# Chapter 7

# Roman Numerals and Cadences

## 7.1 Roman Numeral Chord Symbols

Music is full of patterns that are similar from one piece to the next. As we saw with minor scales, we were able to use scale degree numbers to show the different patterns for harmonic, melodic, and natural minor, despite the fact that there are 15 minor key signatures. Using numbers instead of note names helps us see these patterns. Thinking of music in terms of numbers is also helpful with **transposition**, which means moving melodies and/or chord progressions from one key to another. Thinking of music in terms of numbers also helps us to analyze it and to spot similar patterns between many different pieces in different keys.

We will use Roman numerals to represent chords within a specified key. The Roman numeral "I" represents a triad built on  $\hat{1}$ , or the 1st note of the scale. Uppercase Roman numerals represent major triads and lowercase Roman numerals (e.g., "i") represent minor triads. Uppercase Roman numerals with a "+" are augmented (e.g., "III+"), and lowercase Roman numerals with a "°" are diminished (e.g., "vii°"). (There is also the Nashville Number System, which uses Arabic numbers for chords instead of Roman numerals.)

Key	$Lead ext{-}Sheet$	Root	Scale Degree of Root	$Roman\ Numeral$	Notes in Chord
G	$\operatorname{Bm}$	В	$\hat{3}$	iii	$B-D-F^{\sharp}$
f	$\mathrm{G}^{\circ}$	G	$\hat{2}$	ii°	$G-B$ $^{\flat}-D$ $^{\flat}$
$\mathbf{c}$	$\operatorname{E}^{\flat}$	$\operatorname{E}^{\flat}$	$\hat{3}$	III	$E^{\flat}$ – $G$ – $B^{\flat}$

For inversion of Roman numerals, we will use a modified "slash chord" notation until we study Figured Bass later on. For now, we will write "I/3rd" if the 3rd of the I chord is the bass note, for example.

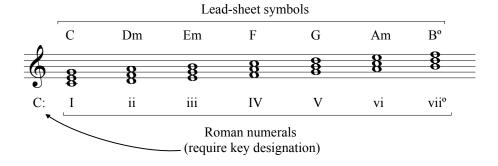


The following table offers more examples.

Key	$Roman\ Num.$	Root	Scale Deg. of Root	Notes in Chord	$Bass\ Note$
g	V/3rd	D	$\hat{5}$	$\mathrm{D}\text{-}\mathrm{F}^{\sharp}\mathrm{-}\mathrm{A}$	$\mathrm{F}^{\sharp}$
a	iv/5th	D	$\hat{4}$	D-F-A	A
D	vii°/3rd	$\mathrm{C}^{\sharp}$	$\hat{7}$	$\mathrm{C}^{\sharp}\mathrm{-E-G}$	${ m E}$

# 7.2 Diatonic Chords in Major

Observe the pattern of diatonic chords in major represented by Roman numerals. (**Diatonic** means notes *within* a key signature and can be contrasted with the term "chromatic.") One sees the pattern M-m-m-M-M-m- $^{\circ}$  in triad quality.

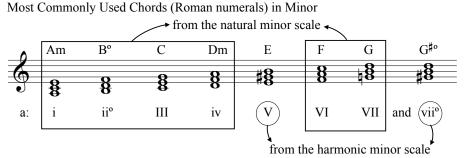


#### 7.3 Diatonic Chords in Minor

Because there are three versions of the minor scale, there are more than seven diatonic chords in minor. The sixth and seventh scale degrees affect all of the triads except the tonic, making 13 possible diatonic triads in minor.

