

Chromatic Standard Layout

by Lindsay Haisley

Back in the 1970s I got my first Oscar Schmidt 21 chord autoharp. Having had a couple of 12 and 15 chord autoharps, including an old “black box” Sears autoharp, I was pleased with the musical range and general quality of my new autoharp, and impressed with the very clever design of the chord bar system. The chord bar buttons rest in grooves on the extruded aluminum bars, and a bar can thus be moved to *any* position in the chord layout as long its button is made to line up with the proper hole in the plastic cover. But I was *not* impressed with the chord arrangement which came on it. The factory arrangement lacked the fingering regularity I needed, and there was no obvious place for the diminished 7th chords I wanted to add. Since rearrangement of the buttons was so simple, I took it for granted that I was *supposed* to set the chords up the way I wanted. I had, after all, built my own quick-change chord holder system back in the 60s and was no stranger to the simple, inner workings of an autoharp chord bar mechanism.

At that time, I had no idea that there was such a thing as a diatonic autoharp, much different from a chromatic autoharp. I had no contact with other autoharp players, with festivals, or autoharp clubs. My influences were classical music, traditional jazz, folk music, and the wonderful eclectic music tradition I grew up with in my home. I’d played the piano since I was quite young, and the guitar for many years. I liked songs with many chords and interesting chord changes, in a variety of genres, and wanted my autoharp to go with me in my musical exploration.

So I removed the four screws holding the chord bar cover on my new 21-chord OS harp and had a good, long think about what really made sense for my needs for the chord layout on my instrument. I’m still thinking, all these years later, and have discovered that lots of other folks have gone down this same path, many with different results.

This article describes the chord bar layout I decided on and still use today, with slight variations, for all my 21 chord chromatic autoharps. The layout is simple, well organized and ergonomically friendly. It’s especially well suited for a repertoire that includes popular music, jazz standards, traditional jazz and Romani (“Gypsy”) music in several keys and in both major and harmonic minor modes. It uses the three (there are only three) full diminished 7th chords to take full advantage of the chromatic nature of the instrument. As I’ve discovered, it’s not for everyone. There are many folks who play a chromatic autoharp so that they can play what are basically diatonic tunes in a wide variety of keys without having to carry around a trunk full of diatonic autoharps. For these people, I recommend the Bryan Bowers style layout which does a superb job of covering such tunes in many keys. One of the wonderful things about the autoharp is that we *have* a choice of layouts, and this choice *should be based on one’s repertoire*. This is a very important point! Although chord bar

layouts can be easily changed, re-learning how to use your fingers to play the music you love on a new layout can be expensive in terms of time and effort, and it's better to look ahead at your musical future *before* you make the initial investment in learning *any* chord layout.

I call this the "Chromatic Standard" layout. Its strongest features are its logic and ease of use for fully chromatic music, which truly transcend anything that associating it with me might imply. In some respects it resembles the popular Stradella Bass layout for the left hand manual on an accordion, an instrument which also works well with many musical genres, both diatonic and fully chromatic.

How It Works

Here are the things I needed my chord bar layout to do:

- It had to have enough chords to support a fully chromatic repertoire. It had to be able to play songs such as *Sweet Georgia Brown* and *Lara's Theme* with all the lovely chord changes in them.
- In addition to being flexible with chords, it had to be fully chromatic *melodically*. Many of my favorite tunes go well outside the seven notes of the diatonic scale.
- My chord layout had to have compact, logical, easy-to-reach fingering for both major and minor modes since I have many favorite songs in each of these modes, as well as many which switch back and forth between them.
- The logic of my chord layout had to be consistent between keys, in as much as is possible, within the limits of the chord bar real estate on an autoharp. This would allow me to hear changes in the music and play them using muscle memory with minimal retraining required for different keys. I could concentrate on learning fingering *patterns* rather than the position of every chord. The reach from C to E7 should be the same as the reach from G to B7, or from F to A7, etc.

So my thinking went pretty much as follows...

First, I wanted diminished 7th chords on my autoharp. These would give me the melodic flexibility I need, and as melody chords, they often fit right in with the harmony chords of pieces I play. In many cases I play music which actually calls for diminished 7ths as harmony chords. Second, since the 7 chords (i.e. G7) are important in both major and minor modes, they should logically belong to the middle row of buttons. Third, it was obvious that I would have to give up some chords to make room for diminished 7th chords. Since most of my musical colleagues played generally in C, G and the sharp keys D, A and E, I could drop the chords Eb, Ab, Bb7 and Cm, which are flat key chords. This would give me room for my three diminished 7th chords, plus an E major chord, lacking in the factory layout. The diminished 7th chord bars provide a "four for the price of one" bargain since these chords,

denoted with a “°”, consist entirely of equal musical intervals, and any note in the chord can be used as it’s root. A C° chord bar plays the chords C°, Eb°, Gb° and A°, which are all the same chord, and it could use any of these as its name.

