

# Chord Reference Charts and the Nucleus Concept

Ted Greene 1974-10-11, 1976-05-19

Each grouping of chords on the following pages can be seen as being derived from a given *Nucleus Chord* (hence the “nucleus concept”). Some benefits of this approach are:

- 1) Ease of memorization of large groups of chords, due to the ability to see all of them in relation to one central, nucleus chord, instead of thinking of them as being unrelated.
- 2) A more clear understanding of the construction of chords (knowing which note is where – like knowing if the root is in the bass, or the 3rd is in the melody, etc.).
- 3) An increased ability to make up variations on chord progressions, songs, original compositions, etc.
- 4) A better feeling for the concept of “moving lines” (a general increase in contrapuntal vision) due to the ability to see where the different chord tones lie.  
And
- 5) A less frightening overall view of the fingerboard, due to the friendly relationship you will acquire with many small, visual anchor points.

These pages are given for the purpose as listed above; the knowledge of how or where to *use* or *apply* chords (in other words, the principles of *Harmony*), is a separate study. So, in a way, these pages are for *reference*, meaning, as you are learning more and more about chord progressions and the like, you will want to know more and more actual physical forms or ways to make the principles come alive. One way to gradually learn more forms then, would be to keep referring back to these pages and extracting chords when you feel the need.

As with most studies on the guitar, much patience and determination are necessary for success with this material.

Make sure you analyze all the tones (Root, 3rd, 5th, etc.) are in each chord – see the first diagram for an example. (You needn't write them in if you don't care to, but the important thing is to know where the tones are eventually.)

All chords are given in only one key each, but should be learned in all keys in various cycles for added interest and enjoyment (ask about these if you're not familiar with them).

Some chords that are listed in one group might just as easily have been included in another group, so the choice was arbitrary to a certain extent, in some cases.

General Nucleus Chord	Nucleus Chord					
A	A	A <sup>6</sup>	A <sup>Δ</sup> 7	A/9	A <sup>6</sup>	A <sup>SUS</sup>
R5 R3 5 R						

Nucleus Chord

A

Nucleus Chord

A

Nucleus Chord

A

Nucleus Chord

A

Nucleus Chord

A

Because these 5 groups are so similar, a *summary* will be given on the following page.

I have found it much easier to *memorize* chords from a summary, although, the above, more detailed layout is better for seeing how the chords are derived initially.

Anyway, in the future, the above steps will be omitted, and only a summary given, when it is felt that this would help you learn the material faster.

(This reasoning will become clear as you progress on.)

General  
Nucleus  
Chord

A | AΔ7 AΔ7 AΔ7 AΔ7 AΔ7 AΔ7 AΔ7 A6 A6

AΔ7/6 AΔ7/6 A6 A6 A6 A6 A6 A6 A6 A6

A6/9 A6/9 A6/9 A/9 A/9 A/9 A/9 A/9 AΔ9 AΔ9

AΔ9 AΔ9 AΔ9 Asus Asus Asus Asus Asus

Nucleus  
Chord

DbΔ13 | Db6/9 Db6/9 Db6/9 Db6/9 DbΔ13 Db6/9 Db6/9 DbΔ13 DbΔ13

Db/9 DbΔ9 Db/9 DbΔ9 Db/9 DbΔ9 DbΔ9 DbΔ9 DbΔ13 DbΔ9

Nucleus  
Chord

DbΔ7 | Db Db/9 Db/9 Db/9 Db/9 Db6/9 Db6/9 Db6/9

Db<sup>9</sup>/<sub>9</sub> Db<sup>9</sup>/<sub>9</sub> Db/9 Db/9 Db $\Delta$ 13 Db<sup>6</sup> Db<sup>6</sup> Db<sup>6</sup> Db $\Delta$ 7 Db $\Delta$ 7

Nucleus Chord | E E/9 E/9 E/9 E $\Delta$ 7 E $\Delta$ 7 E $\Delta$ 9 E $\Delta$ 9 E $\Delta$ 7 E $\Delta$ 7

E $\Delta$ 7 E $\Delta$ 7 E<sup>6</sup> E<sup>6</sup> E<sup>6</sup> E<sup>6</sup> E<sup>6</sup> E $\Delta$ 7/6 E<sup>6</sup>/<sub>9</sub> E<sup>6</sup>

