

Tools For Improvisation (Bass Clef)

A brief manual on the fundamental
components of jazz theory

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TOOLS FOR IMPROVISATION

PREFACE

Improvisation is more of an idea than a specific discipline, more of an art than a science. As a composer, I prefer to define **improvisation** as “spontaneous composition.” This is one of many ways to define improvisation, and it is up to each individual to adopt their own view of what improvisation might be.

In the medium of **jazz**, improvisation plays many roles. The most obvious role of improvisation in jazz is in soloing over the chord changes of jazz standards; but improvisation also affects the interpretation of a chart, the arrangement of a horn section, the voicing and rhythms of an accompaniment, and numerous other components of jazz music. In point of fact, good soloing is every bit as well-planned as any other aspect of a jazz performance, and requires a great deal of preparation, study, and rehearsal.

The following textbook was drawn from class notes written for a workshop given from Fall of 2012 to Spring 2013 at **Music Center of the Northwest** in Seattle, WA. These notes- and the eventual textbook- were written to fill a need: a well-organized, comprehensive theory book which addresses the most fundamental tools necessary for a good foundation in jazz improvisation. The tools in this manual can also be applied to any other improvisation-based musical medium, including rock, blues, bluegrass, modern experimental classical music, and contemporary pop; but in this book they are organized and presented from a jazz perspective.

The single most important concept in improvisation is **melody**. All good improvisation is grounded in the search for an expressive melody. While improvisation may also include broad swathes of gesture and texture, and may venture into the realm of the completely abstract in which notes function as individual components of sound and timbre, **melody** remains a critical idea in the mind of the modern jazz audience. As all music is a dialogue between performer and listener, it is a wise idea to keep the notion of **melody** firmly in the foreground as you develop your improvisational vocabulary.

Have fun, and thanks for reading.

-David Matthew Shere

Seattle, WA

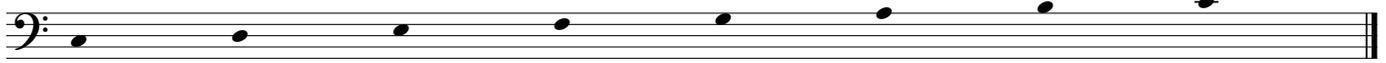
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Chapter 1- The Major Scale

C major scale- parent scale; mode I
(Also known as "C Ionian mode;" mother of all Western scales)

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

a. A **musical scale** is a series of notes arranged in order from lowest to highest, or highest to lowest.

b. **The Major scale** is the basis for all Western music theory. It is also the most important scale that you can master technically on your instrument. The **major scale** is a **diatonic scale**, or a scale with 7 notes.

c. The **musical alphabet** consists of the following seven letters: [ABCDEFG] These letters refer to the white keys on a piano keyboard and are known as **natural** notes.

d. **The C major scale** is made up of the **natural** notes ordered from **C to C**: [CDEFGABC]
 This scale contains all the information that we will eventually need to construct the following musical objects:

1. intervals 2. melodies 3. arpeggios 4. chords 5. sequences 6. other scales

and numerous other musical ideas.

e. In the above diagram, we are looking at the **C major scale** defined by two additional pieces of information:

1. **scale degrees** 2. **note names**

1.1 **Scale degree** is the number value assigned to a scale tone based on its order of appearance in the scale. For theory purposes, the first scale tone is usually referred to as **R** (for **root**) instead of **1** (although occasionally we will use **1** instead of **R**).

1.2 **Major scale degrees** are numbered [R234567].

2.1 **Note name** is the letter assigned to a note to distinguish it from other notes.

2.2 **Root** is the defining note of a scale, mode, or key; the letter that gives a scale, mode, or key its name.

f. There are **five additional notes** in Western music based on the black keys of a piano keyboard. These notes are called **accidentals**, or **sharps and flats**.

1. The symbol for **sharp** is [#].

2. The symbol for **flat** is [b].

Each accidental has two names. The names of the **accidentals** are as follows:



[C#/Db]

[D#/Eb]

[F#/Gb]

[G#/Ab]

[A#/Bb]

3. A **natural** [♮] symbol is used to indicate a **natural** note after the occurrence of an **accidental** note with the same **letter name**. **Examples:** [C♯, C♮]; [E♭, E♮]; [A♯, A♮]; [G♭, G♮]



g. If we put all the **natural notes** and all the **accidentals** together, we get the **chromatic scale**:

C♯/D♭	D♯/E♭	F♯/G♭	G♯/A♭	A♯/B♭	
C	D	E	F	G	A
					B
					C

1. The **chromatic scale** corresponds with the order of the white and black keys on the piano keyboard.

2. The distance between any two adjacent notes in the **chromatic scale** is called a **half-step**.

Examples of half-steps: [C-C♯]; [B-B♭]; [E-F]; [G♯-A]; [E♭-D]; [D-D♭]

Chromatic scale



3. **Sharps** are typically used when **ascending half-steps** from one note to the next.

4. **Flats** are typically used when **descending half-steps** from one note to the next.



h. An **interval** is the distance between any two notes.

1. The **interval** between any two adjacent notes in the **major scale** is known as a **second (2nd)**.

A **2nd** is the distance from one note in the musical alphabet to another note one letter away.

Example: C to D is a **2nd**: [C-D]

2. There are two basic types of **2nds**:

2.1 **Major 2nd (M2)**- contains 2 half-steps from one letter to the next. **Example:** [C-D] = [C-C♯-D]

2.2 **minor 2nd (m2)**- contains 1 half-step from one letter to the next. **Example:** [E-F]

3. A **Major 2nd** is also known as a **whole-step**. A **whole-step** equals two **half-steps**.

j. The intervals of the **major scale** are the same regardless of the **root** of the scale.

k. Moving a scale or other musical object from one key to another is called **transposition**.

C major scale

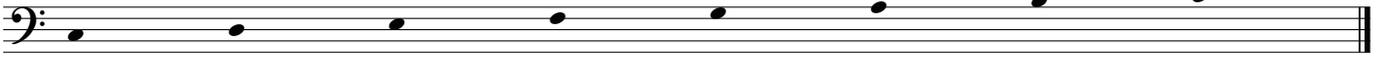


M2 M2 m2 M2 M2 M2 m2

4

m. There are **12 major scales**, one for every note in the **chromatic scale**.

7 C major



8 D \flat major



9 D major



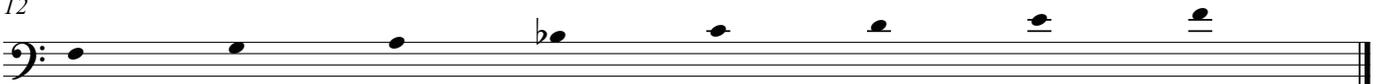
10 E \flat major



11 E major



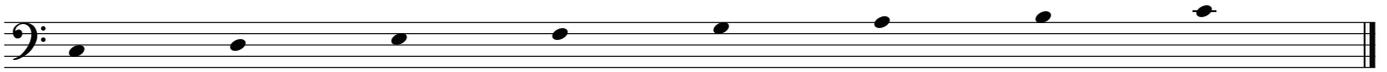
12 F major



Chapter 2- Major Scale Harmony

C major scale- parent scale; mode I
 (Also known as "C Ionian mode;" mother of all Western scales)

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a. When single notes are played one after the other in a given order, the resulting sound is called **melody**. A **scale** is an example of **melody**.

b. If two or more notes are played simultaneously, the resulting sound is called **harmony**.
 To "**harmonize**" a note or scale means to "**add harmony to**" a note or scale.
Harmony is classified in two ways:

1. **intervals**
2. **chords**

Per Chapter 1: h. An **interval** is the distance between two notes.

1.1 A **melodic interval** is the distance between two notes played one after the other.

1.2 A **harmonic interval** is the distance between two notes played simultaneously.

1.3 In this section, we are dealing with intervals known as **thirds (3rds)**.

A **3rd** is the distance from one note in the musical alphabet to another note two letters away.

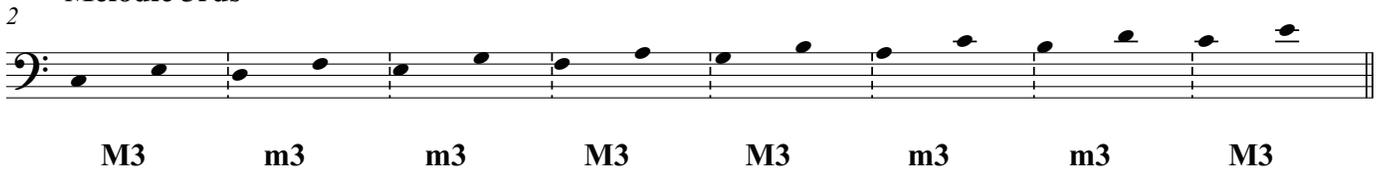
Example: C to E is a **3rd [C-E]**

There are two basic types of **3rds**:

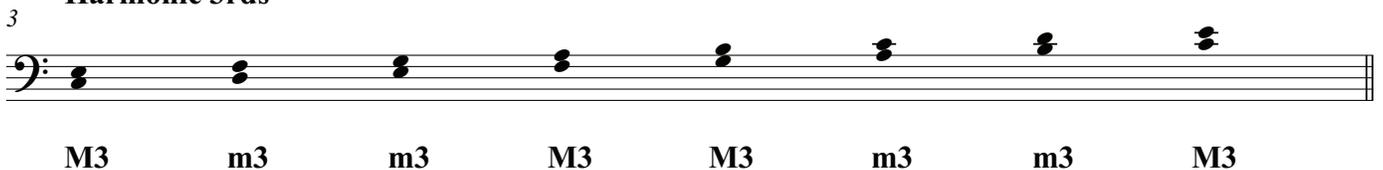
1.3.1 **Major 3rd (M3)**- contains 4 half-steps from one letter to the next. **Example:** [C-E] = [C-C#-D-D#-E]

1.3.2 **minor 3rd (m3)**- contains 3 half-steps from one letter to the next. **Example:** [D-F] = [D-D#-E-F]

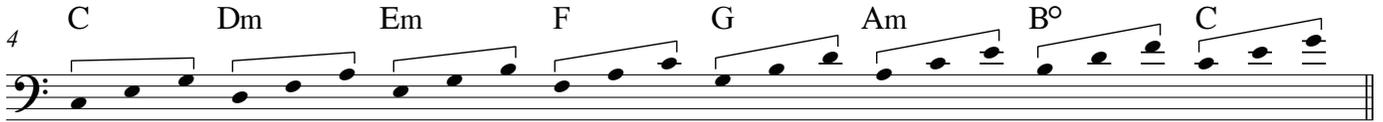
Melodic 3rds



Harmonic 3rds



Melodic triads (arpeggios)



I ii iii IV V vi vii° I

Harmonic triads (chords)



I ii iii IV V vi vii° I
 Major minor minor Major Major minor diminished Major

2.1 A **chord** is a harmony containing three (3) or more notes.

2.2 An **arpeggio** is the notes of a chord played melodically.

2.3 The notes of any **chord** or **arpeggio** are referred to as **chord tones**.

c. A **triad** is a harmony containing three (3) notes. **Triads** are the most fundamental type of **chord**.

1. **Triads** are comprised of any two adjacent **3rds**, and occur naturally within the **major scale**.

Example: C, E and G are a **triad** [C-E-G]

2. **Triads** differ in **quality** based on the types of **3rds** they contain.

3. **Chord symbols** are shorthand notation used to indicate **chord quality**.

Example: Dm (D minor) is a **chord symbol**.

4. There are four basic types of **triads**:

4.1 **Major** [M3+m3]

4.2 **minor** [m3+M3]

4.3 **diminished** [m3+m3]

4.4 **Augmented** [M3+M3]*

*The **Augmented triad** is derived from the **Harmonic** and **Melodic minor scales**, and does not occur in the Major scale.

5. **Roman numerals** are used to indicate the **quality** of a **triad**, and the **scale degree** on which the **triad** is based.

I = Major; 1st degree

ii = minor; 2nd degree

iii = minor; 3rd degree

IV = Major; 4th degree

V = Major; 5th degree

vi = minor; 6th degree

vii° = diminished; 7th degree

8 7th arpeggios

$C^{\Delta 7}$ Dm^7 Em^7 $F^{\Delta 7}$ G^7 Am^7 $B^{\circ 7}$ $C^{\Delta 7}$
 I^7 ii^7 iii^7 IV^7 V^7 vi^7 $vii^{\circ 7}$ I^7

7th chords

$C^{\Delta 7}$ Dm^7 Em^7 $F^{\Delta 7}$ G^7 Am^7 $B^{\circ 7}$ $C^{\Delta 7}$
 I^7 ii^7 iii^7 IV^7 V^7 vi^7 $vii^{\circ 7}$ I^7
Major7th **minor7th** **minor7th** **Major7th** **Dominant7th** **minor7th** **half diminished7th** **Major7th**

d. A **7th (seventh) chord** is a harmony containing four (4) notes.

1. **7th chords** are comprised of any three adjacent **3rds**, and occur naturally within the **major scale**.

Example: C, E, G, and B are a **7th chord [C-E-G-B]**

2. **7th chords** differ in **quality** based on the types of **3rds** they contain.

3. **7th chords** have distinct **chord symbols** used to indicate **chord quality**.

3.1 While there is generally a **common practice** in the use of **7th chord symbols**, there is a certain amount of variation in **chord symbology** from one publication to the next.

Example: Dm^7 (D minor 7th) is a **chord symbol**.

4. There are five basic types of **7th chords**:

4.1 **Major 7th [M3+m3+M3]**

4.2 **minor 7th [m3+M3+m3]**

4.3 **Dominant 7th [M3+m3+m3]**

4.4 **half-diminished 7th [m3+m3+M3]***

4.5 **(fully) diminished 7th [m3+m3+m3]****

*The **half-diminished 7th chord** is also known as **Minor 7th, flat 5 [m7(b5)]**.

The **(fully) diminished 7th chord is derived from the **Harmonic minor scale**, and does not occur in the Major scale.

5. **Roman numerals** are used to indicate the **quality** of a **7th chord**, and the **scale degree** on which the **7th chord** is based.

I^7 = Major 7th; 1st degree

ii^7 = minor 7th; 2nd degree

iii^7 = minor 7th; 3rd degree

IV^7 = Major 7th; 4th degree

V^7 = Dominant 7th; 5th degree

vi^7 = minor7th; 6th degree

$vii^{\circ 7}$ = half-diminished 7th; 7th degree

8 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

9 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

C Dm Em F G Am B° C

I ii iii IV V vi vii° I

Harmonic triads (chords)

C Dm Em F G Am B° C

I ii iii IV V vi vii° I
Major minor minor Major Major minor diminished Major

7th arpeggios

CΔ7 Dm7 Em7 FΔ7 G7 Am7 Bø7 CΔ7

I7 ii7 iii7 IV7 V7 vi7 vii°7 I7

7th chords

CΔ7 Dm7 Em7 FΔ7 G7 Am7 Bø7 CΔ7

I7 ii7 iii7 IV7 V7 vi7 vii°7 I7
Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

D major

20 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

21 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

22

I ii iii IV V vi vii° I

Harmonic triads (chords)

23

I ii iii IV V vi vii° I
Major minor minor Major Major minor diminished Major

7th arpeggios

24

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{o7} I⁷

7th chords

25

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{o7} I⁷
Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

12 **E^b major**

26 **Melodic 3rds**

A musical staff in bass clef with a key signature of two flats (B-flat and E-flat). It contains eight measures of music, each with a single eighth note. The notes are: E-flat, G-flat, A-flat, B-flat, C, D, E-flat, and G-flat. Vertical dashed lines separate the notes into eight individual measures.

M3 m3 m3 M3 M3 m3 m3 M3

27 **Harmonic 3rds**

A musical staff in bass clef with a key signature of two flats. It contains eight measures, each showing a triad of notes. The triads are: E-flat major (E-flat, G-flat, B-flat), F minor (F, A-flat, C), G minor (G, B-flat, D), A-flat major (A-flat, C, E-flat), B-flat major (B-flat, D, F), C minor (C, E-flat, G), D diminished (D, F, A-flat), and E-flat major (E-flat, G-flat, B-flat).

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

28

A musical staff in bass clef with a key signature of two flats. It contains eight measures, each showing an arpeggiated triad. The arpeggios are: E-flat major (E-flat, G-flat, B-flat), F minor (F, A-flat, C), G minor (G, B-flat, D), A-flat major (A-flat, C, E-flat), B-flat major (B-flat, D, F), C minor (C, E-flat, G), D diminished (D, F, A-flat), and E-flat major (E-flat, G-flat, B-flat).

I ii iii IV V vi vii° I

Harmonic triads (chords)

29

A musical staff in bass clef with a key signature of two flats. It contains eight measures, each showing a triad of notes. The triads are: E-flat major (E-flat, G-flat, B-flat), F minor (F, A-flat, C), G minor (G, B-flat, D), A-flat major (A-flat, C, E-flat), B-flat major (B-flat, D, F), C minor (C, E-flat, G), D diminished (D, F, A-flat), and E-flat major (E-flat, G-flat, B-flat).

I ii iii IV V vi vii° I
Major minor minor Major Major minor diminished Major

7th arpeggios

30

A musical staff in bass clef with a key signature of two flats. It contains eight measures, each showing an arpeggiated 7th chord. The arpeggios are: E-flat major 7th (E-flat, G-flat, B-flat, D), F minor 7th (F, A-flat, C, E-flat), G minor 7th (G, B-flat, D, F), A-flat major 7th (A-flat, C, E-flat, G), B-flat major 7th (B-flat, D, F, A-flat), C minor 7th (C, E-flat, G, B-flat), D diminished 7th (D, F, A-flat, C), and E-flat major 7th (E-flat, G-flat, B-flat, D).

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii⁷ I⁷

7th chords

31

A musical staff in bass clef with a key signature of two flats. It contains eight measures, each showing a 7th chord. The chords are: E-flat major 7th (E-flat, G-flat, B-flat, D), F minor 7th (F, A-flat, C, E-flat), G minor 7th (G, B-flat, D, F), A-flat major 7th (A-flat, C, E-flat, G), B-flat major 7th (B-flat, D, F, A-flat), C minor 7th (C, E-flat, G, B-flat), D diminished 7th (D, F, A-flat, C), and E-flat major 7th (E-flat, G-flat, B-flat, D).

