

# Triads — 1st Inversion

Any root position triad may be changed by moving the root (bottom note) of the chord to another position. This is called an **INVERSION**—it means the notes are rearranged and a tone other than the root is the bottom note of the chord.

The first inversion can be made from a C triad by moving the root (C) to the top of the chord.

All letter names are the same, but the 3rd (E) is now on the bottom, and the root (C) is now on top. This is called **1st INVERSION**.

1st Inversion Triads in C major  
(3rd is on the bottom).

In 1st inversion, the **3rd** is *a/ways* the bottom note.

## OPEN and CLOSE POSITIONS

When the notes of a chord are spaced within an octave, it is in **CLOSE POSITION**.

When the notes of a chord are spaced larger than an octave, it is in **OPEN POSITION**.

Close Position

Root Position

Open Position

Root Position

Close Position

1st Inversion

Open Position

1st Inversion

## Exercises

- 1** Rewrite the following root position triads in open position.

- 2** Using the given notes as the root, add the 3rd and 5th *below* each note to make 1st inversion triads in the key of C.

- 3** Using the given notes as the 3rd, add the 5th and root *above* each note to make 1st inversion triads in the key of C (close position).

# Triads — 2nd Inversion

Any 1st inversion triad may be inverted again by moving the lowest note (3rd) to the top.

The second inversion can be made from a 1st inversion C triad by moving the 3rd (E) to the top of the chord.

1st Inversion      2nd Inversion

E G C becomes G C E

All letter names are the same, but the 5th (G) is now on the bottom, and the root (C) is now in the middle. This is called 2nd INVERSION.

2nd Inversion Triads in C Major (5th is on the bottom).

In 2nd inversion, the 5th is *always* the bottom note.

<p>Close Position</p> <p>2nd Inversion</p>	<p>Open Position</p> <p>2nd Inversion</p>
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Triads in all Positions (close).

Root Position      1st Inversion      2nd Inversion      Root Position

Root position: **root** is on the bottom.  
 1st inversion: **3rd** is on the bottom.  
 2nd inversion: **5th** is on the bottom.

Both inversions: In close position, the **root** is always the upper note of the interval of a 4th.

1st Inversion      2nd Inversion

## Exercises

- Rewrite the following close position 2nd inversion triads in open position.

- Rewrite the following root position triads in 2nd inversion (close position).

- Using the given notes as the root, add the 5th *below* and the 3rd *above* to make 2nd inversion triads in the key of C.

## V7 Chord—1st, 2nd and 3rd Inversions

The V<sup>7</sup> chord can also be inverted. Since the V<sup>7</sup> chord is a 4-note chord, it can be written in four different positions: root, 1st inversion, 2nd inversion and 3rd inversion (7th at the bottom).

Close Position

Diagram illustrating the four positions of a V<sup>7</sup> chord in close position on a treble clef staff:

- Root Position (root on bottom):** The root is on the bottom line, and the 7th is on the second space.
- 1st Inversion (3rd on bottom):** The 3rd is on the bottom line, and the 7th is on the second space.
- 2nd Inversion (5th on bottom):** The 5th is on the bottom line, and the 7th is on the second space.
- 3rd Inversion (7th on bottom):** The 7th is on the bottom line, and the root is on the second space.

In 1st, 2nd and 3rd inversions in close position, the **root** is always the upper note of the interval of a 2nd.

## Exercises

- 1** Write the 1st, 2nd and 3rd inversions for the following V<sup>7</sup> chords in close position.

a. **D<sup>7</sup>** (Treble clef, 4/4 time)

Root                      1st                      2nd                      3rd

b. **A<sup>7</sup>** (Bass clef, 4/4 time)

Root                      1st                      2nd                      3rd

c. **C<sup>7</sup>** (Treble clef, 4/4 time)

Root                      1st                      2nd                      3rd

d. **F<sup>7</sup>** (Bass clef, 4/4 time)

Root                      1st                      2nd                      3rd

- 2** Indicate the inversion of the following V<sup>7</sup> chords.

