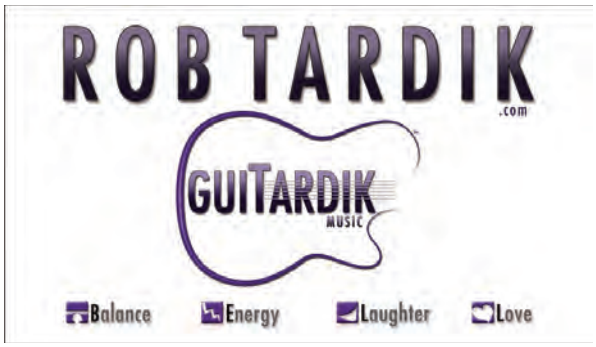


Know Your Fretboard: A Lifetime Musical Journey

Learning Involves a SYNERGY of 6 key areas: **Memory-Understanding-Applying-Analyzing-Evaluating** which all leads to higher levels of **CREATING**!!

Theory

Mental Speed
Note Knowledge
Intervals
Scales/Melody
Chords
Harmonic Progressions
Key Signatures
Cycle of 5th/4ths
Meter
Transposition
Dynamics
Rhythm
Tempo
Standard Notation
Tablature
Timbre

Technique

Alternate Picking
Hammer On's
Pull offs
Sweep Picking
Bends
Vibrato
Slurs
Tapping
Arpeggios
Trills
Cross Picking
String Skipping
Hybrid Picking
Tremolo
Fingerstyle

Creativity

Phrasing
Composing
Song Writing
Improvisation
Arranging
Stylistic Interpretation

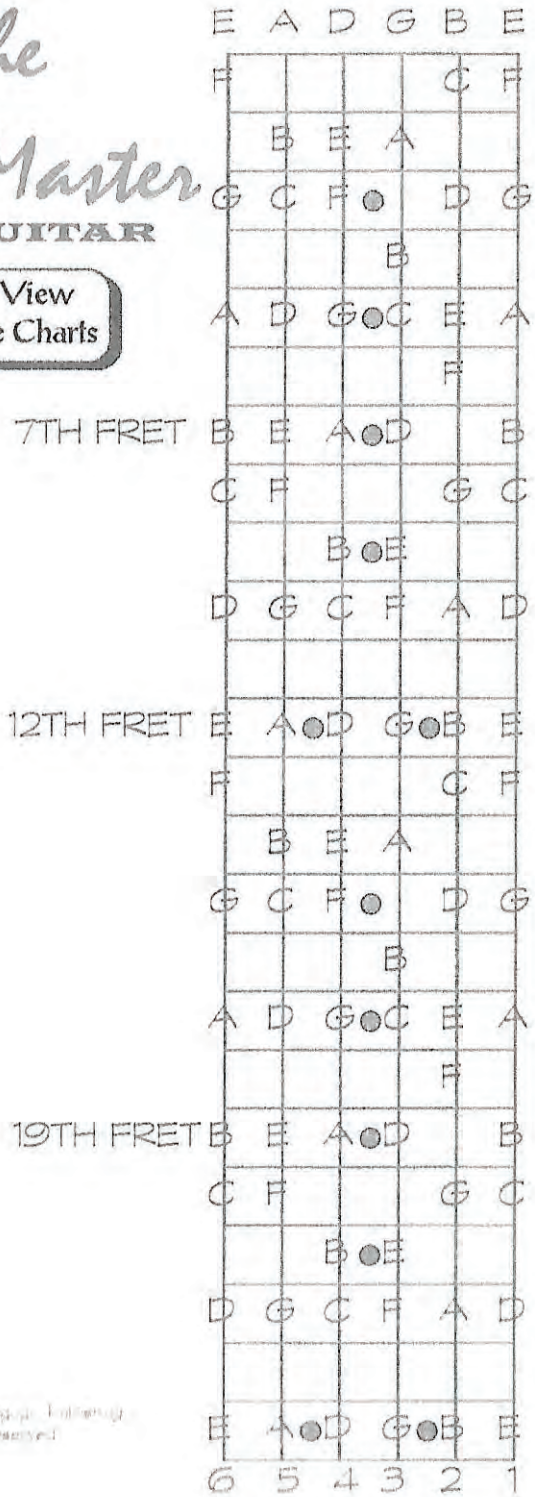
5 Approaches to Improvisation (soloing)