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii⁷ I⁷
Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

E major

32 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

33 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

34

I ii iii IV V vi vii° I

Harmonic triads (chords)

35

I ii iii IV V vi vii° I
Major minor minor Major Major minor diminished Major

7th arpeggios

36

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{o7} I⁷

7th chords

37

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{o7} I⁷
Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

38 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

39 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

40 F Gm Am Bb C Dm E^o F

I ii iii IV V vi vii^o I

Harmonic triads (chords)

41 F Gm Am Bb C Dm E^o F

I ii iii IV V vi vii^o I
Major minor minor Major Major minor diminished Major

7th arpeggios

42 F^{Δ7} Gm⁷ Am⁷ Bb^{Δ7} C⁷ Dm⁷ E^{ø7} F^{Δ7}

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{ø7} I⁷

7th chords

43 F^{Δ7} Gm⁷ Am⁷ Bb^{Δ7} C⁷ Dm⁷ E^{ø7} F^{Δ7}

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{ø7} I⁷
Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

G^b major

44 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

45 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

46 G^b A^bm B^bm C^b D^b E^bm F^o G^b

I ii iii IV V vi vii^o I

Harmonic triads (chords)

47 G^b A^bm B^bm C^b D^b E^bm F^o G^b

I ii iii IV V vi vii^o I

Major minor minor Major Major minor diminished Major

7th arpeggios

48 G^bΔ⁷ A^bm⁷ B^bm⁷ C^bΔ⁷ D^b7 E^bm⁷ F^o7 G^bΔ⁷

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{o7} I⁷

7th chords

49 G^bΔ⁷ A^bm⁷ B^bm⁷ C^bΔ⁷ D^b7 E^bm⁷ F^o7 G^bΔ⁷

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{o7} I⁷

Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

16 **G major**

50 **Melodic 3rds**

M3 m3 m3 M3 M3 m3 m3 M3

51 **Harmonic 3rds**

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

52 G Am Bm C D Em F#° G

I ii iii IV V vi vii° I

Harmonic triads (chords)

53 G Am Bm C D Em F#° G

I ii iii IV V vi vii° I

Major minor minor Major Major minor diminished Major

7th arpeggios

54 G^{Δ7} Am⁷ Bm⁷ C^{Δ7} D⁷ Em⁷ F#^{°7} G^{Δ7}

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{°7} I⁷

7th chords

55 G^{Δ7} Am⁷ Bm⁷ C^{Δ7} D⁷ Em⁷ F#^{°7} G^{Δ7}

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{°7} I⁷

Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

56 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

57 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

58

I ii iii IV V vi vii° I

Harmonic triads (chords)

59

I ii iii IV V vi vii° I
Major minor minor Major Major minor diminished Major

7th arpeggios

60

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{ø7} I⁷

7th chords

61

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{ø7} I⁷
Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

A major

62 **Melodic 3rds**

M3 m3 m3 M3 M3 m3 m3 M3

63 **Harmonic 3rds**

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

64 A Bm C#m D E F#m G#° A

I ii iii IV V vi vii° I

Harmonic triads (chords)

65 A Bm C#m D E F#m G#° A

I ii iii IV V vi vii° I

Major minor minor Major Major minor diminished Major

7th arpeggios

66 A^{Δ7} Bm⁷ C#m⁷ D^{Δ7} E⁷ F#m⁷ G#^{ø7} A^{Δ7}

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{ø7} I⁷

7th chords

67 A^{Δ7} Bm⁷ C#m⁷ D^{Δ7} E⁷ F#m⁷ G#^{ø7} A^{Δ7}

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{ø7} I⁷

Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

68 Melodic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

69 Harmonic 3rds

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

70 B \flat Cm Dm E \flat F Gm A $^{\circ}$ B \flat

I ii iii IV V vi vii $^{\circ}$ I

Harmonic triads (chords)

71 B \flat Cm Dm E \flat F Gm A $^{\circ}$ B \flat

I ii iii IV V vi vii $^{\circ}$ I

Major minor minor Major Major minor diminished Major

7th arpeggios

72 B \flat Δ ⁷ Cm⁷ Dm⁷ E \flat Δ ⁷ F⁷ Gm⁷ A \emptyset ⁷ B \flat Δ ⁷

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii⁷ I⁷

7th chords

73 B \flat Δ ⁷ Cm⁷ Dm⁷ E \flat Δ ⁷ F⁷ Gm⁷ A \emptyset ⁷ B \flat Δ ⁷

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii⁷ I⁷

Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

B major

74 **Melodic 3rds**

A musical staff in bass clef with a key signature of two sharps (F# and C#). It contains eight measures of music, each with a single eighth note. The notes are: B2, C#3, D#3, E3, F#3, G#3, A3, B3. The intervals between consecutive notes are: M3, m3, m3, M3, M3, m3, m3, M3.

M3 m3 m3 M3 M3 m3 m3 M3

75 **Harmonic 3rds**

A musical staff in bass clef with a key signature of two sharps (F# and C#). It contains eight measures of music, each with a dyad of two eighth notes. The notes are: B2-C#3, D#3-E3, F#3-G#3, A3-B3, C#4-D#4, E4-F#4, G#4-A4, B4. The intervals between consecutive notes are: M3, m3, m3, M3, M3, m3, m3, M3.

M3 m3 m3 M3 M3 m3 m3 M3

Melodic triads (arpeggios)

76

A musical staff in bass clef with a key signature of two sharps (F# and C#). It contains eight measures of music, each with a triad of eighth notes. The notes are: B2-C#3-D#3, E3-F#3-G#3, A3-B3-C#4, D#4-E4-F#4, G#4-A4-B4, C#5-D#5-E5, F#5-G#5-A5, B5. The intervals between consecutive notes are: I, ii, iii, IV, V, vi, vii°, I.

I ii iii IV V vi vii° I

Harmonic triads (chords)

77

A musical staff in bass clef with a key signature of two sharps (F# and C#). It contains eight measures of music, each with a triad of quarter notes. The notes are: B2-C#3-D#3, E3-F#3-G#3, A3-B3-C#4, D#4-E4-F#4, G#4-A4-B4, C#5-D#5-E5, F#5-G#5-A5, B5. The intervals between consecutive notes are: I, ii, iii, IV, V, vi, vii°, I.

I ii iii IV V vi vii° I
 Major minor minor Major Major minor diminished Major

7th arpeggios

78

A musical staff in bass clef with a key signature of two sharps (F# and C#). It contains eight measures of music, each with a 7th arpeggio of eighth notes. The notes are: B2-C#3-D#3-E3-F#3-G#3-A3, B3-C#4-D#4-E4-F#4-G#4-A4, B4-C#5-D#5-E5-F#5-G#5-A5, B5. The intervals between consecutive notes are: I⁷, ii⁷, iii⁷, IV⁷, V⁷, vi⁷, vii^{°7}, I⁷.

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{°7} I⁷

7th chords

79

A musical staff in bass clef with a key signature of two sharps (F# and C#). It contains eight measures of music, each with a 7th chord of quarter notes. The notes are: B2-C#3-D#3-E3-F#3-G#3-A3, B3-C#4-D#4-E4-F#4-G#4-A4, B4-C#5-D#5-E5-F#5-G#5-A5, B5. The intervals between consecutive notes are: I⁷, ii⁷, iii⁷, IV⁷, V⁷, vi⁷, vii^{°7}, I⁷.

I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{°7} I⁷
 Major7th minor7th minor7th Major7th Dominant7th minor7th half diminished7th Major7th

Chapter 3- Major Scale Modes (I. Relative)

Modes are extremely useful tools for improvisation, particularly in jazz.

- a. A **mode** can be defined as 1. a **scale-within-a-scale**, or 2. a **permutation** (re-ordering) of a scale that begins and ends on a note other than the **root** of the **parent scale** or **key**.
- b. Modes can be derived by **rotating** through the notes of any given scale.
- c. **Modes** can also be defined as **secondary scales**, derived from a **parent scale**.
 - 1. A **parent scale** is the scale from which a set of modes is derived.

d. The most important modes are the **modes of the Major scale**.

1. The **major scale** is a **diatonic** scale, as are each of its **modes**.

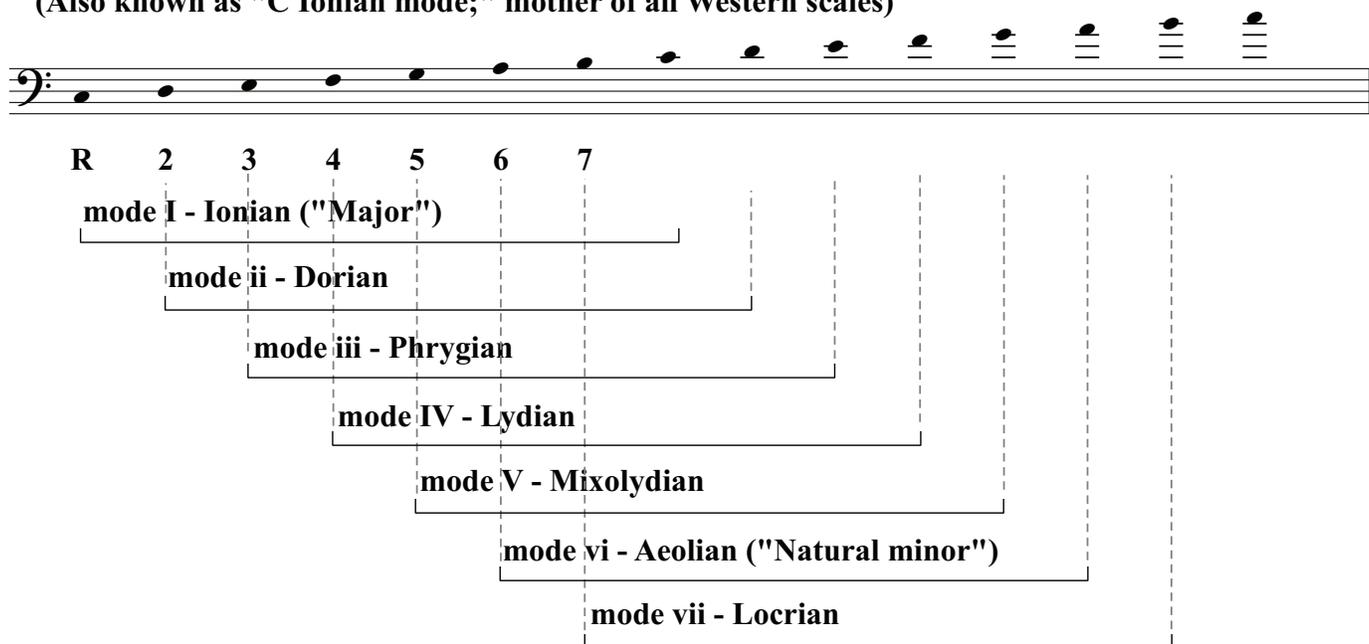
2. **Major scale modes** can be grouped together in two separate, but equally important ways:

2.1 **Relative modes**- the group of modes derived from a single scale in a single key.

2.2 **Parallel modes**- the group of modes derived from different scales in different keys, but sharing a common **root**.

e. In this chapter, we will be looking at **relative modes**.

C major scale- parent scale; mode I
(Also known as "C Ionian mode;" mother of all Western scales)



1. All of the **modes** shown in the diagram above are derived from a single scale, the **C major scale**. Each of the **12 major scales** has its own set of **relative modes**.

1.1 **Ionian mode** is the 1st mode of any major key, starting and ending on the root of the key.

Ionian mode is also known as the **Major scale**.

1.2 **Dorian mode** is the 2nd mode of any Major/Ionian scale.

1.3 **Phrygian mode** is the 3rd mode of any Major/Ionian scale.

1.4 **Lydian mode** is the 4th mode of any Major/Ionian scale.

1.5 **Mixolydian mode** is the 5th mode of any Major/Ionian scale.

1.6 **Aeolian mode** is the 6th mode of any Major/Ionian scale.

1.7 **Locrian mode** is the 7th mode of any Major/Ionian scale.

2. Every mode in the previous diagram can be said to be **relative** to the **C major scale**.
 3. Every mode in the previous diagram has a different **root**, based on its beginning and ending notes within the **C major scale**.

3.1 A **root** is the defining note of a scale, mode, or key; the letter that gives a scale, mode, or key its name.

3.2 **Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, and Locrian** are traditional historical names for the modes of the major scale, derived from Greek churches.

4. Each **relative mode** derived from a **parent scale** corresponds to a specific **7th chord** also derived from the parent scale. The corresponding **chord** and **mode** are based on the same **scale degree**.

4.1 Notes from the **mode** may be used to improvise melodies over the corresponding **chord**.

4.2 Viewing **chords** and **modes** as corresponding pairs is known as the **chord-scale** approach.

2 C^{Δ7} C Ionian scale; mode I

I⁷

Per Chapter 2: b.2.3 The notes of any **chord** or **arpeggio** are referred to as **chord tones**.

5. In the mode diagram above (and all following pages):

5.1 **Black noteheads** represent **chord tones**.

5.2 **White noteheads** represent **passing tones**.

5.1.1 **Modes** contain **chord tones** associated with their corresponding **chords**.

5.2.1 A **passing tone** is any scale note that is not a **chord tone**.

5.3 **Chord tones** and **passing tones** within a scale are often referred to as **inside notes**.

