

Mapping the HD with Scales and Chords

Nutmeg Dulcimer Festival November 2024

Mapping the Hammered Dulcimer – Cliff Cole (Beginners, Intermediates)

In this workshop we will explore different ways of playing scales and chords using some common patterns inherent to the hammered dulcimer's layout. The student will learn how to better utilize redundant notes to make sticking patterns easier and faster to play. We will explore some of the chord pattern possibilities that are often overlooked."

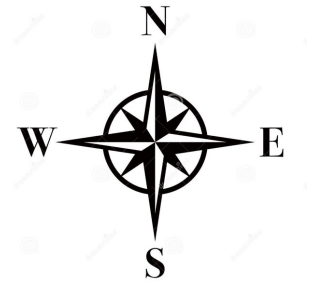
Terminology Used in this Workshop



- **Diatonic:** A seven note scale such as a “Major Scale” or a “minor Scale”.
- **Octave:** Same notes eight “intervals” apart... The “eighth” note in a diatonic scale (for instance)
 - In the Key of G a major scale starts and ends on a G
 - The “high octave G” is 8 notes above the low octave G in a major scale
- **Intervals:** In a major scale we count seven intervals between the notes, and then play an octave
 - The “root” note of the scale, C for instance will be counted as number “1”,
 - The seven notes in the scale will terminate at the “octave”
 - In the Key of C: **1-C**, 2-D, 3-E ,4-F, 5-G, 6-A, 7-B, **8-C** (Seven notes as there are two C “notes” in the scale)
- **Chords:** When three or more notes are played together they usually form a chord (of some kind)
 - A major chord is usually a three note “triad” along with an octave note (4 notes including octave)
 - A triad is a “root” note or “1”, along with a 3rd interval and a 5th interval: 1-C,3-E,5-G, (add the 8-C and its “chord”)
 - As stated above a octave is the 8th note of the (major) scale and is eight “intervals” in the scale above the root note
- **4:4 Pattern:** *Not to be confused with 4/4 Timing signature*
 - A simple way of charting the HD were four notes are played on one side of the bridge and 4 notes are played on the other side of the bridge
 - A 4:4 pattern starts with your left hand
- **5:3 Pattern:** Similar to 4:4 pattern but there are five notes played on one side of the bridge and three notes played on the other side of the bridge
 - A 5:3 pattern starts with your right hand
 - *Don't worry you'll get it... Its just words to express a concept 😊*
- **Note number Notations:** Examples – C4, G4, A5, C5: Notes as referenced on a piano. **C4** is “middle C”.
 - C1 is the lowest C note on a piano, C8 is the highest C note.
- **Left Hand Lead:** A method some dulcimer players like to use that they feel simplifies their patterns
 - Cliff uses left hand lead, but as a trained percussionist, sees nothing wrong with also using right hand lead
 - ***You bought the instrument so YOU make the choice!***

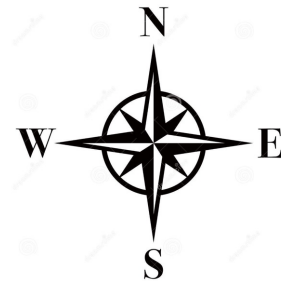
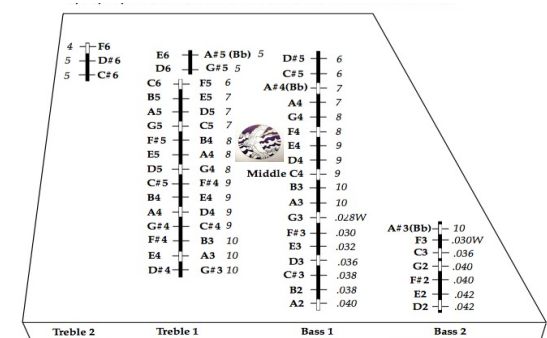
Mapping Topics

- Understanding the HD layout
- Major Scales
 - Four on one side four on the other (4:4)
 - Five on one side three on the other (5:3)
- Double Octave Major Scales
- Major Chords
 - Two on one side two on the other (2:2)
 - Three on one side one on the other (3:1)
- Minor Scales
 - Minor Chords
- Using the Whole Sound Board
- Modes: Ionian, Aeolian, Dorian and Mixolydian



Understanding the HD Layout

- Treble and Base Courses
- Marked Notes
- Adjacent notes are a fifth apart
- Layout follows the “Circle of Fifths”
- Major Scales
 - Major Chords
- Minor Scales
 - Minor Chords
- Playing Vertical and Horizontal



The Layout of the HD

Follows the Circle of Fifths:

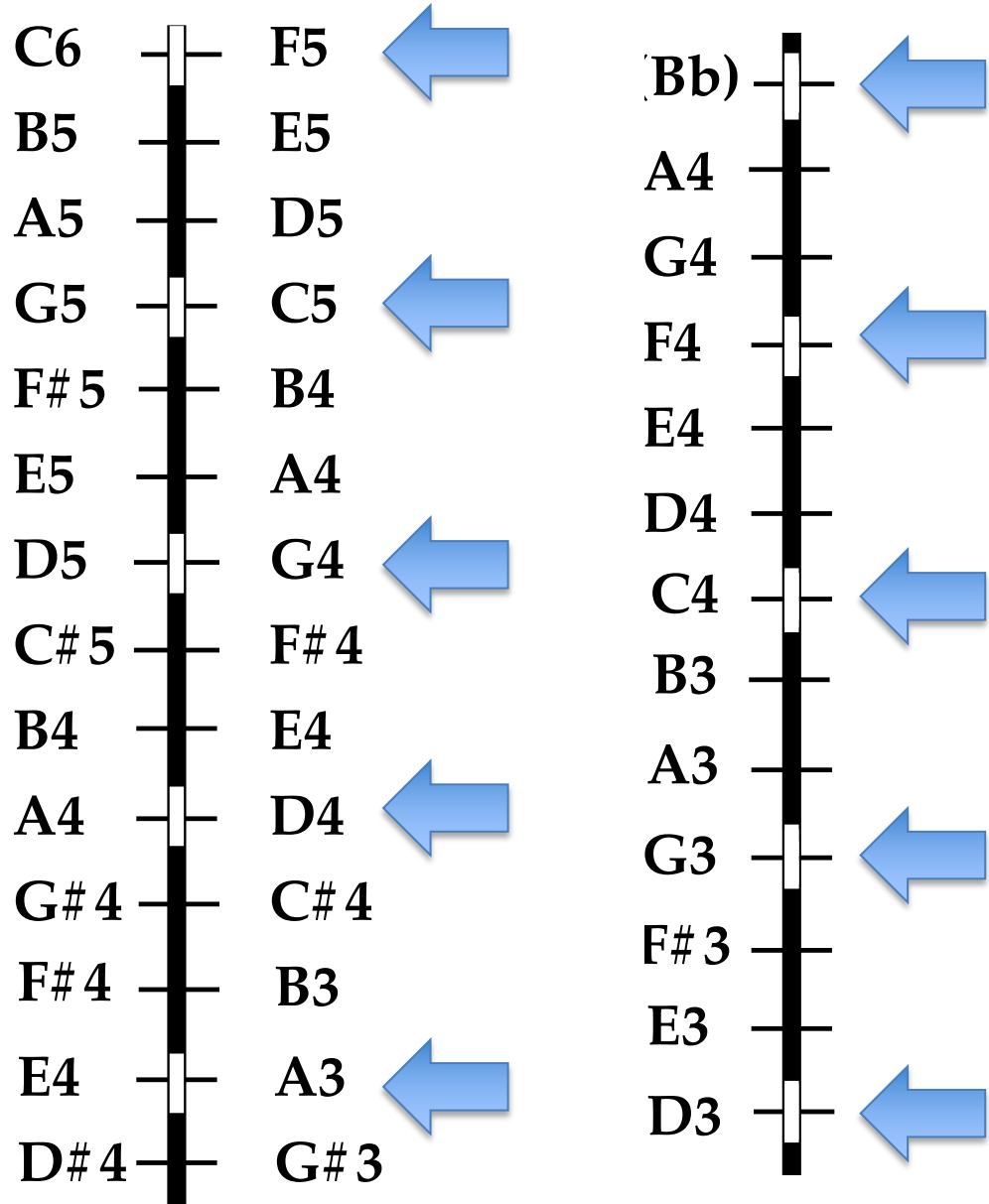
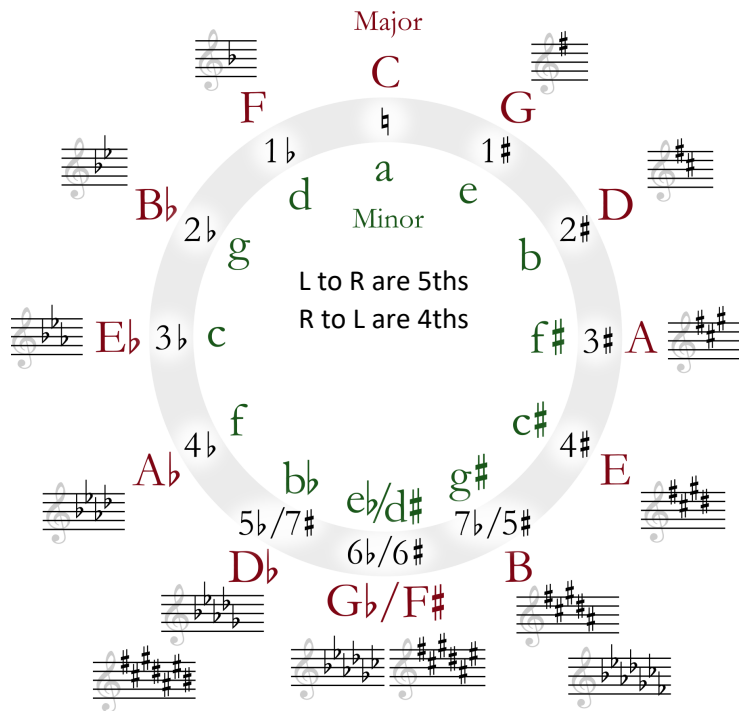
Follow the Marked Notes

Treble from the top: F,C,G,D,A

Or on the left side

Treble from the top: C,G,D,A,E

Bass from the top: Bb,F,C,G,D



The marked keys are easier to play in simply because there are more of the notes in these keys present on the soundboard. Note: D has 3 full octaves of notes to play.

