

MODES AND DIATONIC CHORDS OF THE MAJOR SCALE

EXAMPLE 1 | Major scale and relative minor scale, possible seventh chords, functions and modes

C major

| CHORD | FUNCTION | MODE | CHORD & UPPER TENSIONS |
|---------------|-----------------|-------------------------|------------------------|
| C Δ^7 | I Δ^7 | Ionian (major) | 1 3 5 7 9 11 13 |
| D-7 | II-7 | Dorian | 1 3 5 7 9 11 13 |
| E-7 | III-7 | Phrygian | 1 3 5 7 9 11 13 |
| F Δ^7 | IV Δ^7 | Lydian | 1 3 5 7 9 11 13 |
| G7 | V7 | Mixolydian | 1 3 5 7 9 11 13 |
| A-7 | VI-7 | Aeolian (natural minor) | 1 3 5 7 9 11 13 |
| B \emptyset | VII \emptyset | Locrian | 1 3 5 7 9 11 13 |

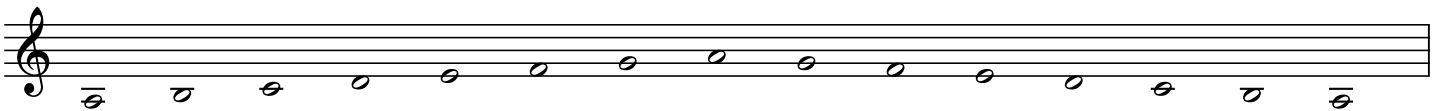
Notes marked with an "x" are notes that need to resolve.

FORMS OF MINOR SCALES

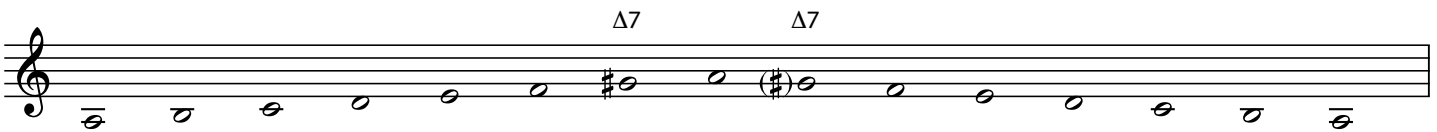
Other than its relative major scale the natural (or pure) minor scale lacks a major seventh. That means, in a harmonic context you cannot build a dominant seventh chord on the V – the result is a minor seventh chord. So, early in the history of European music composers altered the minor scale and used a major seventh instead of a minor seventh. For obvious reasons this scale is called “harmonic minor” and the famous V7^{b9} chord originally was derived from this scale. Since the resulting augmented second between the (minor) sixth and the major seventh was found aesthetically displeasing, the sixth eventually was altered, too. This scale is known as “melodic minor”.

In traditional European music the direction in which a melodic line evolved did matter: upward motion required melodic minor, downward motion natural minor. In modern jazz, however, this distinction is not made.

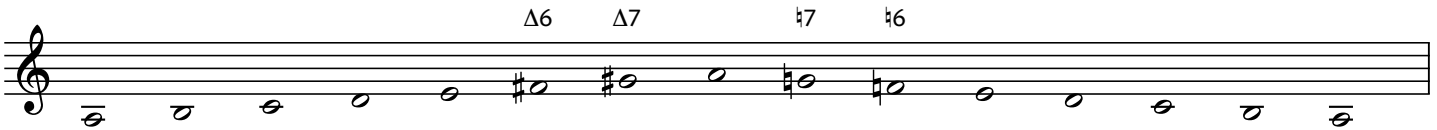
EXAMPLE 1 | Natural minor (also pure or relative minor), Aeolian mode



EXAMPLE 2 | Harmonic minor



EXAMPLE 3 | Traditional melodic minor (ascending and descending)



EXAMPLE 4 | Real melodic minor (jazz minor)

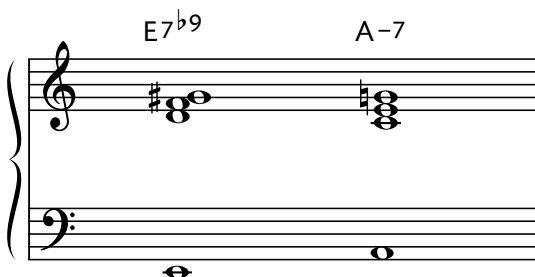


EXAMPLE 5 | Scale from 5th degree of A harmonic minor, also known as HM5 mode

E7^{b9} (V7^{b9})



EXAMPLE 6 | Resolution of a V7^{b9} chord to I-7 tonic



MODES, CHORDS AND TENSIONS OF THE HARMONIC MINOR SCALE

Try substituting the minor modes for the major modes, for example, use Dorian#11 in place of Dorian. Experiment!

