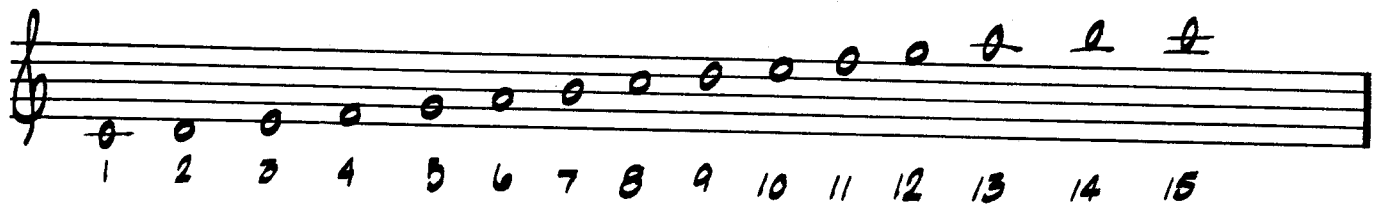


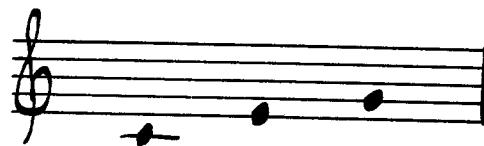
MAJOR CHORDS and MAJOR SCALES



The C Major scale is illustrated in two complete octaves. The numbers under each tone indicate the position of that tone in this scale. Note that beyond the first octave, tone #8, the tones have the same letter names and the numbers corresponding to these tones refer to the respective distances from the starting tone, #1.

The following four chords, Major Triad, Major Sixth Chord, Major Seventh Chord and Major Ninth Chord, will be formed by applying a numerical formula to the C Major scale. The corresponding alphabetical symbols will also be indicated.

By extracting tones No. 1-3-5 from the C Major scale, we arrive at the notes forming the C Major Triad.¹



Symbol: C

Tones No. 1-3-5-6 of the C Major scale form the C Major Sixth Chord.²

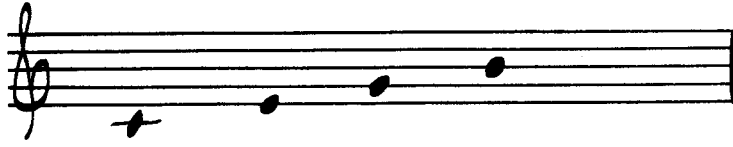


Symbol: CM6

¹A three note chord which measures five tones from the bottom to the top, counting the first tone as No. 1.

²A four note chord which measures six tones from the bottom to the top, counting the first tone as No. 1.

Tones #1-3-5-7 form the C Major Seventh Chord.³



Symbol: CM7

Tones #1-3-5-7-9 form the C Major Ninth Chord.⁴



Symbol: CM9

Alternate Symbol: 9
CM7

Alternate Symbol: (9)
CM7

³A four note chord which measures seven tones from the bottom to the top, counting the first tone as No. 1.

⁴A five note chord which measures nine tones from the bottom to the top, counting the first tone as No. 1.

CHORD TONE CHART

BASED ON MAJOR SCALES OF CHORD ROOTS

13th Same As 6th	A	D	G	C	F	B ^b	E ^b	A ^b	E	B	F [#]	C [#]	G [#]	D [#]	A [#]
11th Same As 4th	F	B ^b	E ^b	A ^b	D ^b	G ^b	C ^b	F ^b	C	G	D	A	E	B	F [#]
9th Same As 2nd	D	G	C	F	B ^b	E ^b	A ^b	D ^b	A	E	B	F [#]	C [#]	G [#]	D [#]
7th	B	E	A	D	G	C	F	B ^b	F [#]	C [#]	G [#]	D [#]	A [#]	E [#]	B [#]
5th	G	C	F	B ^b	E ^b	A ^b	D ^b	G ^b	D	A	E	B	F [#]	C [#]	G [#]
3rd	E	A	D	G	C	F	B ^b	E ^b	B	F [#]	C [#]	G [#]	D [#]	A [#]	E [#]
1 (Root)	C	F	B ^b	E ^b	A ^b	D ^b	G ^b	C ^b	G	D	A	E	B	F [#]	C [#]

CHORD ROOTS

This chord tone chart organizes the tones of all Major scales in the order needed for the construction of Major chords. Reading up from the chord root C (also indicated as tone # 1), we see the tones: C-E-G-B-D-F-A, which are all the notes in the C Major scale. Note that the ninth, eleventh and thirteenth are also the second, fourth and sixth tones respectively, as they are the same letter names.

In preparation for the following exercises, be able to recite, write and play the following chords in every key: Major Triads, Major Sixth Chords, Major Seventh Chords and Major Ninth Chords. Use the following "routine form" for playing the chords. It does not require any specific rhythm, for chord tones, or tempo.



This note added to fill out the chord. It does not change the sound of the chord.



The following patterns begin with Major Triads. Note the alphabetical symbols and metronome markings. The vertical lines indicate the number of beats assigned to that chord.

MAJOR SCALE-TONE TRIADS

Figure 1 illustrates the tones of the E Major scale.

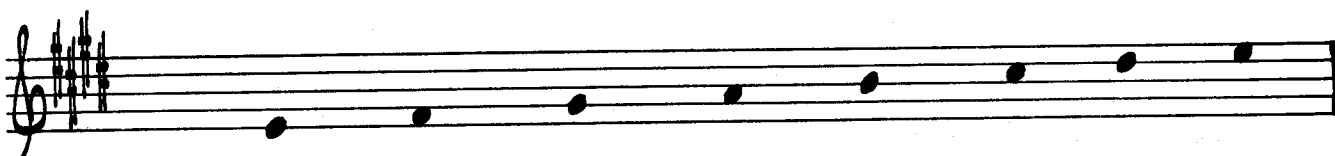


Fig. 1

We have previously used arabic numbers to indicate a specific *scale tone*. In figure 2, however, the roman numerals have been used to designate a chord (in this case, triads) that are constructed on the respective scale tones indicated by the roman numerals. Figure 3 spells out the specific tones of each triad belonging to the E Major scale:

Figure 2 illustrates the triads formed on each tone of the E Major scale. Note that when the first note of the *triad* is on a line, the remaining notes to that *triad* are also on consecutive lines; when the first note of the *triad* is on a space, the remaining notes are also on consecutive spaces.

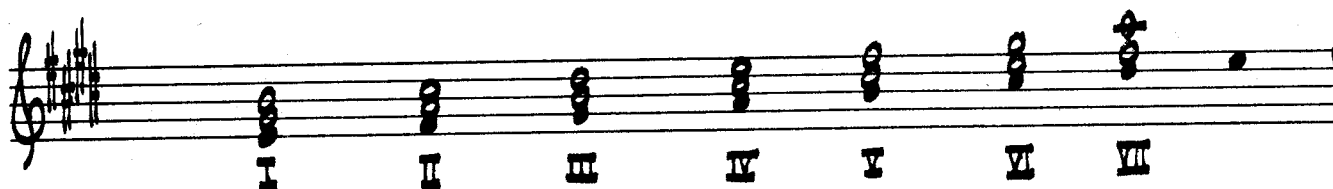


Fig. 2

Fig. 3

The I chord in the key of E Major contains the notes—E, G-Sharp, B.

The II chord in the key of E Major contains the notes—F-Sharp, A, C-Sharp.

The III chord in the key of E Major contains the notes—G-Sharp, B, D-Sharp.

The IV chord in the key of E Major contains the notes—A, C-Sharp, E.

The V chord in the key of E Major contains the notes—B, D-Sharp, F-Sharp.

The VI chord in the key of E Major contains the notes—C-Sharp, E, G-Sharp.

The VII chord in the key of E Major contains the notes—D-Sharp, F-Sharp, A.

We have shown that it is possible to construct a *triad* on each tone of the E Major scale. This same principle applies for ALL major scales. The student is advised to write out, in the manner illustrated in figure 2, the scale-tone triads for the remaining eleven major scales before attempting to deal with Patterns No. 79 to No. 82.

$\text{♩} = 66-112$

This pattern can be used for C, CM6, CM7 or CM9.

Practice Pattern No. 79 in all keys.

Note: This is an example of the use of alternating ascending and descending forms of the triads in the previous pattern.

$\text{♩} = 66-112$

This pattern can be used for C, CM6, CM7 or CM9.

