

A GUIDE TO ADVANCED HARMONY

1. [Secondary Dominants and Leading-Tone Chords](#)
 2. [The Neapolitan Sixth Chord](#)
 3. [Modal Mixture](#)
 4. [Chromatic Mediants and Submediants](#)
 5. [Augmented-Sixth Chords](#)
 6. [Altered Dominants](#)
 7. [Common-Tone Diminished-Seventh Chords](#)
 8. [Extensions of Dominant-Seventh Chords \(Ninths, Elevenths, Thirteenths\)](#)
- [Figured Bass Review Exercise](#)
 - [Analysis Review Exercises](#)

1) Secondary Dominants and Leading-Tone Chords

- Chords:** Secondary Dominants and Leading-Tone Chords give the impression of a new temporary tonic (this is the concept of *tonicization*). These chords can tonicize any major or minor triad through their own dominant or leading tone chord. The quality of secondary dominants consist of major triads (“M”) and major-minor seventh-chords (“Mm7”), while the quality of secondary leading-tone chords consists of diminished triads (“d”), diminished-minor seventh chords (“dm7” or “ø7”), and fully-diminished seventh chords (“dd7” or “ø7”).
- Triads:** The triads of secondary dominants are labeled as “V / tonicized chord” and secondary leading tone chords as “vii° / tonicized chord” (for example, C: V/ii, vii°/ii, V/iii, vii°/iii, and so on). The secondary chords of the subdominant and dominant triads are identical in major and minor keys though the chromatic notes needed to derive those chords differ. Several secondary chords duplicate diatonic triads, and at times their diatonic labeling is preferred, such as “I” instead of “V/IV.” However, other times the choice is dependent on musical context under consideration.

The image displays two rows of musical notation on a grand staff (treble and bass clefs). The top row is for C major, and the bottom row is for C minor. Each row contains ten pairs of chords, with labels above and below the notes. Above the notes, boxes indicate the relationship: 'vii° and V of Dm', 'vii° and V of Em', 'vii° of FM', 'vii° and V of GM', 'vii° and V of Am' for C major; and 'vii° and V of E♭M', 'vii° and V of Fm', 'vii° and V of GM', 'vii° of A♭M', 'vii° and V of B♭M' for C minor. Below the notes, the chords are labeled with Roman numerals: C major: vii°/ii, V/ii, ii, vii°/iii, V/iii, iii, vii°/IV, I, IV, vii°/V, V/V, V, vii°/vi, V/vi, vi; C minor: (vii°/III), (V/III), III, vii°/iv, V/iv, iv, vii°/V, V/V, V, vii°/VI, III, VI, vii°/VII, (V/VII), VII.

- Seventh Chords:** Secondary dominants and leading-tone chords frequently include chordal sevenths. Secondary dominants with sevenths are labeled “V⁷/tonicized chord,” while secondary leading-tone chords are labeled either “vii^{°7}/tonicized chord” if they have dd7 quality or “vii^{ø7}/tonicized chord” if they have dm7 quality. Adding chordal sevenths to secondary chords generally resolves issues of diatonic duplication. For instance, in a major key, the “V⁷/IV” no longer resembles the tonic chord since the resulting seventh from the Mm7 yields a chromatic tone not inherent in major keys. A common exception to the rule is the minor key V⁷/III, which has a diatonic counterpart as VII⁷. Generally, V⁷/III is the preferred label for this chord, although VII⁷ is more suitable in circle-of-fifths sequences that contain diatonic seventh-chords throughout.
- Chords in context:** Secondary chords can appear anywhere within a musical phrase. There are no firmly established rules for what harmonies precede secondary chords; smooth-voice leading dictates acceptable use. Nevertheless, one tends to find idiomatic chord progressions that rely on secondary chords. Secondary chords are normally followed by their expected tonicized chord (for instance, I vii^{ø7}/ii ii V⁷ I). Secondary chords of the dominant can be followed by a cadential $\frac{6}{4}$ chord before proceeding to the dominant.

