

Draft

Diminished Scales

Diatonic Functioning Diminish Chord

I dim 7	..... resolve to	..... I Maj 7
#I dim 7	..... resolve to	..... II-7
bIII dim 7	..... resolve to	..... II-7
#II dim 7	..... resolve to	..... III-7
#IV dim 7	..... resolve to	..... V7
V dim 7	..... resolve to	..... V7
#V dim 7	..... resolve to	..... VI-7
bVI dim 7	..... resolve to	..... V7

- All the diatonic functioning diminished chords must resolve by half step up or down, except I dim 7 and V dim 7 resolve to the same root.

C I dim 7 I Maj 7
 Cdim7 CMaj7

R T9 b3 T11 dim 5 (6) dim 7 TM7

F #I dim 7 II-7
 F#dim7 G-9

R (2) b3 (4) dim 5 Tb13 dim 7 TM7

Bb bIII dim 7 II-7
 Dbdim7 C#dim7 C-7

See Tip on Page 29.

R (2) b3 (4) dim 5 Tb13 dim 7 TM7

G \sharp II dim 7 III-7
 A \sharp dim7 B-7

R (2) \flat 3 (4) dim 5 T \flat 13 dim 7 TM7

C \sharp IV dim 7 V7
 F \sharp dim7 G7

R (2) \flat 3 T11 dim 5 T \flat 13 dim 7 TM7

F V dim 7 V7
 Cdim7 C7

R T9 \flat 3 T11 dim 5 (6) dim 7 (7)

F \sharp V dim 7 VI-7
 C \sharp dim7 D-7

R (2) \flat 3 (4) dim 5 T \flat 13 dim 7 TM7

B \flat \flat VI dim 7 V7
 G \flat dim7 F \sharp dim7 F7

See Tip on Page 29.

R (2) \flat 3 (4) dim 5 T \flat 13 dim 7 TM7

Symmetric Diminished Scale

Gdim7
CMaj9

W
1/2
W
1/2
W
1/2
W

R
T9
dim 3
T11
dim 5
T♭13
dim 7
TM7

- Symmetric Diminished Scale appears as non-diatonic functioning diminished chord (means it does not fit any one of eight categories described before). Because the scale is built with constant whole/half steps, there is no tension which will create $\flat 9$ th interval. Therefore, all the tensions are available.
- The example shown above will sound strong resolution because of the root motion of V to I. G dim 7, however, does not create any logical voice leading (will be discussed later). Therefore, G dim 7 is not functioning as diatonic.

Combination Dominant Scale

- If one diminished scale could built with whole and half steps, the reversed positions as half/whole would be possible, too. This scale is usually used for dominant. Note; there is no available tension this time.

G7(♯11)
CMaj9

R
T♭9
T♯9
3
T♯11
5
13
♭7

Altered
Lydian ♭7

- The same scale may start on the root of the substitute dominant chord.

D♭7(♯11)
C6

R
T♭9
T♯9
3
T♯11
5
13
♭7

Altered
Lydian ♭7

Non Diatonic Functioning Diminished Chords

Additional information for the diminished chords (p.10-12).

- As we discussed thoroughly, diminished chord scales will be decided by the fact that if the diminished chord is acting as a diatonic function within the key of the moment. The list below shows the progressions which will **not create a resolution sound** in the sequence even though it may look diatonic functioning diminished chords. This list will be against the list on page 10.

\flat II dim 7 goes to, but does not resolve to I Maj7
 \flat V dim 7 goes to, but does not resolve to IV Maj7
 \flat VI dim 7 goes to, but does not resolve to V7
 \flat VII dim 7 goes to, but does not resolve to VI-7
 \sharp VI dim 7 goes to, but does not resolve to VII-7(\flat 5)

Those progressions are called **non diatonic functioning diminished chords** sequence. Therefore, the chord scales will not be considered by the Key of the moment. The Symmetric diminished scale will be used, instead.

- Again, if any of the diminished chords do not resolve in the Key of the moment as shown on the page 10, the chord scale will be Symmetric diminished scale as well.
- There is an **exception** to the rule above.