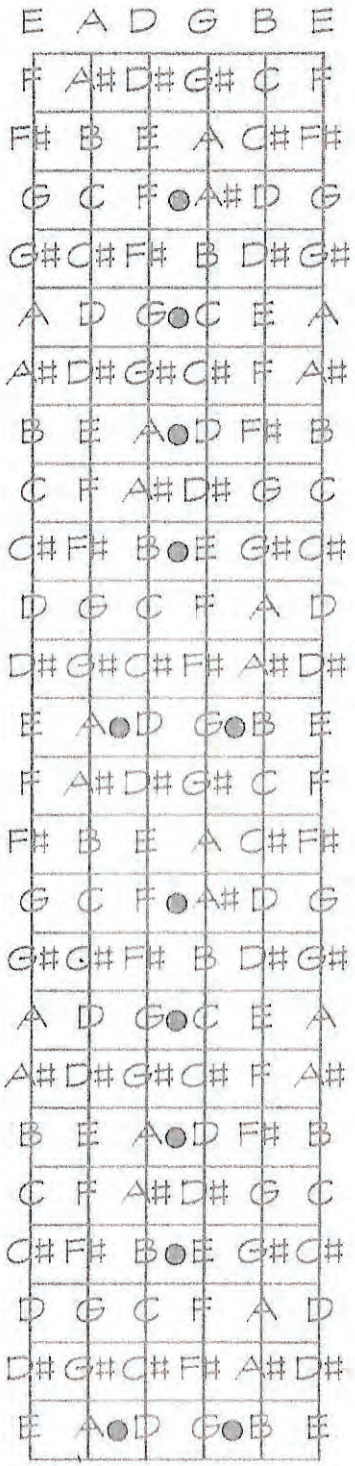
1. Heptatonic 7-8 notes approach
2. Pentatonic 5-6 notes approach
3. Arpeggios 3-4-5 note approach
4. Triads 3 note approach
5. Intervals 2 note approach

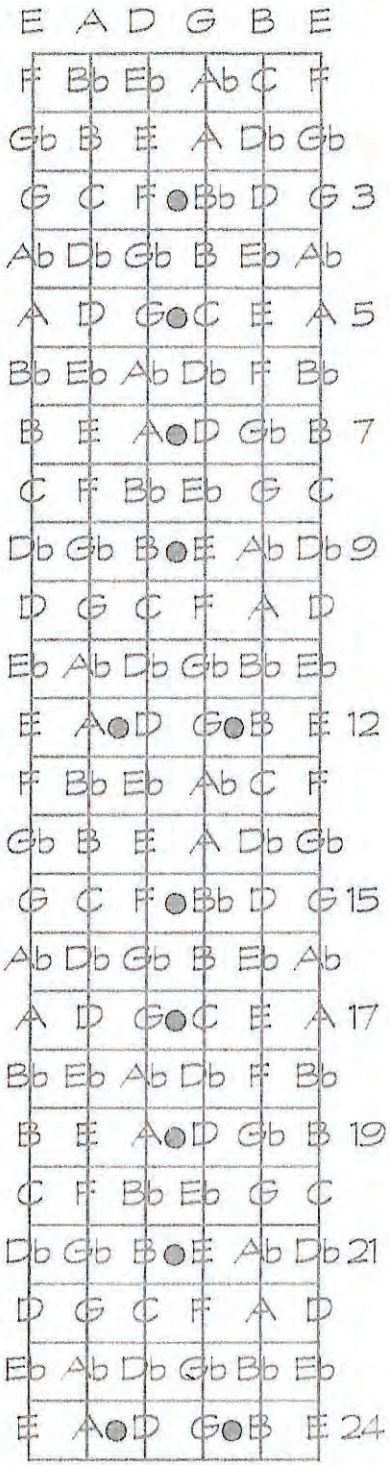
The Neck-Master

FOR GUITAR

Clear - View Reference Charts







Intervals

The difference in pitch between any two notes is called an *interval*. The interval is the same whether the notes are sounded together or one after the other.