C harmonic minor C-Δ⁷

9 11 b13

D Locrian b13 D^o

11 13

E^b Ionian #5 E^bΔ⁷#5

9 13

F Dorian #11 F-7

9 #11 13

G Phrygian, major 3rd (HM5) G7^b9^b13

b9 b13

A^b Lydian #9 A^bΔ⁷#9

#9 #11 13

B diminished B^o7

b9 b11 b13

MODES, CHORDS AND TENSIONS OF THE JAZZ (MELODIC) MINOR SCALE

C jazz minor (melodic minor) C-Δ7

9 11 13

D Dorian ♭2 D-7

♭9 11 13

E♭ Lydian #5 E♭Δ7#5

9 #11 13

F Lydian ♭7 F7#11

9 #11 13

G Mixolydian ♭13 G7 9 ♭13

9 11 ♭13

A Locrian ♯2 A∅

9 11 ♭13

B diminished whole-tone (altered) B7 ♭5 ♭9 ♭13

♭9 #9 ♭13

APPROACH NOTES

BASIC ARPEGGIOS

C Δ ⁷ C7 C-7

The first measure shows the C Δ ⁷ arpeggio (C-E-G-B \flat), the second shows the C7 arpeggio (C-E-G-B \flat), and the third shows the C-7 arpeggio (C-B \flat -E-G).

EXAMPLE 1 | Single chromatic approach from below

C Δ ⁷ approaching all chord tones C Δ ⁷ approaching 3rd only

The first measure shows a single chromatic approach from below to C Δ ⁷ (C-E-G-B \flat) by ascending from C to C \sharp , E to E \sharp , and G to G \sharp . The second measure shows a single chromatic approach from below to C Δ ⁷ (C-E-G-B \flat) by ascending from C to C \sharp and G to G \sharp , then descending to E and B \flat .

EXAMPLE 2 | Single chromatic approach from above

C Δ ⁷ approaching all chord tones C Δ ⁷ approaching root only

The first measure shows a single chromatic approach from above to C Δ ⁷ (C-E-G-B \flat) by descending from C to C \flat , E to E \flat , and G to G \flat . The second measure shows a single chromatic approach from above to C Δ ⁷ (C-E-G-B \flat) by descending from C to C \flat and G to G \flat , then ascending to E and B \flat .

EXAMPLE 3 | Double chromatic approach from below

C Δ ⁷ approaching all chord tones C Δ ⁷ approaching 3rd only

The first measure shows a double chromatic approach from below to C Δ ⁷ (C-E-G-B \flat) by ascending from C to C \sharp to C, E to E \sharp to E, and G to G \sharp to G. The second measure shows a double chromatic approach from below to C Δ ⁷ (C-E-G-B \flat) by ascending from C to C \sharp to C, then descending to E and B \flat .

EXAMPLE 4 | Double chromatic approach from above

C Δ ⁷ approaching all chord tones C7 approaching 5th only

The first measure shows a double chromatic approach from above to C Δ ⁷ (C-E-G-B \flat) by descending from C to C \flat to C, E to E \flat to E, and G to G \flat to G. The second measure shows a double chromatic approach from above to C7 (C-E-G-B \flat) by descending from C to C \flat to C, then ascending to E and B \flat .

EXAMPLE 5 | Single scale approach from above

C7 approaching all chord tones C7 approaching 3rd & 5th

The first measure shows a single scale approach from above to C7 (C-E-G-B \flat) by descending from C to B \flat , A, G, F, E, D, C. The second measure shows a single scale approach from above to C7 (C-E-G-B \flat) by descending from C to B \flat , A, G, F, E, D, C, then ascending to B \flat and E.