- 4-part writing:** All secondary dominants and leading-tone chords contain a secondary leading-tone (S.L.T.) that resolves up by a half-step. The secondary leading-tone is always a half-step below the root of the chord of resolution (in secondary leading-tone chords, the root of the chord is the secondary leading-tone; in secondary dominant chords, the third of the chord is the secondary leading-tone). If a chord contains a chordal seventh, it must resolve down by stepwise motion or remain a common tone to the chord that follows. See examples in C major and C minor below (try rewriting them in various keys).
- Doubling:** When using these types of chords as triads, avoid doubling the secondary leading-tone.
- Figured bass:** You will encounter the same types of figures used for triads and seventh chords in root position and inversion (the shorthand symbols for triads are $\overset{5}{3}$, $\overset{6}{3}$, and $\overset{6}{4}$, and for seventh chords $\overset{7}{3}$, $\overset{6}{5}$, $\overset{4}{3}$, $\overset{4}{2}$). A slash, a plus sign, or a sharp on a number will indicate a half-step upward inflection, while a flat sign will indicate a downward inflection. An inflection sign that is seen on its own or underneath a number (rather than to the left of the number) instructs the performer that the third above the bass must be chromatically modified. Figured bass symbols can appear in their abbreviated form or in full if chromatic alterations warrant such change (for instance a root position seventh-chord can be shown as $\overset{7}{3}$ or $\overset{7}{2}$).

4-Part Writing:		
Roman Numerals:	C: I ii ⁶ V ⁶ /V V I	c: i ii ^{°6} V ⁶ /V V i
Figured Bass:		

2) Neapolitan Sixth Chord

- Labeling: N^6 or $\flat II^6$. Lower $\hat{6}$ and $\hat{2}$ in major keys, and only $\hat{2}$ in minor keys.
- Solfege: Fa-Le-Ra.
- Doubling: Always double the third, which is in the bass.
- Chord in context: Normally preceded by I, vi, or IV (in minor the chord qualities are different), and as a predominant chord, it is normally followed by V, V_4^6-3 , or vii^{o7}/V .
- Figured bass: Remember that accidentals in figured bass depend on the key. Imagine the progressions below in the key of F# major: the N^6 will be require *natural* signs.
- 4-part writing: Ra must always resolve down to its closet possible note, either Do or Ti. See examples below in C major and C minor. Try rewriting them in various keys.

4-Part Writing: Roman Numerals: C: I N^6 V I Figured Bass: $\flat 6$ $\flat 3$	4-Part Writing: c: i N^6 V i Figured Bass: $\flat 6$ $\natural$
4-Part Writing: Roman Numerals: C: I N^6 V_4^6-3 I Figured Bass: $\flat 6$ $\flat 4-3$	4-Part Writing: c: i N^6 V_4^6-3 i Figured Bass: $\flat 6$ $\flat 4-3$
4-Part Writing: Roman Numerals: C: I N^6 vii^{o7}/V V I Figured Bass: $\flat 6$ $\flat 7$	4-Part Writing: c: i N^6 vii^{o7}/V V i Figured Bass: $\flat 6$ $\flat 7$ $\natural$

3) Modal Mixture

- **Origin:** Modal mixture derives from “borrowing” chords from parallel keys. In a major key, composers can borrow chords from the parallel minor. Likewise, composers can make use of a major tonic in a minor key—a technique referred to as the *picardy third*. To use modal mixture in a major key, we can employ one or more scale degrees from the parallel minor: $\hat{3}$ (or “me”), $\hat{6}$ (“le”), and/or subtonic $\hat{7}$ (“te”).
- **Triads:** Borrowed triads from the parallel minor include the following: i, ii^o, $\flat$ III, iv, v, $\flat$ VI, $\flat$ VII (see illustration below). The flat symbols reflect the lowering of the roots: “mi” → “me”, “la” → “le”, and “ti” → “te.” These flat symbols lower the root by a half-step, requiring one or two flats or a natural depending on the key (for an example involving two flats, just think of a $\flat$ III chord in the key of G $\flat$ major). All these triads can be used in root position or inversion, bearing in mind that second inversion triads are used in very specific musical contexts—as a passing $\frac{4}{2}$, pedal $\frac{4}{2}$, or cadential $\frac{4}{2}$.