6. An **outside note** is any note that is not a part of the **chord** or its corresponding **mode**.

3 C^{Δ7} C Ionian scale; mode I

I⁷

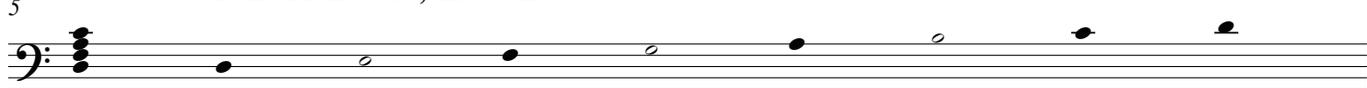
Examples of **outside notes**

4 C^{Δ7} C Ionian scale; mode I



I⁷

5 Dm⁷ D Dorian scale; mode ii



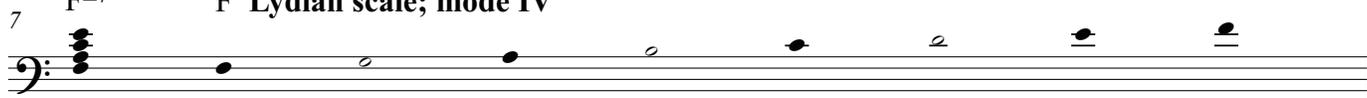
ii⁷

6 Em⁷ E Phrygian scale; mode iii



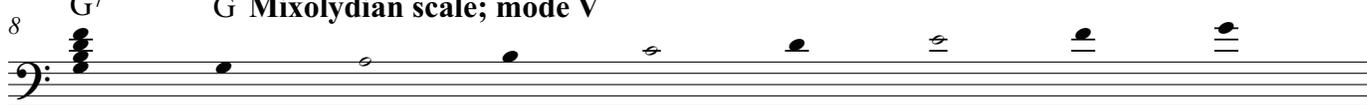
iii⁷

7 F^{Δ7} F Lydian scale; mode IV



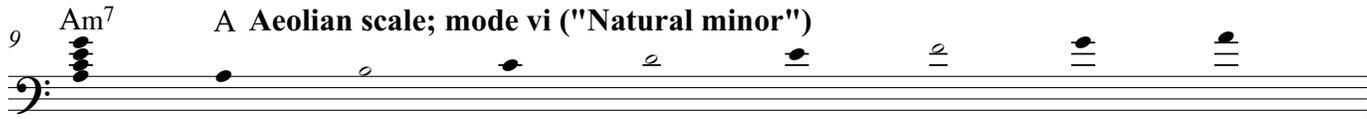
IV⁷

8 G⁷ G Mixolydian scale; mode V



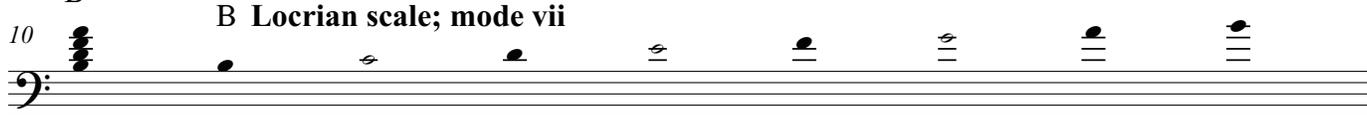
V⁷

9 Am⁷ A Aeolian scale; mode vi ("Natural minor")



vi⁷

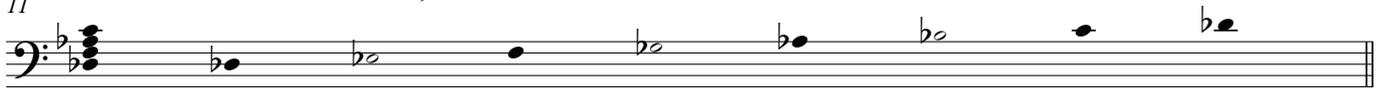
10 B^{ø7} B Locrian scale; mode vii



vii^{o7}

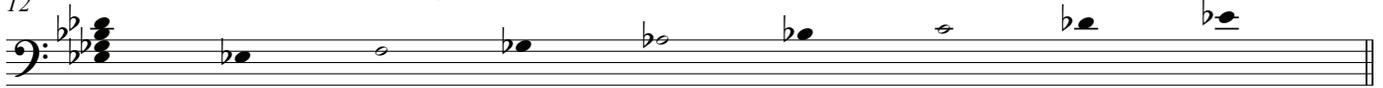
24 **D^bmajor**

11 **D^bΔ⁷ D^b Ionian scale; mode I**



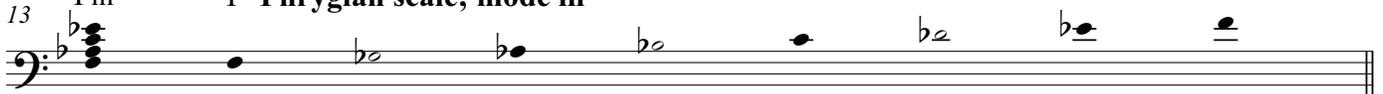
I⁷

12 **E^bm⁷ E^b Dorian scale; mode ii**



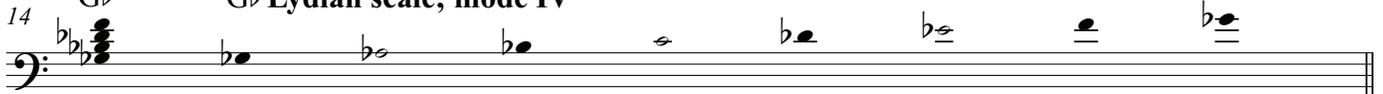
ii⁷

13 **Fm⁷ F Phrygian scale; mode iii**



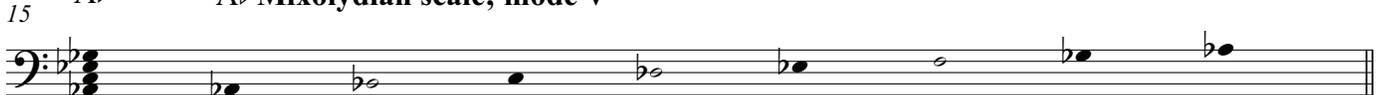
iii⁷

14 **G^bΔ⁷ G^b Lydian scale; mode IV**



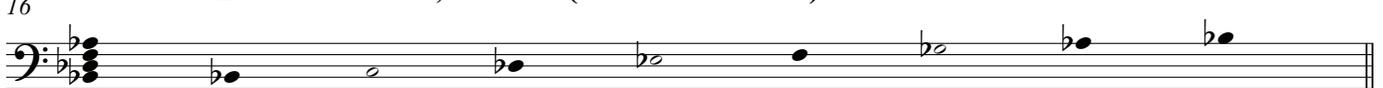
IV⁷

15 **A^bΔ⁷ A^b Mixolydian scale; mode V**



V⁷

16 **B^bm⁷ B^b Aeolian scale; mode vi ("Natural minor")**



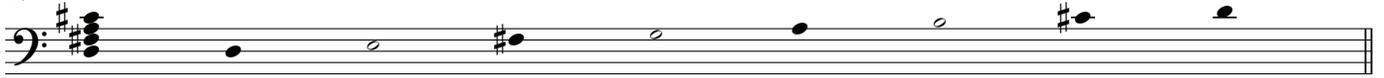
vi⁷

17 **C[∅] C Locrian scale; mode vii**



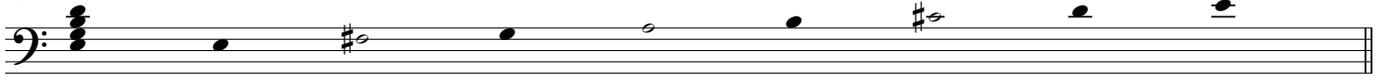
vii^{∅7}

18 D^{Δ7} D Ionian scale; mode I



I⁷

19 E^{m7} E Dorian scale; mode ii



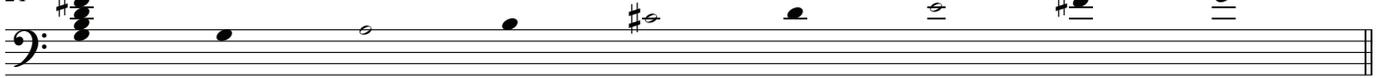
ii⁷

20 F#^{m7} F# Phrygian scale; mode iii



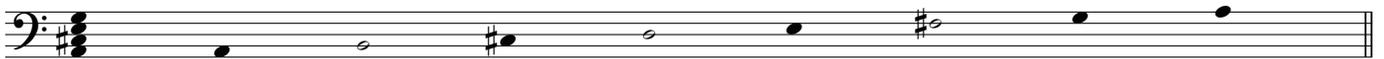
iii⁷

21 G^{Δ7} G Lydian scale; mode IV



IV⁷

22 A⁷ A Mixolydian scale; mode V



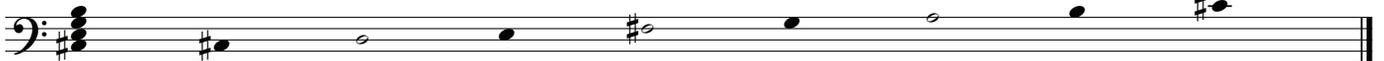
V⁷

23 B^{m7} B Aeolian scale; mode vi ("Natural minor")



vi⁷

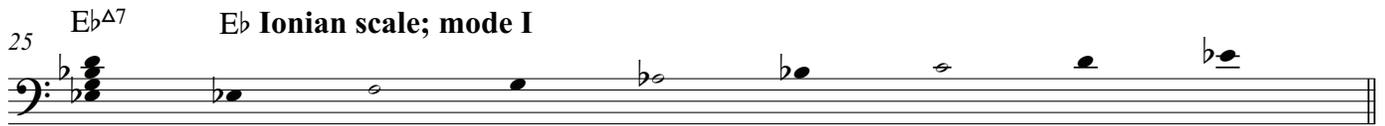
24 C#^{ø7} C# Locrian scale; mode vii



vii^{ø7}

26 **E^bmajor**

25 **E^bΔ⁷ E^b Ionian scale; mode I**



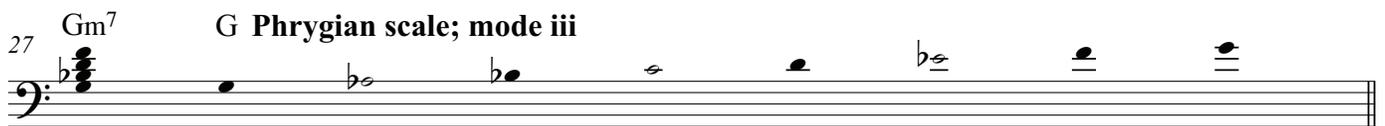
I⁷

26 **Fm⁷ F Dorian scale; mode ii**



ii⁷

27 **Gm⁷ G Phrygian scale; mode iii**



iii⁷

28 **A^bΔ⁷ A^b Lydian scale; mode IV**



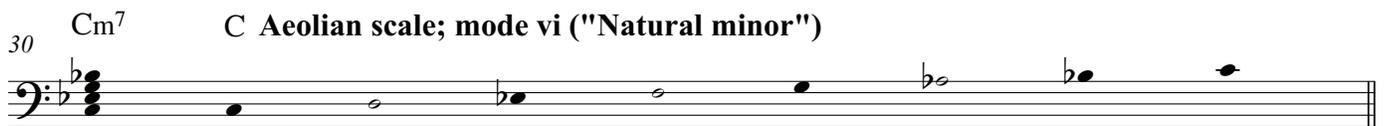
IV⁷

29 **B^b7 B^b Mixolydian scale; mode V**



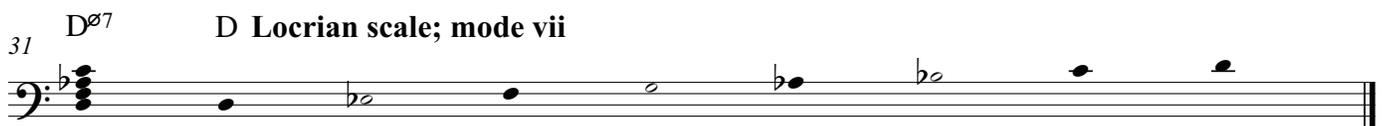
V⁷

30 **Cm⁷ C Aeolian scale; mode vi ("Natural minor")**



vi⁷

31 **D^ø7 D Locrian scale; mode vii**



vii^{ø7}

E major

32 E^{Δ7} E Ionian scale; mode I

Musical notation for the E Ionian scale, mode I. The notation is in bass clef with a key signature of two sharps (F# and C#). The scale is written as a sequence of notes: E, F#, G, A, B, C#, D, E. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is E, followed by F#, G, A, B, C#, D, and E. The notation is labeled with a chord symbol I⁷.

33 F#m⁷ F# Dorian scale; mode ii

Musical notation for the F# Dorian scale, mode ii. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The scale is written as a sequence of notes: F#, G, A, B, C#, D, E, F#. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is F#, followed by G, A, B, C#, D, E, and F#. The notation is labeled with a chord symbol ii⁷.

34 G#m⁷ G# Phrygian scale; mode iii

Musical notation for the G# Phrygian scale, mode iii. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The scale is written as a sequence of notes: G#, A, B, C, D, E, F#, G#. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is G#, followed by A, B, C, D, E, F#, and G#. The notation is labeled with a chord symbol iii⁷.

35 A^{Δ7} A Lydian scale; mode IV

Musical notation for the A Lydian scale, mode IV. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The scale is written as a sequence of notes: A, B, C#, D, E, F#, G, A. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is A, followed by B, C#, D, E, F#, G, and A. The notation is labeled with a chord symbol IV⁷.

36 B⁷ B Mixolydian scale; mode V

Musical notation for the B Mixolydian scale, mode V. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The scale is written as a sequence of notes: B, C, D, E, F, G, A, B. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is B, followed by C, D, E, F, G, A, and B. The notation is labeled with a chord symbol V⁷.

37 C#m⁷ C# Aeolian scale; mode vi ("Natural minor")

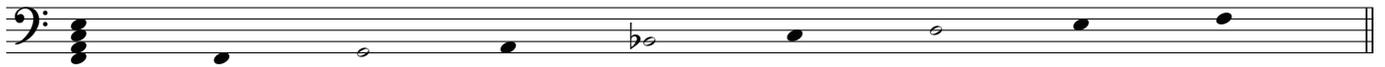
Musical notation for the C# Aeolian scale, mode vi. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The scale is written as a sequence of notes: C#, D, E, F, G, A, B, C#. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is C#, followed by D, E, F, G, A, B, and C#. The notation is labeled with a chord symbol vi⁷.

38 D#^{ø7} D# Locrian scale; mode vii

Musical notation for the D# Locrian scale, mode vii. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The scale is written as a sequence of notes: D#, E, F, G, A, B, C, D#. The notes are grouped into pairs of eighth notes, with a quarter rest between each pair. The first note is D#, followed by E, F, G, A, B, C, and D#. The notation is labeled with a chord symbol vii^{ø7}.

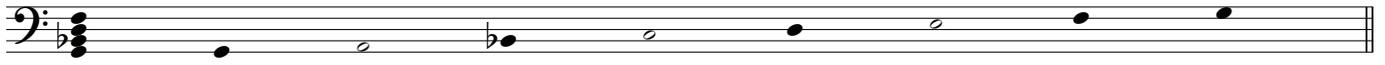
28 F major

39 F Δ 7 F Ionian scale; mode I



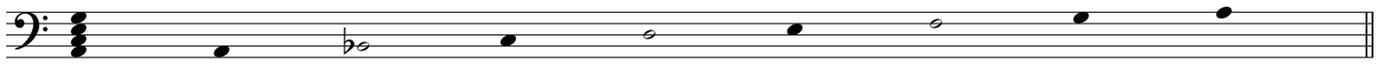
I⁷

40 Gm⁷ G Dorian scale; mode ii



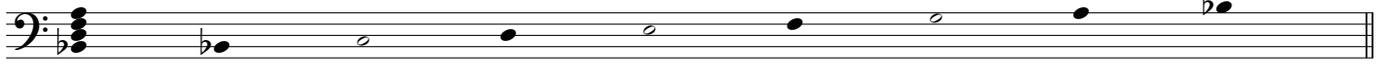
ii⁷

41 Am⁷ A Phrygian scale; mode iii



iii⁷

42 Bb Δ 7 Bb Lydian scale; mode IV



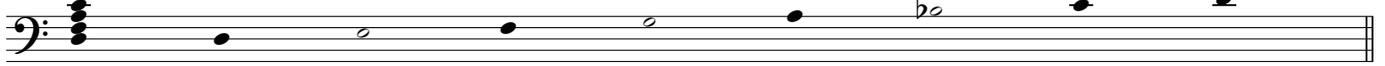
IV⁷

43 C⁷ C Mixolydian scale; mode V



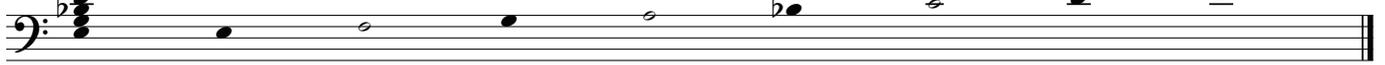
V⁷

44 Dm⁷ D Aeolian scale; mode vi ("Natural minor")



vi⁷

45 E \emptyset 7 E Locrian scale; mode vii



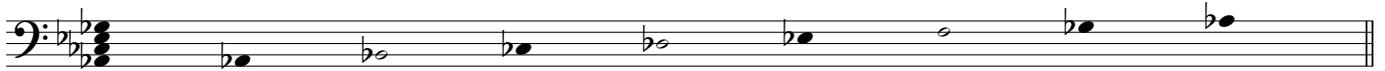
vii^{o7}

46 G \flat Δ 7 G \flat Ionian scale; mode I



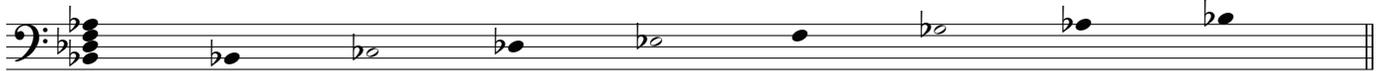
I⁷

47 A \flat m7 A \flat Dorian scale; mode ii



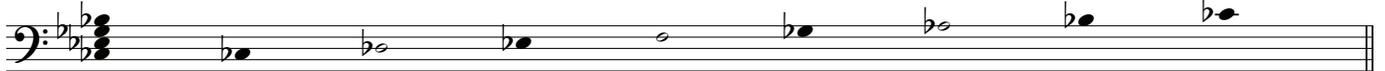
ii⁷

48 B \flat m7 B \flat Phrygian scale; mode iii



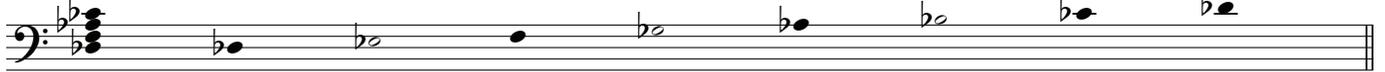
iii⁷

49 C \flat Δ 7 C \flat Lydian scale; mode IV



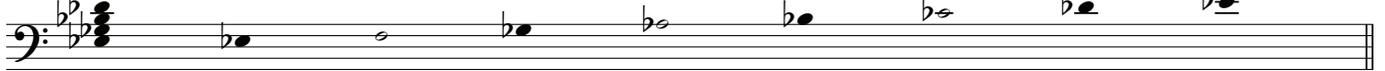
IV⁷

50 D \flat 7 D \flat Mixolydian scale; mode V



V⁷

51 E \flat m7 E \flat Aeolian scale; mode vi ("Natural minor")



vi⁷

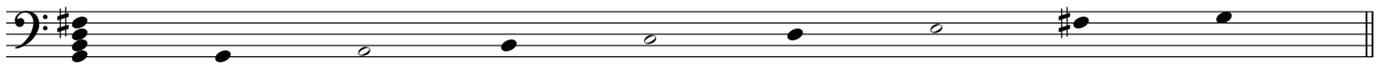
52 F \emptyset 7 F Locrian scale; mode vii



vii^{o7}

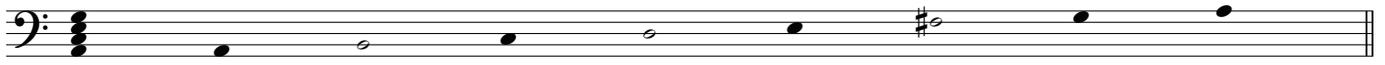
30 G major

53 G^{Δ7} G Ionian scale; mode I



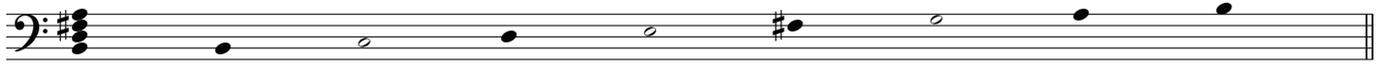
I⁷

54 Am⁷ A Dorian scale; mode ii



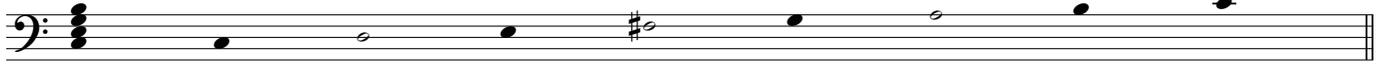
ii⁷

55 Bm⁷ B Phrygian scale; mode iii



iii⁷

56 C^{Δ7} C Lydian scale; mode IV



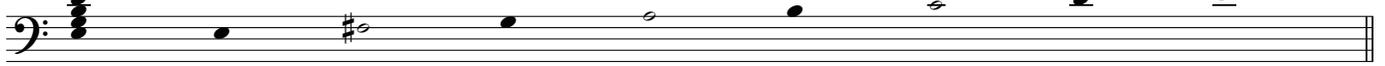
IV⁷

57 D⁷ D Mixolydian scale; mode V



V⁷

58 Em⁷ E Aeolian scale; mode vi ("Natural minor")



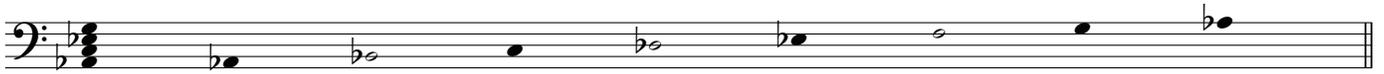
vi⁷

59 F#^{ø7} F# Locrian scale; mode vii



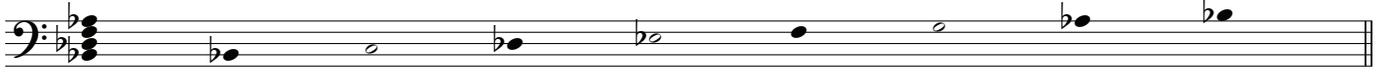
vii^{o7}

60 A \flat Δ ⁷ A \flat Ionian scale; mode I



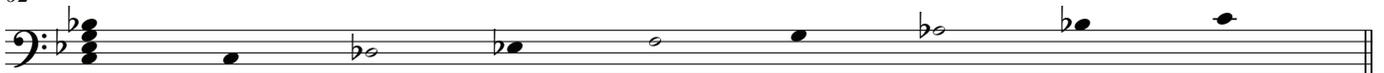
I⁷

61 B \flat m⁷ B \flat Dorian scale; mode ii



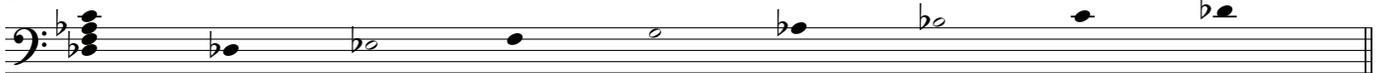
ii⁷

62 C m ⁷ C Phrygian scale; mode iii



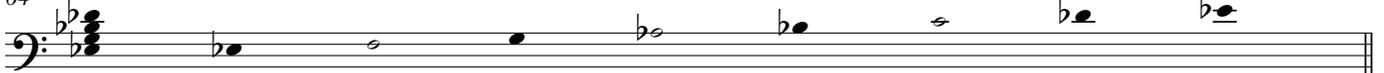
iii⁷

63 D \flat Δ ⁷ D \flat Lydian scale; mode IV



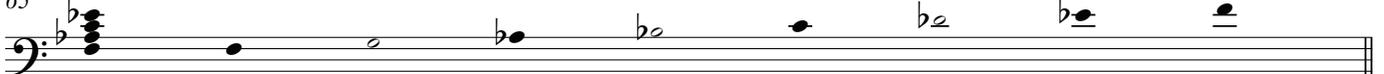
IV⁷

64 E \flat ⁷ E \flat Mixolydian scale; mode V



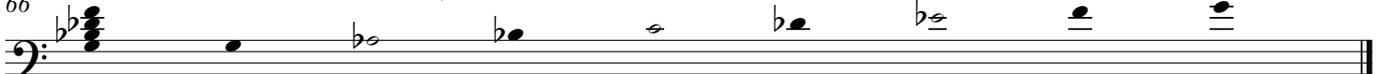
V⁷

65 F m ⁷ F Aeolian scale; mode vi ("Natural minor")



vi⁷

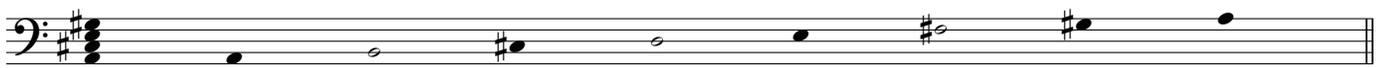
66 G \ominus ⁷ G Locrian scale; mode vii