NATURAL MINOR								
^	Am	$\mathrm{B}^{\mathrm{o}}$	C	Dm	Em	F	G	
				0	8	8	-8	
	8	8	8	8	_8_	0		
a:	i	ii°	III	iv	V	VI	VII	
HARMONIC MINOR								
_0_	Am	B°	C+	Dm	Е	F	G <sup>#</sup> °	
6			#o	Ω	#8	8	#8	
	8	8	-# <b>8</b>	8	<del>- 10</del>		- <del>11</del> -	
a:	i	ii°	III+	iv	V	VI	viiº	
MEI	ODICA	IINOD	rare					
MEL	ODIC N					п	14	
_0_	Am	В	C+	D	Е	F#°	G <sup>#</sup> °	
6		ш	#0	μО	#8	<b>18</b>	#8	
	8	#8	#8	#8	#8	HO.	#9	
a:	i	ii rare	III+ rare	IV rare	V	<sup>♯</sup> vi⁰ rare	viiº	

However, when one analyzes a large amount of tonal music, one finds the following Roman numerals are most commonly used in minor.



Notice that both VII (the "subtonic triad") and vii° (the "leading-tone triad") are included. The subtonic triad (VII), built on the lowered  $\hat{7}$  that occurs in *natural* minor, regularly occurs in circle of fifth progressions in minor and in rock and pop music, while the leading-tone triad (vii°), built on raised  $\hat{7}$ , is usually either a passing harmony or has dominant function.

### 7.4 Cadences

We've been studying harmony—triads and chords. A **cadence** is a harmonic arrival point, a harmonic moment of stasis. A cadence can be compared to a comma or period in written language—the ear gets a moment to process a short passage of music, then the music continues. We will differentiate between four basic cadences now, adding more specificity in a later chapter.

- 1. Authentic Cadence (AC): a phrase ending with the chords V-I
- 2. Plagal Cadence (PC): a phrase ending with the chords IV-I
- 3. **Deceptive Cadence** (DC): a phrase ending with the chords V-vi
- 4. Half Cadence (HC): a phrase ending on the V chord

#### 7.4.1 Examples of Authentic Cadences



Figure 7.4.1 Francis Scott Key and John Stafford Smith, "Star-Spangled Banner"

In the example above, the notes surrounded by parentheses are non-chord tones, which will be studied later. Also, there are seventh chords in this example, which we will study in the next chapter.

Here is another example ending with an authentic cadence.

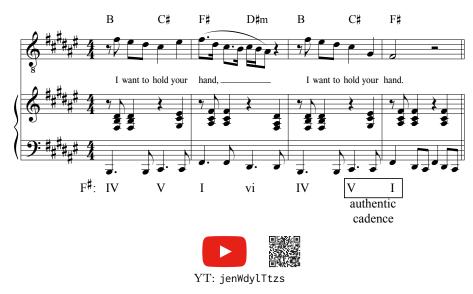


Figure 7.4.2 Lennon-McCartney, "I Want to Hold Your Hand"

### 7.4.2 Examples of Plagal Cadences

Here are examples with plagal cadences.

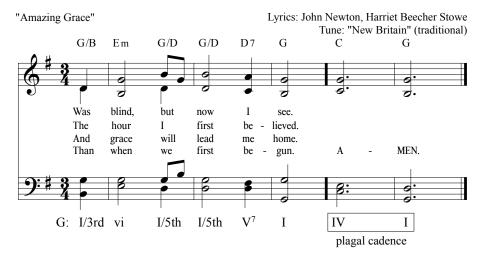


Figure 7.4.3



Figure 7.4.4 Pink, Bhasker, and Ruess, "Just Give Me a Reason"



YT: PVjiKRfKpPI

Figure 7.4.5 Hozer-Byrne, "Take Me to Church"

## 7.4.3 Examples of Deceptive Cadences

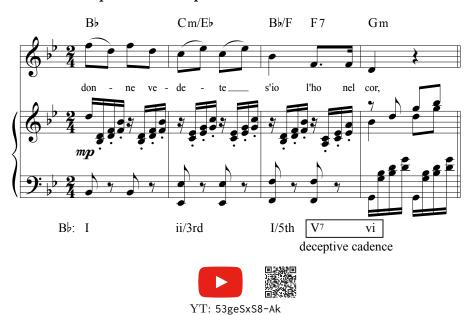


Figure 7.4.6 Mozart, The Marriage of Figaro, "Voi che sapete"