Practice Pattern No. 80 in all keys.

$\text{♩} = 66-112$ Note: This pattern uses descending forms of scale tone triads.

This pattern can be used for C, CM6, CM7 or CM9.

Practice in all keys.

Note: This is an example of the use of alternating ascending and descending forms of the triads from the previous pattern.

♩ = 66-112

This pattern can be used for C, CM6, CM7 or CM9.

Practice in all keys.

SEVENTH CHORDS ON MAJOR SCALE TONES

It is possible to develop patterns for improvisation by using *seventh* chords built on each tone of a major scale. It is important to understand that at this point we are not using the term *seventh chord* to mean a specific type of seventh chord, but rather as a general term referring to a four-note chord which measures seven tones from bottom to top (counting the first tone as No. 1) and having the same *line to line* or *space to space* relationship previously explained for *scale tone triads*. Figure 4 illustrates once again the tones of the E Major scale.

Fig. 4

¹⁴John Coltrane, "Milestones," on *Milestones* (Columbia CS 9428), Miles Davis Sextet.

Figure 5 illustrates the *seventh* chords formed on each tone of the E Major scale. Note that when the first note of the *seventh* chord is on a line, the remaining notes are on consecutive lines; when the first note of the *seventh* chord is on a space, the remaining notes are on consecutive spaces.



Note that the roman numerals are followed by the arabic number 7 which is only used to differentiate between the *scale tone triads* previously discussed and the *scale tone sevenths* presently being covered. (At a later point in the book we will be using a modified version of this roman numeral system to translate more completely chord types in any key.)

Figure 6 spells out the specific tones of each *seventh chord* belonging to the E major scale:

Fig. 6

- The I7 chord in the key of E major contains the notes—E, G-Sharp, B, D-Sharp.
- The II7 chord in the key of E major contains the notes—F-Sharp, A, C-Sharp, E.
- The III7 chord in the key of E major contains the notes—G-Sharp, B, D-Sharp, F-Sharp.
- The IV7 chord in the key of E major contains the notes—A, C-Sharp, E, G-Sharp.
- The V7 chord in the key of E major contains the notes—B, D-Sharp, F-Sharp, A.
- The VI7 chord in the key of E major contains the notes—C-Sharp, E, G-Sharp, B.
- The VII7 chord in the key of E major contains the notes—D-Sharp, F-Sharp, A, C-Sharp.

E7

We have shown that it is possible to construct a *seventh* chord on each tone of the E major scale. This same principle applies to ALL major scales. The student is advised to write out the scale tone seventh chords, in the manner illustrated in figure 5, for the remaining eleven major scales before attempting to deal with Patterns No. 83 to No. 86.

♩ = 80-120

83

I⁷ II⁷ III⁷ IV⁷ V⁷ VI⁷ VII⁷ I⁷

This pattern can be used for C, CM6, CM7 or CM9.

Practice in all keys.

♩ = 92-132

84

(ascending) (descending)

I⁷ II⁷

This pattern can be used for C, CM6, CM7 or CM9.

I⁷ VII⁷

Practice in all keys.

♩ = 84-126

85

15

16

This pattern can be used for C, CM6, CM7 or CM9.

Practice in all keys.

¹⁵ John Coltrane, "Straight No Chaser," on *Milestones* (Columbia CS 9428), Miles Davis Sextet.

¹⁶ John Coltrane, "Time Was," on *First Trane* (Prestige 7609), John Coltrane Group.

$\text{♩} = 96-132$



This pattern can be used for C, CM6, CM7 or CM9.

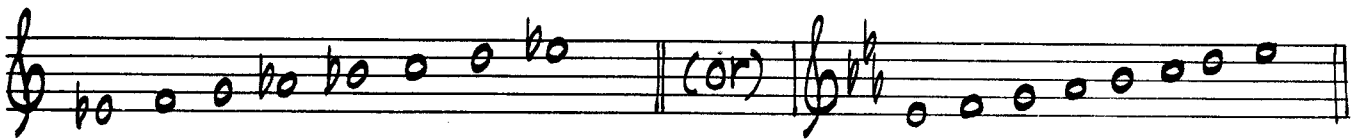


Practice in all keys.

MODES

A mode is the complete circulation of a (major) scale begun and completed on any one of its tones.¹⁷ This definition implies the fact that a mode is a scale which has a specific relationship to a key. There are seven such modes used in improvisation: Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian and Locrian. The term Ionian mode and major scale are synonymous. For example: to play an Ionian mode on the note E-Flat means the same as playing the E-Flat major scale (See figure 7).

Fig. 7



E-Flat Ionian Mode

E-Flat Major Scale

Vamat 79

¹⁷George Russell, *The Lydian Chromatic Concept* (New York: Concept Publishing Company, 1959). P. iv.

(+ 87 105)

The *Dorian mode* is a scale which starts on the second tone of ANY MAJOR SCALE and continues in successive tones to the octave, applying the key signature of its *parent scale*¹⁸. For example: A Dorian mode built on the note F uses the Key signature of E-Flat major, because the note F is the second tone of the E-Flat major scale (See figure 8).

Fig. 8



"F" Dorian Mode

Dorian Mode in "Key" of E-Flat which starts on F.

The *phrygian mode* is a scale which starts on the third tone of ANY MAJOR SCALE and continues in successive tones to the octave, applying the key signature of its parent scale. For example: A phrygian mode on G uses the key signature of E-Flat major because the note G is the third tone of the E-Flat major scale (See figure 9).

Fig. 9



"G" Phrygian Mode

Phrygian Mode in the "Key" of E-Flat which starts on G.

The *lydian mode* is a scale which starts on the fourth tone of ANY MAJOR SCALE and continues in successive tones to the octave, applying the key signature of its parent scale. For example: A lydian mode on A-Flat uses the key signature of E-Flat major because the note A-Flat is the fourth tone in the E-Flat major scale (See figure 10).

Fig. 10



"A-Flat" Lydian Mode

Lydian Mode in "Key" of E-Flat which starts on A-Flat.

¹⁸Russell, p. 2.

The *mixolydian mode* is a scale which starts on the fifth tone of ANY MAJOR SCALE and continues in successive tones to the octave, applying the key signature of its parent scale. For example: A *mixolydian mode* on B-Flat uses the key signature of E-Flat major because the note B-Flat is the fifth tone in the E-Flat major scale (See figure 11).

Fig. 11



"B-Flat" Mixolydian Mode

Mixolydian Mode in "Key" of E-Flat which starts on B-Flat.

The *aeolian mode* is a scale which starts on the sixth tone of ANY MAJOR SCALE and continues in successive tones to the octave, applying the key signature of its parent scale. For example: An *aeolian mode* on C uses the key signature of E-Flat major because the note C is the sixth tone in the E-Flat major scale (See figure 12).

Fig. 12

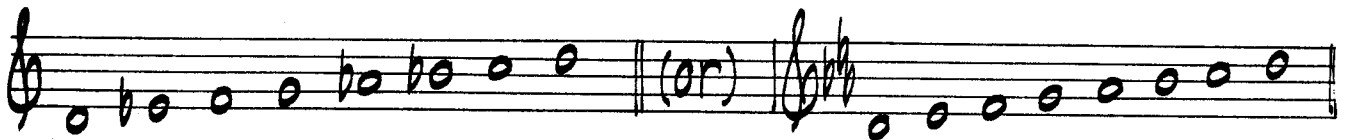


"C" Aeolian Mode

Aeolian Mode in "Key" of E-Flat which starts on C.

The *locrian mode* is a scale which starts on the seventh tone of ANY MAJOR SCALE and continues in successive tones to the octave, applying the key signature of its parent scale. For example: A *locrian mode* on D uses the key signature of E-Flat major because the note D is the seventh tone in the E-Flat major scale (See figure 13).

Fig. 13



"D" Locrian Mode

Locrian Mode in "Key" of E-Flat which starts on D.

It is important for the student to understand that the term *parent key* has been used for the purpose of establishing the accidentals belonging to the particular mode relating the mode to a **specific** key signature, rather than defining the construction of each mode by measuring the distances between each tone. With this parent key relationship, we establish a *family* of modes belonging to each major key. Thus, each major key contains a family of seven different modes. Figure 14 represents the key of E-Flat major, with its related modes.

