

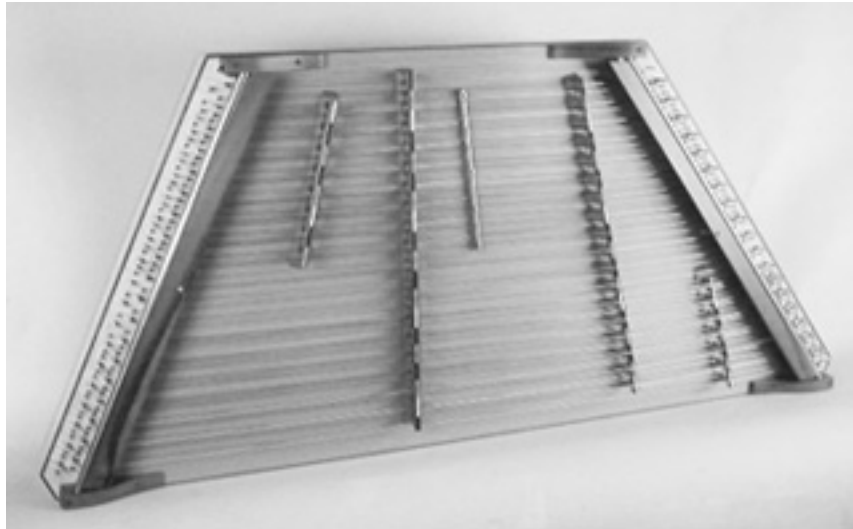
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The Linear Chromatic™



Excerpts from

Introducing the Linear Chromatic

by Steve Shmania

The Linear Chromatic is a simple, elegant, and evolutionary concept in the layout, construction and playability of the modern hammer dulcimer. Not only does it solve key and scale playing limitations of existing hammer dulcimer layouts it opens new musical vistas for playing in any scale in any key. It preserves the playing patterns already learned on the Diatonic hammer dulcimers, yet provides a truly chromatic layout that could set a new standard for the future of the chromatic hammer dulcimer in the new millenium.

Diatonic Layout Limitations

The Diatonic hammer dulcimer is built with a series of major scales up the bridge, with half of each scale on either side of the bridge. Each key is diatonic, meaning it has only the 8 notes of that scale. The missing four notes needed to make the major scale chromatic can often be found in other keys on the dulcimer, but only over a partial range on a Diatonic dulcimer. It is common for players to retune rarely used strings on their Diatonic hammer dulcimers to add one or two chromatic notes for those occasional requirements

needing these notes. When chromatic capability over the full range of the instrument is desired, the Diatonic Chromatic hammer dulcimer provides the chromatic capabilities missing on the Diatonic hammer dulcimer. It simply adds the missing chromatic notes to the tops or bottoms of existing bridges, or on additional bridges of the Diatonic hammer dulcimer to make the instrument fully (or mostly) chromatic. The Diatonic and Diatonic Chromatic dulcimer layouts are ideally suited for traditional, folk and Celtic/world music which are typically played in the major, minor and modal scales. However, playing music in odd keys or with chromatic laden chords and chromatic melodic runs qualifies as hammer gymnastics, chasing notes all over the layout with hammers flying everywhere! Clearly, a better layout is needed for music requiring chromatic playing beyond an occasional “accidental” or odd key change.

