The Chord-Scale 1

Approach

PW Farrell

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The Concept

The chord-scale approach provides a way to make note choices based on how “inside” or “outside” you want to sound.

For example on a Δ7 (major seven) chord jazz musicians will often use either ionian, lydian or lydian augmented, each of which bring slightly different harmonic implications that don’t “break” the function of the original chord.

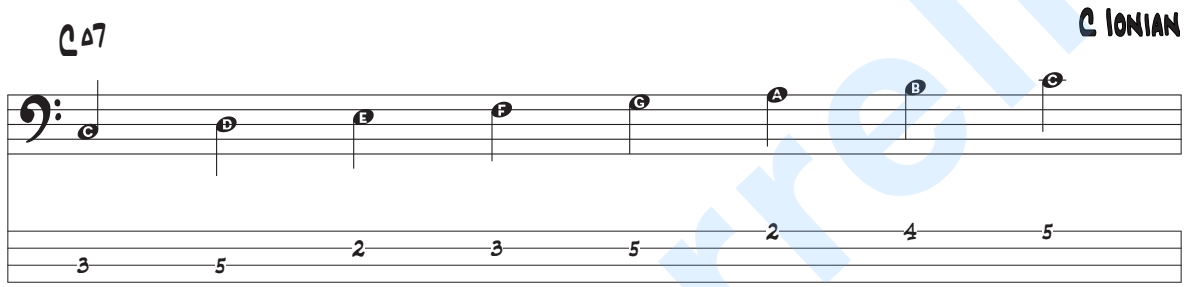
Learning your chord-scales enables you to develop a harmonic vocabulary that will bring richness to your playing.

The Diatonic Modes

Before we can begin looking at chord-scale theory we need to thoroughly internalise the diatonic modes. Diatonic modes and chords are those that can be found in “normal” major harmony (the white notes on the piano).

The C major scale has seven notes. Playing the scale from **C** to **C** will produce the C major scale, also known as the Ionian mode.

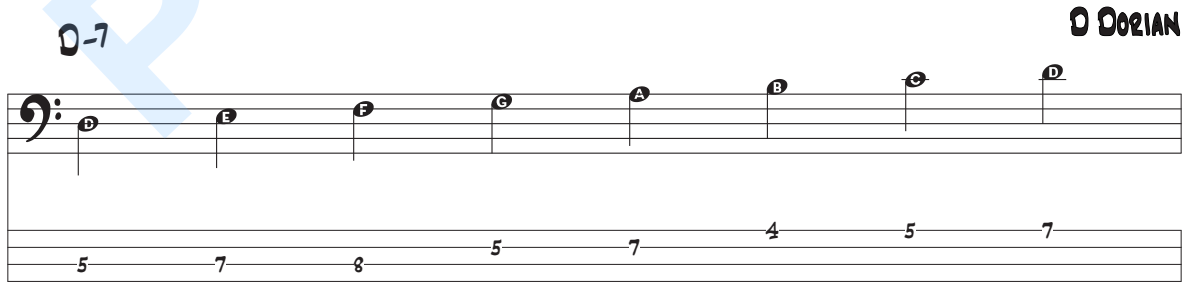
1



The structure of this scale is: T T ST T T T ST

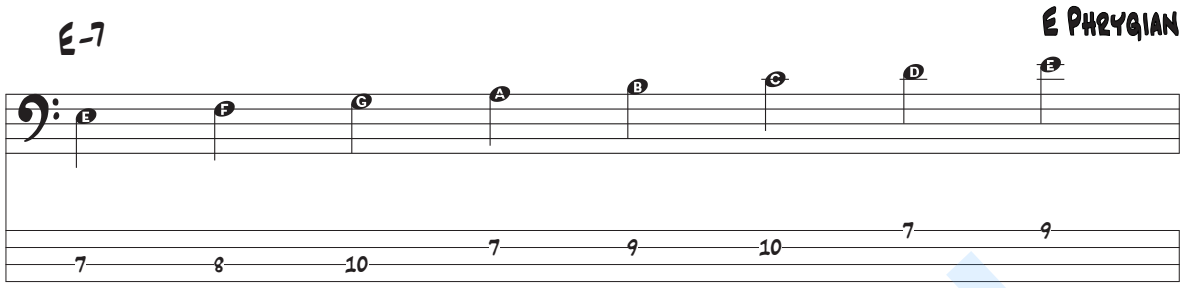
If you play the C major scale from **D** to **D** the resulting scale is structurally different from the C major scale, even though it uses on the same notes. This new scale is D Dorian, the second *mode* of C major.

2



The structure of this scale is: T ST T T T ST T

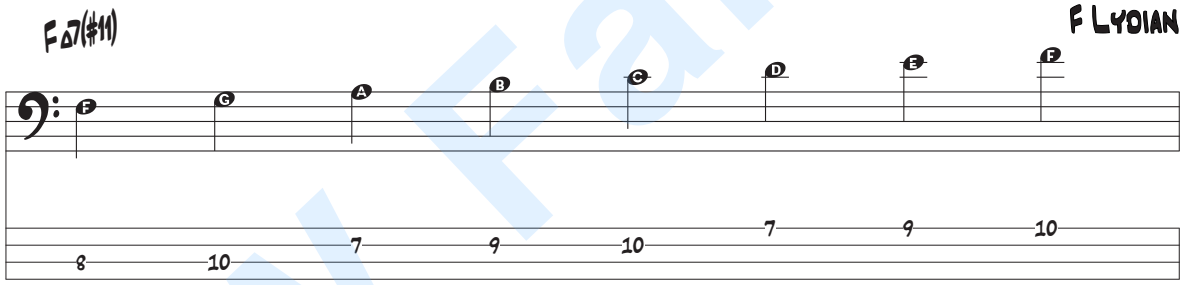
If you play the C major scale from **E** to **E** the resulting scale is E Phrygian, the third *mode* of C major.



3

The structure of this scale is: ST T T T ST T T

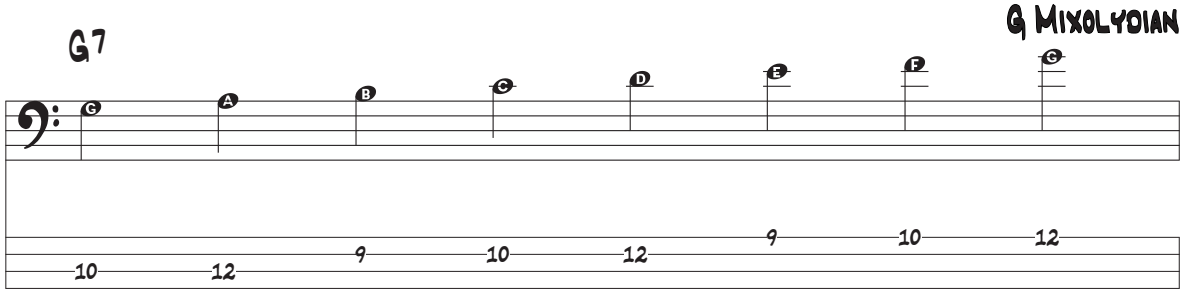
If you play the C major scale from **F** to **F** the resulting scale is F Lydian, the fourth *mode* of C major.



4

The structure of this scale is: T T T ST T T ST

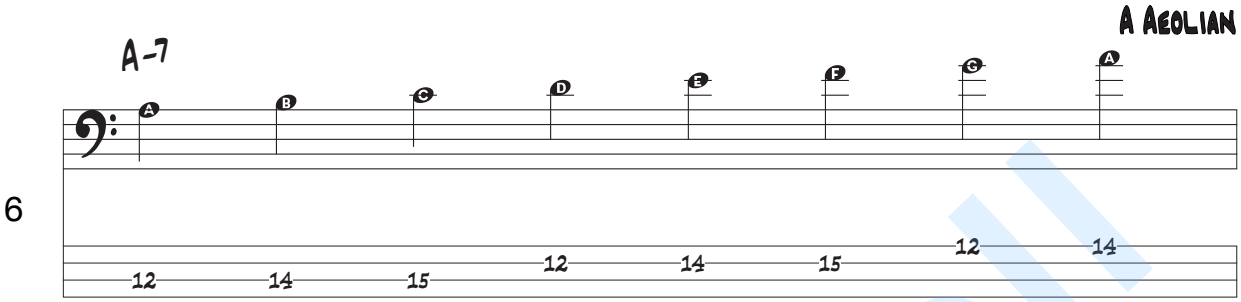
If you play the C major scale from **G** to **G** the resulting scale is G Mixolydian, the fifth *mode* of C major.



5

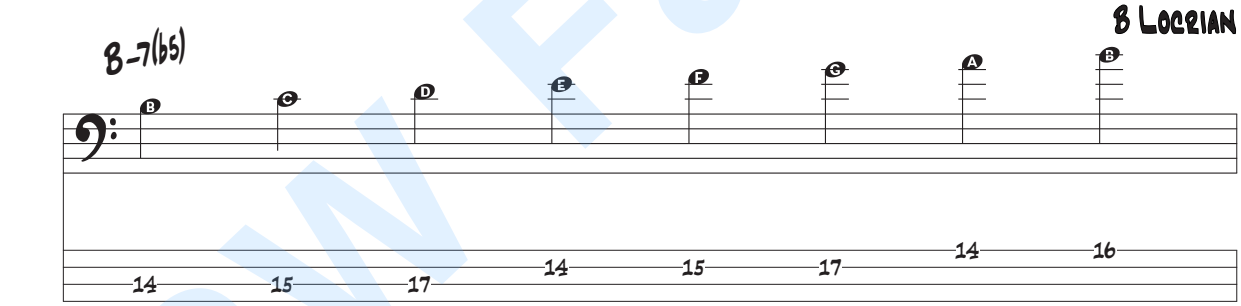
The structure of this scale is: T T ST T T ST T

If you play the C major scale from **A** to **A** the resulting scale is A Aeolian, the sixth *mode* of C major.



The structure of this scale is: T ST T T ST T T

If you play the C major scale from **B** to **B** the resulting scale is B Locrian, the seventh *mode* of C major.



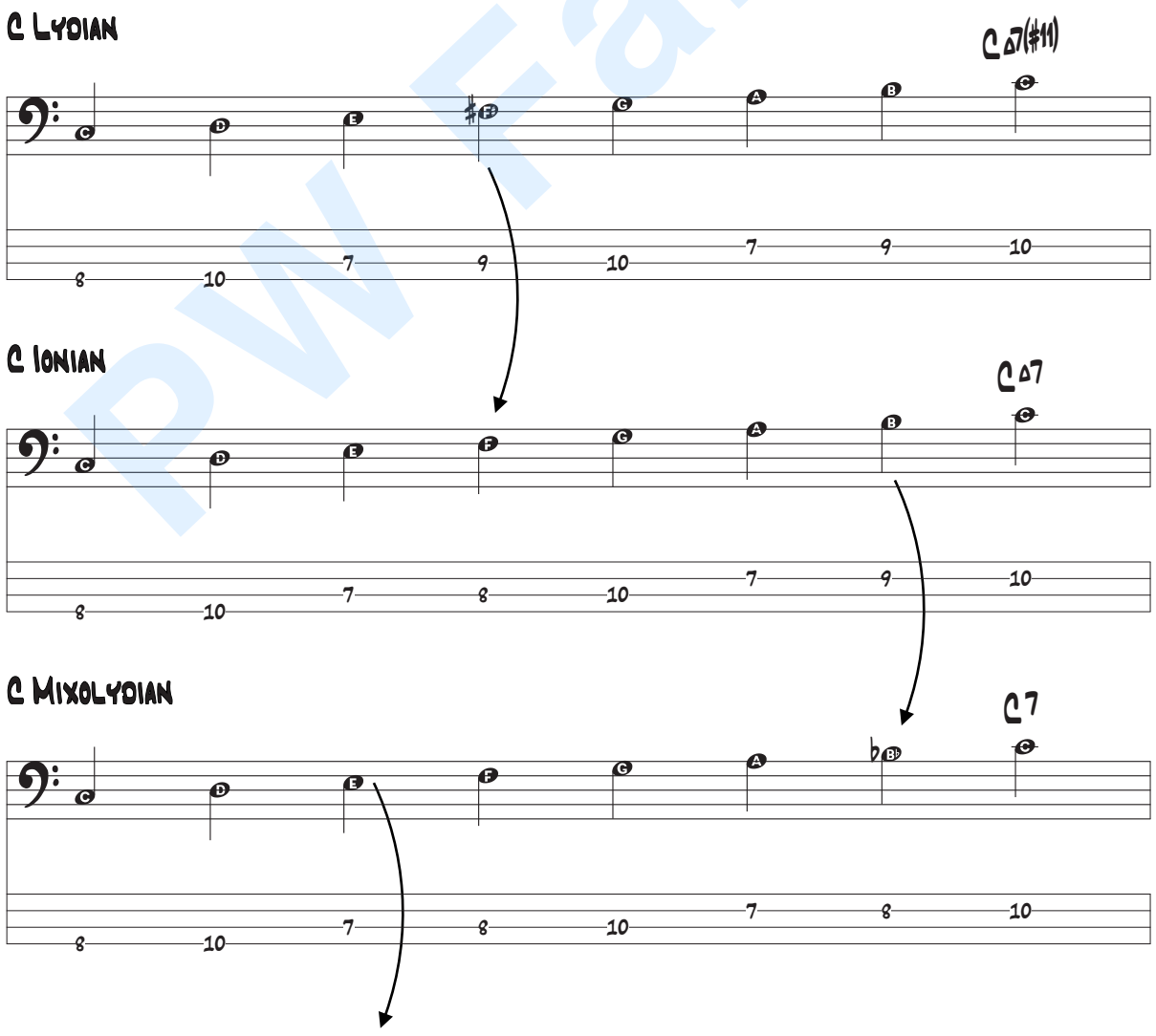
The structure of this scale is: ST T T ST T T T

In the previous section the modes were all presented in the same key. In other words C ionian, D dorian, E phrygian, F lydian, G mixolydian, A aeolian and B locrian all use the same notes.

The problem with practising the modes this way is that you subconsciously think of them as derivatives of a parent major scale. This is not the case. Each mode is its own entity.

