

The major scale (also called Ionian mode) is well known to most young musicians since they are usually taught to play several of them early in their development. Though we usually play a major scale from its root to its root, there are several other modes (manners) in which it may be played. Each time it is played starting on a different note, the scale takes on a different quality. Accordingly, each one of these modes has a name to identify it. Following is a chart showing the order of the modes, their names and their location on the white notes of a piano. By visualizing the modes on the white notes it is very easy to see the location of the half steps since they occur between the notes E and F and B and C.

<u>Number of Mode</u>	<u>Name</u>	<u>Location on White Notes</u>
1st	Ionian	C to C
2nd	Dorian	D to D
3rd	Phrygian	E to E
4th	Lydian	F to F
5th	Mixolydian	G to G
6th	Aeolian	A to A
7th	Locrian	B to B

Though it is easy to find the modes on the white notes of the piano, unfortunately they do not always occur in that key. Example 1 shows each of the modes built on the note C for comparison.

Example 1

The image displays seven musical staves, each representing a mode built on the note C. The modes are arranged in two columns. The first column contains C Ionian, C Phrygian, C Mixolydian, and C Locrian. The second column contains C Dorian, C Lydian, and C Aeolian. Each staff shows the scale notes on a treble clef staff, with accidentals (sharps or flats) indicating the mode's quality. For example, C Dorian has a flat on F, and C Phrygian has a flat on E.

It should be apparent from the previous example that, to be able to construct any mode on a given note, a musician must have one or more ways of conceiving the structure of each mode. Actually, there are four excellent ways of conceiving the various modes which are as follows:

1. Find the location of the major key signature from which the mode is derived.
2. Locate the two half steps in the mode.
3. Alter a major or pure minor scale to create the mode.
4. Make adjustments to a major or minor key signature by adding or subtracting a sharp or flat.

The chart in Example 2 applies each of these ways of conceiving structure to each of the modes. Obviously, since Ionian (major) or Aeolian (pure minor) is the basis for conceiving other modes, not as many of these approaches are useful in constructing them.

Example 2

Mode	Location of Major Key Signature	Location of Half-steps	Alterations to a Scale	Adjustments to a Major or Minor Key Signature
Ionian	Built on same note	Between 3 and 4 and 7 and 8	None to a major scale	None to a major key signature
Dorian	A major 2nd below	Between 2 and 3 and 6 and 7	1) Pure minor with $\sharp 6$ 2) Major with $\flat 3, \flat 7$	Add a \sharp or subtract a \flat from minor key
Phrygian	A major 3rd below	Between 1 and 2 and 5 and 6	Pure minor with $\flat 2$	Add a \flat or subtract a \sharp from minor key
Lydian	A perfect 4th below	Between 4 and 5 and 7 and 8	Major with $\sharp 4$	Add a \sharp or subtract a \flat from major key
Mixolydian	A perfect 5th below or perfect 4th above	Between 3 and 4 and 6 and 7	Major with $\flat 7$	Add a \flat or subtract a \sharp from major key
Aeolian	A minor 3rd above	Between 2 and 3 and 5 and 6	1) None to a pure minor 2) Major with $\flat 3, \flat 6, \flat 7$	None to a minor key Signature
Locrian	A half step above	Between 1 and 2 and 4 and 5	Pure minor with $\flat 2, \flat 5$	Add 2 \flat 's or subtract 2 \sharp 's from minor key*

*Subtract a \sharp and add a \flat to E pure minor to create E Locrian.

Chord-Scale Relationships

Just as there is a mode beginning on each step of the major scale, there is a seventh chord built on each scale step which corresponds to the same mode. Example 3 shows the diatonic (scale derived) seventh chords of a C major scale.

Example 3

The following chart shows the relationship of each of the modes to its corresponding diatonic seventh chord.