Fig. 14

IONIAN

DORIAN

PHRYGIAN

LYDIAN

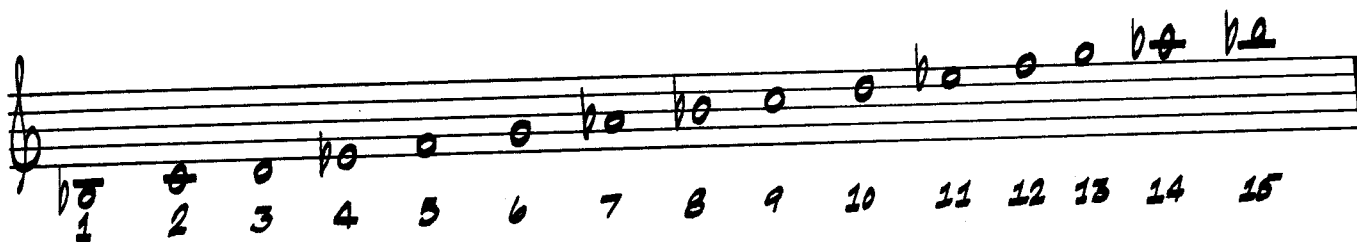
MIXOLYDIAN

AEOLIAN

LOCRIAN

At this point it would be extremely advisable for the student to write out the family of modes belonging to every major key in the manner illustrated in figure 14. Be sure that you can recite the name of any mode along with its parent key and succession of notes, and play on your instrument before proceeding any further. There will be references to modes, in later pages, to establish the basic sound of certain types of chords, and to be used as supplementary material to some "basic" chord type scales.

DOMINANT CHORDS AND RESPECTIVE "SCALES"



The B-Flat mixolydian mode is illustrated in two octaves. The numbers under each tone indicate the position of that tone in this scale. Note that beyond the first octave, tone No. 8, the tones have the same letter names and the numbers corresponding to these tones refer to the respective distances from the starting tone, No. 1.

The following two chords, Dominant Seventh and Dominant Ninth Chord, will be formed by applying a numerical formula to the B-Flat Mixolydian mode. The corresponding alphabetical symbols will also be indicated.

By extracting tones No. 1-3-5-7 from the B-Flat Mixolydian mode, we arrive at the notes forming the B-Flat Dominant Seventh Chord (more commonly called the B-Flat Seventh Chord).



symbol: B \flat 7

Tones No. 1-3-5-7-9 of the B-Flat Mixolydian Mode form the B-Flat Dominant Ninth Chord (more commonly called the B-Flat Ninth Chord).



Symbol: B \flat 9

Alternate Symbol: B \flat ⁹ 7

Alternate Symbol: B \flat 7 ⁽⁹⁾

The student must remember to relate each mixolydian mode to its *parent* key before attempting to apply the numerical formulas for the formation of dominant seventh and ninth chords and before attempting to play the "scale" (mixolydian mode) of the two chords just mentioned. Note that the same scale is used for dominant seventh and dominant ninth chords having the same root. Figure 20 is a chart which shows all dominant seventh chords and respective parent keys.

Fig. 20

CHORD	PARENT KEY	SCALE OF CHORD
C7	F Major	Mixolydian mode starting on C
F7	B \flat Major	Mixolydian mode starting on F
B \flat 7	E \flat Major	Mixolydian mode starting on B \flat
E \flat 7	A \flat Major	Mixolydian mode starting on E \flat
A \flat 7	D \flat Major	Mixolydian mode starting on A \flat
D \flat 7 } C \sharp 7 } ¹⁹	²⁰ { G \flat Major F \sharp Major	Mixolydian mode starting on D \flat Mixolydian mode starting on C \sharp
G \flat 7 } F \sharp 7 } ¹⁹	²⁰ { C \flat Major B Major	Mixolydian mode starting on G \flat Mixolydian mode starting on F \sharp
B7	E Major	Mixolydian mode starting on B
E7	A Major	Mixolydian mode starting on E
A7	D Major	Mixolydian mode starting on A
D7	G Major	Mixolydian mode starting on D
G7	C Major	Mixolydian mode starting on G

¹⁹Enharmonic Chords *sound* the same, but are spelled differently.

²⁰Enharmonic Keys *sound* the same, but are spelled differently.

Figure 21 is a chord tone chart based on the *mixolydian* modes of chord roots.

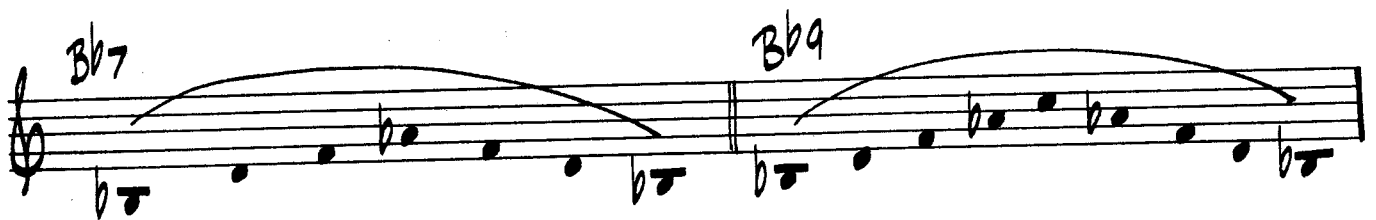
Fig. 21

13th	A	D	G	C	F	B \flat	E \flat	G \sharp	C \sharp	F \sharp	B	E
11th	F	B \flat	E \flat	A \flat	D \flat	G \flat	C \flat	E	A	D	G	C
9th	D	G	C	F	B \flat	E \flat	A \flat	C \sharp	F \sharp	B	E	A
7th	B \flat	E \flat	A \flat	D \flat	G \flat	C \flat	F \flat	A	D	G	C	F
5th	G	C	F	B \flat	E \flat	A \flat	D \flat	F \sharp	B	E	A	D
3rd	E	A	D	G	C	F	B \flat	D \sharp	G \sharp	C \sharp	F \sharp	B
1 (ROOT)	C	F	B \flat	E \flat	A \flat	D \flat	G \flat	B	E	A	D	G

This chord tone chart organizes the tones of all Mixolydian Modes in the order needed for the construction of Dominant Seventh and Dominant Ninth Chords. Reading up from the chord root C (also indicated as tone No. 1), we see the tones: C, E, G, B-Flat, D, F, A, which are all the notes in the C Mixolydian Mode. Note that the ninth, eleventh, and thirteenth are also the second, fourth and sixth tones respectively, as they are the same letter names.

In preparation for the following patterns, be able to recite, write and play the following chords as they are extracted from every Mixolydian Mode: Dominant Seventh Chords and Dominant Ninth Chords. Use the illustrated *routine form* for playing chord tones. It does not require any specific rhythm or tempo.

ROUTINE FORM



The following patterns begin with Dominant Seventh Chords. Note the alphabetical symbols and metronome markings.

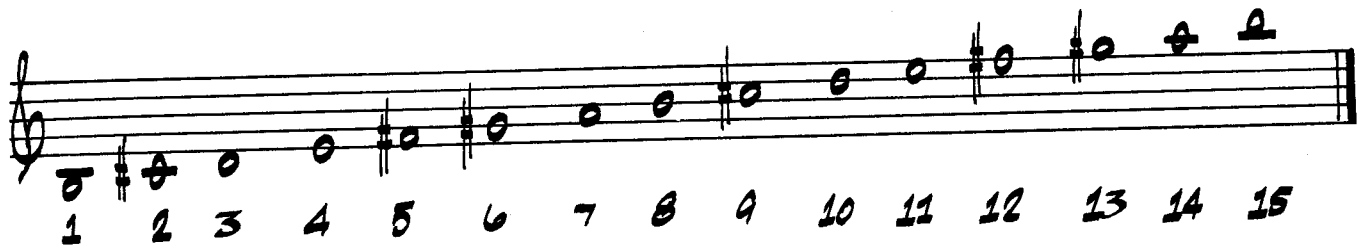
♩ = 100-132

87

♩ = 160-208

88

MINOR CHORDS AND RESPECTIVE "SCALES"



The B Dorian Mode is illustrated in two octaves. The numbers under each tone indicate the position of that tone in this scale. Note that beyond the first octave, tone No. 8, the tones have the same letter name and the numbers corresponding to these tones refer to the respective distances from the starting tone, No. 1.

