

Lesson QQQ – Advanced Roman Numeral Usage

Introduction:

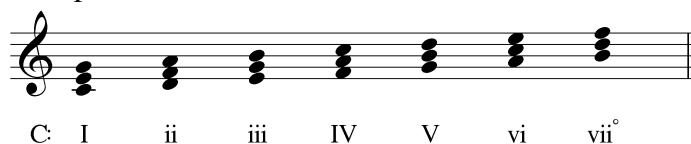
Roman numerals are a useful, shorthand way of naming and analyzing chords, and of showing their relationships to a tonic. Conventional Roman numerals are adjusted to indicate chromaticism when harmonic practice becomes more advanced. Being able to recognize and use such adjustments is essential for analyzing a wide spectrum of music. This brief lesson will quickly review the fundamentals of Roman numeral analysis and then discuss how those fundamentals are adjusted to deal with chromatic elements in cases of mixture.

Simple Roman numeral usage:

Roman numerals are a popular means of harmonic analysis for tonal music because they convey two vital pieces of information in a single symbol. They indicate (a) the root and (b) the quality of a chord. The number symbolized by the Roman numeral corresponds to the scale degree serving as the root of the chord. The quality is indicated by the case of the Roman numeral: upper case indicates major triads, lower case minor triads. A raised degree sign (^o) attached to lower-case Roman numerals indicates diminished triads. A raised plus sign (⁺) attached to upper-case Roman numerals indicates augmented triads.

It is imperative that you familiarize yourself with the qualities of diatonic triads in both major and minor keys. The following example shows the pattern of major, minor, and diminished triads in a major key:

Example 1:



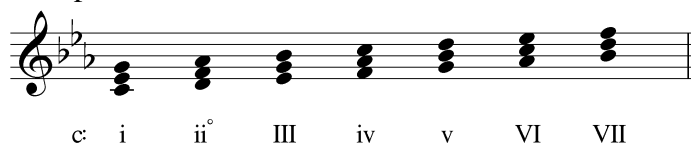
A musical staff in treble clef with a C-clef, showing seven triads in C major. The triads are: C (I), D (ii), E (iii), F (IV), G (V), A (vi), and B (vii^o). The notes are: C4-E4-G4, D4-F4-A4, E4-G4-B4, F4-A4-C5, G4-B4-D5, A4-C5-E5, and B4-D5-F5.

C I ii iii IV V vi vii^o

As you can see, the triads built on scale degrees $\hat{1}$, $\hat{4}$, and $\hat{5}$ are major (I, IV, and V), while the triads built on scale degrees $\hat{2}$, $\hat{3}$, and $\hat{6}$ are minor (ii, iii, and vi). Notice that the triad built on scale degree $\hat{7}$ (vii^o) is the only diminished triad of the group. For easy demonstration, **Error! Reference source not found.** is in C major, but the pattern of triad qualities is identical for all major keys.

As Example 2 demonstrates, minor keys have their own pattern of major, minor, and diminished triads:

Example 2:



A musical staff in treble clef with a C-clef and two flats (Bb and Eb), showing seven triads in C minor. The triads are: C (III), D (iv), Eb (v), F (VI), G (VII), Ab (ii^o), and Bb (i). The notes are: C4-Eb4-G4, D4-F4-Ab4, Eb4-G4-Bb4, F4-Ab4-C5, G4-Bb4-D5, Ab4-C5-E5, and Bb4-D5-F5.

c: i ii^o III iv v VI VII

Note: You may have noticed that with regard to the qualities of the triads, the pattern in minor is the same as major, but begins in a different place. (Beginning with III in minor, you'll find the same pattern of qualities as begins on I in major.) This similarity is a result of the relationship between relative keys.

As we learned in the lesson on the minor scale, scale degree $\hat{7}$ is routinely raised in minor keys for the triads built on $\hat{5}$ and $\hat{7}$. The following example shows the qualities of triads according to the harmonic minor composite (for more on that subject, refer to Lesson 3):

Example 3:

A musical staff in C minor showing seven triads. The notes are: C3-Eb3-Gb3 (i), C3-Eb3-F3 (ii°), C3-Gb3-Bb3 (III), C3-F3-Ab3 (iv), C3-Gb3-Bb3 (V), C3-Eb3-Gb3 (VI), and C3-Eb3-F3 (vii°). Below the staff are the Roman numerals: c: i ii° III iv V VI vii°.

As with **Error! Reference source not found.**, it is imperative that you memorize this pattern of triad qualities for minor keys. Doing so for major and minor keys will allow you to recognize changes in quality when chromatic alterations occur.

Seventh chords are also labeled with Roman numerals:

Example 4

a.