Every different interval has its own specific sound quality. This is determined by the ratio between the frequencies of the two notes. We have seen how each note produces a harmonic series, made up of its fundamental plus a kind of "sound spectrum" of overtones or upper partials. Sounding two notes together, therefore, has the effect of combining two fundamentals and their two harmonic spectrums. The result is the creation of a third harmonic series – and it is this that is responsible for the specific sound of any interval.

In the case of two notes with the same pitch, the two harmonic series are doubled – this is called a *unison*. In the case of two notes an octave apart, the two harmonic series reinforce one another – this is the *octave*.

How intervals are named

Intervals can be identified by their position in the diatonic scale. The most fundamental of all intervals is, of course, the octave; it determines the first and last notes. All other intervals are then named according to their distance from the first note of the scale (the "tonic" or "root" note). They are called *seconds, thirds, fourths, fifths, sixths* and *sevenths*.

This system covers the eight notes (including the octave) that make up the diatonic major scale. However, as we have seen, the octave is divided into twelve semitones, producing thirteen different notes (including the octave). Since each of these has its own sound characteristic, there is a system of names which further defines each interval as being *perfect, major, minor, augmented* or *diminished*.

Of the diatonic intervals, the term "perfect" applies to the unison, the fourth, the fifth and the octave. The second, third, sixth and seventh intervals may be either "major" or "minor". The interval between the fourth and fifth is called the "tritone".

Because of enharmonic spellings, the same physical interval can have more than one name, so the tritone is called either an augmented fourth or a diminished fifth.

Here are the rules for identifying intervals.

- A major interval lowered by a semi-tone becomes a minor interval.
- A minor interval raised by a semi-tone becomes a major interval.
- A major interval raised by a semi-tone becomes an augmented interval.
- A minor interval lowered by a semi-tone becomes a diminished interval.
- A perfect interval raised by a semi-tone becomes an augmented interval.
- A perfect interval lowered by a semi-tone becomes a diminished interval.

Compound intervals

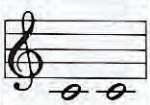
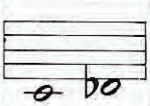
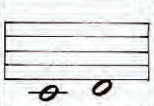
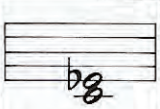
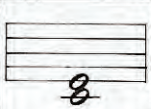
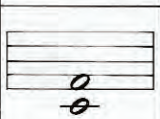
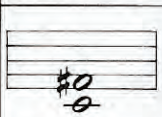
When the notes extend beyond the range of one octave, the diatonic scale numbering system simply continues.

- When the second is an octave higher, it is called a *ninth*. It is major naturally, minor if lowered, and augmented if raised.
- When the third is an octave higher, it is called a *tenth*. It can be major or minor.
- When the fourth is an octave higher, it is called an *eleventh*. It can be perfect, augmented or diminished.
- When the sixth is an octave higher, it is called a *thirteenth*. It can be major, minor or augmented.

Consonance and dissonance

The different sound quality possessed by each interval can be defined by using the terms *consonant* and *dissonant*. The reason for this is that some intervals seem to have a smooth, satisfying sound. These are the unison, the thirds, the fifth, the sixth and the octave. They are called either "open" or "soft" consonances. Others have an unsatisfying, "un-resolved" sound. These are the second and the seventh. They are called either "sharp" or "mild" dissonances. The fourth can be either consonant or dissonant. The tritone has an ambiguous quality which is considered neutral or restless on its own, but dissonant in a diatonic context.

Interval chart

							Enharmonic
Numerical symbol	I (1st)	ii (♭2nd)	II (2nd)	iii (♭3rd)	III (3rd)	IV (4th)	IV+ (♯4th)
Degree	Tonic	Supertonic		Mediant		Sub-dominant	Tritone
Pitch in key of C	C	D♭	D	E♭	E	F	F♯
Intervals from C	 C to C	 C to D♭	 C to D	 C to E♭	 C to E	 C to F	 C to F♯
Distance of interval	Zero	1 semi-tone	2 semi-tones	3 semi-tones	4 semi-tones	5 semi-tones	6 semi-tones
Name of interval	Unison	Minor second	Major second	Minor third	Major third	Perfect fourth	Augmented fourth
Sound characteristic	Open consonance	Sharp dissonance	Mild dissonance	Soft consonance	Soft consonance	Consonance or dissonance	Neutral or