The illustration shows two staves of music. The top staff is for C minor, showing triads for scale degrees i, ii^o, III, iv, v, VI, and VII. The bottom staff is for C major, showing the same triads but with flat symbols indicating borrowing from the parallel minor: i, ii^o, $\flat$ III, iv, v, $\flat$ VI, and $\flat$ VII. Below the C major staff, the altered scale degrees are listed: $\flat\hat{3}$, $\flat\hat{6}$, $\flat\hat{3}$ and $\flat\hat{7}$, $\flat\hat{6}$, $\flat\hat{7}$, $\flat\hat{6}$ and $\flat\hat{3}$, and $\flat\hat{7}$.

- **Seventh Chords:** Seventh Chords from any scale degree can be borrowed from the parallel minor, though the most common are ii^{o7}, (lower $\hat{6}$), iv⁷ (lower $\hat{6}$ and $\hat{3}$), and vii^{o7} (lower $\hat{6}$). As with their triadic counterparts, they can be used in root position or inversion.
- **Chords in context:** All borrowed chords retain their normal harmonic function. The minor dominant is rarely used in minor keys or as a borrowed chord in a major key. The minor tonic is also less frequent because it can be perceived as a modulation to the parallel minor if its presence is too strongly felt. Some chord progressions involving modal mixture will state a chord twice, once as a diatonic chord and once as a borrowed chord—I ii $\frac{6}{4}$ ii^{o7} V I. In such instances, the diatonic chord *must* precede the borrowed chord because of the nature of voice leading (if we render the progression above in four-part writing, one voice must include “la” → “le” → “sol” since it would be unnatural for “le” to ascend to “la.”)
- **4-Part Writing:** When writing borrowed chords, the same considerations to voice leading apply as part writing in a minor key.
- **Doubling:** Maintain the same doubling procedures as you would in a minor key.
- **Figured bass:** You will encounter the same types of figures as in major with added accidentals to lower the necessary scale degrees for borrowed chords.

4) Chromatic Mediants and Submediants

- Chords: Consist of major or minor chromatic triads whose roots are either a minor third or major third away from the tonic. They can be encountered in major or minor keys, though they are slightly more common in major.
- Labeling: In major keys, the chromatic mediants include III, $\flat$ iii, and $\flat$ III, and the chromatic submediants include VI, $\flat$ vi, and $\flat$ VI. The flat symbols reflect the lowering of the roots by a half step, while the quality of the triads is expressed by lower or upper case Roman numerals. We will not focus on chromatic mediants and submediants in minor keys because of their rarity.
- Chords in context: Chromatic mediants and submediants are normally found in root position and are enclosed by root position tonic chords (for example, I $\flat$ iii I). Several of these triads are identical to borrowed chords ($\flat$ III and $\flat$ VI), but their function differs: borrowed chords maintain the natural flow of harmonic function (such as T-PD-D-T), while chromatic mediants and submediants are thought of as types of neighbor chords; thus, their function prolongs tonic. Consider the following progressions: I $\flat$ VI I and also I $\flat$ VI iv V I. In the first example, the function of the $\flat$ VI is clearly decorative and serves to aid the tonic, while in the second example the $\flat$ VI is acting as a predominant towards the borrowed subdominant chord before finishing with the conclusive V I motion.
- Doubling: Always double the root.
- Figured bass: You will encounter some variation of the $\sharp$ figure with added accidentals.
- 4-part writing: Retain all common tones in the same voice, even those that have a chromatic alteration of the same letter name.

