

All chords are made up of combinations of notes. The most commonly used chord types are built out of the various possible combinations of intervals of thirds. Three-note chords built from thirds are called triads, four-note chords built from thirds are called seventh chords.

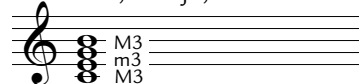
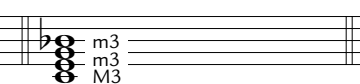
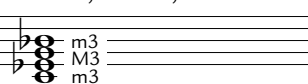
The most commonly occurring triads and seventh chords follow. Note that each has a unique intervallic definition, as well as one or more chord symbols that can be used to represent it.

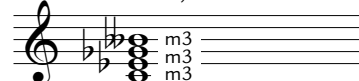
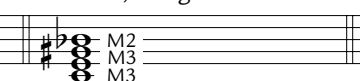
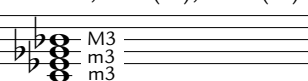
TABLE I.3

BASIC TRIADS
(key/root = C)

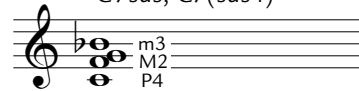
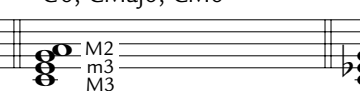
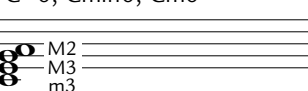
major C	minor C-; Cmin	diminished C ^o ; Cdim	augmented C+; Caug
			

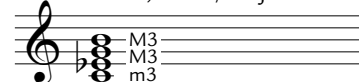
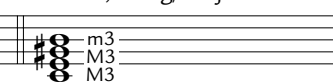
BASIC SEVENTH CHORDS
(key/root = C)

major 7th CΔ; CMaj7; CM7	dominant 7th C7	minor 7th C-7; Cmin7; Cm7
		

diminished 7th C ^o 7; Cdim7	augmented 7th C+7; Ccaug7	half-diminished 7th Cø; C-7(b5); Cm7(b5)
		

DOMINANT SEVENTH VARIANTS & SIXTH CHORDS
(key/root = C)

suspended 4th Dom. 7th C7sus; C7(sus4)	major 6th C6; CMaj6; CM6	minor 6th C-6; Cmin6; Cm6
		

minor, major 7th C-Δ; Cmin/Maj7	augmented, major 7th C+Δ; Ccaug/Maj7
	

The note the chord is named after is called its *root*. When this note is found in the lowest voice of the chord, as in the above examples, the chord is said to be in root position. The next note above it in the chord is called its third, and creates an interval above the root which is either a major or minor third, thereby determining whether the chord itself is considered to be of major or minor quality. The note above the chord's third is called its fifth, and in a seventh chord, the highest note is referred to as its seventh. These designations are derived from the degree of the scale based on the chord's root which each note represents. All of the triads and seventh chord examples shown in Table 1.3 could be similarly defined in terms of scalar intervallic descriptions (the reference being the major scale based upon the chord's root):

TABLE 1.4

BASIC TRIADS
(key/root = C; reference = C major scale)

major C	minor C-; Cmin	diminished C°; Cdim	augmented C+; Caug
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BASIC SEVENTH CHORDS
(key/root = C; reference = C major scale)

major 7th CΔ; CMaj7; CM7	dominant 7th C7	minor 7th C-7; Cmin7; Cm7
diminished 7th C°7; Cdim7	augmented 7th C+7; Ccaug7	half-diminished 7th Cø; C-7(b5); Cm7(b5)

DOMINANT SEVENTH VARIANTS & SIXTH CHORDS
(key/root = C; reference = C major scale)

suspended 4th dom. 7th C7sus; C7(sus4)	major 6th C6; CMaj6; CM6	minor 6th C-6; Cmin6; Cm6
minor, major 7th C-Δ; Cmin/Maj7	augmented, major 7th C+Δ; Ccaug/Maj7	

