

Seventh Chords

Ted Greene, undated and 1975-03-16 & 30

Sevenths may be added to triads; they change the color – *not the function*.

The *diatonic major* scale produces: I Δ 7, iim7, iiim7, IV Δ 7, V7, vim7, viim7b5.

The *natural minor* scale produces: im7, iim7b5, [b]III Δ 7, ivm7, vm7, [b]VI Δ 7, [b]VII7.

The *harmonic minor* scale produces: im Δ 7, iim7b5, [b]III Δ 7+, ivm7, V7, [b]VI Δ 7, vii $^{\circ}$ 7.

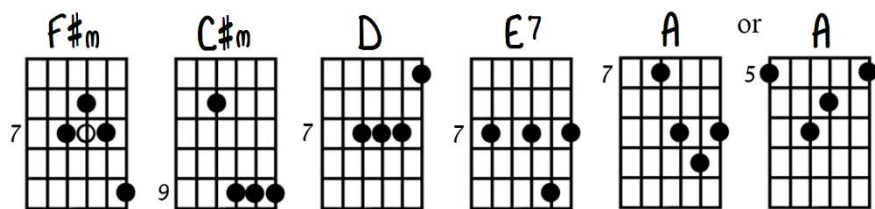
The V7 and vii $^{\circ}$ 7 are widely used to replace the V in minor keys. The other chords of the harmonic minor can be discarded for now, and the chords of the natural minor then contended with.

The figured bass symbols for 7ths are:

Root position:	7	← Root in bass
1st inversion:	$^6/5$	← 3rd in bass
2nd inversion:	$^4/3$	← 5th in bass
3rd inversion:	$^4/2$ or 2	← 7th in bass

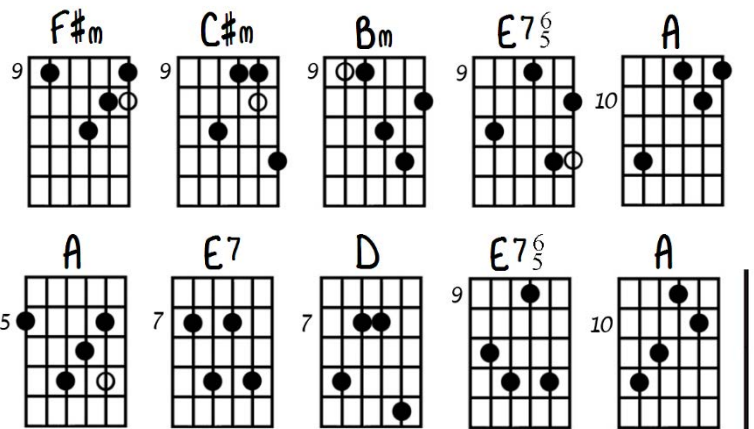
The main 7th chord to learn how to use at first is the V7 (dominant 7th). In authentic cadences, the V7 usually is voiced with two roots, a 3rd, and 7th (no 5th). Examples:

Here are some important V7's with all 4 tones:

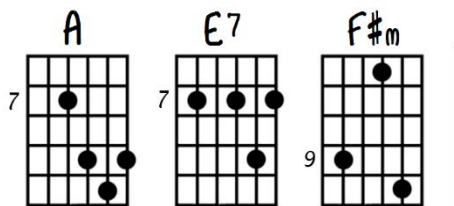


Practice Comparable Exercises in Minor Keys

Here are some exercises with $V^{6/5}$'s :

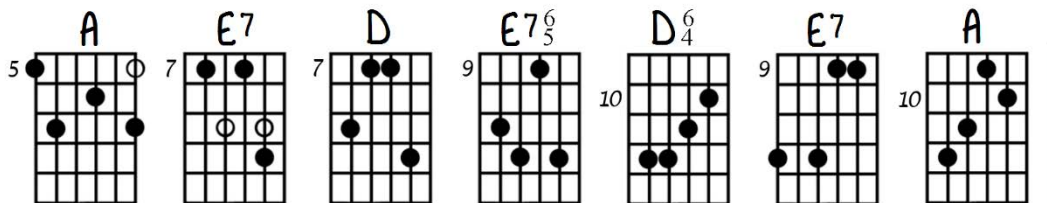


V^7 also connects well with vi :