Nucleus Chord | E<sup>6</sup> E<sup>6</sup>/<sub>9</sub> E<sup>6</sup>/<sub>9</sub> E $\Delta$ 9 E $\Delta$ 9 E $\Delta$ 7 E $\Delta$ 7 E<sup>6</sup>

E<sup>6</sup> E<sup>6</sup>/<sub>9</sub> E $\Delta$ 7 E/9 E/9 E/9 E/9 E<sup>6</sup>/<sub>9</sub> E<sup>6</sup> E<sup>6</sup>

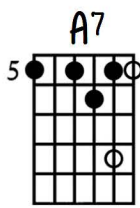
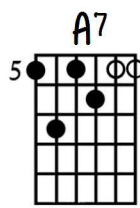
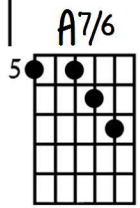
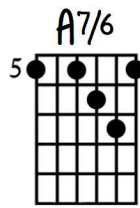
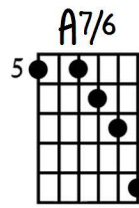
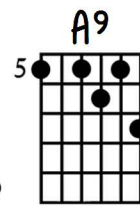
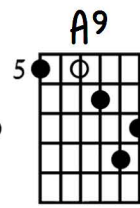
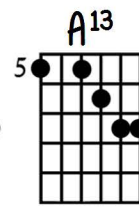
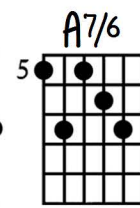
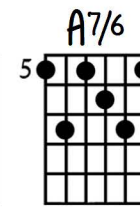
Nucleus Chord | E E $\Delta$ 7 E $\Delta$ 9 E $\Delta$ 13 E $\Delta$ 7 E $\Delta$ 7 E/9 E/9 E $\Delta$ 9 E<sup>6</sup>

E<sup>6</sup>

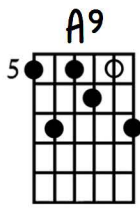
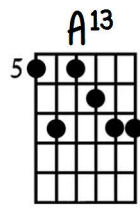
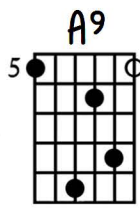
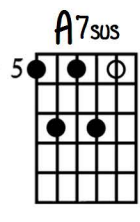
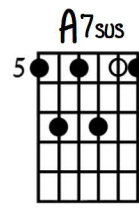
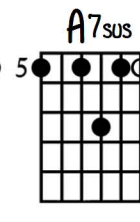
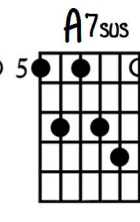
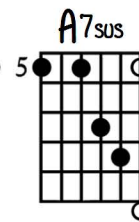
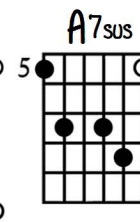
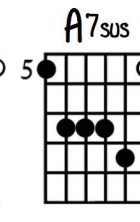


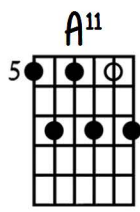
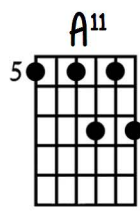
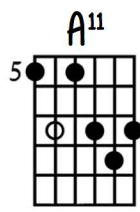
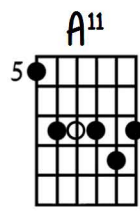
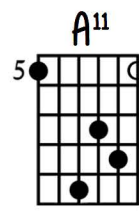
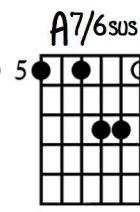
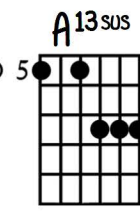
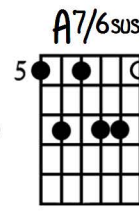
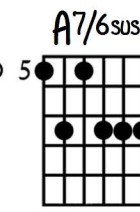
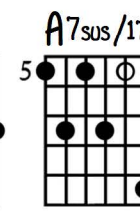
Nucleus Chords

Extended Dominants:

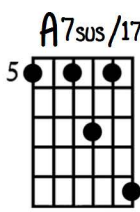
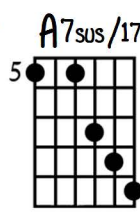
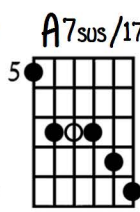
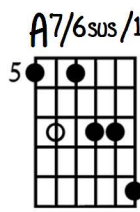
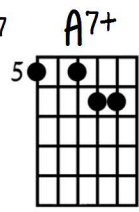
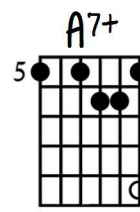
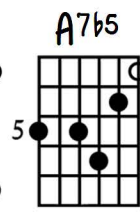
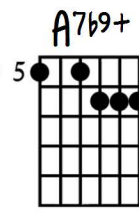
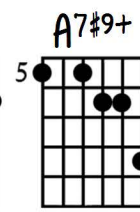
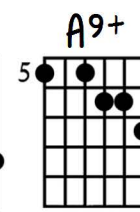
									
----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

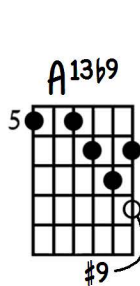
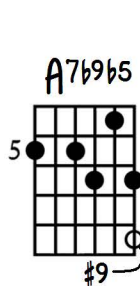
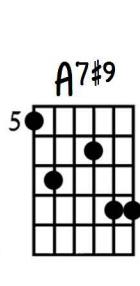
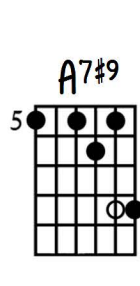
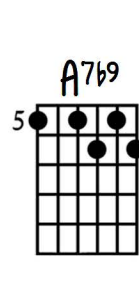
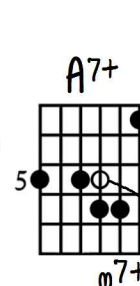
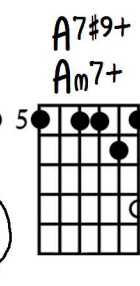
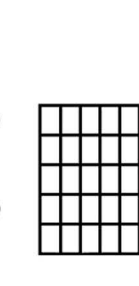

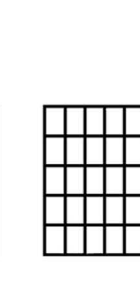
Suspended Dominants:

									
----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

									
----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

Altered Dominants:

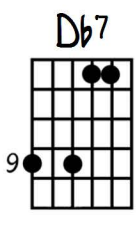
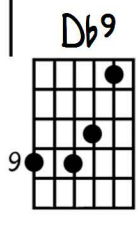
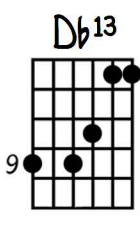
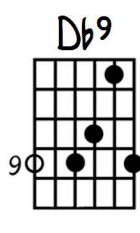
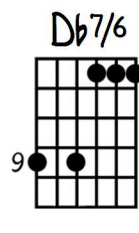
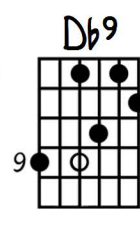
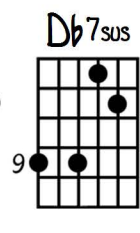
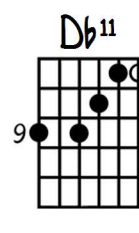
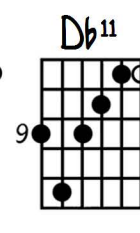
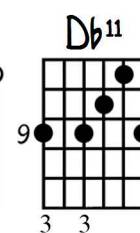
									
-----------------------------------------------------------------------------------	------------------------------------------------------------------------------------	------------------------------------------------------------------------------------	------------------------------------------------------------------------------------	------------------------------------------------------------------------------------	------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------

									
------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------

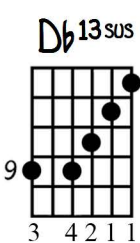
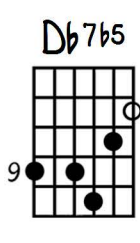
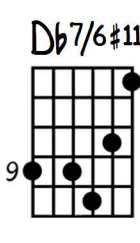
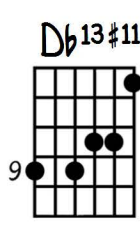
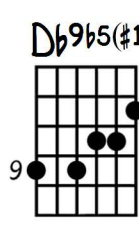
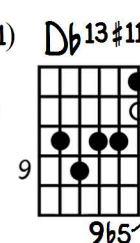
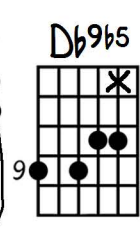
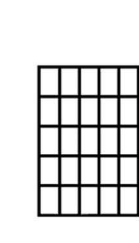
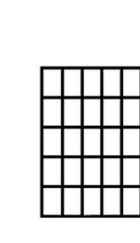
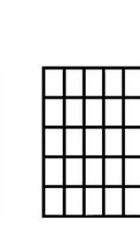
Nucleus Chord