A musical staff in C major showing seven seventh chords. The notes are: C3-E3-G3-Bb3 (I7), C3-E3-F3-G3 (ii7), C3-E3-F3-G3 (iii7), C3-F3-A3-Bb3 (IV7), C3-G3-Bb3-C4 (V7), C3-E3-G3-A3 (vi7), and C3-E3-F3-G3 (vii°7). Below the staff are the Roman numerals: C: I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{°7}.

b.

A musical staff in C minor showing seven seventh chords. The notes are: C3-Eb3-Gb3-Ab3 (i7), C3-Eb3-F3-Gb3 (ii°7), C3-Gb3-Bb3-C4 (III7), C3-F3-Ab3-Bb3 (iv7), C3-Gb3-Bb3-C4 (V7), C3-Eb3-Gb3-Ab3 (VI7), and C3-Eb3-F3-Gb3 (vii°7). Below the staff are the Roman numerals: c: i⁷ ii^{°7} III⁷ iv⁷ V⁷ VI⁷ vii^{°7}.

Seventh chords retain the case of the triads on which they are based. (Seventh chords with “°” are fully diminished; seventh chords with “°” are half diminished.)

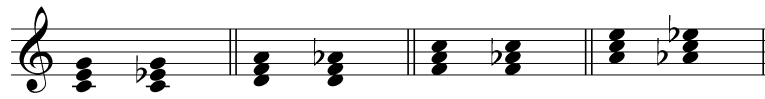
As we have seen, Roman numerals are informative in themselves: they indicate both the root and quality of harmonies. They can provide further information when combined with figured bass numerals. Refer to Lesson 4 for more information on how figured bass numbers supplement and refine Roman numeral analysis.

Roman numerals and mixture:

Because Roman numerals indicate the quality of a chord, they are especially useful for analyzing instances of mixture, where triads change quality by incorporating scale degrees from the parallel mode. Look again at the triads built on $\hat{5}$ and $\hat{7}$ in Examples 2 and 3. As discussed in Lessons 3 and LLL, those two chords borrow the leading tone from the parallel major. The resulting difference in quality is reflected in the Roman numerals: v becomes V and VII becomes vii°.

The following example shows several other examples of how Roman numerals indicate mixture:

Example 5:



| | | | | | | | |
|----------|----------------|----------|----------------|----------|----------------|----------|----------------|
| C: I | i | ii | ii° | IV | iv | vi | bVI |
| diatonic | simple mixture | diatonic | simple mixture | diatonic | simple mixture | diatonic | simple mixture |

In a major key, the triad built on scale degree $\hat{1}$ is naturally major (“I”). When mixture is applied to the chord—lowering the third to E^b , in this case—the Roman numeral is correspondingly changed to “i” to signal the minor quality. Example 5 also demonstrates how through mixture ii (minor) becomes ii° (diminished) and IV (major) becomes iv (minor).

The final case in Example 5 shows simple mixture applied to a vi chord in a major key. The root of the chord (A) is affected (lowered to A^b). When the root of a chord is altered, we put an appropriate accidental *before* the Roman numeral. The chord is labeled bVI : “b” indicates that the root—scale degree $\hat{6}$, as shown by “VI”—has been lowered. The case of the Roman numeral also tells us that the chord is major, and requires E^b instead of E (with E the chord would have been augmented).

Note: In Example 5, the altered sub-median chord was labeled bVI in C major. This same alteration in E major would require a natural sign instead of a flat in front of scale degree $\hat{6}$:

Example 6:



| | | | |
|----------|----------------|----------|----------------|
| C: vi | bVI | E: vi | bVI |
| diatonic | simple mixture | diatonic | simple mixture |

Note, however, that the lowered submedian in E major is still labeled bVI . This brings up an important idiosyncrasy about using accidentals with Roman numerals. A lowered root is always indicated by “b” and a raised root is always indicated by “#,” even in cases like Example 6 where it may not correspond with the accidentals in the music. (Because it is so commonly used, the chord built on $\#7$ in minor is simply labeled vii° instead of $\#vii^{\circ}$.)

You should become familiar enough with the qualities of diatonic chords so that you can immediately recognize Roman numerals that indicate chromatic alterations. In the context of a major key, for instance, chords such as “i” and “ii°” should instantly alert you to chromatic alterations.

Roman numerals also signal secondary and double mixture. The following example illustrates:

Example 7:

C: ii II iii III vi VI
 diatonic secondary mixture diatonic secondary mixture diatonic secondary mixture

In instances of secondary mixture the quality of the chord in question is changed, but not through borrowing of tones from the parallel key. (For more on this and other topics relating to mixture, refer to Lesson LLL.) The minor quality of the diatonic ii chord becomes major (II) through secondary mixture. Likewise, iii and vi become III and VI. In each case, the alteration is indicated by a change in case of the Roman numeral.

