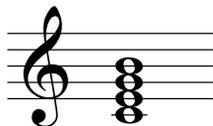


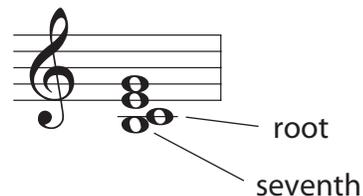
## Major seventh

The major seventh has a **major triad** on the bottom, and the distance from root to seventh is a **major seventh**.



C major 7th chord

Remember that the seventh can be inverted around to its “opposite.” A major 7th inverts around to a minor 2nd, or a half-step below the root.



This is an easy and reliable way to calculate what your seventh should be.

In roman numeral analysis we mark our major-seventh chords with a capitalized roman + “M7”

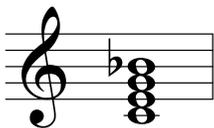
I<sup>M7</sup>

Some people like other roman-numeral notations, including a triangle to mean major.

I<sup>Maj7</sup> I<sup>Δ7</sup>

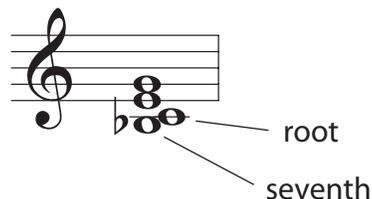
## Dominant seventh

The dominant seventh has a **major triad** on the bottom, and the distance from root to seventh is a **minor seventh**.



C dominant 7th chord

Inverting the chord makes a whole step between root and seventh.



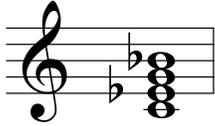
Dominant chords are so common that they get the roman numeral with a “plain” 7. V<sup>7</sup> is by far the most frequent usage, so we’ll analyze our sample chord as V<sup>7</sup> in F major.

F: V<sup>7</sup>

Some textbooks are apparently anxious to reserve the term “dominant 7th chord” for chords that are actually built on the  $\hat{5}$  of the key. They use “major-minor 7th” to describe this shape in more general terms. I think most musicians would agree that this is unnecessarily fussy.

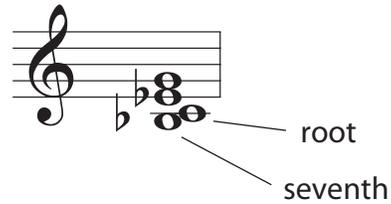
## Minor seventh

The minor seventh has a **minor triad** on the bottom, and the distance from root to seventh is a **minor seventh**.



C minor 7th chord

Again, flipping it around makes a whole step between root and seventh.

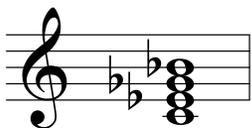


For roman numerals you would use lowercase letters and a “plain” 7. We’ll analyze this chord as  $ii^7$  in  $B\flat$  major.

$B\flat: ii^7$

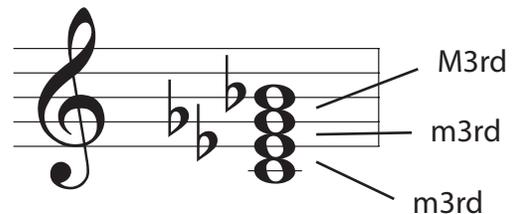
## Half-diminished seventh

If we compress our triad down to a **diminished triad** on the bottom, but keep our **minor seventh**, we get a “half-diminished” seventh.



C half-diminished 7th

So of course the name implies that this is an unfinished job, since it is possible to “fully” diminish a seventh chord but somehow we have failed. A real fully-diminished seventh is a stack of all minor thirds, but here we have neglected to compress the top third.



For roman numerals you use a diminished circle with a line through it. We’ll analyze this chord as  $vii^{\circ 7}$  in  $D\flat$  major.

$D\flat: vii^{\circ 7}$

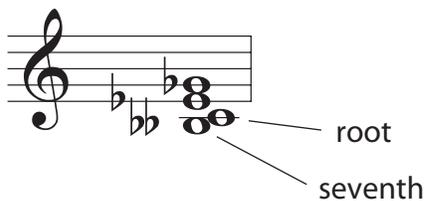
## Fully-diminished seventh

A fully-diminished seventh has a **diminished triad** on the bottom and a **diminished seventh** from root to seventh.

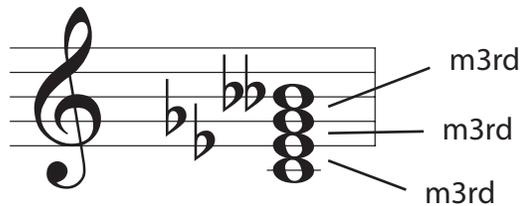


C fully-diminished 7th

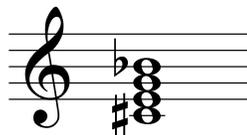
The diminished seventh is a tricky interval that is the same size as the major 6th, 9 semitones. When you invert it you get an augmented second (3 semitones).



It is a stack of all minor thirds.



This is the rare chord where you frequently see a mix of sharps and flats. For instance, here is a C# fully-diminished seventh.



With the roman numerals it gets the diminished circle with no slash. Since our C fully-dim example does not exist in any “real” key we will analyze this C# diminished 7th as  $\text{vii}^{\circ 7}$  in D minor.

$\text{d: vii}^{\circ 7}$