The image displays six musical examples arranged in two rows of three. Each example shows 4-part writing (treble and bass staves), Roman numerals, and figured bass.

Top Row (Major Key Progressions):

- Example 1: I $\flat$ III I. Figured bass: $\flat 5$.
- Example 2: I $\flat$ iii I. Figured bass: $\flat 5$, $\flat 3$.
- Example 3: I III I. Figured bass: $\sharp$.

Bottom Row (Major Key Progressions):

- Example 4: I VI I. Figured bass: $\sharp$.
- Example 5: I $\flat$ VI I. Figured bass: $\flat 5$.
- Example 6: I $\flat$ vi I. Figured bass: $\flat 5$, $\flat 3$.

5) Augmented-Sixth Chords

- **Chords:** Augmented-Sixth Chords (or $+^6$ chords) are altered forms of several predominant chords. They are known as $+^6$ chords because they contain an augmented-sixth interval (“le” to “fi”).
- **Labeling:** Their chord quality doesn’t resemble common triads (M, m, A, d) or seventh chords (MM⁷, Mm⁷, mm⁷, dm⁷, dd⁷), so they are rather difficult to express with Roman numerals. Therefore, musicians use names to designate each of the $+^6$ chords: Italian Sixth (It.⁶), French Sixth (Fr.⁶), or German Sixth (Gr.⁶).
- **Solfege:** The solfege below illustrates each of the following $+^6$ chords. This illustration applies equally to major or minor keys, though in major keys additional accidentals are required: “le” for all $+^6$ chords plus “me” (or “ri”) for Gr.⁶.

	Italian 6th (It. 6)	French Sixth (Fr. 6)	German Sixth (Gr. 6)
upper voices	Fi Do	Fi Re Do	Fi Me (sometimes Ri in major) Do
bass note	Le	Le	Le

- **Chord in context:** Normally preceded by I, vi, or IV (in minor the chord qualities are different), and as predominant chords, they are normally followed by V or V $\frac{4}{3}$.
- **Doubling:** The only chord that requires doubling is the It.⁶; double “do” to reinforce the tonic.
- **Figured bass:** We will write $+^6$ chords using “le” in the bass since it is the most common bass note for these chords. The illustration shows inversion symbols for $+^6$ chords (for curiosity’s sake), though it is easier to part-write and analyze these chords using solfège rather than memorizing numerous complex figures.
- **4-part writing:** The notes used for the three upper voices can be arranged in any order desired (“fi” can be written for soprano, alto, or tenor). The bass note “le” must always resolve down by a semitone, while “fi” must always resolve up by a semitone. Remaining notes resolve following standard procedures for 4-part writing. Notice in the examples below that Gr.⁶ is followed by a cadential $\frac{4}{3}$ before resolving to V in order to avoid parallel fifths (on occasion, composers would resolve Gr.⁶ directly to V, following the natural resolution “le” → “sol” and “me” → “re,” thereby resulting in parallel fifths).

Augmented-Sixth Chords – continued

4-Part Writing:

Roman Numerals: C: I It.⁶ V I

Figured Bass:

16

4-Part Writing:

c: i It.⁶ V i

Figured Bass:

16 1

4-Part Writing:

Roman Numerals: C: I Fr.⁶ V I

Figured Bass:

16 3

4-Part Writing:

c: i Fr.⁶ V i

Figured Bass:

16 3 1

4-Part Writing:

Roman Numerals: C: I Ger.⁶ V⁶ I

Figured Bass:

16 3 5 7

4-Part Writing:

c: i Ger.⁶ V⁶ i

Figured Bass:

16 3 5 7

6) Altered Dominants

- Chords: Altered Dominants are dominant triads or seventh chords with altered fifths, either lowered or raised by a semitone.
- Labeling: $V^{\sharp 5}$, $V^{\flat 5}$, $V_{\sharp 5}^7$, $V_{\flat 5}^7$. Raise $\hat{7}$ in minor keys to activate the leading tone. To facilitate labeling of inverted altered dominants, we retain the root-position figures and write the inversion in parenthesis; for instance, $V_{\sharp 5}^7 (1^{\text{st}} \text{ inv.})$.
- Chords in context: Altered dominants retain dominant function; thus, they are normally preceded by tonic or predominant function and resolve to tonic triads. They are encountered in major and minor keys alike, except for $V^{\sharp 5}$, $V_{\sharp 5}^7$, which only occur in major keys (the altered chord-tone $\sharp 5$ must resolve upwards by step to the closest tone from the tonic triad, and in minor keys it is not possible).
- Doubling: Double the root when writing altered-dominant triads.
- Figured bass: Figured bass symbols for root-position altered dominants includes variations of $\sharp 5$, $\flat 5$, $\sharp 5^7$, $\flat 5^7$, plus any additional accidentals used to raise the leading tone in minor keys for the $\flat 5$ and $\flat 5^7$ altered dominants.
- 4-part writing: $\sharp 5$ or “ri” must resolve up by step to “mi,” while $\flat 5$ or “ra” must resolve down to “do.” As always chordal sevenths must resolve down by step. The leading tone may be resolved freely (“ti” → “sol”) if in an inner voice and if subsequent tonic chord is missing a fifth (see examples below).

4-Part Writing:

Roman Numerals: C: I $V^{\sharp 5}$ I

Figured Bass:

$\sharp 5$

C: I $V_{\flat}^7$ I

$\flat 5^7$

4-Part Writing:

Roman Numerals: C: I $V^{\flat 5}$ I

Figured Bass:

$\flat 5$

C: I $V_{\sharp}^7$ I

$\sharp 5^7$

7) Common-Tone Diminished-Seventh Chords

- Chords: Consist of fully-diminished seventh chords that share a common tone to the harmony that surrounds it. They occur in major keys only and are typically found in third ($\frac{3}{2}$) inversion.
- Labeling: They can simply be labeled $CT^{\frac{3}{2}}$ or with Roman numerals: $\sharp ii^{\frac{3}{2}}$ and $\sharp vi^{\frac{3}{2}}$. On occasion, one (or more) of the notes from a $CT^{\frac{3}{2}}$ will appear enharmonically respelled in music.
- Chords in context: They act as neighbors, embellishing tonic or dominant chords. The raised supertonic diminished chord embellishes the tonic ($I \sharp ii^{\frac{3}{2}} I$), while the raised submediant embellishes the dominant ($V \sharp vi^{\frac{3}{2}} V$). Notice both of these short chord progressions retain the same bass note throughout.
- Figured bass: The figured $\sharp 4 \sharp 2$ is used.
- 4-part writing: The raised notes resolve upwards by semitone. It is ideal to reserve the chromatic motion for the soprano of either chromatic note to highlight the smooth voice leading using stepwise chromatic motion.

4-Part Writing:

Roman Numerals: C: I $\sharp ii^{\frac{3}{2}}$ I

Figured Bass:

$\sharp 4$
 $\sharp 2$

C: V $\sharp vi^{\frac{3}{2}}$ V

$\sharp 4$
 $\sharp 2$

8) Extensions of the Dominant-Seventh Chord (9ths, 11ths, and 13ths)

- **Chords:** Consist of dominant-seventh chords with extensions (9th, 11th, or 13th). These chords occur in both major and minor keys.
- **Labeling:** V⁹, V¹¹, and V¹³. The 9th and 13th will have a different interval quality in major keys versus minor keys (major keys - M9 and M13; minor keys – m9 and m13), yet they are labeled the same way in Roman numeral analysis.
- **Chords in context:** These chords normally occur in root position. The presence of extended notes does not alter its dominant function, which resolves to tonic.
- **Figured bass:** You will encounter figures that include 9, 11, or 13.
- **SATB voicing:** Since these chords contain more than four notes, not all chord tones can be used in 4-part writing. The chart below illustrates the notes that are used in 4-part writing for each of the extended chords. Notice they all include the root and seventh. The 11th chord does not use its third for obvious reasons: the third clashes with the 11th, creating a harsh m9 interval.