The following four chords: Minor Triad, Minor Sixth Chord, Minor Seventh Chord and Minor Ninth Chord will be formed by applying a numerical formula to the B Dorian Mode. The corresponding alphabetical symbols will also be indicated.

By extracting the tones No. 1-3-5 from the B Dorian Mode, we arrive at the notes forming the B Minor Triad.



Symbol: Bm

Alternate Symbol: B-

Tones No. 1-3-5-6 of the B Dorian Mode form the B Minor Sixth Chord.



Symbol: Bm6

Alternate Symbol: B-6

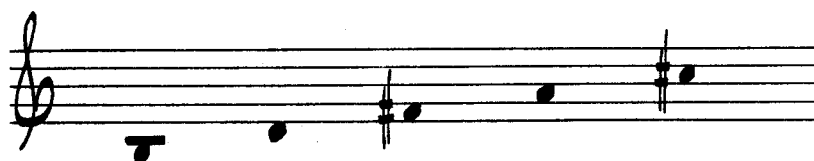
Tones No. 1-3-5-7 of the B Dorian Mode form the B Minor Seventh Chord.



Symbol: Bm7

Alternate Symbol: B-7

Tones No. 1-3-5-7-9 of the B Dorian Mode form the B Minor Ninth Chord.



Symbol: Bm9

Alternate Symbol: Bm⁹7

Alternate Symbol: Bm⁽⁹⁾7

Note that all four chords contain the same triad, B, D, F-Sharp; and *all* four chords *use* the *same* basic scale, the B Dorian Mode, to establish their sound.

The student must remember to relate each Dorian Mode to its *parent* key before attempting to apply the numerical formulas for the formation of the four types of *minor* chords and before attempting to play the scale (dorian mode) of these chords. Figure 22 is a chart which shows all minor seventh chords and respective parent keys.

Fig. 22

CHORD	PARENT KEY	SCALE OF CHORD
Cm7	B \flat Major	Dorian Mode starting on C
Fm7	E \flat Major	Dorian Mode starting on F
B \flat m7	A \flat Major	Dorian Mode starting on B \flat
E \flat m7	D \flat Major	Dorian Mode starting on E \flat
A \flat m7	G \flat Major	Dorian Mode starting on A \flat
[D \flat m7 C \sharp m7]	[C \flat Major B Major]	[Dorian Mode starting on D \flat Dorian Mode starting on C \sharp]
F \sharp m7	E Major	Dorian Mode starting on F \sharp
Bm7	A Major	Dorian Mode starting on B
Em7	D Major	Dorian Mode starting on E
Am7	G Major	Dorian Mode starting on A
Dm7	C Major	Dorian Mode starting on D
Gm7	F Major	Dorian Mode starting on G

Fig. 23

Figure 23 is a chord tone chart based on the *dorian* modes of chord roots.

13th	A	D	G	C	F	B \flat	D \sharp	G \sharp	C \sharp	F \sharp	B	E
11th	F	B \flat	E \flat	A \flat	D \flat	G \flat	B	E	A	D	G	C
9th	D	G	C	F	B \flat	E \flat	G \sharp	C \sharp	F \sharp	B	E	A
7th	B \flat	E \flat	A \flat	D \flat	G \flat	C \flat	E	A	D	G	C	F
5th	G	C	F	B \flat	E \flat	A \flat	C \sharp	F \sharp	B	E	A	D
3rd	E \flat	A \flat	D \flat	G \flat	C \flat	F \flat	A	D	G	C	F	B \flat
1 (ROOT)	C	F	B \flat	E \flat	A \flat	D \flat	F \sharp	B	E	A	D	G

This chord tone chart organizes the tones of all Dorian Modes in the order needed for the construction of the four types of Minor Chords. Reading up from the chord root C (also indicated as tone No. 1), we see the tones C, E-Flat, G, B-Flat, D, F, A, which are all the notes in the C Dorian Mode. Note that the ninth, eleventh, and thirteenth are also the second, fourth and sixth tones respectively, as they are the same letter names.

In preparation for subsequent patterns, be able to recite, write and play the following chords as they are extracted from every Dorian Mode: Minor Triads, Minor Sixth Chords, Minor Seventh Chords and Minor Ninth Chords. Use the illustrated *routine form* for playing the chord tones. It does not require any specific rhythm or tempo.

ROUTINE FORM



This note added to fill out the chord.
It does not change the sound of the
chord.



The following patterns begin with Minor Triads. Note the alphabetical symbols and the metronome markings.

♩ = 132

101

Cm Dm Em F#m A#m Bbm

Cm Bbm A#m F#m Em Dm

Cm C#m Ebm Fm Gm Am Bm

C#m Bm Am Gm Fm Ebm C#m

HARMONIC FUNCTIONS OF MAJOR, DOMINANT AND MINOR SEVENTH CHORDS

In order to establish the *basic* functions of Major, Dominant and Minor Seventh chords we will refer, once again, to *seventh chords built on tones of a Major scale*. Figure 24 illustrates the *seventh chords* formed on the tones of the B-Flat Major Scale.

Fig. 24

B^bm7
Cm7
Dm7
E^bm7
F7
Gm7
A^ø7

IM7
IIm7
IIIIm7
IVm7
V7
VIIm7
VII^ø7

(half-diminished seventh)

The seventh chord that is formed on the VIIth scale tone is correctly labeled, although it has not been discussed at this point.

The detailed analysis of the seventh chords in figure 24 will produce the same results in ANY major key.

In the key of B-Flat Major, seventh chords formed on tones I and IV are Major Seventh chords. In the same key, seventh chords formed on tones II, III and VI are Minor Seventh chords. Seventh chords formed on tones V and VII are Dominant and Half-Diminished, respectively.

The use of the Roman Numeral system for the naming of chords which are formed in a particular *key* is not new. The manner in which it is used, however, (in figure 24) is often subject to much controversy by music theorists. The authors feel that the use of the Roman Numeral system as illustrated in figure 24 will suffice the needs of this book.

From the analysis of seventh chords in the key of B-flat Major we can conclude that:

1. Major Seventh Chords may belong to *two* possible keys: functioning as IM7 in one key and IVM7 in another.
2. Minor Seventh Chords may belong to *three* possible keys: functioning as IIm7 in one key, IIIIm7 in another key, and VIIm7 in another.
3. Dominant Seventh Chords may belong to *ONE* key: functioning as the V7.
4. Half-diminished Seventh Chords may belong to *ONE* key: functioning as the VIIo7.

These conclusions will **ALWAYS** be true in *ANY* major key.

The following illustration uses specific chord names to reinforce the above conclusions:

B-flat M7 could function as the IM7 in the key of B-flat Major, or as the IVM7 in the key of F Major.

Cm7 could function as IIm7 in B-flat Major, IIIIm7 in A-flat Major, and VIIm7 in E-flat Major, Dm7 could function as IIm7 in C Major, IIIIm7 in B-flat Major, and VIIm7 in F Major.

E-flat M7 could function as IM7 in E-flat Major, and IVM7 in B-flat Major.

F7 functions **ONLY** as the V7 in B-flat Major.

Gm7 could function as IIm7 in F Major, IIIIm7 in E-flat Major, and VIIm7 in B-flat Major.

A Half-diminished 7 functions **ONLY** as the VII Half-diminished 7 in B-flat Major.

We can state in general terms that, in most instances, the M7 chord is likely to function as IM7 rather than IVM7. Also the m7 chord functions more commonly as a IIm7 than as a IIIIm7 or VIIm7. The student should note here that the *blanketing* of the functions of the M7 and the m7 chords is stated for the sole purpose of establishing the *most common functions* of these two types of seventh chords, and *not* to exclude the possibilities of their functioning as previously described.

If we were to examine any piece of *sheet music* to a standard or pop tune, it would probably contain alphabetical chord symbols just above the melody. If we check the very last chord, it will be a Major chord built on the same root as indicated by the *key signature* shown at the very beginning of the piece (assuming that the tune we are dealing with is written in a major key). Thus, this M7 (which could also be a M6 or M Triad, in which cases the *function* would be the same) is functioning as a IM7. If we would check the chords prior to this one, we would probably find (two or possibly four beats prior to the M7) a Dominant Seventh chord which would be a V7 chord of the same key. *Usually* there will be a m7 chord, just before the Dominant Seventh previously mentioned, which will belong to the same key as the V7 and IM7 previously mentioned, and it will function as a IIm7 in this key. In this manner we arrive at a *progression* of chords labeled: IIm7-V7-IM7.