I	\sharp I dim 7	V on 5th	\sharp II dim 7	I on 3rd
C	C \sharp dim7	G/D	D \sharp dim7	C/E

The \sharp I dim 7 did not resolve to II-7. Instead, it resolved to V with the 5th (D) on bass. This is a semi-diatonic functioning progression, because the ear will hear the bass move to the 2nd degree of the diatonic scale (C Major) as where the II-7 is supposed to be, and the actual chord on top of the bass which is another diatonic chord. \sharp II dim 7 resolves to I with the 3rd on bass is also semi-diatonic for the same reason. Therefore, the chord scale will be decided by the Key of the moment. Note that this kind of progression is commonly heard in Gospel music.

Tip

Enharmonic respelling is necessary when the root of the diminished chord is flat.

I.e.; Respell $E\flat$ dim 7 to $D\sharp$ dim 7 in order to find the chord scale.

Minor Key

Relative Keys

- Relative Keys are a pair of keys which uses same key signature. Those two keys are Major and minor, and the minor key starts from VI degree of the Major key. In other word, the tonic of relative minor starts from Major 6th above the tonic of relative Major.

C Major ---- Major 6th ↑ ---- A minor

C minor ---- Major 6th ↓ ---- E^bMajor

Scale Degree

C Maj

I	II	III	IV	V	VI	VII							
							I	II	^b III	IV	V	^b VI	^b VII
							A -						

Diatonic Chords / Modes

C Maj

Ion	Dori	Phry	Lyd	Mixo	Aeo	Loc						
IMaj7	II-7	III-7	IVMaj7	V7	VI-7	VII-7(^b 5)						
	I-7	II-7(^b 5)	^b IIIMaj7	IV-7	V-7	^b VIIMaj7	^b VII7					
	Aeo	Loc	Ion	Dori	Phry	Lyd	Mixo					
							A -					

Minor Key (cont.)

Diatonic Chords

Natural minor

I-7	II-7(^b 5)	^b IIIMaj7	IV-7	V-7	^b VI-Maj7	^b VII7
A-7	B-7(^b 5)	CMaj7	D-7	E-7	FMaj7	G7

Harmonic minor

I-(Maj7)	II-7(^b 5)	^b IIIMaj7([#] 5)	IV-7	V7	^b VI-Maj7	VII ^{dim} 7
A-(Maj7)	B-7(^b 5)	CMaj7([#] 5)	D-7	E7	FMaj7	G [#] dim7

Melodic minor Ascending

I-(Maj7)	II-7	^b IIIMaj7([#] 5)	IV7	V7	VI-7(^b 5)	VII-7(^b 5)
A-(Maj7)	B-7	CMaj7([#] 5)	D7	E7	F [#] -7(^b 5)	G [#] -7(^b 5)

Harmonic Consideration for minor key

Typical minor diatonic chords in minor key chord progression.

I-7	II-7(^b 5)	^b III ^{Maj} 7	IV-7	V7	^b VI ^{Maj} 7	VII ^{dim} 7
Aeo	Loc	Ion	Dori	Mixo	Lyd	dim
A-7	B-7(^b 5)	C ^{Maj} 7	D-7	E7	F ^{Maj} 7	G ^{#dim} 7

- Because Mixolydian and diminished scales varies according to the Key of the Moment, all the tension notes must be adjusted.

E7

R T^b9 3 (4) 5 T^b13 ^b7

Therefore, this is Mixo ^b9 which contains ^b13 automatically.

diminished scale for VII^{dim}7 is shown below.

R (2) dim3 (4) dim5 T^b13 dim7 T^{Maj}7

Minor Key (cont.)

- "-7^(b5)" appears very distinctively. Most likely, this is a II chord of a minor key of the moment. If this chord is followed by a Dominant chord, it must be a minor II - V progression, no matter what chord to resolve. Therefore, the mode is Locrian for the II-7^(b5), and Mixo ^b9 for the V7.