C<sup>7</sup>    A<sup>7</sup>    F<sup>7</sup>    D<sup>7</sup>    A<sup>7</sup>    F<sup>7</sup>    D<sup>7</sup>

1st    —    —    —    —    —    —

- 3** Write the following V<sup>7</sup> chords in the given inversions. The bottom note is given. Add accidentals where needed

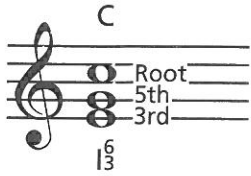
F<sup>7</sup>    C<sup>7</sup>    A<sup>7</sup>    D<sup>7</sup>    C<sup>7</sup>    F<sup>7</sup>    D<sup>7</sup>

3rd    1st    2nd    1st    3rd    2nd    3rd

# Figured Bass

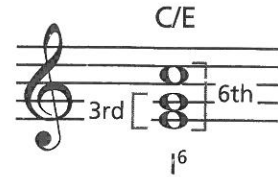
To indicate what inversion of a chord to use, numbers are added to the Roman numeral of that chord. This system originated during the BAROQUE PERIOD (1600–1750) and is called FIGURED BASS.

1st Inversion Triads  
(3rd is the lowest note)



The numbers  $\frac{6}{3}$  indicate the intervals of the chord from the bass (lowest) note. The middle note G is up a 3rd from the bass note E, and the top note C is up a 6th. Over time, the bottom 3 was dropped and shortened to  $\frac{6}{}$ .

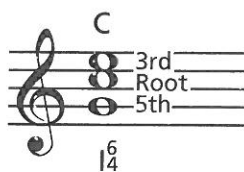
Another way to indicate a 1st inversion C chord is by using the chord symbol C followed by the bass note, written C/E.



In the key of C, the 1st inversion of the I chord was originally written  $\frac{6}{3}$ .

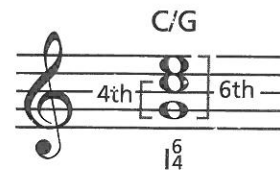
In the key of C, the 1st inversion of the I chord was originally written  $\frac{6}{3}$ .

2nd Inversion Triads  
(5th is the lowest note)



In the key of C, the 2nd inversion of the I chord is written  $\frac{6}{4}$ . The middle note C is up a 4th from the bass note G, and the top note E is up a 6th.

Another way to indicate a 2nd inversion C chord is C/G.



V7 Chords  
The V7 chord has four different positions.

	C7*	C7/E	C7/G	C7/B $\flat$
	Root Position	1st Inversion	2nd Inversion	3rd Inversion
Figured Bass:	$\frac{7}{3}$	$\frac{6}{3}$	$\frac{6}{4}$	$\frac{6}{2}$
Shortened to:	V7	V $\frac{6}{5}$	V $\frac{4}{3}$	V $\frac{4}{2}$

Letter name chord symbols (C/G) are usually written above the staff. Roman numeral chord symbols (V7) are usually written below the staff.

\*The C7 chord is the V7 chord in the key of F.

## Exercises

- Write the chord symbol above the staff and the Roman numeral below the staff, using figured bass where applicable, for each chord in the key of C.

a.

b.

# Major Chord Progressions

Chords that move (or progress) from one to another are called a CHORD PROGRESSION. Because the I, IV and V chords contain all the notes of the major scale, they can be used to ACCOMPANY (play along with) most simple melodies. In many chord progressions, a V7 chord is used in place of the V chord.

C                  F                  C                  G                  G7                  C

I                    IV                    I                    V    or    V7                    I

When the IV and V (or V7) chords are in root position, the progression sounds choppy. To make it easier to play and sound smoother, the IV chord often is moved to the 2nd inversion, and the V (or V7) chord often is moved to the 1st inversion.

In the IV chord, the 5th (C) is moved down an octave.