vii^{o7}

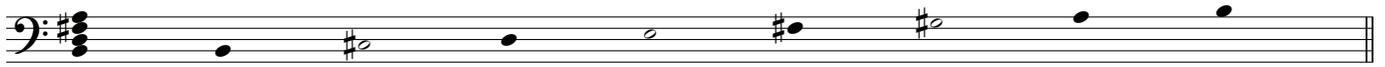
32 A major

67 A^{Δ7} A Ionian scale; mode I



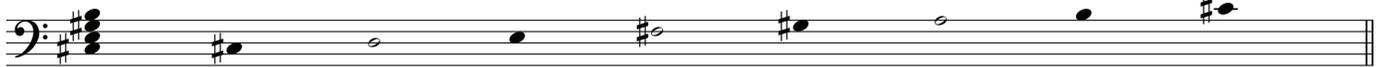
I⁷

68 Bm⁷ B Dorian scale; mode ii



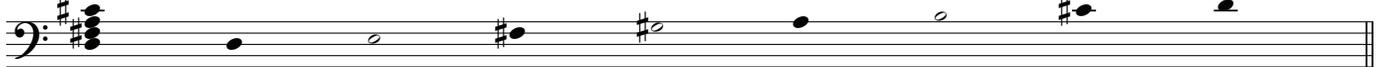
ii⁷

69 C#m⁷ C# Phrygian scale; mode iii



iii⁷

70 D^{Δ7} D Lydian scale; mode IV



IV⁷

71 E⁷ E Mixolydian scale; mode V



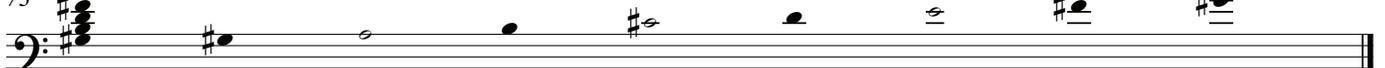
V⁷

72 F#m⁷ F# Aeolian scale; mode vi ("Natural minor")



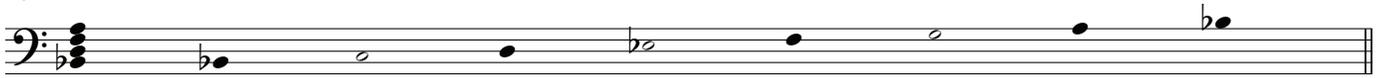
vi⁷

73 G#^{∅7} G# Locrian scale; mode vii



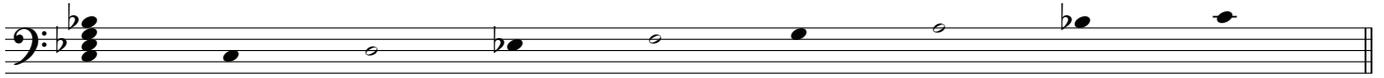
vii^{∅7}

74 B \flat Δ ⁷ B \flat Ionian scale; mode I



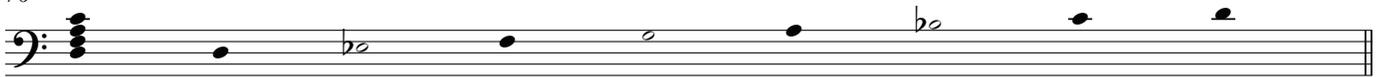
I⁷

75 C m ⁷ C Dorian scale; mode ii



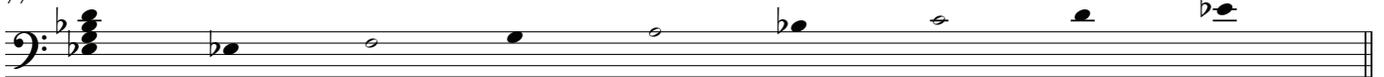
ii⁷

76 D m ⁷ D Phrygian scale; mode iii



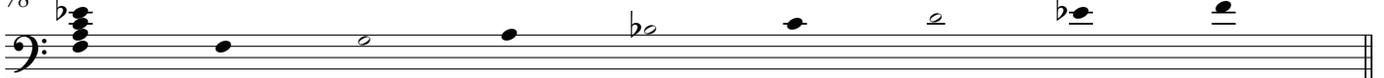
iii⁷

77 E \flat Δ ⁷ E \flat Lydian scale; mode IV



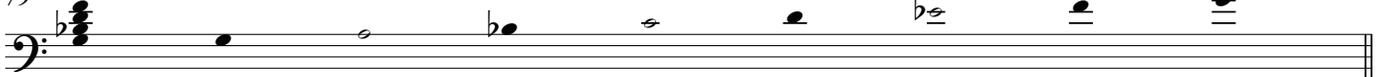
IV⁷

78 F⁷ F Mixolydian scale; mode V



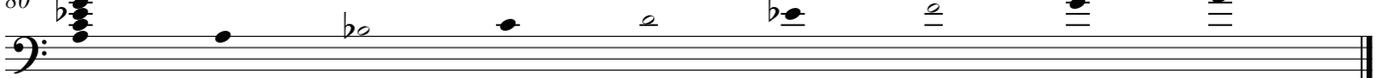
V⁷

79 G m ⁷ G Aeolian scale; mode vi ("Natural minor")



vi⁷

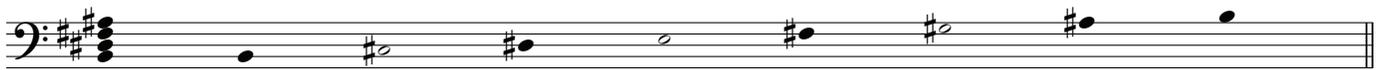
80 A \emptyset ⁷ A Locrian scale; mode vii



vii^{o7}

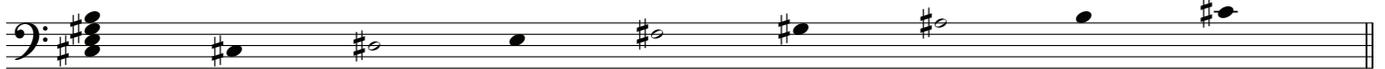
34 **B major**

81 **B^{Δ7} B Ionian scale; mode I**



I⁷

82 **C#m⁷ C# Dorian scale; mode ii**



ii⁷

83 **D#m⁷ D# Phrygian scale; mode iii**



iii⁷

84 **E^{Δ7} E Lydian scale; mode IV**



IV⁷

85 **F#m⁷ F# Mixolydian scale; mode V**



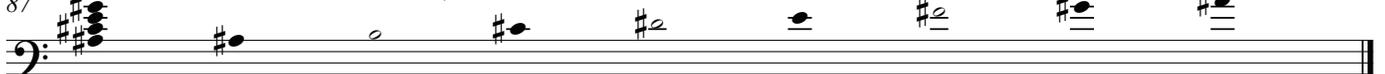
V⁷

86 **G#m⁷ G# Aeolian scale; mode vi ("Natural minor")**



vi⁷

87 **A#^{ø7} A# Locrian scale; mode vii**



vii^{ø7}

Chapter 4- Major Scale Modes (II. Parallel)

Per Chapter 3: 2. Major scale modes can be grouped together in two separate, but equally important ways:

1. **Relative modes**- the group of modes derived from a single scale in a single key.
2. **Parallel modes**- the group of modes derived from different scales in different keys, but sharing a common **root**.

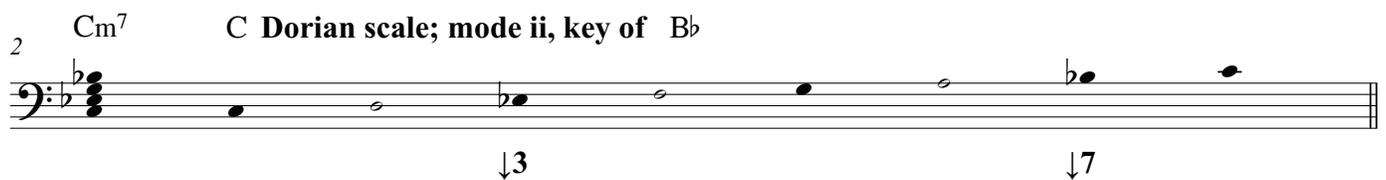
In this chapter, we will be looking at **parallel modes**.

a. Consider the scales **C Ionian** and **C Dorian**:

$C^{\Delta 7}$ **C Ionian scale; mode I**



2 Cm^7 **C Dorian scale; mode ii, key of B \flat**



1. Both **modes** shown in the diagram above are derived from different **major scales**, but share a common **root**, in this case the root **C**.

2. **C Ionian mode** and **C Dorian mode** can be said to be **parallel scales**.

3. The note **C** is known as the **pitch axis** for any mode or scale with the **root C**.

3.1 **Pitch axis theory** is a comparative theory of parallel scales, modes, and arpeggios based on the **major scale** as a "default" scale.

4. For the purposes of comparison, the following notation will be used regarding accidentals:

4.1 When a **natural** note is made **flat** (\flat), it is said to be **lowered** (\downarrow).

4.2 When a **sharp** note is made **natural** (\natural), it is said to be **lowered** (\downarrow).

4.3 When a **natural** note is made **sharp** (\sharp), it is said to be **raised** (\uparrow)

4.4 When a **flat** note is made **natural** (\natural), it is said to be **raised** (\uparrow).

5. Using **Ionian mode (the major scale)** as our "default" scale, we can draw a qualitative comparison between **Ionian** and **Dorian mode**.

5.1 **C Ionian** contains the notes [E] and [B].

5.2 **C Dorian** contains the notes [E \flat] and [B \flat].

5.3 **C Dorian mode** is equivalent to **C Ionian mode** with a

lowered (\flat)3, and **lowered** (\flat)7.

6. This qualitative comparison is known as **analysis**, and can be used to derive **scale formulas**.

6.1 A **scale formula** is a description of a **mode** comparative to its **parallel major scale**.

6.2 The **scale formula** for **Dorian mode** is [\downarrow 3, \downarrow 7].

36 $C^{\Delta 7}$ **C Ionian scale; mode I**

4 Cm^7 **C Phrygian scale; mode iii, key of A^b**

b. **C Ionian mode** and **C Phrygian mode** are **parallel scales**.

1.1 **C Ionian** contains the notes **[D],[E],[A]** and **[B]**.

1.2 **C Phrygian** contains the notes **[D b],[E b],[A b]** and **[B b]**.

2. **C Phrygian mode** is equivalent to **C Ionian mode** with a

lowered (b)2, lowered (b)3,
lowered (b)6, and lowered (b)7.

3 **The scale formula for Phrygian mode is [$\downarrow 2, \downarrow 3, \downarrow 6, \downarrow 7$].**

5 $C^{\Delta 7}$ **C Ionian scale; mode I**

6 $C^{\Delta 7}$ **C Lydian scale; mode IV, key of G**

c. **C Ionian mode** and **C Lydian mode** are **parallel scales**.

1.1 **C Ionian** contains the note **[F]**.

1.2 **C Lydian** contains the note **[F $\#$]**.

2. **C Lydian mode** is equivalent to **C Ionian mode** with a

raised ($\#$)4.

3. **The scale formula for Lydian mode is [$\uparrow 4$].**

7 C^{Δ7} C Ionian scale; mode I

8 C⁷ C Mixolydian scale; mode V, key of F

d. C Ionian mode and C Mixolydian mode are parallel scales.

- 1.1 C Ionian contains the note [B].
- 1.2 C Mixolydian contains the note [Bb].

2. C Mixolydian mode is equivalent to C Ionian mode with a lowered (b)7.

3. The scale formula for Mixolydian mode is [↓7].

9 C^{Δ7} C Ionian scale; mode I

10 Cm⁷ C Aeolian scale; mode vi ("Natural minor"), key of Eb

e. C Ionian mode and C Aeolian mode are parallel scales.

- 1.1 C Ionian contains the notes [E],[A] and [B].
- 1.2 C Aeolian contains the notes [Eb],[Ab] and [Bb].

2. C Aeolian mode is equivalent to C Ionian mode with a lowered (b)3, lowered (b)6, and lowered (b)7.

3. The scale formula for Aeolian mode is [↓3,↓6,↓7].

11 C^{Δ7} C Ionian scale; mode I

12 C^{∅7} C Locrian scale; mode vii, key of D^b

f. C Ionian mode and C Locrian mode are parallel scales.

1.1 C Ionian contains the notes [D],[E],[G],[A] and [B].

1.2 C Locrian contains the notes [D^b],[E^b],[G^b],[A^b] and [B^b].

2. C Locrian mode is equivalent to C Ionian mode with a

lowered (b)2, lowered (b)3,
lowered (b)5, lowered (b)6, and lowered (b)7.

3. The scale formula for Locrian mode is [↓2,↓3,↓5,↓6,↓7].

g. SUMMARY of parallel mode formulas:

1.1 Ionian = [R234567]

1.2 Dorian = [↓3,↓7]

1.3 Phrygian = [↓2,↓3,↓6,↓7]

1.4 Lydian = [↑4]

1.5 Mixolydian = [↓7]

1.6 Aeolian = [↓3,↓6,↓7]

1.7 Locrian = [↓2,↓3,↓5,↓6,↓7]

2. Each parallel mode corresponds to a specific 7th chord, derived from the chord tones contained within the mode.

2.1 The corresponding chord and mode are based on the same root.

Per Chapter 3:

Notes from the mode may be used to improvise melodies over the corresponding chord.

Viewing chords and modes as corresponding pairs is known as the chord-scale approach.

3.1 Accidentals are also known as enharmonic equivalents.

Example: [C[#]] and [D^b] are enharmonic equivalents.

3.2 When studying parallel modes, we often use modes based on enharmonic equivalent roots, depending on what key the mode is derived from.

Examples: [D^b Dorian = C[#] Dorian]; [G^b Aeolian = F[#] Aeolian]

3.3 Enharmonic equivalents are used to reduce the number of accidentals that occur in a scale.

13 C Δ 7 C Ionian scale; mode I

A musical staff in bass clef with a C Δ 7 chord. The scale notes are C, D, E, F, G, A, B, C, all marked with a fermata.

14 Cm7 C Dorian scale; mode ii, key of B \flat

A musical staff in bass clef with a Cm7 chord. The scale notes are C, D, E \flat , F, G, A, B, C, all marked with a fermata. Below the staff, there are two downward-pointing arrows with the numbers 3 and 7.

15 Cm7 C Phrygian scale; mode iii, key of A \flat

A musical staff in bass clef with a Cm7 chord. The scale notes are C, D \flat , E \flat , F, G, A \flat , B \flat , C, all marked with a fermata. Below the staff, there are four downward-pointing arrows with the numbers 2, 3, 6, and 7.

16 C Δ 7 C Lydian scale; mode IV, key of G

A musical staff in bass clef with a C Δ 7 chord. The scale notes are C, D, E, F \sharp , G, A, B, C, all marked with a fermata. Below the staff, there is one upward-pointing arrow with the number 4.

17 C7 C Mixolydian scale; mode V, key of F

A musical staff in bass clef with a C7 chord. The scale notes are C, D, E, F, G, A, B \flat , C, all marked with a fermata. Below the staff, there is one downward-pointing arrow with the number 7.

18 Cm7 C Aeolian scale; mode vi ("Natural minor"), key of E \flat

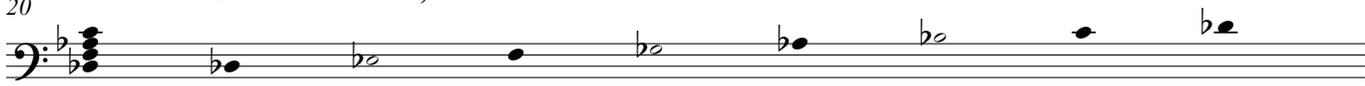
A musical staff in bass clef with a Cm7 chord. The scale notes are C, D, E \flat , F, G, A \flat , B \flat , C, all marked with a fermata. Below the staff, there are three downward-pointing arrows with the numbers 3, 6, and 7.

19 C \emptyset 7 C Locrian scale; mode vii, key of D \flat

A musical staff in bass clef with a C \emptyset 7 chord. The scale notes are C, D \flat , E \flat , F, G \flat , A \flat , B \flat , C, all marked with a fermata. Below the staff, there are six downward-pointing arrows with the numbers 2, 3, 5, 6, and 7.

40 **D^b root**

20 **D^bΔ⁷ D^b Ionian scale; mode I**



21 **C[#]m⁷ C[#] Dorian scale; mode ii, key of B**



↓3
enharmonic equivalent of D^b Dorian

22 **C[#]m⁷ C[#] Phrygian scale; mode iii, key of A**



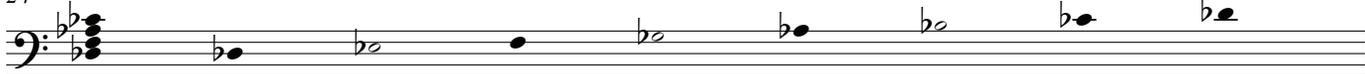
↓2 ↓3 ↓6 ↓7
enharmonic equivalent of D^b Phrygian

23 **D^bΔ⁷ D^b Lydian scale; mode IV, key of A^b**



↑4

24 **D^b7 D^b Mixolydian scale; mode V, key of G^b**



↓7

25 **C[#]m⁷ C[#] Aeolian scale; mode vi ("Natural minor"), key of E**



↓3 ↓6 ↓7
enharmonic equivalent of D^b Aeolian

26 **C[#]Δ⁷ C[#] Locrian scale; mode vii, key of D**



↓2 ↓3 ↓5 ↓6 ↓7
enharmonic equivalent of D^b Locrian

27 D^{Δ7} D Ionian scale; mode I

28 Dm⁷ D Dorian scale; mode ii, key of C

29 Dm⁷ D Phrygian scale; mode iii, key of B^b

30 D^{Δ7} D Lydian scale; mode IV, key of A

31 D⁷ D Mixolydian scale; mode V, key of G

32 Dm⁷ D Aeolian scale; mode vi ("Natural minor"), key of F

33 D^{ø7} D Locrian scale; mode vii, key of E^b

34 Eb^Δ7 Eb Ionian scale; mode I

35 Ebm⁷ Eb Dorian scale; mode ii, key of Db

36 D#m⁷ D# Phrygian scale; mode iii, key of B

enharmonic equivalent of Eb Phrygian

37 Eb^Δ7 Eb Lydian scale; mode IV, key of Bb

38 Eb⁷ Eb Mixolydian scale; mode V, key of Ab

39 Ebm⁷ Eb Aeolian scale; mode vi ("Natural minor"), key of Gb

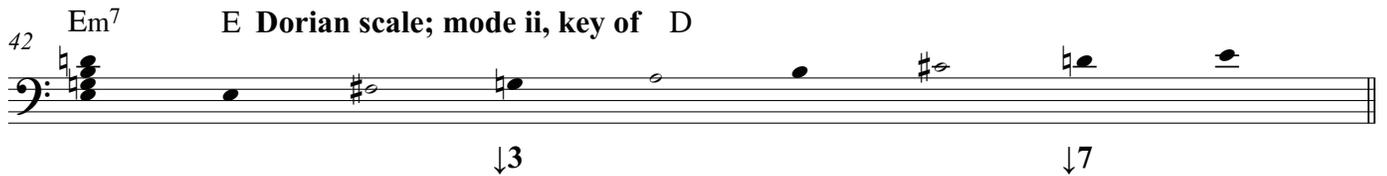
40 D#^ø7 D# Locrian scale; mode vii, key of E

enharmonic equivalent of Eb Locrian

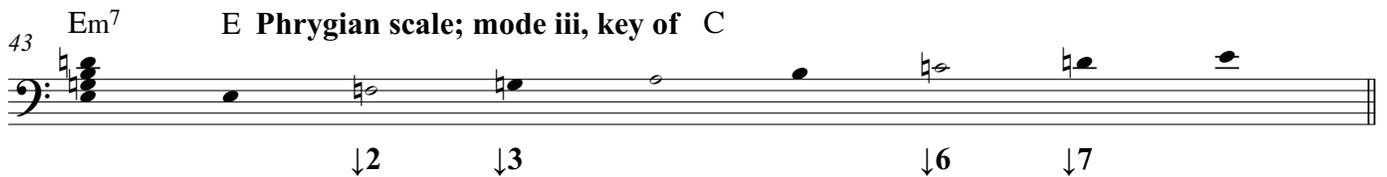
41 E^{Δ7} E Ionian scale; mode I



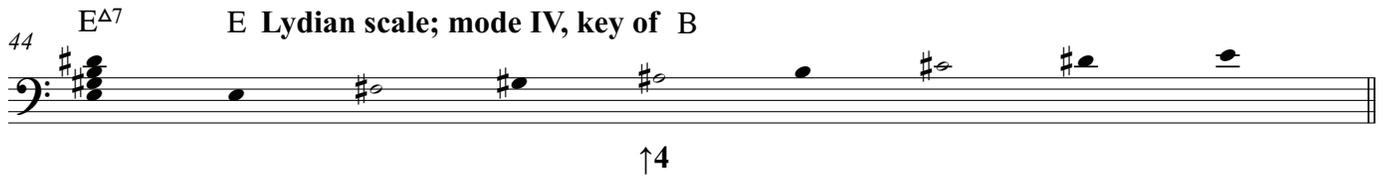
42 Em⁷ E Dorian scale; mode ii, key of D



