

## Inversions of the Dominant Seventh Chord

### Identification

$V_7$  has 3 inversions: in the 1<sup>st</sup> inversion, the 3<sup>rd</sup> is in bass; in the 2<sup>nd</sup>, the 5<sup>th</sup>; in the 3<sup>rd</sup>, the 7<sup>th</sup>.

Inversions of  $V_7$                       Inversions of  $V_7^{\flat}$

1st      2nd      3rd                      1st      2nd      3rd

C:  $V_7$      $V_5^6$      $V_3^4$      $V_2$     c:  $V_7^{\flat}$      $V_5^6$      $V_3^4$      $V_2$

In the 1<sup>st</sup> inversion,  $V_5^6$ , the figures represent the intervals of the root (6) and 7<sup>th</sup> (5) above bass.

C:  $V_5^6$       c:  $V_5^6$

In the 2<sup>nd</sup> inversion,  $V_3^4$ , the figures represent the intervals of the root (4) and 7<sup>th</sup> (3) above bass. The figure 6 with a slash is used in a minor mode to indicate the alteration of the leading tone. A slash through a figure means that the note is to be raised a half step.

C:  $V_3^4$       c:  $V_3^4$

In the 3<sup>rd</sup> inversion,  $V_2$ , the figure represents the interval of the root (2) above bass. The figure 4 with a slash is used in a minor mode to indicate the alteration of the leading tone.

C:  $V_2$       c:  $V_2$

### Resolutions of the Inversions

The inversions of  $V_7$  are usually used in a *complete form* and resolve to I in the way similar to the resolution of the root position  $V_7$ , with only *one* difference:

- 1) the 7<sup>th</sup> and 5<sup>th</sup> move by step down;
- 2) the 3<sup>rd</sup> moves by step up;
- 3) the root *remains stationary*.

C:  $V_5^6$     I     $V_3^4$     I     $V_2$     I<sub>6</sub>

As seen from the examples,  $V_5^6$  and  $V_3^4$  normally resolve to I;  $V_2$  resolves to I<sub>6</sub>.

### Preparation and Use

The inversions of  $V_7$  are used in the same way as  $V_7$  in root position; the 7<sup>th</sup> may be approached smoothly (passing, prepared) or with a leap.

The *passing* 7<sup>th</sup> is usual for  $V_5^6$  and  $V_2$ .

In such case,  $V_5^6$  is used after  $V_6$  in which the root is doubled (the passing 7<sup>th</sup> is in upper voices, more often in soprano).

C:  $V_6$   $V_5^6$  I  $V_6$   $V_5^6$  I  $V_6$   $V_5^6$  I

Haydn, Piano Sonata in C major, Hob. XVI: 35, III

**Allegro**

*p*

$V_2$  is often used after V or cadential (rarely after passing)  $I_4^6$  (passing 7<sup>th</sup> in bass).

C: V  $V_2$   $I_6$   $IV_6$  [ $I_4^6$ ] cad.  $V_2$   $I_6$

Mozart, Ariette “Oiseaux, si tous les ans”, K. 307

**Allegretto**

C: [ $I_4^6$ ] cad.  $V_2$   $I_6$

The 7<sup>th</sup> is *prepared* if there is the harmonic connection of IV with any inversion of  $V_7$ .

C: IV  $V_2$   $I_6$  IV  $V_3^4$  I  $IV_6$   $V_5^6$  I

The 7<sup>th</sup> may be approached with a *leap* if V is used. A leap in bass when connecting  $V-V_2$  or a leap in upper voices (often in soprano) when connecting  $V_6-V_5^6$  are all not rare.

C: V   V<sub>2</sub>   I<sub>6</sub>   V<sub>6</sub>   V<sub>3</sub><sup>6</sup>   I   V<sub>6</sub>   V<sub>3</sub><sup>6</sup>   I

The use of the inversions of V<sub>7</sub> significantly increases the possibilities of the melodic behavior of each voice (especially the bass line). Thus, it is recommended to use the inversions of V<sub>7</sub> as much as possible while saving V<sub>7</sub> in its root position mostly for cadences.

### Passing V<sub>3</sub><sup>4</sup>

V<sub>3</sub><sup>4</sup> is often used as a *passing chord* (instead of V<sub>4</sub><sup>6</sup>) between I and I<sub>6</sub> (or vice versa).

In order to avoid doubling of the 3<sup>rd</sup> in I<sub>6</sub> in I–V<sub>3</sub><sup>4</sup>–I<sub>6</sub> progression, the 7<sup>th</sup> moves up parallel to bass. Such progression with the unresolved 7<sup>th</sup> became acceptable due to its characteristic motion of parallel 3<sup>rd</sup>'s (or 10<sup>th</sup>'s) between bass and an upper voice (often soprano).

**Larghetto**                      Mozart, Horn Concerto No. 3, K. 447, II

Horn in E $\flat$                       *p con molto espressione*

*pp*

A $\flat$ :                      I   V<sub>3</sub><sup>4</sup>   I<sub>6</sub>

In open spacing, a diminished 5<sup>th</sup> would move to a perfect 5<sup>th</sup> (or vice versa). These 5<sup>th</sup>'s are *not* considered to be parallel and are *allowed*.

