



MTO 16.3 Examples: Waters and Williams, Modeling Harmonies

(Note: audio, video, and other interactive examples are only available online)

http://www.mtosmt.org/issues/mto.10.16.3/mto.10.16.3.waters_williams.php

Example 1. Jazz harmonies from Diatonic, Acoustic, Octatonic, and Hexatonic Collections

Example 1a. Harmonies from C Diatonic Collection

(D0 = C, D, E, F, G, A, B, C)

C^{maj7}, C^{maj7/9}, C^{6/9} etc.
F^{maj7(#11)}
D^{min7/9}, D^{min7/9/11}, D^{min7/9/11/13}
G^{dom7/9}, G^{dom7/9/13}
G^{7sus}
F^{maj7/A}

Example 1b. Harmonies from F Acoustic Collection

(A5 = F, G, A, B, C, D, E^b, F)
(Some harmonies include pcset [0148]:
C, E^b, G, B or E^b, G, B, D)

F13(#11)
C^{minM7}, C^{minM7/9}, C^{minM7/9/11}, C^{minM7/9/11/13},
C^{min6/9}, etc.
A^{min7/9(b5)}, A^{min7/9/11(b5)}, A^{min7/9/11/b13(b5)}
B^{7 altered} (= #9, #9, #11, b13)
E^b ^{maj7(#5)}, E^b ^{maj7/9(#5)}

Example 1c. Harmonies from D/E^b Octatonic Collection

(Oct 2,3 = D, E^b, F, G^b, A^b, A, B, C, D)

D^{7(b9)}, D^{13(b9)}, D^{13(b9/#11)}
F^{7(b9)}, F^{13(b9)}, F^{13(b9/#11)}
A^b ^{7(b9)}, A^b ^{13(b9)}, A^b ^{13(b9/#11)}
B^{7(b9)}, B^{13(b9)}, B^{13(b9/#11)}
C^{o maj7}, C^{o9(maj7)}, C^{o11(maj7)}, C^{o b13(maj7)}
E^b ^{o maj7}, E^b ^{o9(maj7)}, E^b ^{o11(maj7)}, E^b ^{o b13(maj7)}
G^b ^{o maj7}, G^b ^{o9(maj7)}, G^b ^{o11(maj7)}, G^b ^{o b13(maj7)}
A^{o maj7}, A^{o9(maj7)}, A^{o11(maj7)}, A^{o b13(maj7)}

Example 1d. [0148] Harmonies from B/C Hexatonic Collection

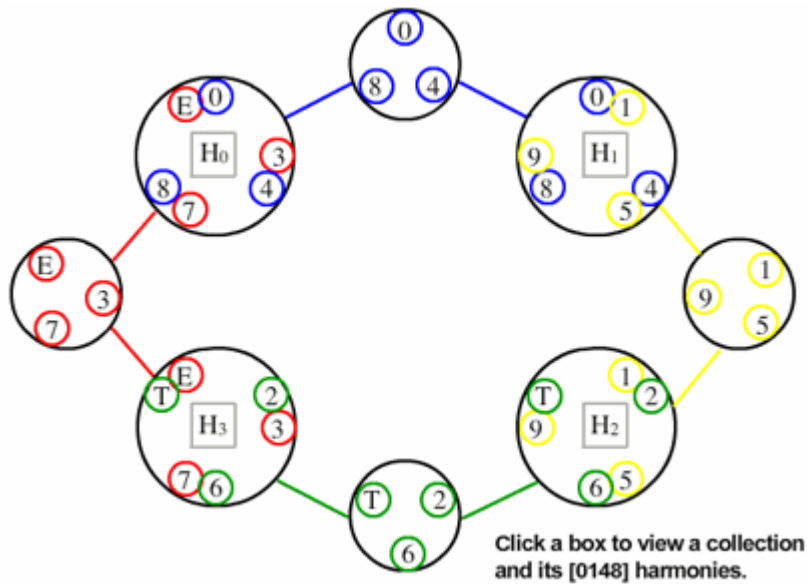
(H0 = B, C, E^b, E, G, A^b)

