

The cover is a collage of four images: the top left shows the 'BERKLEE COLLEGE OF MUSIC' sign on a building facade; the top right shows yellow flower petals falling; the middle left shows musical notation with exercises; the bottom left shows hands playing an acoustic guitar. A blue banner with white text is centered over the top half.

# BERKLEE MUSIC THEORY

BOOK

2

FUNDAMENTALS  
OF HARMONY

PAUL SCHMELING



CD  
INCLUDED



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# Introduction

*Berklee Music Theory Book 2: Fundamentals of Harmony* focuses on harmony, including triads, seventh chords, inversions, and voice leading, using an approach I've developed through more than forty years of teaching at Berklee College of Music. Unlike most books on music theory, this book teaches the chords and inversions that you will encounter in jazz, blues, and popular music, and then gives you the tools you need to be able to create effective harmonic accompaniment from a lead sheet. We'll finish up by writing our own melodies.

Whether you are a beginner or a more experienced musician who wants to learn more, you'll develop harmonic and melodic listening, reading, and writing skills through exercises and ear training practice. I encourage you to work with a real keyboard.

By the end of the book, you'll be able to create accompaniments from a lead sheet and write your own melody based on any common chord progression.

Paul Schmeling

Chair Emeritus, Piano Department

Berklee College of Music



## Lesson 37. Major Triads

- 1 A **chord** is a set of three or more notes sounded simultaneously. If the notes are played one after the other, it is called an **arpeggio**.

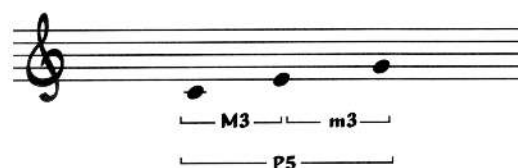
**Triads** are three-note chords. They are built upwards in thirds from a fundamental note called a **root**. The major triad includes the tonic (root), third, and fifth notes of the major scale built on the triad's root.



Each of these notes is described by a number corresponding to the scale degree above the root. These numbers are "functions," as in, "E functions as the third of a C major triad."



Another way to think of triads is in terms of intervals. From the root, the major triad has a major third and a perfect fifth. It can also be seen as a major third (C to E) below a minor third (E to G).



## Practice

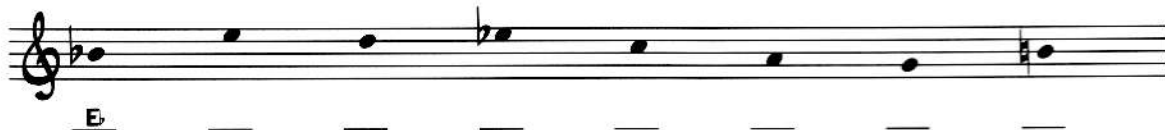
1. Build a major triad on each of the following notes.



2. Each of these notes is the third of what major triad?



3. Each of these notes is the fifth of what major triad?





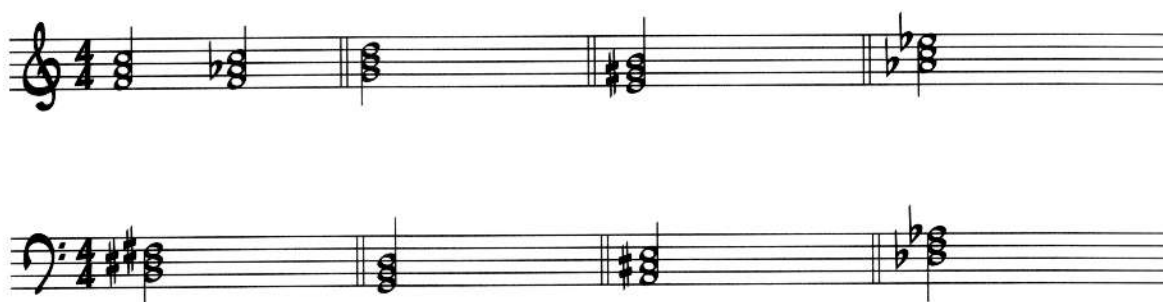
## Lesson 38. Minor Triads

- 2 **Minor triads** can be formed by lowering the third of a major triad by a half step. From the root, the intervals are a minor third and a perfect fifth, or a minor third below a major third.

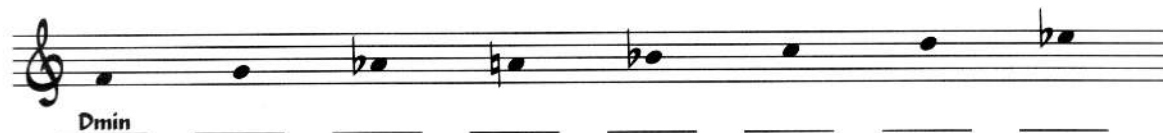
<b>C Major Triad</b> 	<b>C Minor Triad</b> 
<b>D Major Triad</b> 	<b>D Minor Triad</b> 
<b>Bb Major Triad</b> 	<b>Bb Minor Triad</b> 

### Practice

1. Make minor triads out of the following major triads. The first one is done for you.



2. Each of the following notes is the third of what minor triad?



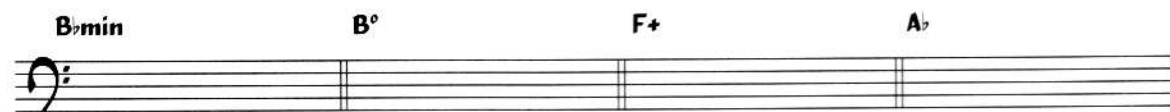
## Lesson 41. Chord Symbols

Chords are often expressed with **chord symbols**. Chord symbols are usually made up of a letter that indicates the note that the chord is built on, and other symbols that indicate additional notes in the chord. If there is no other symbol, the chord is major. In chord symbols, min is for minor, o is for dim, and + is augmented. (Chord symbols may be written many different ways. For example, C major may also be written as CM or Cmaj, and C minor as C-, Cm, or Cmi.)



### Practice

- Write the following triads. The first one is done for you.



- Analyze each triad by writing its chord symbol.






