

8. Chords

Chord, from Greek *chordé* (Latin *chorda*), originally meant the string of a musical instrument. Eventually, *chord* came to denote the simultaneous sounding of two or more different tones by any polyphonic instrument or by any combination of instrument(s) and/or voice(s). The simultaneous sounding of notes of the same name, i.e. unison pitches or pitches separated by octave intervals, does not qualify as a chord. Two-note chords are called *dyads*, three-note chords *triads*, four-note chords *tetrads* and so on.

Chords need not be heard as such by members of a musical tradition whose polyphony emphasises the interplay of independent melodic lines (counterpoint) much more strongly than music in the Western post-Renaissance tradition of melody and accompaniment. In most types of popular music chords are generally regarded as belonging to the accompaniment part of that dualism.

Due to the global predominance of Western harmonic practices, it is useful to distinguish between two main categories of chord: tertial and non-tertial (see chapter 6). Chords can be identified in both structural and phenomenological terms. This chapter focuses mainly on structural aspects of chords.

Structure and terminology of tertial chords

Tertial triads

Tertial chords are based on the superimposition of thirds. These chords are the fundamental harmonic building blocks in most forms of jazz, popular music and European classical music.

A *triad* is any chord containing three different notes. The *common* triad is a particular, and particularly common, type of triad constructed as two simultaneously sounding thirds, one overlapping with and superimposed on the other. As example 11 (p.138) shows, c and e (a major third) together with e and g (minor third) make the major common triad of C major (c-e-g), while d and f (minor third) together with f and a (major third) make a D minor triad (d-f-a, a minor common triad).

Table 11: Tertian 'common' triads on each degree of C major / A minor scale

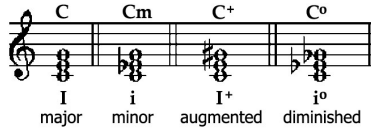
	C	Dm	Em	F	G	Am	B ^o
C major	I	ii	iii	IV	V	vi	vii
A minor	♭III	iv	v	♭VI	♭VII	i	ii
triad notes	c-e-g	d-f-a	e-g-b	f-a-c	g-b-d	a-c-e	b-d-f
triad type	major	minor	minor	major	major	minor	diminished

There are four types of tertial triad: major, minor, diminished and augmented (Table 12). The first three of these triad types can be generated from the seven key-specific notes of any standard major or descending melodic minor scale (ionian and aeolian modes).¹

As shown in Table 11, major triads occur on degrees 1, 4 and 5 of the major, and on degrees 3, 6 and 7 of the minor scale (e.g. C, F, G in C major / A minor). Minor triads are found at degrees 2, 3 and 6 of the major and at degrees 4, 5 and 1 of the minor scale (Dm, Em, Am). The major scale's degree 7 and the minor scale's degree 2 each produce a diminished triad. All four types of triad are set out, with C as their root, in table 11 (p.139). Major triads consist of a minor third on top of a major third (e-g over c-e for C), minor triads of a major third over a minor third (e.g. e♭-g over c-e♭ for C minor), while augmented triads comprise two superimposed major thirds (e.g. e-g♯ over c-e) and diminished triads two minor thirds (e.g. e♭-g♭ over c-e♭). All tertial triads contain the root (1) and, with very few exceptions, both third (3) and fifth (5) of one of the triad types defined in Table 12.

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1. The flat sign (b) in front of the major triads III, VI and VII in the A minor line of example 11 is *in theory* only necessary when designating triads in minor-mode music using a permanent Picardy third on I (see pp. 118-120). For example, the *Green Onions* riff in dorian E (E-G-A; Booker T, 1962) follows a I ♭III IV ('one, flat three, four') pattern while the first three chords in the verse of *Greenback Dollar* in aeolian A (Em G C; Kingston Trio, 1962) can be denoted either as 'i III VI' ('minor one, three, six') or as 'i ♭III ♭VI' ('minor one, flat three, flat six'). Given the hegemony of the ionian mode in conventional harmony teaching, it is wise to put the relevant accidental, usually 'b', before roman numerals denoting triads on scale degrees that do not conform to those of the ionian mode, as shown in Table 32, p. 277.

Table 12 – Four types of tertial triads (on C)



<i>type of triad</i>	<i>type of third</i>	<i>type of fifth</i>	<i>notes in chord</i>	<i>lead sheet shorthand</i>	<i>roman num.</i>
major	major	perfect	c e g	C	I
minor	minor	perfect	c e♭ g	Cm	i
augmented	major	augmented	c e g♯/a♭	Caug / C+	I+
diminished	minor	diminished	c e♭ g♭/f♯	Cdim / C°	i°

Tertial chord symbols

Two types of shorthand are in common use so that musicians can quickly identify tertial chords: [1] roman numerals (I, vi, ii⁷, V⁷ etc.) and [2] lead sheet chord symbols (e.g. C, Am, Dm⁷, G⁷). Lead sheet chord shorthand is explained on pages 145-158.