In the V chord, the 3rd (B) and 5th (D) are moved down an octave.

In the V7 chord, the 3rd (B), 5th (D) and 7th (F) are moved down an octave.

2nd inversion  
1 octave lower

IV                    IV<sup>6/4</sup>

1st inversion  
1 octave lower

V                    V<sup>6</sup>

1st inversion  
1 octave lower

V7                    V<sup>6/5</sup>

The following positions are often used for smooth progressions. Notice there is a common tone between each chord.

Root Position      2nd Inversion      Root Position      1st Inversion      Root Position

I                    IV<sup>6/4</sup>                    I                    V<sup>6</sup>    or    V<sup>6/5</sup>                    I

## Exercises

- Write the chords in root position in the key of G major. Write the chord symbol for each above the staff.

I                  IV                  I                  V    and    V7                  I

- Rewrite the above chord progression to make it sound smoother. Add chord symbols.

I                  IV<sup>6/4</sup>                  I                  V<sup>6</sup>    and    V<sup>6/5</sup>                  I

- Write the chords in root position in the key of F major. Write the chord symbol for each above the staff.

I                  IV                  I                  V    and    V7                  I

- Rewrite the above chord progression to make it sound smoother. Add chord symbols.

I                  IV<sup>6/4</sup>                  I                  V<sup>6</sup>    and    V<sup>6/5</sup>                  I

- 1** An inversion of a chord means the root is no longer on the \_\_\_\_\_.
- 2** In 1st inversion, the 3rd of a triad is always on the \_\_\_\_\_.
- 3** In close position, the notes of the chord are spaced \_\_\_\_\_ an octave.

- 4** Rewrite the following triads in the 1st inversion. Add the chord symbol and the Roman numeral for each chord.

Close Position

- 5** In 2nd inversion, the 5th of a triad is always on the \_\_\_\_\_.
- 6** In open position, the notes of the chord are spaced \_\_\_\_\_ than an octave.

- 7** Rewrite the following root position triads in 2nd inversion. Add the chord symbol and the Roman numeral for each chord.

Close Position

- 8** If the root is on the bottom of a triad, it is in \_\_\_\_\_; if the 3rd is on the bottom, it is in \_\_\_\_\_ inversion; if the 5th is on the bottom, it is in \_\_\_\_\_ inversion.
- 9** In close position, the root in 1st and 2nd inversions is the upper note of the interval of a \_\_\_\_\_.
- 10** How many inversions are there of the V<sup>7</sup> chord? \_\_\_\_\_.

**11** Write the 1st, 2nd and 3rd inversions for the following V<sup>7</sup> chord. Use figured bass.

E<sup>7</sup>      E<sup>7</sup>/G<sup>#</sup>      E<sup>7</sup>/B      E<sup>7</sup>/D

- 12** Chords that move from one to another, are called a \_\_\_\_\_.
- 13** The three chords that contain all the notes of the major scale are the \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ chords.

- 14** On the lower staff, rewrite the following chord progression using inversions so there is a common tone between each chord. Indicate what position each chord is in, using chord symbols and figured bass. Add the chord symbol and the Roman numeral for each chord.

D                      G                      D                      A<sup>7</sup>                      D

I                      IV                      I                      V<sup>7</sup>                      I

# Minor Scales

Remember, there are 15 major scales with unique key signatures—see Book 2, page 50. For every major key, there is a **RELATIVE MINOR KEY** that has the *same* key signature.

Each relative minor scale begins on the 6th note of the **RELATIVE MAJOR SCALE**.

The 6th note is the keynote of the minor scale and the note from which the scale gets its name.

C Major Scale

A Minor Scale

The keynote of a relative minor scale may also be found by *descending* a minor 3rd from the keynote of the major scale.

Conversely, the keynote of the relative major scale may be found by *ascending* a minor 3rd from the keynote of the minor scale.

The keys of C major and A minor are relatives because they have the same key signature (no #s, no b's).

