

Music Major 3 Summer Music Packet

Complete and will be collected by 8/30/2022

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Chapter 3

INTRODUCTION TO TRIADS AND SEVENTH CHORDS

EXERCISE 3-1

A. Spell the triad, given the root and the type. Major triads are indicated by an uppercase letter (G), minor by an uppercase letter followed by the letter "m" (Gm), augmented by a "+" (G+), and diminished by a "°" (G°).

- | | | | |
|-------------|-------------|--------------|---------------|
| 1. Gm _____ | 4. A° _____ | 7. C+ _____ | 10. F#m _____ |
| 2. E♭ _____ | 5. Fm _____ | 8. A#° _____ | 11. B+ _____ |
| 3. D° _____ | 6. D♭ _____ | 9. E _____ | 12. E♭m _____ |

B. Notate the triad, given the root and the type.

ex. 1 2 3 4 5 6 7

m M ° M + m m °

8 9 10 11 12 13 14 15

m + M M m ° M m

16 17 18 19 20 21 22 23

M ° m M + m + °

24 25 26 27 28 29 30 31

M m m ° M ° m M

C. Fill in the blanks.

ex.	1	2	3	4	5	6	7	8	9	10
5th:	G#	A \flat	—	F#	—	—	—	—	B	—
3rd:	E	—	—	—	E \flat	—	—	B \flat	—	A
Root:	C#	—	D	A \flat	—	G#	E \flat	—	—	—
Type:	m	M	+	m	m	°	m	M	+	m

D. Given the chord quality and one member of the triad, notate the remainder of the triad.

ex. 1 2 3 4 5 6 7

8 9 10 11 12 13 14 15

16 17 18 19 20 21 22 23

24 25 26 27 28 29 30 31

EXERCISE 3-3

- A. Identify the root and type of each chord and show the correct bass-position symbol (Bps).

1 2 3 4 5 6 7 8

Root	_____	_____	_____	_____	_____	_____	_____	_____
Type	_____	_____	_____	_____	_____	_____	_____	_____
Bps	_____	_____	_____	_____	_____	_____	_____	_____

9 10 11 12 13 14 15 16

Root	_____	_____	_____	_____	_____	_____	_____	_____
Type	_____	_____	_____	_____	_____	_____	_____	_____
Bps	_____	_____	_____	_____	_____	_____	_____	_____

- B. Fill in the blanks below each figured bass with the lead-sheet symbol of the chord that would be played at the corresponding point in the excerpt. Use slash-chord notation, as in C/E, for inverted chords. The figures 5 and $\frac{5}{3}$ both mean to use a root position triad.

1. Bach, "Gott lebet noch" (adapted)

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

2. Bach, "Dich bet' ich an, mein höchster Gott"

(The first C#3 in the bass is not to be harmonized.)

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

B. Provide the root, type, and bass-position symbol (Bps) for each chord in the following excerpts. Each chord is numbered. Put your analysis of the chords in the blanks below each excerpt.



1. Bach, "Wer weiss, wie nahe mir mein Ende"

Root	_____																
Type	_____																
Bps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Root	_____																
Type	_____																
Bps	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

Chapter 4

DIATONIC CHORDS IN MAJOR AND MINOR KEYS

EXERCISE 4-1

- A. Given the key and the triad, supply the roman numeral *below* the staff. Be sure your roman numeral is of the correct type (correct case and so on), and include bass-position symbols (6 or $\frac{6}{4}$) where needed. Finally, provide an appropriate lead-sheet symbol *above* the staff, using slash-chord notation where appropriate.

ex. G° 1 — 2 — 3 — 4 — 5 — 6 — 7 —

A \flat : vii° E \flat : — f \sharp : — E: — g: — F: — G: — c: —

8 — 9 — 10 — 11 — 12 — 13 — 14 — 15 —

A: — c \sharp : — B \flat : — g: — D \flat : — c: — f \sharp : — E: —

- B. In the following exercise you are given the name of a key and a scale degree number (in parentheses). *Without using key signatures*, notate the triad on that scale degree, and provide the roman numeral. In minor keys, be sure to use the triad types circled in Example 4-7. (p. 57)

ex. 1 2 3 4 5 6 7

e \flat : VI a \flat : — C \flat : — G: — c: — F \sharp : — e: — F: —
($\hat{6}$) ($\hat{2}$) ($\hat{7}$) ($\hat{7}$) ($\hat{3}$) ($\hat{2}$) ($\hat{6}$) ($\hat{3}$)

8 9 10 11 12 13 14 15

f: — C \sharp : — g \sharp : — D \flat : — f \sharp : — B \flat : — D: — E \flat : —
($\hat{7}$) ($\hat{3}$) ($\hat{6}$) ($\hat{4}$) ($\hat{5}$) ($\hat{2}$) ($\hat{6}$) ($\hat{7}$)

- C. Analysis. Write roman numerals in the spaces provided, making sure each roman numeral is of the correct type and includes a bass-position symbol if necessary.



