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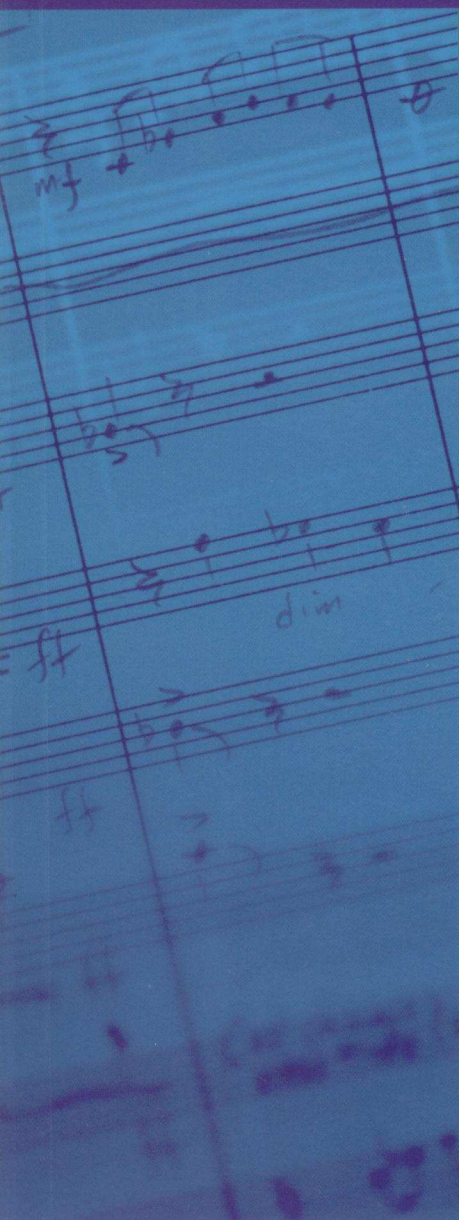


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# Modern Jazz Voicings

*Arranging for Small and Medium Ensembles*

Ted Pease and Ken Pullig



GUIDE

BERKLEE



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# Introduction

## From the Big Bands to *Kind of Blue* and Beyond

How do you get that *modern jazz sound*? That is the question addressed by this book. The answer will be of great interest to music arrangers and keyboard players who would like to add character, color, and sophistication to their chord voicings, as well as to theory students who want to learn about contemporary jazz harmony. But before we answer the question, a little history is in order.

Back in the early 1920s, when jazz arrangers such as Don Redman and Fletcher Henderson began arranging for big bands, triads and seventh chords were their primary harmonic material. When Duke Ellington came into his own in the late 1920s, he explored the richness of tensions, first at the piano and then with his orchestra. In the 1940s and 1950s, Dizzy Gillespie, Charlie Parker, Bud Powell, Thelonious Monk, and other bebop musicians expanded the use of melodic and harmonic tensions.

The voicings used by all these players and arrangers shared one distinguishing characteristic: They were assembled in intervals of a third. In other words, musicians learned to voice chords by stacking them in major and minor thirds (1-3-5-7-9-11-13). They could then build them up from the root or any other chord tone (for instance, 1-3-5- $\flat$ 7 or 3-5-7-9). Or they could hang them down below a melody note (say, 1- $\flat$ 7-5-3 or 9- $\flat$ 7-5- $\flat$ 3).

By the mid 1950s, this system—sometimes called “tertian” or “tertial” harmony, meaning “in thirds”—was virtually universal in jazz. Bebop players at the time also were applying the concept of chord scales (specific sets of notes corresponding to particular chords and harmonic situations) to create improvised solos.

Then, thanks mostly to Miles Davis and Bill Evans, the voicing of chords turned in a new direction. Miles, a composer and conceptualist as well as a great trumpet player, was exploring modes and extended harmonic rhythm and form. On his seminal 1959 recording *Kind of Blue*, he encouraged pianist Bill Evans to use voicings in fourths and seconds in addition to the more customary voicings in thirds. Miles felt that fourths and seconds would be more compatible with modal tunes such as “So What,” “All Blues,” and “Flamenco Sketches,” and would create a different, contemporary sound.

Since that time, jazz musicians of all persuasions have embraced the more modern and sophisticated sound possibilities that come from voicings in fourths and voicings in seconds (also referred to as “clusters”). Today’s arrangers and improvisers also use upper structure triads, another advanced voicing technique, to add interest and complexity to their music.

This book will help you become fluent in these techniques so that you will be able to use them effectively to express your own music. Through a step-by-step process accompanied by exercises and recorded examples, the authors will guide you through the intricacies of deriving “non-tertial” voicings from the right chord scales and applying them to actual musical situations. You will discover how to avoid common mistakes and how to overcome harmonic ambiguity. You will learn how to select appropriate harmonic tensions. And you will apply these techniques in a variety of situations: in soli sections, backgrounds, and climax points, for example, and for as few as three or as many as six parts.



## What You Need to Know

You should have a working knowledge of basic music theory, including pitch notation in treble and bass clef, major and minor scales, intervals, and chord spelling of triads and seventh chords in root position. It will also help if you have worked with lead sheets and/or piano sheet music. Experience in arranging music for winds and rhythm section is not absolutely necessary, but of course it would be beneficial. Part I of this book covers some essential prerequisites that less experienced arrangers will find useful. For more details, see the following section, “How to Use this Book and CD.”

## History of This Book

Chord scale theory has been taught at Berklee College of Music in one incarnation or another since the late 1950s. Professor Herb Pomeroy, the legendary teacher of “Line Writing” at Berklee for many years, used chord scale theory and related intervallic concepts as the basis for much of his teaching of jazz arranging. The “Chord Scale Voicings for Arranging” course and its original workbooks—on which this book is based—were created at Berklee by Professor Ted Pease in the late 1960s as a prerequisite to “Line Writing.” Since then the course has evolved through classroom interactions and the contributions of many talented Berklee faculty members. Over the past 30 years, some 7,500 Berklee students have taken the course; it is a requirement for majoring in Jazz Composition.

This edition was compiled by Ken Pullig, chair of the jazz composition department, and edited by Professor Pease. Because this book is intended for an expanded audience beyond students enrolled at Berklee, it includes substantial amounts of new text, many new musical examples, solutions to exercises, and an accompanying CD.

## Acknowledgements

Many thanks to our colleagues in the jazz composition department for their ideas and suggestions: Greg Hopkins, Scott Free, Jeff Friedman, Bob Pilkington, Bill Scism, Jackson Schultz, and Dick Lowell.



## About the Authors

Ted Pease, distinguished professor of jazz composition, has been a faculty member at Berklee College of Music since 1964. Professor Pease is past chairperson of Berklee's professional writing division and past chairperson of the jazz composition and arranging departments. In addition to this book, he has authored several arranging texts that have been used at Berklee for more than 25 years. He has received grants in jazz composition from the National Endowment for the Arts. Eight of his compositions are featured on his CD *Big Band Blues Celebration*. He has been recognized as an exceptional artist by the Massachusetts Cultural Council's Artist Grants Program. He is a contributing writer for *JazzPlayer* magazine. As a drummer with 40 years of professional experience, he has performed with Herb Pomeroy, Ray Santisi, George Mraz, John LaPorta, Charlie Mariano, Toshiko Akioshi, Red Norvo, Lee Konitz, Greg Hopkins, Tony Lada, and Dick Johnson. Professor Pease is also an experienced clinician and adjudicator.

Ken Pullig joined the faculty of Berklee College of Music in 1975 and was named chair of the jazz composition department in 1985. He was awarded a Massachusetts Council of the Arts fellowship grant in 1979 for his extended composition, "Suite No. 2 for Small Jazz Ensemble." For many years he led his 10-piece jazz ensemble Decahedron in performances throughout New England. A free-lance trumpeter, he is regularly featured with the Cambridge Symphonic Brass Ensemble. He has performed with Johnny Mathis, Ray Charles, Mel Torme, Rita Moreno, Dionne Warrick, and many others. In recent years, Professor Pullig has presented clinics on jazz composition and arranging in France, Finland, and Germany. In 1997, he was guest conductor/composer with the Jazz Company in Vigevano, Italy.




# How to Use This Book and CD

This book is organized in two parts: “Background and Basics” and “Modern Jazz Voicings.” If you are a novice arranger, we recommend you work through the fundamental concepts in the first part before tackling the sophisticated techniques in the second. Even experienced arrangers may want a quick review of the basics; or they may choose to jump right into part two, but use part one as a reference section, consulting it as needed to check the top of the soprano sax’s range, for instance, or to remind themselves of the standard strategies for harmonizing approach notes.

However you arrive at part two’s discussion of contemporary voicings, we suggest you learn the material in several ways:

**Learn the theory.** For each voicing technique, the text defines the theoretical basis as well as a step-by-step “recipe” for harmonizing a given melody. Practice applying the technique by working through the exercises. We have provided partial solutions to start you in the right direction.

**Train your ears.** Many of the musical examples presented in the book are demonstrated on the accompanying CD. By cueing up the tracks corresponding to the written examples, you can actually *hear* the effect of the different intervals in the voicings being illustrated. (Look for the CD symbol  marking these recorded demonstrations.) The written examples also list the instruments used in the recorded track. Knowing the instrumentation will help you appreciate the timbres and blends of various combinations. Listen to each example at least several times in order to get it in your ears. (Some of the shorter examples are played twice.) Train your ears further by playing the voicings on the piano and singing them. Check the sound of your completed exercises at the piano as well. Aim to recognize the distinct musical impressions created by certain voicings.

Listen to the recordings of arrangers and players who use these voicings to create their characteristic sounds. Here are a few suggestions:

- McCoy Tyner: *Tender Moments* (Blue Note CDP 7 84275)
- Phil Woods’ Little Big Band: *Real Life* (Chesky JD 47)
- Phil Woods’ Little Big Band: *Evolution* (Concord Jazz CCD 4361)
- Bill Perkins Octet: *On Stage* (Pacific Jazz 93163)
- Miles Davis: *Birth Of The Cool* (Capital Jazz CDP 7 92862 2)
- Miles Davis: *Kind of Blue* (Columbia CK40579)



**Start arranging.** When you feel comfortable with a certain technique, apply it to part of a familiar standard tune—eight to 16 measures is plenty at first. Be sure to pick a key in which the melody falls within our suggested lead ranges. Check for spelling mistakes (watch your accidentals) and inadvertent intervals of a minor ninth. And avoid muddy voicings (keep the bottom note of each voicing at or above *d* below middle *c*, unless it is the root of the chord.) If you are using a computer program, play back your mini arrangement to see how it sounds. Ideally, you should write out parts and have live musicians play them.

Although this book concentrates on scoring for wind instruments, you can apply the same concepts to orchestrating for voices, strings, guitars, and keyboards. You should also experiment with unusual combinations and non-traditional alignments. A particular five-part voicing played on piano will sound very different when played by five saxes aligned from top to bottom as alto, alto, tenor, tenor, and baritone; or when scored for the same five saxes aligned baritone, alto, alto, tenor, tenor; or when scored for violin, flute, muted trumpet, tenor sax, and acoustic bass; or when sung by a vocal group made up of two sopranos, alto, tenor, and baritone.

As you gain confidence, apply these voicings to longer portions of a selected tune. Since variety is important to any successful arrangement, remember to mix in other textures, including solo, linear, and contrapuntal passages. Before long, you will be producing complete and effective arrangements for five or six horns and a rhythm section, arrangements with a mature, contemporary dimension—a sophisticated sound.



# **PART I: Background and Basics**

Review these essential concepts before exploring the advanced voicing methods in Part II.















# CHAPTER 1

# Instrumental Information

## 1-1 Transposition

Use the table below to transpose the concert pitch of an instrument (the pitch that actually sounds and the note that appears on a concert score) to the corresponding note that is written on that instrument's part. For example, in order to have a B $\flat$  clarinet play a concert *b-flat* pitch, you must write the note *c* on the clarinet part a major second higher than the actual concert pitch. For instruments not shown here, consult any reputable text on orchestration or instrumentation.

### Transposition Table

Instrument	Concert Pitch	Written Note	Transposition from Concert Pitch
Flute			Non-transposing
B $\flat$ Clarinet			Up a major 2nd
B $\flat$ Bass Clarinet			Up a major 9th (octave + major 2nd)
B $\flat$ Soprano Sax			Up a major 2nd
E $\flat$ Alto Sax			Up a major 6th
B $\flat$ Tenor Sax			Up a major 9th (octave + major 2nd)
E $\flat$ Baritone Sax			Up a major 13th (octave + major 6th)



Instrument	Concert Pitch	Written Note	Transposition from Concert Pitch
------------	---------------	--------------	----------------------------------

B♭ Trumpet



Up a major 2nd

B♭ Flügelhorn



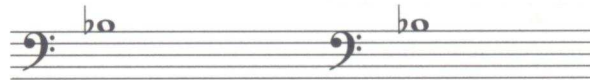
Up a major 2nd

Horn in F



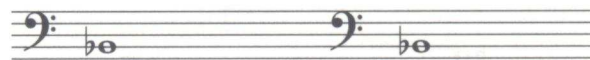
Up a perfect 5th

B♭ Trombone



Non-transposing

Tuba



Non-transposing

Guitar



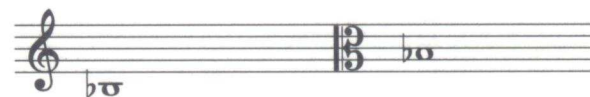
Up an octave

Violin



Non-transposing

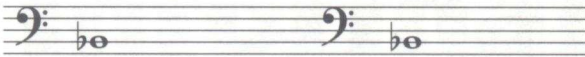
Viola



Non-transposing  
(Note the use of alto clef)

# MODERN JAZZ VOICINGS

Instrument	Concert Pitch	Written Note	Transposition from Concert Pitch
------------	---------------	--------------	----------------------------------

Cello			Non-transposing
-------	---	--	-----------------


Bass/Electric Bass			Up an octave
--------------------	---	--	--------------

Piano/Synthesizer			Non-transposing
-------------------	---	--	-----------------

Vibraphone			Non-transposing
------------	---	--	-----------------

Human Voice (Soprano, Alto)			Non-transposing
--------------------------------	---	--	-----------------

Human Voice (Tenor, Baritone, Bass)			Non-transposing
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Sometimes tenors use a special G-Clef () . When this is used, tenors sound an octave lower than written.

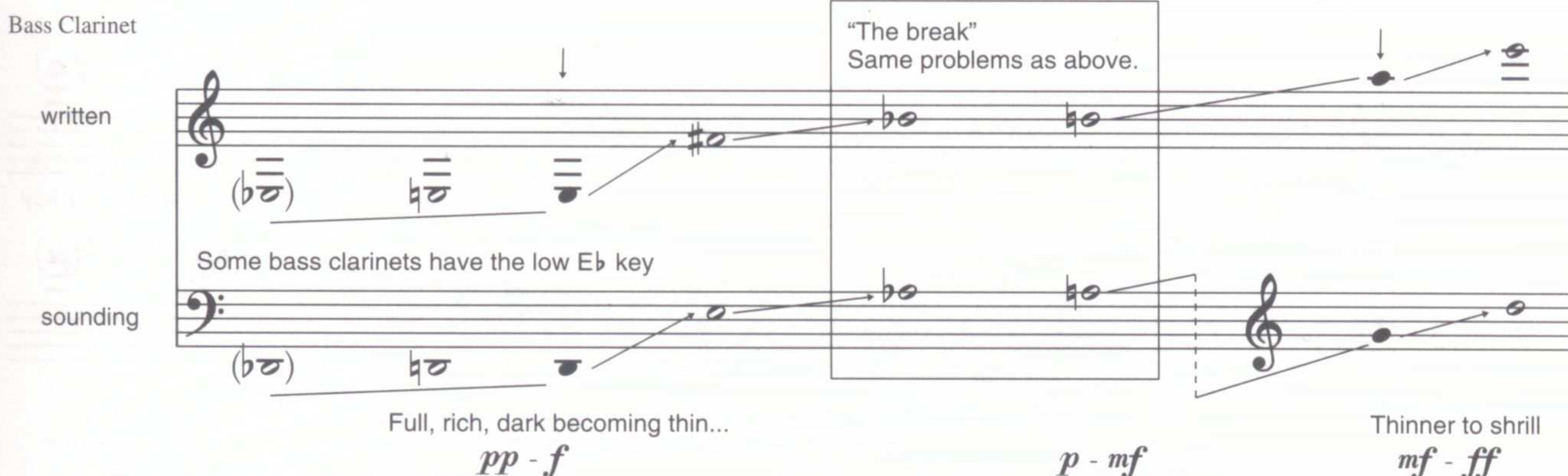
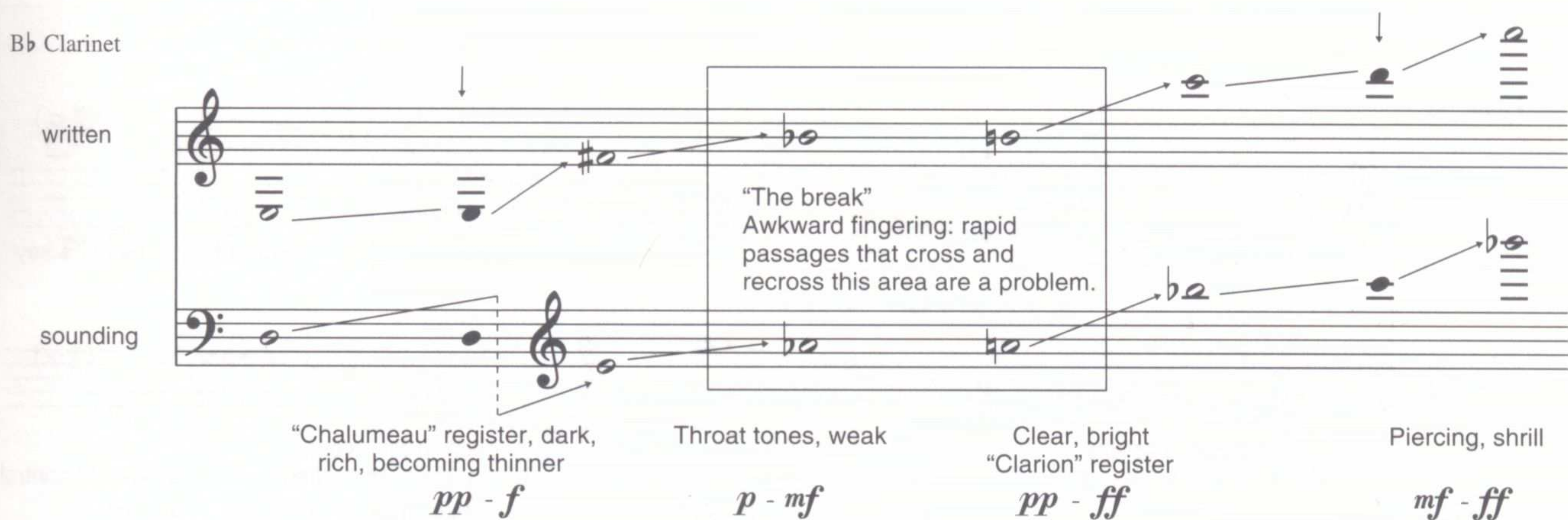
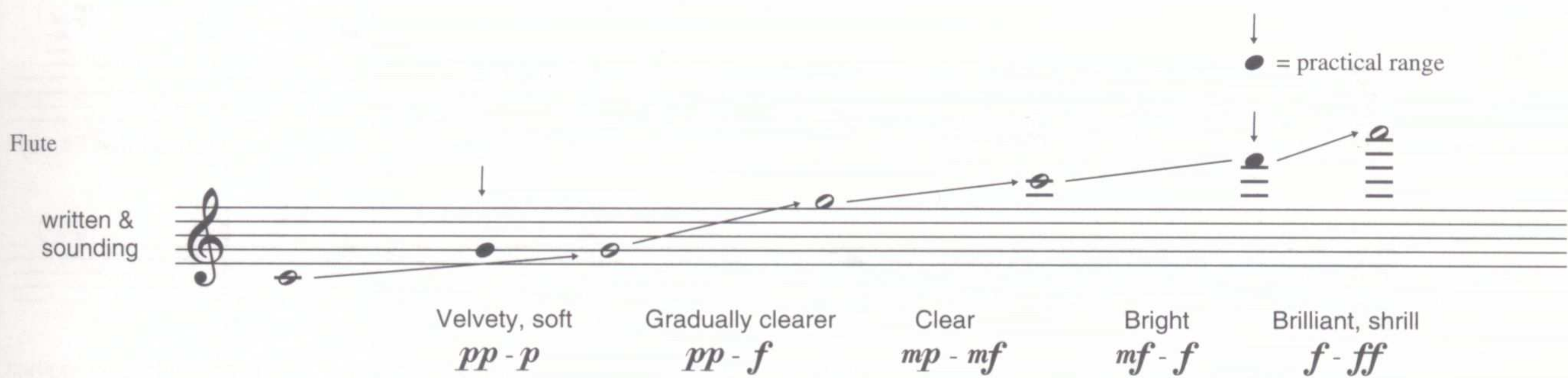
Tenor			
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## 1-2 Ranges and Sound Characteristics

An arranger needs to know the ranges within which instrumentalists can play comfortably as well as the qualities of the sound from one extreme to the other. The chart below shows the overall technical range for each instrument; the limits of the practical range are marked by vertical arrows pointing to darkened note heads. Throughout the range, the chart also describes sound quality and the useable scope of dynamic levels.

### Range and Sound Characteristics Chart





# MODERN JAZZ VOICINGS

## B♭ Soprano Sax

written

sounding

Some sopranos have F# key

Harsh sound, difficult to control *f*

Clearer sound, more blendable & expressive *pp - f*

Bright, projecting *mp - ff*

Thin *mf - ff*

Detailed description: This section shows the pitch range of a B♭ Soprano Saxophone. The 'written' staff (treble clef) shows a scale from B♭2 to A3. The 'sounding' staff (treble clef) shows the actual pitch, which is one octave lower than written. A downward arrow points to the sounding B♭2. The sounding scale is from B♭2 to A3. Dynamic markings are placed below the sounding staff: *f* for the lower register, *pp - f* for the middle register, *mp - ff* for the upper register, and *mf - ff* for the highest register.

## E♭ Alto Sax

written

sounding

Some altos have F# key

Harsh sound, difficult to control, "honk" register *f*

Rich → thinner *p - ff*

Bright to brighter *pp - ff*

Becoming thinner to shrill *mp - f*

Detailed description: This section shows the pitch range of an E♭ Alto Saxophone. The 'written' staff (treble clef) shows a scale from B♭2 to A3. The 'sounding' staff (bass clef) shows the actual pitch, which is one octave lower than written. A downward arrow points to the sounding B♭2. The sounding scale is from B♭2 to A3. Dynamic markings are placed below the sounding staff: *f* for the lower register, *p - ff* for the middle register, *pp - ff* for the upper register, and *mp - f* for the highest register.

## B♭ Tenor Sax

written

sounding

Some tenors have F# key

Not as hard as alto, but still difficult to control *f*

Rich *p - f*

Becoming less rich *pp - ff*

Rich to thin, very blendable & controllable *pp - ff*

Thin, difficult to control *p - ff*

Detailed description: This section shows the pitch range of a B♭ Tenor Saxophone. The 'written' staff (treble clef) shows a scale from B♭2 to A3. The 'sounding' staff (bass clef) shows the actual pitch, which is one octave lower than written. A downward arrow points to the sounding B♭2. The sounding scale is from B♭2 to A3. Dynamic markings are placed below the sounding staff: *f* for the lower register, *p - f* for the middle register, *pp - ff* for the upper register, and *p - ff* for the highest register.

## E♭ Baritone Sax

written

sounding

Many baritones have the low A key

Some baris have F# key

Full, rich *mf - ff*

Becoming less full and foundation-like *mp - ff*

Rich, blendable *pp - ff*

Thin, but very expressive *pp - ff*

Difficult to control intonation *p - ff*

Detailed description: This section shows the pitch range of an E♭ Baritone Saxophone. The 'written' staff (treble clef) shows a scale from B♭2 to A3. The 'sounding' staff (bass clef) shows the actual pitch, which is one octave lower than written. A downward arrow points to the sounding B♭2. The sounding scale is from B♭2 to A3. Dynamic markings are placed below the sounding staff: *mf - ff* for the lower register, *mp - ff* for the middle register, *pp - ff* for the upper register, and *p - ff* for the highest register.



B♭ Trumpet

written

sounding

Weak, non-projecting, difficult to control  
*mp - mf*

Clear, rich, very controllable  
*pp - ff*

Clear, bright  
*mf - ff*

Piercing, penetrating (lead trumpet range)  
*mp - f*

B♭ Flügelhorn

written

sounding

Full, dark, sonorous  
*p - mf*

Very rich, mellow (softer quality than trumpet)  
*mf - f*

Becoming thinner and constrained, penetrating  
*mf - f*

Horn in F (French horn)

written

sounding

"Pedal tones," difficult to control  
*mf - f*

Dark  
*mf - f*

Warm, blendable  
*p - f*

Rich, more expressive  
*p - f*

Bright  
*ff*

Penetrating, projecting  
*ff*

B♭ Trombone

written & sounding

Pedal tones  
*p - mf*

These notes unavailable without F attachment

Low, dark spread sound  
*p - f*

Centered, low sound  
*pp - ff*

Clear, melodically expressive  
*pp - ff*

Bright  
*mp - ff*

Penetrating  
*ff*

## Tuba

written & sounding

Full, spread sound *p - f*

Focused, "Foundation" sound *pp - ff*

Clear, sonorous, very blendable *p - f*

Becomes thinner and penetrating, difficult to blend *p - f*

## Guitar

written

(Six open strings) E A D G B E

sounding

Darker...

Less dark, very blendable...

Thinner, gradually more piercing...

For a better understanding of the guitar's capability to play and voice chords, consult *The Jazz Style of Tal Farlow* by Steve Rochinski, *The Advancing Guitarist*, by Mick Goodrick, or *Everything About Guitar Chords* by Wilbur Savidge.

## Violin

written & sounding

(Four open strings) G D A E

Dark, very broad, sonorous

Subdued quality

Mellow to brilliant

Strong carrying power; bright

## Viola

sounding & written in alto clef

(Four open strings) C G D A

(sounding in bass clef)

Foreboding, dark

Rich, warm

Gentle, blendable

Nasal, piercing

## Cello

written & sounding

(Four open strings) C G D A

Full, rich...

Neutral, blendable

Very expressive, warm and brilliant



Bass

(Four open strings)

written

E A D G

Some basses have a fifth (low-C) string

sounding

Arco: heavy, course, dark  
Pizz: dark, sonorous

Rich, warm

Rich, but thinning

Cello-like, lighter

Piano

written & sounding

8vb - 1

(loco)

Dark, rich

Brighter, but blendable

Very bright, light

8va - 1

Vibraphone

written & sounding

Dark

Rich, blendable

Brighter

Voice: Soprano

written & sounding

Non-projecting  
*p - mp*

Flexible, more projecting and blendable  
*pp - ff*

Bright, harder to control, penetrating  
*mp - ff*

Voice: Alto

written & sounding

Non-projecting, vibrant  
*pp - mp*

Rich, blendable  
*pp - ff*

Brighter, thin  
*p - ff*

Voice: Tenor

written but sounding 8vb

written & sounding

Dark  
*pp - mp*

Rich, very expressive  
*p - ff*

Bright, projecting, thin  
*p - f*

Voice: Baritone

written & sounding

Dark, thin  
*pp - mf*

Full, rich — increasingly bright  
*pp - ff*

Bright, penetrating, thin  
*mp - f*

Most men are baritones. They can sing a low E, but the sound is usually too thin.