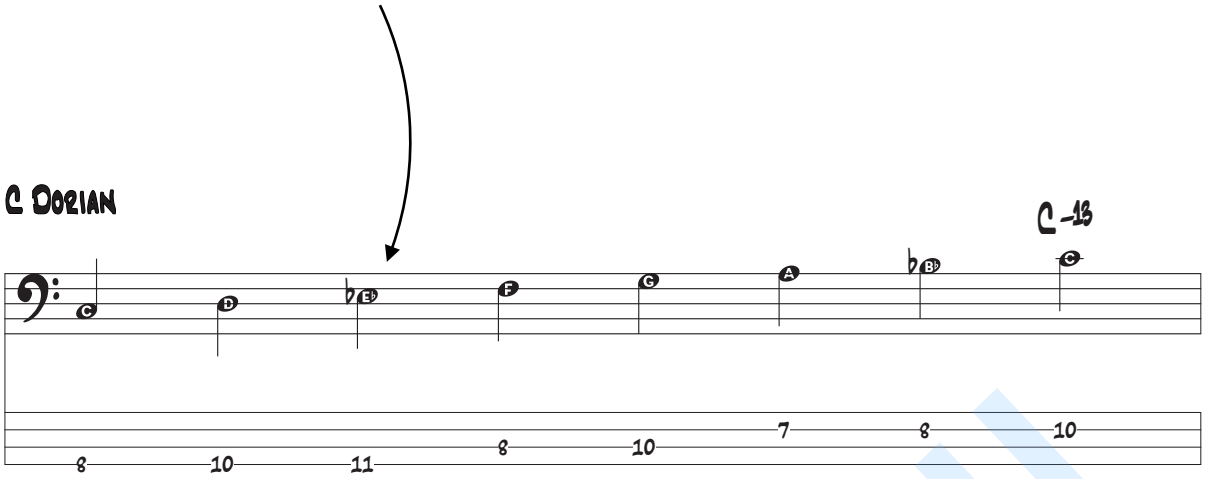
A great way to practice the modes is from a common root, in order of light to dark. Repeat this as a technical warmup before every practice until it is “in your hands”.

Each mode becomes progressively darker through one chromatic change. The arrows help illustrate this.



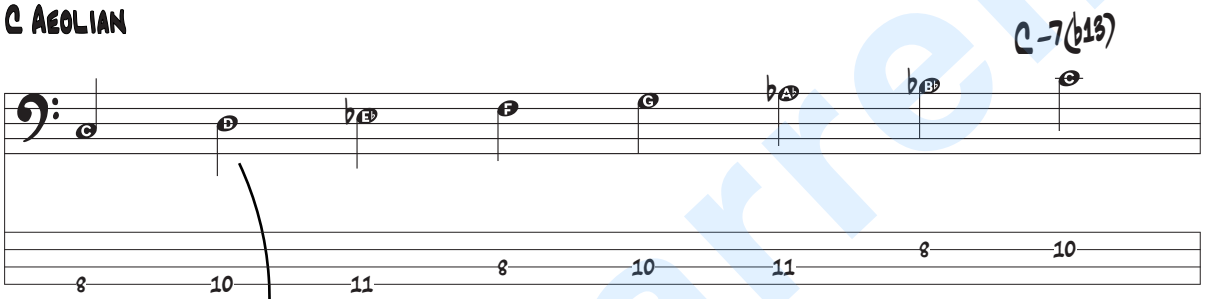
C Dorian

C -13



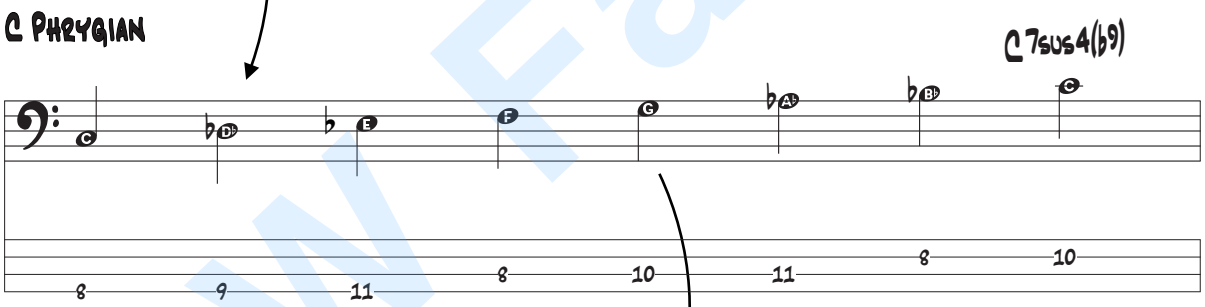
C Aeolian

C -7(b13)



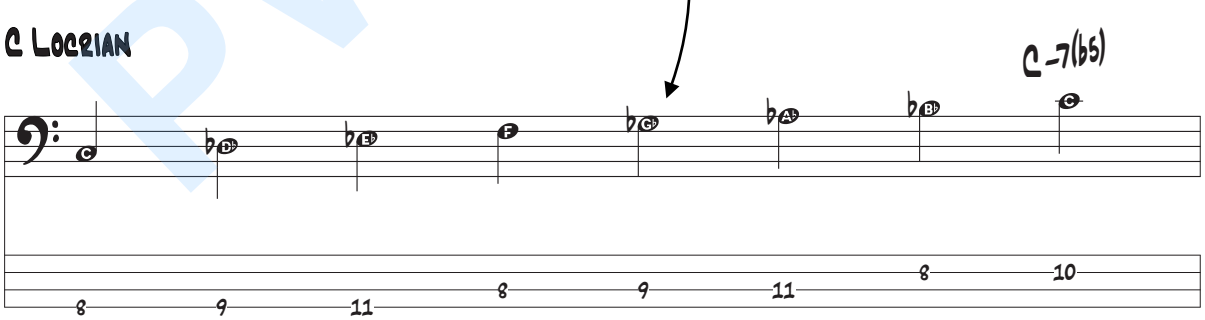
C Phrygian

C 7sus4(b9)



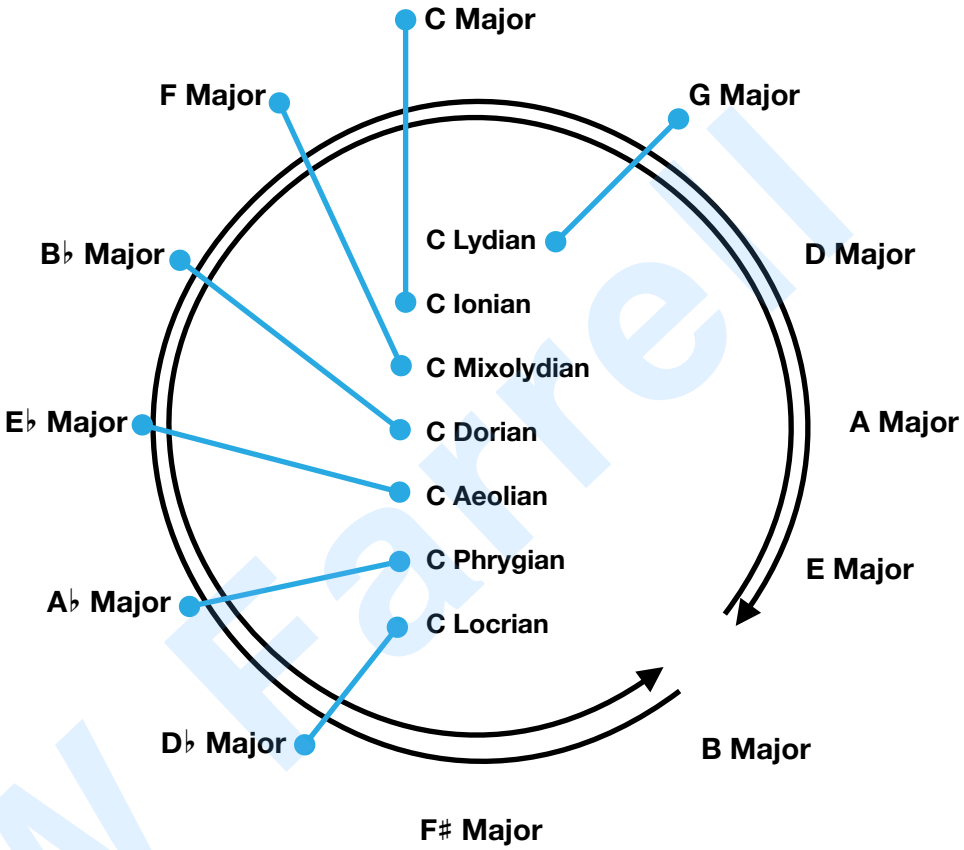
C Locrian

C -7(b5)



Modes And the Circle of 5ths

This exercise reveals an interesting phenomenon. As you move from lighter modes to darker modes you are actually moving around the circle of fourths:



C lydian = G major
C ionian = C major
C mixolydian = F major
C dorian = B♭ major
C aeolian = E♭ major
C phrygian = A♭ major
C locrian = D♭ major

As we move around key signatures through the circle of 5ths/4ths the interchange of modes only changes by one note.

For example, in G major the “C mode” is C lydian, while in C major the “C mode” is C ionian. This explains why classical music so often modulates to key signatures a fifth away. For example Bach’s prelude to the G Major Cello Suite modulates from G major to D major.

Modal interchange is the mechanism that makes a lot of modern non-functional harmony work.

The Chord-Scale 2

Approach

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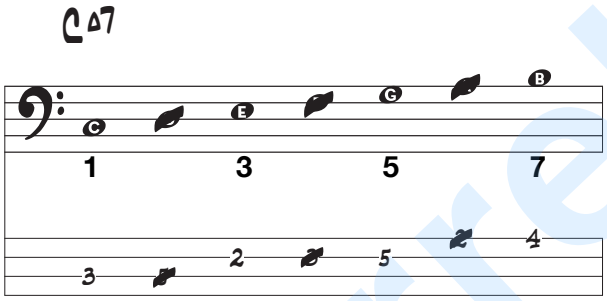
Scales as Chords

At the heart of the chord-scale approach is the idea that scales are chords.

This is how that idea works.

If you take a scale like C major, and play every second note up to the seventh, the resulting chord is the CΔ7 chord:

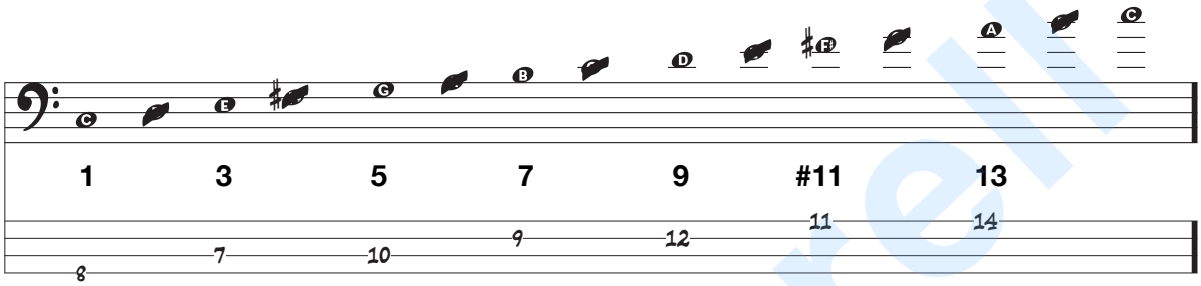


C major scale: **C** D **E** F **G** A **B** (C)

CΔ7 chord:
B
G
E
C

If we extend this concept all the way up to the 13th (the 6th degree up an octave), the entire scale is harmonised. In other words, chords and scales are the same thing!

Using this approach the lydian mode is the most consonant (the major scale/ionian mode contains a tense harmony when extended this far, which is why lydian is often considered the most consonant diatonic mode).



C lydian: **C** D **E** F# **G** A **B** (C)

CΔ13(#11) chord: A
F#
D
B
G
E
C

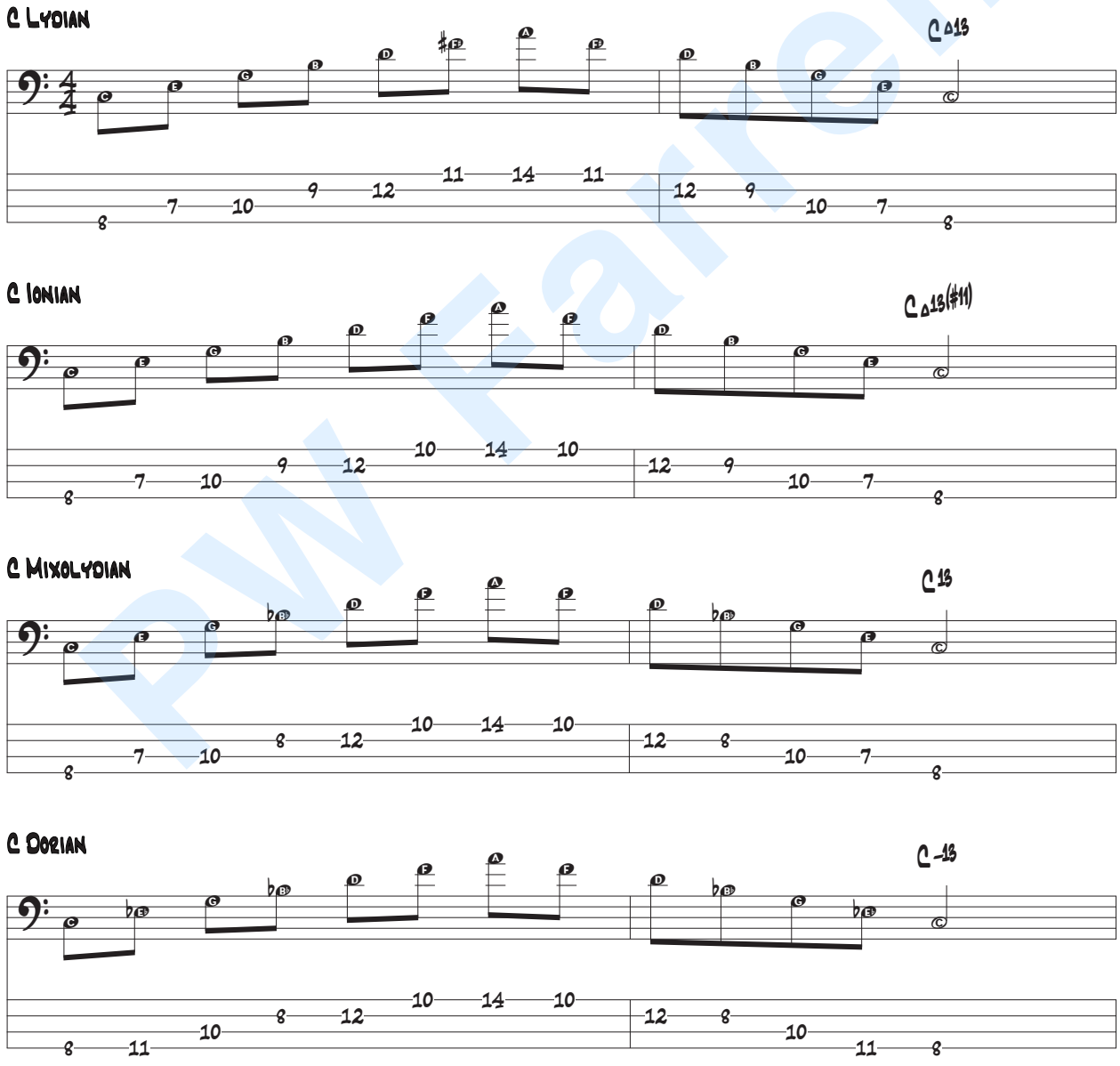
Notice that when we describe chords extended beyond the seventh, we continue "counting" into the second octave:

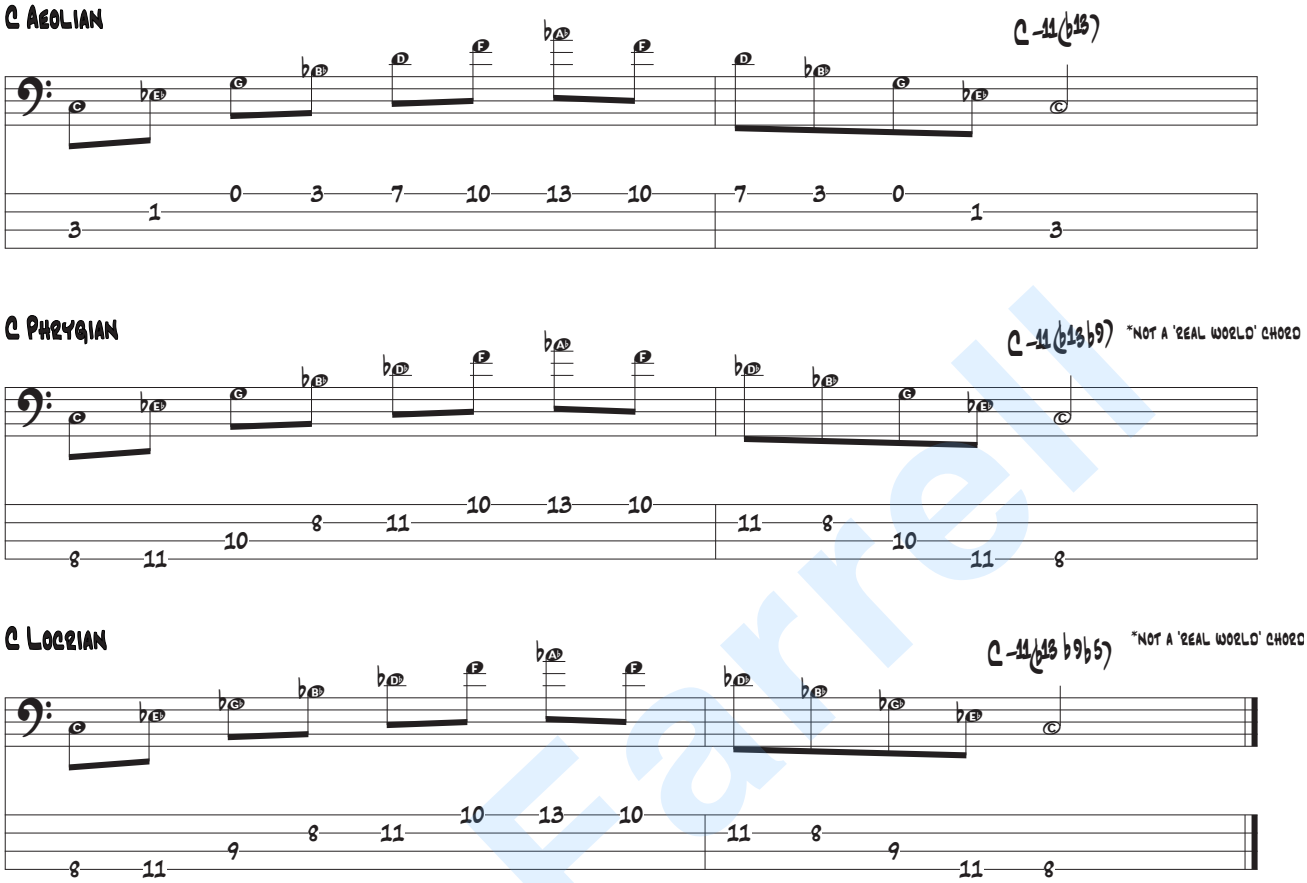
1 3 5 7 9(2) 11(4) 13(6)

Let’s arpeggiate all the diatonic modes. We will start each from the common root of **C** and order the modes from lightest to darkest.

The chord symbols at the end of each arpeggio describes the largest chord implied by the arpeggio. Some of these symbols describe chords that are rarely used for reasons of style and function.

It is useful to understand these conceptual chords for reasons that will become obvious as you continue your learning journey.





Playing scale/modes as arpeggios allows us to hear them as harmonic constructs - as chords.

This does not mean you have to play them as arpeggios when performing music. In fact, one of the features of chord-scale soloing is that it is more linear than earlier jazz improvising approaches, such as the chord-tone approach.

How can a scale express harmonic information without being arpeggiated?

It's all about something called harmonic rhythm.

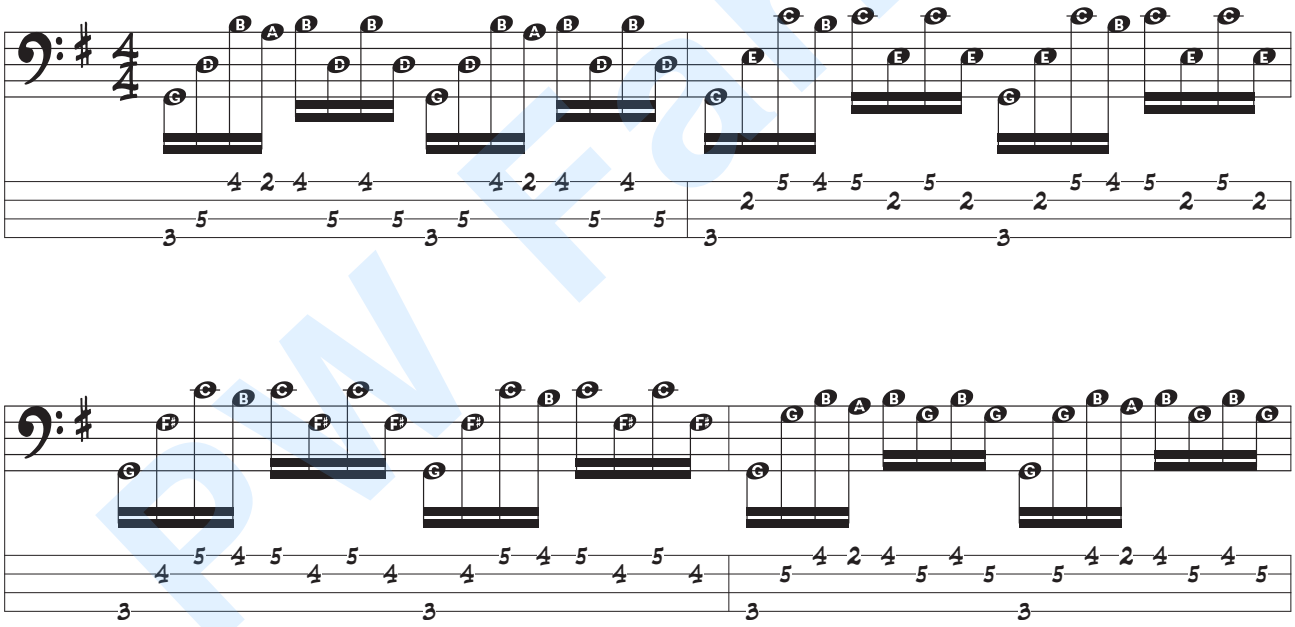
Harmonic Rhythm

In the baroque period of classical music JS Bach helped establish many of the aspects of music that continue today. Jazz music is a distinct art form, but it draws heavily on earlier music traditions, such as West African and European music.

A good way to learn about harmonic rhythm is to look at how harmony is expressed in baroque music.

Play this except from Bach's G Major Cello Suite:

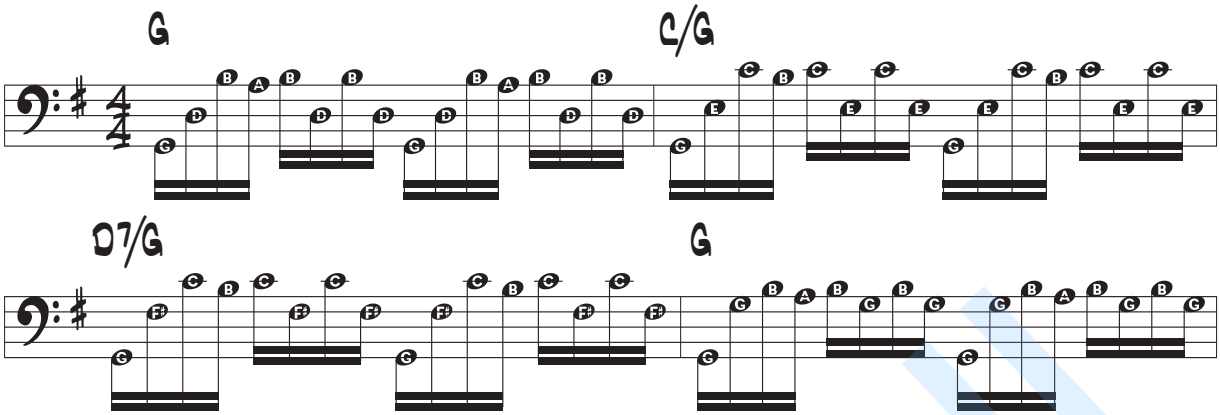
"G Major Cello Suite - Prelude"



Can you hear the harmonic aspect of this excerpt?

Even though we are only playing one note at a time the harmony is really clear.

The chords are clear because this melody comprises arpeggios that outline the G major triad, the C major triad, and a chord which I analyse as D7/G (though some might describe this slightly differently).

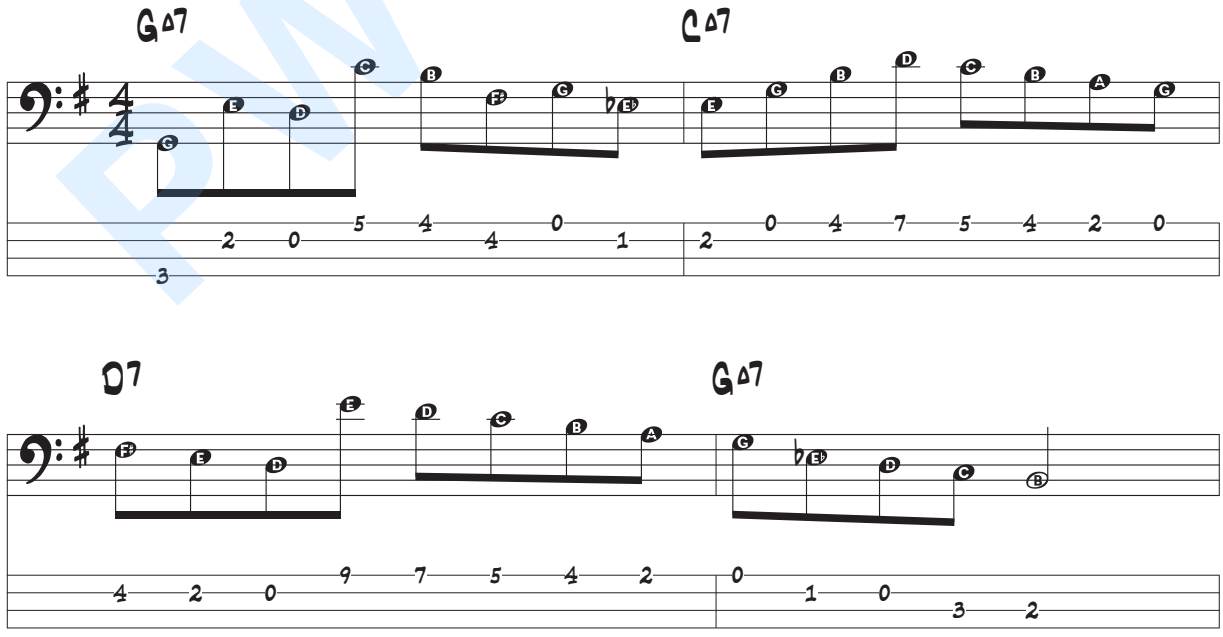


In the bebop language, upper chord tones and chromatic passing tones are interspersed between primary chord tones.

How do we then retain clarity of harmonic information?

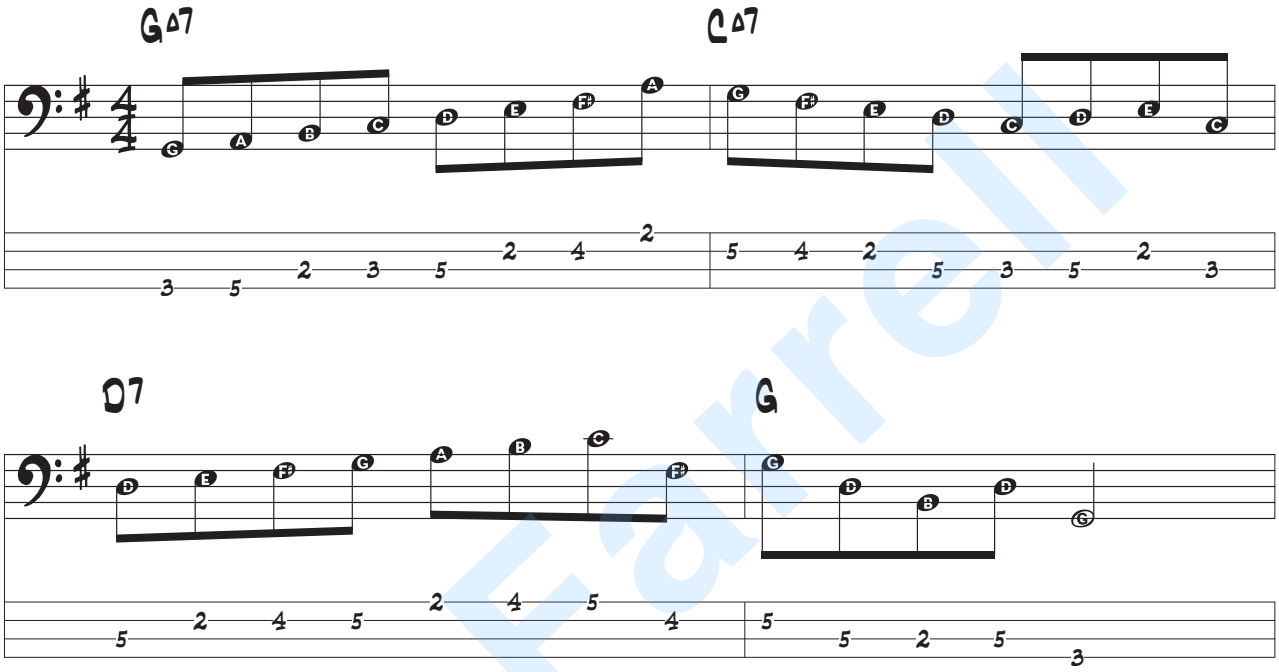
By playing important chord-tones at specific rhythmic points. I like to call this the “harmonic rhythm of the jazz melodic language”, or something to that effect (the term “harmonic rhythm” traditionally only applies to the speed of chord changes).