## Exercises

**1** Write the relative minor key name and the key signature for each major key.

G major: \_\_\_\_\_ minor

F major: \_\_\_\_\_ minor

D major: \_\_\_\_\_ minor

B $\flat$  major: \_\_\_\_\_ minor

A major: \_\_\_\_\_ minor

E $\flat$  major: \_\_\_\_\_ minor

E major: \_\_\_\_\_ minor

A $\flat$  major: \_\_\_\_\_ minor

**2** Write the following minor key signatures and scales.

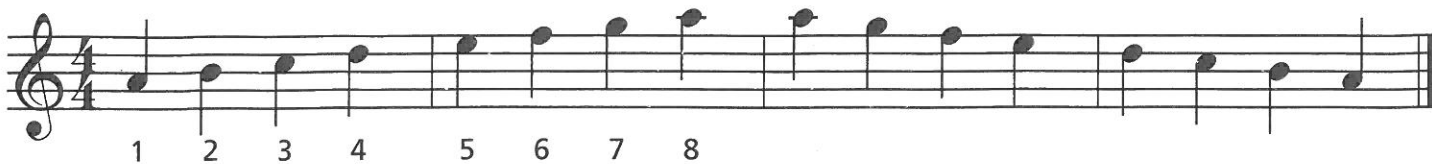
E minor

D minor

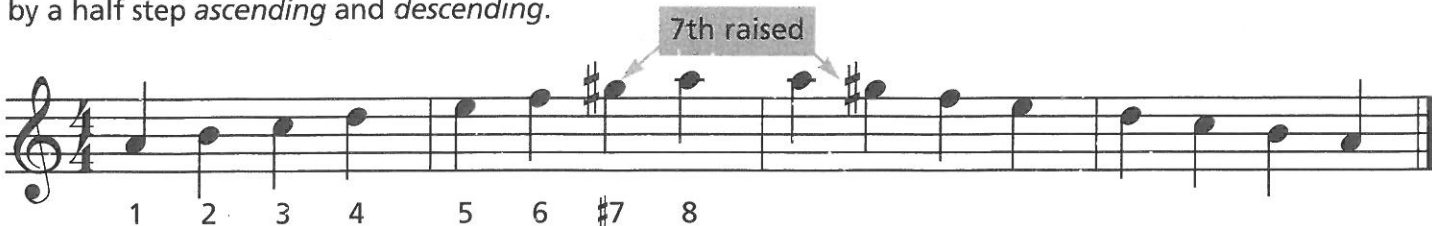
# Natural, Harmonic and Melodic Minor Scales

There are three types of minor scales: the NATURAL, HARMONIC and MELODIC.

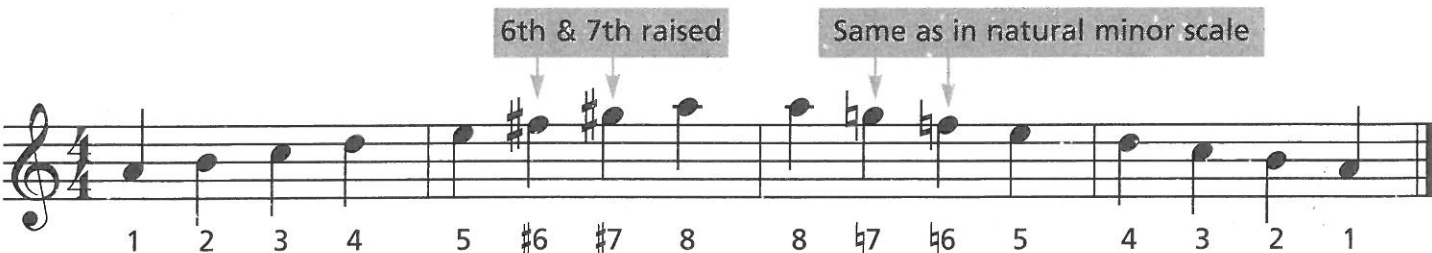
The NATURAL MINOR SCALE uses *only* the tones of the relative major scale.