II-7^(b5) V7 I Maj7

C- Loc Mixo ^b9 C Ion

D-7^(b5) G7 CMaj7

Night And Day by Cole Porter

II-7^(b5) V7 I Maj7

F- Loc Mixo ^b9 F Ion

G-7^(b5) C7^(b9) FMaj7

I Love You by Cole Porter

Modal Interchange

C Natural minor

I-7	II-7(^b 5)	^b III ^{Maj} 7	IV-7	V-7	^b VI ^{Maj} 7	^b VII7
C-7	D-7(^b 5)	E ^b ^{Maj} 7	F-7	G-7	A ^b ^{Maj} 7	B ^b 7

Tonic minor

I-7	^b III ^{Maj} 7	V-7
C-7	E ^b ^{Maj} 7	G-7

Subdominant minor

II-7(^b 5)	IV-7	^b VI ^{Maj} 7	^b VII7
D-7(^b 5)	F-7	A ^b ^{Maj} 7	B ^b 7

- Note that the notes indicated black are scale degree ^b6 in C Natural minor (C Aeolian) which is the Avoid. That is why any diatonic chord contains scale degree ^b6 is not Tonic minor. Those are Subdominant minor chords.

V-7 (G Phrygian)

G-7

R	(2)	^b 3	T11	5	(^b 6)	^b 7
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- V-7 is not common, because ^b3 of the Parent minor Key (E^b in C minor) which is necessary to characterize minor sound is not chord tone nor available tension on V-7 (Phrygian Mode) Scale.

minor II - V - I

- Because the II-7(^b5) usually precedes the V7 chord, it is a modal interchange chord from Harmonic minor.

Altered Subdominant Chord

- Note that the ^bVI7 (altered ^bVI Maj7) and the ^bVII7 (diatonic) are not Dominant functioning chords because those are not located at the 5th position in the diatonic, and do not resolve to I- going down Perfect fifth.

Modal Interchange (cont.)

- Mixolydian Modal Interchange Chord.

C Mixolydian Scale

V-7 \flat VII^{Maj7}
 G-7 B \flat Maj7 C7
 R T9 3 (4) 5 T13 \flat 7 R

Summary of the basic Modal Interchange Chords		
Tonic minor from natural minor	<ul style="list-style-type: none"> I-7 Aeolian \flatIII^{Maj7} Ionian V-7 (not common) Phrygian 	
Subdominant minor from natural minor	<ul style="list-style-type: none"> \flatII^{Maj7} Lydian II-7(\flat5) Locrian IV-7 Dorian \flatVI^{Maj7} Lydian \flatVI7 Lydian \flat7 \flatVII7 Mixolydian 	
II-7(\flat 5) V7 from Harmonic minor	<ul style="list-style-type: none"> II-7(\flat5) Locrian V7 Mixo \flat9, \flat13 	
Mixolydian Modal Interchange	<ul style="list-style-type: none"> \flatVII^{Maj7} Lydian V-7 Dorian 	

Special Dominant

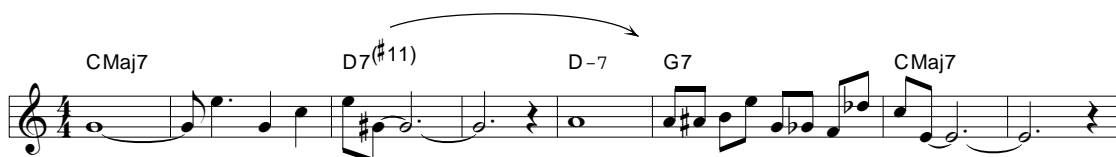
- Special Dominant Chords are chords which appear in diatonic situation, yet do not resolve by going down Perfect 5th nor minor 2nd.

II7

II7 appears as a substitution of V7. The tritone resolves to a part of I Maj7 (5th, M7th).



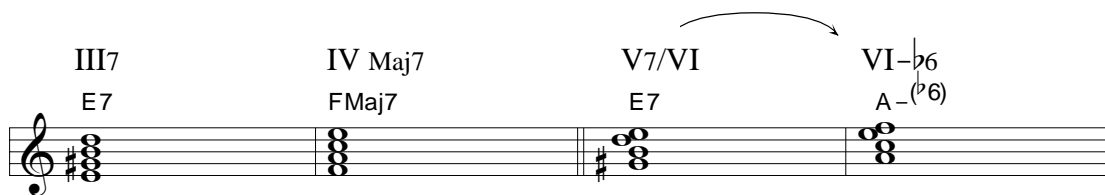
Since II7 is derived from V7/V, Take The "A" Train changes (below) is well known.