Extended Dominants:

Suspended Dominants:

									
------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------

Overtone Dominants:

									
------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------



**Nucleus Chord**

**Bm**

**Bm7**

**Bm7**

**Bm9**

**Bm7**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**Bm9**

**Bm7/11**

**Bm7**

**B**



Em7/11   Em7/11   Em11   Em9/13   Em7/13   Em7   Em7   Em7   Em9   Em7/11

Em7/11   Em11   Em9/13   Em7/13   Em7   Em9   Em7   Em9   Em7/11   Em7/11

Nucleus  
Chord

Em   Em7   Em7   Em7   Em7   Em7   Em7/11   Em7/11   Em9/9   Em9/9

Em9   Em7sus   Em7/13   Em7/11/13

↗  
This section is  
grouped in  
areas not around  
nucleus concepts

Bm7b5   Bm7b5   Bm7b5/11   Bm7b5

Bm7b5   Bm7b5   Bm7b5   Bm7b5   Bm7b5/11   Bm7b5   Bm7b5   Bm7b5   Bm7b5   Bm7b5

Bm7b5+   Bm7b5/11   Em7b5   Em7b5   Em7b5   Em7b5   Am7b5/11   Am7b5   Am7b5+   Em7b5/11

Em7b5/11   Em7b5   Em7b5   Em7b5/11   Em7b5/11   Em7b5   Em7b5



See if you can determine a reasonable nucleus chord for each group

Nucleus Chord

What is a good nucleus chord here?





# Chord Reference Charts and the NUCLEUS CONCEPT - Page 1

Each grouping of chords on the following pages can be seen as being derived from a given **NUCLEUS CHORD**, (hence the "nucleus concept").

- Some benefits of this approach are:
- ① Ease of memorization of large groups of chords, due to the ability to see all of them in relation to one, central, nucleus chord, instead of thinking of them as being unrelated.
  - ② A more clear understanding of the construction of chords (knowing which note is where - like knowing if the root is in the bass or the 3rd is in the melody, etc.).
  - ③ An increased ability to make up variations on chord progressions, songs, original compositions, etc.
  - ④ A better feeling for the concept of "moving lines" (a general increase in contrapuntal vision) due to the ability to see where the different chord tones lie. And.
  - ⑤ A less frightening over-all view of the fingerboard, due to the friendly relationship you will acquire with many small, visual anchor points.

These pages are given for the purposes as listed above; the knowledge of how or where to use or apply chords (in other words, the principles of **HARMONY**), is a separate study. So in a way, these pages are for reference, meaning, as you are learning more & more about chord progressions and the like, you will want to know more & more actual physical forms or ways to make the principles come alive; one way to gradually learn more forms than would be to keep referring back to these pages and extracting chords, when you feel the need.

As with most studies, on the guitar, much **PATIENCE** and **DETERMINATION** are necessary for success with this material.

Make sure you analyze where all the tones (Root, 3rd, 5th, etc.) are in each chord - see the 1st diagram for an example. (you needn't write them in, if you don't care to, but the important thing is to know where the tones are (eventually)).

All chords are given in only one key each, but should be learned in all keys in various cycles, for added interest & enjoyment (ask about these if you're not familiar with them).

Some chords that are listed in one group might just as easily have been included in another group so the choice was arbitrary to a certain extent, in some cases.

The diagrams are organized into several groups:

- Group 1:** NUCLEUS CHORD A (5 2 0 2 2 0), R 5 R 3 5 R. Related chords: AG, A7, A19, A6, Asus.
- Group 2:** NUCLEUS CHORD A6. Related chords: A7, A19, Asus, A6, A6/9.
- Group 3:** NUCLEUS CHORD A. Related chords: A7, A9, A19, A7, A7/6, A6.
- Group 4:** NUCLEUS CHORD A. Related chords: A6, A7, A7, A19, A6, Asus.
- Group 5:** NUCLEUS CHORD A6. Related chords: A7, A9, A19, A7, A7/6, A6.
- Group 6:** NUCLEUS CHORD A. Related chords: A6, A6, Asus, Asus/17, A7, A9.
- Group 7:** NUCLEUS CHORD A. Related chords: A6, A19, A6/9, A7, A19, A6.
- Group 8:** NUCLEUS CHORD A7/6, A7, A7, A9, Asus, A9.

