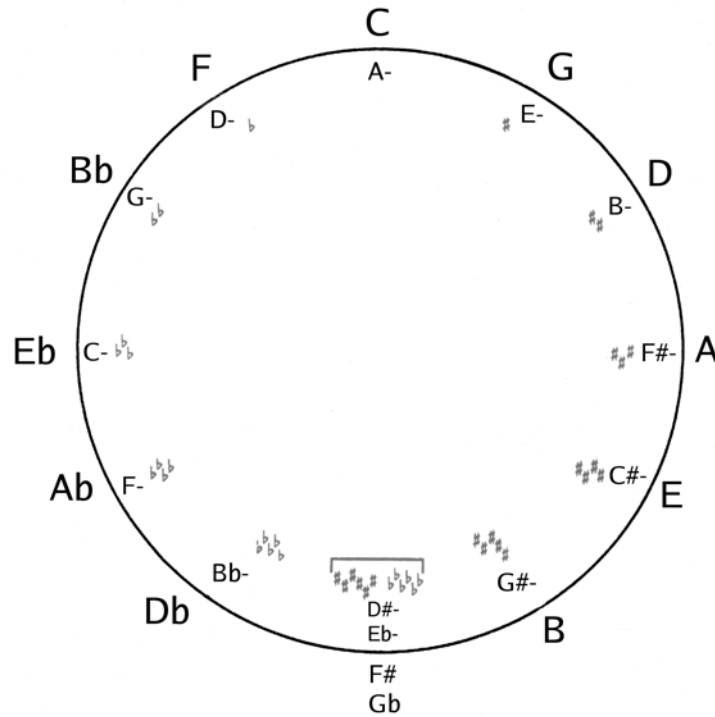


An overview of scales and modes:

<u>Major scale</u>	<u>Relative minor or natural minor scale</u>
each major scale has a relative minor scale which is built on its sixth degree	
<p>steps: 1 1 1/2 1 1 1 1/2</p>	<p>steps: 1 1/2 1 1 1/2 1 1</p>
	<u>Harmonic minor scale</u>
	<p>steps: 1 1/2 1 1 1/2 1+1/2 1/2</p>
<u>Melodic minor scale (traditional)</u>	<u>Melodic minor scale (Jazz or contemporary)</u>
<p>steps: 1 1/2 1 1 1 1/2 natural minor scale</p>	<p>steps: 1 1/2 1 1 1 1/2</p>

Circle of 5ths



Key of: C G D A E B F#

Key of: C F Bb Eb Ab Db Gb

Pentatonic scales

All Pentatonic scales have five notes.

The Major and minor Pentatonic scales have the same relationship as the Major scale to its relative minor.



Symmetrical scales:

Chromatic scale



Whole step-half step diminished scale



Half step-whole step diminished scale

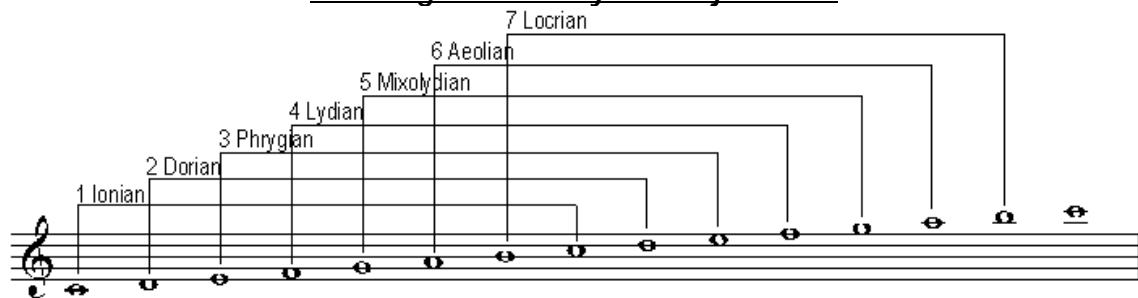


Whole tone scale

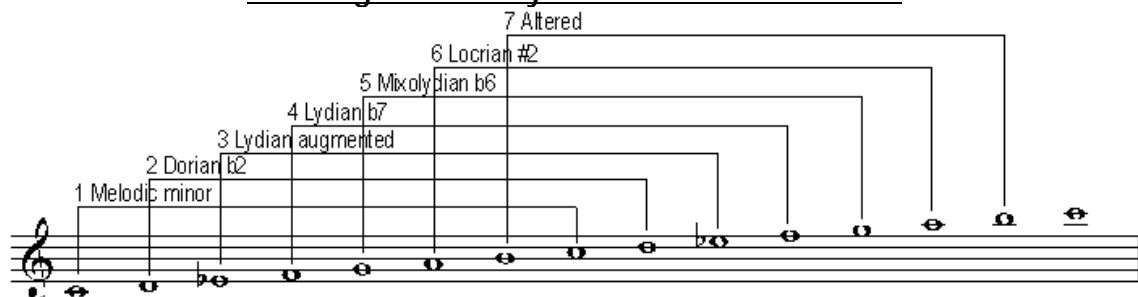


Modes:

Modes generated by the Major scale



Modes generated by the Melodic minor scale



<u>Modes generated by the Major scale</u>		<u>Modes generated by the Mel. Min. scale</u>	
1 Major	1 2 3 4 5 6 7	1 Mel minor	1 2 b3 4 5 6 7
2 Dorian	1 2 b3 4 5 6 b7	2 Dorian b2	1 b2 b3 4 5 6 b7
3 Phrygian	1 b2 b3 4 5 b6 b7	3 Lydian Aug.	1 2 3 #4 #5 6 7
4 Lydian	1 2 3 #4 5 6 7	4 Lydian b7	1 2 3 #4 5 6 b7
5 Mixolydian	1 2 3 4 5 6 b7	5 Mixo b6	1 2 3 4 5 b6 b7
6 Aeolian	1 2 b3 4 5 b6 b7	6 Locrian #2	1 2 b3 4 b5 b6 b7
7 Locrian	1 b2 b3 4 b5 b6 b7	7 Altered	1 b2 #2 3 b5 #5 b7

Intervals

An interval is the distance between two notes. In a seven note scale, DO SOL is a fifth because DO RE MI FA SOL spans five notes.

This is how the intervals are numbered in the first octave (simple intervals), and in the second octave (compound intervals).

unison 2nd 3rd 4th 5th 6th 7th octave

9 octave 9th 10th 11th 12th 13th 14th 15th

2^{nds} in inversion create 7^{ths}. 3^{rds} in inversion create 6^{ths}. 4^{ths} in inversion create 5^{ths}.

17 2nd 7th 3rd 6th 4th 5th

2^{nds} and 7^{ths} and 3^{rds} and 6^{ths} are usually described as Major or minor (Maj 3rd, -2nd).

4^{ths} and 5^{ths} are usually described as Perfect (P4th, P5th).

- 2nd = 1 semitone or 1 fret Maj 2nd = 2 semitones or 2 frets
- 3rd = 3 semitones or 3 frets Maj 3rd = 4 semitones (2 whole steps) or 4 frets
- P4th = 2 ½ steps or 5 frets P5th = 3 ½ steps or 7 frets
- 6th = 4 steps or 8 frets Maj 6th = 4 ½ steps or 9 frets
- 7th = 5 steps or 10 frets Maj 7th = 5 ½ steps or 11 frets Octave = 6 steps or 12 frets

In music, it is usually not very practical to think of larger intervals in terms of frets. It is usually much more effective to think of using two smaller intervals within the tonality (Maj 6th = P4th + Maj 3rd for example).

When intervals are smaller or bigger than they were meant to be, they are described as Diminished (dim) or Augmented (Aug). The Tritone (TT), for example, is the interval that splits the octave in exactly two equal parts (3 steps or 6 frets). Depending on where it appears in the scale, it can be viewed as an Aug 4th or a Dim 5th.

23 Tritone: B to F Dim 5th Tritone: F to B Aug 4th

3 steps: 1/2 1 1 1/2 3 steps: 1 1 1

Example of Maj, min, Aug and dim intervals:

29 Maj 3rd -3rd dim 3rd Aug 3rd P4th dim 4th Aug 4th

In inversion, Perfect intervals remain Perfect. Major intervals become minor, minor intervals become Major, Augmented intervals become diminished and vice versa (diminished becomes Augmented).

36 P4th P5th Maj3rd -6th -3 Maj6th Aug4th dim5th Aug2nd dim7th

Chords

Triad: a three note chord built in thirds.