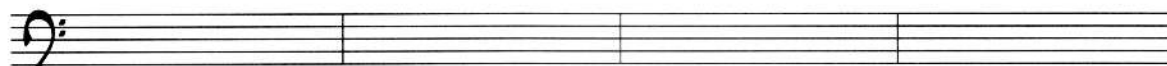
# Exercises, Lessons 37–41. Triads and Chord Symbols

1. Write the following triads.

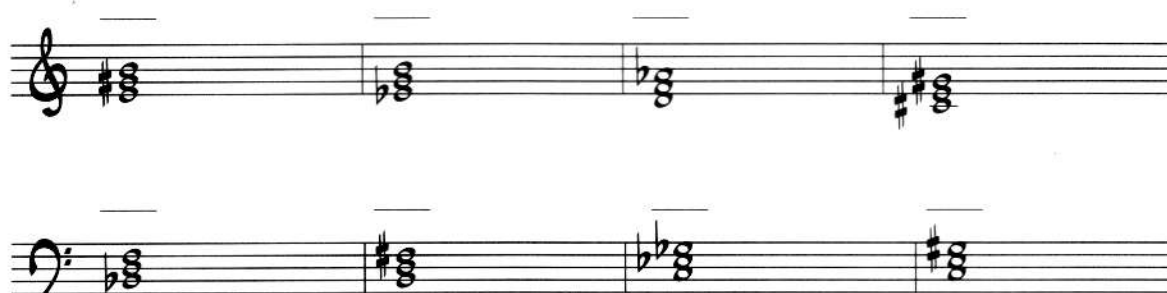
**D<sub>b</sub>**                      **E<sub>min</sub>**                      **F<sup>+</sup>**                      **G<sup>o</sup>**



**A**                      **F<sub>min</sub>**                      **B<sub>b</sub><sup>+</sup>**                      **B<sup>o</sup>**



2. Analyze each triad with its chord symbol name. Write the chord symbol above the chord.



## Ear Training

- 5 1. Listen to the major and minor triad. Then, identify each example as either a major or minor triad.
  - a. major      minor
  - b. major      minor
  - c. major      minor
  - d. major      minor
- 6 2. Listen to the minor and diminished triad. Then, identify each example as either a minor or diminished triad.
  - a. minor      diminished
  - b. minor      diminished
  - c. minor      diminished
  - d. minor      diminished

- 7 3. Listen to the major and augmented triad. Then, identify each example as either a major or augmented triad.
- a. major      augmented
  - b. major      augmented
  - c. major      augmented
  - d. major      augmented
- 8 4. Listen to each triad. Then, identify each example as a major, minor, diminished, or augmented triad.
- a. major      minor      diminished      augmented
  - b. major      minor      diminished      augmented
  - c. major      minor      diminished      augmented
  - d. major      minor      diminished      augmented
  - e. major      minor      diminished      augmented
  - f. major      minor      diminished      augmented
  - g. major      minor      diminished      augmented
  - h. major      minor      diminished      augmented



## Lesson 42. Triad Inversions

- 9 Triads built upwards in thirds from the root are said to be in **root position**. The individual notes of a triad can be rearranged (*inverted*) so that the third or fifth is on the bottom.

Root position:  
Root (1) on bottom

1st inversion:  
3rd on bottom

2nd inversion:  
5th on bottom

### Practice

1. Write the following triads in their first and second inversions.

Cmin                      Bb+                      D°

1st inv.   2nd inv.                      1st inv.   2nd inv.                      1st inv.   2nd inv.

2. Complete each of the inverted chords on the staff below by building upwards from the given note.

Eb                      Emin                      A+                      Bmin

A                      Fmin                      F+                      C#°

3. Analyze each chord with chord symbols for each of the inverted triads. The first one is done for you.

Fmin

## Lesson 43. Bass/Chord Theory

- 10** Complete harmony includes a **bass note** (bottom note) in addition to the three notes of the triad. It is usually the lowest note of the harmony and is usually the triad's root. In harmony, a chord is considered to be in root position as long as the root is the bass, regardless of the positioning of the rest of the notes in the chord. The bass is usually notated in bass clef.

**C** **Fmin**

**Chord**

**Bass**

- 11** Chord members (excluding the bass) spread out over more than one octave are said to be in **open position**. Chord members within the same octave are said to be in **close position**. Again, chords are considered to be in root position as long as the root is in the bass. All of these chords, whether close or open, are in root position.

**C**

**Close** **Open** **Close** **Open** **Close** **Open**

### Practice

1. Complete the harmony by adding the root of each chord in the bass.

2. Rewrite the following close-position chords in open position by reversing the top and bottom notes. Notate all three notes on the treble staff.

Exercise 2: Rewrite the following close-position chords in open position by reversing the top and bottom notes. Notate all three notes on the treble staff.

Chords shown: F<sup>min</sup>, G<sup>+</sup>, B, B<sup>°</sup>

3. Rewrite the following open-position chords in close position by reversing the top and bottom notes.

Exercise 3: Rewrite the following open-position chords in close position by reversing the top and bottom notes.

Chords shown: F<sup>min</sup>, G<sup>+</sup>, B, B<sup>°</sup>

4. Add the bass to complete the harmony of these open-position chords.

Exercise 4: Add the bass to complete the harmony of these open-position chords.



## Lesson 44. Voice Leading

- 12** **Voice leading** refers to the way that individual voices (notes of the chord) move in a series of chords (**chord progression**). The goal of voice leading is to have each voice move as little as possible in a melodically interesting way from chord to chord. To voice lead a chord progression, first look for the **common tone**—a note found in two successive chords. Keeping common tones in the same voice is referred to as **common-tone voice leading**. Common tones are highlighted here:

Exercise 12 shows a chord progression: C, F, B $\flat$ , C, F, B $\flat$ . The top staff displays the chords with common tones highlighted by dashed lines. The bottom staff shows the bass line playing the root of each chord.

- 13** Note that different inversions of each chord are used to make this movement smooth, melodic, and linear. The bass plays the root of the chord, and moves independently of the upper voices.

Exercise 13 shows the same chord progression with different inversions. The top staff is labeled with "Not voice led", "All root position", "Voice led", and "Various positions". The bottom staff shows the bass line playing the root of each chord.

Starting in root position, the top voice (voice 1) would move as illustrated to the left (below) if the chords were not voice-led, and as illustrated to the right (below) if voice-led.