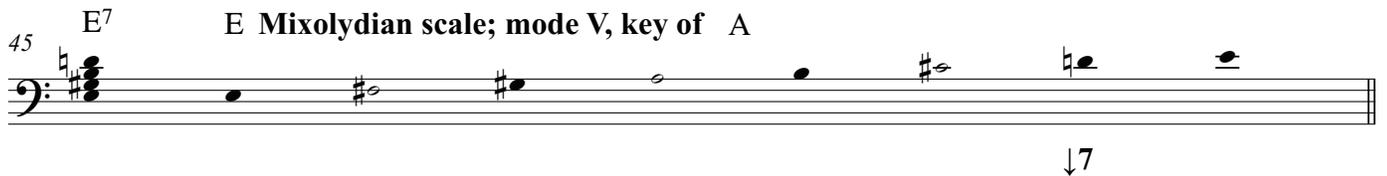
43 Em⁷ E Phrygian scale; mode iii, key of C



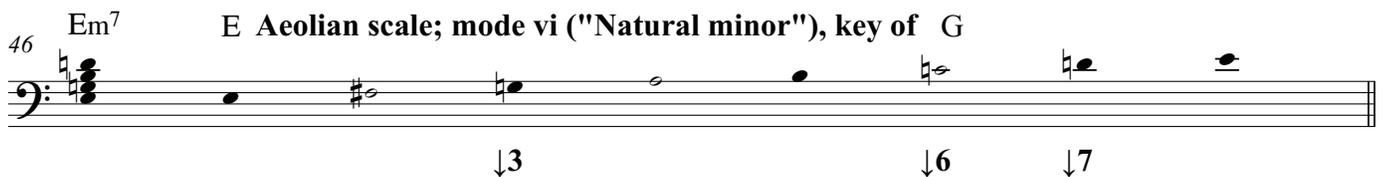
44 E^{Δ7} E Lydian scale; mode IV, key of B



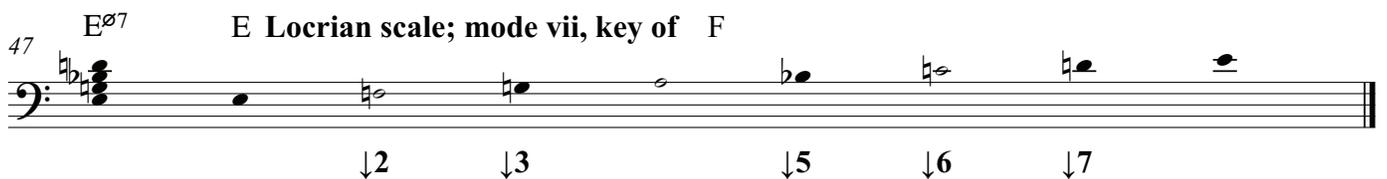
45 E⁷ E Mixolydian scale; mode V, key of A



46 Em⁷ E Aeolian scale; mode vi ("Natural minor"), key of G



47 E^{ø7} E Locrian scale; mode vii, key of F



44 F root

48 F Δ 7 F Ionian scale; mode I

↓3

49 Fm7 F Dorian scale; mode ii, key of Eb

↓3 ↓7

50 Fm7 F Phrygian scale; mode iii, key of Db

↓2 ↓3 ↓6 ↓7

51 F Δ 7 F Lydian scale; mode IV, key of C

↑4

52 F7 F Mixolydian scale; mode V, key of Bb

↓7

53 Fm7 F Aeolian scale; mode vi ("Natural minor"), key of Ab

↓3 ↓6 ↓7

54 F \emptyset 7 F Locrian scale; mode vii, key of Gb

↓2 ↓3 ↓5 ↓6 ↓7

69 **Ab^{Δ7}** **Ab Ionian scale; mode I**

70 **Abm⁷** **Ab Dorian scale; mode ii, key of Gb**

↓3 ↓7

71 **G#m⁷** **G# Phrygian scale; mode iii, key of E**

↓2 ↓3 ↓6 ↓7

enharmonic equivalent of Ab Phrygian

72 **Ab^{Δ7}** **Ab Lydian scale; mode IV, key of Eb**

↑4

73 **Ab⁷** **Ab Mixolydian scale; mode V, key of Db**

↓7

74 **G#m⁷** **G# Aeolian scale; mode vi ("Natural minor"), key of B**

↓3 ↓6 ↓7

enharmonic equivalent of Ab Aeolian

75 **G#ø⁷** **G# Locrian scale; mode vii, key of A**

↓2 ↓3 ↓5 ↓6 ↓7

enharmonic equivalent of Ab Locrian

76 **A^{Δ7}** A Ionian scale; mode I

77 **A^{m7}** A Dorian scale; mode ii, key of G

78 **A^{m7}** A Phrygian scale; mode iii, key of F

79 **A^{Δ7}** A Lydian scale; mode IV, key of E

80 **A⁷** A Mixolydian scale; mode V, key of D

81 **A^{m7}** A Aeolian scale; mode vi ("Natural minor"), key of C

82 **A^{ø7}** A Locrian scale; mode vii, key of Bb

83 B \flat Δ 7 B \flat Ionian scale; mode I

84 B \flat m7 B \flat Dorian scale; mode ii, key of A \flat

85 B \flat m7 B \flat Phrygian scale; mode iii, key of G \flat

86 B \flat Δ 7 B \flat Lydian scale; mode IV, key of F

87 B \flat 7 B \flat Mixolydian scale; mode V, key of E \flat

88 B \flat m7 B \flat Aeolian scale; mode vi ("Natural minor"), key of D \flat

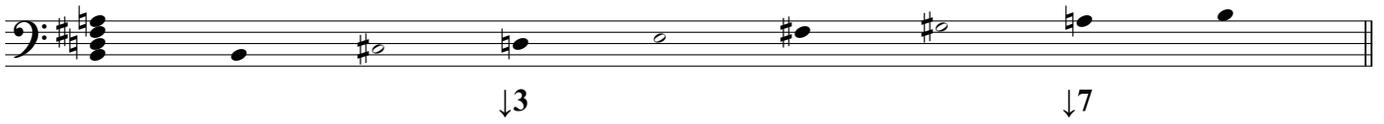
89 A \sharp \emptyset 7 A \sharp Locrian scale; mode vii, key of B

enharmonic equivalent of B \flat Locrian

90 B^{Δ7} B Ionian scale; mode I



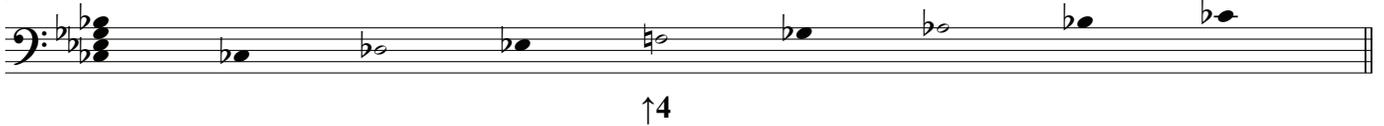
91 Bm⁷ B Dorian scale; mode ii, key of A



92 Bm⁷ B Phrygian scale; mode iii, key of G



93 Cb^{Δ7} Cb Lydian scale; mode IV, key of Gb



enharmonic equivalent of B Lydian

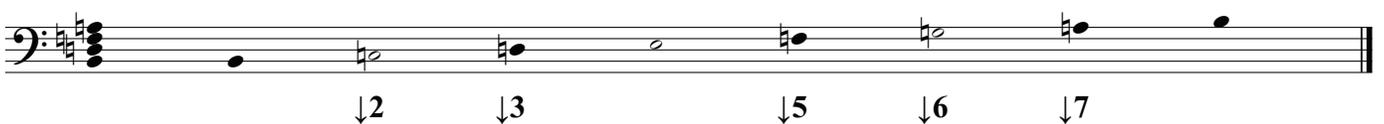
94 B⁷ B Mixolydian scale; mode V, key of E



95 Bm⁷ B Aeolian scale; mode vi ("Natural minor"), key of D



96 B^{ø7} B Locrian scale; mode vii, key of C



Chapter 5- Harmonic analysis part I: Common Major Scale Chord Progressions

Per Chapter 3: c.1. A **parent scale** is the scale from which a set of modes is derived.

a. A **parent scale** is also the scale from which a set of **chords** is derived.

C major is an example of a parent scale:

C major



Per Chapter 2: b.2.1 A **chord** is a harmony containing three (3) or more notes.

b. The **major scale** can be harmonized to produce **chords**.

Per Chapter 2: d. A **7th (seventh) chord** is a harmony containing four (4) notes.

c. **7th chords** are the most common type of chord used in jazz.

d. **Chords** may be organized into **chord progressions**.

1. A **chord progression** is a series or sequence of **chords**, defined in order of appearance from first to last.

1.2 **Chord progressions** are also referred to as **chord changes**.

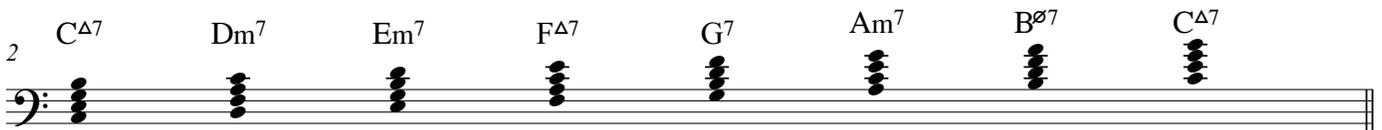
1.3 **Chord progressions** produce the harmonic background which is used to accompany **melodies**.

1.4 **Chord progressions** are also the harmonic background against which soloists **improvise**.

2. A **naturally occurring progression** is the default progression of chords generated by **harmonizing** the notes of a scale in order from first to last, and lowest to highest.

The following example shows the **naturally occurring progression** of **7th chords** produced by **harmonizing** the **major scale**:

7th chords



I ⁷	ii ⁷	iii ⁷	IV ⁷	V ⁷	vi ⁷	vii ^{ø7}	I ⁷
Major7th	minor7th	minor7th	Major7th	Dominant7th	minor7th	half diminished7th	Major7th

e. **Chords** may also be organized into **progressions** in any order that appeals to the composer of a piece of music.

Examples: [I-V-vi-IV]; [IV-vi-iii-V]

In this chapter, we will be looking at **common chord progressions** derived from the **major scale**.

f. **Common chord progressions** are sequences of chords that are predictably found time and again in written music works (such as jazz lead sheets). 9:

1. When and if **chords** in a sequence follow **common chord progressions**, we can determine that all the chords in the sequence are derived from the same **parent scale**.

1.1 **Common chord progressions** may be determined by a process of elimination:

If two or more adjacent **chords** can be traced to a single **parent scale**, then those chords can be said to be **related**, and improvised against using the same **parent scale** and **relative modes**. Only the **chord tones** vary from one chord to the next.

2. Composers often make use of **common chord progressions**.

3. **Common chord progressions** tend to accompany **melodies** which are traditional (and evolutionary) in nature.

4. Composers working in improvisational styles make use of **common chord progressions** in order to allow soloists to apply a **common vocabulary of traditional melodic ideas** when improvising over chord changes.

g. **Analysis** is the study of musical form and structure.

1. **Analysis** includes the study of **chords** and their **parent scales**. This is called **harmonic analysis**.

1.1 One of the most important functions of **analysis** is determining the **Roman numeral** identity of a chord based on its place in the **naturally occurring progression** of its **parent scale**.

1.2 **Chords** in written music works are often used in contexts in which their **parent scales** are not readily obvious. The challenge of analysis is tracing isolated chords back to their parent scales.

1.3 **Chords** can often be traced back to more than one potential **parent scale**, as many scales share certain types of chords.

2. Analysis of the **naturally occurring progression** of a major scale can be represented by the **Roman numeral** values corresponding to each chord's place in the scale:

[I-ii-iii-IV-V-vi-vii]

3. Any **chord progression** can be represented by a series of **Roman numerals**.

3.1 **Roman numeral analysis** reduces a chord progression to a series of **Roman numerals** corresponding to each chord's place in the scale from which it is derived.

Examples: [I-ii-vi-IV-ii-V]; [iii-vi-IV-V-I]; [I-V-vi-IV]; [IV-vi-iii-V]

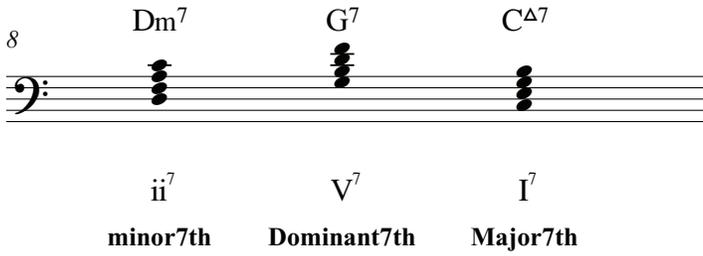
4. Studying **common chord progressions** is a useful tool for determining which scales, modes, and chord tones to use when soloing over a given chart, lead sheet, or other written music work.

4.1 **Common chord progressions** and their accompanying scales should be committed to memory in order to achieve the best results when improvising.

4.2 When **common chord progressions** are committed to memory, it becomes easier to identify the appropriate scale choices for soloing over a given chart, lead sheet, or other written music work.

3. [ii-V-I] progression

8



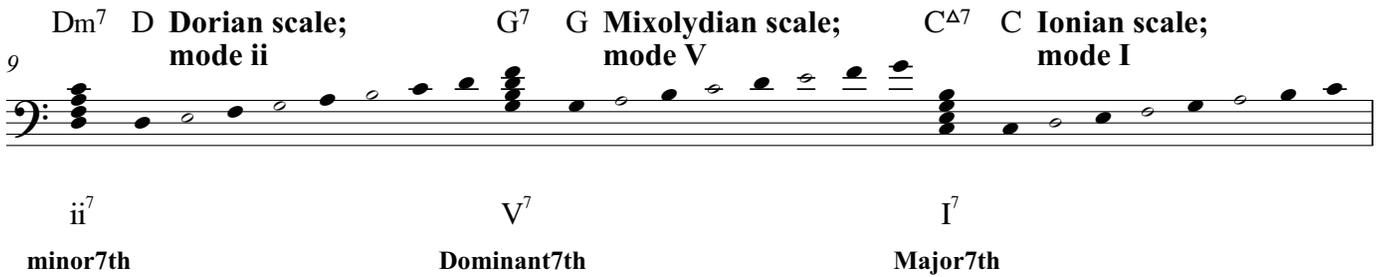
Dm⁷ G⁷ C^{Δ7}

ii⁷ V⁷ I⁷

minor7th Dominant7th Major7th

Corresponding modes and chord tones

9



Dm⁷ D Dorian scale; mode ii G⁷ G Mixolydian scale; mode V C^{Δ7} C Ionian scale; mode I

ii⁷ V⁷ I⁷

minor7th Dominant7th Major7th

3.1 The previous example is a **[ii-V-I] chord progression**, pronounced "two-five-one." This progression is known as a **[ii-V-I] turnaround**.

3.2 The **[ii] chord**, **[V] chord**, and **[I] chord** are all derived from the same **parent scale**.

3.3 Prior statements 2.3 and 2.4 apply.

4. [iii-vi-ii-V-I] progression

10

Em⁷ Am⁷ Dm⁷ G⁷ C^{Δ7}

iii⁷ vi⁷ ii⁷ V⁷ I⁷

minor7th minor7th minor7th Dominant7th Major7th

Corresponding modes and chord tones

13

Em⁷ E Phrygian scale; mode iii

Am⁷ A Aeolian scale; mode vi ("Natural minor")

iii⁷ vi⁷

minor7th minor7th

14

Dm⁷ D Dorian scale; mode ii

G⁷ G Mixolydian scale; mode V

C^{Δ7} C Ionian scale; mode I

ii⁷ V⁷ I⁷

minor7th Dominant7th Major7th

4.1 The previous example is a **[iii-vi-ii-V-I] chord progression**, pronounced "three-six-two-five-one." This progression is known as a **[iii-vi-ii-V-I] turnaround**.

4.2 This progression is also known as a **falling 5ths progression**, as the root notes of each chord [E-A-D-G-C] are 5 letters apart descending through the musical alphabet:

[E-D-C-B-A-G-F-E-D-C-B-A-G-F-E-D-C]

4.3 Prior statements 2.3 and 2.4 apply.

5. [IV-vii-iii-vi-ii-V-I] progression

16

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷
 Major7th half diminished7th minor7th minor7th minor7th Dominant7th Major7th

Corresponding modes and chord tones

20

F^{Δ7} F Lydian scale; mode IV B^{ø7} B Locrian scale; mode vii

IV⁷ vii^{ø7}
 Major7th half diminished7th

21

Em⁷ E Phrygian scale; mode iii Am⁷ A Aeolian scale; mode vi ("Natural minor")

iii⁷ vi⁷
 minor7th minor7th

22

Dm⁷ D Dorian scale; mode ii G⁷ G Mixolydian scale; mode V C^{Δ7} C Ionian scale; mode I

ii⁷ V⁷ I⁷
 minor7th Dominant7th Major7th

5.1 The previous example is a [IV-vii-iii-vi-ii-V-I] chord progression, pronounced "four-seven-three-six-two-five-one."

5.2 This progression is also a **falling 5ths progression**; the root notes of each chord [F-B-E-A-D-G-C] are 5 letters apart descending through the musical alphabet:

[F-E-D-C-B-A-G-F-E-D-C-B-A-G-F-E-D-C-B-A-G-F-E-D-C]

5.3 Prior statements 2.3 and 2.4 apply.

6. [ii-V-I-IV-vii-iii-vi] progression

24

Dm⁷ G⁷ C^{Δ7} F^{Δ7} B^{ø7} Em⁷ Am⁷

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

minor7th Dominant7th Major7th Major7th half diminished7th minor7th minor7th

Corresponding **modes** and **chord tones**

28

Dm⁷ D Dorian scale; mode ii G⁷ G Mixolydian scale; mode V

ii⁷ V⁷

minor7th Dominant7th

29

C^{Δ7} C Ionian scale; mode I F^{Δ7} F Lydian scale; mode IV

I⁷ IV⁷

Major7th Major7th

30

B^{ø7} B Locrian scale; mode vii Em⁷ E Phrygian scale; mode iii Am⁷ A Aeolian scale; mode vi ("Natural minor")

vii^{ø7} iii⁷ vi⁷

half diminished7th minor7th minor7th

6.1 The previous example is a **[ii-V-I-IV-vii-iii-vi] chord progression**, pronounced "two-five-one-four-seven-three-six."