G Major Scale Played on the HD 4:4 Pattern

- 4 on Left; 4 on right (4:4)
- Alternate L and R
 - Start Left on G4
 - Go up 4 notes to C5
 - crossover (XOV) to D5
 - End on G5 (Octave to G4)

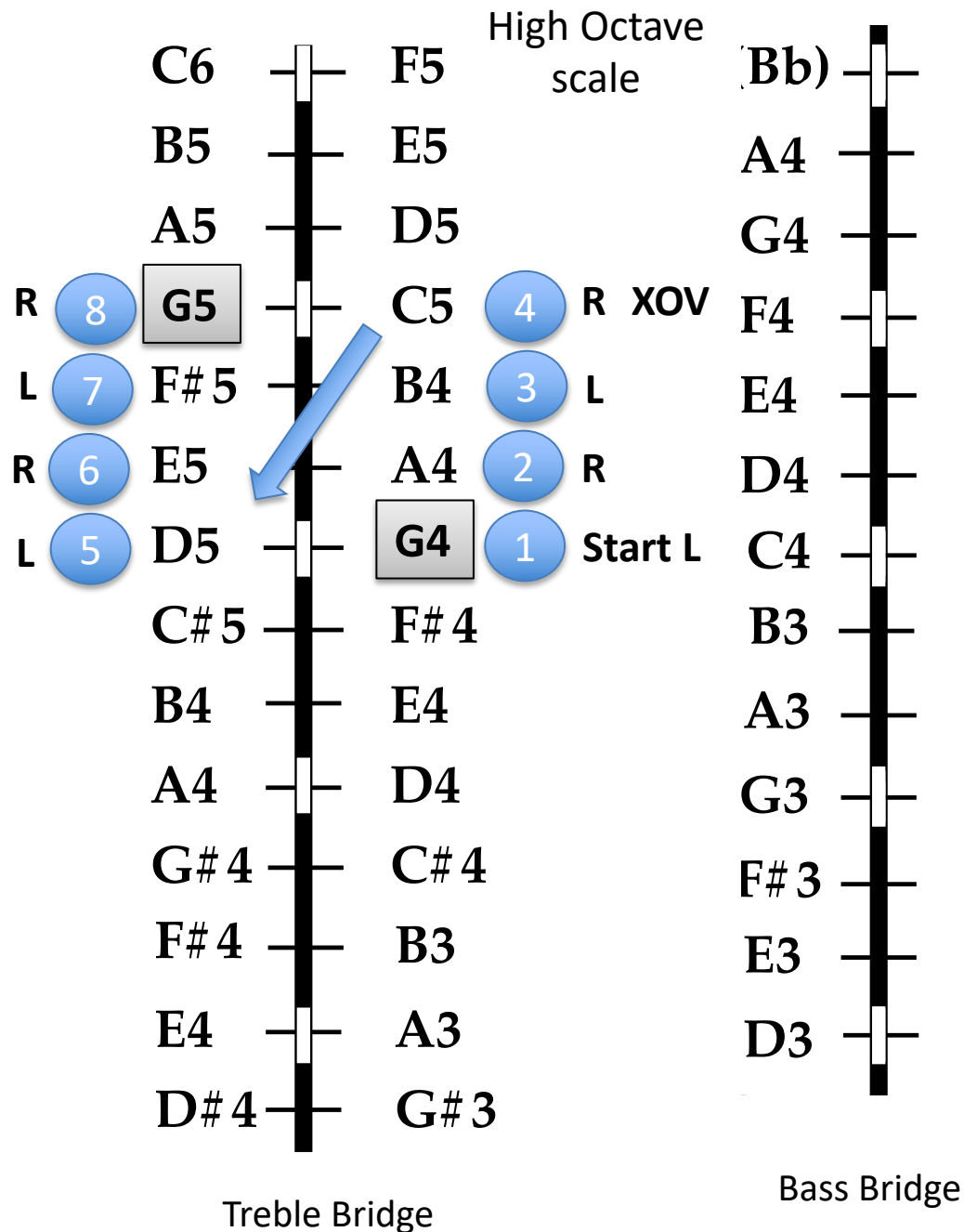
Exercise:

Play up and down the scale
WITHOUT repeating G5

L = Left hand

R = Right hand

XOV = Crossover



G Major Scale

Played on the HD

Low Octave

G3 to G4

4:4 Pattern

4:4 low Octave Scale:

- Alternate L and R
- Start LEFT on **G3**
- Go up 4 notes to C4
- Crossover to C4 to D4
- End on G4 (octave to G5)

Exercise:

Play up and down the scale
WITHOUT repeating G4

Key:

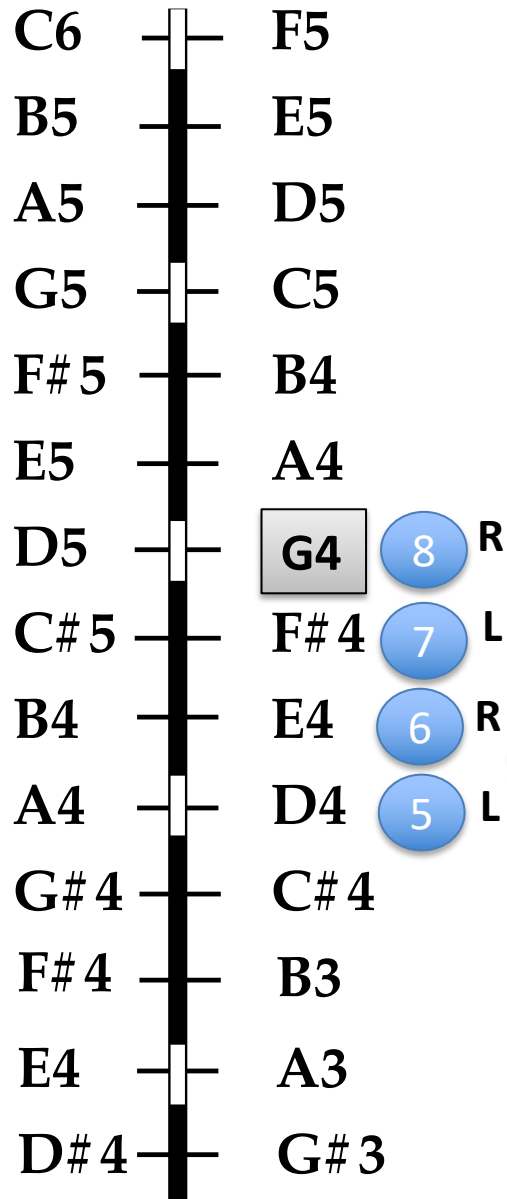
L = Left Hand

R = Right Hand

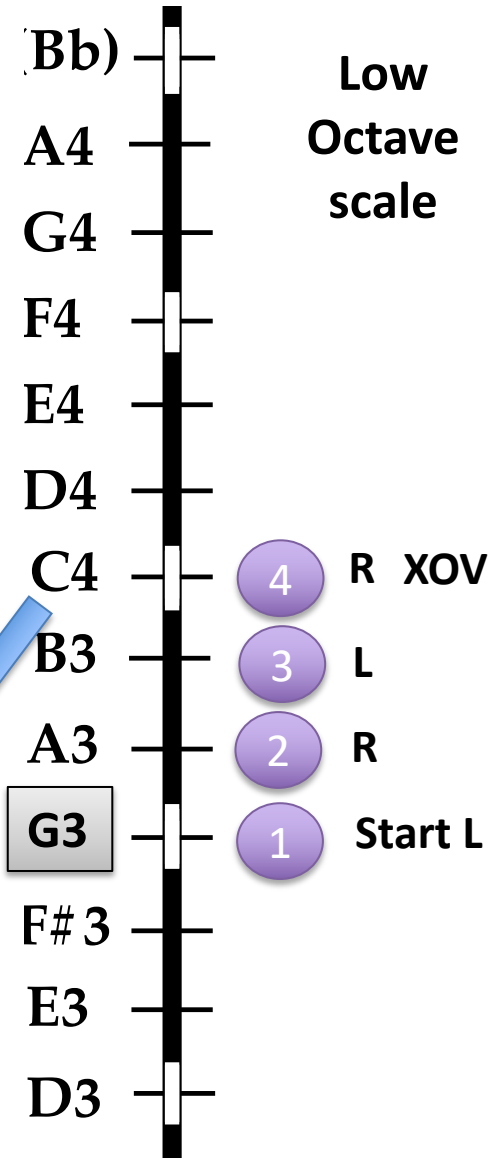
XOV = Crossover

Purple = Bass bridge

Blue = Treble bridge



Treble Bridge



Bass Bridge

Low
Octave
scale

Repeated D Notes on the Hammered Dulcimer

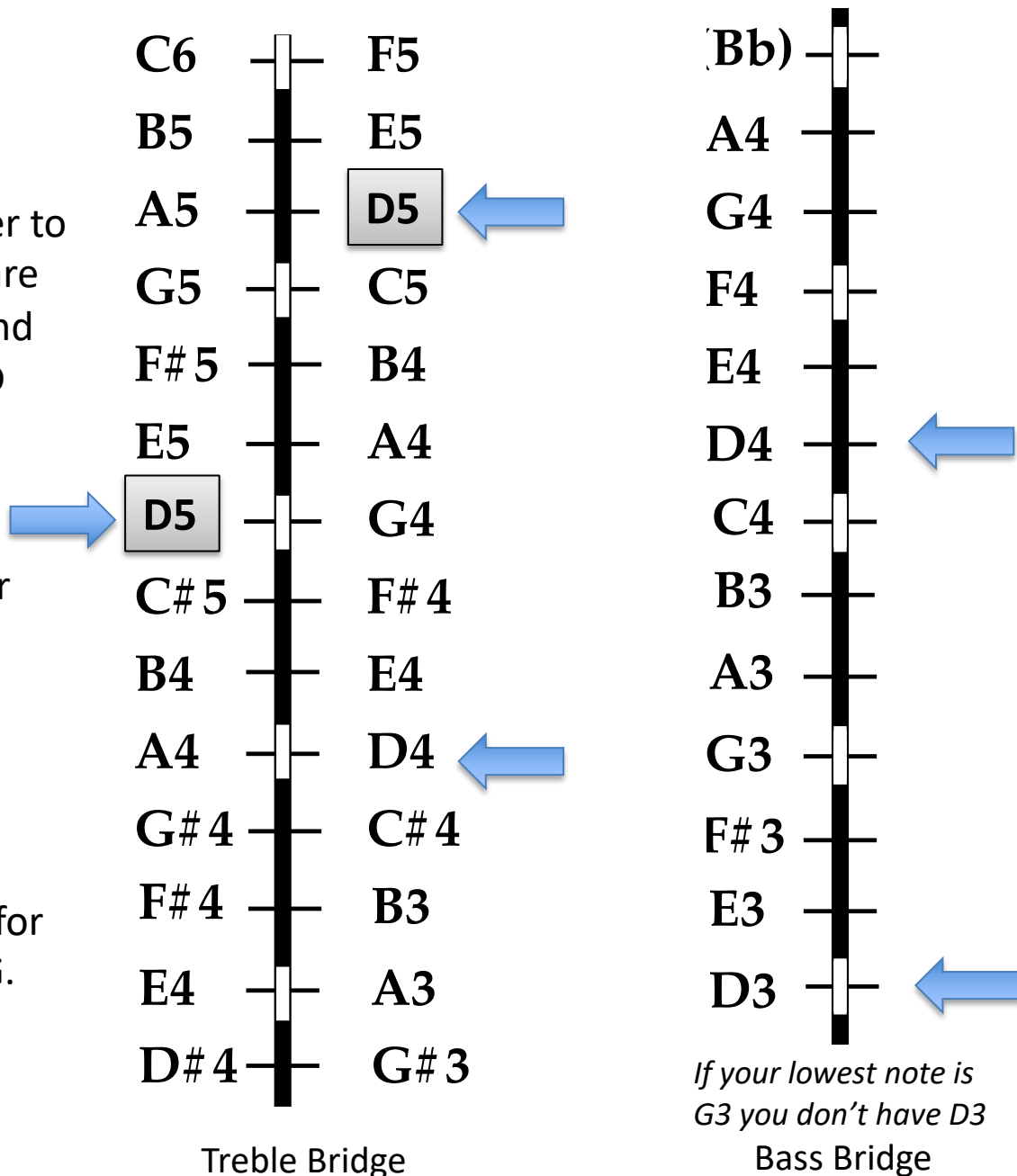
A feature that makes the HD easier to play are the repeated notes that are inherent to the HD layout. Let's find all the **D** notes we have on the HD

Exercise:

- Find all the D notes
- Play the same D notes together
 - Two D5s
 - Two D4s
- Play the octave D notes
 - D4 and D5
 - D3, D4 and D5

Note: There are two "D5" notes for us to choose from in the key of G. These extra notes give us option for sticking patterns.

Let's make use of that!

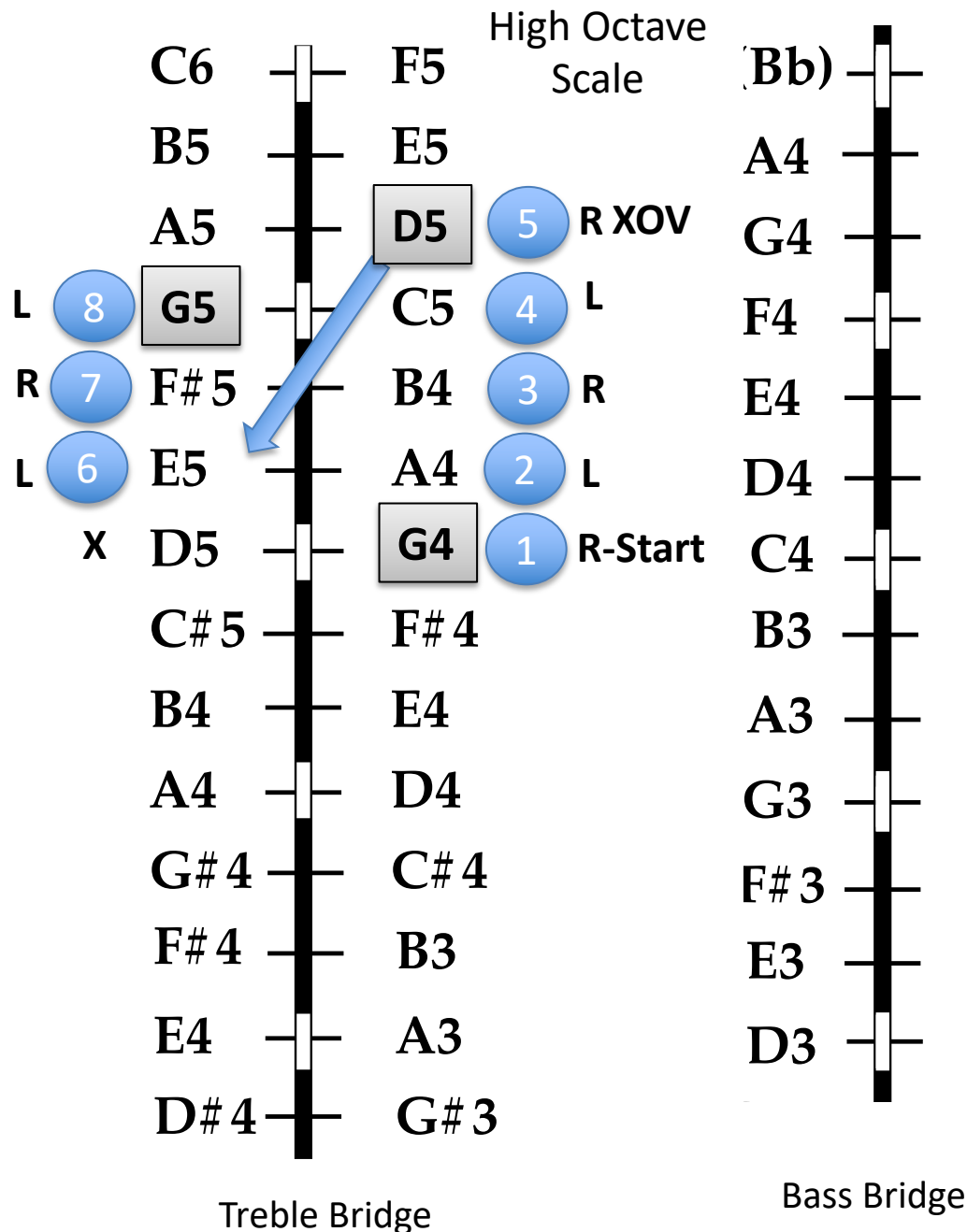


G Major Scale Played on the HD 5:3 Pattern G4 to G5

5:3 Pattern G Scale:

- Alternate R to L
- Start R on G4
- Go up 5 notes to D5
- **Crossover to D5 to E5**
- End on G5 (octave G4)

L = Left Hand
R = Right Hand
XOV = Crossover
X = Don't play



Double Octave G Major Scale Played on the HD 4:4 → 5:3 Pattern G3 to G5

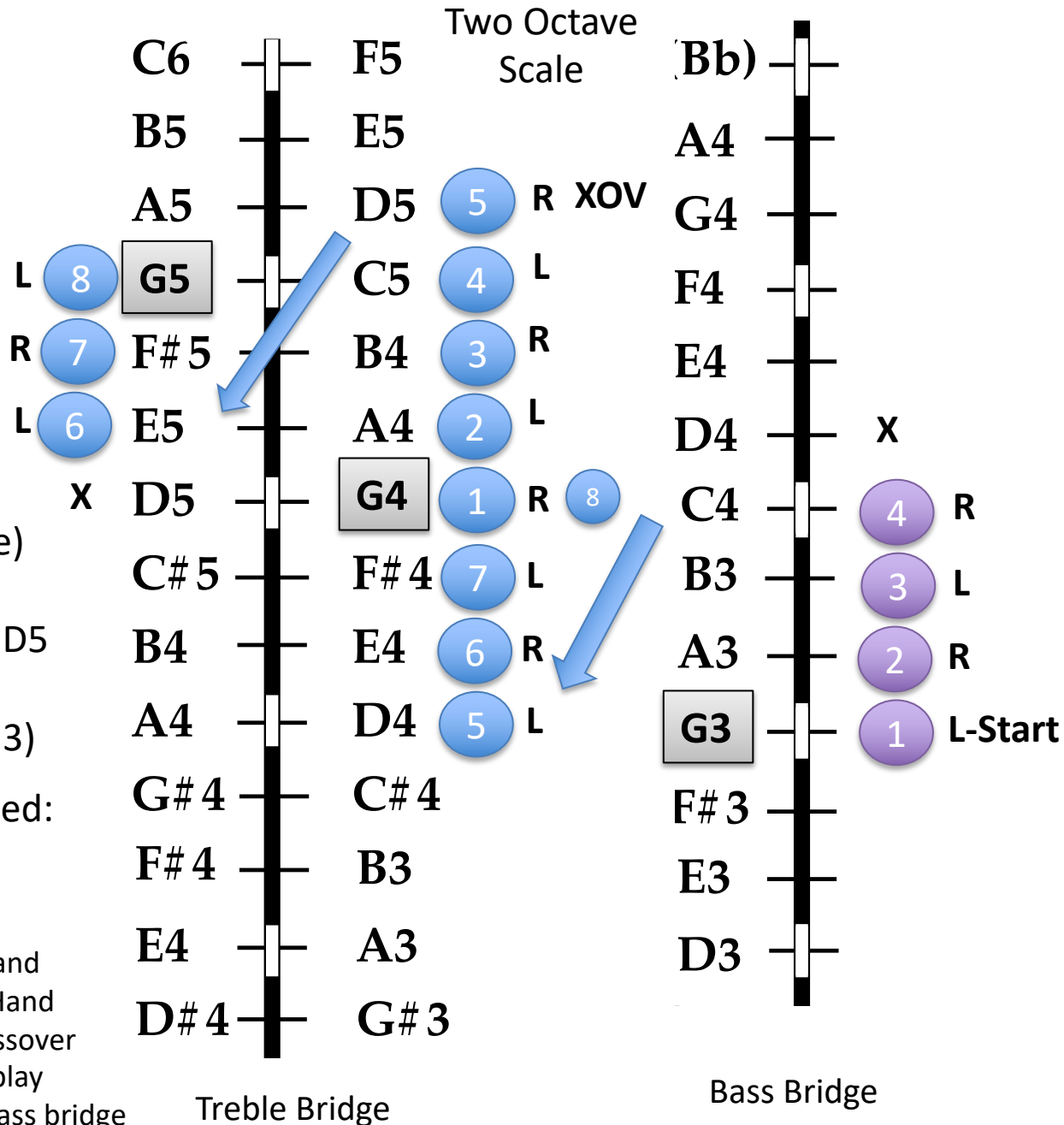
- Alternate L and R
- Start **LEFT** on **G3**
- Go up four notes to C4
- **Crossover C4 to D4** (on treble)
- Alternate up through G4
- Continue up the 2nd scale to D5
- Crossover D5 to E5
- End on G5 (octaves G4 and G3)