Exercise 13 shows the same chord progression with different inversions. The top staff is labeled with "If not voice led:" and "If voice led:". The bottom staff shows the bass line playing the root of each chord.

## Practice

1. Write out the movement of the middle voice (voice 2) from the voice-leading example on page 12, both voice-led and not voice-led.

C                  F                  B $\flat$                   C                  F                  B $\flat$

Not voice led:                                  Voice led:

2. Write out the movement of the bottom voice (voice 3), both voice-led and not voice-led.

C                  F                  B $\flat$                   C                  F                  B $\flat$

Not voice led:                                  Voice led:

3. Voice lead the following chords, observing the common-tone principle.

F                  Dmin                  B $\flat$                   Gmin                  E $^{\circ}$                   C                  F

# Lesson 45. Open-Position Voice Leading and Chorale Notation

Chords are sometimes notated in **chorale notation**, which places the two higher voices in the treble clef and the two lower voices in the bass clef. To easily distinguish the voices, the stems of the higher voices in each clef go upward and the stems of the lower voices go downward.

## Practice

1. Rewrite these chords in chorale notation.

2. Voice leading open-position chords works the same way as close-position: find the common tone, and keep it in the same voice. Voice lead the following open-position chords, observing the common-tone principle. Use chorale notation.

# Lesson 46. Contrary/Parallel Motion Voice Leading

- 14** When successive chords do not have a common tone, such as an F major triad moving to a G major triad, traditional voice-leading technique dictates that chord voices should move in the opposite direction as the bass. This movement is known as **contrary motion**. A more contemporary sound, as found in pop and jazz, is **parallel motion**, in which voices move in the same direction as the bass. Either way, each voice should move to the next closest position.

**Contrary Motion:**  
Upper voices move down,  
bass moves up

**Parallel Motion:**  
Upper voices and  
bass move in same direction



## Practice

1. Move the upper voices as indicated. Each example moves from an F major to a G major triad.

<b>Contrary</b>		<b>Parallel</b>		<b>Contrary</b>		<b>Parallel</b>	
F	G	F	G	F	G	F	G

The image shows four musical staves, each representing a different voice leading example from F major to G major. The first and third staves are labeled 'Contrary' and show the upper voices moving down. The second and fourth staves are labeled 'Parallel' and show all voices moving up.

2. Voice lead the following chords. Use the common-tone principle when available, and contrary or parallel as indicated, when not.

<b>Contrary</b>				<b>Parallel</b>			
C	F	G	C	C	F	G	C

The image shows two musical staves. The first staff shows a voice lead from C major (C4, E4, G4) to F major (F4, A4, C5) with the instruction 'Contrary'. The second staff shows a voice lead from C major (C4, E4, G4) to G major (G4, B4, D5) with the instruction 'Parallel'.



3. Voice lead the following chords, first in parallel motion to the bass, then in contrary motion.

Parallel

B $\flat$  Amin Gmin F

Contrary

B $\flat$  Amin Gmin F

# Exercises, Lessons 42–46. Inversions and Voice Leading

1. Voice lead this progression of triads from the starting position shown. Follow the common-tone principle, but use contrary motion if there is no common tone between chords.

**E<sup>b</sup> C<sup>min</sup> A<sup>b</sup> B<sup>b</sup> E<sup>b</sup>    E<sup>b</sup> C<sup>min</sup> A<sup>b</sup> B<sup>b</sup> E<sup>b</sup>    E<sup>b</sup> C<sup>min</sup> A<sup>b</sup> B<sup>b</sup> E<sup>b</sup>**

2. Voice lead this progression of triads using chorale notation from the starting position shown. Follow the common-tone principle, but use contrary motion if there is no common tone between chords.

**D B<sup>min</sup> G A D    D B<sup>min</sup> G A D    D B<sup>min</sup> G A D**

3. Analyze each chord with its chord symbol name.

## Ear Training

- 15** 1. Listen to the demonstration triads. Then, identify each example as a major, minor, diminished, or augmented triad.

The musical notation for exercise 15 shows six triads on a grand staff (treble and bass clefs). The triads are labeled as follows:

- Major**: C major (C4, E4, G4)
- Augmented**: C augmented (C4, E4, G#4)
- Major**: D major (D4, F#4, A4)
- Minor**: D minor (D4, F4, A4)
- Diminished**: D diminished (D4, F4, A4)
- Major**: E major (E4, G#4, B4)

- a. major    minor    diminished    augmented
- b. major    minor    diminished    augmented
- c. major    minor    diminished    augmented
- d. major    minor    diminished    augmented
- e. major    minor    diminished    augmented
- f. major    minor    diminished    augmented
- g. major    minor    diminished    augmented
- h. major    minor    diminished    augmented

- 16** 2. Listen to the demonstration triads. Then, identify each example as a major, minor, diminished, or augmented triad.

The musical notation for exercise 16 shows six triads on a grand staff (treble and bass clefs). The triads are labeled as follows:

- Major**: C major (C4, E4, G4)
- Augmented**: C augmented (C4, E4, G#4)
- Major**: D major (D4, F#4, A4)
- Minor**: D minor (D4, F4, A4)
- Diminished**: D diminished (D4, F4, A4)
- Major**: E major (E4, G#4, B4)

- a. major    minor    diminished    augmented
- b. major    minor    diminished    augmented
- c. major    minor    diminished    augmented
- d. major    minor    diminished    augmented
- e. major    minor    diminished    augmented
- f. major    minor    diminished    augmented
- g. major    minor    diminished    augmented
- h. major    minor    diminished    augmented

## Lesson 47. Major 7 Chords

- 17** **Seventh (7) chords** are four-part chords built upwards in thirds from a root. The major 7 (Maj7) chord includes the root, third, fifth, and seventh of a major scale. Each note functions as described by its corresponding scale degrees: root, 3, 5, 7.



### Practice

1. Build a major 7 chord upwards from each given note.



2. Analyze each chord with a chord symbol.





## Lesson 48. Dominant 7 Chords

- 18** The **dominant 7** (7) chord can be formed by lowering the seventh of the major 7 chord by a half step.