The same holds true for minor keys:

Example 8:

c: III iii VI vi VII vii
 diatonic secondary mixture diatonic secondary mixture diatonic secondary mixture

As shown by Example 8, III, VI, and VII in a minor key become minor as a result of secondary mixture. They are respectively labeled iii, vi, and vii.

Roman numerals also show cases of double mixture—where secondary mixture is applied to chords already altered by simple mixture. Consider the following cases of double mixture in a major key:

Example 9:

C: \flat III \flat iii \flat VI \flat vi
 simple mixture double mixture simple mixture double mixture

In a major key, \flat III and \flat VI are both examples of simple mixture because they are derived through borrowing tones from the parallel minor. When their chord quality is changed by lowering their thirds, they become instances of double mixture. Again the Roman numeral analysis indicates the root and

quality of the triad. The chord labeled “ $\flat iii$ ” is a minor triad built on $\flat 3$ while “ $\flat vi$ ” is a minor triad built on $\flat 6$.

Example 10 shows two examples of Roman numeral labeling for double mixture in a minor key:

Example 10:



| | | | |
|-----------------|----------------|----------------|----------------|
| c: $\sharp iii$ | $\sharp III$ | $\sharp vi$ | $\sharp VI$ |
| simple mixture | double mixture | simple mixture | double mixture |

Note again that despite the natural signs altering the roots of these chords, the Roman numerals are preceded by \sharp signs.

Activity QQQ.1:

Identify each of the following chords in various keys with a roman numeral. (Note: Each chord is in root position.)

Exercise QQQ.1a

Identify the following chord in $E\flat$ major with a Roman numeral:



$E\flat$:

[Answer: i. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember to use accidentals to indicate altered roots and that the case of the Roman numeral should correspond with the quality of the triad.”]

[Follow-up multiple choice question:]

Is this a case of simple, secondary, or double mixture?

[Answer: simple. Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

Exercise QQQ.1b

Identify the following chord in A major with a Roman numeral:



A:

[Answer: $\flat VI$. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember to use accidentals to indicate altered roots and that the case of the Roman numeral should correspond with the quality of the triad.”]

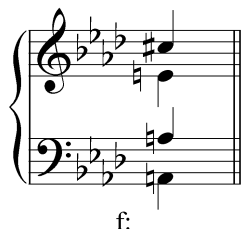
[Follow-up multiple choice question:]

Is this a case of simple, secondary, or double mixture?

[Answer: simple. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

Exercise QQQ.1c

Identify the following chord in F minor with a Roman numeral:



[Answer: #III. Response if correct: "Correct!" Response if incorrect: "Incorrect. Remember to use accidentals to indicate altered roots and that the case of the Roman numeral should correspond with the quality of the triad."]

[Follow-up multiple choice question:]

Is this a case of simple, secondary, or double mixture?

[Answer: double. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

Exercise QQQ.1d

Identify the following chord in C# minor with a Roman numeral:



[Answer: vi. Response if correct: "Correct!" Response if incorrect: "Incorrect. Remember to use accidentals to indicate altered roots and that the case of the Roman numeral should correspond with the quality of the triad."]

[Follow-up multiple choice question:]

Is this a case of simple, secondary, or double mixture?

[Answer: secondary. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

Conclusion:

Roman numerals are a convenient means of naming and analyzing chords. They concisely convey important information. The numbers symbolized by Roman numerals indicate the scale degrees on which chords are built. "I" indicates a chord built on $\hat{1}$, "ii" a chord built on $\hat{2}$, and so on. Furthermore, the case of the Roman numeral indicates the quality of the chord. For triads, uppercase indicates a major triad, lowercase a minor triad, and lowercase with a supplementary degree sign ("°"), a diminished triad. Seventh chords are also analyzed with Roman numerals. Their case, upper or lower, indicates the quality of the triad on which they are built. Figured bass numerals can be added to indicate inversions of chords, or part movement above a sustained bass (for example: 4-3, 7-6, 5-6, $\frac{6}{4} - \frac{5}{3}$, etc.).

Because Roman numerals are able to express such things, they are also useful for indicating the three types of mixture. As always, the case of the Roman numerals indicates chord quality. You should become familiar enough with the qualities of diatonic triads so that by looking at a Roman numeral you are immediately able to recognize the presence of chromatic alterations. Accidentals preceding a Roman numeral signal an altered root: a prefix “b” indicates a lowered root while “#” indicates a raised root.