

# CHAPTER 8

## MODAL SCALES

Scales of eight tones containing half steps and whole steps in specified positions are called *modes* or *modal scales*. Historically, the modes have been used in many periods and styles of music. They are also called *church modes*, *ecclesiastical modes*, and *medieval modes*. Although the techniques for their use have changed, they retain their interval patterns and their traditional Greek names.

Most modes can be classified generally as major or minor. The modes with a predominantly major sound are

*lydian*

*ionian*

*mixolydian*

The modes with a predominantly minor sound are

*dorian*

*aeolian*

*phrygian*

The *locrian* mode sounds neither major nor minor; it *tends* toward minor and will be discussed with minor modes.

## MAJOR MODES

### LYDIAN

The formula for the *lydian mode* (scale) is **LMM**. The scale's half step/whole step interval relationship corresponds, on a keyboard, to a *white key* scale from *F* to *F*. The link (L) occurs at the beginning of this scale.

Scale Formula: **LMM**

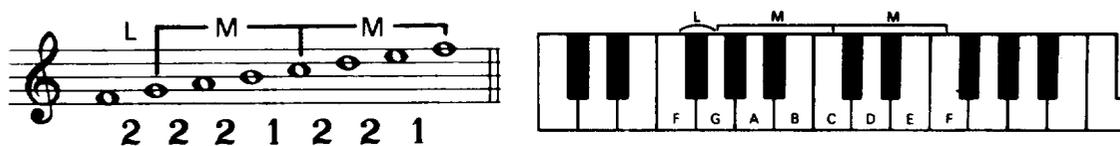


Figure 8.1: F Lydian Scale.

The remaining lydian scales are constructed on fifth scale degrees ascending and *lowered* fifth scale degrees descending from *F* lydian through seven sharps and flats. This creates fifteen lydian keys that can be represented in a circle of lydian keys (circle of fifths). Although lydian tonics differ from major and minor, the order of sharps and flats remains the same.

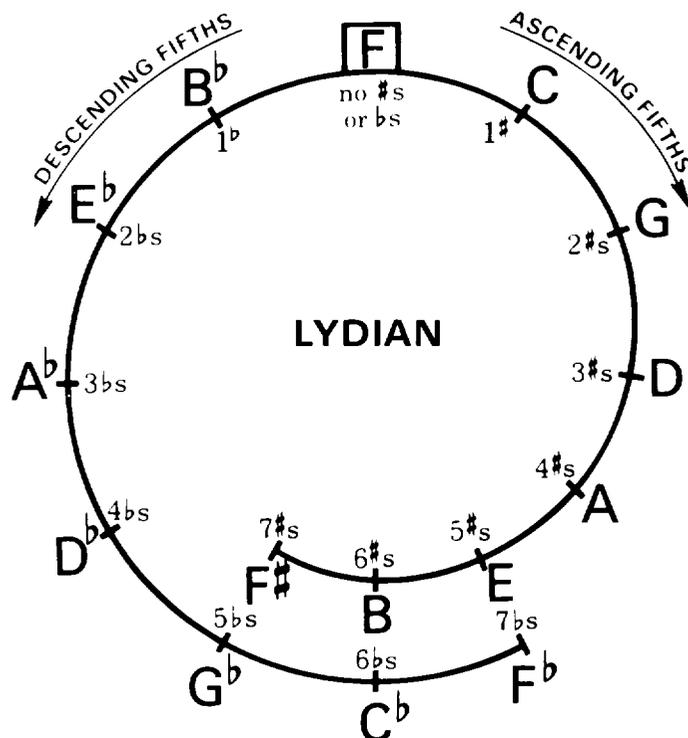


Figure 8.2: Circle of Lydian Keys.

C major and F lydian are relative keys. Likewise, C lydian and G major; B $\flat$  lydian and F major; A lydian and E major; and D $\flat$  lydian and A $\flat$  major are examples of relative keys. The relative lydian tonic is the fourth scale degree (subdominant) of the major scale.

### Scale Degree Activity in Lydian

The lydian scale has a raised subdominant ( $\sharp 4$ ) when compared to its parallel (same tonic) major scale.