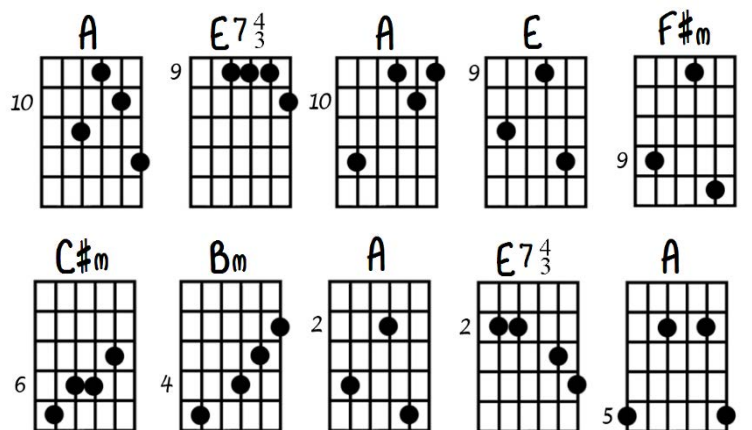


When done at the end of a phrase, $V - vi$ is known as a deceptive cadence. In minor it is $V - VI$.

$V^{6/5}$'s progress well to $^{6/4}$'s a scale step higher:



Second inversion ($V^{7^4/3}$) :



Second inversions also progress well to ⁶/₄'s :

6 4 2 2 3 5

10 9 12 9 12

Plagal cadence

Third inversions (⁴/₂ or 2) :

9 7 7 7 7

Notice the appoggiatura chords; also the freer use of chords in general.

Key of F:

6 10 8 7 6 8 5

Key of Db:

9 9 6 9 9

Make up similar exercises to all those on this page in major and minor keys.

As you may know, there are many kinds of dominant 7th type chords which are used in jazz; but (as usual) they can be organized into groups according to similarities of *sound*. So which of these chords can take the dominant 7th scale? The secret lies in analyzing the *chord tones* of the dominant 7th scale, which are as follows:

1, 3, 5, b7, 9 (2), 11 (4), and 13 (6)

Important: Any chord containing some combination of any of (but only) these chord tones, can take the dominant 7th scale. Here is a list of the most commonly used of these chords:

GROUP 1

<u>Name</u>	<u>Formula</u>	<u>Symbol</u>
Dominant 7th	1, 3, 5, b7	7
Dominant 9th	1, 3, 5, b7, 9	9
Dominant 7/6th	1, 3, 5, 6, b7	7/6
(or 7/13)	1, 3, 5, b7, 13	(7/13)
Dominant 13th	1, 3, 5, b7, 9, 13	13

GROUP 2

<u>Name</u>	<u>Formula</u>	<u>Symbol</u>
Dominant 7th suspended 4th	1, 4, 5, b7	7sus
Dominant 9th suspended 4th	1, 4, 5, b7, 9	9sus
or Dominant 11th	1, 5, b7, 9, 11	11
Dominant 7/6th suspended 4th	1, 4, 5, 6, b7	7/6sus
(7/13) or (7/6/11)	1, 4, 5, b7, 13	(7/13sus)
Dominant 13th suspended 4th	1, 4, 5, b7, 9, 13	13sus
or Dominant 11/13th	1, 5, b7, 9, 11, 13	11/13

For the curious: the 11th and 3rd are not often played together in the same chord because they tend to clash to most ears.

Notice that the above chords are divided into two groups. Also notice that for every chord in the group on the left [Group 1] there is, in the group on the right [Group 2], a corresponding chord which has the exact same formula except for one thing: the 3rd has been replaced by the 4th or 11th. Check this out....

The two groups will be referred to as Group 1 and Group 2 dominants. In case you are wondering about the names of these chord, specifically about words like “dominant” and “suspended,” the explanations are long and unfortunately not too logical, so ~~for now it is in your best interests to just accept these terms as something you have to put up with, at least in the sense of knowing what chords these words stand for.~~ we’ll take a pass on this subject here. It’s better left for a book on Harmony.

You will recall that in the section on Major chords, a discussion of chord tones was presented. There will be a similar discussion pertaining to the Group 1 and 2 dominant chord tones, but it will be after the soon-to-be-given musical examples.