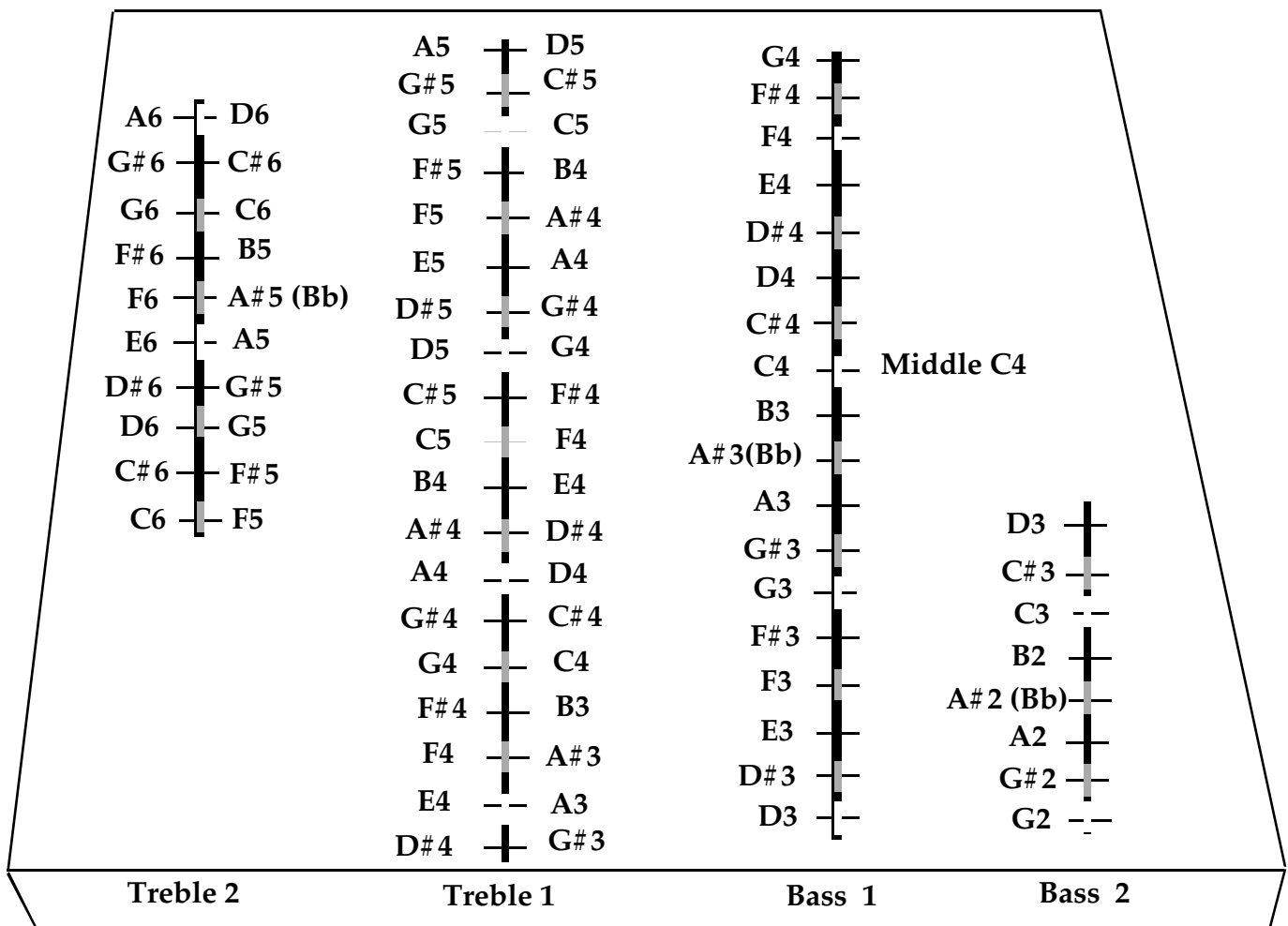
Chromatic Layout Alternatives

The hammer dulcimer as a world instrument has an amazing number of chromatic or chromatic-capable tuning layouts. The Hackbrett, Yanquin, Cimbalon and Santur are excellent examples of traditional world instruments with interesting chromatic layouts. They often provide chromatic capabilities geared to playing

the complex music of their regions and traditions. A modern chromatic layout with potential is Sam Rizzetta's Piano Dulcimer. The Piano Dulcimer is a straightforward and logical chromatic tuning layout with piano-like note markings and horizontal 1/2 step tunings that may appeal particularly to keyboard players and to new players without any prior dulcimer experience. However, the layout and playing is very different from the Diatonic dulcimer. Unfortunately, transitioning between playing the Diatonic dulcimer and any of these alternative chromatic dulcimers may be challenging. Playing patterns range from being very similar to very different from the Diatonic dulcimer, and are often inconsistent over the full range of the instrument. Ideally, a truly universal dulcimer would have the best of both worlds - Diatonic and Chromatic. It would build on the simple and straightforward layout of the Diatonic dulcimer, but expand or enhance it for chromatic playing simplicity.

Linear Chromatic Layout

The Linear Chromatic hammer dulcimer solves the Diatonic problems in a simple and elegant way. The missing half steps or “accidentals” between the whole steps on each bridge have been added, making each bridge “linear” with half step note spacing up each bridge. These new notes have different markers (gray works well) to distinguish them from the traditional Diatonic (typically black and white) key markings. Diatonic key markings are preserved. Fifth tunings across bridges are preserved. In fact, the Linear Chromatic preserves Diatonic play when using only the black and white marked notes. In addition, Diatonic patterns can now be played in other keys by simply by shifting the playing patterns up or down to the appropriate notes. But the greatest advantage of the Linear Chromatic is that any scale, chord or chromatic run can be easily played easily in any key over the full range of the instrument using straightforward,



common hammering patterns. The expanded playing capability of Linear Chromatic provides a truly universal solution to all equal temperament-based tunings, scales and music, whether it is traditional, folk, Celtic, classical, blues, jazz, or others. The Linear Chromatic is not without its challenges. Accuracy is more critical in both hammering patterns and tuning with the addition of the chromatic notes in all keys – 12 notes per octave makes proper tuning a requirement, and wrong hammered notes have a greater probability of sounding ‘wrong’ without the excuse that they were passing notes. Finally, Diatonic playing patterns need to be "stretched" vertically to accommodate the extra chromatic notes.

