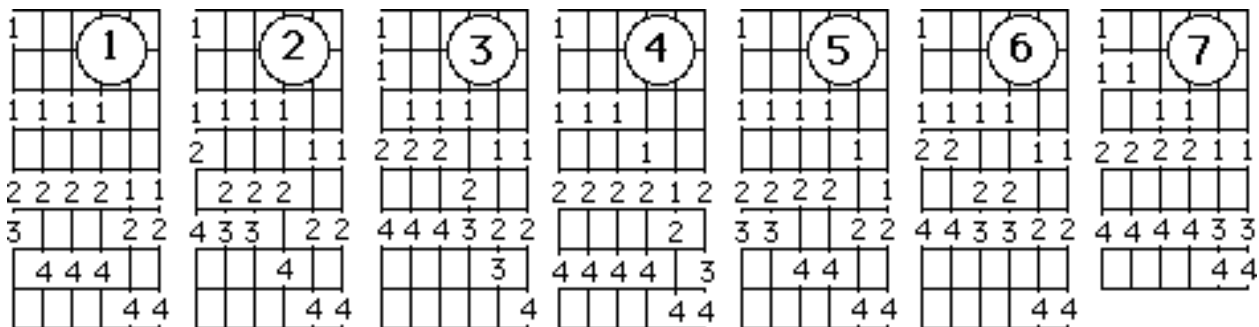
One Vertical Position



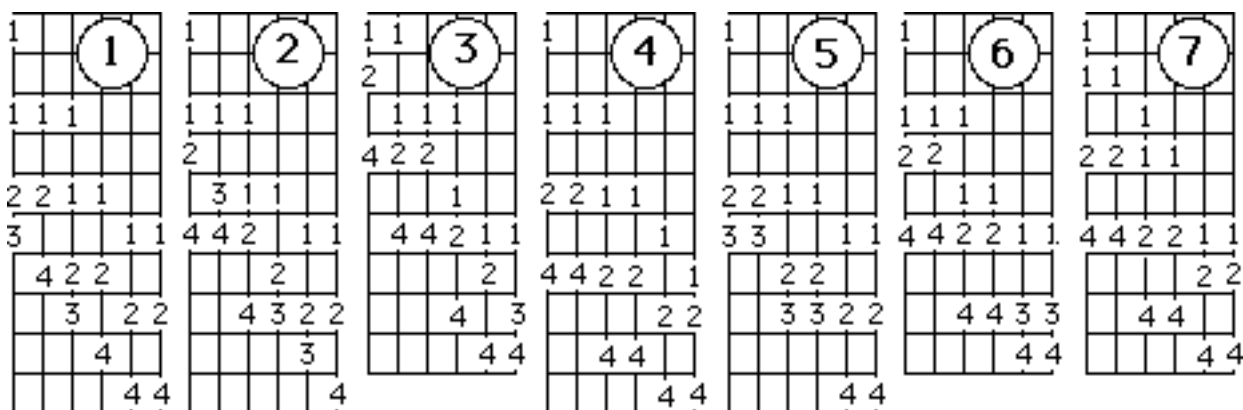
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

Figure 1 displays seven 5x5 grids, each representing a 1D Ising spin chain. The grids are numbered 1 through 7 in the top-right corner. Each grid shows the state of spins (0 or 1) and the number of neighbors (1, 2, 3, 4) for each spin. The evolution shows the growth of a cluster of spins with 4 neighbors, starting from a single spin with 1 neighbor.

Three Octaves

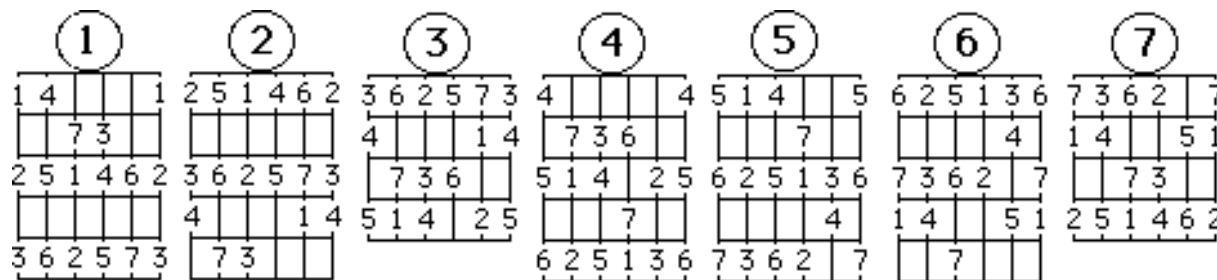
Figure 1 displays seven 10x10 grids, labeled 1 through 7, illustrating the evolution of a 1D Ising spin chain. Each grid shows the state of the chain at a specific time step. The grids are arranged in a single row. The evolution starts from a single spin up (black square) at time 1 and spreads outwards, forming a pattern of black and white squares that changes over time.

Alternative Fingerings. Try these when the original fingering (without “A” or “B”) is awkward:

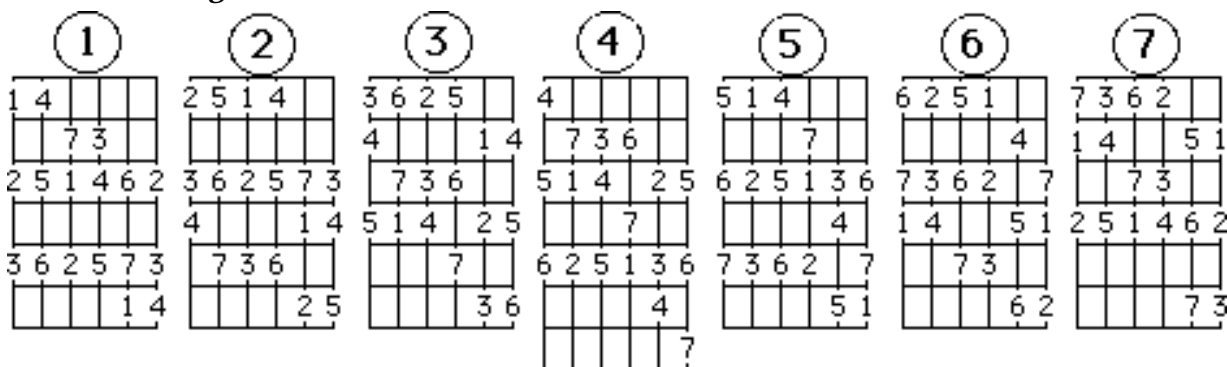
C. MAJOR SCALE MODES BY SCALE STEP

1. Major Scale (Ionian Mode)

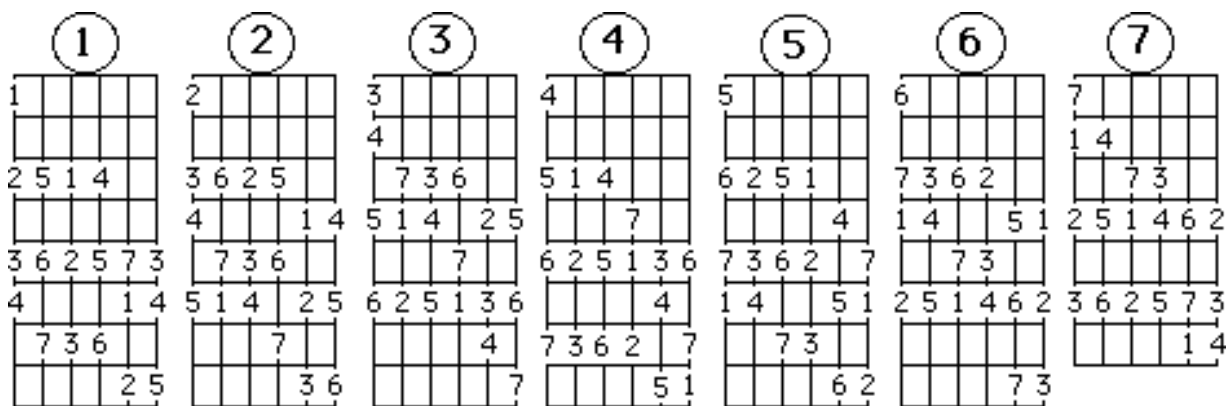
One Vertical Position



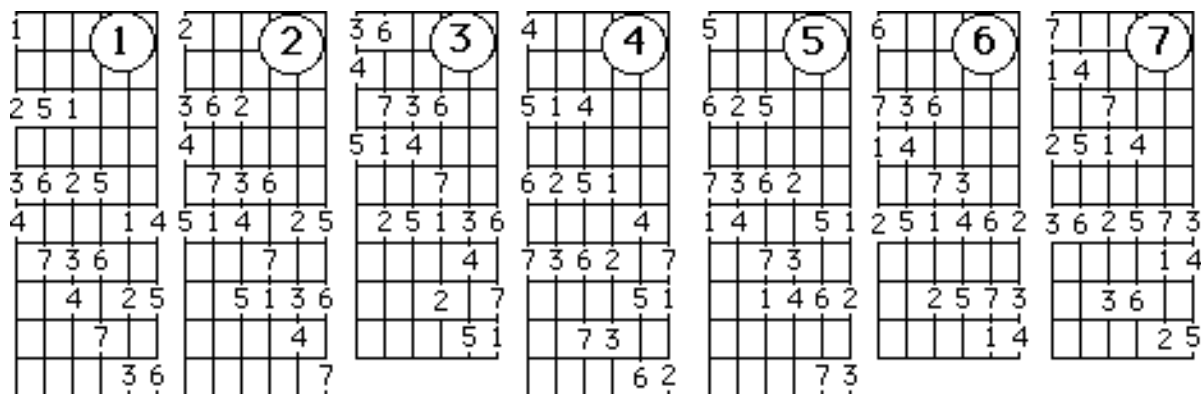
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

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

Three Octaves

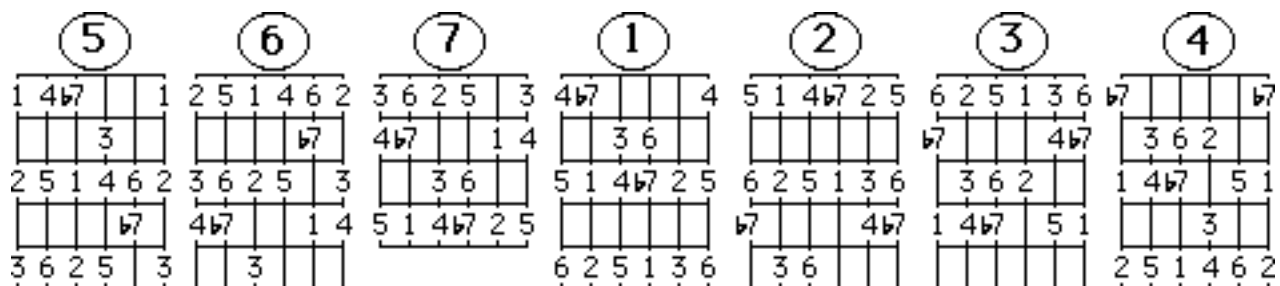
1	2	3	4	5	6	7
1	2	3 6	4	5	6	7
2 5 1	3 6 2	7 3 6	5 1 4	6 2 5	7 3 6	1 4
	4	5 1 4			1 4	2 5 1 4
3 6 2 5	7 3 6		6 2 5 1	7 3 6 2		
4	5 1 4 2	2 5 1 3 6		1 4	2 5 1 4 6	3 6 2 5 7
7 3 6			7 3 6 2	7 3		
	5 1 3 6	2 7	5 1	1 4 6 2	2 5 7 3	1 4
4		5 1	7 3		1 4	2 5
			6 2	7 3		
				1 4	2 5	3 6
			7 3			
				5	6	7

Alternative Fingerings. Try these when the original fingering (without "A" or "B") is awkward:

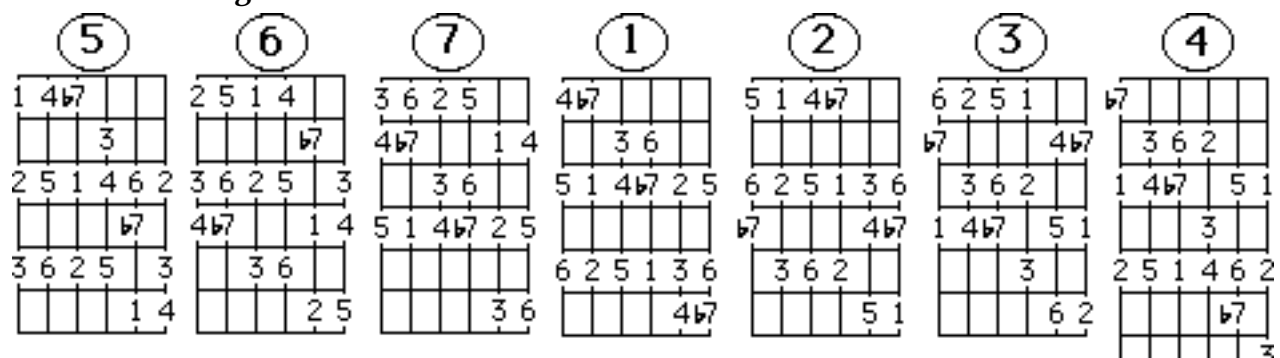
1a	2a	2b	4a	4b	5a	6a
1 4	2 5 1 4	2 5 1 4	4	4	5 1 4	
7 3			7 3 6	7 3 6		6 2 5 1 3 6
2 5 1 4 6 2	3 6 2 5 7 3	3 6 2 5 7 3	5 1 4	5 1 4	6 2 5 1 3 6	
	4	4				7 3 6 2
3 6 2	7 3 6	7 3 6	6 2 5	6 2 5 1 3 6	7 3 6	1 4
7 3			3 6			5 1
		2 5		4		
				7		

1. Mixolydian Mode

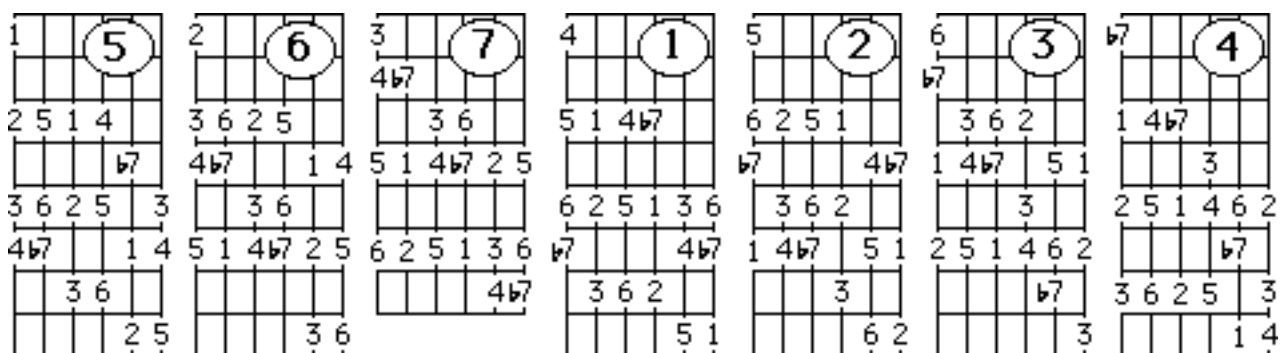
One Vertical Position



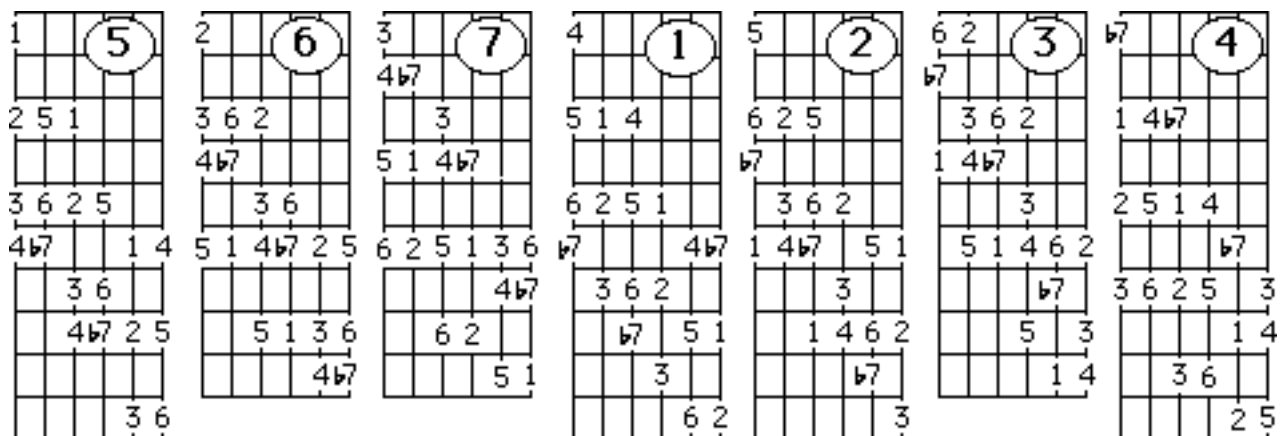
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

<p>1</p> <p>5</p> <p>2 5 1</p> <p>3 6 2 5</p> <p>4 b7 1</p> <p>3 6</p> <p>4 b7 2 5</p> <p>3 6</p> <p>4 b7</p>	<p>2</p> <p>6</p> <p>3 6 2</p> <p>4 b7</p> <p>3 6</p> <p>5 1 4 b7 2</p> <p>5 1 3 6</p> <p>4 b7</p> <p>5 1</p>	<p>3</p> <p>7</p> <p>4 b7</p> <p>3</p> <p>5 1 4 b7</p> <p>6 2 5 1 3</p> <p>4 b7</p> <p>6 2</p> <p>5 1</p> <p>6 2</p>	<p>4</p> <p>1</p> <p>5 1 4</p> <p>6 2 5 1</p> <p>b7 4</p> <p>3 6 2</p> <p>b7 5 1</p> <p>3</p> <p>6 2</p> <p>b7 3</p>	<p>5</p> <p>2</p> <p>6 2 5</p> <p>b7</p> <p>3 6 2</p> <p>1 4 b7 5</p> <p>3</p> <p>1 4 6 2</p> <p>b7</p> <p>3</p> <p>1 4</p>	<p>6</p> <p>3</p> <p>3 6 2</p> <p>1 4 b7</p> <p>3</p> <p>2 5 1 4 6 2</p> <p>b7</p> <p>2 5 3</p> <p>1 4</p> <p>5</p>	<p>b7</p> <p>4</p> <p>1 4 b7</p> <p>2 5 1 4</p> <p>b7</p> <p>3 6 2 5</p> <p>1 4</p> <p>3 6</p> <p>2 5</p> <p>3 6</p>
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Three Octaves

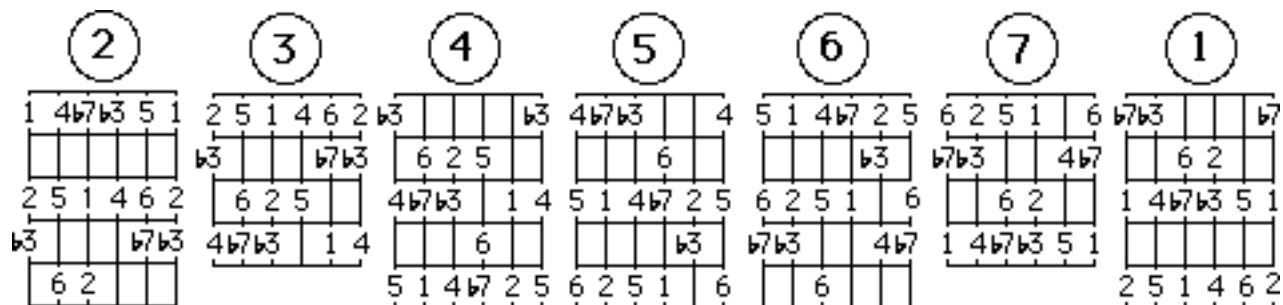
<p>1</p> <p>5</p> <p>2 5 1</p> <p>3 6 2 5</p> <p>4 b7 1</p> <p>3 6</p> <p>4 b7 2 5</p> <p>3 6</p> <p>4 b7</p> <p>1</p>	<p>2</p> <p>6</p> <p>3 6 2</p> <p>4 b7</p> <p>3 6</p> <p>5 1 4 b7 2</p> <p>5 1 3 6</p> <p>4 b7</p> <p>5 1</p> <p>2</p>	<p>3</p> <p>7</p> <p>4 b7</p> <p>3</p> <p>5 1 4 b7</p> <p>6 2 5 1 3</p> <p>4 b7</p> <p>6 2</p> <p>5 1</p> <p>6 2</p> <p>3</p>	<p>4</p> <p>1</p> <p>5 1 4</p> <p>6 2 5 1</p> <p>b7 4</p> <p>3 6 2</p> <p>b7 5 1</p> <p>3</p> <p>6 2</p> <p>b7 3</p> <p>4</p>	<p>5</p> <p>2</p> <p>6 2 5</p> <p>b7</p> <p>3 6 2</p> <p>1 4 b7 5</p> <p>3</p> <p>1 4 6 2</p> <p>b7</p> <p>3</p> <p>1 4</p> <p>5</p>	<p>6</p> <p>3</p> <p>3 6 2</p> <p>1 4 b7</p> <p>3</p> <p>5 1 4 6 2</p> <p>b7</p> <p>5 3</p> <p>1 4</p> <p>5</p> <p>6</p>	<p>b7</p> <p>4</p> <p>1 4 b7</p> <p>2 5 1 4</p> <p>b7</p> <p>3 6 2 5</p> <p>1 4</p> <p>3 6</p> <p>2 5</p> <p>3 6</p> <p>b7</p>
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Alternative Fingerings. Try these when the original fingering (without "A" or "B") is awkward:

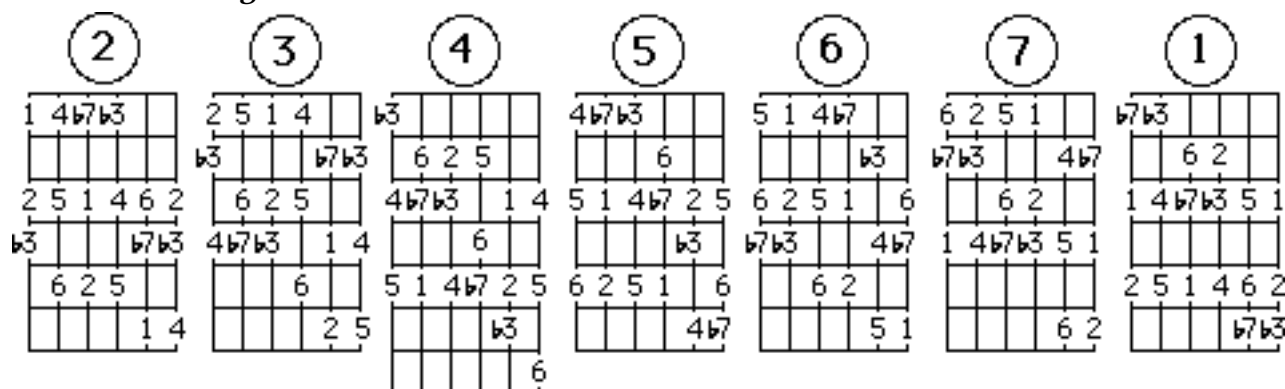
<p>1a</p> <p>4 b7 1 4</p> <p>3 6</p> <p>5 1 4 b7 2 5</p> <p>6 2 5 3 6</p>	<p>2a</p> <p>5 1 4 b7 5</p> <p>6 2 5 1 3 6</p> <p>b7 4 b7</p> <p>3 6 2</p>	<p>2b</p> <p>5 1 4 b7</p> <p>6 2 5 1 3 6</p> <p>b7 4 b7</p> <p>3 6 2</p> <p>5 1</p>	<p>4a</p> <p>b7 4 b7 b7</p> <p>3 6 2</p> <p>1 4 b7 5 1</p> <p>3</p> <p>2 5 1 6 2</p>	<p>4b</p> <p>b7</p> <p>3 6 2</p> <p>1 4 b7 5 1</p> <p>3</p> <p>2 5 1 4 6 2</p> <p>b7 3</p>	<p>5a</p> <p>1 4 b7 5 1</p> <p>3</p> <p>2 5 1 4 6 2</p> <p>b7</p> <p>3 6 2 3</p>	<p>6a</p> <p>3</p> <p>2 5 1 4 6 2</p> <p>b7</p> <p>3 6 2 5 3</p> <p>4 b7 1 4</p>
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3. Dorian Mode

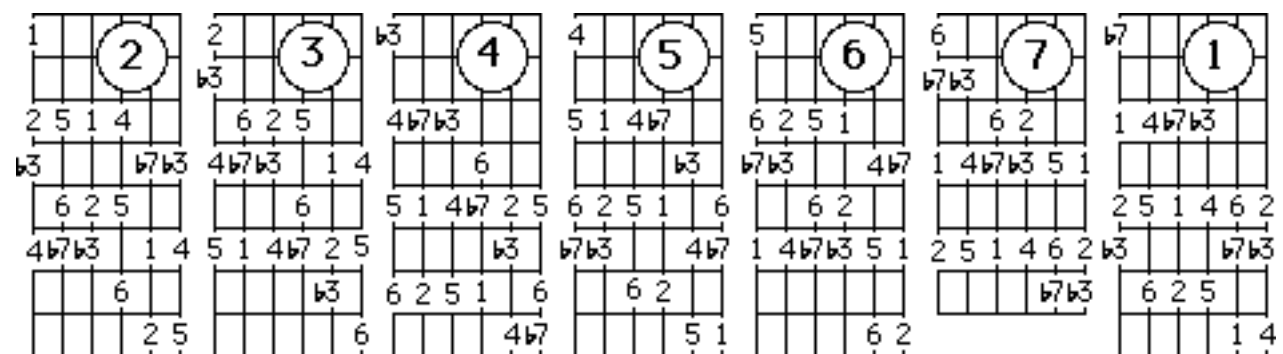
One Vertical Position



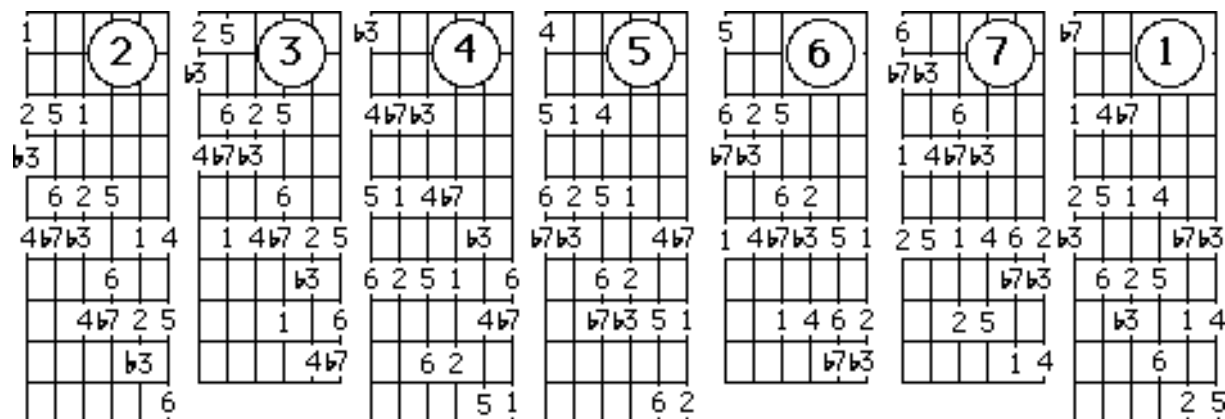
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

2	3	4	5	6	7	1
1	2 5	b3	4	5	6	b7
2 5 1	6 2 5	4 b7 b3	5 1 4	6 2 5	6	1 4 b7
b3	4 b7 b3			b7 b3	1 4 b7 b3	
6 2 5		5 1 4 b7	6 2 5 1	6 2		2 5 1 4
4 b7 b3 1	1 4 b7 2 5		b7 b3 4	1 4 b7 b3 5	2 5 1 4 6	b3
6	b3	6 2 5 1	6 2		b7 b3	6 2 5
4 b7 2 5	1 6	4 b7	b7 b3 5 1	1 4 6 2	2 5	b3 1 4
b3	4 b7	6 2		b7 b3	1 4	6
6		5 1	4 6 2			2 5
4 b7	1		b3	1 4	2 5	b3
		6 2				6

Three Octaves

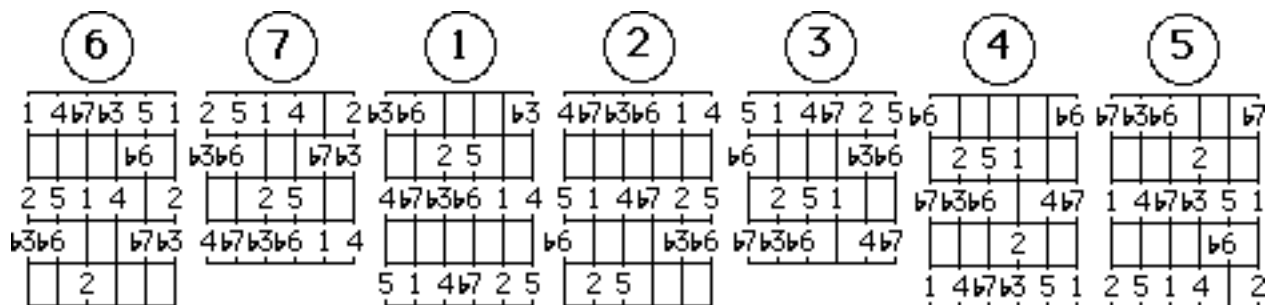
2	3	4	5	6	7	1
1	2 5	b3	4	5	6	b7
2 5 1	6 2 5	4 b7 b3	5 1 4	6 2 5	6	1 4 b7
b3	4 b7 b3			b7 b3	1 4 b7 b3	
6 2 5		5 1 4 b7	6 2 5 1	6 2		2 5 1 4
4 b7 b3 1	1 4 b7 2 5		b7 b3 4	1 4 b7 b3 5	2 5 1 4 6	b3
6	b3	6 2 5 1	6 2		b7 b3	6 2 5
4 b7 2 5	1 6	4 b7	b7 b3 5 1	1 4 6 2	2 5	b3 1 4
b3	4 b7	6 2		b7 b3	1 4	6
6		5 1	6 2			2 5
4 b7	1		b7 b3	1 4	2 5	b3
		6 2				6
		b3	4	5	6	b7

Alternative Fingerings. Try these when the original fingering (without "A" or "B") is awkward

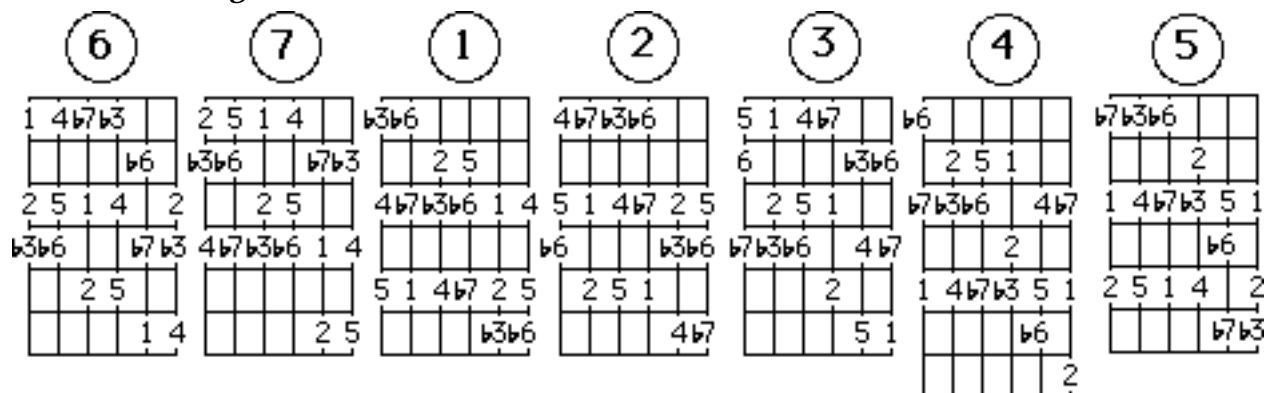
1a	2a	2b	4a	4b	5a	6a
b7 b3	1 4 b7 b3	1 4 b7 b3	b3	b3	4 b7 b3	
4 b7	1		b7 b3		1 4	6
6 2			6 2 5	6 2 5	6	5 1 4 b7 2 5
1 4 b7 b3 5 1	2 5 1 4 6 2	2 5 1 4 6 2	4 b7 b3 1 4	4 b7 b3 1 4	5 1 4 b7 2 5	b3
	b3	b7 b3	6	6	b3	6 2 5 3 6
2 5 1 6 2	6 2 5	6 2 5	5 1 4 2 5	5 1 4 b7 2 5	6 2 5 6	b7 b3 4 b7
		1 4		b3		
				6		

4. AEOLIAN MODE

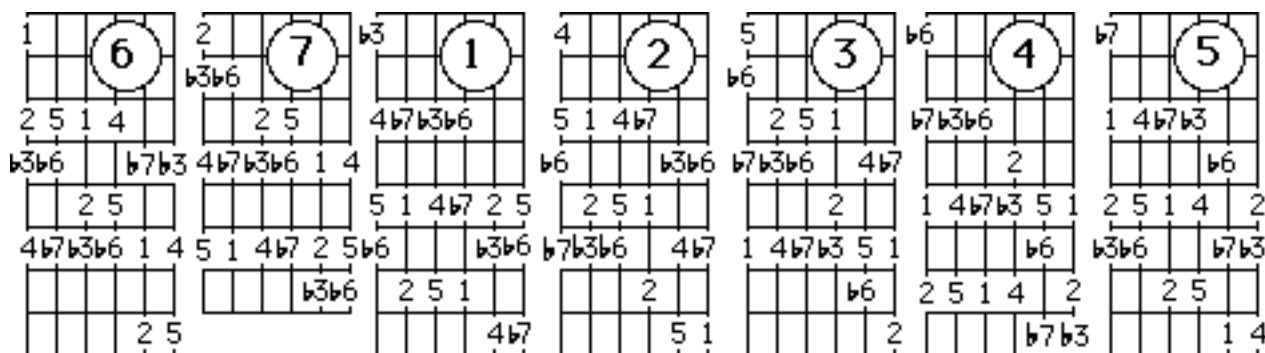
One Vertical Position



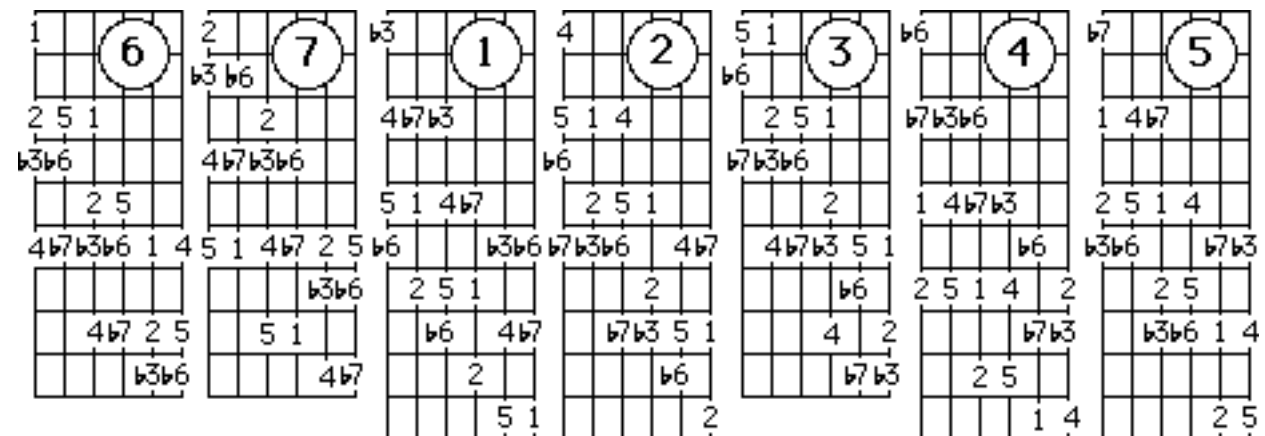
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

6	7	1	2	3	4	5
1	2	b3	4b7	5 1	b6	b7
2 5 1	b3 b6	4b7 b3	5 1 4b7	2 5 1	b7 b3 b6	1 4 b7 b3
b3 b6	4b7 b3 b6	5 1 4b7	b6	b7 b3 b6	2	2 5 1 4
2 5	5 1 4b7 2	b6	2 5 1	2	1 4b7 b3	b3 b6
4b7 b3 b6 1	b3 b6	2 5 1	2	b3	4	2 5
4b7 2 5	5 1	b6 4b7	b3 5 1	4 2	b7 b3	b6 1 4
b3 b6	4b7	2	b6	b7 b3	5	b7 2 5
4b7	5 1	5 1	4 2	5	b6 1 4	b3 b6
		b6	b7 b3	1 4	2 5	
		2				

Three Octaves

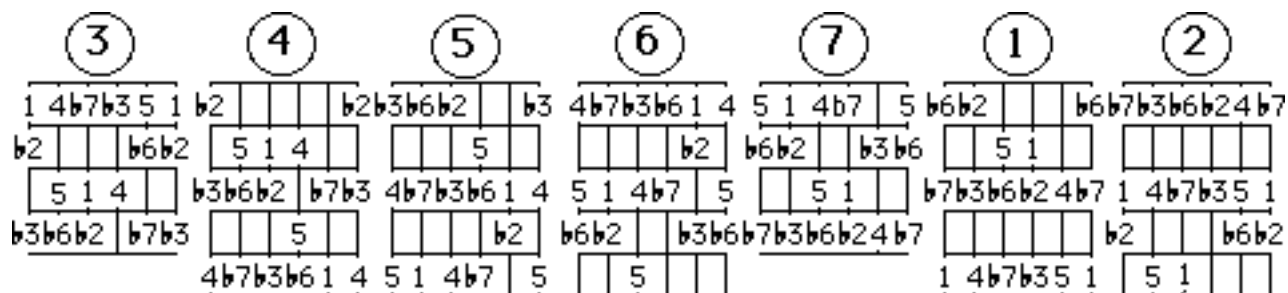
6	7	1	2	3	4	5
1	2	b3	4	5 1	b6	b7
2 5 1	b3 b6	4b7 b3	5 1 4	2 5 1	b7 b3 b6	1 4b7
b3 b6	4b7 b3 b6	5 1 4b7	b6	b7 b3 b6	1 4b7 b3	2 5 1 4
2 5	5 1 4b7 2	b6	2 5 1	2	2 5 1 4	b3 b6 b7
4b7 b3 b6 1	b3	2 5 1	2	4b7 b3 5 1	2 5 1 4	2 5
4b7 2 5	5 1 6	b6 4b7	b7 b3 5 1	4 2	2 5	b3 b6 1 4
b3 b6	4b7	2	b6	b7 b3	2 5	2 5
4b7	5 1	5 1	2	4	b6 1 4	b3 b6
1	2	b6	b7 b3	5	b7 2 5	b7
		2	4		b3 b6	
		b3				

Alternative Fingerings. Try these when the original fingering (without "A" or "B") is awkward

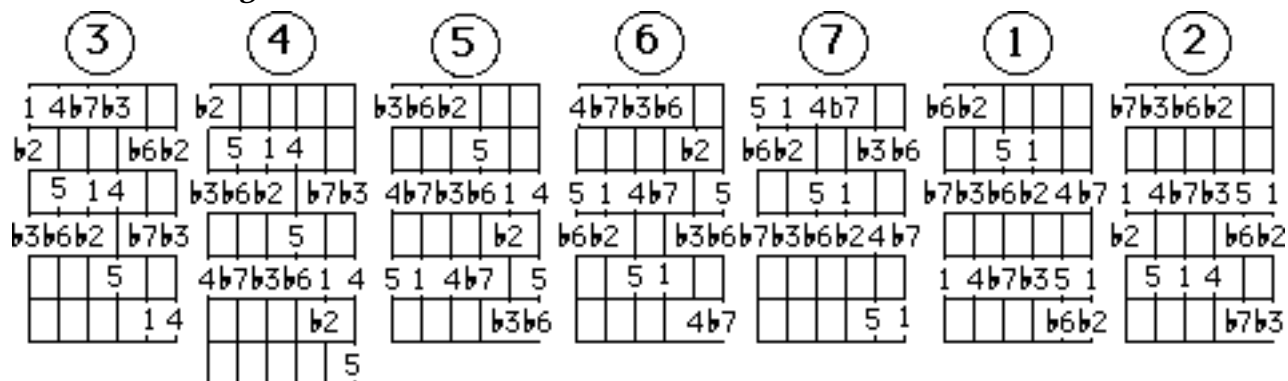
1a	2a	2b	4a	4b	5a	6a
b3 b6	4b7 b3 b6	4b7 b3 b6	b6	b6	b7 b3 b6	2
2 5	5 1 4b7 2 5	5 1 4b7 2 5	2 5 1	1 5 1	2	1 4b7 b3 5 1
4b7 b3 b6 1 4	b6	b6	b7 b3 b6	b7 b3 b6	1 4b7 b3 5 1	b6
5 1 4	2 5 1	2 5 1	2	2	2 5 1	2 5 1 4
2 5		4b7	1 4b7 5 1	1 4b7 b3 5 1	2 b3 b6	b7 b3
				b6		
				2		

E. Phrygian Mode

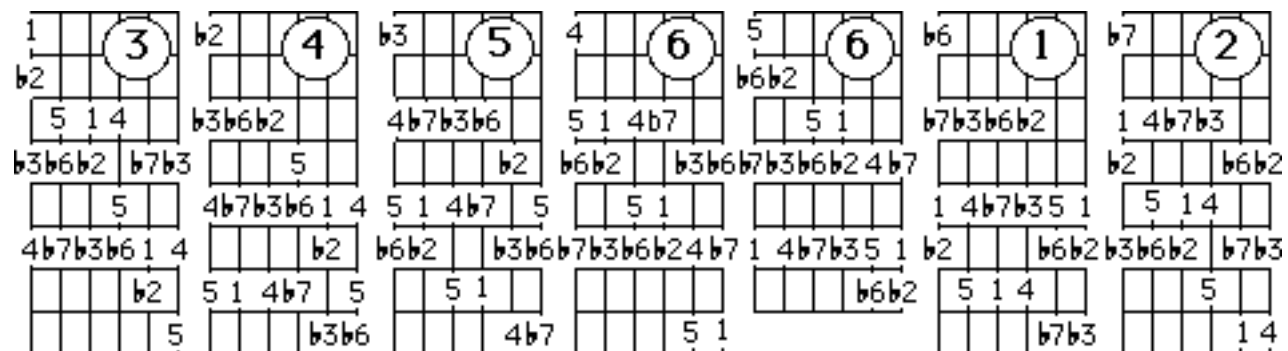
One Vertical Position



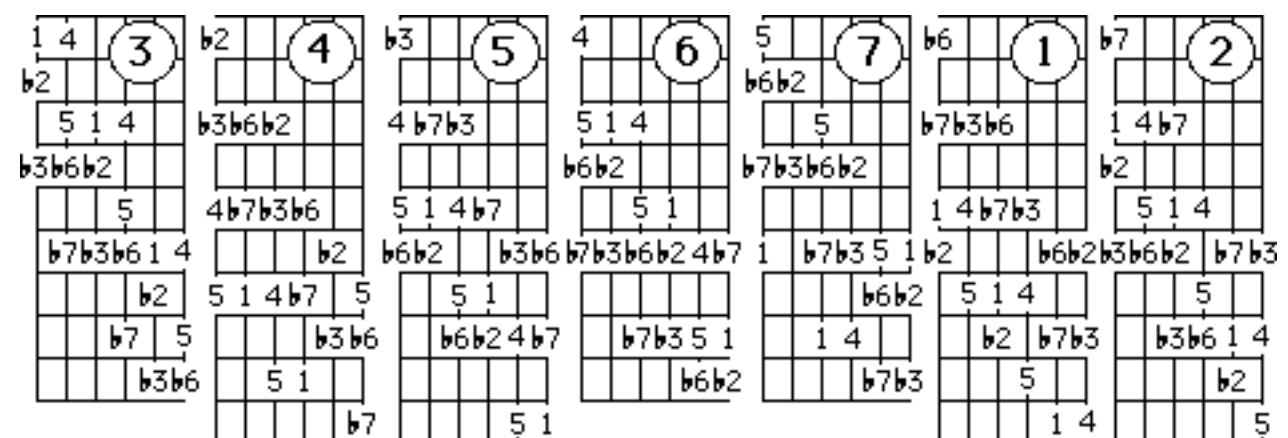
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

3	4	5	6	7	1	2
1 4	b2	b3	4	5	b6	b7
b2				b6 b2		
5 1 4	b3 b6 b2	4 b7 b3	5 1 4	5	b7 b3 b6	1 4 b7
b3 b6 b2			b6 b2	b7 b3 b6 b2		b2
	4 b7 b3 b6	5 1 4 b7	5 1		1 4 b7 b3	5 1 4
b7 b3 b6 1 4		b6 b2 b3	b7 b3 b6 b2 4	1 4 b7 b3 5	b2 b6	b3 b6 b2 b7
	5 1 4 b7	5 1		b6 b2	5 1 4	
		b6 b2 4 b7	b7 b3 5 1	1 4	b2 b7 b3	b3 b6 1 4
	b3 b6		b6 b2	b7 b3	5	b2
	5 1				1 4	5
	4 b7	5 1			b2	b3 b6
		b6 b2	b7 b3	1 4		
					5	

Three Octaves

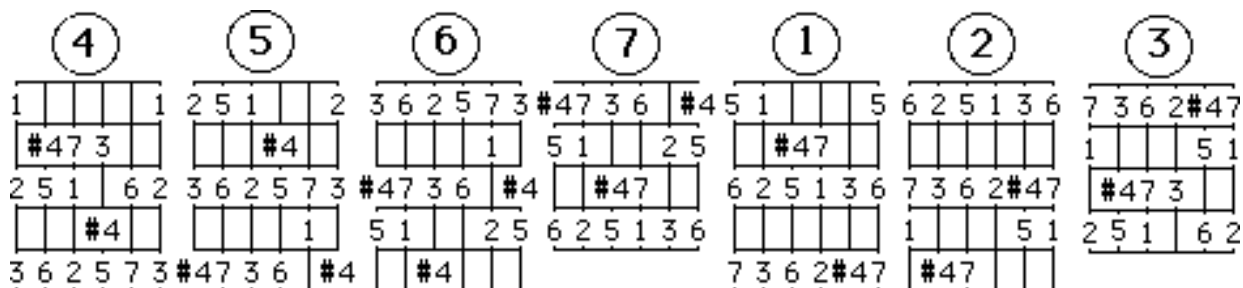
3	4	5	6	7	1	2
1 4	b2	b3	4	5	b6	b7
b2				b6 b2		
5 1 4	b3 b6 b2	4 b7 b3	5 1 4	5	b7 b3 b6	1 4 b7
b3 b6 b2			b6 b2	b7 b3 b6 b2		b2
	4 b7 b3 b6	5 1 4 b7	5 1		1 4 b7 b3	5 1 4
b7 b3 b6 1 4		b6 b2 b3	b7 b3 b6 b2 4	1 4 b7 b3 5	b2 b6	b3 b6 b2 b7
	5 1 4 b7	5 1		b6 b2	5 1 4	
		b6 b2 4 b7	b7 b3 5 1	1 4	b2 b7 b3	b3 b6 1 4
	b3 b6		b6 b2	b7 b3	5	b2
	5 1				1 4	5
	4 b7	5 1			b2	b3 b6
		b6 b2	b7 b3	1 4		
					5	
	5 1				b6	b7
		b3	4	5		

Alternative Fingerings. Try these when the original fingering (without "A" or "B") is awkward

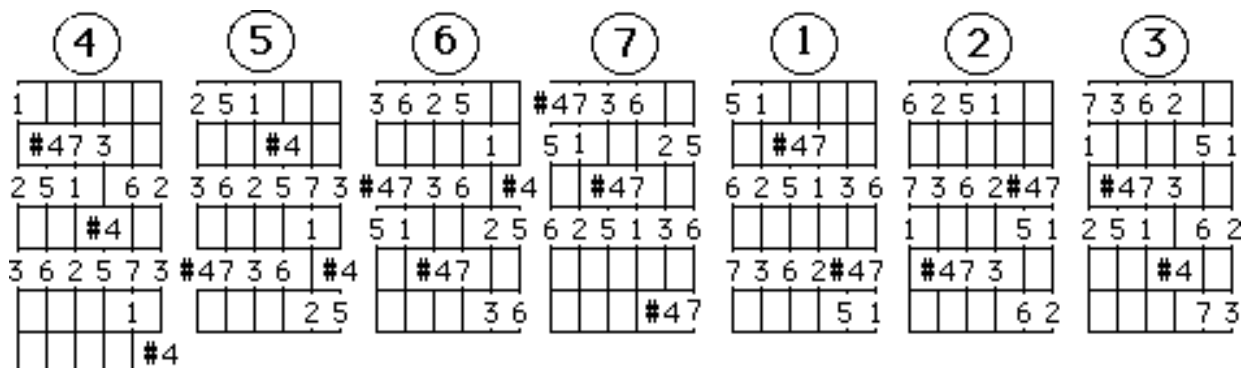
1a	2a	2b	4a	4b	5a	6a
b6 b2	b3 b6	b7 b3 b6 b2	b2	b6 b2	b3 b6 b2	5
5 1			5 1 4	5 1 4	5	4 b7 b3 b6 1 4
b7 b3 b6 b2 4 b7	1 4 b7 b3 5 1	1 4 b7 b3 5 1	b3 b6 b2 b7 b3	b3 b6 b2 b7 b3	4 b7 b3 b6 1 4	b2
	b2	b6 b2	5	5	b2	5 1 4 b7 5
1 4 b7 5 1	5 1 4	5 1 4	4 b7 b3 1 4	4 b7 b3 b6 1 4	5 1 4 5	b6 b2 b3 b6
		b7 b3		b2		
				5		