Voice: Bass

written & sounding

Very dark, vibrant  
*pp - mf*

Rich, fuller, expressive  
*pp - ff*

Bright, penetrating, thin  
*mp - f*

## Synthesizer

There are two reasons for including synthesizers or samplers in an orchestration. First, through emulation of other instruments, synthesizers can fatten an otherwise small orchestra. In this case, you should write “idiomatically,” in a style appropriate to the instrument you are emulating. Second, synthesizers may offer timbres you could not otherwise find. Many synthesis techniques are available, including additive, subtractive, physical modeling, and FM. If you are not a programmer and are unfamiliar with synthesis, work closely with your synthesizer player to get the sound you want. *Keyboard Magazine* and similar publications are good sources of information.



# CHAPTER 2

# Fundamental Tools and Techniques

## 2-1 Tensions

Tensions (9ths, 11ths, and 13ths) are the upper structure extensions of seventh chords. They are called tensions because they create intervallic dissonance. They produce a richer, more tense quality than that of a basic chord sound, which relies strictly on chord tones. In order to voice chords effectively in a variety of ways, arrangers and players need to understand that only certain non-chordal tones qualify as “available tensions.” While creating dissonance, these available tensions do not change the fundamental quality of the chord or create an unpleasing clash. In general, any note a whole step above a chord tone is available as a tension, while any note a half step above a chord tone often is not. Notable exceptions are discussed below.

It is also important to understand the two different roles for tensions, melodic and harmonic. (In the examples below and elsewhere in this book, the symbol “T” designates a tension note, as in “T9.” “S” means scale tone, as in S4.)

### Melodic Tensions

A melodic tension is a non-chord tone (9, 11, or 13) used in a melody, as in the lead voice of an arrangement. When analyzing lead sheets, melodic tensions are found as follows:

Non-chord tones longer than a quarter note.



Non-chord tones of any duration followed by a leap.



G-7	C7	Fmaj7
-----	----	-------

**1**

Trumpet  
Alto saxophone

Tenor saxophone  
Trombone  
Baritone saxophone

Cmaj7 D-7,9 A7,9(b5) Bb7b9, #13 Bb7,9,13

Melodic Tensions

T9 T9 T9 T9 T9 T9 T9 T9

Tb5 Tb9

Harmonic Tensions

2. \_\_\_\_\_ (2x only)

2

Guitar, Female voice

Synthesizer

A (T7) E- A- (T13) (T9) E- (2x only)

(2x only)



## Tensions and Sixth Chords

T7 is not usually recognized as a harmonic tension in a sixth chord setting. When combined with the chord tones of a major or minor sixth chord, T7 changes the sonority from a major sixth chord to a major seventh chord or from a minor sixth chord to a minor-major seventh chord. But T7 *can* be heard as a melodic tension when part of an independent lead melody moving against a sustained sixth chord. In most cases, major seventh chords are interchangeable with major sixth chords, and minor-major seventh chords are interchangeable with minor sixth chords.

**3**

Guitar, Female voice

Synthesizer

## Available Tensions

Here is a detailed listing of available melodic and harmonic tensions for each basic chord type.

**Major Triad** T9, T#11 when diatonic to the key or in appropriate context.  
T7 and T13 are possible as independent lead melodic tensions only.

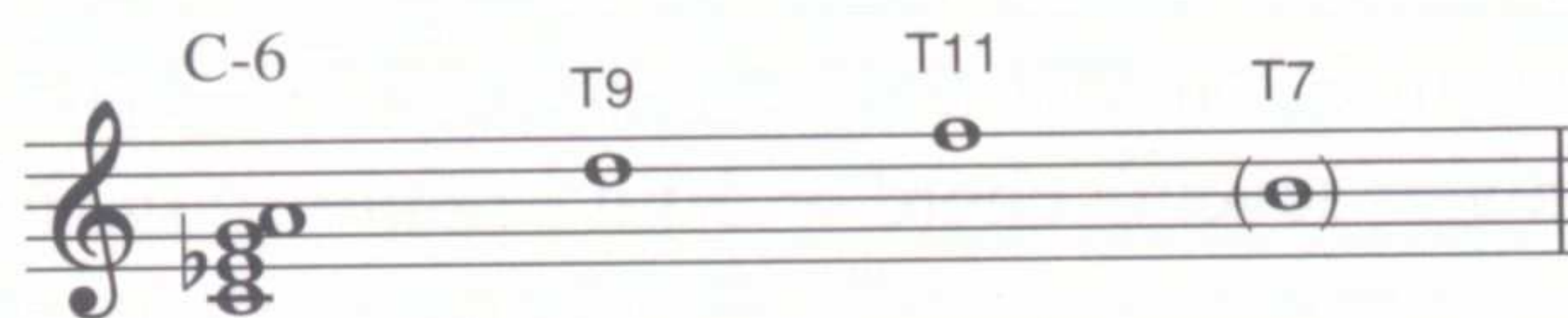
**Minor Triad** T9, T11  
T7 and T13 are possible as independent lead melodic tensions only.

**Major Sixth** T9, T#11 when diatonic to the key or in appropriate context.  
T7 is possible as independent lead melodic tension only.

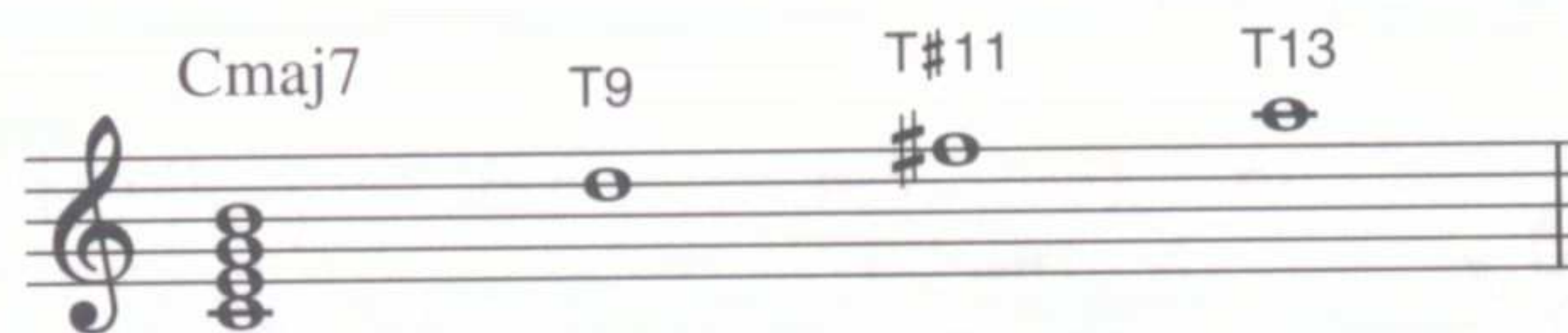


**Minor sixth** T9, T11

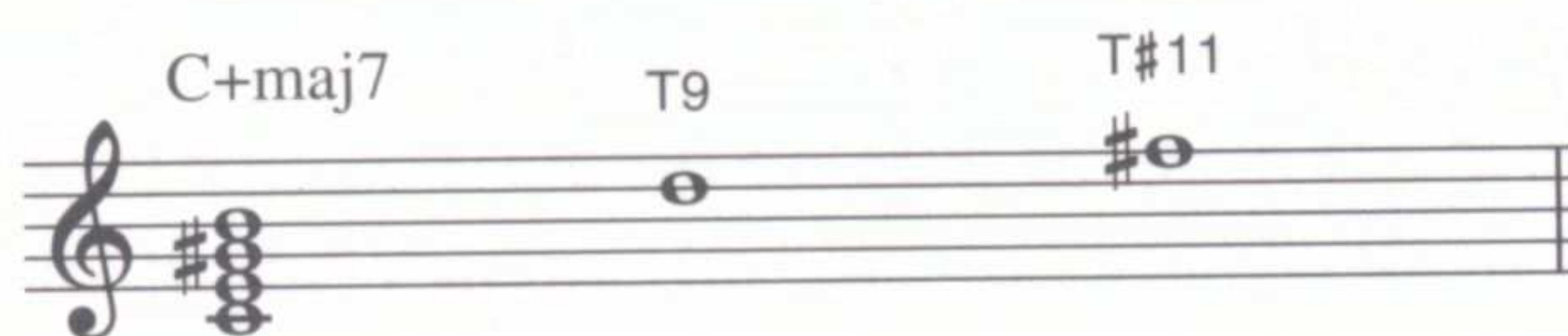
T7 is possible as independent lead melodic tension only.



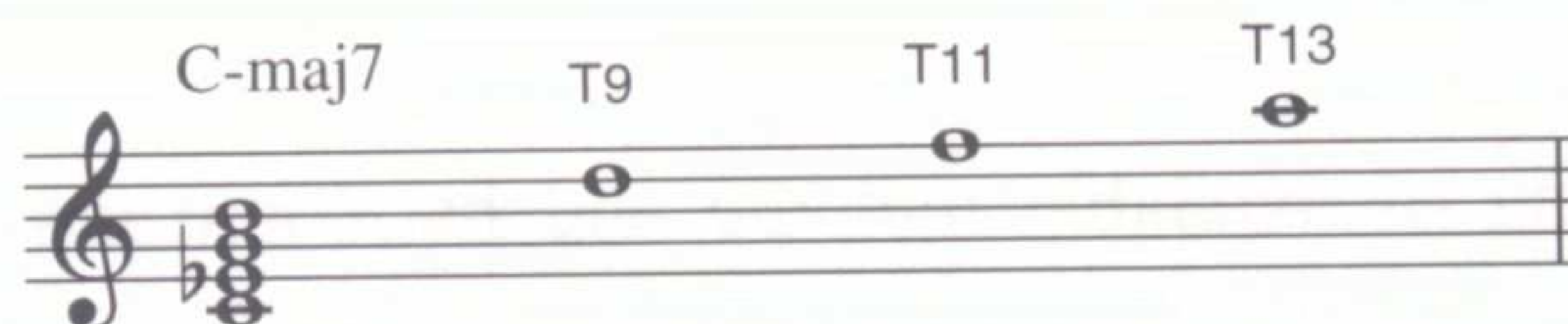
**Major seventh** T9, T#11 when diatonic to the key or in appropriate context, T13.



**Aug. Major seventh** T9, T#11



**Minor-Major seventh** T9, T11, T13



The seventh of a major seventh or minor-major seventh chord should primarily be considered a chord tone because it defines the sonority of the chord as part of the 1-3-5-7 lower structure. Note, however, that the dissonant interval between the root and the major seventh creates the same kind of richness that we associate with tensions.

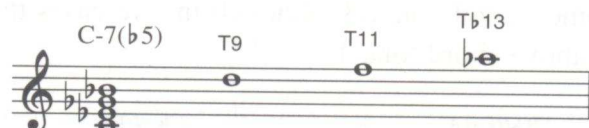
**Minor seventh** T9 if diatonic to the key, T11

In a tonal context, diatonic minor seventh chords have either a tonic (III-7, VI-7) or subdominant (II-7) function. T13 is not available on III-7 or VI-7 because as a non-diatonic note it would distort the tonic function. On the II-7, the thirteenth is not available as a tension because it creates a tritone with chord tone  $\flat 3$ , an interval which distorts or confuses the subdominant function. When the context is modal (Dorian), T13 is available because it provides the characteristic sound of the Dorian mode.





**Minor seventh (b5)** T9 if diatonic to the key, T11, T $\flat$ 13



**Dominant seventh** T $\flat$ 9, T9, T#9, T#11, T $\flat$ 5, T $\flat$ 13, T13

When choosing among the many different tension colors available for dominant seventh chords, give careful consideration to harmonic function and stylistic context. Normally, the following note combinations are not found in the same voicing:

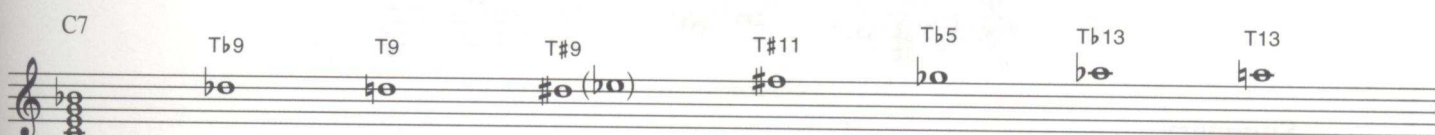
T9 with T#9 or T $\flat$ 9

T13 with T $\flat$ 13

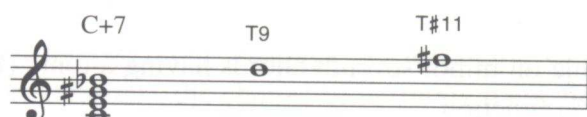
5 with #5

5 with T $\flat$ 13 (T $\flat$ 13 usually replaces 5)

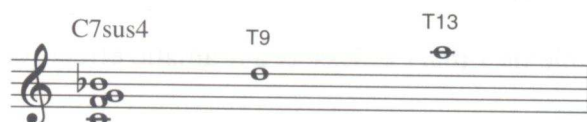
5 with T $\flat$ 5 (A chord symbol that designates b5 implies omitting the natural 5.)



**Augmented seventh** T9, T#11



**Dominant seventh (sus4)** T9, T13



Note the reversal of roles that occurs for the third and fourth of the chord. In a Dom7th (sus4), the former avoid note S4 becomes chord tone 4; the lower structure sonority is 1-4-5-b7). The third becomes avoid note S3, although in rare cases the third can be treated as T10 when sounding above chord tone 4.

**4**

Synthesizer

Electric bass

Bb7sus4

T10

CT4

Eb-7/Bb

### Diminished seventh

Any note a whole step above any chord tone is available. Which specific notes are used, however, will depend on the chord scale appropriate to the musical context. (See Chapter 4: Chord Scales, page 41.) No numerical labeling is used to identify tensions on diminished chords because they all sound the same. Each tension creates the exact same set of intervals with the chord tones.

C°7

T

T

T

T

### Summary

The detailed listing of available tensions on the preceding pages can be summarized as follows. Any note a whole step above a chord tone is generally available, with these exceptions:

1. T13 is not available on minor seventh chords having a tonic (III-7, VI-7) or subdominant (II-7) function.
2. T9 is not available on III-7.
3. T9 is not available on minor seventh (b5) when not diatonic to the key.
4. T#11 is not available on I maj7 unless as a dramatic effect for an ending chord.

Any note a half step above a chord tone is generally *not available*, with these exceptions:

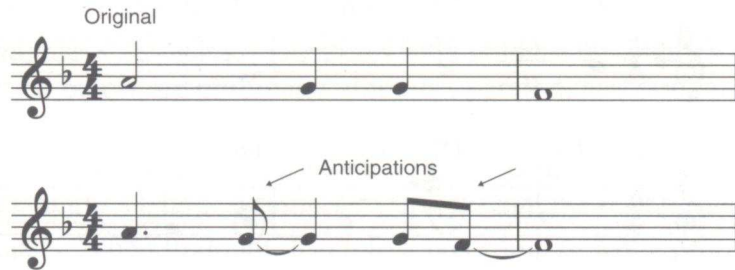
1. Tb9 is available on Dominant seventh (b9) chords.
2. Tb13 is available on Dominant seventh (b13) chords.
3. Modal contexts allow tensions such as Tb13 in Aeolian and Tb9 or Tb13 in Phrygian.



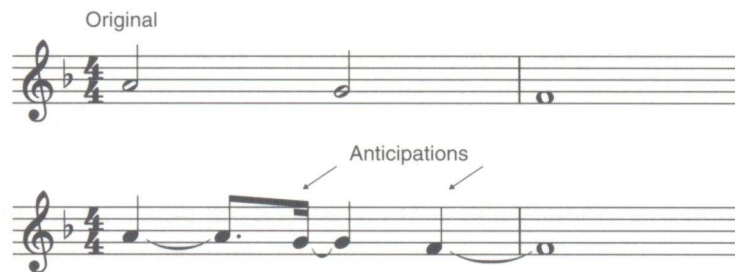
## 2-2 Anticipation and Delayed Attack

### Anticipation

Rhythmic displacement of the melody is a useful technique for adding interest to an arrangement. A note that was originally on the beat may be attacked half a beat (an eighth note) early—creating an anticipation.



In some uses of anticipation, the note may be attacked only a quarter of a beat (a sixteenth note) early; in others, a full beat (quarter note) early.



When the anticipated melody note “belongs” to a specific change of harmony (a new chord in the chord progression), the change of harmony must also be anticipated.



# Delayed Attack

An arranger may also delay the attack of a melody note—moving it from the downbeat to a quarter of a beat, a half of a beat, or a full beat later. When the attack of a melody note is delayed, and the preceding pitch is sustained, the harmony of the preceding pitch must also be sustained.

Original

G-7 C7 F6

G-7 C7 F6



## 2-3 Reharmonizing Approach Notes

When analyzing a melody to determine how you are going to harmonize it in two, three, four, or more parts, you need to distinguish between target notes and approach notes. Target notes (long or accented notes in a passage) are chord tones and tensions that are harmonized using chord sound. Approach notes (short notes that lead in stepwise motion to target notes) are reharmonized in a variety of ways in order to give their “undervoices” lines that are compatible to the movement of the melody. Chords arising from the reharmonization of approach notes do not disturb the primary harmony of the passage because they resolve quickly back to the harmony of the target note. The standard reharmonization techniques discussed below are chromatic, diatonic, parallel, and dominant.

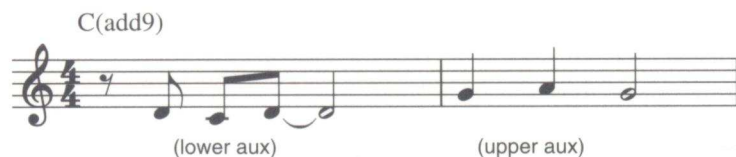
Be careful when analyzing melodies based on lead sheets. Lead sheets often have inaccuracies in both the melody and chord symbols. Play through the tune as notated and correct any obvious mistakes. When in doubt, listen to a recording or ask a pro.

### Characteristics of Approach Notes

1. An approach note is usually a quarter note or less in duration.
2. An approach note resolves by step to a target note. Target notes can be chord tones or tensions.
3. Approach note patterns include:  
 Passing tones: These are approach notes that connect two notes of different pitch in stepwise motion.



Auxiliary tones (also called neighbor tones): An auxiliary tone moves away from and returns to the same pitch by stepwise motion.

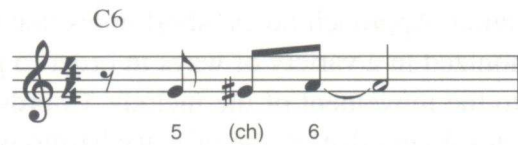


Unprepared approach notes: These are approach notes that are preceded by a leap, a rest, or the same note.

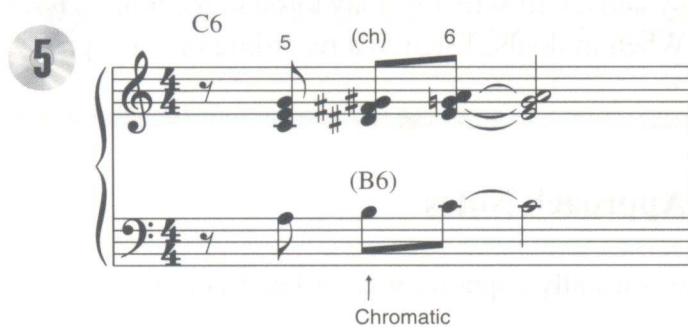


## Reharmonizing Specific Approach Note Patterns

1. Chromatic Approach (ch): When an approach note moves by a half step to a chord tone or tension target note, it is known as a chromatic approach; chromatic approach notes are usually nondiatonic.



Chromatic Reharmonization: Each voice moves a half step into the corresponding note of the target voicing, in the same direction as the melody, as shown below.



2. Scale Approach (S2, S4, S $\flat$ 6, etc.): When an approach note moves by a diatonic whole or half step to a chord tone or tension target note, it is known as a scale approach. (The "S" labeling relates to the chord of the target note.)





The voicings in the following example were created using all the standard techniques for reharmonizing approach notes. In addition to chromatic reharmonization, these are:

- **Dominant Reharmonization:** The approach note is voiced with a dominant seventh chord, either pure or altered, serving as the V7 of the target chord. The approach note must be a chord tone of that V7 or one of its tensions.
- **Parallel Reharmonization:** This method matches the precise motion of the lead to that of each voice below it. In other words, each undervoice moves the same number of semi-tones into its note in the target voicing. This technique may be used to voice any kind of approach note—including chromatic approaches, as discussed above.
- **Diatonic Reharmonization:** Each voice moves one diatonic step into the corresponding note in the target voicing. This works best when both melody and harmony are diatonic to the key or to the current harmonic situation as outlined by the chord progression.

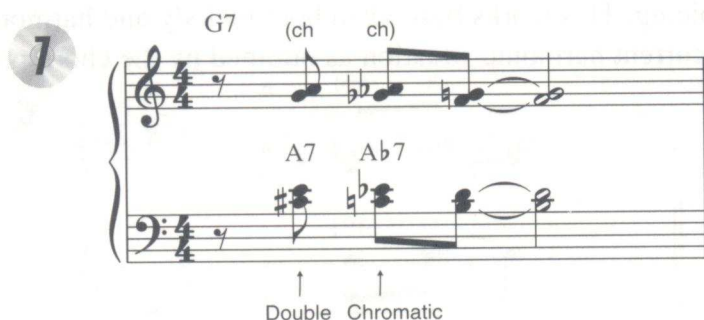
**6**

The example is a musical score in 4/4 time, showing a melody line and two bass lines. The melody line consists of the following notes: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter), D5 (quarter), E5 (quarter), F5 (quarter), G5 (quarter), A5 (quarter), B5 (quarter), C6 (quarter). The bass lines are as follows: Bass 1 (left) has chords G7(b9) and G7(b9) under the first two measures, G#7(b9) under the third measure, and E-7 under the fourth measure. Bass 2 (right) has chords G7(b9) and G7(b9) under the first two measures, G#7(b9) under the third measure, and E-7 under the fourth measure. The techniques are labeled below the bass lines: Dominant (under the first measure), Parallel (under the second measure), Chromatic (under the third measure), and Diatonic (under the fourth measure). The chord progression is C6, A7(b9), D-7, G7, C6. The melody line is labeled with notes 1, (S2), 3, (Sb6), b7, (ch), T13, 5, (S4), b3, T13, 5, 1.

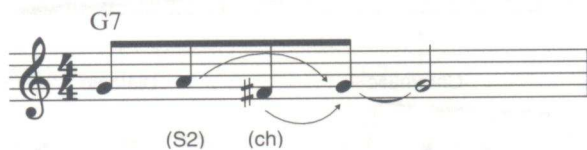
3. Double Chromatic Approach: When two notes of short and equal duration approach a chord tone or tension target note by consecutive half steps in the same direction, they form a double chromatic approach pattern.



To voice double chromatic approach notes, use chromatic reharmonization with voices following the same direction as the melody.



4. Indirect Resolution ((S S), (ch ch), (S ch), or (ch S)): When two notes of short and equal duration approach a chord tone or tension target note by stepwise motion from opposite directions, they form an indirect resolution pattern.





When handling indirect approach notes, reharmonize each approach note independently. The two notes may be reharmonized using different methods, as in this example.

8

G7 (S2) (ch)

A-7 F#7 \*

Diatonic (to G7) Chromatic (to G7)

\* (G7 is the target note chord)

## Independent Lead

The independent lead technique is an alternative to reharmonizing approach notes. In this method, the voices below the approach note simply maintain the prevailing harmony; or, in some cases, the lower voices may rest. Independent lead works well where a less driving feel is acceptable, and for pickups.

A-7 G-7 Fmaj7

# CHAPTER 3

# Basic Voicings

## 3-1 Five-Part Soli Voicings

One of the simplest ways to create harmonized solis for mixed instrumentation is to “hang” chords below a melody line. Standard four-note voicing techniques include four-way close, drop 2, drop 3, and drop 2 + 4. We can expand the number of parts to five by simply doubling the lead, duplicating the melody either an octave above or below the lead voice. (Throughout this book, we will use “8va” to mean an octave above and “8vb” to mean an octave below.) Note that although we are writing for five instruments, we are still dealing with voicings of only four notes—that is, four different pitch names.

The following examples demonstrate the standard four-note voicings with the addition of a doubled lead an octave below the melody

9

Four-way close, double lead (8vb)

Four-way close, double lead (8vb)

Chords: F7, D7, (ch), C7sus4, Bb7sus4, F6

Drums: 2

End: Fine, D.C. al Fine

10

Drop 2, double lead (8vb)

Drop 2, double lead (8vb)

Chords: F7, D7, (ch), C7sus4, Bb7sus4, F6

Drums: 2

End: Fine, D.C. al Fine



11

Drop 3, double lead (8vb)

Score for Example 11: Drop 3, double lead (8vb). The score is in 4/4 time and features a double lead for Tpt./Gtr. Alto Ten. and Trb. Bari. The key signature has one flat (Bb). The progression includes chords F7, D7, (ch), C7sus4, Bb7sus4, and F6. The lead parts are written an octave below the staff (8vb). The score concludes with a 'Fine' and 'D.C. al Fine' instruction, followed by a double bar line and a '2' indicating a second ending.

12

Drop 2 + 4, double lead (8vb)

Score for Example 12: Drop 2 + 4, double lead (8vb). The score is in 4/4 time and features a double lead for Tpt./Gtr. Alto Ten. and Trb. Bari. The key signature has one flat (Bb). The progression includes chords F7, D7, (ch), C7sus4, Bb7sus4, and F6. The lead parts are written an octave below the staff (8vb). The score concludes with a 'Fine' and 'D.C. al Fine' instruction, followed by a double bar line and a '2' indicating a second ending.

When the instrumentation allows, you might consider doubling the lead an octave higher.

13

Drop 2, double lead (8va)

Score for Example 13: Drop 2, double lead (8va). The score is in 4/4 time and features a double lead for Fl. and Tpt./Gtr. Alto. The key signature has one flat (Bb). The progression includes chords F7, D7, (ch), C7sus4, Bb7sus4, and F6. The lead parts are written an octave above the staff (8va). The score concludes with a 'Fine' and 'D.C. al Fine' instruction, followed by a double bar line and a '2' indicating a second ending.

14

Drop 2 + 4, double lead (8va)

Score for Example 14: Drop 2 + 4, double lead (8va). The score is in 4/4 time and features a double lead for Fl. and Tpt./Gtr. Alto. The key signature has one flat (Bb). The progression includes chords F7, D7, (ch), C7sus4, Bb7sus4, and F6. The lead parts are written an octave above the staff (8va). The score concludes with a 'Fine' and 'D.C. al Fine' instruction, followed by a double bar line and a '2' indicating a second ending.