Linear Chromatic Construction

The Linear Chromatic layout adapts well to 2, 3 and 4 bridge versions and different chromatic ranges, with a 4 bridge - 4 1/2 octave layout providing the best balance of chromatic range, playability and compact size. The 4 1/2 octave Linear Chromatic layout provided significant structural challenges that were compounded in its compact layout with the use of two bass and two treble bridges - both treble bridges are played on both sides. This created complex geometries and tensions beyond that of a Diatonic dulcimer. Proper string spacing is a critical on a Linear Chromatic in order to accommodate the extra notes up the bridge. Finally, it had to sound good, look good, be stable and play well. The Linear Chromatic hammer dulcimer is quite compact for its 4 + octave range. 48" X 18" with 7/8" string spacing. The design went through many adjustments and iterations, with many improvements to the structural design specifically for this layout. The resulting instrument plays easily and well, has a balanced and full sound, and is remarkably small for its wide chromatic and dynamic range.

The Future

The hammer dulcimer is firmly established in the traditional and folk music world and the Diatonic dulcimer versions are ideal for playing this music. However, as hammer dulcimer players mature in their playing abilities, so has the demand for more complex music and greater choices in instruments. Expanded octave range, extra chromatics, dampers, customized layouts and tone woods are becoming less the exception and more the norm. Advanced players attending dulcimer festivals are increasingly requesting instructors that teach more complex musical arrangements and musical stylings beyond the traditional and folk

roots. The hammer dulcimer is getting nearer to being accepted in the mainstream of music as a serious instrument, joining the ranks of its stringed relatives: - the piano, the guitar, the violin family, the mandolin family, and other fretted and non-fretted string instruments. These instruments have in common that they are fully chromatic, have a well-structured and standard chromatic tuning layouts, and rely heavily on pattern playing that easily transposes into any scale and key. For the hammer dulcimer to break through it must do the same. This is the possibility of the Linear Chromatic.

Acknowledgements

The Linear Chromatic is the result of my dream, passion and determination to develop a truly chromatic hammer dulcimer layout with universal appeal and compatibility with playing the Diatonic dulcimer. Steve Schneider, exceptional musician and hammered dulcimer recording artist, has provided his excellent feedback, support and enthusiasm to the development of the Linear Chromatic. Ultimately, credit goes to James Jones, master luthier and innovator - whom I have worked closely with over the last few years, for believing in my concept and breathing life into the wood and strings to make the Linear Chromatic a reality.

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Introducing the Linear Chromatic

Copies of Steve's new book *Introducing the Linear Chromatic* are now available. It provides a music theory primer helping you to learn to play in any key in the equal temperant scale. The book defines scales, chords, inversions, enhancements, substitutions, progressions and their playing patterns on the Linear Chromatic. It also covers putting it all together to play traditional, jazz, blues and classical music.

Cost is \$24.95 plus \$4 shipping unless shipped with an instrument

Ordering information

I currently offer the 10/19/18/8 full sized Linear Chromatic for the base price of \$1500(7/8" string spacing) \$1600(1" string spacing).

Options include many of the same choices that I offer for my other custom hammered dulcimers except the soundhole decoration in front. I have found the acoustics are not affected by its omission. For a more detailed discussion of the design options you should get a copy of my standard hammered dulcimer flyer or access my web site. My web site has many color photos.

I am now offering dampers for the 4 + octave model. They add \$350 to the price.

I also am offering a smaller version (10/14/13) of the Linear Chromatic for \$850 with 1" string spacing and a solid mahogany soundboard. Soft cases are available for \$125. All I require is a \$100 deposit to start the process. I do suggest you order Steve's book with the instrument (see previous page) and check out my website which has a lot more information on the LC as well as photos with a whole section on FAQ. Contact me if you have any additional questions.

Standard and Piano versions of marking the instrument are available. See my website for more details on these two systems of marking.

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