1. Handel, "Wenn mein Stündlein vorhanden ist"

Bb: 1 2 3 4 5 6 7 8



2. Handel, "Wenn mein Stündlein vorhanden ist"

Bb: 1 2 3 4 5 6 7 $\frac{I}{8}$

- D. Fill in the blanks, using the example as a model.

Key	This Chord	Has This Bass Note
ex. C	I ⁶	E
1. a	V ⁶	
2.	IV ⁶	C
3. c [#]	ii ^{o6}	
4. B	$\frac{6}{4}$	C [#]
5.	i ₃ ⁶	D
6. F	vii ^{o6}	

EXERCISE 4-2

- A. Given the key and the seventh chord, supply the roman numeral *below* the staff. Be sure your roman numeral is of the correct type, and include bass-position symbols where needed. Finally, provide an appropriate lead-sheet symbol *above* the staff.

ex. $G^{\#o7}$ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____

a: vii^{o7} G: _____ $c^{\#}$: _____ f: _____ Bb : _____ e: _____ A^b : _____ g: _____

8 _____ 9 _____ 10 _____ 11 _____ 12 _____ 13 _____ 14 _____ 15 _____

d: _____ E: _____ F: _____ A: _____ E^b : _____ b: _____ c: _____ D: _____

- B. In the following exercises, you are given the name of a key and a scale degree number (in parentheses). *Without using key signatures*, notate the seventh chord on that scale degree in root position, and provide the roman numeral. In minor keys, be sure to use the chord types shown in Example 4-9. (p. 62)

ex. 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____

G: iii^7 B^b : _____ F: _____ b : _____ $f^{\#}$: _____ A: _____ g: _____ D: _____
 (3) (4) (1) (3) (2) (7) (7) (6)

8 _____ 9 _____ 10 _____ 11 _____ 12 _____ 13 _____ 14 _____ 15 _____






c: _____ E: _____ G: _____ E^b : _____ $c^{\#}$: _____ f: _____ e: _____ A^b : _____
 (1) (4) (2) (3) (5) (5) (2) (6)

Inversion Symbols and Figured Bass

In analyzing music we often use numbers to indicate the bass positions of chords. Instead of using 1 for first inversion, 2 for second inversion, and so on, we use numbers derived from the Baroque system called **figured bass** or **thoroughbass**. During the Baroque period (approximately 1600–1750), the keyboard player in an ensemble read from a part consisting only of a bass line and some symbols indicating the chord to be played above each bass note.

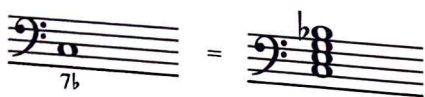
In the Baroque system, the symbols consisted basically of numbers representing intervals above the bass to be formed by the members of the chord, but the notes could actually be played in any octave above the bass. The system dealt only with intervals, not with roots of chords, because the theory of chord roots had not been devised when figured bass was first developed.

The following table illustrates the figured-bass symbols for root position and inverted triads and seventh chords for a G major triad and a G Mm 7.

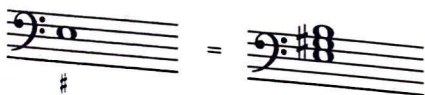
Sonority desired							
Complete figured bass symbol	5 3	6 3	6 4	7 5 3	6 5 3	6 4 3	6 4 2
Symbol most often used		6	6 4	7	6 5	4 3	4 2
How to find the root	Bass note	6th above bass	4th above bass	Bass note	6th above bass	4th above bass	2nd above bass

The Baroque keyboardist reading a figured bass followed the key signature unless told to do otherwise. So a root position triad, for example, might be major, minor, or diminished, depending upon the key signature. If the Baroque composer wanted to direct the keyboard player to raise or lower a note, several methods could be used, including the following three.

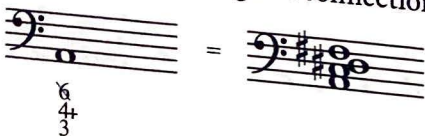
1. An accidental next to an arabic numeral in the figured bass could be used to raise or lower a note.