## MODERN JAZZ VOICINGS

On drop 2 and drop 2 + 4 voicings, available harmonic tensions may be used in the “new” second voice to improve spacing, add color, or provide better voice leading.

The diagram illustrates two types of chord voicings for Bb7sus4. The first, labeled 'Drop 2', shows a voicing where the second voice is lowered by two frets. The second, labeled 'Drop 2 + 4', shows a voicing where the second voice is lowered by two frets and the third voice is lowered by four frets. Both examples are in Bb major and show the original and altered voicings with arrows indicating the voice leading.

### Typical Five-Part Instrumental Combinations

trumpet	trumpet	trumpet I	trumpet I	soprano sax	soprano sax
alto sax	alto sax	trumpet II	trumpet II	alto sax	trumpet
tenor sax	tenor sax I	alto sax	alto sax	tenor sax	alto sax
trombone	tenor sax II	tenor sax	tenor sax	trombone	tenor sax
baritone sax	baritone sax	baritone sax	trombone	baritone sax	trombone
soprano sax	trumpet I	trumpet I	trumpet I	trumpet I	alto sax I
alto sax I	trumpet II	trumpet II	trumpet II	trumpet II	alto sax II
alto sax II	trumpet III	F-horn	trumpet III	trumpet III	tenor sax I
tenor sax	trombone	trombone	trombone I	trumpet IV	tenor sax II
baritone sax	bass trombone	tuba	trombone II	trumpet V	baritone sax
trombone I	flute I	clarinet I	guitar I	soprano voice	flute
trombone II	flute II	clarinet II	guitar II	soprano voice	clarinet
trombone III	clarinet I	clarinet III	guitar III	alto voice	F-Horn
trombone IV	clarinet II	trombone (cup)	guitar IV	tenor voice	cello
tuba	bass clarinet	trombone (cup)	guitar V	bass voice	bass clarinet



## Lead Range

For any given combination of instruments, the arranger must be sensitive to questions of blend and balance, recognizing the limits of the lead range for each type of voicing. Consider, for example, a four-way close double lead voicing using trumpet, alto sax, tenor sax, trombone, and baritone sax. In this case, your lead should not go below middle *c* in order to keep the trumpet from becoming muddy. If you went up to the *g* an octave and a fifth above middle *c*, the baritone sax and trombone might be unable to play their notes. Even if they could play them, the notes might be too high in their registers to provide a well-balanced, controlled voicing sound. Five trombones would have a lower lead range capacity; five flutes or five trumpets would expand the upper lead range.

The lead range, related balance considerations, and the need for variety in spacing (close versus open) should help you determine which voicing to choose and for how long. You also have to hear the effect of the voicing and decide whether it is appropriate for the musical moment and the flow of the phrase.

The five-part example below is scored for trumpet, alto sax, tenor sax, trombone, and baritone sax, with the trombone doubling the trumpet lead an octave lower. This is a sophisticated combination of many of the basic mechanical voicings. Note how the spacing in the voicings changes, varying the textural flow and impact of the passage. Once you are comfortable scoring melodic passages using each of the five-part soli voicing techniques, try mixing them in this manner to create more variety in texture.

15

F-7      G7sus4      E7sus4      C#7sus4      D#7sus4

(C7)      (ch)      (F7sus4)      (D7sus4)      (B7sus4)

Drop 2      4-way close      Drop 2      4-way close      4-way close      Drop 2      Spreads      Drop 3      Spreads

Each part is shown separately below.

Tpt.

Alto

Ten.

Trb.

Bari.



## 3-2 Five-Part Spreads

Spread voicings, sometimes referred to as pads, add “bottom” to the sound of the ensemble. They are voicings with the root of the chord on the bottom. Rather than “hanging” chord sounds below the lead note as in the standard mechanical voicing methods (four-way close, drop 2, drop 3, and drop 2 + 4), with spreads you start at the bottom and work up. In choosing notes, your primary concerns should be spacing and a balance of chord sound. Spreads can be used to harmonize inactive or percussive melodies; they also make effective backgrounds. Where possible, use voice leading with spreads, connecting each inner voice to the next through stepwise movement or common tones.

### Characteristics

Five-part spread voicings generally consist of the following notes, reading from top to bottom voice:

1st part	The melody or lead note (a chord tone or tension)
2nd part	Supporting chord tone or harmonic tension
3rd part	Guide tones 3 or 7 (or 5) or, in some cases, a harmonic tension
4th part	Guide tones 3 or 7 (or 5)
5th part	Root

The middle voices should play both the third and the seventh, the strongest guide tones, which define the chord quality (major, minor, dominant seventh, etc.). The top voices enhance the chord sound with additional chord tones or tensions. Although a spread may include a doubling, it is preferable to use five different notes.

When scoring spreads, be sure that the root is assigned to a bass clef-sounding instrument such as baritone saxophone, bass trombone, or any other instrument that can play comfortably in the bottom of the bass-clef range. As “bottom” is the fundamental effect of spreads, the root must be delivered with conviction and full control.

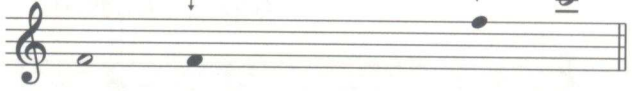
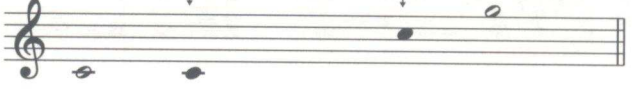
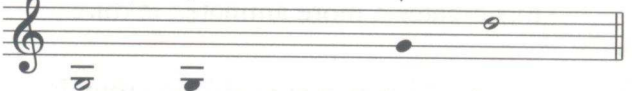
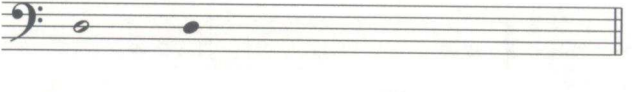
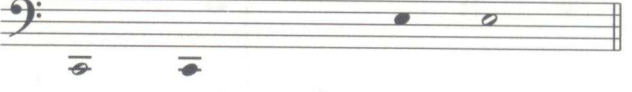
Here are some typical five-part spreads:

Cmaj7      F-7      G7(b9,b13)      Bb7      Fmaj7

The musical notation displays five-part spread voicings for five different chords: Cmaj7, F-7, G7(b9,b13), Bb7, and Fmaj7. Each chord is represented by a two-staff system. The bottom staff (bass clef) contains the root of the chord. The top staff (treble clef) contains the melody and supporting tones. For Cmaj7, the notes are C (root), E, G, B, and C. For F-7, the notes are F (root), A, C, Eb, and F. For G7(b9,b13), the notes are G (root), Bb, D, F, and G. For Bb7, the notes are Bb (root), D, F, Ab, and Bb. For Fmaj7, two alternative voicings are shown, separated by 'or'. The first Fmaj7 voicing has notes F (root), A, C, E, and F. The second Fmaj7 voicing has notes F (root), A, C, G, and F.



## Adjacent Note Spacing and Suggested Ranges for Spreads

Spacing		Range (a practical range) *
1st part (lead)	No more than an octave between 1st and 2nd parts	suggested range for 1st part 
2nd part		suggested range for 2nd part 
3rd part	No more than an octave between 2nd and 3rd parts	suggested range for 3rd part 
4th part	No more than an octave between 3rd and 4th parts	suggested range for 4th part 
5th part (bottom)	No more than a 10th between 4th and 5th parts	suggested range for 5th part 

\* To avoid potential balance problems, don't exceed the practical range unless you are writing for pros.

# Uses of Spread Voicings

1. To harmonize sustained or percussive melody notes:

16

Med. Swing

Bb6 G7(b13) G7(#9, b13) C-7 F7(b9) Bb-7

Trumpet  
Alto  
Tenor

Trombone  
Baritone

2. For backgrounds: To avoid the weight and monotony of a series of whole-note spread voicings, embellish the sustained pitches of inner voices. As in the two examples below, this creates a more animated texture.

17

a. Five-part spread background

Slow

Gmaj7 D-7 Gmaj7 D-7,9

Trumpet

Flugelhorn  
Alto

Tenor  
Trombone  
Baritone

18

Gmaj7 D-7 Gmaj7 D-7,9

Female voice

Flugelhorn  
Tenor

Male voice  
Male voice  
Baritone sax



## b. Four-part spread background

19

Alto sax

Trumpet  
Tenor

Trombone  
Baritone

Gmaj7 D-7 Gmaj7 D-7,9

20

Female voice

String Quartet

Gmaj7 D-7 Gmaj7 D-7,9

## 3. In a five-part tutti:

21

Trp./Gtr.

Alto  
Tenor

Trombone  
Baritone

C6 Bb7,13 Ab7,13 Dbmaj7,9 C-maj7,9,13

### 3-3 Five-Note Soli Voicings

In certain situations, instead of creating a fifth part by doubling the melody note an octave lower, an arranger may choose a harmonic tension or chord tone, creating a richer-sounding voicing of five different pitches (not merely five *parts*). Precisely which notes may substitute for the doubled lead depends on whether the melody note is a chord tone or a tension as well as on the quality of the prevailing chord.

#### Chord Tone Lead/Tension Substitute

When the melody note is a chord tone, a harmonic tension may be used in place of the 8vb doubling. The possible substitutions are shown below.

##### Chord Type

##### Available Substitutions

Major sixth

9 for 1 ( $\frac{1}{9}$ ), 7 for 6 ( $\frac{6}{7}$ )

(If 1 is in the lead of a major seventh chord, change the chord to a major sixth chord. When lead note 6 is coupled with maj7, the chord type changes to a major seventh chord.)

Minor sixth (or minor-major seventh)

9 for 1 ( $\frac{1}{9}$ )

(If 1 is in the lead of a minor-major seventh chord, change the chord to a minor sixth chord.)

Minor seventh

9 for 1, ( $\frac{1}{9}$ ) (except on III-7),  
11 for  $\flat 3$  ( $\frac{\flat 3}{11}$ )

Dominant seventh

9 for 1,  $\flat 9$  for 1 ( $\frac{1}{9}, \frac{\flat 1}{\flat 9}$ ),  
13 for 5 ( $\frac{5}{13}$ )

Augmented seventh

9 for 1 ( $\frac{1}{9}$ )

C6	E $\flat$ 6(#11)	F-6	C-7	A-7	B $\flat$ 7	B $\flat$ 7( $\flat 9$ )	C7	C+7
$\frac{1}{9}$	$\frac{6}{7}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{\flat 3}{11}$	$\frac{1}{9}$	$\frac{1}{\flat 9}$	$\frac{5}{13}$	$\frac{1}{9}$



## Tension Lead/Chord Tone Substitute

When the melody note is a tension, a related chord tone may be used in place of the 8vb doubling.

C7,9    C7(b9)    C7(#9)    Bb-7,9    Cmaj7(#11)    C7(#11)    C7,13

$\frac{9}{1}$      $\frac{b9}{1}$      $\frac{\#9}{1}$      $\frac{9}{1}$      $\frac{\#11}{5}$      $\frac{\#11}{5}$      $\frac{13}{5}$

## Tension Lead/Related Tension Substitute

Alternatively, when the melody note is a tension, a related tension may be used in place of the 8vb doubling.

C7(b9,#9)    C7(b9,#9,b13)    C7(b9,#9,b13)    C7(b9,#9,b13)    Bb7(#11)

$\frac{\#9}{b9}$      $\frac{\#9}{b9}$      $\frac{\#9}{b9}$      $\frac{b9}{\#9}$      $\frac{\#11}{13}$

Nevertheless, in most cases where a tension is in the melody, the standard 8vb doubling is still preferable. It generally creates stronger support and emphasis of the melody while reinforcing the intervallic dissonance of the tension. There is little or no appreciable change in richness when such a voicing is compared to a five-note voicing containing the chord tone or tension substitute, as shown below.

G7,13

$\frac{13}{13}$     vs     $\frac{13}{5}$

D7(#9)

$\frac{\#9}{\#9}$     vs     $\frac{\#9}{b9}$

The factors that influence making the “correct” choice are a good ear, knowledge of orchestration, musical context, and personal taste. Experience will give you the confidence and maturity necessary to make such subtle decisions.

# Comparing the Techniques

The following examples compare four-part writing, five-part writing using a double lead 8vb, and five-part writing using both double lead and five-note soli voicings.

22

## Four-Part (drop 2)

Cmaj7 E7(b13) A7 D7(b9,#9,b13) G-7 C7 Fmaj7

Trumpet  
Alto  
Tenor

Trombone

23

## Five-Part (drop 2—double lead 8vb)

Cmaj7 E7(b13) A7 D7(b9,#9,b13) G-7 C7 Fmaj7

Trumpet  
Alto  
Tenor

Trombone  
Baritone

24

## Five-Part (drop 2—double lead 8vb mixed with five-note soli voicings)

Cmaj7 E7(b9,b13) A7(13) D7(b9,#9,b13) G-7,9 C7(13) Fmaj7

Trumpet  
Alto  
Tenor

Trombone  
Baritone

dbl. lead 1/b9 5/13 (ch) 5/13 #9/b9 b9/9 dbl. lead 1/9 5/13 dbl. lead



Beware Minor Ninths

When you want a well-focused chord sound that can be heard clearly, *do not* include the interval of a minor ninth in the voicing. Eventually, as you gain mastery of the various voicing techniques and associated instrumental applications, you might want to experiment with the dissonance and harmonic ambiguity that minor ninths provide. In the right context, such dissonance can be very expressive and can trigger a strong emotional response in the listener. But first, concentrate on controlling the traditional “in,” before pursuing the not so traditional “out.”

Within each chord type shown below, the following note combinations create an interval of a minor ninth. Avoid them.

Chord Type	$\flat 9$ Interval
Major seventh	$\frac{1}{\text{maj } 7}$
Minor-major seventh	$\frac{1}{\text{maj } 7}$
Major seventh #11	$\frac{5}{\sharp 11}$
Minor sixth	$\frac{\flat 3}{9}$
Minor seventh	$\frac{\flat 3}{9}$
Minor seventh ( $\flat 5$ )	$\frac{\flat 5}{11}$
Dominant seventh	$\frac{11}{3}, \frac{\flat 13}{5}, \frac{\flat 7}{13}, \frac{5}{\sharp 11}, \frac{3}{\flat 9}$

Cmaj7

F-6

F-7

C7sus4

C7

C7

$\frac{1}{\text{maj } 7}$  $\frac{\flat 3}{9}$  $\frac{\flat 3}{9}$  $\frac{11(\text{sus } 4)}{3}$  $\frac{\flat 13}{5}$  $\frac{\flat 7}{13}$

In a few situations, however, minor ninths create a dissonance that is consistent with the given chord symbol, as shown below.

$\frac{\flat 9}{1}$  on Dominant seventh ( $\flat 9$ )  
C7 $\flat 9, \flat 13$

$\frac{\flat 9}{1}$

$\frac{\flat 9}{1}$  on Phrygian I-7 sound  
E-7(Phrygian)

$\frac{\flat 9}{1}$

3-4 Exercises

1. Harmonize the following example using drop 2-double lead for measures one through six, and drop 2 + 4-double lead for measures seven through ten.

Chord progression for Exercise 1:

Measures 1-6: Bb7(s2), F7(b9), Eb7, F7(b9), Bb7, Eb7

Measures 7-10: E°7, F7(b9), Bb7, \* Ab7(#11), G7(b9,b13), C-7, F7(sus4), C7(b9), F7(b9), Bb7

\* The d is harmonized as the fifth of the chord.

2. Harmonize the example below using five-part spread voicings, as in #2a of page 30.

Medium Swing

Chord progression for Exercise 2:

Measures 1-4: G-7, C7, A-7, D7(b9)

Measures 5-8: G-7, C7sus4, C7(b9), Fmaj7, Bb-7, Eb7, A-7, D7(#9)

Measures 9-12: G-7, C7, Gbmaj7, Fmaj7



3. Write a four-part spread background to the melody given below, using #2b on page 31 as a model.

Chord progression for the first system: Fmaj7, B♭maj7, Fmaj7, G-7, C7



Chord progression for the second system: B-7(b5), B♭-6, A-7, D7(#9, b13), G-7, D♭maj7, G-7, Fmaj7



# 4. Supply a five-note voicing (i.e., with no doubling) for the given melodic situations.

## 1. 4-way close

C6 Eb6 D-6 Bb-7 D7(b9) F6 Bb7 A-7

$\frac{1}{9}$   $\frac{6}{7}$

## 2. Drop 2

F7(b9,#9,b13) A-7 F6,9 A-6 Bb7 Ab7(b9) D+7 G-7

$\frac{\#9}{b9}$   $\frac{1}{9}$

F#-7 C7 F7(b9) F-6 D7(b9,#9) G-7 F7 Bb7

## 3. Drop 2 + 4

C7 D7(b9,#9,b13) Bb7(b9,#9) Bb7 D7(b9) F6,9 C-7 A-7

$\frac{1}{9}$   $\frac{b9}{\#9}$

C-7 G+7 D7 C7(b9,#9,b13) Bb7(#11) C7 Eb7 C-7



5. Following the sample mark-up in the first three measures, analyze this entire example for the following:

- Types of voicings. (Mark those sections that use spreads, drop 2+4, independent lead, and other techniques.)
- Use of harmonic tensions to replace 8vb doubling of the lead note. (Label the substitutions; 13 in place of 5, for instance, would be 5/13.)
- Reharmonizations. (Identify what chords—other than those marked—are being used to harmonize the melody notes.)

25

Trumpet  
Alto  
Tenor

Trombone  
Baritone  
Guitar  
Piano  
Bass  
Drums

① Bb7  
Bb7(13) Ab7(13) A7(13) Bb7(13)  
② Eb7  
(ch) F7(b9) Bb7  
③ Bb7  
Bb9(13)  
L drop 2 + 4

④  
⑤ Eb7  
⑥ Eo7 F7(b9)

⑦ Bb7  
⑧ Ab7(#11) G7(b9,b13)  
⑨ C-7

⑩ F7sus4  
⑪ C7(b9,b13) F7(b9) Bb7  
⑫ Guitar ad lib, then fade

# Chord Scales

## 4-1 Chord Scale Theory

A chord scale is a set of stepwise pitches assigned to a chord symbol to provide a supply of notes compatible with that chord's sound and its tonal or modal function.

From an arranger's point of view, chord scales are the raw material to be used in writing clearly-defined voicings that are consistent with a given harmonic and melodic context. In the chapters that follow, we will regularly refer to the appropriate chord scales as we build advanced voicings using fourths, seconds, and upper structure triads. Chord scales are also useful for writing melodies and for improvising within a specific tonal or modal context.

### Characteristics

A chord scale is made up of chord tones (1-3-5 in the case of triads, 1-3-5-6 for sixth chords, and 1-3-5-7 for seventh chords) and the passing tones, usually diatonic, that occur between them.

**C (I)**

1 PT 3 PT 5 Dbl PT 1

**C6 (I6)**

1 PT 3 PT 5 6 PT 1

**C7 (V7)**

1 PT 3 PT 5 PT b7 1

The chord tones identify the type of chord (triad, sixth chord, seventh chord, major, minor, dominant seventh, etc.). The passing tones help to clarify the tonal or modal context and by extension to determine which tensions are available.

**D-7 (II-7, Key of C)**

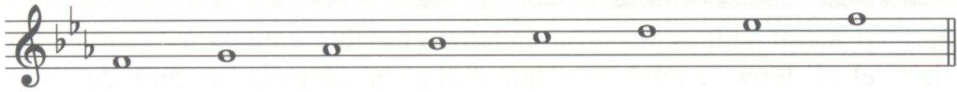
1 PT T9 b3 PT T11 5 PT "approach note" b7 1

In this example, the chord tones 1-b3-5-b7 (*d-f-a-c*) define a minor seventh (D-7). The passing tones *e-g-b*, derived from the key, establish the context as II-7 in the key of C. Theory, as established by common practice, then determines which of the passing tones are available as tensions and which are limited to the role of approach notes.



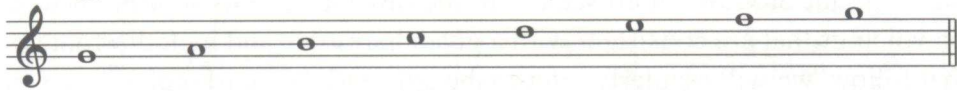
Most chord scales contain seven different notes and use adjacent intervals of whole or half steps in varying patterns. They are referred to as heptatonic scales.

F-7




Heptatonic  
(7-note)

G7



Heptatonic  
(7-note)


Abmaj7



Heptatonic  
(7-note)

There are also eight-note (octatonic) scales associated with diminished chords and some dominant seventh chords, six-note (hexatonic) scales such as the whole-tone scale, and five-note (pentatonic) scales.

C°7




Octatonic  
(8-note)

C7(#9, #11, b13)



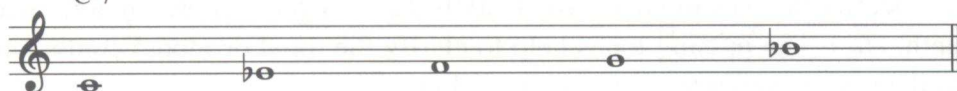
Octatonic  
(8-note)

C+7



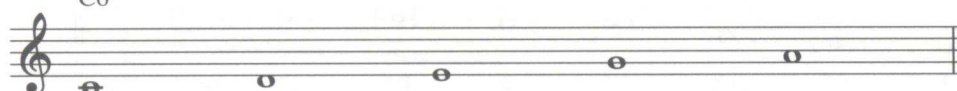
Hexatonic  
(6-note)

C-7



Pentatonic  
(5-note)

C6

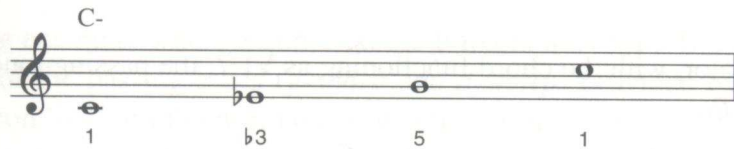


Pentatonic  
(5-note)

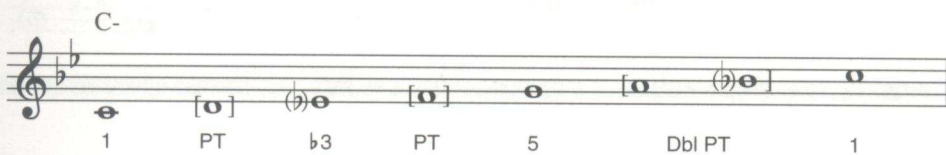
## 4-2 Forming a Chord Scale

### Tonal or Modal Context

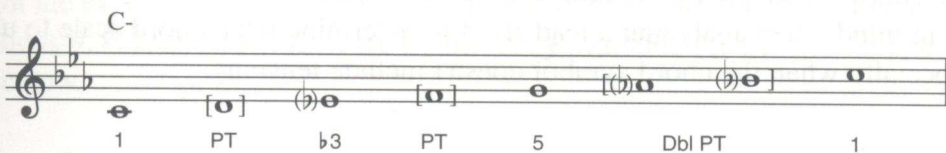
To create a chord scale for a C minor triad, first indicate the chord tones 1- $\flat$ 3-5-1: *c*, *e-flat*, *g*, and *c*.



Then, based on the tonal/modal context, determine the passing tones. If the key is B $\flat$ , with the chord functioning as II-, the passing tones would be *d*, *f*, *a*, and *b-flat*. (Notice that the resulting scale is B $\flat$  major, starting on *c*.)



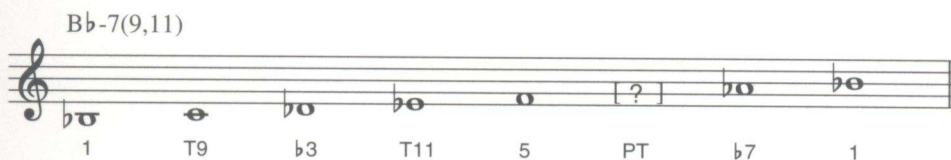
If the key is E $\flat$ , with the chord functioning as VI-, the passing tones would be *d*, *f*, *a-flat*, and *b-flat*. (Notice that the resulting scale is E $\flat$  major, starting on *c*.)



### How Tensions Affect Chord Scales

Understanding the prevailing tonal or modal context is important, but it is not the only factor involved when deriving the passing tones. The choice of passing tones is also determined by whatever tensions are included in the chord symbol.

When the chord symbol designates tensions, as in B $\flat$ -7 (9/11), forming the chord scale is simplified. After indicating the chord tones, include all designated tensions.





Then, as needed, complete the scale with appropriate passing tones based on the tonal or modal context. For example, if the key is A<sup>b</sup>major, with the chord functioning as II-7, the passing tone between *f* and *a-flat* would be *g*.

B<sup>b</sup>-7(9,11)

1 T9 b3 T11 5 PT b7 1

Detailed description: A musical staff in B-flat major (two flats) showing the B-flat 7(9,11) chord scale. The notes are: B-flat (1), D-flat (T9), E-flat (b3), F-flat (T11), G (5), A-flat (PT), B-flat (b7), and B-flat (1). The passing tone G is placed between F-flat and A-flat.

If the key is D<sup>b</sup> major, with the chord functioning as VI-7, the passing tone between *f* and *a-flat* would be *g-flat*.

B<sup>b</sup>-7(9,11)

1 T9 b3 T11 5 PT b7 1

Detailed description: A musical staff in B-flat major (two flats) showing the B-flat 7(9,11) chord scale. The notes are: B-flat (1), D-flat (T9), E-flat (b3), F-flat (T11), G (5), A-flat (PT), B-flat (b7), and B-flat (1). The passing tone G is placed between F-flat and A-flat.

How Melody Affects Chord Scales

The passing tones of a chord scale are also defined by the melody. All melody notes played during the chord (other than chromatic approaches) must be included in the chord scale. Keep this in mind when analyzing a lead sheet to determine what chord scale to use for a chord, especially when the chord symbol doesn't include tensions.

C-7

(ch)

(resulting chord scale)

1 PT b3 PT 5 Pt b7 1

Detailed description: Two musical staves. The top staff shows a C-7 chord in 4/4 time with a melody: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), F4 (quarter), E4 (quarter), D4 (quarter), C4 (half). A bracket labeled '(ch)' is under the first four notes. The bottom staff shows the resulting chord scale for C-7: C (1), D (PT), E-flat (b3), F (PT), G (5), A-flat (Pt), B-flat (b7), and C (1). The passing tones D and F are included because they appear in the melody.

Chord Scales for Non-Diatonic Chords (Modal Interchange)

Some progressions contain “modal interchange” chords that are borrowed temporarily from a tonality or modality other than that of the key signature. In order to choose the appropriate chord scale, you must be able to recognize this implied “key of the moment.” The chord scale for a modal interchange chord is based on the mode from which the modal interchange chord is derived.

In the following example, where a non-diatonic F major seventh ( $\flat$ II maj7) appears in the key of E, two of the passing tones (*g-sharp* and *d-sharp*) provided by the tonic key (E major) would conflict with the normal chord sound of the F major seventh. The conflict would occur if you “verticalize” the chord scale, treating the passing tones as the chord’s upper structure 9-11-13, and come up with 1-3-5-7- $\sharp$ 9- $\sharp$ 11- $\sharp$ 13( $\flat$ 7). The  $\sharp$ 9 and  $\sharp$ 13( $\flat$ 7) are not normally available as tensions for a major seventh chord.