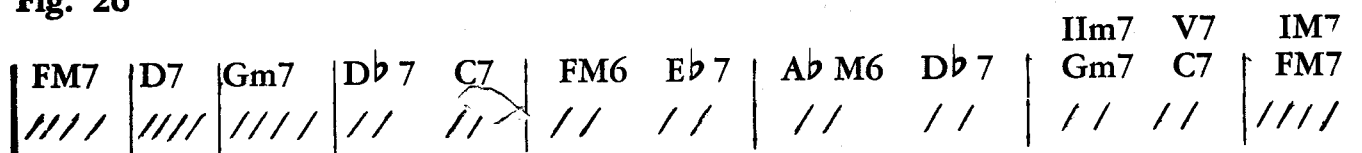
Figure 25 is an illustration of the last eight measures of a standard tune which is in the key of F Major. Note the last four measures.

Fig. 25

The figure shows a musical staff with eight measures. Above the staff, the chords are labeled: FM7, Ab7, Gm7, C7, and FM7. The last four measures (measures 4, 5, 6, and 7) are labeled below the staff as IIm7, V7, and I7. The staff contains rhythmic notation consisting of slanted lines and a double bar line at the end.

Although there may be exceptions, it is safe to conclude that *most* standard or pop tunes will end with a IIm7-V7-IM7 progression that may be four measures in length (as in fig. 25), or two measures in length, as in figure 26.

Fig. 26



The IIm7-V7-IM7 progression is important, therefore, because it establishes a specific *key*. Also, the scales of these three chords will share exactly the same *key signature*. In fig. 25, the Gm7 uses a Dorian Mode on the note G (which has the *parent* key of F Major); and the FM6 uses the F Major scale.²³

It is not always necessary to wait until the end of a tune to find a IIm7-V7-IM7 progression. Frequently, tunes will modulate (change *keys*) several times before they actually are ended, even though there is not an actual change of key signature written for every time it happens. This constant modulation can be checked by first being able to recognize quickly successions of Minor Seventh and Dominant Seventh chords which exist in the relationship of IIm7-V7 to each other (that is, having a m7 followed immediately by a 7 chord both with the same *parent* key). Another way to check such modulations would be to recognize immediate successions of m7, 7 and M7 chords that form the IIm7-V7-IM7 progression which we have previously mentioned.

Figure 27 is a chart which will help the student recognize the IIm7-V7 and IIm7-V7-IM7 progressions as they are used in standard tunes. It is advisable to MEMORIZE the chart.

Fig. 27 (chart showing the IIm7, V7, and IM7 Chord in all Major keys)

In The Key of:	IIm7	V7	IM7
C Major	Dm7	G7	CM7
F Major	Gm7	C7	FM7
B ^b Major	Cm7	F7	B ^b M7
E ^b Major	Fm7	B ^b 7	E ^b M7
A ^b Major	B ^b m7	E ^b 7	A ^b M7
D ^b Major	E ^b m7	A ^b 7	D ^b M7
G ^b Major	A ^b m7	D ^b 7	G ^b M7
B Major	C [#] m7	F [#] 7	BM7
E Major	F [#] m7	B7	EM7
A Major	Bm7	E7	AM7
D Major	Em7	A7	DM7
G Major	Am7	D7	GM7

²³An exhaustive study of the II-V progression appears in David Baker's book of patterns, *Developing Improvisational Facility—The II-V Progression* (Libertyville, Illinois: National Education Services, 1968).

The following is a standard chord progression. Note that all IIm7-V7 and IIm7-V7-IM7 occurrences have been bracketed and their keys indicated below them.

Fm7 Eb:	Bb7 Eb:	EbM7 Eb:	Fm7 (Eb:)	Bb7 Eb:	EbM6 Eb:	Fm7 (Eb:)	Bb7 Eb:	Gm7 F:	C7 F:	Fm7 Eb:	Bb7 Eb:	EbM6 Eb:	
Bbm7 Ab:	Eb7 Ab:	AbM7 Ab:	Bbm7 (Ab:)	Eb7 Ab:	AbM7 Ab:	Cr7 Bb:	F7 Bb:	BbM7 Bb:	Cm7 (Bb:)	F7 Bb:	Bb7 Bb:		
Fm7 Eb:	Bb7 Eb:	EbM7 Eb:	Fm7 (Eb:)	Bb7 Eb:	EbM6 Eb:	Fm7 (Eb:)	Bb7 Eb:	Gm7 F:	C7 F:	Fm7 Eb:	Bb7 Eb:	EbM6 Eb:	C7 Eb:
Fm7 (Eb:)	Bb7 Eb:	EbM6 Eb:											

The sheet music to this particular tune is written in the key of E-flat Major. However, the illustrated chord progression points out *modulations* to four other keys, though the sheet music remains in the key signature of E-flat Major throughout. The ability of the student to recognize possible *modulations* is dependent upon the mastery of the chart shown in figure 27.

A musician who can read accurately in *groups* of notes, rather than just a few at a time, will develop good reading habits and greatly improve sight reading. In the same manner, an improviser who can read groups of chords that are related to each other, rather than improvising on one chord at a time, will also be developing good reading habits which consequently allow for more spontaneity in playing.

Because of the frequent occurrences of the IIm7-V7 and IIm7-V7-IM7 chord progressions, the next series of patterns will deal exclusively with this progression.

The IIm7-V7 progression will *usually* be found in one or two measures:

IIm7	V7	(or)	IIm7	V7
///	///		////	////

The IIm7-V7-IM7 progression will *usually* be found in two or four measures:

IIm7	V7	IM7	(or)	IIm7	V7	IM7	IM7
///	///	////		////	////	////	////

Patterns using II_m7-V7 Progression (one measure):

This pattern uses the scale of the m7 chord in one complete octave, in the ascending form.

♩ = 96-138

123

(Continue in same manner)

C_m7 F#7 E_m7 A7 C_m7 F7 E_b_m7 A_b7 F#_m7 B7

A_m7 D7 F_m7 B_b7 A_b_m7 D_b7 B_m7 E7 D_m7 G7

Practice Pattern No. 123, using *descending* forms of the illustrated scales throughout.

IIm7-V7 Progression (one measure):

This pattern is based on the m7th scale. Arabic numbers indicate the succession of tones, from the m7 scale, necessary to complete this pattern with remaining IIm7-V7 (one measure) progressions in all keys.

$\text{♩} = 120-160$

1 3 2 4 3 5 4 6

Cm7 F7 Dm7 G7 Em7 A7 F\#7 B7

Abm7 Db7 Bbm7 Eb7 Cm7 F7 Bbm7 Eb7 Abm7 Db7

F\#m7 B7 Em7 A7 Dm7 G7 Cm7 F7 C\#m7 F\#7 Em7 Ab7

Fm7 Bb7 Gm7 C7 Am7 D7 Bm7 E7 C\#m7 F\#7

Bm7 E7 Am7 D7 Gm7 C7 Fm7 Bb7 Ebm7 Ab7 C\#m7 F\#7

²⁴On almost all albums prior to 1960, John Coltrane uses chromatic neighbor tones as embellishments on the lowest tones of a phrase.

IIIm7-V7 Progression (one measure):

This pattern is based on the fragments 1-2-3-5 of EACH chord scale.

$\text{♩} = 120-160$

125

25

1 2 3 5 1 2 3 5 1 2 3 5 1 2 3 5 (Continue in same manner)

Elm7 Ab7 Elm7 A7 Fm7 Bb7 F#m7 B7 Gm7 C7 Alm7 Db7 Am7 D7 Bbm7 Eb7

Bm7 E7 Cm7 F7 Bm7 E7 Bbm7 Eb7 Am7 D7 Alm7 Db7

Gm7 C7 F#m7 B7 Fm7 Bb7 Elm7 Ab7 Dm7 G7 C#m7 F#7 Cm7 F7

²⁵John Coltrane, "Giant Steps," on *Giant Steps* (Atlantic S-1311), John Coltrane Quartet.

