

Method 3 Computer Completion by Outer Voice Span

By James Hober

The following 32 tables are organized by outer voice span, the interval between the bass and soprano. There is one table for each possible outer voice span, from m3 (the smallest possible) to m7 + 2 octaves (the largest possible). The interval content of **every** V-System chord has been used to construct these tables.

To find the voicing group for a given V-System chord, determine the interval between the outer voices of the chord. Go to the table for that outer voice span. Next, determine the interval between the bass and tenor of the chord. Locate that interval in the left column of the table. Finally, determine the interval between the alto and soprano of the chord. Locate the corresponding column for that interval. The located table cell will tell you the voicing group for the chord.

To summarize:

- Bass to soprano interval \longrightarrow table
- Bass to tenor interval \longrightarrow table row
- Alto to soprano interval \longrightarrow table column

As you peruse the tables, you will notice a beautiful, fractal like pattern. The first table, for an outer voice span of a m3, has only one entry in the upper left hand corner. That entry is for the highly dissonant cluster of three adjacent half steps: 1 - 1 - 1 - 9. It's the only chord in the V-System that can have the smallest possible outer voice span.

Gradually, the subsequent tables show more and more possible intervals for V-1 chords. (Only V-1 chords span less than an octave.) When we come to the table for a perfect octave outer voice span, we find it's empty! No V-System chords can span a perfect octave because that would result in doubling.

The b9 table only has V-2s. Only V-2s can have an outer voice span of a b9. Gradually more and more voicing groups appear in subsequent tables. The number of entries increases until we reach the table for a perfect fifteenth (2 octaves). Again, it is empty. A two octave outer voice span would also result in doubling.

With subsequent tables, the number of entries gradually shrinks. In the final table, we are left with only one row and one column of entries.

Table for the Outer Voice Span of a b21 (m7 + 2 octaves)

Bass to Tenor Inter- vals	Alto to Soprano Intervals:																					
	m2	M2	m3	M3	P4	A4	P5	m6	M6	m7	M7	P8	b9	9	b10	10	11	#11	12	b13	13	b14
↓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-