In this section, as in the Major section, there will be chord forms and arpeggios given for each position (of the dominant 7th sounds); and as before, you will want to learn these – *one group* of chords and arpeggios *at a time* to fit each position as you encounter them as you progress through this section.

You will also find it in your best interest to learn the scale fingerings given for the different positions of the runs, as many of the runs are derived from just freely mixing up the notes of the dominant 7th scale.

Remember to *visualize* the notes on the fingerboard as explained earlier, especially for any runs that you like enough to memorize.

And as before, if you want to (and know what this means) try phrasing all runs as “jazz” 8ths and “straight” 8ths. If you’re still having some difficulties in making the runs you have learned so far sound like jazz, it is probably the time to try to find a good teacher to take at least one lesson in the “feel” of the music. (Just a suggestion: take a tape recorder to your lesson if you can, because we humans aren’t blessed with the memories of elephants or recording tapes.)

Naturally, you will want to learn your favorite sounds out of all this material in more than one key. I have found certain orders of keys that sound very good to my ears, so I would like to share them with you if you care to try them:

1) For the 1st three positions (which start in the key of Bb7) try the following order of keys for each arpeggio and run (and the scale diagrams too):

Bb7, (F7), D7, B7, Ab7, Eb7, C7, A7, (G7), E7, Db7, Bb7

() = optional

2) For the last position that starts in Bb7 (7th-8th fret), try the following key order:

Bb7, G7, E7, C7, A7, F#7, Eb7, B7, Ab7, F7, D7

3) For the position that is given as G7 (on the 7th fret), try the following key orders:

G7, E7, Db7, F7, A7, F#7, Eb7, Bb7, G7

or G7, E7, Db7, A7, F#7, Eb7, C7, Ab7, F7, D7, B7

4) For the two positions that are given in the key of E7, try the following key orders:

E7, Db7, F7, D7, F#7, Eb7, G7, B7, Ab7, (F7)

You may have noticed that most of the intervals between all these keys are ascending or descending 3rds. It just seems to sound good to me this way.

Seventh Chords

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7ths in Major Keys:

When another 3rd interval is added on top of a triad, the sound that results is called a *7th chord*.

Diatonic Triads	Diatonic 7th Chords
D E _m F _{#m} G A B _m C _{#o}	D ^{Δ7} E _m ⁷ F _{#m} ⁷ G ^{Δ7} A ⁷ B _m ⁷ C _{#o} ⁷
C _{#o} ⁷ C _{#m} ^{7b5}	

An important thing to remember is that 7th change the *color* of triads but not the *function*. For instance, a I^{Δ7} is still a Tonic chord, just like a I. To put it another way, you may replace a triad with its related 7th chord (according to personal taste) without changing the *essence* of a chord or progression.

Compare:

1) I vi ii ₆ V I D B _m E _m /G A D	↔	I vi ⁷ ii ⁷ V ⁷ I D B _m ⁷ E _m ⁷ A ⁷ D
2) I vii ^o vi D B _m /D C _{#o} A/C _# B _m G/B etc.	↔	I _{maj} ⁷ vii _m ^{7b5} vi ⁷ D ^{Δ7} B _m /D C _{#o} ⁷ A/C _# B _m ⁷ G/B etc.

To learn the 7th chord fingerings on guitar you should study the page on *7th Chord Voicings* in various keys.

The most important 7th chord is the V⁷, having been used by composers much more than the others. One reason for this is that the V⁷ – I progression clearly defines a key. Look at it this way: when you play a G chord to a C chord, no key is clearly established yet. It could be I – IV [in the key] of G, or V – I [in the key] of C. But G⁷ to C by itself indicates only the key of C.

If you were to make other experiments using just two chords, trying to define a key, you would see that vii^o7 – I gives a similar effect to V⁷ – I; this is logical because, as you know, vii^o is dominant in its function. Anyway, separate sheets will be passed out on the progression V⁷ – I, and you should figure out similar examples of vii^o7 – I after you have learned the V⁷ – I's.

An easy way to convert V⁷ into vii^o7 is to raise the root of a *complete* V⁷, one whole step.