Roman numerals

Roman numerals are used in classical harmony to denote chords and their relation to the tonic (keynote) of *any* key. This system of *relative* chordal designation can, with minor modifications, be transferred to the study of any polyphonic music for which a keynote or tonic can be established. More specifically, roman numerals denote chords – mainly tertial triads – built on the scale degree they designate. The numerals denote the scale degree of the *root* note of the chord in question, upper case denoting major and lower case minor ‘common’ triads. Table 11 (p. 138), whose root notes are c d e f g a b in the key of C major (ionian C), show that ‘I’ denotes a major triad based on scale degree 1, ‘ii’ a minor triad with scale degree 2 (d) as its root and so on. *All triads in the other modes commonly used in Western popular music are set out in Table 32, p. 277.*

Bearing in mind that pitches extraneous to the tertial common triad, most frequently the flat seventh, are expressed as superscripted arabic numerals, it is clear that | I vi ii⁷ V⁷ | designates the same chord pro-

gression in any major key, whereas | C Am Dm⁷ G⁷ | and | D Bm Em⁷ A⁷ | designate the same sequence in two keys only (C and D major respectively, ex. 114). Similarly, a repeated | I ♭VII IV | progression (C B♭ F in C) is found as D C G (in D) throughout Lynyrd Skynyrd's *Sweet Home Alabama* (1974) and as | G F C | at the end of the Beatles' *Hey Jude* (1968b; in G). Note that tertial triads built on pitches foreign to the standard major or minor key of the piece must be preceded by the requisite accidental, for example '♭VII' for a major triad built on ♭b in the key of C major. Similarly, notes within a tertial chord that are extraneous to the current key of the piece must also be preceded by the requisite accidental, e.g. 'ii^{7♭5}' for the second-degree seventh chord in C major with d as root and containing also f, a♭ and c.

Ex. 114. I vi ii⁷ V⁷ sequence ('vamp') in C and D major

Diagram illustrating the I vi ii⁷ V⁷ sequence in C major and D major. The first system shows chords C (I), Am (vi), Dm⁷ (ii⁷), and G⁷ (V⁷) in C major. The second system shows chords D (I), Bm (vi), Em⁷ (ii⁷), and A⁷ (V⁷) in D major.

Inversions

Ex. 115. C major triad inverted

Diagram illustrating the C major triad in four positions. The top staff shows the lead sheet chord symbols: C, C/e, C/g, and C/bb. The bottom staff shows the harmony textbook chord symbols: I, I₃, I₅, and I_{b7}. The notes are shown on a grand staff (treble and bass clefs).

In most popular music the lowest note in a chord is usually also its root. However, in choral settings and in music strongly influenced by the European classical tradition, tertial chords are often *inverted*, i.e. the chord's root note does not have to be its lowest. The first three chords of example 115 show a C major common triad [1] in its root position (with c in the bass), [2] in its *first inversion* (with its third, e, in the bass) and [3] in its *second inversion* (with its fifth, g, in the bass). The final chord of example 115 is a tetrad (a chord containing four different notes): it is a C major triad with the flat seventh (b♭) in the bass, i.e. a C⁷ chord in its third inversion (with its seventh, b♭, as lowest note).

European textbook harmony symbols, derived from figured bass techniques of the baroque era (bottom line of symbols in ex. 115), are largely incompatible with the way in which chords are understood by musicians in the popular field. Therefore, when inversions need to be referred to they are most commonly denoted in the absolute terms of lead sheet chord symbols (top line in ex. 115), sometimes in the relative terms of roman numerals, as shown in the line of symbols between the two staves, i.e. as ‘I₃’ for the tonic triad with its third as bass note, ‘I₅’ for the same chord with its fifth in the bass, etc.

Recognition of tertial chords

Individual chords can be identified and named according to their constituent notes and harmonic functions. They can also be recognised phenomenologically. Table 13 lists some of the most common chords in popular music, together with references to occurrences of those chords in well-known pieces of popular music. It also shows, where applicable, with which musical styles or with what type of mood the chords are often associated.

Table 13: *Familiar occurrences of tertial chords (3 pages)*

chord short- hand	full chord descrip- tion	occurrences	style
	(common) major triad	First and final chord of most national anthems, <i>White Christmas</i> (Crosby 1942), the <i>Internationale</i> (Degeyter 1871), <i>Blue Danube waltz</i> (Strauss 1867). Chords in chorus of <i>Yellow Submarine</i> (Beatles 1966). <i>Happy Birthday</i> , last chord.	
m	(common) minor triad	1st long chord in Pink Floyd’s <i>Shine On Crazy Diamond</i> (1975). 1st chord in <i>It Won’t Be Long</i> , <i>She Loves You</i> and <i>I’ll Be Back</i> (Beatles 1963b; 1964a). 1st and last chord in Chopin’s <i>Funeral March</i> (1839).	
+	augmented triad	Gershwin’s <i>Swanee</i> (1919) at “how I love you!”. Second chord in <i>Being For The Benefit Of Mr Kite</i> and <i>Fixing A Hole</i> (Beatles, 1967)	
6	added sixth chord	1st chord, at ‘When whipperwills call’, in <i>My Blue Heaven</i> (Donaldson 1927). 1st and last chord in <i>Mack The Knife</i> (Weill, 1928); in chorus of <i>Alabama Song</i> , at ‘Moon of Alabama’ (Weill, 1927). Last ‘Yeah’ in <i>She Loves You</i> (Beatles, 1963b).	jazz 1920-40s