The HARMONIC MINOR SCALE raises the 7th tone (G) by a half step *ascending* and *descending*.



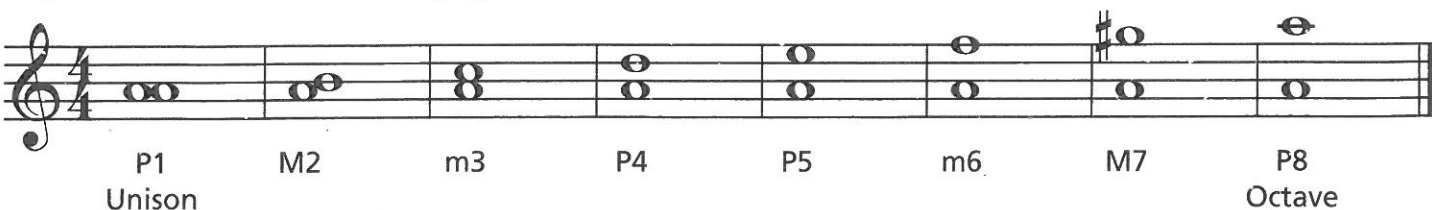
The MELODIC MINOR SCALE raises the 6th (F) and 7th (G) tones by a half step *ascending*. It *descends* like the natural minor scale.



The Harmonic Minor Scale is the most frequently used of the three minor scales.

## THE DIATONIC INTERVALS OF THE HARMONIC MINOR SCALE

All diatonic intervals in the harmonic minor scale are either perfect (P), major (M) or minor (m). The perfect intervals are the unison, 4th, 5th and octave; the major intervals are the 2nd and 7th; the minor intervals are the 3rd and 6th. This is true for all harmonic minor scales. Compare with the major scale intervals in Book 2, page 56.



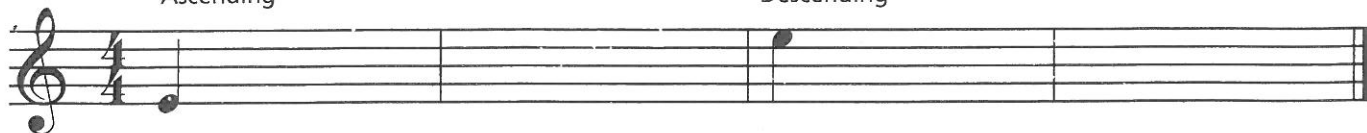
## Exercises

1 Write the following harmonic minor scales with key signatures using quarter notes.

E Harmonic Minor

Ascending

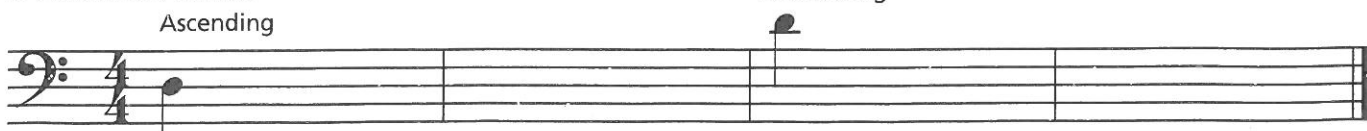
Descending



D Harmonic Minor

Ascending

Descending





# Minor Triads

Just as a major triad can be built from the 1st, 3rd and 5th scale degrees of a major scale, a MINOR TRIAD can be built from the 1st, 3rd and 5th scale degrees of a minor scale.

Major triads consist of a root, major 3rd and a perfect 5th.

C Major Triad

Minor triads consist of a root, minor 3rd and a perfect 5th.

C Minor Triad

Build a major triad by adding a minor 3rd on top of a major 3rd.

Build a minor triad by adding a major 3rd on top of a minor 3rd.

Any major triad may be changed to a minor triad by lowering the 3rd by 1/2 step.