IIm7-V7-IM7 Progression (one measure):

This pattern is based on chord tones of the respective chords shown. Arabic numbers indicate the succession of tones from each chord, necessary to complete this pattern in all keys.
IIm7-V7 Progression (one measure):

$\text{♩} = 144-208$

126

$Cm7$ $F7$ $Fm7$ $Bb7$ $Bbm7$ $Eb7$ $Ebm7$ $A7$ $Akm7$ $D7$

26

1 3 5 7 3 1 3 5 7 3

$Cm7$ $F#7$ $F#m7$ $B7$ $Bm7$ $E7$ $Em7$ $A7$ $Am7$ $D7$ $Dm7$ $G7$ $Gm7$ $C7$ $Cm7$ $F7$

IIm7-V7 Progression (one measure):

This pattern is based on two sets of fragments which are to be extracted from the *scales* of the illustrated *chords*. The fragment 3-4-5-7 is to be extracted from the scale of the minor 7th chord, and the fragment 3-4-5-1 is to be extracted from the scale of the dominant seventh chord. Practice Pattern No. 127 with the *chords* in Patterns No. 123-126.

$\text{♩} = 108-138$

127

$Cm7$ $F7$

3 4 5 7 3 4 5 1

²⁶See the Thelonius Monk composition "Round Midnight." This fragment occurs in the third and fifth measures of the tune.

AUGMENTED CHORDS AND RESPECTIVE SCALES



The C *whole tone* scale is illustrated in one octave. The numbers under each tone indicate the position of that tone *in this scale*. In all scales covered up to this point the distances between tones No. 1 and No. 8 were octaves. The student will notice, however, that in the illustrated C *whole tone* scale, the distance between tones No. 1 and No. 7 appears to be a seventh interval. Theoretically it is an *augmented* seventh interval which when spelled enharmonically becomes an octave. In order to present the C *whole tone* scale in a manner that the student will find less confusing to utilize, we will change the *spelling* to the following:



This will be the accepted spelling for the C *whole tone* scale and any other scale that will be derived from it.

The *whole tone* scale has no relationship to *key*. It is unique because it contains a *whole* step between each note of the scale, and thus it is called a *whole tone* scale. In order to produce a whole tone scale from any tone, all that is necessary is to have a whole step between each note until we have reached the octave above the starting note (which will actually be tone No. 7 in the whole tone scale).

A whole tone scale built on the note D would look like this:

D	E	F#	G#	A#	C	D
1	2	3	4	5	6	7

A careful examination of the C whole tone scale will show that the whole tone scale produced on the note D contains the same notes. In the same manner, whole tone scales produced from the starting notes E, F-sharp, G-sharp, A-sharp, will also contain the same tones with the sole exception of the starting tone. Thus the C whole tone scale is used to form five other *whole tone scales*, all having the same tones but with different starting pitches.

Now that we have established the starting notes and specific tones of six whole tone scales, we can do the same for the remaining six scales by starting on the note D-flat. The following example illustrates the D-flat *whole tone* scale:



The numbers under each tone indicate the position of that tone in this scale (note that tone No. 7 has been changed from a C-sharp to a D-flat in order that the student might be able to manipulate the tones easier). The D-flat scale whole tone will also produce five other whole tone scales with the starting pitches E-flat, F, G, A and B. These whole tone scales will contain the same tones as in the illustrated D-flat whole tone scale with the exception of the starting note.

Figure 28 illustrates the tones of all whole tone scales. This chart will be helpful to the student when applying the numerical formulas dealing with the formation of the Augmented Triad and the Augmented Seventh Chord.

Fig. 28 (chart containing tones of all whole tone scales):

Tone No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
C	D	E	F \sharp	G \sharp	A \sharp	C
D	E	F \sharp	G \sharp	A \sharp	C	D
E	F \sharp	G \sharp	A \sharp	C	D	E
F \sharp	G \sharp	A \sharp	C	D	E	F \sharp
G \sharp	A \sharp	C	D	E	F \sharp	G \sharp
A \sharp	C	D	E	F \sharp	G \sharp	A \sharp
D \flat	E \flat	F	G	A	B	D \flat
E \flat	F	G	A	B	D \flat	E \flat
F	G	A	B	D \flat	E \flat	F
G	A	B	D \flat	E \flat	F	G
A	B	D \flat	E \flat	F	G	A
B	D \flat	E \flat	F	G	A	B

The use of enharmonic tones is justifiable whenever the student desires. The enharmonic tone does not change the *sound* of the tone but rather the spelling, which may allow the student to use the material related to *whole tone* scales. For reference, the enharmonic tones are: C-sharp and D-flat; D-sharp and E-flat; E-sharp and F; F-sharp and G-flat; G-sharp and A-flat; A-sharp and B-flat; B-sharp and C; F-flat and E; C-flat and B.

By extracting the tones No. 1-3-5 from any *whole tone* scale, we arrive at the Augmented Triad on that particular root. Figure 29 illustrates the tones of the E AUGMENTED TRIAD.

Fig. 29



Symbol: E+

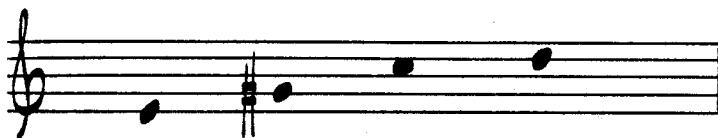
Earlier in the book we mentioned that a *triad* was a three *note* chord which *measured* five tones from bottom to top counting the first tone as No. 1.

The previous example, which illustrates the tones of the E Augmented Triad, would seem to contradict our earlier definition of a *triad*. If the student were to count the tones in the illustrated Augmented Triad, he would be correct in counting *six* tones. The reason for this is simple. The tones of all of the *whole tone* scales shown in figure 28 have been re-arranged to create the least possible difficulty for the student when playing these scales on his instrument. Enharmonic spellings were automatically included in this chart. Consequently, when applying the given formula for the extraction of Augmented Triads from their respective *whole tone* scales, we can arrive at a *triad* which actually measures six tones from the bottom to the top note, as in the case of the illustrated example. The correct *spelling* for the E Augmented Triad should be E-G-sharp-B-sharp. The B-sharp, however, was replaced with the enharmonic note C in the E whole tone scale. This is why the illustrated E Augmented Triad *appears* to have *six* tones from the root to the top tone, instead of *five*. This will happen several times as the student proceeds to extract other *augmented triads* from their respective whole tone scales. The student is cautioned *not* to be misled into thinking the augmented *triad* has *six* tones.

In the same manner, we have previously defined a *seventh* chord as a four note chord which measures *seven* tones from bottom to top, counting the bottom note as No. 1. When applying the formula for the extraction of *Augmented Seventh* chord tones from their respective *whole tone* scales, the student will probably come up with the notes C-E-G-sharp-A-Sharp, which represent the C Augmented Seventh Chord. If the student were to count the tones from C to A-sharp there would be *six*. The *correct* spelling for this chord is C-E-G-sharp-B-flat. The tone A-sharp is used in the scale tone chart (fig. 28) to show that there is a relationship to be observed in *other* whole tone scales that were derived from the C whole tone scale. Once again the student is cautioned *not* to be misled into thinking that any given Augmented Seventh chord contains *six* tones from bottom to top instead of *seven*.

By extracting tones No. 1-3-5-6 from a *whole tone* scale, we arrive at the Augmented Seventh chord on that particular root. Figure 30 illustrates the tones of the *E Augmented Seventh Chord*:

Fig. 30



Symbol: E+7

Alternate Symbol: E7 (#5)

Alternate Symbol: E7 (+5)

Alternate Symbol: E+⁷5

Note that both chords contain the same triad, E-G-sharp-C, and both chords use the same scale, the E whole tone scale, to establish their sound.

In preparation for the following patterns, be able to recite, write and play the following chords as they are extracted from their respective whole tone scales, Augmented Triads and Augmented Seventh Chords. Use the illustrated *routine form* for playing the chord tones, since it does *not* require any specific rhythm or tempo.

ROUTINE FORM

Handwritten musical notation on a single staff. It features two measures of music, each with a slur over it. The first measure is labeled **E+** and the second is labeled **E+7**. The notes are: E4, F#4, G4, A4, B4, C5, D5, E5.

Handwritten musical notation for measures 149-154. Measure 149 is marked with a tempo of $\text{♩} = 60-120$ and contains a melodic line starting with **C+**. Measures 150-154 are indicated by slash marks. The chord sequence for measures 150-154 is: **F+**, **B+**, **E+**, **A+**, **D+**, **G+**, **C+**.