- II7 can be explained as a Modal Interchange chord from I Lydian.

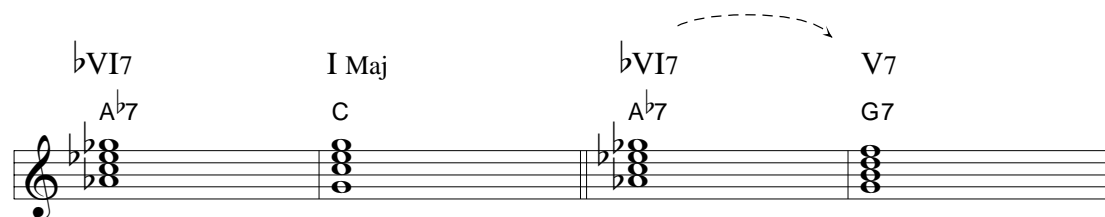
III7

Since III7 is derived from V7/VI, it resolves to IV Maj7 which is Inverted VI-6.



\flat VI7

Since \flat VI7 is same structure as $\text{Sub}V7/V$, it resolves to I Maj with 5th on root.



Special Dominant (cont.)

VI7

Since VI7 is derived from V7/II, it resolves to IV Maj7 which is II-9 without the root.

VI7	IV Maj7	V7/II	II-9
A7	F Maj7	A7	D-9

VII7

Since VII7 is derived from V7/III, it resolves to I Maj7 which is III- without the root.

VII7	I Maj7	V7/III	III-
B7	C Maj7	B7	E-



#IV-7(b5)

- #IV-7(b5) is often found in standard jazz progressions as a special diatonic functioning chord. It can be explained theoretically in a number of different ways (shown below). Yet, as always, the available scale is Locrian because it is a minor 7th chord with a flatted 5th.

#IV-7(b5) Locrian
F#-7(b5)

- It can be explained as a Modal Interchange chord from Tonic Lydian (C Lydian), just as II7 was explained in p. 37.

- #IV-7(b5) can be explained as a V7/V without the root.

#IV-7(b5)	V7	V7/V	V7
F#-7(b5)	G7	D7(9)	G7

- Instead of resolving to V, #IV-7(b5) can resolve to I/5th (inverted), just as #IV diminished chord did. This also supports that II7 followed by I chord (p. 29).

#IV-7(b5)	V7	#IV-7(b5)	I/5th
F#-7(b5)	G7	F#-7(b5)	C/G

- #IV-7(b5) can be found as a passing chord which resolve to IV chord. **This is the most common use of #IV-7(b5).**

#IV-7(b5)	IVMaj7	#IV-7(b5)	IV-7
F#-7(b5)	FMaj7	F#-7(b5)	F-7

- Those are the common use of $\#IV-7(\flat 5)$ shown below. There are many Modal Interchange chords in the music, as well. Reviewing the Modal Interchange (p. 35-38), indicate those chords with "M.I.".

Night And Day

Measures 1-5: $D-7(\flat 5)$, $G7$, $CMaj7$, $D-7(\flat 5)$

Measures 6-10: $G7$, $CMaj7$, $\#IV-7(\flat 5)$, $F\#-7(\flat 5)$, $F-7$

Measures 11-16: $E-7$, $E^b dim7$, $D-7$, $G7$, $CMaj7$

**The Days of Wine
And Roses**

Measures 17-21: $FMaj7$, $E^b 7$, $D7(\flat 9)$, $G-7$

Measures 22-26: $B^b-(Maj7)$, B^b-7 , $E^b 7$, $A-7$, $D-7$

Measures 27-32: $\#IV-7(\flat 5)$, $B-7(\flat 5)$, $B^b 7$, $A-7$, $D-7$, $G-7$, $C7$, $FMaj6$

Deceptive Resolutions

- **Standard Deceptive Resolutions:** A dominant 7th chord resolve to a tonic functioning chord (see page 16) other than I chord.