A bebop re-imagining of this Bach excerpt might sound something like this:



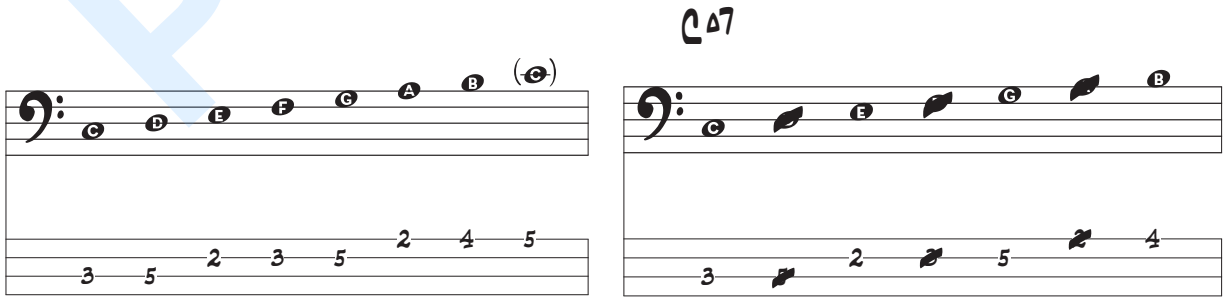
Notice that the chord tones now fall on the beats while the passing tones are on the offbeats?

We can even simply play scalar lines using this harmonic rhythm of melody. You should still be able to hear the I IV V I chord progression:



How is this possible? Because as we have seen in other lessons (such as the "Walking Fundamentals" series), if we remove every second note from a diatonic mode we get a seventh chord.

For example C ionian becomes CΔ7:



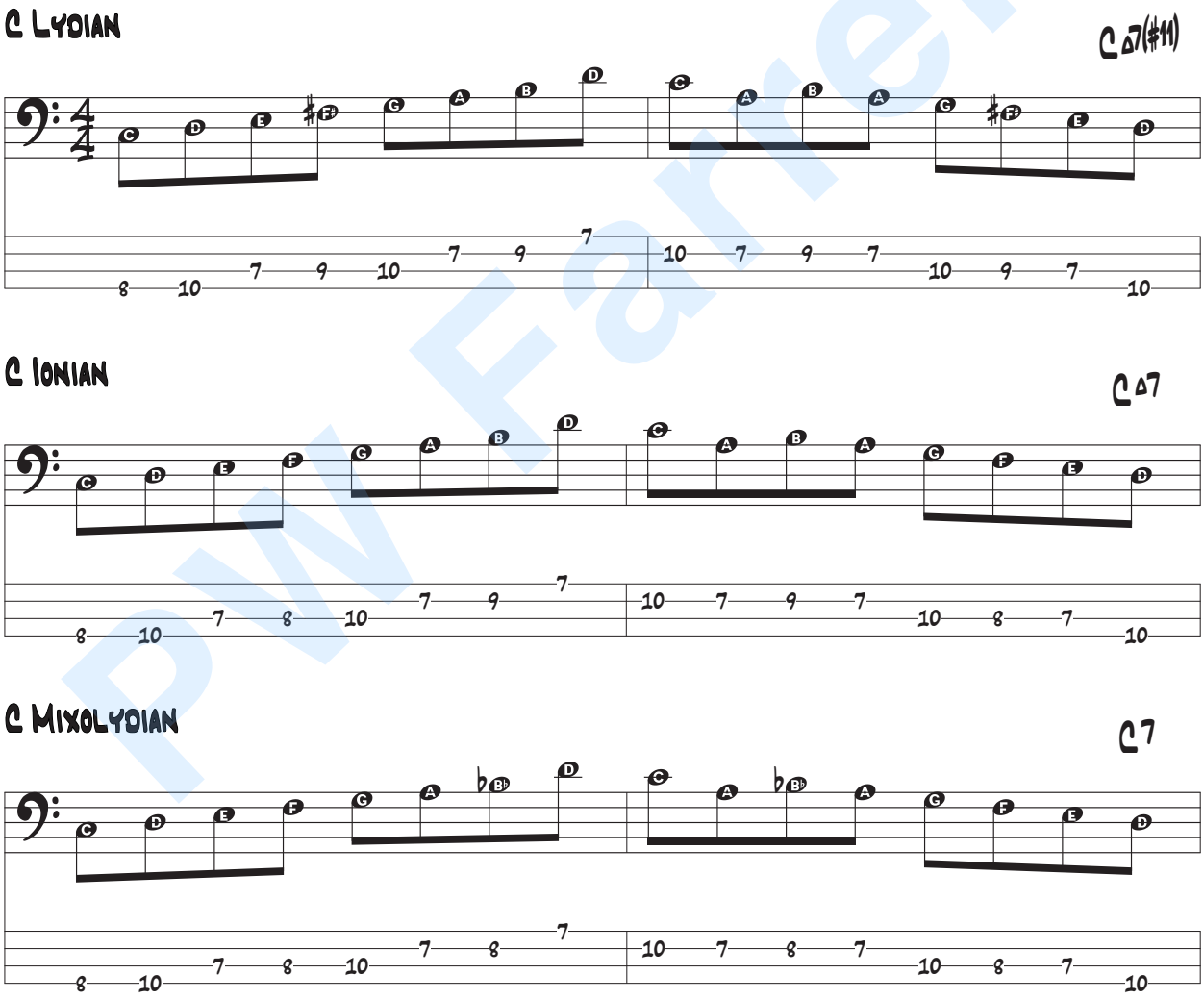
By emphasising the *primary chord tones* (the root, third, fifth and seventh) we can effectively make this innate chord "pop" despite the presence of other scale notes and even chromatic passing tones.

Harmonic Rhythm Drill

This is one trait of the jazz melodic language: it is a harmonic construct. The notes you play extend or modify the underlying harmony.

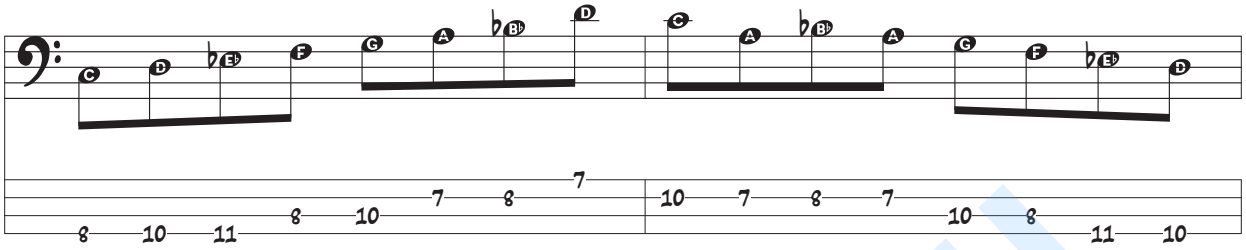
So the first thing we have to learn is how to play in such a way that clear defines a given harmony.

The following drill is based on our lightest to darkest mode sequence.



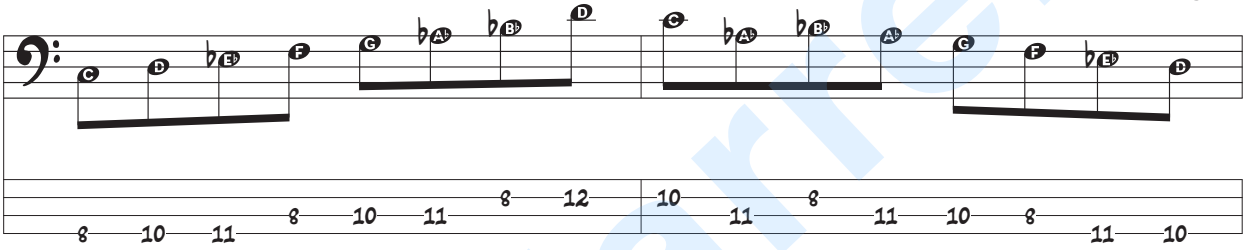
C Dorian

C -7



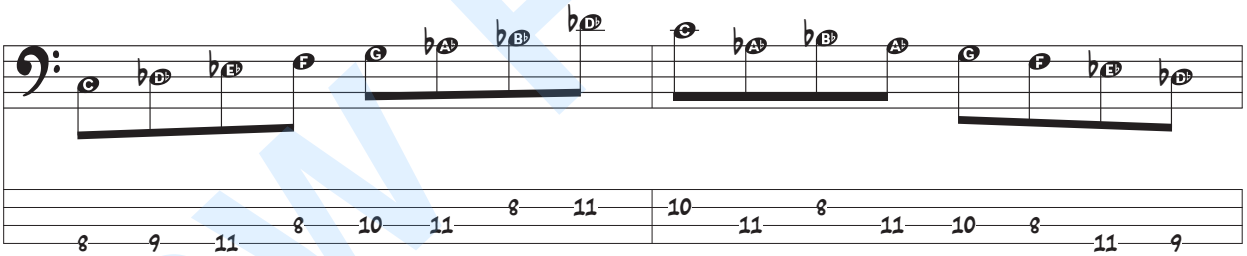
C Aeolian

C -7(b13)



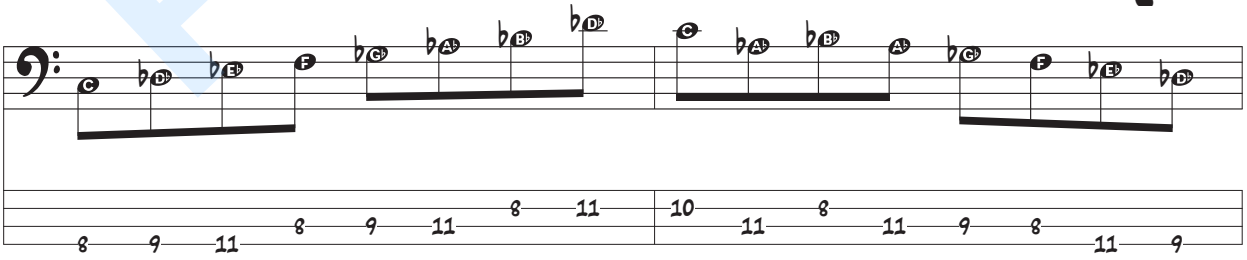
C Phrygian

C 7sus4(b9)



C Locrian

C -7(b5)



The Chord-Scale 3

Approach

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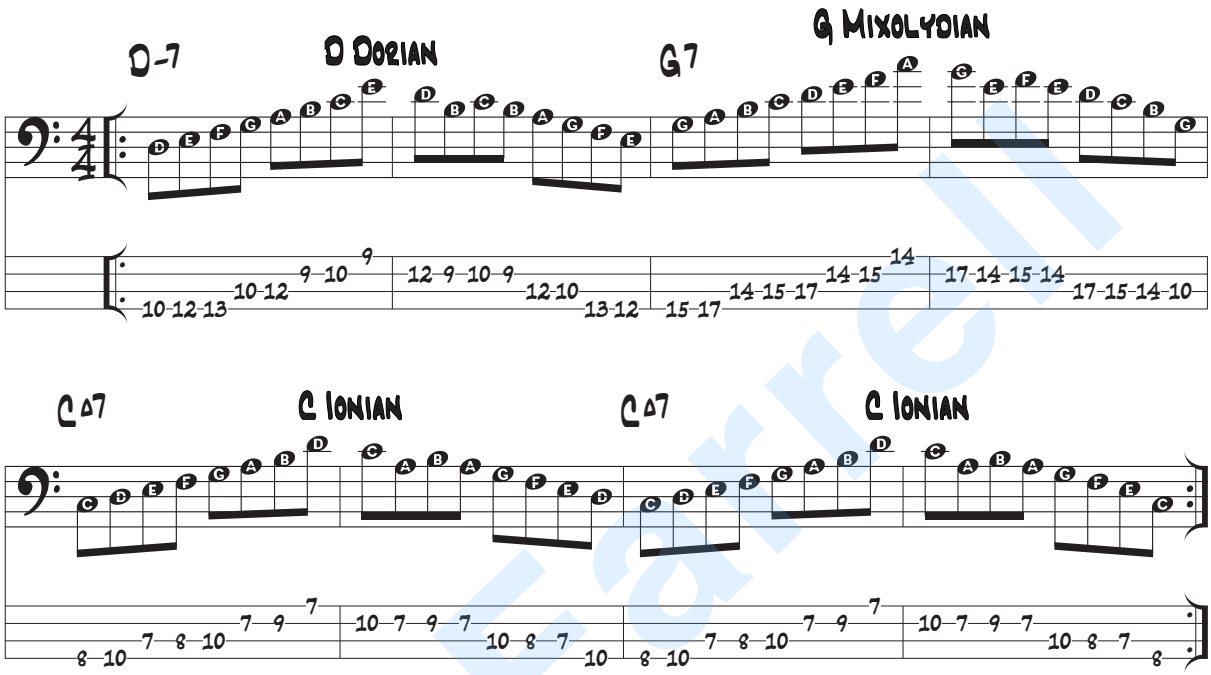
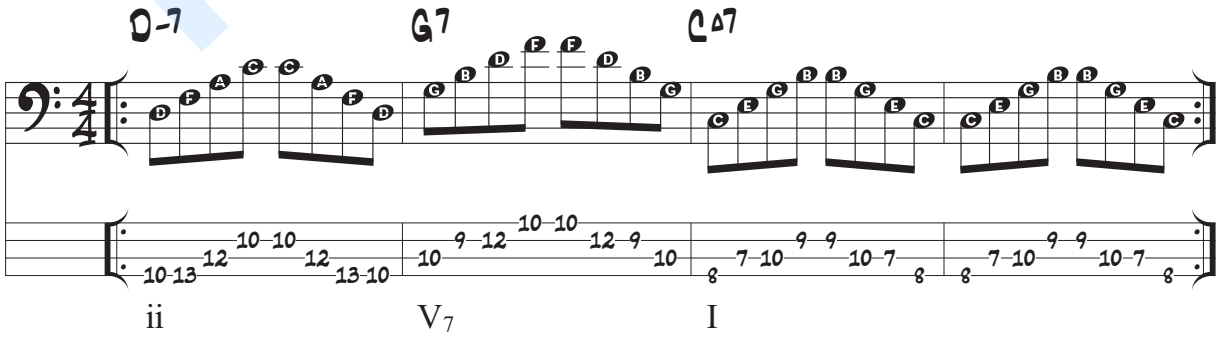
ii V I Progression

Let's use the dorian mode, mixolydian mode and the ionian mode in a progression using a similar pattern to the one we learned in the previous section.



