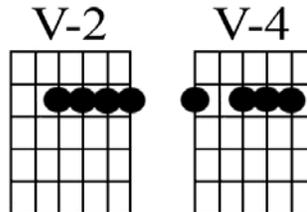


Conversion

By James Hober

Ted Greene worked out many ways to convert a V-System chord in one voicing group into one in another voicing group. Let's say you have a V-2 on the top four strings. If you move the note on the first string straight across the fingerboard to the sixth string, you have a V-4. You have dropped the soprano two octaves. The quality of the chord did not change. If you began with a m7 chord, you finished with a different m7. Your V-2 has been converted into a V-4.



Ted loved this particular conversion! It works for any V-2 chord. Drop the soprano two octaves and you get a V-4. Of course, in order to keep your new bass (dropped from the soprano) on the fingerboard, you'll probably have to start with a V-2 on the top four strings.

Besides using the guitar neck, you can visualize conversions with a diagram or staff notation. Here's a diagram of V-8, with the voices indicated by capital letters, and the Method 2 chord tone gap sizes (2 2 2) shown with the small letter g:

B g g T g g A g g S

If we move the soprano down an octave, in the diagram that would be moving S to the left by four chord tones:

B g g T g S A g g

Since S is now in the alto position, we rename the voices according to their new roles:

B g g T g A S

And notice that the gaps, 2 1 0, indicate that our conversion has resulted in a V-4. So V-8 converts to V-4 when dropping the soprano one octave.

Conversion is very important because once you know some chords in one voicing group, you can use it to discover chords in another voicing group. It helps you see relationships between voicing groups. Ted created a number of "hook up" sheets that show how to convert from one specific voicing group to another.

In the Beginning...

I believe that Ted had conversion in mind from the outset, when he was deciding how to number his voicing groups. Logically, he named the tightest spacing "V-1." To go from the tightest spacing (V-1) to the next tightest spacing (V-2), you simply lower the alto an octave.

Arrangers sometimes call this “drop-2” because you drop the second highest voice down an octave. Ted knew about this terminology but seemed to prefer saying, “drop alto” for this conversion. There are so many numbers in music that it’s perhaps a bit clearer to refer to voices by name rather than number. Also, “drop-2” usually refers to dropping the alto only from close position (V-1). But we can drop the alto from any voicing group, not just from V-1. So for clarity, we’ll refer to dropping or raising voices by name (soprano, alto, tenor, or bass) rather than number, just as Ted did.

After V-2, what is the next tightest spacing? Both V-3 and V-4 are equally the third most closely spaced voicing groups. You can see this by their (Method 2) chord tone gaps: 0 1 2 and 2 1 0 respectively. V-3s are tightly packed in the lower three tones with the soprano separated off a bit. And V-4s are tightly packed in the upper three tones with the bass separated off a bit. So Ted could have picked either of these spacings to be the next voicing group after V-2. V-4s are actually more commonly played, so by popularity, V-4 should have come next. But Ted chose V-3 spacing as his next voicing group probably because of conversion. If you apply “drop alto” again, this time from your V-2 chord, you get a V-3. So to get from V-1 to V-2, drop alto. To get from V-2 to V-3, drop alto. After that, the pattern changes. But later in the series, to get from V-7 to V-8, drop alto. To get from V-8 to V-9, drop alto. And at the end, to get from V-13 to V-14, drop alto.

Remember that Ted’s initial conception of the V-System used only Method 1. Method 2 and Method 3 didn’t exist at first. Conversion is already built into the Method 1 Master Formula Table. Only V-1, V-2, V-3, V-4, V-5, and V-8 are defined by various orderings of the letters B, T, A, S. All the other voicing groups are defined by conversion from one of these six fundamental groups. So apparently Ted had conversion in mind very early in his working out of his V-System.

Conversion, How Do I Love Thee? Let Me Count the Ways.

We’ve seen a few examples of conversion above. What are all the possible ways to do it? You can drop the soprano one octave or two. You can drop the alto one octave or two. You can drop the tenor one octave. And you can drop the bass one octave. If you try to drop the tenor or the bass two octaves, no matter which voicing group you are starting from, the result will be an unreachable chord that doesn’t belong to any of the fourteen voicing groups.

You can also raise voices. The bass can be raised one or two octaves. The tenor can be raised one or two octaves. The alto or soprano can only be raised one octave. Again, raising them two octaves always results in unreachable chords.

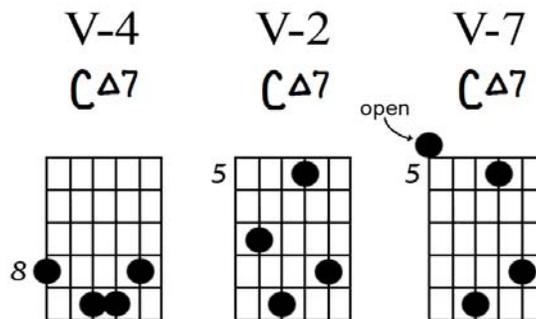
So we have six conversions that lower a voice and six conversions that raise a voice. Sometimes, even doing these conversions can result in unreachable chords. Finally, there are a couple of cases where you can lower both the bass and tenor, or equivalently, you can raise both the alto and soprano. (Lowering the three bottom voices is equivalent to raising the soprano. And raising the three top voices is equivalent to lowering the bass.)