Because these 5 groups are so similar, a summary will be given on the following page. I have found it much easier to memorize chords from a summary, although, the above, more detailed layout is better for seeing how the chords are derived initially. Anyway, in the future, the above steps will be omitted, and only a summary given, when it is felt that this would help you learn the material faster. (This reasoning will become clear as you progress on).



# Chord Reference Charts and the Nucleus Concept - Page 2

**GENERAL NUCLEUS CHORD**

**SUMMARY:**

**NUCLEUS CHORD**

also, try figuring out the sus chords from here on in.

**NUCLEUS CHORD**

**NUCLEUS CHORD**

**NUCLEUS CHORD**

**NUCLEUS CHORD**



# Chord Reference Charts + the Nucleus Concept - Page 3

**NUCLEUS CHORD A7**

**EXTENDED DOMINANTS:** A7/6, A7/6, A7/6, A9, A9, A13, A7/6, A7/6, A9, A13, A9

**SUSPENDED DOMINANTS:** A7sus, A7sus, A7sus, A7sus, A7sus, A7sus, A7sus, A11, A11, A11, A11, A11

**ALTERED DOMINANTS:** A7+, A7+, A7b5, A7b9+, A7#9+, A9+, A13b9, A7b9b5, A7#9, A7#9, A7b9, A7+, A7#9+

**NUCLEUS CHORD Db**

**EXT. DOM'S:** Db9, Db13, Db9, Db7/6, Db9

**SUSPENDED DOM'S:** Db7sus, Db11, Db11, Db13sus

**ALTERED DOM'S:** Db7b9, Db13b9, Db7b9+, Db13b9+11, Db11b9, Db13/11, Db7b9b5, Db7#9, Db13b9, Db9+

**NUCLEUS CHORD E7**

**EXT. DOM'S:** E9, E13, E7/6, E9

**SUS. DOM'S:** E7sus, E11

**ALTERED DOM'S:** E7b5, E7#9+11, E7b9, E7b9+, E7b9b5, E7b9+11, E13b9, E9+, E7b9

**NUCLEUS CHORD E7**

**EXT. DOM'S:** E7/6, E7sus, E7+, E7#9, E7b5, E7#9

**ALTERED DOM'S:** E7sus, E7+, E7b5, E7b5, E7/11, E7+, E7/6sus







# Chord Reference Charts - Pages

See if you can determine a reasonable nucleus chord for each group

Handwritten guitar chord diagrams for various chords, organized in rows:

- Row 1: Bmb, Bmb, Bmb/9, Bmb/7, Bmb, Bmb/9, Bmb/11, Bmb/7, Bmb/9, Bmb/7, Bmb/9
- Row 2: Bmb/9, Bmb/9, Bmb/9, Bmb/9, Ebmb, Ebmb/11, Ebmb, Ebmb, Ebmb/9, Ebmb/9, Ebmb, Ebmb/7
- Row 3: Ebmb/7, Ebmb/7, Ebmb/7, Ebmb/7, Ebmb/7, Ebmb, Ebmb/9, Ebmb, Ebmb/9, Ebmb/9/11, Ebmb/11
- Row 4: Ebmb/11, Ebmb, Ebmb/11, Ebmb/7, Ebmb/7, F#mb, F#mb/9, F#mb/7, F#mb/9, F#mb/9

Handwritten guitar chord diagrams for diminished 7th chords and related forms:

- Chords: Db6/9+11, Db6/9+11, Db6+11, Db7+11, Db7+11, Db7+11, Db13+11, Db13+11, Db6/9+11, Db7+11, Db7+11

Handwritten guitar chord diagrams for E6/9 and E7+11 chords, including a note on nucleus chords:

- Chords: E6/9+11, E6/9+11, E6/9+11, E7+11, E6+11, E7+11, E7+11
- Chords: E/9+11, E7+11, E/9+11, E7+11, E6/9+11, E/9+11, E7+11, E7+11, E/9+11, E7+11, E7+11, E/9+11, E7+11

NUCLEUS CHORD  
E6/9

What is a good nucleus chord here?

For diminished 7th chords, see SYSTEMATIC INVERSIONS.