F. Lydian Mode

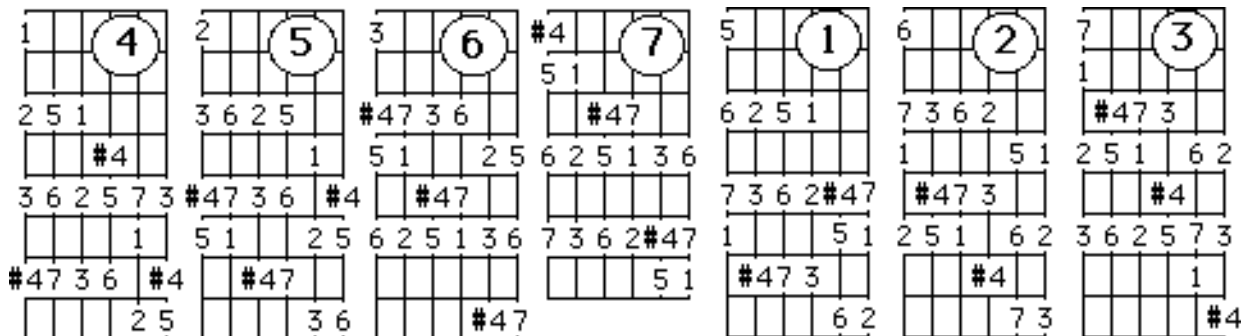
One Vertical Position



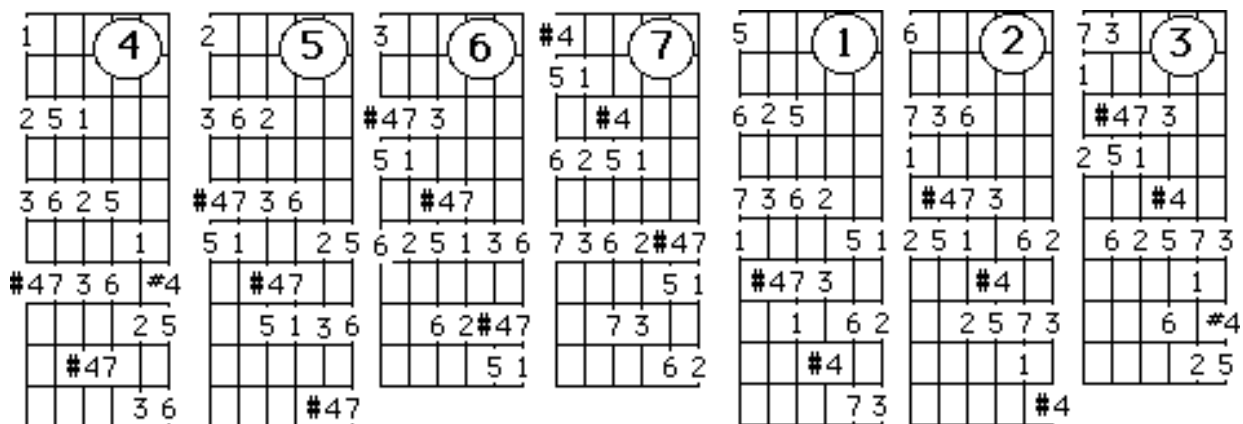
Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth



Two Octaves And A Seventh

<p>1</p> <p>2 5 1</p> <p>3 6 2 5</p> <p>#4 7 3 6</p> <p>2 5</p> <p>#4 7</p> <p>3 6</p> <p>#4 7</p>	<p>2</p> <p>3 6 2</p> <p>#4 7 3 6</p> <p>5 1 2</p> <p>#4 7</p> <p>5 1 3 6</p> <p>#4 7</p> <p>5 1</p>	<p>3</p> <p>#4 7 3</p> <p>5 1</p> <p>6 2 5 1 3</p> <p>6 2 #4 7</p> <p>5 1</p> <p>6 2</p>	<p>#4 7</p> <p>5 1</p> <p>6 2 5 1</p> <p>3 6 2 #4 7</p> <p>5 1</p> <p>3</p> <p>6 2</p> <p>3</p>	<p>5</p> <p>6 2 5</p> <p>7 3 6 2</p> <p>1</p> <p>#4 7 3</p> <p>1 6 2</p> <p>#4</p> <p>7 3</p> <p>1</p> <p>#4</p>	<p>6</p> <p>7 3 6</p> <p>1</p> <p>#4 7 3</p> <p>2 5 1 6</p> <p>#4</p> <p>2 5 7 3</p> <p>1</p> <p>6 #4</p> <p>5</p>	<p>7 3</p> <p>1</p> <p>#4 7 3</p> <p>2 5 1</p> <p>#4</p> <p>6 2 5 7 3</p> <p>1</p> <p>6 #4</p> <p>2 5</p> <p>6</p>
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Three Octaves

<p>1</p> <p>2 5 1</p> <p>3 6 2 5</p> <p>#4 7 3 6</p> <p>2 5</p> <p>#4 7</p> <p>3 6</p> <p>#4 7</p> <p>1</p>	<p>2</p> <p>3 6 2</p> <p>#4 7 3</p> <p>5 1 2</p> <p>#4 7</p> <p>5 1 3 6</p> <p>2 #4 7</p> <p>5 1</p> <p>2</p>	<p>3</p> <p>#4 7 3</p> <p>5 1</p> <p>6 2 5 1 3</p> <p>6 2 #4 7</p> <p>5 1</p> <p>6 2</p> <p>3</p>	<p>#4</p> <p>5 1</p> <p>6 2 5 1</p> <p>7 3 6 2 #4</p> <p>5 1</p> <p>6 2</p> <p>7 3</p> <p>#4</p>	<p>5</p> <p>6 2 5</p> <p>7 3 6 2</p> <p>1</p> <p>#4 7 3</p> <p>1 6 2</p> <p>#4</p> <p>7 3</p> <p>1</p> <p>#4</p> <p>5</p>	<p>6</p> <p>7 3 6</p> <p>1</p> <p>#4 7 3</p> <p>2 5 1 6</p> <p>#4</p> <p>2 5 7 3</p> <p>1</p> <p>6 #4</p> <p>2 5</p> <p>6</p> <p>7</p>	<p>7 3</p> <p>1</p> <p>#4 7 3</p> <p>2 5 1</p> <p>#4</p> <p>6 2 5 7 3</p> <p>1</p> <p>6 #4</p> <p>2 5</p> <p>6</p> <p>7</p>
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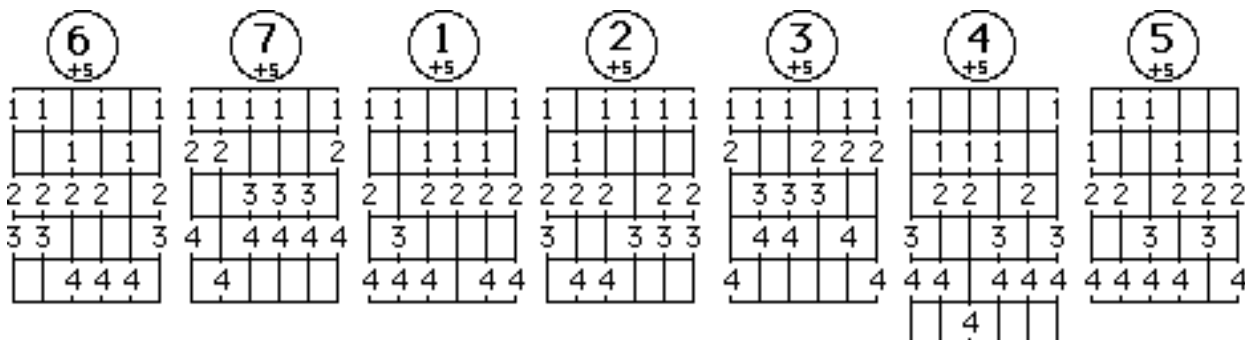
Alternative Fingerings. Try these when the original fingering (without "A" or "B") is awkward

<p>1a</p> <p>5 1 2 5</p> <p>#4 7</p> <p>6 2 5 1 3 6</p> <p>7 3 6 #4 7</p>	<p>2a</p> <p>6 2 5 1 6</p> <p>7 3 6 2 #4 7</p> <p>1 5 1</p> <p>#4 7 3</p>	<p>2b</p> <p>6 2 5 1</p> <p>7 3 6 2 #4 7</p> <p>1 5 1</p> <p>#4 7 3</p> <p>6 2</p>	<p>4a</p> <p>1 5 1</p> <p>#4 7 3</p> <p>2 5 1 6 2</p> <p>#4</p> <p>3 6 2 7 3</p>	<p>4b</p> <p>1</p> <p>#4 7 3</p> <p>2 5 1 6 2</p> <p>#4</p> <p>2 6 2 5 7 3</p> <p>1</p> <p>#4</p>	<p>5a</p> <p>2 5 1 6 2</p> <p>3 6 2 5 7 3</p> <p>1</p> <p>#4 7 3</p> <p>#4 5 1 2 5</p>	<p>6a</p> <p>#4</p> <p>3 6 2 5 7 3</p> <p>1</p> <p>#4 7 3 6 #4</p>
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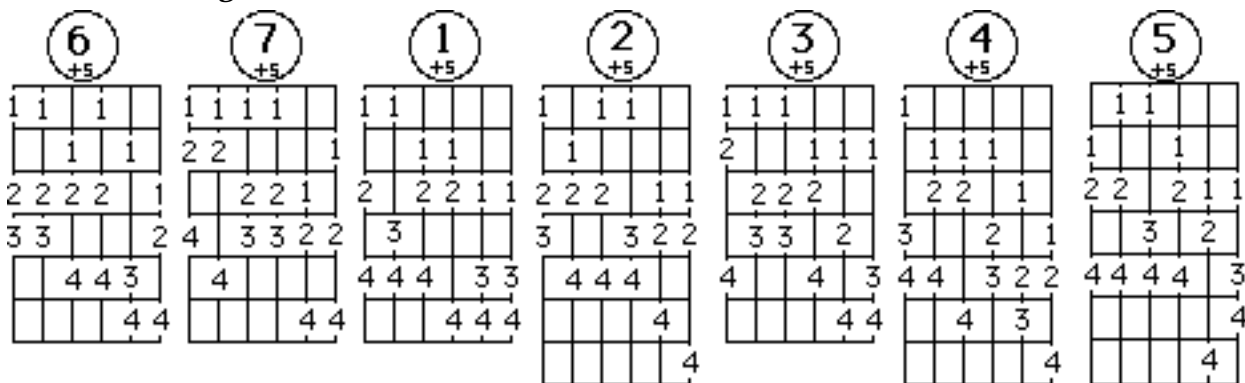
D. HARMONIC MINOR SCALE

By Finger Number

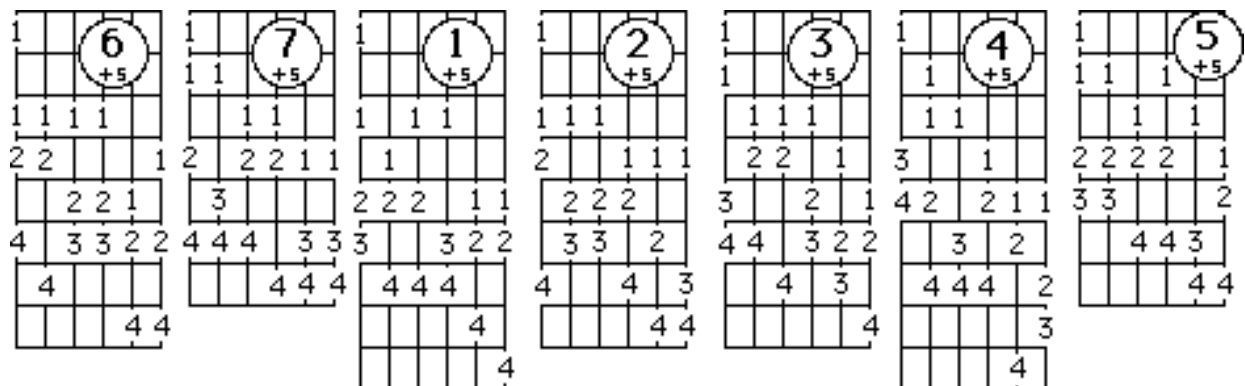
One Vertical Position



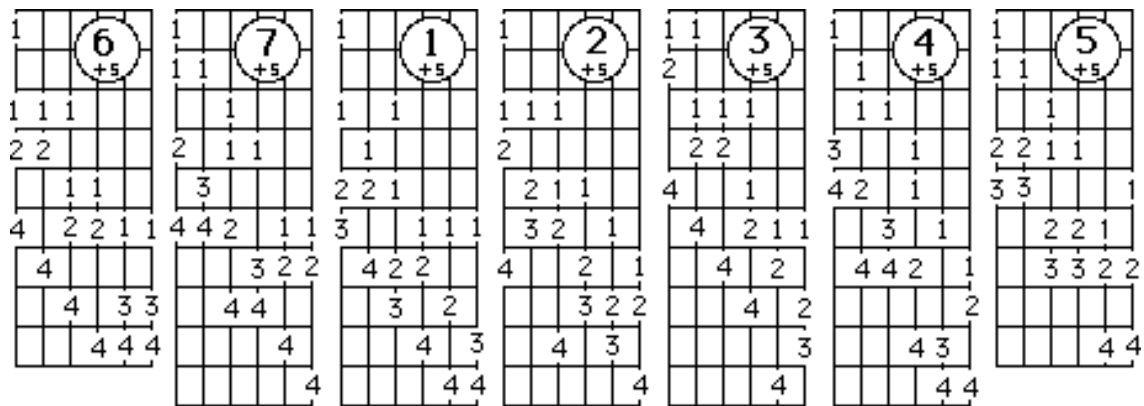
Three Notes Per String



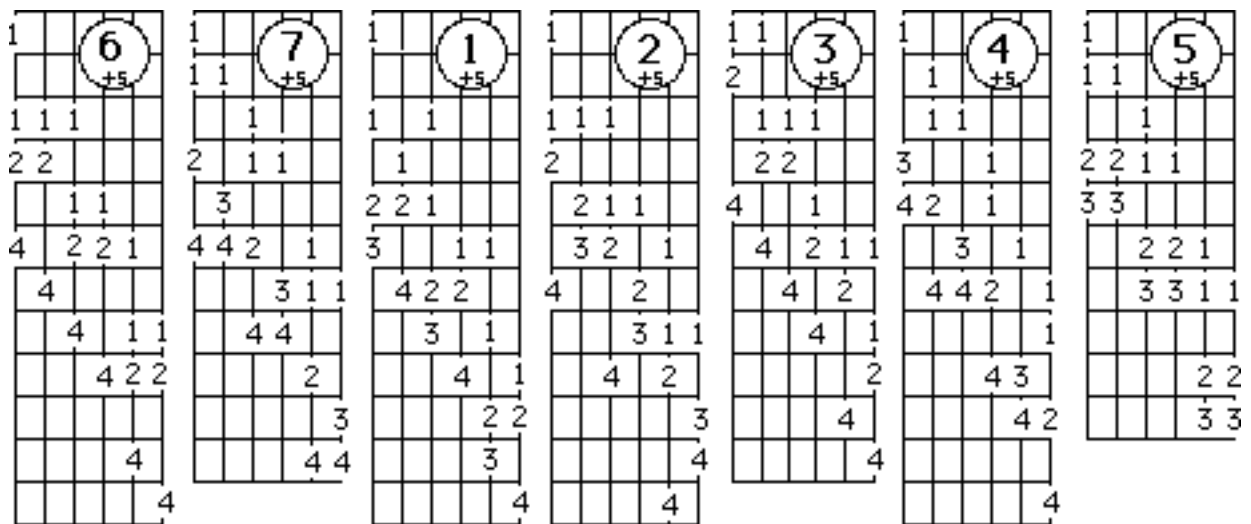
Two Octaves And A Fifth



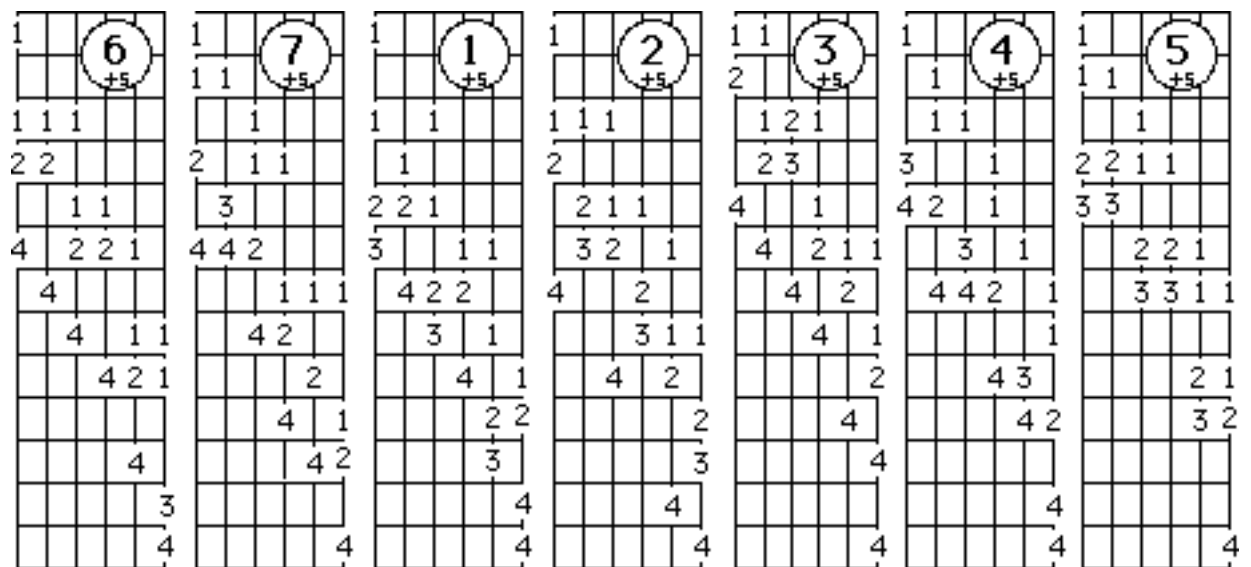
Two Octaves And A Sixth



Two Octaves And A Seventh



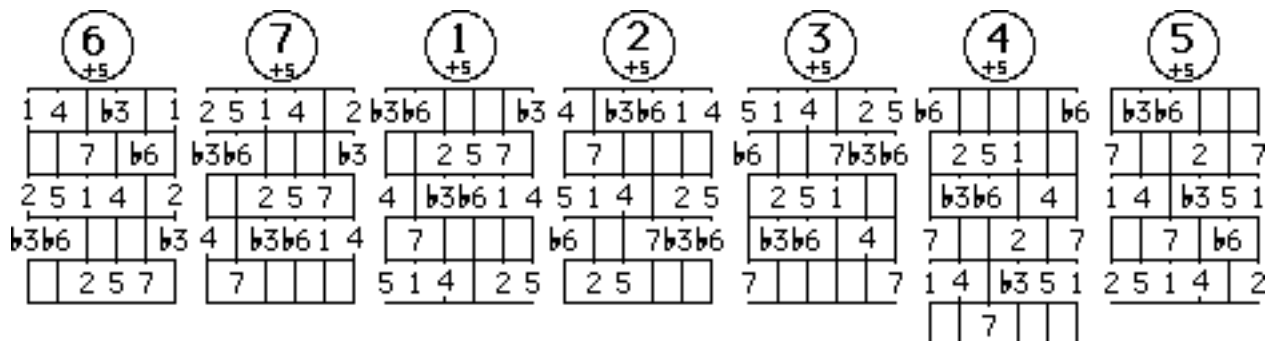
Three Octaves



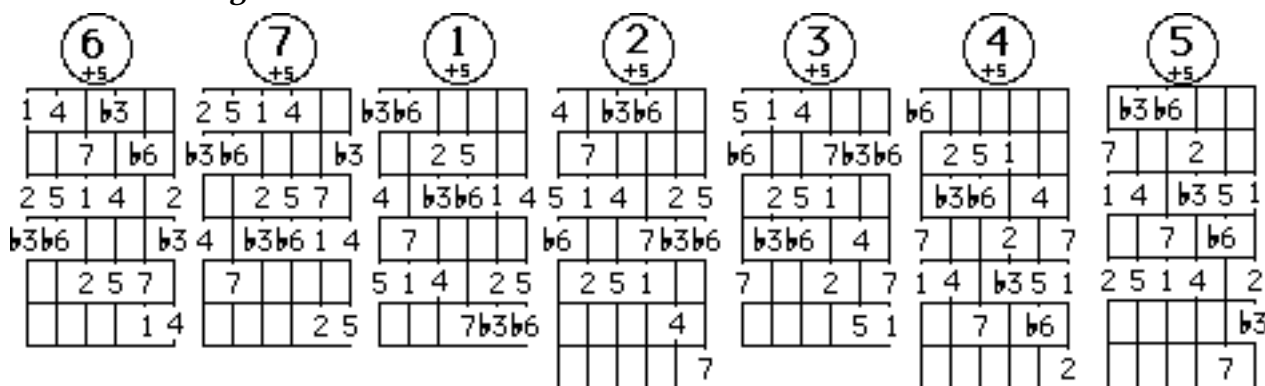
HARMONIC MINOR SCALE

By Scale Step

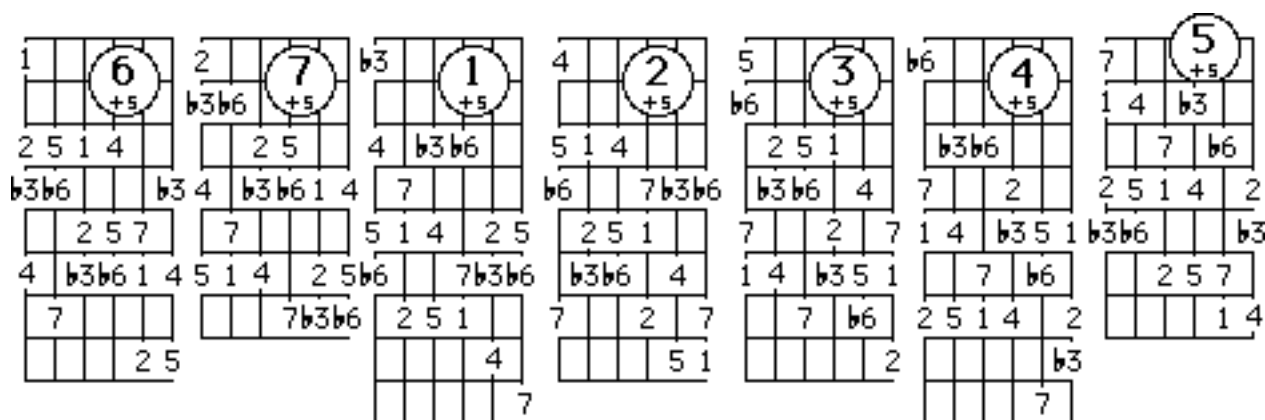
One Vertical Position



Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth

1 2 5 1 b3 b6 4 b3 b6 1 4 7 4 2 5 7 b3 b6	2 b3 b6 4 b3 b6 5 1 4 2 5 7 b3 b6 5 1 4	b3 4 b3 7 5 1 4 b6 2 5 1 b6 4 2 7 5 1	4 5 1 4 b6 2 5 1 b3 b6 4 7 b3 5 1 7 b6 2	5 1 b6 2 5 1 b3 b6 7 4 b3 5 1 7 b6 4 2 b3 7	b6 2 b3 b6 7 2 1 4 b3 7 b6 5 1 4 2 b3 5 7 1 4	7 1 4 7 2 5 1 4 b3 b6 2 5 7 b3 b6 1 4 2 5
---	---	---	--	--	--	--

Two Octaves And A Seventh

1 2 5 1 b3 b6 4 b3 b6 1 7 4 2 5 7 b3 b6 4 7	2 b3 b6 4 b3 b6 5 1 4 2 7 b3 b6 5 1 4	b3 4 b3 7 5 1 4 b6 2 5 1 b6 4 2 7 5 1 b6 2	4 5 1 4 b6 2 5 1 b3 b6 4 7 b3 5 1 7 b6 b3 7	5 1 b6 2 5 1 b3 b6 7 4 b3 5 1 7 b6 4 2 b3 7 4	b6 2 b3 b6 7 2 1 4 b3 7 b6 5 1 4 2 b3 5 7 1 4 5	7 1 4 7 2 5 1 4 b3 b6 2 5 7 b3 b6 1 4 2 5 b3 b6
---	---	--	--	---	---	---

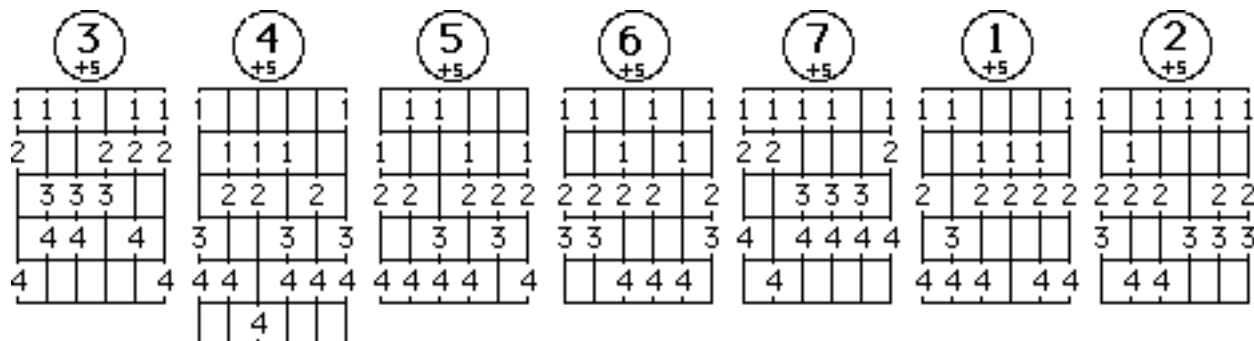
Three Octaves

1 2 5 1 b3 b6 4 b3 b6 1 7 4 2 5 7 b3 b6 4 7 1	2 b3 b6 4 b3 b6 5 1 4 7 b3 b6 5 1 4 2	b3 4 b3 7 5 1 4 b6 2 5 1 b6 4 2 7 5 1 b6 b3 4	4 5 1 4 b6 2 5 1 b3 b6 4 7 b3 5 1 7 b6 b3 7 4	5 1 b6 2 5 1 b3 b6 7 4 b3 5 1 7 b6 4 2 b3 7 4 5	b6 2 b3 b6 7 2 1 4 b3 7 b6 5 1 4 2 b3 5 7 1 4 5 b6	7 1 4 7 2 5 1 4 b3 b6 2 5 7 b3 b6 1 4 2 5 b3 b6 7
--	--	--	---	--	---	--

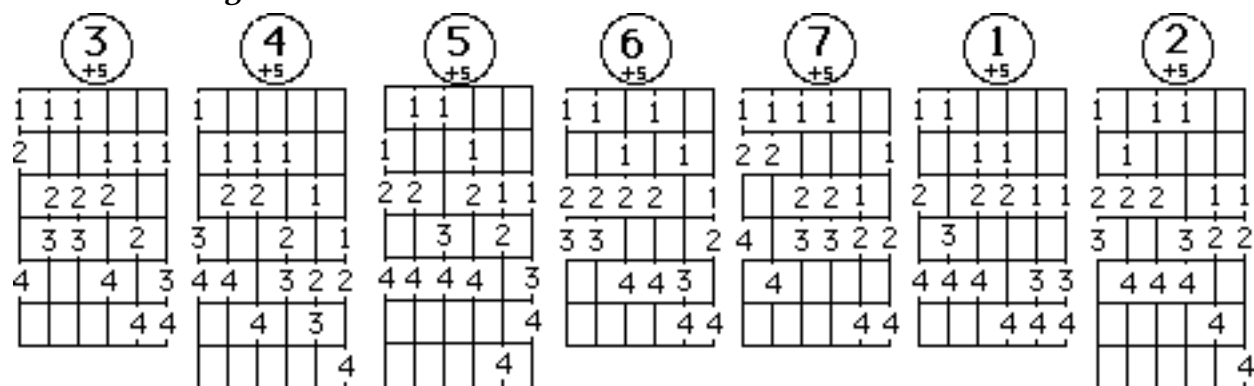
E. PHRYGIAN MAJOR THIRD SCALE

By Finger Number

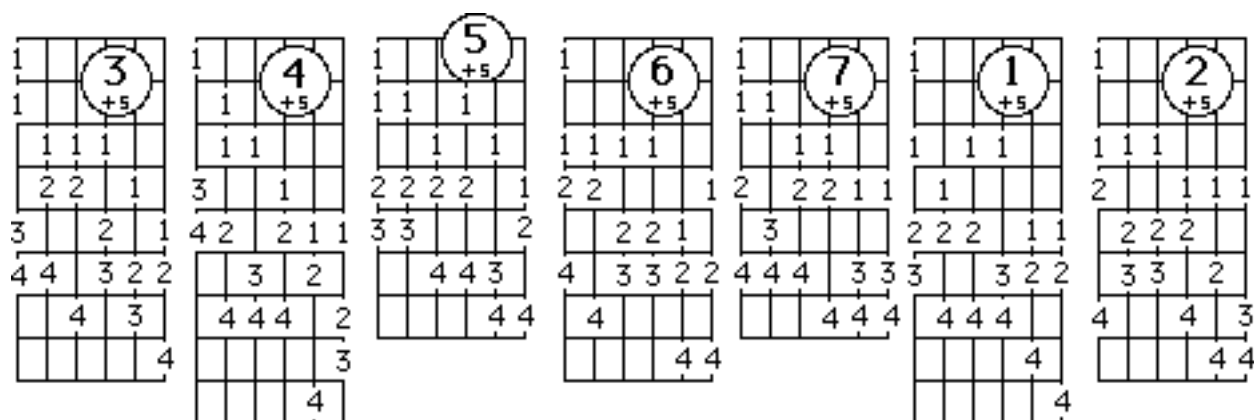
One Vertical Position



Three Notes Per String



Two Octaves And A Fifth



Two Octaves And A Sixth

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

Two Octaves And A Seventh

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

Three Octaves

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

Two Octaves And A Sixth

1 4 (3) b2 +5	b2 (4) 5 +5	3 (5) 4b7 +5	4 (6) 5 1 4 +5	5 (7) b6 b2 +5	b6 (1) b7 b6 +5	b7 (2) 1 4b7 +5
5 1 4 b6 b2	3 5 4b7 b6	5 1 4b7 b6 b2	b6 b2 5 1	b7 b6 b2 3	3 1 4b7	1 4b7 b2
3 5 4 b6 1 4	4b7 b6 3 b2	b6 b2 b6 5 1 3	b7 b6 b2 4b7 3	1 4b7 5 1 3 b6 b2	b2 3 b6 b2 5 1 4	5 1 4 b6 b2 b7
3 b2 b7 5	1 4b7 5 b6	b6 b2 4b7 5 1	3 b7 5 1	3 b6 b2 1 4	5 1 4 b2 b7	3 5 3 b6 1 4
b6 3	1 3 4b7	5 1	3 b6 b2 b7	1 4 b7	b2 b7 5 3	b6 1 4 3 b2
3	4b7	5 1	3 b6 b2 3	1 4 3	5 3 1 4	3 b2 5

Two Octaves And A Seventh

1 4 (3) b2 +5	b2 (4) 5 +5	3 (5) 4b7 +5	4 (6) 5 1 4 +5	5 (7) b6 b2 +5	b6 (1) b7 b6 +5	b7 (2) 1 4b7 +5
5 1 4 b6 b2	3 5 4b7 b6	5 1 4b7 b6 b2	b6 b2 5 1	b7 b6 b2 3	3 1 4b7	1 4b7 b2
3 5 b7 b6 1 4	4b7 b6 3 b2	b6 b2 b6 5 1 3	b7 b6 b2 4 3	1 4b7 5 3 b6 b2	b2 3 b6 5 1 4	5 1 4 b6 b2 b7
3 b2 b7 5	1 4b7 5 b6	b6 b2 4b7 5 1	3 b7 5 1	3 b6 b2 1 4	5 1 4 b2 b7	3 5 b6 1 4
b6 3	1 3 4b7	5 1 b6 b2	3 b6 b2 b7	1 4 b7	b2 b7 5 3	b6 1 4 3 b2
3 b7	4b7 1	b6 b2	b7 3	1 4 3	5 3 1 4	3 b2 5
b7	1	b6 b2	b7 3	1 4 3	b2 5	b6 3

Three Octaves

1 4 (3) b2 +5	b2 (4) 5 +5	3 (5) 4b7 +5	4 (6) 5 1 4 +5	5 (7) b6 b2 +5	b6 (1) b7 b6 +5	b7 (2) 1 4b7 +5
5 1 4 b6 b2	3 5 4b7 b6	5 1 4b7 b6 b2	b6 b2 5 1	b7 b6 b2 3	3 1 4b7	1 4b7 b2
3 5 b7 b6 1 4	4b7 b6 3 b2	b6 b2 b6 5 1 3	b7 b6 b2 4 3	1 4b7 3 b6 b2	b2 3 b6 5 1 4	5 1 4 b6 b2 b7
3 b2 b7 5	1 4b7 5 b6	b6 b2 4b7 5 1	3 b7 5 1	3 b6 b2 1 4	5 1 4 b2 b7	3 5 b6 1 4
b6 3	1 3 4b7	5 1 b6 b2	3 b6 b2 b7	1 4 b7	b2 b7 5 3	b6 1 4 3 b2
3 b7	4b7 1	b6 b2	b7 3	1 4 3	5 3 1 4	3 b2 5
b7 1	1 b2	b6 b2 3	b7 3	1 4 3	b2 5	b6 3
1	b2	3	3 4	3 5	b6 5	b7

F. MELODIC MINOR (ASCENDING) SCALE

By Finger Number

One Vertical Position

1 b3				2 b3				3 b3				4 b3				5 b3				6 b3				7 b3			
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	(2)	2	2	3	3	3	2	2	(2)	2	2	(2)	2	2	2	2	2	(2)	2	3	3	3	2	2	2	(2)
3			3	4	4	(4)	4	3	3					3	3	3		3		(4)	4	4	4		3		
4	4	4	4	4				4	(4)	4	4	4	4	4	(4)	4	4	4	4		4			4	4	(4)	4

Three Notes Per String

1 b3				2 b3				3 b3				4 b3				5 b3				6 b3				7 b3			
1	1	1		1	1	(1)	1	1	1	1		1	1	1		1	(1)	1		1	1	1	(1)	1	1	1	
2	2	(2)	2	2	2	2	1	2	2	(1)	1	2	(2)	2	1	2	2	2	(2)	3	2	2	1	(2)	2	2	1
3			2	4	3	(2)	2	3	2					2	2	3		2		(4)	4	3	2		3		
4	4	4	3	4	4			4	(4)	4	2	4	4	4	(3)	2	4	4	4		4			4	4	(4)	4
			(4)			4	4			4	3			4				4	4			4	4				3
											4				4												4

By Scale Step

One Vertical Position

1 b3				2 b3				3 b3				4 b3				5 b3				6 b3				7 b3			
1	4	b3	5	2	5	1	4	b3			b3	4	b3		4	5	1	4		6	2	5	1	b3			
		7		b3			b3	6	2	5	7		7	6				7	b3	b3		4		7	6	2	7
2	5	1	4	6	2	5	7	4	b3	1	4	5	1	4	2	6	2	5	1	7	6	2	7	1	4	b3	5
b3			b3	4	b3	1	4	7	6					7	b3	b3		4		1	4	b3	5		7		
6	2	7		7				5	1	4	2	6	2	5	1	7	6	2	7		7			2	5	1	4

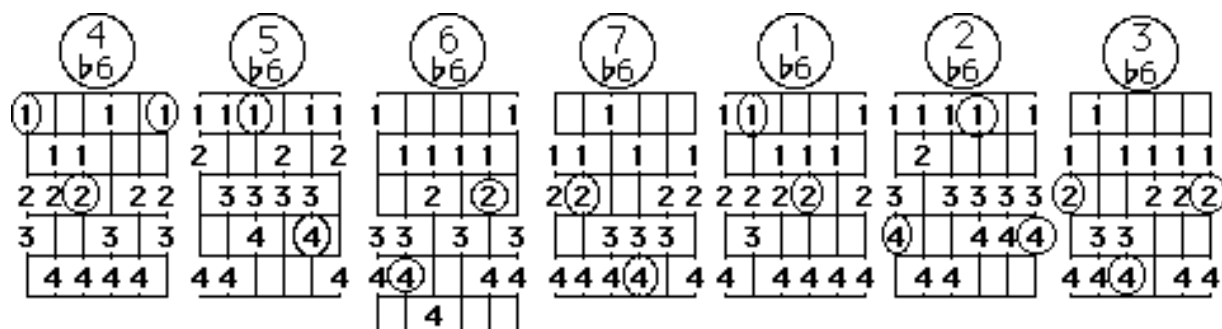
Three Notes Per String

1 b3				2 b3				3 b3				4 b3				5 b3				6 b3				7 b3			
1	4	b3		2	5	1	4	b3				4	b3			5	1	4		6	2	5	1	b3			
		7		b3			b3	6	2	5			7	6				7	b3	b3		4		7	6	2	
2	5	1	4	6	2	5	7	4	b3	1	4	5	1	4	2	6	2	5	1	7	6	2	7	1	4	b3	5
b3			b3	4	3	1	4	7	6					7	3	b3		4		1	4	b3	5		7		
6	2	5	7	7	6			5	1	4	2	6	2	5	1	7	6	2	7		7			2	5	1	4
			1			2	5			7	b3			4				5	1			6	2			b3	
											6				7											7	

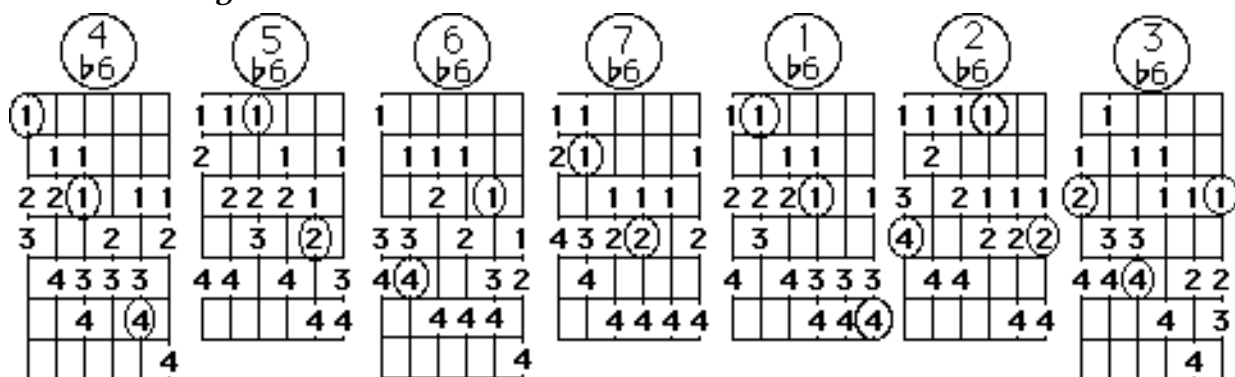
G. LYDIAN DIMINISHED SCALE

By Finger Number

One Vertical Position

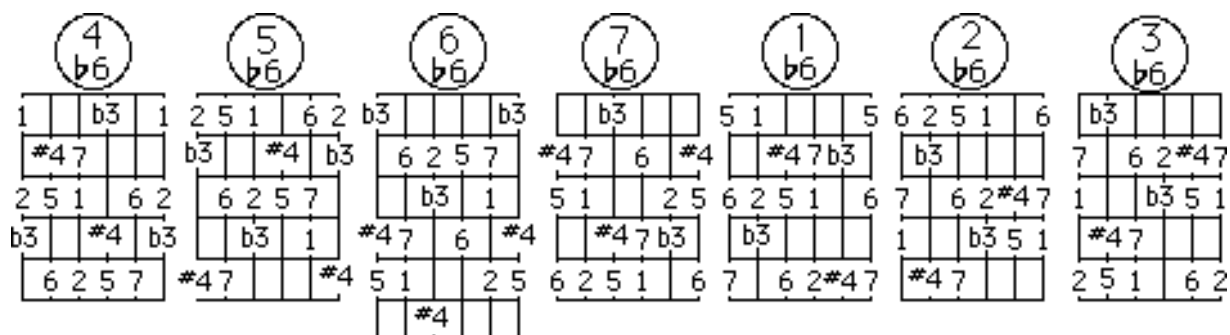


Three Notes Per String

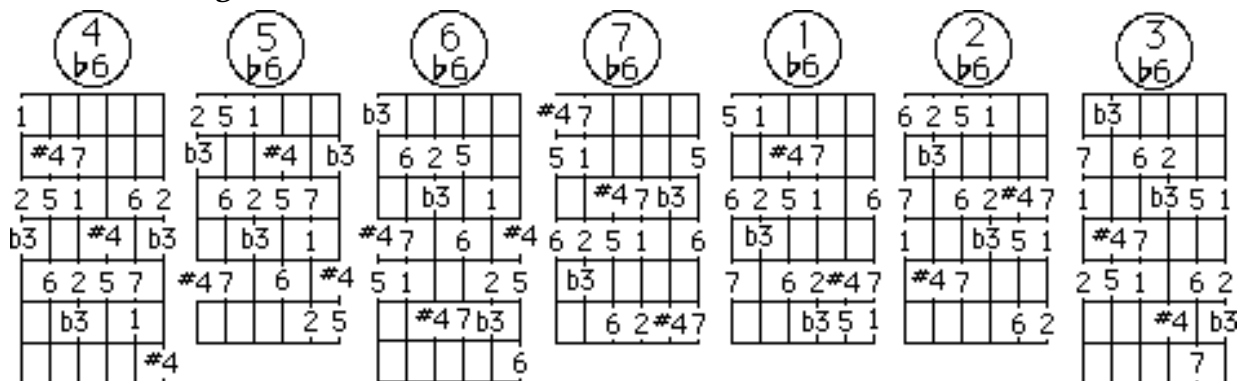


By Scale Step

One Vertical Position



Three Notes Per String



H. HARMONIC MAJOR SCALE

Equivalent To Lydian Diminished Mode V.

(C Lydian Diminished = G Harmonic Major, F Lydian Diminished = C Harmonic Major).

C HARMONIC MAJOR IN ALL TWELVE POSITIONS

The diagram displays 12 positions of the C Harmonic Major scale, labeled VI through V. Each position is shown as a 6-string grid with fingerings (1-4) and circled numbers indicating the starting fret (e.g., 7b6 for VI, 1b6 for VIII, etc.).

- VI**: 7b6
- VII**
- VIII**: 1b6
- IX**
- X**: 2b6
- XI**: 3b6
- XII**
- I or XIII**: 4b6
- II**
- III**: 5b6
- IV**: 6b6
- V**

C HARMONIC MAJOR SCALE – THREE NOTES PER STRING

The diagram displays 7 positions of the C Harmonic Major scale, labeled VIII through VII, focusing on three notes per string. Each position is shown as a 6-string grid with fingerings (1-4) and circled numbers indicating the starting fret (e.g., 1b6 for VIII, 2b6 for X, etc.).

- VIII**: 1b6
- X**: 2b6
- XI**: 3b6
- I**: 4b6
- III**: 5b6
- IV**: 6b6
- VII**: 7b6

I. PENTATONIC SCALES

1. MINOR 7/11 PENTATONIC SCALE

1 4 b7 b3 5 1	5 1 4	5	5 1 4 b7 5	5	5 1
	b3	b7 b3	4 b7 b3 1 4	b3	b7 b3 4 b7
5 1 4	5		5 1		
b3	4 b7 b3 1 4	5 1 4 b7 5	b7 b3 4 b7	1 4 b7 b3 5 1	
		b3			

2. MAJOR 6/9 PENTATONIC SCALE

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

3. DOMINANT 7/11 PENTATONIC SCALE

1 4 b7 5 1	5 1 4	5	5 1 4 b7 5	5	5 1
	b7	4 b7 1 4		b7	4 b7
5 1 4	3 5 3	3	5 1 3	3	
b7	4 b7 1 4	5 1 4 b7 5	b7 4 b7	1 4 b7 5 1	
3	3	3	3	3	3

4. MINOR 6/9 PENTATONIC SCALE

b3	2 5 1 6 2	b3	6	6 2 5 1 6
6 2	b3 b3	6 2 5	5 1 2 5	b3
1 b3 5 1	6 2 5	b3 1	b3	6 2
	b3 1	6	6 2 5 1 6	1 b3 5 1
2 5 1 6 2		5 1 2 5	b3	

5. MINOR 7/11 FLAT 5 PENTATONIC SCALE

1 4 b7 b3 1	b5	4 b7 b3 1 4	b5	1 4 b7 b5	1
b5	1 4	b5 b5	1 4 b7 b3	b7 b3 4 b7	
1 4	b3 b5 b7 b3	1 4 b7 b3	b5 b3	b5	
b3 b5 b7 b3	4 b7 b3 1 4	b5 b3	b7 b3 4 b7	1 4 b7 b3 1	
				b5	

6. DOMINANT 9TH PENTATONIC SCALE

3	2		
1	b7	5	1
		3	
2	5	1	2
		b7	
			3

2	5	1	2
		b7	
3	2	5	3
b7		1	
	3		

3	2	5	3
b7		1	
	3		
5	1	b7	2

5	1	b7	2
2	5	1	3
b7			b7
3			

2	5	1	3
b7			b7
3	2		
1	b7	5	1

7. MINOR 9TH PENTATONIC SCALE

1	b7b3	5	1
2	5	1	2
b3		b7b3	
	2		

2	5	1	2
b3		b7b3	
	2	5	
b7b3		1	

b3			b3
	2	5	
	b7b3	1	
5	1	b7	2

5	1	b7	2
		b3	
2	5	1	
b7b3			b7

2	5	1	
b7b3			b7
	2		
1	b7b3	5	1

8. MAJOR 9TH PENTATONIC SCALE

3	2		7
1			5
	7	3	
2	5	1	2

2	5	1	2
3	2	5	7
		1	
7	3		

3	2	5	7
		1	
7	3		
5	1		2

5	1		5
		7	
2	5	1	3
7	3	2	7

2	5	1	3
7	3	2	7
1			5
	7		

9. MAJOR 7/11 PENTATONIC SCALE

1	4		5
	7	3	
5	1	4	
3			7
			3

5	1	4	
3		5	7
4		1	4
7	3		

		5	
4		1	4
7	3		
5	1	4	5
		7	
			3

5	1	4	5
		7	
	5	1	3
		4	
7	3		7

	5	1	
			4
7	3		7
1	4		5
	7	3	

10. 9th FLAT 5, 9th SHARP 5 and 7th FLAT 5/SHARP 5 PENTATONIC SCALES

THE 3 SCALES BELOW USE THE SAME FINGERINGS:

fingering 1	fingering 2	fingering 3	fingering 4	fingering 5
1 1	1 1	1 1	1 1 1	1 1 1
1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
2 2	2 2	2 2	2 2 2	2 2 2
3 3 2	3 3 3	3 3 3	3 3 3	3 3 3
4 4	4 4	4 4 4	4 4 4	4 4 4

9th FLAT 5 PENTATONIC SCALE

fingering 1	fingering 2	fingering 3	fingering 4	fingering 5
3 2	b5 3	b5	b5 3 b5	b5
1 b7 1	2 1 2	3 2 3	1 b7 2	2 1 3
b5 3	b5 b7	b7 1	b5	b7 b7
2 1 2	3 2 3	b5 3 b5	2 1 3	3 2 b5
b5 b7	b7 1	1 b7 2	b7 b7	1 b7 1

9th SHARP 5 PENTATONIC SCALE

fingering 1	fingering 2	fingering 3	fingering 4	fingering 5
2 1	3 2	3	3 2 3	3
b7 #5 b7	1 b7 1	2 1 2	b7 #5 1	1 b7 2
3 2	3 #5	#5 b7	3	#5 #5
1 b7 1	2 1 2	3 2 3	1 b7 2	2 1 3
3 #5	#5 b7	b7 #5 1	#5 #5	b7 #5 b7

7th FLAT 5/SHARP 5 PENTATONIC SCALE

fingering 1	fingering 2	fingering 3	fingering 4	fingering 5
b7 #5	1 b7	1	1 b7 1	1
b5 3 b5	#5 b5 #5	b7 #5 b7	b5 3 #5	#5 b5 b7
1 b7	1 3	3 b5	1	3 3
#5 b5 #5	b7 #5 b7	1 b7 1	#5 b5 b7	b7 #5 1
1 3	3 b5	b5 3 #5	3 3	b5 3 b5

J. CHROMATIC SCALE FINGERING

1. THE CHROMATIC SCALE

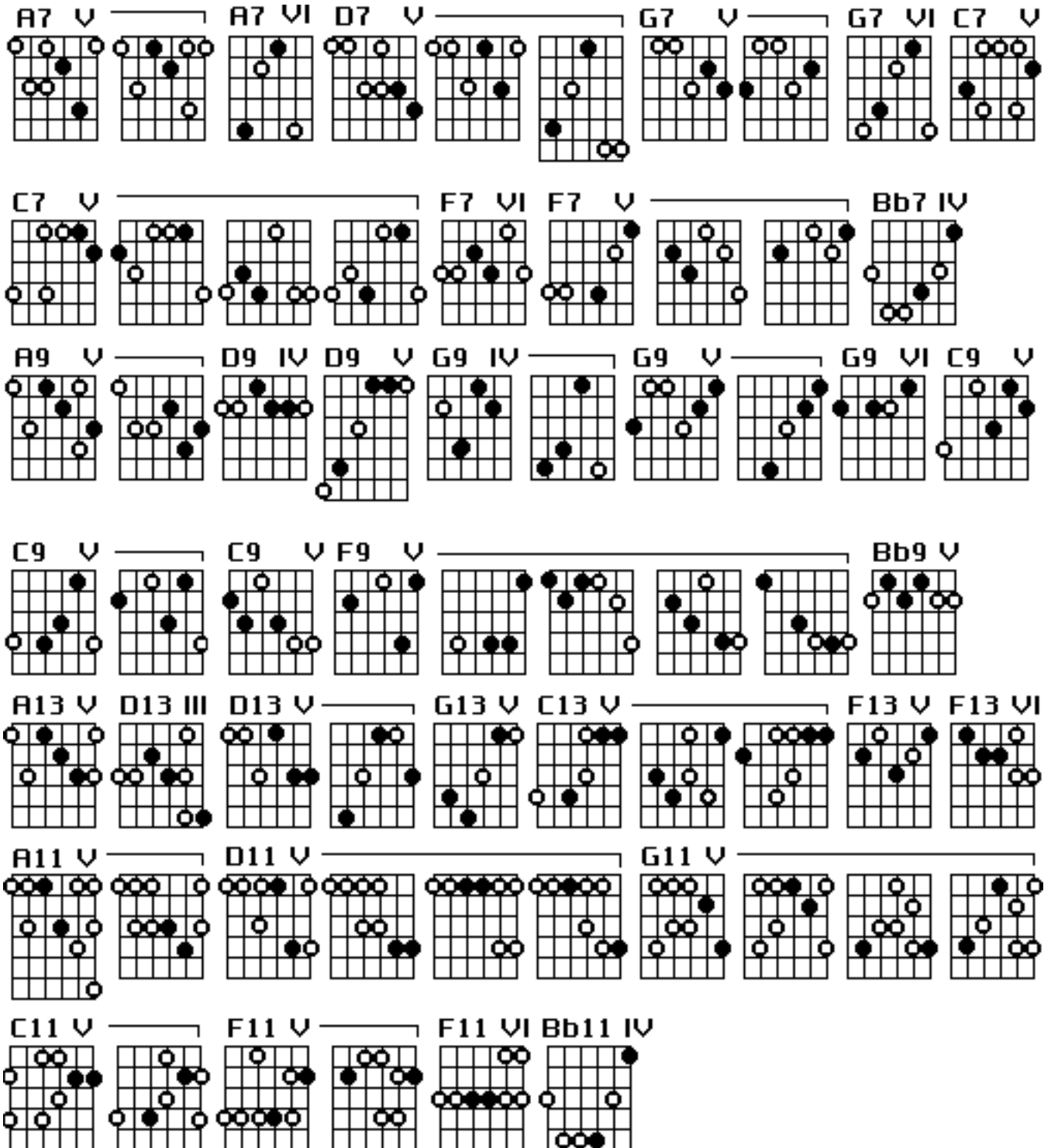
UP	DOWN	REGRESSIVE
1 1 1 1 1	1 1 1 1 1 1	1
1 1 1 1 1 1	2 2 2 2 2 2	1 1 2
2 2 2 2 2 2	3 3 3 3 3 3	1 2 2 3
3 3 3 3 3 3	4 4 4 4 4 4	1 2 3 3 4
4 4 4 4 4 4	4 4 4 4 4 4	1 2 3 4 4
		2 3 4
		3 4
		4

CHAPTER 13: CHORD FINGERING

A. ESSENTIAL CHORD TONE FINGERING

1. Dominant 7th Type Chords

Blackened dots are essential chord tones, circles are optional chord tones.