Important: vii^o7 = V⁹.

Naturally, like triads, 7th chords can be inverted. Because there are 4 notes in a 7th chord, there are 3 inversions. The figured bass symbols are as follows:

Root position:	7	}	An easy way to memorize these symbols is to notice that the numbers, coincidentally, go in order: 7, 6/5, 4/3, 2.
1st inversion:	6/5		
2nd inversion:	4/3		
3rd inversion:	2 (or 4/2)		

You will find a list of exercises using all types of the 7th chords on the same page that has the 2nd inversion triad exercises. Practice these (with decoration, suspensions, etc., optional) patiently, and the world of 7th chords will open up to you.

Sidelight: In the “old” days, the 7th in a chord was considered a dissonance, and consequently, people thought it too harsh to have the 7th tone enter without suitable “preparation.” The rules governing preparation of the 7th were: 1) it could enter as a suspension or repeated note from a previous chord, or 2) it could be approached step-wise from a previously heard tone.

Notice the prepared 7ths in the above examples near the top of the page. While modern ears definitely do not require the preparation of 7ths, it is good practice to do this once in a while to know how to create the old, authentic sounds.

Irregular Resolution of V7 or vii^o7: For variety’s sake, composers would sometimes avoid I after V7 or vii^o7, instead progressing to some other chord. Some of the most common of these chords are IV, vi, iii, and iii7 (and other chords to be discussed later). This concept includes all inversions of all chords involved.

7ths in Minor Keys:

The diatonic 7th chords in minor keys are as follows:

Natural minor: i7, ii^o7, [b]III Δ 7, iv7, v7, [b]VI Δ 7, [b]VII7

Harmonic minor: i Δ 7, ii^o7, [b]III Δ 7+, iv7, V7, [b]VI Δ 7, Rvii^o7 [R = raised]

Melodic minor: i Δ 7, ii7, [b]III Δ 7+, IV7, V7, Rvi^o7, Rvii^o7

Of all these 7th chords only some have been commonly used by Baroque composers:

Common: i7, ii^o7, [b]III Δ 7, iv7, V7, [b]VI Δ 7, Rvi^o7, [b]VII7, Rvii^o7

Less common: ii7, IV7, v7

Rare: i Δ 7, [b]III Δ 7+, Rvii^o7

The ii7, IV7, Rvi^o7 are used according to the normal use of the melodic minor (to avoid the augmented 2nd interval). Otherwise the above chords are used just like in major keys. Naturally, inversion are not only possible, but welcome.

Rvii^o7 is used to replace V7 quite often in minor keys, so it is a good idea to take the V7 – i resolutions and convert them to Rvii^o7 – i by raising the root of any *complete* V7, one 1/2 step.

Important: Rvii^o7 = V7b9.

Seventh Chords

Sevenths may be added to triads; they change the color, not the function. The diatonic major scale produces I7, iim7, iiim7, III7, IV7, vIm7, viIm7b5. The natural minor scale produces im7, iim7b5, III7, ivm7, vM7, VI7, VII7. The harmonic minor scale produces im7, iim7b5, III7, ivm7, V7, VI7, vii°7. The V7 and vii°7 are widely used to replace the V in minor keys. The other chords of the har. minor can be discarded for now and the chords of the natural minor then contended with.

The figured bass symbols for 7ths are → ROOT POSITION : 7 ← ROOT IN BASS
 1st INVERSION : 6/5 ← 3rd " "
 2nd INVERSION : 4/3 ← 5th " "
 3rd INVERSION : 2/0/2 ← 7th " "

The main 7th chord to learn how to use at first is the V7 (DOMINANT 7th) in authentic cadences, the V7 usually is voiced with two roots, a 3rd, and 7th (no 5th).