6.2 This progression is also a **falling 5ths progression**.

6.3 Prior statements 2.3 and 2.4 apply.

7. [I-iii-vi-IV-ii-V-vii-I] progression

32 C^{Δ7} Em⁷ Am⁷ F^{Δ7} Dm⁷ G⁷ B^{ø7} C^{Δ7}

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷
 Major7th minor7th minor7th Major7th minor7th Dominant7th half diminished7th Major7th

Corresponding modes and chord tones

36 C^{Δ7} C Ionian scale; mode I Em⁷ E Phrygian scale; mode iii

I⁷ iii⁷
 Major7th minor7th

37 Am⁷ A Aeolian scale; mode vi ("Natural minor") F^{Δ7} F Lydian scale; mode IV

vi⁷ IV⁷
 minor7th Major7th

38 Dm⁷ D Dorian scale; mode ii G⁷ G Mixolydian scale; mode V

ii⁷ V⁷
 minor7th Dominant7th

39 B^{ø7} B Locrian scale; mode vii C^{Δ7} C Ionian scale; mode I

vii^{ø7} I⁷
 half diminished7th Major7th

7.1 The previous example is a [I-iii-vi-IV-ii-V-vii-I] chord progression, pronounced "one-three-six-four-two-five-seven-one." Variations of this progression are frequently found in classically influenced music; the progression evolved out of the rules of four-part choral writing.

7.2 Prior statements 2.3 and 2.4 apply.

60 j. Parent scales and common chord progressions in all keys
(corresponding modes and chord tones omitted):

C Major

1. [V-I] progression

G⁷ C^{Δ7}

40

V⁷ I⁷

2. [IV-V-I] progression

F^{Δ7} G⁷ C^{Δ7}

IV⁷ V⁷ I⁷

3. [ii-V-I] progression

Dm⁷ G⁷ C^{Δ7}

42

ii⁷ V⁷ I⁷

4. [iii-vi-ii-V-I] progression

Em⁷ Am⁷ Dm⁷ G⁷ C^{Δ7}

iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

F^{Δ7} B^{ø7} Em⁷ Am⁷ Dm⁷ G⁷ C^{Δ7}

46

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

Dm⁷ G⁷ C^{Δ7} F^{Δ7} B^{ø7} Em⁷ Am⁷

50

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

C^{Δ7} Em⁷ Am⁷ F^{Δ7} Dm⁷ G⁷ B^{ø7} C^{Δ7}

54

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

1. [V-I] progression

2. [IV-V-I] progression

58

V⁷ I⁷ IV⁷ V⁷ I⁷

3. [ii-V-I] progression

4. [iii-vi-ii-V-I] progression

60

ii⁷ V⁷ I⁷ iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

64

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

68

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

72

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

62 D Major

1. [V-I] progression

A⁷ D^{Δ7}

V⁷ I⁷

2. [IV-V-I] progression

G^{Δ7} A⁷ D^{Δ7}

IV⁷ V⁷ I⁷

3. [ii-V-I] progression

Em⁷ A⁷ D^{Δ7}

ii⁷ V⁷ I⁷

4. [iii-vi-ii-V-I] progression

F#m⁷ Bm⁷ Em⁷ A⁷ D^{Δ7}

iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

G^{Δ7} C#^{ø7} F#m⁷ Bm⁷ Em⁷ A⁷ D^{Δ7}

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

Em⁷ A⁷ D^{Δ7} G^{Δ7} C#^{ø7} F#m⁷ Bm⁷

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

D^{Δ7} F#m⁷ Bm⁷ G^{Δ7} Em⁷ A⁷ C#^{ø7} D^{Δ7}

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

1. [V-I] progression

2. [IV-V-I] progression

94

V⁷

I⁷

IV⁷

V⁷

I⁷

3. [ii-V-I] progression

4. [iii-vi-ii-V-I] progression

96

ii⁷

V⁷

I⁷

iii⁷

vi⁷

ii⁷

V⁷

I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

100

IV⁷

vii^{ø7}

iii⁷

vi⁷

ii⁷

V⁷

I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

104

ii⁷

V⁷

I⁷

IV⁷

vii^{ø7}

iii⁷

vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

108

I⁷

iii⁷

vi⁷

IV⁷

ii⁷

V⁷

vii^{ø7}

I⁷

1. [V-I] progression

B⁷ E^{Δ7}

2. [IV-V-I] progression

A^{Δ7} B⁷ E^{Δ7}

112

V⁷ I⁷ IV⁷ V⁷ I⁷

3. [ii-V-I] progression

F#m⁷ B⁷ E^{Δ7}

4. [iii-vi-ii-V-I] progression

G#m⁷ C#m⁷ F#m⁷ B⁷ E^{Δ7}

114

ii⁷ V⁷ I⁷ iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

A^{Δ7} D#^{ø7} G#m⁷ C#m⁷ F#m⁷ B⁷ E^{Δ7}

118

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

F#m⁷ B⁷ E^{Δ7} A^{Δ7} D#^{ø7} G#m⁷ C#m⁷

122

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

E^{Δ7} G#m⁷ C#m⁷ A^{Δ7} F#m⁷ B⁷ D#^{ø7} E^{Δ7}

126

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

1. [V-I] progression

C⁷ F^{Δ7}

2. [IV-V-I] progression

B^bΔ⁷ C⁷ F^{Δ7}

130

V⁷ I⁷ IV⁷ V⁷ I⁷

3. [ii-V-I] progression

Gm⁷ C⁷ F^{Δ7}

4. [iii-vi-ii-V-I] progression

Am⁷ Dm⁷ Gm⁷ C⁷ F^{Δ7}

132

ii⁷ V⁷ I⁷ iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

B^bΔ⁷ E^{ø7} Am⁷ Dm⁷ Gm⁷ C⁷ F^{Δ7}

136

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

Gm⁷ C⁷ F^{Δ7} B^bΔ⁷ E^{ø7} Am⁷ Dm⁷

140

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

F^{Δ7} Am⁷ Dm⁷ B^bΔ⁷ Gm⁷ C⁷ E^{ø7} F^{Δ7}

144

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

1. [V-I] progression

Db⁷ Gb^{Δ7}

2. [IV-V-I] progression

Cb^{Δ7} Db⁷ Gb^{Δ7}

148

V⁷

I⁷

IV⁷

V⁷

I⁷

3. [ii-V-I] progression

Abm⁷ Db⁷ Gb^{Δ7}

4. [iii-vi-ii-V-I] progression

Bbm⁷ Ebm⁷ Abm⁷ Db⁷ Gb^{Δ7}

150

ii⁷

V⁷

I⁷

iii⁷

vi⁷

ii⁷

V⁷

I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

Cb^{Δ7} F^{ø7} Bbm⁷ Ebm⁷ Abm⁷ Db⁷ Gb^{Δ7}

154

IV⁷

vii^{ø7}

iii⁷

vi⁷

ii⁷

V⁷

I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

Abm⁷ Db⁷ Gb^{Δ7} Cb^{Δ7} F^{ø7} Bbm⁷ Ebm⁷

158

ii⁷

V⁷

I⁷

IV⁷

vii^{ø7}

iii⁷

vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

Gb^{Δ7} Bbm⁷ Ebm⁷ Cb^{Δ7} Abm⁷ Db⁷ F^{ø7} Gb^{Δ7}

162

I⁷

iii⁷

vi⁷

IV⁷

ii⁷

V⁷

vii^{ø7}

I⁷

G Major

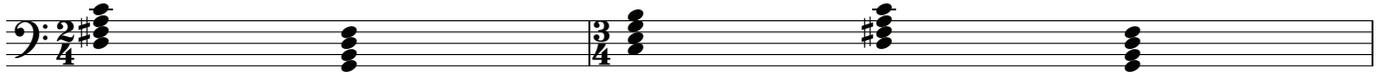
1. [V-I] progression

D⁷ G^{Δ7}

2. [IV-V-I] progression

C^{Δ7} D⁷ G^{Δ7}

166



V⁷ I⁷ IV⁷ V⁷ I⁷

3. [ii-V-I] progression

Am⁷ D⁷ G^{Δ7}

4. [iii-vi-ii-V-I] progression

Bm⁷ Em⁷ Am⁷ D⁷ G^{Δ7}

168



ii⁷ V⁷ I⁷ iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

C^{Δ7} F^{♯ø7} Bm⁷ Em⁷ Am⁷ D⁷ G^{Δ7}

172



IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

Am⁷ D⁷ G^{Δ7} C^{Δ7} F^{♯ø7} Bm⁷ Em⁷

176



ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

G^{Δ7} Bm⁷ Em⁷ C^{Δ7} Am⁷ D⁷ F^{♯ø7} G^{Δ7}

180



I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

1. [V-I] progression

E^b7 A^bΔ7

2. [IV-V-I] progression

D^bΔ7 E^b7 A^bΔ7

184

V⁷ I⁷ IV⁷ V⁷ I⁷

3. [ii-V-I] progression

B^bm7 E^b7 A^bΔ7

4. [iii-vi-ii-V-I] progression

Cm7 Fm7 B^bm7 E^b7 A^bΔ7

186

ii⁷ V⁷ I⁷ iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

D^bΔ7 G^ø7 Cm7 Fm7 B^bm7 E^b7 A^bΔ7

190

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

B^bm7 E^b7 A^bΔ7 D^bΔ7 G^ø7 Cm7 Fm7

194

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

A^bΔ7 Cm7 Fm7 D^bΔ7 B^bm7 E^b7 G^ø7 A^bΔ7

198

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

A Major

1. [V-I] progression

E⁷ A^{Δ7}

202

V⁷ I⁷

2. [IV-V-I] progression

D^{Δ7} E⁷ A^{Δ7}

IV⁷ V⁷ I⁷

3. [ii-V-I] progression

Bm⁷ E⁷ A^{Δ7}

204

ii⁷ V⁷ I⁷

4. [iii-vi-ii-V-I] progression

C#m⁷ F#m⁷ Bm⁷ E⁷ A^{Δ7}

iii⁷ vi⁷ ii⁷ V⁷ I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

D^{Δ7} G#^{ø7} C#m⁷ F#m⁷ Bm⁷ E⁷ A^{Δ7}

208

IV⁷ vii^{ø7} iii⁷ vi⁷ ii⁷ V⁷ I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

Bm⁷ E⁷ A^{Δ7} D^{Δ7} G#^{ø7} C#m⁷ F#m⁷

212

ii⁷ V⁷ I⁷ IV⁷ vii^{ø7} iii⁷ vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

A^{Δ7} C#m⁷ F#m⁷ D^{Δ7} Bm⁷ E⁷ G#^{ø7} A^{Δ7}

216

I⁷ iii⁷ vi⁷ IV⁷ ii⁷ V⁷ vii^{ø7} I⁷

70 B \flat Major

1. [V-I] progression

F 7 B $\flat\Delta^7$

220

V 7 I 7

2. [IV-V-I] progression

E $\flat\Delta^7$ F 7 B $\flat\Delta^7$

IV 7 V 7 I 7

3. [ii-V-I] progression

Cm 7 F 7 B $\flat\Delta^7$

222

ii 7 V 7 I 7

4. [iii-vi-ii-V-I] progression

Dm 7 Gm 7 Cm 7 F 7 B $\flat\Delta^7$

iii 7 vi 7 ii 7 V 7 I 7

5. [IV-vii-iii-vi-ii-V-I] progression

E $\flat\Delta^7$ A $^{\circ 7}$ Dm 7 Gm 7 Cm 7 F 7 B $\flat\Delta^7$

226

IV 7 vii $^{\circ 7}$ iii 7 vi 7 ii 7 V 7 I 7

6. [ii-V-I-IV-vii-iii-vi] progression

Cm 7 F 7 B $\flat\Delta^7$ E $\flat\Delta^7$ A $^{\circ 7}$ Dm 7 Gm 7

230

ii 7 V 7 I 7 IV 7 vii $^{\circ 7}$ iii 7 vi 7

7. [I-iii-vi-IV-ii-V-vii-I] progression

B $\flat\Delta^7$ Dm 7 Gm 7 E $\flat\Delta^7$ Cm 7 F 7 A $^{\circ 7}$ B $\flat\Delta^7$

234

I 7 iii 7 vi 7 IV 7 ii 7 V 7 vii $^{\circ 7}$ I 7

B Major

1. [V-I] progression

F#7 BΔ7

238

V⁷I⁷

2. [IV-V-I] progression

EΔ7 F#7 BΔ7

IV⁷V⁷I⁷

3. [ii-V-I] progression

C#m7 F#7 BΔ7

240

ii⁷V⁷I⁷

4. [iii-vi-ii-V-I] progression

D#m7 G#m7 C#m7 F#7 BΔ7

iii⁷vi⁷ii⁷V⁷I⁷

5. [IV-vii-iii-vi-ii-V-I] progression

EΔ7 A#ø7 D#m7 G#m7 C#m7 F#7 BΔ7

244

IV⁷vii^{ø7}iii⁷vi⁷ii⁷V⁷I⁷

6. [ii-V-I-IV-vii-iii-vi] progression

C#m7 F#7 BΔ7 EΔ7 A#ø7 D#m7 G#m7

248

ii⁷V⁷I⁷IV⁷vii^{ø7}iii⁷vi⁷

7. [I-iii-vi-IV-ii-V-vii-I] progression

BΔ7 D#m7 G#m7 EΔ7 C#m7 F#7 A#ø7 BΔ7

252

I⁷iii⁷vi⁷IV⁷ii⁷V⁷vii^{ø7}I⁷

Chapter 6- Harmonic analysis part II: Unrelated Chords

A Discussion of Harmonic Analysis

♭

a. **Harmonic analysis** is the process of examining **chord progressions** in music, and determining the **parent scale** of each chord in order to better interpret and/or improvise melodies.

1. It is important to regularly study **jazz charts**, and determine what **scales** may be used to **improvise** over the individual **chords** of each tune.

2. **Harmonic analysis** typically begins with the assumption that individual **chords** and/or **chord progressions** can be traced back to a specific **scale** or **key**. This is generally true.

2.1 **HOWEVER**, chord progressions in most jazz standards cannot be analyzed as being in a single **major** or **minor key**. In point of fact, the following is true:

Most jazz charts change keys and scales often, without any indication as to scale or key other than the chord symbols.

2.2 You cannot rely on key signatures in jazz charts to tell you what key you are in, or what scales you need to use to improvise.

2.3 You need to rely on the chord symbols and the melody of the tune to determine what scales are best used for improvising.

MOST IMPORTANT:

3. Often, each chord in a progression is derived from a different parent scale than the adjacent chords.

3.1 **If each chord** in a progression is derived from a different **parent scale** than the adjacent chords, **then each chord** in the progression can be said to be **unrelated** to the adjacent chords.

3.2 **If each chord** in a progression can be said to be **unrelated** to the adjacent chords, **then each chord** requires a different **mode** and set of **chord tones** than the adjacent chords.

EXAMPLES:

Example 1: [G7-C7-D7-Eb7]

This **chord progression** is made up entirely of **dominant 7th chords**. As each major scale contains only one **dominant 7th chord** when harmonized, logic dictates that each **chord** is derived from a different **parent scale**, and therefore each chord requires a different **mode** to solo against the chord.

The most common choice for soloing against **dominant 7th chords** is the **Mixolydian mode**.

3 G^7 G Mixolydian scale; mode V, key of C

4 C^7 C Mixolydian scale; mode V, key of F

5 D^7 D Mixolydian scale; mode V, key of G

6 E^b7 E^b Mixolydian scale; mode V, key of A^b

Each chord in this progression uses a **Mixolydian mode** that is derived from a different **parent scale** ($G^7 = C$ major; $C^7 = F$ Major; $D^7 = G$ major; $E^b7 = A^b$ major). Therefore, soloing over each **chord** requires moving to a different **key** for each chord.

74 **Example 2**

Like example 1, this **chord progression** is made up entirely of **dominant 7th chords**.

The most common choice for soloing against **dominant 7th chords** is the **Mixolydian mode**.

enharmonic equivalent of $G\flat$ Mixolydian

ETC.

While our modal choices may seem obvious when dealing with **dominant 7th chords**, there is often a certain amount of ambiguity in determining which modes may be used to solo over certain chords, as we will see in **example 3**.

Mode choices for **major scale chords** may be summarized by the following list:

1. **Major 7th chords** = Ionian [I]; Lydian [IV]
2. **Minor 7th chords** = Dorian [ii]; Phrygian [iii]; Aeolian [vi]
3. **Dominant 7th chords** = Mixolydian [V]
4. **Half-diminished 7th chords** = Locrian [vii]

Some of these chords will have additional mode choices when we study **minor scale modes**.

Example 3: [Dm7-Ebm7]

11 Dm⁷ Eb^{m7}

This **chord progression** is made up entirely of **minor 7th chords**.

As each major scale contains three **minor 7th chords** when harmonized, there are three possible **modes** that can be used to solo against any **minor 7th chord**. These are:

1. **Dorian** mode;
2. **Phrygian** mode;
3. **Aeolian** mode.

12 Dm⁷ D Dorian scale; mode ii, key of C

13 Eb^{m7} Eb Dorian scale; mode ii, key of Db

14 Dm⁷ D Phrygian scale; mode iii, key of Bb

15 D#m⁷ D# Phrygian scale; mode iii, key of B

enharmonic equivalent of Eb Phrygian

16 Dm⁷ D Aeolian scale; mode vi ("Natural minor"), key of F

17 Eb^{m7} Eb Aeolian scale; mode vi ("Natural minor"), key of Gb

76 **Example 4: [D7sus-F7sus-E \flat 7sus-D \flat 7sus]**

The image shows a musical staff in bass clef with four chords. Above the staff, the chords are labeled: D⁷SUS, F⁷SUS, E \flat ⁷SUS, and D \flat ⁷SUS. The first chord, D⁷SUS, is on a treble clef staff with a bass clef below it, and is labeled '18'. The second chord, F⁷SUS, has a flat sign above the staff. The third chord, E \flat ⁷SUS, has a flat sign above the staff. The fourth chord, D \flat ⁷SUS, has a flat sign above the staff. Each chord is represented by a group of notes on the staff.

This **chord progression** is made up entirely of **7th sus (suspended) chords**.

7th sus chords are a type of chord in which the **major 3rd** or **minor 3rd** has been replaced by the **2nd** (in this case) or **4th** note of the scale, and are therefore neither **major** nor **minor** in quality.

(**Additional chord tones** are explained more thoroughly in Chapter 7).

D7sus is harmonically equivalent to both **D7** and **Dm7**, due to the absence of a **M3** or **m3**.

As a result, there is more than one appropriate **mode** choice for each chord.

Two possible choices for soloing against **7th sus chords** are:

1. the **Mixolydian mode**;
2. the **Dorian mode**.

The following pages carry the previous diagram through the remaining 11 keys.
Flat and **sharp** notes may also be spelled as **natural** (#).