Fmaj7  $\flat$ II maj7

1 PT 3 PT 5 PT 7 1

X T $\sharp$ 11 X

However, when you apply the implied modality of E Phrygian, the source of the F major seventh modal interchange chord, the passing tones become *g* and *d*, which along with the *b* combine with the chord tones to create a more familiar chord scale that does not conflict with the expected sound of the chord. The *g*, *b*, and *d* provide the F Lydian scale and the tensions 9,  $\sharp$ 11, and 13, which are traditionally available for a major seventh chord, as shown below.

E Phrygian Fmaj7  $\flat$ II maj7

1 PT 3 PT 5 PT 7 1

T9 T $\sharp$ 11 T13



4-3 Avoid Notes

The term “avoid note” is used to identify those passing tones in a chord scale that are not traditionally recognized as available tensions. We avoid stressing these notes melodically and harmonically because they create dissonance that compromises the clarity and function of the chord sound. Often the misuse of an avoid note creates a minor ninth interval with the next lowest chord tone of the chord an octave lower. In the example below the avoid note 4 (*b-flat*) creates a minor ninth interval (shown as “*b9*”) with the third of the chord (*a*).

F7(13)

The diagram shows a treble and bass staff for the F7(13) chord. The notes are F (root), A (third), C (fifth), E-flat (seventh), and B-flat (thirteenth). A bracket labeled "b9" indicates the minor ninth interval between the A (third) and the B-flat (thirteenth).

Avoid notes are used melodically in tonal situations, but only as approach notes, not as tensions. In that role, they are important melody notes that clarify and focus the tonal context, as demonstrated below.

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F-7 II-7      Bb7 V7      Ebmaj7(#11) Imaj7

Trumpet  
Alto  
Flugelhorn  
Tenor

“d” is an avoid note used as an approach note (S6)

(E-7) ← reharmonization as (ch)

The score is for a jazz ensemble (Trumpet, Alto, Flugelhorn, Tenor) in 4/4 time. It shows a progression of chords: F-7 II-7, Bb7 V7, and Ebmaj7(#11) Imaj7. A melodic line is written for the trumpet. An annotation points to a 'd' note, stating it is an avoid note used as an approach note (S6). Another annotation points to a reharmonization, stating (E-7) ← reharmonization as (ch).

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The challenging and ironic contradiction concerning avoid notes is that in modal contexts, they can actually be welcome additions to a chord. Consider, for example,  $\flat 9$  on a minor seventh chord. When  $f$  is used on E minor 7 in the key of C major (see below), it doesn't sound very good.

E-7    A-7    D-7    G7    E-7    D-7    G7    Cmaj7

Alto  
Flugelhorn  
Tenor

Trombone  
Baritone

(III-7, tonic function, is confused by the  $\flat 9$  dissonance)

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But when  $f$  is used on E minor 7 (functioning as I-7) in E Phrygian mode, it sounds great.

E-7 (Phrygian) (I-7)

Trumpet  
Trumpet  
Alto  
Tenor

Baritone  
Bass

( $f$  is the characteristic note for E Phrygian;  
the  $\flat 9$  defines the modal context)

Context is the determining factor. Experimentation, experience, and maturity will help you understand the specifics and subtleties of avoid note theory.



# 4-4 Notation and Labeling of Chord Scales

Chord tones and tensions are notated with open noteheads (○). Arabic numbers describe their interval distances from the root of the chord. Tensions are numbered as an upper structure extension (9-11-13) of the chord and preceded with “T.”

Avoid notes are notated with closed noteheads (●). Arabic numbers describe the interval distances from the root, in the lower structure (1 though 7). Avoid notes are preceded with an “S” to indicate the “scale approach” function.

For example, the chord scale for C7 in the key of F has chord tones 1 (c), 3 (e), 5 (g), and  $\flat 7$  (b-flat); tensions T9 (d) and T13 (a); and the avoid note (scale approach) S4 (f):

C7 (V7)

The labels can be written below the note, as we have done in the preceding pages, or above the note, as might be the case if you were also writing voicings below each scale degree. Where you place the labels is not critical.

What is important is recognizing what the labels describe: the chord tones and available tensions of a given chord along with any passing tones that help to define the tonal or modal context of the chord. As you look over the sample chord scales below, be sure that you understand the label and corresponding function of each note.

B $\flat$ 7  $\flat$ VII7

E-7 III-7

C7(b9) V7/II

G-7 II-7

E $\flat$ maj7  $\flat$ VI maj7

## 4-5 List of Tonal Chord Scales

The following pages list the chord scales commonly applied for the indicated chord functions. Chord symbols and Roman numeral functions relate to middle *c* as the principal pitch axis unless otherwise indicated.

Note that while chord scales are known by their modal names for convenience, this in no way implies that the prevailing pitch axis is in a modal orientation. For example, the correct chord scale for D-7, when functioning as II-7 in the key of C, is D-Dorian. This does not mean we are in D-Dorian mode, where D-7 would be designated as I-7. It simply means we are using the D-Dorian scale (a C major scale starting on *d*) for that II-7 chord function.

### CHORD SCALES IN TONIC MAJOR

The diagram illustrates the chord scales in tonic major for functions I through VII. The notes are arranged on a treble clef staff, and arrows indicate the corresponding chord function and modal name for each note.

Chord Function	Modal Name	Notes (Scale)
I maj7	Ionian	C-D-E-F-G-A-B
II-7	Dorian	D-E-F-G-A-B-C
III-7	Phrygian	E-F-G-A-B-C-D
IV maj7	Lydian	F-G-A-B-C-D-E
V7	Mixolydian	G-A-B-C-D-E-F
VI-7	Aeolian	A-B-C-D-E-F-G
VII-7(b5)	Locrian	B-C-D-E-F-G-A



**I** C Ionian scale (major scale)

1 T9 3 S4 5 T13 T7 1

**I6** C6 Ionian scale (major scale)

1 T9 3 S4 5 6 T7 1

**Imaj7** Cmaj7 Ionian scale (major scale)

1 T9 3 S4 5 T13 7 1

**II-7** D-7 Dorian scale (relative major 2-2)

1 T9 b3 T11 5 S6 b7 1

**III-7** E-7 Phrygian scale (relative major 3-3)

1 Sb2 b3 T11 5 Sb6 b7 1

**IVmaj7** Fmaj7 Lydian scale (relative major 4-4)

1 T9 3 T#11 5 T13 7 1

**V7** G7 Mixolydian scale (relative major 5-5)

1 T9 3 S4 5 T13 b7 1

**VI-7** A-7 Aeolian scale (relative major 6-6)

1 T9 b3 T11 5 Sb6 b7 1

**VII-7(b5)** B-7b5 Locrian scale (relative major 7-7)

1 Sb2 b3 T11 b5 Tb13 b7 1

## CHORD SCALES IN TONIC MINOR

In tonic minor, chord structures and scales are derived from the following three scales.

### Natural Minor (Aeolian)

I-7 II-7b5 bIIIImaj7 IV-7 V-7 bVIImaj7 bVII7

Labels for modes: Natural minor (Aeolian), Locrian, Ionian, Dorian, Phrygian, Lydian, Mixolydian.

### Jazz Minor (Ascending Melodic Minor)

I-6 II-7 bIII+maj7 IV7 V7 VI-7b5 VII7

Labels for modes: Melodic minor (ascending) ("Jazz minor"), Dorian b9, Lydian augmented, Lydian b7, Mixolydian b13, Locrian b9, Altered dominant.

### Harmonic Minor

I-maj7 II-7b5 bIII+maj7 IV-7 V7 bVIImaj7 VII°7

Labels for modes: Harmonic minor, Locrian b13, Ionian #5, Dorian #11, Mixolydian b9, b13, Lydian #9, Locrian b4, °7.



The following list summarizes the chords and chord scales used most frequently in tonic minor. They come from the three previous "parent scales."

I-, I-maj7	C-maj7	Harmonic minor	
I-, I-6, I-maj7	C-6	Melodic minor (ascending)	
I-, I-7	C-7	Natural minor (ascending)	
II-7(b5)	D-7(b5)	Locrian scale (Natural minor, 2-2)	
bIII+maj7	Ebmaj7	Ionian scale (Natural minor, b3-b3)	
bIII+maj7	Ebm+maj7	Lydian Augmented scale (Melodic minor, b3-b3)	
IV-7	F-7	Dorian scale (Natural minor 4-4)	
V7(9,b13)	G7(9,b13)	Mixolydian b13 scale (Melodic minor, 5-5)	
V7(b9,b13)	G7(b9,b13)	Mixolydian b9, b13 scale (Harmonic minor, 5-5)	
bVI+maj7	Abmaj7	Lydian scale (Natural minor b6-b6)	
bVII7	Bb7	Mixolydian scale (Natural minor b7-b7)	

## MODAL INTERCHANGE CHORD SCALES USED IN MAJOR

Modal interchange chords and their chord scales are “borrowed” from a parallel tonality (one having the same pitch axis) for use in the primary tonality.

I-7	C-7	Dorian scale	1	T9	b3	T11	5	S6	b7	1
bIIImaj7	Dbmaj7	Lydian scale	1	T9	3	T#11	5	T13	7	1
bIIImaj7	Ebmaj7	Lydian scale	1	T9	3	T#11	5	T13	7	1
bIII+maj7	Ebmaj7	Lydian Augmented scale	1	T9	3	T#11	#5	S6	7	1
IV6, IVmaj7 (when going to IV- or preceded by V7/IV)	Fmaj7	Ionian scale	1	T9	3	S4	5	T13	7	1
IV-6	F-6	Melodic minor scale	1	T9	b3	T11	5	6	T7	1
IV-7	F-7	Dorian scale	1	T9	b3	T11	5	S6	b7	1
V-7	G-7	Dorian scale	1	T9	b3	T11	5	S6	b7	1
bVIImaj7	Abmaj7	Lydian scale	1	T9	3	T#11	5	T13	7	1
VI-7(b5)	A-7b5	Locrian b9 scale	1	T9	b3	T11	b5	Tb13	b7	1
bVIIImaj7	Bbmaj7	Lydian scale	1	T9	3	T#11	5	T13	7	1
bVII7	Bb7	Lydian b7 scale	1	T9	3	T#11	5	T13	b7	1



# CHORD SCALES FOR THE V7 CHORD (PRIMARY DOMINANT SEVENTH)

There are many different chord scales available for V7, the “primary” dominant seventh chord (for instance, G7 in the key of C). The appropriate choice is determined by tensions listed in the chord symbol, melody notes, musical context, and personal taste.

V7	G7	Mixolydian	1	T9	3	S4	5	T13	b7	1	
V7(sus4)	G7sus4	Mixolydian	1	T9	S3	sus4	5	T13	b7	1	
V7(b9, b13) V7(#9, b13)	G7(b9, b13) or G7(#9, b13)	Mixolydian (b9, #9)	1	Tb9	T#9	3	S4	5	T13	b7	1
V7(9, b13)	G7(9, b13)	Mixolydian b13	1	T9	3	S4	5	Tb13	b7	1	
V7(b9, b13) V7(#9, b13)	G7(b9, b13) or G7(#9, b13)	Mixolydian (b9, b13) or Mixolydian (#9, b13)	1	Tb9	T#9	3	S4	5	Tb13	b7	1
V7(Alt) V7(b5, b9)	G7 (altered) or G7(b5, b9)	Altered dominant	1	Tb9	T#9	3	b5	Tb13	b7	1	
V7(#11)	G7(#11)	Lydian b7	1	T9	3	T#11	5	T13	b7	1	
V+7	G+7	Whole tone	1	T9	3	T#11	#5	b7	1		

## SECONDARY DOMINANT SEVENTH CHORD SCALES

A “secondary” dominant seventh chord moves directly to a diatonic chord other than the I chord (i.e., V7/II, V7/III, V7/IV, V7/V, V7/VI). When the target chord contains a major 3rd, the secondary dominant seventh chord generally takes Mixolydian as a chord scale. When the target chord contains a minor 3rd, the secondary dominant seventh chord takes a chord scale containing  $\text{T}\flat 13$ . The following secondary dominant seventh chord situations all relate to C major as “home.”

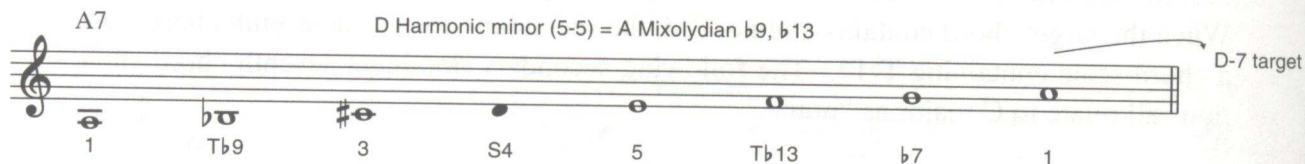
The following table summarizes the information presented in the musical staves:

Chord	Scale	Target Chord
V7/II (A7)	Mixolydian $\flat 13$	D-7 target
V7/III (B7)	Mixolydian $\flat 9, \flat 13$	E-7 target
V7/IV (C7)	Mixolydian	Fmaj7 target
V7/V (D7)	Mixolydian	G7 target
V7/VI (E7)	Mixolydian $\flat 9, \flat 13$	A-7 target

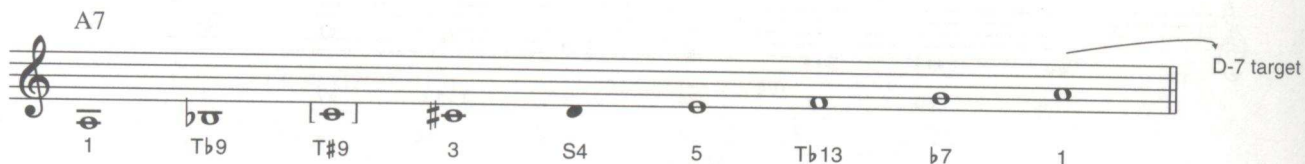
Detailed description of the staves: Each staff shows a treble clef with a key signature of one sharp (F#). The notes are: 1 (root), T9 (tritone), 3 (third), S4 (sharp fourth), 5 (fifth), T13 (tritone/thirteenth),  $\flat 7$  (flat seventh), and 1 (octave). The scale names and target chords are indicated above and to the right of each staff. The target chords are D-7, E-7, Fmaj7, G7, and A-7, which are the diatonic chords in C major that follow the respective secondary dominant chords.



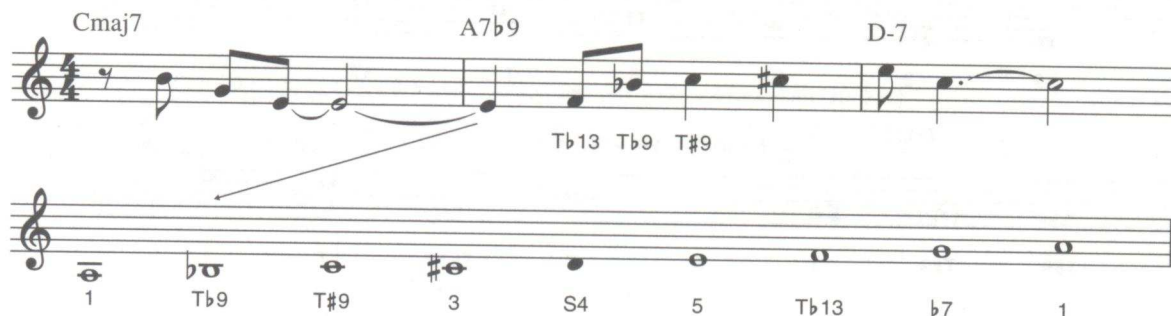
Dominant seventh chords resolving down a perfect fifth to minor targets can always take Harmonic Minor (of the target) 5-5 as a chord scale. This scale coincidentally has the same notes as Mixolydian ( $\flat 9$ ,  $\flat 13$ ). Therefore, because II-7 is a minor target, V7/II often takes Mixolydian ( $\flat 9$ ,  $\flat 13$ ) instead of Mixolydian ([natural] 9,  $\flat 13$ ).



It is possible to “fill in” the augmented second interval between  $\text{T}\flat 9$  and 3 by adding  $\text{T}\sharp 9$  as a diatonic passing tone (spelled enharmonically as the minor third). This results in an eight-note scale:



This eight-note scale provides a greater resource for dissonance and the potential for smoother (stepwise) melodic motion between  $\text{T}\flat 9$  and 3, as shown below.



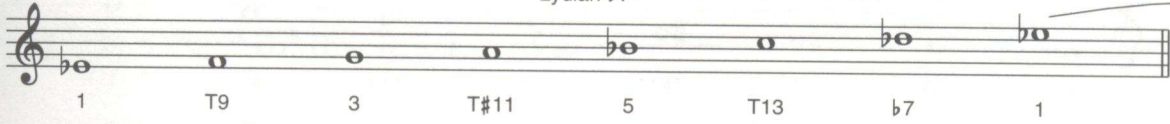
SUBSTITUTE DOMINANT SEVENTH CHORD SCALES

All SubV7's, those dominant seventh chords resolving down half a step to a diatonic target, take Lydian  $\flat 7$  as a chord scale. (Remember, C major is "home.")

subV7/II

E $\flat$ 7

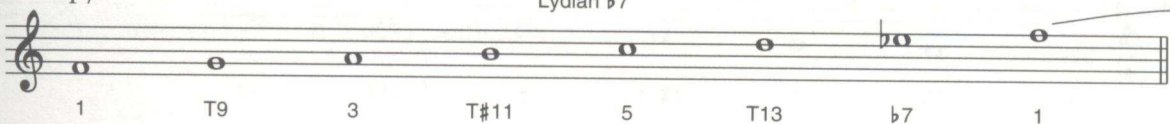
Lydian  $\flat 7$



subV7/III

F7

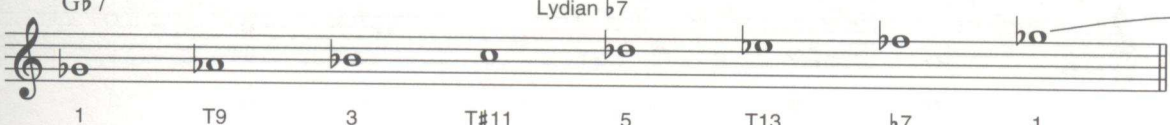
Lydian  $\flat 7$



subV7/IV

G $\flat$ 7

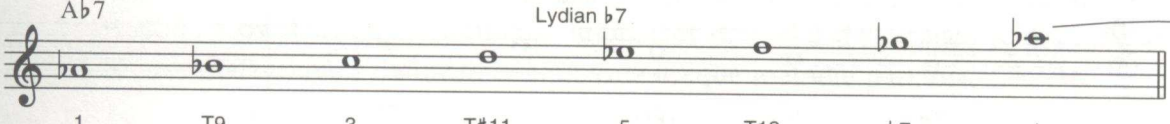
Lydian  $\flat 7$



subV7/V

A $\flat$ 7


Lydian  $\flat 7$



subV7/VI

B $\flat$ 7

Lydian  $\flat 7$



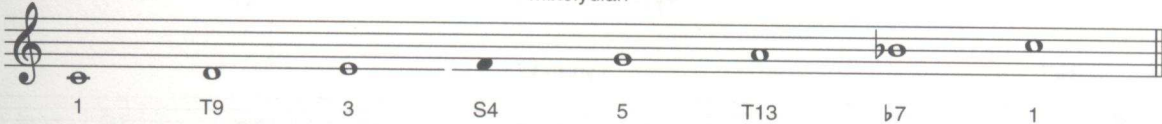
SPECIAL FUNCTION DOMINANT SEVENTH CHORDS

These non-resolving dominant sevenths don't go down a half step or perfect fifth to a target. They are "color chords" usually found in a blues context and often move directly, or as part of a pattern, to the I chord.

I7(9)

C7 C9


Mixolydian



I7(#9)

C7(#9)

"Blues Scale"





I7(#9,13)

C7(#9,b13)

Symmetric Diminished

1 Tb9 T#9 3 T#11 5 T13 b7 1

II7

D7(#11)

Lydian b7

1 T9 3 T#11 5 T13 b7 1

bIII7

Eb7(#11)

Lydian b7

1 T9 3 T#11 5 T13 b7 1

III7

E7

Mixolydian b13

1 T9 3 S4 5 Tb13 b7 1

IV7

F7

Lydian b7

1 T9 3 T#11 5 T13 b7 1

bV7

Gb7

Lydian b7

1 T9 3 T#11 5 T13 b7 1

bVI7

Ab7

Lydian b7

1 T9 3 T#11 5 T13 b7 1

VI7

A7

Lydian b7

1 T9 3 T#11 5 T13 b7 1

bVII7

Bb7

Lydian b7

1 T9 3 T#11 5 T13 b7 1

VII7

B7

Lydian b7

1 T9 3 T#11 5 T13 b7 1

EXTENDED DOMINANT SEVENTHS

When a chord functions as an extended dominant (one in a series of dominant seventh chords resolving down a perfect fifth), it generally takes a Mixolydian chord scale. But, based on context, designated tensions, desired voice leading, and the imagination of the writer, any dominant seventh chord scale is possible.

SYMMETRIC DIMINISHED SCALE

Sometimes referred to as the “combination diminished” or “double diminished” scale, this chord scale, in its “half step-whole step” orientation, is often used for dominant sevenths with T $\flat$ 9 and T13 in a bluesy context.

C7(b9,  $\flat$ 13)

1      T $\flat$ 9      T $\sharp$ 9      3      T $\sharp$ 11      5      T13       $\flat$ 7      1

Note that this eight-note scale contains four minor seconds (inverted, they become major sevenths). It is used when a maximum amount of potential dissonance is desired. Also note that the four tritones included can provide unique melodic patterns.

29

C7

2 Trumpets, Alto, Tenor

Add Trombone and Baritone

In its “whole step-half step” orientation, this scale is often used on diminished chords. See “Auxiliary Diminished” below.



# DIMINISHED SEVENTH CHORD SCALES

## Passing Diminished

**C#°7**

#I°7

1 Sb2 b3 S°4 b5 T °7 T 1

**D#°7**

#II°7

1 Sb2 b3 S°4 b5 T °7 T 1

**F#°7**

#IV°7

1 Sb2 b3 T b5 T °7 T 1

**G#°7**

#V°7

1 Sb2 b3 S°4 b5 T °7 T 1

## Chromatic Diminished

**Eb°7**

bIII°7

1 T b3 Sb3 b5 T °7 T 1

## Auxiliary Diminished

**C°7**

I°7

1 T b3 T b5 T °7 T 1

**G°7**

V°7

1 T b3 T b5 T °7 T 1

## 4-6 List of Modal Chord Scales

In modal contexts there are no avoid notes. Instead, there are the so-called characteristic notes of each mode, which should be used freely. In the list that follows, these characteristic notes are indicated with a circled arrow.

The diatonic chords of any mode, their Roman Numeral function, and their chord scales are derived in the same manner as described for their tonal counterparts.

For the traditional modes below, the resulting scales will be the same as found in the relative major scale. For example, in C Dorian, F7 (IV7) takes a Mixolydian scale (C Dorian, 4-4); in B $\flat$  Major (the relative major), F7 (V7) takes a Mixolydian scale (B $\flat$  Major, 5-5).

The following I chords provide the pitch axis and characteristic color associated with each of the common modes below.

Imaj7	Ionian	
I-7(13)	Dorian	
I-7(b9)	Phrygian	
Imaj7(#11)	Lydian	
I7	Mixolydian	
I-7	Aeolian	
I-7(b5)	Locrian	



## 4-7 Exercises

### TONAL SITUATIONS

1. Indicate the harmonic function of each chord, based on the key signature. Then write in the correct chord scale for each situation.

