Scales/Modes and Tetra Chord Combinations

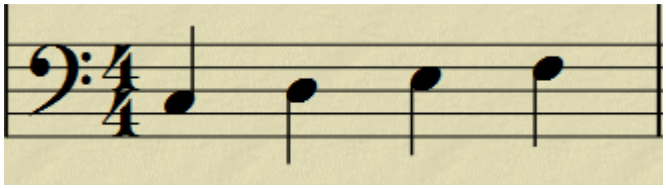
We normally think of scales in terms of eight-note patterns and treat them as a unit. There are the standard modal forms for both major and minor, the bop variations, blues variations, but all of these still cling to the paradigm of an octave based scale unit (even if the total number of notes in the scale changes). As bassists we learn these patterns and work to ingrain them in our muscle-memory. That way we don't have to think about every note in the pattern, just the starting point and we know the rest will fall into place. This is great, but it is also very narrow-minded. If we change our reference point and think of the scales as combinations of two halves – an upper and a lower, we open ourselves up to new combinations and a new way of finding patterns on the fretboard. In this lesson we're going to explore the concept of *tetrachords* and how they change the way we look at scales.

First a simple definition: a *tetrachord* is a collection of four notes. We're going to confine this a bit more and restrict ourselves to four scalarly adjacent notes. Therefore an eight note scale would be made of two four-note tetrachords. We can describe all seven major modes as the combinations of four different tetrachords. I'm going to label the different tetrachord patterns in each figure so we can keep the combinations straight later on. These labels apply to the *relative pattern* not the absolute position on the neck. In other words, I'm labeling the pattern on the fretboard as a shape independent of the key or notes.

The first tetrachord to define is what we'll call the *major* tetrachord. It is the first four notes of the traditional major scale – two whole steps and a half-step.

Scales/Modes and Tetra Chord Combinations

C Major Tetrachord



There are four distinct fretboard patterns that can be used to play this tetrachord. Here is the tablature for each pattern (moving progressively from a single string to using two strings):

C Major Tetrachord Pattern 1

```
G----------------------------
D----------------------------
A----------------------------
E---8---10---12---13---------
```

C Major Tetrachord Pattern 2

```
G-------------------------
D-------------------------
A-----------------8-------
E---8---10---12-----------
```

C Major Tetrachord Pattern 3

```
G----------------------------
D----------------------------
A------------7---8-----------
E---8---10-------------------
```

C Major Tetrachord Pattern 4

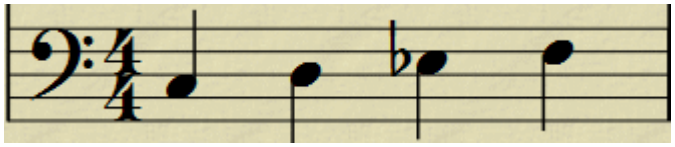
```
G----------------------------
D----------------------------
A-------5----7---8-----------
E---8------------------------
```

Scales/Modes and Tetra Chord Combinations

Each tetrachord will have four unique fret-board patterns associated with it. You'll have to decide which patterns fit your playing needs best for any given situation. The more engrained these patterns become the faster you'll be at moving around the fretboard!

The second tetrachord is the *minor* tetrachord – the half step is between the second and third notes (so the step pattern is whole-half-whole). This is also the first four notes of the minor scale.

C Minor Tetrachord



C Minor Tetrachord Pattern 1

```
G---------------------------
D---------------------------
A---------------------------
E---8---10---11---13---------
```

C Minor Tetrachord Pattern 2

```
G---------------------------
D---------------------------
A-----------------8----------
E---8---10---11--------------
```

C Minor Tetrachord Pattern 3

```
G---------------------------
D---------------------------
A------------6----8----------
E---8---10-------------------
```

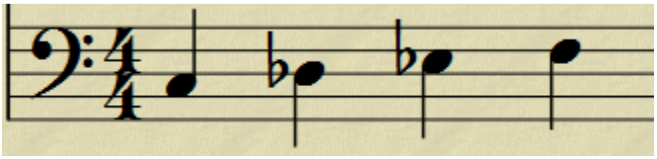
C Minor Tetrachord Pattern 4

```
G-------------------------
D-------------------------
A-------5---6----8----------
E---8-----------------------
```