Dorian is the second mode, mixolydian is the fifth and ionian is the first. These chord-scales make up the ii V I progression.

Play the exercise below to hear the primary chord tones of ii V I in the key of C.

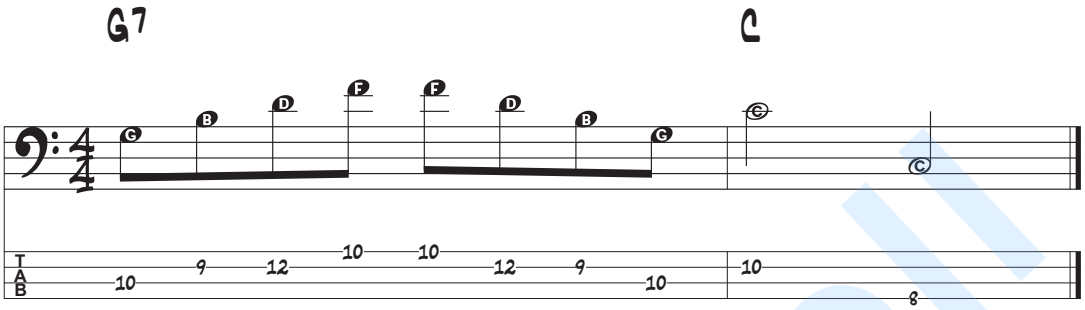


These three chords - the ii, V and I chords - make up one of the most common chord sequences of jazz music.

Voice Leading

The ii V I progression is an extrapolation of the V to I cadence, a progression that is ubiquitous in Western tonal harmony dating back to the baroque.

Play the exercise below to hear the sound of a V7 chord *resolving* to I.



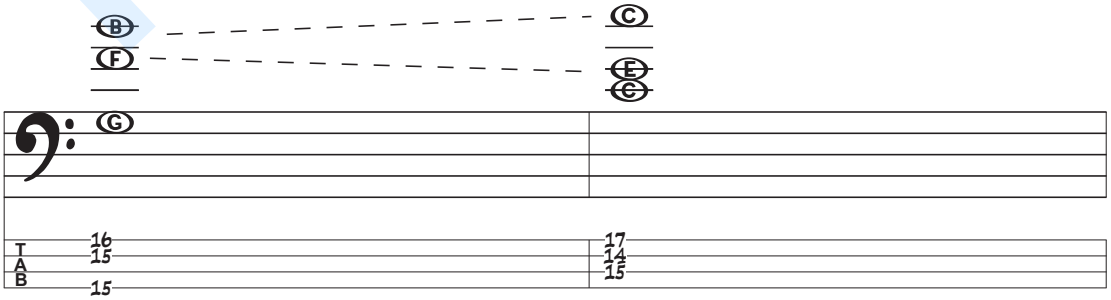
The reason why V7 to I has such a strong sense of resolution is that the tension notes within the V7 chord seem to “relax” into more “stable” positions when the I chord arrives.

We can explore this sound by playing chords on bass.

NOTICE THAT THESE CHORDS DON’T CONTAIN ALL THEIR NOTES. PART OF THE ART OF PLAYING CHORDS, ESPECIALLY ON BASS, IS KNOWING WHICH NOTES TO LEAVE OUT.

See below how the seventh note in the G7 chord resolves down chromatically to become **E**, the third of C major. Also note how the third of G7, **B**, resolves up chromatically to become **C**, the root of C major.

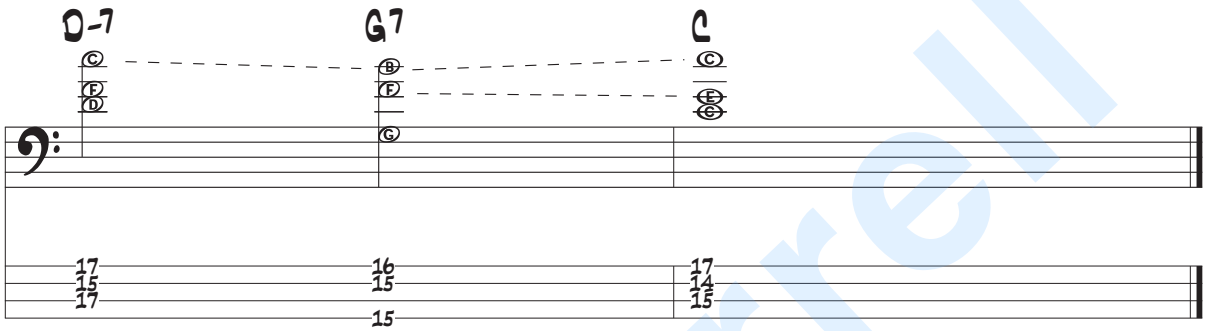
In all instances where V7 resolves to a major I chord, the seventh and third of the V7 chord are moving chromatically to the third and root of the I chord.



This is called *voice leading*. The reason why certain chords sound good moving in sequence is often due to the voice leading that is taking place.

The entire ii V I sequence involves chromatic voice leading between chords. The seventh of the ii chord resolves down chromatically to become the third of the V7 chord.

As we learned earlier, the seventh and third of the V7 chord then resolves chromatically to become the third and root of the I chord.



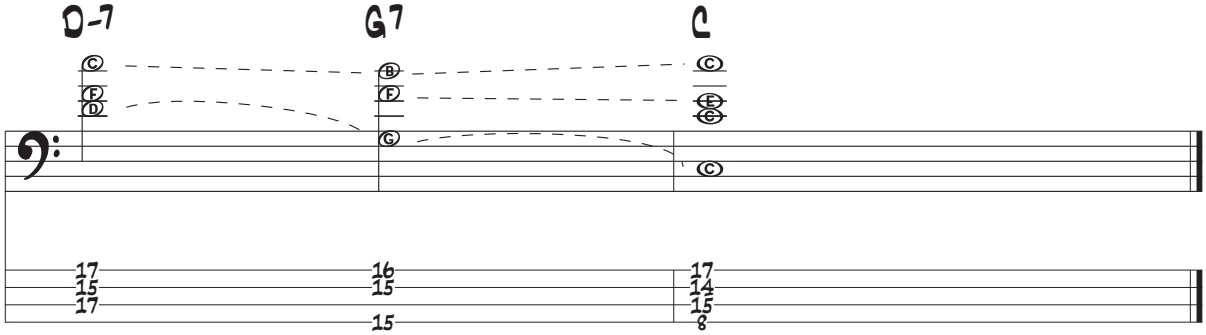
Another reason why the ii V I sequence works so well is that it involves root movement of descending fifths.

The descending fifth interval in and of itself has a sense of finality. You could argue that this is because the harmonic overtones of each note.

Play any note on your bass. Now play the note a fifth below. Can you hear that this second note sounds almost like the end of a song? It sounds like a tonic.

In a ii V I sequence the root note of each subsequent chord is a perfect fifth below the previous. It is almost like a water fall of cascading descending fifths.

The example below is illustrative, you would need pretty big hands to play the tablature is written!

