

Guide to Playing Twelve Major Scales with Three Four-note Patterns on the Diminished Layout Chromatic Harmonica

The point of this article is to simplify the playing of all the Major scales on the Diminished Layout Chromatic Harmonica (the “Dimi”) by defining a primary fingering for each of the scales.

I will assume that the importance of being able to play in all twelve keys is self-evident, and if you've read anything about the Dimi, you know that playing equally well in all twelve keys is one of the strengths of a symmetrical tone layout such as the Dimi.

We will discuss what is probably the most common version of the Dimi layout, as shown below, in the key of C.

Hole	1	2	3	4	5	6	7	8	9	10	11	12
Draw Slide	Eb	Gb	A	C	Eb	Gb	A	C	Eb	Gb	A	C
Draw	D	F	Ab	B	D	F	Ab	B	D	F	Ab	B
Blow Slide	Db	E	G	Bb	Db	E	G	Bb	Db	E	G	Bb
Blow	C	Eb	Gb	A	C	Eb	Gb	A	C	Eb	Gb	A

Defining some terms

The term “fingering” on harmonica suggests the combination of hole number, breath direction, and slide position needed to obtain a particular note. The “fingering” of a scale would suggest the set of fingerings needed to obtain all of the notes in the scale. The term “pattern” suggests a combination of “fingerings” which amounts to a series of physical (note producing) movements that will always be the same, and will always produce the same series of intervals, regardless of the pitch or hole the pattern starts on.

Why four-note patterns to play Major scales?

Why break up the Major scales into four-note “patterns”? Why think in “patterns” at all? If we know the notes of each scale, and we know where the notes are on the instrument, then the only issue left is to practice until it sounds good, right?

I developed the four-note (tetrachord) approach in response to a real issue that cropped up when I was playing scales on the Dimi.

One of the great features of the Dimi is the presence of four enharmonic notes spaced evenly throughout the octave. On the harmonica, enharmonics are notes that sound the same but that are played with different fingerings.

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Here are where the enharmonics are found on the C Dimi.

Hole	1	2	3	4	5	6	7	8	9	10	11	12
Draw Slide	Eb	Gb	A	C	Eb	Gb	A	C	Eb	Gb	A	C
Draw												
Blow Slide												
Blow	C	Eb	Gb	A	C	Eb	Gb	A	C	Eb	Gb	A

Having four enharmonics creates multiple possible fingerings for each Major scale.

If we count only seven notes for each Major scale, for example [C D E F G A B], then:

8 Major scales have 4 possible fingerings.

4 Major scales have 8 possible fingerings.

If we count eight notes per Major scale, for example [C D E F G A B C], then:

4 Major scales have 4 possible fingerings.

8 Major scales have 8 possible fingerings.

A dilemma

When playing Major scales ascending and descending, I used to rely on spur of the moment thinking to choose which enharmonic fingerings I would use. I would often choose whichever enharmonic note allowed me to keep the same breath direction. I became dissatisfied with this approach. Articulation would often end up smooth for a part of the scale and then choppy in other parts. Fingerings could vary from one playing of a scale to the next, and ascending and descending forms of the scale would often end up with different fingerings.

In short, having so many choices was confusing, and didn't always sound as good as I wanted.

At the same time, I had experienced that enharmonics could be really useful when playing music and improvising.

In an attempt to find practical, well-balanced fingerings for the scales, I split the scales into two halves; the first four notes and the second four notes.

When given only four notes, I was able to see more clearly all available fingerings, and once fingerings were chosen, the four-note groups could be reassembled into eight-note scales.

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It has been my experience, in the course of teaching the Dimi to others, that having a set fingering for a scale is helpful to the player new to the Dimi. Each Major scale is mastered more quickly because there are no choices and no confusion. At a later time, once the pattern is internalized, the alternate fingerings of enharmonic notes in each key can be highlighted and practiced using appropriate exercises. This systematic approach can lead to a much quicker comprehension of the Dimi layout.