Key of D \flat

4

MAJOR

R 2 3 4 5 6 7
 9 11 13

Flat

MINOR

\flat 9 \flat 3 \flat 5 \flat 6 \flat 7
 \flat 13

Sharp

\sharp 9 \sharp 11 \sharp 5 \sharp 6 \sharp 13

Key of D

5

MAJOR

R 2 3 4 5 6 7
 9 11 13

Flat

MINOR

\flat 9 \flat 3 \flat 5 \flat 6 \flat 7
 \flat 13

Sharp

\sharp 9 \sharp 11 \sharp 5 \sharp 6 \sharp 13

Key of E \flat

6

MAJOR

R 2 3 4 5 6 7
 9 11 13

Flat

MINOR

\flat 9 \flat 3 \flat 5 \flat 6 \flat 7
 \flat 13

Sharp

\sharp 9 \sharp 11 \sharp 5 \sharp 6 \sharp 13

Key of E

7

MAJOR

R 2 3 4 5 6 7
9 11 13

Flat
b9 b3 b5 b6 b7
b13

Sharp
#9 #11 #5 #6 #13

Key of F

8

MAJOR

R 2 3 4 5 6 7
9 11 13

Flat
b9 b3 b5 b6 b7
b13

Sharp
#9 #11 #5 #6 #13

Key of F#

9

MAJOR

R 2 3 4 5 6 7
9 11 13

Flat
b9 b3 b5 b6 b7
b13

Sharp
#9 #11 #5 #6 #13

Key of G

10

MAJOR

MINOR

R 2 3 4 5 6 7

Flat 9 11 13

Sharp 9 11 5 6 13

Key of Ab

11

MAJOR

MINOR

R 2 3 4 5 6 7

Flat 9 11 13

Sharp 9 11 5 6 13

Key of A

12

MAJOR

MINOR

R 2 3 4 5 6 7

Flat 9 11 13

Sharp 9 11 5 6 13

Key of B \flat

13

MAJOR

R 2 3 4 5 6 7

9 11 13

Flat

b9 b3 b5 b6 b7

b13

Sharp

#9 #11 #5 #6 #13

Key of B

14

MAJOR

R 2 3 4 5 6 7

9 11 13

Flat

b9 b3 b5 b6 b7

b13

Sharp

#9 #11 #5 #6 #13

Chapter 8- Basic Chord Construction

a. In the same manner that modes can be studied in both their **relative** and **parallel** contexts, chords may also be studied in both **relative** and **parallel** contexts.

1. We have seen that every **major scale** produces the following **naturally occurring progression**, **relative** to each major key:

[I-ii-iii-IV-V-vi-vii]

2. In this chapter, we are studying every **triad** and **7th chord** in their **parallel** contexts, as they are constructed against a single root.

Key of C

TRIADS

C	Cm	C ^o	C ⁺	C(sus4)	C(sus2)
M	m	d	A		

Major	minor	diminished	Augmented	Suspended4th	Suspended2nd
5	5	b5	#5	5	5
3	b3	b3	3	4	2
R	R	R	R	R	R

7th CHORDS

2

C ^Δ 7	C ⁷	Cm ⁷	C ^ø 7	C ^o 7
------------------	----------------	-----------------	------------------	------------------

Major7th	Dominant7th	Minor7th	Half-diminished7th	Diminished7th
7	b7	b7	b7	bb7
5	5	5	b5	b5
3	3	b3	b3	b3
R	R	R	R	R

ALTERED 7th CHORDS

3

Cm(maj7)	Cmaj7(#5)	Cmaj7(b5)	Cmaj7	C7(#5)	C7(b5)
----------	-----------	-----------	-------	--------	--------

Minor-major7th	Major7th(#5)	Major7th(b5)	Diminished-Maj7th	Dominant7th(#5)	Dominant7th(b5)
7	7	7	7	b7	b7
5	#5	b5	b5	#5	b5
b3	3	3	b3	3	3
R	R	R	R	R	R

Per Chapter 3:

5.3 **Chord tones** and **passing tones** within a scale are often referred to as **inside notes**.

b:

Per Chapter 3:

6. An **outside note** is any note that is not a part of the **chord** or its corresponding **mode**.

b. An **inside note** is a melody note that corresponds directly to any one of the notes in an underlying chord.

1. In order to play the **inside notes** of any given chord, we must know what notes any given chord symbol on a chart indicates.

1.1 **7** = the **7th** of a chord. A 7th may be **natural, flat, or double-flat**.

1.2 **5** = the **5th** of a chord. A 5th may be **natural, altered sharp, or altered flat**.

1.3 **3** = the **3rd** of a chord. A 3rd may be **Major** or **minor**.

1.4 **R** = the **root** of a chord. The root of a chord indicates the **scale** or **mode** the chord is based on.

1.5 **4** = the **4th** of a chord. A 4th may be **added** or **suspended**.

Suspended means "in place of the 3rd of a chord."

1.5 **2** = the **2nd** of a chord. A 2nd may be **added** or **suspended**.

Per Chapter 7:

b. All **harmonic analysis** assumes the function of every note in the **chromatic scale** in relation to the **Major scale**.

2. **Chord tones** are analyzed respective to their position within the **major scale** of the **root** of the **chord**.

2.1 The **major scale** is the assumed underlying structure of all **harmonic analysis**.

2.2 The name of each chord type is partly evolutionary, and partly based on logic.

2.2.1 The terms "**Major**" and "**minor**," for instance, mean "**large**" and "**small**", and are used to distinguish between the **3rd** note of a **major scale** (four half-steps from the root), and the **lowered** or **flatted 3rd** of a **minor scale** (three half-steps from the root).

2.2.2 There are etymological, mathematical, and scientific reasons behind all musical terms, not all of which are readily apparent on the surface, and some of which require a study of acoustic physics to determine their origins.

2.2.3 The best strategy for understanding the differences between chords types is not to over-analyze the specific terminology, but rather to simply commit each chord type and its corresponding note values to memory, as you would a vocabulary list. The terminology merely serves to mark the difference between one chord type and the next.

The following pages show all **triads, 7th chords, and altered 7th chords** in the remaining 11 keys.

Key of D \flat

TRIADS

5

D \flat M D \flat m m D \flat $^\circ$ d D \flat $^+$ A D \flat (sus4) D \flat (sus2)

7th CHORDS

6

D \flat Δ 7 D \flat 7 C \sharp m7 C \sharp \emptyset 7 C \sharp \circ 7

ALTERED 7th CHORDS

7

C \sharp m(maj7) D \flat maj7(\sharp 5) D \flat maj7(b5) C \sharp \circ maj7 D \flat 7(\sharp 5) D \flat 7(b5)

Key of D

TRIADS

8

D M Dm m D $^\circ$ d D $^+$ A D(sus4) D(sus2)

7th CHORDS

9

D Δ 7 D7 Dm7 D \emptyset 7 D \circ 7

ALTERED 7th CHORDS

10

Dm(maj7) Dmaj7(\sharp 5) Dmaj7(b5) D \circ maj7 D7(\sharp 5) D7(b5)

Key of E \flat

TRIADS

11

E \flat M E \flat m m E \flat $^{\circ}$ d E \flat $^{+}$ A E \flat (sus4) E \flat (sus2)

||5/4

7th CHORDS

12

E \flat Δ 7 E \flat 7 E \flat m7 E \flat \emptyset 7 E \flat $^{\circ}$ 7

||6/4

ALTERED 7th CHORDS

13

E \flat m(maj7) E \flat maj7(#5) E \flat maj7(b5) E \flat $^{\circ}$ maj7 E \flat 7(#5) E \flat 7(b5)

||6/4

Key of E

TRIADS

14

E M Em m E $^{\circ}$ d E $^{+}$ A E(sus4) E(sus2)

||5/4

7th CHORDS

15

E Δ 7 E7 Em7 E \emptyset 7 E $^{\circ}$ 7

||6/4

ALTERED 7th CHORDS

16

Em(maj7) Emaj7(#5) Emaj7(b5) E $^{\circ}$ maj7 E7(#5) E7(b5)

||6/4

Key of F

TRIADS

17 F Fm F° F+ F(sus4) F(sus2)
M m d A

7th CHORDS

18 F^Δ7 F7 Fm7 F^ø7 F^o7

ALTERED 7th CHORDS

19 Fm(maj7) Fmaj7(#5) Fmaj7(b5) F^omaj7 F7(#5) F7(b5)

Key of Gb

TRIADS

20 Gb F#m F° Gb+ Gb(sus4) Gb(sus2)
M m d A

7th CHORDS

21 Gb^Δ7 Gb7 F#m7 F#^ø7 F#^o7

ALTERED 7th CHORDS

22 F#m(maj7) Gbmaj7(#5) Gbmaj7(b5) F#^omaj7 Gb7(#5) Gb7(b5)

Key of G

TRIADS

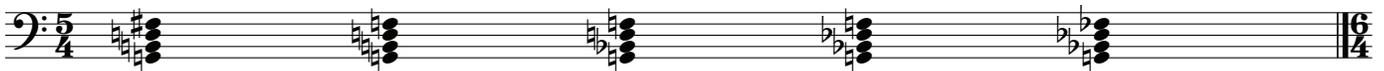
23 G Gm G^o G⁺ G(sus4) G(sus2)

 M m d A



7th CHORDS

24 G^{Δ7} G⁷ Gm⁷ G^{ø7} G^{o7}



ALTERED 7th CHORDS

25 Gm(maj7) Gmaj7(#5) Gmaj7(b5) G^omaj7 G7(#5) G7(b5)

Key of A^b

TRIADS

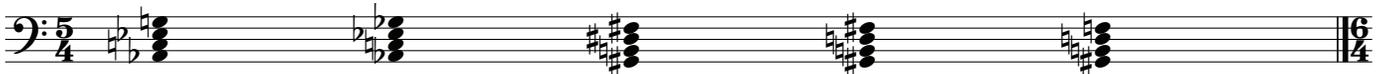
26 A^b A^bm A^b^o A^b⁺ A^b(sus4) A^b(sus2)

 M m d A



7th CHORDS

27 A^bΔ⁷ A^b7 G[#]m⁷ G[#]ø⁷ G[#]o⁷



ALTERED 7th CHORDS

28 A^bm(maj7) A^bmaj7(#5) A^bmaj7(b5) G[#]o⁺maj7 A^b7(#5) A^b7(b5)



Key of A

TRIADS

29 A Am A^o A⁺ A(sus4) A(sus2)
 M m d A

7th CHORDS

30 A^Δ7 A⁷ Am⁷ A^ø7 A^o7

ALTERED 7th CHORDS

31 Am(maj7) Amaj7(#5) Amaj7(b5) A^omaj7 A7(#5) A7(b5)

Key of B^b

TRIADS

32 B^b B^bm B^b^o B^b⁺ B^b(sus4) B^b(sus2)
 M m d A

7th CHORDS

33 B^bΔ7 B^b7 B^bm7 B^bø7 B^bo7

ALTERED 7th CHORDS

34 B^bm(maj7) B^bmaj7(#5) B^bmaj7(b5) B^bo⁺maj7 B^b7(#5) B^b7(b5)

Key of B

TRIADS

35

B	Bm	B ^o	B ⁺	B(sus4)	B(sus2)
M	m	d	A		

7th CHORDS

36

B ^Δ 7	B ⁷	Bm ⁷	B ^o 7	B ^o 7
------------------	----------------	-----------------	------------------	------------------

ALTERED 7th CHORDS

37

Bm(maj7)	Bmaj7(#5)	Bmaj7(b5)	B ^o maj7	B7(#5)	B7(b5)
----------	-----------	-----------	---------------------	--------	--------

1 **Quarter**

2 **Eighth**

3 **Eighth triplet**

4 **Quarter + Eighth triplet**

5 **"Swing" Eighth**

a. In jazz, the most basic unit of rhythm is the **swing 8th note**.

1. **Swing eighth note**- an eighth note written as a standard "straight" eighth note, but with an implied triplet feel.

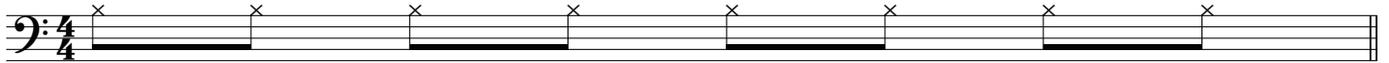
1.1 **Swing eighth notes** are typically written as **straight 8th notes** in order to simplify the written notation of a jazz chart.

1.2 Play measure 5 above as if it were written like measure 4 and you will have achieved **swing eighth notes**.

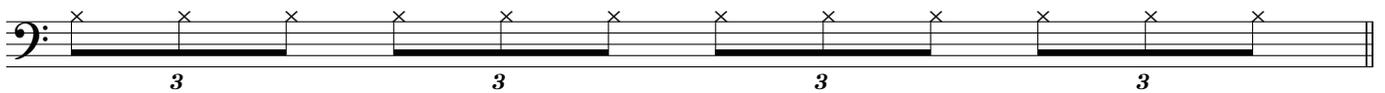
2. "True" swing eighths are not quite implied triplets, and not quite straight eighth notes either. "True" swing eighths reside rhythmically somewhere in between a triplet and a straight eighth. The closer to a triplet you are, the "harder" you are swinging; the closer to a straight eighth you are, the "smoother" or "cooler" your swing becomes.



"Swing" Eighth



7 Eighth triplet



b. In jazz rhythm, "swing" eighth notes and eighth triplets both share an implied triplet pulse (although "swing" eighths may be played "smoother" than a literal triplet).

When we subdivide the beat into smaller denominations such as sixteenth notes, we typically revert to an implied straight eighth note pulse.

c. The easiest way to gain an understanding of the relationship between

1. "straight" eighth notes,
2. "swing" eighth notes,
3. eighth note triplets, and
4. sixteenth notes

is to listen to as many professional jazz performances as possible.

d. Jazz musicians such as

1. John Coltrane,
2. "Cannonball" Adderly,
3. Joe Pass,
4. Bill Evans,
5. Miles Davis,
6. Pat Metheny,
7. Charlie Parker,

and many others are masters of transitioning between different rhythmic groups, and playing against multiple implied rhythmic pulses.

8 "Straight" Eighth (no implied triplet)



9 "Straight" Sixteenth (no implied triplet)



e. Sixteenth notes are typically brought into use for slower-tempo and mid-tempo jazz standards, in order to lend greater rhythmic interest and variety to melodic lines, and allow for greater melodic variety within a smaller rhythmic space. Using sixteenth notes takes a great deal of practice work and applied technical skill.

The best way to practice transitioning between eighths, triplets, and sixteenths is to devise scale exercises that make use of these groups.

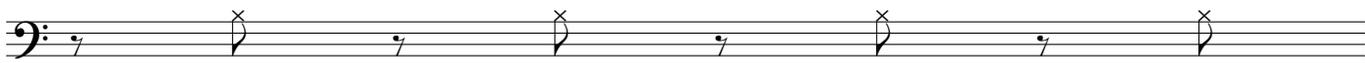
94 **SYNCOPATION**



10 **"Swing" Eighth**



11 **"Straight" Eighth (no implied triplet)**

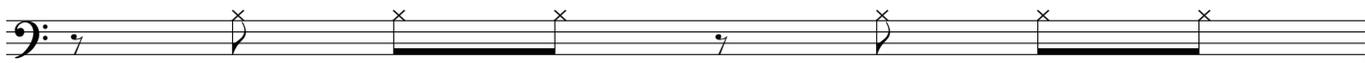


f. **Syncopation** is a type of rhythmic phrasing in which the accents of a melody are placed on the **weak beats** of rhythmic groups. This is typically accomplished through the use of **rests**.

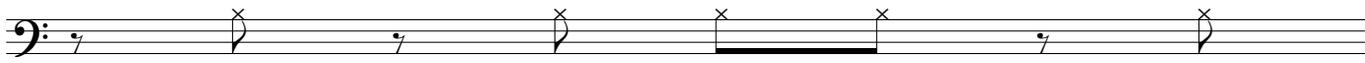
1. A **weak beat** is any secondary or even beat: 2, 4, "&," etc.
2. A **strong beat** is a primary or odd beat: 1, 3, 5, etc.

For the purposes of this chapter we are looking only at **eighth note** syncopations, but syncopation can take place within any rhythmic denomination (half, quarter, eighth, sixteenth, or 32nd notes; or any other type of grouping).

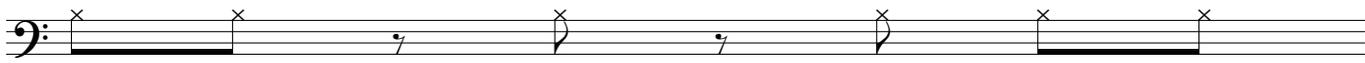
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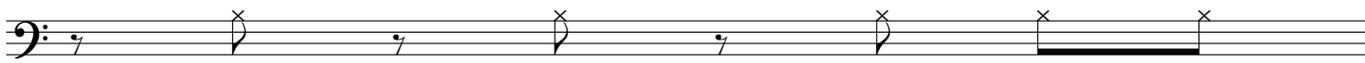
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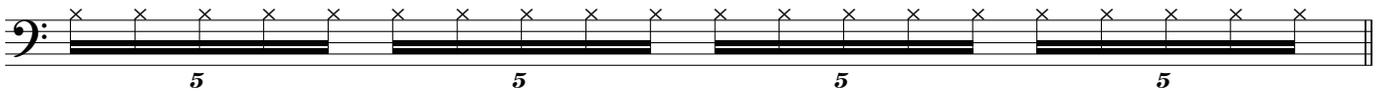


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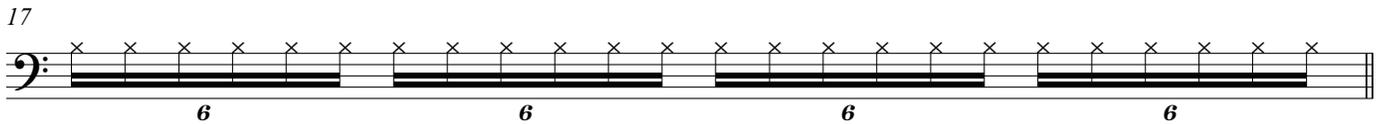


TUPLETS

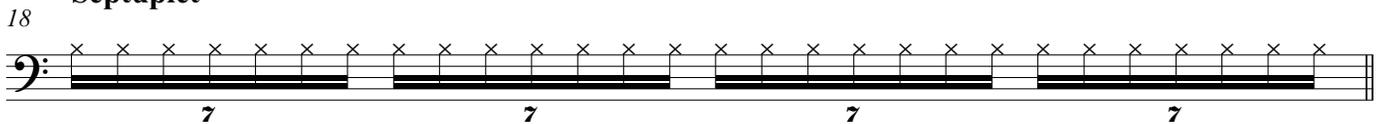
16 Quintuplet



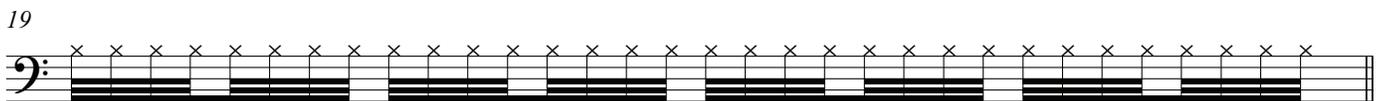
Sextuplet



Septuplet



32nd note



g. Slower or mid-tempo **rhythmic pulses** can be further subdivided into increments smaller than **16th notes**. This page shows four examples of ways a rhythmic pulse can be further subdivided.

1. Groupings which are not exponents of "2" (2, 4, 8, 16, 32, etc.) are called **tuplets**. This page contains three examples of **tuplet** groupings.