2. An accidental by itself always referred to the 3rd above the bass and could be used to alter that note.



3. A slash or plus sign in connection with an arabic numeral meant to raise that note.



Another symbol that you will occasionally encounter is a horizontal line, usually short, meaning to keep the same note or chord. For instance, $\overset{5}{\underset{3}{6}}$ over a bass note means to use the same bass note for a root position triad followed by one in first inversion.

Example 3-8 illustrates a portion of an actual figured bass part from the Baroque period, along with a possible **realization** that would have been improvised by the keyboardist. Some keyboard players may have added embellishments not shown in this realization. Bach included the numeral 5 at several places to remind the player to play a root position triad.

Example 3-8 Bach, *Easter Oratorio*, II

The image displays a musical score for a figured bass. The top staff is the figured bass line in 3/4 time, key of D major (two sharps). The figures above the notes are: 6, 5, 4, 5, 5, 6, 6, 5, 6, 7. The bottom staff shows the realization of these figures, with chords indicated by block letters (F, G, A, B, C, D, E, F, G, A) and their inversions. The realization is in a grand staff, showing both the figured bass and the keyboard realization.

The realization of figured basses is still considered to be an effective way to learn certain aspects of tonal composition, and we will occasionally use exercises of this kind in the text.

A few figured-bass symbols have been adopted for use in harmonic analysis. We call these **bass-position symbols** to distinguish them from figured bass, which is not the same thing. Bass-position symbols are usually used with a roman numeral (as in I^6 or V^6_5) as part of a harmonic analysis. (Roman-numeral analysis is explained in the next chapter.) Notice that when a seventh chord is inverted, the 7 is replaced by the appropriate bass-position symbol.

Bass position	Triad symbol	Seventh chord symbol
Root position	(none)	7
Root position	6	$\begin{smallmatrix} 6 \\ 5 \end{smallmatrix}$
Second inversion	$\begin{smallmatrix} 6 \\ 4 \end{smallmatrix}$	$\begin{smallmatrix} 4 \\ 3 \end{smallmatrix}$
Third inversion	(none)	$\begin{smallmatrix} 4 \\ 2 \end{smallmatrix}$ (or 2)

Lead-Sheet Symbols

There are some intriguing parallels and contrasts between the figured-bass system of the seventeenth and eighteenth centuries and the lead-sheet symbols (sometimes called pop symbols) developed for use with jazz and other types of popular music in the twentieth and twenty-first centuries. Both facilitated the notation process and served to provide sufficient information to allow the performer to improvise within certain bounds. However, whereas the figured-bass system provided the bass line with symbols indicating the chords

Self-Test 3-3

(Answers begin on page 561.)

A. Identify the root and type of each chord, and show the correct bass-position symbol (Bps).

	ex.	ex.	1	2	3	4	5	6
Root	F	Bb						
Type	M	Mm7						
Bps		6/5						

	7	8	9	10	11	12	13	14
Root								
Type								
Bps								

Chapter Four

Diatonic Chords in Major and Minor Keys

Introduction

Now that we have presented the four triad types and the five common seventh-chord types, we can begin to look at how they are used in tonal music, which is really what most of this book is about. Most chords in tonal music are made up only of notes from the scale on which the passage is based. That is, if a passage is in G major, most of the chords contain only notes found in the G major scale. Chords of this kind are called **diatonic** chords. All other chords—those using notes not in the scale—are called **altered** or **chromatic** chords. We will get to them later. At this point we are not going to worry about how you might *compose* music using diatonic chords, although that will come up soon. For now, we are going to concentrate on spelling and recognizing diatonic chords in various keys.

Diatonic Triads in Major

Triads may be constructed using any degree of the major scale as the root. (You might need to review scale degree names, which were introduced on p. 15, because they will be used more frequently from this point on.) Diatonic triads, as we have mentioned, will consist only of notes belonging to the scale. To distinguish the triads built on the various scale degrees from the scale degrees themselves, we use roman numerals instead of arabic numerals (for example, V instead of 5). The triad type is indicated by the form of the roman numeral.

Triad type	Roman numeral	Example
Major	Uppercase	V
Minor	Lowercase	vi
Diminished	Lowercase with a °	vii°
Augmented	Uppercase with a +	III+

Taking C major as an example, we can discover the types of diatonic triads that occur on each degree of the major scale.

Example 4-1

Scale degree
of the root

1̂ 2̂ 3̂ 4̂ 5̂ 6̂ 7̂

Roman numeral I ii iii IV V vi vii°

You should memorize the following table.