2. Minor 7th Type Chords

Blackened dots are essential chord tones, circles are optional chord tones.

The following table lists the chords shown in the diagrams, organized by row and column as they appear in the image:

Row	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10
1	Am7 V				Dm7 V					
2	Gm7 V				Cm7 V				Fm7 IV	Fm7 VI
3	Fm7 V	Fm7 VI	Fm7 V	Bbm7 IV						
4	Am9 V				Dm9 V		Dm9 VI		Gm9 VI	
5	Gm9 V	Gm9 V			Cm9 IV	Cm9 VI		Fm9 IV	Fm9 VI	
6	Am11 V				Dm11 V					
7	Gm11 V				Cm11 V					
8	Fm11 VI	Fm11 V	Fm11 VI							
9	Am13 V	Dm13 IV	Dm13 V	Gm13 V	Cm13 V	Fm13 VI				

3. Major 7th ($\Delta 7$) Type Chords

Blackened dots are essential chord tones, circles are optional chord tones.

The diagrams are organized as follows:

- Row 1:** A $\Delta 7$ IV, A $\Delta 7$ V, D $\Delta 7$ IV, D $\Delta 7$ V, D $\Delta 7$ VI, G $\Delta 7$ V
- Row 2:** C $\Delta 7$ V, F $\Delta 7$ V
- Row 3:** A $\Delta 9$ V, A $\Delta 9$ VI, D $\Delta 9$ IV, D $\Delta 9$ V, G $\Delta 9$ IV, G $\Delta 9$ V, C $\Delta 9$ V, F $\Delta 9$ V
- Row 4:** F $\Delta 9$ III, B \flat $\Delta 9$ V, A $\Delta 7$ #11 IV, D $\Delta 7$ #11 IV, G $\Delta 7$ #11 V, F $\Delta 7$ #11 V
- Row 5:** A $\Delta 9$ #11 IV, D $\Delta 9$ #11 IV, G $\Delta 9$ #11 V, C $\Delta 9$ #11 V, C $\Delta 9$ #11 V, B \flat $\Delta 9$ #11 V
- Row 6:** A $\Delta 7$ $\flat 5$ IV, A $\Delta 7$ $\flat 5$ V, A $\Delta 7$ $\flat 5$ VI, D $\Delta 7$ $\flat 5$ IV, D $\Delta 7$ $\flat 5$ V, G $\Delta 7$ $\flat 5$ V
- Row 7:** G $\Delta 7$ $\flat 5$ V, C $\Delta 7$ $\flat 5$ IV, C $\Delta 7$ $\flat 5$ V, F $\Delta 7$ $\flat 5$ V, F $\Delta 7$ $\flat 5$ VI, A $\Delta 13$ n11 IV, A $\Delta 13$ n11 V, A $\Delta 13$ #11 IV, A $\Delta 13$ #11 V
- Row 8:** D $\Delta 13$ n11 OR D $\Delta 13$ #11 VI, C $\Delta 13$ n11 OR G $\Delta 13$ #11 IV, C $\Delta 13$ n11 OR F $\Delta 13$ #11 V, F $\Delta 13$ #11 V OR B \flat $\Delta 13$ #11 V, F $\Delta 13$ #11 V

4. Add 9 (/9), Minor Add 9 (m/9), 6, M6 6/9 & M6/9 Chords.

Blackened dots are essential chord tones, circles are optional chord tones.

The following table lists the chords shown in the diagrams, organized by row:

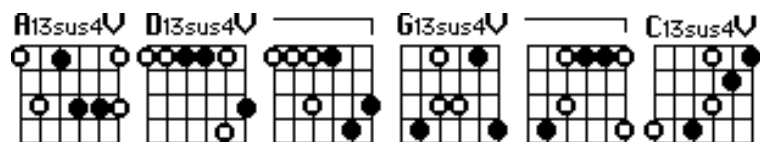
Row	Chords
1	A/9 V, D/9 V, G/9 IV, G/9 V, C/9 V, F/9 V
2	F/9 V, Bb/9 V, Eb/9 V, Am/9 V, Dm/9 V
3	Gm/9 V, Cm/9 IV, Cm/9 V, Fm/9 V, Bbm/9 IV, Ebm/9 IV
4	A6 V, D6 V, G6 V, G6 IV, C6 V
5	F6 V, Bb6 V, Eb6 V, Am6 V
6	Am6 V, Dm6 V, Gm6 V, Cm6 V, Fm6 VI
7	A6/9 IV, A6/9 V, D6/9 IV, D6/9 V, G6/9 V
8	G6/9 V, C6/9 V, F6/9 V, Am6/9 V
9	Dm6/9 V, Gm6/9 V, Cm6/9 IV, Cm6/9 V, Fm6/9 IV, Bbm6/9 IV, Bbm6/9 V, Ebm6/9 V

5. Suspended Type Chords

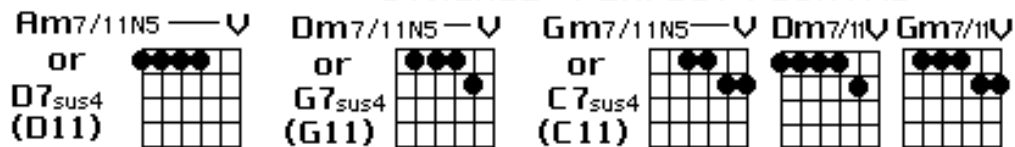
Blackened dots are essential chord tones, circles are optional chord tones.

The following table lists the chords shown in the diagrams, organized by row and column. Brackets indicate multiple voicings for a single chord.

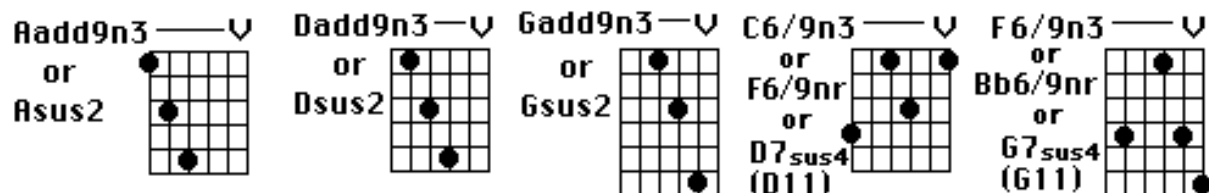
Row	Column	Chord
1	1	A _{sus4} V
1	2	D _{sus4} V
1	3	G _{sus4} V
1	4	C _{sus4} V
1	5	F _{sus4} V
2	1	A _{sus2} V
2	2	D _{sus2} V
2	3	G _{sus2} V
2	4	C _{sus2} V
2	5	F _{sus2} V
3	1	A _{SUS2/4} V
3	2	D _{SUS2/4} V
4	1	G _{SUS2/4} V
4	2	C _{SUS2/4} V
4	3	F _{SUS2/4} V
5	1	A ₇ SUS4 V
5	2	D ₇ SUS4 V
5	3	G ₇ SUS4 V
6	1	C ₇ SUS4 V
6	2	C ₇ SUS4 V
6	3	F ₇ SUS4 VI
7	1	A ₇ SUS2 V
7	2	D ₇ SUS2 V
7	3	G ₇ SUS2 V
7	4	C ₇ SUS2 V
7	5	C ₇ SUS2 VI
8	1	A ₁₁ IV
8	2	A ₁₁ V
8	3	D ₁₁ V
8	4	G ₁₁ III
8	5	G ₁₁ V
8	6	C ₁₁ V
8	7	C ₁₁ VI



"STACKED" PERFECT FOURTHS

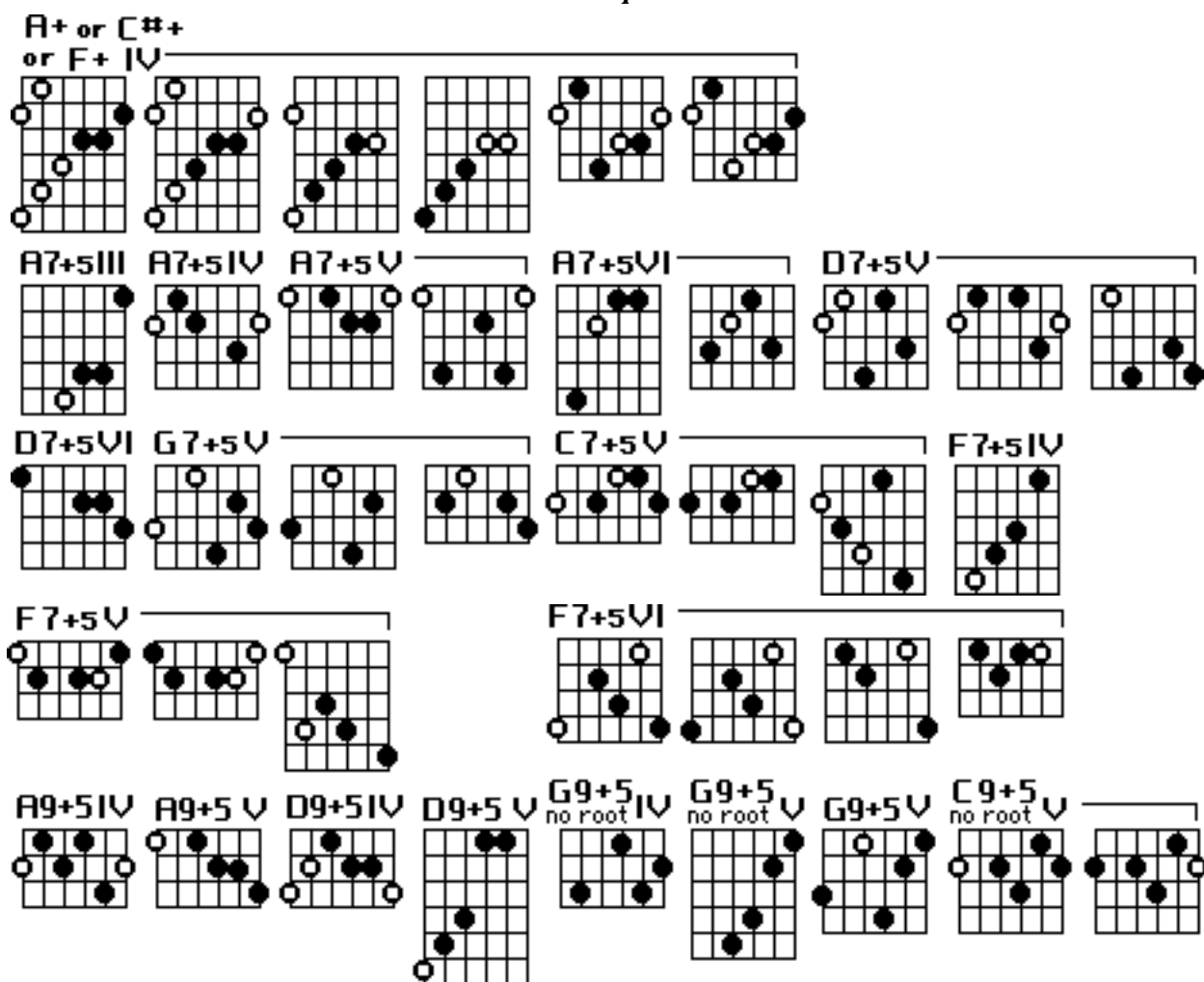


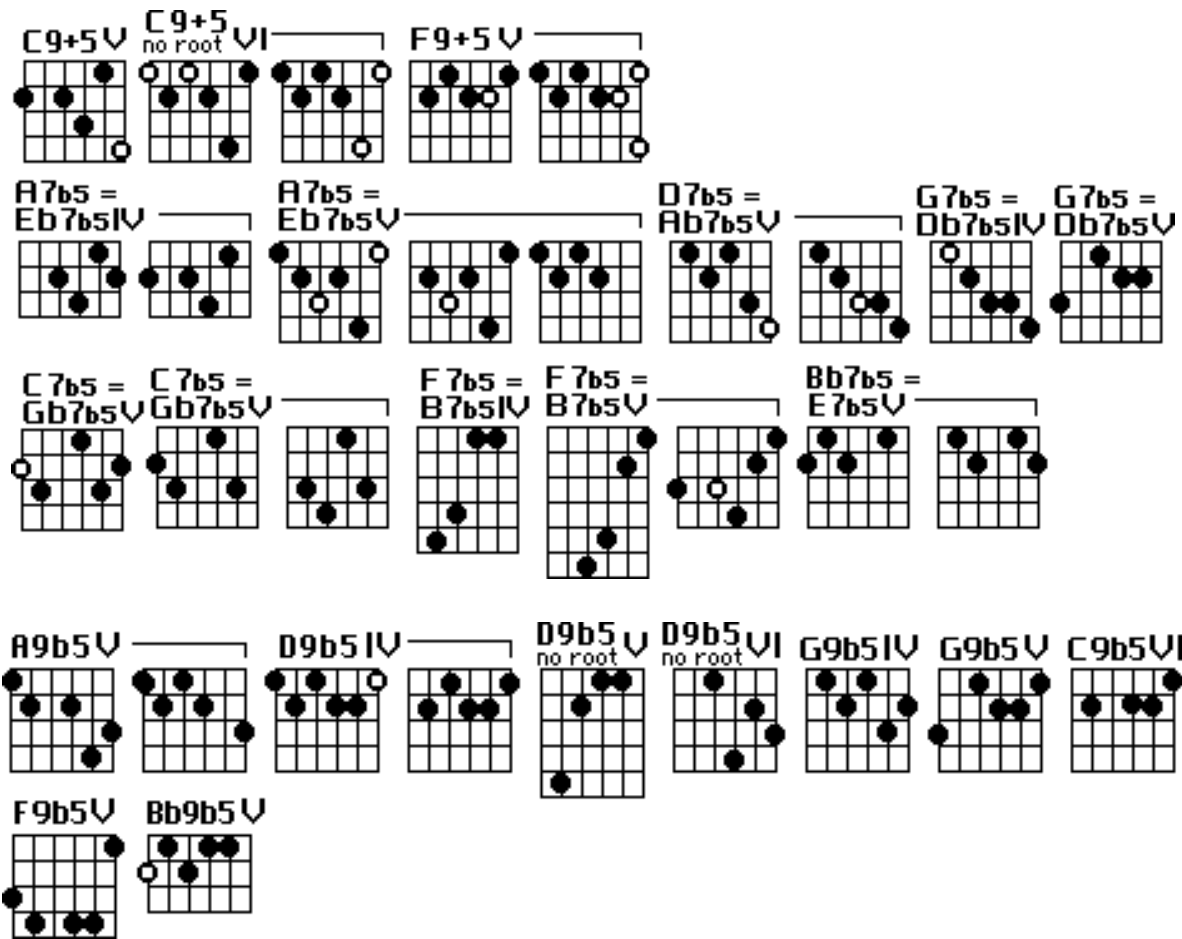
"STACKED" PERFECT FIFTHS



6. Whole Tone Chords: 7#5, 7b5, 9#5, 9b5.

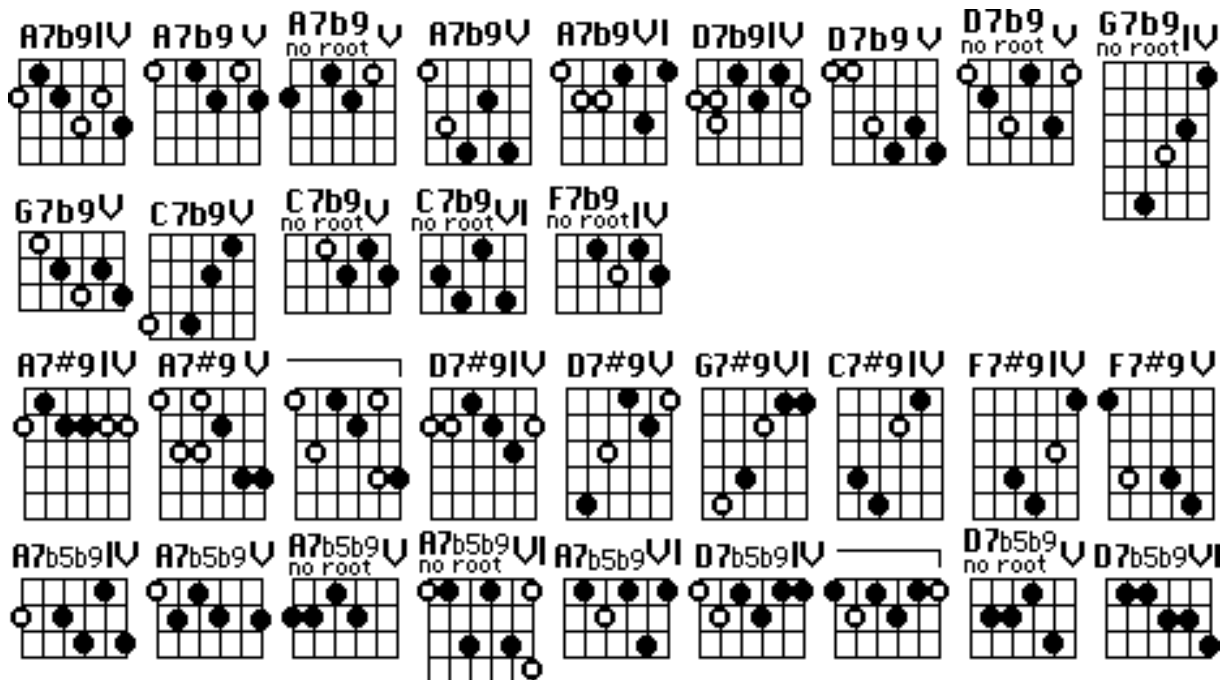
Blackened dots are essential chord tones, circles are optional chord tones.





7. Other Altered Dominant Chords

Blackened dots are essential chord tones, circles are optional chord tones.



A7^{b5}9^U **D7^{b5}9^I** **G7^{b5}9^{VI}** **C7^{b5}9^{VI}** **F7^{b5}9^I** **Bb7^{b5}9^U**

A7^{#5}b9^U **D7^{#5}b9^I** **G7^{#5}b9^I** **C7^{#5}b9^{no root}** **F7^{#5}b9^{VI}** **F7^{#5}b9^{no root}**

A7^{#5}9^I **A7^{#5}9^U** **D7^{#5}9^I** **G7^{#5}9^{VI}** **C7^{#5}9^I** **C7^{#5}9^{no root}** **F7^{#5}9^U** **Bb7^{#5}9^U**

A7^{#11} I **D7^{#11} I** **G7^{#11} VI** **C7^{#11} U** **F7^{#11} VI**

D9^{#11} no root I **G9^{#11} U**

NOTE: 9b5 may be used as a substitute for 9#11.

A13^{b5} U **D13^{b5} U** **G13^{b5} no root U** **C13^{b5} U** **F13^{b5} VI**

NOTE: 13b5 may be used as a substitute for 13#11.

A13^{b5}9^{no root} U **D13^{b5}9^{no root} I** **C13^{b5}9^{no root} U**

A13^{b5}9^U **D13^{b5}9^{no root} I** **F13^{b5}9^{no root} VI**

8. Diminished Type Chords

Blackened dots are essential chord tones, circles are optional chord tones.

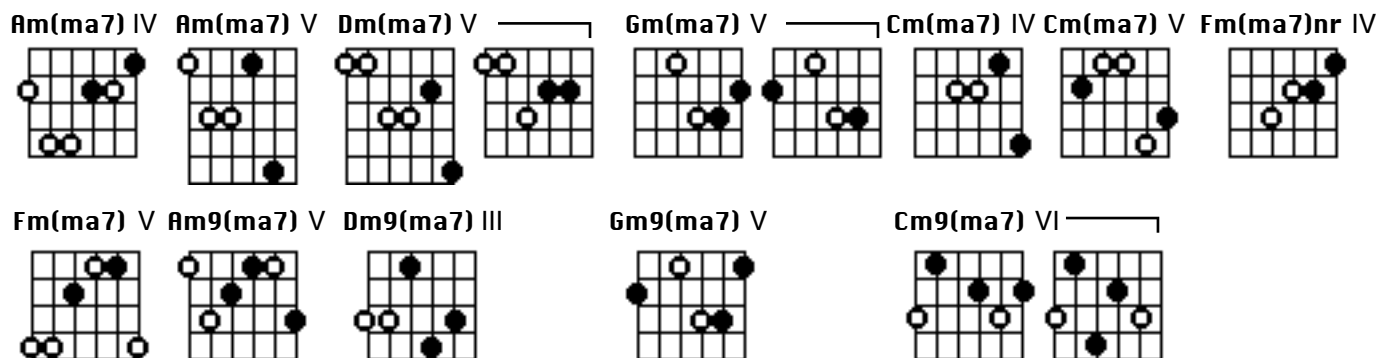
A^o7, C^o7, Eb^o7 or Gb^o7 **U** **A^o7, C^o7, Eb^o7 or Gb^o7** **VI** **A^o7, C^o7, Eb^o7 or Gb^o7** **VII**

Am7^{b5} I **Am7^{b5} U** **Dm7^{b5} I** **Dm7^{b5} U** **Dm7^{b5} no root U** **Gm7^{b5} I** **Gm7^{b5} U** **Gm7^{b5} VI**

Gm7^{b5} VI **Cm7^{b5} I** **Cm7^{b5} U** **Cm7^{b5} VI** **Fm7^{b5} I** **Fm7^{b5} U** **Fm7^{b5} VI**

9. Minor Major Seventh (Minor Natural Seventh) Chords

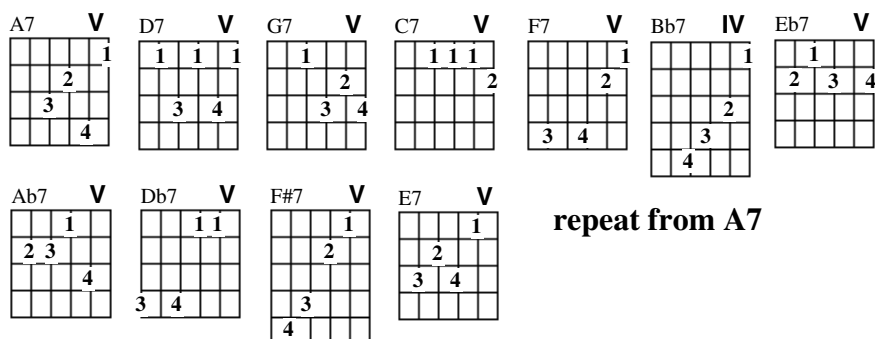
Blackened dots are essential chord tones, circles are optional chord tones.



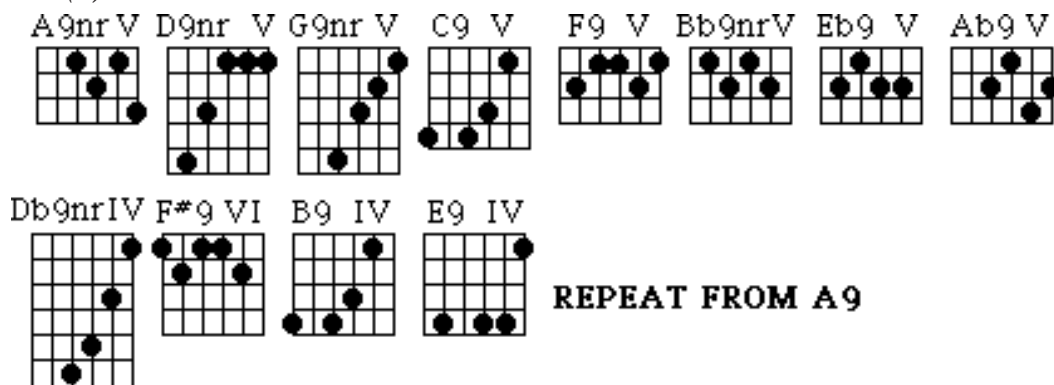
B. PERFECT FOURTH CHORD CYCLES

Circled notes are optional chord tones.

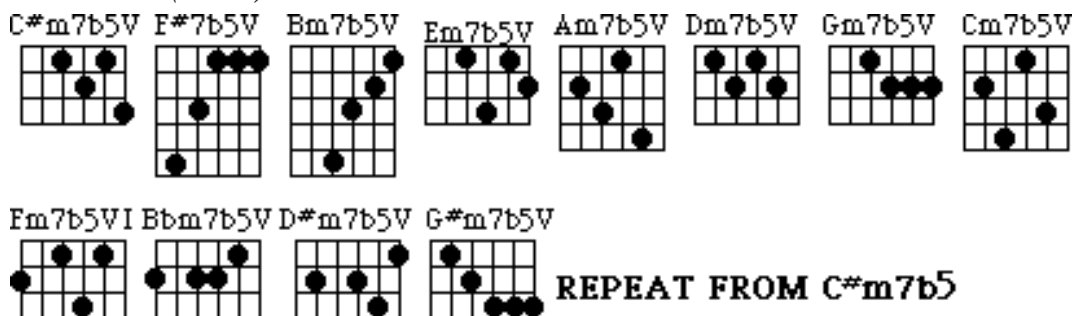
Dominant Seventh (7) Chords



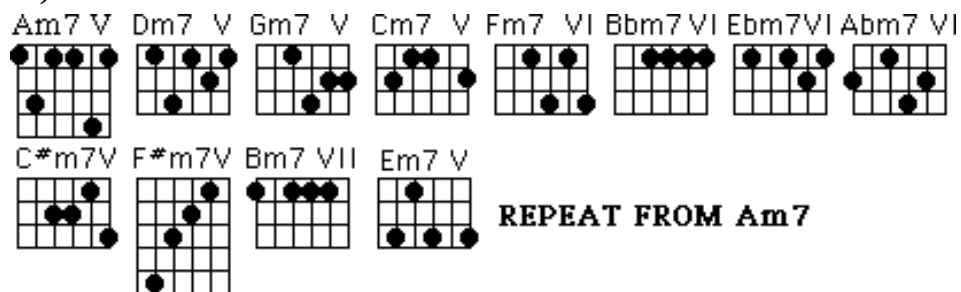
Dominant Ninth (9) Chords



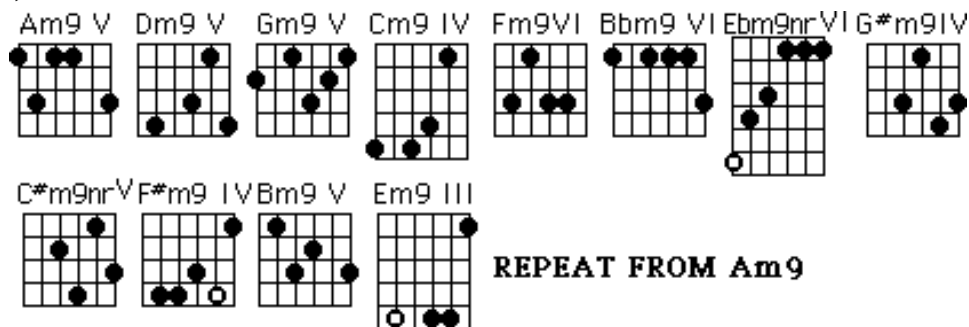
Minor Seventh Flat Five (M7b5) Chords



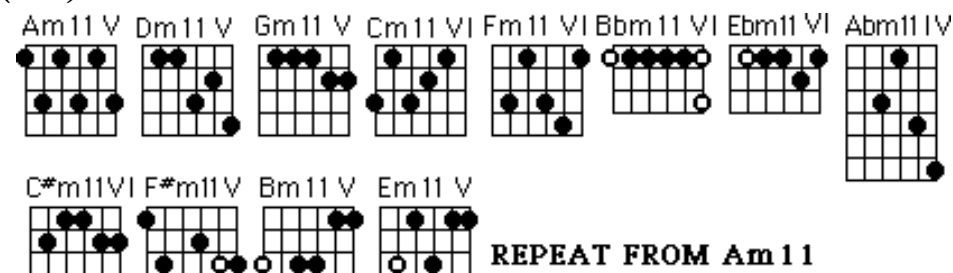
Minor Seventh (M7) Chords



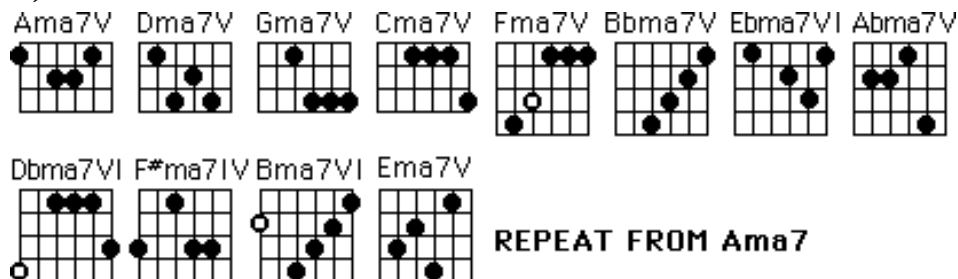
Minor Ninth (M9) Chords



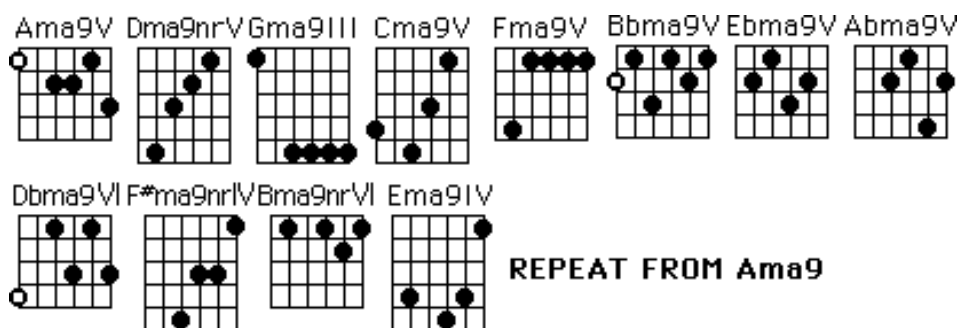
Minor Eleventh (M11) Chords



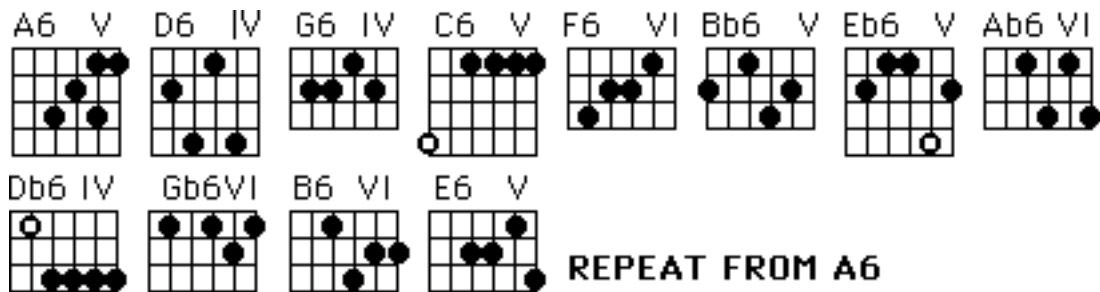
Major Seventh (Δ7) Chords



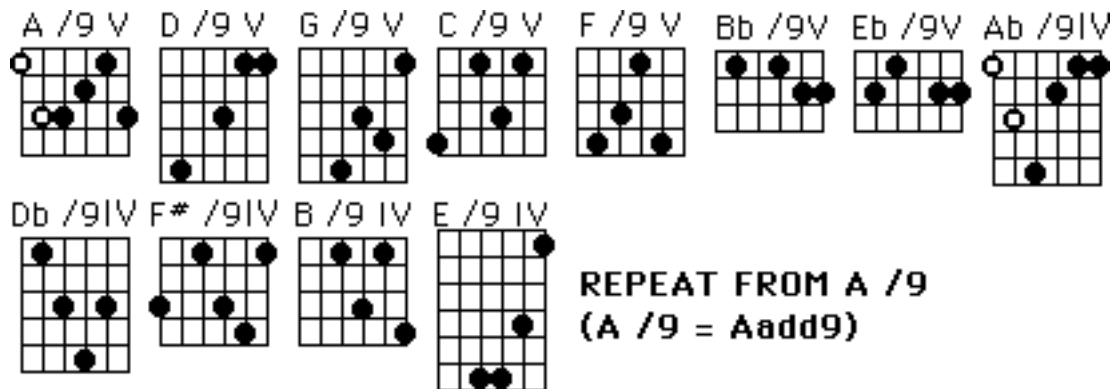
Major Ninth (Δ9) Chords



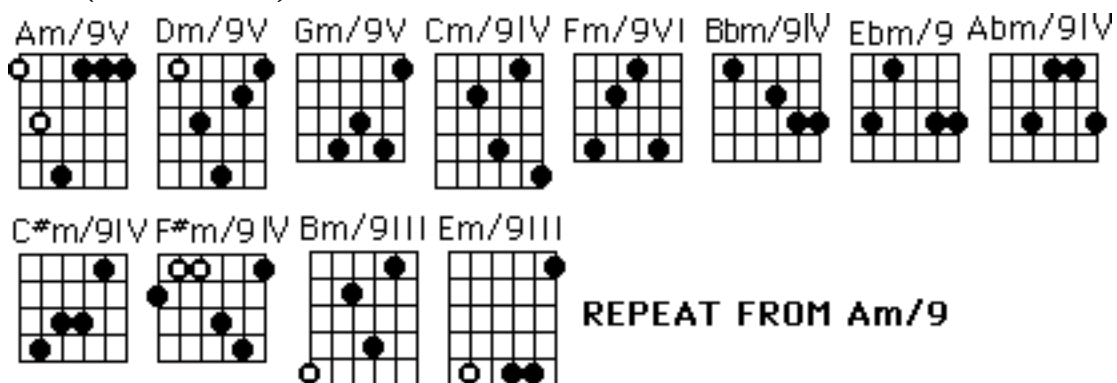
Sixth (6) Chords



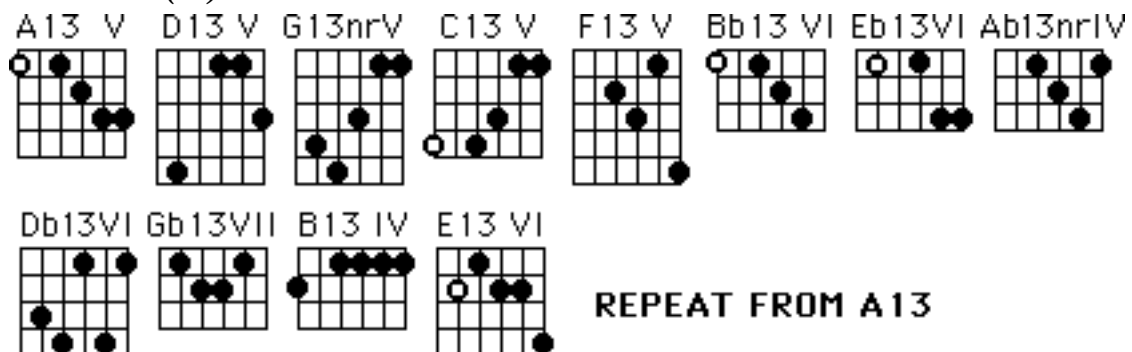
Major Add Nine (Add 9 Or /9) Chords



Minor Add Nine (Min./9 Or M/9) Chords



Dominant Thirteenth (13) Chords



C. CHROMATICALLY DESCENDING FROM THE CHORD ROOT

T = LEFT HAND THUMB

A V Ama7 IV A7 V A6 V Aaug. V A V Ama.b5 IV Asus4 V Am V Am(ma7) IV

Am7 V Am6 V Am#5 V Am V Adim. IV Am7b5 IV Ao7 IV A / 9 V Ama9nr V A9nr V

A6/9 IV Aaug/9 V A / 9 V Amab5/9 IV Asus2/4 V Am / 9 V Am9(ma7) V Am9nr V Am6/9 IV

A7sus4 V A7 V A7#9 V A9 V A7b9 V A13nr V A13#9nr V A13nr V A13b9nr V A7#5 V

A7#5#9nr V A9#5nr V A7#5b9 V A7b5#9nr V A9b5nr V A7b5b9nr V A13b5#9nr V A13b5nr V A13b5b9nr V

D V Dma7 V D7 V D6 IV Daug V D V Dma.b5 IV Dsus4 V Dm V Dm(ma7) V

Dm7 V Dm6 IV Dm#5 V Dm V Ddim V Dm7b5 V Do7 IV D / 9 IV Dma9 IV D9 IV

D6/9 IV Daug/9 V D / 9 V Dma.b5/9 V Dsus2/4 V Dm/9 V Dm9(ma7) V Dm9 V Dm6/9 V

D7sus4 V D7 V D7#9 IV D9 IV D7b9 IV D13 III D13#9nr III D13nr III D13b9nr III D7#5 III

D7#5#9nr III D7#5#9nr III D9#5b9nr III D7b5#9 IV D9b5 IV D7b5b9 IV D13b5#9 IV D13b5 IV D13b5b9 IV

C V	Cma7 V	C7 V	C6 V	Caug IV	C V	Cma \flat 5 IV	Csus4 V	Cm V	Cm \flat 7 V
Cm7 V	Cm6 V	Cm \sharp 5 VI	Cm V	Cdim IV	Cm7 \flat 5 IV	Co7 IV	C /9 V	Cma9nr V	C9nr V
C6/9nr V	Caug/9nr VI	C /9nr V	Cma \flat 5/9 VII	Csus2/4 V	Cm/9 VI	Cm9 \flat 7 VI	Cm9nr VI	Cm6/9nr V	
C7sus4 V	C7 V	C7 \sharp 9 VII	C9nr VII	C7 \flat 9nr VI	C13 V	C13 \sharp 9 VII	C13 V	C13 \flat 9 V	
C7 \sharp 5 V	C7 \sharp 5 \sharp 9 VII	C9 \sharp 5 VII	C7 \sharp 5 \flat 9 VI	C7 \flat 5 \sharp 9 VII	C9 \flat 5 VII	C7 \flat 5 \flat 9 VI			

G V	Gma7 V	G7 V	G6 V	Gaug V	G V	Gma \flat 5 V	Gsus4 V	Gm V	Gm \flat 7 V
Gm7 V	Gm6 IV	Gm \sharp 5 V	Gm V	Gdim V	Gm7 \flat 5 V	Go7 V	G /9 V	G Δ 9nr V	G9nr V
G6/9nr V	Gaug/9 V	G /9 V	Gma \flat 5/9 V	Gsus2/4 V	Gm/9 V	Gm9(ma7) V	Gm9nr V	Gm6/9nr V	
F V	Fma7 V	F7 VI	F6 VI	Faug VI	F V	Fma \flat 5 IV	Fsus4 V	Fm V	Fm \flat 7 V
Fm7 VI	Fm6 VI	Fm \sharp 5 VI	Fm V	Fdim IV	Fm7 \flat 5 IV	Fo7 IV	F /9 V	Fma9 VII	F9 VII
F6/9 VII	Faug/9 VI	F /9 V	Fma \flat 5/9 IV	Fsus2/4 V	Fm/9 V	Fm9(ma7) VI	Fm9 VI	Fm6/9 VI	

D. SCALE TONE CHORDS IN ALL MAJOR KEYS

Scale tone triads, seventh chords and pentatonic scales in all fifteen keys (twelve different keys, but Cb = B, C# = Db and F# = Gb).

Each *stepwise chord progression* on the following pages is a sequence of scale tone chord where the chord roots progress by scale steps. All scale tone triads and seventh chords are constructed from “tertian harmony”, where the scale is arranged in thirds.

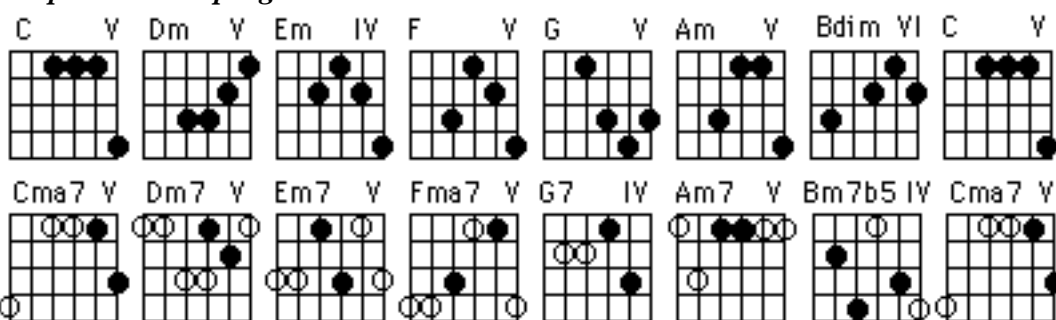
Each *chord progression in perfect fourths* is a sequence of scale chords where the chord roots progress up in intervals of a perfect fourth. All scale tone triads and seventh chords are constructed from “tertian harmony”, where the scale is arranged in thirds.