Surely, we’ve now covered all the possibilities. No! Ted was delighted to discover that you can sometimes swap voices. In a four-note chord, there are six different pairs of voices. Therefore, you can swap these pairs: alto and soprano, tenor and soprano, bass and soprano, tenor and alto, bass and alto, or bass and tenor.

Obviously a swap means that the voices switch which notes they have. But is there more to it? If we raise the alto an octave and it crosses above the soprano, we have in a way swapped two voices but this conversion is no different than raising the alto one octave. So, to distinguish swapping from simple raising or lowering, a legitimate swap should have **both** the voices moving in opposite directions, each by one octave or two. (There is a special case: a three-octave move is necessary when swapping bass and soprano between V-11 and V-12.)

Also, the two voices that are **not** moving should stay in their positions. If I swap alto and soprano by raising the alto and dropping the soprano an octave, the soprano should not cross below the tenor. The tenor and bass should remain the tenor and bass after the swap.

Finally, the voice moving up should end up reasonably close to the original position of the voice moving down. And vice versa. This is a consideration in deciding whether to move the lower voice up by one or by two octaves. And similarly, we have to decide whether to move the higher voice down by one or two octaves. This decision can affect which voicing group results from the swap.



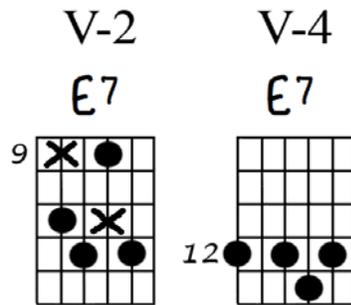
Let's say we want to swap the bass and alto in the first Cmaj7 chord above (the V-4). We have to move the bass up a single octave for it to fit between the tenor and the soprano. Do we move the alto down one octave or two? If we move the alto down one octave, we get the V-2 shown. If we move the alto down two octaves, we get the V-7 shown. Both are reasonable solutions, but if compelled to choose one, I would go with the V-2. The bass note E in the V-2 is closer to the position of the bass note C in the original V-4 chord.

A Very Significant Page in Ted Greene's Notes

Ted left a couple of very important personal pages about the V-System. One of them, dated 2/4/1989 with later annotations dated 6/19/2003, is about conversion. A transcription of this page, *V-System Conversion Methods*, has been posted on tedgreene.com. On this page, Ted's enthusiasm for and delight with his conversion discoveries is apparent. Clearly, these techniques were central to his V-System.

Ted distinguishes between conversions where the soprano is fixed and those where it changes. A fixed soprano conversion is useful when you are looking for an alternative chord to harmonize a melody note in a chord melody arrangement.

At one place on this page Ted writes, "Voice swap and use the diatonic passing tones." In other words, he's suggesting you can move a pair of voices in contrary motion stepwise and in this way arrive at the swap. For example, when swapping the bass and alto:



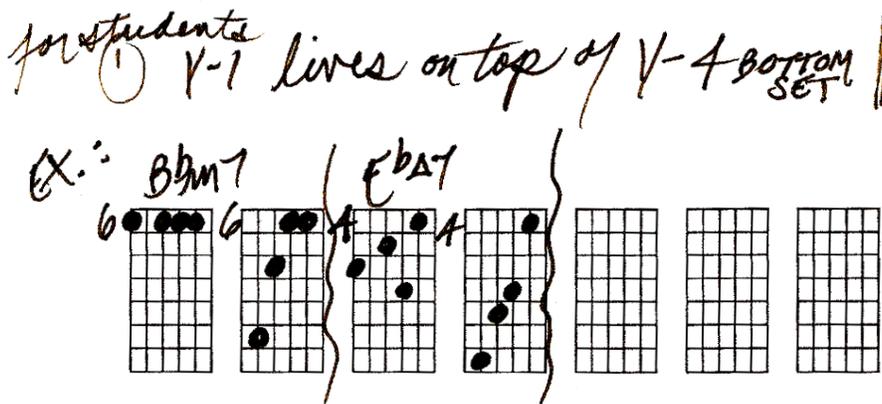
Here the X's indicate diatonic passing tones. Ted enjoyed using common practice voice leading like this in his Baroque improvisations.

More, More, More

Expanding on Ted's work, I have calculated every possible conversion using all the conversion procedures mentioned above. I did a lot of this with a guitar and with pencil and paper. Then I decided it would be more accurate to program my computer to do all the calculations. It took more than 500 lines of computer programming code. I present the results in three ways: *Conversions Listed by Conversion Procedure*, *Conversions Listed by Source Voicing Group*, and *Conversions Listed by Target Voicing Group*. Like Ted, I have indicated those conversions where the soprano remains fixed.

Since Ted listed conversions by target voicing group on his 2/4/1989 page, you can compare his listing with my *Conversions Listed by Target Voicing Group*. Ted's conversions always go from a lower numbered voicing group to a higher one. Mine go both directions. Ted's thinking is that the lower numbered voicing groups are foundational for converting to the higher numbered groups. I simply applied all the conversion procedures to every voicing group.

On other pages, Ted did do conversions from a higher numbered voicing group to a lower. Here's a fragment from his personal notes that's dated 7/20/1992:



To do this V-4 to V-1 conversion, you move the tenor over from the fourth to the fifth string. Then you raise the bass up an octave. When I list this conversion, I simply write, "raise the bass one octave," without the helpful string moving detail that Ted shows here.