DIATONIC TRIAD TYPES IN MAJOR

Major	I, IV, and V
Minor	ii, iii, and vi
Diminished	vii°
Augmented	none

The Minor Scale

Before we can begin talking about diatonic chords in minor, we have to return to the subject of the minor scale. Because instrumentalists are taught to practice natural, harmonic, and melodic minor scales, we sometimes assume that the tonal composer had three independent minor scale forms from which to choose, but this is not at all how the minor mode works in tonal music.

We can make the following generalization about the three minor scales: there is, in a sense, one minor scale that has two scale steps, 6̂ and 7̂, that are variable. That is, there are two versions of 6̂ and 7̂, and both versions will usually appear in a piece in the minor mode. All the notes in Example 4-2 are diatonic to e minor. Notice the use of ↑6̂ and ↑7̂ to mean raised 6̂ and 7̂ and ↓6̂ and ↓7̂ to mean unaltered 6̂ and 7̂.

Example 4-2

How do composers decide which version of 6̂ and 7̂ to use? Melodically, the most graceful thing for ↑6̂ and ↑7̂ to do is to ascend by step, whereas ↓6̂ and ↓7̂ tend naturally to descend by step; these tendencies conform to the melodic minor scale. Example 4-3 provides a good illustration of the use of the minor scale. If you look closely at Bach's treatment of 6̂ and 7̂ (circled notes), you will see that all the motion is stepwise, with two exceptions. The first leap involving 6̂ or 7̂ is from the G♭4 in m. 2. Here the eventual goal is F, not A, so the ↓6̂ form is used. The other leap occurs in the bass in m. 4. Here the goal of the line is B♭, not G♭, so the ↑7̂ form is used.

Diatonic Triads in Minor

The construction of triads is somewhat more involved in the minor mode than in major. Because $\hat{6}$ and $\hat{7}$ are variable, and because nearly all triads contain $\hat{6}$ or $\hat{7}$, more diatonic triads are possible in minor. Nonetheless, there are seven triads in minor (one for each scale degree) that occur more frequently than the others, and these are the ones we will use in our exercises for now. The roman numerals of the more common diatonic triads are circled in Example 4-7.

Example 4-7

Scale degree of the root

$\hat{1}$ $\hat{2}$ $\hat{2}$ $\hat{3}$ $\hat{3}$ $\hat{4}$ $\hat{4}$ $\hat{5}$ $\hat{5}$ $\sharp\hat{6}$ $\sharp\hat{6}$ $\sharp\hat{7}$ $\sharp\hat{7}$

Roman numeral

\textcircled{i} $\textcircled{ii^\circ}$ ii \textcircled{III} III^+ \textcircled{iv} IV v \textcircled{V} \textcircled{VI} $\sharp vi^\circ$ VII $\textcircled{vii^\circ}$

Notice that the *roots* of the triads circled in Example 4-7 all belong to the *harmonic* minor scale. In fact, all the notes of the circled triads belong to the harmonic minor scale, with the exception of the 5th of the III chord. Following is the table of minor-key triads, which you should also memorize.

COMMON DIATONIC TRIADS IN MINOR

Major	III, V, and VI
Minor	i and iv
Diminished	ii° and vii°
Augmented	none

CHECKPOINT

1. In a major key, which triads are minor?
2. In a minor key, which triads are major?
3. The triads on which two scale degrees are the same type in both major and minor?
4. Which of the four triad types occurs least often in tonal music?

Self-Test 4-1

(Answers begin on page 563.)

- A. Given the key and the triad, supply the roman numeral *below* the staff. Be sure your roman numeral is of the correct type (correct case and so on), and include bass-position symbols (⁶ or ₄) where needed. Finally, provide an appropriate lead-sheet symbol *above* the staff, using slash-chord notation where appropriate.

ex. Dm 1 2 3 4 5 6 7

d: i B: b: Ab: e: F#: a: Db:

8 9 10 11 12 13 14 15

bb: G: d#: C: A: c#: Bb: g:

- B. In the following exercises you are given the name of a key and a scale degree number. *Without using key signatures*, notate the triad on that scale degree in root position and provide the roman numeral. In minor keys be sure to use the triad types circled in Example 4-7.

ex.	1	2	3	4	5	6	7
-----	---	---	---	---	---	---	---

g: vii° (7)	B: _____ (3)	c#: _____ (6)	Bb: _____ (4)	Eb: _____ (5)	d#: _____ (4)	E: _____ (5)	f: _____ (3)
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8	9	10	11	12	13	14	15
---	---	----	----	----	----	----	----

a#: _____ (4)	B: _____ (7)	A: _____ (4)	d: _____ (7)	G: _____ (5)	b: _____ (5)	Gb: _____ (6)	D: _____ (2)
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- C. Analysis. Write roman numerals in the spaces provided, making sure each roman numeral is of the correct type and includes a bass-position symbol if needed. The tenor line sounds an octave lower than notated.