Maj triad:
1,3,5 of Major scale

min triad:
1,b3,5 of Major scale

Musical notation showing Major and minor triads in root position and two inversions. Brackets indicate intervals: Maj3rd, min3rd, and P5th.

Augmented triad:
1,3,#5 of Major scale

Diminished triad:
1,b3,b5 of Major scale

Musical notation showing Augmented and Diminished triads in root position and two inversions. Brackets indicate intervals: Aug.5th and dim.5th.

Seventh chord: a four note chord built in thirds.

17 Major 7th chord: 1,3,5,7 of Major scale

Dominant 7th chord: 1,3,5,b7 of Major scale

Musical notation showing Major 7th and Dominant 7th chords in root position and three inversions.

25 minor 7th chord: 1,b3,5,b7 of Major scale

minor 7th b5 chord: 1,b3,b5,b7 of Major scale

Musical notation showing minor 7th and minor 7th b5 chords in root position and three inversions.

33 diminished 7th chord: 1,b3,b5,bb7 of Major scale

Augmented 7th chord: 1,3,#5,b7 of Major scale

Musical notation showing diminished 7th and Augmented 7th chords in root position and three inversions.

Sixth chords: a Major or minor triad with an added note a major 6th above the root.

41 Major 6th chord: 1,3,5,6 of Major scale
C6 same as A-7

minor 6th chord: 1,b3,5,6 of Major scale
C-6 same as A-7b5

Musical notation showing Major 6th and minor 6th chords in root position and three inversions.

Suspended fourth chord: a triad or Dom. 7th chord with the third replaced by the fourth.

49 Suspended 4th triad
1,4,5 of Major scale

Dom7th sus4: 1,4,5,b7 of Major scale

Musical notation showing Suspended 4th triad and Dominant 7th suspended 4th chord in root position and three inversions. Brackets indicate intervals: P4th, Maj2nd, and P5th.

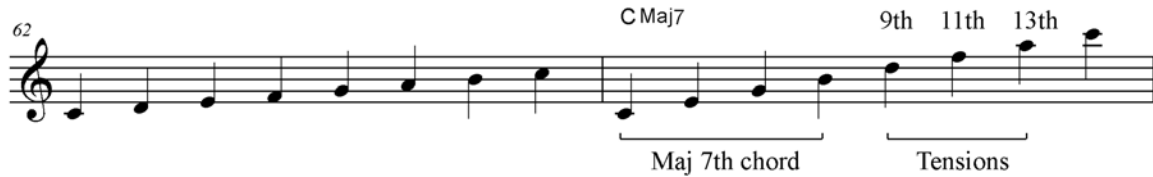
Vocings in 4ths are often used to harmonize scales and as upper structures of chords.

Musical notation showing voicings in fourths for a scale.

Tensions

Tensions are the natural extension of chords that are built in 3rds.

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Maj 7th chord Tensions

9th 11th 13th

With very few exceptions, all tensions that create a flat 9th with any of the chord tones are to be avoided. As a general rule, any tension that is a whole step above a chord tone is an available tension. Tension 11th in the Cmaj7 chord creates a flat 9th with the Maj 3rd.

64



9th 11th 13th

Tension 11th in the D-7 chord creates a 9th with the 3rd of the chord. For a Cmaj7 chord the 11th is replaced by a #11th (Lydian scale).

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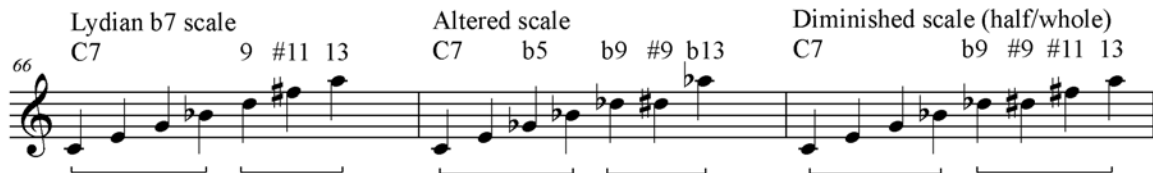


C Maj7 9th #11th 13th

The Dominant chord can be played with many tensions: b9th, 9th, #9th, #11th, b13th and 13th.