Note: This pattern can be reversed:

- 5:3 → 4:4 Start Right

- 1** Order of notes
- G4** Octave G Notes

Key:
 L = Left Hand
 R = Right Hand
 XOV = Crossover
 X = Don't play
 Purple = Bass bridge
 Blue = Treble bridge



This Pattern works on Other Keys with Marked Notes

Double Octave D Major Scale Played on the HD 4:4 → 5:3 Pattern D3 to D5

*If your lowest note is
G3 You can't do this*

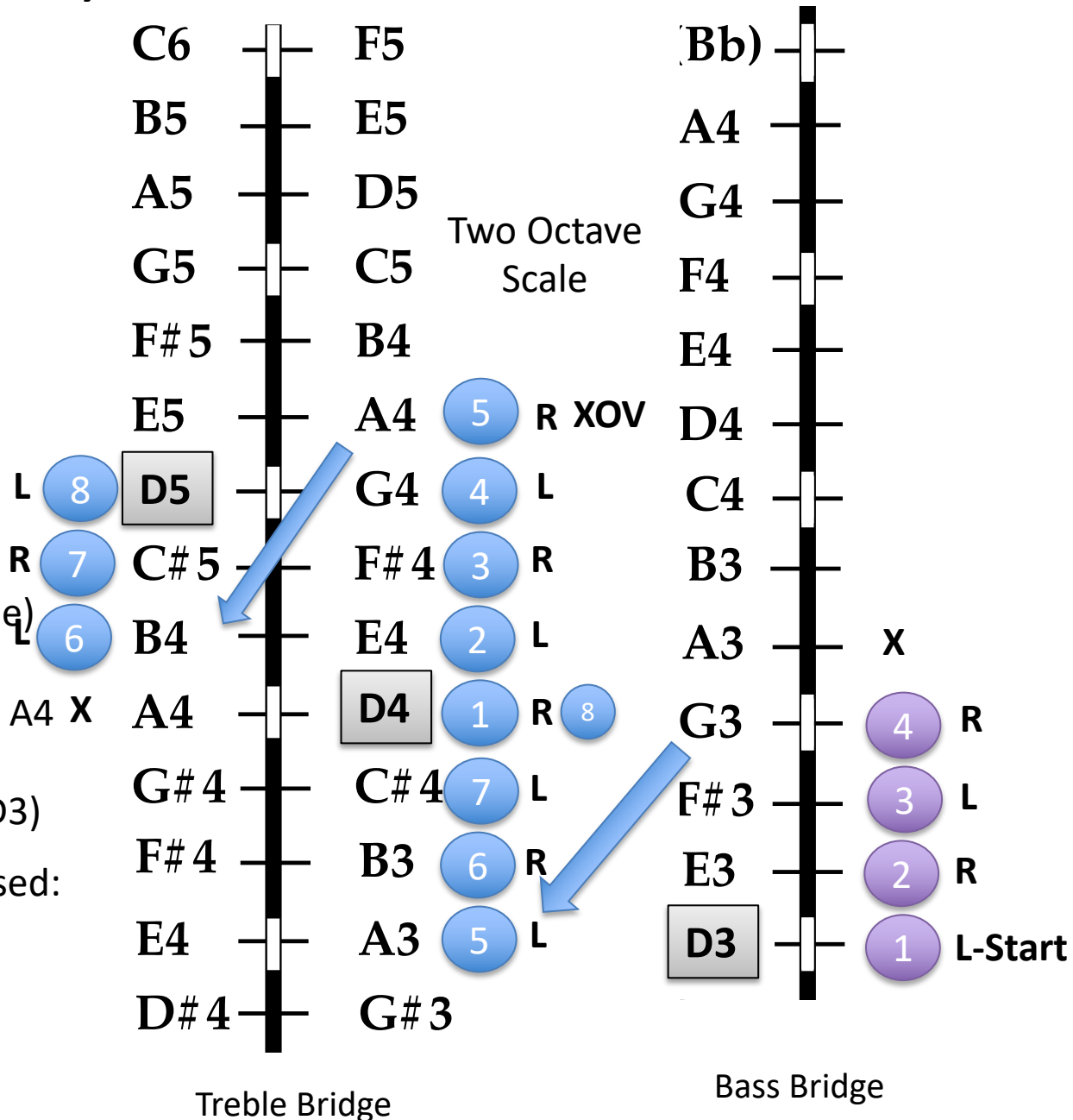
- Alternate L and R
- Start **LEFT** on **D3**
- Go up four notes to G3
- **Crossover G3 to A3** (on treble)
- Alternate up through D4
- Continue up the 2nd scale to A4 **X**
- Crossover A4 to B4
- End on D5 (octaves D4 and D3)

Note: This pattern can be reversed:

- 5:3 → 4:4 Start Right

1 Order of notes

D4 Octave D Notes





Major Chords

- A Major chord uses notes from the Major Scale
- A Major chord is usually a three note “triad” along with an octave note
 - usually 4 notes in all
- A “triad” *in this case* is a “root note or “1” along with a 3rd interval and a 5th interval:
 - 1-C, 3-E, 5-G, (add the 8-C and its “chord”)
 - G Major Chord: 1-G, 3-B, 5-D, 8-G
 - D Major Chord: 1-D, 3-F#, 5-A

Note: The HD layout is set up such that notes on each side of the bridge are a 5th apart. **For instance:**

- G4 on the right and D5 on the left in G
- D4 on the right and A4 on the left in D
- Those two notes played together are almost a “chord”

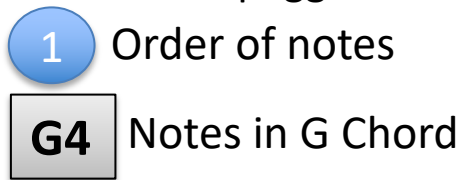
G Major Chord Played on the HD "2:2" Pattern Starting on G4

- Alternate L and R
- Start on LEFT G4
- Right hand to B4 (3rd interval)
- Left Hand to D5 (5th interval)
- Right hand to G5 octave
- Play the four notes in rapid succession

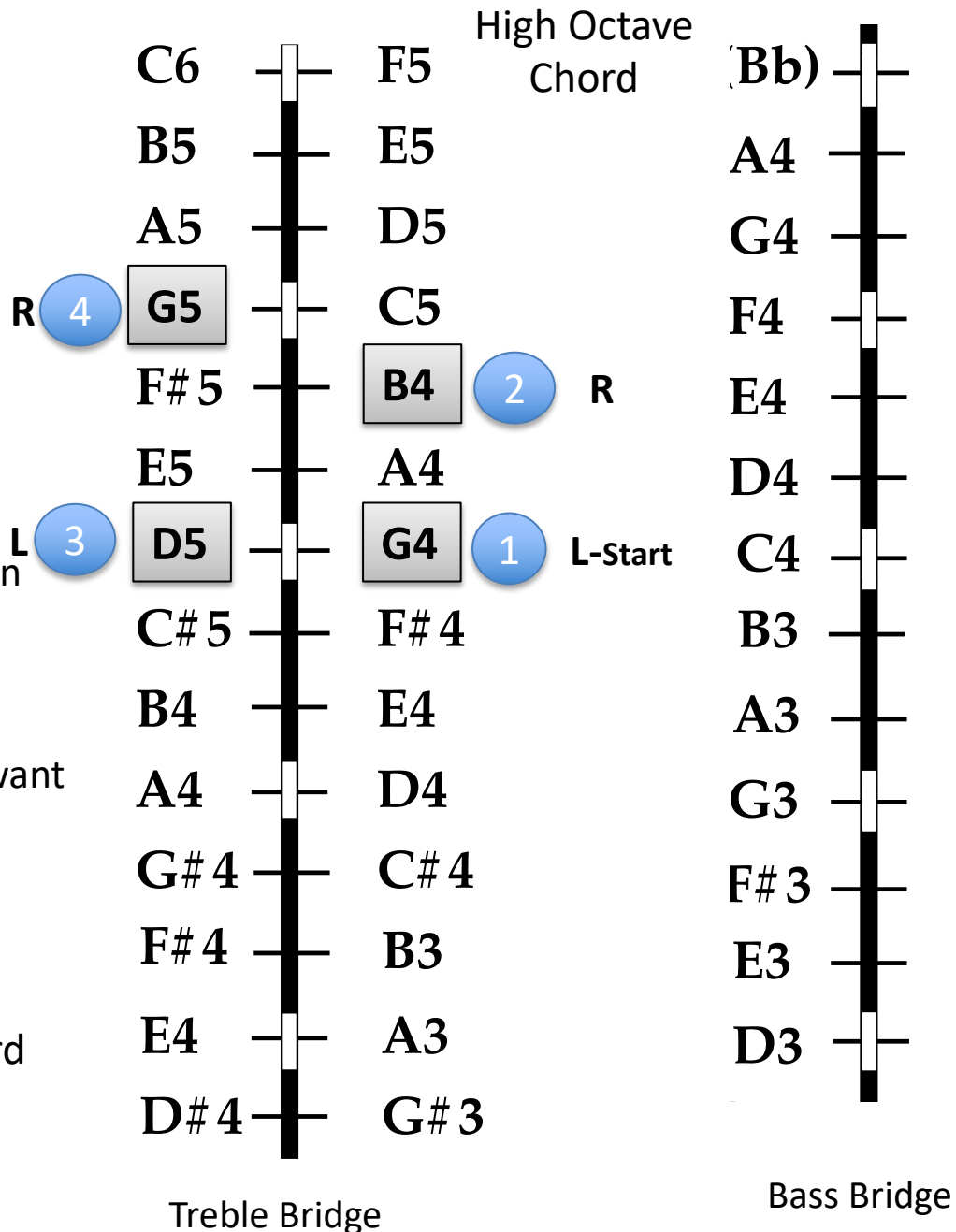
Or for partial chords:

- Play G4 and D5 together
- Play B4 and G5 together...
- Experiment and find the sound you want

Note: When we play these 4 notes in succession we call that and arpeggio.



L = Left Hand
R = Right Hand
XOV = Crossover



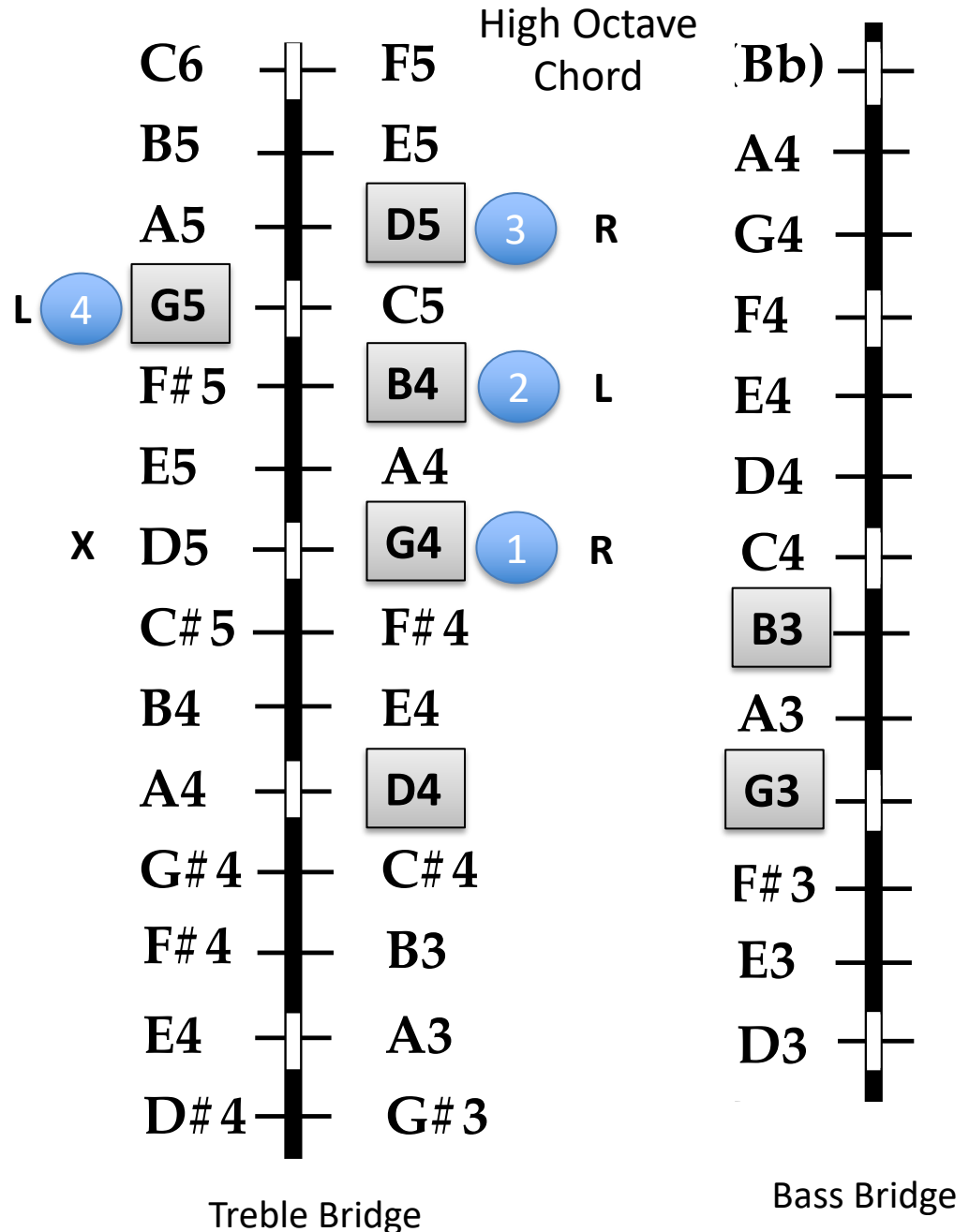
G Major Chord Played on the HD "3:1" Pattern

- Alternate **RIGHT** and L
- Start on G4 with **RIGHT** Hand
- Left hand to B4 (3rd interval)
- Right Hand to D5 (5th interval)
- Left Hand to G5 (octave G4)

1 Order of notes

G4 Notes in G Chord

L = Left Hand
R = Right Hand
X = Don't Play



Double octave G Major Chord Played on the Hammered Dulcimer

2:2 → 3:1 Pattern

- Alternate L to R
- Start L on G3
- Right hand to B3 (3rd interval)
- Left Hand to D4 (5th interval)
- Right hand to G4 (octave to G3)
- Left hand to B4
- Right hand to D5
- Left hand to G5

1 Order of notes

G4 Notes in G Chord

L = Left Hand

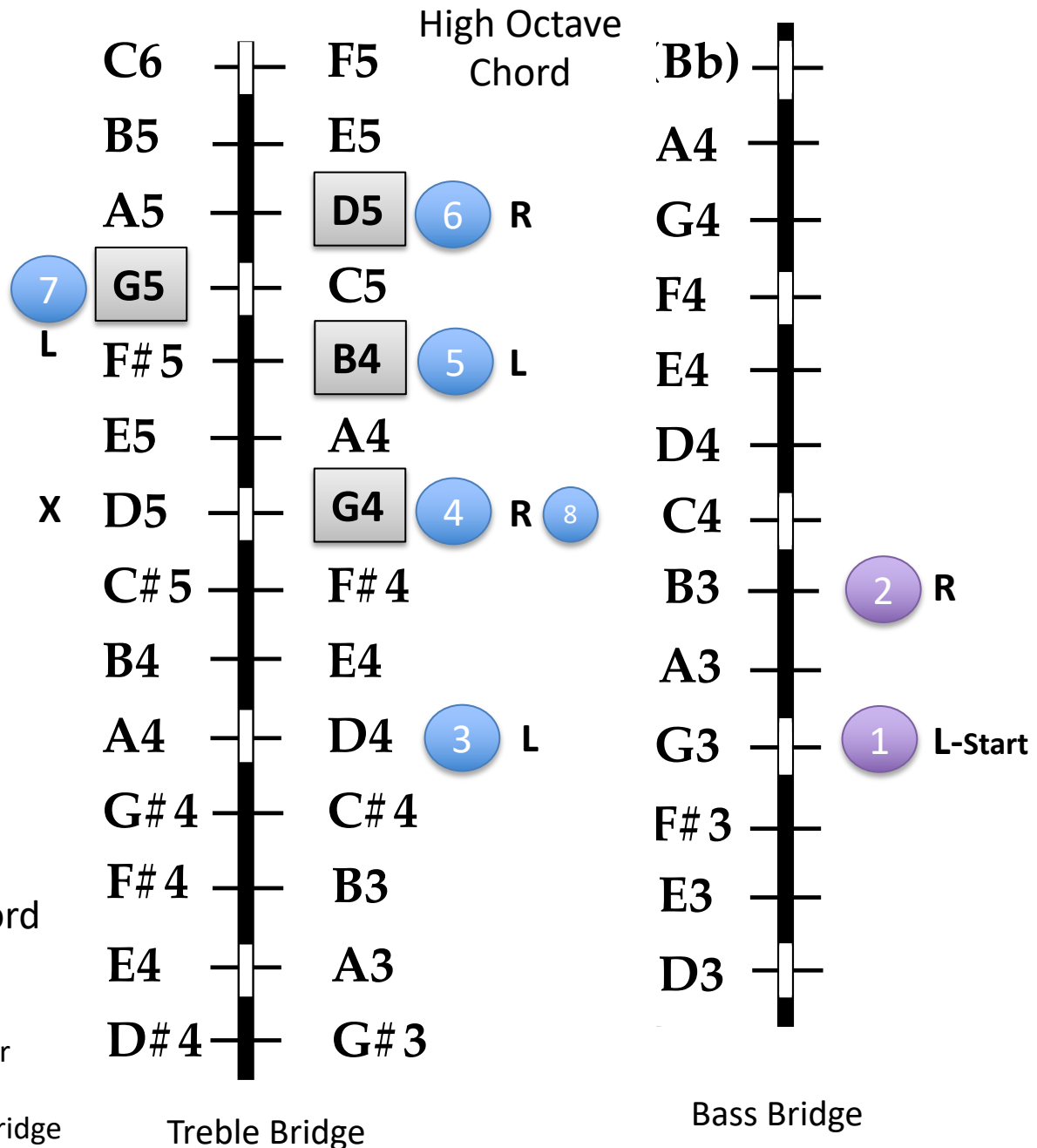
R = Right Hand

XOV = Crossover

X = Don't play

Purple = Bass bridge

Blue = Treble bridge



Minor Keys and Relative Minors

Songs in Major keys are generally bright and peppy

Songs in minor keys are “sad” or melancholy

Major and minor keys are “related”