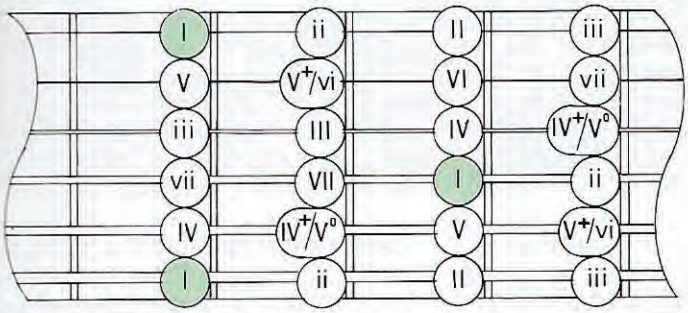
Fingerboard intervals

Intervals are the building blocks of all chords. If you are to understand the role of intervals in harmony and chord construction, you must learn to identify their sound by ear. They are set out in the large chart below, together with the names by which they are known.

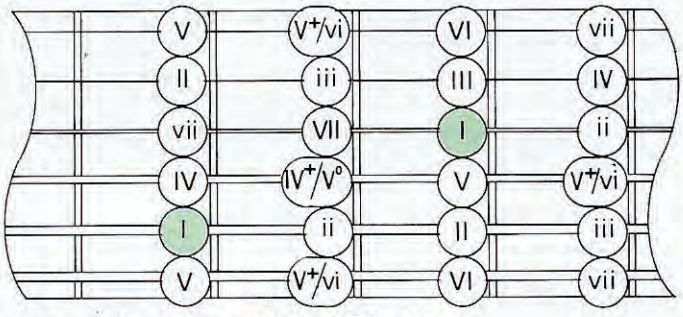
The characteristic sound of each interval is always the same, whatever the two notes involved. So a minor third from C to E♭, for example, has the same sound quality as a minor third from D to F. A pattern of intervals can be plotted out on the guitar fingerboard. The pattern remains consistent wherever it is played. Any note can be considered as the tonic or root, and all the other intervals will then relate to this note. When playing in a specific key, the name of the key is the name of the tonic or root note.

Let's take an example. If you play the first pattern (below left) with your 1st finger on the 3rd fret of the 6th string, this identifies the tonic or root note as a G. All the other intervals then relate to G. If you start on the 5th fret, the tonic or root note will be an A. These patterns are invaluable for working out scale and chord fingerings.

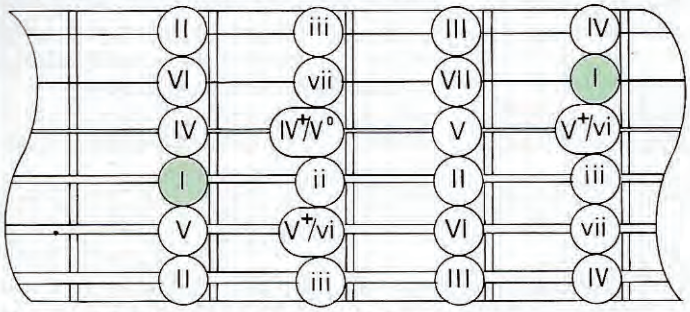
Roman numerals are used to symbolize intervals in the same way as they are for chords (see p. 76). The only difference is that upper-case numerals are used specifically for major and perfect intervals, lower-case numerals are introduced for minor intervals, a plus sign means an augmented interval, and a small circle indicates a diminished interval.



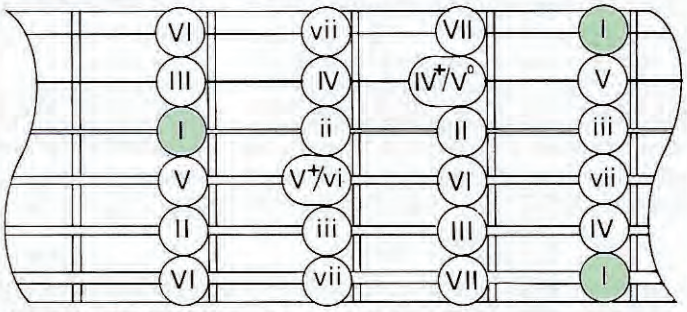
Root note (1st finger) anywhere on 6th string