Just as individual intervals may be inverted, so chords may be. The following table shows the primary triads from Table 1.3 and each of their inversions. To reiterate, when the root of the chord is in the lowest voice (as in the chords shown in Table 1.3), the chord is said to be in root position. Inverting the chord so that its third is in the lowest voice is called *first inversion*. Similarly, chords are said to be in *second* and *third* inversions, respectively, when their fifth or seventh is made the lowest voice. NOTE: in all inversions, strictly speaking, the ordering of notes within the chord remains the same. Other configurations of the notes within the chord may occur, but this sort of chord voicing, sometimes referred to as an *open voicing*, does not, strictly speaking, constitute an inversion of the chord (see Example 1.5, page 14).

TABLE 1.5

TRIADS, SEVENTH CHORDS, and their INVERSIONS
(key/root = C)

major C			minor C-; Cmin			diminished C ^o ; Cdim			augmented C+; Caug		
ROOT	1st INV.	2nd INV.	ROOT	1st INV.	2nd INV.	ROOT	1st INV.	2nd INV.	ROOT	1st INV.	2nd INV.
major 7th CΔ; CMaj7				dominant 7th C7				minor 7th C-7; Cmin7; Cm7			
ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.
diminished 7th C ^o 7; Cdim7				*augmented 7th C+7; Caug7				half-diminished 7th C ^o -7; C-7(b5); Cm7(b5)			
ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.
*suspended 4th dom. 7th C7sus; C7(sus4)				*major 6th C6; CMaj6; CM6				*minor 6th C-6; Cmin6; Cm6			
ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.
*minor, major 7th C-Δ; Cmin/Maj7				*augmented, major 7th C+Δ; Caug/Maj7							
ROOT	1st INV.	2nd INV.	3rd INV.	ROOT	1st INV.	2nd INV.	3rd INV.				

* Note that some of these chords have "non-tertian" intervals as a part of their intervallic definition in root position (in other words, they require an interval other than a third).

EXAMPLE 1.5

TYPICAL OPEN POSITION CHORDS
(as distinguished from inversions per se)

Musical notation for Example 1.5. It shows two chords in open position on a piano. The first chord is C major (CΔ), with notes C4 (bass), E4, G4, and C5 (treble). The second chord is C7, with notes C4, E4, G4, Bb4, and C5. Fingerings are indicated: 1-3-5 for CΔ and 1-3-5-b3 for C7. The notation is labeled 'etc.'.

Obviously, it is indispensable to be able to play all of these chords in all twelve keys. You should create various exercises for yourself in order to master this task. You might begin by picking any chord type and recreating its formula on any degree of the chromatic scale. This is called transposing:

EXAMPLE 1.6

TRANSPOSING BY INTERVAL

Musical notation for Example 1.6. It shows two C major chords (CΔ) in the treble clef. The first is in C major, and the second is transposed to Eb major (EbΔ). The interval between the root notes is a half step. The notes are labeled as M3, m3, and M3.

Or you might take any type of chord and move it chromatically in either direction through all the keys.

EXAMPLE 1.7

TRANSPOSING CHROMATICALLY

Musical notation for Example 1.7. It shows three C7 chords in the treble clef, transposed chromatically: C7, B7, and Bb7. Each chord is shown with its notes and fingerings (1-3-5-b7). The notation is labeled 'etc.'.

A useful preparatory exercise for improvisation is to play the *arpeggios* of each of the inversions of a given chord, after the fashion of many instrumental method books, ...

EXAMPLE 1.8

Musical notation for Example 1.8. It shows three arpeggios in the treble clef, corresponding to the chords C7, B7, and Bb7. Each arpeggio is shown with its notes and fingerings (1-3-5-b7). The notation is labeled 'etc.'.