C major

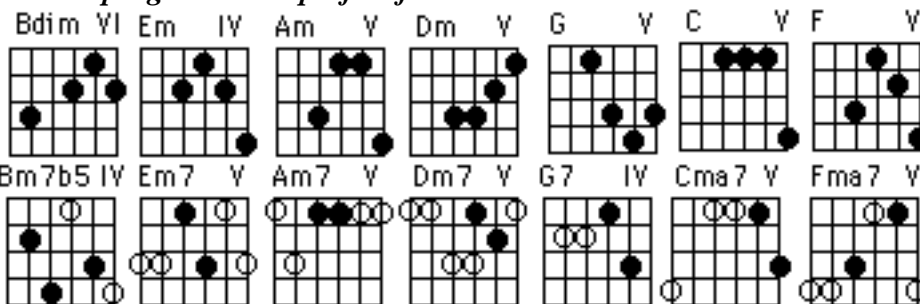
FRET
↓



Stepwise chord progression



Chord progression in perfect fourths



C# major

FRET



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

5 A# D# G# C# E# A#
B#

7 F#
B# E# A# D# B#

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

12 E# A# D# G# B# E#

14 F# C# F#

Stepwise chord progression

C# VI D#m VI E#m VIII F# VI G# VI A#m VI B#dim VII C# VI

C#ma7 VI D#m7 VI E#m7 VI F#ma7 VI G#7 VI A#m7 VI B#m7b5 VII C#ma7 VI

Chord progression in perfect fourths

B#dim VII E#m VIII A#m VI D#m VI G# VI C# VI F# VI

B#m7b5 VII E#m7 VI A#m7 VI D#m7 VI G#7 VI C#ma7 VI F#ma7 VI

Db major

FRET



1 F Bb Eb Ab C F
Gb Db Gb
C F Bb
Ab Db Gb Eb Ab

5 Bb Eb Ab Db F Bb
C

7 Gb
C F Bb Eb C

9 Db Gb Ab Db
C F
Eb Ab Db Gb Bb Eb

12 F Bb Eb Ab C F

14 Gb Db Gb

Stepwise chord progression

Db VI Ebm VI Fm VIII Gb VI Ab VI Bbm VI Cdim VII Db VI

Dbma7 VI Ebm7 VI Fm7 VI Gbma7 VI Ab7 VI Abm7 VI Cm7b5 VII Dbma7 VI

Chord progression in perfect fourths

Cdim VII Fm VIII Bbm VI Ebm VI Gb VI Db VI Gb VI

Cm7b5 VII Fm7 VI Bbm7 VI Ebm7 VI Ab7 VI Dbma7 VI Gbma7 VI

D major

FRET
↓

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

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

7 B E A D F# B
G

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

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

14 F# B E A C# F#

Stepwise chord progression

D VII Em VII F#m IX G VII A VII Bm VII C#dimVIII D VII

Dma7 VII Em7 VII F#m7 VII Gma7 VII A7 IX Bm7 VII C#m7b5VIII Dma7 VII

Chord progression in perfect fourths

C#dimVIII F#m IX Bm VII Em VII A VII D VII G VII

C#m7b5VIII F#m7 VII Bm7 VII Em7 VII A7 IX Dma7 VII Gma7 VII

Eb major

FRET
↓

1 F Bb Eb Ab C F
G C F Bb D G

5 Ab Eb Ab F Bb
D G C

7 C F Bb Eb G C
D G C F D

9 Eb Ab Bb Eb
D G

12 F Bb Eb Ab C F

14

Stepwise chord progression

Eb VI Fm VIII Gm V Ab VI Bb VI Cm V Ddim V Eb VI

Ebma7 VI Fm7 VIII Gm7 V Abma7 VI Bb7 VI Cm7 VIII Dm7b5VI Ebma7 VI

Chord progression in perfect fourths

Ddim V Gm V Cm V Fm VIII Bb VI Eb VI Ab VI

Dm7b5VI Gm7 V Cm7 VIII Fm7 VIII Bb7 VI Ebma7 VI Abma7 VI

E major

FRET

↓

1 F# B A C# F#

5 G# C# F# B G#

7 B A F# B

9 C# F# B G# C#

12 A B

14 F# B A C# F#

Stepwise chord progression

E IX F#m IX G#m VII A IX B VII C#m IX D#dim VIII E IX

Ema7 IX F#m7 X G#m7 IX Ama7 IX B7 IX C#m7 IX D#m7b5 XI Ema7 IX

Chord progression in perfect fourths

D#dim VIII G#m VII C#m IX F#m IX B VII E IX A IX

D#m7b5 XI G#m7 IX C#m7 IX F#m7 X B7 IX Ema7 IX Ama7 IX

F major

FRET

↓

1 F Bb C F

5 A D G C E A

7 E A D

9 D G C F A D

12 E A D G E

14 F Bb C F

Stepwise chord progression

F VIII Gm VI Am VIII Bb VI C VIII Dm VII Edim VI F VIII

Fma7 VIII Gm7 VI Am7 V Bbma7 VII C7 IX Dm7 VII Em7b5 VII Fma7 VIII

Chord progression in perfect fourths

Edim VI Am VIII Dm VII Gm VI C VIII F VIII Bb VI

Em7b5 VII Am7 V Dm7 VII Gm7 VI C7 IX Fma7 VIII Bbma7 VII

F# major

FRET
↓

1 E# A# D# G# E#
F# B C# F#
E# A#
G# C# F# B D# G#
5 A# D# G# C# E# A#
7 B F# B
E# A# D#
9 C# F# B G# C#
E#
D# G# C# F# A# D#
12 B
E# A# D# G# E#
14 F# B C# F#

Stepwise chord progression

F# VI G#m VI A#m VI B VII C# VI D#m VI E#dim VIII F# VI

F#ma7 VI G#m7 IV A#m7 VI Bma7 VII C#7 VI D#m7 VI E#m7b5 VIII F#ma7 VI

Chord progression in perfect fourths

E#dim VIII A#m VI D#m VI G#m VI C# VI F# VI B VII

E#m7b5 VIII A#m7 VI D#m7 VI G#m7 IV C#7 VI F#ma7 VI Bma7 VII

Gb major

FRET
↓

1 F Bb Eb Ab F
Gb Cb Db Gb
F Bb
Ab Db Gb Cb Eb Ab
5 Bb Eb Ab Db F Bb
7 Cb Gb Cb
F Bb Eb
9 Db Gb Cb Ab Db
F
Eb Ab Db Gb Bb Eb
12 Cb
F Bb Eb Ab F
14 Gb Cb Db Gb

Stepwise chord progression

Gb VI Abm VI Bbm VI Cb VII Db VI Ebm VI Fdim VIII Gb VI

Gbma7 VI Abm7 IV Abm7 VI Cbma7 VII Db7 VI Ebm7 VI Fm7b5 VIII Gbma7 VI

Chord progression in perfect fourths

Fdim VIII Bbm VI Ebm VI Abm VI Db VI Gb VI Cb VII

Fm7b5 VIII Abm7 VI Ebm7 VI Abm7 IV Db7 VI Gbma7 VI Cbma7 VII

G major

FRET

↓

1

F# B E A F#

G C D G

5

F# B

A D G C E A

7

B E A D F# B

C G C

9

F# B E

D G C A D

12

F#

E A D G B E

14

F# B E A F#

Stepwise chord progression

G VII Am VII Bm VII C VIII D VII Em VII F#dimVII G VII

Gma7 VII Am7 VII Bm7 VII Cma7 VII D7 VII Em7 VII F#m7b5VII Gma7 VII

Chord progression in perfect fourths

F#dimVII Bm VII Em VII Am VII D VII G VII C VIII

F#m7b5VII Bm7 VII Em7 VII Am7 VII D7 VII Gma7 VII Cma7 VII

Ab major

FRET

↓

1

F BbEbAb C F

Db

G C F Bb G

5

AbDb EbAb

G C

BbEbAbDb F Bb

7

C F BbEb G C

9

Db AbDb

G C F

EbAbDbGbBbEb

12

F BbEbAb C F

14

DbGb

Stepwise chord progression

Ab VIII Bbm VIII Cm VIII Db IX Eb VIII Fm VIII Gdim X Ab VIII

Abma7VIII Bbm7VIII Cm7VIII Dbma7IX Eb7 VIII Fm7 VIII Gm7b5 X Abma7VIII

Chord progression in perfect fourths

Gdim X Cm VIII Fm VIII Bbm VIII Eb VIII Ab VIII Db IX

Gm7b5 X Cm7VIII Fm7 VIII Bbm7VIII Eb7 VIII Abma7VIII Dbma7IX

A major

FRET
↓

Stepwise chord progression

1 F# B E A C# F# G#
2 D
3 G# C# F# B G#
4 A D E A
5 G# C#
6 B E A D F# B
7
8 C# F# B E G# C#
9 D A D
10 G# C# F#
11 E A D B E
12 G#
13 F# B E A C# F#
14

Chord progression in perfect fourths

A VII Bm VII C#m VI D VII E VII F#m VI G#dim VII A VII
Ama7 VII Bm7 VII C#m7 VII Dma7 VII E7 VII F#m7 VII G#m7b5 VII Ama7 VII
G#dim VII C#m VI F#m VI Bm VII E VII A VII D VII
G#m7b5 VII C#m7 VII F#m7 VII Bm7 VII E7 VII Ama7 VII Dma7 VII

Bb major

FRET
↓

Stepwise chord progression

1 F Bb Eb C F
2 A
3 G C F Bb D G
4 Eb
5 A D G C A
6 Bb Eb F Bb
7 A D
8 C F Bb Eb G C
9 D G C F A D
10 Eb Bb Eb
11 A D G
12 F Bb Eb C F
13 A
14

Chord progression in perfect fourths

Bb VI Cm V Dm V Eb VI F V Gm V Adim IV Bb VI
Bbma7 VI Cm7 VIII Dm7 V Ebma7 VI F7 VI Gm7 VII Am7b5 V Bbma7 VI
Adim IV Dm V Gm V Cm V F V Bb VI Eb VI
Am7b5 V Dm7 V Gm7 VII Cm7 VIII F7 VI Bbma7 VI Ebma7 VI

B major

FRET



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

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

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

9 D# C# F# A# D#
E B E

12 D# G#
F# E C# F#

14

Stepwise chord progression

B VII C#m VI D#m VI E VII F# VI G#m VII A#dim V B VII

Bma7 VI C#m7 V D#m7 IV Ema7 V F#7 VII G#m7 VI A#m7b5 IV Bma7 VI

Chord progression in perfect fourths

A#dim V D#m VI G#m VII C#m VI F# VI B VII E VII

A#m7b5 IV D#m7 IV G#m7 VI C#m7 V F#7 VII Bma7 VI Ema7 V

Cb major

FRET



1 Bb Eb Ab
Gb Cb Fb Db Gb
Bb
Ab Db Gb Cb Eb Ab

5 Fb
Bb Eb Ab Db Bb

7 Cb Fb Gb Cb
Bb Eb

9 Db Gb Cb Fb Ab Db
Eb Ab Db Gb Bb Eb

12 Fb Cb Fb
Bb Eb Ab

14 Gb Cb Fb Db Gb

Stepwise chord progression

Cb VII Dbm VI Ebm VI Fb VII Gb VI Abm VII Bbdim V Cb VII

Cbma7 VI Dbm7 V Ebm7 IV Fbma7 V Gb7 VII Abm7 VI Bbm7b5 IV Cbma7 VI

Chord progression in perfect fourths

Bbdim V Ebm VI Abm VII Dbm VI Gb VI Cb VII Fb VII

Bbm7b5 IV Ebm7 IV Abm7 VI Dbm7 V Gb7 VII Cbma7 VI Fbma7 V

CHAPTER 14: ARPEGGIO FINGERING

A. TRIAD ARPEGGIOS

1. Major By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1			
2			1 1
		2	
3	3		
			4

1			1 1
		2	
3	3		
4			4

1 1			
3		1	1
		2	
		3	
			4

1		1	1
			2
	3		
4	4		4

	1		
2	2		1
	3	3	3
			4

1	1			1
		2	2	2
4				4

		1	1	1
		3		
4			4	4

TWO OCTAVES AND TWO ARPEGGIO TONES

1			
2			1
		2	
3	3		
			1
		2	
			4

1			
	1	1	
3		1	1
		2	
	3		
			4

1			
3			
	1		
	2		1
	3	3	3
			4

1		1	
	3		
4	4		1
		3	3
			4

1			
	1		
	3		
4		1	1
	2		
	3		
			4

		1		
		3		
4			1	
		2		
		3		
				1
			2	
				4

THREE OCTAVES

1				
	1			
3				
	1			
2			1	
	3	3	3	
				4

	1	1		
3				
	1	1		
3				
		1	1	
		2		
				4

1				
	1			
	3			
4			1	
		2		
		3		
				1
			2	
				4

2. Major By Formula.

TWO OCTAVES AND ONE ARPEGGIO TONE

3			
R			5 R
		3	
5 R			
			3

R			5 R
		3	
5 R			
3			3

5 R			
3		5	3
			R
		3	
			5

3		5	3
			R
		3	
5 R			5

	3		
5 R			5
		5 R 3	
		3	
			R

	5 R 3		
3			
R			5 R

TWO OCTAVES AND TWO ARPEGGIO TONES

3			
R			5
		3	
5 R			
			3
			R
			5

R			
5 R			
3		5	3
			R
		3	
			5

5			
3			
R			5
		5 R 3	
			R

3		5	
		3	
5 R			5
			R 3
			R

5			
5			
3			
R			5 R
		3	
		R	
			3
			R
			5

THREE OCTAVES

R			
5			
3			
		3	
R			5
		5 R 3	
			R

5 R			
3			
		5 R	
3			
			5 R
		3	
			3

5			
5			
3			
R			5
		3	
		R	
			3
			R
			5

3. Minor By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1			
3		1	1
3	3		
			4

1		1	1	1
	3	3		
4				4

1	1		
2			1
		2	
	3	3	
			4

1				1
			1	
		2	2	
4	4			4

	1		
3	3		1
		2	
	3	3	
			4

1	1			1
			2	
		3	3	
4				
				4

	1	1	
	2		
4		3	3

TWO OCTAVES AND TWO ARPEGGIO TONES

1			
3		1	1
3	3		
			1
		2	
			4

1			
	1	1	
2			1
		2	
	3	3	
			4

1			
	1		
3	3		1
		2	
	3	3	
			4

1			
	1		
2			
4		1	1
	3		
			4

	1		
	2		
4		1	1
	3		
			1
		2	
			4

THREE OCTAVES

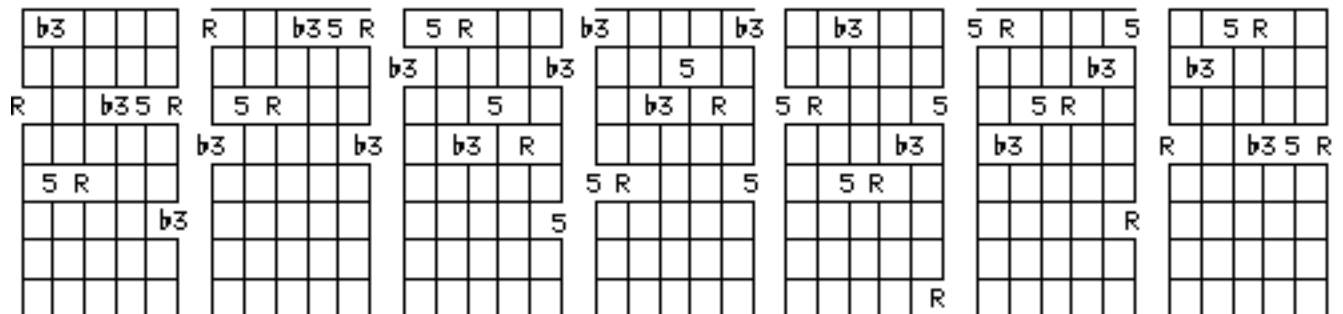
1		1	1
	3	3	
4			
			1
		2	
	3		
			4

	1	1	
2			
	1		
2			
		1	1
	3		
			4

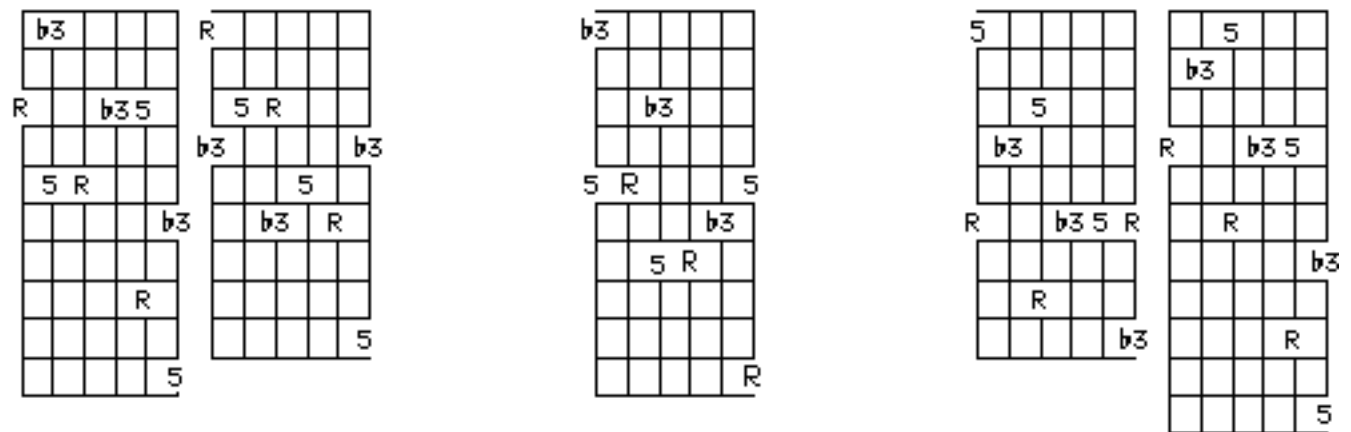
1			
	1		
2			
4		1	1
	3		
			1
		2	
			4

4. Minor By Formula

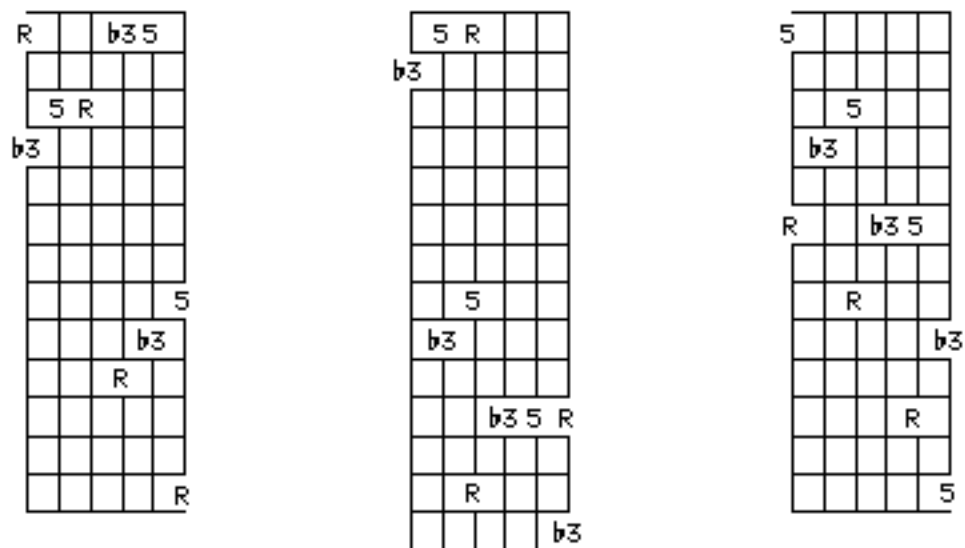
TWO OCTAVES AND ONE ARPEGGIO TONE



TWO OCTAVES AND TWO ARPEGGIO TONES



THREE OCTAVES



B. SEVENTH CHORD ARPEGGIOS

1. Dominant Seventh By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1			
2	1	1	1
		2	
3	3		
			4
			4

1	1	1	
		2	
3	3		3
4		4	4

1	1		
			1
2		2	2
3		3	
	4		
			4

1		1	1
	2		1
	3		
4	4	4	4

1			
	1		
2	2	1	1
	3	3	3
			4

1	1	1	1
		2	2
3			3
			4

	1	1	1
2			2
	3		
4	4	4	4

TWO OCTAVES AND TWO ARPEGGIO TONES

1			
	1	1	
3		1	1
	4		2
		3	
		4	4

1			
	1		
		1	
3	1	1	1
	2	2	2
			3
	4		

1	1	1	1
		2	2
3			3
			4

1			
	1		
2		1	1
		2	
	3	3	
			4

TWO OCTAVES AND THREE ARPEGGIO TONES

1	1		
		1	
	2	2	
4			
			1
		2	1
	4	4	
			4

1			
	1		
3	1	1	1
	2	2	2
			3
	4		
			4

1	1	1	
		2	
3			
	4		
			1
		2	
	3		
		3	
			4

1			
	1		
2		1	1
		2	
	3	3	
			1
			2
			4
			4

THREE OCTAVES

1	1		
		2	
	3	3	
4			
			1
		2	1
	4	2	
			3
			4

1			
	1		
3	1	1	
	2		
	4		
			1
		1	1
		2	
	3		
		3	
			4

1	1	1	
		2	
3			
	4		
			1
		2	
	3		
			1
			2
			4
			4

1			
	1		
2		1	
	3		
			1
		3	
	4		
			1
		1	1
			2
	4	4	

2. Dominant Seventh By Formula.

TWO OCTAVES AND ONE ARPEGGIO TONE

3			
R	b7	5	R
5	R	3	
		b7	
			3

R	b7		R
	3		
5	R		
		b7	
3		5	3

5	R		
		b7	
3		5	3
b7		R	
	3		
			5

3		5	3
b7		R	
	3		
5	R	b7	5

b7			
	3		
5	R	b7	5
	5	R	3
			b7

5	R	b7	5
	5	R	3
b7			b7
	3		

	5	R	3
b7			b7
	3		
R	b7	5	R

TWO OCTAVES AND TWO ARPEGGIO TONES

R			
5	R		
3		5	3
b7		R	
	3		
		b7	5

3			
b7			
5	R	b7	5
	5	R	3
			b7
3			

5	R	b7	5
	5	R	3
b7			b7
	3		
			R

b7			
	3		
R	b7	5	R
		3	
	5	R	
		b7	
			3

TWO OCTAVES AND THREE ARPEGGIO TONES

R	b7		
		3	
5	R		
3			
		R	
	b7	5	
	5	3	
			b7

3			
b7			
5	R	b7	5
	5	R	3
			b7
3			
			R

5	R	b7	
	5		
b7			
	3		
		5	R
		3	
	R		b7
			R

b7			
	3		
R	b7	5	
		3	
	5	R	
			3
		R	
	b7	5	

THREE OCTAVES

R	b7		
		3	
5	R		
3			
		R	
	b7	5	
	5	3	
			b7
			R

3			
b7			
5	R	b7	
	5		
3			
		5	R
		3	
	R		
		b7	
			3

5	R	b7	
	5		
b7			
	3		
		5	
		3	
	R		
			3
		R	
			5
	b7		

b7			
	3		
R	b7		
	5		
		5	
	3		
	R		
		R	3
			b7
	b7	5	

3. Minor Seventh By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1	1	1	1	1
3	3			
4			4	4

1	1			
2			1	1
		2		
3	3	3		
				4

1				1
		1		
2	2	2	2	
4	4	4	4	4

1	1	1		
2	2	2	2	1
			2	
4	4			4
				4

1	1	1	1	
			2	
		3	3	
4	4			4

	1	1		
2	2			1
4	3	3	3	3

1	1			1
2			2	2
			2	2
4	4			

TWO OCTAVES AND TWO ARPEGGIO TONES

1				
	1	1		
2			1	1
		2		
3	3	3		
				4

1				
	1	1	1	
3	3	2	1	
		2		
	4			
				4

1	1	1		
2	2	2		
4	4			3
				4

1				
	1	1	1	1
3	3			
4				4

TWO OCTAVES AND THREE ARPEGGIO TONES

1	1			
3				
4			1	
		2		
	3			
4			1	
		2		
	3			
				4

1				
	1	1	1	
3	3	2		
4				
				1
			3	3
		3	3	3

1	1	1		
2	2	2		
4	4			
			1	1
			3	
				4
				4

1				
	1			
3				
4			1	1
		2		
	3	3		
4				4

THREE OCTAVES

1	1			
3				
4			1	
		2		
	3			
4			1	
		2		
	3			
				3
				4

1				
	1	1	1	
3	3	2		
4				
				1
			3	3
			3	3
				4

1	1	1		
3				
4	4			
		1	1	
3				
			1	
			2	
	4			4

1				
	1			
3				
4			1	
		2		
	3			
4			1	
		2		
	3			
				4

4. Minor Seventh By Formula.

TWO OCTAVES AND ONE ARPEGGIO TONE

R	b7	b3	5	R
	5	R		
b3			b7	b3

5	R			
b3			b7	b3
		5		
b7	b3		R	
				5

b3				b3
		5		
	b7	b3		R
5	R		b7	5

b7	b3			R
5	R		b7	5
		b3		
	5			b7

5	R		b7	5
			b3	
		5	R	
b7	b3			b7

	5	R		
b7	b3			b7

R		b7	b3	5	R
	5	R			

TWO OCTAVES AND TWO ARPEGGIO TONES

R				
	5	R		
b3			b7	b3
		5		
b7	b3		R	
				5

b3				
	b7	b3		R
5	R		b7	5
			b3	
	5			b7
				b3

b7	b3		R	
5	R		b7	
		5		
				b7
				b3

5	R		b7	5
			b3	
		5	R	
b7	b3			b7
				R

b7					
R		b7	b3	5	R
	5	R			
b3			b7	b3	

TWO OCTAVES AND THREE ARPEGGIO TONES

R		b7		
	5			
b3			b7	
		5		
		b3		
R			5	
			b3	
		R		
				b7

b3				
	b7	b3		R
5	R		b7	5
				b7
	5			
				b7
				b3
				5

b7	b3		R	
5	R		b7	
		5		
				b7
				b3
				5
				b7

5	R		b7	5
			b3	
		5	R	
b7	b3			b7

b7				
R		b7		
	5			
b3			b7	b3
		5		
		b3		R
R				5

THREE OCTAVES

R		b7		
	5			
b3			b7	
		5		
		b3		
R			5	
			b3	
		R		
				b7
				R

b3				
	b7	b3		R
5	R		b7	5
				b7
	5			
				b7
				b3
				5
				b3

5	R		b7	5
			b3	
		5	R	
b7	b3			b7

b7				
R		b7		
	5			
b3			b7	b3
		5		
		b3		
R				5
				b3
		R		
				b7

5. Major Seventh By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1			
1			1 1
	2 2		
3 3			
			4 4

1			1
	1 1		
	2 2		
4		4 4 4	

1 1			
2		1 1 1	
		2	
4 3			
			4

1		1 1 1	
		2	
3 3			
4 4			4

1 1			
2 2			1
	2		
3 3 3			
			4

1 1			1
		1	
	2 2 2		
4 4			4

	1 1 1		
2 2			2
3			3 3
	4		

TWO OCTAVES AND TWO ARPEGGIO TONES

1			
	1		
2			
4		1 1 1	
		2	
	3		
4			4

1			
1 1			
2 2			1
	2		
3 3 3			
			4

1 1			
		1	
	2 1 1		
4 4			3
			4 4

1 1			
2			1 1
	2 2		
3 3			
			4 4

TWO OCTAVES AND THREE ARPEGGIO TONES

1			
	1		
2			
4		1 1	
	3		
4			1
	3 3		
			4

1		1 1	
		3 3	
4 4			
			1
		2 2	
	3		
4			

1 1			
		1	
	2		
4 4			
		1 1	
	2		
3			
			4 4

1 1			
2			1
	2 2		
3 3			
			1
			2
	3		
			4

THREE OCTAVES

1			
	1		
2			
4		1 1	
	3		
4			
			1
		2 2	
	3		
4			

1		1 1	
		2 2	
3 3			
			1 1
	2		
3			
			4 4

1 1			
		1	
	2		
4 4			1
		2	
	3		
4			
			1
		2	
			4

1			
1			
	1		
2			
		1 1	
	3		
4			1
		3 3	
			4

6. Major Seventh By Formula.

TWO OCTAVES AND ONE ARPEGGIO TONE

3			
R			5 R
	7 3		
	5 R		
			7 3

R			R
	7 3		
	5 R		
3		5 7 3	

5 R			
3		5 7 3	
		R	
	7 3		
			5

3		5 7 3	
		R	
	7 3		
5 R			5

7 3			
5 R			5
		7	
		5 R 3	
7 3			7

5 R			5
		7	
		5 R 3	
7 3			7

		5 R 3	
7 3			7
R			5 R
	7		

TWO OCTAVES AND TWO ARPEGGIO TONES

R			
	7		
	5		
3		5 7 3	
		R	
	3		
R			5

3			
	7 3		
5 R			5
		7	
		5 R 3	
			7

5 R			
		7	
		5 R 3	
7 3			7
			5 R

7 3			
R			5 R
		7 3	
		5 R	
			7 3

TWO OCTAVES AND THREE ARPEGGIO TONES

R			
	7		
	5		
3		5 7	
		3	
R			5
		R 3	
			7

3		5 7	
	7 3		
5 R			
			7
			5 R
		3	
R			

5 R			
		7	
		5	
7 3			
			5 R
		3	
	R		
			7 3

7 3			
R			5
		7 3	
		5 R	
			R
			5
		7	
			3

THREE OCTAVES

R			
	7		
	5		
3		5 7	
		3	
R			
			7
			5 R
		3	
R			
			7 3

3		5 7	
	7 3		
5 R			
			5 R
		3	
R			
			7 3

5 R			
		7	
		5	
7 3			7
			5
		3	
	R		
			3
			R
			5

7			
R			
		7	
		5	
3		5 7	
		3	
R			
			5
			R 3
			7

Figure 1 displays eight 4x4 grids, each containing numbers 1, 2, 3, and 4. The numbers are placed in various positions within the grids, representing different states of a 4x4 grid with numbers 1, 2, 3, and 4.

Two derivatives and three full logic puzzles.

Figure 1 shows four 5x5 grids, each representing a different configuration of numbers 1, 2, 3, and 4. The numbers are placed in specific cells, and some cells are empty. The configurations are as follows:

- Grid 1 (Leftmost):**
 - Row 1: 1, 1, empty, empty, empty
 - Row 2: 2, empty, empty, empty, empty
 - Row 3: empty, empty, empty, empty, empty
 - Row 4: 4, empty, 1, 1, empty
 - Row 5: empty, 3, empty, empty, 1
- Grid 2:**
 - Row 1: 1, 1, empty, empty, empty
 - Row 2: 1, empty, empty, empty, empty
 - Row 3: 3, empty, 1, empty, empty
 - Row 4: 4, empty, 2, empty, empty
 - Row 5: empty, 3, empty, empty, empty
- Grid 3:**
 - Row 1: 1, empty, empty, empty, empty
 - Row 2: 1, 1, empty, empty, empty
 - Row 3: empty, 2, empty, empty, empty
 - Row 4: 4, 4, empty, empty, 1
 - Row 5: empty, empty, 2, empty, empty
- Grid 4 (Rightmost):**
 - Row 1: 1, empty, empty, empty, empty
 - Row 2: 1, empty, empty, empty, empty
 - Row 3: empty, 2, empty, empty, empty
 - Row 4: 4, empty, 1, 1, empty
 - Row 5: empty, 3, empty, empty, 1

8. Minor Seventh Flat 5 By Formula

TWO OCTAVES AND ONE ARPEGGIO TONE

R	b7	b3	R
b5			
	R		
b3		b5	b7

	R		
b3		b5	b7
b7	b3	R	

b3			
b7	b3	R	
b5			b5

	b3	R	
b5			b5
R	b7		
b5	b3		

b5			b5
	R		
	b5	b3	
	R		

	b5		
		R	
b7	b3		b7
		b5	

		R	
b7	b3		b7
		b5	
R	b7	b3	R

b5			b5
R	b7		
b5	b3		

b7			b7

TWO OCTAVES AND TWO ARPEGGIO TONES

R	b7		
b5			
b3		b5	b7

	R		
b3		b5	b7
b7	b3		

b3			
b7	b3	R	
b5			b5

	b3	R	
b5			
R	b7		
b5			

	b5		
		R	
b7	b3		b7
		b5	

		R	
b7	b3		b7
		b5	
R	b7	b3	R

TWO OCTAVES AND THREE ARPEGGIO TONES

R	b7		
b5			
b3		b5	b7

	R		
b3			
b7		R	

b3			
b7	b3		
b5			b5

	b5		
		R	b7
	b5		

THREE OCTAVES

R	b7		
b5			
b3		b5	b7

	R		
b3			
b7		R	

b5			

	b5		
		R	b7
	b5		

C. SIXTH AND DIMINISHED SEVENTH ARPEGGIOS

1. Major Sixth (also called "sixth") By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1	1		
2			1 1
		2	
3	3	3	
			4

1			1
		1	
2	2	2	
4	4	4	4

1	1	1	
2	2	2	1
			2
			4
			4

1	1	1	1
			2
		3	3
4	4		4

	1	1	
2	2		1
4	3	3	3

1	1		1
2	2	2	2
4	4		

1		1	1	1	1
3	3				
4				4	4

TWO OCTAVES AND TWO ARPEGGIO TONES

1			
1	1	1	
3	3	2	1
		2	
	4		
			4

1	1	1	
2	2	2	
			1
			3
			4

1	1	1	1
			2
		3	3
4	4		3
			4

1			
1	1	1	1
3	3		
4		4	4

1			
1	1		
2		1	1
		2	
	3	3	3
			4

TWO OCTAVES AND THREE ARPEGGIO TONES

1			
1	1	1	
3	3	2	
	4		
			1
			3
		3	3
			3

1	1	1	
2	2	2	
			1
			3
			4
			4

1	1	1	
		3	
4	4		
		1	1
		3	
			4
			4

1			
1	1		
3			
4		1	1
	2		
	3	3	
4			4

1		1	
		3	
4			1
		2	
		3	
	4		1
		2	
		3	
			4

THREE OCTAVES

1			
1	1	1	
3	3	2	
	4		
			1
			3
		3	3
			3
			4

1	1	1	
		3	
4	4		
		1	1
		3	
			1
			2
			4
			4

1			
1	1		
3			
4		1	
	2		
	3		
4		1	
		2	
		3	
			4

1		1	
		3	
4			1
		2	
		3	
	4		1
		2	
		3	
			3
			4

2. Major Sixth (also called “sixth”) By Formula.

TWO OCTAVES AND ONE ARPEGGIO TONE

3	6		
R			5 R
		3	
5	R	6	
			3

R			R
		3	
	5	R	6
3	6	5	4

5	R	6	
3	6	5	3
			R
	3		
			5

3	6	5	3
			R
	3	6	
5	R		5

	3	6	
5	R		5
6	5	R	3
3	6		

5	R		5
6	5	R	3
3	6		

6	5	R	3	6
3	6			
R			5	R

TWO OCTAVES AND TWO ARPEGGIO TONES

R			
	5	R	6
3	6	5	3
			R
	3		
			5

5	R	6	
3	6	5	
	3		
			5
			R
			3

3	6	5	3
			R
	3	6	
5	R		5
			6

5			
6	5	R	3
3	6		
R			5

6			
3	6		
R			5
5	R	6	
			3

TWO OCTAVES AND THREE ARPEGGIO TONES

R			
	5	R	6
3	6	5	
	3		
			5
			R
			3

5	R	6	
3	6	5	
	3		
			5
			R
			3

3	6	5	
	3		
5	R		
			R
			3
			6
			5
			R

5			
6	5		
3			
R			5
	3		
	R		6
6			R

6	5		
3			
R			5
	3		
	R		
6			3
			R
			6
			5

THREE OCTAVES

R			
	5	R	6
3	6	5	
	3		
			5
			R
			3
			6
			5
			R

3	6	5	
	3		
5	R		
			R
			3
			6
			R
			6
			5
			3

5			
6	5		
3			
R			5
	3		
	R		
6			3
			R
			6
			5
			6

6	5		
3			
R			5
	3		
	R		
6			3
			R
			6
			5
			6

3. Minor Sixth By Finger Number.

TWO OCTAVES AND ONE ARPEGGIO TONE

1	1		
1		1	1
3	3		3
4			4

1			
	1	1	1
2			2
3	3		
	4	4	

1	1		1
1		2	2
		3	3
4			4

1			1
	1	1	
	2	2	
4	4		4

	1		
2	2		2
			3
4	4	4	4

		1	
1	1		1
			2
3	3	3	3
4			

1	1	1	1
	2		
	3		
4		4	4

TWO OCTAVES AND TWO ARPEGGIO TONES

1	1		
1		1	1
3	3		
4			1
			2
		3	
			4

1			
	1	1	1
2		2	1
3			
	4	3	
			4

1	1		
1		2	
	2		
4	4		1
		3	3
		3	3

1			
	1	1	1
	2		
4		4	4

1	1		
	2		
4		1	1
		3	3
			4

TWO OCTAVES AND THREE ARPEGGIO TONES

1	1		
1			
	3		1
4			
		2	
	3		
4		1	
		2	
	3	3	

1			
	1	1	
2			
3			
		1	
			1
		2	
	3	3	3
4			

1			
	1	1	
	2		
4	4		
		1	1
	3		
		4	4
			4

	1		
2	2		
4			
	1	1	1
	3	3	3
			4

1	1		
	2		
4		1	1
		3	
			1
	4		
		2	
		3	
			4

THREE OCTAVES

1	1		
1			
	3		1
4			
		2	
	3		
4		1	
		2	
	3	2	
			4

1			
	1	1	
	2		
4	4		
		1	
		2	
	4		
			1
		2	
			3
	4		

1			
	1	1	
	2		
4		1	1
	3		
			1
4			
		2	
		3	
			4

1	1		
	2		
4		1	1
		3	
	4		
		2	
		3	
			4

4. Minor Sixth By Formula.

TWO OCTAVES AND ONE ARPEGGIO TONE

	6		
R		b3	5 R
	5 R	6	
b3			b3

R			
	5 R	6	
b3			b3
	6	5	
	b3	R	

	R	6	
b3			b3
	6	5	
	b3	R	
5			5

b3			b3
	6	5	
	b3	R	
5 R			5
6	5 R	6	

		6	
5 R			5
		b3	
6	5 R	6	
b3			

6	5 R	6	
b3			
	6		
R		b3	5 R

TWO OCTAVES AND TWO ARPEGGIO TONES

	6		
R		b3	5
	5 R		
b3			b3
			R
	6		
			5

R			
	5 R	6	
b3		5	b3
	6		
	b3	R	
			5

	R	6	
b3			
	6	5	
	b3		
5			5
		b3	
	R	6	

	b3	R	
	6		
5 R			
6	5	6	
			b3
			5 R

5			
6	5 R	6	
	b3		
	6		
R		b3	5 R

6	5		
b3			
R		b3	5 R
	R	6	
6			

TWO OCTAVES AND THREE ARPEGGIO TONES

	6		
R			
5		6	
b3			
	5		
	b3		
R		5	
		b3	
	R	6	

R			
	5 R		
b3			
	6		
	6		
			5
		b3	
	5 R	6	
b3			

b3			
	6	5	
	b3		
5 R			
		R	6
	6		
		b3	5 R
	5 R	6	
			b3

	b3		
5 R			
6			
		b3	5 R
	5 R	6	
			b3

6	5		
b3			
R		b3	5
	R		
			b3
6			
		R	
		6	
			5

THREE OCTAVES

	6		
R			
5		6	
b3			
	5		
	b3		
R		5	
		b3	
	R	6	
			R

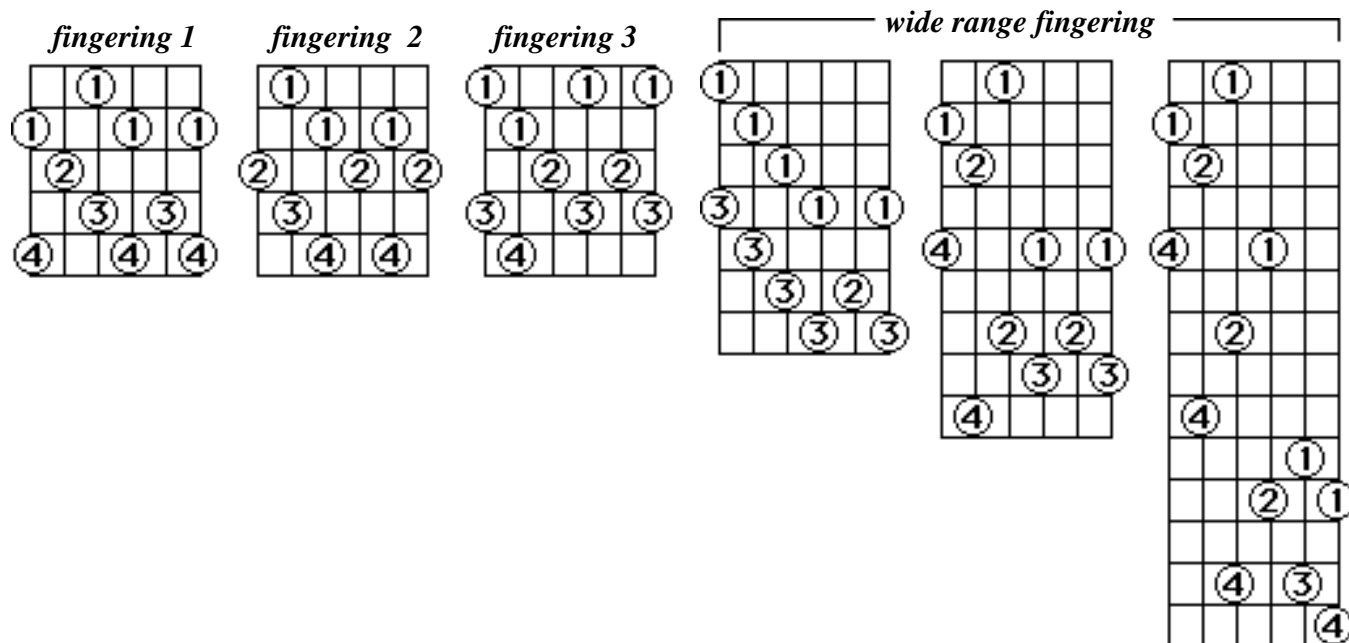
b3			
	6	5	
	b3		
5 R			
		b3	
		R	
	6		
			R
		6	
			b3
	5		

5			
6	5		
	b3		
R		b3	5
	R		
			b3
6			
		R	
	6		
			5
			6

6	5		
b3			
R		b3	5
	R		
			b3
6			
		R	
	6		
			5
			6

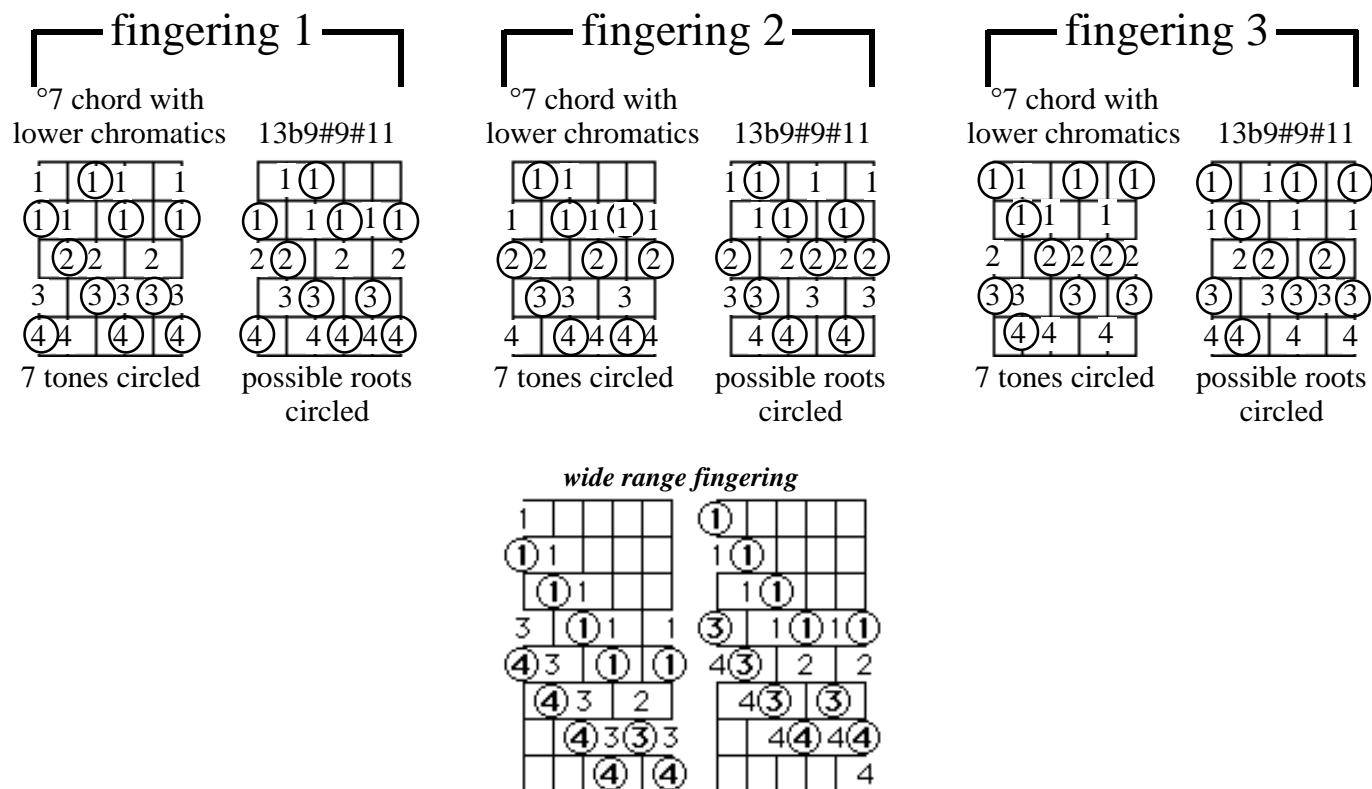
5. Diminished Seventh Arpeggio.

Any note can be a chord root.



6. Diminished Scale.

All circled notes are diminished seventh chord tones. Diminished seventh arpeggio fingerings 1, 2, and 3 above are each part of the respective diminished scale fingerings below by the same number.



D. FULL FRETBOARD CHORD TONES

MAJOR		MINOR		DOM.7th		MAJ.7th		MIN.7th		MAJ.6th		MIN.6th	

MIN.7b5		DOM.7#5		DOM.7b5	

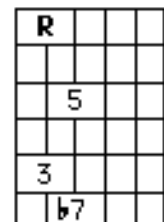
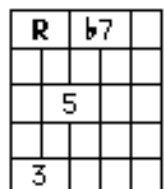
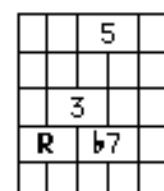
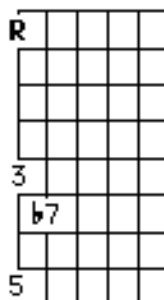
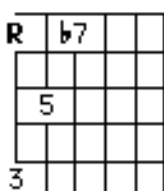
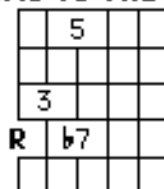
ANY NOTE MAY BE A ROOT IN THE THREE ARPEGGIO TYPES BELOW:

DIM.7th	AUG.	9th±5
<p>THE CIRCLED AREA REPEATS EVERY 3 FRETS</p>	<p>THE CIRCLED AREA REPEATS EVERY 4 FRETS</p>	<p>THE CIRCLED AREA REPEATS EVERY 2 FRETS 9th ± 5 IS THE SAME AS WHOLE TONE SCALE. AUG. IS PART OF 9TH ± 5.</p>

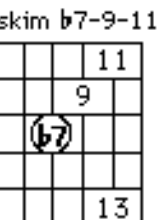
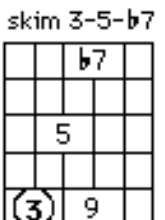
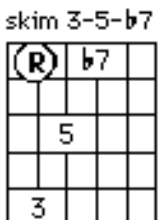
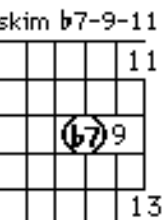
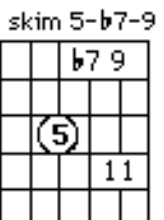
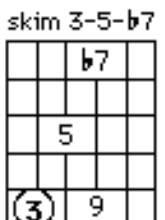
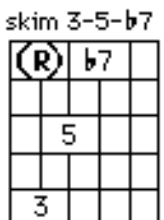
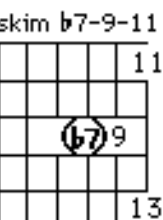
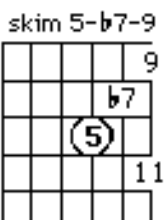
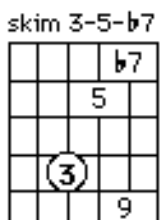
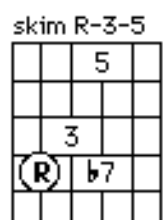
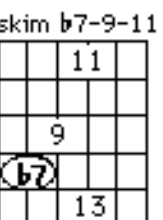
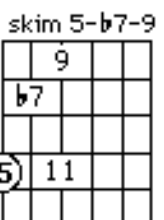
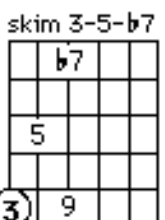
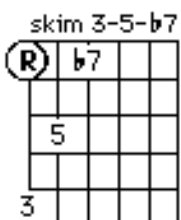
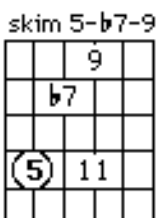
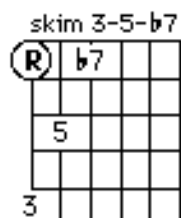
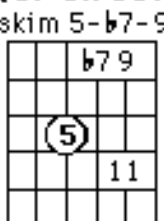
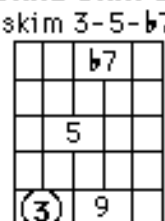
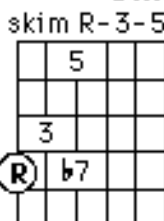
E. "SKIMMED" ARPEGGIOS

1. Dominant 13th Skimmed Arpeggios..

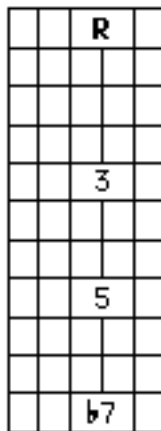
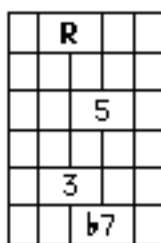
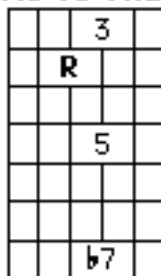
RELATIVE POSITION OF
THE CIRCLED NOTES IN THE
DIAGRAMS TO THE RIGHT



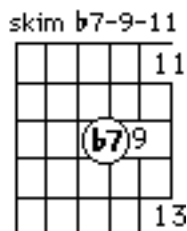
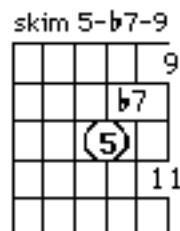
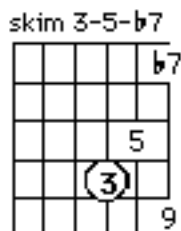
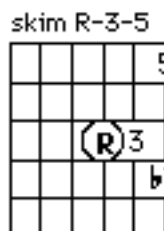
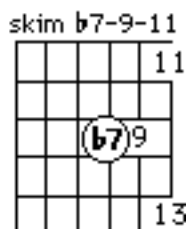
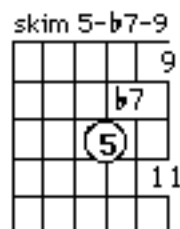
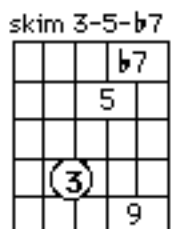
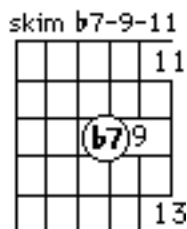
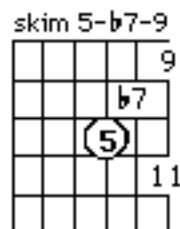
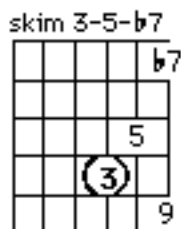
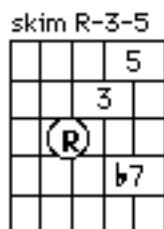
SKIM THE NOTES IN THE
DIAGONAL SHAPE (UP OR DOWN)



**RELATIVE POSITION OF
THE CIRCLED NOTES IN THE
DIAGRAMS TO THE RIGHT**

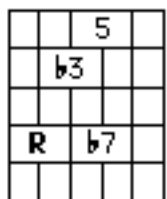
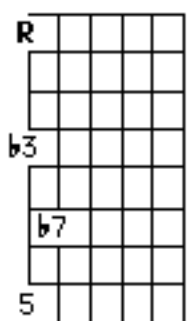
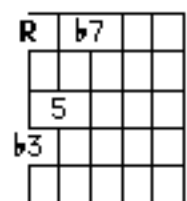
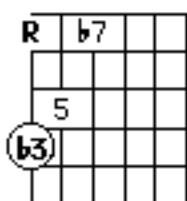
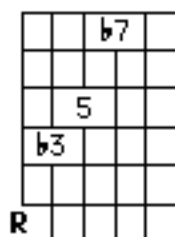


**SKIM THE NOTES IN THE
DIAGONAL SHAPE (UP OR DOWN)**

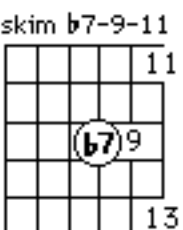
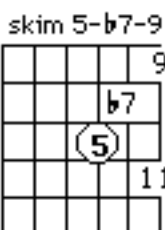
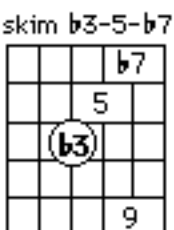
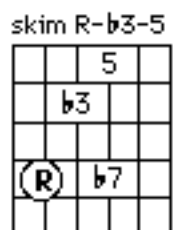
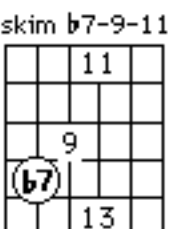
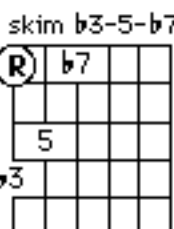
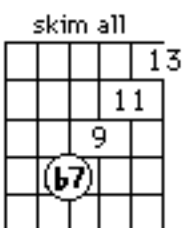
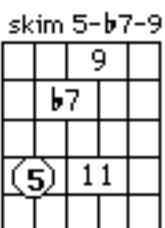
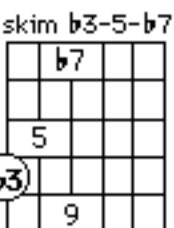
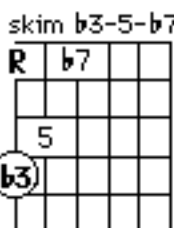
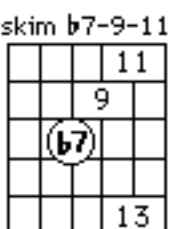
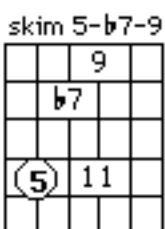
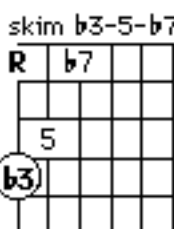
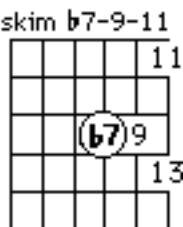
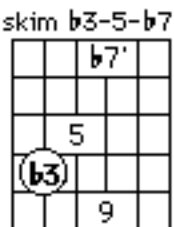


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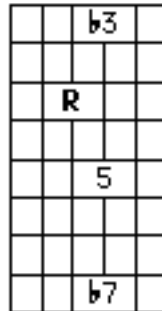
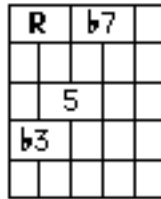
RELATIVE POSITION OF
THE CIRCLED NOTES IN THE
DIAGRAMS TO THE RIGHT



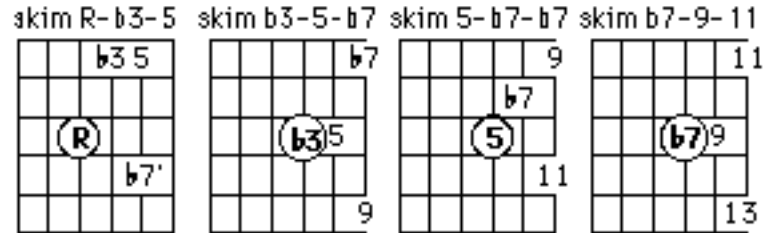
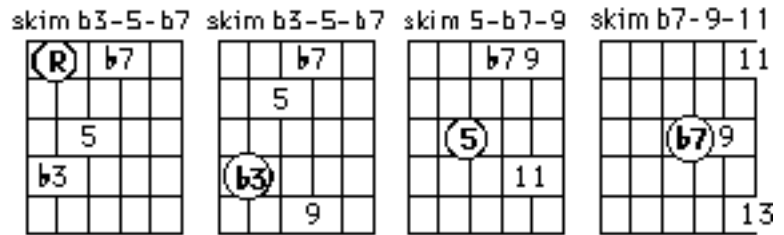
SKIM THE NOTES IN THE
DIAGONAL SHAPE (UP OR DOWN)



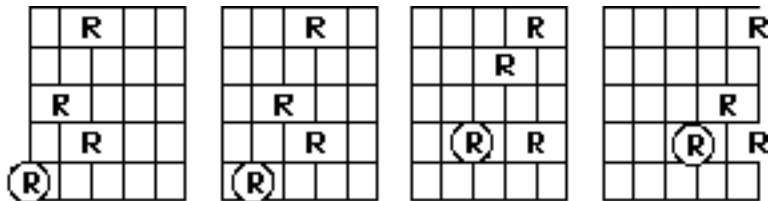
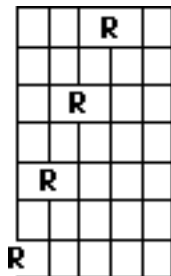
**RELATIVE POSITION OF
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**SKIM THE NOTES IN THE
DIAGONAL SHAPE (UP OR DOWN)**

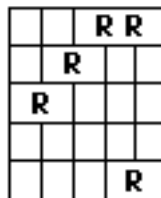


3. Diminished 7th Skimmed Arpeggios.



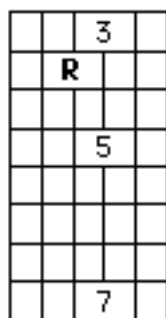
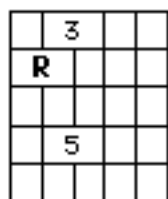
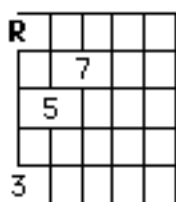
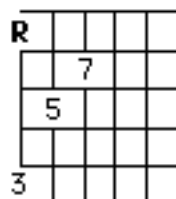
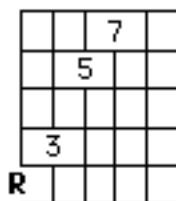
4. Augmented Skimmed Arpeggio.