*When we say “relative minor” we are **NOT** talking about your nephew or niece who is a teenager 😊*

In the Key of **G Major**, its “relative” minor key is **Em**

All this means is:

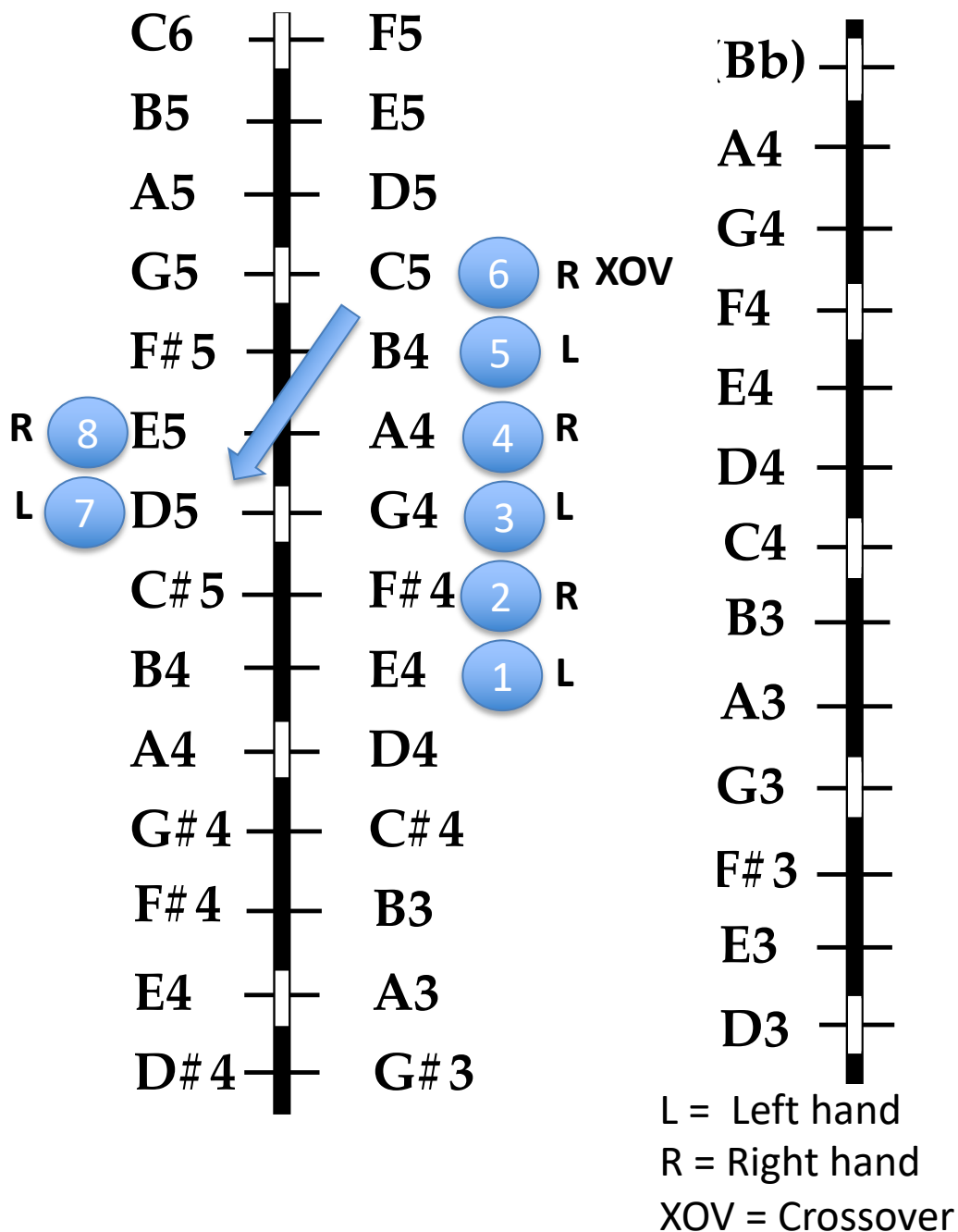
- We start on and **Em** note and play seven notes
- Use only notes that are found in the G Major scale
- On the hammered dulcimer if you start one above a “marked” note, and you use a pattern of 6 notes on one side and 2 notes on the other side you will get a minor scale...

Key of E minor Played on the HD "6:2" Pattern

- Alternate L and R
- Start L on E4
- Go up 6 notes to C5
- Crossover C5 to D5
- End on E5 (octave to E4)

Unlike the major scale pattern, the **C5** and **C#5** are **NOT** duplicates

An Em scale uses the same notes that are in a G Major scale
Em is the "relative" minor of G major



Key of E minor "6:2" Pattern With G Major Notes Indicated

An Em scale uses the same notes that are in a G Major scale
Em is the "Relative" minor of G major

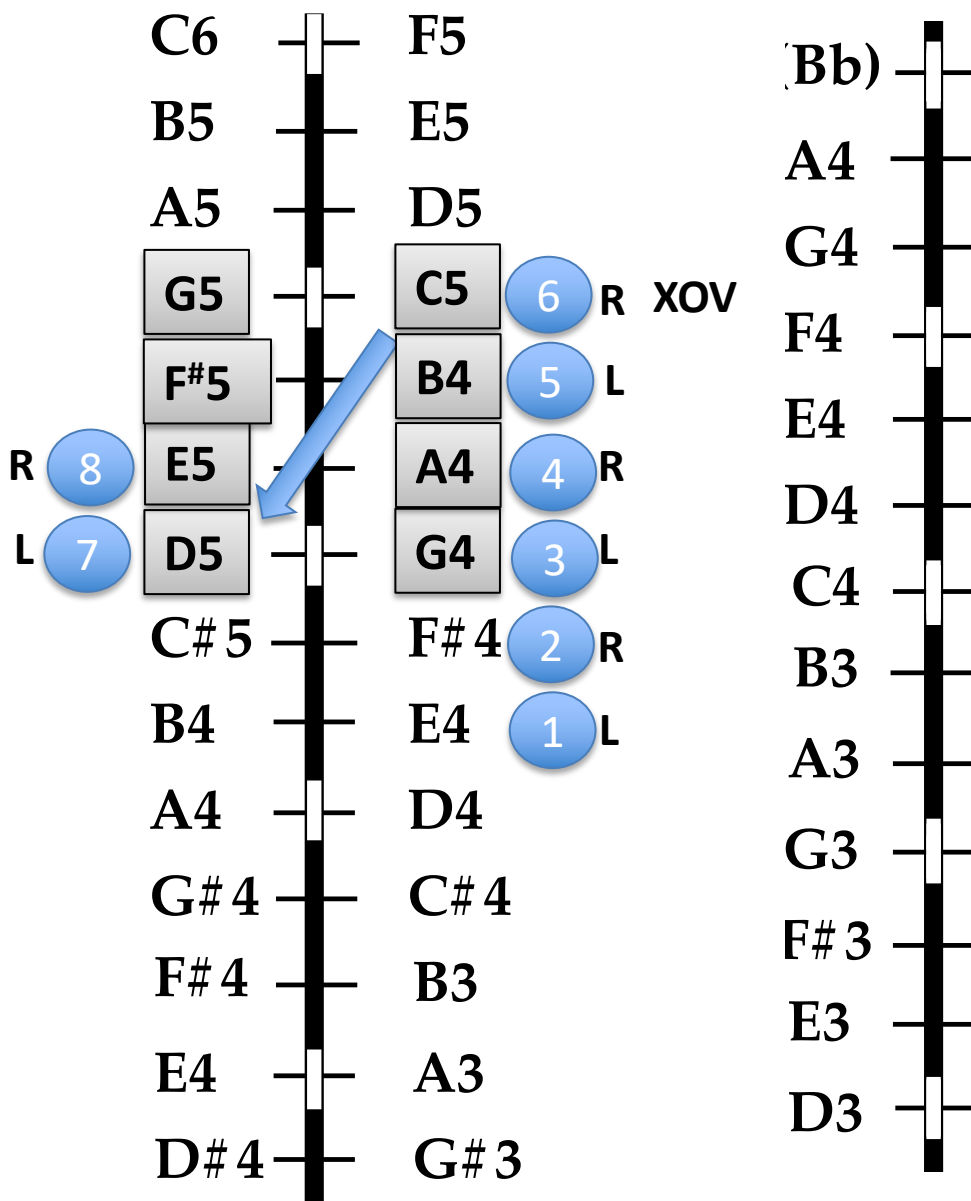
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Order of notes