Handwritten musical notation for measures 155-160. Measure 155 is marked with a tempo of $\text{♩} = 100-132$ and contains a melodic line starting with **C+**. Measures 156-160 are indicated by slash marks. The chord sequence for measures 156-160 is: **D+**, **D+**, **E+**, **E+**, **F+**, **F+**, **G+**.

Handwritten musical notation for measures 161-166. Measures 161-165 are indicated by slash marks. Measure 166 contains a melodic line starting with **A+**. The chord sequence for measures 161-166 is: **A+**, **A+**, **B+**, **B+**, **C+**, **E+**, **B+**, **B+**, **A+**.

Handwritten musical notation for measures 167-172. Measures 167-172 are indicated by slash marks. The chord sequence for measures 167-172 is: **A+**, **G+**, **F+**, **F+**, **E+**, **E+**, **D+**, **D+**, **C+**.

J=160-208

Note: Each chord lasts for two measures.

151

C+7 % F+7 Bb+7 Eb+7 Ab+7

Db+7 F#+7 B+7 E+7 A+7 D+7 G+7 C+7

J=60-120

152

C+7 Db+7 D+7 Eb+7 E+7 F+7 F#+7

G+7 Ab+7 A+7 Bb+7 B+7 C+7 B+7 Bb+7 A+7

Ab+7 G+7 F#+7 F+7 E+7 Eb+7 D+7 Db+7 C+7

$\text{♩} = 144 - 192$

157 C^+

Practice Pattern No. 157 using EVERY starting tone on chart in fig. 28.

DIMINISHED CHORDS AND RESPECTIVE SCALES

The *C diminished* scale is illustrated in one octave. The number under each tone indicates the position of that tone *in this scale*. The numbers appear to indicate that the distance from the starting tone (C) to the last tone (C) is a *ninth*. This is misleading because we have learned that this distance is called an octave. However, due to the interval construction of the diminished scale, there are nine notes from the starting tone to the repetition of that tone in the next octave higher. The diminished scale has no specific relationship to a *key*; therefore, we must rely on an interval analysis for the purpose of establishing the successive tones of this scale from any starting tone. The interval analysis of the *diminished* scale is: whole step, half step, whole step, half step, whole step, half step, whole step and half step. Figure 31 illustrates the *C diminished* scale with the interval analysis included between the tones. Note the use of the enharmonic spelling for tone No. 7. Previously, tone No. 7 was labeled as B double-flat. The enharmonic spelling (A) was used for convenience and ease in reading. In future references to tones of any other diminished scales, this convenience factor, rather than the theoretically correct interval spelling, will be used.

Fig. 31

In order to produce a diminished scale from any tone, all that is necessary, then, is to have alternating intervals of *whole* and *half steps* until the starting tone has been repeated in the next octave higher, giving nine tones in all from bottom to top.

A diminished scale on the note D-flat would look like this:

D^b	E^b	E	F[#]	G	A	B^b	C	D^b
whole step	half step	whole step	half step	whole step	half step	whole step	half step	whole step

A diminished scale on the note D would look like this:

D	E	F	G	A^b	B^b	B	C[#]	D
whole step	half step	whole step	half step	whole step	half step	whole step	half step	whole step

A closer look at the tones of the C diminished scale will show that when using the tones E-flat, G-flat and A as starting points, the student is actually playing the same tones as he did when starting on C. The only difference is the starting pitch. Thus the C diminished scale will yield three other diminished scales: the E-flat diminished scale, the G-flat diminished scale and the A diminished scale.

Likewise, the D-flat and D diminished scales will also produce three other scales. The D-flat diminished scale will yield the E diminished scale, the G diminished scale, and the B-flat diminished scale. The D diminished scale will yield the F diminished scale, the A-flat diminished scale, and the B diminished scale.

Figure 32 illustrates the tones of all diminished scales. This chart will be helpful to the student when applying numerical formulas dealing with the formation of the Diminished Triad and Diminished Seventh Chord.

Fig. 32 (chart showing tones of all diminished scales)

Tone No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9
C	D	E^b	F	G^b	A^b	A	B	C
E^b	F	G^b	A^b	A	B	C	D	E^b
G^b	A^b	A	B	C	D	E^b	F	G^b
A	B	C	D	E^b	F	G^b	A^b	A
D^b	E^b	E	F[#]	G	A	B^b	C	D^b
E	F[#]	G	A	B^b	C	D^b	E^b	E
G	A	B^b	C	D^b	E^b	E	F[#]	G
B^b	C	D^b	E^b	E	F[#]	G	A	B^b
D	E	F	G	A^b	B^b	B	C[#]	D
F	G	A^b	B^b	B	C[#]	D	E	F
A^b	B^b	B	C[#]	D	E	F	G	A^b
B	C[#]	D	E	F	G	A^b	B^b	B

The student is cautioned that when extracting tones belonging to Diminished Triads and Diminished Seventh Chords from the chart illustrated in figure 32, he will not always find a distance of *five* tones from the bottom to the top in Diminished Triads. Also, there will not always be a distance of *seven* tones, from bottom to top, in Diminished Sevenths. The presence of enharmonic spellings accounts for the seemingly inconsistent definitions of *triads* and *seventh chords* that were established in the earlier pages of this book.

By extracting tones No. 1-3-5 from any diminished scale, we arrive at the Diminished Triad on that particular root. Figure 33 illustrates the tones of the *E-flat Diminished Triad*:

Fig. 33

Symbol: $E\flat^\circ$



By extracting tones No. 1-3-5-7 from any diminished scale, we arrive at the Diminished Seventh Chord on that particular root. Figure 34 illustrates the tones of the *E-flat Diminished Seventh Chord*:

Fig. 34

Symbol: $E\flat^\circ 7$



Note that both chords contain the same triad, E-flat-G-flat-A, and both chords use the same scale, the E-flat diminished scale, to establish their sound.

In preparation for the following patterns, be able to recite, write and play the following chords as they are extracted from their respective scales, Diminished Triads and Diminished Seventh Chords.

Use the illustrated *routine form* for playing the chord tones, since it does not require any specific rhythm or tempo.

ROUTINE FORM



The following patterns begin with Diminished Triads. Note the alphabetical symbols and metronome markings.

♩=138-208

158

C0 D0 E0 G^b0 A^b0 B^b0 C⁰

B^b0 A^b0 G^b0 E0 D0 C0 D^b0 E^{bb}0 F0 G0

A0 B0 D^b0 B0 A0 G0 F0 E0 D0

♩=138-208

Note: Three beats per measure.

159

C0 D^b0 D0 E^{bb}0 E0 F0 G^b0 G0 A^b0

A0 B^b0 B0 C0 B0 B^b0 A0 A^b0

G0 G^b0 F0 E0 E^{bb}0 D0 D^b0 C0

173

Chords for exercise 173: $G M^{\sharp}$, G_7 , $C M_7$, C_7 , $F M^{\sharp}$, F_7 , $B M_7$, B_7 , $E D M^{\sharp}$, $E D_7$, $A b M_7$, $A b_7$, $D M_7$, D_7 , $G D M_7$, G_7 , $B M^{\sharp}$, B_7 , $E M^{\sharp}$, E_7 , $A M_7$, A_7 , $D M_7$, D_7 .

Fingerings: 9 7 6 3 5 6 4 7, 5 3 1 7 6 7

TURNAROUNDS

Most tunes are divided into sections (i.e., A-A-B-A), each section being eight measures in length. At the end of each phrase or section, we often find two measures of a tonic (I) chord. This phrase-ending or harmonic cadence is frequently involved with the first or second ending, or in some cases a measure or two before the repeat sign. Because there *is* so often a tonic chord in the last two measures, and because the beginning of new sections (or repeats of previous sections) often *begins* with a tonic chord, a device is needed which would remove the excessive use of the tonic and at the same time give the phrase-endings a sense of direction, namely to return gracefully to the beginning of a repeated section. The device is called a turnaround or turnback³⁶ and replaces the last two measures of motionless tonic. There are many kinds of turnarounds, involving different harmonic formulas, although most will begin with a tonic chord (but only for about two beats) and will end with either a V7 chord (dominant) or a flat-II7 or flat-IIM7 (dominant substitute).³⁷ The harmonic formula for Patterns No. 174-177 is a very common turnaround in the jazz idiom, appearing in countless jazz lines and in revised progressions of standard tunes.

174

Tempo: $\text{♩} = 160-208$

Chords: C, $E b$, $A b$, $D b$, b^+ , C, $\text{C} \circ$

38

Transpose the above pattern to all twelve keys.