Here’s the layout of chords that I came up with:

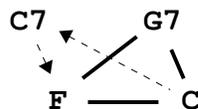
C°	G°	D°	Gm	Dm	Am	Em
F7	C7	G7	D7	A7	E7	B7
B ^b	F	C	G	D	A	E

There are a number of nice synergies here!

The three chords which are fundamental in most western folk and popular music are based on the 1st, 4th, and 5th notes of the scale. For simplicity, I’ll refer to the three chords using Roman numerals I, IV and V. The *relationship* between chords is the same no matter the key or mode we play in, major or minor, so musicians commonly refer to these chords by these numbers rather than by note or chord name.

Major Mode

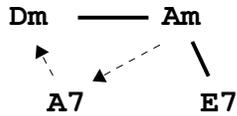
For most keys, the I, IV and V chords lie in a very tight pattern. For example, in the key of C, we have:



If a piece is in the key of C, the I (tonic) chord is C and the IV and V chords which work with it are F and G7, respectively. The C chord falls naturally under my middle finger, the G7 under my ring finger, and the F under my index finger. In the key of C, C7 is sometimes used as a transition chord between the C and F chords, and is part of the pattern, and I can reach it easily with my index finger. This pattern repeats for most major keys on the instrument.

Minor Scales and Modes

Harmonic minor mode is probably the most common minor mode in modern music in the western European tradition. It’s also very popular in Romani and eastern European musical styles. Many minor mode classical pieces, as well as popular tunes such as *Summertime*, *Ghost Riders In the Sky* and *Besame Mucho* are in harmonic minor mode. There’s a similar, tight pattern in the Chromatic Standard layout for the harmonic minor mode. For example, in the key of A minor, the IV and V chords are, respectively, Dm and E7.

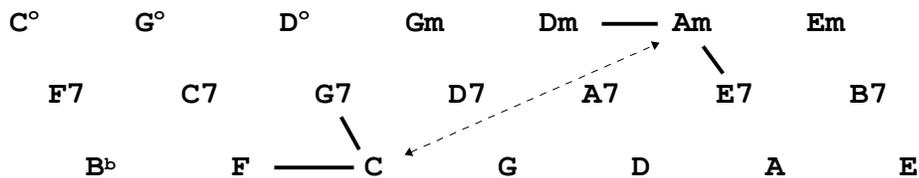


Similar to the use of C7 in the key of C to move from C to F, A7 is often used in the key of A minor to move from the Am chord to Dm (IV) chord.

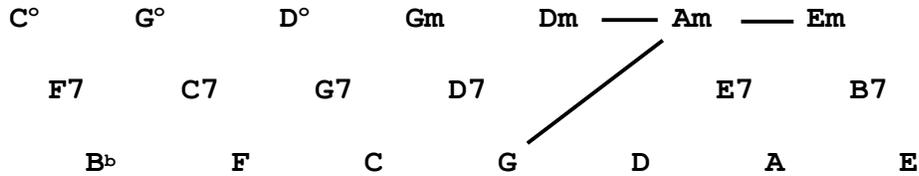
Many musical pieces (the tune *Autumn Leaves* comes to mind) move between related major and minor modes within the song. Each major mode key is paired with a minor mode key, known as its *relative* minor. The relative minor of every major key starts on the 6th note of the major scale, and related major and minor modes use mostly the same notes. Thus, the C major scale consists of the notes C, D, E, F, G, A and B. The relative minor of C is Am, the notes of which are A, B, C, D, E, F and G – exactly the same seven notes. These notes, as a scale, are called the *natural minor* scale and define what's called the *Aeolian mode*. In the more common harmonic minor mode, we would use a G# note instead of a G in the scale. Thus, the V chord in Aeolian mode would be an Em (using a G natural note) instead of the E7 (using a G# note) as used in the harmonic minor mode.

Frequently, a tune will have a section in major mode, with it's related chords, move to the minor mode for a few bars, a phrase or a section, and then move back to the related major mode. Think of the Christmas carol *We Three Kings* where the verse is in harmonic minor mode and the chorus moves to the relative major.

So, moving between related major and minor modes needs to be as easy as possible in an autoharp chord layout. The Chromatic Standard layout locates these chord groupings so that when I'm holding my harp with my left hand on the buttons, the hand motion required to go between these modes is simply a small pivot at my elbow, dropping or raising my arm and hand to go from one mode to the other.