G4

Notes in G Major Scale

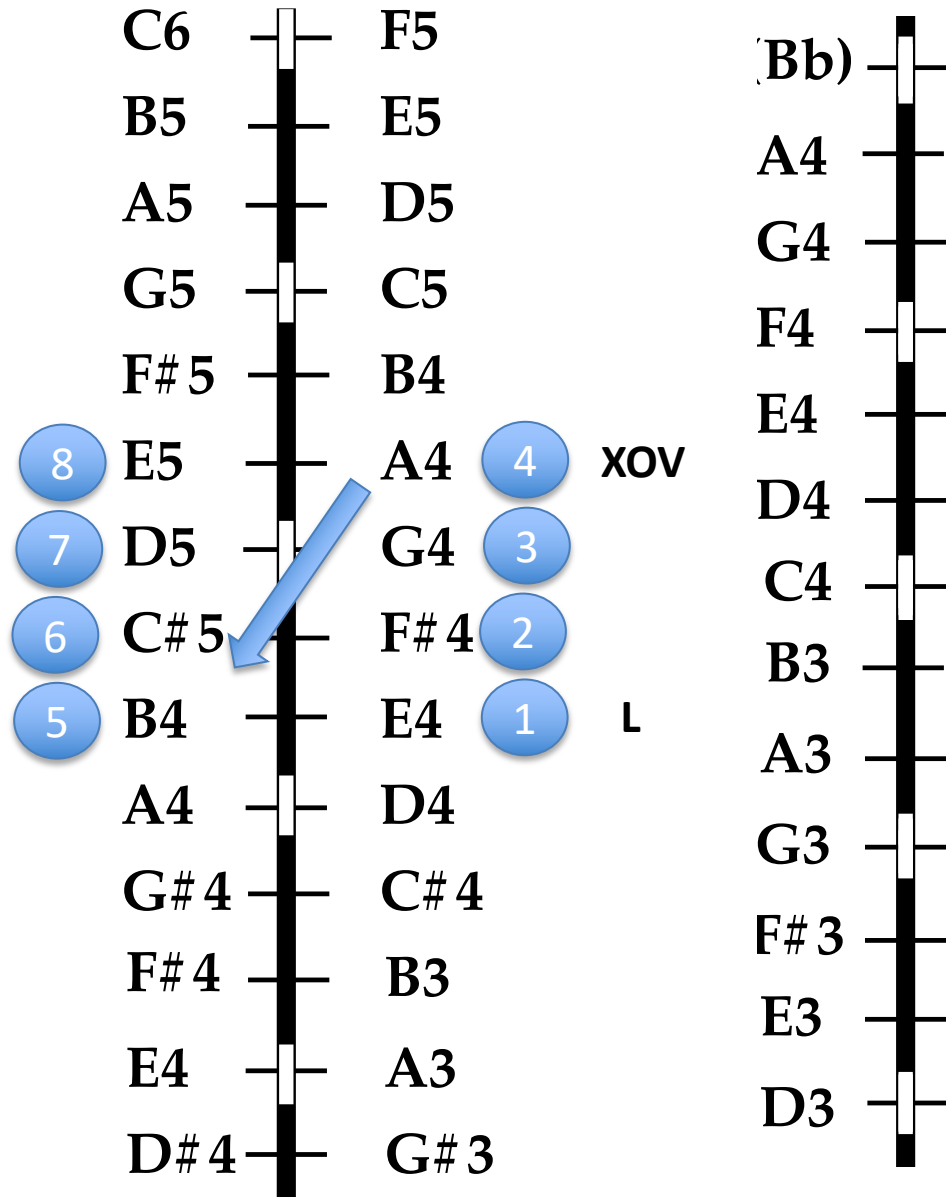
L = Left hand
R = Right hand
XOV = Crossover



E "Dorian" Played on the Hammered Dulcimer

- Alternate L and R
- Start L on E4
- Go up 4 notes to A4
- crossover to A4 to B4
- End on E5 (octave to E4)

Cliff recommends starting on the left and crossing over using a "4:4" pattern
However: Please note **B4** is a duplicate note:
You can start Right and use a "5:3" pattern

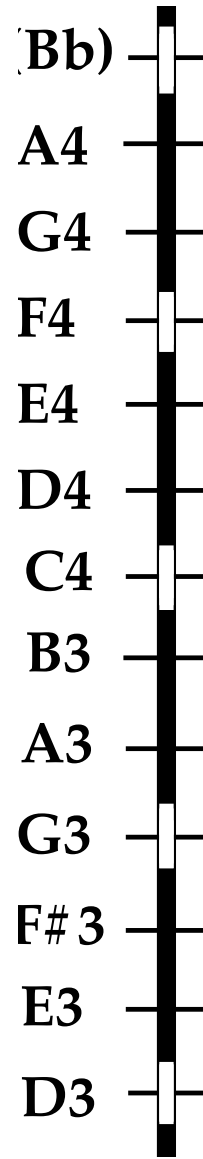
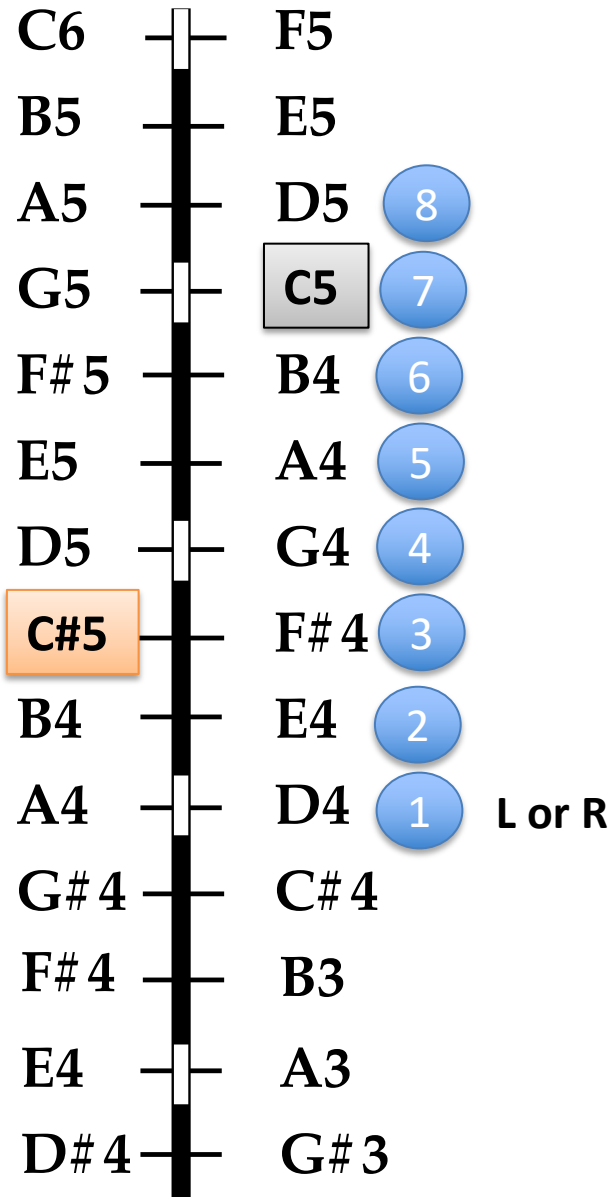


D Mixolydian Played on the Hammered Dulcimer

Start on D4 and go
Straight up the
dulcimer and end
on C5
Start Left or Right

C5 "Flattened 7th"
Mixolydian tone

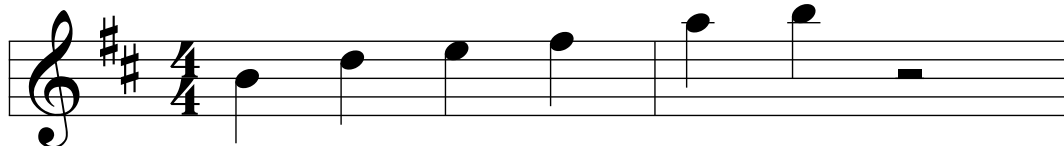
C#5 C# is the 7th in the
Major scale



Mixolydian mode is a
called "dominant"
Used in jazz and blues
Traditional Example:
Old Joe Clark

A flatted 7th interval
is what makes
Mixolydian different
from Major Scale
(Ionian mode)

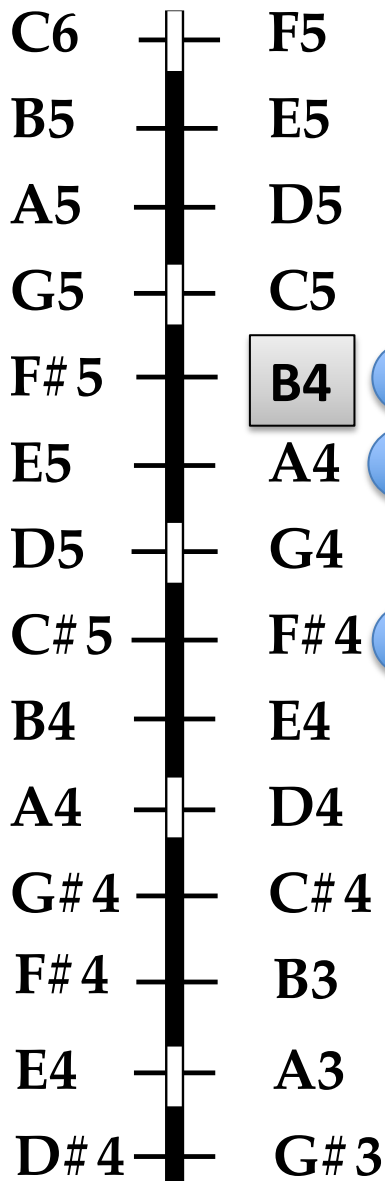
L = Start Left
X = Don't Play



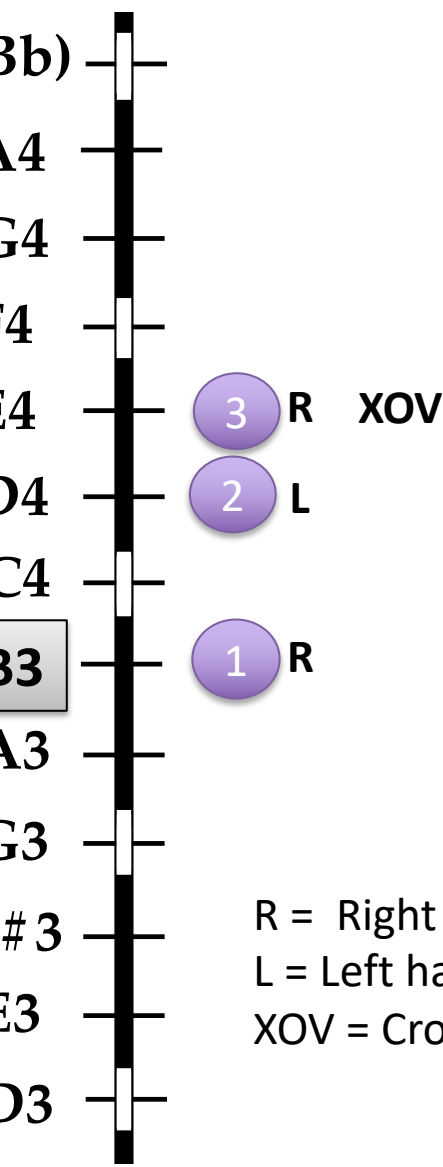
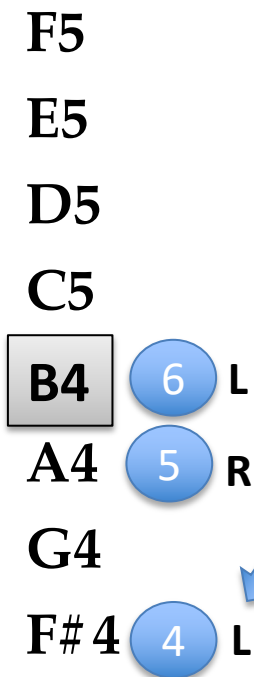
B minor Pentatonic Scale Played on the Hammered Dulcimer B3 to B4