³⁶David Baker, *Jazz Improvisation* (Chicago: Maher Publications, Division of John Maher Printing Company, 1969). Baker uses the alternate term *turnback*. Chapter VIII of his book is devoted to a discussion of turnbacks.

³⁷Coker, another source for turnarounds is appendix C.

³⁸Examples of this turnaround can be found in these jazz lines: "Half-Nelson" by Miles Davis, "Ladybird" by Tadd Dameron and "Israel" by John Carisi.

♩ = 160-208

175

Transpose the above pattern to all twelve keys.

♩ = 160-208

176

Transpose the above pattern to all twelve keys.

♩ = 160-208

177

Transpose the above pattern to all twelve keys.

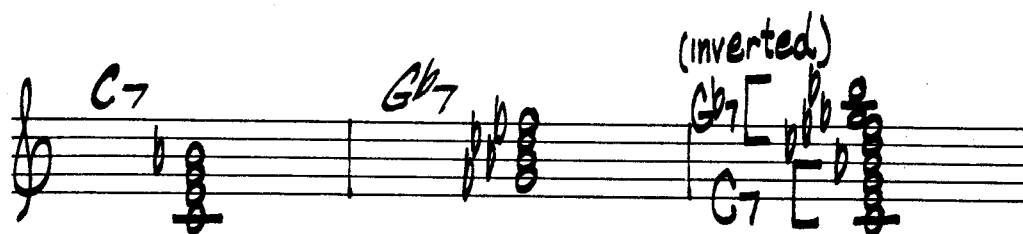
So far, the only type of ninth chord discussed has been the one in which the ninth was a major second above the octave, or a major ninth above the root (i.e., a C7 9). However, when the ninth is added to the dominant seventh chord (1-3-5-♭7), it can also be augmented (+9) or minor (flat-9—sometimes referred to as a diminished ninth):

In any case the chord retains its dominant function as long as the third is major and the seventh is minor, regardless of the type of ninth used. Since the altered forms of the ninth are used with at least the same frequency as the major ninth, the following patterns are included to introduce the student to the appearance and sound of the diminished and augmented ninth chords.

POLYCHORDS

Polychords³⁹ or bitonal triads⁴⁰ (alternate term) exist when two chords are used simultaneously. In the jazz idiom⁴¹ the second chord, normally a triad, is added above the first chord, usually the given chord and nearly always some kind of seventh chord, providing a very colorful effect; yet, the added triad is chosen so as not to change the function of the bottom (given) chord. The proper choice of the added triad is achieved in one of two ways: either by using both the given chord and one of its substitutions; or by locating a second chord whose tones are made up of ninths, elevenths, or thirteenth of the given chord plus, perhaps, a tone or two from the given chord itself. It has already been stated that ninths may be major, minor, or augmented when applied to the dominant seventh. It is also true that the fifth of a dominant seventh may be unaltered (perfect), lowered (diminished), or raised (augmented), without changing the chord's function. The eleventh can be perfect or augmented, and the thirteenth is usually major, though in rare cases it can be lowered (minor thirteenth). With all these possibilities for the dominant seventh (other types of seventh chords also have some of these possibilities, though not as many), it is relatively easy to find tones which could make up a separate, foreign triad.

To illustrate both methods with a single example, let us suppose that the given chord is a C7, which usually functions as V7 in the key of F. A mere glimpse into the subject of chord substitution would tell us that a G-flat7 (flat-II7) is a very common substitution for C7 (V7). Now suppose that we use them *simultaneously* (say with a C7 on the bottom and the G-flat7 superimposed above it (their positions in this particular case *could* be reversed). The total effect would remain a dominant one, since all tones of the G-flat7 could be explained away as being members of a C7 with acceptable alterations and/or added tones above the seventh of the chord. The root of the G-flat7 (G-flat) could be thought of as the lowered fifth of the C7 (or as the augmented eleventh, F-sharp). The third of the G-flat7 (B-flat) is the seventh of the C7, the fifth of the G-flat7 (D-flat) is the lowered ninth of the C7, and the seventh of the G-flat (F-flat or E) is the third of the C7. So the total effect would be that of a C7 with a flatted ninth and an augmented eleventh, a colorful chord, yet the ninth and eleventh are really quite common, whether a polychord is used or not.



Many other possibilities for polychords exist for dominant seventh chords as well as other types of seventh chords.⁴² Note that in the above example it was not really necessary to include the seventh of the G-flat chord and, as stated earlier, the added chord is more often a triad than a seventh chord. Beginning with Pattern No. 180, a large number of polychordal possibilities are investigated as well as methods for putting polychords together in patterns that will permit a non-keyboard instrument to sound two chords together by alternation. Patterns No. 180-197 should be transposed and practiced on the other five pairs (G, D-flat; D, A-flat; E-flat, A; E, B-flat; F, B).

³⁹Coker, Chapter 10.

⁴⁰Baker, *Jazz Improvisation*.

⁴¹The use of polychords in traditional music is quite different and generally freer, as exemplified in Igor Stravinsky's "Agon" ballet.

⁴²Coker, p. 68. A complete listing of such possibilities can be found here.

♩ = 80-120

180

(descending)

Transpose this pattern to all other pairs (i.e., D-flat, G; D, A-flat; E-flat, A; E, B-flat; F, B; etc.)

♩ = 80-120 (ascending)

181

(descending)

Transpose this pattern to all other pairs.

♩ = 80-120 (ascending)

182

(descending)

Also start on D-flat, D, E-flat, E, and F.



THE LYDIAN AUGMENTED SCALE⁵³

While it is true that most of the basic chords can be accommodated by the major scale, modal scales derived from major scales, and minor scales, it is also true that the jazz idiom includes the consistent use of altered chords and chords embellished by various types of ninths, elevenths, and thirteenths. It has already become apparent that the diminished scale, the whole-tone scale, and the augmented scale are needed to accommodate some chords with such alterations and embellishments. The LYDIAN AUGMENTED SCALE is an extremely useful scale in this respect. It has two kinds of application to dominant seventh chords, one resulting in the addition of a flatted fifth (or augmented eleventh) and the other application supplying an augmented fifth, a flatted ninth, an augmented ninth, and an augmented eleventh. An explanation of the structure of the Lydian augmented scale follows, as well as its application and a number of patterns to aid the student in absorbing the scale.⁵⁴

LYDIAN AUGMENTED SCALE

	W.T. ⁵⁵	W.T.	W.T.	W.T.	S.T. ⁵⁵	W.T.	S.T.	
SCHEME:	I	II	III	#IV	#V	VI	VII	I

(Same as a major scale with a raised 4th and 5th step)

C Lydian augmented scale



Function: Fits dominant 7th, lowered 5th ($\flat 5$); or dominant 7th raised 5th, raised 9th, lowered 9th, augmented 11th

$$\begin{pmatrix} +11 \\ \flat 9 +9 \\ 7 \\ +5 \end{pmatrix}$$

⁵³The term "Lydian augmented scale" as well as the scale itself owe their invention and application to George Russell. Russell's book, *The Lydian-Chromatic Concept* (New York: Concept Publishing Company, 1959), is strongly recommended to the inquisitive student of jazz improvisation.

⁵⁴Additional patterns on the Lydian augmented scale may be found in David Baker's *Developing Improvisational Facility (Based on the Lydian Concept)* (Libertyville, Illinois: National Education Services, 1968).

⁵⁵W. T. is an abbreviation for a whole tone or whole step. S. T. is an abbreviation for a semitone or half step.

In the case of the dominant 7th, flat 5th ($b5$), the root of the *scale* is the *seventh* of the *chord*.

EXAMPLE:

$D_7(b5)$

C lydian augmented scale.

In the case of the dominant 7th, raised 5th, raised 9th, lowered 9th, and augmented 11th, the root of the scale is the *third* of the chord.

EXAMPLE:

$A\flat_7(\sharp 9 \flat 9 \sharp 5 \sharp 11)$

There are 12 lydian augmented scales.

Learn all twelve scales by playing them over and over throughout the range of your instrument. Then learn them as you did the major scale (by playing them in thirds, etc.). Be sure to practice the scales in all twelve keys.

C lydian augmented scale
(ascending)

(descending)

251

C lydian augmented scale

252



(ascending)

(descending)



C lydian augmented scale

253



(descending)



(descending)

(ascending)

254