**REPEAT UP OR DOWN
EVERY FOUR FRETS**



5. Major 13#11 Skimmed Arpeggios.

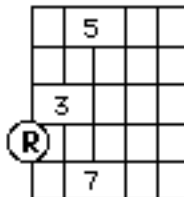
RELATIVE POSITION OF
THE CIRCLED NOTES IN THE
DIAGRAMS TO THE RIGHT



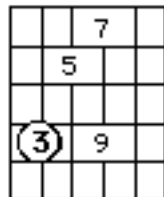
EITHER

SKIM THE NOTES IN THE
DIAGONAL SHAPE (UP OR DOWN)

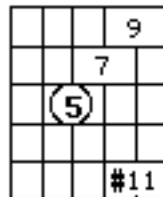
skim R-3-5



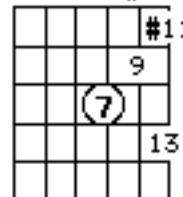
skim 3-5-7



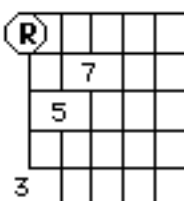
skim 5-7-9



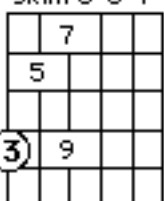
skim 7-9-#11



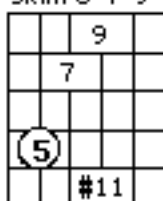
skim 3-5-7



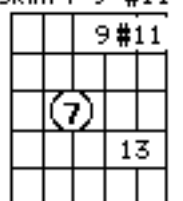
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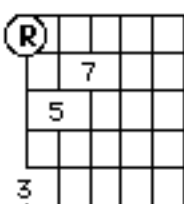
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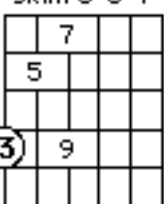
skim 7-9-#11



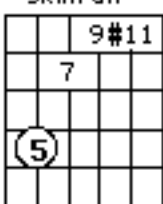
skim 3-5-7



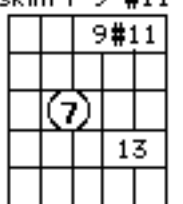
skim 3-5-7



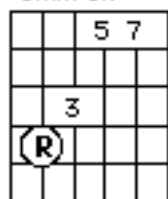
skim all



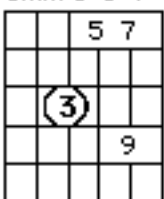
skim 7-9-#11



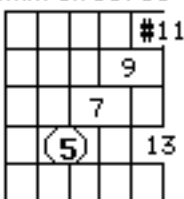
skim all



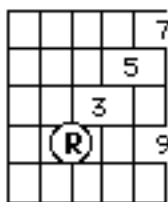
skim 3-5-7



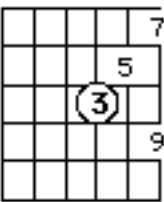
skim all but 13



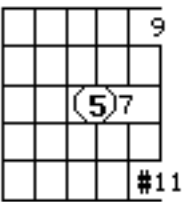
skim all but 9



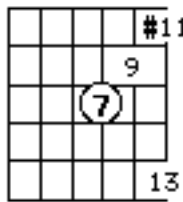
skim 3-5-7



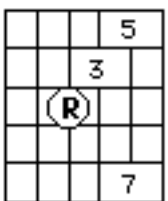
skim 5-7-9



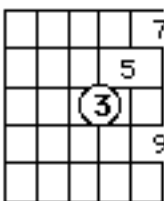
skim 7-9-#11



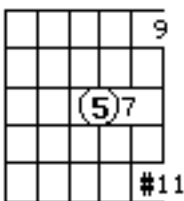
skim R-3-5



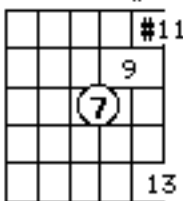
skim 3-5-7



skim 5-7-9



skim 7-9-#11



F. 9TH, 11TH AND 13TH ARPEGGIOS

1. Dominant 9th, 11th And 13th Arpeggios.

3 9 R b7 5 11 13	R b7 5 11 3 9	b7 5 3 R 9	5 3 R b7 11	3 9 R b7 5 11	R b7 9 5 11 3	R b7 9 5 11 3
5 3 R b7 9 13	3 R b7 9 5 11 13	R b7 9 5 3 11	5 13 3 9 R b7 13	5 3 9 R b7 13	5 11 3 9 R b7 13	5 11 3 9 R b7 13

2. Minor 9th, m11th, and m13th Arpeggios

b3 9 R b7 5 11 13	R b7 5 11 13 b3 9	b3 5 R b7 11	b7 b3 5 R 9	b3 R b7 5 11	R b7 9 5 11 b3 11	5 11 b3 11 R b7 9 13
b3 R b7 9 5 11 13	b3 11 R b7 9 5 13	R b7 9 5 13 b3 11	R b7 5 13 b3 11 9	5 13 b3 11 R b7 13	5 13 b3 11 R b7 13	5 13 b3 11 R b7 13

3. Major 9th, Major 9#11 And Major 13#11 Arpeggios

3 9#11 R 7 5 13	R 7 5 13 #11 3 9	7 5 13 R 9	5 3 R 9 7	3 9 R b7 5 7 #11	R b7 9 5 7 3 #11	5 7 3 #11 R 9 13
R 9 7 5 13 3 #11	R 7 5 13 3 9#11	3 #11 R 9 7 13	5 13 3 9#11 R 7	5 3 9#11 R 7 13	5 3 9#11 R 7 13	5 3 9#11 R 7 13

G. SUSPENDED 4TH ARPEGGIOS

1. By Formula.

For sus.2 arpeggios, use these sus.4 arpeggios with the 4th as the root.

2. By Finger Number.

H. 7TH SUSPENDED 4TH ARPEGGIOS BY FINGER NUMBER

7sus4 Formula = 1 4 5 b7. The Circled Notes Are The Chord Roots

I. WHOLE TONE TYPE ARPEGGIOS AND SCALE

1. Whole Tone Scale By Finger Number

Fingering 1	Fingering 2	Fingering 3	Fingering 4				
1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2
3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3
4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4

Tritone, augmented, 7 \flat 5, 7 \sharp 5, 9 \flat 5 and 9 \sharp 5 arpeggios are contained within a whole tone scale built on their chord roots.

Any Note Can Be The Tone Center

2. Tritone. Any Note Can Be The Tone Center.

Fingering 1	Fingering 2	Fingering 3	Fingering 4				
1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2
3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3
4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4

TRITONE IS EVERY THIRD NOTE IN A WHOLE TONE SCALE.

3. Augmented Arpeggio. Any Note Can Be The Chord Root.

Fingering 1	Fingering 2	Fingering 3				
1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2
3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3
4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4

AN AUGMENTED ARPEGGIO IS EVERY OTHER NOTE IN A WHOLE TONE SCALE.

4. Seventh Flat 5 Arpeggio By Finger Number

Circled Notes Are Chord Roots (Formula 1, b3, b5, b7).

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

7b5 arpeggio = 7b5 arpeggio on its' flat fifth.

A 7b5 arpeggio occurs on the 3rd of a 9#5.

(9#5 no root = 7b5 on its's 3rd).

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

5. SEVENTH SHARP 5 ARPEGGIO BY FINGER NUMBER

CIRCLED NUMBERS ARE CHORD ROOTS (FORMULA 1, 3, #5, b7)

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

6. 9th Flat 5 Arpeggio By Finger Number.

Circled Notes Are The Chord Roots (Formula 1, 3, B5, B7, 9)

When the flatted fifth of the 9b5 arpeggio is used as the root, the chord is 7+5 (a seventh chord with a flat fifth and a sharp fifth).

7. 9th Sharp Five Arpeggio By Finger Number.

A 7b5 arpeggio occurs on the third of a 9#5 arpeggio.

8. Augmented Scale.

In the "regressive" fingering at the far right, any "2" can be an augmented chord root when ascending and any "1" can be an augmented root when descending.

J. OTHER ALTERED DOMINANT ARPEGGIOS

WHOLE TONE TYPE

9#5#11	9#11	9#5#11	9±5	9#5#11	9#5#11	9#5
R b7 3 #5	R b7 #11 3	R 9 #5 #11 b7	3 9 3 b7 #5 R	#11 3 #11 R b7 9	R #11 9 R 3	R #5 3 9
#5 b7 3	#11 b7 9	#11	b5 3 R	R b7 9	#5 b7 R	3 9
3	9#11	#11	R	#5	#11	#5
#11	3 9 #11					
	R b7 #11					
	#11					

MIXOLYDIAN #4 TYPE

7#11	7#11	9#11	9#11	13b5	13b5	13#11
3 #11	3 #11	R b7 #11 3	3 9 #11	R b7 b5 3	b5 3 R b7	#11 3 #11
R b7 3	R b7 5 3	#11 b7 9	R b7 #11	b5 3 13	R b7 3 13	R b7 3 13
5	5	#11 b7	#11			

FLAT FIVE SUBSTITUTE TYPE

(bV13b5) 7#5±9#11	(bV13b5) 7#5±9#11	(bV13b5) 7#5±9#11	(bV13b5) 7#5±9#11	(bV13b5) 7±5±9	(bV13b5) 7±5±9	(bV13b5) 7±5±9
3 R b7 b5 3 #5 b9	R b7 #11 3 #5 #9	R b7 #5 b7 #9 3	#11 R b7 #9 3	b5 3 R b7 b5 #9 #5	3 R b7 #9 b5 #5	3 b7 #9 b5 #5
#9	#9	#11	#11	(bV13b5) 7±5±9	#9	
				3 R b7 #9 b5 #5 b9		
(bV9b5) 7#5b9#11	(bV13b5b9) 7#9#11	(bV7b5#9) 13b5b9	(bV7b5#9) 13b9#11	(bV7+9#11) 13b9#11	(bV7b5#9) 13b5b9	(bV7b5#9) 13#5#11
R #11 3 #5b9 b7 3	5 R b7 #9 3 5 #11	R b7 b5 3 13 b9	#11 3 b9 #11 R b7 #11 13	5 13 b7 b9 3 #11 R b7	b5 3 13 b9 3 R b7	b7 3 #11 3 R b7 #11 #9 R 13
(bV7#9) 13b5	(bV7#9) 13b5	(bV13#9) 13b5#9	(bV13#9) 13b5#9	(bV13#9) 13b5#9	(bV13#9) 13b5+9	(bV13#9) 13#5#9
3 R b7 b5 3 13	b7 3 R b7 b5 3 13	3 R b7 b5 3 13 #9	b7 3 R b7 b5 3 #9 13	3 R b7 #9 b5 13	R b7 b5 3 b9 R 13 #9	R b7 3 13 #5 #9

CHAPTER 15: PHRASING, MELODIC CONTOUR & DRIVE

A. PHRASE DEFINED

A *phrase* is a section of a melody. Poetry and speech are given form by subdivisions. When someone speaks without pauses and punctuation, it sounds like babbling. Melody also must have form. Just as letters make syllables and syllables make words in speech, notes make motifs (“riffs” or “licks”), and motifs make phrases.

There is usually a pause between phrases, either a rest or a sustained note. A phrase can start on any part of a measure. To sound resolved, a phrase often ends on a note of the current chord. If it does not, it can suggest a need for resolution.

B. BEGINNING THE PHRASE

Each phrase of a melody begins in relation to the rhythm of the accompaniment. The melodic phrase may begin on the first beat of a chord, before, or after. This diversity gives the music texture and makes it more interesting for the listener.

On the first beat of the chord. In this case, the first note is most often a chord tone. If the first note is not a chord tone, it is almost always short and resolves by playing a chord tone of equal or longer length immediately afterwards.

Anticipated: before the first beat of the chord. When a phrase begins before the first beat of a chord, it anticipates (or leads into) the chord. The anticipated phrase may either (a) introduce the sound of the chord immediately before the chord actually begins or (b) play tones that create a dissonance (not in the upcoming chord) to be resolved in consonance when the chord begins.

Delayed: after the first beat of the chord. When a phrase starts after the chord has already begun, it usually produces an effect of *statement and response*; the chord makes a statement when it begins and the phrase follows by answering. This melodic pause on the first beat of the chord could be thought of as an *accented rest*: melody conspicuous in its absence.

To reinforce the statement and response effect, the chord may be played with a particular rhythmic theme followed by the same rhythmic theme (or a variation in the same rhythmic theme) played at the beginning of the delayed phrase.

C. ENDING THE PHRASE AND CONNECTING PHRASES

Phrases also end in relation to the chord in the accompaniment. It may end on a chord tone, an added chord tone, or a non-chordal tone. This diversity gives the music color.

On a chord tone. Ending the phrase on a chord tone produces the most resolved sound.

On a non-chordal tone. A non-chordal tone is a melody note which is not one of the chord tones being played by the accompaniment.

- ***Ending on a dissonant non-chordal tone*** produces the feeling of irresolution and calls for an immediate chordal tone.
- ***Ending on an added harmony of the chord.*** Some ending notes harmonize (sound consonant or resolved) when added to a chord, even though they are not actually played by the accompanying

instruments. These ending notes are colorful. Different added harmonies are appropriate to each style in which they are used. Heavy Metal tends to use simple added harmonies, (like adding a 9th to a major or minor chord), while Jazz uses added upper harmonies such as, 11ths, 13ths and uncommon altered tones.

Phrase-end concealment. You can conceal the end of a phrase by playing a short motif (riff) to connect the end of one phrase to the beginning of another, leaving no break between them. This short connecting motif may be employed in three ways:

- *Destroying the end of the first phrase* by changing the melodic structure (somewhat drastically) and leading into the next phrase. In this case, the connecting motif is not part of the next phrase. The end of the first phrase should sound as if it were abandoned before it could finish, then the second phrase should start immediately so as to not lose the melodic continuity.
- *By phrase linkage*, where the boundary between phrases is bridged with a note or motif that is relevant to the melodic structure of both phrases. To bridge the boundary in this manner, the end of the former phrase and the beginning of the next phrase must have similar melodic structure. The connecting note or motif should sound like it could belong to either phrase.
- *By phrase overlapping*, where a different instrument picks up the melody at the second phrase. The second soloist would simultaneously play the last few notes of the first soloists phrase and use those notes as the beginning of a new phrase. Thus, both soloists play the overlapping notes. The overlapping notes should sound like they belong to either phrase.

D. MELODIC CONTOUR AND DRIVE

If you were to write a melody down on the staff and connect the note heads with a continuous line, you would recognize what is referred to as the “melodic line” or “melodic curve”. This line has an architecture, or contour.

Horizontal and vertical basis.

Horizontally (in time), melody tends to use rhythms based on the accompaniment but at a faster level. Therefore, it is good to study the rhythmic activity in the accompaniment parts.

Vertically (in reference to pitch), melody elaborates on the chordal structure of the accompaniment. It is very useful to study arpeggios representing the chord progression in each area of the fretboard you wish to solo.

Components Of Melodic Contour And Drive.

Primary melodic tones. If a melody were reduced to its most basic component, this would be the sustained and/or emphasized chord tones. They are the “backbone” of any melody in homophonic music (melody with a chordal accompaniment).

Connecting tones. The second most basic components in a melody are the non-chordal tones which connect the chordal tones. These tones are examined in *Chapter 19: Non-Chordal Tones*.

Repetition of single notes or motifs (riffs or themes). Repeated notes are similar in effect to sustained notes. The primary difference between repeating a note and sustaining it is in the rhythmic effect.

Association (artistic expression regarding the rest of life) is a basic component of art, especially since the age of perspective born in the Renaissance. Since music is not very capable of relating to the rest of the world

(except by lyrics, which are only associated with the music), repeating a motif is one of the most common musical solutions.

Music without repetition virtually does not exist. Music with little repetition is very hard for most people to listen to. In homophonic music, repetition is achieved through theme and variations. In Polyphony (including Counterpoint), repetition is derived through imitation. A common form of imitation in improvised solos is theme and variations, where a theme is introduced and then elaborated upon. Study *Chapter 12E: Imitative Counterpoint*.

Ornamentation is improvised combination of the other three components. It generally decorates a melody with quick notes, whereas the other components are the melody. Once the main scheme of the melody has been established by the three components above, ornamentation may be added which goes beyond what is necessary to connect the chord tones and provide enough repetition to sustain interest for the listener.

Elements Of Tension And Their Effect On The Melodic Line Or Curve

Tension is a fundamental force in the “drive” or lifeblood of a melody. Like a great wave, a melody moves toward a goal, attains the goal in a climax and recedes. Increase the tension to build the emotive effect of the melody, climax it to drive the point of the melody home and decrease the tension at the end to provide contrast to the climax.

Melodies are not always culminated. Sometimes they are intentionally interrupted by the entry of another melody or section. At other times they begin half way through, as they interrupt another melody or section of music.

A simple melody tends to have a visually simple curve and a complex melody a complex curve. A single melodic curve can continue through two or more sections of accompaniment, but is less likely to do so if the accompaniment sections are vastly different.

Certain notes may be very effective in the melody, particularly the highest note to be used. Overuse of any note, however, can bore the listener and render the note impotent.

Ascent and descent. Generally, upward movement in the pitch of a melody increases tension and downward movement decreases tension. The lower range of an instrument can increase tension in special cases where the instrument is very noticeable due to a conspicuously different timbre in that range or the lack of other instruments in the same range.

The ascent and descent usually occur with a curve or curves involving scale runs. Connecting the note heads on the staff, as suggested previously, would make these curves apparent.

Filling in involves an ascending skip followed by a descent or a descending skip followed by an ascent. When higher or lower range is desired with few notes, skips are not filled in. Running up or down an arpeggio will produce a series of skips.

If a melody begins too high, it has no room to develop unless the instrument is capable of tension in the low range. A melody usually doesn’t end on its highest note, unless the melody was intentionally interrupted. It should climax, then drop off at the end.

Change of rhythm can also increase tension. Diversity of rhythms is generally good: changing from eighth notes to eighth note triplets to dotted eighths, etc. However, too much diversity can disrupt the rhythmic continuity of the solo. Generally, less diversity of rhythms is used at faster tempos and more at slower tempos.

The rhythmic element in a solo is the heart of a solo and unifies the other elements, but it should not be expected to stand alone: the other elements must also have content.

Change of timbre or dynamics can increase tension, especially in Rock guitar music. Bright, harsh timbre and high volume are characteristic of Rock music, but are useless unless they are presented in contrast to soft timbre and low volume. Don't start your solo with screeching treble and with the volume "cranked to the max", or you won't have any room for contrast.

Longer phrases or less separation between phrases can intensify the solo if not overused. Longer phrases must have interesting phrasing, rhythmic vitality, and fresh ideas to sustain the listener's attention. Less separation between phrases can be effective only if each phrase is creating enough excitement that the listener is anxious to hear the next one.

More dissonant skips, chord sounds or scale sounds can all be effective in building tension in the solo, but they must be appropriate to the style and played in such a way that they contribute to the movement of the melodic line.

Change of accompaniment. The following changes in the accompaniment parts can, by contrast, build tension in the solo.

- *Faster tempo builds tension*, but slower tempo can build tension if the dynamics become stronger through louder and/or more accented accompaniment.
- *Thickness of the harmonic texture builds tension* if it doesn't overpower the melody. Thicker texture is created by the accompaniment when it employs more notes and/or dissonance. Thinner harmonic texture can build tension if the dynamics become stronger.
- *The relationship between melodic rhythm, harmonic rhythm and meter* can also build tension.

Meter is the basic pulse (or beat) of the music. It refers to the grouping of beats as indicated by the time signature, such as four quarter notes per measure in 4/4 time.

Melodic rhythm is the character of the rhythm set down by the soloist in relation to the meter. *Harmonic rhythm* is the character of the rhythm set down by the accompanists in relation to the meter.

Melodic rhythm, harmonic rhythm and meter in rhythmic unison is usually used for special emphasis in expressing a short rhythmic theme. Overuse of this can be boring.

When the harmonic rhythm and the meter are the same and the melodic rhythm is different, the melody is freer to express without distraction. This is the most common configuration of these three rhythmic elements.

Melodic and harmonic rhythm are sometimes joined together against the meter to play a short syncopated (or otherwise rhythmically abnormal) theme.

Melodic rhythm and meter are occasionally the same, while a different rhythm in the accompaniment is used. In this case, the melody "takes the back seat" rhythmically, allowing the accompaniment to make a rhythmic statement. This technique of arrangement is often overlooked, but very useful for diversity.

CHAPTER 16:

CHOOSING THE RIGHT SCALE IN MELODIC IMPROVISING

A. USING THE CHORD / SCALE CHART

the chart appears on the following 2 pages

The Basic Premise

Any scale which contains all of the notes in the chord will harmonize with the chord. Where there is more than one choice for the scale, the following factors should be considered:

- How many accidentals (sharps and flats) are changing as you change from one scale to another to accomodate the chord progression? It is usually preferable to change fewer accidentals.
- Where there is no change of accidental, you are using modes of the same scale, such as G major and A Dorian (A Dorian uses the notes of G major, with the tone center on “A”).
- Are your choices of scales appropriate for the style? You often will compromise and choose scales which change more accidentals than necessary to allow scales that will sound right within the style. For use on a 7th chord (dominant seventh chord) in Blues, for example, the Dorian scale’s 7#9no3 chord sound (see m7 on the chart) is often used instead of the Mixolydian “plain” 7th chord sound.

Finding The Chord Type You Want.

Numbers above 7 in chord formulas can be converted to scale formula numbers by subtracting the number “7.” A “9” in a chord is a “2” in a scale. Also, sus. 4 chords, use “4” in their formulas, in place of “11,” and sus. 2 chords, use “2” in their formulas, in place of “9.”

Triads are shown at the top of the chart. If you want a scale for a triad, determine the type of seventh you want in the scale, and look up the seventh chord referred to in the “scale” column. For example, if you want a scale for a suspended fourth triad (sus. 4), use the scales shown for Δ7, 7 or m7 where the scale contains a “4.” If you then looked under “7” chord, one of the scales is Mixolydian, which contains the “1”, “4” and “5” tones necessary for the suspended 4 chord.

Seventh chords are shown immediately after triads. If you want additional tones added to the seventh chord sound, look in the “add tone” column.

Ninth chords are constructed by adding a ninth to a seventh chord. For a minor 9th chord, look up “m7”, then find the scales which have a “9”, which are Dorian, Aeolian or Dorian #4, so the minor seventh chord has an added ninth.

Suspended seventh chords are constructed by replacing the third (“b3” or “3”) with the “4” in a Δ7, 7, or m7 chord. 7sus. 4 chords would use the scales shown for 7th chords which have an “11” available as an add tone (remember: an “11” in a sus. 4 chord is called a “4”).

Optional chord names are shown for m7 and m7b5, where their chord sound is used as a bluesy effect to replace 7#9 or 7b5#9 (see the 7th chord chart). **Optional versions of the fifth** are shown for Δ7 and 7 chords, where a #4 can represent a b5 or a b6 can represent a #5.

CHORD / SCALE CHART

triad Type	chord formula	scale
major	1 3 5	use same as for Δ7 or ♯7
minor	1 b3 5	use same as for m7 or m7
suspended 4th	1 4 5	use same as for Δ7, 7 or m7, where the scale contains a “4.”
suspended 2nd	1 2 5	use same as for Δ7, 7 or m7, where the scale contains a “2.”
diminished	1 b3 b5	use same as for m7b5 or o7
Augmented	1 3 #5	use same as for 7#5 or Δ7#5

Seventh Chords Grouped by Chord Type

7th chord type	7th formula	add tones	scale	har. min.	mel. min.	har. maj.	scale formula
Δ7 (major 7th)	1 3 5 7	Δ9 4 13	major				1 2 3 4 5 6 7
	(opt.b5no11)	Δ9 #11 .. 13	Lydian				1 2 3 #4 5 6 7
	(opt.#5no6)	Δ9 4 #5b6	Major b6			I	1 2 3 4 5 b6 7
	(opt.b5no11)	#2 #11 .. 13	Lydian #2	bVI			1 #2 3 #4 5 6 7
	(opt.b5no11)	#2 #11	augmented scale				1 #2 3 #4 5 7
Δ7b5 (optional #5)	1 3 b5 7	9 #5 13	Lydian #5		bIII		1 2 3 #4 #5 6 7
		#2 #5 13	Aeolian b1			bVI	1 #2 3 #4 #5 6 7
Δ7#5	1 3 #5 7	9 4 13	major #5	bIII			1 2 3 4 #5 6 7
7	1 3 5 b7	9 11 13	Mixolydian				1 2 3 4 5 6 b7
	(opt.b5no11)	9 #11 .. 13	Mixolydian #4		IV		1 2 3 #4 5 6 b7
	(opt.#5no6)	9 11 #5b6	Mixolydian b6		V		1 2 3 4 5 b6 b7
	(opt.b5no11)	b9 11 13	Mixolydian b2			V	1 b2 3 4 5 6 b7
		b9#9 #11 .. 13	dimin. half/whole				1 b2#2 .. 3 #4 5 6 b7
	(opt.#5no6)	b9 11 #5b6	Phrygian ♭3	V			1 b2 3 4 5 b6 b7
	(opt.#5no6)	b9#9 n11 .. #5b6	Phrygian b4			III	1 b2 b3 b4 5 b6 b7
7b5	1 3 b5 b7	9 #5	whole tone scale				1 2 3 #4 #5 b7
7#5 (opt. b5 no11)	1 3 #5 b7	9 #4	whole tone scale				1 2 3 #4 #5 b7
7b5#5	1 3 b5#5 b7	b9#9	Locrian b4		VII		1 b2 b3 b4 b5 b6 b7
m7 (or 7#9no3)	1 b3 5 b7	9 11 13	Dorian				1 2 b3 4 5 6 b7
	(opt.b5no11)	9 11 b6	Aeolian				1 2 b3 4 5 b6 b7
		9 #4 13	Dorian #4	IV			1 2 b3 #4 5 6 b7
		b2 11 b6	Phrygian				1 b2 b3 4 5 b6 b7
		b2 11 13	Dorian b2		II		1 b2 b3 4 5 6 b7
m(♯7)	1 b3 5 7	9 4 b6	Aeolian ♯7	I			1 2 b3 4 5 b6 7
		9 4 6	major b3		I		1 2 b3 4 5 6 7
		9 #4 6	Lydian b3			IV	1 2 b3 #4 5 6 7
m7b5 (7b5#9n3)	1 b3 b5 b7	b2 4 b6	Locrian				1 b2 b3 4 b5 b6 b7
		9 4 6	Dorian b5		II		1 2 b3 4 b5 6 b7
		b2 4 6	Locrian ♯6	II			1 b2 b3 4 b5 6 b7
		b2 4 b6	Aeolian b5			VI	1 b2 b3 4 b5 b6 b7
o7	1 b3 b5 6	2 4/#5 . 7	dimin. whole/half				1 2 b3 4 b5,#5 6 7
		b2 4 b7	Locrian #6	II			1 b2 b3 4 b5 6 b7
		3 5 b7	Dorian #4	IV			1 2 b3 #4 5 6 b7
		3 5 7	Lydian #2	bVI			1 #2 3 #4 5 6 7
		b2 b4 b6	Mixolydian #1	VII			1 b2 b3 b4 b5 b6 bb7
		2 4 b7	Dorian b5		II		1 2 b3 4 b5 6 b7
		2 5 7	Lydian b3			IV	1 2 b3 #4 5 6 7
		3 #5 7	Aeolian b1			bVI	1 #2 3 #4 #5 6 7
		b2 4 b6	Locrian bb7			VII	1 b2 b3 4 b5 b6 bb7

Seventh Chords Grouped by Scale

7th chord type	7th formula	add tones	scale	har. min.	mel. min.	har. maj.	scale formula
Δ7 (major 7th)	1 3 5 7 ...	Δ9 ... 4 ... 13 ...	major				1 2 3 4 5 6 7
m7 (or 7#9 no3)	1 b3 5 b7 ...	9 11 13 ...	Dorian				1 2 b3 4 5 6 b7
m7 (or 7#9 no3)	1 b3 5 b7 ...	b2 11 b6 ...	Phrygian				1 b2 b3 4 5 b6 b7
Δ7 (major 7th)	1 3 5 7 ...	Δ9 ... #11 .. 13 ...	Lydian				1 2 3 #4 5 6 7
7	1 3 5 b7 ...	9 11 13 ...	Mixolydian				1 2 3 4 5 6 b7
m7 (or 7#9 no3)	1 b3 5 b7 ...	9 11 b6 ...	Aeolian				1 2 b3 4 5 b6 b7
m7b5 (7b5#9 no3) ..	1 b3 b5 b7 ...	b2 4 b6 ...	Locrian				1 b2 b3 4 b5 b6 b7
m(Δ7)	1 b3 5 7 ...	9 4 b6 ...	Aeolian Δ7	I			1 2 b3 4 5 b6 7
m7b5 (7b5#9 no3) ..	1 b3 b5 b7 ...	b2 4 6 ...	Locrian Δ6	II			1 b2 b3 4 b5 6 b7
Δ7#5	1 3 #5 7 ...	9 4 13 ...	major #5	bIII			1 2 3 4 #5 6 7
m7 (or 7#9 no3)	1 b3 5 b7 ...	9 #4 13 ...	Dorian #4	IV			1 2 b3 #4 5 6 b7
7 (opt.#5 no6)	1 3 5 b7 ...	b9 11 #5b6	Phrygian Δ3	V			1 b2 3 4 5 b6 b7
Δ7 (major 7th)	1 3 5 7 ...	#2 #11 .. 13 ...	Lydian #2	bVI			1 #2 3 #4 5 6 7
o7	1 b3 b5 6 ...	b2 b4 b6 ...	Mixolydian #1	VII			1 b2 b3 b4 b5 b6 bb7
m(Δ7)	1 b3 5 7 ...	9 4 6 ...	major b3		I		1 2 b3 4 5 6 7
m7 (or 7#9 no3)	1 b3 5 b7 ...	b2 11 13 ...	Dorian b2		II		1 b2 b3 4 5 6 b7
Δ7b5 (optional #5) ..	1 3 b5 7 ...	9 #5 13 ...	Lydian #5		bIII		1 2 3 #4 #5 6 7
7 (opt.b5 no11)	1 3 5 b7 ...	9 #11 .. 13 ...	Mixolydian #4		IV		1 2 3 #4 5 6 b7
7 (opt.#5 no6)	1 3 5 b7 ...	9 11 #5b6	Mixolydian b6		V		1 2 3 4 5 b6 b7
m7b5 (7b5#9 no3) ..	1 b3 b5 b7 ...	b2 4 b6 ...	Aeolian b5		VI		1 b2 b3 4 b5 b6 b7
7b5#5	1 3 b5#5 b7 ...	b9#9	Locrian b4		VII		1 b2 b3 b4 b5 b6 b7
Δ7 (major 7th)	1 3 5 7 ...	Δ9 ... 4 b6 ...	Major b6		I		1 2 3 4 5 b6 7
m7b5 (7b5#9 no3) ..	1 b3 b5 b7 ...	9 4 6 ...	Dorian b5		II		1 2 b3 4 b5 6 b7
7 (opt.#5 no6)	1 3 5 b7 ...	b9#9 n11 .. #5b6	Phrygian b4		III		1 b2 b3 b4 5 b6 b7
m(Δ7)	1 b3 5 7 ...	9 #4 6 ...	Lydian b3		IV		1 2 b3 #4 5 6 7
7	1 3 5 b7 ...	b9 11 13 ...	Mixolydian b2		V		1 b2 3 4 5 6 b7
Δ7b5 (optional #5) ..	1 3 b5 7 ...	#2 #5 13 ...	Aeolian b1		bVI		1 #2 3 #4 #5 6 7
o7	1 b3 b5 6 ...	b2 4 b6 ...	Locrian bb7		VII		1 b2 b3 4 b5 b6 bb7
7b5	1 3 b5 b7 ...	9 #5	whole tone scale				1 2 3 #4 #5 b7
7#5 (opt. b5 no11) ..	1 3 #5 b7 ...	9 #4	whole tone scale				1 2 3 #4 #5 b7
7 (opt.b5 no11)	1 3 5 b7 ...	b9#9 #11 .. 13 ...	dimin. half/whole				1 b2#2 ... 3 #4 5 6 b7
o7	1 b3 b5 6 ...	2 4/#5 . 7	dimin. whole/half				1 2 b3 4 b5,#5 6 7

Triads With Add 6 and Add 9, Grouped By Chord Type

chord type	formula	add tones	scale	har. min.	mel. min.	har. maj.	scale formula
6	1 3 5 6 ...	9 4 7 9 #4 7 #2 #4 7	major				1 2 3 4 5 6 7
			Lydian				1 2 3 #4 5 6 7
			Lydian #2	bVI			1 #2 3 #4 5 6 7
		9 4 b7 9 #4 b7	Mixolydian				1 2 3 4 5 6 b7
		b9 4 b7	Mixolydian #4		IV		1 2 3 #4 5 6 b7
			Mixolydian b2		V		1 b2 3 4 5 6 b7
m6	1 b3 5 6 ...	9 4 b7 2 #4 b7 b2 4 b7	Dorian				1 2 b3 4 5 6 b7
			Dorian #4	IV			1 2 b3 #4 5 6 b7
			Dorian b2		II		1 b2 b3 4 5 6 b7
		2 4 7 2 #4 7	major b3		I		1 2 b3 4 5 6 7
			Lydian b3		IV		1 2 b3 #4 5 6 7
/9 (add 9)	1 3 5 9 ...	4 6 7 #4 6 7 4 b6 7	major				1 2 3 4 5 6 7
			Lydian				1 2 3 #4 5 6 7
			major b6		I		1 2 3 4 5 b6 7
		4 6 b7 #4 6 b7 4 b6 b7	Mixolydian				1 2 3 4 5 6 b7
			Mixolydian #4		IV		1 2 3 #4 5 6 b7
			Mixolydian b6		V		1 2 3 4 5 b6 b7
m/9 (minor add 9) ..	1 b3 5 9 ...	4 6 b7 4 b6 b7 #4 6 b7	Dorian				1 2 b3 4 5 6 b7
			Aeolian				1 2 b3 4 5 b6 b7
			Dorian #4	IV			1 2 b3 #4 5 6 b7
		4 b6 7 4 6 7 #4 6 7	Aeolian Δ7	I			1 2 b3 4 5 b6 7
			major b3		I		1 2 b3 4 5 6 7
			Lydian b3		IV		1 2 b3 #4 5 6 7

B. DETERMINING THE SCALE ACCORDING TO CHORDS USED IN THE ACCOMPANIMENT.

This procedure will work for scale tone triads only (triads constructed from a single major scale or major scale mode). Use it on progressions which sound simple in structure and don't employ changes of key (modulation) nor chord mutation (see *Chapter 6*). You won't be fully prepared to analyze other progressions until you have thoroughly studied this book.

- The tonic chord or “main chord” in the progression is the chord whose root is the tone center. The progression should sound resolved on the tonic chord. You would expect the progression to end on the main chord. The progression could end with a deceptive cadence where the ending chord would not be the tonic chord, but it will generally end on the tonic chord. Determine by ear which is the tonic chord in the progression.
- Once you've determined the tonic chord, you can look for the other chords on the scale tone chords and modes charts in Chapter 3: *Major Scale Tone Chords and Modes* and Chapter 4: *Modes Of Other Heptatonic Scales*.
- You can double-check pairs of triads with this procedure: using the chord pair charts in Chapter 25A, look up each consecutive pair of chords in the progression to see what possible scale steps they might occur on. There may be more than one possibility. If there is a consecutive pair that is not on either chart, this procedure will not work and you will need complete knowledge of Chapters 3 and 4 to analyze it.
- If any chord pair has only one possibility, look at the major scale tone modes and chords chart in Chapter 3 to see if all the chords are also possible in the same scale tone set of triads. For this application, use the chart in reference to major scales only, not modes. For example, if a chord pair was Em and F, it must be III^m and IV. If Em is III^m, then I is C.
- If no chord pair has only one possibility, look at the major scale tone modes and chords chart (and following text) in Chapter 3 to see which combination of possibilities would allow all chords in a single major scale tone group. For example, if one chord pair was G and Am, it could be I and II^m or V and VI^m. If another chord pair in the same progression was C and F, it could be I and IV or V and I. If G is I, C cannot be I and would have to be V..... but if C is V, G cannot be I. Still with me? On the other hand, if G is V, C could be I and F would be IV.

C. DETERMINING THE SCALE ACCORDING TO NOTES USED IN THE ACCOMPANIMENT.

One sure way to determine the scale is by making a list of all the notes involved in the chords of the accompaniment part. Determine the tone center by ear (Chapter 2 can help train your ear in this skill). If there are seven or fewer different notes involved in all of the chords and the tone center is one of those notes, follow this procedure:

- “Enharmonic” tones are those which have two names for the same pitch, such as “C# and Db” or “Gb and F#”. If note names have flats and sharps, rename some of the enharmonic notes so that there are flat names or sharp names, but not a mixture of both.
- The musical alphabet is this cycle: “A, B, C, D, E, F, G, A, B, C, D, E, F, G, etc.” When ascending, the next letter above “G” is “A” and when descending, the next letter below “A” is “G”.

Put the notes in alphabetical order, starting with the tone center. If there are fewer than seven notes, the additional note(s) will be added to complete the seven tone scale below.

- Compare the scale (or partial scale) with a major scale on the tone center to produce the scale formula (see *Chapter 12, Section A*). If there are fewer than seven notes you may have an option as to which scale you can use.

For example, if the chords collectively have the notes “C, D, F, G, A, and Bb”, the formula is “1, 2, 4, 5, 6, b7”. Adding a “3”, that formula is C Mixolydian. Adding a “b3”, it is C Dorian.

This gives you the scale. If you would like to be able to transpose the song to other keys, apply the formula to another major scale.

D. DETERMINING THE SCALE BY EAR.

This is the most useful means of determining the scale, but it takes a good ear and knowledge of theory. First, determine the tone center by ear. Then, determine the quality of the tonic chord. Think in *chord families*, as shown in Chapter 8, Section B - Tertian Triad Families:

- First determine the triad: is it major, minor, diminished, augmented or suspended.
- Then determine the quadrad (four-note chord): if it is a seventh chord, which type is it? Once you determine the type of seventh chord, are there more notes in the chord, like a ninth? Whether or not there are more tones, you’ll need to decide on which “add tones” (see Section A of this Chapter) you want, usually the “2”, “4” and “6” (“9”, “11” or “13”).
- If not a seventh chord, the quadrad may be a sixth or add9 chord. Determine the type, then decide on the add tones.

This should prepare you to determine the scale directly. You need to know the quality of the tonic chord for each scale and mode. You can study that in Chapters 3 and 4. You can develop your ear with the ear training tape and Chapter 2: Ear Training.

Scale types often need to change during the course of a chord progression. Change the notes that are necessary to accommodate the melody and chords. You can change additional notes to attain a scale familiar to you and the listener. Additional changes in the scale should not conflict with the harmonic structure (notes in the chords, melody and accompaniment) unless you wish to suggest a different chord progression melodically.

Suggesting a different chord progression. As a rhythm guitarist, you can play substitute chord progressions which still move to the main chords, but in a different way. Or, you can replace one chord with a succession of chords that generally have the same sound as the original chord. These could be called *substitute chord progressions*.

When you think of a substitute chord progression and play it melodically, it could be called a *superimposing chord progression*, since the original chords are still being played by the other band members. Superimposing chord progressions is fundamental to jazz melody and the concept is working its way more and more into popular music forms like Blues, Rock and Country.

A common, simple example is playing a Dorian scale over a 7th chord (dominant seventh). The Dorian scale suggests a m7 chord, which is the same as a 7#9 no3 chord, and works well to express a darker mood in blues-related styles.

In another example, the chord progression involves D6 and A7. The chords suggest the D major scale,

which contains all the notes of both chords. However, the D major scale may suggest too bright or happy a mood for the song. By superimposing a D7 chord sound with D Mixolydian scale over the D6th chord, the mood can be effectively darkened. Or, if you wanted a more exotic jazzy sound, you may want to superimpose a DΔ13#11 sound over the D6 chord, by using D Lydian.

CHAPTER 17: ORDER OF MELODIC IMPORTANCE

There is an *order of melodic importance*, stylistic by nature, which indicates the degree of emphasis for each tone in soloing on a particular song. Playing to a conservative audience, you would tend to emphasize more fundamental chord tones, such as the root, third and fifth. With more adventurous listeners, you can explore the more colorful and provocative tones such as the seventh, ninth and thirteenth.

The tone center is usually the most important note, but there are exceptions. The tone center may *temporarily* be the less important during a chord which doesn't contain it and where the tone center would not be a usable harmony to the chord. During the tonic chord in a Jazz or other colorful style where the upper harmonies of the chord are emphasized (7th, 9th, 11th, 13th), the tone center would be redundant. In such a case, the listener would be aware of the tone center without the soloist having to play it.

The same background music is used for all the examples in this section (B). In the first example, the melody uses primary chord tones. With each of the following examples, more and more is done to elaborate on the melody except that the elaborations that were done in Example 6B3 - Blue Notes are not included on the examples following it.

The non-chordal tones included in some of the examples will be covered in more detail in *Chapter 19: Non-Chordal Tones*. The following symbols will be used:

R = root of the chord	3 = third of the chord
T = tone center of the key or scale	b3 = flatted third of the chord
P = passing tone	5 = fifth of the chord
N = neighboring tone	b5 = flatted fifth of the chord
A = anticipation	7 = seventh of the chord
L = leaning tone	b7 = flatted seventh of the chord
S = suspension	9 = ninth of the chord
E = escape tone	
C = cambiata	
O = pedal point or organ point	
V = pivot tone	

A. PRIMARY CHORD TONES

The *primary chord tones* are the root and fifth. They are usually the most important melodic tones, but can be over-played to the point where "the thrill is gone". These are the fundamental tonal structures throughout the duration of each chord. In colorful styles the root may be avoided, as mentioned previously.

Example 6B1 (on tape) - Primary Chord Tones

The musical notation for Example 6B1 is written on a single staff in 4/4 time. Above the staff, chords are indicated: C, G, F, G, C, G, F, G, C, G, F, G, C, G, C, G, Gsus. Below the staff, the corresponding scale degrees are marked: R, 5, 5, 5, 5, R, R, R, pedal, 5, 5, R, 5, R. A bracket labeled 'pedal' spans the measures containing the notes G, C, and G.

B. CHORD COLORING TONES

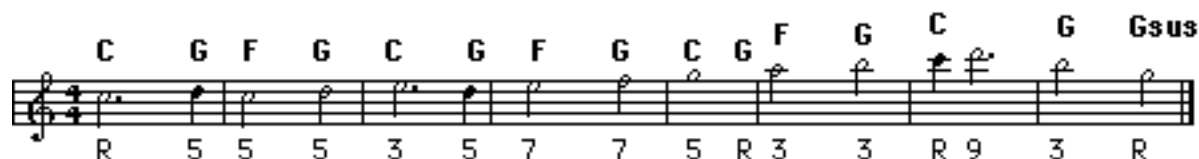
Chord coloring tones are usually the second most important melodic tones. The primary coloring tones are the third and seventh (second or fourth may replace the third in a suspended chord). These determine the basic quality of the chord.

Secondary chord coloring tones are the sixth, ninth, eleventh and thirteenth. A thirteenth is called a sixth

if the chord has no seventh. Along with the primary chord tones, you can select particular coloring tones and make up an arpeggio representing the most important melodic tones to play during a particular chord.

Example 6B2 - Chord Coloring Tones (on tape) adds thirds, sevenths and ninths to the chordal tones from *Example 6B1*.

Example 6B2 - Chord Coloring Tones



Pentatonic scales can be used to provide “clusters” of primary chord tones along with chord coloring tones. These are not included in the example, but should be easy enough to use in improvising over a chord progression with the use of the chart below. Each pentatonic scale would suggest a different style according to the notes in its cluster:

pentatonic scale	chord sound	style
minor 7/11	m7	Blues-influenced, Rap, Hip Pop
Major 6/9	6/9	Country, Motown, Be-Bop (major), Hip Pop
dominant 7/11	7	Raga-rock, Spanish Metal (Phry. Maj. 3rd)
Minor 6/9	m6/9	Koto (Japanese), Be-Bop (minor)
minor 7/11b5	m7b5	Dark Blues/Jazz
dominant 9	9	Jazzy Blues, Jazz, Funk, Hip Pop
minor 9	m9	Jazz, Jazzy Blues
Major 9	Δ9	Jazz Ballads, Bright Mood Jazz/Rock, Hip Pop

C. BLUE NOTES

Blue notes are usually flatted thirds, fifths and sevenths in a chord (where the third, fifth or seventh was natural). For example, where the chord has a fifth, you would use a flatted fifth.

In the order of melodic importance, blue notes replace natural versions of the fifth (a primary chord tone) or of the third or seventh (chord coloring tones).

Example 6B3 - Blue Notes (on tape) darkens the mood by adding flatted chord tones. Chapter 4, section B and Chapter 5, section E2 elaborate on altering the mood.

Example 6B3 - Blue Notes



D. NON-CHORDAL TONES

Non-chordal tones (non-chromatic) are the tones of the scale which are not in the chord. They are third in the order of melodic importance and are used to connect chord tones. Non-chordal tones are covered in detail in *Chapter 19. Example 6B4 - Non-Chordal Tones* (on tape) includes a great variety of melodic devices.

Example 6B4 - Non-Chordal Tones

E. CHROMATIC TONES

Chromatic tones may be third or fourth in the order of melodic importance. Chromatic tones are third in the order of melodic importance when they connect chord tones with a continuous run of half steps or employ lower chromatic embellishments to chord tones (precede a chord tone from a half step below). Chromatic tones are fourth in the order of melodic importance (1) when they connect non-chordal tones to other non-chordal tones or to chord tones or (2) when they employ lower chromatic embellishments to non-chordal tones (precede non-chordal tones from a half step below). Listen to *Example 6B5 - Chromatic Tones* (on tape):

Example 6B5 - Chromatic Tones

CHAPTER 18: MELODIC ARPEGGIO STUDIES

A. CHORD PROGRESSIONS WITH STEPWISE ROOT MOVEMENT.

IΔ7 to IIm7 in C major.

CΔ7 Dm7 CΔ7 Dm7 CΔ7 Dm7 CΔ7 Dm7

T
A
B

CΔ7

T
A
B

I to IIm in Cmajor

C Dm C Dm C Dm C Dm

T
A
B

C

T
A
B

IIIm to IIIIm in C major.

Dm7 Em7 Dm7 Em7 Dm7 Em7 Dm7 Em7

4 2 1 4 2 1 3 1 4 3 1 3 1 4 1 4 4 1 3 2 1 3 2 1 1 3 3 1 3 3 2 1 2 3 1 3 4 1 4 1 1 4 3 4 1 3 4 1

T ————— 7 — 8 ————— 10 — 10 ————— 8 —————
 A ————— 5 — 7 ————— 7 10 — 7 9 — 7 9 ————— 10 7 — 10 9 — 7 9 — 7 — 10 7 — 7 — 7 —
 B — 8 — 7 — 8 — 10 ————— 8 — 8 ————— 10 — 7 — 10 — 9 — 7 — 9 — 9 — 10 7 — 10 9 — 10 — 9 — 10 7 —

Dm7

T —————
 A —————
 B — 10 —————

IV to V in C major.

F G F G F G F G

4 3 1 3 1 1 1 4 3 1 2 1 3 4 3 1 3 3 3 3 1 3 1 2 3 3 1 3 2 1 2 1

T ————— 6 ————— 10 — 10 ————— 8 — 10 — 10 — 8 — 7 —
 A ————— 5 ————— 5 — 5 — 7 — 10 — 10 — 7 — 7 — 8 — 10 — 10 — 8 — 7 —
 B — 8 — 7 — 5 — 5 — 9 — 7 — 9 — 10 — 9 — 10 — 9 — 10 — 9 — 10 — 7 —

G

T — 8 —————
 A —————
 B —————

V to IV in C major

G F G F G F G

1 3 1 3 1 1 2 1 3 3 3 2 1 1 1 1 1 1 2 3 2 3 1 4 1 1 1 1 3 1 1 2 1 2 1 3 1 3 1 3 1 4

T 12 13 13 15 12 12 15 13 13 13 15 12 15
 A 12 12 15 15 12 12 14 14 12 12 14 14 12 12
 B 14 14 15 15 12 12 15 15 12 12 14 14 14 12 15

VI m to V in C major

Am G Am G Am G Am

1 3 2 2 1 1 1 4 2 3 3 3 3 1 1 1 1 1 4 3 1 3 1 3 3

T 12 13 12 15 13 12 10 12 14
 A 14 12 12 14 12 10 14 12 14
 B 14 14 14 14 12 10 14 12 10

I, IV and V in C major.