Lydian b7 scale	Altered scale	Diminished scale (half/whole)
C7 9 #11 13	C7 b5 b9 #9 b13	C7 b9 #9 #11 13

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In the Altered scale, the dominant chord can be played as a C7b5 with the b13th as a tension or as a C7#5 with the #11th as a tension.

Diatonic Harmony

Chords generated by the Major scale:

72



I II- III- IV V VI- VIIdim I Maj7 II-7 III-7 IV Maj7 V7 VI-7 VII-7b5

Chords generated by the melodic minor scale:

74



I- II- IIIAug IV V VIdim VIIdim I-Maj7 II-7 III Maj7#5 IV7 V7 VI-7b5 VII-7b5

The chords generated from the tonality are used to create Harmonic progressions. In tonal music, the most important harmonic progression is I V I (Tonic to Dominant to Tonic). The dissonant presence of a tritone in the dominant 7th chord and its resolution to the tonic chord is essential to tonal music. This basic principle of moving from a place of consonance to a place of dissonance and then resolving back to a place of consonance is extended using other diatonic chords. While the Dominant exists a Perfect 5th above the tonic, the Subdominant (F in the key of C) exists a Perfect 5th below the Tonic. The progression I IV V I is one of the most common in tonal music. The Harmonic minor scale was created to incorporate the Dom. 7th in the minor mode. The name Harmonic minor comes from the fact that the scale was changed to adjust the Harmonic progression.

82 A Natural minor A Harmonic minor

In the vocal music of long ago, the Aug. 2nd between the 6th and 7th degree of the Harmonic minor scale was unusual. This was fixed in the Melodic minor scale which raised up the 6th degree in the ascending scale and preserved the b6th degree (very characteristic of the minor mode) in the descending scale. The scale was called Melodic minor because adjusted the melody.

Major tonality: functional analysis of diatonic harmony

Tonic chords: Stable (no scale degree 4). I Maj7, VI-7 and III-7
Subdominant: Less stable (containing sc. Degree 4). II-7 and IV Maj.
Dominant: Least stable (sc. Degree 4 and 7 Tritone). V7 (VII-7b5)

Secondary dominants and related II-7th chords

A secondary dominant is a Dom. 7th chord that resolves to II-7, III-7, IVMaj7, V7 and VI-7 of the Major scale.

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V7/II	II-7	V7/III	III-7	V7/IV	IV Maj7	V7/V	V7	V7/VI	VI-7
A7	D-7	B7	E-7	C7	F Maj7	D7	G7	E7	A-7

A Dom. 7th chord is often preceded by a II-7 or II-7b5 chord built a Perfect 5th above the Dom.

II-7 V7 I Maj7 is probably the most common progression in Jazz standards.

If the target is D-7, the harmonic progression would be E-7 A7 D-7. If the target is E-7, the progression would be F#-7b5 B7 E-7. Secondary Dom. and related II-7 chords can be chained together to create extended harmonic phrases.

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F#-7b5	B7	E-7	A7	D-7	G7	C MAj7
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Modal harmonic progressions

All of the modes derived from the Major scale have a characteristic note. This characteristic note is usually present in the harmonic progression to preserve the modal quality of the music.

Dorian	Characteristic note	6 th	Phrygian	Characteristic note	b2nd
Lydian	Characteristic note	#4	Mixolydian	Characteristic note	b7
Aeolian	Characteristic note	b6	Locrian	Characteristic note	b5

Notice that all Characteristic notes have a relationship of a Tritone with another note in the mode.

Examples of modal harmonic progressions:

Aeolian: I- IV- V- I- *** I- bVI V- I- *** I- IV-7 bVII7 I- *** I-7 bVI Maj7 bVII7 I-7

Mixo: I bVII I *** I bVII IV I *** I V-7 I *** I bVII Maj7 V-7 I

Lydian: I II I VII- I *** I II7 I *** I Maj7 V Maj7 I Maj7 *** I Maj7 VII-7 I Maj7

Dorian: I- IV I- V- I- *** I-7 II-7 I-7 *** I-7 IV7 I-7 *** I-7 bVII Maj7 I-7

Phrygian: I- bII bIII bII I- *** I- IV- bVII- I- *** I-7 bII Maj7 I-7 *** I-7 bVII-7 I-7