Scales/Modes and Tetra Chord Combinations

The third tetrachord is known as the *Phrygian* tetrachord and places the half-step between the first two notes. Similarly to the other tetrachords this is the first four notes of the Phrygian scale:

C Phrygian Tetrachord



The associated tab-patterns are:

C Phrygian Tetrachord Pattern 1

```
G--------------------------
D--------------------------
A--------------------------
E---8---9---11---13---------
```

C Phrygian Tetrachord Pattern 2

```
G--------------------------
D--------------------------
A----------------8----------
E---8---9---11--------------
```

C Phrygian Tetrachord Pattern 3

```
G--------------------------
D--------------------------
A-----------6---8----------
E---8---9--------------------
```

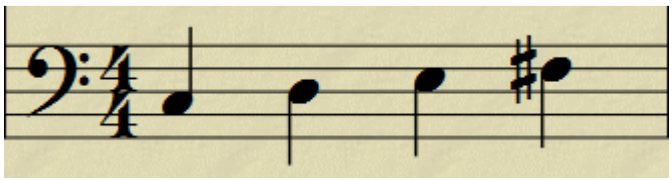
C Phrygian Tetrachord Pattern 4

```
G--------------------------
D--------------------------
A-------4---6---8----------
E---8------------------------
```

Scales/Modes and Tetra Chord Combinations

Our final tetrachord pattern is the *Lydian* tetrachord and – you guessed it – is the first four notes of the Lydian scale. It has a step pattern of whole-whole-whole and does not use any half-steps.

C Lydian Tetrachord



C Lydian Tetrachord Pattern 1

```
G--------------------------
D--------------------------
A--------------------------
E---8---10---12---14--------
```

C Lydian Tetrachord Pattern 2

```
G--------------------------
D--------------------------
A-----------------9---------
E---8---10---12-------------
```

C Lydian Tetrachord Pattern 3

```
G--------------------------
D--------------------------
A------------7---9----------
E---8---10-----------------
```

C Lydian Tetrachord Pattern 4

```
G-------------------------
D-------------------------
A-------5---7---9----------
E---8---------------------
```

Scales/Modes and Tetra Chord Combinations

Now that we have our tetrachord forms defined, we can apply them to the major scalar modes. Each of the seven major modes is made up of two tetrachords from two different keys. Conceptually having two keys at your disposal for every major mode gives you a lot of options for improvisational ideas. Additionally, you have a consistent way to break up your fretboard patterns for each mode. Our options have expanded – rather than having one pattern in your head for each mode you have the possibilities of four different patterns for each half-mode. That means you have **16 possible finger patterns** for every modal scale. It would be a serious feat to remember 16 unique patterns, but with the tetrachord system it is much easier to keep them straight. Here are the tetrachord combinations for each major mode:

Modal Tetrachord Matrix

Scale	Lower Tetrachord	Upper Tetrachord
C Ionion	C Major	G Major
C Dorian	C Minor	G Minor
C Phrygian	C Phrygian	G Phrygian
C Lydian	C Lydian	G Major
C Mixolydian	C Major	G Minor
C Aeolian	C Minor	G Phrygian
C Locrian	C Phrygian	Gb Lydian

Scales/Modes and Tetra Chord Combinations

So how does this factor into your playing? The best way is to run through the patterns and become as familiar as possible with each combination on the fretboard. For example, start with the C Ionian scale – a combination of the C major tetrachord and G major tetrachord – and play through all the fretboard combinations. Your practice pattern would look like the following:

Practice Matrix

C Major Pattern -1	G Major Pattern -1
C Major Pattern -1	G Major Pattern -2
C Major Pattern -1	G Major Pattern -3
C Major Pattern -1	G Major Pattern -4
C Major Pattern -2	G Major Pattern -1
C Major Pattern -2	G Major Pattern -2
C Major Pattern -2	G Major Pattern -3
C Major Pattern -2	G Major Pattern -4

That covers the possible combinations using the first two C Major patterns, you would do the same thing with Pattern 3 and Pattern 4.

Learning these tetrachord patterns will give you a lot of agility on the fretboard. The ultimate goal is to always know exactly where you can go at all times. Getting the patterns into your finger muscle memory will allow you to be faster than if you were consciously thinking of every note in the scale and having lots of options for how to finger the scales will give you the flexibility you need. As always, practice, practice, practice!