The diagram shows two musical staves. The first staff is for the C Major 7 (CMaj7) chord, with notes C, E, G, and B. The intervals between the root and the other notes are labeled: M3 (Major 3rd) between C and E, P5 (Perfect 5th) between C and G, and M7 (Major 7th) between C and B. The second staff is for the C Dominant 7 (C7) chord, with notes C, E, G, and Bb. The intervals are labeled: M3 (Major 3rd) between C and E, P5 (Perfect 5th) between C and G, and m7 (Minor 7th) between C and Bb.

### Practice

1. Build a dominant 7 chord upwards from each given note.

Exercise 1 consists of two staves. The top staff is in treble clef and contains four starting notes: C4, E4, G4, and B4. The bottom staff is in bass clef and contains four starting notes: C3, E3, G3, and B3. Each note is followed by a double bar line, indicating where to build a dominant 7 chord upwards.

2. Analyze each chord with a chord symbol. Hint: Some are major 7, some are dominant 7.

Exercise 2 consists of two staves. The top staff is in treble clef and contains four chords: C major 7, D major 7, E major 7, and F major 7. The bottom staff is in bass clef and contains four chords: C major 7, D major 7, E major 7, and F major 7. Each chord is represented by a vertical line above the staff and a cluster of notes below it.

## Lesson 49. Minor 7 Chords

- 19** The **minor 7** chord (min7) can be formed by lowering the third of the dominant 7 by a half step.

The diagram shows two musical staves. The first staff is for the C7 chord, with notes C (root), E (major third, labeled M3), G (perfect fifth, labeled P5), and Bb (minor seventh, labeled m7). The second staff is for the Cmin7 chord, with notes C (root), Eb (minor third, labeled m3), G (perfect fifth, labeled P5), and Bb (minor seventh, labeled m7). The difference between the two chords is the lowering of the third from E to Eb.

### Practice

1. Build a minor 7 chord upwards from each given note.

Exercise 1 consists of two musical staves. The top staff is in treble clef and contains four starting notes: C4, E4, G4, and Bb4. The bottom staff is in bass clef and contains four starting notes: C3, Eb3, G3, and Bb3. Each note is followed by a double bar line, indicating where to build a minor 7 chord upwards.

2. Analyze each chord with a chord symbol. Hint: Some are minor 7, some are dominant 7.

Exercise 2 consists of two musical staves. The top staff is in treble clef and contains four chords: C7, Eb7, G7, and Bb7. The bottom staff is in bass clef and contains four chords: C7, Eb7, G7, and Bb7. Each chord is followed by a double bar line, indicating where to analyze the chord with a symbol.

## Lesson 50. Minor 7(b5)Chords

- 20** The **minor 7(b5)** chord [symbol min7(b5)], also known as the half-diminished, can be formed by lowering the fifth of the minor 7 chord by a half step.

The diagram shows two musical staves. The first staff is labeled **Cmin7** and shows a C minor 7 chord (C, E♭, G, B♭) with interval labels **m3** (between C and E♭), **P5** (between C and G), and **m7** (between C and B♭). The second staff is labeled **Cmin7(b5)** and shows the same chord with the fifth lowered by a half step to F (C, E♭, F, B♭), with interval labels **m3**, **°5** (diminished fifth between C and F), and **m7**.

### Practice

1. Build a min7(b5) chord upwards from each given note.

Exercise 1 consists of two staves. The top staff (treble clef) has four starting notes: C4, E4, G4, and B4. The bottom staff (bass clef) has four starting notes: C3, E3, G3, and B3. Each note is followed by a double bar line, indicating where to build the min7(b5) chord upwards.

2. Analyze each chord with a chord symbol. Some are minor 7, some are min7(b5).

Exercise 2 consists of two staves. The top staff (treble clef) has four chords: C minor 7 (C, E♭, G, B♭), D minor 7 (D, F, A, C), E minor 7 (E, G, B, D), and F minor 7 (F, A, C, E♭). The bottom staff (bass clef) has four chords: C minor 7 (C, E♭, G, B♭), D minor 7 (D, F, A, C), E minor 7 (E, G, B, D), and F minor 7 (F, A, C, E♭). Each chord is followed by a double bar line, indicating where to write the chord symbol.

# Lesson 51. Diminished 7 Chords

- 21** The **diminished 7 chord** ( $^{\circ}7$ ) is formed by lowering the seventh of a  $\text{min}7(\flat 5)$  chord by a half step.

The diagram illustrates the construction of a diminished 7 chord. The first staff shows a  $\text{Cmin}7(\flat 5)$  chord with intervals  $m3$ ,  $^{\circ}5$ , and  $m7$ . The second staff shows a  $\text{C}^{\circ}7$  chord with intervals  $m3$ ,  $^{\circ}5$ , and  $^{\circ}7$ .

Compared to the major 7, the seventh of the diminished 7 chord has been lowered twice, each time by a half step. The enharmonic equivalent is frequently used to avoid the double-flat. For example, the  $\text{B}\flat\flat$  (double-flat) in the example above may also be expressed as an A, since A is two half steps below B.

The diagram illustrates the enharmonic equivalent of a diminished 7 chord. The first staff shows  $\text{M}7$ ,  $\text{m}7$ , and  $^{\circ}7$ . The second staff shows  $^{\circ}7$  and  $\text{M}6$ .

## Practice

1. Build diminished 7 ( $^{\circ}7$ ) chords upwards from each given note.

Exercise 1: Build diminished 7 ( $^{\circ}7$ ) chords upwards from each given note. The top staff shows four starting notes: C, E, G, and B. The bottom staff shows the corresponding diminished 7 chords:  $\text{C}^{\circ}7$ ,  $\text{E}^{\circ}7$ ,  $\text{G}^{\circ}7$ , and  $\text{B}^{\circ}7$ . A note is marked with a sharp and the text "(use enharmonic 7th)".

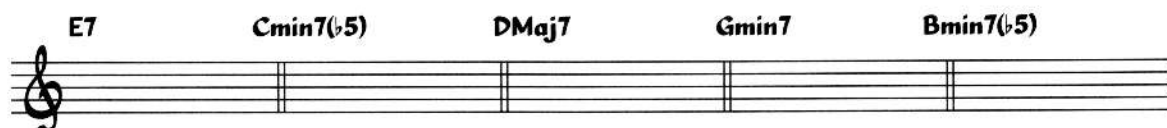
2. Analyze each chord with a chord symbol. Some are  $\text{min}7(\flat 5)$ , some are diminished 7.