V7 I V7 VI-

G7 C G7 A-

VI- shares the root and the 3rd of I.

V7 I V7 III-

G7 CMaj7 G7 E-

III- is I Maj7 without the root.

- **Non Standard Deceptive Resolutions:** Since the dominant 7th chord resolve to the I Major 7th in a Major key, other Modal Interchange Major 7th chords may be seen as a deceptive resolution.

V7 bVI Maj7 V7 bIII Maj7

G7 AbMaj7 G7 EbMaj7

Altered Deceptive Resolution of V7 to VI-.

Altered Deceptive Resolution of V7 to III-.

Other Modal Interchange Major Chords.

V7 bII Maj7 V7 bVII Maj7

G7 DbMaj7 G7 BbMaj7

Deceptive Resolutions (cont.)

- One additional Deceptive Resolution is a dominant 7th chord followed by $\#IV-7^{(b5)}$. This progression may be seen as three different functions.

- $\#IV-7^{(b5)}$ appears as a related II-7 of $V7/III$.

$II-7$	$V7$	$\#IV-7^{(b5)}$	$V7/III$	$III-7$
└──────────┘		└──────────┘		
$D-7$	$G7$	$F\#-7^{(b5)}$	$B7$	$E-7$

- $\#IV-7^{(b5)}$ appears as a passing chord to $IV-7$. This may be called Altered Subdominant minor, sometime.

$I\ Maj7$	$V7$	$\#IV-7^{(b5)}$	$IV-7$
$CMaj7$	$G7$	$F\#-7^{(b5)}$	$F-7$

M.I.

- $\#IV-7^{(b5)}$ appears as a Lydian Modal Interchange tonic functioning chord. As the $VI-7$ and the $III-7$ replaces $I\ Major$ in the Standard Deceptive Resolution, $\#IV-7^{(b5)}$ replaces $I\ Major$ Lydian chord.

$II-7$	$V7$	$\#IV-7^{(b5)}$
└──────────┘		
$D-7$	$G7$	$F\#-7^{(b5)}$

M.I.

Compound Chords

- Inversion** is a chord with the bass which is replaced with a chord tone other than the root.

Diagram illustrating the four inversions of a C7 chord:

- Root Position: C7
- 1st Inversion: C7/E
- 2nd Inversion: C7/G
- 3rd Inversion: C7/B^b

- Hybrid** is a chord with a bass which is other than any of chord tones. Note that the any kind of 3rd against the bass can not be included in the upper structure chord, because it will characterize a chord to the bass. Basically, the upper structure chord is derived from the scale notes against the bass. However, because the 3rd of the bass is not included, ambiguous sound will be created.

Diagram illustrating three examples of hybrid chords:

- 1) CMaj7/D
- 2) D-7/G
- 3) A/D[#]

- 1) Derived from D Dorian with ^b7, 9, 11, and 13 those which create the upper structure chord. Since the ^b3rd (F) is missing from this chord, it will not sound D-7. It rather sound C Maj7 with the 9th on the bass.
- 2) Derived from G Mixolydian with 5, ^b7, 9 and S4. Note that the avoid note (S4: C) can be used because the 3rd (B) is missing from this chord. The sound will be D-7 with the 11th on the bass.
- 3) Derived from D[#] Locrian with 11, ^b7 and S2(^b9). Note that the flat 9th interval created between D[#] and E is acceptable in two reasons. The one is because Locrian is a semidominant functioning mode, so as altered dominant tensions are, flat 9th interval will create more resolution sense. The other is because the upper structure chord creates strong unity as a chord, the ear can separate it from the bass. However, the caution must be taken when it is used.

- Polychord** is a chord combined with two triads or 7th chord. Usually, the upper structure is created from the available tensions of the bottom chord. This is extremely useful when the keyboard voicing is needed to be specified for ensemble arranging reasons.