Five Notes in the Scale:
B-D-E-F#-A-B

It sounds "bluesy"

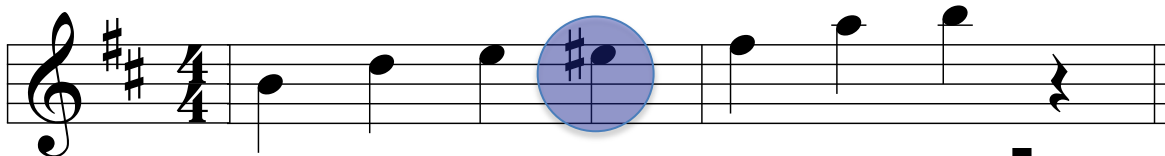


Treble Bridge



Bass Bridge

R = Right hand
 L = Left hand
 XOV = Crossover



B Blues Scale Played on the Hammered Dulcimer B3 to B4

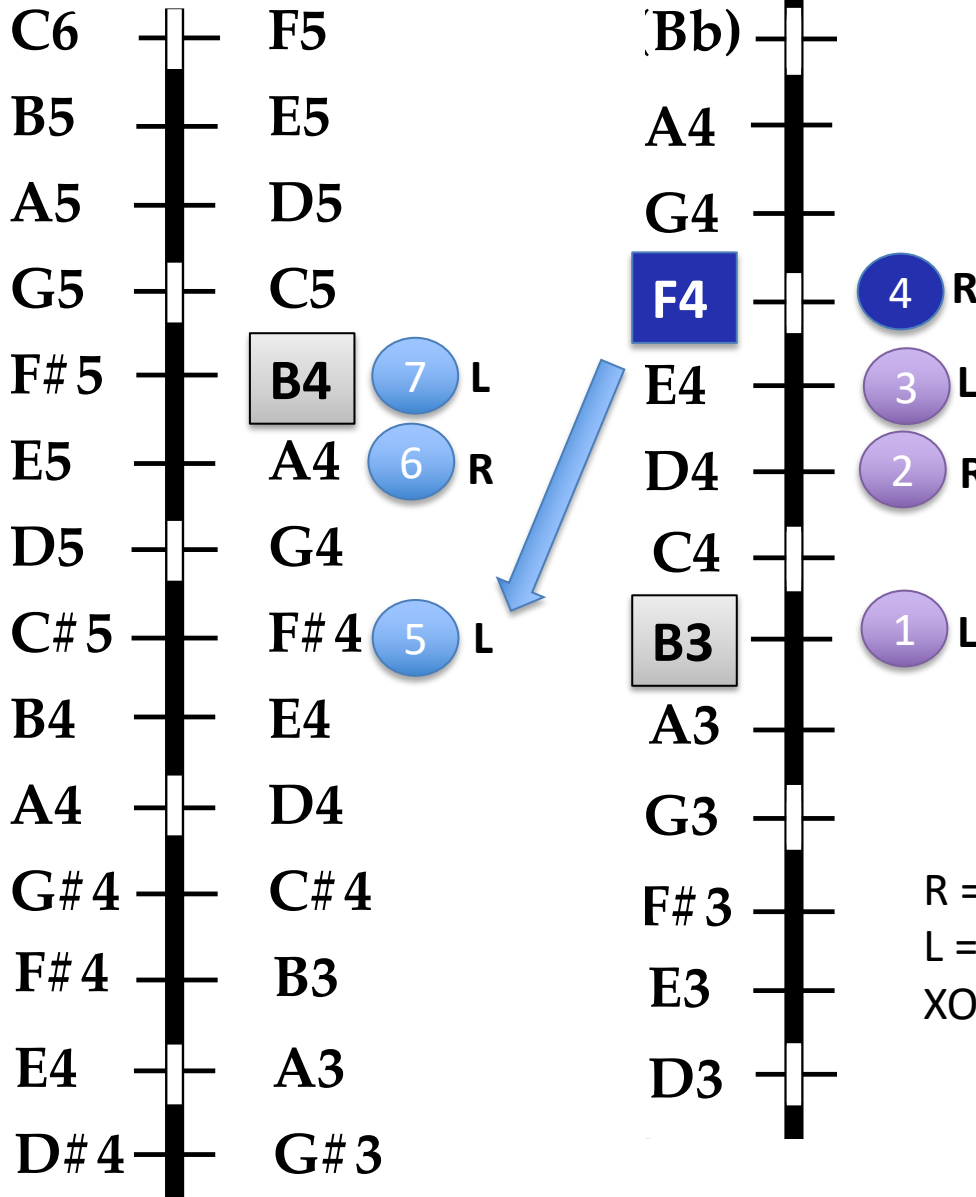
Similar to Pentatonic Scale with an added "blue note".

Six Notes in the Scale:

B-D-E-F-F#-A-B

The F is a "flatted" 5th

Now that really sounds like **the Blues!**



XOV

Blue Note

R = Right hand
L = Left hand
XOV = Crossover

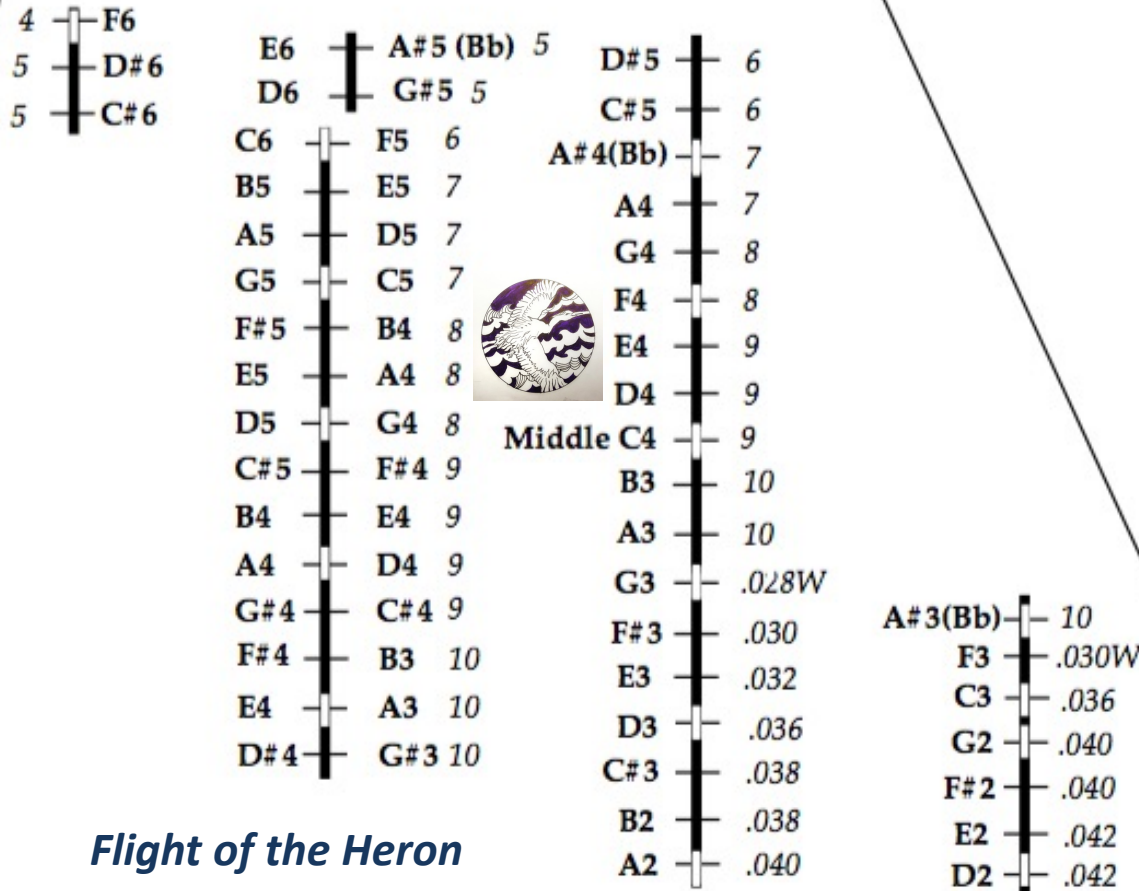
Treble Bridge

Bass Bridge

Tuning Chart and String Gauges

James Jones - Custom Performance

3/16/18/7 Four Octave Electric Hammer Dulcimer



Flight of the Heron

Treble 2

Treble 1

Bass 1

Bass 2

This material and other workshops Cliff has presented are on
“Cliff’s Dulcimer Page”

<http://daybreakfolk.com/cliffs-hammered-dulcimer/>
cliffcole@daybreakfolk.com

Also, Please Visit: **Tachyonmetry.com**



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