chord short- hand	full chord descrip- tion	occurrences	style
m ⁶	minor triad with added (maj.) sixth	First chord in verse of <i>Alabama Song</i> , at ‘Show us the way to the next’... (Weill, 1927). First chord after fanfare in the <i>Wedding March</i> (Mendelssohn, 1843).	
7	(dominant) seventh chord	Penultimate chord in most hymns and national anthems. First chord in Beatles’ <i>I Saw Her Standing There</i> (1963a), <i>I Wanna Be Your Man</i> (1963c), <i>She’s A Woman</i> (1964d), <i>Taxman</i> (1966), <i>Get Back</i> (1969b).	
7+	seventh chord with augmented fifth	Cole Porter (1933): <i>You’re Bad For Me</i> , upbeat to chorus. Miles Davis (1961): <i>Some Day My Prince Will Come</i> , second chord, at ‘day’. Mary Hopkins (1968): <i>Those Were The Days</i> , at ‘were the’ (upbeat to chorus). Beatles (1969a): <i>Oh! Darling</i> , after ‘broke down and died’ before reprise of hook.	
7b5	seventh chord with diminished fifth; seven flat five)	Jobim (1963): <i>Garota da Ipanema</i> , penultimate chord; (1964): <i>Samba da una nota so</i> , 4th chord; (1969): <i>Desafinado</i> , 2nd chord.	bossa nova, bebop,
maj or Δ or maj ⁷	major seven[th] chord	Cole Porter (1932): <i>Night And Day</i> , first chord of chorus. Erroll Garner (1960): <i>Misty</i> , 1st downbeat chord of chorus. Beatles (1963d): <i>This Boy</i> , 1st chord. Tom Jones (1965): <i>It’s Not Unusual</i> , 1st chord. Burt Bacharach (1968): <i>This Guy’s In Love With You</i> , 1st three chords. Beatles (1969a): <i>Something</i> , 2nd chord.	jazz standards, pop 1960s-70s,
m ⁷	minor seven[th] chord	Youmans (1925): <i>Tea For Two</i> , first chord (on ‘tea’). Bacharach (1964): <i>Walk On By</i> , first chord. Beatles (1965b): <i>Michelle</i> , second chord; (1968a): <i>Rocky Raccoon</i> , 1st chord in hook; (1969a): <i>You Never Give Me Your Money</i> , first chord.	jazz standards, pop 1960s-70s
m ^{Δ7} m ^{Δ9}	minor, major seven[th]/ninth (or nine)	Hagen (1944): <i>Harlem Nocturne</i> (the ‘Mike Hammer’ theme), first downbeat chord of tune. Norman/Barry (1962): <i>James Bond Theme</i> , final chord.s	detective & spies
m ^{7b5}	minor seven flat five or half diminished	Addinsell (1942): <i>Warsaw Concerto</i> , 2nd chord. Miles Davis (1973): <i>Stella By Starlight</i> , 1st chord. Nat King Cole (1955): <i>Autumn Leaves</i> (Kosma), 1st chord of middle eight.	romantic & classics

chord short- hand	full chord descrip- tion	occurrences	style
dim	diminished seventh chord	Beatles (1963b): <i>Till There Was You</i> , 2nd chord (at 'hill'); Beatles (1967a): <i>Strawberry Fields</i> , at 'nothing is real'.	horror chord silent movies.
9	(dominant) ninth chord	Beatles (1964a): <i>Things We Said Today</i> , at 'dreaming' ('some day when we're dreaming'); (1969a): <i>Because</i> , highlighted chord at 'round'/'high'/'blue'.	swing bebop,
+9	plus nine chord	Hendrix (1967b): <i>Purple Haze</i> , 1st chord. Beatles (1969a): <i>Come Together</i> , start. Blood Sweat & Tears (1969): <i>Spinning Wheel</i> , first chord.	rock c. 1970, jazz fusion
maj9	major nine chord	Jobim (1963): <i>The Girl from Ipanema</i> , 1st chord.	
m ⁹	minor nine chord	Warren (1938): <i>Jeepers Creepers</i> , 1st chord of chorus. Weill (1943): <i>Speak Low</i> , 1st chord in chorus. Raksin (1944) <i>Laura</i> , 1st chord in chorus.	jazz stands.
11	chord of the eleventh; 'eleven chord'	Righteous Brothers (1965): <i>You've Lost That Lovin' Feeling</i> , 1st chord. Beatles (1967b): <i>She's Leaving Home</i> , at 'leaving the note', 'standing alone', 'quietly turning', 'stepping outside', 'meeting a man'; (1970): <i>Long And Winding Road</i> , at first occurrence of 'road'. Abba (1977): <i>Name of the Game</i> , at repeated 'I want to know'.	gospel, soul, fusion, modal jazz
m11	minor eleven chord	Miles Davis (1959): <i>So What</i> , all chords. Goldenberg (1973): <i>Kojak Theme</i> , first two chords under melody.	modal jazz
13	chord of the thirteenth; or thirteen chord	Degeyter (1871): <i>Internationale</i> , upbeat to chorus. Big Ben Banjo Band (1958): <i>Luxembourg Waltz</i> , 1st chord (upbeat). Beatles (1969a): <i>Because</i> , just before ecstatic "Ah!" on D chord.	pre-jazz, swing,
add9	major triad with added ninth	Bacharach (1970b): <i>Close To You</i> , 1st chord (at 'why do birds suddenly appear?'); Nilsson (1974): <i>Without You</i> , 1st chord.	pop ballads