Diagram illustrating three examples of polychords:

- D over C
- E- over D-
- F-7 over G^b

Project I

- **Write a piece using the technique you have learned.**

- 32 bars form recommended.
- Two types of the conventional forms are recommended.
 - 1) A - A - B - A
ie; "Take The A Train"
 - 2) A - B - A - C
ie; "The Days Of Wine And Roses"

If you are sure you can make unconventional form musically, it is acceptable as long as you know what you are doing.

ie; "Piece", "Blue In Green"

No Blues please.

- **Check Points**

- **Notation**
Neatness, Imaginary bar line, Beats positioning, Accidentals, Ending bar line, Beaming, Clef and so on.
- **Scale notes**
Notes must fit in the chord scales, unless otherwise it is an approach note. Therefore, **you must analyze** with Roman numeral and name of the scale (mode) for your piece.

- **Extra Points**

- Musical Phrasing.
- Intro and TAG (Outro).
- Recording of the piece.

Project II

1. Quiz on Intervals and Chord Scales (Modes).

2. Write a piece using five subjects of the seven listed below (Diatonic Functioning Dominant Chords must be included as indicated). The piece must be analyzed according to the directions of Appendix A.

- 1) Diatonic Functioning Dominant Chords (include Primary Dominant).
Must use at least two of the four listed below.
 - a) Secondary Dominant
 - b) Extended Dominant
 - c) Special Dominant
 - d) Substituted Dominant (SubV7)
- 2) Related II-
- 3) #IV-7(b5)
- 4) Diatonic Functioning Diminished Chord.
- 5) Minor Key.
- 6) Modal Interchange (exclude Lydian M.I. and Mixolydian M.I.).
- 7) Deceptive Resolutions

Warning

- If the piece is notated and analyzed in a hard-to-read way, it will be returned without being graded.
- Note that this assignment is not for writing a musical composition, but for a correct harmony and melody with the theory you have learned.
- Duplicated analysis must be avoided (i.e. #IV-7(b5) as a Modal Interchange).

Tip

- Write the chord progression first, then the melody according to the available scales.
- The bass motion (P5th down, Major or minor 2nd up and down) will make the sound stronger.



Hiroaki Honshuku (F l u t e , E W I) and A-NO-NE BAND

Hiroaki Honshuku was first introduced to jazz in 1985 while teaching music at the US Naval Base in Yokosuka, Japan. Two years later, Hiro came to Boston area. He started at Berklee College of music as a scholarship student in January 1987. By the fall, he was also accepted to New England Conservatory as a scholarship graduate student. He has studied with George Russell, Thomas McKinley, Dave Holland, Bob Moses, George Garzone, and Matthew Marvuglio. Hiro was chosen leader of the 1990 New England Conservatory Honors Jazz Quintet, which performed throughout Massachusetts.

In May 1990, Hiro graduated simultaneously from Berklee College of Music and New England Conservatory. He received Summa Cum Laude for his Diploma of Music at Berklee as a performance major. He received Academic Honors and Distinction in Performance for his Master of Music at New England Conservatory as a Jazz Composition major. Beside being very active playing in Boston jazz clubs, he has been busy teaching in the Boston area. Since graduation, he has taught at New England Conservatory.

Hiro has also played with Mike Stern, Dave Liebman, Mick Goodrick, Dave Weckl, Tiger Okoshi, George Russell, George Garzone, Bob Moses, and Tom McKinley. Hiro has recorded two CDs with Ken Schaphorst Big Band as well as performing at jazz clubs. He also recorded “Are You Blue” with his own group A-NO-NE Band in 1994.

The nature of the A-NO-NE Band varies according to the performance. This concept was started by Hiro at the end of 1987 when he realized he wanted to be a strong composer. He made a list of good musicians around the Boston area, and tried to organize different size bands and different types of music for several concerts. The A-NO-NE Band can be a small Jazz group, Avant-garde, Funk Fusion and even a Big Band. All of the selections of the A-NO-NE Band are written by Hiro. Because of the success in four A-NO-NE Big Band concerts, he was invited to Paris as a guest conductor in June 1990, and his newly formed big band “Boston Blazing Jazz Orchestra” was invited to Jazz Festival in Kyoto ‘94 for a week long performance.

December, 1994