C F C G C F C G

4 4 4 1 2 2 1 4 4 1 4 2 3 3 2 1 4 4 4 1 3 2 1 1 3 3 3 3 3 2 1 1

T 5 5 5 1 3 5 5 1 5 5 1 5 5 4 3 1
 A 5 5 2 3 2 5 2 5 5 4 5 5 2 3 2 5 5 5 4
 B 5 5 3 3 5 3 5 5 5 2 3 5 5 5 5 5

C

4 8

T
 A
 B

Major and harmonic minor modulating through six keys.

CΔ7 Dm7 Em7 FΔ7 G7 Am7 Bm7b5 C#°7

1 4 2 1 1 3 4 1 3 1 4 3 1 1 3 4 1 4 2 1 3 4 1 2 4 3 2 1 2 4 1 2

T ————— 4-5 ————— 7-5 ————— 6-8 ————— 5-6 ————— 8-5 ————— 6 —————
A ————— 5 ————— 7 ————— 5-9 ————— 7 ————— 8 ————— 5-9 ————— 7 ————— 9 ————— 7 ————— 6 —————
B ————— 3-7 ————— 8-5 ————— 7 ————— 5-9 ————— 7 ————— 8 ————— 5-9 ————— 7 ————— 9 ————— 7 ————— 6 —————

Dm(ma7) Em7b5 FΔ7#5 Gm7 A7 BbΔ7 C#°7 D#°7

1 4 3 2 3 4 1 3 4 3 2 1 2 3 4 1 3 2 1 4 1 2 3 4 2 1 4 1 4 1 3 4

T ————— 6-7 ————— 5-6 ————— 5-8 ————— 5 ————— 6-8-5 ————— 7 —————
A ————— 7 ————— 8-5 ————— 7 ————— 8-5 ————— 7 ————— 6 ————— 5-8 ————— 7 ————— 6 ————— 5-8 ————— 7 ————— 8 —————
B ————— 5-8 ————— 7 ————— 8 ————— 7 ————— 8-5 ————— 7 ————— 6 ————— 8 ————— 7 ————— 6 ————— 5-8 ————— 7 ————— 8 —————

EΔ7 F#m7 G#m7 AΔ7 B7 C#m7 D#m7b5 F°7

use the same fingering the four bars beginning with CΔ7, but up four frets.

F#m(ma7) G#m7b5 AΔ7#5 Bm7 C#7 DΔ7 E#°7 G°7

use the same fingering the four bars beginning with Dm(ma7), but up four frets.

AbΔ7 Bbm7 Cm7 DbΔ7 Eb7 Fm7 Gm7b5 A°7



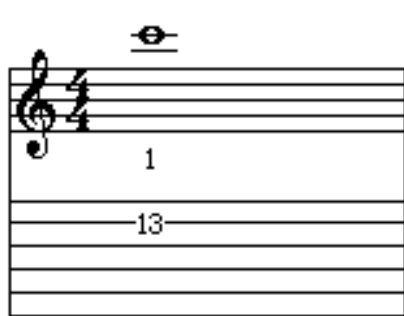
use the same fingering the four bars beginning with EΔ7, but up four frets.

Bbm(ma7) Cm7b5 DbΔ7#5 Ebm7 F7 GbΔ7 A°7 B°7



use the same fingering the four bars beginning with F#m(ma7), but up four frets.

CΔ7



B. CHORD PROGRESSIONS WITH ROOT MOVEMENT IN PERFECT FOURTHS

The beginning of this example uses scale tone chord arpeggios of the C major scale. The latter portion of this example uses arpeggios for scale tone chords from harmonic minor and melodic minor, as labeled above the music.

All one octave higher than written

CΔ7 Dm7 Em7 FΔ7 G7 Am7 Bm7b5

3 2 1 4 1 2 1 4 1 1 3 3 1 1 4 1 2 3 4 1 1 4 2 4 1 2 3 3 2 1 4

T — 8-12-8 — 8-12-13-10 — 12 — 12-15-13 — 13-15-12 — 13-17 —
 A — 9 — 9 — 10 — 12 — 14 — 12 — 14-16 —
 B — 10 — 12-14 — 15 —

All one octave higher than written

Em7 Am7 Dm7 G7 C6 Dm7 G7

4 1 3 1 3 3 1 3 4 1 2 1 1 4 1 3 3 3 1 3 1 1 4 3 3 1 3

T — 19-15 — 17-15-17 — 17-15-17 — 18-15 — 15-18 — 15-17 — 10 — 10-13-12 — 12-10 —
 A — 17 — 17-16 — 17 — 17 — 12 — 12 — 10-12 — 12 —
 B — 17 — 17 — 12 — 12 —

All one octave higher than written

CΔ7 Am7 Dm7 G7 Em7 Am7 Dm7 G7

2 1 4 3 1 2 3 3 1 1 4 3 3 1 3 3 1 1 4 1 2 3 1 2 1 3 1 3 1 3 1

T — 8-12-10-8 — 10-13-12 — 12-15-12 — 13 — 13-15-13 — 15-12 —
 A — 9 — 9 — 10 — 12-10 — 12-14 — 12 — 14-12-14 —
 B — 10 — 10-12 — 12 — 14 —

All one octave higher than written

C harmonic minor

C6 G7 Dm7b5 G7b9 Cm G7 Dm7b5 G7b9

2 1 1 4 3 4 1 1 4 2 2 1 2 1 4 2 1 1 3 4 1 3 1 1 3 1 3 1 1

T 13 12-12 15 15 13-12 12-15 13-12 12-15 13 13-15 15-12 12
A 12 15 12-15 13 13-12 15-13 12 15 12 13 15 12
B 15 15 15 15 15 15 15 15 15 15 15 15

All one octave higher than written

C melodic minor

Cm Dm7 F7 G7 F7 G7 F7 G7

2 2 1 3 1 4 1 2 3 1 1 4 3 1 2 3 1 1 4 1 3 1 3 2 1 1 1 4 1

T 13 13-15 13 16-13 12-15 13 13-12 13-12
A 14 13-15 14 12 12-15 14 12 14 12 14 12 12
B 15 15 15 15-13-12-15 15 13-15 15-12 15-12

One octave higher than written

C

4

T 4
A 4
B 15

C. SIXTH ARPEGGIO EXERCISES.

A6 D6 Bm6 A6

2 1 3 1 3 1 4 1 3 1 3 1 3 3 3 1 3 3 1 1 1 1 3 2 3 4 1 3 1

T 5-7 5 7-5 9-5 7-5 7 7-5 7 9-7 7 7 5 7-5-7 5

A 6 7-4-7 7 9 7-7 6

B 9 7-7

A6 D6 Bm6 A6

1 2 3 4 1 2 3 3 4 3 2 2 4 2 1 3 1 1 3 1 3 4 3 1 4

T 9 10 12-9 10 11 11 10 10 12-10 7 9-7 9-7-9 10 7-10

A 11 11 11 11 12 7 9 9

B 12

D. ADD NINE ARPEGGIO EXERCISES

C add9 Dm add9

1 1 3 1 3 1 1 1 4 1 1 1 3 1 1 1 3 3 1 2 1 3 3 3 1 3 2 3 1 3 3 4

T 5 8 5 5 5 5 5 7 5-6 7 7 5 6 5 7

A 5-7 7-5 5 5 5-7 5 5 7 7 7 7 7 7 7

B 5 5 5 5 5 7 7 7 7 8

C add9 Dm add9

1 1 3 1 3 1 1 1 4 1 4 1 3 1 1 1 3 2 1 3 1 3 3 3 4 3 3 3 2 3 1 3

T 5 8 5-8-5 5 5 6-5 5 10 10 10-9-10-7-10

A 7-5-7 5 7 5 7 7 7 7 7 7 7 7 7 7

B 5 5 5 5 7 7 7 7 7 7 7 7 7 7

Am add9 Gadd9 Fadd9

1 4 3 2 3 4 1 1 2 4 3 4 1 4 1 2 4 4 3 1 4 4 1 2 4 4 2 4 4 1

T 8 12 10 10 7 8 10 8 10 6 8
A 9 10 7 9 7 7 10 5 7 10 10 7
B 10 10 10 8 10 8 10 8

Am add9 Gadd9 Fadd9

1 4 3 2 3 4 1 1 2 4 3 4 1 4 1 2 4 4 3 1 4 4 1 2 4 4 2 4 4 1

T 8 12 10 10 7 8 10 8 10 6 8
A 9 10 7 9 7 7 10 5 7 10 10 7
B 10 10 10 8 10 8 10 8

C add9 Dm add9

1 1 3 1 3 1 1 1 4 1 4 1 3 1 1 1 3 2 1 3 1 3 3 3 4 3 3 3 2 3 1 3

T 5 8 5 8 5 5 5 6 5 5 10 10
A 5 7 5 7 5 5 7 5 7 7 10 10 9 10 7 10
B 5 5 5 5 7 5 7 7 7 7 10 10 9 10 7 10

C6

1 2 1 2 1 1 2 3 1 2 1 2 1 1 2 3 1 2 1 2 1 1 2 3 1 2 3 1 3

T 8 8 8 8 10 8 8 8 10 8 8 8 10 8
A 9 9 9 9 9 9 9 9 9 9 9 9 9 7 10
B 10 10 10 10 10 10 10 10 10 10 10 10 10

CHAPTER 19: NON-CHORDAL TONES

The tones of a chord generally sound consonant, resolved and complete in themselves. A non-chordal tone (or non-harmonic tone) connects chord tones and produces a feeling of restlessness until it resolves on another chord tone. It may be taken from the remaining scale tones that are not in the chord or may be a chromatic tone (notes between scale tones).

Non-chordal tones are usually categorized in two main groups: those rhythmically weak (occurring between chords) and those rhythmically strong (occurring at the beginning of a chord).

Skips are intervals of a minor third (three frets) or greater. They usually involve skipping one or more scale tones. *Stepwise* implies movement from a scale tone to the next one consecutively above or below.

A. RHYTHMICALLY WEAK NON-CHORDAL TONES

Rhythmically weak non-chordal tones include passing tone, neighboring tone, suspension, anticipation, escape tone and cambiata.

1. Passing Tone.

A *passing tone* passes between chord tones. The chord tones need not be of the same chord: the passing tone could connect one note of one chord to a nearby note in another chord at a chord change. When involved in a chord change, the passing tone occurs before the new chord (if a connecting note started on the new chord and resolved to a chord tone later, it would be called a leaning tone). It may be chromatic. Groups of two or more consecutive passing tones may occur, as shown in the last two examples below. “P” indicates passing tone:



2. Neighboring Tone.

A *neighboring tone* moves away from a chord tone by a single scale step and returns to the same note. An upper neighboring scale tone is a scale tone above a chord tone. A lower neighboring tone is a scale tone below a chord tone. In the example below, “N” indicates neighboring tone.

A lower chromatic neighboring tone is a half step below the chord tone it precedes, where the scale tone is a whole step or more below the scale tone it precedes. This has been historically established as an alternative to the scale tone, and it does not necessarily suggest a change in the scale. An upper chromatic neighboring tone has not been established, however, and would sound like an alteration of the scale. In the example below, “LC” indicates lower chromatic neighboring tone.



3. Suspension.

A *suspension* is a chord tone in the previous chord that is held over to the next chord. Two suspensions may occur at once, as in the examples marked “double S” below. “S” indicates suspension:



4. Anticipation.

An *anticipation* is a non-chordal tone that is played before a chord and held over onto the chord. “A” indicates anticipation:



Suspensions and anticipations usually resolve. They commonly resolve down, but may resolve up or may not resolve at all (which, in one point of view, makes it part of the next chord). Two or more may occur at once on different notes of the chord. Two may even resolve to the same chord tone by one resolving up and one resolving down.

5. Escape Tone and Cambiata.

The *escape tone* and *cambiata* are similar. An escape tone moves away from a tone in the previous chord (usually by a scale step) and then skips in the opposite direction to a tone in the next chord. The escape tone’s movement away from the tone in the previous chord is contrary to the motion between the chord tones.

A *cambiata* moves by a skip (usually a third) away from a tone in the previous chord and then moves in the opposite direction to a tone in the next chord. If the movement away from the tone in the previous chord was a third, the move in the opposite direction to a tone in the next chord would be stepwise. The cambiata’s movement away from the tone in the previous chord is in the same direction as the motion between the chord tones. “E” indicates escape tone and “C” indicates cambiata:



B. RHYTHMICALLY STRONG NON-CHORDAL TONES.

The *leaning tone* (also called *appoggiatura*) is a rhythmically strong non-chordal tone occurring at the beginning of a chord and resolving during the chord. It may be (1) a scale tone or chromatic tone below a chord tone, where it would resolve up to the chord tone, or (2) a scale tone above a chord tone, where it would resolve down to a chord tone. “L” indicates leaning tone:



C. PEDAL POINT AND PIVOT POINT

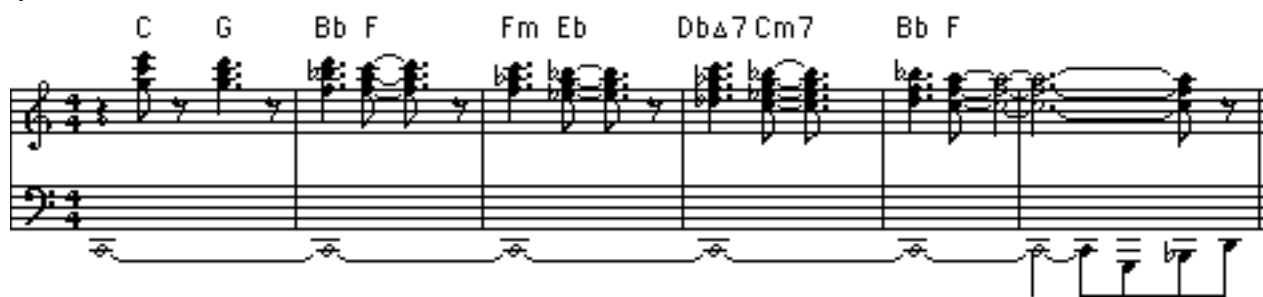
Pedal point or “*organ point*” got their name from a style of organ playing where a note would be sustained by a bass pedal while the chordal structure above it would pass through chords and keys otherwise unrelated to the bass note. This practice has been extended to include “pedal point” in the upper octaves, such as the note labeled “pedal” in *Example 6B1 - Primary Chord Tones* (pedal point is not necessarily a primary chord tone). In the upper octaves of an arrangement it is called “inverted pedal point”.

Example 6B1 - Primary Chord Tones



Example 6C3 - Pedal Point (on tape) uses some chords such as $\text{Dbm}7$ and G which generally would not harmonize well with a “C” bass note. However, the chords work as a group with the bass note.

Example 6C3 - Pedal Point



Example 6C3 - Inverted Pedal Point (on tape) displays the pedal point used in the upper part of an arrangement.

Example 6C3 shows a musical arrangement with an inverted pedal point. The upper staff contains a series of chords: C, G, Bb Dm7, Fm/Eb Eb, DbΔ7 Cm7/F, and Bb F/G. The lower staff shows a single bass line with a pedal point on Bb.

Pivot point is a note which repeats alternately with a series of other notes. The series of other notes is usually a scale run, ascending or descending. Where the pivot point occurs in *Example 6B4* and *Example 6B5* it is labeled “V”.

Example 6C4 - Non-Chordal Tones

Example 6C4 shows a musical arrangement with non-chordal tones. The upper staff has a series of chords: C, G, F, G, C, G, F, G, C, G. The lower staff shows a series of non-chordal tones: R, 3 5, 5 A 5, E L 3, 5 C L R, S N V R V N V, 5 C C R P 3 P 5 N R.

Example 6C5 - Chromatic Tones

Example 6C5 shows a musical arrangement with chromatic tones. The upper staff has a series of chords: C, G, F, G, C, G, F, G, C, G. The lower staff shows a series of chromatic tones: R, 3 b3 5, 5 A 5, C L P 3, 5 C L R, S N V R V N V, 5 C C R P 3 P 5 N R.

CHAPTER 20: BLUE NOTES AND CHROMATICS

Examples 6D 1 - 12 (on tape, example numbers are circled):

The image displays 12 musical examples, numbered 1 through 12, arranged in four rows of three. Each example consists of a guitar staff with a treble clef and a key signature of one flat (Bb). Above the staff, a sequence of notes and accidentals is written, representing the fretboard positions for the exercise. Below the staff, a tablature line shows the fret numbers for each note. The examples are as follows:

- Example 1:** Notes: b7, 6, b5, 4, b3, 2, T. Tab: -11-10-11-10-8-12-10.
- Example 2:** Notes: b7, 6, 5, 3. Tab: -11-10-8-9.
- Example 3:** Notes: b7, 6, 5, b3. Tab: -11-10-8-8.
- Example 4:** Notes: b5, 4, b3, T. Tab: -11-10-8-10.
- Example 5:** Notes: b7, 6, 5, b3, b5, 4, b3, T. Tab: -11-10-8-8-11-10-8-10.
- Example 6:** Notes: b7, 6, 5, 4, b5, 4, b3, T. Tab: -11-10-8-10-11-10-8-10.
- Example 7:** Notes: T, #2, 3, #4, 5, 6, b7, T. Tab: -10-8-9-11-8-10-11-8.
- Example 8:** Notes: b7, 6, 5, 4, b5, 4, b3, T. Tab: -11-10-8-10-11-10-8-10.
- Example 9:** Notes: T, 2, b3, #4, 5, 6, b7, T. Tab: -10-7-8-11-8-10-11-8.
- Example 10:** Notes: b7, 6, 5, 4, b5, 4, b3, T. Tab: -11-10-8-10-11-10-8-10.
- Example 11:** Notes: b7, 6, 5, b5, 4, b3, T. Tab: -11-10-8-11-10-8-10.
- Example 12:** Notes: T, #2, 3, #4, 5, #6, 7, b7, 6, 5, 4, b5, 4, b3, T. Tab: -10-8-9-11-8-11-7-11-10-8-10-11-10-8-10.

A. BLUE NOTES

Blue notes are usually flatted versions of major thirds, perfect fifths or major sevenths in a chord. When a flatted version of a chord tone is used melodically, it produces dissonance. In the Blues style, this dissonance has become a familiar representation of sadness, longing, oppression, or a similar dark mood.

To further the range of expression, the flatted notes can be bent any degree toward (or to) the chord tones they were lowered from. The closer a flatted note is bent toward the chord tone, the brighter the mood (or less dark).

To produce a bluesy effect when a lowered chord tone is used immediately before an unaltered version, it must have a duration long enough and/or enough emphasis for the listener to hear the dissonance and realize the dark expression. If the lowered chord tone preceding the unaltered chord tone is too short, it will have the effect of a lower chromatic embellishment without the bluesy expression.

B. COMMON DESCENDING FIGURES.

Example 2 is to be used on a dominant seventh chord. Examples 3, 4, 5 and 6 can be used on a minor 7th chord or, for a very bluesy effect, on a dominant 7th chord or Major 7th chord.

Descent from tones of the m7b5 chord. Minor seventh flat five arpeggios contain the three common blue notes “b3, b5 and b7”. Lydian Diminished Mode VI has the formula “1, 2, b3, 4, b5, 6, b7”, which is the same as Dorian with a flatted fifth. It is a good exercise to memorize m7b5 arpeggios as scale tone arpeggios in Lydian Diminished Mode VI and practice descending through the scale, emphasizing “b3, b5 and b7”. Example 1 at the beginning of this section illustrates this descent through Lydian Diminished Mode VI with the tones of the m7b5 chord on the beat. Example 5 is a variation of this descent through Lydian Diminished Mode VI which is more commonly used.

C. COMMON ASCENDING AND DESCENDING FIGURES.

Lower chromatic embellishments to chord tones are tones a half step below chord tones which can be used to lead into the chord tones. They briefly mutate the chord quality and produce a bluesy effect on all chord tones except the root. They can be used on the root, but lose the effect of briefly altering a chord tone, since flattening a chord root would constitute a chord substitution (by changing the letter name of the chord). The “lower chromatic embellishment” for a chord with a flatted is actually scale tone “2”, and for a chord with a flatted seventh is actually scale tone “6”, but the effect is the same.

Examples 7 through 12 illustrate 7th, m7 and Δ 7th arpeggios with lower chromatic embellishment to all chord tones except the root. Examples 7 and 8 can be used on a 7th chord, or on a major 7th for a very bluesy effect. Examples 9 and 10 can be used on a m7, on a 7th for a very bluesy effect, or on a major 7th for an extremely bluesy effect. Examples 11 and 12 can be used on a major 7th.

D. FILLING IN BETWEEN SCALE TONES.

Chromatic tones can be inserted between any two consecutive scale tones of a whole step or more. Scale tones sometimes measure as much as two whole steps apart (four frets); as in the dominant 7/11 pentatonic scale, whose formula is “1, 3, 4, 5, b7” (it is two whole steps from “1 to 3”). Some heptatonic (seven tone) scales have scale steps which measure one and a half steps apart, such as the flatted sixth to natural seventh steps in harmonic minor or the flatted third to sharped fourth steps in Lydian diminished.

Chromatic tones inserted between scale steps are usually shorter and less emphasized, or at least are not longer or more emphasized than scale steps. One exception is the leaning tone, which is covered in *Chapter 19B*.

E. FILLING IN BETWEEN ARPEGGIO TONES.

Chromatic tones may be inserted between any two consecutive arpeggio tones. They are least often inserted between the third and the root. Chromatic insertion is rarely applied between arpeggio tones further than a major third apart.

Example 6E2 - Chromatic Descent On A 13th Chord (on tape) descends and then ascends through the tones of a 13th chord arpeggio, inserting chromatics between the arpeggio tones. The chord tones are identified

above the staves:

Example 6E2 - Chromatic Descent On A 13th Chord

VIII position

When an arpeggio has a major third, it is common to use a lower chromatic before the major third, followed by a chromatic run from the third to the fifth. This is demonstrated in *Example 6E2 - Chromatics From b3 to 5* (on tape):

VIII position

Chromatic tones inserted between arpeggio tones are usually no longer in time value nor more emphasized than the arpeggio tones. One exception is the leaning tone, which may be longer and even more emphasized. The first note of the above example is a leaning tone.

F. "BE-BOP" ENCIRCLING

A *Be-Bop encircling figure* is a special combination of chromatic insertion between scale tones, lower chromatic embellishment and upper neighboring scale tones. It is applied differently in ascending runs as compared to descending runs. The arpeggio tones are primarily played on the beat.

Ascending runs begin with either an arpeggio tone (Be-Bop ascending example 1) or an arpeggio tone preceded by a lower chromatic embellishment (Be-Bop ascending example 2), then continue with a chromatic run up to but not including the next higher arpeggio tone. Just before this arpeggio tone, the next scale tone above the arpeggio tone is played. Listen to *Examples 6E3 - Be-Bop Ascending 1 and 2* on tape.

Examples 6E3 - Be-Bop Ascending

1 2

VIII position one octave higher than written

C7

T
A
B

9 10 11 10 8 8 9 10 11 10 8

Descending runs begin with an arpeggio tone (*Be-Bop Descending Examples 3a and 4a*) or an arpeggio tone preceded by a lower chromatic embellishment (*Be-Bop Descending Examples 3b and 4b*), then continue with a chromatic run down to but not including the next lower arpeggio tone. Just before it, a tone a half step (chromatic) below it (*Be-Bop Examples 3a and 3b*) or one scale step below it is played (*Be-Bop examples 4a and 4b*). *Examples 6E3 - Be-Bop Descending 3a, 3b, 4a, and 4b* are on tape and written below:

Example 6E3 - Be-Bop Descending

3a 3b 4a 4b

VIII position one octave higher than written

Skips to arpeggio tones may also be inserted immediately after any arpeggio tone in the encircling figure, as in *Example 6E3 - Be-Bop Encircling With Skips* (on tape) below:

VIII position one octave higher than written

C7 b7 5b7 5 3 R 3 5 b7 b7 R 3

T: 11 10 9 11 8 11 8 11 10 8 9 10

A: 9 10 11 10 8 11 9 10

B: 11 10 8 12

The *Be-Bop Encircling Exercises* on the next six pages use on the three most common chord types: 7th, minor 7th and major seventh. They are shown in the key of “C” for easy analysis. The 13th chord form (7th type) uses Mixolydian mode, the minor 13th form (m7th type) uses Dorian mode and the major 13th#11 form (major 7th type) uses Lydian mode. Once you become familiar with these forms, you can use portions of them within your solos. The m9th form can be used for Dorian or Aeolian. The major 9th form can be used for Major or Lydian. By omitting the third and fourth bars of the 13th, minor 13th or major 13th chord forms, they are reduced to 9th chord forms.

BE-BOP ENCIRCLING ON NINTH CHORDS IN C

VIII position

C7 or C9

Cm7 or Cm9

CΔ7 or CΔ9

X position

C7 or C9

Cm7 or Cm9

CΔ7 or CΔ9

BE-BOP ENCIRCLING ON THIRTEENTH CHORDS IN C

III position

C7, 9 or 13

III position
C7, 9 or 13

Cm7, m9, m11 or m13

Cm7, m9, m11 or m13

CΔ7, Δ9, Δ9#11 or Δ13#11

CΔ7, Δ9, Δ9#11 or Δ13#11

BE-BOP ENCIRCLING ON THIRTEENTH CHORDS IN C

V position

C7, 9 or 13

Cm7, m9, m11 or m13

CΔ7, Δ9, Δ9#11 or Δ13#11

BE-BOP ENCIRCLING ON THIRTEENTH CHORDS IN C

VIII position

C7, 9 or 13

Staff notation for C7, 9 or 13 in VIII position. The bass line fret numbers are: 8-9-10-8-12-8-9-7-10-11-7-8-9-10-7-8-9-8-10-11-8-11-10-9-8-9-10-9-8-11.

Cm7, m9, m11 or m13

Staff notation for Cm7, m9, m11 or m13 in VIII position. The bass line fret numbers are: 7-11-10-7-8-12-11-9-10-9-8-11-7-11-10-8-8-9-10-8-11-8-9-7-10-11-7-10-8-9-10-8.

Staff notation for Cm7, m9, m11 or m13 in VIII position. The bass line fret numbers are: 7-8-9-8-10-11-8-11-10-9-8-9-10-9-8-11-7-11-10-7-8-12-11-9-10-9-8-10-11-10-9-8.

CΔ7, Δ9, Δ9#11 or Δ13#11

Staff notation for CΔ7, Δ9, Δ9#11 or Δ13#11 in VIII position. The bass line fret numbers are: 8-9-10-8-12-8-9-7-10-11-7-10-9-10-11-9-7-8-9-8-11-8-9-7-10-9-8-10-11-10-9-11.

Staff notation for Cm7, m9, m11 or m13 in VIII position. The bass line fret numbers are: 7-11-10-8-9-8-12-9-10-9-8-11-7-11-10-8.

BE-BOP ENCIRCLING ON THIRTEENTH CHORDS IN C

VIIIpos. Xpos.
C7, 9 or 13

Handwritten musical notation for C7, 9 or 13 chord, VIIIpos. and Xpos. positions. The notation is written on a treble clef staff with a key signature of one flat (Bb). The melody consists of eighth and quarter notes. Below the staff are three lines of tablature labeled T, A, and B. The B line contains a sequence of numbers: 8-9-10-13-12-13-9-12-10-11-12-10-13-9-10-14-12-13-10-12-10-11-12-11-10-13-12-9-10-14-13-11.

VIIIpos Xpos
Cm7, m9, m11 or m13

Handwritten musical notation for Cm7, m9, m11 or m13 chord, VIIIpos. and Xpos. positions. The notation is written on a treble clef staff with a key signature of one flat (Bb). The melody consists of eighth and quarter notes. Below the staff are three lines of tablature labeled T, A, and B. The B line contains a sequence of numbers: 12-11-10-12-13-12-11-9-10-14-13-11-12-11-10-8-8-9-10-13-11-14-9-12-10-11-12-10-13-9-10-13.

VIIIpos

Handwritten musical notation for Cm7, m9, m11 or m13 chord, VIIIpos. position. The notation is written on a treble clef staff with a key signature of one flat (Bb). The melody consists of eighth and quarter notes. Below the staff are three lines of tablature labeled T, A, and B. The B line contains a sequence of numbers: 12-13-10-12-10-11-12-11-10-13-12-9-10-14-13-11-12-11-10-12-13-12-11-9-10-14-13-10-11-10-9-8.

CA7, Δ9, Δ9#11 or Δ13#11

VIIIpos Xpos

Handwritten musical notation for CA7, Δ9, Δ9#11 or Δ13#11 chord, VIIIpos. and Xpos. positions. The notation is written on a treble clef staff with a key signature of one flat (Bb). The melody consists of eighth and quarter notes. Below the staff are three lines of tablature labeled T, A, and B. The B line contains a sequence of numbers: 8-9-10-13-12-13-9-12-10-11-12-10-14-10-11-9-12-13-9-12-11-12-13-12-10-13-12-10-11-10-14-11.

VIIIpos

Handwritten musical notation for CA7, Δ9, Δ9#11 or Δ13#11 chord, VIIIpos. position. The notation is written on a treble clef staff with a key signature of one flat (Bb). The melody consists of eighth and quarter notes. Below the staff are three lines of tablature labeled T, A, and B. The B line contains a sequence of numbers: 12-11-10-13-9-13-12-9-10-14-13-11-12-11-10-8.

BE-BOP ENCIRCLING ON THIRTEENTH CHORDS IN C

THIS EXAMPLE IS PLAYED ONE OCTAVE HIGHER THAN WRITTEN

XIII position

C7, 9 or 13

XVpos XIIIpos

T 12

A 12-15-13-14-15-18-17-16-15-17-13-17-16-14

B 15-16-12-15-14-15-16-14-12-13-14-13-15-16-13-17-15-16-12-15-13-14-15-18-17-16-15-17-13-17-16-14

Cm7, m9, m11 or m13

T 15-14-13-14-15-14-13-16-12-16-15-13-14-13-12-15

A 15-14-13-14-15-14-13-16-12-16-15-13-14-13-12-15

B 15-16-12-15-13-15-17-14-12-13-14-13-15-16-13-16

XVpos XIIIpos

T 15-16-12-15-13-14-15-18-17-16-15-17-13-17-16-14-15-14-13-14-15-14-13-16-12-16-15-12-13-17-16-15

A 15-16-12-15-13-14-15-18-17-16-15-17-13-17-16-14-15-14-13-14-15-14-13-16-12-16-15-12-13-17-16-15

B 15-16-12-15-13-14-15-18-17-16-15-17-13-17-16-14-15-14-13-14-15-14-13-16-12-16-15-12-13-17-16-15

CΔ7, Δ9, Δ9#11 or Δ13#11

XIVpos XVpos XIIIpos

T 15-16-17-15-14-15-16-14-12-13-14-13-16-13-14-17-15-16-12-15-14-15-16-19-17-16-15-13-14-13-17-14

A 15-16-17-15-14-15-16-14-12-13-14-13-16-13-14-17-15-16-12-15-14-15-16-19-17-16-15-13-14-13-17-14

B 15-16-17-15-14-15-16-14-12-13-14-13-16-13-14-17-15-16-12-15-14-15-16-19-17-16-15-13-14-13-17-14

T 15-14-13-14-15-14-13-16-12-16-15-13-14-13-12-15

A 15-14-13-14-15-14-13-16-12-16-15-13-14-13-12-15

B 15-16-12-15-13-15-17-14-12-13-14-13-15-16-13-16

CHAPTER 21: POLYTONALITY IN IMPROVISING

Certain pentatonic scales can be played with their tone center on the third or fifth of a chord to emphasize upper chord tones. Here are three common examples:

<u>chord</u>	<u>pentatonic</u>	<u>pentatonic's tone center on chord's:</u>	<u>chord sound</u>
CΔ7, CΔ9	E minor 7/11	3rd	CΔ13th(no11th)
C7, 9	E minor 7/11b5	3rd	C13th(no11th)
C7, C9, C7sus4.	G minor 7/11	5th	C11th(no3rd)

Polytonality is the use of two or more keys in a piece of music at once. A primary scale is always in use with its tone center on the chord's root. A secondary scale, with a slightly different key signature and its tone center on a chord tone other than the root may be used in soloing to produce a polytonal effect. Here are three common examples which extend the use of the pentatonics in the examples above (the "change in key sign." shows the change the secondary scale makes in the overall key signature):

<u>chord</u>	<u>scale on chord root</u>	<u>2nd scales' tone center on chords'</u>	<u>2nd scale</u>	<u>change in key sign.</u>	<u>overall chord sound</u>
CΔ7, CΔ9	C Major	3rd	E Aeolian	#4	CΔ13th#11
C7, C9	C Mixolydian	5th	G Mel.Min.	#4	C13th#11
Cm7, C`m9, C7sus4	C Aeolian	5th	G Dorian	nat.6	Cm13th

Superimposing chord progressions are very common to Jazz. The improviser conceives another chord progression which has the same basic sound and usually contains the same main chords as the chords played by the accompanists. This second progression allows the soloist to give the music greater tonal dimensionality.

These diversions are temporary excursions into polytonality. The chords connecting the main chords of the progression played by the improviser may be vastly different from those played by the accompanist. Any of the types of chord progression in *Chapter 25: Scale Tone Chord Progression* or *Chapter 26: Other Types of Chord Progression* may be used. If the accompanist uses a scale tone progression to connect main chords, the soloist may use other types of chord progression and vice versa.

CHAPTER 22: FRAGMENT PATTERNS

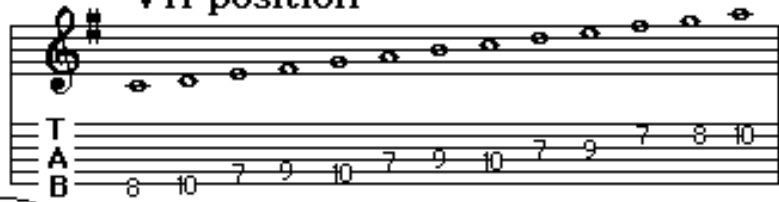
A single fragment pattern sounds like an exercise. However, if you learn a number of fragment patterns and use them to connect your main melodic ideas, they can be very effective. Don't use the same fragment pattern for very long. A measure or so of the same fragment pattern is too long, since the listener comes to expect what will be played next.

Review the fragment patterns from Book 2. Learn to play all fragment patterns in varied keys and positions. Mixing fragment patterns can be effective in avoiding the "exercise sound". If each fragment is brief enough, they won't sound like exercises at all, but will instead contribute to a very interesting melodic line.

On the following pages, *the fragment is the circled notes at the beginning* of each fragment pattern. Every few bars will begin with a letter or letters above the staff. These letters indicate the following:

- S = Fragment in 16th notes
- T = Fragment in eighth note triplets
- SR = Fragment played retrograde (the fragment is played backwards) in 16th notes
- TR = Fragment played retrograde (the fragment is played backwards) in 8th note triplets
- SV = Fragment played in 16th notes vertically inverted. Each interval up in the original fragment now goes down and vice-versa.
- TV = Fragment played in triplets vertically inverted.
- SVR = 16th notes, vertically inverted, retrograde.
- TVR = eighth notes, vertically inverted, retrograde.
- 2S, 2T, 2SR, etc. = same as the series above with the entire exercise displaced rhythmically to start on the second, third, fourth or fifth note as indicated.

FRAGMENT PATTERN 10 VII position



♩ = 90 S

T 3 3 3

S R

TR

S U

T U

S U R

The image displays ten staves of musical notation for guitar, each representing a different fragment pattern. The notation is written in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. The patterns are as follows:

- Staff 1:** Labeled **TUR**. It begins with a series of eighth notes, followed by a rest, and then a triplet of eighth notes.
- Staff 2:** Labeled **2S**. It consists of a continuous sequence of eighth notes.
- Staff 3:** Labeled **2T**. It starts with a triplet of eighth notes, followed by a rest, and then a continuous sequence of eighth notes.
- Staff 4:** Labeled **2SR**. It begins with a triplet of eighth notes, followed by a rest, and then a continuous sequence of eighth notes.
- Staff 5:** Labeled **2TR**. It starts with a continuous sequence of eighth notes, followed by a rest, and then a triplet of eighth notes.
- Staff 6:** Labeled **2SU**. It consists of a continuous sequence of eighth notes.
- Staff 7:** Labeled **2TU**. It begins with a triplet of eighth notes, followed by a rest, and then a continuous sequence of eighth notes.
- Staff 8:** Labeled **2SUR**. It starts with a triplet of eighth notes, followed by a rest, and then a continuous sequence of eighth notes.

The image displays ten staves of musical notation for Fragment Pattern 10. The notation is written in treble clef with a key signature of one sharp (F#). The pattern consists of various triplet and technical exercises:

- Staff 1:** A sequence of eighth notes followed by a triplet of eighth notes, then a triplet of quarter notes, and finally a triplet of eighth notes. The marking **TUR** is placed above the final triplet.
- Staff 2:** A continuous sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it.
- Staff 3:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3S** is placed above the first triplet.
- Staff 4:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3T** is placed above the first triplet.
- Staff 5:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3SR** is placed above the first triplet.
- Staff 6:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3TR** is placed above the first triplet.
- Staff 7:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3SU** is placed above the first triplet.
- Staff 8:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3TU** is placed above the first triplet.
- Staff 9:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3SUR** is placed above the first triplet.
- Staff 10:** A sequence of eighth notes, with a triplet of eighth notes marked with a '3' above it. The marking **3TUR** is placed above the first triplet.

The musical score consists of ten staves of music in G major (one sharp). The notation includes various techniques and patterns:

- Staff 1:** A sequence of triplets (3) across the staff.
- Staff 2:** Labeled **4S**, featuring a slur over a sequence of notes.
- Staff 3:** Labeled **4T**, featuring a slur over a sequence of notes with triplets (3) indicated below.
- Staff 4:** Labeled **4SR**, featuring a slur over a sequence of notes.
- Staff 5:** Labeled **4TR**, featuring a slur over a sequence of notes with triplets (3) indicated below.
- Staff 6:** Labeled **4SU**, featuring a slur over a sequence of notes with triplets (3) indicated below.
- Staff 7:** Labeled **4TU**, featuring a slur over a sequence of notes with triplets (3) indicated below.
- Staff 8:** A sequence of triplets (3) across the staff.
- Staff 9:** Labeled **4SUR**, featuring a slur over a sequence of notes.
- Staff 10:** Labeled **TUR**, featuring a slur over a sequence of notes with triplets (3) indicated below.
- Staff 11:** A final sequence of triplets (3) across the staff.

FRAGMENT PATTERN 13

VII position

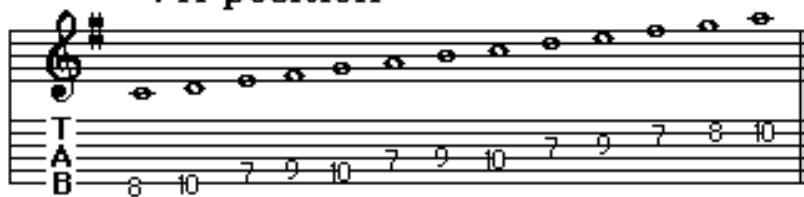
The diagram shows the VII position for guitar. The Treble staff (T) has notes G4, A4, B4, C5, D5, E5, F5, G5. The Bass staff (A) has notes G2, F2, E2, D2, C2, B1, A1, G1. The Bass staff (B) has notes G2, F2, E2, D2, C2, B1, A1, G1.

♩ = 90 T

The musical notation for Fragment Pattern 13 consists of four staves. The first staff is labeled 'T' and has a tempo marking of ♩ = 90. The second staff is labeled 'S'. The third staff is labeled 'TR'. The fourth staff is labeled 'SR'. Each staff contains a sequence of notes and rests, with some notes grouped by slurs and some measures containing triplets.

FRAGMENT PATTERN 14

VII position



A series of seven musical staves showing various guitar techniques and patterns. The first staff is marked with a tempo of 90 and a 'S' (Sustained) marking. The subsequent staves show various techniques including triplets (T), slurs (S), and other patterns (R, TR, TU, SUR).

The image displays ten staves of musical notation for Fragment Pattern 14. The notation is written in treble clef with a key signature of one sharp (F#). The pattern consists of various triplet and sixteenth-note sequences, often grouped with technical markings above the staff. The markings include:

- TUR**: Triplet Up-bow/Rapid, appearing at the start of the first staff.
- 2S**: Double Sixteenth, appearing at the start of the third staff.
- 2T**: Double Triplet, appearing at the start of the fourth staff.
- 2SR**: Double Sixteenth Rapid, appearing at the start of the fifth staff.
- 2TR**: Double Triplet Rapid, appearing at the start of the sixth staff.
- 2SU**: Double Sixteenth Up-bow, appearing at the start of the eighth staff.
- 2TU**: Double Triplet Up-bow, appearing at the start of the ninth staff.
- 2SUR**: Double Sixteenth Up-bow Rapid, appearing at the start of the tenth staff.

The notation includes numerous triplet markings (three '3's over a group of notes) and sixteenth-note runs. Some staves begin with a double bar line and a key signature change to one sharp. The pattern concludes with a final triplet and a double bar line.

2TUR

3S

3T

3SR

3TR

3SU

3TU

3SUR

3TUR

The musical score for Fragment Pattern 14 consists of ten staves of music in G major (one sharp). The notation includes various triplets and technical markings:

- Staff 1:** A sequence of eighth notes with triplets indicated by a '3' above the group.
- Staff 2:** Labeled '4S', featuring a continuous eighth-note pattern.
- Staff 3:** Labeled '4T', featuring a continuous eighth-note pattern with triplets indicated by a '3' below the group.
- Staff 4:** Labeled '4SR', featuring a continuous eighth-note pattern.
- Staff 5:** Labeled '4TR', featuring a continuous eighth-note pattern with triplets indicated by a '3' below the group.
- Staff 6:** Labeled '4SD', featuring a continuous eighth-note pattern with triplets indicated by a '3' below the group.
- Staff 7:** Labeled '4TU', featuring a continuous eighth-note pattern with triplets indicated by a '3' above the group.
- Staff 8:** A sequence of eighth notes with triplets indicated by a '3' above the group.
- Staff 9:** Labeled '4SUR', featuring a continuous eighth-note pattern.
- Staff 10:** Labeled '4TUR', featuring a continuous eighth-note pattern with triplets indicated by a '3' above the group.

FRAGMENT PATTERN 15

V position

The musical notation for the V position shows a treble clef with a key signature of one flat (B-flat). The scale is written on a single staff, starting on B-flat and ascending to B-flat. The notes are: B-flat, C, D, E-flat, F, G, A, B-flat. Below the staff, the fingerings for the right hand are indicated: 1, 2, 3, 4, 5, 4, 3, 2.

The musical score for Fragment Pattern 15, Page 249, consists of ten staves of music in 3/4 time. The patterns are as follows:

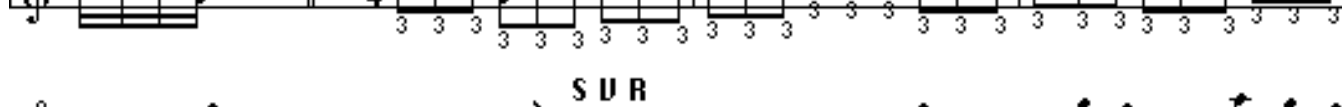
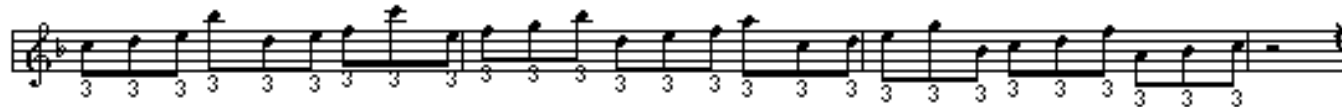
- Staff 1:** TUR (Tuplet of 8 notes, followed by a rest, then a triplet of 3 notes).
- Staff 2:** 3 (Triplet of 3 notes, followed by a rest, then a triplet of 3 notes).
- Staff 3:** 2S (Two eighth notes, followed by a rest, then a triplet of 3 notes).
- Staff 4:** 2T (Two eighth notes, followed by a rest, then a triplet of 3 notes).
- Staff 5:** 2SR (Two eighth notes, followed by a rest, then a triplet of 3 notes).
- Staff 6:** 2TR (Two eighth notes, followed by a rest, then a triplet of 3 notes).
- Staff 7:** 3 (Triplet of 3 notes, followed by a rest, then a triplet of 3 notes).
- Staff 8:** 2SU (Two eighth notes, followed by a rest, then a triplet of 3 notes).
- Staff 9:** 2TU (Two eighth notes, followed by a rest, then a triplet of 3 notes).
- Staff 10:** 2SUR (Two eighth notes, followed by a rest, then a triplet of 3 notes).

The page contains ten staves of musical notation for guitar, each featuring a different triplet pattern. The notation is in a key with one flat (B-flat) and a common time signature of 3/4. The patterns are labeled as follows:

- Staff 1: 2TUR (Triplet Turnaround)
- Staff 2: 3S (Triplet Sixteenth)
- Staff 3: 3T (Triplet Triplet)
- Staff 4: 3SR (Triplet Sixteenth Rhythmic)
- Staff 5: 3TR (Triplet Triplet Rhythmic)
- Staff 6: 3SU (Triplet Sixteenth Up)
- Staff 7: 3TU (Triplet Triplet Up)
- Staff 8: 3SUR (Triplet Sixteenth Up Rhythmic)
- Staff 9: 3TUR (Triplet Triplet Up Rhythmic)

FRAGMENT PATTERN 16

V position



The image displays ten staves of musical notation for Fragment Pattern 16. The notation is written in a single melodic line on a treble clef staff with a key signature of one flat (B-flat). The time signature is 3/4. The pattern consists of various triplet figures and technical markings. The markings include: TUR (first staff), 2 S (second staff), 2 T (third staff), 2 S R (fourth staff), 2 TR (fifth staff), 2 S U (sixth staff), 2 TU (seventh staff), and 2 S U R (eighth staff). The notation includes many triplet markings (3) and various rests and accidentals.

The image displays ten staves of musical notation for guitar, each illustrating a specific fragment pattern. The notation is written in treble clef with a key signature of one flat (B-flat). The patterns are as follows:

- Staff 1:** A triplet of eighth notes (G4, A4, B4) followed by a quarter rest, then a slur over four eighth notes (C5, B4, A4, G4).
- Staff 2:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 3:** A triplet of eighth notes (G4, A4, B4), followed by a quarter rest, then a slur over four eighth notes (C5, B4, A4, G4).
- Staff 4:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 5:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 6:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 7:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 8:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 9:** A slur over four eighth notes (G4, A4, B4, C5), followed by a quarter rest, then a slur over four eighth notes (D5, C5, B4, A4).
- Staff 10:** A triplet of eighth notes (G4, A4, B4) followed by a quarter rest.

The musical score for Fragment Pattern 16 consists of ten staves of music, each featuring a specific rhythmic pattern. The patterns are labeled as follows:

- Staff 1:** Labeled **2TUR**. It begins with a triplet of eighth notes, followed by a series of eighth notes, and ends with a triplet of eighth notes.
- Staff 2:** Labeled **3S**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 3:** Labeled **3T**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 4:** Labeled **3SR**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 5:** Labeled **3TR**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 6:** Labeled **3SU**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 7:** Labeled **3TU**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 8:** Labeled **3SUR**. It features a continuous triplet of eighth notes throughout the staff.
- Staff 9:** Labeled **3TUR**. It features a continuous triplet of eighth notes throughout the staff.

FRAGMENT PATTERN 17

IX position

FRAGMENT PATTERN 18

VII position



T $\text{♩} = 90$

S

T R

S R

T U

S U

T U R

S U R

The musical notation consists of eight staves, each representing a different fingering pattern for the VII position. Each staff begins with a treble clef and a 3/4 time signature. The first staff is marked with a tempo of 90 beats per minute. The patterns are: T (Treble), S (Solo), T R (Treble Right), S R (Solo Right), T U (Treble Up), S U (Solo Up), T U R (Treble Up Right), and S U R (Solo Up Right). Each pattern is a sequence of eighth and sixteenth notes, often grouped in triplets, ending with a double bar line.

FRAGMENT PATTERN 19

VII position

VII position



7 8 10 7 8 10 7 9 10 7 9 10 8 10 7

[illegible]

The first staff of music is in treble clef with a key signature of one sharp (F#). It begins with a 3/4 time signature. The melody consists of eighth and sixteenth notes, with some beamed sixteenth notes. The staff ends with a double bar line and a repeat sign.

[illegible]

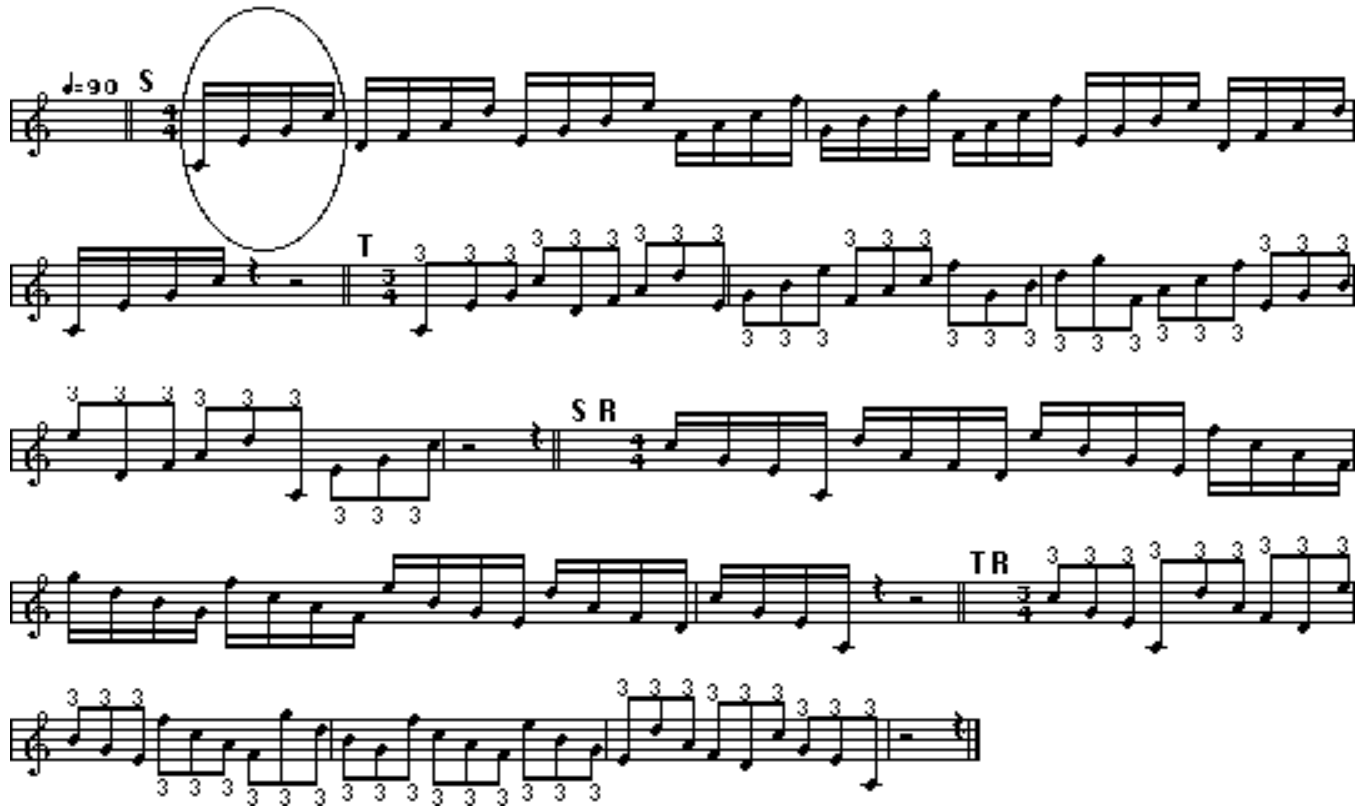
SUR



The SUR section is written in treble clef with a 3/4 time signature. The melody consists of eighth and sixteenth notes, with some measures containing beamed sixteenth notes. The piece concludes with a double bar line and a repeat sign.