Scale Degree	Name of Mode	Quality of Mode	Quality of 7th Chord
I	Ionian	Major ($\sharp 4$)	Major
II	Dorian	Minor ($\sharp 6$)	Minor
III	Phrygian	Minor ($\flat 2$)	Minor
IV	Lydian	Major ($\sharp 4$)	Major
V	Mixolydian	Major ($\flat 7$)	Dominant
VI	Aeolian	Minor ($\sharp 6$)	Minor
VII	Locrian	Half-diminished	Half-diminished

To use the modes effectively in composition or improvisation, it is essential to understand which tones (if any) are dissonant and need to resolve. The odd-numbered scale tones of each mode are chord tones of its corresponding 7th chord and are generally no problem. Dissonant tones which require special handling can be summarized as follows:

- I. Ionian - The 4th scale step is dissonant and should resolve to the 3rd.
- II. Dorian - Any scale degree may be stressed though some are more dissonant than others.
- III. Phrygian - The 2nd and 6th scale steps are dissonant and should resolve downward by a half step.
- IV. Lydian - Any scale degree may be stressed though some are more dissonant than others.
- V. Mixolydian - The 4th scale step is dissonant and should resolve to the 3rd.
- VI. Aeolian - The 6th scale step is dissonant and should resolve to the 5th.
- VII. Locrian - The 2nd scale step is dissonant and should resolve to the 1st.

12.

With four of the modes, we begin to see a comparison that shows the validity of two different traditions, the European classical tradition and the American jazz tradition. The classical tradition is instilled in us through our exposure to folk songs, hymns, classical music, camp songs etc. But, when involved in the jazz idiom, we often find the need for other resources that are peculiar to that tradition. Example 4 shows the relationship of two classical and two jazz scales to major and minor chords.

Example 4

The image shows two staves of musical notation. The first staff contains two measures: the first measure is labeled 'C Maj7 C Ionian (classical tradition)' and shows a C major triad followed by the C Ionian scale (C-D-E-F-G-A-B); the second measure is labeled 'C Maj7 C Lydian (Jazz tradition)' and shows a C major triad followed by the C Lydian scale (C-D-E-F#-G-A-B). The second staff contains two measures: the first measure is labeled 'C min7 C Aeolian (classical tradition)' and shows a C minor 7th chord followed by the C Aeolian scale (C-D-E-F-G-A-Bb); the second measure is labeled 'C min7 C Dorian (Jazz tradition)' and shows a C minor 7th chord followed by the C Dorian scale (C-D-E-F-G-A-Bb).

The important point to remember is that both traditions of music have validity and are of importance to the jazz musician. Even though some scales are not considered jazz scales as such, they very often serve certain musical situations as the most appropriate sounds to the flow of the composition. It would be very unwise to arbitrarily decide to always use Lydian with major chords or Dorian with minor chords. The relatively bland Ionian or Aeolian modes can sound extremely beautiful in many harmonic situations. The composer or improviser must experiment with all of the options available to him before deciding how to treat a piece of music. If he is really "in tune" with the flow of a piece, he will more than likely come up with an effective treatment of it!

STUDY QUESTIONS

1. Name the seven modes of the major scale in order. Spell them correctly.
2. Explain the four ways of conceiving the modes.
3. Give the quality of each of the diatonic 7th chords of the major scale.
4. Discuss dissonant tones in the modes and their usual resolutions.
5. What are the two traditions that a jazz musician must be familiar with?

EXERCISES

Written:

1. In a given key, write out all seven modes of the major scale. Do not use the key signature but rather locate the sharps or flats of the key in front of the appropriate notes.
2. Write all seven modes built on the same note. Use one of the four ways in example 2 to arrive at the proper set of notes.
3. Write the following modes: B^b Ionian, A Dorian, G Phrygian, F Lydian, E^b Mixolydian, D Aeolian and C Locrian.
4. Write an eight measure melody in each mode. Be sure to stress scale tones that are unique to each mode and be careful of the handling of dissonant tones.

Keyboard:

1. Play a major scale in a given key. Then play all seven modes of that scale using the same fingering throughout.
2. Play all of the diatonic 7th chords of a given major scale. Put your thumb on the root of each chord regardless of whether it is a white note or a black note.

Ear-training:

1. Sing each of the modes from the root, up an octave and back again.
2. Sing each of the diatonic 7th chords of the major scale.
3. Working with another person, practice identification of the modes. Listen for the tones which are peculiar to each mode.
4. Listen for modes both in melodies and improvised solos on recordings. Transcribe and check by playing with the record.