chord short- hand	full chord descrip- tion	occurrences	style
m ^{add9}	minor triad with added ninth; minor add nine	Al Hirt (1966): <i>Music To Watch Girls By</i> , 1st chord. Lionel Richie (1983): <i>Hello</i> , 1st chord. Rota (1966): <i>Romeo and Juliet</i> , main theme, 1st chord.	sad, bitter- sweet
/3	major triad in first inversion	Beach Boys (1966): <i>God Only Knows</i> , hook line at 'knows what I'd be'. Foundations (1967): <i>Baby, Now That I've Found You</i> , at 'let you go' and 'even so'. Pro- col Harum (1967b): <i>Homburg</i> , 3rd and 4th chords in introduction.	'classical'
/5	major triad in second inversion	Beach Boys (1966): <i>God Only Knows</i> , 1st chord. Foun- dations (1967): <i>Baby, Now That I've Found You</i> , at 'love you so'. Procol Harum (1970): <i>Wreck of the Hes- perus</i> , start of major key section.	'classical'
m ₅	minor triad in second inversion	Simon & Garfunkel (1966): <i>Homeward Bound</i> , 2nd chord; Sinatra (1969): <i>My Way</i> , 2nd chord.	reflective ballads, 'classical'
7 ₇	seventh chord in third inver- sion	Beach Boys (1966): <i>God Only Knows</i> , at 'are stars above you'. Foundations (1967): <i>Baby, <u>Now That I've Found You</u></i> . Procol Harum (1967): <i>Homburg</i> , 2nd chord. Abba (1974a): <i>Waterloo</i> , 2nd chord, on the of 'oo' of 'At Waterloo' in verse 1.	'classical'
Δ ₇ ₇	major triad with major seventh in bass	Procol Harum (1967): <i>Whiter Shade Of Pale</i> , chord 2. Eric Clapton (1974): <i>Let It Grow</i> , 2nd chord.	'classical', reflective
sus ⁴	suspended fourth chord; quartal chord	Beatles (1965a): <i>You've Got To Hide Your Love <u>Away</u></i> . Rolling Stones (1965): <i>Satisfaction</i> , 2nd of two chords in main riff Marvin Gaye (1966): <i>Ain't No Mountain</i> , 1st chord in introduction.	pop 1960s-70s

Lead sheet chord shorthand

G, D7, Em7, C#m7b5, Bbsus4, Amadd9 and so on: these are just a few examples of the shorthand used to designate individual chords in many forms of popular music. The object of this section is to explain how that system of chord labelling works.

Lead sheets are sheets of paper displaying the basic information necessary for performance and interpretation of a piece of popular music. Elements usually featured on a lead sheet are: [1] melody, including its mensuration, in staff notation; [2] lead sheet chord shorthand, usually placed above the melody; [3] lyrics, if any. Such types of written music are used extensively by musicians in the fields of jazz, cabaret, chanson and many types of dance music, etc. Lead sheets consisting of lyrics and chord shorthand only are common among musicians in the rock, pop and country music sphere.

Lead sheets originated for reasons of copyright. In the 1920s, the only way to protect authorship of an unpublished song in the USA was to deposit a written copy with the Copyright Division of the Library of Congress in Washington. To protect the rights of songs recorded by early blues artists, musicians had to provide the Library of Congress with a transcription of the melody's most salient features along with typewritten lyrics and basic elements of the song's accompaniment (Leib, 1981:56).² Such a document was called a lead sheet, its function descriptive rather than prescriptive, not least because: [1] the most profitable popular music distribution commodity of the time was not the recording but three-stave sheet music in arrangement for voice and piano; [2] most big band musicians read their parts from staff notation provided by the arranger. However, guitarists and bass players of the thirties usually played from a mensurated sequence of chord names, i.e. from 'basic elements of the song's accompaniment' as written on a lead sheet. With the decline of big bands and the rise of smaller combos in postwar years, with the increasing popularity of the electric guitar as

2. Among those artists were Sippie Wallace, Bertha 'Chippie' Hill and Eva Taylor. Among musicians providing those lead sheets were George Thomas, Richard M Jones and Clarence Williams. Thanks to Paul Oliver for this information.

main chordal instrument in such combos, and with the shift from sheet music to records as primary music commodity, lead sheets ousted staff notation as the most important scribal aide-memoire for musicians in the popular sphere. Other reasons for the subsequent ubiquity of lead sheets are that: [1] their interpretation demands no more than rudimentary notational skills; [2] since they contain no more than the bare essentials of a song, an extensive repertoire can be easily maintained and transported to performance venues.

By *lead sheet chord shorthand* is meant: [1] symbols used on a *lead sheet* to represent, descriptively or prescriptively, the chords of a song or piece of music; [2] the widespread system according to which music practitioners most frequently denote chords.

Since there are probably as many variants of lead sheet chord shorthand in current circulation as there are musical subcultures, it is impossible to provide a definitive overview of the system. Still, even though a few of these variants diverge from the codification practices described below, most variants follow by and large the principles expounded in this chapter. Table 14 (pp.148-149) provides a selection of fifty tertial chords and their lead sheet symbols, all with the note C as root. Table 15 (p.149) shows how the shorthand translates into spoken English used by musicians.³ The basic rationale of the shorthand will be explained in detail after the presentation of the two tables.

Lead sheet chord shorthand table: explanations

Table 14 (pp.148-149) charts fifty different chords based on the note C. Each chord is identified with: [1] its number in the chart so that it can be referred to concisely from the commentary following the tables; [2] the stack of thirds from which each chord derives its lead-sheet shorthand; [3] a valid way of spacing each chord on the piano. The first section of the chart (p.148) is presented in ascending order of the number of thirds supposedly contained in the chords: first simple triads, then seventh chords, ninths, elevenths and thirteenths. That part of the table

3. For a short guide to the phenomenological (aesthetic) rather than constructional (poietic) identification of chords and for fuller structural description of common chords, see Table 13, (p.141, ff.).

is followed by a selection of added, suspended and inverted chords, as well by a couple of examples of note omission, and ends with a few samples of quartal chords (p. 149).

The top staff line in Table 14 is not for playing: it simply shows the stacking of thirds at the conceptual-theoretical basis of each chord. The lower two staves, however, present a viable way of spacing each chord on a piano keyboard. Please note that the little ‘8’ under the treble clef of the piano part follows the practice of notation for tenor vocalists. That means your right hand has to play everything one octave lower than written. The left hand part should be played as notated (ex. 116).