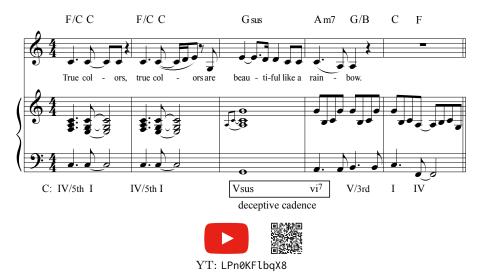


Figure 7.4.7 Kelly and Steinberg, "True Colors"

The following example, from the prelude to Act I of Richard Wagner's opera *Tristan und Isolde*, is arguably one of the most famous deceptive cadences in the history of music.

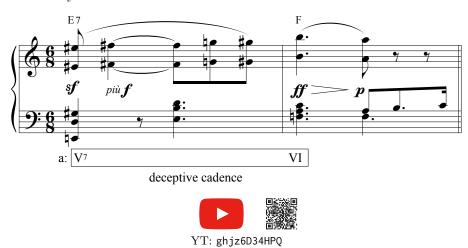


Figure 7.4.8 Wagner, Tristan und Isolde, Prelude to Act I

A deceptive cadence means V did not go to I. This means that "V to not-I" is technically a more correct description for a deceptive cadence than V-vi, which is the most common realization of "V to not-I."

In the example below, V goes to IV/3rd.



Figure 7.4.9 Mozart, Ave Verum Corpus, K. 618

### 7.4.4 Examples of Half Cadences

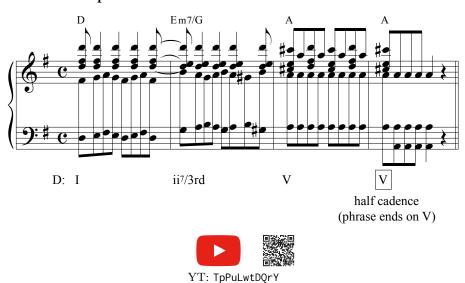


Figure 7.4.10 Mozart, Eine kleine Nachtmusik, K. 525, I.



Figure 7.4.11 Sheeran and Wadge, "Thinking Out Loud"

You may encounter chords with no thirds in rock and pop music. If you encounter a chord that has only a root and fifth, label it with a "5" after the root in lead sheet labeling (e.g.,  $B^5$ , as in the next example).

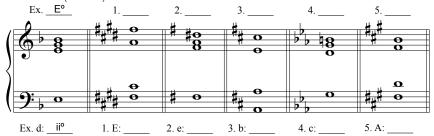
Additionally, you may encounter **incomplete chords**, which are chords containing only the root and third but no fifth.



Figure 7.4.12 Bieber, Blanco, and Sheeran, "Love Yourself"

## 7.5 Practice Exercises

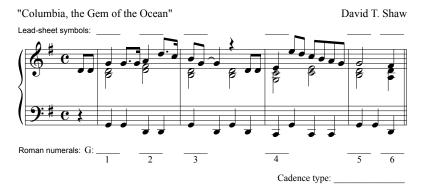
1. Label the following chords with lead sheet symbols (above) and Roman numerals (below).



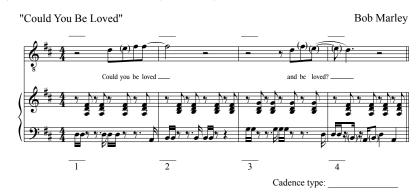
2. Given the Roman numeral and key, write the key signature, notate the triad, and label the chord with a lead-sheet symbol (above).



- **3.** Label lead-sheet symbols above and Roman numerals below and analyze the type of cadence that ends the phrase.
  - (a) "Columbia, the Gem of the Ocean" (YouTube)



(b) "Could You Be Loved" (YouTube)



Click here to download the homework.