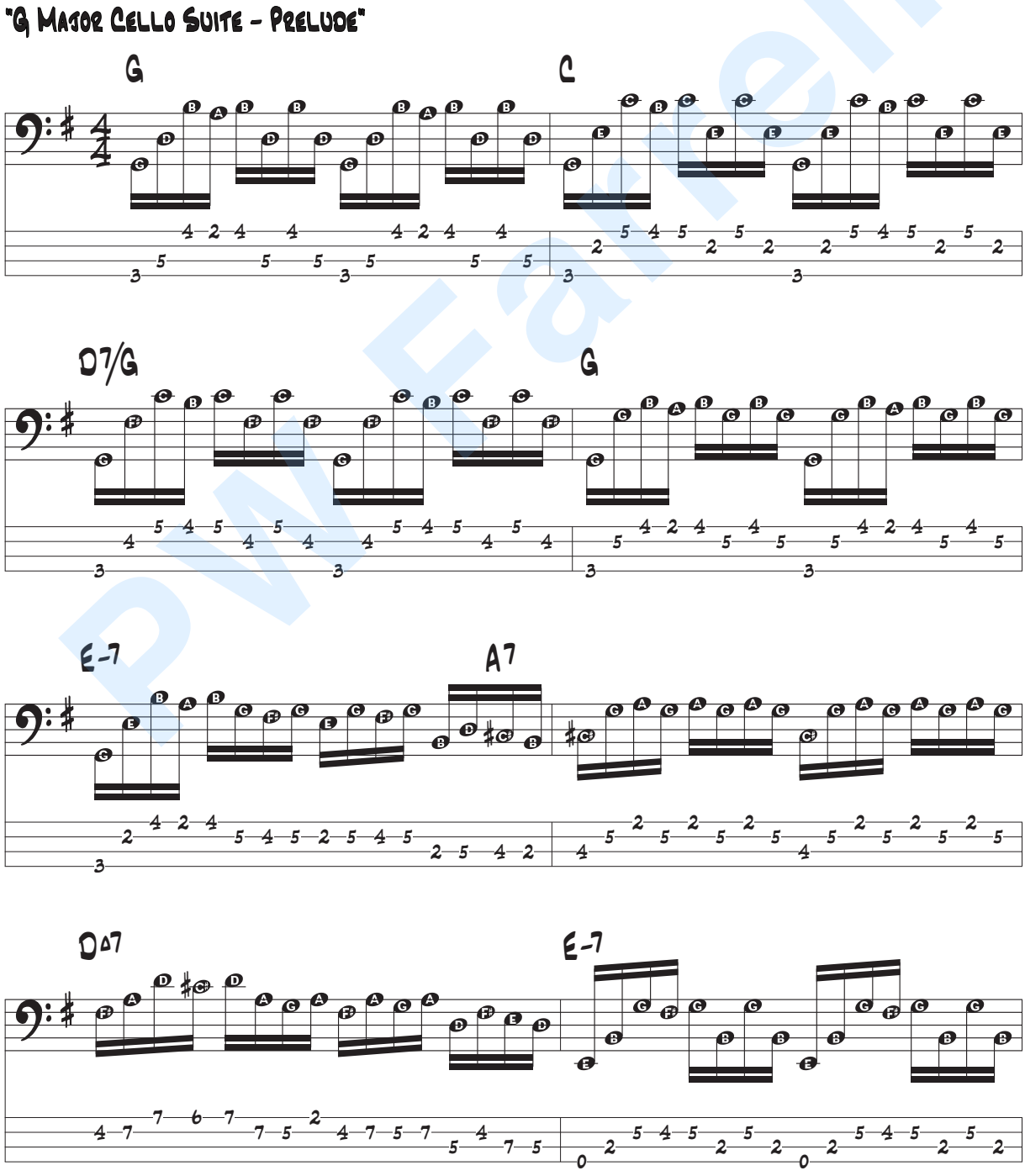


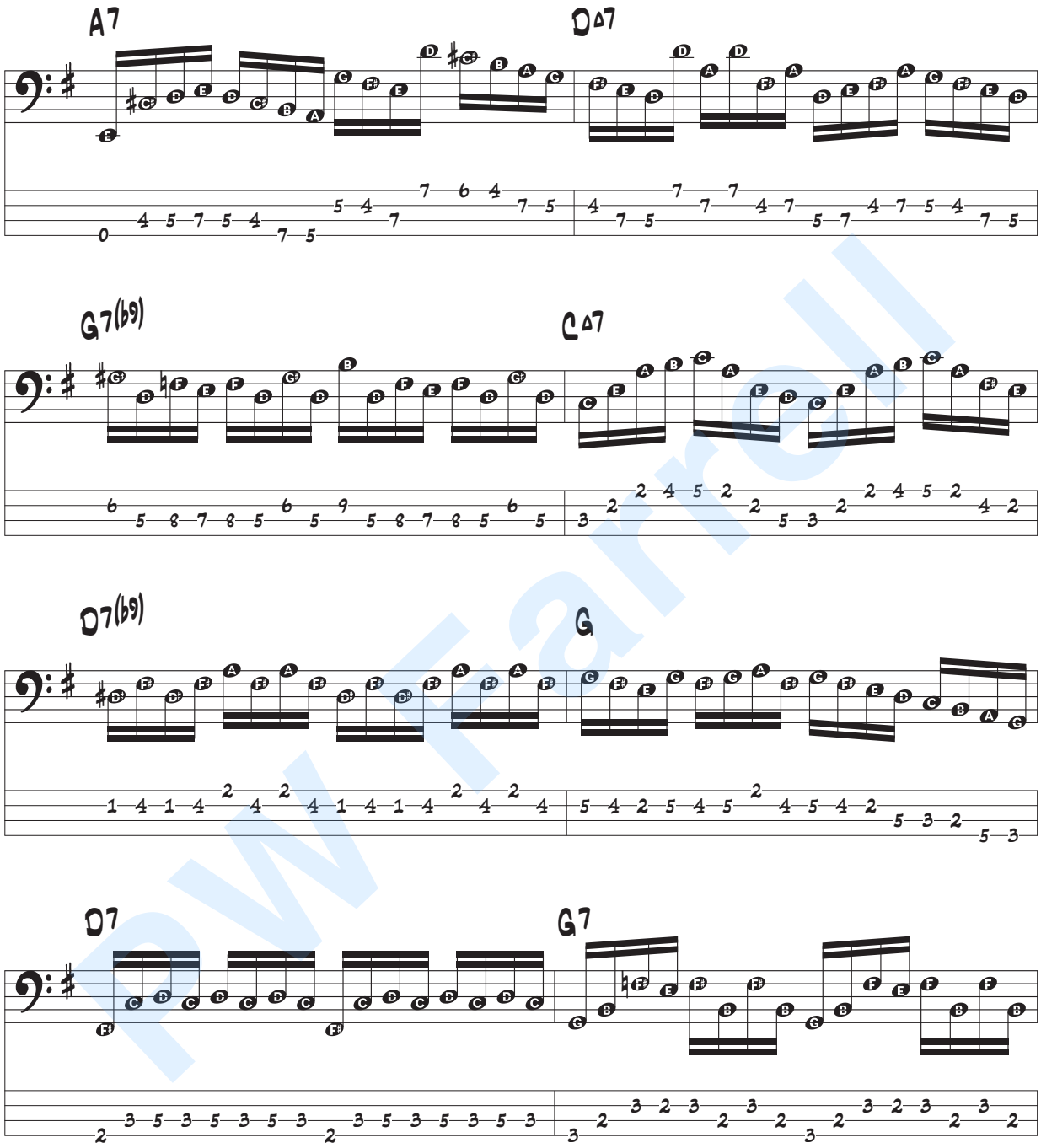
The Dominant Function

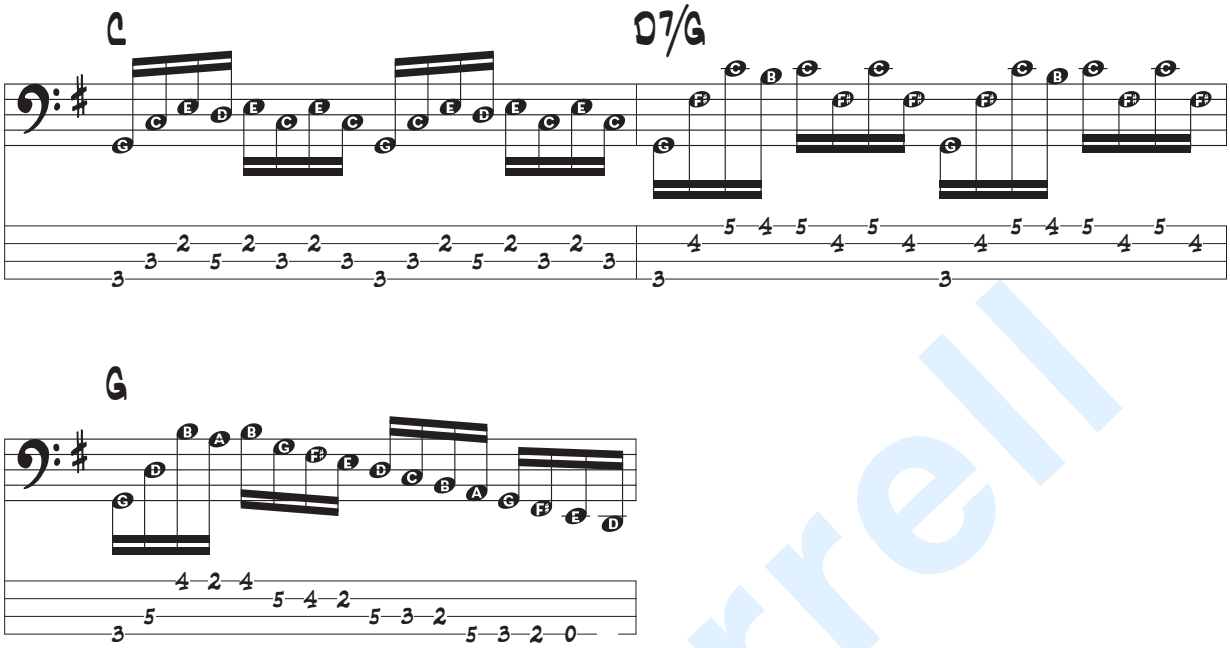
The natural tendency of V7 chords is to “want” to resolve down a fifth. This is called the *dominant function*. For this reason, more often than not, the next chord after a dominant is usually a fifth below - that is, if the music is using *functional harmony*.

Let’s return to the Bach example used in the previous lesson.

Take note of the modern chord symbols that have been added. Note how all the dominant chords lead to a subsequent chord that is a fifth below.







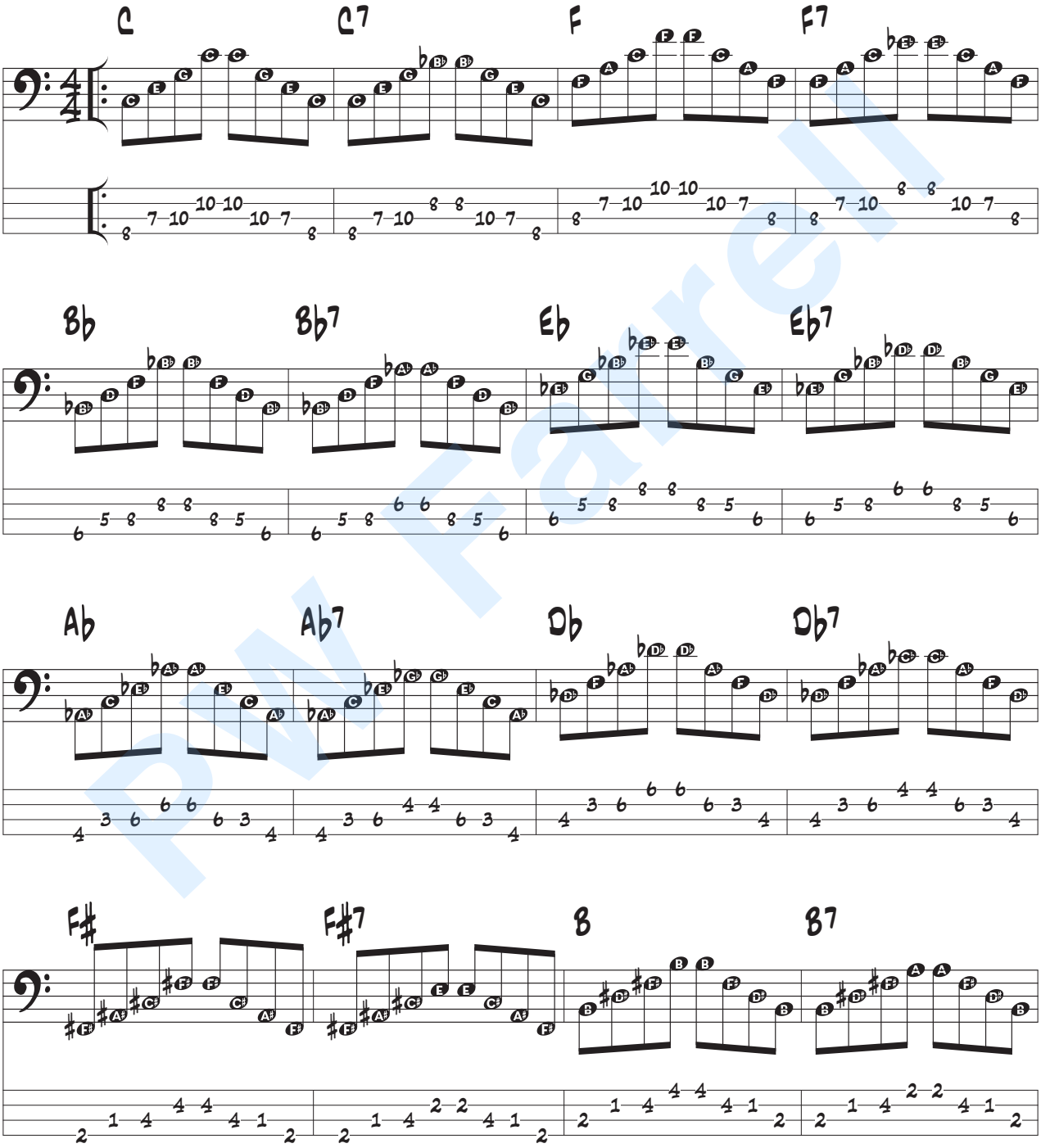
Even though the piece is officially in the key of G major, it modulates into the key of D major by first going “through the door” of A7 - the V7 chord of D major.

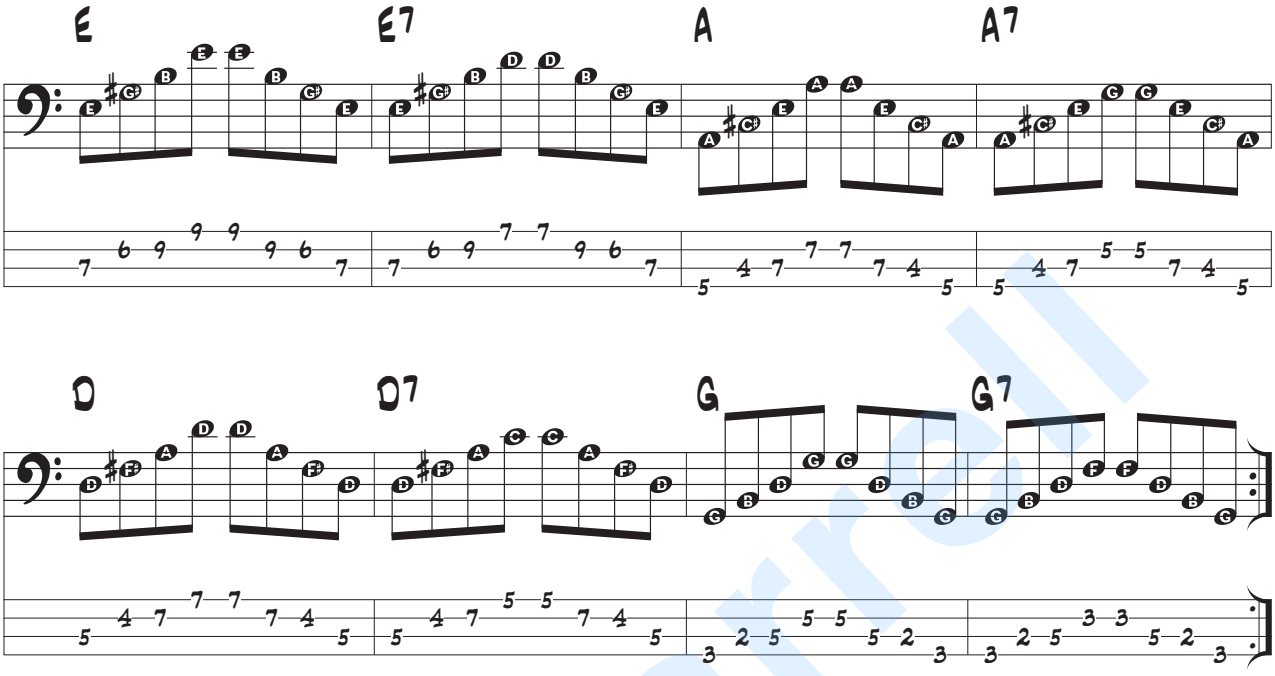
When a piece modulates like this, the global key of the music might not actually change - the modulation might be heard as a temporary change in colour. It really depends on how long the music stays in the new key, among other factors, as to whether this kind of modulation is heard as being structurally significant or not.

It is useful to think of dominant chords as doorways that can either lead to new tonal centres or back to the tonic.

V to I Drill

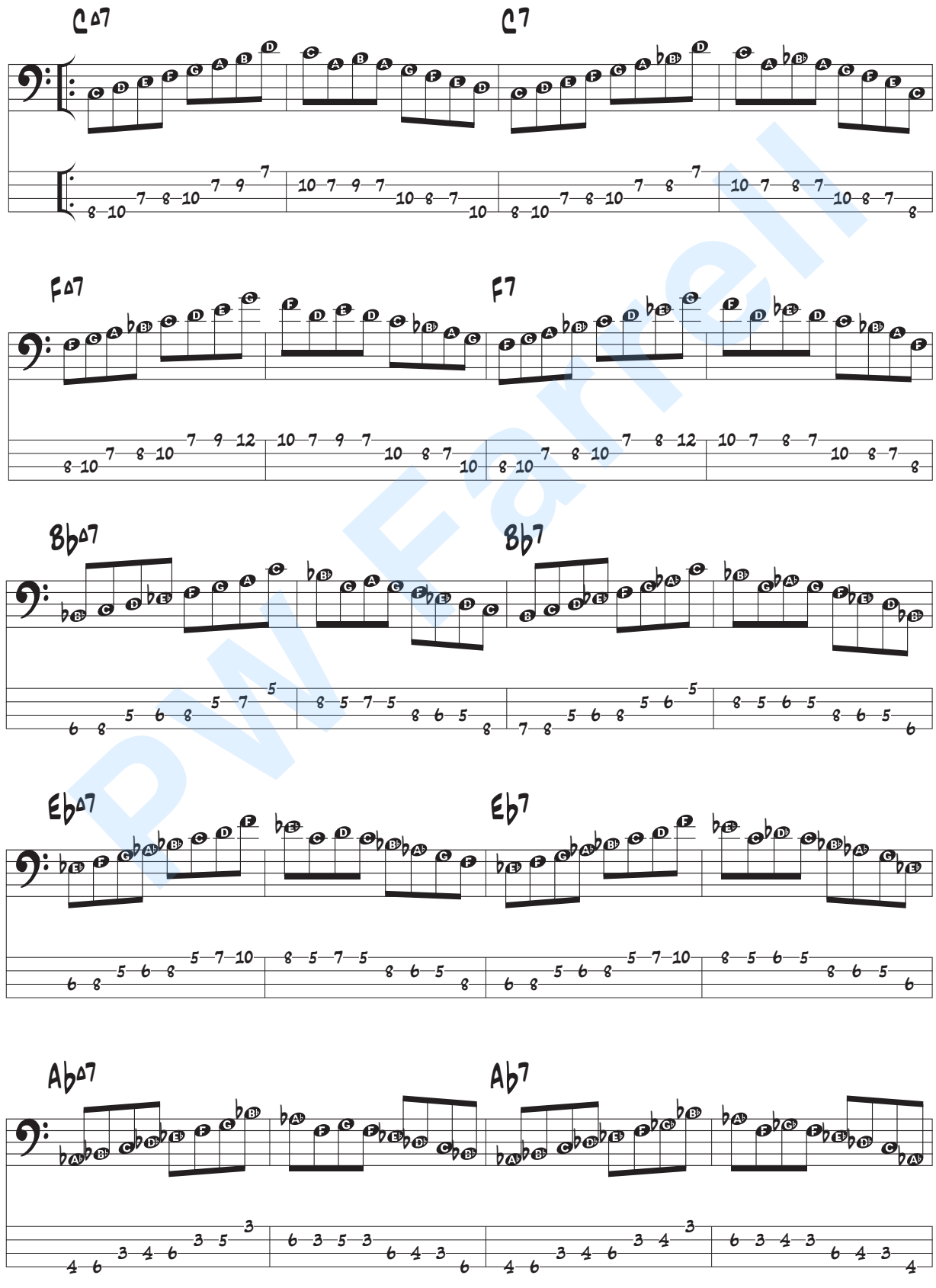
The V - I drill focusses on the key changing capacity of the V7 chord. The drill involves a parallel transition from tonic triad chord (plus octave) to dominant chord followed by a resolution down a fifth to a new tonic.