Ex. 116. *Symbols and signs used in Table 14*
(pp. 148-149)

The diagram illustrates the notation for three chords: 98, 99, and 100. It is organized into three columns, one for each chord. The top staff, labeled 'Theoretical stack of thirds', shows the vertical arrangement of notes for each chord. For chord 98, the notes are C, E, G, Bb, with a diagonal line through the E note labeled 'omitted note'. For chord 99, the notes are C, Eb, G, Bb, with a diagonal line through the Eb note labeled 'optional note'. For chord 100, the notes are C, Eb, G, Ab, Bb, with diagonal lines through the Eb and Ab notes labeled 'optional notes'. The middle staff, labeled 'Lead sheet chord shorthand', shows the shorthand notation: C¹¹, C+¹¹, and C+¹¹+⁹. The bottom staff, labeled 'Viable way of spacing chords on a piano', shows the piano part with a treble clef (with an '8' below it) and a bass clef. The right hand part (R.H.) is written one octave lower than the theoretical stack. The left hand part (L.H.) is written as shown. Annotations include 'Right hand 1 octave lower!' and 'same chord with alternative enharmonic spelling'.

Table 14 contains a few symbolic conventions in need of explanation. [1] There is in general one ‘bar’ per chord. If two chords appear in the same ‘bar’ it is because one and the same chord, for example C⁺¹¹+⁹ (#100 in ex. 116; or chord numbers 12 and 18 on page 148), can be written in radically different ways depending on tonal context. [2] Certain notes must, for reasons explained later, be omitted from certain chords, for example the major third (e) in the C¹¹ chord shown as number 98 in example 116. Such obligatory omissions are indicated by a line drawn diagonally through the note in question. [3] Sometimes the piano part in Table 14 misses out notes that appear in the stack-of-thirds row with no ‘obligatory omission’ line through them. These optional omissions are delimited by brackets round the relevant note in the tertial stack line of Table 14 (see chords 99 and 100 in ex. 116).

Table 14: Lead sheet chord shorthand chart for C (1)

	TRIADS				SEVENTHS			
Stacked 3rds (theoretical)	1	2	3	4	5	6	7	8
Possible placement on piano (RH 8va)								

	SEVENTHS				NINTHS			
3rds	9	10	11	12	13	14	15	16
P.f.								

	NINTHS				ELEVENTHS				
3rds	17	18	19	20	21	22	23	24	25
P.f.									

	THIRTEENTHS						
3rds	26	27	28	29	30	31	32
P.f.							

Table 14 (cont'd): *Lead sheet chord shorthand chart for C (2)*

The image shows two systems of musical notation. The first system, labeled 'Stacked 3rds (theoretical)', shows chords for measures 33-40 with their shorthand names: C 6, Cm 6, Cadd9, Cmadd9, C sus4, C 7sus4, C sus9, and Cm sus9. The second system, labeled 'Possible placement on piano (RH 8va)', shows chords for measures 41-50 with their shorthand names: C₇/₃, C₇/₅, C₇/₇, Cm₇/_{b9}, C₅, C^{no} 5, C², C⁴, C^{2,4}, and C^{4,b7}. Each chord is represented by a treble clef staff with stacked notes and a bass clef staff with a single bass note.

Table 15: *Full names of lead sheet chords in C (Table 14)*

<i>chord shorthand</i>	<i>number in table 14</i>	<i>as spoken in English</i>
C+ or C ^{aug}	3	C plus, C augmented, C aug [o:g]
C ⁷ C ⁹ C ¹¹ C ¹³	5, 13, 22, 26	C seven, C nine, C eleven, C thirteen
C ^{maj7} , C ^{maj9}	7, 15	C major seven, C major nine
C ⁷⁻⁵ or C ^{7b5}	10	C seven minus five, C seven flat five
C ^{7aug} , C ⁷⁺	9	C seven augmented, C seven plus
C ⁹⁺ (C ^{9aug}) C ⁺⁹	19 18	C nine plus (C nine augmented), C plus 9
C ¹³⁺¹¹ (C ¹¹⁺¹³)	31	C thirteen plus eleven (C eleven plus thirteen)
C ^{m7} , C ^{m9} , C ^{m11}	6, 14, 23	C minor seven, C minor nine, C minor eleven
C ^{mA} , C ^{mA9}	8, 16	C minor major seven, C minor major nine
C ^{m7-5} or C ^{m7b5} or C ^ø	11	C minor seven minus five, C minor seven flat five, C half diminished
C ^{dim} or C ^{dim7}	12	C diminished, C dim, C diminished seventh
C ⁶ , C ^{m6}	33, 34	C six (C add[ed] sixth), C minor six (C minor add[ed] sixth)
C ^{sus(4)} , C ^{sus9}	37, 39	C sus (four), C four suspension, C suspended fourth, C sus nine
C ^{add9} , C ^{madd9}	35, 36	C add nine, C minor add nine
C ^{7/3} , C ^{7/e}	41	C (with) third in bass, C (with) e bass, C first inversion

Basic rationale of lead sheet chord shorthand

After seeing so many stacked thirds, it seems superfluous to state that *lead sheet chord shorthand has a tertial basis*. Since this system of abbreviation evolved during the heyday of tertial harmony in popular music, its simplest symbols denote common triads built on the designated note (e.g. 'C' for a common C major triad). Moreover, characters placed after the triad name tend merely to qualify that tertial triad, either in terms of notes added to it or by denoting chromatic alteration of any degree within the chord except for the root and its third. Similarly, the numerals seen most frequently after the triad symbol (7, 9, 11, 13) represent pitches stacked in thirds above the two thirds already contained within the triad (1-3, 3-5) on which a more complex chord is based (e.g. C⁹ containing b \flat and d – flat seventh and major ninth— in addition to c-e-g). The shorthand system also assumes that root and bass note are the same. Developed in style-specific contexts, lead sheet chord shorthand allows for the concise and efficient representation of chords in many types of popular music, for example jazz standards, chanson, *Schlager* and many types of pop, rock and country music. The system is, however, cumbersome and in need of reform when it comes to codifying inversions and to non-tertial harmony.