## MAJOR and MINOR TRIADS IN THE MAJOR SCALE

In a major scale, only triads with the root on the 1st, 4th and 5th scale degrees are *major triads*. Triads with the root on the 2nd, 3rd and 6th scale degrees are *minor triads*.

Major Triads\*      Minor Triads\*

Major Triads      Minor Triads

\*Major triads are numbered with upper case Roman numerals (I), minor triads with lower case Roman numerals (ii).

## Exercises

- Build minor triads (adding accidentals where necessary) using each of the following notes as the root. Name the triad.

- Label each triad in the keys of F and G major using upper and lower case Roman numerals.

# Augmented and Diminished Triads

Major and minor triads can each be altered. Major triads may be made *larger* (augmented) and minor triads may be made *smaller* (diminished).

An AUGMENTED TRIAD is a major triad that has been made larger by *raising* the 5th by  $\frac{1}{2}$  step.

A DIMINISHED TRIAD is a minor triad that has been made smaller by *lowering* the 5th by  $\frac{1}{2}$  step.

Major Triad

Aug. Triad

Minor Triad

Dim. Triad

Build an augmented triad by adding a major 3rd on top of a major 3rd.

Aug. Triad

Build a diminished triad by adding a minor 3rd on top of a minor 3rd.

Dim. Triad

## SUMMARY OF MAJOR, MINOR, AUGMENTED AND DIMINISHED TRIADS

Major	=	major 3rd + minor 3rd
Minor	=	minor 3rd + major 3rd
Augmented	=	both 3rds are major
Diminished	=	both 3rds are minor

Triads and chords may be indicated by letters and symbols: Chord letter only = major, m = minor, + = augmented, ° = diminished

## MAJOR TRIAD SCALE

In the major scale, triads built on the:

- 1st, 4th, and 5th scale degrees are major triads,
- 2nd, 3rd and 6th scale degrees are minor triads,
- 7th scale degree is a diminished triad.

## Exercises

- 1 Write the name of each triad and indicate whether it is major (chord letter), minor (m), augmented (+) or diminished (°).

- 1 Write the relative harmonic minor scale (adding accidentals where necessary) for each major scale using whole notes.

a. G Major \_\_\_\_\_ Harmonic Minor



b. F Major \_\_\_\_\_ Harmonic Minor



c. D Major \_\_\_\_\_ Harmonic Minor



- 2 Indicate the relative major scale for each minor scale.

A minor: \_\_\_\_\_ major    E minor: \_\_\_\_\_ major    D minor: \_\_\_\_\_ major

- 3 The Harmonic Minor Scale: (circle one) **raises** / **lowers** the 7th tone by one (circle one) **half** / **whole** step *ascending* and *descending*.

- 4 When *ascending*, the Melodic Minor Scale (circle one) **raises** / **lowers** the 6th and 7th tones by one (circle one) **half** / **whole** step.

- 5 The Melodic Minor Scale *descends* the same as the \_\_\_\_\_ minor scale.

- 6 A major triad consists of a root, \_\_\_\_\_ and \_\_\_\_\_.

A major triad may also be built by adding a \_\_\_\_\_ on top of a \_\_\_\_\_.

- 7 A minor triad consists of a root, \_\_\_\_\_ and \_\_\_\_\_.

A minor triad may also be built by adding a \_\_\_\_\_ on top of a \_\_\_\_\_.


- 8 An augmented triad is a major triad with the \_\_\_\_\_ raised a half step.

An augmented triad may also be built by adding a \_\_\_\_\_ on top of a \_\_\_\_\_.

- 9 A diminished triad is a minor triad with the \_\_\_\_\_ lowered a half step.

A diminished triad may also be built by adding a \_\_\_\_\_ on top of a \_\_\_\_\_.

- 10 Label each triad major (chord symbol), minor (m), augmented (+) or diminished (°).



C<sup>°</sup> \_\_\_\_\_