2. **Tuplets** can be used to create even greater rhythmic interest and melodic variety, and are often used to obscure the rhythmic pulse or play "outside" of the rhythm.

j. This section consists of a number of short phrase studies to once again focus on "swing" rhythm.



43



45



47



49



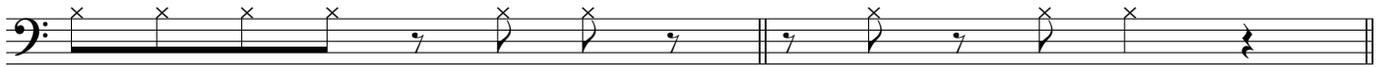
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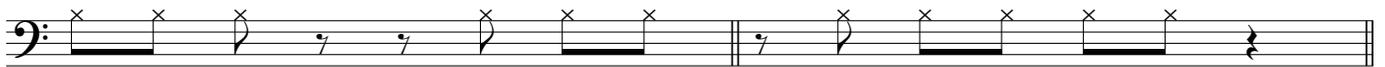
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55



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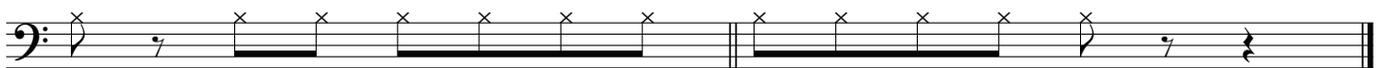
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61



63



Chapter 10- Practice Strategies

PRACTICE TIPS

I. Keep a detailed practice journal.

- a. Write down everything that you practice each day.
- b. At the end of each practice session, make note of the following details:
 1. Which items are progressing well;
 2. Which items need extra work and focus;
 3. Which exercises or music pieces you didn't get to in this session. Schedule these items for a specific future session, preferably the next one.
- c. Sample journal entry:

“Practiced 2-octave C major scale 4x

Practiced all modes in C major 2x each

Practiced all 7th arpeggios in C major 2x each

Practiced “Maiden Voyage” and “Summertime” with backing tracks

Next session: Practice 2-octave Db-major scale

Practice all modes and 7th arpeggios in Db major

Practice “Solar” by Miles Davis”

II. Build a core warm-up routine that takes 5-10 minutes.

- a. Pick 2-3 specific, effective exercises that you know can be relied upon to prepare you for a performance, and make these part of your daily routine.
- b. For example: As a guitarist, my core warm-up consists of the chromatic scale, A Ionian and B Dorian, and 3-5 minutes of free-associating random exercises from my journals. My regular practice routine is much more elaborate than this of course, but in a pinch at a gig, or before a performance, this is often all I have time for.

- III. **Rotate through your exercises on a long-term schedule.**
 - a. As you accumulate more and more melodic ideas and exercises, you will find that it's not possible to practice every single idea and exercise every day. Build a schedule that allows you to rotate through your practice materials on a weekly, monthly or other basis.
 - b. Prioritize your exercises according to order of importance.
 - c. Always include your core warm-up in every practice session.
- IV. **Record yourself:**
 - a. Practicing exercises;
 - b. Playing over changes;
 - c. Free-associating melodies and patterns;
 - d. Playing at rehearsals and gigs.
- V. **Keep manuscript paper handy and write down all your exercises and melodic ideas.**
 - a. Write down any new exercises, melodies, or patterns that you come up with during a practice or "jam" session. The more you get into a habit of doing this, the faster you will come up with new ideas and the easier it will be to commit previous ideas to memory.
 - b. Keep records of all exercises you have borrowed from other sources (published, transcribed) that you use routinely.
 - c. Using shorthand is fine; the goal is to put your ideas on paper so that you can clear your short-term memory bank.
 - d. Refer to your recordings and transcribe any ideas you may have played that sound "fresh" and interesting, even if you are convinced that you'll remember them easily. You will find that writing these ideas down allows you to develop them later, sometimes in directions you can't anticipate.
 - e. Try composing melodic ideas, patterns, and exercises on paper before playing them. You will find that this helps you guide your improvisational thought process into more disciplined channels where you have much greater control during actual performances.
- VI. **Listen to recordings of the songs you are working on.**
 - a. Make a repertoire list.
 - b. Steal licks from your favorite artists and transcribe them.

Chapter 11- Exercises

All major diatonic modes

David M. Shere

C major



Practice each set of modes both forward and backward.



33 **E major**

37

41 **F major**

45

49 **Gb major**

53

57 **G major**

61



65 **A^b major**

Four measures of music in A-flat major, bass clef. The melody consists of eighth notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

69

Four measures of music in A-flat major, bass clef. The melody continues with eighth notes: D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6. The piece concludes with a double bar line and a key signature change to A major (two sharps).

73 **A major**

Four measures of music in A major, bass clef. The melody consists of eighth notes: A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

77

Four measures of music in A major, bass clef. The melody continues with eighth notes: D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6. The piece concludes with a double bar line and a key signature change to B-flat major (two flats).

81 **B^b major**

Four measures of music in B-flat major, bass clef. The melody consists of eighth notes: B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

85

Four measures of music in B-flat major, bass clef. The melody continues with eighth notes: D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6. The piece concludes with a double bar line and a key signature change to B major (two sharps).

89 **B major**

Four measures of music in B major, bass clef. The melody consists of eighth notes: B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

93

Four measures of music in B major, bass clef. The melody continues with eighth notes: D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6. The piece concludes with a double bar line and a key signature change to D major (two sharps).

C major105 **D^b major**113 **D major**121 **E^b major**

129 E major



133



137 F major



141



145 Gb major



149



153 G major



157



161 **A^b major**

165

169 **A major**

173

**B^b major**

177



181

185 **B major**

189



All diatonic seventh arpeggios

C major

Four measures of C major arpeggios in bass clef, 4/4 time. The notes are: C2-E2-G2-A2 | C2-E2-G2-A2 | C2-E2-G2-A2 | C2-E2-G2-A2.

197

Four measures of C major arpeggios in bass clef, 4/4 time. The notes are: C2-E2-G2-A2 | C2-E2-G2-A2 | C2-E2-G2-A2 | C2-E2-G2-A2. The piece ends with a double bar line and a key signature change to three flats.

201 D \flat major

Four measures of D \flat major arpeggios in bass clef, 4/4 time. The notes are: D \flat 2-F \flat 2-A \flat 2-B \flat 2 | D \flat 2-F \flat 2-A \flat 2-B \flat 2 | D \flat 2-F \flat 2-A \flat 2-B \flat 2 | D \flat 2-F \flat 2-A \flat 2-B \flat 2.

205

Four measures of D \flat major arpeggios in bass clef, 4/4 time. The notes are: D \flat 2-F \flat 2-A \flat 2-B \flat 2 | D \flat 2-F \flat 2-A \flat 2-B \flat 2 | D \flat 2-F \flat 2-A \flat 2-B \flat 2 | D \flat 2-F \flat 2-A \flat 2-B \flat 2. The piece ends with a double bar line and a key signature change to two flats.

209 D major

Four measures of D major arpeggios in bass clef, 4/4 time. The notes are: D2-F#2-A2-B2 | D2-F#2-A2-B2 | D2-F#2-A2-B2 | D2-F#2-A2-B2.

213

Four measures of D major arpeggios in bass clef, 4/4 time. The notes are: D2-F#2-A2-B2 | D2-F#2-A2-B2 | D2-F#2-A2-B2 | D2-F#2-A2-B2. The piece ends with a double bar line and a key signature change to one flat.

217 E \flat major

Four measures of E \flat major arpeggios in bass clef, 4/4 time. The notes are: E \flat 2-G \flat 2-A2-B2 | E \flat 2-G \flat 2-A2-B2 | E \flat 2-G \flat 2-A2-B2 | E \flat 2-G \flat 2-A2-B2.

221

Four measures of E \flat major arpeggios in bass clef, 4/4 time. The notes are: E \flat 2-G \flat 2-A2-B2 | E \flat 2-G \flat 2-A2-B2 | E \flat 2-G \flat 2-A2-B2 | E \flat 2-G \flat 2-A2-B2. The piece ends with a double bar line and a key signature change to no sharps or flats.

225 **E major**

229

233 **F major**

237

241 **Gb major**

245

249 **G major**

253



257 **A^b major**

Four measures of music in A-flat major, bass clef. The melody consists of eighth notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

261

Four measures of music in A-flat major, bass clef. The melody consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4, B3, A3, G3, F3, E3, D3, C3, B2, A2, G2. The piece ends with a double bar line and a key signature change to A major (two sharps).

A major

265

Four measures of music in A major, bass clef. The melody consists of eighth notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

269

Four measures of music in A major, bass clef. The melody consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4, B3, A3, G3, F3, E3, D3, C3, B2, A2, G2. The piece ends with a double bar line and a key signature change to B-flat major (two flats).

B^b major

273

Four measures of music in B-flat major, bass clef. The melody consists of eighth notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

277

Four measures of music in B-flat major, bass clef. The melody consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4, B3, A3, G3, F3, E3, D3, C3, B2, A2, G2. The piece ends with a double bar line and a key signature change to B major (two sharps).

B major

281

Four measures of music in B major, bass clef. The melody consists of eighth notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

285

Four measures of music in B major, bass clef. The melody consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4, B3, A3, G3, F3, E3, D3, C3, B2, A2, G2. The piece ends with a double bar line.

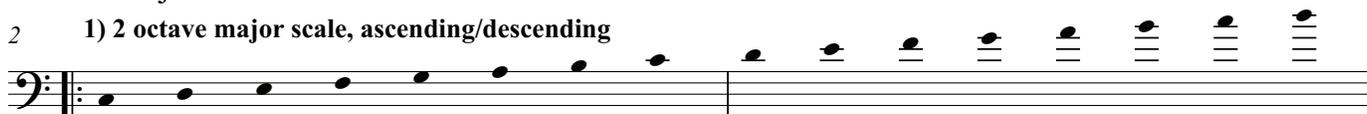
110 C major scale- parent scale; mode I
 (Also known as "C Ionian mode;" mother of all Western scales)



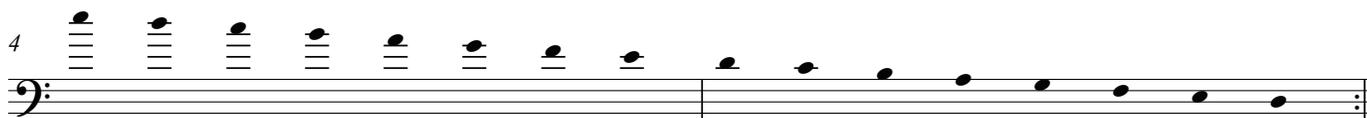
[R 2 3 4 5 6 7]
 SCALE DEGREES

C major

2 1) 2 octave major scale, ascending/descending



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 NUMBER VALUES (similar to scale degrees)



17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

6 2) SKIPPED 3rds starting on 1



1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

8 3) SKIPPED 3rds starting on 2



2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

IN ORDER TO MAKE THE MOST EFFICIENT USE OF YOUR PRACTICE TIME,
 you should focus on a few key things that will maximize the development of your technique for the minimum amount of time spent.

Practicing all 12 major scales in 2 octaves, in skipped 3rds starting on the first note of the scale, and in skipped 3rds starting on the second note of the scale, is one possible way to maximize your practice time.

By doing this, you are basically practicing all your modes and all your 7th arpeggios in every key using the fewest possible number of notes.

D \flat major

10 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

14 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

16 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

D major

18 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

22 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

24 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

E \flat major

26 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

30 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

32 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

E major

34 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

38 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

40 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

F major

42 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

G \flat major

50 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

G major

58 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

62 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

64 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

A \flat major

66 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

70 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

72 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

A major

74 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

76

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

78 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

80 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

Bb major

82 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

84

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

86 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

88 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

B major

90 1) 2 octave major scale, ascending/descending

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

94 2) SKIPPED 3rds starting on 1

1 3 5 7 9 11 13 15 17 15 13 11 9 7 5 3

96 3) SKIPPED 3rds starting on 2

2 4 6 8 10 12 14 16 18 16 14 12 10 8 6 4

C root

Melodic examples using every mode

C^{Δ7}

C Ionian scale; mode I



Cm⁷ C Dorian scale; mode ii, key of B^b



Cm⁷ C Phrygian scale; mode iii, key of A^b



C^{Δ7} C Lydian scale; mode IV, key of G



C⁷ C Mixolydian scale; mode V, key of F



Cm⁷ C Aeolian scale; mode vi ("Natural minor"), key of E^b



C^{ø7} C Locrian scale; mode vii, key of D^b



118 **D \flat root**

D \flat Δ 7 D \flat Ionian scale; mode I

22



C \sharp m7 C \sharp Dorian scale; mode ii, key of B

25



C \sharp m7 C \sharp Phrygian scale; mode iii, key of A

28



D \flat Δ 7 D \flat Lydian scale; mode IV, key of A \flat

31



D \flat 7 D \flat Mixolydian scale; mode V, key of G \flat

34



C \sharp m7 C \sharp Aeolian scale; mode vi ("Natural minor"), key of E

37



C \sharp \emptyset 7 C \sharp Locrian scale; mode vii, key of D

40



D root

D^{Δ7} D Ionian scale; mode I

43



Dm⁷ D Dorian scale; mode ii, key of C

46



Dm⁷ D Phrygian scale; mode iii, key of Bb

49



D^{Δ7} D Lydian scale; mode IV, key of A

52



D⁷ D Mixolydian scale; mode V, key of G

55



Dm⁷ D Aeolian scale; mode vi ("Natural minor"), key of F

58



D^{ø7} D Locrian scale; mode vii, key of Eb

61



120 **E \flat root**

E \flat Δ 7 **E \flat Ionian scale; mode I**

64

E \flat m 7 **E \flat Dorian scale; mode ii, key of D \flat**

67

D \sharp m 7 **D \sharp Phrygian scale; mode iii, key of B**

70

E \flat Δ 7 **E \flat Lydian scale; mode IV, key of B \flat**

73

E \flat 7 **E \flat Mixolydian scale; mode V, key of A \flat**

76

E \flat m 7 **E \flat Aeolian scale; mode vi ("Natural minor"), key of G \flat**

79

D \sharp \emptyset 7 **D \sharp Locrian scale; mode vii, key of E**

82

E root

E^{Δ7} E Ionian scale; mode I

85



Em⁷ E Dorian scale; mode ii, key of D

88



Em⁷ E Phrygian scale; mode iii, key of C

91



E^{Δ7} E Lydian scale; mode IV, key of B

94



E⁷ E Mixolydian scale; mode V, key of A

97



Em⁷ E Aeolian scale; mode vi ("Natural minor"), key of G

100



E^{ø7} E Locrian scale; mode vii, key of F

103



122 F root

F Δ 7 F Ionian scale; mode I

106



Fm7 F Dorian scale; mode ii, key of Eb

109



Fm7 F Phrygian scale; mode iii, key of Db

112



F Δ 7 F Lydian scale; mode IV, key of C

115



F7 F Mixolydian scale; mode V, key of Bb

118



Fm7 F Aeolian scale; mode vi ("Natural minor"), key of Ab

121



F \emptyset 7 F Locrian scale; mode vii, key of Gb

124



G \flat Δ 7 G \flat Ionian scale; mode I

127

127

F \sharp m7 F \sharp Dorian scale; mode ii, key of E

130

130

F \sharp m7 F \sharp Phrygian scale; mode iii, key of D

133

133

G \flat Δ 7 G \flat Lydian scale; mode IV, key of D \flat

136

136

F \sharp 7 F \sharp Mixolydian scale; mode V, key of B

139

139

F \sharp m7 F \sharp Aeolian scale; mode vi ("Natural minor"), key of A

142

142

F \sharp \emptyset 7 F \sharp Locrian scale; mode vii, key of G

145

145

124 **G root**

G^{Δ7} G Ionian scale; mode I

148

Musical notation for the G Ionian scale (mode I) in 4/4 time. The scale is written in bass clef and consists of the notes G, A, B, C, D, E, F#, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

Gm⁷ G Dorian scale; mode ii, key of F

151

Musical notation for the G Dorian scale (mode ii) in 4/4 time. The scale is written in bass clef and consists of the notes G, A, Bb, C, D, E, F, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

Gm⁷ G Phrygian scale; mode iii, key of Eb

154

Musical notation for the G Phrygian scale (mode iii) in 4/4 time. The scale is written in bass clef and consists of the notes G, Ab, Bb, C, D, Eb, F, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

G^{Δ7} G Lydian scale; mode IV, key of D

157

Musical notation for the G Lydian scale (mode IV) in 4/4 time. The scale is written in bass clef and consists of the notes G, A, B, C#, D, E, F, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

G⁷ G Mixolydian scale; mode V, key of C

160

Musical notation for the G Mixolydian scale (mode V) in 4/4 time. The scale is written in bass clef and consists of the notes G, A, B, C, D, E, F, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

Gm⁷ G Aeolian scale; mode vi ("Natural minor"), key of Bb

163

Musical notation for the G Aeolian scale (mode vi, "Natural minor") in 4/4 time. The scale is written in bass clef and consists of the notes G, Ab, Bb, C, D, Eb, F, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

G^{ø7} G Locrian scale; mode vii, key of Ab

166

Musical notation for the G Locrian scale (mode vii) in 4/4 time. The scale is written in bass clef and consists of the notes G, Ab, Bb, C, Db, Eb, F, G. The notation shows the scale ascending and then descending, with a whole note G at the end of the line.

Ab^{Δ7} Ab Ionian scale; mode I

169



Abm⁷ Ab Dorian scale; mode ii, key of Gb

172



G#m⁷ G# Phrygian scale; mode iii, key of E

175



Ab^{Δ7} Ab Lydian scale; mode IV, key of Eb

178



Ab⁷ Ab Mixolydian scale; mode V, key of Db

181



G#m⁷ G# Aeolian scale; mode vi ("Natural minor"), key of B

184



G#^{ø7} G# Locrian scale; mode vii, key of A

187



126 **A root**

A^{Δ7} A Ionian scale; mode I

190



Am⁷ A Dorian scale; mode ii, key of G

193



Am⁷ A Phrygian scale; mode iii, key of F

196



A^{Δ7} A Lydian scale; mode IV, key of E

199



A⁷ A Mixolydian scale; mode V, key of D

202



Am⁷ A Aeolian scale; mode vi ("Natural minor"), key of C

205



A^{ø7} A Locrian scale; mode vii, key of Bb

208



B \flat root

B \flat Δ 7 B \flat Ionian scale; mode I

211



B \flat m7 B \flat Dorian scale; mode ii, key of A \flat

214



B \flat m7 B \flat Phrygian scale; mode iii, key of G \flat

217



B \flat Δ 7 B \flat Lydian scale; mode IV, key of F

220



B \flat 7 B \flat Mixolydian scale; mode V, key of E \flat

223



B \flat m7 B \flat Aeolian scale; mode vi ("Natural minor"), key of D \flat

226



A \sharp \emptyset 7 A \sharp Locrian scale; mode vii, key of B

229



128 **B root**

B^{Δ7} B Ionian scale; mode I

232



Bm⁷ B Dorian scale; mode ii, key of A

235



Bm⁷ B Phrygian scale; mode iii, key of G

238



Cb^{Δ7} Cb Lydian scale; mode IV, key of Gb

241



B⁷ B Mixolydian scale; mode V, key of E

244



Bm⁷ B Aeolian scale; mode vi ("Natural minor"), key of D

247



B^{ø7} B Locrian scale; mode vii, key of C

250



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