B^{maj7(#5)}, E^b ^{maj7(#5)}, G^{maj7(#5)}
C^{minM7}, E^{minM7}, A^b ^{minM7}

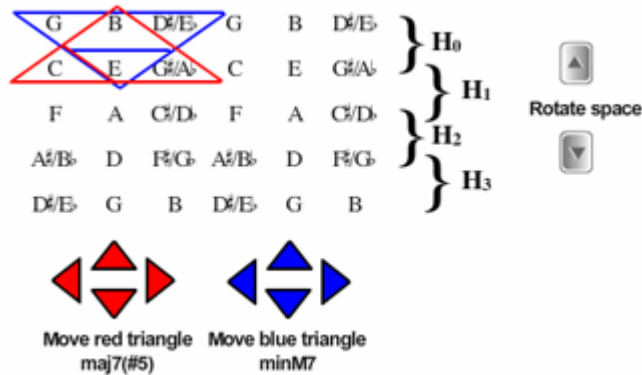
Example 1e. Specific Hexatonic Harmonies in Post-1960s Compositions

- $A\flat_{\text{maj}7}(\sharp 5/\sharp 9)$: Wayne Shorter, "Vonetta"
- $A\flat_{\text{maj}7}(\sharp 5)/E$: Chick Corea, "Song of the Wind"
- $E^{\text{min}M7}/A\flat$: Corea, "Song of the Wind"
- $A\flat_{\text{maj}7}(\sharp 5/\natural 5)$: Shorter, "Iris"

Example 2. [0148] through the Hyper-Hexatonic System (Cohn, 1996)




Example 3. [0148] on the [7, 4, 3, E] *Tonnetz*



Example 4. Opening progression to “Vonetta”

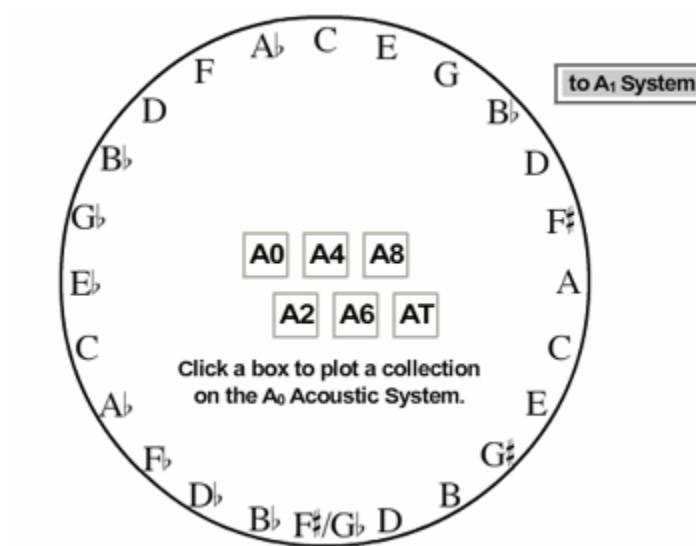
B \flat	D	F \sharp	B \flat	D	F \sharp	B \flat	D	F \sharp	B \flat	D	F \sharp
E \flat	G	B	E \flat	G	B	E \flat	G	B	E \flat	G	B
A \flat	C	E	A \flat	C	E	A \flat	C	E	A \flat	C	E
G \sharp	F	A	G \sharp	F	A	G \sharp	F	A	G \sharp	F	A
F \sharp	B \flat	D	F \sharp	B \flat	D	F \sharp	B \flat	D	F \sharp	B \flat	D
B	E \flat	G	B	E \flat	G	B	E \flat	G	B	E \flat	G

Chord no.:

Chord-type: 

Set-type:

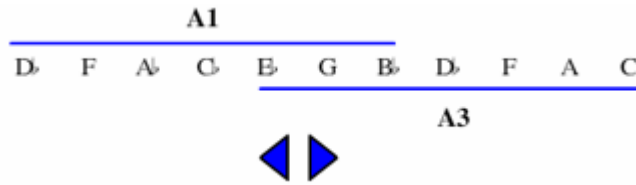
Example 5a. A_0 and A_1 Acoustic Systems



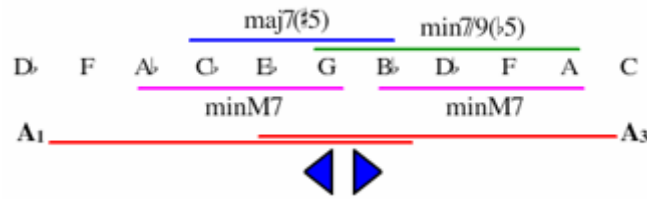
Example 5b. A_0 Acoustic System (= $A_0, 2, 4, 6, 8, T$)