Exercise 2: Analyze each chord with a chord symbol. The top staff shows four chords:  $\text{Cmin}7(\flat 5)$ ,  $\text{Emin}7(\flat 5)$ ,  $\text{Gmin}7(\flat 5)$ , and  $\text{Bmin}7(\flat 5)$ . The bottom staff shows four chords:  $\text{C}^{\circ}7$ ,  $\text{E}^{\circ}7$ ,  $\text{G}^{\circ}7$ , and  $\text{B}^{\circ}7$ .

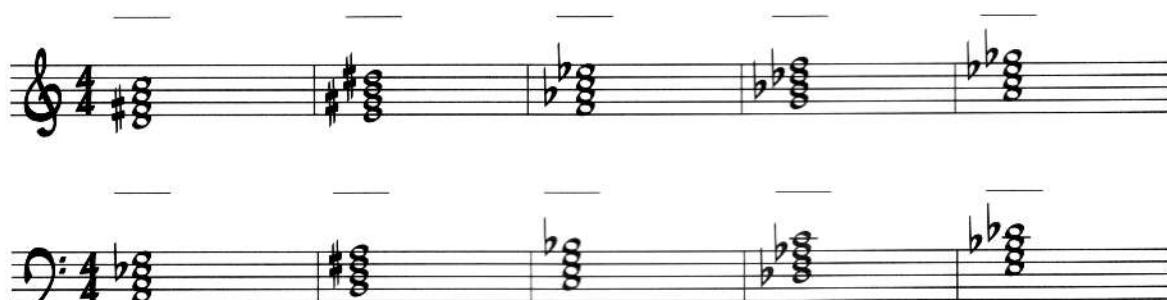


# Exercises, Lessons 47–51. Seventh Chord Types and Symbols

1. Write out each of the following chords from the chord symbols.



2. Analyze each chord with a chord symbol.



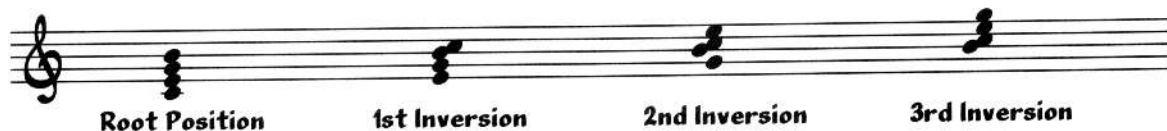
## Ear Training

- 22** 1. Listen to each demonstration chord. Then, identify each example as either a major 7 or dominant 7 chord.
- a. major 7      dominant 7
  - b. major 7      dominant 7
  - c. major 7      dominant 7
  - d. major 7      dominant 7
- 23** 2. Listen to each demonstration chord. Then, identify each example as either dominant 7 or minor 7.
- a. dominant 7      minor 7
  - b. dominant 7      minor 7
  - c. dominant 7      minor 7
  - d. dominant 7      minor 7

- 24** 3. Listen to each demonstration chord. Then, identify each example as either minor 7 or min7(b5).
- a. minor 7      min7(b5)
  - b. minor 7      min7(b5)
  - c. minor 7      min7(b5)
  - d. minor 7      min7(b5)
- 25** 4. Listen to each demonstration chord. Then, identify each example as either min7(b5) or diminished 7.
- a. min7(b5)      diminished 7
  - b. min7(b5)      diminished 7
  - c. min7(b5)      diminished 7
  - d. min7(b5)      diminished 7

# Lesson 52. Inversions of Seventh Chords

- 26** Like triads, seventh chords can be inverted. There are three inversions possible with seventh chords. The first inversion has the third on the bottom; second inversion has the fifth on the bottom; third inversion has the seventh on the bottom.



## Practice

1. Write the three inversions of the following seventh chords.

<b>B<sup>b</sup>Maj7</b>	<b>B7</b>	<b>Cmin7</b>	<b>C<sup>o</sup>7</b>
1st 2nd 3rd	1st 2nd 3rd	1st 2nd 3rd	1st 2nd 3rd
<b>Dmin7(b5)</b>	<b>EMaj7</b>	<b>F#min7</b>	<b>A<sup>b</sup>7</b>
1st 2nd 3rd	1st 2nd 3rd	1st 2nd 3rd	1st 2nd 3rd

2. Identify each inverted seventh chord with a chord symbol.


## Lesson 53. Voice Leading Seventh Chords

As with triads, seventh chords can be voice led following the common-tone principle. In these examples, each voice moves smoothly, as the common tone is observed.

FMaj7 Bbmaj7 EbMaj7 AbMaj7 F7 Bb7 Eb7 Ab7

### Practice

1. Complete the voice leading from the starting position.

FMaj7 Bbmaj7 EbMaj7 AbMaj7 F7 Bb7 Eb7 Ab7

2. Complete the voice leading from the starting position.

Amin7 Dmin7 Gmin7 Cmin7 Amin7(b5) Dmin7(b5) Gmin7(b5) Cmin7(b5)

3. Complete the voice leading from the starting position. Hint: There will be no common tones. Voice lead moving each voice down by half-step motion.

**F<sup>°</sup>7    B<sup>°</sup>7    E<sup>°</sup>7    A<sup>°</sup>7**

The musical notation shows a grand staff with a treble and bass clef. The key signature has one sharp (F#). The bass staff contains a whole note chord F#3-Bb3-Eb3-Ab3. The treble staff is empty, with a treble clef and a key signature of one sharp (F#).



# Lesson 54. Contrary and Parallel Voice Leading of Seventh Chords

- 27 As with triads, seventh chords with no common tones may be voice led in either contrary or parallel motion.

GMaj7 FMaj7 E♭Maj7 D♭Maj7 GMaj7 FMaj7 E♭Maj7 D♭Maj7

Contrary Motion

Parallel Motion

## Practice

1. Voice lead the following progression using first contrary, then parallel motion.

FMaj7 GMaj7 AMaj7 FMaj7 GMaj7 AMaj7

Contrary

Parallel

2. Voice lead using contrary and parallel motion.

CMaj7 B♭Maj7 A♭Maj7 CMaj7 B♭Maj7 A♭Maj7

Contrary

Parallel

## Lesson 55. Third, Fifth, and Seventh over the Bass

- 28** Frequently, seventh chords contain the third, fifth, and seventh in the chord, and the root in the bass, making a total of four voices. This sound is especially common in pop music.