A-7(b5) II-7(b5) in G minor

G♭maj7

D-6 I-6 in D minor

C-6

D7

E°7

E-7

A°7

C-7

D-7(b5)

E7


B°7


C-7


A♭°7


B♭maj7 (leading to F6)

G-7(b5)


 F-7                      Ab7



 A-7                      C6 (leading to C-6)



 B-7(b5)                      Bbmaj7


 Bbmaj7                      Db7

2. Analyze the following progression, then write the appropriate chord scales in the staff.


 F-7 II-7                      Bb7(b9)                      G-7(b5)                      C7(b9)


 F-7                      E7                      Ebmaj7                      Bb7


 A-7(b5)                      Ab-6                      G-7                      C7(altered)


 F-7                      Emaj7                      Ebmaj7                      Gb7



3. Write out the following dominant seventh chord scales. List the available tensions to the right.

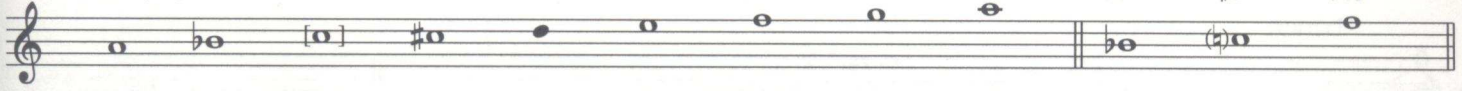
A7(b9)

Available tensions

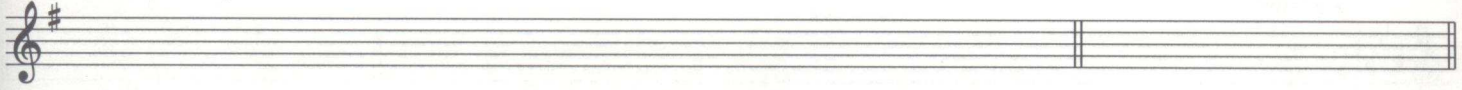
b9

#9

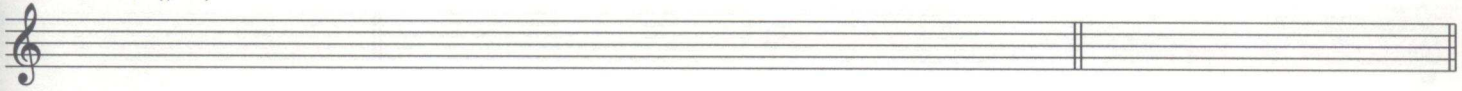
b13



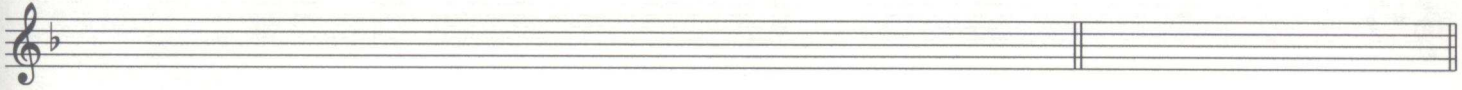
E7 (altered)



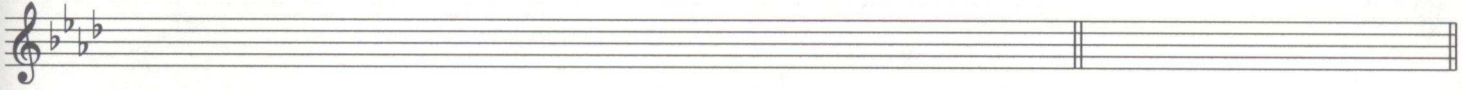
Bb7(#11)



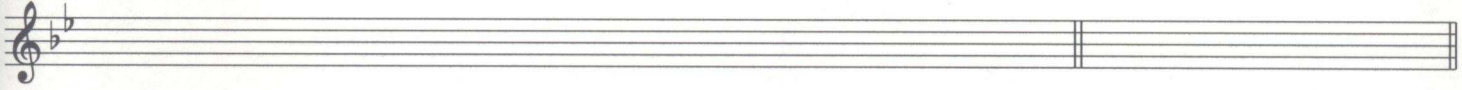
D+7



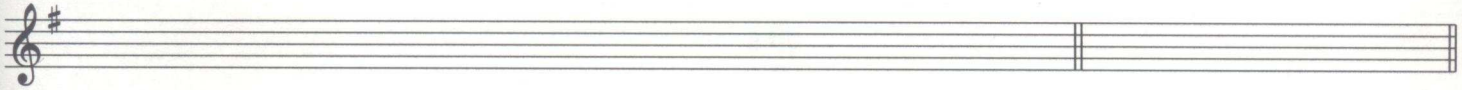
Eb7sus4



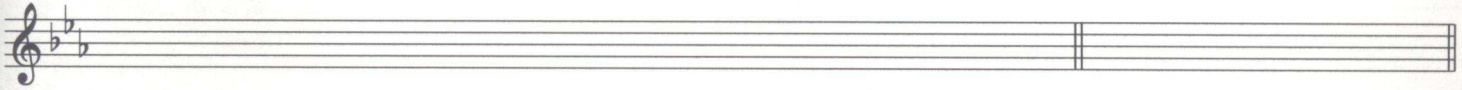
G7 (altered)



F7

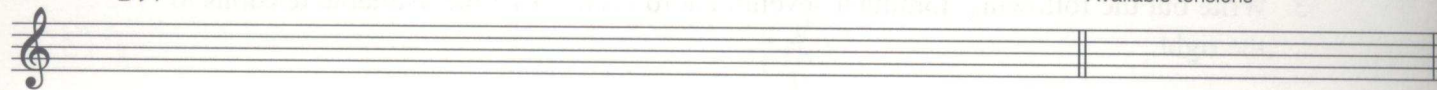


E7

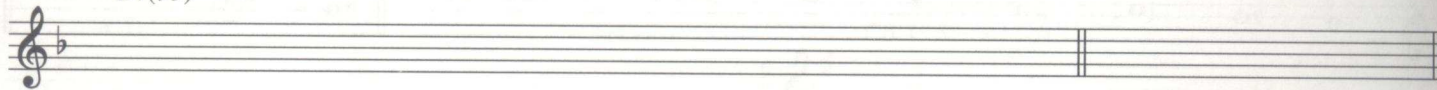


Db7

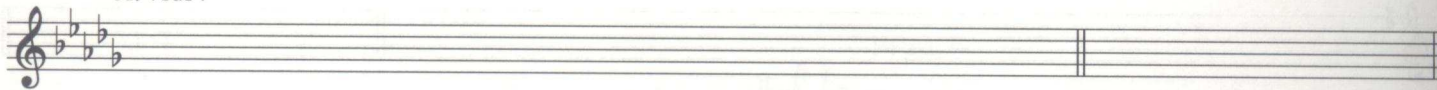
Available tensions



D7(b9)



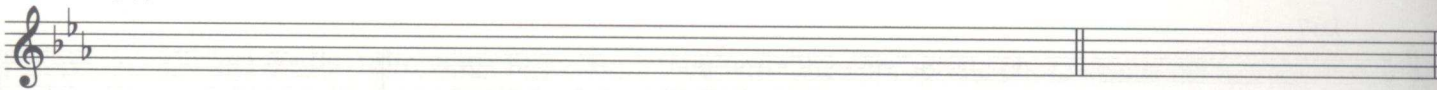
Ab7sus4



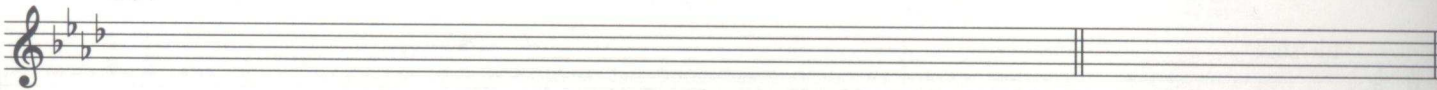
E7



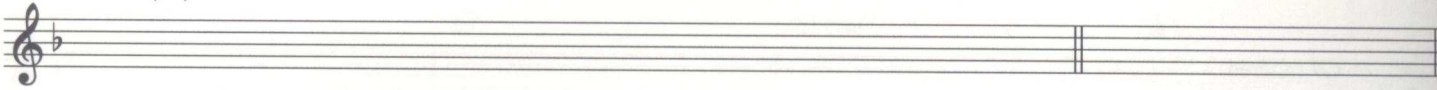
F+7



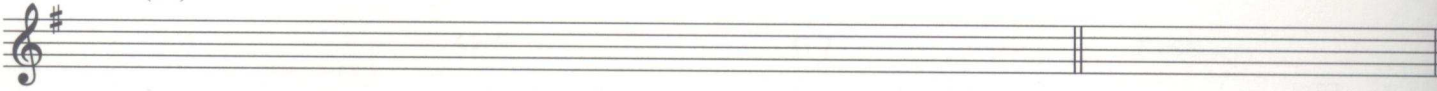
Db7



C7 (alt)



D7(b9)



F7(#11)





## MODAL SITUATIONS

4. Indicate the key signature for the given mode. Then write out the scales using courtesy accidentals.

C Dorian	D Phrygian
E $\flat$ Mixolydian	A Lydian
C Phrygian	B $\flat$ Mixolydian
G Dorian	F Locrian
B $\flat$ Lydian	G $\flat$ Mixolydian
A Locrian	G Phrygian
D Aeolian	B Aeolian
F Lydian	C Mixolydian
D $\flat$ Ionian	E Locrian
A $\flat$ Aeolian	C Lydian

# **PART II: Modern Jazz Voicings**

Follow this guide to create voicings using the contemporary sounds of fourths, clusters, and upper structure triads.



# Voicings in Fourths

## 5-1 Characteristics

In these voicings, the prevailing interval between adjacent notes is a perfect fourth. Being evenly spaced and slightly open, they are very resonant and create a mildly dissonant effect.

The following example compares two traditional five-part soli voicings (four-way close-double lead and drop 2-double lead) to a voicing in fourths.

B♭6	B♭6	B♭6,9
4-way close, dbl. lead	Drop 2, dbl. lead	Voicing in 4ths
prevailing interval: 3rds	3rds	4ths

## Augmented Fourths

When augmented fourths (diminished fifths) are included in voicings in fourths, the dissonance increases. Not only is the tritone (augmented fourth or diminished fifth) a richer interval, but when adjacent to a perfect fourth, it forms a major seventh interval, as shown below, creating strong dissonance.

B♭7(9,13)

A♭maj7(#11)

## 5-2 Five-Part Voicings in Fourths

To create a five-part voicing in fourths:

1. Analyze the chord function and select the appropriate chord scale.
2. Voice down from the melody using available scale notes spaced a fourth apart. If necessary, use a third, fifth, or augmented fourth.
3. Avoid adjacent thirds.
4. Avoid doublings. Try to have five different notes even if a non-fourth interval must be used. Doubling the lead (8vb) of a four-part voicing in fourths will fill in one of the fourths and lessen the even spacing and open sound of the voicing. Doubling an inner voice is sometimes possible, but this may create a balance problem.
5. Avoid minor ninth intervals, except  $\flat 9$  on Dom7 $\flat 9$  and in some modal contexts.
6. Be sure to include the tritone in all dominant seventh chord voicings, except Dom7(sus4).
7. In tonal contexts, avoid notes may not be used. In modal contexts, avoid notes, interpreted as characteristic notes, may be included.

### Examples

C6 or Cmaj7                      Chord Scale

Sample Voicings

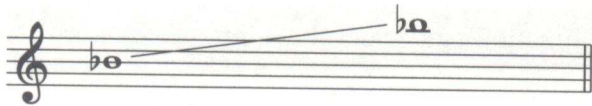
G-7                      Chord Scale

Sample Voicings



Lead Range

Five-part voicings in fourths work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



Five-Part Examples Using All Adjacent Fourths

The following list shows three possible types of voicings when all adjacent intervals are fourths.

- 1. Five-note voicings in which all adjacent intervals are perfect or augmented fourths (sometimes spelled enharmonically as diminished fifths) and the chord sound is complete, containing the third and seventh.

Tonal Context

Lead note	1	5	3	9	13	5	b9
Chord type	Maj6	Maj7	Maj7(#11)	Maj7(#11)	Maj7(#11)	Dom7	Dom7b9
Symbol	F6,9	Bbmaj7	Dbmaj7(#11)	Ebmaj7(#11)	Abmaj7(#11)	Bb7	E7(b9)
Voicing							

Tonal Context

Lead note	b7	b7	T10	1	b3	b3	b13
Chord type	Dom7sus4	Dom7sus4b9	Dom7sus4(10)	Min6	Min7	Min7(b5)	Min7(b5)
Symbol	G7sus4	G7sus4(b9)	Db7sus4(10)	F-6,9	D-7	D-7(b5)	A-7(b5)
Voicing							

Modal Context

Lead note	9	5	13	5	9	b13	5	b9
Chord type	I-7(Dor.)	I-7(Dor.)	I-7(Dor.)	I-7(Aeol.)	I-7(Aeol.)	I-7(Aeol.)	I-7(Phryg.)	I-7(Phryg.)
Symbol	Eb-7(Dor.)	Bb-7(Dor.)	Ab-7(Dor.)	Bb-7(Aeol.)	Eb-7(Aeol.)	A-7(Aeol.)	Bb-7(Phryg.)	E-7(Phryg.)
Voicing								

2. Five-note voicings in which all adjacent intervals are perfect or augmented fourths, but the chord sound is incomplete because the third or seventh is missing:

Tonal Context

Modal Context

Lead note	7	#11	b5	4	b7	1	1
Chord type	Maj7(#11)	Maj6	Dom7(alt.)	Dom7sus4	Min7	Imin7(Aeol.)	Imin7(Phryg.)
Symbol	Gbmaj7(#11)	Cb6,9(#11)	B7(Alt.)	C7sus4	G-7	F-7(Aeol.)	F-7(Phryg.)
Voicing							

3. Five-note voicings in which all adjacent intervals are perfect or augmented fourths, but the chord sound is ambiguous because both the third and seventh are missing:

Modal Context

Lead note	11	11
Chord type	Imin7(Aeol.)	Imin7(Phryg.)
Symbol	C-7(Aeol.)	C-7(Phryg.)
Voicing		

Voicings that lack the third and/or the seventh are most effective when adjacent voicings clearly define the chord sound and musical context. With five-note voicings, it is sometimes better to give up a fourth in favor of chord sound, as shown below, as long as the majority of adjacent intervals are fourths.

G-7

(4th given up in favor of chord sound)



Voicings in Fourths as a Soli Technique

30

Because voicings in fourths are widely spaced, they work best on melodies that are relatively sustained or percussive.

Example 30 shows a musical exercise for five instruments: Trumpet, Alto, Tenor, Baritone, and Trombone. The exercise is in 4/4 time and consists of four measures. The chords are D-7, G7, C-7, and C-6,9. The voicings are in fourths. The first measure is D-7, the second is G7, the third is C-7, and the fourth is C-6,9. The notation includes a (2nd x) marking in the third measure.

Occasional approach notes present no problem and should be handled with parallel approach reharmonization, chromatic approach reharmonization, or independent lead.

Example 30 shows four different reharmonization techniques for the C6 chord. The first measure is 'No reharmonization (poor voice leading)'. The second measure is 'Parallel Approach (good voice leading)'. The third measure is 'Dominant Approach (poor voice leading)'. The fourth measure is 'Independent Lead'.

Musical Examples

Note: Examples 31 and 32 are arranged for the same instrumental combination using the same melody and chord changes. However, the two examples differ in that example 31 uses adjacent fourths throughout while example 32 sacrifices “all fourths” for complete chord color in measures 2 and 3 (note the arrows).

31

Example 31 shows a musical exercise for five instruments: Trumpet, Alto, Tenor, Trombone, and Baritone. The exercise is in 4/4 time and consists of four measures. The chords are Cmaj7(#11), D-7, E-7, and Cmaj7(#11). The voicings are in adjacent fourths throughout.

32

Example 32 shows a musical exercise for five instruments: Trumpet, Alto, Tenor, Trombone, and Baritone. The exercise is in 4/4 time and consists of four measures. The chords are Cmaj7(#11), D-7, E-7, and Cmaj7(#11). The voicings are in complete chord color in measures 2 and 3. An arrow points to the third of the chord in measure 3 with the text '3rd of the chord will give more complete chord sound'.

Examples 33 and 34 repeat the above comparison with a different instrumental combination.

33

Chord progression for Example 33:

Cmaj7(#11) (ch) D-7 E-7 Cmaj7(#11)

Instrumental combination: Soprano sax and String Quartet

The notation shows two staves. The top staff is for Soprano sax and the bottom for String Quartet. Chords are written above the staves: Cmaj7(#11) (ch), D-7, E-7, and Cmaj7(#11). The voicings are in 4/4 time, with the first measure containing a whole note chord and the subsequent measures containing half notes.

34

Chord progression for Example 34:

Cmaj7(#11) (ch) D-7 E-7 Cmaj7(#11)

Instrumental combination: Soprano sax and String Quartet

The notation is identical to Example 33, but with a different instrumental combination. An annotation with arrows points to the third of the D-7 and E-7 chords, stating: "3rd of the chord will give more complete chord sound".

In the following version, the arranger has done a mild reharmonization to create chromatic color variation while at the same time maintaining the consistent use of voicings in fourths. Two different instrumental combinations are used.

35

Chord progression for Example 35:

Cmaj7(#11) (ch) D-7 Ebmaj7(#11) E7sus4 F7(#11) Cmaj7(#11)

Instrumental combination: Soprano Trumpet Tenor and Trombone Baritone

The notation shows two staves. The top staff is for Soprano Trumpet Tenor and the bottom for Trombone Baritone. Chords are written above the staves: Cmaj7(#11) (ch), D-7, Ebmaj7(#11), E7sus4, F7(#11), and Cmaj7(#11). The voicings are in 4/4 time, with the first measure containing a whole note chord and the subsequent measures containing half notes.

36

Chord progression for Example 36:

Cmaj7(#11) (ch) D-7 Ebmaj7(#11) E7sus4 F7(#11) Cmaj7(#11)

Instrumental combination: Trumpet with cup mute and String Quartet

The notation is identical to Example 35, but with a different instrumental combination. The top staff is for Trumpet with cup mute and the bottom for String Quartet.



5-3 Four-Part Voicings in Fourths

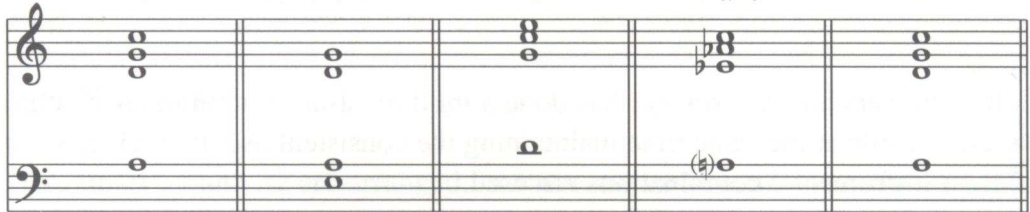
To create a four-part voicing in fourths, follow the same procedure as with five parts, and observe the following:

- 1. If possible, all adjacent intervals should be perfect or augmented fourths. Remember that augmented fourths are often spelled enharmonically as diminished fifths.
- 2. If absolutely necessary, you may use a major third between the top two voices and still maintain a recognizable “voicing in fourths” sound.
- 3. These voicings may be incomplete as long as the basic chord sound is clearly implied.
- 4. Avoid intervals of a minor ninth.
- 5. In tonal contexts, avoid notes may not be used. In modal contexts, they may.

Examples

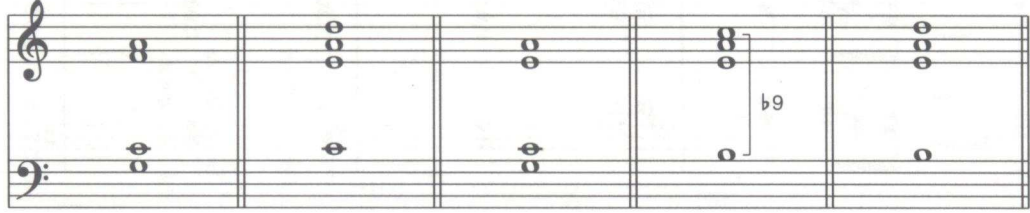
Good

C6,9      C6,9      C6,9      F7(#9)      A-7



Less Effective

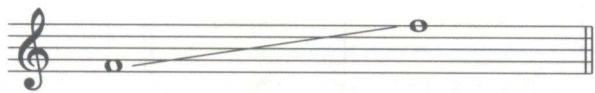
F7      C6,9      C6      A-7      G7



No tritone;  
sounds like triad add9      Interval of a  
3rd on bottom      Sounds like, and  
is, Drop 2      Contains b9      No tritone;  
sounds like G6,9

Lead Range

Four-part voicings in fourths work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



Four-Part Examples Using All Adjacent Fourths

The following list shows three possible types of voicings when all adjacent intervals are fourths.

- 1. Four-note voicings in which all adjacent intervals are perfect or augmented fourths (sometimes spelled enharmonically as diminished fifths) and the chord sound is complete, containing the third and seventh:

Tonal Context

Lead note	5	3	9	13	9	#9	13	b13
Chord type	Maj6	Maj7#11	Maj7	Maj7#11	Dom7	Dom7#9	Dom7#9	Dom7#9
Symbol	Bb6,9	Dbmaj7(#11)	Ebmaj7	Abmaj7(#11)	Eb7,9	D7(#9)	Ab7(#9)	A7(#9,b13)
Voicing								

Tonal Context

Lead note	b7	5	b3	b13
Chord type	Dom7sus4	Min6	Min7	Min7(b5)
Symbol	G7sus4	Bb-6,9	D-7	A-7(b5)
Voicing				

Modal Context

13	9	b9
Imin7(Dor.)	Imin7(Aeo.)	Imin7(Phryg.)
Ab-7(Dor.)	Eb-7(Aeo.)	E-7(Phryg.)

- 2. Four-note voicings in which all adjacent intervals are perfect or augmented fourths, but the chord sound is incomplete because the third or seventh is missing:

Tonal Context

Lead note	#11	1	4	4	b7
Chord type	Triad	Maj6	Dom7sus4	Dom7sus4(b9)	Min7(b5)
Symbol	Badd9,#11	F6,9	C7sus4	C7sus4(b9)	G-7(b5)
Voicing					



3. Four-note voicings in which all adjacent intervals are perfect or augmented fourths, but the chord sound is ambiguous because both the third and seventh are missing:

	Tonal Context			Modal Context	
Lead note	#11	#11	b5	1	11
Chord type	Maj7#11	Dom7b9	Dom7(alt)	Imin7(Phryg.)	Imin7(Phryg.)
Symbol	Bmaj7(#11)	B7(b9,#11)	B7(alt)	F-7(Phryg.)	C-7(Phryg.)
Voicing					

Voicings that lack the third and seventh are most effective when adjacent to “complete” voicings that contain them and clearly establish the musical context defined by the chord symbol.

37

C-(Phryg.)

Inverted Four-Part Voicings in Fourths

Inversions of voicings in fourths sound good in context with voicings that contain all adjacent fourths.

In the example that follows, four-part voicings in the treble clef provide color over the bass clef melody concluding in a five-part voicing in fourths.

38

In the above example, the first two chords are voiced in fourths, but with some notes displaced an octave, creating inverted voicings, as described below.

Bb-7 (2nd inversion)

Fmaj7 (3rd inversion)

## Constant Structure Fourths Over a Pedal Point

Constant structure fourths sound great over a pedal point. Below, a blues lick over a dominant pedal is harmonized with constant structure perfect fourths.

39

C/G pedal

Fine

D.C. al Fine

Trumpet  
Alto  
Trombone

drums

Baritone

Bass  
Piano

In the following example, voicings in fourths are used while taking liberty with both the chord scale resource and chord sound clarity. Such freedom is possible as long as strategically placed complete chord sound voicings clearly maintain the harmonic context. Note the use of three-part voicings in fourths (double lead) for spacing contrast and contrary motion into the constant structure fourths.

40

G7

C7

Trumpet  
Alto

Tenor  
Trombone

3-part voicings in 4ths,  
double lead

Constant structure 4ths

Bass  
Piano

F7

Bb7

Piano ad lib,  
then fade

(walking)



## 5-4 Three-Part Voicings in Fourths

To create a three-part voicing in fourths, follow the same procedure as with four and five parts, but observe the following:

1. All adjacent intervals must be perfect or augmented fourths. With only two adjacent intervals, a three-part voicing cannot be heard as a voicing in fourths unless both intervals are fourths.
2. These voicings may be “incomplete” as long as the basic chord sound is clearly implied.
3. Avoid intervals of a minor ninth.
4. In tonal contexts, avoid notes may not be used. In modal contexts, they may.

### Examples

**Good**

C6,9      A7(#9)      B♭6      F-7

**Unsuccessful**

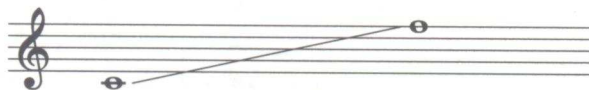
F7      Cmaj7      A-7      G7

Triadic structure    Triadic structure    Triadic structure    3rd, +4th (°5)  
Chord sound?

The voicings labeled as unsuccessful above fail because one of the two adjacent intervals is a third. These triadic structures sound fine, but they do not clearly create the distinct sonority of a voicing in fourths.

### Lead Range

Three-part voicings in fourths work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



# Three-Part Examples Using All Adjacent Fourths

The following list shows three possible types of voicings when all adjacent intervals are fourths.

1. Three-note voicings in which all adjacent intervals are perfect or augmented fourths (sometimes spelled enharmonically as diminished fifths) and the chord sound is complete, containing the third and seventh:

## Tonal Context

Lead note	9	3	13	13	#9	b7	9	b3	b13
Chord type	Maj6	Maj7#11	Maj7	Dom7	Dom7#9	Dom7(sus4)	Min6	Min7	Min7(b5)
Symbol	Eb6,9	Dbmaj7(#11)	Abmaj7	Ab7,13	D7(#9)	G7sus4	Eb-6,9	D-7	A-7(b5)
Voicing									

2. Three-note voicings in which all adjacent intervals are perfect or augmented fourths, but the chord sound is incomplete because the third or seventh is missing:

## Tonal Context

## Modal Context

Lead note	1	#11	5	7	4	9
Chord type	Maj triad	Maj triad	Maj6	Maj7#11	Dom7(sus4)	Imin7(Dor.)
Symbol	F	Cb(add#11)	Bb6,9	Gbmaj7(#11)	C7sus4	Eb-7(Dor.)
Voicing						

3. Three-note voicings in which all adjacent intervals are perfect or augmented fourths, but the chord sound is ambiguous because both the third and seventh are missing:

## Tonal Context

## Modal Context

Lead note	1	b5	b9	1
Chord type	Maj6	Dom7(alt)	Dom7(alt)	Imin7(Phryg.)
Symbol	F6,9	B7(Alt)	E7(Alt)	F-7(Phryg.)
Voicing				



Voicings that lack the third and seventh are most effective when adjacent to "complete" voicings that do contain them and clearly establish the musical context defined by the chord symbol.

**Row 1:**

- E6,9:** Chord sound complete (musical context clearly established)
- B7(Alt):** No 3rd or 7th, but if bass plays "B" V7 sound is implied
- E6,9:** No 6th or 3rd but stable I sound

**Row 2:**

- B-7:** Chord sound complete
- E7(b9):** No 3rd or 7th, but  $\text{II} \quad \text{V} \quad \text{I}$  context helps imply the chord sound
- A6,9:** No 3rd, but stable I sound

## Inverted Three-Part Voicings in Fourths

One common three-part voicing uses adjacent intervals of a fourth and a second. Although such voicings do not contain all adjacent fourths, they are inversions of voicings in fourths and therefore compatible with the "voicing in fourths" sound.

Voicing in 4ths      1st inversion      2nd inversion

## Three-Part Voicings With a Perfect Fourth and a Major Second

In the following example, the voicings in fourths are voice led to "inverted voicings in fourths" containing a perfect fourth and a major second. Note that the major second can be the upper or lower interval.

41

3xs  
even 8ths

Emaj7(#11)    Abmaj7(#11)    Fmaj7(#11)    Amaj7(#11)    Eb+maj7 Emaj7    Eb+maj7

Guitar

Synthesizer

Electric Bass

### Three-Part Voicings With an Augmented Fourth and a Minor Second

The following example demonstrates two variations on voice leading from a “closed” (inverted) voicing in fourths (containing an interval of a second and an interval of a fourth) to an “open” voicing (containing two intervals of a fourth). In the first case, shown in the first two measures, the exact intervals in each of the closed voicings are a minor second (on the bottom) and an augmented fourth, or tritone, on the top. The open voicings in the first two measures contain intervals of a perfect fourth and a tritone, creating a major seventh from the bottom note to the top. Both of these voicings are more dissonant than their counterparts in the third and fourth measures. There, the closed voicing consists of a major second and a perfect fourth, while the two open voicings contain two perfect fourths each. Compare the level of dissonance in the two sections as you listen to the recording.

42

42

3xs

Synthesizer

Written Bass

D7(#9) B7(#9) G7,13 Eb7,13 Fmaj7 Gbmaj7(#11) Fmaj7(#11)

(Last x)

### Three-Part Voicings in Fourths Over Pedal Points

In the modal blues below, the melody is harmonized with voicings in fourths over the sustained roots.

43

43

Trumpet  
Tenor  
Trombone

Baritone  
Bass  
Piano

A-7

D-7

A-7

Bbmaj7 Ebmaj7 A-7




## 5-5 Exercises

1. Write out the correct scale for each harmonic situation. Then harmonize each scale note with a five-part voicing in fourths.

Cmaj7 (or C6)


(Lead range)

D-7




A blank musical staff consisting of two staves. The top staff has a treble clef and the bottom staff has a bass clef. Above the treble staff, the chord symbol "D-7" is written. The staves are empty, with no notes or other markings.

E-7



A blank musical staff with a treble clef and a bass clef, with a key signature of one flat (B-flat).

Fmaj7 (or F6)

A blank musical staff consisting of two staves. The top staff has a treble clef and the bottom staff has a bass clef. A double bar line is positioned in the middle of the staves. The staves are empty, with no notes or other markings.

MODERN JAZZ VOICINGS

C#°7

Handwritten musical notation for C#°7 chord voicing on a grand staff.

G7(Alt)

Handwritten musical notation for G7(Alt) chord voicing on a grand staff.

D♭7

Handwritten musical notation for D♭7 chord voicing on a grand staff.