Example 5c. A₁ Acoustic System (= A₁, 3, 5, 7, 9, E)



Example 6. Maj7(#5), minMaj 7th, and Chord 4 of “Vonetta” on A₁



Example 7. Hyper-Acoustic System and Chord 4 of “Vonetta”

Chord 4 of “Vonetta”

	D _♭	A	E _♭	B	F	C _♯	G	D _♯	A	F	B	G	} A ₁
Axis:	B _♭	F	C	G	D	A	E	B	F _♯	C _♯	G _♯	E _♭	
	D	A _♭	E	B _♭	F _♯	C	G _♯	D	A _♯	E	B _♯	G _♭	

Chord-type: A₁
Set-type: A₀

Chord-type: A₁
Set-type: A₀

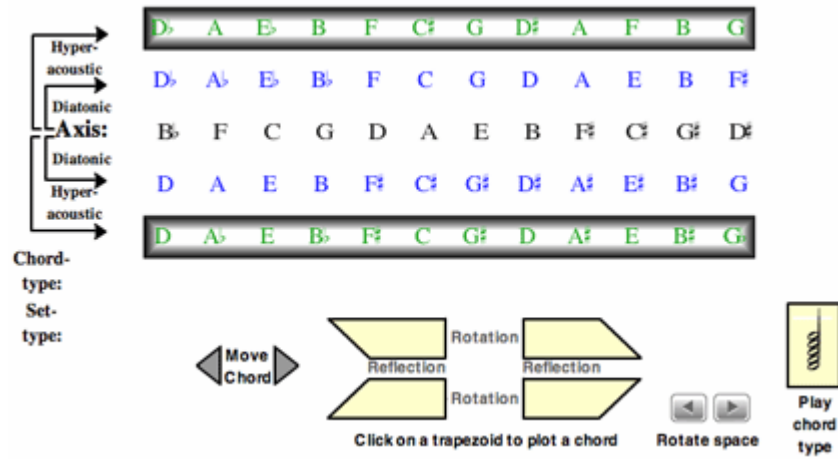
Click on a trapezoid to plot a chord

Play chord type

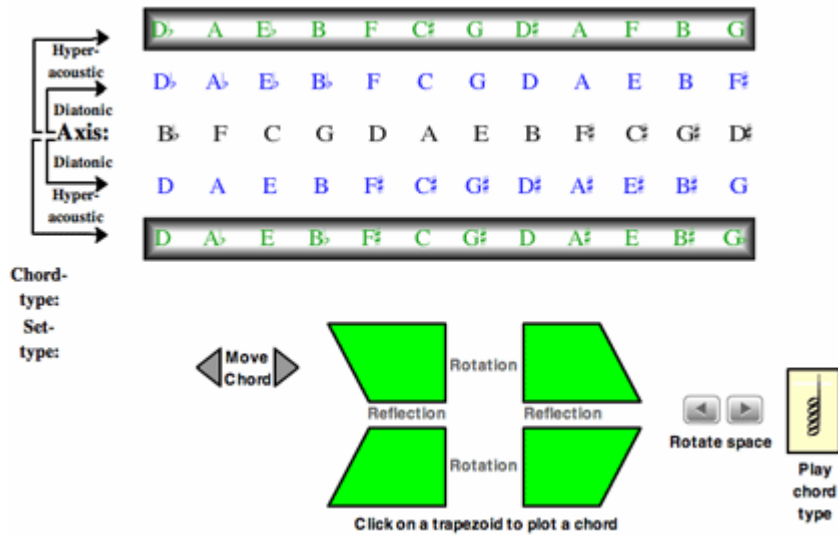
Previous instance Next instance

Rotate space