Symbol components

Lead sheet chord symbols are built from the following components placed in the following order: [1] note name of the chord's root, present in every symbol; [2] triad type, if not major; [3] type of seventh, if any; [4] ninths, elevenths and thirteenth, if any, with or without alteration; [5] altered fifth, if any; [6] added notes outside the tertial stack, or omitted notes and suspensions, if any; [7] inversions, if any. Since components [2] through [7] are only included when necessary, chord symbols range from very simple (e.g. C, Cm, C⁷) to quite complex (e.g. F \sharp m^{6add9}, B \flat -13+9, E omit G \sharp). Table 16 summarises the order of presentation for symbols most commonly used in connection with tertial chords containing neither added notes, nor suspensions nor inversions.

Table 16: Normal order of components in lead sheet chord shorthand

1: root note name	A, B \flat , B, C, C \sharp /D \flat , D, D \sharp /E \flat , E, F, F \sharp /G \flat , G, G \sharp /A \flat				
chord/interval type	perfect	major	minor	augmented	diminished
2: <i>triad</i> type		[omit]	m (=min/mi)	aug or +(5)	[v. unusual]
3: type of <i>seventh</i>		maj (7) or Δ	7		dim (7) or o (7)
4a: <i>thirteenth</i>		13	-13		
b: <i>eleventh</i>	11			+11	
c: <i>ninth</i>		9	-9	+9	
5: <i>fifth</i>				+ or aug	-5 or b5

Note name of the chord’s root

Note names may be in English, as in the top row of Table 16, or are written according to Germanic or Latin language nomenclature.⁴ English root note names are always in upper-case.

Tertial triad type

No extra symbol is necessary for standard major triads: just ‘C’ on its own is always a C major common triad, i.e. c-e-g. The qualifier ‘major’ applies exclusively to sevenths, never to thirds (see p.152). On the other hand, ‘minor’ applies to the third and to no other note in the chord. Chords built as or on a common minor triad must therefore include the triad type qualifier ‘m’, ‘mi’ or ‘min’, always lower-case, immediately after the chord root’s note name. For example, ‘Cm’ means a C minor common triad, i.e. c-e \flat -g.⁵

Augmented triads consist of two superimposed major thirds (e.g. c-e-g \sharp), diminished triads of two superimposed minor thirds (e.g. c-e \flat -g \flat).

4. German note names are the same as in English except: [1] B \natural is called *H*, [2] B \flat is called *B*, [3] F \sharp , C \sharp etc. are called *Fis*, *Cis*, etc., and [4] E \flat , A \flat , D \flat are called *Ess*, *Ass* and *Dess*. C D E F G A and B are called *do ré mi fa sol la si* in French (a Latin language), F \sharp is *fa \sharp* (*fa dièse*) and B \flat is *sib* (*si bémol*), etc.
5. For other minor triad symbols, see ‘Flat, sharp, plus and minus’ on page 156.

The adjectives *augmented* and *diminished* qualify in this case the alteration of scale degree 5. Augmented fifths are usually indicated by a '+', or by 'aug' (e.g. 'C+', or 'C^{aug}'). While the diminished triad is uncommon on its own, the augmented triad (C+, B \flat +, etc.) occurs quite frequently in popular music.

To avoid linguistic incongruities like 'Amadd9' in chord shorthand — there's nothing mad about it! — it is preferable to write root name and triad type in normal typeface, subsequent symbols in a smaller typeface and/or as superscript, for example 'Am^{maj}7' or 'Am^{add}9'.

Type of seventh

Since, in the often jazz-related styles for which lead sheet symbols were originally developed, the minor (flat) seventh (e.g. b \flat in relation to C) is more common than the key-specific major seventh (e.g. b \natural in relation to C), and since the qualifier 'minor' is applied exclusively to the *third* in tertial triads, a common major triad with an added minor seventh requires no other qualification than the numeral 7 (Table 14: 5): *flat seven is default seventh* in the same way as default triads feature major thirds. On the other hand, tertial chords containing a key-specific major seventh need to be flagged by means of 'maj' or ' Δ ' (table 14: 7). Since maj and Δ are reserved as qualifiers of the seventh and of no other scale degree, the '7' may be omitted in conjunction with these symbols (e.g. C^{maj} or C Δ = C^{maj}7). However, the simple '7' is always present to denote the default tetrad of the seventh whose seventh degree is always flat or minor, see Table 14: 5-12).

Seventh chords containing an augmented fifth indicate such alteration by 7+ or 7^{aug} (Table 14: 9). Diminished fifths in seventh chords containing a major third appear as 7-5 ('seven minus five') or 7 \flat 5 ('seven flat five', see Table 14: 10). Seventh chords containing minor third, diminished fifth and flat seventh are written as m7⁻⁵ or m7 \flat 5, sometimes as \emptyset ('minor seven flat five' or 'half diminished', Table 14: 11). The 'dim' chord constitutes a special case, containing both diminished seventh and fifth, and is most frequently indicated by dim placed straight after the root note name, sometimes by dim7, occasionally by \circ or \circ 7 ('diminished seventh' or just 'dim'; Table 14, chord no. 12).