The fingerings I settled on for each tetrachord are the ones that maximize breath changes. This keeps the articulation sounding even, as almost every note change is a breath change. Same-breath-direction phrasing can be worked on later as a valuable contrast.

Now that you know some of the rationale behind this endeavor, let's get started.

Due to the symmetrical nature of the Diminished layout, there are only three sets of patterns to learn in order to play any scale or phrase in every key. In other words, the first three keys each lay in a unique pattern on the Dimi, but after that, each additional key is a repeat of one of the first three.

With regards to playing all Major scales, for example, we could conclude that three sets of SEVEN-note patterns will allow us to play all the Major scales, and this is true.

However, due to the nature of two repeated four-note patterns found in the Major scale, we can simplify this even further, and play all the Major scales with three sets of FOUR-note patterns.

Type I Ionian Tetrachord

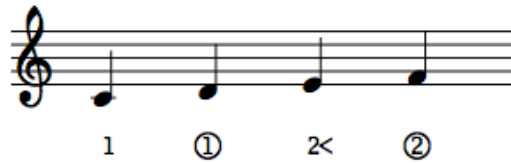
Let's say we are working with a C Major scale [C D E F G A B C]. The Major scale has seven unique notes, but we will repeat the root note, C, at the top of the scale, giving us eight notes total.

Cut the scale in half, and take the first four notes [C D E F]. This set of four notes is called a "tetrachord", with "tetra" meaning four. Since it is the first half of the Major scale, is called a Major tetrachord (or Ionian tetrachord).

Here is one of the two possible fingerings that can be used to play this tetrachord. This tetrachord starts on a blow note, so we will call it a Type I tetrachord.

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Fig. 1 Type I C Ionian Tetrachord¹



The intervallic structure of this tetrachord is as follows:

The notes C and D form a whole step (W).

D and E form another whole step (W).

E and F form a half step (H).

We can say that the Ionian tetrachord is characterized by this sequence of intervals:

[W W H]

All Ionian tetrachords will have this sequence of intervals, no matter what note they start on.

Type II Ionian Tetrachord

Look at the second four notes of the C Major scale:

[G A B C]

This is also an Ionian tetrachord. We know this because the sequence of notes has the correct intervallic structure: [W W H].

Here is one of the four possible fingerings for the G Ionian tetrachord that works well for our purposes.

We will call this a Type II tetrachord because it starts on a blow-slide note.

¹The fingering symbols below the notes are a tablature system called “SuperTAB”, which can be downloaded for free at the National Harmonica League web site. The number designates which hole to play. A plain number means blow, an encircled number means draw, and a “<” symbol means slide-in. A circle and a “<” means draw-slide-in.

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Fig. 2 Type II G Ionian Tetrachord



Putting the Tetrachords Together

Once we learn these two tetrachords, and master these fingerings, we can simply put the two together and play a C Major scale fluently.

We will call this a Type I Major scale because it starts on a blow note, C.

Fig. 3 Type I C Major scale



Notice that our second tetrachord, built on G, starts a whole step above F, the last note of the first tetrachord. This gives us a pattern of two tetrachords, with a whole step interval in between. [WWH] + W + [WWH].

We can say that a Type I Major scale = Type I Ionian tetrachord + W + Type II Ionian tetrachord.

Type III Ionian Tetrachord

Now look at the G major scale [G A B C D E F# G].

We already know the first tetrachord [G A B C].

The second half of the scale is [D E F# G]. Notice that it follows the correct pattern of intervals to form an Ionian tetrachord, [W W H].

This is called a Type III tetrachord because it starts on a draw note, D.

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Here is one out of two possible fingerings for a Type III Ionian tetrachord:

Fig. 4 Type III D Ionian Tetrachord



Here, the two tetrachords are put back together to form the G Major scale. We can say that a Type II major scale (G Major starts on a blow-slide note) = Type II Ionian tetrachord + W + Type III Ionian tetrachord.