The image shows two musical examples of Lydian scales. On the left, the C Lydian scale is shown in treble clef, starting on C. The notes are C, D, E, F $\sharp$ , G, A, B, C. Above the notes are interval markings: L (between C and D), M (between D and E), and M (between E and F $\sharp$ ). Below the notes are fingerings: 2, 2, 2, 1, 2, 2, 1. Below this is the C major scale for comparison, with notes C, D, E, F, G, A, B, C and interval markings M (D-E), L (E-F), M (F-G). Fingerings are 2, 2, 1, 2, 2, 2, 1. On the right, the Eb Lydian scale is shown in bass clef, starting on Eb. The notes are Eb, F, G, Ab, Bb, C, D, Eb. Interval markings are L (Eb-F), M (F-G), and M (G-Ab). Fingerings are 2, 2, 2, 1, 2, 2, 1. Below this is the Eb major scale for comparison, with notes Eb, F, G, Ab, Bb, C, D, Eb and interval markings M (F-G), L (G-Ab), M (Ab-Bb). Fingerings are 2, 2, 1, 2, 2, 2, 1.

Figure 8.3: Parallel Major and Lydian.

#### STABLE

Tonic  
Mediant  
Dominant

#### ACTIVE

Supertonic  
Subdominant  
Submediant  
Leading Tone

#### TENDENCY

Subdominant (pulls to Dominant)  
Leading Tone (pulls to Tonic)

Figure 8.4: Scale Degree Activity in Lydian.

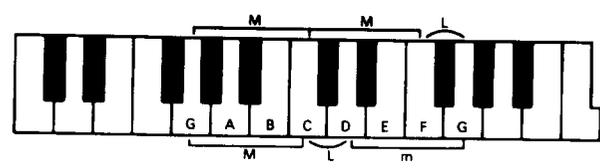
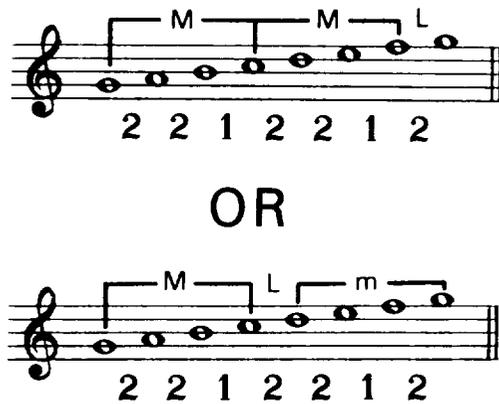
## IONIAN

The formula for the *ionian mode* is **MLM**, making the ionian mode identical to major scales.

## MIXOLYDIAN

The formulas for the *mixolydian mode* are **MML** or **MLm**. The scale's half step/whole step interval relationship corresponds, on a keyboard, to a *white key* scale from *G* to *G*.

Scale Formulas: **MML** or **MLm**



OR

*Figure 8.5: G Mixolydian Scale.*

The remaining mixolydian scales are constructed on fifth scale degrees ascending and descending from *G* mixolydian through seven sharps and flats. This creates fifteen mixolydian keys that can be represented in a circle of mixolydian keys (circle of fifths). The order of sharps and flats remains the same as in previous key signatures.

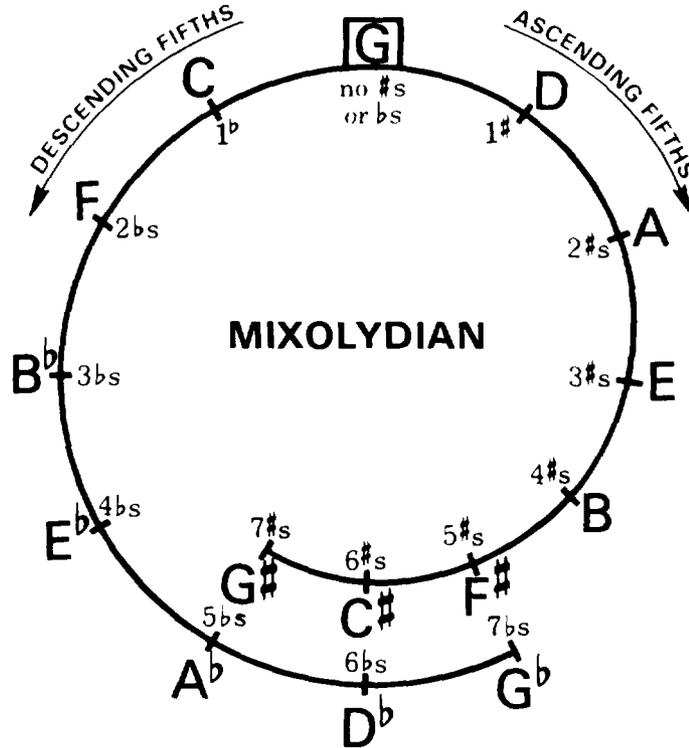


Figure 8.6: Circle of Mixolydian Keys.