Chord Member	9 th Chord	11 th Chord	13 th Chord
Root	✓	✓	✓
3	✓		✓
5			
7	✓	✓	✓
9	✓	✓	
11		✓	
13			✓

- **4-part writing:** While it is helpful to think of compound intervals as simple intervals when learning to write these chords (9th $\approx$ 2nd, 11th $\approx$ 4th, 13th $\approx$ 6th), the extended notes must be written as compound intervals as compared to the root in the bass (refer to part-writing examples). This will prevent any confusion between extended notes and 4-3 suspensions, and it will provide a more open voicing that is desirable to reduce the tension between some intervals (in V¹³ chords, the 7th and 13th will clash if both are written as simple intervals). When part-writing extended notes, resolve using the following guidelines: 9th down by step, 11th remains a common tone, 13th resolves down to the tonic. Remember, in minor keys, you must use raised $\hat{7}$ (“ti”).

Extensions of the Dominant-Seventh Chord (9ths, 11ths, and 13ths) - continued

4-Part Writing:

Roman Numerals: C: I V⁹ I

Figured Bass:

9

4-Part Writing:

Roman Numerals: c: i V⁹ i

Figured Bass:

9

4-Part Writing:

Roman Numerals: C: I V¹¹ I

Figured Bass:

11

4-Part Writing:

Roman Numerals: c: i V¹¹ i

Figured Bass:

11

4-Part Writing:

Roman Numerals: C: I V¹³ I

Figured Bass:

13

4-Part Writing:

Roman Numerals: c: i V¹³ i

Figured Bass:

13

Figured-Bass Analysis and Four-Part Writing

Build the chords indicated by the figured bass on the bottom staff and derive a Roman numeral analysis for these chords. Afterwards, you'll need to circle the types of chromatic chords explored in this figured bass and part write for SATB chorus:

Roman numerals:

Staff for building chords:

Circle the types of chromatic chords that are utilized in this chord progression

- Secondary Dominant/Leading-Tone Chords
- Neapolitan 6th Chord
- Modal Mixture
- Chromatic Mediants/Submediants
- Augmented Sixth Chords
- Altered Dominant Chords
- Common-Tone Diminished Seventh Chords
- Extensions of the Dominant Seventh Chord (not a chromatic chord)

Roman Numeral Analysis and Figured Bass

Analyze using Roman numerals and create a bass line that reflects the harmonies shown:

Roman numerals:

Figured bass:

Circle the types of chromatic chords that are utilized in this chord progression

- Secondary Dominant/Leading-Tone Chords
- Neapolitan 6th Chord
- Modal Mixture
- Chromatic Mediants/Submediants
- Augmented Sixth Chords
- Altered Dominant Chords
- Common-Tone Diminished Seventh Chords
- Extensions of the Dominant Seventh Chord

Name: _____

Roman Numeral Analysis and Figured Bass

Analyze using Roman numerals and create a bass line that reflects the harmonies shown:

Roman numerals:

Figured bass:

Circle the types of chromatic chords that are utilized in this chord progression:

- ☐ Secondary Dominant/Leading-Tone Chords
- ☐ Neapolitan 6th Chord
- ☐ Modal Mixture
- ☐ Chromatic Mediants/Submediants
- ☐ Augmented Sixth Chords
- ☐ Altered Dominant Chords
- ☐ Common-Tone Diminished Seventh Chords
- ☐ Extensions of the Dominant-Seventh Chord