EXAMPLE 6 | Single scale approach from below

C7 (Mixolydian) approaching all chord tones C7 approaching 3rd & 7th

The first measure shows a single scale approach from below to C7 (C-E-G-B \flat) in the Mixolydian mode by ascending from C to D, E, F, G, A, B \flat , C. The second measure shows a single scale approach from below to C7 (C-E-G-B \flat) by ascending from C to D, E, F, G, A, B \flat , C, then descending to B \flat and E.

EXAMPLE 7 | Double scale approach from above

C-7 (Dorian) approaching all chord tones

C-7 approaching 3rd only



EXAMPLE 8 | Double scale approach from below

C-7 (Dorian) approaching all chord tones

C-7 approaching root & 5th



DIATONIC TRIADS

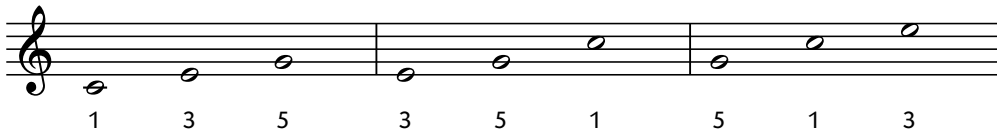
EXAMPLE 1 | Major scale triads

C Δ D- E- F Δ G Δ A- B $^\circ$

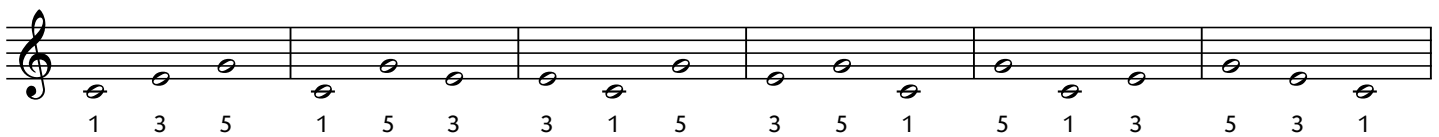


EXAMPLE 2 | Inversions of triads

Root position 1st inversion 2nd inversion



EXAMPLE 3 | Permutations of triads



As upper structures – diatonic or non-diatonic – all 5 types of triads (major, minor, augmented, diminished and sus4), may also be permuted.

major minor augmented diminished sus4



EXAMPLE 4 | Permutations in a melodic context

B \flat G7 $^{\#5}$ C-7 F7 $^{\flat9}13$ D $^\circ$ G7 $^{\flat9}$ C-7 F7 $^{\flat9}$ F-7 B \flat 7



Note: approaches may be applied to triads (see *I'm Thinking* and *Chin Up*)

TRIADS FROM CHORD SCALES

B \flat major, Ionian B \flat minor, Aeolian

This block shows the triads for B \flat major (Ionian) and B \flat minor (Aeolian). The B \flat major triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8. The B \flat minor triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8.

B \flat Lydian B \flat Lydian \flat 7

This block shows the triads for B \flat Lydian and B \flat Lydian \flat 7. The B \flat Lydian triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8. The B \flat Lydian \flat 7 triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8.

B \flat Mixolydian B \flat Dorian

This block shows the triads for B \flat Mixolydian and B \flat Dorian. The B \flat Mixolydian triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8. The B \flat Dorian triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8.

B \flat Dorian #11 B \flat harmonic minor

This block shows the triads for B \flat Dorian #11 and B \flat harmonic minor. The B \flat Dorian #11 triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8. The B \flat harmonic minor triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8.

B \flat symmetric diminished, whole-half step B \flat symmetric diminished, half-whole step

This block shows the triads for B \flat symmetric diminished, whole-half step and B \flat symmetric diminished, half-whole step. The whole-half step triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8. The half-whole step triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8.

B \flat whole-tone B \flat diminished whole-tone (Superlocrian, altered)

This block shows the triads for B \flat whole-tone and B \flat diminished whole-tone (Superlocrian, altered). The B \flat whole-tone triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8. The B \flat diminished whole-tone triads are: B \flat 2, B \flat 3, B \flat 4, B \flat 5, B \flat 6, B \flat 7, B \flat 8.