D♭maj7 (or D♭6)

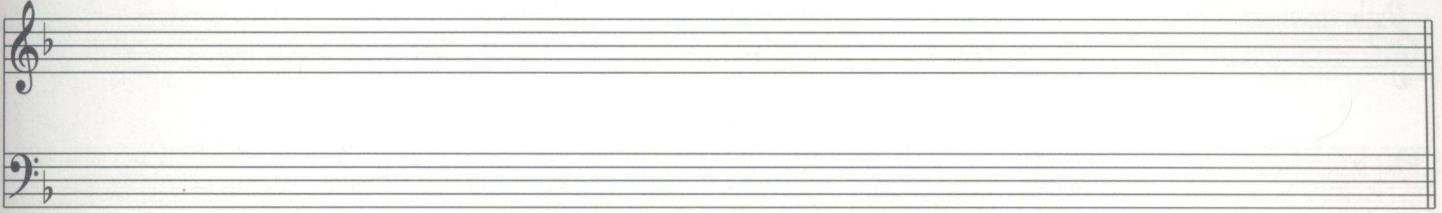
Handwritten musical notation for D♭maj7 (or D♭6) chord voicing on a grand staff.

G-7

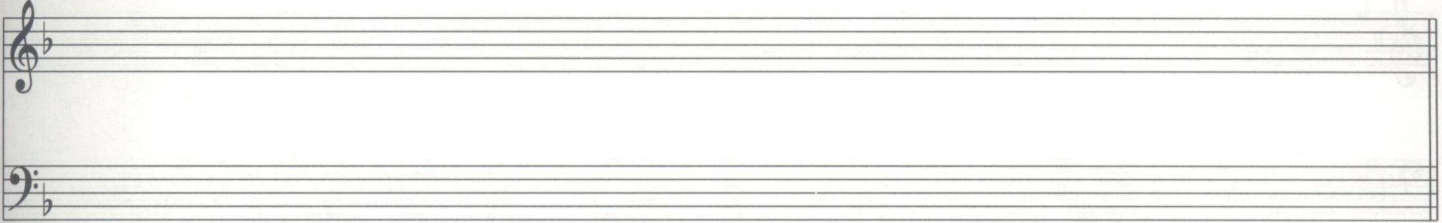
Handwritten musical notation for G-7 chord voicing on a grand staff.



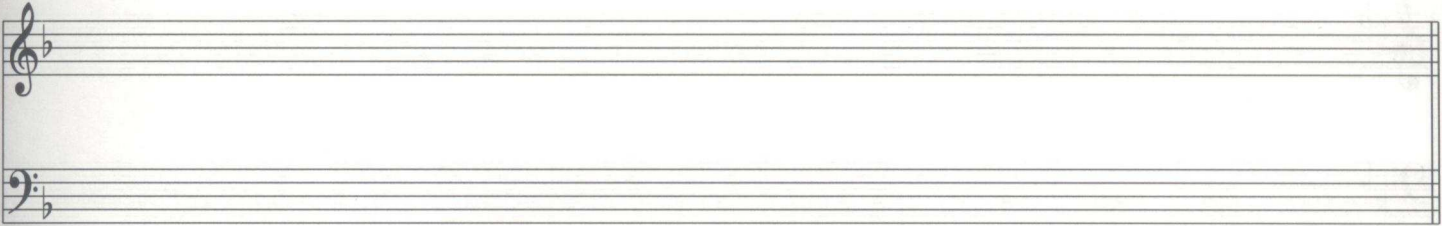
D7(Alt)



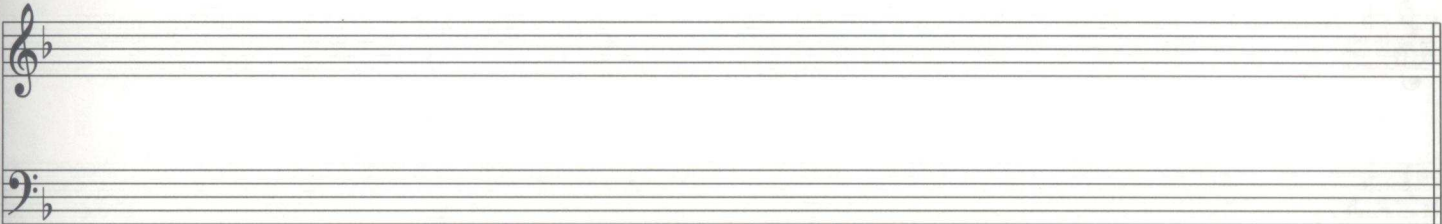
B-7(b5)



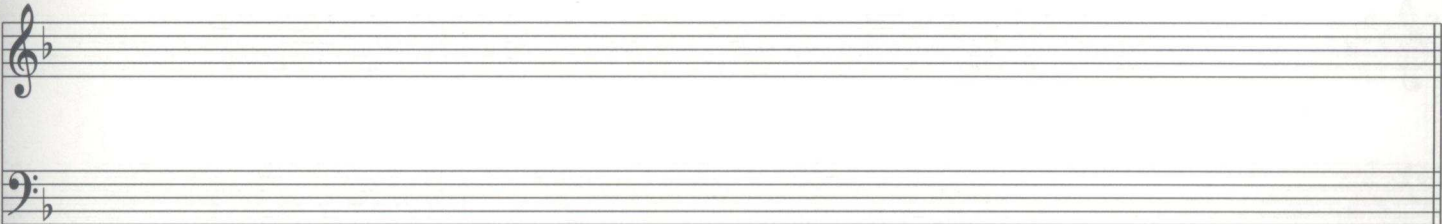
C7sus4



Eb7

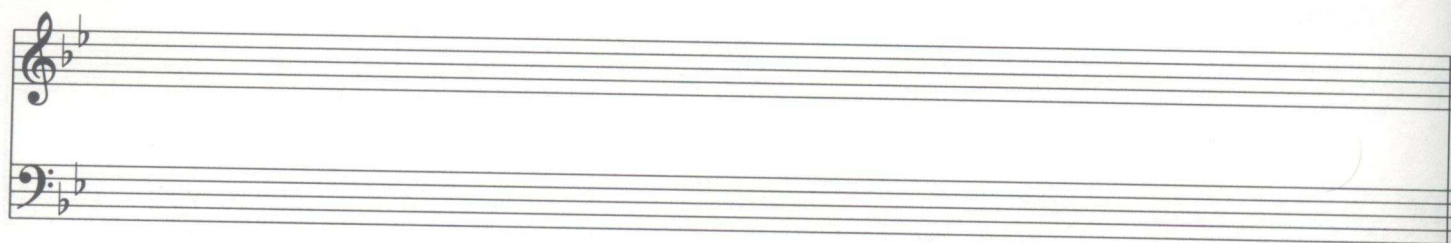


G7(#11)

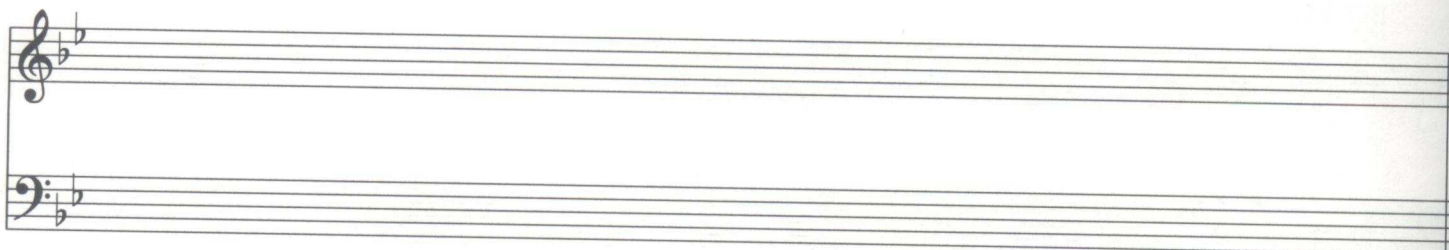


# MODERN JAZZ VOICINGS

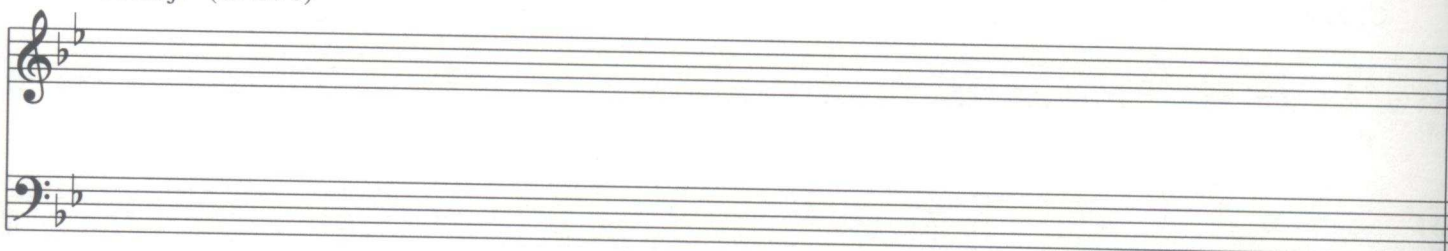
D-7



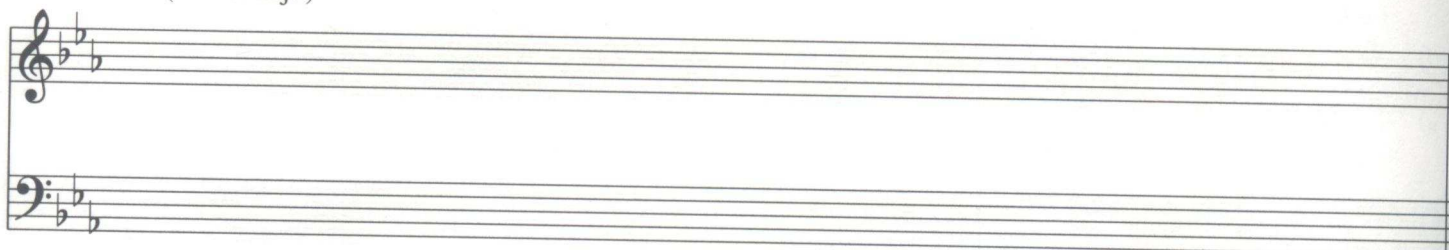
G-6



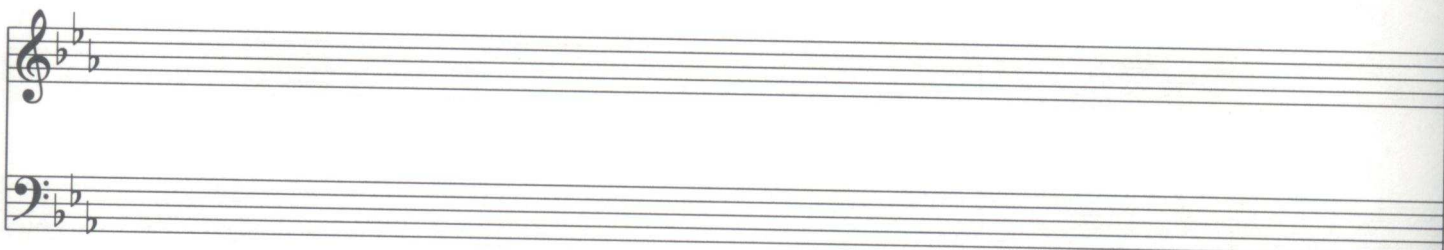
G $\flat$  maj7 (or G $\flat$ 6)



A $\flat$ 6 (or A $\flat$  maj7)



E $^{\circ}$ 7





G-7(b5)

Two empty musical staves for the G-7(b5) chord voicing. The treble clef staff has a key signature of two flats (Bb and Eb) and a common time signature. The bass clef staff has a key signature of two flats (Bb and Eb) and a common time signature.

C7(Alt)

Two empty musical staves for the C7(Alt) chord voicing. The treble clef staff has a key signature of two flats (Bb and Eb) and a common time signature. The bass clef staff has a key signature of two flats (Bb and Eb) and a common time signature.

Bb+7

Two empty musical staves for the Bb+7 chord voicing. The treble clef staff has a key signature of two flats (Bb and Eb) and a common time signature. The bass clef staff has a key signature of two flats (Bb and Eb) and a common time signature.

Ab7

Two empty musical staves for the Ab7 chord voicing. The treble clef staff has a key signature of one sharp (F#) and a common time signature. The bass clef staff has a key signature of one sharp (F#) and a common time signature.

D7sus4

Two empty musical staves for the D7sus4 chord voicing. The treble clef staff has a key signature of one sharp (F#) and a common time signature. The bass clef staff has a key signature of one sharp (F#) and a common time signature.

2. Write out the correct chord scale for each harmonic situation, then harmonize each scale degree with a four-part voicing in fourths.

C-7

(Lead range)

D7(#9)

F6,9

E♭7

B-7(b5)

E♭maj7



3. Write out the correct chord scale for each harmonic situation. Then, harmonize each scale degree with a three-part voicing in fourths.

G-7

(Lead range)

G7(Alt)

G6,9

A-7(b5)

E $\flat$ 7

F-7

# CHAPTER 6

# Voicings in Seconds (Clusters)

## 6-1 Characteristics

Clusters are voicings in which the prevailing interval between adjacent notes is a second. This tightly spaced voicing creates a thick, dissonant effect. Voicings that contain all seconds create the maximum level of density. As other intervals are included, the voicing opens up and the density decreases. Because a minor second interval is more dissonant than a major second, voicings that contain at least one minor second will have more “bite” than those that contain only major seconds.

The following example compares a traditional four-way close-double lead voicing, a voicing in fourths, and three different cluster choices.

	Fmaj7	Fmaj7	Fmaj7	Fmaj7	Fmaj7
Voicing type:	4-way close, dbl. lead	Voicing in 4ths	Cluster	Cluster	Cluster
Prevailing int.:	3rds	4ths	2nds	2nds	2nds
Impression:	close	more open	Dense This is the thickest and most dissonant; all 2nds, one min. 2nd	Dense With the melody separated by a 3rd, it's less dense	Dense With the 3rd between the 2nd & 3rd voice, it is less dense and with the min. 2nd missing, less dissonant



## 6-2 Five-Part Clusters (Voicings in Seconds)

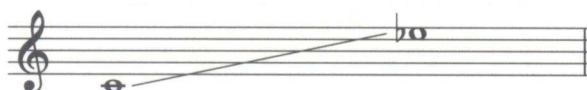
To create a five-part cluster:

1. Analyze the chord function and select the appropriate chord scale.
2. Voice down from the melody using available scale notes spaced a second apart. In tonal contexts, avoid notes may not be used; use a third when necessary. In modal contexts, avoid notes, interpreted as characteristic notes, may be included.
3. The melody note may be separated from the rest of the voicing by a third or fourth. This is especially true when trying to emphasize melodic clarity.
4. Avoid a minor second interval between the top two voices so as not to obscure the melody.
5. Try to include at least one minor second (but not between the top two voices) in order to create a high level of dissonance.

The image shows five five-part clusters on a grand staff. Above each cluster is a chord name: Cmaj7, Cmaj7, D-7, D-7, and Cmaj7. Below each cluster is an evaluation: 'Good', 'Good', 'OK', 'Good', and 'Poor (Half step on top)' respectively. The clusters are constructed by voice leading down from a melody note, with the bottom voice being a half step below the top voice in the 'Poor' example.

### Lead Range for Five-Part Voicings

Five-part clusters work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



### Low Interval Limits

Check that your voicings don't go below the low interval limits for major and minor seconds:

The image shows two staves with bass clefs. The first staff is labeled 'Major 2nd' and shows a half note on the bottom line (F2) and a half note on the first space (G2). The second staff is labeled 'Minor 2nd' and shows a half note on the bottom line (F2) and a half note on the bottom space (E2).

## Examples of Five-Part Cluster Voicings

**Cmaj7** Chord Scale

Sample Voicings

**G7(Alt)** Chord Scale

Sample Voicings

**C#°7** Chord Scale

Sample Voicings

## 6-3 Four-Part Clusters (Voicings in Seconds)

To create a four-part cluster, follow the same procedure as with five-part voicings, but observe the following:

1. Try to use intervals of a second exclusively. Because there are only three adjacent intervals (not the four found in a five-part voicing), any non-second will noticeably lessen the density.
2. If necessary, use a third between the top two voices. This will compromise the density but allow the melody note to be clearly heard.
3. The voicing may be incomplete (missing a third or seventh) as long as the chord sound is still implied.

**Good:**

C6,9      D-7      G7(b9)      F-7      Bb7(#11)

**Less effective:**

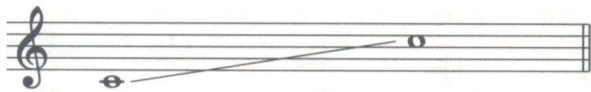
Cmaj7      F7      A-7      F#-7b5      C#°7

Half step on top; melody obscured      Chord sound? Dom7 unclear; b7 missing.      With two 3rds it doesn't sound like a cluster      Chord sound? With no b5 it sounds like F#-7(11)      Half step on top; melody obscured



Lead Range for Four-Part Voicings

Four-part clusters work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



Similar Sounding Four-Part Voicings

Four-part voicings containing two seconds and one non-second lack the compact spacing of true clusters, which use all seconds. However, when adjacent to openly spaced voicings, they will create an impression similar to that of clusters. When used in the same phrase with clusters, they provide contrast in spacing density. Such voicings also allow for contrary motion, which can result in a more interesting flow of line and texture.

44

Alto  
Flugelhorn  
Tenor  
Trombone

C-6,9

E♭-7

D-7

A♭maj7

Interval content:  
maj 2nd  
maj 3rd  
maj 2nd

maj 2nd  
min 2nd  
maj 2nd

maj 2nd  
maj 2nd  
min 2nd

P4  
maj 2nd  
min 2nd

maj 2nd  
min 2nd  
P5

Bass

4-way close  
9 for 1

cluster  
no 7th

cluster  
no 7th

4-way close  
9 for 1,  
11 for 5

Available note voicing;  
"C" is included for  
complete chord sound  
and contrary motion.

## 6-4 Three-Part Clusters (Voicings in Seconds)

To create three-part clusters, follow the same procedure as with four and five parts, but observe the following:

1. All adjacent intervals must be seconds. With only two intervals, the characteristic density of clusters can be achieved only if both intervals are seconds.
2. These voicings may be incomplete (missing the third or seventh) as long as the chord sound is still implied.

Good:

C6,9      F7      D-7      Fmaj7(#11)      A7(Alt)

Less effective:

Gmaj7      F7      D7(Alt)

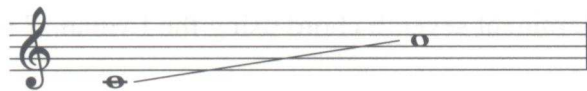
Half step on top;  
melody obscured

Chord sound?  
Dom7 not implied  
with b7 missing.

Chord sound?

### Lead Range for Three-Part Voicings

Three-part clusters work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



### Similar Sounding Three-Part Voicings

Three-part voicings spanning less than an octave and containing only one second create dissonance similar to that of clusters. Although the characteristic density resulting from all seconds is absent, the one second's unique and noticeable dissonance does stand out. A minor second in this situation creates a stronger dissonant "bite." Such voicings sound open when adjacent to clusters and dense when adjacent to voicings containing wider intervals.



45

When forming such a chord (hanging notes below the lead as in a four-way close voicing), the normal order of pitch assignments is interrupted, resulting in an omitted note. These are known as “omit voicings.” In the example below, the notes that have been omitted from the voicing are shown as an x in parentheses.

Example 45 shows musical notation for various omit voicings across seven measures. The notation includes parts for Trumpet, Alto, Tenor, and Bass. The voicings are as follows:

- D-7:** P5th, min 2nd, 4-way close, omit 2, 9 for 1. (Notes: D, F, A, C, E. Omit: G. Shown as (x) in parentheses.)
- E-7:** Triad, 4-way close, omit 3. (Notes: E, G, B, D, A. Omit: C. Shown as (x) in parentheses.)
- Fmaj7:** maj 3rd, min 2nd, 4-way close, omit 4. (Notes: F, A, C, E, G. Omit: B. Shown as (x) in parentheses.)
- Gbmaj7:** maj 2nd, min 2nd, Cluster. (Notes: Gb, Bb, D, F, Ab. Omit: C. Shown as (x) in parentheses.)
- Fmaj7:** maj 3rd, min 3rd, 4-way close, omit 4, 9 for 1. (Notes: F, Ab, C, Eb, G. Omit: B. Shown as (x) in parentheses.)
- Dbmaj7:** Triad, 4-way close, omit 4. (Notes: Db, F, Ab, Bb, D. Omit: C. Shown as (x) in parentheses.)
- Bbmaj7(#11):** Voicing in 5ths. (Notes: Bb, D, F, Ab, C. Omit: G. Shown as (x) in parentheses.)

Below the main example, a detailed view of an Fmaj7 voicing is shown, illustrating the omission of the 4th (B) in a 4-way close voicing. The notation shows the notes F, Ab, C, and Eb, with the B note omitted and marked with (x).

(x) = omitted note

Three-part voicings containing adjacent intervals of a minor third and minor second are bluesy in their dissonant impression. The minor second creates the kind of “bite” associated with clusters, while the minor third suggests the sound of the blues. This three-note alignment is possible when the melody note is:

1. the minor third of a minor-major seventh chord.
2. the seventh of a dominant seventh chord using the Lydian  $\flat 7$  scale.
3. a chord tone of a diminished chord using the symmetric diminished scale (whole step-half step).
4.  $T\flat 9$ ,  $T\sharp 11$ , 5, or  $\flat 7$  on a dominant seventh using the symmetric diminished scale (half step-whole step).

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Example 46 shows musical notation for various voicings across five measures. The notation includes parts for Trumpet, Alto, Tenor, and Bass. The voicings are as follows:

- Cmaj7:** maj 3rd, min 2nd, 4-way close, omit 4. (Notes: C, E, G, B, F. Omit: A. Shown as (x) in parentheses.)
- C $\sharp$ °7:** min 3rd, min 2nd. (Notes: C $\sharp$ , E $\flat$ , G $\flat$ , B $\flat$ . Omit: A. Shown as (x) in parentheses.)
- D-7:** min 3rd, maj 2nd, 4-way close, omit 4. (Notes: D, F, A, C, E. Omit: G. Shown as (x) in parentheses.)
- G7 $\flat 9$  $\sharp 11$ :** min 3rd, min 2nd. (Notes: G, B $\flat$ , D $\flat$ , F $\sharp$ . Omit: A. Shown as (x) in parentheses.)
- Cmaj7:** maj 2nd, maj 2nd, Cluster. (Notes: C, E, G, B, F. Omit: A. Shown as (x) in parentheses.)

## 6-5 Using Clusters (Voicings in Seconds)

1. For tightly spaced voicings on the low notes of a melody; look for the possibility of contrary voice motion:

47

Trumpet  
Alto  
Tenor

Trombone  
Baritone

D-7      G7(Alt)      Cmaj7

cluster      cluster

This musical score is for Example 47, illustrating tightly spaced voicings on low notes with contrary voice motion. It is written in 4/4 time. The top staff is for Trumpet, Alto, and Tenor, and the bottom staff is for Trombone and Baritone. The key signature has one flat (B-flat). The progression consists of three measures: D-7, G7(Alt), and Cmaj7. In the D-7 measure, the alto/tenor part has a half note D4 and the trombone/baritone part has a half note B2. In the G7(Alt) measure, the alto/tenor part has a half note G4 and the trombone/baritone part has a half note F2. In the Cmaj7 measure, the alto/tenor part has a half note C5 and the trombone/baritone part has a half note C2. Arrows labeled 'cluster' point to the G4-F2 interval in the second measure and the C5-C2 interval in the third measure, indicating the tightly spaced voicings.

2. For background writing:

48

Flute  
Synthesizer

Trumpet  
Flugelhorn  
Tenor

Baritone  
Trombone

Cmaj7      B♭maj7      Cmaj7      D♭maj7

This musical score is for Example 48, illustrating background writing. It is written in 4/4 time. The top staff is for Flute and Synthesizer, and the bottom staff is for Trumpet, Flugelhorn, Tenor, Baritone, and Trombone. The key signature has one flat (B-flat). The progression consists of four measures: Cmaj7, B♭maj7, Cmaj7, and D♭maj7. The flute/synthesizer part plays a melodic line in the first three measures, and the other instruments provide harmonic support with sustained chords.

3. On higher lead notes to provide brilliance:

49

Trumpet  
Alto  
Tenor

Trombone  
Baritone

D-7      G7      Cmaj7

cluster

This musical score is for Example 49, illustrating higher lead notes to provide brilliance. It is written in 4/4 time. The top staff is for Trumpet, Alto, and Tenor, and the bottom staff is for Trombone and Baritone. The key signature has one flat (B-flat). The progression consists of three measures: D-7, G7, and Cmaj7. In the D-7 measure, the alto/tenor part has a half note D4 and the trombone/baritone part has a half note B2. In the G7 measure, the alto/tenor part has a half note G4 and the trombone/baritone part has a half note F2. In the Cmaj7 measure, the alto/tenor part has a half note C5 and the trombone/baritone part has a half note C2. An arrow labeled 'cluster' points to the G4-F2 interval in the second measure, indicating the tightly spaced voicing.



4. Generally, do not use clusters to harmonize an active eighth-note passage. The density and dissonance resist rapid motion. The result is a blurred melodic and harmonic effect.

50

Fmaj7(#11) Ebmaj7(#11) Fmaj7(#11)

Trumpet  
Alto  
Flugelhorn  
Tenor

51

5. To emphasize percussive melody notes:

Latin Feel  
G-7

cluster  
C7(#11)

Fmaj7(#11)

cluster  
Ebmaj7(#11)

2 Trumpets  
Alto

Tenor  
Trombone

Baritone  
Bass

In measure two of the five-part example above, clusters are used to emphasize the percussive nature of the repeated *f-sharp*. With this lead note it is possible to have a complete chord sound and to make all adjacent intervals seconds.

In measure one, note the voice-leading that gradually changes from unison to a four-part voicing before arriving at the five-part target cluster. When using this kind of “line writing” approach, sing or play every line to make sure each flows melodically to the target.

In measure three, the melody is voiced in fourths with double lead (8vb), providing the contrast of a more open texture before ending on the cluster in the last measure.

Compare the cluster voicing in measure two with that in measure four. Note the greater dissonance in the Eb major seventh voicing containing the minor second between *a* and *b-flat* (#11 and 5).

## More Applications of Clusters

Compare the following three- and four-part versions of the same melody.

52

### Version 1 (three parts)

Chords:  $E\flat 13$ ,  $D\flat +7$ ,  $E\flat 13$ ,  $D\flat +7$ ,  $E\flat 7$ ,  $G\flat \text{maj}7(\#11)$

Measures: 1., 2., 3., 4.

In the three-part example above, clusters are used to emphasize the percussive nature of the melody's repeated notes. The chord sound is not complete, a factor that must be considered carefully when using three-part clusters.

If complete chord sound were more of a concern, the melody in the first two measures could be voiced as shown below. With seconds created by the top two voices, there would still be a dissonant thickness, but not as strong as having all seconds, as above.

53

Chords:  $E\flat 13$ ,  $D\flat +7$ ,  $E\flat 13$ ,  $D\flat 7$

Measures: 1., 2.