TABLE I.6

MODES of C MAJOR

1st mode: IONIAN

C Ionian (Major)

2nd mode: DORIAN

D Dorian

3rd mode: PHRYGIAN

E Phrygian

4th mode: LYDIAN

F Lydian

5th mode: MIXOLYDIAN

G Mixolydian

6th mode: AEOLIAN

A Aeolian

7th mode: LOCRIAN

B Locrian

MODES of C MAJOR
(with extensions)

1st mode: IONIAN

C Ionian (Major)

2nd mode: DORIAN

D Dorian

3rd mode: PHRYGIAN

E Phrygian

4th mode: LYDIAN

F Lydian

5th mode: MIXOLYDIAN

G Mixolydian

6th mode: AEOLIAN

A Aeolian

7th mode: LOCRIAN

B Locrian

DIATONIC AND MODAL CHORD PROGRESSIONS

Let's return to the diatonic system of harmony in C major.

EXAMPLE 1.12

C Δ D-7 E-7 F Δ G7 A-7 B \emptyset C Δ

The image shows a single staff of music in treble clef with a key signature of one sharp (F#). Eight chords are displayed as vertical stacks of notes on the staff. Above each stack is its chord symbol: C Δ , D-7, E-7, F Δ , G7, A-7, B \emptyset , and C Δ .

To facilitate harmonic analysis and aural recognition of commonly used chord progressions, Roman numerals are associated with each diatonic chord. Note that these contain all elements of the chord symbol, simply replacing the chord's root with a Roman numeral, I through VII. (Chords in which the interval between the root and the third of the chord is a minor third [like -7, \emptyset , and $^{\circ}7$ chords] are analyzed with *lowercase* Roman numerals, whereas chords in which the interval between the root and the third of the chord is a major third [like Δ , +7, and dominant 7 chords] are analyzed with *uppercase* Roman numerals.)

TABLE 2.1

DIATONIC CHORD FUNCTION

The image shows a single staff of music in treble clef with a key signature of one sharp (F#). Seven chords are displayed as vertical stacks of notes on the staff. Below each stack is its Roman numeral function: C: I Δ , ii-7, iii-7, IV Δ , V7, vi-7, and vii \emptyset .

Although tonal chord progression is much more common than is modal chord progression, the same principles can be used to analyze diatonic harmony in modes.

Elements of such cyclic, voice-led diatonic progressions form the basis for much of Western tonal music, regardless of style. For example, the arpeggiated melody of Bach's *Prelude #1*, from *The Well-Tempered Clavier*, may be reduced to the following basic voice-leading:

EXAMPLE 2.2

VOICE-LED CHORDS

The diagram shows four measures of music in 4/4 time. The top staff is a treble clef and the bottom staff is a bass clef. The chords are labeled above the staff: C (I), D-7 (ii-7), G7 (V7), and C (I). The bass line shows the roots of the chords: C, D, G, and C. The treble staff shows the upper voices of the chords. The label '(Roots)' is placed in the bass staff under the first measure.

Similarly, a progression such as the one found in tunes such as Jerome Kern's *All the Things You Are* might be reduced as follows:

EXAMPLE 2.3

The diagram shows four measures of music in 4/4 time. The top staff is a treble clef and the bottom staff is a bass clef. The chords are labeled above the staff: F-7 (vi-7), B^b-7 (ii-7), E^b7 (V7), and A^bΔ (IΔ). The bass line shows the roots of the chords: F, B^b, E^b, and A^b. The treble staff shows the upper voices of the chords.

(Readers are strongly encouraged to consult published versions of the compositions referred to in Examples 2.2 and 2.3 above).