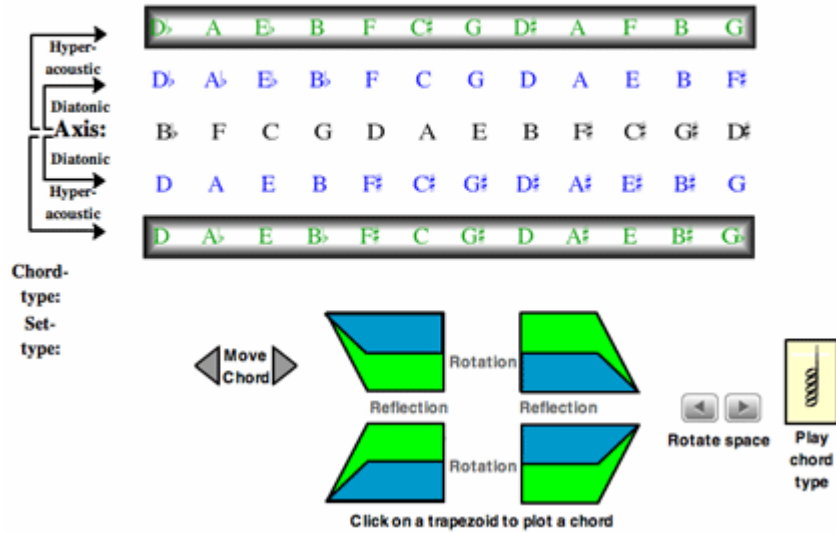
Example 8. Three-dimensional tonal map (Diatonic and Acoustic Systems): Diatonic Harmonies



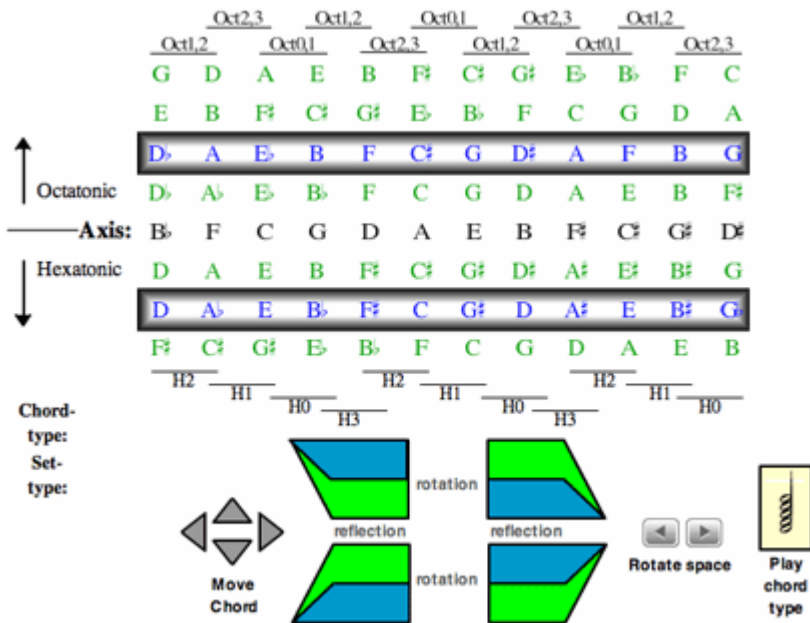
Example 9. Three-dimensional tonal map (Diatonic and Acoustic Systems): Acoustic Harmonies



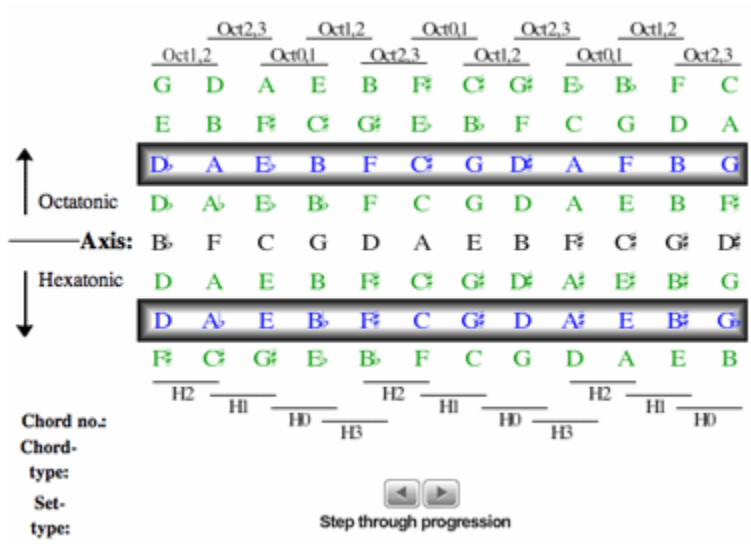
Example 10. Three-dimensional tonal map: Diatonic and Acoustic Harmonies



Example 11a. Three-dimensional tonal map (Diatonic/Acoustic/Hexatonic/Octatonic Systems)



Example 11b. Opening Progression to “Vonetta” Plotted on Three-dimensional Tonal Map)



Example 11c.