FRAGMENT PATTERN 20

V position



FRAGMENT PATTERN 21

V position

T
A
B

♩ = 90 S

T

S R

T R

FRAGMENT PATTERN 22

X position

T
A
B

10 12 14 10 12 14 10 12 10 12 13 10

♩ = 90 S

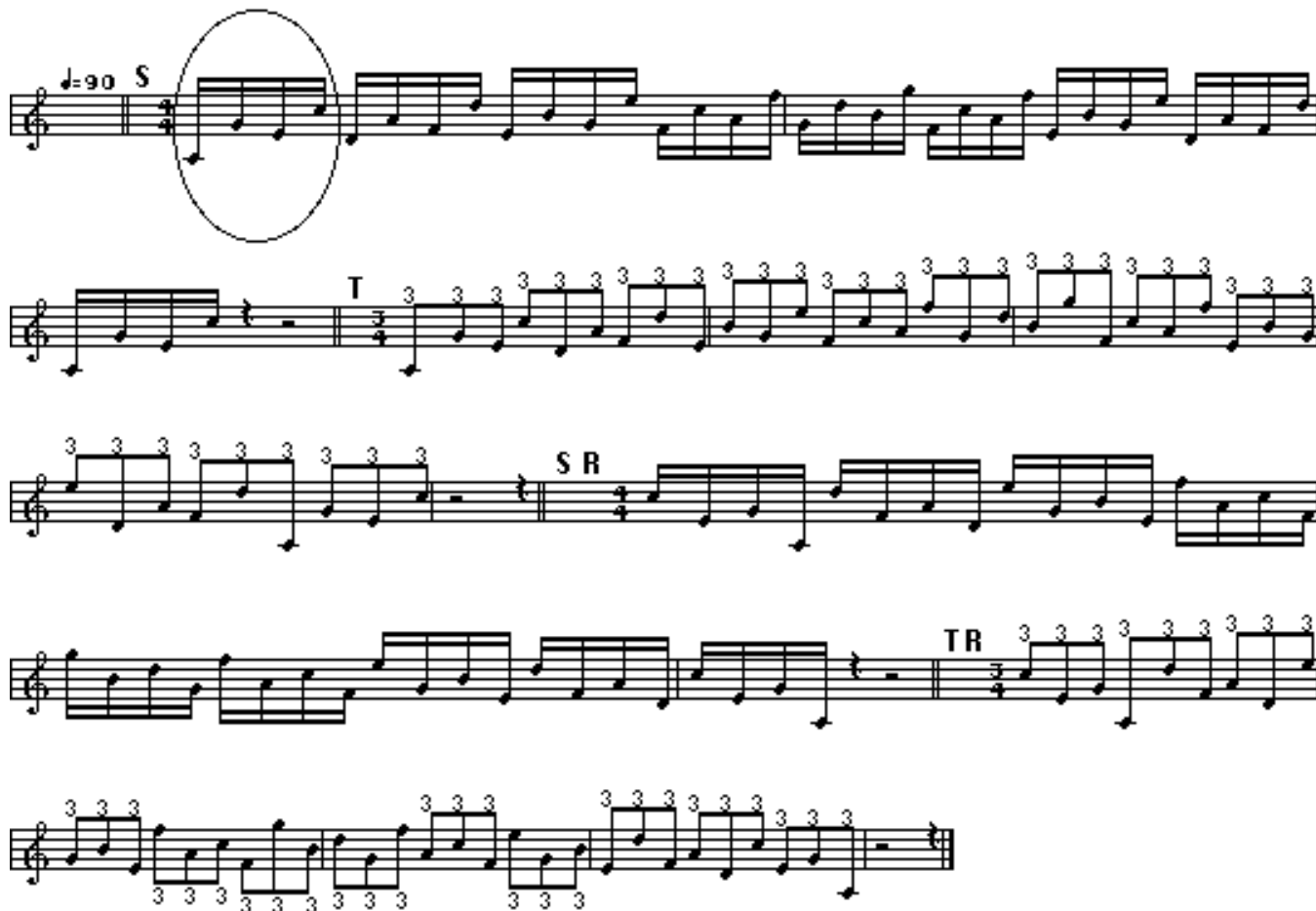
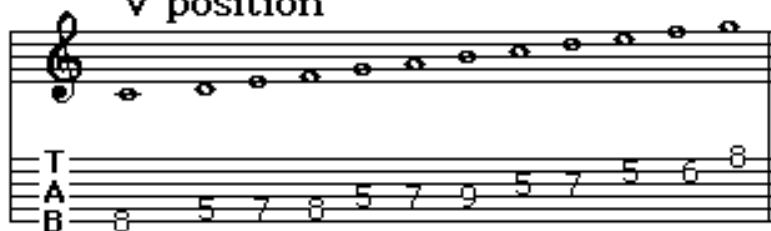
T

S R

T R

FRAGMENT PATTERN 23

V position



NOTES FOR FRAGMENT PATTERNS 24 - 28

VII position

The VII position diagram shows a treble clef staff with notes from G4 to G5. Below it, a bass clef staff shows fingerings for the T, A, and B strings. The T string has fingerings 6, 10, 7, 8, 10, 7, 9, 10, 7, 9, 10, 8, 10, 7, 8, 10. The A string has fingerings 6, 10, 7, 8, 10, 7, 9, 10, 7, 9, 10, 8, 10, 7, 8, 10. The B string has fingerings 6, 10, 7, 8, 10, 7, 9, 10, 7, 9, 10, 8, 10, 7, 8, 10.

FRAGMENT PATTERN 24

Fragment Pattern 24 is a 5-measure piece in 3/4 time. The first measure is circled and labeled 'S'. The second measure is labeled 'T'. The third measure is labeled 'S R'. The fourth measure is labeled 'T R'. The fifth measure is a whole note. The pattern consists of eighth and sixteenth notes, with triplets indicated by a '3' over the notes.

FRAGMENT PATTERN 25

Fragment Pattern 25 is a musical exercise in 3/4 time, marked $\text{♩} = 90$. The pattern consists of five staves of music. The first staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'S'. The second staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'T'. The third staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'S R'. The fourth staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'T R'. The fifth staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'T R'. The pattern is composed of eighth and sixteenth notes, with triplets indicated by a '3' over the notes.

FRAGMENT PATTERN 26

Fragment Pattern 26 is a musical exercise in 3/4 time, marked $\text{♩} = 90$. The pattern consists of five staves of music. The first staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'S'. The second staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'T'. The third staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'S R'. The fourth staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'T R'. The fifth staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'T R'. The pattern is composed of eighth and sixteenth notes, with triplets indicated by a '3' over the notes.

FRAGMENT PATTERN 27

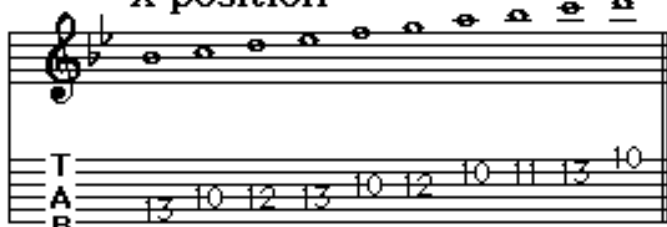
Fragment Pattern 27 is a musical exercise in 3/4 time, marked $\text{♩} = 90$. The pattern consists of five staves of music. The first staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'S'. The second staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4, labeled 'T'. The third staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4, labeled 'S R'. The fourth staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4, labeled 'TR'. The fifth staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4. The pattern is repeated throughout the five staves.

FRAGMENT PATTERN 28

Fragment Pattern 28 is a musical exercise in 3/4 time, marked $\text{♩} = 90$. The pattern consists of five staves of music. The first staff begins with a circled measure containing a quarter note G4, a quarter note A4, and a quarter note B4, labeled 'S'. The second staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4, labeled 'T'. The third staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4, labeled 'S R'. The fourth staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4, labeled 'TR'. The fifth staff contains a measure with a quarter rest, a quarter note G4, and a quarter note A4. The pattern is repeated throughout the five staves.

FRAGMENT PATTERN 29

X position



UP IN THIRDS



FRAGMENT PATTERN 30

VII position



FRAGMENT PATTERN 31

VIII position

T
A
B

8 10 11 8 10 11 9 10 12 8 10 8 9 12 8

$\text{♩} = 90$ S

T

S R

T R

FRAGMENT PATTERN 32

II position

III position

etc.

$\text{♩} = 128$

T
A
B

5 5 2 3 5 5 2 3

REPEAT UP 1 FRET FOR EACH KEY (8 NOTES)

FRAGMENT PATTERN 33

V position

T
A
B

5 6 7 8 8 5 7 9 5 7 5 6 8 5 7 8

$\text{♩} = 90$ S

The musical score is composed of 12 staves. The first 10 staves are in 4/4 time and feature various rhythmic patterns, including eighth and sixteenth notes, and triplets. The 11th staff is marked with a double bar line and a 'T' above it, indicating a transition to 6/8 time. The 12th staff is marked with a double bar line and 'S U' above it, indicating a transition to 4/4 time. The music is written in treble clef.

The musical score is written for a single melodic line in treble clef. It consists of 13 staves. The first six staves feature eighth-note patterns, some with beamed sixteenth notes. The seventh staff begins with a double bar line and the letter 'TU' above it, followed by a 6/8 time signature and a triplet of eighth notes. The remaining staves continue with various triplet and eighth-note patterns, including some with beamed sixteenth notes. The score ends with a double bar line on the thirteenth staff.

CHAPTER 23: RHYTHMIC READING

EXAMPLES 1 THROUGH 43: REVIEW OF RHYTHMS COVERED IN BOOK 2

2nd Position

1 2 3 4

1st Position

5 6 7 8 9

10 11 12 13 14 15 16

17 18 19 20 21

22 23 24 25 26 27 28

29 30 31 32 33 34 35 36 37

1st Position

38 39 40 41 42 43

The continuous, low-pitched bass note in examples 44 through 400 is provided to establish the beat. The high-pitched notes are the rhythms you should concentrate on. It is usually a quarter note. When it is not a quarter note, the continuous bass part is written on the added staff below the examples.

This page contains a rhythmic reading exercise consisting of 10 staves of music, each with 12 measures. The measures are numbered 44 through 143. The notation includes various rhythmic values such as quarter notes, eighth notes, and sixteenth notes, often grouped with beams. Some measures contain rests. The key signature is one flat (Bb), and the time signature is 4/4. The exercise is designed to help students read and perform complex rhythmic patterns.

Measures 44-51: Staff 1. Measures 52-58: Staff 2. Measures 59-66: Staff 3. Measures 67-76: Staff 4. Measures 77-85: Staff 5. Measures 86-94: Staff 6. Measures 95-102: Staff 7. Measures 103-108: Staff 8. Measures 109-114: Staff 9. Measures 115-120: Staff 10. Measures 121-126: Staff 11. Measures 127-134: Staff 12. Measures 135-143: Staff 13.

144 145 146 147 148

149 150 151 152 153

154 155 156 157 158 159

160 161 162 163 164 165

166 167 168 169 170

171 172 173 174 175

176 177 178 179 180 181

182 183 184 185 186 187

188 189 190 191 192 193 194

195 196 197 198 199 200 201

202 203 204 205 206 207 208

209 210 211 212 213 214 215

216 217 218 219 220 221 222

The musical score consists of eight systems of staves, each with a treble and bass clef. The measures are numbered 223 through 266. The notation includes various rhythmic values, rests, and bar lines. A specific instruction points to the bassline starting at measure 241.

223 224 225 226 227 228 229

230 231 232 233 234 235 236 237

238 239 240 241 242 243

This is the bassline which serves as a metronome, not the exercise →

244 245 246 247 248 249

250 251 252 253 254

255 256 257 258

259 260 261 262 263

264 265

266

266 (continued) 267

268 269

270

271 272

273

274 275

276 277 278 279 280

281 282 283 284 285

This musical score consists of nine systems of two staves each (treble and bass clef). The measures are numbered 286 through 303. The key signature is one flat (Bb). The time signature changes from 3/4 to 2/4 at measure 291 and back to 3/4 at measure 300. The notation includes various rhythmic patterns such as eighth notes, sixteenth notes, and triplets, often beamed together. Measure 298 ends with a double bar line and a repeat sign. Measure 299 begins with a 7/8 time signature. Measure 302 begins with a 3/4 time signature. Measure 303 begins with a 2/4 time signature.

303 (cont.) 304

305 306

307 308

309

310

311

312

313

314

315

316

317

318

319

320

321

(the metronomic bass part continues in quarter notes)

322

323

324

325

The image displays a series of rhythmic exercises numbered 313 through 325. Exercises 313-318 are presented in 4/4 time, each consisting of a treble and bass staff. Exercises 319-325 are in 3/4 time and are shown on a single staff. Exercise 321 includes a note indicating that the metronomic bass part continues in quarter notes. The exercises involve various rhythmic patterns, including eighth notes, quarter notes, and rests, often grouped with slurs or beams.

326

327

328

329 330

331 332

333 334

335

336 337

338 339 340

341 342

343 344

345 346 347 348

349 350 351

352 353 354

355 356 357

This musical score consists of 14 staves of music, each containing measures numbered 358 through 393. The notation is written in treble clef with a key signature of one sharp (F#). The time signature changes throughout the piece: 3/4, 2/4, 3/8, 4/8, 3/4, 2/4, 3/8, 4/8, 3/4, 2/4, 3/8, 4/8, 3/4, and 2/4. The music features a variety of rhythmic patterns, including eighth notes, sixteenth notes, and triplets. Many measures contain triplets, indicated by a '3' and a bracket. Some measures also contain sixteenth-note groups, indicated by a '6' and a bracket. The notation includes various rests, accidentals, and phrasing slurs. The measures are numbered as follows: 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, and 393.

394 395

396 397

398 399

400

CHAPTER 24: USES OF CHORD PROGRESSIONS

A. COMPOSING.

To develop your abilities as a composer, study scale tone chord progression by memorizing triads, 7th chords, mode formulas and scale tone root chord progression for major and harmonic minor scale in Chapters 3 and 4. Then study Chapters 25 and 26 on chord progression. If you want to paint, you must first develop your palette. If you want to write music, you must first develop your tools and elements.

B. SUPERIMPOSING CHORD PROGRESSIONS IN COMPING AND SOLOING.

Comping is improvising your chordal accompaniment. *Soloing* is improvising a melody. In improvising a melody or in comping, you may imagine and play to a substitute progression (which could replace a chord or group of chords) which is being played simultaneously with the original chords. This would be called a “superimposing chord progression”. The superimposing progression should be one that would blend with the chord or chords it is played over. Usually the original chord(s) and the superimposing progression are from the same general chord family (see *Chapter8: Chord Families*). This is much of the essence of Jazz melody.

Example 5C1 - Superimposing gives an example of a melody composed on a substitute progression. On tape, the example is played in four versions: (1) the original chord progression without the melody, (2) the substitute chord progression without the melody, (3) the substitute progression with the melody and (4) the original chord progression with the melody. Remember the end result, as discussed above, is the original chords with a melody composed on a substitute progression.

Example 5C1 - Superimposing (original chords)

The first system of music consists of four measures. The chords are Dm7, G9, CΔ9, and Am7. The melody is written on a single staff with fingerings indicated by numbers 1-4. Below the staff is a guitar fretboard diagram with strings T (Treble), A (Acoustic), and B (Bass). The fret numbers are: Measure 1: T-4, A-5, B-3; Measure 2: T-3, A-2, B-1; Measure 3: T-2, A-1, B-3; Measure 4: T-1, A-2, B-4.

The second system of music also consists of four measures. The chords are Dm7, G9, CΔ9, and Am7. The melody is written on a single staff with fingerings indicated by numbers 1-4. Below the staff is a guitar fretboard diagram with strings T, A, and B. The fret numbers are: Measure 1: T-4, A-5, B-3; Measure 2: T-3, A-2, B-1; Measure 3: T-2, A-1, B-3; Measure 4: T-1, A-2, B-4.

Example 5C1 - Superimposing (substitute chords) The melody is the same as the example above.

The first system of music consists of five measures. The chords are Dm7, Db9, CΔ9, Am7, and C#°7. The melody is written on a single staff with fingerings indicated by numbers 1-4. Below the staff is a guitar fretboard diagram with strings T, A, and B. The fret numbers are: Measure 1: T-4, A-5, B-3; Measure 2: T-3, A-2, B-1; Measure 3: T-2, A-1, B-3; Measure 4: T-1, A-2, B-4; Measure 5: T-1, A-2, B-4.

The second system of music consists of four measures. The chords are Dm7, Db9, CΔ9, and Am7. The melody is written on a single staff with fingerings indicated by numbers 1-4. Below the staff is a guitar fretboard diagram with strings T, A, and B. The fret numbers are: Measure 1: T-4, A-5, B-3; Measure 2: T-3, A-2, B-1; Measure 3: T-2, A-1, B-3; Measure 4: T-1, A-2, B-4.

CHAPTER 25: SCALE TONE CHORD PROGRESSION

A. HEPTATONIC (7 TONE) SCALE TONE CHORD PROGRESSION

A *heptatonic scale tone chord progression* is made up exclusively with the tones of one seven tone scale. One of the most important devices in improvising or composing a melody on a chord progression is recognizing scale tone groups of chords.

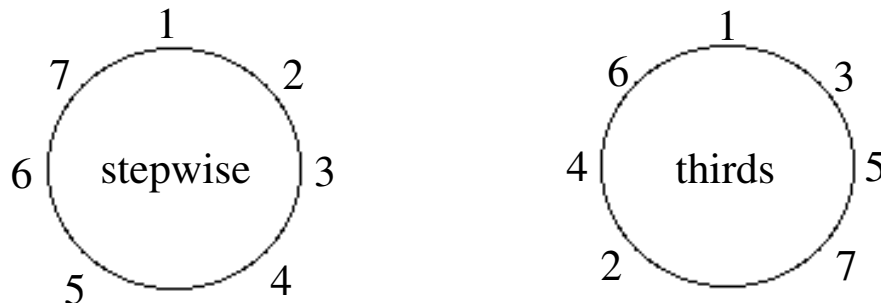
Chord roots are the notes after which chords are named. For example, the progression Cma7, Dm7, G7sus.4, Am7 uses the chord root movement “C, D, G, A.” A chord progression always involves a sequence of chord roots: the order of letter names after which the chords are named. The chart below illustrates the three types of movement with major scale tone chord roots.

A *tonic chord* is the “main chord” in a chord progression; the one you would expect the progression to end on. The progression sounds resolved when you arrive at the tonic chord. The root of the tonic chord is the tone center.

Heptatonic scale tone chord progression may involve combination chord stepwise root movement, perfect fourth root movement, or root movement in thirds.

Major Scale Root Movement

Progression In Perfect Fourths: 7 - 3 - 6 - 2 - 5 - 1 - 4



The sequence up in *perfect fourths* is the most common chord root movement. The sequence can be used in reverse, which becomes chord root movement up in perfect fifths. The major scale is the only heptatonic (seven tone) scale which can be arranged entirely in perfect fourths or perfect fifths: the scale tone sequence 7 - 3 - 6 - 2 - 5 - 1 - 4.

The *stepwise cycle* of chord roots is the second most common. It may be used in clockwise or counterclockwise order.

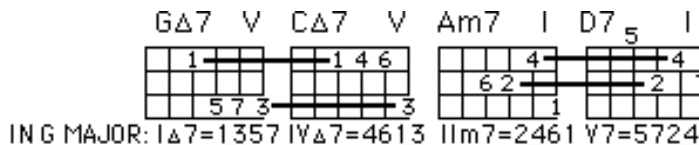
The *cycle of thirds* is the least common chord root movement. It may be used in clockwise or counterclockwise order. Thirds are the most common intervals used consecutively in harmonizing a melody. See *Chapter 7: Intervallic Types Of Harmony*.

All heptatonic scales may be played in stepwise order or in thirds. The major scale and its modes are the only heptatonic scales which can be arranged in a sequence of seven tones in perfect fourths. Other scales and modes may involve flatened or sharped versions of the numbers above, such as bIII. Of course, the number “1” is rarely altered. They can involve parts of the following series of perfect fourth root movement:

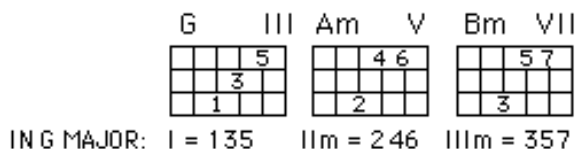
#4 7 3 6 2 5 1 4 b7 b3 b6 b2 b5

A chord is in *root position* when it is named after its lowest note. For example, a Gm7 chord with “G” as the lowest note is in root position. A Gm7 chord with “D” is not in root position; it is *inverted*. *Chord inversion* is discussed in Chapter 11.

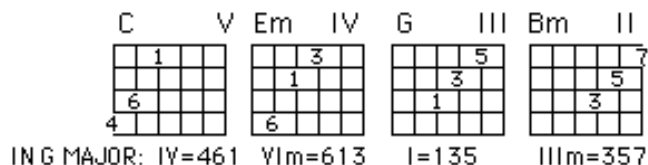
The *scale tone root position chord progression in perfect fourths* (same as down in perfect fifths) has a “pivotal” quality, since some tones stay the same while some change. For example, tones 1 and 3 are in both the I chord (1357 of G major) and the IV chord (4613 of G major). Additionally, tones 2 and 4 are in the II^m7 chord and in the V7 chord.



In *scale tone stepwise root position chord progression*, chord roots move up or down one step at a time. This produces a “walking” quality, since most or all chord tones move up or down together in steps (example in G Major): I chord (1, 3, 5) to II chord (2, 4, 6) to III chord (3, 5, 7), etc.



Scale tone root position chord progression in thirds. Heptatonic scale tone chords with root movement in thirds often need to change only one note in progressing to the next chord (example in G major): I chord (1, 3, 5) to III chord (3, 5, 7) to V chord (5, 7, 2) to VII chord (7, 2, 4). This produces a transformational quality, since only one tone changes as this type of progression shifts around the tertian cycle (1, 3, 5, 7, 2, 4, 6, 1, etc.).



POSSIBLE MAJOR SCALE TONE TRIAD PAIRS

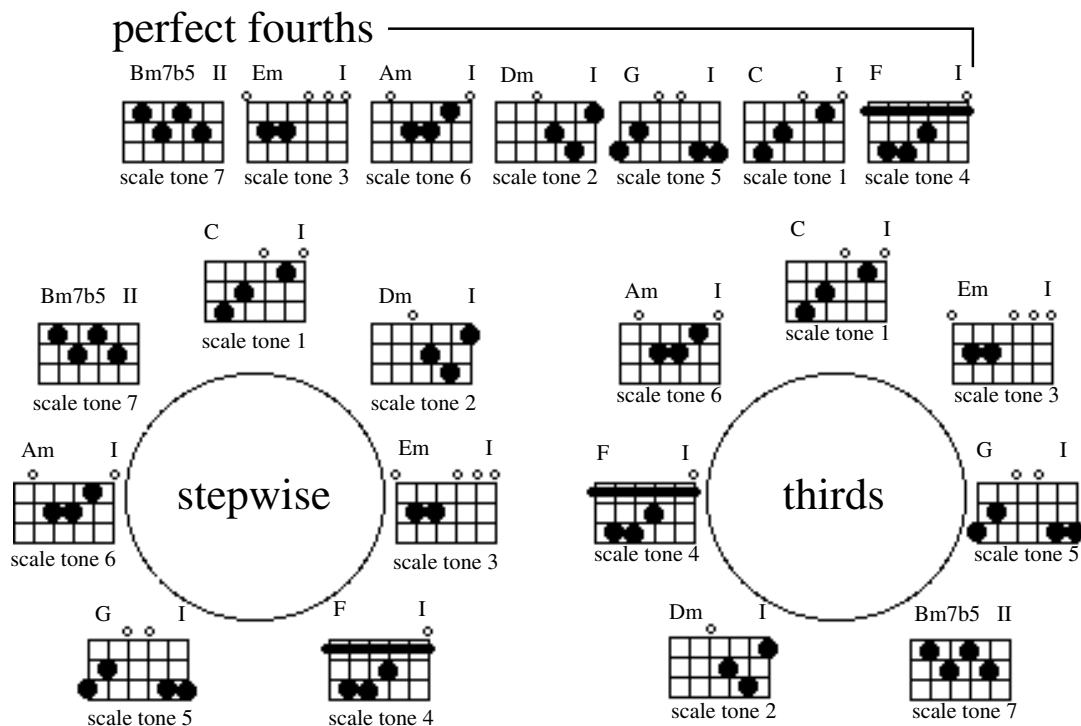
<u>root movement</u>	<u>chord types</u>	<u>chord pair</u>	<u>between roots</u>	<u>Key of C</u>	<u>Key of A</u>
stepwise	Major to minor	I II ^m	1 step (2 frets)	C D ^m	A B ^m
		V V ^m	1 step	G A ^m	E F ^{#m}
	Major to Major	IV V	1 step	F G	D E
	minor to minor	II ^m III ^m	1/2 step (1fret)	D ^m E ^m	B ^m C ^{#m}
	minor to Major	III ^m IV	1/2 step	E ^m F	C ^{#m} D
	dimin. to Major	VII ^{dim} I	1/2 step	B ^{dim} C	G ^{#dim} A
thirds	Major to minor	I III ^m	2 steps (4 frets)	C E ^m	A C ^{#m}
		IV V ^m	2 steps	F A ^m	D F ^{#m}
	Major to dimin.	V VII ^{dim}	2 steps	G B ^{dim}	E G ^{#dim}
		II ^m IV	1 1/2 steps (3 frets)	D ^m F	B ^m D
	minor to Major	III ^m V	1 1/2 steps	E ^m G	C ^{#m} E
		V ^m I	1 1/2 steps	A ^m C	F ^{#m} A
perfect fourths	dimin. to minor	VII ^{dim} II ^m	1 1/2 steps	B ^{dim} D ^m	G ^{#dim} B ^m
	Major to Major	I IV	2 1/2 steps	C F	A D
		V I	2 1/2 steps	G C	E A
	minor to Major	II ^m V	2 1/2 steps	D ^m G	B ^m E
	minor to minor	III ^m V ^m	2 1/2 steps	E ^m A ^m	C ^{#m} F ^{#m}
	dimin. to minor	V ^m II ^m	2 1/2 steps	A ^m D ^m	F ^{#m} B ^m
		VII ^{dim} III ^m	2 1/2 steps	B ^{dim} E ^m	G ^{#dim} C ^{#m}

The chord progressions on the following pages illustrate chord root movement in a few keys. Practice playing the examples in the following manner:

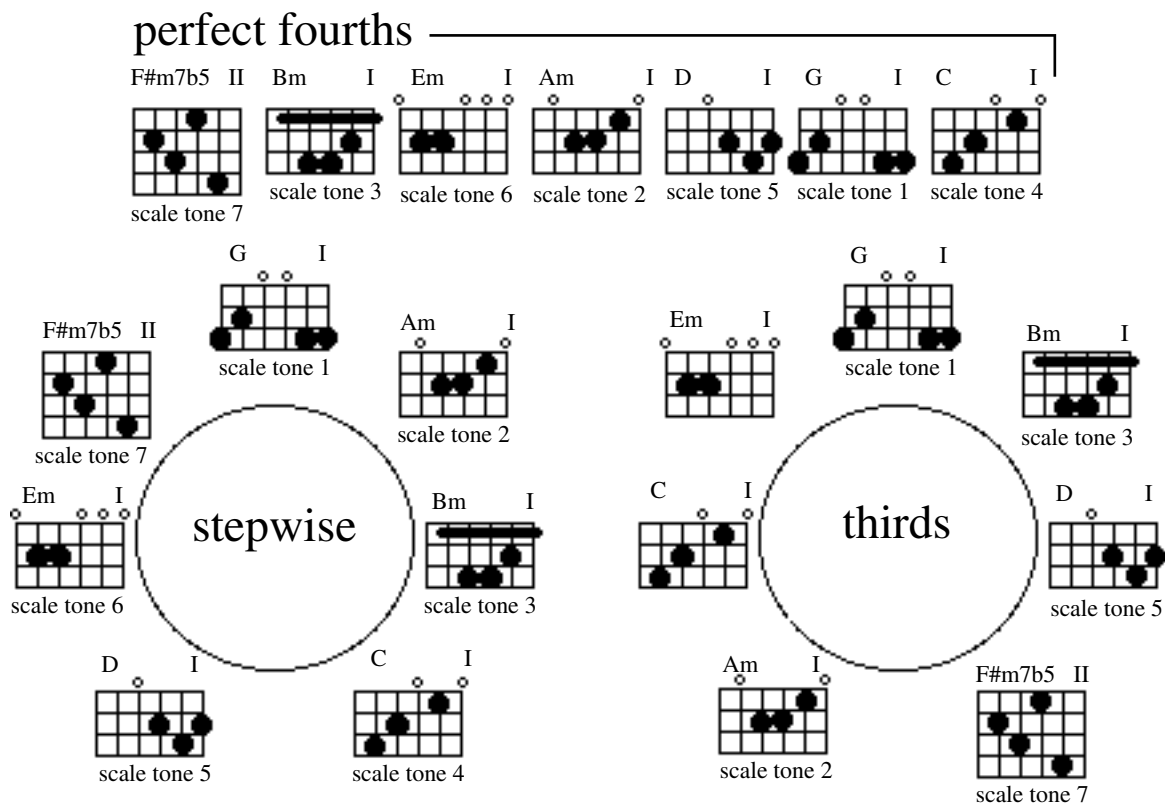
- (1) Play the *perfect fourth chord root progressions* in order from left to right. Also play them from right to left, making *perfect fifth chord root progressions*.
- (2) Play the *stepwise chord root movement progressions* in order through the circle clockwise and counterclockwise.
- (3) Play the *chord root movement in thirds progressions* in order through the circle clockwise and counterclockwise. You will probably find root movement in thirds least desirable.

1. Major Scale Chord Root Movement.

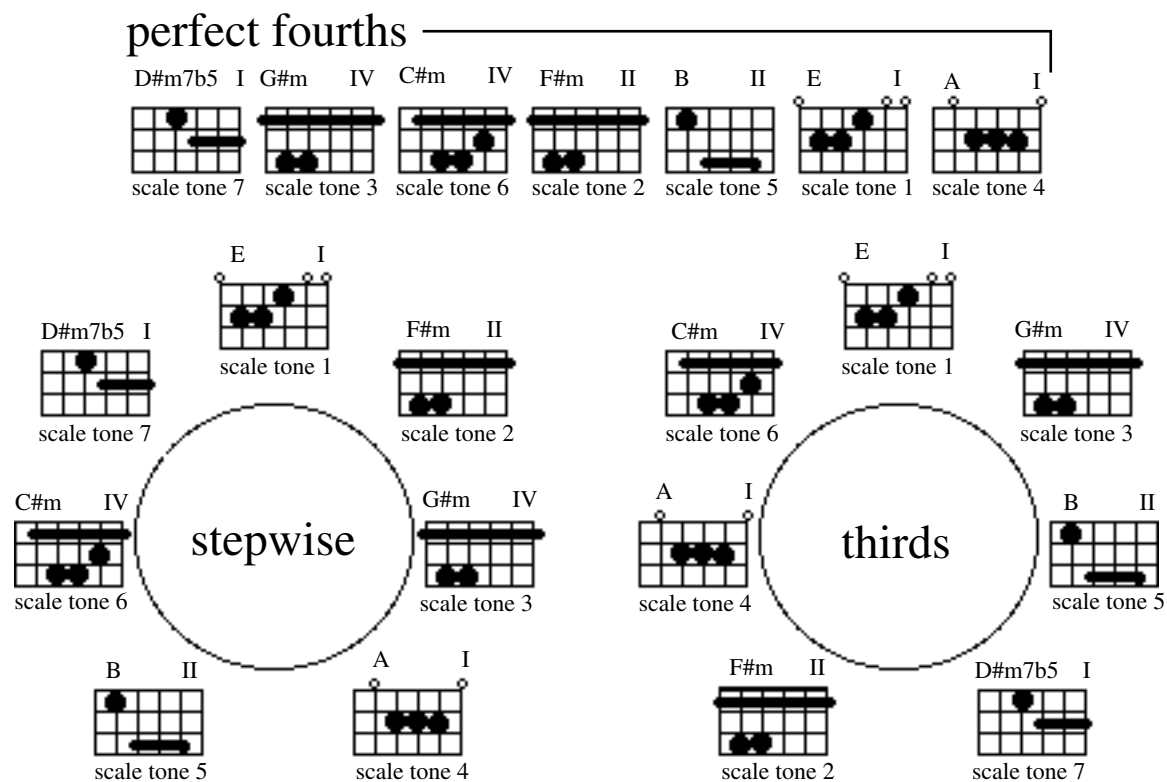
C major scale chord root movement.



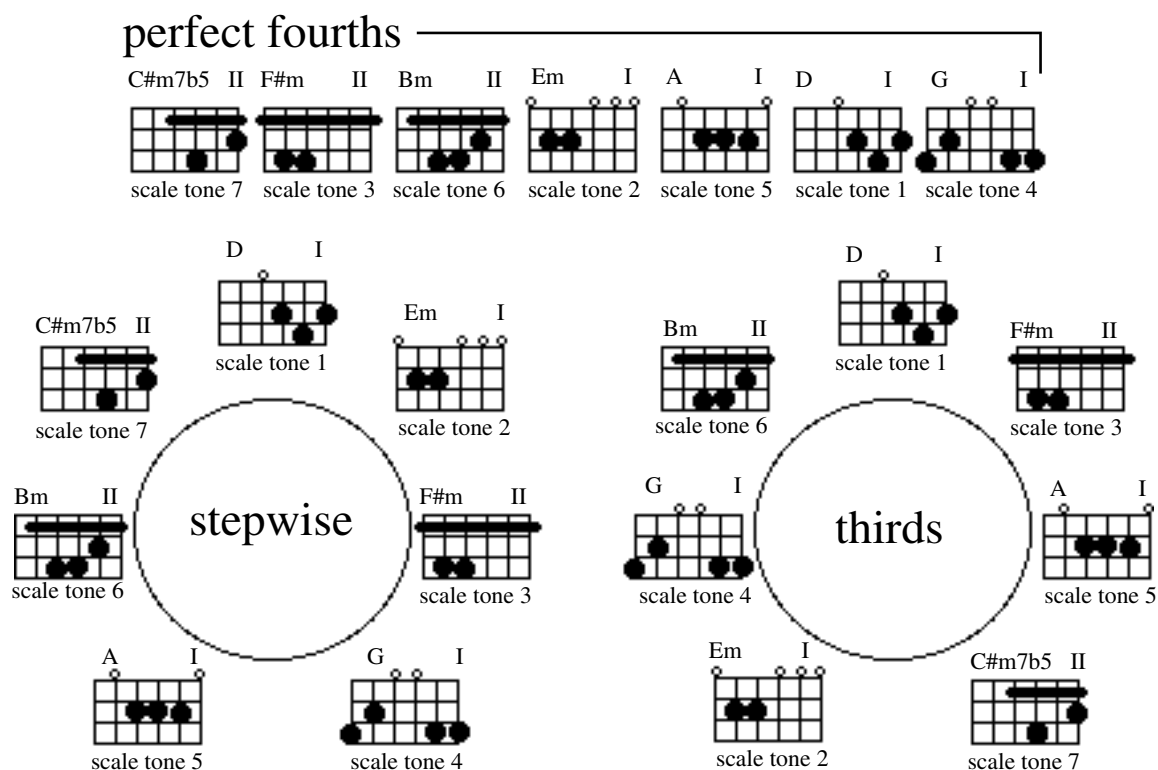
G major scale chord root movement.



“E” major scale chord root movement.



“D” major scale chord root movement.



COMMON HARMONIC MINOR SCALE TONE CHORD PAIRS

<u>root movement</u>	<u>chord types</u>	<u>chord pair</u>	<u>between roots</u>	<u>Key of C</u>	<u>Key of A</u>
stepwise	Major to Major	V bVI	1/2 step	G Ab	E F
	dim.7 to minor	VII°7 Im	1/2 step	B°7 Cm	G#°7 Am
	minor to Major	IVm V	1 step	Fm G	Dm E
thirds	Major to minor	bVI Im	2 steps	Ab Cm	F Am
	minor to Major	IVm bVI	1 1/2 steps	Fm Ab	Dm F
	dim.7 to dim.7	II°7 to IV°7	1 1/2 steps	D°7 F°7	B°7 D°7
		or IV°7 to bVI°7	1 1/2 steps	F°7 Ab°7	D°7 F°7
		or bVI°7 to VII°7	1 1/2 steps	Ab°7 B°7	F°7 G#°7
		or VII°7 to II°7	1 1/2 steps	B°7 D°7	G#°7 D°7
perfect fourths	m7b5 to 7	IIIm7b5 V7	2 1/2 steps	Dm7b5 G7	Bm7b5 E7
	7 to minor	V7 Im	2 1/2 steps	G7 Cm	E7 Am
	minor to minor	Im IVm	2 1/2 steps	Cm Fm	Am Dm
	aug. to Major	bIII+ bVI	2 1/2 steps	Eb+ Ab	C+ F

The chord progressions on the following pages illustrate chord root movement in a few keys. Practice playing the examples in the following manner:

- (1) Play the *perfect fourth chord root progressions* in order from left to right. Also play them from right to left, making *perfect fifth chord root progressions*.
- (2) Play the *stepwise chord root movement progressions* in order through the circle clockwise and counterclockwise.
- (3) Play the *chord root movement in thirds progressions* in order through the circle clockwise and counterclockwise. You will probably find root movement in thirds least desirable.

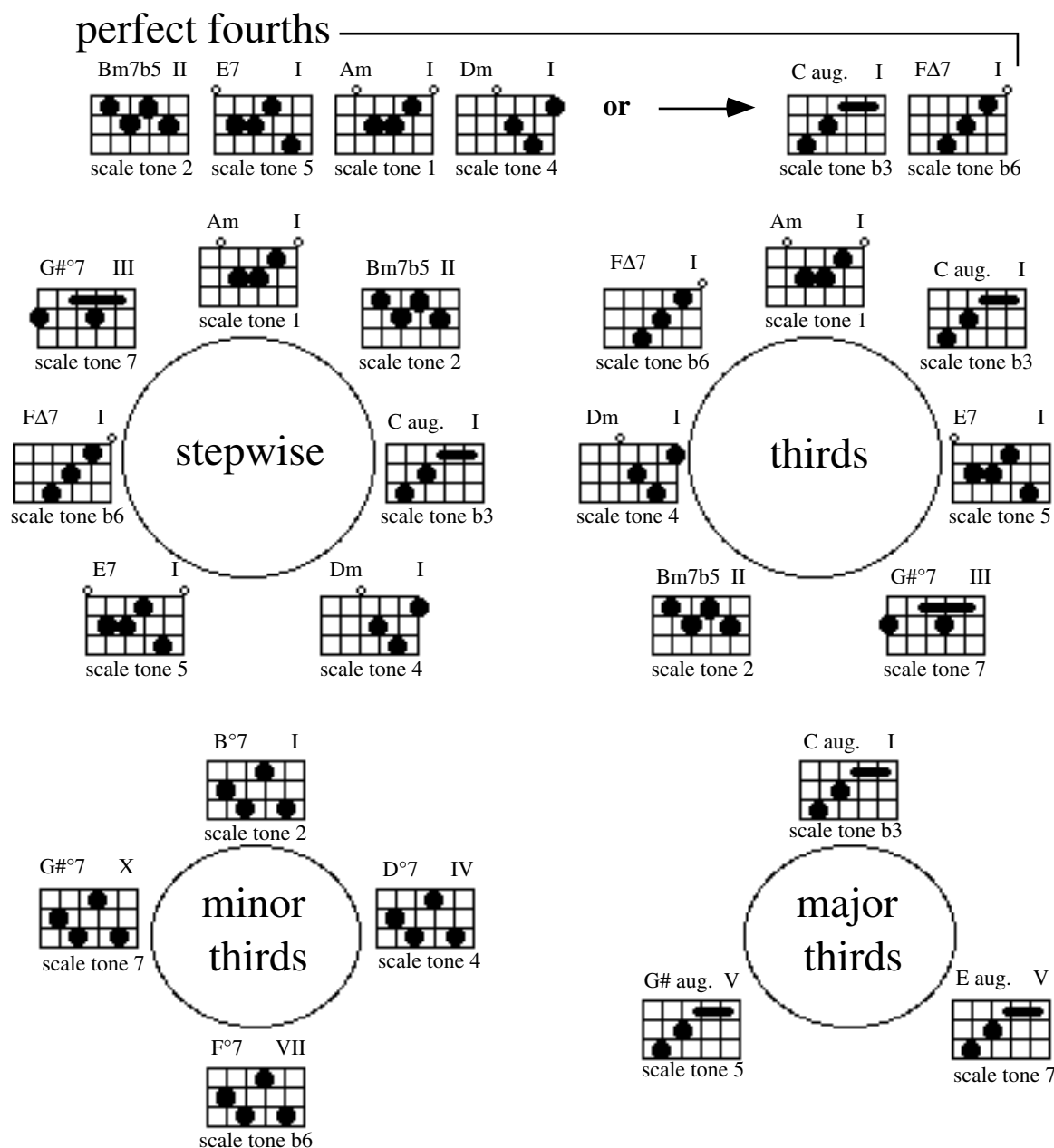
2. Harmonic Minor Scale Tone Chord Root Movement.

The most common root movement, perfect fourths occurs only through the harmonic minor series 2 - 5 - 1 - 5 and the pair b3 - b6. In the key of A minor, II - V - I - IV would be B - E - A - D. Chords built on those scale tones of A minor could make the chord progression Bm7b5 - E7 - Am - Dm. Chords built on scale tones bIII to bVI in Am could make the chord progression G - C. See the examples below.

Stepwise chord root movement is second most common. Stepwise root movement through chords built on A minor scale tones could make the chord progression Am - Bm7b5 - C aug. - Dm - E7 - G#°7 - Am.

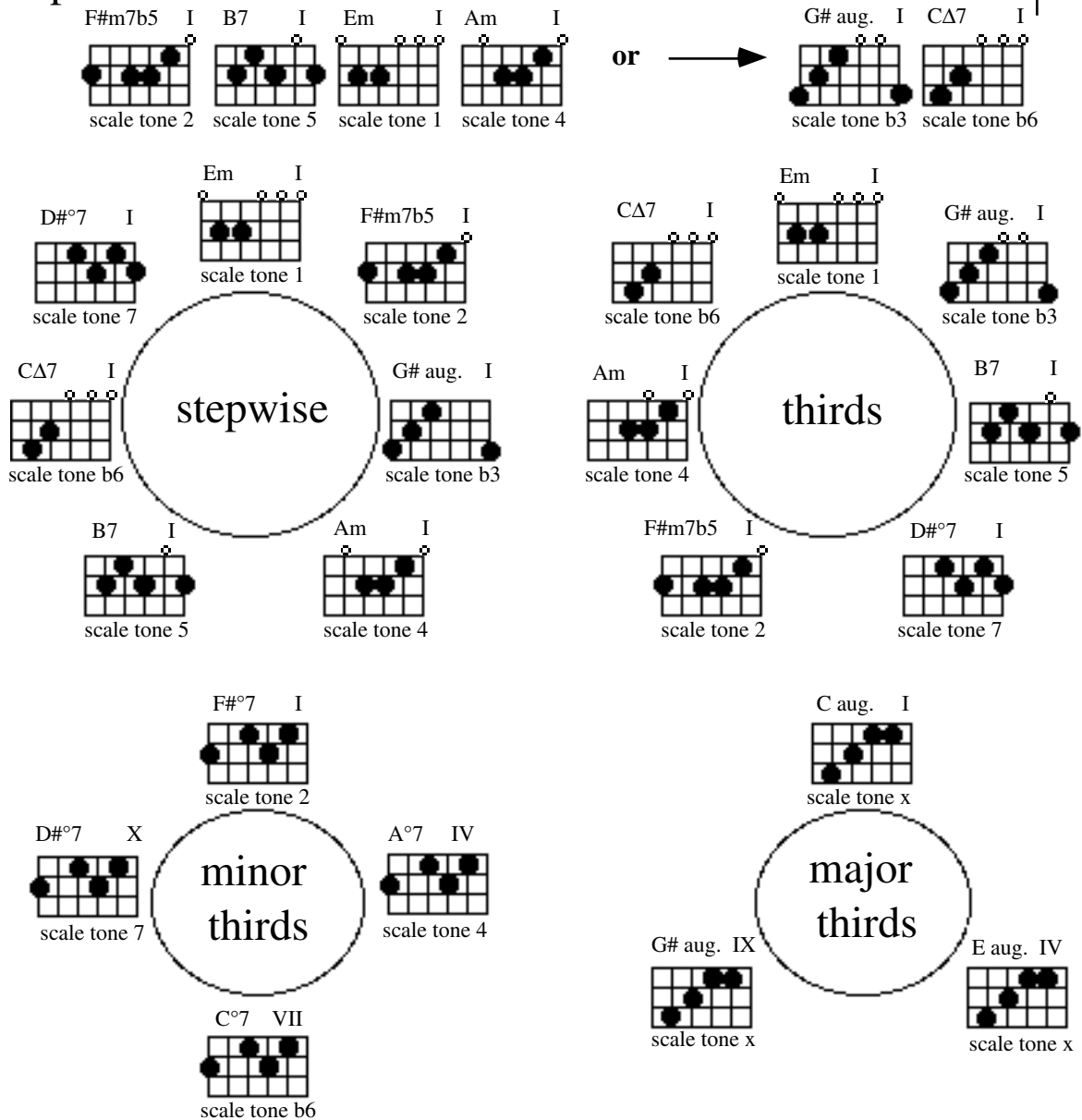
The two cycles at the bottom of each page illustrate the cycles of diminished 7th chords (roots progressing in minor thirds) and augmented chords (roots progressing in major thirds). The cycle of diminished 7th chords progresses in minor thirds, while the cycle of augmented chords progresses in major thirds.

"A" harmonic minor chord root movement.



"E" harmonic minor chord root movement.

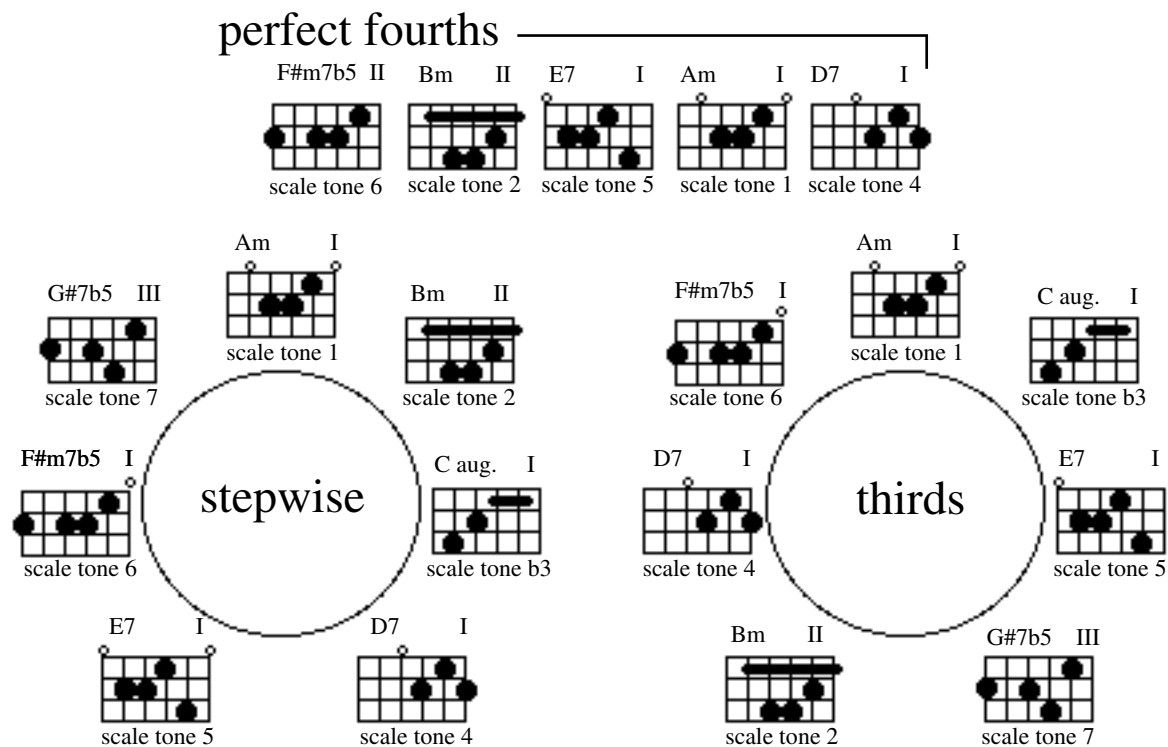
perfect fourths



3. Melodic Minor (Ascending) Scale Tone Chord Root Movement.

The ascending form of melodic minor is the same as a major scale with a $b3$. The descending form of the melodic minor scale is the same as Aeolian mode. Aeolian mode is also called *natural minor scale*. Melodic minor (ascending) chord root progressions move up in perfect fourths through scale steps 6 - 2 - 5 - 1 - 4.