SIMPLE SUBDOMINANT CADENCES
(C major tonality)

D-7 (ii-7) CΔ (IΔ) FΔ (IVΔ) CΔ (IΔ) or C6

(note lack of common tones)

SIMPLE DOMINANT CADENCES

G7 (V7) CΔ (IΔ) or C6 Bø (viiø) CΔ (IΔ) (or C6)

Common Rare

COMPOUND CADENCES

SD D T
D-7 (ii-7) G7 (V7) CΔ (IΔ) or C6

SD D T
FΔ (IVΔ) G7 (V7) CΔ (IΔ) (or C6)

Suggested Exercises and Assignments:

- Write out and label all diatonic seventh chords in major and parallel melodic minor tonality in various keys (ideally all twelve!);
- Arpeggiate diatonic seventh chords in major and parallel melodic minor scales, ideally all inversions;

EXAMPLE 2.IO

DIATONIC SEVENTH CHORD ARPEGGIATION (C major tonality)

- Write out/arpeggiate each type of seventh chord moving down or up chromatically from any starting point;

EXAMPLE 2.II

CHROMATIC SEVENTH CHORD ARPEGGIATION (example = -7 chords)

- Write out/play all modes of major and melodic minor scales in various (all) keys;
- Voice-lead the common cadences illustrated in Example 2.7 above in various (all) keys;
- Learn to identify these progressions, as well as each of the individual modes and chord types discussed to this point, aurally (i.e., do relevant ear training); and
- Discuss/analyze various examples from the repertoire of modal and tonal chord progression. Include especially those examples mentioned in the above discussion (also see Discography).
- Listen to *All the Things You Are*, Bach's *Prelude #1* from the *Well Tempered Clavier*, and Miles Davis' *So What* (see discography). Bring in and analyze examples of comparable pieces that illustrate the contrast between voice-led Cycle of Fifths (tonal) chord progressions and those featuring more static (modal) harmony.

Musical notation for Example 3.5, showing a piano accompaniment in 4/4 time. The chords are: F, F7/A, B \flat , D \flat 7/B, and C7sus4.

In some early Blues, the tonic chord is a simple triad, only becoming a dominant seventh chord in m.4, making the move to the IV chord in the fifth measure sound even more dramatic. A good example of this is *West End Blues* by Joseph Oliver and Clarence Williams, from 1928.

EXAMPLE 3.5

Example in the style of *West End Blues*

Musical notation for Example 3.5, showing a melodic line in 4/4 time. The chords are: E \flat , E \flat , E \flat 7, E \flat 7, and E \flat 7. The notation includes triplets (3) and a final triplet (3) at the end of the line.

In ms.9-10, in the final cadence of the Blues, we have yet another V7 cadence. Therefore, we may think of the Blues progression as being in constant motion from one dominant seventh chord to the next, or as a series of dominant seventh resolutions.

EXAMPLE 3.6

PRIMARY BLUES CHORDS
(key/root = C)

Musical notation for Example 3.6, showing primary blues chords in C major. The chords are: C7 (I7), F7 (IV7), C7 (I7), G7 (V7), and C7 (I7). The notation includes the text "resolves to:" between the first two chords and between the last two chords.

Original:

A 4/4 staff with a melodic line. Chords are A^b-7, D^b7, and CΔ. A first ending bracket covers the CΔ chord.

With added interpolated chords:

A 4/4 staff with a melodic line. Chords are A^b-7, D^b7, CΔ, (F7), E∅, and A7^b9. A first ending bracket covers the CΔ, (F7), E∅, and A7^b9 chords.

Similarly, harmonic variations in the second ending may be used to reinforce its sense of finality or stability:

Original:

A 4/4 staff with a melodic line. Chords are A^b-7, D^b7, and CΔ.

With interpolated "last ending" chords:

A 4/4 staff with a melodic line. Chords are A^b-7, D^b7, CΔ, (F-), and CΔ.

The process of harmonic interpolation, or on-the-spot reharmonization, presents a great challenge to the rhythm section as it uses its ears to potentially reinvent the progression *each chorus*.