RANDOM DIATONIC INTERVALS

One complete chorus as a study in random diatonic intervals.

The musical score consists of nine staves of music in G-flat major. The chords and intervals are as follows:

- Staff 1: Bb, G7, C-7, F7, D-7, G7, C-7, F7
- Staff 2: Bb7, Eb, Ab7, D-7, G7, F7
- Staff 3: Bb, G7, C-7, F7, D-7, G7, C-7, F7
- Staff 4: Bb7, Eb, Ab7, C-7, F7, BbΔ7
- Staff 5: D7, G7
- Staff 6: C7, F7
- Staff 7: Bb, G7, C-7, F7, D-7, G7, C-7, F7
- Staff 8: Bb7, Eb, Ab7, D-7, G7, F7

B \flat

CHIN UP

Mambo

Bruce Gertz



Musical score for 'CHIN UP' in B \flat major, 4/4 time. The score consists of eight staves of music with corresponding chord symbols above the notes.

Staff 1: Chords: F, D7, G-7, C7, A-7, D7, G-7, C7

Staff 2: Measure 5. Chords: F7, B \flat , F, D7, G-7, C7

Staff 3: Measure 9. Chords: F, D7/F \sharp , G-7, C7, A-7, D7, G-7, C7

Staff 4: Measure 13. Chords: F7, B \flat , F

Staff 5: Measure 17. Chords: A7, E-7, A7, D7

Staff 6: Measure 21. Chords: G7, D-7, G7, C7, G-7, C7

Staff 7: Measure 25. Chords: F, D7/F \sharp , G-7, C7, A-7, D7, G-7, C7

Staff 8: Measure 29. Chords: F7, B \flat , F, (D7, G-7, C7)

E_b

CHIN UP

Mambo

Bruce Gertz

C A7 D-7 G7 E-7 A7 D-7 G7

5 C7 F C A7 D-7 G7

9 C A7/C# D-7 G7 E-7 A7 D-7 G7

13 C7 F C

17 E7 B-7 E7 A7

21 D7 A-7 D7 G7 D-7 G7

25 C A7/C# D-7 G7 E-7 A7 D-7 G7

29 C7 F C (A7 D-7 G7)

B \flat

THE RHYTHM METHOD

Bruce Gertz



Disc 2

Track 9

or

Disc 3

Track 24

Musical staff 1: Treble clef, 4/4 time signature. Chords: B \flat Δ 7, G7, C-7, F7, B \flat , G7, C-7, F7. Rhythm: quarter notes, eighth notes, and rests.

8vb ad lib.

Musical staff 2: Treble clef, 4/4 time signature. Chords: B \flat 7, E \flat Δ 7, A \flat 7, D-7, G7, C-7, F7. Rhythm: quarter notes, eighth notes, and rests.

Musical staff 3: Treble clef, 4/4 time signature. Chords: B \flat , G7, C-7, F7, D-7, G7, C-7, F7. Rhythm: quarter notes, eighth notes, and rests.

Musical staff 4: Treble clef, 4/4 time signature. Chords: B \flat 7, E \flat Δ 7, B \flat 6. Rhythm: quarter notes, eighth notes, and rests.

Musical staff 5: Treble clef, 4/4 time signature. Chords: A-7, D7, D-7, G7. Rhythm: quarter notes, eighth notes, and rests.

Musical staff 6: Treble clef, 4/4 time signature. Chords: C7, G-7, C7, C-7, F7. Rhythm: quarter notes, eighth notes, and rests.

Musical staff 7: Treble clef, 4/4 time signature. Chords: B \flat Δ 7, G7, C-7, F7, D-7, G7, C-7, F7. Rhythm: quarter notes, eighth notes, and rests.

Musical staff 8: Treble clef, 4/4 time signature. Chords: B \flat 7, E \flat Δ 7, B \flat , (C-7 F7). Rhythm: quarter notes, eighth notes, and rests.