C major and G mixolydian are relative keys. The relative mixolydian tonic is the fifth degree (dominant) of the major scale.

### Scale Degree Activity in Mixolydian

The mixolydian scale has a subtonic (♭7) when compared to its parallel major scale.

<p>C mixolydian:</p> <p>2 2 1 2 2 1 2</p>	<p>D mixolydian:</p> <p>2 2 1 2 2 1 2</p>
<p>C:</p> <p>2 2 1 2 2 2 1</p>	<p>D:</p> <p>2 2 1 2 2 2 1</p>

Figure 8.7: Parallel Major and Mixolydian.

**STABLE**

Tonic  
Mediant  
Dominant

**ACTIVE**

Supertonic  
Subdominant  
Submediant  
Subtonic

**TENDENCY**

Subdominant (pulls to Mediant)  
Mediant (can pull to Subdominant)  
Subtonic (pulls to Submediant)

*Figure 8.8: Scale Degree Activity in Mixolydian.*

**MINOR MODES**

**DORIAN**

The formula for the *dorian mode* is **mLm**. The scale's half step/whole step interval relationship corresponds, on a keyboard, to a *white key* scale from *D* to *D*.

Scale Formula: **mLm**



*Figure 8.9: d Dorian Scale.*

The remaining dorian scales are constructed on fifth scale degrees ascending and descending from *d* dorian through seven sharps and flats. This creates fifteen dorian keys that can be represented in a circle of dorian keys (circle of fifths). The order of sharps and flats remains the same as in previous key signatures.

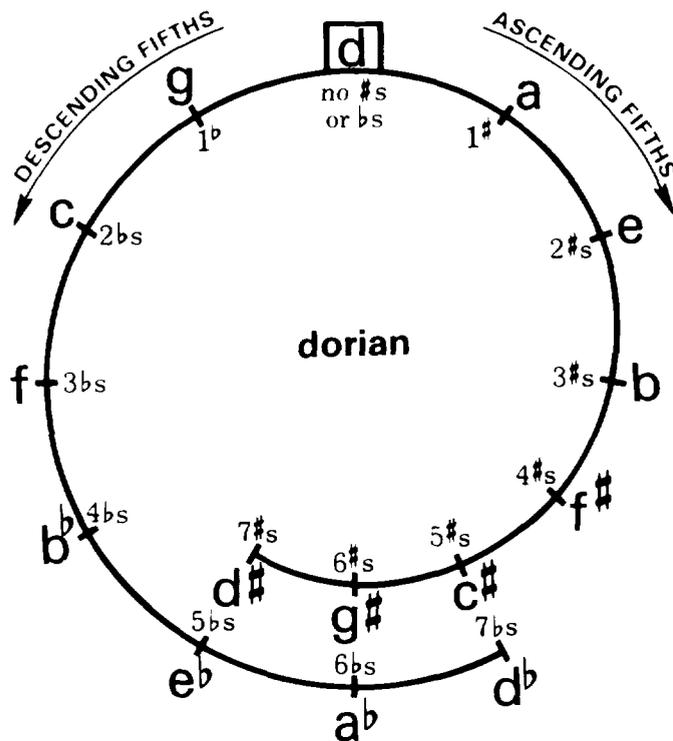


Figure 8.10: Circle of Dorian Keys.

C major and d dorian are relative keys. The relative dorian tonic is the second scale degree (supertonic) of the major scale.

**Scale Degree Activity in Dorian**

The dorian scale has a lowered mediant (b3) and a subtonic (b7) when compared to its parallel major scale. When compared to its parallel natural minor scale, the dorian scale has a raised submediant (#6).

<p>c dorian:</p> <p>2 1 2 2 2 1 2</p>	<p>g dorian:</p> <p>2 1 2 2 2 1 2</p>
<p>C:</p> <p>2 2 1 2 2 2 1</p>	<p>G:</p> <p>2 2 1 2 2 2 1</p>

Figure 8.11: Parallel Major and Dorian.

<p>a dorian:</p> <p>2 1 2 2 2 1 2</p>	<p>d dorian:</p> <p>2 1 2 2 2 1 2</p>
<p>a:</p> <p>2 1 2 2 1 2 2</p>	<p>d:</p> <p>2 1 2 2 1 2 2</p>

Figure 8.12: Parallel Minor and Dorian.

**STABLE**

Tonic  
Mediant  
Dominant

**ACTIVE**

Supertonic  
Subdominant  
Submediant  
Subtonic

**TENDENCY**

Submediant (pulls to Subtonic)

Figure 8.13: Scale Degree Activity in Dorian.