Examples:

PRACTICE COMPARABLE EXERCISES IN MINOR KEYS

6's progress well to 4's a scale step higher:

2nd inversions also progress well to 4's

As you may know, there are many kinds of dominant 7th type chords which are used in jazz, but (as usual), they can be organized into groups, according to similarities of sound. So which of these chords can take the Dominant 7th scale? The secret lies in analyzing the chord tones of the Dominant 7th scale,

which are as follows:

1, 3, 5, 7, 9, 11, and 13 ^{IMPORTANT:}
 (2) (4) (6) Any chord

containing some combination of any of (but only) these chord tones, can take the Dominant 7th scale. Here is a list of the most commonly used of these chords:

GROUP 1				GROUP 2			
NAME	FORMULA	SYMBOL	NAME	FORMULA	SYMBOL		
DOMINANT 7th	1, 3, 5, 7	7	DOMINANT 7 SUSPENDED 4th	1, 4, 5, 7	7 SUS		
DOMINANT 9th	1, 3, 5, 7, 9	9	DOMINANT 9 SUSPENDED 4th	1, 4, 5, 7, 9 or	9 SUS or		
DOMINANT 7/6th	1, 3, 5, 7, 13	7/6	OR DOMINANT 11th	1, 5, 7, 9, 11	11		
(or 7/13th)	1, 3, 5, 6, 7	(or 7/13)	DOMINANT 7/6 SUSPENDED 4th	1, 4, 5, 7, 13	7/6 SUS		
DOMINANT 13th	1, 3, 5, 7, 9, 13	13	(7/13) or (7/6/11)	1, 4, 5, 6, 7	(or 7/13 SUS)		
			DOMINANT 13 SUSPENDED 4th	1, 4, 5, 7, 9, 13	13 SUS		
			OR DOMINANT 11/13th	1, 5, 7, 9, 11, 13	11/13		

For the curious: The 11th and 3rd are not often played together in the same chord because they tend to clash to most ears.

Notice that the above chords are divided into two groups. Also notice that for every chord in the group on the left, there is, in the group on the right, a corresponding chord which has the exact same formula except for one thing: the 3rd has been replaced by the 4th or 11th.

Check this out. The 2 groups will be referred to as the group 1 and group 2 dominants. In case you are worried about the names of these chords, specifically about words like "dominant" and "suspended", the explanations unfortunately are long and unfortunately not too logical, so we'll take a pass on this subject here to better left for a book on harmony. It is in your best interest to just accept these terms as something you have to put up with, at least in the sense of knowing what chords these words stand for.

You will recall that in the section on major chords, a discussion of chord tones was presented. There will be a similar discussion pertaining to the group 1 & 2 dominant chord tones but it will be left to you to be given musical examples.

In this section, as in the major section, there will be chord forms and arpeggios given for each position (of the Dom. 7th sounds), and as before, you will want to learn these one group of chords and arpeggios at a time to fit each position as you encounter them, as you progress through this section.

You will also find it in your best interests to learn the scale fingerings given for the different positions of the runs, as many of the runs are derived from just freely mixing up the notes of the Dom. 7th scale.

Remember, to **VISUALIZE** the notes on the fingerboard as explained earlier, especially for any runs that you like enough to memorize.

And as before, if you want to (and know what this means), try phrasing all runs as "jazzy" 8ths + "straight" 8ths. If you're still having some difficulties in making the runs you have learned so far sound like jazzy, it is probably the time to try to find a good teacher to take at least 1 lesson in the "feel" of this music (just a suggestion: Take a tape ^{recorder} to your lesson if you can, because we humans aren't pleased with the memories of elephants or recording tape).

Naturally, you will want to learn your favorite sounds out of all this material in more than 1 key. I have found certain orders of keys that sound very good to my ears so I would like to share them with you if you care to try them:

- ① For the 1st 3 positions (which start in the key of B^b7) try the following order of keys for each arpeggio and run (and the scale diagrams too)
B^b7, (F7), D7, B7, A^b7, E^b7, C7, A7, (G7), E7, D^b7, B^b7
 - () = optional
 - ② For the last position ^{that starts in} B^b7 (7th-8th fret), try the following key order:
B^b7, G7, E7, C7, A7, F[#]7, E^b7, B7, A^b7, F7, D7
 - ③ For the position that is given as G7 (on the 7th fret), try the following key orders:
G7, E7, D^b7, F7, A7, F[#]7, E^b7, B^b7, G7 or
G7, E7, D^b7, A7, F[#]7, E^b7, C7, A^b7, F7, D7, B7
 - ④ For the 2 positions that are given in the key of E7, try the following key orders:
E7, D^b7, F7, D7, F[#]7, E^b7, G7, B7, A^b7, (F7)
- You may have noticed that most of the intervals between all these keys are ascending or descending **3RDS**. It just seems to sound good to me this way.