E_b**THE RHYTHM METHOD**

Bruce Gertz



BASIC PENTATONIC SCALES

| | |
|--|---|
| <p>C6</p> <p>1 2(9) 3 5 6(13) 1</p> | <p>C-7</p> <p>1 b3 4(11) 5 b7 1</p> |
| <p>C-6</p> <p>1 2(9) b3 5 6(13) 1</p> | <p>C(b6)</p> <p>1 2 3 5 b6(b13) 1</p> |
| <p>C°</p> <p>1 b3 4(11) b5 b7 1</p> | <p>C-6</p> <p>1 b3 4(11) 5 6(13) 1</p> |
| <p>C°</p> <p>1 b3 4(11) b5 6(13) 1</p> | <p>C-b6 (Hira *)</p> <p>1 2(9) b3 5 b6(b13) 1</p> |
| <p>C- Phrygian (Kumoi *)</p> <p>1 b2(b9) 4 5 b6(b13) 1</p> | |

* *Kumoi* and *Hira* are traditional Japanese scales (or, more precisely, tunings).

PENTATONIC SCALES OVER CHORDS

| CHORD | INSIDE CHOICES |
|--------------------------|---|
| <p>CΔ⁷</p> | <p>C I A- VI- G V E- III-</p> |
| <p>CΔ⁷#11</p> | <p>C I A- VI- G V E- III- D II B- VII-</p> |

C-7 C- I- Eb bIII G- V- Bb bVII

(C-7 Dorian)
D- II- F IV C-7 Phrygian (Kumoi) C-7 Aeolian (Hira)

(C7 sus4)
C7 (Mixo) C I A- VI- G- V- Bb bVII D- F

C7 alt. Gb bV Eb- bIII- C∅ I∅ Eb-6 bIII-6

C∅ Ab bVI F- IV- C∅ I∅ Eb-6 bIII-6

C7#5 C9#5 C^{#9}_{b9}_{#5} Gb bV Eb- bIII-

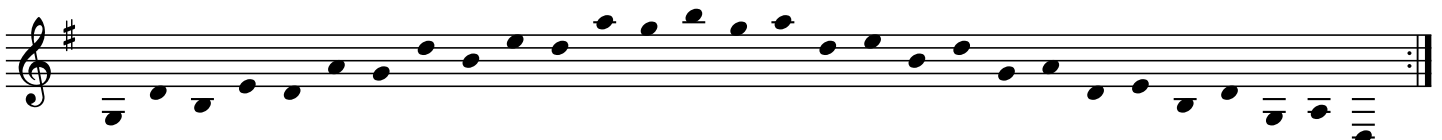
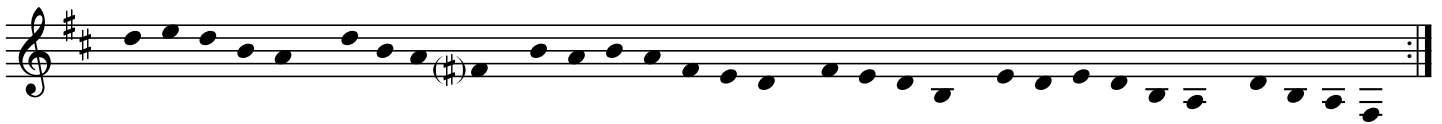
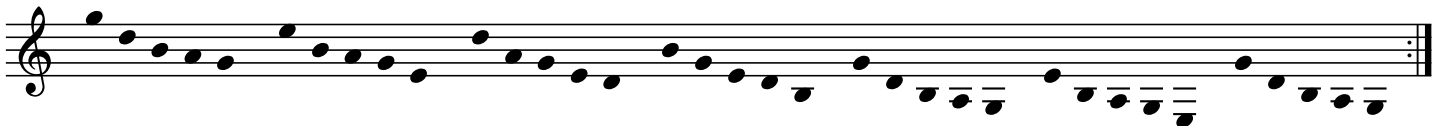
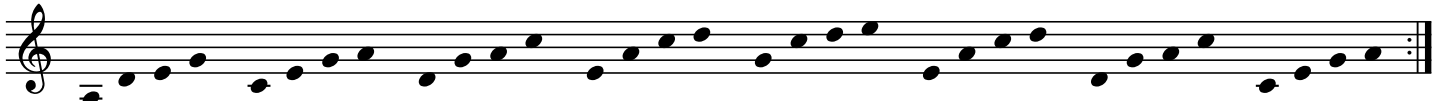
C-Δ7 C-6 Eb^{b5} bIII Eb^{b5} bIIIb5 C-6 I-6 G^{b6}/Eb Vb6

C7#11 C I A- VI- Bb+ bVII#5 D^{b6} IIb6

(Lydian b7)

PENTATONIC EXERCISES

Play these exercises in all keys. Play them retrograde (backwards). Try starting every next note in the sequence. Try different rhythms such as triplets, groupings or syncopations.