**Allegro vivace**                      Beethoven, Piano Sonata No. 18, Op. 31, No. 3, II

A $\flat$ :                      I   V<sub>3</sub><sup>4</sup>   I<sub>6</sub>

### Interchange of the Chords

Like any triad, V<sub>7</sub> and its inversions can be interchanged. It is always better to keep the 7<sup>th</sup> in the same voice. It is not allowed to move the 7<sup>th</sup> by step up.

C:  $V_7$   $V_3^4$   $V_5^6$   $V_7$

In rare cases it is possible to *exchange* the 7<sup>th</sup> with the 5<sup>th</sup>.

Beethoven, Symphony No. 7, Op. 92, III

Assai meno presto

D:  $V_7$  I

### Exercises

1. Analyze the following music.

a)

Andante

Händel, Samson, No. 1: Overture

b)

Adagio

Haydn, Symphony No. 100 in G major, I

ii

c)

**Allegro (♩ = 96)**

Beethoven, Piano Sonata No. 6, Op. 10, No. 2

**Allegro (♩ = 96)**

*p*

ii<sub>6</sub>

V<sub>2</sub>/IV

d)

**Andante con variazioni** (♩ = 72)

Beethoven, Piano Sonata No. 12, Op. 26, Theme

Andante con variazioni (♩ = 12)

*p* *cresc.* *sf* *p*

*p cresc.* *p*

$V_6^{\circ}/V_{\text{VII}}^{\circ}$   $vi_{\text{VII}}^{\circ}$   
M.B.

*sf* *p* *cresc.* *p*

2. Realize the following figured basses and harmonize the melodies.

[illegible]

b) 

c) 

d) 

e) 

f) 

g) 

h) 

i) 

j) 

## Leaps when Resolving the Dominant Seventh Chord and its Inversions

There are some exceptional ways to resolve  $V_7$  and its inversions to  $I$  which are somewhat different from the mentioned ones in the previous topics.

### Leaps in $V_2-I_6$ Resolution

It is sometimes possible to find resolutions of  $V_2$  to  $I_6$  in which the 5<sup>th</sup> of  $V_2$  would *leap* to the 5<sup>th</sup> of  $I_6$  (instead of the normal stepwise resolution of the note). Such upward leap of a perfect 4<sup>th</sup> can be often found in soprano.

Beethoven, Piano Sonata No. 8, Op. 13, No. 2, II

**Andante cantabile**

The score is in bass clef, 2/4 time, key of A-flat major. It shows a progression from  $V_2$  to  $I_6$ . The soprano voice (the upper line of the grand staff) has a leap from the 5th of  $V_2$  to the 5th of  $I_6$ . The dynamics include *p* (piano).

A $\flat$ :                   $V_2$                    $I_6$

Sometimes,  $V_2-I_6$  chord progression may also use the leap of the root to the root.

Crüger, Herzliebster Jesu, was hast du verbrochen

The score is in treble clef, common time, key of G major. It shows a progression from  $V_2$  to  $i_6$ . The root of  $V_2$  leaps to the root of  $i_6$ . The dynamics include *g:* (grave).

g:                                   $V_2$                    $i_6$

### Double Leaps in $V_2-I_6$ Resolution

It is also possible to find leaps of both the *root* and 5<sup>th</sup> at the same time in the two upper voices. In such case the root would be placed above the 5<sup>th</sup>, otherwise parallel 5<sup>th</sup>'s would occur.

Händel, Samson, HWV 57, No. 23, Fix'd in his Everlasting Seat

The score is in treble clef, 3/4 time, key of D major. It shows a progression from  $V_2$  to  $I_6$ . Both the root and the 5th of  $V_2$  leap to the root and 5th of  $I_6$  respectively. The dynamics include *f* (forte).

D:                                   $V_2$                    $I_6$

In some rare cases, the leaps may be by *contrary* motion of the upper and middle voices or by *downward* motion of *parallel fourths* in the inner voices.

C:  $V_2$   $I_6$   $V_2$   $I_6$

### Leaps in $V^4_3$ -I and $V^6_5$ -I Resolutions

$V^4_3$  may also resolve to the *complete* or *incomplete* I with the leap from the root of  $V^4_3$  to the root of I (the voice leading in this case is similar to the resolution of the root position  $V_7$  to I).

C:  $V^4_3$  I  $V^4_3$  I  $V^4_3$  I

Sometimes one can find leaps in  $V^6_5$ -I chord progression as well.

(Lento)

Tchaikovsky, Children's Album, Op. 39, Morning Prayer

G:  $V^6_5$  I  $V^4_3$   $I_6$

### Contrary and Parallel Octaves in Cadences

In order to have a perfect cadence at the end of a unit (phrase, period), an *incomplete* (sometimes complete)  $V_7$  may resolve to I with *contrary* and sometimes even *parallel octaves* in the outer voices. Such parallel or contrary octaves are accepted and *not* considered to be wrong.

Chopin, Mazurka, Op. 33, No. 2

D:  $V_7$  I



## Exercises

Harmonize the following sopranos and realize the figured basses using leaps when resolving  $V_7$  in root position and its inversions where appropriate.