Fig. 5 Type II G Major scale



Third Major Scale Pattern

Let's look at a Type III Major scale, D Major: [D E F# G A B C# D]. It is called a Type III major scale because it starts on the draw note, D.

We are already familiar with the Type III D Ionian tetrachord [D E F# G].

Now look at the second four notes, the A Ionian tetrachord [A B C# D].

The A Ionian tetrachord is a Type I Ionian tetrachord, as it starts on a blow note. It has the same series of blow, draw, and slide patterns that the C Ionian tetrachord has. Due to the symmetrical nature of the Dimi layout, any Ionian tetrachord that starts on a blow note can use the same pattern we used on the C tetrachord.

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Fig 6. Type I A Ionian Tetrachord



Notice that the A can also be played as hole 3 draw slide-in. The draw slide-in note is indeed the fourth type of fingering available for a single note, but when we use it in the context of a tetrachord, it becomes simply an alternate fingering for the tetrachord. It does not indicate a new type of tetrachord.

Put a Type III Ionian tetrachord together with a Type I Ionian tetrachord to form a Type III Major scale. (Notice that the D tetrachord has been moved down an octave in this example. The hole numbers will be different, but the pattern is the same).

Fig 7. Type III D Major scale



Playing Major Scales in Every Key

With the patterns we have learned for these three tetrachords, we have all that we need to play Major scales in every key.

Type I Major scale = Type I Ionian tetrachord + W + Type II Ionian tetrachord

Type II Major scale = Type II Ionian tetrachord + W + Type III Ionian tetrachord

Type III Major scale = Type III Ionian tetrachord + W + Type I Ionian tetrachord

Below are listed the fingerings for all Major scales, including some enharmonic keys (here, the term enharmonic has the traditional meaning, which indicates notes with the same sound but having different names).

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Scale 1: II III

1 ① 2< ② 3< ③< ④ 5

Scale 2: TII TIII

k< ①< ② 3 ③ 4< ④< 5<

Scale 3: TII TIII

k< ①< ② 3 ③ 4< ④< 5<

Scale 4: TIII TI

① 2< ②< 3< 4 ④ 5< ⑤

Scale 5: TI TII

2 ② 3< ③ 4< ④< ⑤ 6

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TII TIII

2< ②< ③ 4 ④ 5< ⑤< 6<

TIII TI

② 3< ③< 4< 5 ⑤ 6< ⑥

TI TII

3 ③ 4< ④ 5< ⑤< ⑥ 7

TI TII

3 ③ 4< ④ 5< ⑤< ⑥ 7

TII TIII

3< ③< ④ 5 ⑤ 6< ⑥< 7<

Guide to Playing Twelve Major Scales with Three Four-note Patterns on the Diminished Layout Chromatic Harmonica

The image displays five musical staves, each representing a different major scale. Each staff consists of a treble clef, a key signature of one flat (B-flat), and a sequence of notes. Above the notes are Roman numerals (TIII, TI, TII) indicating the scale degrees. Below the notes are circled numbers (1-8) and arrows (<) indicating the fingerings and direction of play for each note.

Staff 1: TIII (B-flat), ③, 4<, ④<, 5<, TI (B-flat), 6, ⑥, 7<, ⑦

Staff 2: TI (B-flat), 4, ④, 5<, ⑤, TII (B), 5<, ⑤<, ⑥, 7

Staff 3: TII (B), 4<, ④<, ⑤, 6, TIII (B-flat), ⑥, 7<, ⑦<, 8<

Staff 4: TIII (B), ④, 5<, ⑤<, 6<, TI (B), 7, ⑦, 8<, ⑧

Staff 5: TIII (B-flat), ④, 5<, ⑤<, 6<, TI (B-flat), 7, ⑦, 8<, ⑧