CMaj7      Fmin7      C7

5th 7th 3rd      3rd 7th 5th      5th 3rd 7th

Root      Root      Root

Voice leading the third, fifth, and seventh works the same as voice leading regular triads.

GMaj7 CMaj7 FMaj7 Bbmaj7 GMaj7 Amin7 GMaj7 Amin7

Common tone      Contrary      Parallel

## Practice

1. Write the following seventh chords with the third, fifth, and seventh over the root.

**Amin7      DMaj7      Cmin7(b5)      E7**

2. Voice lead the following seventh chords with the third, fifth, and seventh over the root, using the common-tone principle.

**FMaj7      Dmin7      B♭Maj7      Gmin7      E♭Maj7**

3. Voice lead the third, fifth, and seventh, using contrary, then parallel motion.

**FMaj7      Gmin7      Amin7      B♭Maj7      FMaj7      Gmin7      Amin7      B♭Maj7**

**Contrary      Parallel**

# Exercises, Lessons 52–55. Seventh-Chord Inversions and Voice Leading

1. Voice lead this progression of seventh chords using the common-tone principle.

**B♭Maj7 Gmin7 Cmin7 F7 B♭Maj7 B♭Maj7 Gmin7 Cmin7 F7 B♭Maj7**

**AMaj7 F♯min7 Bmin7 E7 AMaj7 AMaj7 F♯min7 Bmin7 E7 AMaj7**

2. Voice lead the same progression using the common tone principle with the third, fifth, and seventh over the root in the bass.

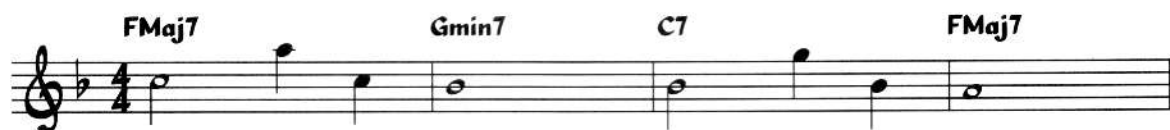
**B♭Maj7 Gmin7 Cmin7 F7 B♭Maj7 AMaj7 F♯min7 Bmin7 E7 AMaj7**

**Ear Training**

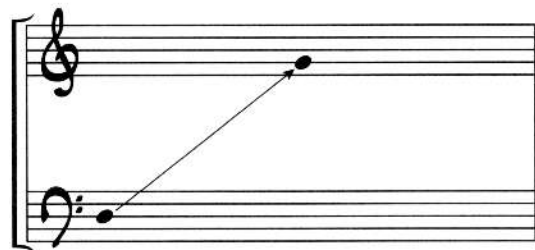
- 29** 1. Listen to the major 7, dominant 7, and minor 7 chords in root position. Then, identify each example as major 7, dominant 7, or minor 7.
- |    |         |            |         |
|----|---------|------------|---------|
| a. | major 7 | dominant 7 | minor 7 |
| b. | major 7 | dominant 7 | minor 7 |
| c. | major 7 | dominant 7 | minor 7 |
| d. | major 7 | dominant 7 | minor 7 |
| e. | major 7 | dominant 7 | minor 7 |
| f. | major 7 | dominant 7 | minor 7 |
| g. | major 7 | dominant 7 | minor 7 |
| h. | major 7 | dominant 7 | minor 7 |

## Lesson 56. Harmonic Accompaniment from a Lead Sheet

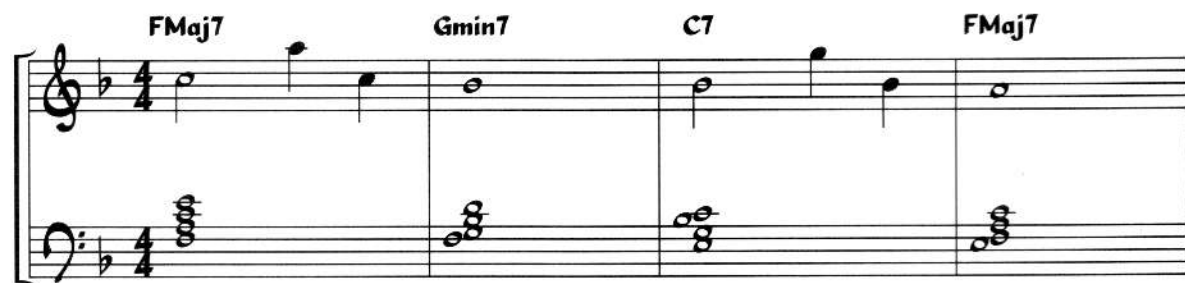
In popular music and jazz, musicians frequently work with a **lead sheet**, rather than a complete score. The lead sheet includes the melody and the chords expressed in chord symbols, whereas the score contains all notes, written out. Accompanists use the lead sheet as a guideline to create their own parts from the chord symbol information.



The first step to creating harmonic **accompaniment** (support for the melody, devised from the chord symbols) is to voice lead the chords in the range of notes illustrated below, where they will sound rich and full, but not so low as to sound muddy. The melody is played separately above the chords.



30





# Practice

1. Voice lead the chords from the first position shown. Watch out for the key signature!

Chord progression: A7 Dmin7 G7 Gmin7 C7 FMaj7

## Lesson 57. Arpeggiating Accompaniment Chords

- 31** **Arpeggiating** chords—playing each note of the chord separately, rather than all at the same time—is a common way to create harmonic accompaniment. Notice that the notes of each chord are arpeggiated in the same order, starting with the lowest note to the highest note and back again—while the original voice leading from the previous lesson remains intact (Lesson 56, p. 34).

### Practice

1. Complete the arpeggiated accompaniment. When there are two chords in the same measure, use the first chord for the first two beats of the pattern, and the second chord for the last two beats. Follow the voice leading set up in the previous lesson (Lesson 56, p. 35).

## Lesson 58. Using the Third, Fifth, and Seventh over the Root as Accompaniment Chords

- 32 Accompaniments created from seventh chords can use the third, fifth, and seventh only with the root of the chord in the bass.

