



**JAZZ SCHOOL** Woodshed > **MASTER CLASS**  
BY CHARLIE APICELLA



# Organizing Chordal Vocabulary: Inversions, Chord Cells, String Sets



**M**y favorite sound for comping behind a soloist, arranging chord melodies and chord soloing is the product of my experimenting with inversions of chords.

You can play all three chords of a ii-V-I progression in four distinct locations on the guitar neck, which I call "Chord Cells." It can help to think of these cells as geographic locations. Each of the four cells are built from the inversion of the ii chord as it moves up the neck and covers string set 6, 4, 3, 2.

String sets are a concept I was first introduced to in my lessons with Pat Martino. For a study of improvisation ideas based off of the inversions of a minor seventh chord, check out his method book *Linear Expressions* (Hal Leonard).

The root-inversion voicing of a Gm7 chord shown in Figure 1 should be familiar to any guitarist interested in jazz. We see the chord tones—G, B $\flat$ , D and F—spread over two octaves, and we clearly can see how the notes

occupy string set 6, 4, 3, 2. Therefore, we are playing a four-note voicing that omits string 5 and string 1.

Identifying the string set is an empowering concept, because it provides a structure to create our inversions on.

What is an inversion of a chord? It is a rearrangement of the notes to create a new voicing. On the guitar we clearly can see the notes ascending as we move from one inversion to the next.

<p><b>Figure 1</b></p> <p><b>G-7 CHORD, ROOT INVERSION</b> <b>SPREAD VOICING ON THE GUITAR</b></p>	<p><b>Figure 2</b></p> <p><b>G-7 CHORD, 1ST INVERSION</b></p>	<p><b>Figure 3</b></p> <p><b>G-7 CHORD, 2ND INVERSION</b></p>	<p><b>Figure 4</b></p> <p><b>G-7 CHORD, 3RD INVERSION</b></p>
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In progressing from the root-inversion voicing in Figure 1 to the first-inversion voicing in Figure 2, we observe the root on string 6 moving up to the flat third of the chord. Since the lowest sounding tone of this voicing is now the flat third, it is named 1st inversion; in other words, we have inverted the Gm7 chord one time.

We have kept the same four notes—G, B $\flat$ , D and F—and we have rearranged them by taking each note in the inversion and moving it up to the next note in the chord. The important element to notice here is that in addition to keeping the same four notes, we also have kept the same string set.

The G on string 6 moves to B $\flat$  on string 6.

The F on string 4 moves to G on string 4. The B $\flat$  on string 3 moves to D on string 3. And the D on string 2 moves to F on string 2.

This progression from root inversion to first inversion creates the beginning of a nice bass line on string 6, and herein lies the exciting element of deriving the chords of a ii-V-I progression in this fashion.

Figure 3 shows the Gm7 chord in second inversion, and Figure 4 shows the same chord in third inversion.

Now that we have established the four inversions of the Gm7 chord, we can use them as the ii of a ii-V-I progression. Here is where I like to think of the four different ii-V-I Chord

Cells as occupying four different geographic locations on the guitar neck.

The idea of chord cells and the geography of the neck help me organize not only my chordal vocabulary but also my soloing options.

I will name each of the ii-V-I cells from the degree of the ii chord inversion. Figure 5 is a ii-V-I progression in F major, root inversion. Figure 6 is a ii-V-I in F major, first inversion. Figure 7 is a ii-V-I in F major, second inversion. And Figure 8 is a ii-V-I in F major, third inversion.

In Figures 5–8, we can see how the inversions of the V and I chords occupy string set 6, 4, 3, 2. The inversions of these two chords fol-

**Figures 5–6**

<b>ROOT INVERSION</b>	<b>2ND INVERSION</b>	<b>ROOT INVERSION</b>	<b>1ST INVERSION</b>	<b>2ND INVERSION</b>	<b>1ST INVERSION</b>
G-7	C7	F $\Delta$	G-7	C7	F $\Delta$

## Figures 7–8

Figure 7-8 illustrates chord voicings for G7, C7, and FΔ in three inversions. The first section shows the End Inversion, Root Inversion, and another End Inversion for each chord. The second section shows the 2nd Inversion, 1st Inversion, and 3rd Inversion for each chord. Each chord is accompanied by a guitar fretboard diagram and a musical staff showing the chord's placement on the strings.

## Figure 9

Figure 9 shows a musical score for guitar, featuring a sequence of ii-V-I chord progressions. The score is divided into three systems, each with a melodic line and a corresponding chord diagram. The chords are: C-, C-, G-, G-, C7, C9; FΔ, FΔ9, FΔ, F-, F-, Bb9, Bb7; and EbΔ, Eb-, Ab7, DbΔ, D°, G7. The notation includes a treble clef, a key signature of one flat, and a 4/4 time signature.

low the same formula we used in deriving the inversions of the ii chords in Figures 1–4, in that as we ascend from one inversion to the next, we simply move to the next note in the chord while remaining on the same string. This movement automatically allows the inversions to reveal themselves.

I have integrated these ii-V-I cells, what I call my Dark Chords, into my playing. They work particularly well with standards, Great American Songbook tunes and on some blues tunes.

As a different concept—taken one chord at a time in a modal approach—these voicings can open up the neck of the guitar for comping and

playing chord-melody ideas similar to the way we might hear a pianist playing on modal tunes.

The next step in adapting these voicings to your chord vocabulary is to write them out over the chord progression to a tune that contains ii-V-I cells, as I have done on the tune “Solar” by guitarist Chuck Wayne in Figure 9. **DB**

New York-based guitarist Charlie Apicella is the founder of the organ group Iron City ([ironcityjazz.com](http://ironcityjazz.com)). His sixth CD as a leader, *Groove Machine*, is slated for release on April 1. Apicella is on the faculty of the New York Jazz Workshop and teaches online via the TrueFire channel Charlie Apicella’s Solid Guitar. He is an Eastman Guitars featured artist, a Guild Guitars sponsored artist and a ZT Amplifiers official artist. Apicella can be reached at [contactironcity@comcast.net](mailto:contactironcity@comcast.net).