Root note (1st finger) anywhere on 5th string



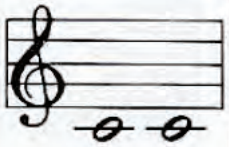
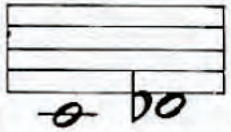
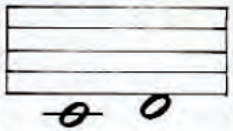
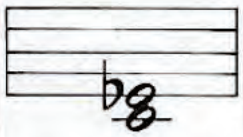
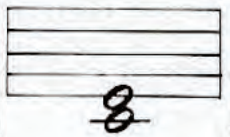
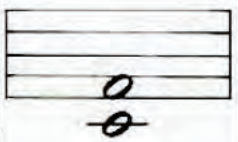
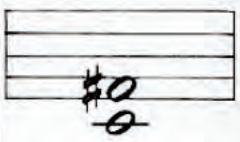
Root note (1st finger) anywhere on 4th string

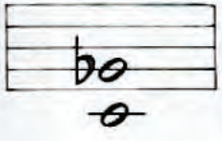
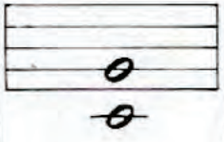
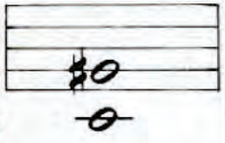
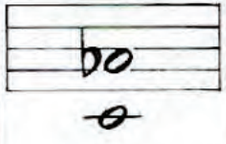
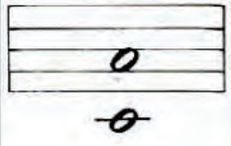
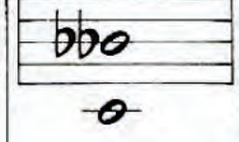
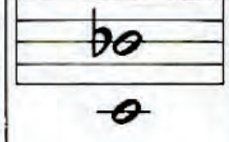
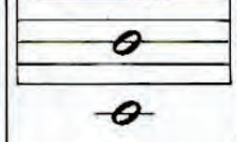
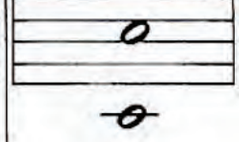


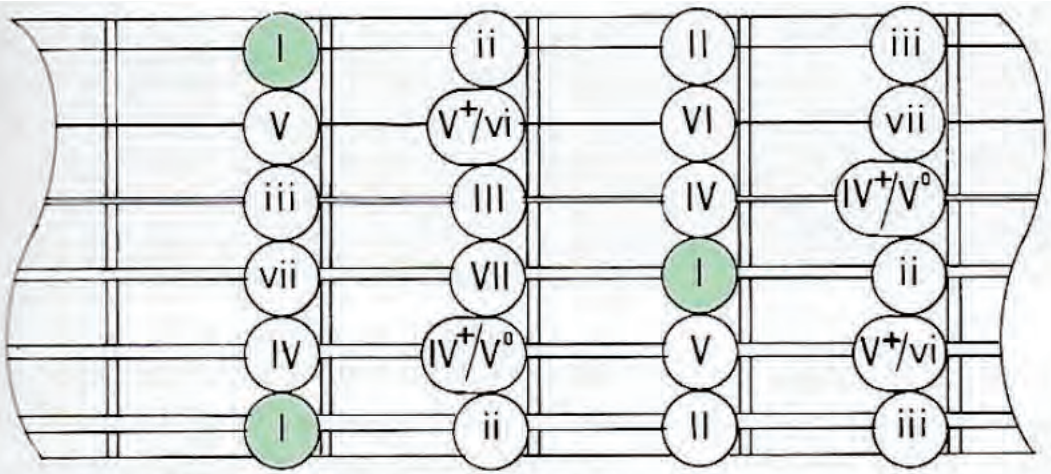
Root note (1st finger) anywhere on 3rd string