B \flat

PENTA-RHYTHM

All the A sections are B \flat 7 Funk/Hip Hop (half-time feel).
The B section is swing with chord changes.

Bruce Gertz



Disc 2
Track 14
or
Disc 3
Track 14

Funk C7

5

9 C7

13

swing
17 G-7 C7 F7

21 D7 G7

Funk C7
25

29

E_b

PENTA-RHYTHM

All the A sections are B_b7 Funk/Hip Hop.
The B section is swing with chord changes.

Bruce Gertz

The musical score is written in E-flat major (one sharp, F#) and common time. It consists of eight staves of music. The first four staves (measures 1-12) are in a funk/hip hop style with a G7 chord. The fifth staff (measures 13-16) is in a swing style with D-7, G7, and C7 chords. The sixth staff (measures 17-24) is in a swing style with A7 and D7 chords. The seventh and eighth staves (measures 25-32) return to the funk/hip hop style with a G7 chord. The score includes various rhythmic patterns, rests, and chord changes indicated by text above the notes.

ARPEGGIO STUDY WITH TENSIONS

After inverting each chord go the nearest available tension. Inversions may start an octave lower.

EXAMPLE 8 | Inversion Formulas

Example 8 illustrates inversion formulas for three chords: $C\Delta 7\#11$, $C-7$, and $D7\#11$. For each chord, the root position and its first, second, and third inversions are shown. Tension numbers (9, #11, 13) are placed below the notes to indicate the sequence of tensions to be added in each inversion.

- $C\Delta 7\#11$:**
 - Root: 9 #11 13
 - 1st inversion: 9 #11 13
 - 2nd inversion: #11 13 9
 - 3rd inversion: 13 9 #11
- $C-7$:**
 - Root: 9 11 13
 - 1st inversion: 9 11 13
 - 2nd inversion: 11 13 9
 - 3rd inversion: 13 9 11
- $D7\#11$:**
 - Root: 9 #11 13
 - 1st inversion: 9 #11 13
 - 2nd inversion: #11 13 9
 - 3rd inversion: 13 9 #11

Adding approach notes to the chord tones can produce interesting melodies.

EXAMPLE 9 | Approach notes

Example 9 shows approach notes for $C\Delta 7\#11$ and $C7\flat 9\#9\flat 13$. The notes are beamed together, and tension numbers (9 #11 13 and $\flat 9 \#9 \flat 13$) are written below to indicate the sequence of tensions.

EXAMPLE 8

↑P4 ↓m2 ↑P4 ↓P5



EXAMPLE 9 | Symmetric augmented scale

↑P5 ↓m3 ↑P5 ↓m3

G symmetric augmented scale (hexatonic)