THIRDS IN MAJOR KEYS

SEVENTH CHORDS

When another 3RD INTERVAL is added on top of a triad, the sound that results is called a 7th CHORD.

EXAMPLE:

Key of D

DIATONIC TRIADS	DIATONIC 7th CHORDS
D Em F#m G A Bm C#o	D7 Em7 F#m7 G7 A7 Bm7 C#m7b9 (C#7b9)

An important thing to remember is that 7ths change the COLOR of triads but not the FUNCTION; for instance a I7 is still a TONIC chord, just like a I.

To put it another way, you may replace a triad with its related 7th chord (according to personal taste) without changing the essence of a chord or progression.

To learn the 7th chord fingering on guitar, you should study the page on 7th CHORD VOICINGS in various keys.

① Compare: I vii° II I I ↔ I vii° II I I

② I vii° II I I ↔ I vii° II I I

The most important 7th chord is the II7, having been used by composers much more than the others. One reason for this is that the II7 I progression clearly defines a key. Look at it this way: when you play a G chord to a C chord, no key is clearly established yet → it could be I IV of G or V I of C. But G7 to C by itself indicates only the key of C. If you were to make other experiments using just 2 chords, trying to define a key, you would see that vii° I gives a similar effect to II7 I; this is logical because, as you know, vii° is dominant in its function. Anyway separate sheets will be passed out on the progression II7 I, and you should figure out similar examples of vii° I after you have learned the II7 I's. An easy way to convert II7 into vii° I is to raise the root of a complete II7, one whole step. **IMPORTANT: vii° I = II7**

Naturally, like triads, 7th chords can be inverted, because there are 4 notes in a 7th chord, there are 3 inversions. The figured bass symbols are as follows:

ROOT POSITION: 7
 1st INVERSION: 6
 2nd INVERSION: 4 3
 3rd INVERSION: 2 (or 2 1)

An easy way to memorize these symbols is to notice that the numbers, coincidentally, go in order: 7, 6/5, 4/3, 2.

You will find a list of exercises using all types of 7th chords on the same page that has the 2nd inversion triad exercises. Practice these (with decoration, suspensions, etc optional) patiently, and the world of 7th chords will open up to you.

SIDE LIGHT: In the "old" days, the 7th in a chord was considered a dissonance, and consequently, people thought it too harsh to have the 7th tone enter without suitable "preparation". The rules governing preparation of the 7th were:

- It could enter as a suspension or repeated note from a previous chord or
- it could be approached step-wise from a previously heard tone.

Notice the prepared 7ths in the above examples near the top of the page. While modern ears definitely do not require the preparation of 7ths, it is good practice to do this once in awhile to know how to create the old, authentic sounds.

IRREGULAR RESOLUTION OF II7 or vii° I: For variety's sake, composers would sometimes avoid I after II7 or vii° I, instead progressing to some other chord. Some of the most common of these chords are IV, VI, III, and iii7. This concept includes all inversions of all chords involved. (and other chords to be discussed later.)

THIRDS IN MINOR KEYS

The diatonic 7th chords in minor keys are as follows:

NATURAL MINOR: i7 ii°7 III7 iv7 v7 VI7 VII7 HARMONIC MINOR: i7 ii°7 III7+ iv7 V7 VI7 RVII7
 MELODIC MINOR: i7 ii7 III7+ IV7 V7 RVII7 RVII7

Of all these 7th chords only some have been commonly used by BAROQUE composers:

COMMON: i7 ii°7 III7 iv7 V7 VI7 RVII7 VII7 LESS COMMON: ii7 IV7 v7 RARE: i7 III7+ RVII7

The ii7, IV7, RVII7 are used according to the normal use of the melodic minor (to avoid the aug. 2nd interval). Otherwise the above chords are used just like in major keys, naturally inversions are not only possible but welcome.

RVII7 is used to replace II7 quite often in minor keys so it is a good idea to take the II7 - i resolutions and convert them to RVII7 - i by raising the root of any complete II7, one 1/2 STEP.

IMPORTANT: RVII7 = V7b9