

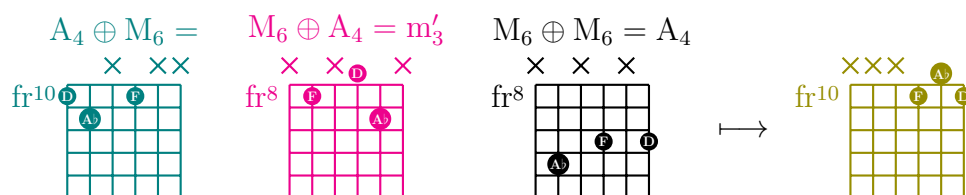
Pitch Equivalent Guitar Fingerings of the D° Diminished Open Triads

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Remarks

The following is a 5×4 table of some commonly used voicings of the D° open triads¹ on a 21 fret guitar. Let $X(i, j)$ be the chord in row i and column j , so that, for example, the top left and bottom right chords of the table will be denoted $X(1, 1)$ and $X(5, 4)$ respectively. Notice that:

1. Chords on a given row fall in roughly the same range of frets.
2. Each row contains a root, first inversion and second inversion triad of the open D°. The fourth chord is an upward pitch translation by one octave of the first chord. Thus, for example, $X(3, 4)$ is one octave higher than $X(3, 1)$ and of the same inversion.
3. **Pitch order** is constant on fingerings of the same color (located on the diagonals). Since there are eight colors in the table, there are exactly eight pitch classes. It is natural to refer to fingerings of the same color as being *pitch equivalent*. Clearly all fingerings in a given pitch class will have the same inversion.
4. The highest notes in each of the first three chords of a given row, together, form an inversion of one of the three D diminished closed triads located on the first three strings. For example, here are the first three diminished open chords in row three, followed by the corresponding D diminished closed inversion on the first three strings:



Different rows of the table generate different D diminished closed triads in this manner. Conversely, each D diminished closed triad on the first three strings generates a unique triple of open D diminished open triads whose highest notes comprise the closed triad. Thus there is a one-to-one correspondence between D diminished closed triads on the first three strings and the triples of D diminished open triads. Knowledge of this correspondence may facilitate memorization of the open triads.

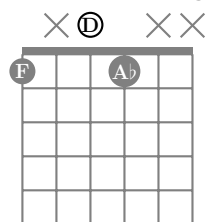
5. Since there are only three odd permutations of three notes, the chords in row $i + 3$ will be an octave higher than in row i and of the same inversion.
6. The fingerings of diminished chords in other keys can now be obtained by a pitch translation of the entire table.

¹Please refer to the article [Guitar Chord Sequences Totally Ordered by Pitch](#) for terminology.

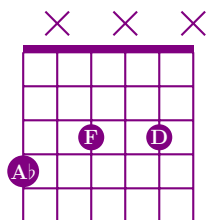
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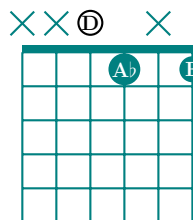
$$M_6 \oplus A_4 = m'_3$$



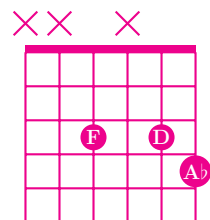
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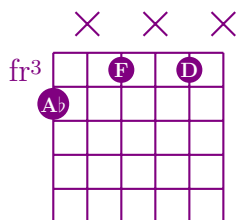
$$A_4 \oplus M_6 = m'_3$$



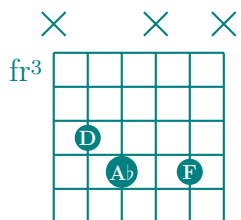
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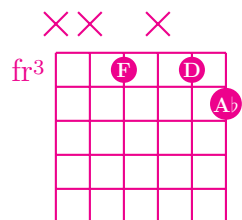
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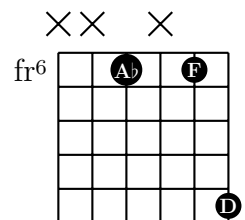
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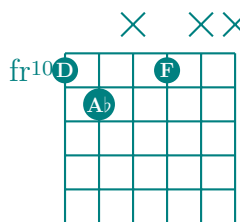
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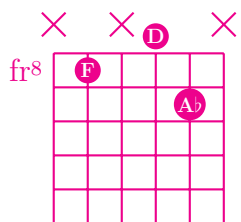
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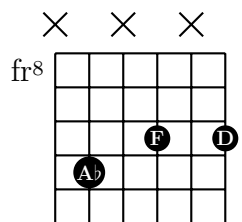
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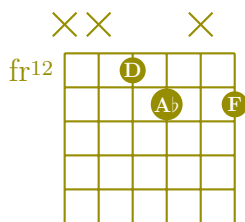
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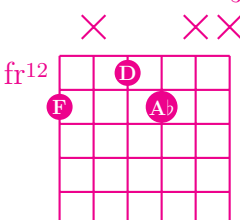
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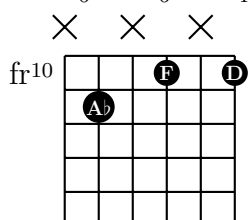
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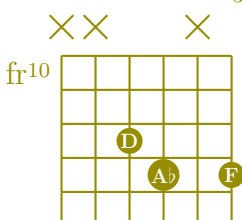
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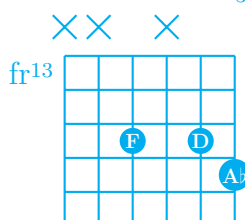
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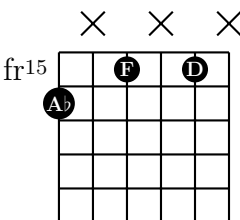
$$A_4 \oplus M_6 = m'_3$$



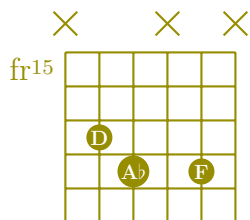
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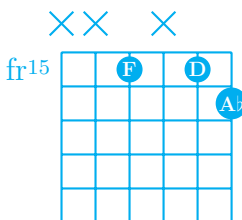
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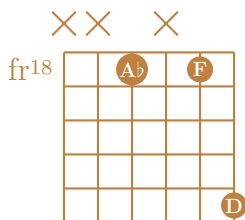
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Some Suggestions for Practice

The chords can be practiced

1. One row at a time (so as to remain within a given fret range). Before and after each row, the closed chord determined by the highest notes of the three open chords can also be played.
2. One column at a time.
3. All chords of a given color.
4. In order of pitch increasing and pitch decreasing. This can be done by playing along all paths of length 7 connecting $X(5, 4)$ to $X(1, 1)$. Notice that these paths contain every color exactly once.
5. Interleaved with musically related chords.