Ninths, elevenths, thirteenth

Chords involving ninths, elevenths and thirteenth are assumed to include, at least theoretically, some kind of tertial triad and some kind of seventh (p.148: 13-32). Chords containing elevenths presuppose the presence of a ninth, and thirteenth chords the presence of an eleventh as well as a ninth, all in addition to a seventh and the major or minor triad of the root note. To save space, shorthand denoting all such chords is usually presented in descending order of intervals requiring qualification – thirteenth, eleventh, ninth, fifth – once the root note name, the minor triad marker (if necessary) and the major seventh symbol (if necessary) have been included (Table 14: 17-32). The only exception to this practice is the chord containing major thirteenth and augmented eleventh (13+11) which is sometimes referred to in reverse order as 11+13 (p.148: 31-32). Shorthand for chords of the thirteenth, eleventh and ninth include no mention of the eleventh, ninth or seventh below them, unless any of those degrees deviate from their default values (perfect eleventh, major ninth, minor seventh). For example, the '11' in C¹¹ assumes the presence of the default ninth and flat seventh (d and b^b), whereas the '9' in C⁺¹¹⁺⁹ is included on account of its alteration from d to d[#]/e^b (ex.116, p. 147: chord 100).

Certain notes are often omitted from ninth, eleventh and thirteenth chords. While most of the omissions are preferential, one is mandatory: removing the major third from an eleven chord because of an internal minor-ninth dissonance created between the major third lower in the chord and the eleventh usually at the top, for example the e₃ against the f₄ in C¹¹ (see chord 98 in ex.116, p. 147).⁶ Other omissions relate largely to register. For example, with an accompanimental register in the middle of the piano keyboard and with bass notes usually between one and two octaves lower, sounding the fifth in chords of the ninth and thirteenth can often cause a 'muddy', 'cluttered' effect. It is for this reason that fifths are omitted in chords 17, 18 and 26-31 on page 148.

6. The issue is not in fact the minor ninth as such (one octave plus a semitone) because the minor nine chord (C⁻⁹, no. 17 on p.148) is itself defined by the same interval. It is rather a question of how the dissonance is spaced and whether it is produced in relation to the root or to another note in the chord. In the C⁻⁹ on page 148 there are two octaves and a semitone between the root note c₂ and its minor ninth d_{b4}.

Altered fifths

Although simple augmented and diminished triads are encoded + or aug and dim or ° respectively, the symbol for altered fifths (+ and –5 or b5) in chords of the seventh, ninth, eleventh and thirteenth is *always placed last* after all other relevant information (e.g. C7^{b5}, Cm7^{b5}, C7⁺, etc; see table 14, chords 9-12, 19-21, page 148).

*Additional symbols**Omitted notes*

The more notes a chord theoretically contains, the more difficult it becomes to space those notes satisfactorily on the keyboard or guitar. As we just saw with the ‘eleven chord’, the principle of tertial stacking even leads to unacceptable dissonance that can prove impossible to resolve without removing a note from the stack. Such removal also applies to any thirteenth chord whose theoretical tertial stack contains an unaltered eleventh: that note is always left out of thirteenth chords based on the major triad (p.148, chords 26-30). Similarly, the perfect fifth is often omitted from thirteenth chords as well as from certain ninth chords.⁷ All these omissions constitute standard practice and need not be indicated in lead sheet chords.

One chord which does require indication of note omission is the ‘bare’ fifth, often used as rock power chord and usually noted (in E) as ‘E no 3’ or ‘E omit G#’. A less clumsy way of indicating open fifths is with a simple ‘5’, for example ‘E5’ for a dyad of e and b, Bb⁵ for bb and f, C⁵ for c and g, etc. (see Table 14, p. 149, chord 45).

7. In fact, the more notes a chord has to include, the more difficult it becomes to space its constituent notes in a convincing way and the more likely it is that pianists will skip a note whose presence is not essential to the sonic identity of the chord. Guitarists are probably less affected by the problem: not only is it impossible to play all seven notes of a thirteenth chord using a six-stringed instrument; it can also be hard to convincingly accommodate all five or six notes in some ninth and eleventh chords. Besides, since both guitarists and pianists playing in the styles in which these sorts of chord occur – bebop jazz, for example – rely on the bass player for most root notes and fifths, problems of spacing and internal dissonance decrease.

Added ninths and sixths

Added chords are those consisting of a simple triad to which another single note has been added without inclusion of intervening odd-number degrees that result from tertial stacking. For example, **add9** and **m^{add9}** chords are triads to which the ninth has been added without including an intermediate seventh (p.149, chords 35-36). Similarly, the two sixth chords (p.149: 33-34) are qualifiable as added because they both consist of a triad to which a major sixth has been added without any intervening sevenths, ninths or elevenths making them into chords of the thirteenth. It should be remembered that the 'm' in 'm6' refers to the minor *third*, not to the sixth which is always major (e.g. Cm⁶ as c e^b g a[♯]; p.149:34). Unlike added ninths, added sixth chords are not indicated with the prefix 'add' before the '6'.

Suspended fourths and ninths

Suspensions are chords that can be resolved into a subsequent tertial consonance. The most common suspensions in popular music, **sus4** and **sus9**, both resolve to common major or minor triads, the fourth of **sus4** to a third, the ninth of **sus9** to the octave (e.g. the f in C^{sus4} to the e of C or the e^b of Cm, the d in C^{sus9} to the c of C or Cm (p.149: 37-40). The absence of any numeral after **sus** assumes that the suspension is held on a fourth. Although **add9** chords (p.149: 35-36) and **sus9s** (39-40) may be identical as individual chords, **sus9** should typically resolve in the manner just described, while **add9** need not. (For use of **sus** in quartal harmony, see 'Non-tertial chords', p.157, ff.).