Enharmonic		Enharmonic		Enharmonic				
V° (♭5th)	V (5th)	V+ (♯5th)	vi (♭6th)	VI (6th)	vii° (♭♭7th)	vii (♭7th)	VII (7th)	I (1st)
Tritone	Dominant	Sub-mediant				Sub-tonic	Leading note	Tonic
G♭	G	G♯	A♭	A	B♭♭	B♭	B	C
C to G♭	C to G	C to G♯	C to A♭	C to A	C to B♭♭	C to B♭	C to B	C to C
6 semi-tones	7 semi-tones	8 semi-tones		9 semi-tones		10 semi-tones	11 semi-tones	12 semi-tones
Diminished fifth	Perfect fifth	Augmented fifth	Minor sixth	Major sixth	Diminished seventh	Minor seventh	Major seventh	Octave (8va)
restless	Open consonance	Soft consonance		Soft consonance		Mild dissonance	Sharp dissonance	Open consonance

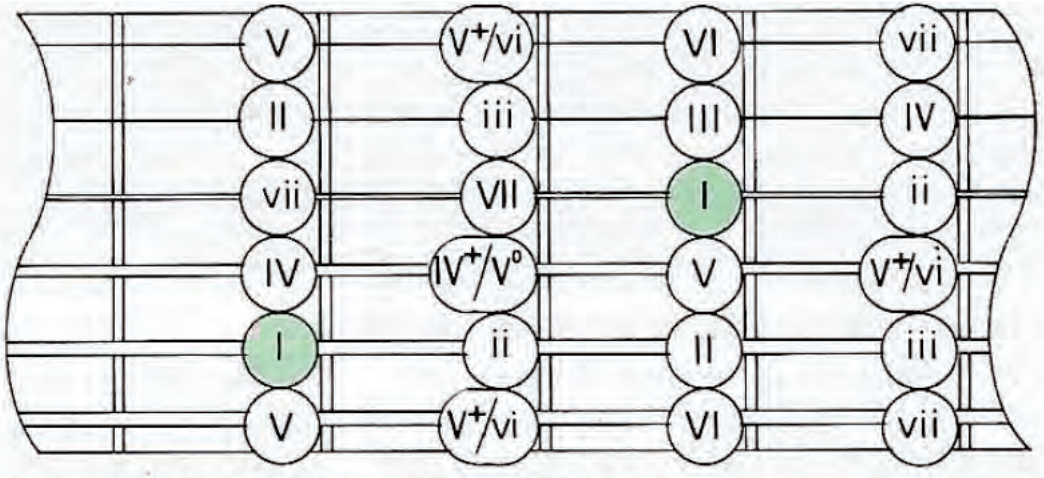
Interval chart

							Enharmonic
Numerical symbol	I (1st)	ii (♭2nd)	II (2nd)	iii (♭3rd)	III (3rd)	IV (4th)	IV+ (♯4th)
Degree	Tonic	Supertonic		Mediant		Sub-dominant	Tritone
Pitch in key of C	C	D♭	D	E♭	E	F	F♯
Intervals from C	 C to C	 C to D♭	 C to D	 C to E♭	 C to E	 C to F	 C to F♯
Distance of interval	Zero	1 semi-tone	2 semi-tones	3 semi-tones	4 semi-tones	5 semi-tones	6 semi-tones
Name of interval	Unison	Minor second	Major second	Minor third	Major third	Perfect fourth	Augmented fourth
Sound characteristic	Open consonance	Sharp dissonance	Mild dissonance	Soft consonance	Soft consonance	Consonance or dissonance	Neutral or