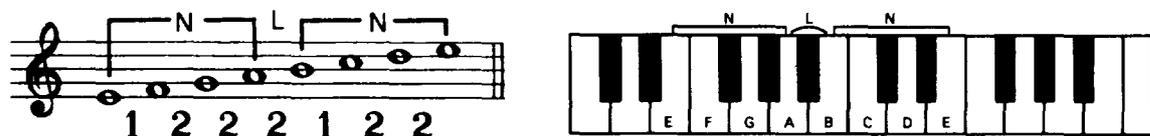
## AEOLIAN

The formula for the *aeolian mode* is **mLN**, making the aeolian mode identical to natural minor scales.

## PHRYGIAN

The formula for the *phrygian mode* is **NLN**. The scale's half step/whole step interval relationship corresponds, on a keyboard, to a *white key* scale from *E* to *E*.

Scale Formula: **NLN**



*Figure 8.14: e Phrygian Scale.*

The remaining phrygian scales are constructed on fifth scale degrees ascending and descending from *e* phrygian through seven sharps and flats. This creates fifteen phrygian keys that can be represented in a circle of phrygian keys (circle of fifths). The order of sharps and flats remains the same as in previous key signatures.

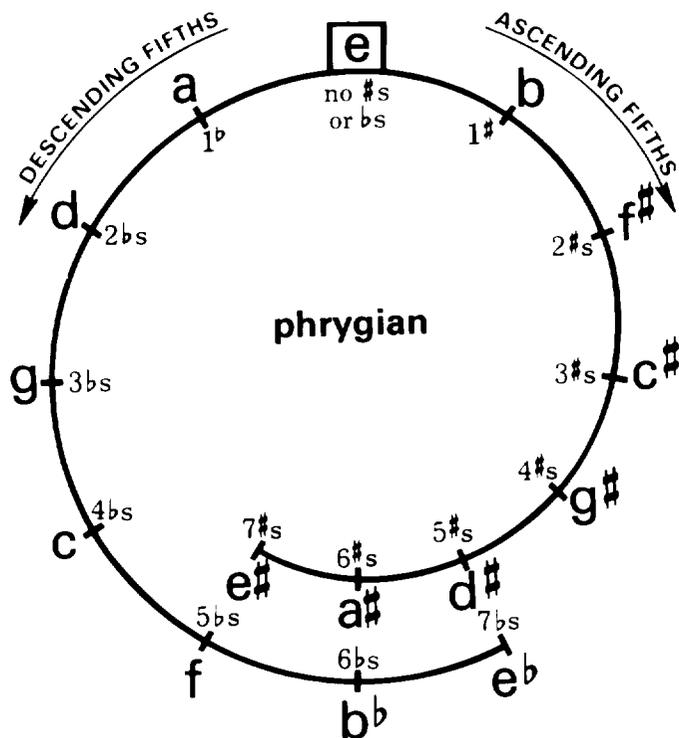


Figure 8.15: Circle of Phrygian Keys.

C major and e phrygian are relative keys. The relative phrygian tonic is the third scale degree (mediant) of the major scale.

**Scale Degree Activity in Phrygian**

The phrygian scale has a lowered supertonic ( $b2$ ), lowered mediant ( $b3$ ), lowered submediant ( $b6$ ), and subtonic ( $b7$ ) when compared to its parallel major. When compared to its parallel natural minor scale, the phrygian scale has a lowered supertonic ( $b2$ ).

c phrygian:

1 2 2 2 1 2 2

C:

2 2 1 2 2 2 1

f phrygian:

1 2 2 2 1 2 2

F:

2 2 1 2 2 2 1

Figure 8.16: Parallel Major and Phrygian.

a phrygian:

1 2 2 2 1 2 2

a:

2 1 2 2 1 2 2

c# phrygian:

1 2 2 2 1 2 2

c#:

2 1 2 2 1 2 2

Figure 8.17: Parallel Minor and Phrygian.

**STABLE**

- Tonic
- Mediant
- Dominant

**ACTIVE**

- Supertonic
- Subdominant
- Submediant
- Subtonic

**TENDENCY**

- Supertonic
- Submediant

Figure 8.18: Scale Degree Activity in Phrygian.

# LOCRIAN

The formula for the *locrian mode* is **NNL**. The scale's half step/whole step interval relationship corresponds on a keyboard, to a *white key* scale, from *B* to *B*. The link (L) occurs at the end of this scale.