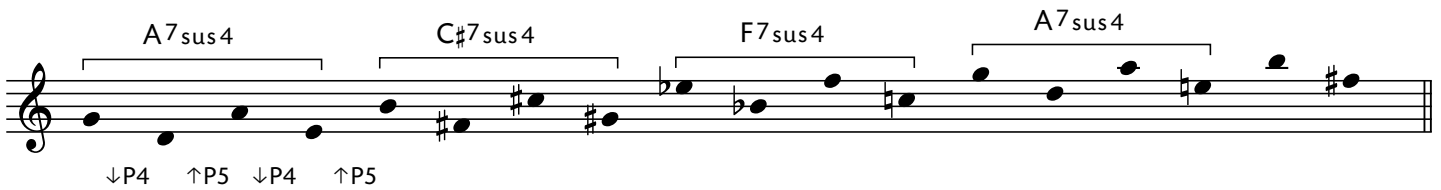


EXAMPLE 10

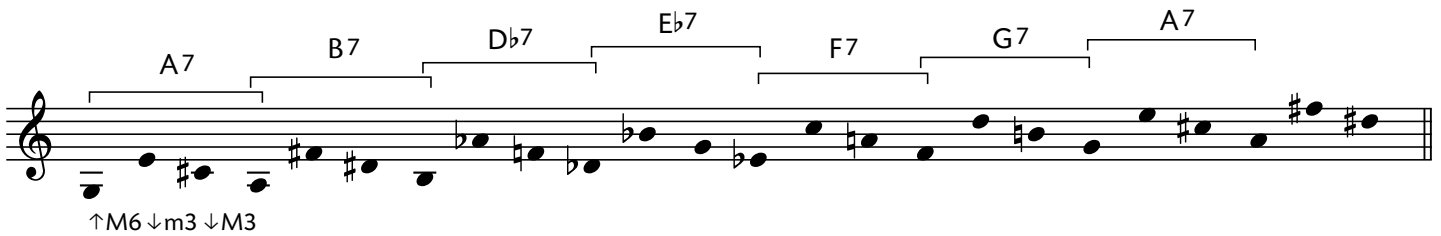
↓m2 ↑P4 ↓m2 ↓M3



EXAMPLE 11 | 7sus4 chords ascending in major thirds



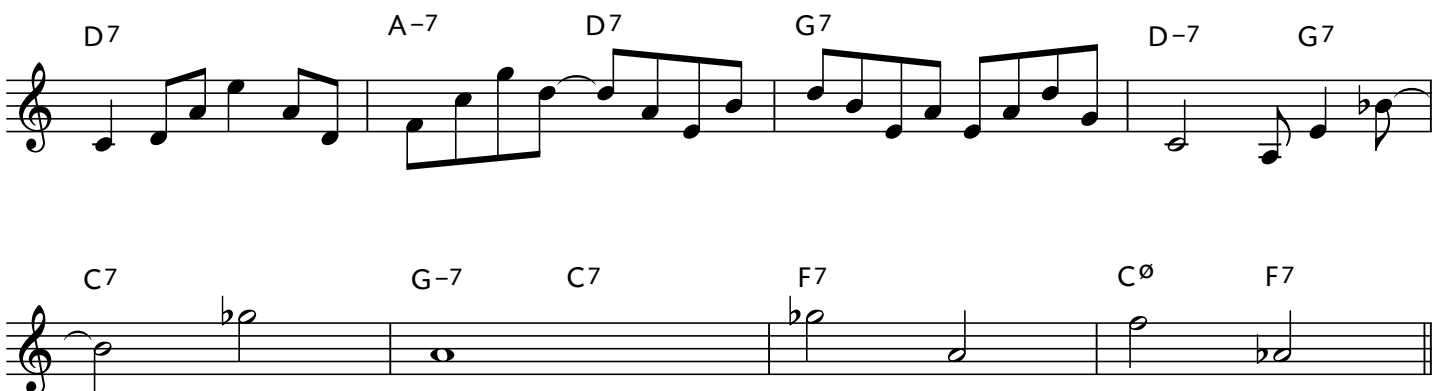
EXAMPLE 12 | Interlocking inverted seventh chords in ascending major seconds. The root of one chord becomes the b7 of the next. This is called a "pivot tone."



Legend: ↑ = up, ↓ = down, m = minor, M = major, P = perfect

MELODIC STUDY OVER B SECTION CHANGES

Intervallic lines using 2^{nds}, 5^{ths}, 4^{ths} in the first 4 bars then moving to 6^{ths} in the last 4 bars.



B \flat

REHARMONIZATION #1

Bruce Gertz



D
F7
B \flat 7
E \flat 7
F \sharp -7
B7 \flat 5
E-7
E \flat 7

5

D
F7
B \flat 7
E \flat 7
D
F7
B \flat 6
E \flat 7

9

D
E-7
E \flat 7
D
F \sharp -7
B7
E-7
A7

13

A-7
D7
G6
G-6
D7

17

F \sharp 7
C7
F \sharp -7
F7

21

E7
B \flat 7
A7
E \flat 7

25

F \sharp -7
B7
E-7
E \flat 7
F \sharp -7
F7
B \flat 6
E \flat 7

29

A-7
A \flat 7 alt.
G-7
F7 alt.
F-7
E7 alt.
E \flat 7 \flat 9