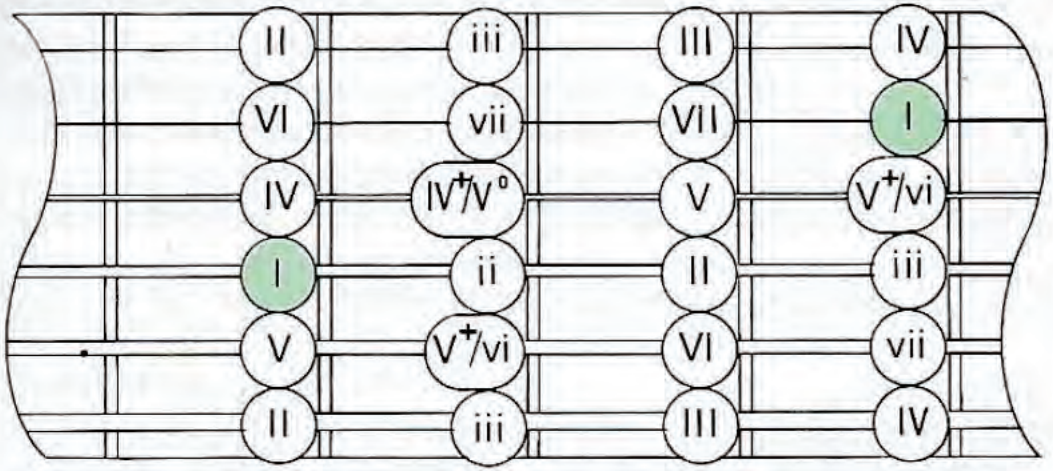
Enharmonic		Enharmonic		Enharmonic				
V° (♭5th)	V (5th)	V+ (♯5th)	vi (♭6th)	VI (6th)	vii° (♭♭7th)	vii (♭7th)	VII (7th)	I (1st)
Tritone	Dominant	Sub-mediant				Sub-tonic	Leading note	Tonic
G♭	G	G♯	A♭	A	B♭♭	B♭	B	C
								
C to G♭	C to G	C to G♯	C to A♭	C to A	C to B♭♭	C to B♭	C to B	C to C
6 semi-tones	7 semi-tones	8 semi-tones		9 semi-tones		10 semi-tones	11 semi-tones	12 semi-tones
Diminished fifth	Perfect fifth	Augmented fifth	Minor sixth	Major sixth	Diminished seventh	Minor seventh	Major seventh	Octave (8va)
restless	Open consonance	Soft consonance		Soft consonance		Mild dissonance	Sharp dissonance	Open consonance



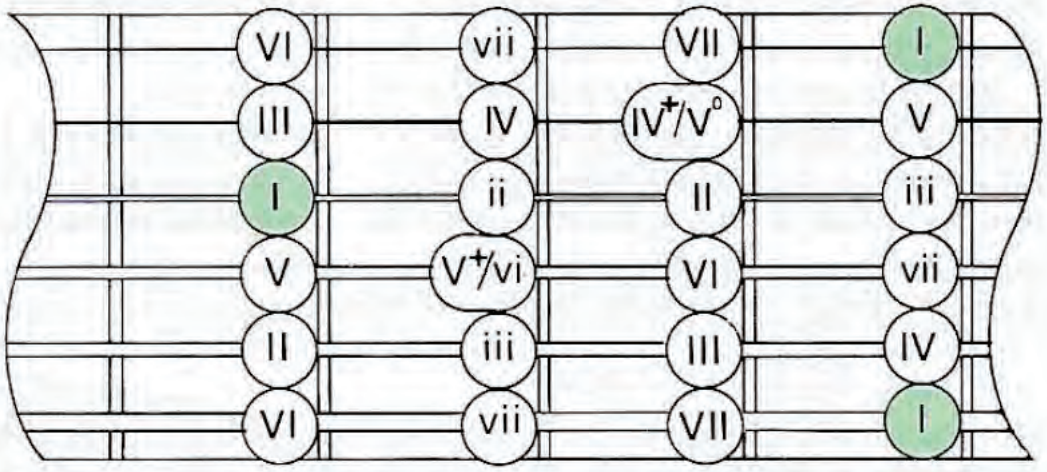
Root note (1st finger) anywhere on 6th string



Root note (1st finger) anywhere on 5th string



Root note (1st finger) anywhere on 4th string



Root note (1st finger) anywhere on 3rd string

Technique: Chromatic Scale based Digital Pattern Exercises

Fingerings: 1 = index, 2 = middle, 3 = ring, 4 = pinky.
Play vertically, horizontally, and diagonally.

1234	2134	3124	4123
1243	2143	3142	4132
1324	2314	3214	4213
1342	2341	3241	4231
1423	2413	3412	4312
1432	2431	3421	4321

The minor scales

There are three different minor scales – the *natural* or *relative minor* scale, the *harmonic minor* scale and the *melodic minor* scale.

Each has its own individual step-pattern, but they all share one feature that differentiates them from the major scale. The interval between the 1st and 3rd notes in the scale is always a tone and a half (one whole-tone plus one semi-tone). This interval is called a *minor third*, and it contrasts with the *major third* interval (two tones) characteristic of the major scale. The minor scales differ from each other in terms of whether the 6th and 7th steps of the scale are raised (sharpened) or whether they are not.