Chromatic melodic variation

Original: Varied:

A^b-7 D^b7 CΔ A^b-7 D^b7 CΔ

“Mixed” chromatic and harmonic variation

Original: Varied:

A^b-7 D^b7 CΔ A^b-7 D^b7 CΔ

Slightly different “mixed” chromatic and harmonic variation
(Note added element of melodic sequence.)

Original: Varied:

A^b-7 D^b7 CΔ A^b-7 D^b7 CΔ

A particularly effective technique can be to add blue notes (see Chapter 3) to diatonically oriented melodies, or to alter existing diatonic melody notes to make them into blue notes:

Use of blue notes from the primary tonality to produce variation

Original: Varied:

A^b-7 D^b7 CΔ A^b-7 D^b7 CΔ

For an excellent study of these variation techniques, transcribe and compare the three versions of *Our Love Is Here to Stay* (Billie Holiday, Carmen McCrae, and Frank Sinatra) referred to in the Discography for this Chapter.

This might also be used where such resolutions are interrupted by interpolated ii-7 or iiø chords in cases of extended cadences:

EXAMPLE 6.10B

in C major:

THE SOLID BRACKET indicates a ii-7-V7 cadence:

EXAMPLE 6.IIA

in C major:

THE DOTTED BRACKET indicates a cadence in which the dominant seventh involved is a half-step below the ii-7 which precedes it:

EXAMPLE 6.IIB

in C major:

THE DOTTED ARROW indicates a subV7 cadence, i.e., the resolution of a dominant seventh chord to a chord whose root is a *half-step lower*, rather than the more traditional descent by perfect fifth:

EXAMPLE 6.12

in C major:

EXAMPLE 6.17A

EXERCISE PATTERNS for ii-7-SV7 CADENCES

Musical notation for Example 6.17A, showing exercise patterns for ii-7-SV7 cadences. The notation is in treble and bass clefs. The first measure is labeled D-7, the second D \flat 7, the third C-7, and the fourth B7. Dashed arrows indicate the progression from D-7 to D \flat 7, D \flat 7 to C-7, and C-7 to B7. The bass line shows the corresponding chords. The pattern is repeated, with a dashed line indicating continuation. The word "etc." is written at the end of the staff.

EXAMPLE 6.17B

EXERCISE PATTERNS for ii-7-V7alt. CADENCES

Musical notation for Example 6.17B, showing exercise patterns for ii-7-V7alt. cadences. The notation is in treble and bass clefs. The first measure is labeled D-7, the second G7 alt., the third C-7, and the fourth F7 alt. Solid arrows indicate the progression from D-7 to G7 alt., G7 alt. to C-7, and C-7 to F7 alt. The bass line shows the corresponding chords. The pattern is repeated, with a dashed line indicating continuation. The word "etc." is written at the end of the staff.

Ladybird CADENCE

CΔ (IΔ) E♭Δ (♭IIIΔ) A♭Δ (♭VIΔ) D♭Δ (♭IIΔ) CΔ (IΔ)

4. The iv-7-♭VII 7 (also used in *Ladybird* in ms.3-4):

F-7 (iv-7) B♭7 (♭VII7) CΔ (IΔ)

5. IVΔ-iv- (used frequently in songs by the Beatles when preceding the tonic):

F (IV) F- (iv-) CΔ (IΔ)

6. ♭VI-♭VII-I (also frequently used by pop music composers [the quality of the chords might be major or dominant; for example either A♭ or A♭7 going to B♭ or B♭7, to create a cadence to the tonic CΔ]):

A♭(♭VI) B♭(♭VII) C(I)

7. Mixed cadences borrowing subdominant chords from the parallel major or other forms of minor (e.g., D-7-D♭Δ):

D∅ (ii∅) D♭Δ (♭IIΔ) CΔ (IΔ)

(Aeolian) (Phrygian)

D∅ (ii∅) D♭7 (SV7/I) CΔ (IΔ)

(Aeolian) (SubV7)