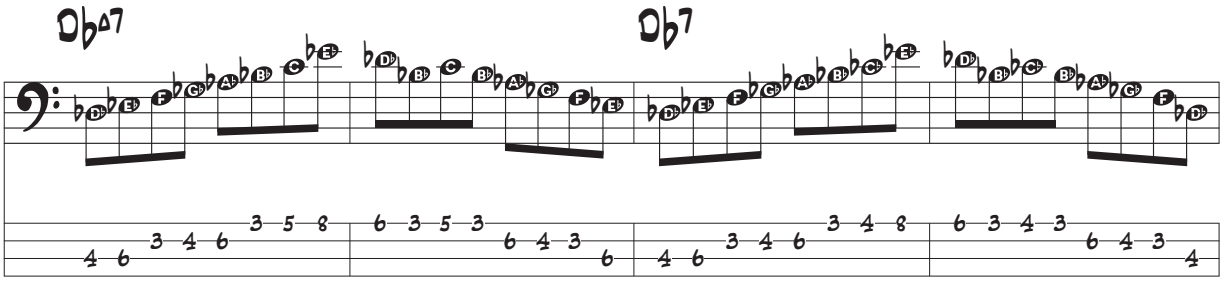


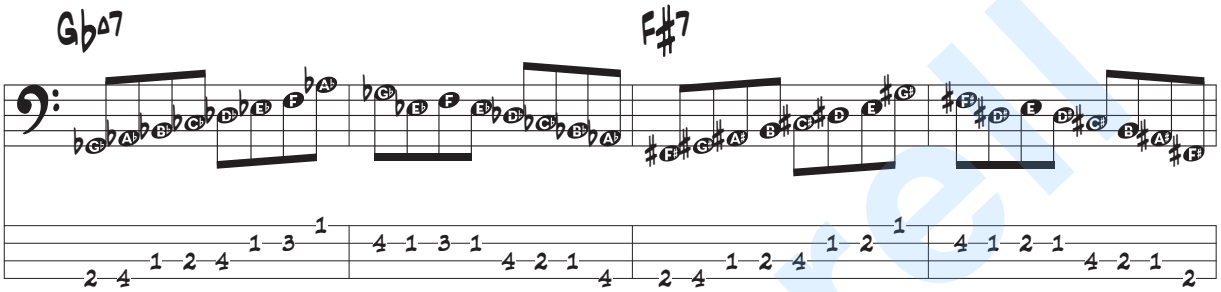


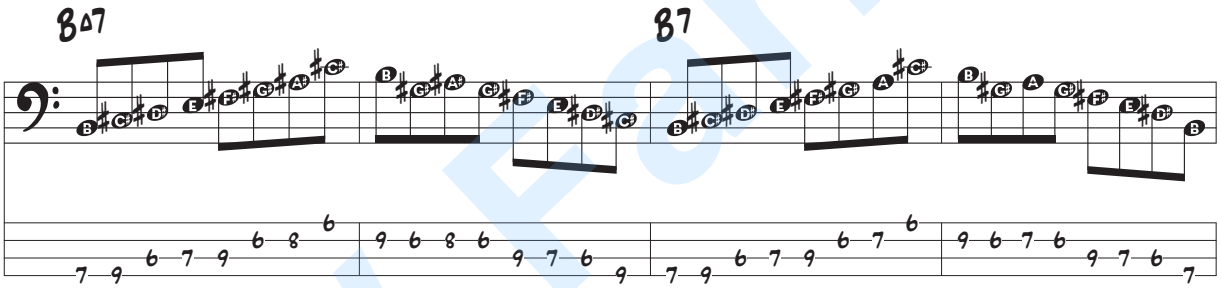
Harmonic Rhythm Drill - V to I

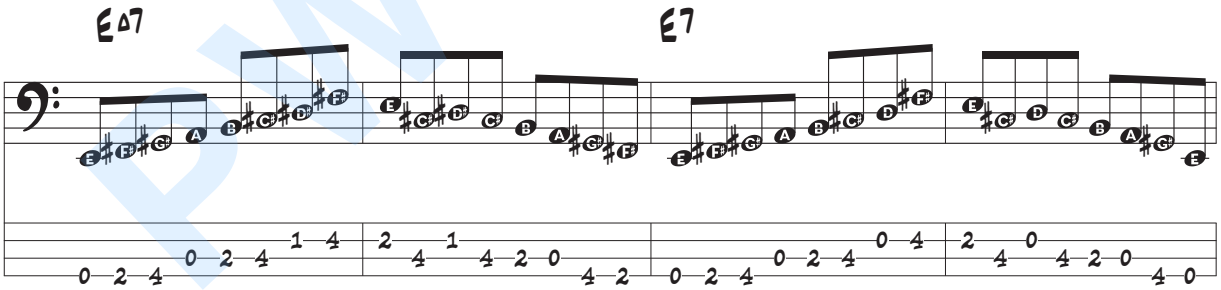
The V - I drill focusses on the key changing capacity of the V7 chord. The drill involves a parallel transition from tonic triad chord (plus octave) to dominant chord followed by a resolution down a fifth to a new tonic.

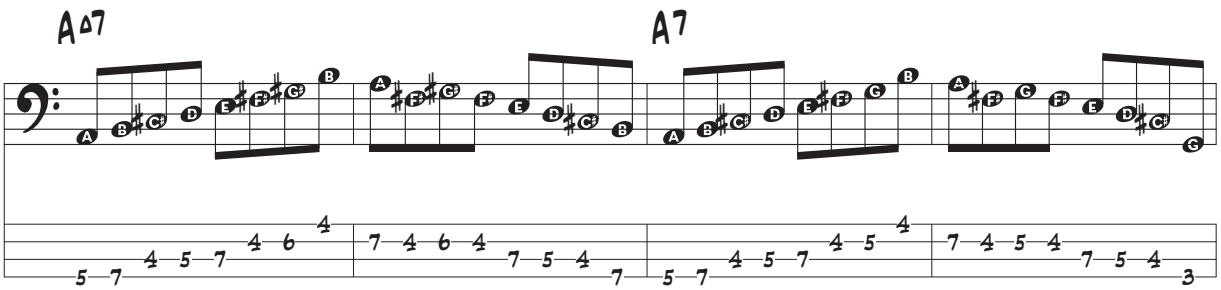


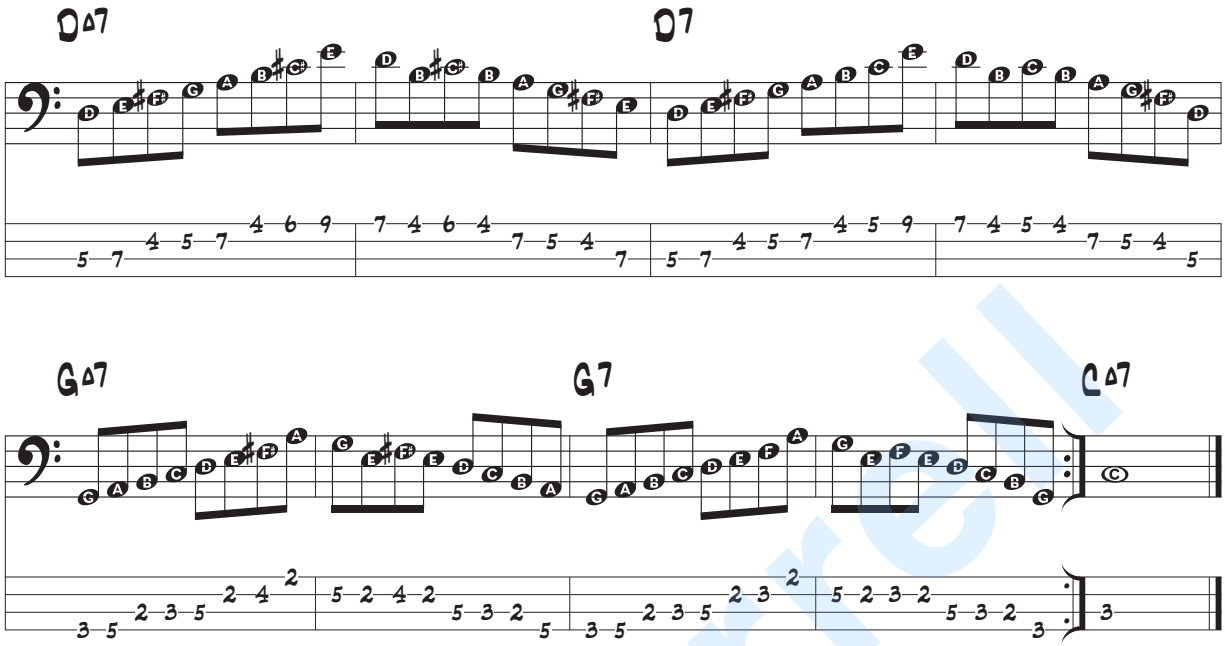








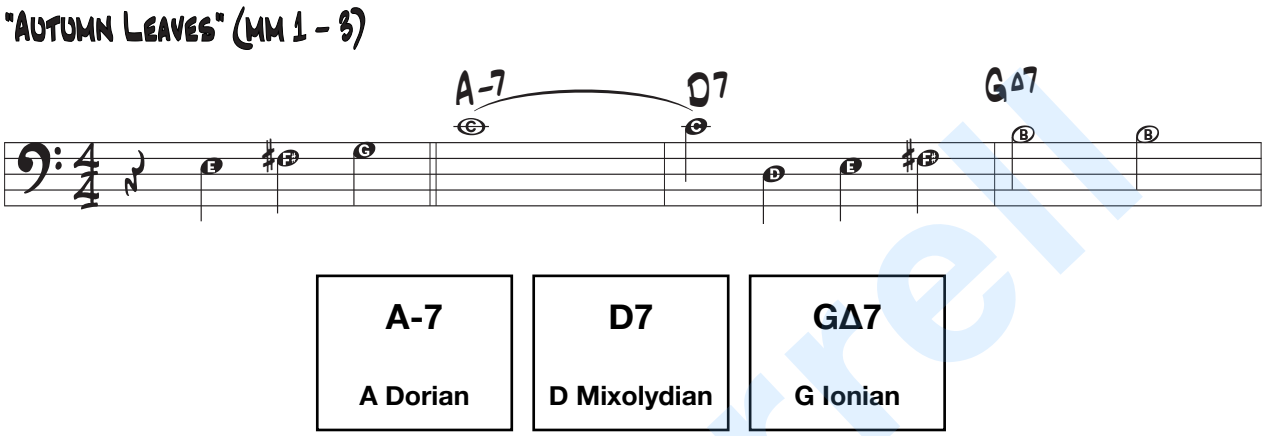




Non-Diatonic ii V

In jazz music, the V chord is usually preceded by a ii chord.

Here are the first three chords of “Autumn Leaves”. This is a classic ii V I sequence.

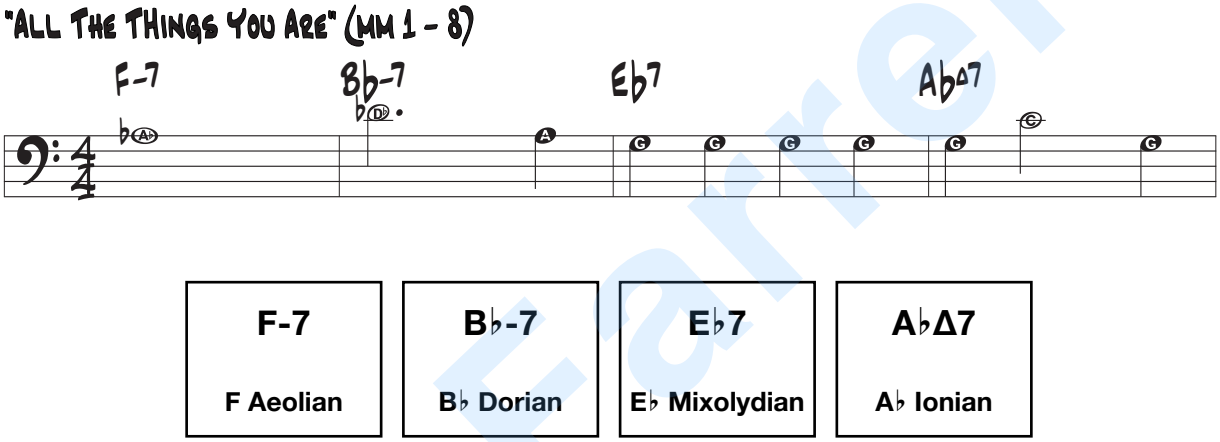


This ii V I is in the key of G major. The ii chord-scale is A-7/A dorian, the V chord-scale is D7/D mixolydian and the I chord-scale is GΔ7/G ionian.

In almost all cases, a minor seventh chord that transition to a dominant chord a fourth higher can be considered a ii chord, and therefore a dorian chord.

For example, here are the first four measures of “All The Things You Are”. The first two chords are minor seventh chords, but they are not actually the same type of chord.

The B♭-7 chord leads to E♭7, so we can assume that it is a ii chord. This means that it is a dorian chord. In other words its extensions beyond the seventh are drawn from the B♭ dorian mode.



F-7	B♭-7	E♭7	A♭Δ7
F Aeolian	B♭ Dorian	E♭ Mixolydian	A♭ Ionian

The first chord, F-7, is not a part of a ii V sequence.

It is not a ii chord and therefore F dorian would not be the default chord scale. The F-7 chord is, in this instance, a vi chord and the default chord-scale would be F aeolian.

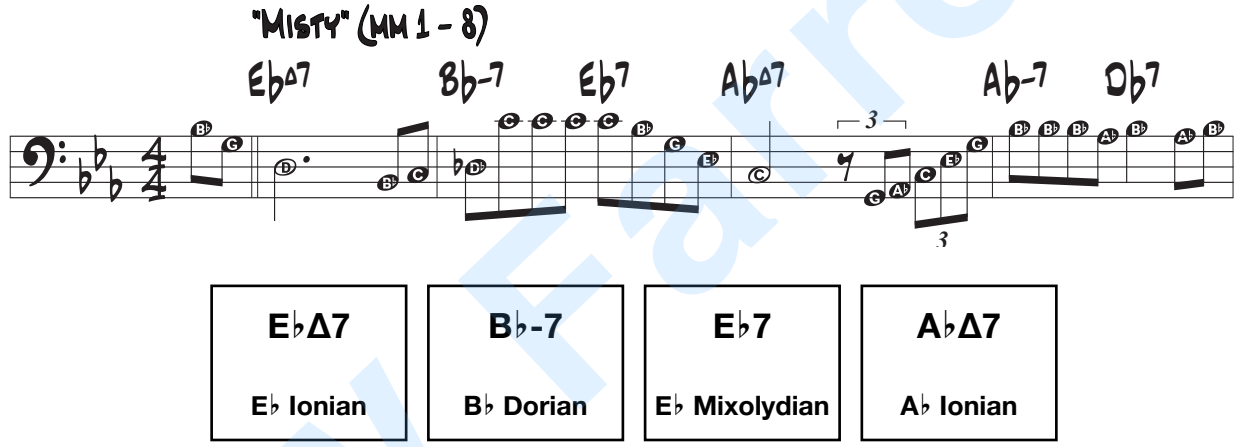
In both previous excerpts the progressions are diatonic, meaning that all the chords emerge from the same key centre.