Melody

Chord

Bass

FMaj7 Gmin7 C7 FMaj7

### Practice

1. Voice lead the following chords from the starting position shown, using only the third, fifth, and seventh of each seventh chord.

A7 Dmin7 G7 Gmin7 C7 FMaj7

## Lesson 59. 2:1 Accompaniment Pattern

- 33** Another accompaniment pattern that works well with the three notes of the third, fifth, and seventh is the **2:1 pattern**. Two of the three notes are struck together, alternating with the third of the three notes, by itself. This is a 2:1 pattern based on the voice leading in Lesson 58 (p. 37).

### Practice

1. Complete the 2:1 harmonic accompaniment using the same voice leading as the previous two lessons (Lessons 57 and 58, p. 36–37).

# Exercises, Lessons 56–59. Harmonizing and Accompaniment Patterns

1. Voice lead the accompanying chords using the common-tone principle.

GMaj7 Emin7 Amin7 D7

2. Arpeggiate the voice-led chords to create an accompaniment. Be careful to arpeggiate the notes of each chord in the same order, to preserve the voice leading.

GMaj7 Emin7 Amin7 D7

3. Voice lead the third, fifth, and seventh from the starting position shown.

FMaj7 BbMaj7 Emin7(b5) A7

4. Create a 2:1 pattern, using the third, fifth, and seventh to create an accompaniment.

FMaj7      Bbmaj7      Emin7(b5)      A7

### Ear Training

- 34** 1. Listen to the following arpeggiated chords, and identify them as major 7, dominant 7, or minor 7.
- |            |            |         |
|------------|------------|---------|
| a. major 7 | dominant 7 | minor 7 |
| b. major 7 | dominant 7 | minor 7 |
| c. major 7 | dominant 7 | minor 7 |
| d. major 7 | dominant 7 | minor 7 |
| e. major 7 | dominant 7 | minor 7 |
| f. major 7 | dominant 7 | minor 7 |
| g. major 7 | dominant 7 | minor 7 |
- 35** 2. Listen to the following 2:1 accompaniment patterns, and identify chords as major 7, dominant 7, or minor 7.
- |            |            |         |
|------------|------------|---------|
| a. major 7 | dominant 7 | minor 7 |
| b. major 7 | dominant 7 | minor 7 |
| c. major 7 | dominant 7 | minor 7 |
| d. major 7 | dominant 7 | minor 7 |
| e. major 7 | dominant 7 | minor 7 |
| f. major 7 | dominant 7 | minor 7 |
| g. major 7 | dominant 7 | minor 7 |



## Lesson 60. Melodic Motion

The notes of a melody move by step or by leap. A **step** is a major or minor second, and a **leap** is any interval larger.



Steps (S) and leaps (L) are analyzed as this melody moves from one note to the next.



### Practice

1. Analyze the motion between the notes of the following melody by using either S or L.



# Lesson 61. Writing a Chord-Tone Melody

- 36** The notes that make up a chord are called **chord tones**. A **chord-tone melody** is one that uses only notes of the current chord, in any order. Notes may be used in different octaves, and some may be used more than once before others are used.

**Dmin**

1 3 5 5 5 1 5 3 1 1 3 5 3 1 5 3 1

## Practice

- Adjust the notes of this melody to fit the chords. Label the chord tones using numerals, as above.

a. D $\flat$

b. Bmin7

- Write a 4-measure chord-tone melody on the following chords.

**F $\sharp$ Maj7**

**F $\sharp$ min7**

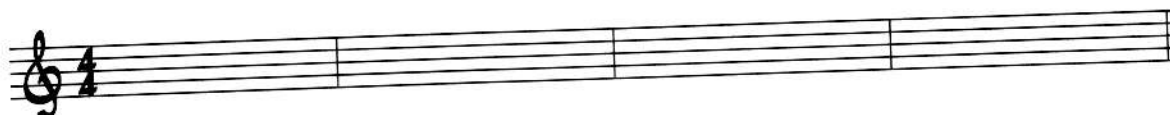
# Exercises, Lessons 60–61. Melody

## Ear Training

- 37 1. Listen to a C7 chord. You will hear it arpeggiated over more than one octave. Then, transcribe this 4-measure melody.



- 38 2. Listen to a Cmin7 chord. Then, transcribe this 4-measure melody.



- 39 3. Listen to a CMaj7 chord. Then, transcribe this 4-measure melody.



## Lesson 62. Melodic Motion over Change of Harmony

- 40** In looking at melodic motion over a change of harmony, we pay attention to how the last note of one chord resolves into the first note of the next chord. If the last note of a chord is also a chord tone of the next chord, it may be described as a common tone (CT). In these cases, a leap into the first note of the next chord is possible. If the last note of a chord is not a chord tone of the next chord (known as a non-common-tone, or NC), a stepwise resolution into the first note of the next chord is called for.

The first example shows a melodic line in 4/4 time. The first measure has an FMaj7 chord and the last note is G4. The second measure has a Bbmaj7 chord and the first note is G4. This is a common tone (CT), and the melody leaps from G4 in the first measure to G4 in the second. The third measure has an FMaj7 chord and the last note is A4. The fourth measure has a Bbmaj7 chord and the first note is A4. This is also a common tone (CT), and the melody leaps from A4 in the third measure to A4 in the fourth.

The second example shows a similar progression. The first measure has an FMaj7 chord and the last note is F#4. The second measure has a Bbmaj7 chord and the first note is G4. This is a non-common tone (NC), and the melody resolves from F#4 in the first measure to G4 in the second by a half step. The third measure has an FMaj7 chord and the last note is G4. The fourth measure has a Bbmaj7 chord and the first note is A4. This is also a non-common tone (NC), and the melody resolves from G4 in the third measure to A4 in the fourth by a half step.

### Practice

- Write a short, simple melody on this 2-chord progression. Use each of the four Cmin7 notes as the last note of the first measure, and resolve that note into the next chord by leap if it's a common tone, or resolve by step if it's a non-chord-tone.

The first staff is in 4/4 time and shows a Cmin7 chord in the first measure and an Fmin7 chord in the second. The second staff is identical, also showing a Cmin7 chord in the first measure and an Fmin7 chord in the second.