Inversions

Since inversions mainly to occur in popular music in passing-note patterns or anacrusis created by the bass player without reference to notation, no standard lead sheet codification exists for such practices. This lacuna in the system makes chord labelling difficult in classical harmony contexts. One way of indicating inversions is, however, to write the relevant bass note by interval number or note name following the rest of the chord's symbols and a forward slash, for example C⁷/₃ or C⁷/_e for a C seven chord with its third, e, in the bass (p.149: 41-43). Inversions audible in pop recordings are often absent from published lead

sheets and tend only be indicated if they occur on an important down-beat or its syncopated anticipation. The same goes for chords that are held or repeated while bass notes change in conjunct motion. For example, a bass line descending chromatically from Cm to A \flat would first pass through the chord shown as number 44 on page 149: Cm/ \flat b \flat . That indication may be accurate but the chord is unlikely to be called ‘C minor with a major seventh in the bass’ or ‘C minor over b natural in the bass’, much more likely to be thought of as a ‘another C minor’, because it’s simply part of the bass player’s job to take the music from Cm to A \flat in an appropriate manner. In any case, you are unlikely to see |D D/c# |Bm D/a |G \flat | as lead-sheet shorthand for the first five chords in Bach’s *Air* (1731), however accurate that may be.⁸

Anomalies

Flat, sharp, plus and minus

Ex. 117 E \flat ⁹ and E⁻⁹



Sharp and flat signs (#, \flat) are mainly reserved as accidentals qualifying the root note name. Example 117 shows the ‘ \flat ’ in ‘E \flat ⁹’ indicating that the root

note e itself is flat (E \flat) and not its ninth (f# becoming f \natural). It is in this way possible to distinguish between an E *flat* nine chord, (E \flat ⁹: e \flat -g-b \flat -d \flat -f), and an E *minus* nine chord (E⁻⁹, i.e. E⁷ with a flat ninth, i.e. e-g#-[b]-d-f \natural). Otherwise the rule is that in any chord, *all altered degrees apart from 3 and 7* (pp.151-152) are indicated by ‘+’ for a note raised by a semitone and by ‘-’ or ‘ \flat ’ for a note lowered by one semitone. C⁷ \flat ⁵ and C⁷⁻⁵ are in other words the same chord. It should be noted that conflicting conventions concerning the use of these symbols are in operation. For example, some versions of the ‘Real Book’ use minus signs instead of m or min to denote minor triads, flat and sharp signs instead of + and - to signal chromatic alteration.

8. In fact, legal or illegal, on paper or the internet, publications of sheet music and of ‘lyrics with guitar chords’ are notorious for omitting chordal detail intrinsic to the sound of the song in question. For example, in the (legal) Warner sheet music version of Lionel Richie’s *Hello* (1985) not a single Am^{add9} appears as either notes or among the ‘guitar chords’, even though that chord dominates the song’s verses.

Enharmonic spelling

Lead sheet chord shorthand tends to disregard the rules of enharmonic orthography.⁹ For example, although the $\flat\text{II} \rightarrow \text{I}$ cadence at the end of the *Girl from Ipanema* (Jobim, 1963) might appear as $\text{A}\flat^{\flat 9\flat 5} \rightarrow \text{G}^{\text{maj}7}$ on a lead sheet in G, the same $\flat\text{II} \rightarrow \text{I}$ cadence would in $\text{E}\flat$ almost certainly be spelt $\text{E}^{\flat 9\flat 5} \rightarrow \text{E}\flat^{\text{maj}7}$ rather than the enharmonically correct $\text{F}\flat^{\flat 9\flat 5} \rightarrow \text{E}\flat^{\text{maj}7}$. Similarly, distinction is rarely made between chords containing a falling minor tenth and those with a rising augmented ninth: the assumption is that since both +9 and -10 refer to the same equal-tone pitch, the difference between them is immaterial. +9 is much more commonly used than -10, even if the latter is more often enharmonically correct.

Non-tertial chords

Since non-tertial chords do not derive from stacked thirds, they are not really translatable into lead sheet shorthand. Apart from open fifths, already mentioned, there are problems in encoding harmonies used in modal and bitonal jazz, as well as in some types of folk music and avant-garde rock. For example, standard consonances in quartal harmony, like chords 48 and 50 on page 149 (C^4 and $\text{C}^{4\flat 7}$), are often labelled 'sus' or 'sus4', which is in one sense not surprising because chords 48 and 50 (C^4 and $\text{C}^{4\flat 7}$) contain exactly the same notes as chords 37 and 38 (C^{sus} , $\text{C}^{7\text{sus}}$). The point is that neither $\text{C}^{2,4}$, nor C^5 and $\text{C}^{4\flat 7}$ need any 'resolution' and that harmonic suspension is neither intended nor perceived. That such suspension *is* intended in chords 37-40 is indicated in the table (p.149) by arrows leading from each suspended note to its resolution on the small, stemless black note following it.

Another anomaly is that musicians often conceptualise chords of the eleventh and thirteenth bitonally rather than in terms of stacked thirds, for example C^{13+11} as a D major triad on top of C^7 ; or C^{11} as Gm^7 or $\text{B}\flat^6$ with C in the bass. No satisfactory consensus exists as to how such chords might be more adequately encoded. One possible solution to

9. For more about *enharmonics* see addendum, pp. 270-272.

part of the problem may be to refer to some of these chords in the way suggested in table 14, examples 47-50 (p.149), in line with our discussion of quartal harmony in Chapter 6 (pp.125-136).