However, ii V progressions often defy the stated key centre. These are *non-diatonic* progressions.

For example the song “Misty” is in the key of E♭.

Looking at the first four chords we see E♭Δ7, B♭-7, E♭7 and A♭Δ7.

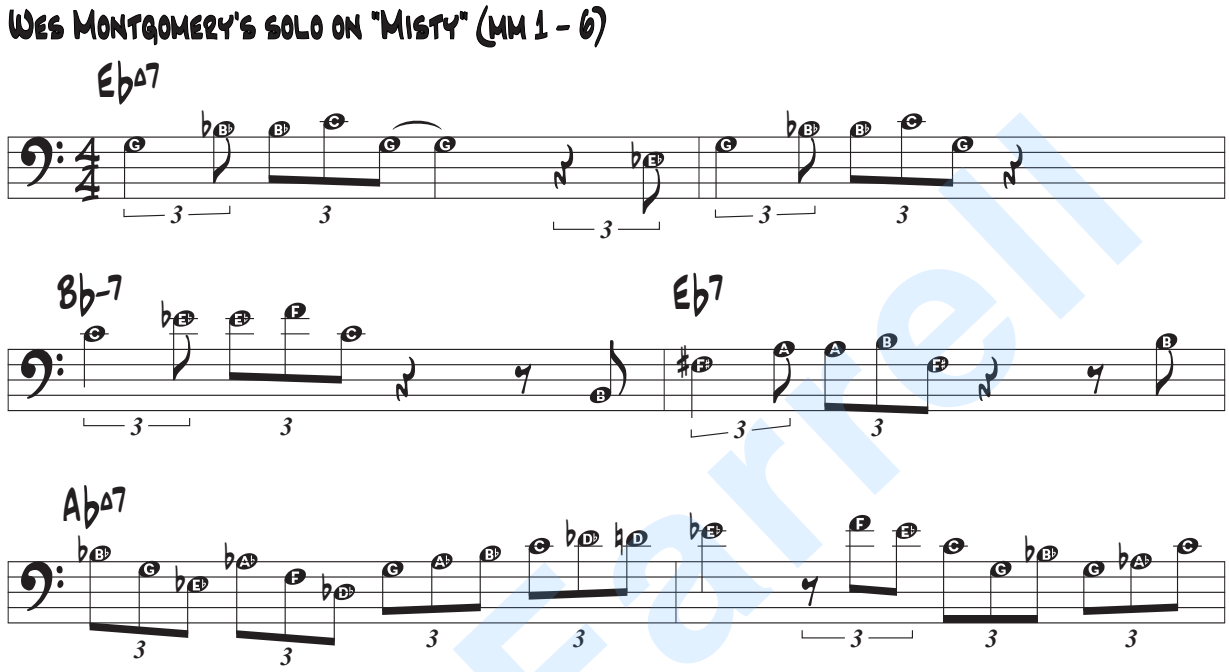
E♭Δ7 is the tonic major chord of the piece. The next three chords form a ii V I progression: B♭-7 E♭7 A♭Δ7. These three chords can be treated like any ii V I progression - as ii/dorian, V/mixolydian, I/ionian.



Even though the stated key of “Misty” is E♭ major, the harmony of the piece modulates from E♭ to A♭ within the first three measures.

This is not uncommon. Many jazz standards, while being melodically aligned with an overarching key modulate harmonically to other key centres.

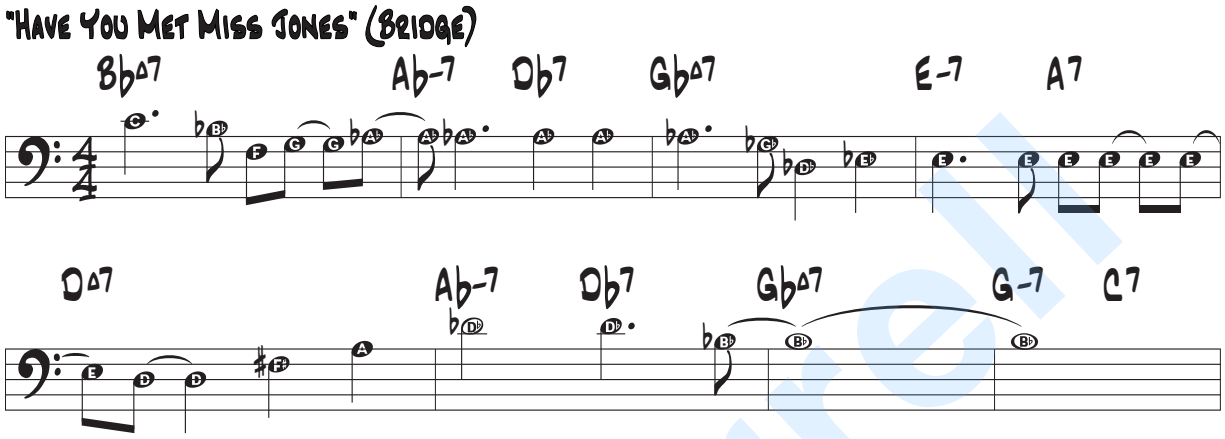
In his solo on “Misty” (*Willow Weep for Me*, 1969) Wes Montgomery can be heard using A♭ ionian on A♭Δ7 even though this defies the stated key signature of the piece, E♭ major.



As always these are guidelines and not hard rules. For instance Stan Getz’ chooses to use A♭ lydian on this same chord on the album Bob Brookyer and Friends (1964).

Choosing lydian effectively causes the A♭Δ7 chord to become a *dual function chord*, functioning as both a I (IV actual) chord and a IV chord.

One of the more extreme examples of non-diatonic ii V I progressions is the bridge of “Have You Met Miss Jones?”, which explores a series of descending major third modulations.



B♭Δ7	A♭-7	D♭7	G♭Δ7	E-7	A7
B♭ Ionian	A♭ Dorian	D♭ Mixolydian	G♭ Ionian	E Dorian	A Mixolydian

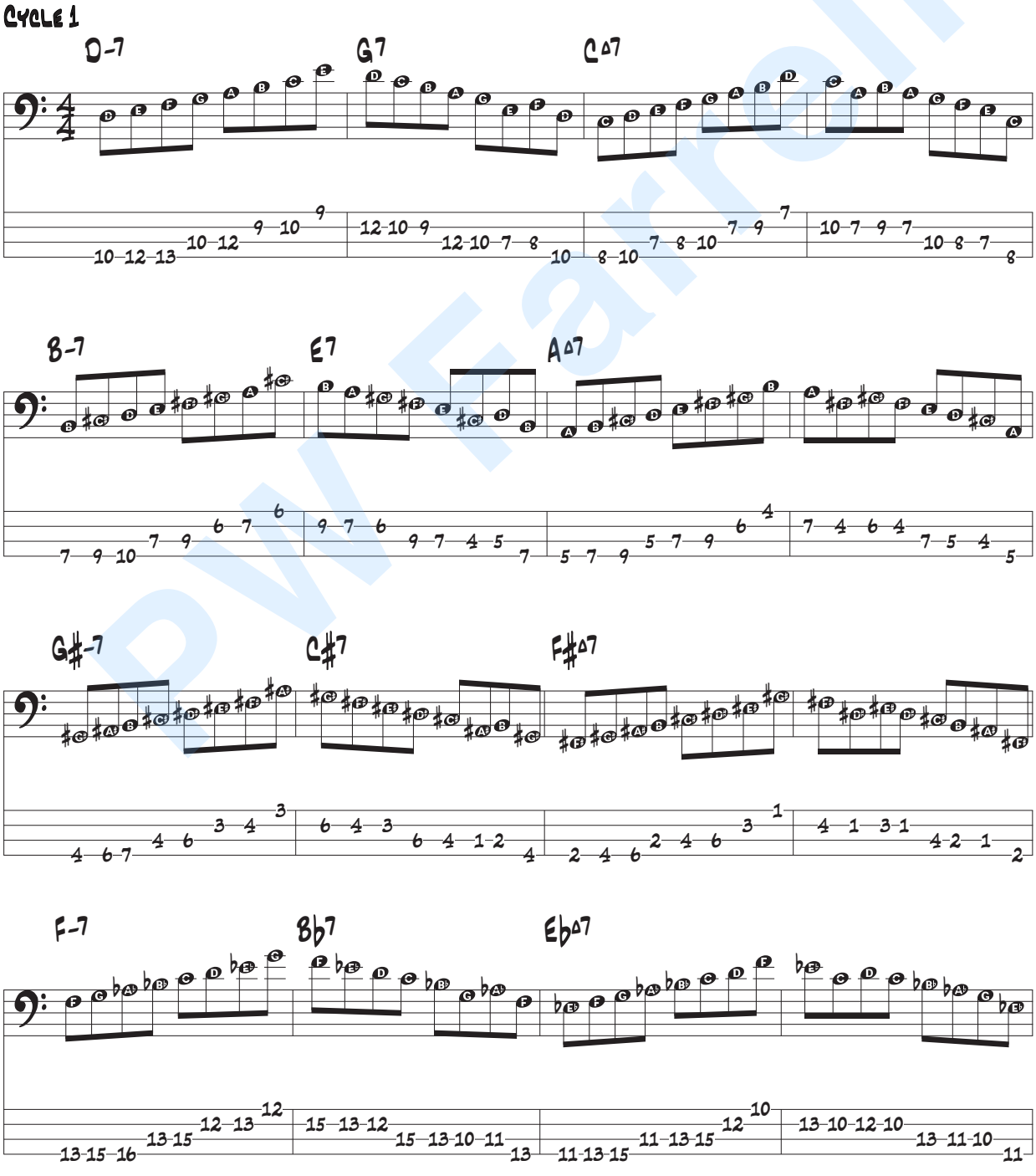
DΔ7	A♭-7	D♭7	G♭Δ7	G-7	C7
D Ionian	A♭ Dorian	D♭ Mixolydian	G♭ Ionian	G Dorian	C Mixolydian

Harmonic Rhythm Drill - ii V I Cycles

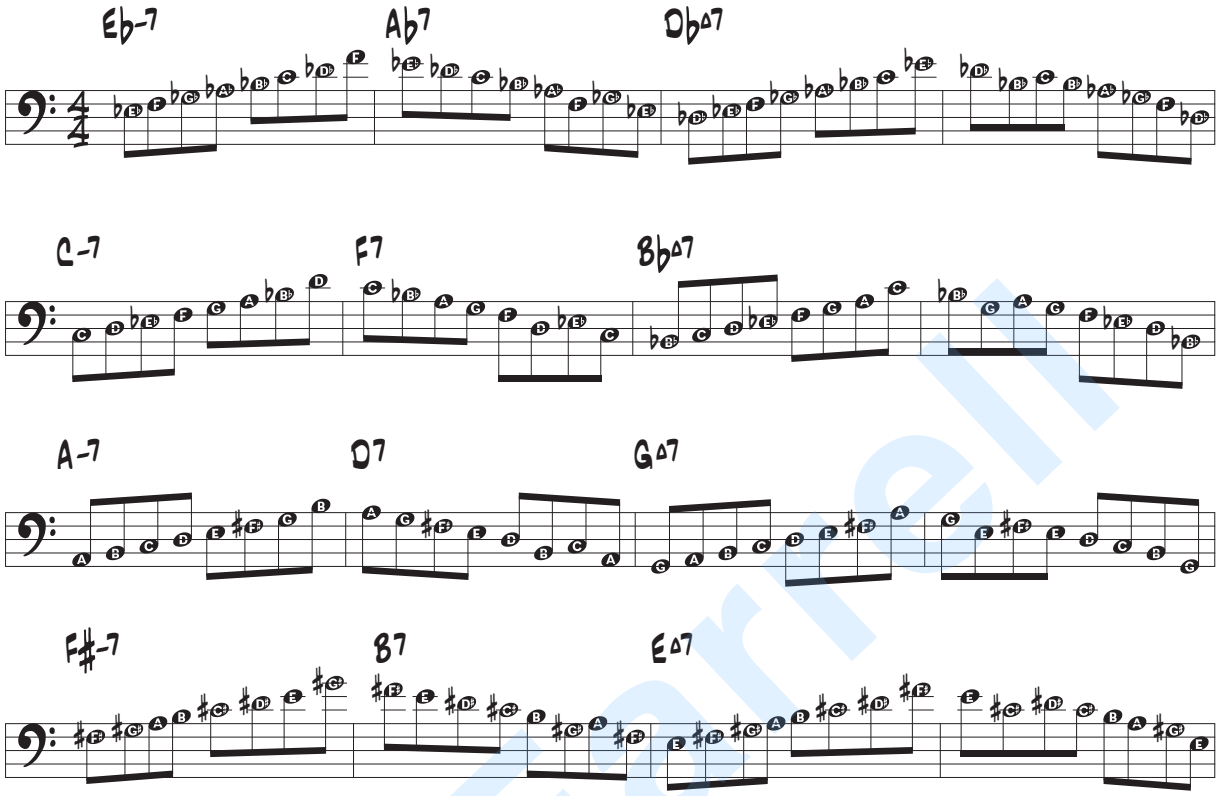
The next drill involves three different cycles of ii V I.

1. D-7 G7 **CΔ** | B-7 E7 **AΔ** | G#-7 C#7 **F#Δ** | F-7 B♭7 **E♭Δ**
2. E♭-7 A♭7 **D♭Δ** | C-7 F7 **B♭Δ** | A-7 D7 **GΔ** | F#-7 B7 **EΔ**
3. E-7 A7 **DΔ** | C#-7 F#7 **BΔ** | B♭-7 E♭7 **A♭Δ** | G-7 C **FΔ**

You can either play through the whole drill or focus on each of these cycles one at a time. Tab is included for the first cycle to help you get started.



Cycle 2



Cycle 2