# Lesson 63. Repeating a Melodic Phrase on Different Chords

- 41** A **phrase** is the natural division of a melody into groups of notes that belong together, just as sentences are groups of words that belong together. Listen to this melody. It is made up of two phrases, as indicated by the phrase markings:



- 42** Notice that the rhythmic and melodic shapes of the two phrases are similar. If the chords in measures 3 and 4 were different, the melody notes would have to be adjusted to accommodate the new chords.



## Practice

- Complete these 4-measure melodies by repeating the first 2-measure phrase on the chords given. Try playing your melody with the chords.



- Write your own melody in the first two measures, with a repeat of that melody in the second two measures. Practice playing it with the chords.



## Lesson 64. The Melodic Sequence

- 43** A **melodic sequence** is a series of at least three repeats of melodic phrases. Commonly, the third one is varied in order to add variety and avoid excessive repetition, and the fourth one is often completely different to bring things to a conclusion.

**Cmin7** **F7** **Dmin7** **G7**  
Repeated

**Emin7** **A7** **D7** **G7**  
Varied Completely Different

### Practice

- Complete these melodic sequences, using the melodic material and chords given.

**Gmin7** **C7** **FMaj7** **Bbmaj7**  
Repeat:

**Emin7(b5)** **A7** **DMaj7**  
Conclude:

- Complete these melodic sequences, using the melodic material and chords given.

**Emin7** **A7** **Dmin7** **G7**  
Repeat:

**Cmin7** **F7** **Bbmaj7**  
Vary: Conclude:



# Exercises, Lessons 62–64. Melody Writing

A frequently used song form uses a 4-measure phrase, which repeats in the first section, then a shorter 2-measure phrase is repeated sequentially for the second section. Notice the double barline after measure 8 separating the two sections.

## 4-measure phrase



## Phrase repeated



## 2-measure phrase

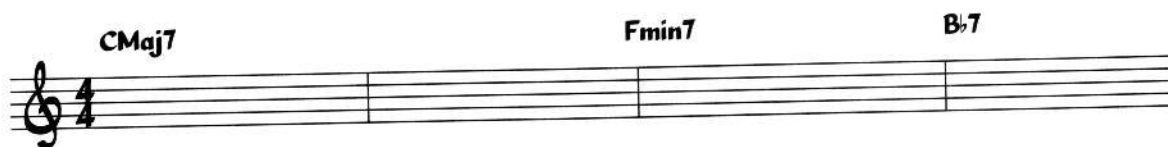


## Phrase repeated

## Phrase varied



1. Try your own melody writing on this same chord progression. Repeat your first 4-measure phrase in the second four measures, then use a 2-measure phrase repeated sequentially for the last eight measures.



### Ear Training

- 44 1. Listen to the CMaj7 and FMaj7 chords. Then, transcribe this 4-measure melody.



- 45 2. Listen to the Dmin7 and G7 chords. Then, transcribe this 4-measure melody.



- 46 3. Listen to the Dmin7, G7, and CMaj7 chords. Then, transcribe this 4-measure melody.



## What's Next?

Congratulations on finishing *Berklee Music Theory, Book 2*. Now you have a basic understanding of chords and chord types, including major, minor, diminished, and augmented triads and seventh chords. You've practiced voice leading, connecting notes from chord to chord in a way that sounds smooth and musical. You've explored harmonic accompaniment on piano, and have even written melodies of your own.

Continue working with this material as much as you possibly can. Write out and play the chords of songs from a lead sheet; practice voice leading and devising accompaniment patterns based on the chords; try writing your own melody on those same chords. All of these activities will help to reinforce and even further the theoretical knowledge gained in this course.

Until then—keep practicing, and continue to build your knowledge of music theory. It will make you a better musician.

## **About the Author**

Paul Schmeling, Chair Emeritus of the Piano Department at Berklee College of Music, is a master pianist, interpreter, improviser, and arranger. He has inspired countless students since he began teaching at Berklee in 1961. He has performed or recorded with jazz greats such as Clark Terry, Rebecca Parris, George Coleman, Carol Sloane, Frank Foster, Art Farmer, Herb Pomeroy, Phil Wilson, Dick Johnson, and Slide Hampton. In the 1990s, the Paul Schmeling Trio released two inventive and critically acclaimed albums, interpreting the music of Hoagy Carmichael and songs associated with Frank Sinatra. He is the co-author of the *Berklee Practice Method: Keyboard* (Berklee Press 2001) and *Berklee Instant Keyboard* (Berklee Press 2002). He is also the author and instructor of three online courses on [Berkleemusic.com](http://Berkleemusic.com), *Music Theory 101*, *Music Theory 201*, and *Berklee Keyboard Method*.



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**PAUL SCHMELING**, Chair Emeritus of the Piano Department at Berklee College of Music, is a master pianist, interpreter, improviser, and arranger. He has inspired countless students, and has performed or recorded with such jazz greats as George Coleman, Herb Pomeroy, and Slide Hampton. He is the co-author of *Instant Keyboard* and the *Berklee Practice Method: Keyboard*.

Berklee Music Theory, Book 2

### Lesson 59. 2:1 Accompaniment Pattern

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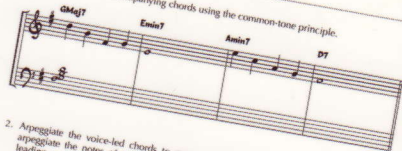
Practice

1. Complete the 2:1 pattern from the previous two lessons.

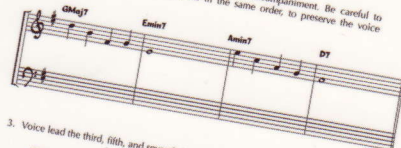


### Exercises, Lessons 56–59. Harmonizing and Accompaniment Patterns

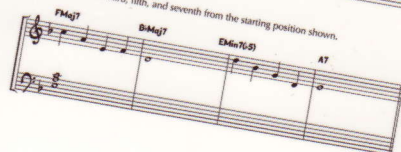
1. Voice lead the accompanying chords using the common-tone principle.



2. Aggregate the voice-led chords to create an accompaniment. Be careful to aggregate the notes of each chord in the same order, to preserve the voice leading.



3. Voice lead the third, fifth, and seventh from the starting position shown.



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