Since the Aeolian mode, based on the natural minor scale, uses exactly the same notes as the relative major scale, the situation is simpler. No 7 chord is required in this mode and the chord relationships are as they would be on a diatonic autoharp. In Aeolian mode, the VII major chord frequently comes into play, i.e. G in the key of Am. Our fingering diagram for the key of Am, Aeolian mode, might look like this....



Well-known tunes in Aeolian mode are Dylan's *All Along the Watchtower* and the Christmas carol *Come, O Come Emmanuel*. I include discussion of the Aeolian mode only for completeness, since the advantages of this layout are less applicable to it. Other popular chromatic layouts, as well as diatonic layouts, will work nicely for Aeolian mode.

Diminished Chords

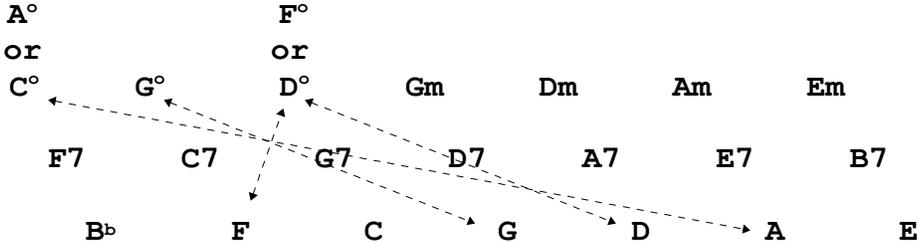
Diminished chords really shine when playing melodies. For a 7-note diatonic C scale, the chords required to produce the notes are as follows:

NOTE	C	D	E	F	G	A	B
CHORD	C	G	C	F	C	F	G
(or)	C	G7	C	G7	G	F	G7
(or)	F	E7	Am	etc.....			

On the other hand, if we want to play a piece using a *chromatic* C scale, diminished 7th chords are our friends!

NOTE	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
CHORD	C	G°	G	C°	C	F	C°	C	D°	F	G°	G

The three diminished 7th chords in the Chromatic Standard layout are mostly, and most comfortably, thumb chords, so the reach required to use them in keys such as D or A is relatively easy. As with major, minor and 7 chords, these chords are arranged in circle-of-fifths order, but transposition between keys can be a bit trickier than with other chords. Look at the position of the major F, G, D and A chords relative to their diminished 7^{ths}:



The reach from G to G^o is the same as the reach from D to D^o, but the reach from A to A^o is three chord positions longer! A similar pattern break occurs as we go toward flat keys. The reach from F to F^o (a.k.a. D^o) uses yet a third reach, and we're getting away from territory where diminished 7th chords are comfortably thumb chords. From one end of the layout to the other, there are three different finger reaches between major chords and their diminished 7th brethren.

For any piece which uses all three diminished 7th chords, transposing by one circle-of-fifths position (e.g. from C to G), means that *one* of your diminished chord reaches in your pattern will change. There's no way around this. We don't have room on an autoharp's limited chord bar territory for a full row of diminished 7th chords, as found on an accordion. This, in my experience, is the layout's most difficult feature to master when learning to transpose, improvise or play by ear. The position of the three diminished 7th chords in circle-of-fifths order does provide *some* relief from this pattern irregularity, and practice with different tunes, and with transposing them, will help with your learning process. The layout is still simpler and easier than some I've seen which put all three diminished 7th chords in the same chord column rather than in the same row, or even in odd, unrelated positions as if they were added as an afterthought.

Having celebrated the regularity of the fingering in the Chromatic Standard layout, I have to confess that I've made one sacrifice over the years. The key of E is poorly supported in this layout, and I have another chromatic autoharp that plays nicely in E. I have "quick change" chord bar end covers on my autoharps (not to mention a lot of extra chord bars) so I generally keep a chord bar in this position which supports one of the other keys in which I commonly play. These days, this location generally holds a Bm chord which I frequently use when playing in the key of G.

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In summary, I've had a number of autoharp students set their chromatic autoharps up with this layout, and as far as I know, they're quite pleased with it. One of them went on to place in the International Autoharp Championship at the Walnut Valley Folk Festival using this layout. As I said earlier, your layout should be determined by your repertoire, but if your tastes in music run anywhere close to mine, I think you'll find it to be very helpful. Several of the major autoharp luthiers are already familiar with this layout. They associate it with me, probably as "Lindsay's crazy chord layout", so mentioning my name may allow them to pull it from the many, varied custom layouts with which all of them have dealt over the years.