DISC 1: TRACK 5

In anmutiger Bewegung*p molto dolce*

Soprano

Alto

Tenor

Bass

1. Ach lie - ber Her - re Je - su Christ, weil du ein Kind ge -

1. Ach lie - ber Her - re Je - su Christ, weil du ein Kind ge -

1. Ach lie - ber Her - re Je - su Christ, weil du ein Kind ge -

1. Ach lie - ber Her - re Je - su Christ, weil du ein Kind ge -

D: 1 2 3 4 5 6 7 8 9 10 11 12 13

D. Fill in the blanks, using the example as a model.

	Key	This chord	Has this bass note
Ex.	C	V ⁶	B
1.		ii ^{o6}	G
2.	A	IV ⁶ ₄	
3.	f	vii ^{o6}	
4.		I ⁶ ₄	F
5.	e	V ⁶ ₄	
6.	B	V ⁶	

Exercise 4-1 See Workbook.

Diatonic Seventh Chords in Major

In the next chapter we will begin simple composition exercises using triads, but seventh chords will not be used compositionally until later. Nevertheless, we will continue to work with seventh chords in spelling exercises and in analysis to build a solid foundation for those later chapters.

The chords on each scale degree in major can include a 7th above the root. The roman-numeral system for seventh chords is similar to that for triads, as you will see in the following table.

Seventh-chord type	Roman numeral	Example
Major seventh	Uppercase with M7	I ^{M7}
Major-minor seventh	Uppercase with a 7	V ⁷
Minor seventh	Lowercase with a 7	vi ⁷
Half-diminished seventh	Lowercase with ^o 7	ii ^{o7}
Diminished seventh	Lowercase with ^o 7	vii ^{o7}

Four of the five seventh-chord types occur as diatonic seventh chords in major keys.

Example 4-8

C: I^{M7} ii⁷ iii⁷ IV^{M7} V⁷ vi⁷ vii^{o7}

You should learn the following table, which summarizes major-key seventh chords.

DIATONIC SEVENTH CHORDS IN MAJOR

M ⁷	I ^{M7} and IV ^{M7}
Mm ⁷	V ⁷
m ⁷	ii ⁷ , iii ⁷ , and vi ⁷
o ⁷	vii ^{o7}
o ⁷	none

Diatonic Seventh Chords in Minor

Because of the variability of $\hat{6}$ and $\hat{7}$, there are 16 possible diatonic seventh chords in minor. Example 4-9 shows only the most commonly used seventh chords on each scale degree. Most of the others will be discussed in later chapters. Notice that most of the notes in Example 4-9 belong to the harmonic minor scale.

Example 4-9

c: i⁷ ii^{o7} III^{M7} iv⁷ V⁷ VI^{M7} vii^{o7}

Here is the last chord table to learn.

COMMON DIATONIC SEVENTH CHORDS IN MINOR

M ⁷	III ^{M7} and VI ^{M7}
Mm ⁷	V ⁷
m ⁷	i ⁷ and iv ⁷
o ⁷	ii ^{o7}
o ⁷	vii ^{o7}

Remember that the bass-position symbols for inverted seventh chords are $\frac{6}{5}$, $\frac{4}{3}$, and $\frac{2}{1}$. This means that the V^7 in first inversion is symbolized as V^6_5 , *not* as V^7_5 . Also, remember that the symbol for a minor seventh chord does not include a lowercase “m.” For instance, use ii^7 , *not* ii^{m7} .

CHECKPOINT

1. Most of the five common seventh-chord types appear diatonically in both major and minor. Which one type does not?
2. Does the $m7$ chord occur on more scale steps in minor than in major?
3. The seventh chords on most scale steps are different qualities in major and minor. Which scale step is the exception to this?

Self-Test 4-2

(Answers begin on page 564.)

- A. Given the key and the seventh chord, supply the roman numeral *below* the staff. Be sure your roman numeral is of the correct type, and include bass-position symbols where needed. Finally, provide an appropriate lead-sheet symbol *above* the staff.

ex. FM7 1 2 3 4 5 6 7

C: IV^{M7} g: E: A^b : f: e: A: E^b :

8 9 10 11 12 13 14 15

F^\sharp : d: G: F: a: b: D: B^b :

- B. In the exercises that follow, you are given the name of a key and a scale degree number. *Without using key signatures*, notate the seventh chord on that scale degree in root position and provide the roman numeral. In minor keys be sure to use the chord types shown in Example 4-9.