Understanding Diatonic Modes, Part 1 by Greg Howard

Most compatible with Baritone Melody 10-string and Classic and MR 12-string tunings

Diatonic modes offer us a simple way to understand harmony, and on the Stick’s melody tuning they are easy to see, feel and learn. Diatonic simply means ‘across the tones’, so a diatonic scale is one that includes all the notes in any given key. The seven common modes are all based on a simple repeating pattern of whole steps and half steps, a pattern derived from the Major scale, which is also known as the Ionian mode. What makes one mode different from the other is where you start in that pattern. We can look at the scale on one string to see the overall pattern. Each fret on the string counts as one half step, so two frets equals a whole step. The pattern of the major scale, also known as the Ionian mode, is shown here on one string. Each note can be identified by its place in the scale as well. C is the root, or “1st” note, D is the 2nd, E the 3rd, F the 4th, G the 5th, A the 6th, and B the 7th notes of this scale.

Steps between scale tones: whole half whole whole whole half

The major scale pattern on three strings

Because the strings are a 4th apart (2 1/2 steps), we can show the same set of notes on three strings this way. C and F are a 4th apart, so they occur on the same fret on adjacent strings. The pattern of whole steps and half steps doesn’t change, so the interval between the E and F is still a half step, as is the interval between B and C.

B is three whole steps higher than F so when we wrap the scale into three strings the B ends up one fret higher on the board.

Starting at a different note in the pattern

The pattern of whole and half steps will shift up if we start on a different tone, but keep the same sequence of lettered notes. If we start on F there are three whole steps first, then a half step, two whole steps and another half step. This pattern of whole and half steps is called the Lydian mode. In this case we call it “F- Lydian” because it starts on F.

Filling out the pattern within a position

If we keep on adding scale tones above the C, keeping the same pitches and pattern of whole and half steps, we get a repeating scale. Shown here on six strings, you can see how the pattern of notes changes depending on whether the root is at the lowest fret in the position, a middle fret, or the highest fret. What you will also notice is that there are always three notes per string, no matter where we start in the pattern. What changes is the pattern of whole and half steps on each string.

Each starting point gives a different mode

If we start on D, for example, the first interval is a whole step. If we start on E though, the first interval is a half step. What we are playing as we start on different tones, are the 7 modes in the Key of C, (no flats and sharps). Each is a different pattern of whole and half steps. You can see how the half steps shift to the left in the pattern as you start at higher pitches.


We name each mode by its starting pitch, so these modes would be called C-Ionian, D-Dorian, E-Phrygian, F-Lydian, G-Mixolydian, A-Aeolian and B-Locrian.

Modal pattern on keyboard

Another easy way to see this diatonic pattern of whole and half steps is to use the keyboard. When there is a black key between the white keys we have a whole step, when there isn’t, we have a half step. This overall pattern can start on any note, white or black, but the modes will then be in a different key. We will be looking at modes of F later on.

Seeing and feeling the modal patterns

I find the easiest way to learn the modes is to look at how their geometric patterns compare to each other. If we start with the most “major” mode, the Lydian, we can then flat a certain notes within each mode to arrive at the next mode in this sequence. In the process we will learn which intervals are contained within each mode. This will help us learn which chords each mode fits for composing melodies and solosing (part 2)

Since in the 4ths tuning there are three notes per string, a simple, ergonomically friendly way to learn them is by using the same three fingers for each string: 1st, 2nd and 3rd. This means you never have to choose which finger to use as you ascend or descend on a string. It also means the 3rd finger is always involved in the pattern. In a four-fingered approach, the 3rd finger is often left out, replaced by the much weaker and shorter 4th finger. To move from note to note, don’t stretch the fingers out, rather shift the hand along the line of the string. This powerful and consistent melody technique is covered in my Basic Free Hands Technique DVD, in the melody movement section. It’s an easy way to develop consistent attacks along the string and between strings, without having to resort to hammer-ons and pulloffs. (continued)
The seven common modes: from “Most Major” to “Most Minor” (Understanding Diatonic Modes, Part 1, continued)

As I showed on page 6-5 of *The Stick Book™ Volume 1*, using StaffTab notation, you can hear changes in the musical intervals as you move from one mode to another, with each starting on the same pitch. Using fretboard diagrams, it’s easier to see the differences between the modes, geometrically. Starting with the Lydian mode, we can see how lowering the intervals of the scale by half steps will take us through the modes, with each one a little less “major” or more “minor” than the previous one. Comparing the Lydian mode to the Ionian mode, you can see that the 4th note in the sequence is a half-step higher for the Lydian. So we would call that a sharpened 4th (#4). All of the other intervals for Lydian are as in the major scale, (or Ionian mode). These are called 1st finger scales because each starts at the same F with the first finger. This gives us a consistent physical reflex to play in any key on the instrument. Starting the scales with the 2nd or 3rd finger also engages all three fingers on each string, but starting in a different position. See pages 6-6 and 6-7 of *The Stick Book™ Volume 1* for more on 2nd and 3rd finger modal scales.

The *F-Lydian* scale is shown to the right in two ways. The left identifies the intervals relative to the root note. The right shows the note names. The #4 gives this mode its characteristic sound, with some tension compared to the Ionian, which we are more used to hearing. To hear the harmonies the Lydian mode contains, play a low F in the bass as a reference for your ear as you learn the mode. The half-steps are between the intervals 4 and 5, and 7 and 8.

To teach your hand the mode, play the scale up and down, shifting your hand along the line of the string as you move from finger to finger. Once you are comfortable with the whole scale, explore the different interval combinations that arise. If you “flat” the #4, meaning you lower it by one half step to Bb, you will have the Major scale or Ionian mode, in this case *F-Ionian*. Notice how the half steps change, and are now between 3 and 4, and 7 and 8.

The next interval that gets flatted is the 7th. This turns the Ionian mode into the *Mixolydian* mode (also called the “dominant” scale). The Mixolydian is bluesier than the Ionian. You will notice as you play through the intervals in the modes that certain chords are outlined by them. In this case playing 1, 3, 5, b7 forms the dominant 7th chord. To voice the chord in two hands, play a low F in your left hand and play the 3, 5 and b7 in the right hand and see what it sounds like.

To get the *Dorian* mode, flat the 3rd. This is the first minor mode. It still has a major 6th, which gives it a lighter sound than what most people call the ‘minor scale’. If you played an F minor chord (F, Ab, C) followed by a Bb Major chord (Bb, D, F) you would be in this mode, for example.

The next interval flatted is the 6th. This gives us the *Aeolian* mode, also known as the “natural minor” scale. Even though the pattern is now fairly compact, on only four frets, try to use a little shifting motion along the string as you play up and down each string. This will give you the same tone and attack along the string as when you play across the strings.

Mysterious and dark, the *Phrygian* mode’s distinctive interval is the flatted 2nd. As you play through the scale, don’t forget to shift a little bit to play the second note, rather than playing with a “typing” motion. This will ensure an even tone throughout the scale. You don’t want the finger you use to determine the sound of the note. That sound should change only as a result of intentional dynamic and articulation changes on your part.

The most minor of the seven diatonic modes is the *Locrian*, obtained by flattening the 5th. The root’s triad is the diminished (1, b3, b5). If you play an F in the bass and add the Ab, Cb, and Eb, in the right hand, you get a half-diminished 7th chord, which is quite common in jazz settings.

What you should notice, apart from the geometry of the modes is that each mode represents a key. I use modes of F to show the progression from all natural notes to six flats.

Happy Tapping, Greg Howard

In Part 2 we’ll look at how the modes fit different chord combinations and progressions.