Scale Formula: **NNL**

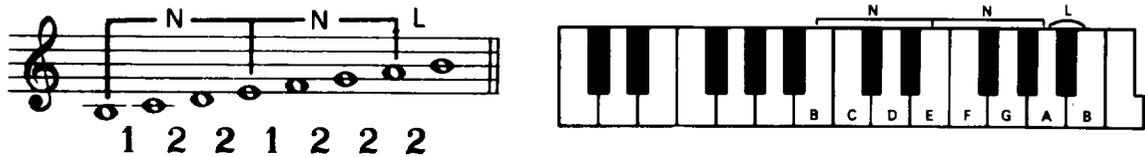


Figure 8.19: *b* Locrian Scale.

The remaining locrian scales are constructed on *raised fifth* scale degrees ascending and fifth scale degrees descending from *b* locrian through seven sharps and flats. This creates fifteen locrian keys that can be represented in circle of locrian keys (circle of fifths). The order of sharps and flats remain the same as in previous key signatures.

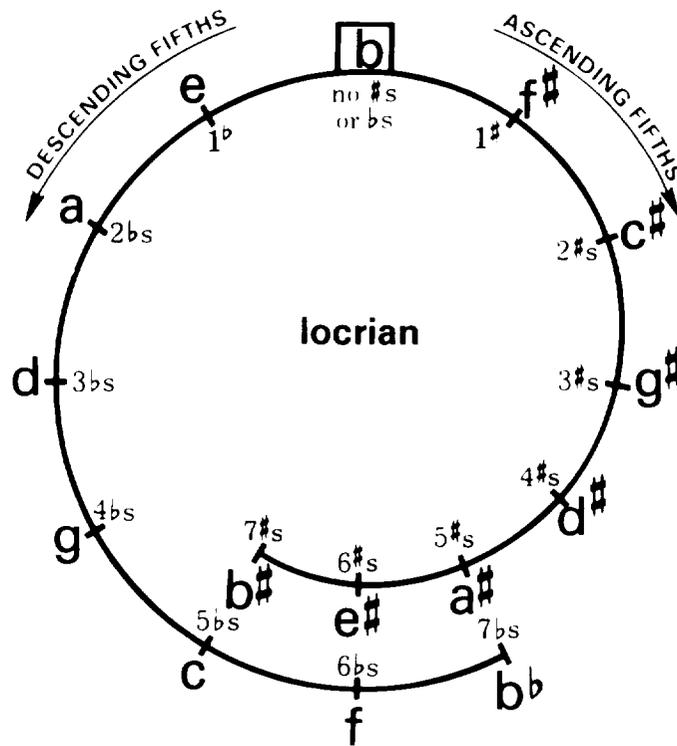


Figure 8.20: Circle of Locrian Keys.

C major and *b* locrian are relative keys. The relative locrian tonic is the leading tone of the major scale.

### *Parallel Analysis of Major and Locrian*

The locrian has a lowered supertonic (*b*2), lowered mediant (*b*3), lowered dominant (*b*5), lowered submediant (*b*6), and subtonic (*b*7) when compared to its parallel major scale. Only the subdominant remains unaltered when compared to the parallel major scale.

c locrian:  
 1 2 2 1 2 2 2

c# locrian:  
 1 2 2 1 2 2 2

C:  
 2 2 1 2 2 2 1

C#:  
 2 2 1 2 2 2 1

*Figure 8.21: Parallel Major and Locrian.*

As a scale, the locrian mode is unstable. It exhibits strong tendencies for movement. Scale degree activity in locrian mode is not easily analyzed. The mode is used primarily as a performance tool.

**COMPARISON OF MODAL SCALE DEGREES  
TO MAJOR SCALE DEGREES**

Charting the seven modes through their alterations as they relate to the same tonic (parallel) shows their scale degree relationships to the major scale.

	Tonic	Supertonic	Mediant	Subdominant	Dominant	Submediant	Leading Tone or Subtonic
Lydian	1	2	3	$\sharp 4$	5	6	7
Ionian (Major)	1	2	3	4	5	6	7
Mixolydian	1	2	3	4	5	6	$\flat 7$
Dorian	1	2	$\flat 3$	4	5	6	$\flat 7$
Aeolian (Natural minor)	1	2	$\flat 3$	4	5	$\flat 6$	$\flat 7$
Phrygian	1	$\flat 2$	$\flat 3$	4	5	$\flat 6$	$\flat 7$
Locrian	1	$\flat 2$	$\flat 3$	4	$\flat 5$	$\flat 6$	$\flat 7$

*Figure 8.22: Comparison of Modal Scale Degrees to Major Scale Degrees.*