In measure three, the active eighth-note melody is scored more simply in octaves and open voicings. However, the ending note is voiced as a cluster. Note the voice leading and the use of contrary motion in changing from octaves to open voicings before reaching the target cluster voicing.

Chords:  $E\flat 7$ ,  $G\flat \text{maj}7(\#11)$

Measures: 3., 4.



## Version 2 (four parts)

With four parts, it is possible to increase the density, the amount of dissonant thickness. In the version below, the pick-ups (*b-flat*) are scored in major seconds (with two on a part) as they approach the four-part clusters.

54

Trumpet  
Alto

Tenor  
Trombone

Bass

1. 2. 3. 4.

E♭13 D♭+7 E♭13 D♭+7 E♭7 G♭maj7(♯11)

Detailed description: This is a musical score for a 3-2-1 blues progression in G-flat major. The score is written for four parts: Trumpet/Alto, Tenor/Trombone, and Bass. The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The progression consists of four measures. The first measure is E-flat 13, the second is D-flat 7, the third is E-flat 13, and the fourth is G-flat major 7 with a sharp 11. The notation includes various musical symbols such as notes, rests, and accidentals. The first measure has a 1. below it, the second has a 2., the third has a 3., and the fourth has a 4. below it.

In the final two measures, the same thinking is used as in the three-part version. Voice leading from the octaves uses contrary motion to establish a gradual change of texture, which leads to the target ending note voiced in a four-part cluster.

E $\flat$ 7 G $\flat$  maj7(#11)

3. 4.

## 6-6 Exercises

1. Write out the correct chord scales for each harmonic situation. Voice each scale degree with a five-part cluster.

5-part clusters

C-7

(Lead range)

G7(b9)

B°7

Cmaj7

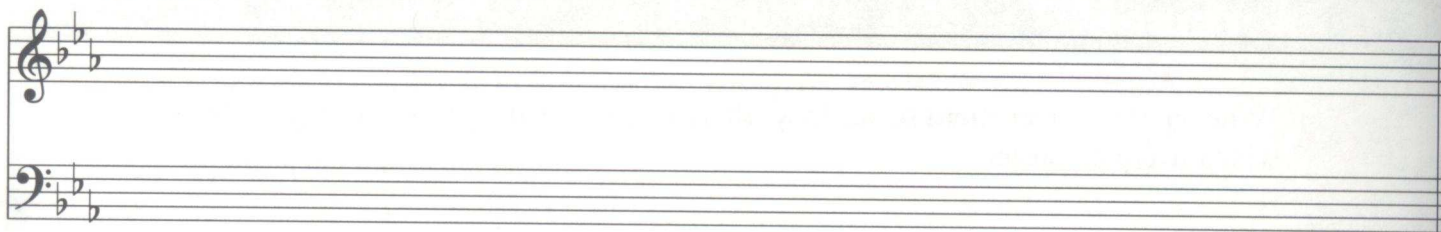
D7(Alt)

E-7

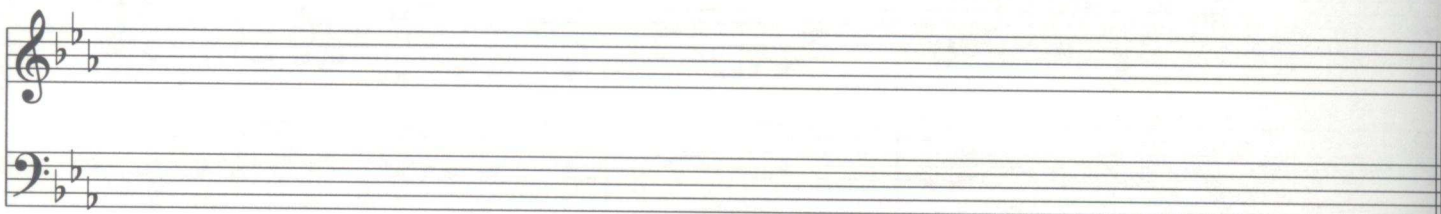


## MODERN JAZZ VOICINGS

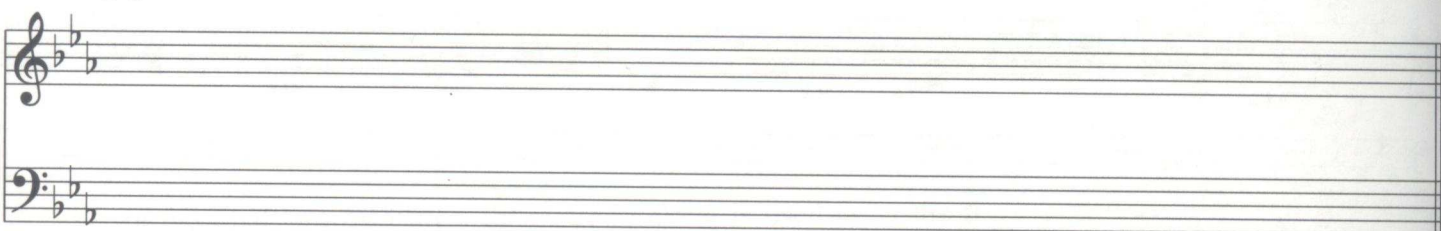
B $\flat$ 7sus4



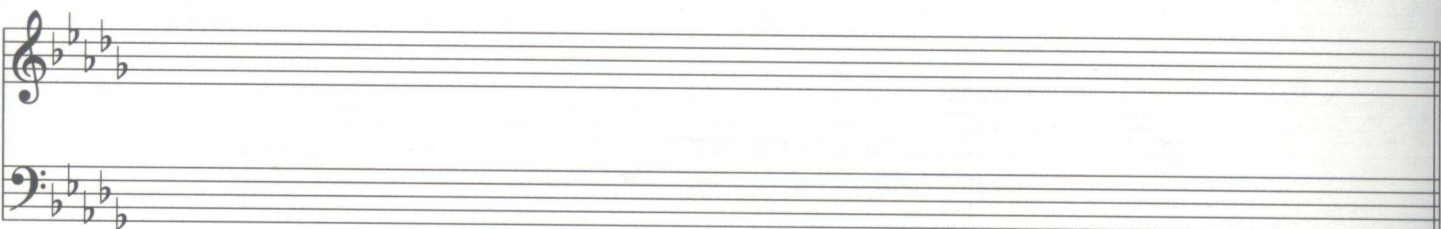
D $\flat$ 7



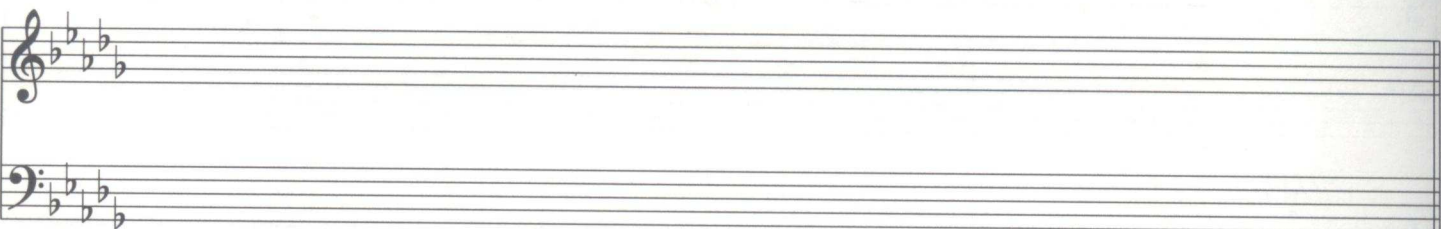
C-6



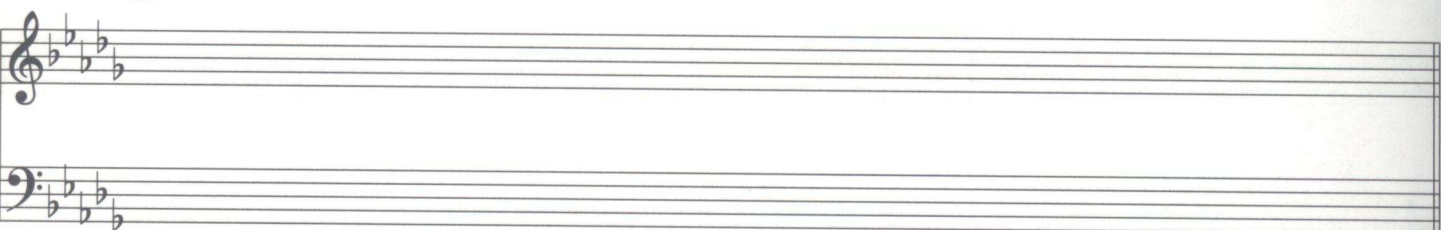
D7



E $\flat$ -7



E $\flat$ 7



2. Write out the chord scale for each harmonic situation, then harmonize each scale degree with a four-part cluster.

4-part clusters

B $\flat$  Lydian

(Lead range)

A musical staff in treble clef with a key signature of one flat (B $\flat$ ). The B $\flat$  Lydian scale is written as a series of whole notes: B $\flat$ 2, C3, D3, E3, F3, G3, A3, B $\flat$ 4. The final B $\flat$ 4 is enclosed in a circle with a diagonal line, and the text "(Lead range)" is written above it. The bass staff is empty.

A-7

An empty musical staff in treble clef with a key signature of one sharp (F $\sharp$ ). The bass staff is also empty.

F7(Alt)

An empty musical staff in treble clef with a key signature of two flats (B $\flat$ , E $\flat$ ). The bass staff is also empty.

C $\sharp$ °7

An empty musical staff in treble clef with a key signature of two sharps (F $\sharp$ , C $\sharp$ ). The bass staff is also empty.

D $\flat$ 7

An empty musical staff in treble clef with a key signature of three flats (B $\flat$ , E $\flat$ , A $\flat$ ). The bass staff is also empty.

B-7( $\flat$ 5)

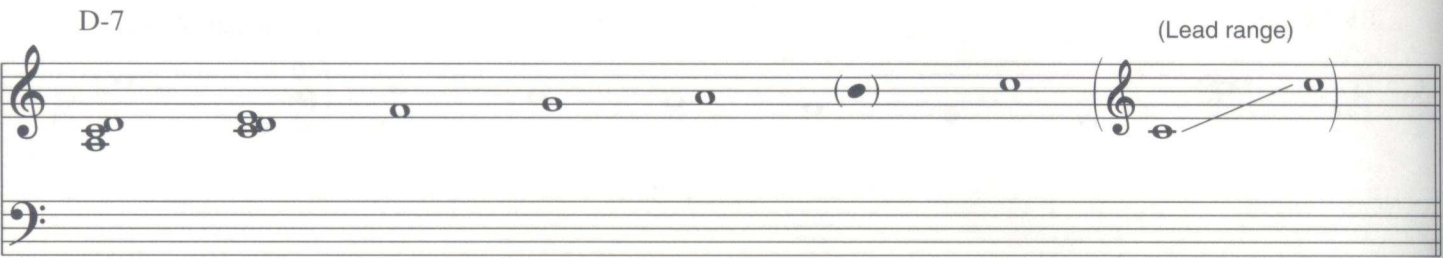
An empty musical staff in treble clef with a key signature of two flats (B $\flat$ , E $\flat$ ). The bass staff is also empty.



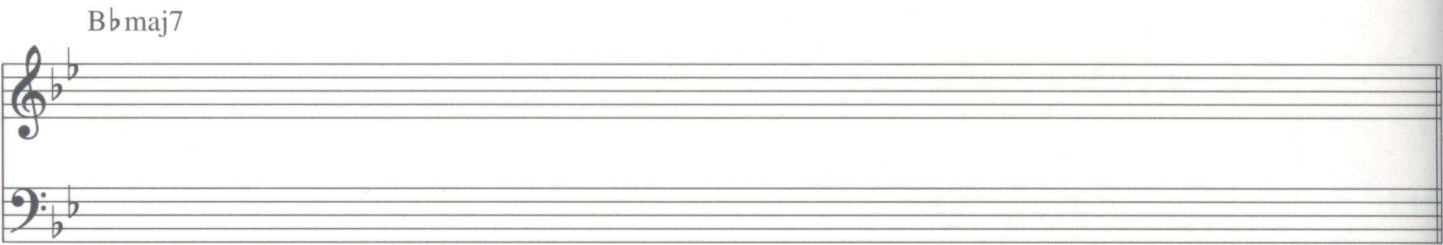
3. Write out the chord scale for each harmonic situation, then harmonize each scale degree with a three-part cluster.

3-part clusters

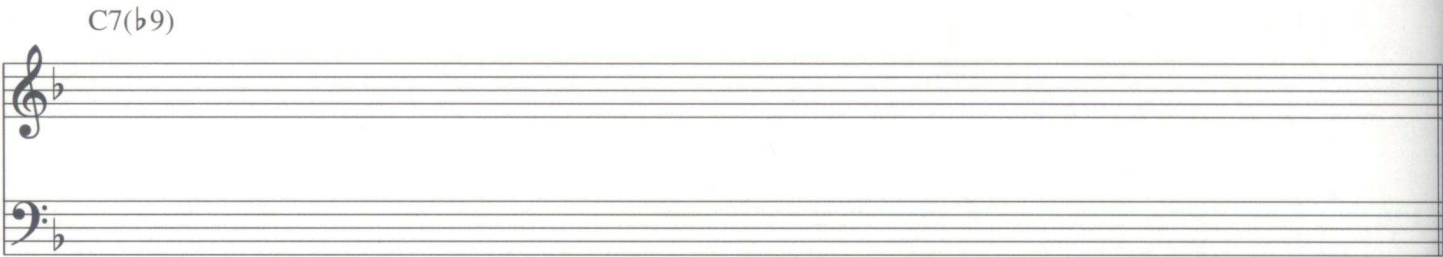
D-7 (Lead range)



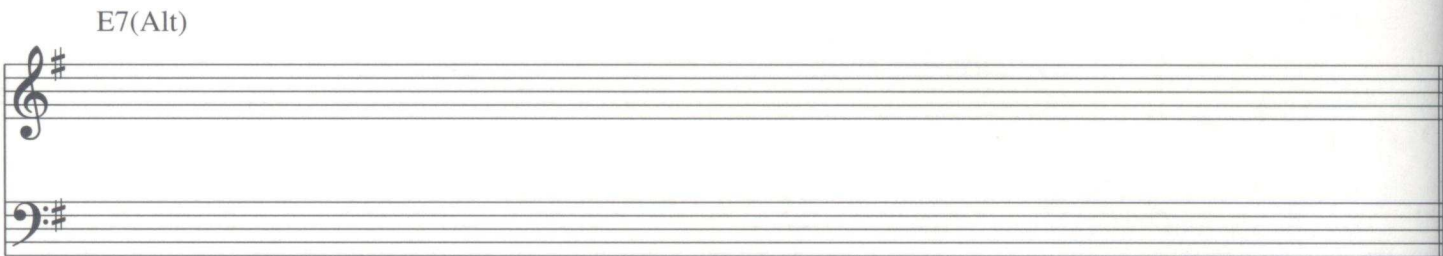
B♭maj7



C7(b9)



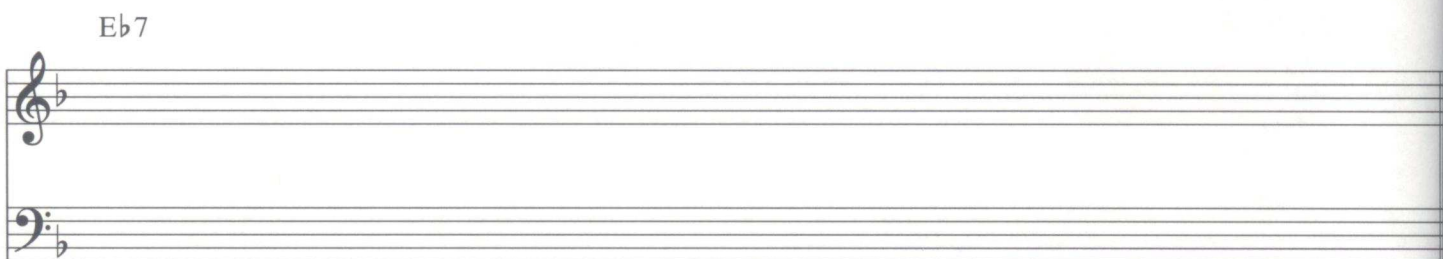
E7(Alt)



E♭7sus4



E♭7



4. Score the following passage using voicings in fourths and five-part clusters as appropriate.

### Medium Samba

Chord voicings for the first system:

- Fmaj7
- E♭maj7
- D♭7(#11) C7(b9)
- Fmaj7

Chord voicings for the second system:

- E-7(b5)
- A7(b9)
- D- D-maj7 D-7 D-6 G-7
- G♭7(#11)
- F6,9,#11



# CHAPTER 7

# Voicing with Upper Structure Triads

## 7-1 Characteristics

An upper-structure triad voicing is a complex sound. It projects two simultaneous harmonic impressions. First, and foremost, all notes of the voicing collectively create a sound that clearly represents the given chord symbol. At the same time, the three upper notes form a triad in close position (including, possibly, various inversions). These upper notes have their own separate and clearly identifiable triad sound, while simultaneously functioning as chord tones and/or tensions of the given chord symbol. Upper structure triad voicings are used when the writer wants a powerful sound containing a high level of resonance.

Upper structure triads are usually major or minor.

C7(#11)	A-7(9,11)	C7(b9,#11,b13)	D-6,9
<p>Major triad</p>	<p>Major triad</p>	<p>Minor triad</p>	<p>Minor triad</p>

( ) = implied bass note

Augmented triads can be used on dominant seventh chords when either whole tone or Lydian  $\flat 7$  is the chord scale being used. Diminished triads can be used on diminished and dominant seventh chords when the chord scale is symmetric diminished. Augmented and diminished triads do not create the same level of resonance as major and minor triads because they lack perfect fifths and perfect fourths. Nonetheless, a very rich voicing sound results.

C+7

C7(#11)

Symmetric diminished chord scale  
(whole/half)  
C°7

Symmetric diminished  
chord scale  
(half/whole)  
C7(#9,#11,♭13)

An upper structure triad usually will contain at least one tension of the chord being voiced. The more tensions contained in the triad, the richer the voicing. Doublings may be used as necessary, especially when there are more than five parts.



## 7-2 Six-Part Upper Structure Triads

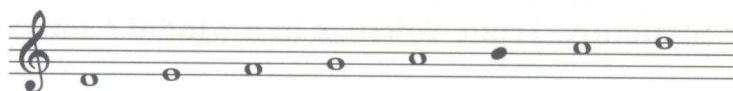
To create a six-part upper structure triad voicing:

1. Analyze the chord function and select the appropriate chord scale.
2. To determine which triads are available from the scale, make the melody note 1, 3, or 5 of a major or minor triad in close position. (Make note of any augmented or diminished triads available for possible use.) In tonal contexts, avoid notes may not be part of the triad. In modal contexts, avoid notes, interpreted as characteristic notes of the mode, may be included.
3. Select a triad that contains at least one available tension from the chord. There may be more than one possibility.
4. Support the upper structure triad with three-part basic chord sound, using 1, 3, 5, or 7 of the chord.
5. In the interest of voicing balance and blend, the upper structure triad should not be separated from the top note of the basic chord sound by more than an octave or less than a third. If they are separated by more than an octave, two different sound structures are heard instead of a uniform representation of the chord. If they are closer than a third, it becomes difficult to distinguish the independent sound of the upper structure triad.

The following example shows how to apply this procedure.



Step 1. Analyze the tonal/modal context to determine the appropriate chord scale. In this case, D-7 is analyzed as II-7 in the key of C, and a Dorian scale is selected.



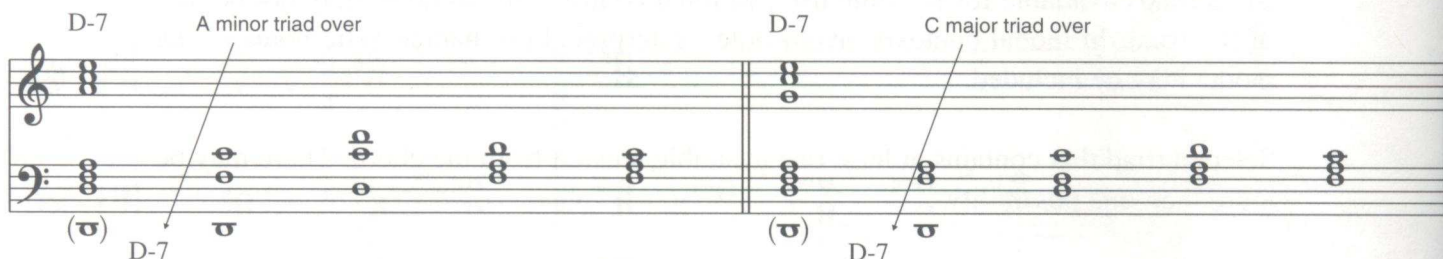
Step 2. Determine the available triads.

Triad: A	A-	C	C#-	E	E-
Useable?: No	Yes	Yes	No	No	No
Why not: No c# in the scale			No c# or g# in the scale	No g# in the scale (b is avoid note)	(b is avoid note)

Step 3. Select a triad. In this example, two structures are available. Note that each contains at least one tension of the D-7 chord.



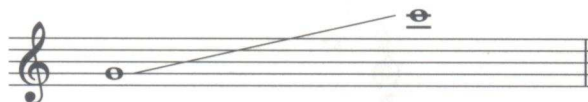
Step 4. Support the upper structure triads with chord sound.



Step 5. From the possibilities, choose an appropriate voicing based on desired color, spacing, and voice-leading considerations. Let your ear guide your choice as well.

## Lead Range

Six-part upper structure triad voicings work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.



## Six-Part Upper Structure Triad Voicings in a Modal Context

In the example below, upper structure triad voicings are used in a modal vamp. Because of the modal context, the C-7 Dorian voicings use triads containing the note *a*, which is the characteristic note T13, not the avoid note S6.

55

I-7 D-7(Aeo.)       $\flat$ VII-7 C-7(Dor.)

2 Trumpets Alto

Tenor Trombone Baritone

Bass



## 7-3 Five-Part Upper Structure Triads

To create a five-part upper structure triad voicing, follow the same procedure as with six-parts, but after determining the upper structure triad, support it with two-part basic chord sound using 3 and 7 of the chord, or with voicing in fourths.

B♭7(#11)	C6,9 or Cmaj7	D-7	C7(Alt.)
----------	---------------	-----	----------

In some cases, the upper structure triad may be made up of only chord tones. Although this upper structure triad voicing will not be as rich as one containing tensions, the upper structure triad can still be heard as a separate sound while at the same time representing the basic chord.

C-7

### Lead Range

Five-part upper structure triad voicings work well if the lead note is in the range shown below. The particular instrumentation will also help define the lead range.

7-4 Four-Part Upper Structure Triads

To create a four-part upper structure triad voicing, follow the same basic procedure as with six- and five-part voicings, but after determining the upper structure triad, support it with only one note. The supporting note should be a chord tone or tension from the appropriate chord scale. Especially good results come from combining an upper structure triad in second inversion (3 on top, 1 in the middle, and 5 on the bottom) with a supporting chord tone or tension a fourth lower. The triad in second inversion has more resonance than when in either root position or first inversion. Adding the support note a fourth below yields an evenly spaced, well-balanced, and uniform chord sound. There are relatively few of these situations.

F7(#9)

Cmaj7

F6,9,#11

D-7

When a note a fourth below the triad is not available, choose the strongest supporting note (chord tone or tension), keeping in mind the resulting “color effect,” as illustrated below.

UST: D-    B♭maj7    B♭ Ionian

Possible supporting voice choices:	“f”	“e” or “e♭”	“d”	“c”	“b♭”
Useable?:	No	No	No	Yes	Yes
Why not:	Doubling the “f” is weak; no separation	Notes a 4th below are not available	Doubling the “d” is weak	T9 adds richness especially if bass plays root	Focused chord sound, especially without the bass player; good dissonance (drop 3)

Because choosing the *b-flat* results in a “mechanical” drop 3 voicing, you might prefer *c* for added richness. Musical context and personal taste are the determining factors. Another important consideration is whether a bass player is present to support the voicing with the root.

Lead Range

Four-part upper structure triad voicings work well if the lead note is in the range shown below.



## 7-5 Three-Part Upper Structure Triads

When writing for three horns, you may use upper structure triads, but you must rely on the rhythm section to supply basic chord sound support. This is especially effective over a pedal point or when adjacent voicings establish a clear chord sound.

56

Alto  
Tenor  
Baritone

Cmaj7(#11) D♭maj7(#11)

(piano doubles the horns and bass)

Bass

In the example below, the arranger has embellished the pedal point using a more active rhythm with octave displacement.

57

Alto  
Tenor  
Baritone

C7(Alt) Fmaj7

Bass

# 7-6 Uses of Upper Structure Triads

1. To emphasize the high point of a phrase:

58

C6 (B7(#9)) (Bb7(#11)) A7(Alt)

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

Detailed description: This musical example shows four measures of music in 4/4 time. The first measure is for C6, the second for B7(#9), the third for Bb7(#11), and the fourth for A7(Alt). The notation is for 2 Trumpets/Alto and Tenor/Trombone/Baritone. The upper structure triads are indicated by the notes in the upper register of the staves.

2. For endings:

59

Cmaj7 D-7 G7(#11) C6,9,#11

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

Detailed description: This musical example shows four measures of music in 4/4 time. The first measure is for Cmaj7, the second for D-7, the third for G7(#11), and the fourth for C6,9,#11. The notation is for 2 Trumpets/Alto and Tenor/Trombone/Baritone. The upper structure triads are indicated by the notes in the upper register of the staves.

3. To harmonize percussive figures:

60

Fmaj7 Eb7 D7(Alt) G-7

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

Detailed description: This musical example shows four measures of music in 4/4 time. The first measure is for Fmaj7, the second for Eb7, the third for D7(Alt), and the fourth for G-7. The notation is for 2 Trumpets/Alto and Tenor/Trombone/Baritone. The upper structure triads are indicated by the notes in the upper register of the staves.



## Special Situations

### 1. Final I chords with #11:

C6,9,#11      Cmaj7(#9,#11)      Cmaj7(#11)

### 2. I-7 in Dorian mode using T13:

D-7      D-7

### 3. Melodies that arpeggiate notes from an available upper structure triad: Harmonize them with inversions of the triad.

61

Slow

E-7(b5)      A7(#9)      D-7

Trumpet  
Flugelhorn  
Alto

Tenor  
Trombone  
Baritone

4. Upper structure triads on augmented seventh chords: Using the whole-tone scale, every scale degree will be part of an upper structure augmented triad. The whole-tone flavor, characterized by a lack of half-step dissonance, will prevail.

G+7 Chord Scale

G+7 Sample Voicings

5. Upper structure triads for dominant seventh chords: Using symmetric diminished (half step-whole step) as the chord scale, every scale degree will be part of an upper structure diminished triad. With four half steps in the scale, maximum dissonance is available.

G7 (Designated tensions might include one tension, or some combination of the following: b9, #9, #11, or 13)

G7 Chord Scale

G7 Sample Voicings

\* = selected alternate voicings for "basic chord sound"



## 7-7 Exercises

1. Write out the correct chord scale for each harmonic situation. Supply each scale degree with an upper structure triad, if one is available, and support it with three-part basic chord sound.