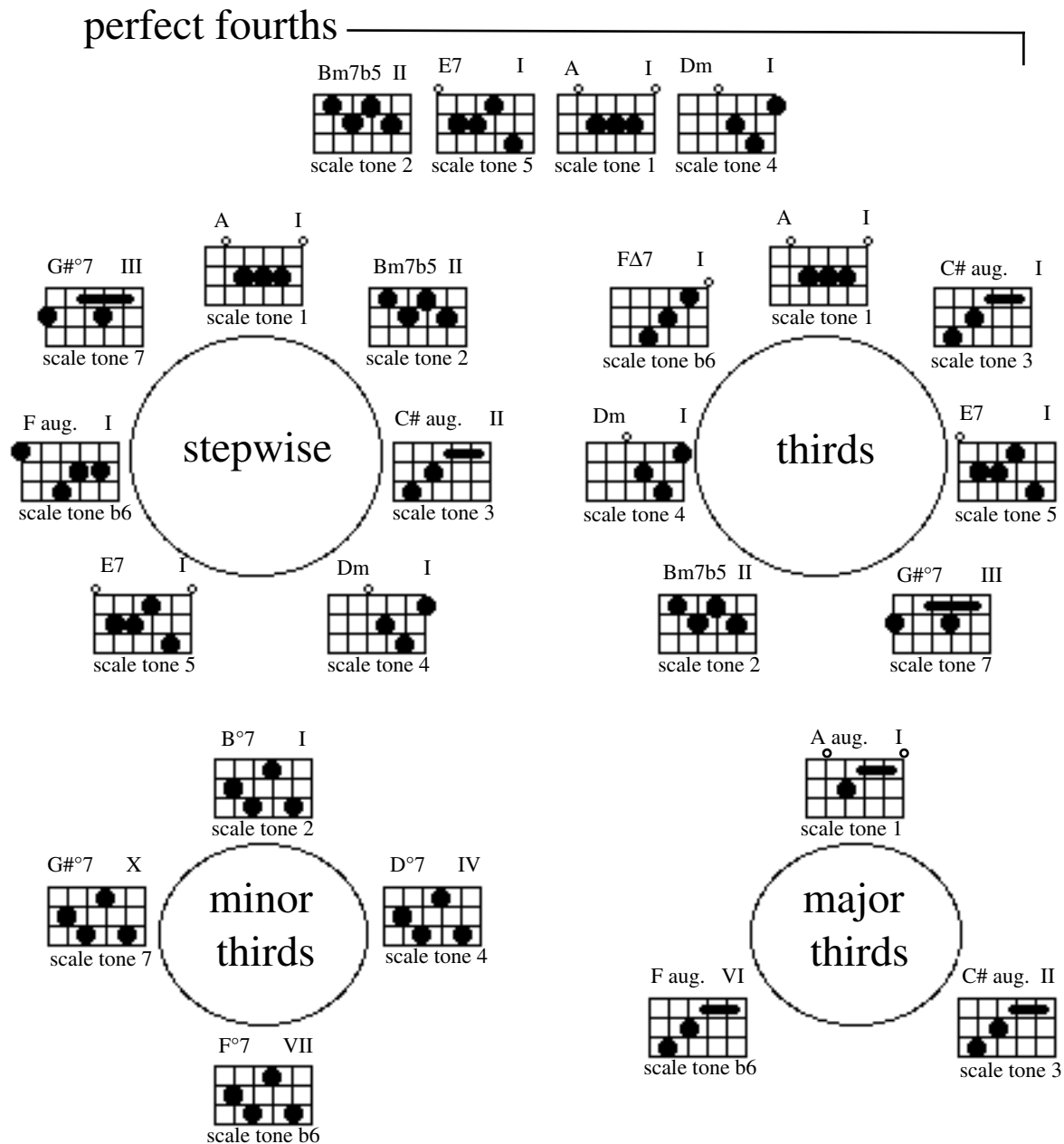
“A” melodic minor (ascending) chord root movement.



4. Harmonic Major Scale Tone Chord Root Movement.

Harmonic major scale is the same as a major scale with a b6. It is given its name because it is the same as the harmonic minor scale with a natural third (a major third above the tone center). Perfect fourths occur in harmonic major only through the series 2 - 5 - 1 - 4.

"A" harmonic major chord root movement.



B. SCALE TONE CHORD PROGRESSION WITH INVERSIONS

1. Scale Tone Stepwise Bass With Chord Inversions. In addition to scale tone groups of chords with root movement by scale steps, the bass notes of chords may move by scale steps where the “bass notes” (lowest chord tones) are not chord roots. See Chapter 11A. *Chord Inversion*. In the following example, the bass descends in C major scale from “C” to “F”.

IN C:

IVchord F VIII	Vchord G VII	IVchord F V	Ichord C III	IVchord F I
BASS: C	B	A	G	F

2. Scale Tone Bass Movement Up In Perfect Fourths With Chord Inversions. Scale tone bass notes may move up by intervals of a perfect fourth even if the bass notes are not chord roots. See Chapter 11A. *Chord Inversion*. In the following example, the bass moves up in perfect fourths from “A to D to “G”:

IN G:

Vchord D II	Ichord G III	IVchord C V
BASS: A	D	G

C. CHANGE OF MODE AND KEY

1. Changing Tone Center In The Same Key Signature.

While staying within the given notes of a particular heptatonic (seven tone) scale, you can redetermine which note is the tone center. This does not alter the notes used, but changes the intervals relative to the new tone center.

The notes of C Mixolydian are “C, D, E, F, G, A, Bb, C”. If you were first using C Mixolydian in a composition, then changed tone center to “G” within the same group of tones, the new scale would be “G, A, Bb, C, D, E, F, G”. This new scale is G Dorian. Comparing the notes to a C major scale would result in a Mixolydian formula with “b7”. Comparing the same notes to G Major would result in a Dorian formula “b3, and b7”. Here is an illustration:

C major

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

G major

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

C Mixolydian

1 2 3 4 5 6 b7 1
C D E F G A Bb C

G Dorian

1 2 b3 4 5 6 b7 1
G A Bb C D E F G

C Mixolydian Scale Tone Triads

C I Dm II Edim. III F V Gm VII Am IX Bb X C XII

C E G D F A E G Bb F A C G Bb D A C E Bb D F C E G

G Dorian Scale Tone Triads

Gm VII Am IX Bb X C I Dm II Edim. III F V Gm VII

G Bb D A C E Bb D F C E G D F A E G Bb F A C G Bb D

Here is an example of two 4-chord progressions involving the above change of tone center with the same note group:

C Mixolydian

C VIII Bb VI F VIII C VIII

G Dorian

Gm III C III F I Gm III

2. Changing Tone Center In The Same Mode.

This change involves changing to a new tone center (i.e. a new key) without changing the mode or type of scale. For example, changing from C Mixolydian to G Mixolydian or changing from A harmonic minor to E harmonic minor. This could also be called modulation (change of key) without change of scale.

Here is a chart of the sharps and flats involved with major scale tone mode modulations. These apply *only* to major scale tone modes:.

<u>modulate:</u>	<u>add to key sign.</u>	<u>Modulate:</u>	<u>add to key sign</u>
up a P4	1 flat	down a P4	1 sharp
down a step	2 flats	up a step	2 sharps
up 1 1/2 steps	3 flats	down 1 1/2 steps	3 sharps
down 2 steps	4 flats	up 2 steps	4 sharps
up 1/2 step	5 flats	down 1/2 step	5 sharps
down 3 steps	5 flats or 5 sharps	up 3 steps	5 flats or 5 sharps

3. Altering The Mode On The Same Tone Center.

In this case you would keep the same tone center and flat or sharp one or more notes in the formula of the scale to alter it. For example, C Mixolydian has the formula “1, 2, 3, 4, 5, 6, b7” and C Aeolian’s formula is “1, 2, b3, 4, 5, b6, b7”. If your composition started in C Mixolydian and you changed to C Aeolian, you would be flatting the third and sixth of C Mixolydian.

CHAPTER 26: OTHER TYPES OF CHORD PROGRESSION

A. CHORD PROGRESSIONS WITH CONNECTING CHORDS.

Chord progressions usually consist of main chords connected by scale tone, chromatic, diminished, or whole tone chords. A *connecting chord* leads into the chord it proceeds. It is tension-producing and dissonant in context. The chord that follows a connecting chord is usually more resolved (consonant) or, at least, will soon lead to a chord that is more resolved. The example below uses diminished seventh connecting chords.

ORIGINAL PROGRESSION

Em7 XII A9 XI Dm7 X G9 IX C13 VIII

WITH CONNECTING CHORDS

Em7 XII G#°7 X A9 XI C#°7 VIII Dm7 X F#°7 VIII G9 IX C13 VIII

1. Inserting Scale Tone Chords.

Chords constructed from the same scale as the original chords may be inserted between them.

Original chords ————— With inserted scale tone chords —————

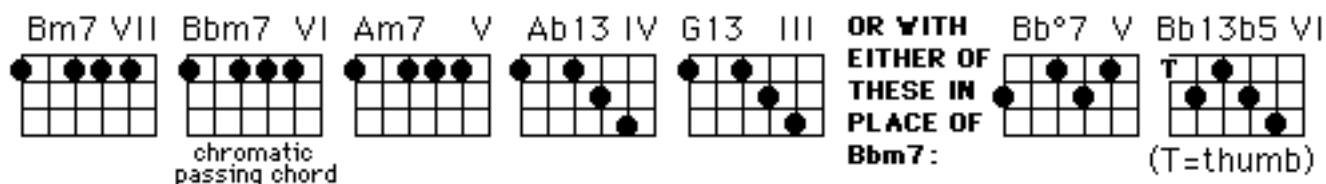
2. Chromatic Embellishing Chords.

Chromatic embellishing chords are root position chords used to lead into a chord root from one half step above or below. A sequence of two or more chromatic embellishing chords would (with their roots) fill in every one half step to the chord being anticipated. Chromatic embellishing chords are commonly the same type as the chords that follow them, but can be other qualities.

A13 V C#9 III D9 IV Bb7b5 V A13 V

3. Chromatic Passing Chords.

Any two chords of the same quality may have chords of the same quality, diminished seventh, dominant type or altered dominant type chords filled in between them chromatically.

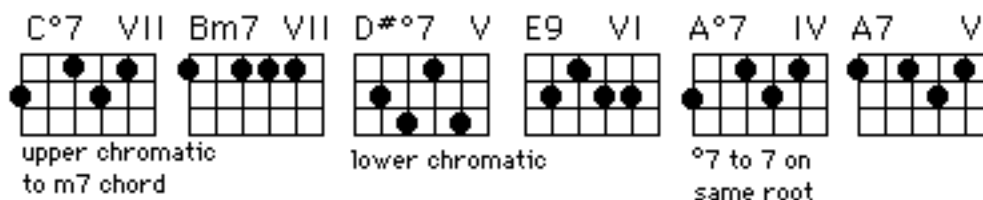


4. Diminished Type Connecting Chords.

A diminished 7th chord (abbreviated °7) has the formula "1, b3, b5, bb7". "bb7" is the same intervallically as "6". This chord is made up of "stacked" minor thirds. The interval from each chord tone to the next is a minor third, one and one half steps. Therefore, any tone can be a root. When fingered on the guitar, a °7 chord or °7 sounding riff (motif) may be moved up or down by intervals of three frets and still have the same notes.



- **Diminished Seventh Chord To Seventh Chord On the Same Root.** This creates a chord change with one common tone: the root. "b3" moves to "3", "b5" moves to "5" and " b b 7 " (double flat seven, which equals six) moves to "b7". Example below (A°7 to A7).
- **Diminished Seventh Chord As Upper Chromatic Embellishment To a Minor Seventh Chord.** A diminished seventh chord (°7) may precede a minor seventh chord (m7) chord if its root is one half step above (or one half step below, as mentioned above). This sounds better in some situations than others, so be discreet.



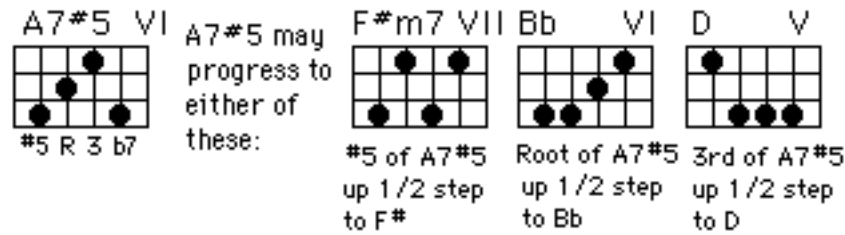
Diminished "sounding" chords such as m7b5 and 7b9 can often progress the same as °7 chords. Test before use.

5. Whole Tone Type Connecting Chords.

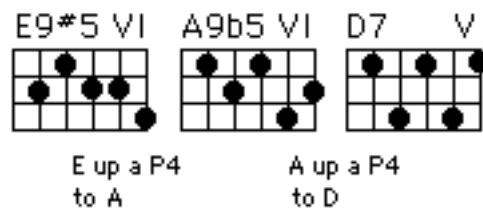
Whole tone type connecting chords are made up exclusively of the notes of a whole tone scale. Augmented, Major b5, 7b5, 7#5, 7+5, 9b5, 9#5 and 9+5 are whole tone chords.

- **Chromatic Augmented Chord.** The root of any chord with a perfect fifth may be preceded from

one half step below by the root, third or sharpened fifth of any whole tone chord.



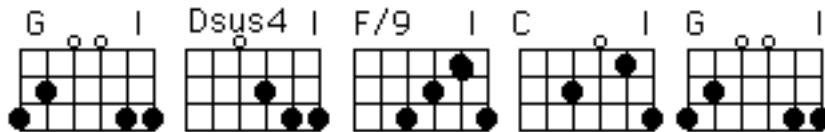
- **Whole Tone Chord Up a Perfect Fourth.** Any whole tone chord may usually progress up a perfect fourth to any chord root. This works best if the chord following the whole tone chord has a perfect fifth in its formula.



Whole tone “sounding” chords such as 7/#11, 9/#11 or 13b5 can often progress the same as whole tone chords.

B. COMMON TONE CHORD PROGRESSIONS.

Any two or more chords that have one or more notes in common can be considered for use together in a progression. Whether or not they should be used depends on the remoteness of the keys from which they came and familiarity within the style they are being used. If similar common tone chords have been used before in the style you wish to use them, they will probably work. When common tone chords fit the style, they are a great advantage in temporary modulations. They connect chords that otherwise wouldn't connect.



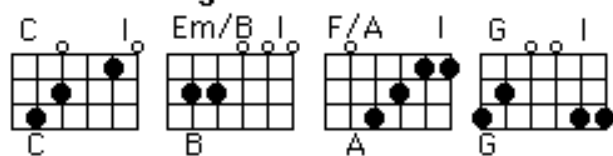
C. CHORD PROGRESSION EMBRACING A MELODIC LINE.

1. Chord Progression Embracing A Scale Tone Line.

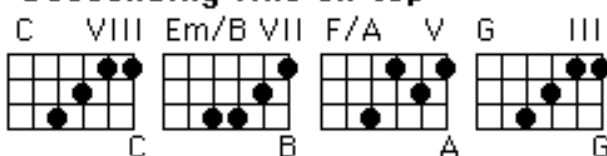
It is very common to have an ascending or descending scale tone run or “line” within a chord progression. This line is usually the lowest or highest notes in a series of chords and is not necessarily made up of chord roots, and may involve changes in the key signature.

Here are two examples of chord progressions employing lines. Each example is four chords long and is shown first with the line in the bass and then in the treble.

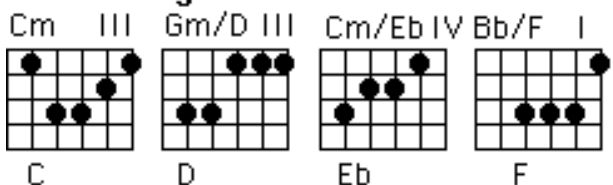
Descending line in bass



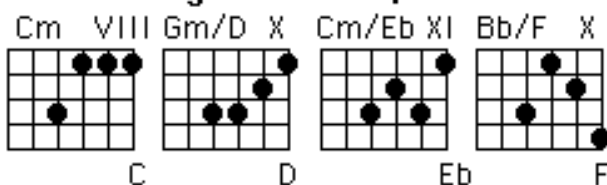
Descending line on top



Ascending line in bass



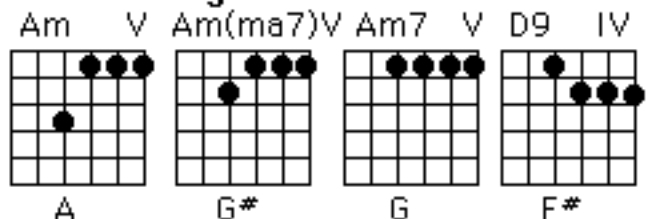
Ascending line on top



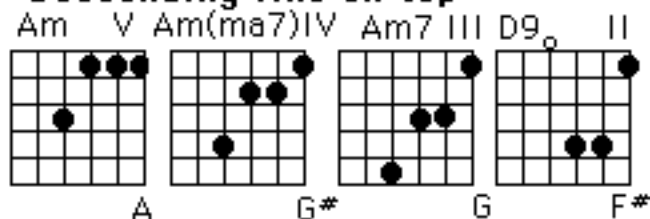
2. Chord Progression Embracing A Chromatic Line.

Often a chromatic line is used within a chord progression. It works basically the same as a scale tone line, but uses notes out of the scale, since it is chromatic. You must use changes of scale or alteration of the chord to produce chromatic lines. Like the examples above, each of these two examples is four chords long and is shown with the line in the bass, then in the treble.

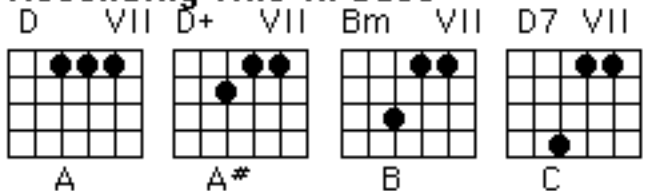
Descending line in bass



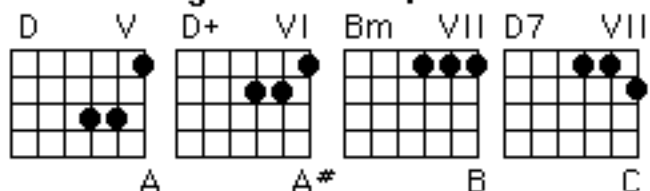
Descending line on top



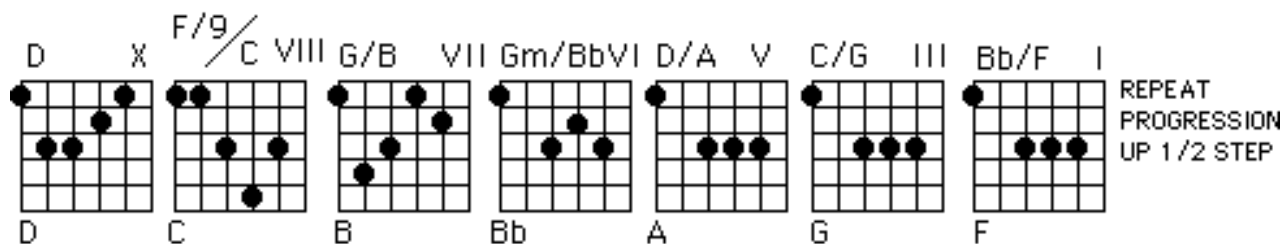
Ascending line in bass



Ascending line on top



Lines often use scale and chromatic tones. This example has a descending line in the bass employing scale and chromatic tones:



D. PARALLEL MOVEMENT OF A SINGLE CHORD TYPE.

1. Symmetrical Use of a Single Chord.

Occasionally, chords of the same quality are used with the chord root moving by a repeating interval, such as repeatedly up in minor thirds. This usually involves around three or four repetitions, then resolves with a change of interval. In the following example, the Bm7, Am7, Gm7 and Fm7 are the sequence. The sequence resolves easily to F#m7, since Fm7 acts as a lower chromatic embellishment with the same chord quality.

F#m7 II 4 beats
B9 I 4 beats
Am7 V 4 beats
G13 III 4 beats
Bm7 VII 2 beats
Am7 V 2 beats
Gm7 III 2 beats
Fm7 I 2 beats

PLAY TWICE

F#m7 II 4 beats
B9 I 4 beats
EΔ7 I

PLAY TWICE

2. Harmonizing a bass line with a single chord.

Harmonizing a bass line with a single chord works particularly well if the bass line is made up with a minor 7/11 pentatonic scale. It works fairly well with minor scales like Aeolian mode. Make up a very simple bass line in minor 7/11 pentatonic scale (key of "A" is "A, C, D, E, G, A"). Then play the same line with all "no third," all major, all minor or all minor 7th chords. You'll find these particular chord qualities usually work best in this application.

Original bass line.

1 3 3 3 3 1 1 3

T
A
B 3 5 5 5 7 5 3 5

Original bass line harmonized with "no third" chords.

Cn3 III Dn3 V An3 V An3 V En3 VII Dn3 V Cn3 III Dn3 V

E. SUBSTITUTE CHORD PROGRESSIONS

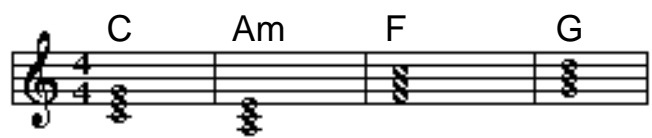

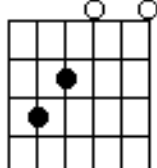
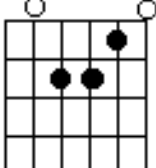
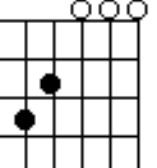
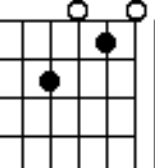
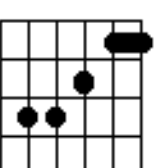
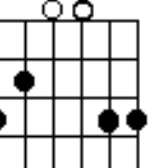
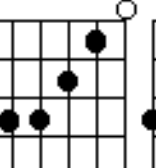
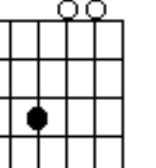
Substitute chords are used to either replace or expand the original progression which “worked its way” from one chord to another in a progression.

1. Extended Chords.

An *extended chord* adds chord tones to the top of a heptatonic scale tone chord from the tertian series “1, 3, 5, 7, 2, 4, 6, 1.”

Major scale tone triads, 7th, 9th and 11th chords can be extended by substituting larger tertian scale tone chords. It helps greatly to think of the chord in relation to the key in order to determine the chord type. Refer to the *Major Scale Tone Tertian Chords* chart in Chapter 7. Toward the top of the chart, the chord types (identified at the far left) from triad through 13th chord are *tertian chords*. Any blank spots (—) indicate that the chord was left out because it is too dissonant or otherwise not useful.

If the original chords were the triads built on steps 1, 6, 2 and 5 in the key of C, the original chords would be C - Am - F - G. Extending each of those triads to the next larger tertian chord would change the chords to the following tertian seventh chords: CΔ7, Am7, FΔ7 and G7.

Original chords				Extended chords			
							
C		Am		CΔ7		Am7	
							
F		G		FΔ7		G7	
							

The same procedure may be followed for chords of other scales such as harmonic minor, melodic minor and harmonic major. Look at the tertian chords including triads, 7th chords, 9th chords, 11th chords and 13th chords for each of those scales in *Chapter 4: Modes Of Other Heptatonic Scales*.

Determine the tone center for the section in which the chord you wish to extend is involved (remember, you can only extend triads, 7ths, 9ths or 11ths). Next, try to determine the type of scale that is being used, first listening for the general sound such as major or minor, then using the scale tone chord charts, try to find a particular scale or mode of a scale which has all or most of the chords in the section of music you’re considering. Then see if the root of the chord you want to extend is in the scale. If it is, use the tertian chord area of the chart (triad through 13th) to see if you can substitute a larger chord. If you hit a blank on the chart for a 9th chord, look below to see if an 11th or 13th can be used. If you hit a blank for an 11th chord, look below to see if a 13th can be used.

2. Modified Chords.

A *modified chord* alters, adds, or suspends tones on a chord to modify its effect in its progression to the next chord.

Original chords									
Em7	XII	A9	XI	Dm7	X	G9	IX	C13	VIII
Modified chords									
Em7b5	XI	A7#5#9	XI	Dm7/11	X	G13sus4	X	C13	VIII
		altered		altered		add tone		suspen.	

Alter The Chord Quality For A Change Of Mood. Chapter 6 covered an “expressive series of substitute major scale modes”. The chart at the beginning of that section indicates change of mood from brighter mood to darker mood. The same series can be applied generally to chord qualities (some chords may be darker or brighter than the chart suggests in certain applications):

←————→ BRIGHTER MOOD —————→				←————→ DARKER MOOD —————→			
ALTERED V TYPE	DIMIN. TYPE	PHRY. MA. 3rd	VI & Har. Min. TYPE	II TYPE	V TYPE	I TYPE	IV TYPE
V type with b5, #5, b9 and/or #9	°7, m7b5, °7add9	=Har. Min. V TYPE aug., 7#5, 7b9, 7#5b9	m7 thru m9 and m(47)	(also V7#9) m7 thru m13 and V7#9	7 thru 13	Δ7 thru Δ9	Δ7 thru Δ13#11

Alter The Chord Quality To Strengthen The Movement Of The Chord Progression given a stronger tendency toward the chord that follows it in at least the four ways described below.

Change a chord to a V type or altered V type if its root moves to the root of the next chord up a perfect fourth, up one half step or down one half step.

ORIGINAL CHORDS				WITH ALTERED CHORDS			
BbΔ7	VI	Am7	V	Gm7	III	C9	II
				Bb7	VI	Am7	V
				V TYPE		G7#5	III
						alt.V TYPE	

Change a chord to a more dissonant sound preceding a release of tension on the next chord. Altered V types work well for this. °7 and m7b5 work well in some cases to replace m7 type chords. See the example below.

ORIGINAL CHORDS				WITH ALTERED CHORDS			
Am	V	G	III	F	I	E7	I
				A°7	IV	G	III
				°7		F7	I
						V TYPE	

Change the heptatonic scale of a certain group of chords to a different scale that alters the chord group and makes it stylistically more effective in leading to the next chord.

ORIGINAL CHORDS **WITH ALTERED CHORDS**

Dm7 V Gm7 III Cm III Dm7b5IV G7b9 III Cm III

C Aeolian C Harmonic Minor

Alteration of a chord so that one or more notes will chromatically lead to one or more notes of the next chord.

ORIGINAL CHORDS
Bm7 VII Em7 V A7 V D V

WITH ALTERED CHORD
Bm7 VII E7b5 VI A7 V D V

these 3 notes lead down 1/2 step to notes of the A7

3. Upper Or Lower Third Substitute Scale Tone Chord.

A similar sounding substitute chord may be used where its root is a heptatonic scale tone third above or below the original chord. The substitute is usually scale tone, but may involve notes out of the scale if the sound is similar. These substitutes, like most others, don't always work well, so experiment with them before use in a song.

In this example, Am and Dm chords have been substituted for the F chord. Am's root is a scale tone third above "F" and Dm's root is a scale tone third below "F".

ORIGINAL CHORDS

C VIII F VIII G X F VIII C VIII

in C: I IV V IV I

SUBSTITUTE CHORDS

C VIII Am XII G X Dm X C VIII

in C: I VIIm V IIIm I

4. Alternate Connecting Chords.

An *alternate connecting chord* replaces a connecting chord (or chord group) with another with a different chord root (or different chord roots) which still progresses to the chord following it. See the example below.

ORIGINAL PROGRESSION
Em7 XII A9 XI Dm7 X G9 IX C13 VIII

WITH ALTERNATE AND EXTENDED CHORDS
Em9 XII Eb13 XI Dm9 X Db13 IX C13 VIII

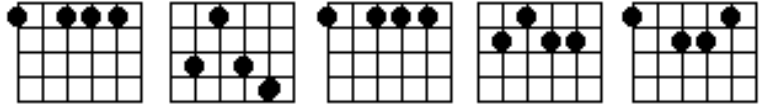
extended alternate extended alternate

5. Flat five substitute.

This is a special type of connecting chord. Substitute a dominant seventh type chord with its root on the “b5” of the original chord’s root. This is usually done in a sequence of chord roots moving up in perfect fourths. A very common device in Jazz and Jazzy Blues chord progressions. Note in the example below that bIII is a b5th away from VI and that bII is a b5th away from V:

ORIGINAL PROGRESSION

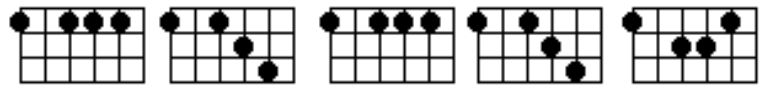
Bm7 VII Em7 V Am7 V D9 IV GΔ7 III



IN KEY OF G: IIIIm7 VIIIm7 IIIm7 V9 IΔ7

WITH b5 SUBSTITUTES

Bm7 VII Bb13 VI Am7 V Ab13 IV GΔ7 III



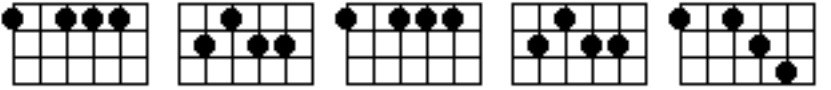
IN KEY OF G: IIIIm7 **b5 of E**
=bIII13 IIIm7 **b5 of D**
=bII13 IΔ7

6. Substitute Chord Groups (Turnarounds).

You may expand a chord into a *substitute progression* which leads up to the next chord. The substitute progression should be one that would blends with the chord it replaces.

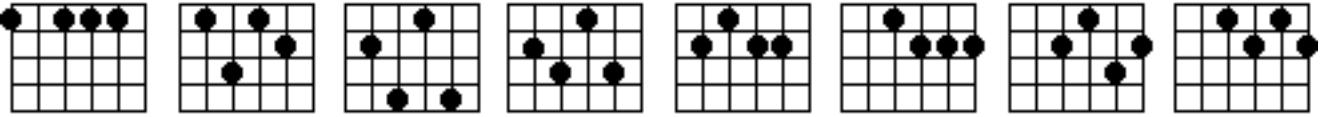
ORIGINAL PROGRESSION

Em7 XII A9 XI Dm7 X G9 IX C13 VIII



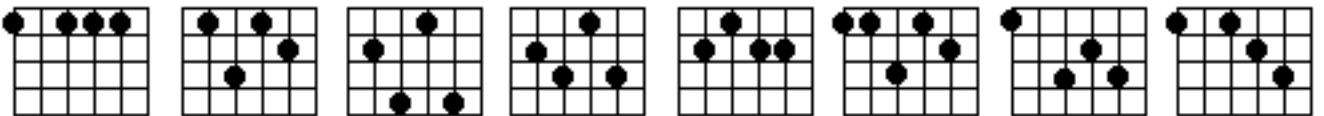
WITH CHORDS EXPANDED INTO SUBSTITUTE PROGRESSIONS

Em7 XII F#m7 IX G6 IX G#°7 X A9 XI C#m7b5 XI D9 XI Eb°7 XIII



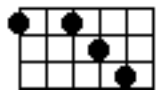
substitute progression for Em7_____ substitute progression for A9_____

Dm7 X Em7 VII F6 VII F#°7 VIII G9 IX Dm7/A V Bb6 VI Db13 IX

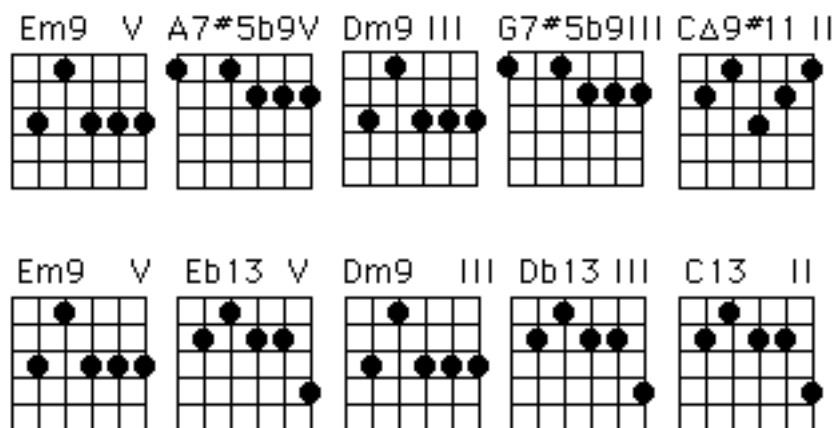


substitute progression for Dm7_____ substitute progression for G9_____

C13 VIII



A *turnaround* is a short chord progression placed at the end of a section of a song which provides a cadence and leads back to the beginning of the section. Standard turnarounds in Jazz use the cycle of perfect fourths and the flat five substitute.



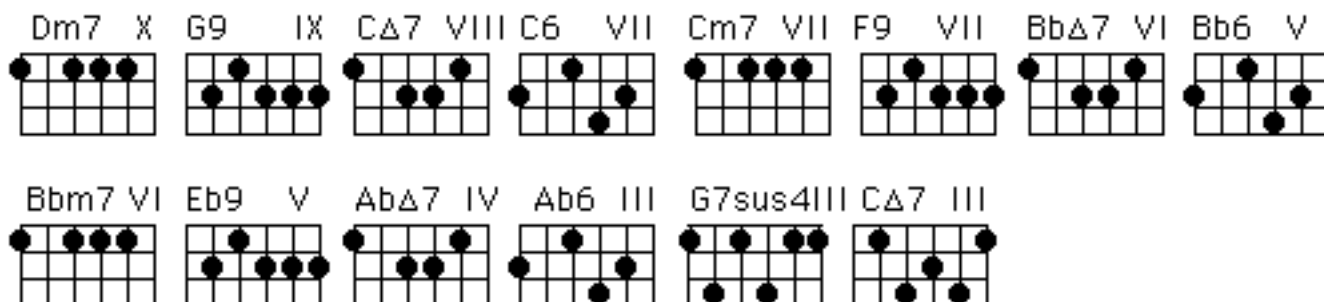
Here are more standard Jazz turnarounds. Each progression begins with a bullet (•). Also refer to *Book 5, Part 4: Chord Progression*. The last progression is nine chords long.

- IΔ7 VIm7 IIm7 V9
- IΔ7 IIIIm7 IIm7 V9
- IΔ7 IIm7 V9
- IΔ9 VIm9 IVΔ7#11 V7#9
- IIIIm7 VI7 IIm7 V7
- IIIIm7 bIII7 IIm7 bII7
- IIIIm7 VI7 IIm7 bII7
- I6 #I°7 IIm7 #II°7 IIIIm7 bIII13 IIm7 bII13 I6
- Im7 IIm7b5 V7b9
- Im7 bVII6 bVIΔ7 V7#5b9
- Im7 bIII7 bVIΔ7 V7#9

Some turnarounds use chords of all the same quality. Try the following turnarounds with all 7th type or Major 7th type chords. Numbers in parenthesis and all “I’s” are optional. Each progression begins with a bullet (•). This is the type of progression discussed earlier in section D.

- I bIII II bII
- I bIII bVII IV
- I bVII bIII V
- I bIII IV bVII
- I IV V bVII
- I bVII V (bIII)
- I bIII bVII (bII)
- I bVII bIII IV
- I bIII IV bVI
- I IV bIII bII
- I bVII IV V
- I bIII bVI bVII
- I bVII bIII bII
- I bVII bIII bIII
- I bIII (II) V
- I bIII bVII V
- I bVII bIII bVII
- I bIII V bVII
- I IV bVII bIII
- I bVII bVI bII

Parallel modulation of a short chord progression is the repetition of a short chord progression in an intervallic pattern. At each specified interval, the short progression will reoccur in another key. Here is an example using the short progression IIm7, V9, Ima7, I6 in the keys C, Bb, then Ab. The last two chords are an ending cadence.



INDEX

- 4152637 numerical pattern in music...65
- 6th arpeggio fingering 182-183
- 7362514 numerical pattern in music...132-135
- 7th arpeggio fingering...174-183
- 7b5 arpeggio fingering...196
- 7#5 arpeggio fingering...196
- 9th arpeggio fingering...193
- 9b5 arpeggio fingering ...197
- 9#5 arpeggio fingering...197
- abbreviations...14, 31
- accidental s...117
- accommodating chords...69
- accumulating flats...61
- add nine chords...152
- add tone chords...89
- Aeolian mode...44, 47, 128, 129
- alphabet, musical...206
- altered dominant arpeggio fingering...198
- altered mode on same tone center...293
- alternate picking...113
- alter tone chords...89
- alto voice (second from the top in four voice harmony) 190
- anticipated phrase 269
- anticipation ...224
- appoggiatura...225
- architectural aspects of music...200
- arpeggio fingering...170-198
- arpeggio, skimmed (swept)...188-192
- arpeggio studies, melodic...213-222
- arpeggio tone, filling in between , see *BeBop Encircling*
- arrangement...202
- arranging, use of the expressive series of modes in...77-81
- ascending and descending melodic figures, common...227, 228
- augmentation (rhythmic)...104
- augmented arpeggio fingering...195
- augmented chord sound...87-88
- augmented scale...197
- bar...29
- barré chord...12
- bass clef...29
- beats...29
- Be-Bop music...229
- Be-Bop encircling...229-236
- blue notes...209, 210, 227-236
- bluesy substitute modes...73-75
- cambiata and escape tone...224
- canon 104
- change of mode and key...292-293
- change of rhythm...201
- change of timbre or dynamics...201
- chord, add tone...89-90
- chord alteration...89-90
- chord, alternate...302
- chord, alter tone...89-90
- chord, augmented sounding...88
- chord, basic tertian...88
- chord coloring tones...209
- chord, common tone...296
- chord, connecting...295, 302
- chord diagrams...149-169
- chord, diminished sounding...156
- chord, dominant 7th type...149
- chord, extended...300
- chord families...87-90
- chord fingering...149-169
- chord, flat five substitute...302
- chord inversion...91, 291, 292
- chord, major sounding...87, 88
- chord, major seventh type...88
- chord, minor sounding...87, 88
- chord, minor seventh type...88
- chord, modified...301
- chord names...31
- chord over bass note...89
- chord progression...282-304
- chord progression, turnarounds and cycles of short...303, 304
- chord progression embracing a line...297-298
- chord progression, supporting melodic lines within...92
- chord progression, ear training for recognition of32
- chord quality (chord sounds)...87-90
- chord quality, altered...90
- chord quality, ear training for recognition of32
- chord, repetition of on different roots...299
- chord root...13
- chord root, ear training for recognition of...32
- chord root movement, harmonic major scale tone...290
- chord root movement, harmonic minor scale tone...287
- chord root movement, major scale tone...285
- chord root movement, melodic minor scale tone...290
- chord root movement, perfect fourth ...283-291
- chord root movement, stepwise...213-217, 283-291
- chord root movement, thirds...283-291
- chord/scale chart...203-205
- chord sounds, general...87
- chord, substitute...300-304
- chord, suspended type...89
- chord tones and the rules of harmony...98
- chord tones, coloring...209-210
- chord tones, essential...91-92
- chord tones, full fretboard...187
- chord tones, lower chromatic embellishments to...229-236
- chord tones, non...211, 223-229
- chord tones, primary...209
- chord, tonic...34, 283
- chord voicing...91-94
- chromatically descending from the chord root...160-161
- chromatic insertion, see *BeBop Insertion*
- chromatic passing chords...296
- chromatic scale...148
- chromatic tones...211
- chromatic tones and the rules of harmony...98
- clef...29, 148
- close voicing...91
- common tone chord progressions...297
- comping (improvised accompaniment) with the expressive series...80-81
- composing, use of the expressive series of modes in...77-81
- composing, uses of chord progression in...77-81
- connecting chords...295, 302
- consonance...72
- contrapuntal harmony...95-112
- contrary motion...59
- counterpoint,,95-112
- counterpoint, imitative...104
- counterpoint, species of...96-98

- cycle of seven mode fingerings, alteration...65-68
- cycle of seven mode fingerings, stepwise...41-47
- cycle of thirds...83
- descending and ascending melodic figures, common...227-228
- deceptive cadence...34
- delayed phrase...199
- diad...33, 37-40, 83
- diagrams, dots on...12, 13
- diminished chord sound...87-88
- diminished scale (also called diminished 7th scale)...186
- diminished seventh arpeggio fingering...186
- diminished type chords...156
- diminution (rhythmic)...104
- direct motion...95
- dissonance...72
- dominant 7/11 pentatonic scale...53
- dominant 7th arpeggio fingering...174-175
- dominant 7th type chords...149
- dominant 9th pentatonic scale...146
- dominant 9th arpeggio fingering...193
- dominant 11th arpeggio fingering...193
- dominant 13th arpeggio fingering...193
- dominant 13th skimmed arpeggios...188-189
- dominant arpeggio, altered...103-106
- dominant chords, other...155-156
- dominant chord sound ...87
- Dorian mode...42, 46, 126, 127
- dots on diagrams...12, 13
- dynamics, change of...201
- ear training...32
- economy picking...113, 114
- encircling, Be-Bop...229-236
- enharmonic tones...206
- episode...104
- escape tone and cambiata...224
- essential chord tones...149-161, 209-212
- exposition of the theme in a fugue...104
- expressive series of major scale modes...69-81
- extended chord...300
- fifths, ear training for recognition of...32
- flat five substitute chord...302-303
- florid counterpoint...98
- flow (economy) picking...113, 114
- formula...34, 117-119
- formula, mode...34-40
- formula alteration...41-86
- fourths, ear training for recognition of...32
- fragment patterns 235-268...238-270
- fret...30
- fretboard chord tones...187
- fretboard diagrams...12, 13
- fretboard note names...30
- fugue...104
- Fux, Johann Joseph...96
- harmonic major modal tone centers...159
- harmonic major scale...37, 38, 194
- harmonic major scale tone chord root movement...290, 291
- harmonic major scale tone chords...40
- harmonic major scale tone modes...40
- harmonic minor scale...134-137
- harmonic minor scale tone chord root movement...287-289
- harmonic minor scale tone chords...37, 38
- harmonic minor scale tone modes...37, 38
- harmonic minor scale tone chord pairs...285
- harmonic rhythm...202
- harmonic use of the major scale mode series...76-86
- harmony...83-87
- harmony, general rules of ...98-99
- harmony in sixths...99-103
- harmony in thirds...99-103
- harmony, two part parallel...99-103
- heptatonic scale...37, see major scale & all 7 tone scales
- heptatonic scale tone chord progression...283-291
- heptatonic scale tone cycle of thirds...283
- homophony...95
- imitative counterpoint...104
- improvising...190-270
- interval...32, 117-119
- interval recognition...32
- inverted chord...291
- Ionian mode same as major scale
- key 33
- key, change of...293-294
- key and mode, change of...292-294
- key signature...33, 292-294
- leaning tone...225
- letter names of notes...29-30
- Locrian mode...44, 47, 132, 133
- Lydian diminished modal tone centers...39
- Lydian diminished scale...143
- Lydian diminished scale tone chords...39
- Lydian diminished scale tone modes...39
- Lydian mode...43, 47
- main chord same as tonic chord
- major 6th arpeggio fingering...182-183
- major 6/9 pentatonic scale...145
- major 7th arpeggio fingering...178, 179
- major seventh type chords...151
- major 7/11 pentatonic scale...146
- major ninth arpeggio fingering...193
- major 9#11 arpeggio fingering...193
- major 9th pentatonic scale...146
- major 13#11 arpeggio fingering...193
- major 13#11 skimmed arpeggios...192-193
- major arpeggio fingering...170-171
- major chord sound...87-88
- major scale...33, 115-123
- major scale fingering...41, 120-123
- major scale mode formulas...34, 35, 61
- major scale modes...34, 35, 41-81
- major scale modes, expressive series of...136-149
- major scale tone 7th chords...162-169
- major scale tone 9th chords...33
- major scale tone 11th chords...33
- major scale tone 13th chords...33
- major scale tone chord root movement...285-287
- major scale tone chords...32-35
- major scale tone tertian chords...83
- major scale tone triads...162-169
- major scale tone triad pairs...284
- measure...29
- melodic contour...200
- melodic curve...200
- melodic drive...200

- melodic fragment patterns...238-270
- melodic importance, order of...209-211
- melodic line ...200
- melodic line, supporting within chord progression...92
- melodic rhythm...202
- melodic use of the expressive series of modes...69-76
- melodic minor (ascending) scale...142
- melodic minor (ascending) scale tone chords ...38
- melodic minor (ascending) scale tone modes...38
- melodic minor scale tone chord root movement...291
- melodic minor modal tone centers...38
- melodic skips...202
- melodic tension...201-202
- melody...199-270
- melody, harmonization of...99-103
- minor chord sound...87-88
- minor arpeggio fingering...172, 173
- minor scale...see Aeolian (natural minor)
- minor 6th arpeggio fingering...184-185
- minor 6/9 pentatonic scale...145
- minor 7/11 pentatonic scale...145
- minor 7b5 arpeggio fingering...180-181
- minor 7b5 chord, descent from the tones of ...296
- minor 7/11b5 pentatonic scale...145
- minor 7th arpeggio fingering...176, 177
- minor 7th type chord...150
- minor 9th arpeggio fingering...146, 193
- minor 11th arpeggio fingering...193
- minor 13th arpeggio fingering...193
- minor 13th skimmed arpeggios...190-191
- minor (ma7) arpeggios...157
- Mixolydian mode...44, 47, 124, 125
- modal scale relationships...64
- modal scale tone chords...35
- mode ...33-81
- mode and key, change of...292-294
- mode fingerings...115-133
- mode fingerings, alteration cycle of seven...65
- mode fingerings, stepwise cycle of seven...218-219
- mode formulas...34
- modes, expressive series of...69-86
- modes, major scale...34, 36
- modes, substituting for expressive purposes...69-86
- modified chord...301
- modulation (change of key)...292-294
- monophony...95
- mood...69-81
- motif ...200
- motion of voices in counterpoint...95, 96
- movable diagrams...13
- natural minor...see Aeolian
- neighboring tone...223
- ninth chord arpeggios...193
- non-chordal tone...211, 223-229
- non-harmonic tone same as non-chordal tone
- notational symbols...14
- note names...29, 30
- oblique motion...96
- octave...32
- open voicing...91
- order of melodic importance...209-211
- ornamentation ...see non-chordal tones
- parallel motion...95, 99
- passing tone...223
- patterns, melodic fragment...238-270
- pedal point...225-226
- pentads...83, 145-147
- pentatonic scale... see minor 7/11, minor 7/11b5, dominant 7/11, minor 6/9, dominant 9, minor 9, major 9 and major 7/11 pentatonic scales.
- perfect fifth, ear training for recognition of...32
- perfect fourth, ear training for recognition of ...32
- perfect fourth chord cycles...157-159
- perfect fourth chord root movement...284-291
- phrase...199
- phrase, beginning the...199
- phrase end concealment...199
- phrase linkage...200
- phrase overlapping...200
- phrasing...199-200
- Phrygian major third scale...138, 141
- Phrygian mode...43, 46, 130, 131
- pivot point...226
- polyphony...95
- polytonality...237
- primary chord tones...209
- punctuation ...199
- quadrads...83
- quartal harmony...84
- quintal harmony...85, 86
- range of voices in harmony...98
- repetition...200
- rhythm, melodic...201, 202
- rhythmic reading (rhythmic ear training)...271-281
- rhythmic time values...20
- rhythm tracks...11
- riff...200
- Roman numeral...13
- root position...284
- root recognition, chord...32
- scale...see major, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian, harmonic minor, harmonic major, Phrygian major third, whole tone, augmented, chromatic and pentatonic scales.
- scale/chord chart...203-205
- scale, choosing the right for improvising...203-208
- scale fingering...115-148
- scale recognition...32, 206, 207
- scale, source...64, 117
- scale step...117-119
- scale tone, melodically filling in between...228-236
- scale tone 7th chords...93, 162-169
- scale tone 9th chords...93, 162-169
- scale tone 11th chords ...93, 162-169
- scale tone 13th chords...93, 162-169
- scale tone bass up a perfect fourth...291
- scale tone chord progression...283-291
- scale tone root chord progression in thirds...283-291
- scale tone root chord progression in perfect fourths...283-291
- scale tone stepwise chord root movement...283-291
- scale tone tertian chords...83
- scale tone triads...83
- scale tone upper or lower third substitute chord...302
- scale type, ear training for recognition of...32
- sextads...83
- similar motion...96
- sixth chord arpeggio fingering...182-185

sixths, ear training for recognition of ...32
sixths, fingering...101
sixths, harmony in...100
skips...223
source scale...64, 117
species of counterpoint...96-98
staff...29
stepwise chord root movement...213-217, 283-291
stepwise cycle of seven mode fingerings...218-219
stretto...104
substitute chords...300-304
substitute mode...69-86
superimposing chord progression...282
suspended chord...89
suspended chord sound...87
suspended 4th arpeggio fingering...194
suspended type chord...89, 153
suspension...89, 224
sweep picking...113, 114, 188-192
symbols...31
tablature...15
taped example list...10, 11
tempo...202
tension, melodic...201, 202
tenths...101
tertian harmony...83, 88
thirds, chord root movement in...283-291
thirds, ear training for recognition of...32
thirds, fingering...203, 204
thirds, harmony...83, 84
timbre, change of ...201
timbre, use of same or different in harmonies...100, 101
time signature...29
time values...29
tone center...32, 34
tone center, ear training for recognition of...32
tonic chord...34, 283
transpose...104
treble clef...29
triad arpeggio...170-173
triad families, non-tertian...89
triad families, tertian ...88
triads, harmonic minor scale tone pairs of...285
triads, major scale tone pairs of...284
tritone...195
two part parallel harmony...99-103
voice leading...(see counterpoint)
voice motion...95.96
voice range...98
voicing...91
whole tone chord sound...87
whole tone chords...154
whole tone scale...195
whole tone type arpeggios...195-198
whole tone type connecting chords...296, 297