D7(Alt)

f# = gb

A-7

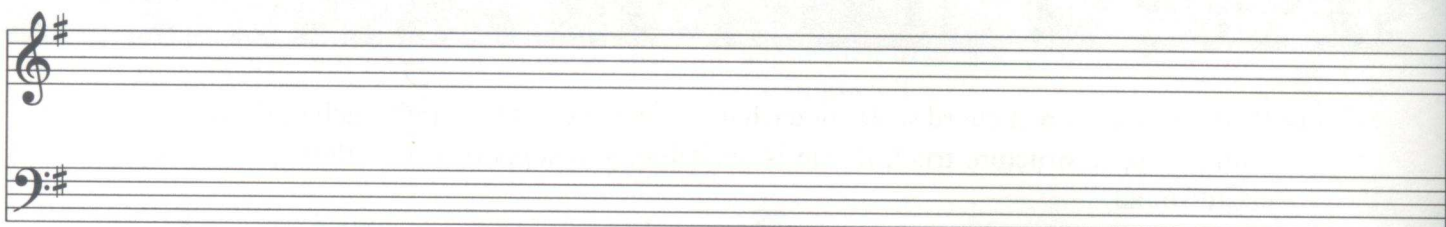
F#°7

D♭maj7 (or D♭6)

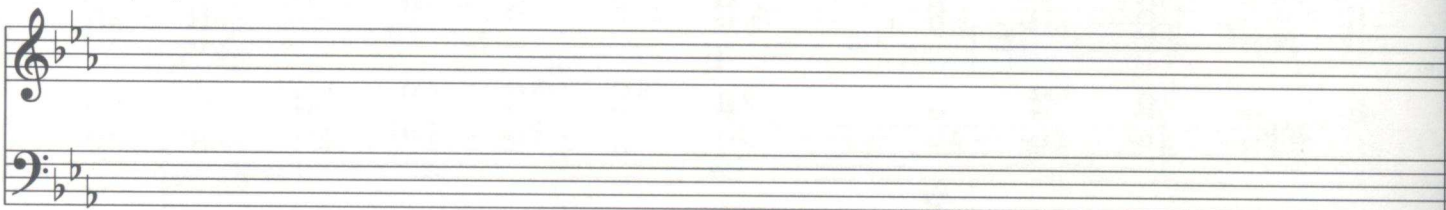
B-7(b5)

F7

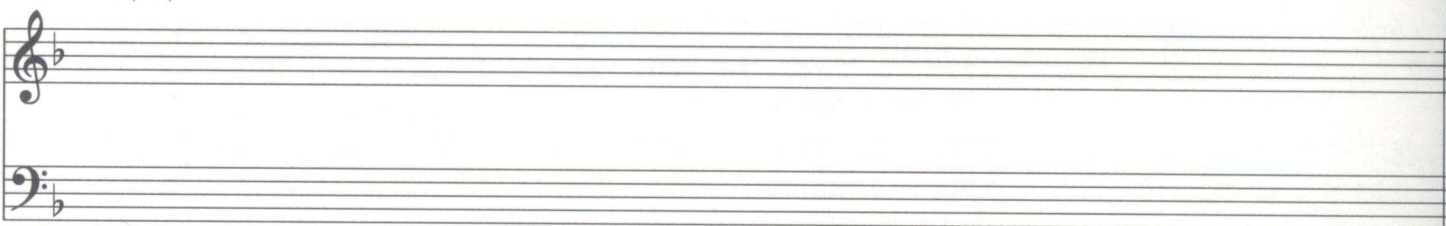
D7sus4



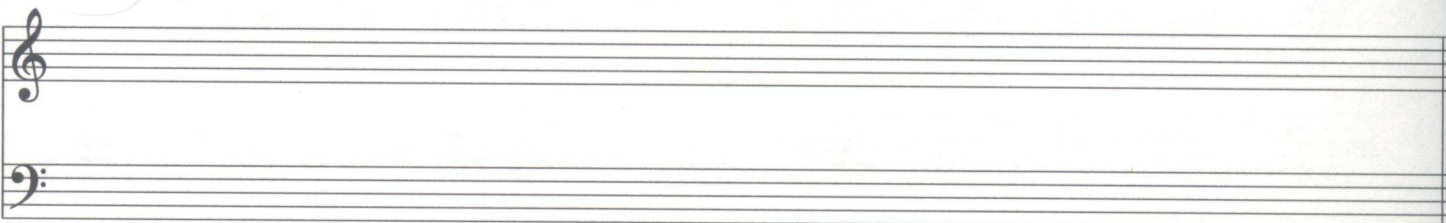
C7(Alt)



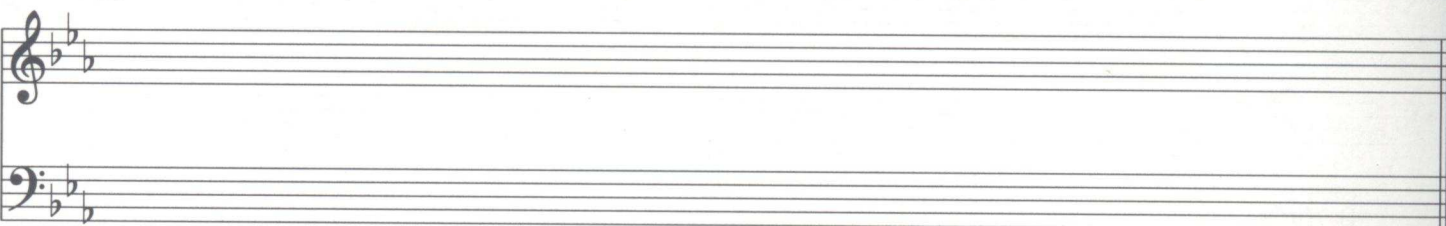
D7(b9)



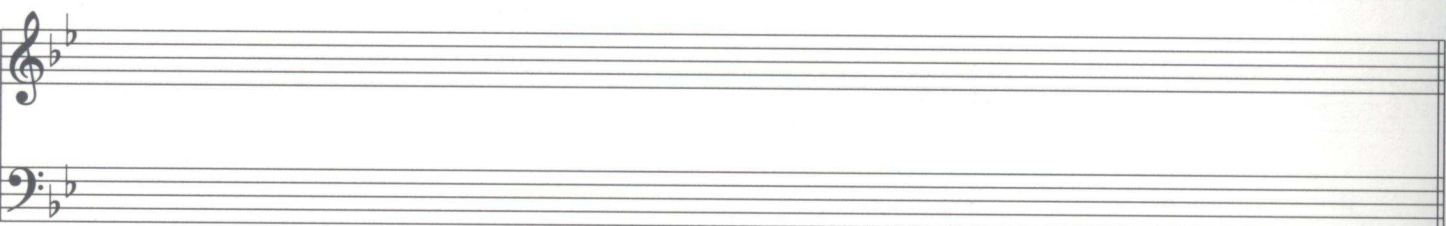
A7(Alt)



E7



Ab7





2. Write out the correct chord scale for each harmonic situation. Supply each scale degree with a five-part upper structure triad voicing.

C7(b9)

A musical staff with a treble and bass clef, showing the C7(b9) chord scale. The treble clef contains a series of chords: C7(b9), C7(b9), C7(b9), C7(b9), and then a series of notes: (C), D, E, F, G, A, B. The bass clef contains a series of notes: C, D, E, F, G, A, B, and then a series of chords: C7(b9), C7(b9), C7(b9), C7(b9).

Bb7sus4

A musical staff with a treble and bass clef, showing the Bb7sus4 chord scale. The treble clef contains a series of chords: Bb7sus4, Bb7sus4, Bb7sus4, Bb7sus4, and then a series of notes: Bb, C, D, Eb, F, G, Ab. The bass clef contains a series of notes: Bb, C, D, Eb, F, G, Ab, and then a series of chords: Bb7sus4, Bb7sus4, Bb7sus4, Bb7sus4.

Cmaj7(#11)

A musical staff with a treble and bass clef, showing the Cmaj7(#11) chord scale. The treble clef contains a series of chords: Cmaj7(#11), Cmaj7(#11), Cmaj7(#11), Cmaj7(#11), and then a series of notes: C, D, E, F, G, A, B. The bass clef contains a series of notes: C, D, E, F, G, A, B, and then a series of chords: Cmaj7(#11), Cmaj7(#11), Cmaj7(#11), Cmaj7(#11).

3. Write out the correct chord scale for each harmonic situation. Supply each scale degree with a four-part upper structure triad voicing.

F7

C-7

B♭7(Alt)



# Writing for Six Parts

To construct a six-part voicing, an arranger generally doubles two notes (of a four-part sound) at the octave. If, however, the chosen chord scale contains six, seven, or eight available notes, in certain situations you may be able to use six different pitches in the voicing. This chapter shows how to apply these strategies to many of the voicing techniques we have discussed earlier. (In some cases, you may be able to adapt these strategies to create voicings for seven and eight horns or voices, as well.)

## 8-1 Basic Six-Part Writing

1. Four-way close-double lead (8vb) and double second voice (8vb).

62

Example 62 shows a musical score for 2 Trumpets Alto and Tenor Trombone Baritone in 4/4 time. The score consists of two systems. The first system has five measures with the following chords: F7, D7, (ch), C7sus4, Bb7sus4, and F6. The second system has two measures: 'Fine' and 'D.C. al Fine'. The 'drums' part is indicated by a double bar line with a '2' above it in both systems. The notation shows a four-way close-double lead (8vb) and double second voice (8vb) technique.

63

Example 63 shows a musical score for 2 Trumpets Alto and Tenor Trombone Baritone in 4/4 time. The score consists of two systems. The first system has three measures with the following chords: C-7, (ch), F7(b9), and Bb-6. The second system has one measure. The notation shows a four-way close-double lead (8vb) and double second voice (8vb) technique.

2. Omit 2 voicing on top overlapping a four-way close-double lead (8vb) below. ("Omit 2" means delete the second voice as you hang the chord.)

64

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

F7 D7 (ch) C7sus4 Bb7sus4 Fine F6 D.C. al Fine

drums

65

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

C-7 (ch) F7(b9) Bb-6

3. Four-way close-double lead (8vb) and drop 2-double lead (8vb), both on top of independent root motion.

66

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

F7 D7 (ch) C7sus4 Bb7sus4 Fine F6 D.C. al Fine

drums

67

2 Trumpets  
Alto

Tenor  
Trombone  
Baritone

C-7 (ch) F7(b9) Bb-6



## 8-2 Six-Part Spreads

As discussed earlier, spread voicings are effective in harmonizing sustained or percussive melodies when fullness and "bottom" are the desired effects. To create a six-part spread:

1. Support each melody note with a five-part spread. (See page 28.)
2. If possible, include a tension in each voicing. (In general, however, do not add tensions to a triad unless the chord symbol specifically calls for it.)
3. Voice lead the middle voices as smoothly as possible.

68

The musical score illustrates six-part spread voicings for five measures. The top staff is for Trumpet and Alto, and the bottom staff is for Flugelhorn, Tenor, Trombone, and Baritone. The chords are D-7, Eb7, D-7, G7(b9, #13), and C-7,9. The voicings are spread across the octaves, with the middle voices (Tenor and Trombone) moving smoothly between measures.

Chord symbols: D-7, Eb7, D-7, G7(b9, #13), C-7,9

Instrument parts: Trumpet, Alto, Flugelhorn, Tenor, Trombone, Baritone

## 8-3 Six-Part Tutti Writing

When the lead line contains lots of eighth notes, the tempo is fast, and you need a full sound with “bottom,” concerted writing may be too cumbersome. (In concerted writing, all parts—melody and harmony—have the same rhythm. Most of the preceding examples in this chapter use concerted writing.) Tutti writing allows the melody to move separately from a full bottom-heavy voicing which resists quick motion. For tutti writing, proceed as follows:

1. Score the melody in unison or octaves for two instruments.
2. Add four-part spreads sparingly to support the melody at the strongest rhythmic points (the “kicks”). This technique is based on the independent lead principle.

69

The musical score is written in 4/4 time and consists of five measures. The instruments are 2 Trumpets, Alto Tenor, and Trombone Baritone. The melody is played in unison by the two Trumpets. The other instruments provide harmonic support with four-part spreads. The chord changes are indicated above the staff: C6, Bb7, Ab7, Dbmaj7, and Cadd9.

**Measure 1:** C6. Trumpets: quarter notes C4, D4, E4, F4. Alto Tenor: quarter notes C4, E4. Trombone Baritone: quarter notes C3, E3.

**Measure 2:** Bb7. Trumpets: quarter notes G3, A3, Bb3, C4. Alto Tenor: quarter notes Bb2, D3. Trombone Baritone: quarter notes Bb2, D3.

**Measure 3:** Ab7. Trumpets: quarter notes F3, G3, Ab3, Bb3. Alto Tenor: quarter notes Ab2, Bb2. Trombone Baritone: quarter notes Ab2, Bb2.

**Measure 4:** Dbmaj7. Trumpets: quarter notes E3, F3, G3, Ab3. Alto Tenor: quarter notes E3, G3. Trombone Baritone: quarter notes E3, G3.

**Measure 5:** Cadd9. Trumpets: half note C4, whole note C4. Alto Tenor: half note C4, whole note C4. Trombone Baritone: half note C3, whole note C3.



## 8-4 Six-Part Voicings in Fourths

To create a six-part voicing in fourths, double the lead of a five-part voicing. This doubling can be at the unison, 8va, 8vb, or 15vb, instrumentation allowing.

### Lead Doubled 8vb

**70**

D-7      G7      Cmaj7

Alto  
Trumpet  
Flugelhorn

Tenor  
Baritone  
Trombone

### Lead Doubled 8va

**71**

D-7      G7      Cmaj7

Flute  
2 Trumpets  
Tenor

Trombone  
Baritone

### Lead Doubled 15vb

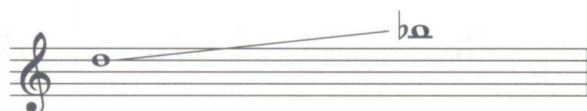
**72**

G-7      C7      Fmaj7

Trumpet  
Alto  
Flugelhorn  
Tenor

Trombone  
Baritone

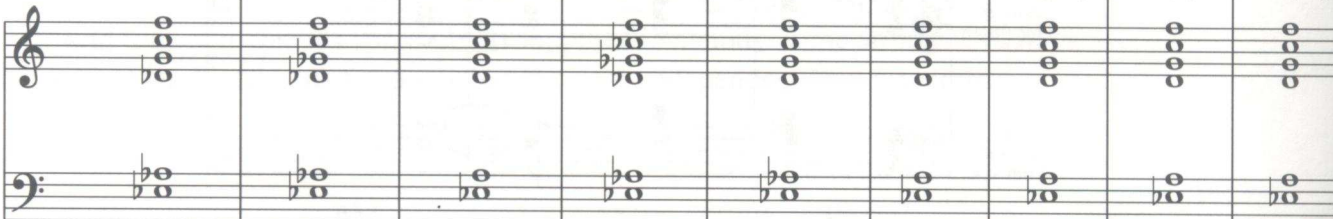
The 15vb doubling works best when the lead stays in the range shown below. Otherwise, the resulting low interval limit violations plus the heavy scoring will produce a muddy sound.



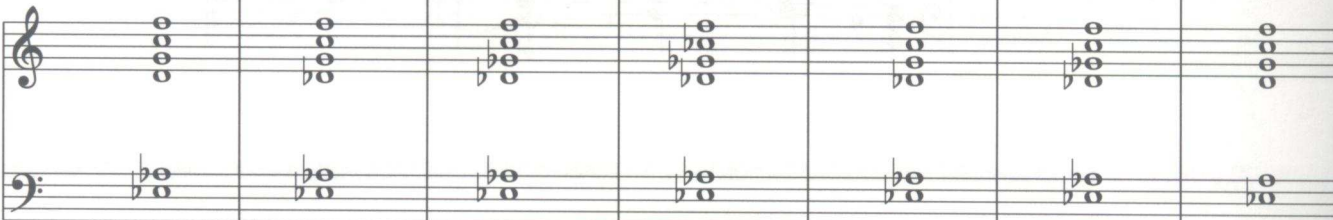
## 8-5 Six-Note Voicings in Fourths

In certain situations, as shown below, it is possible to construct voicings in fourths containing six different notes—six unique pitches.

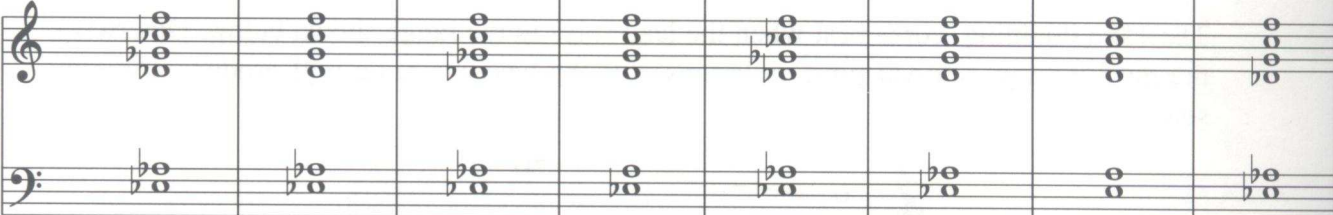
### Tonal Context

Lead note	3	7	9	#11	13	1	b5	11	b13
Chord type	Maj7(#11)	Maj7(#11)	Maj7(#11)	Maj7 6,9	Maj7(#11)	Dom7	Dom7(alt)	Min6	Min7(b5)
Symbol	D $\flat$ maj7(#11)	G $\flat$ maj7(#11)	E $\flat$ maj7(#11)	C $\flat$ 6,9(#11)	A $\flat$ maj7(#11)	F7	B7(Alt)	C-6,9,11	A-7(b5)
Voicing									

### Modal Context

Lead note	1	5	9	13	1	5	b7
Chord type	I-7(Dor.)	I-7(Dor.)	I-7(Dor.)	I-7(Dor.)	I-7(Aeol.)	I-7(Aeol.)	I-7(Aeol.)
Symbol	F-7(Dor.)	B $\flat$ -7(Dor.)	E $\flat$ -7(Dor.)	A $\flat$ -7(Dor.)	F-7(Aeol.)	B $\flat$ -7(Aeol.)	G-7(Aeol.)
Voicing							

### Modal Context

Lead note	9	11	1	b3	5	b7	b9	11
Chord type	I-7(Aeol.)	I-7(Aeol.)	I-7(Phryg.)	I-7(Phryg.)	I-7(Phryg.)	I-7(Phryg.)	I-7(Phryg.)	I-7(Phryg.)
Symbol	E $\flat$ -7(Aeol.)	C-7(Aeol.)	F-7(Phryg.)	D-7(Phryg.)	B $\flat$ -7(Phryg.)	G-7(Phryg.)	E-7(Phryg.)	C-7(Phryg.)
Voicing								



## 8-6 Six-Part Spreads with Top Five Notes in Fourths

This voicing creates the sound of a voicing in fourths while at the same time projecting the strong “bottom” associated with spreads.

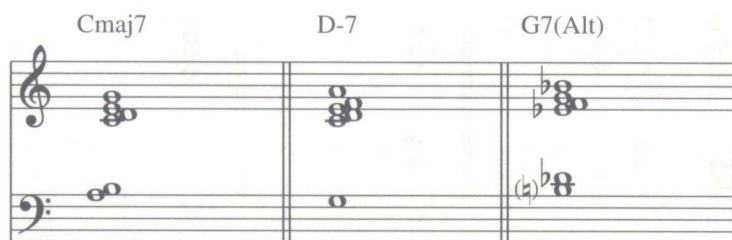
The image displays three musical staves, each representing a different chord voicing. Each staff consists of a treble clef staff and a bass clef staff, with notes placed in pairs of fourths. The first staff is labeled G7 and shows notes G4, Bb4, D5 in the treble and G2, Bb2, D3 in the bass. The second staff is labeled D-7 and shows notes D4, F4, Ab4 in the treble and D2, F2, Ab2 in the bass. The third staff is labeled F6,9 and shows notes F4, Ab4, Bb5 in the treble and F2, Ab2, Bb3 in the bass. The notes are represented by whole notes.

Chord	Treble Notes (Top Five)	Bass Notes (Bottom)
G7	G4, B $\flat$ 4, D5	G2, B $\flat$ 2, D3
D-7	D4, F4, A $\flat$ 4	D2, F2, A $\flat$ 2
F6,9	F4, A $\flat$ 4, B $\flat$ 5	F2, A $\flat$ 2, B $\flat$ 3

## 8-7 Six-Part Clusters (Voicings in Seconds)

Here are several strategies for building six-part clusters:

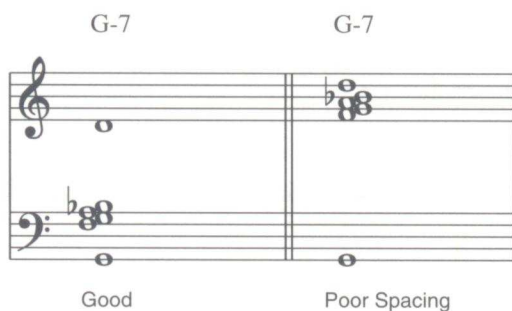
1. Following the procedure for constructing five-note clusters (see page 94), simply add another available note.



2. Using the double lead principle, double the melody note an octave above or below, depending on the instrumentation and range.



3. Add a root on the bottom of a five-note cluster, provided it is no more than a tenth away.





## 8-8 Exercises

1. Score the following using four-way close-double lead (8vb) and double second voice (8vb).

Exercise 1 consists of two systems of piano accompaniment in 4/4 time. Each system contains two measures. The first system features the following chords and voicings: D-7 (treble: D4, F4, A4; bass: D3), G7(b9) (treble: G4, Bb4, D5; bass: G3), E-7 (treble: E4, G4, Bb4; bass: E3), and A7(b9) (treble: A4, C5, Eb5; bass: A3). The second system features: D-7 (treble: D4, F4, A4; bass: D3), G7(b9) (treble: G4, Bb4, D5; bass: G3), C6 (treble: C5, E5, G5; bass: C3), and Cmaj7 (treble: C5, E5, G5; bass: C3). The treble part uses a four-way close-double lead (8vb) and the bass part uses a double second voice (8vb).

2. Score the following using omit 2 with four-way close-double lead (8vb) below.

Exercise 2 consists of two systems of piano accompaniment in 4/4 time. Each system contains two measures. The first system features the following chords and voicings: F6 (treble: F4, A4, C5; bass: F3), and G-7 (treble: G4, Bb4, D5; bass: G3). The second system features: C7 (treble: C5, E5, G5; bass: C3), C7(b9) (treble: C5, E5, G5; bass: C3), and Fmaj7 (treble: F4, A4, C5; bass: F3). The treble part uses a four-way close-double lead (8vb) and the bass part uses an omit 2 voicing (8vb).

3. Score the following using drop 2-double lead (8vb) with independent root motion.

Exercise 3: Drop 2-double lead (8vb) with independent root motion. The exercise is in G major (one sharp) and 4/4 time. The first system contains the following chords: G6, (S2), E-7, A-7, and D7. The second system contains: A-7, D7, D7(b9), and G6. The notation shows the specific voicings for each chord, including the drop 2-double lead (8vb) technique.

4. Score the following using six-part concerted spreads.

Exercise 4: Six-part concerted spreads. The exercise is in 4/4 time. The first system contains the following chords: C6,9, B7b9#13, Bb7, and A7(Alt). The second system contains: D-7, Dbmaj7, and Cmaj7. The notation shows the specific voicings for each chord, including the six-part concerted spread technique.



5. Score the following using six-part tutti.

Chord voicings: G-7, C7, A-7, D7(Alt)

Instrument parts: Tpt. I, Tpt. II, Alto Tbn, Tenor Bari

The first system of the score is for Tpt. I and Tpt. II. The melody starts with a quarter rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, and a half note F#4. The chords G-7, C7, A-7, and D7(Alt) are indicated above the staff. The second system is for Alto Tbn and Tenor Bari. The melody is the same as the first system. The chords G-7, C7(Alt), and Fmaj7 are indicated above the staff.

Chord voicings: G-7, C7(Alt), Fmaj7

The second system of the score is for Tpt. I and Tpt. II. The melody starts with a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, and a half note F#4. The chords G-7, C7(Alt), and Fmaj7 are indicated above the staff. The third system is for Alto Tbn and Tenor Bari. The melody is the same as the second system. The chords G-7, C7(Alt), and Fmaj7 are indicated above the staff.

6. Harmonize each given lead note with a six-part voicing of your own choosing.  
Include a variety of voicing types.

C7                      C-7                      F7(#11)                      G7(Alt)                      F7sus4

A $\flat$ 7(#11)                      D-6,9                      D $\flat$ 7                      A-7                      B $\flat$  maj7

D-7                      A $^{\circ}$ 7                      B-7(b5)                      G7                      C7(b9)

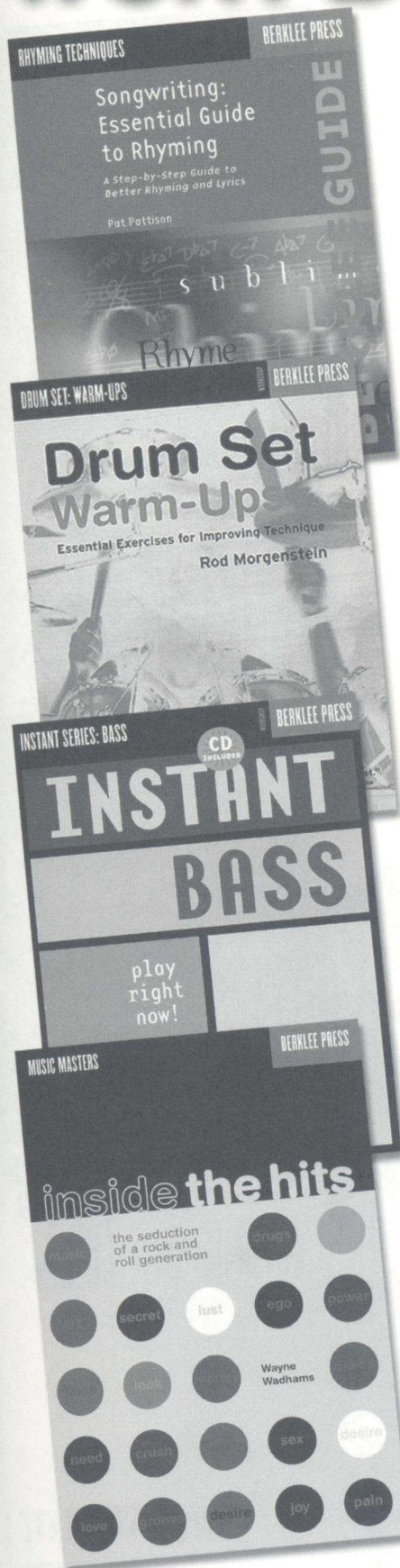
F+7                      C7sus4                      D7(#9,b9)                      D $\flat$  maj7                      E $\flat$ 7(#9)

E7(b9,b13)                      F7(Alt)                      G-7                      F-6,9                      A7(b9,b13)

A7(Alt)                      C7(#11)                      E $\flat$  maj7                      C7                      B $\flat$ -6



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