The principle and formation of minor scales are easier to understand if we start by looking at how the natural minor scale is *related* to the major scale, and then go on to see how it is *altered* to produce the harmonic and melodic minor scales.

How to work out natural minor scales

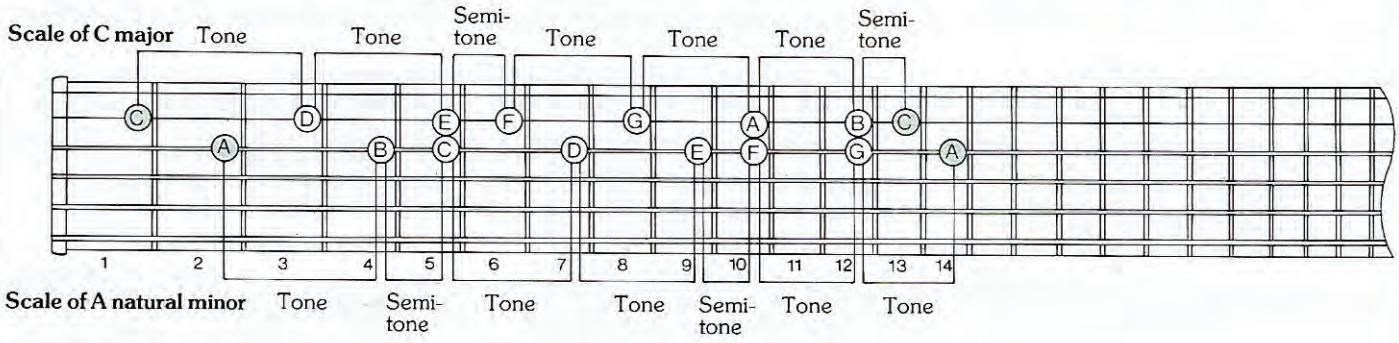
Just as the "Ionian Mode" was the predecessor of the major scale, the natural minor scale is derived from what was called the "Aeolian Mode" (see p. 110). Both these modes were diatonic scales – played only on the white notes of the keyboard. But, whereas the Ionian started on C, the Aeolian started on A.

This means that the notes of the two scales are the same. However, because the natural minor scale has a different starting point, it has its own step-pattern: tone (1st note to 2nd), semi-tone (2nd to 3rd), tone (3rd to 4th), tone (4th to 5th), semi-tone (5th to 6th), tone (6th to 7th), tone (7th to 8th). The 8th note is the octave.

Compare the C major and the A minor scales. You will see that the 3rd note of the minor scale is the 1st note of the major scale (it is a C), and that the 6th note of the major scale is the 1st note of the minor scale (it is an A). This relationship is the key to understanding the connection between major and minor scales. Each major scale has a *relative* natural minor scale, and each minor scale has a relative major scale.

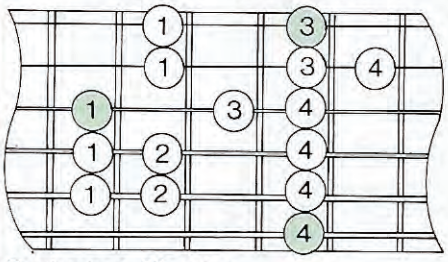
Working out the relative scales is easy. It is three semi-tones *down* from the major to the minor, and three semi-tones *up* from the minor to the major.

The major scale and its relative natural minor scale share the same "key signature" (see p. 108). They therefore share the same notes. However, because they start at different places, they have a different step-pattern and a different sound.



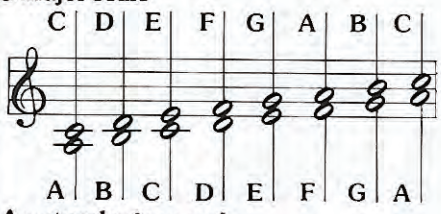
The C major and natural A minor scales
The natural minor scale in A is the relative minor of C major. It contains the same notes as the scale of C major but starts from A. It is plotted here on the 3rd string of the guitar, starting from A three semi-tones below C (2nd string, 1st fret). You will see how the step-pattern therefore differs.

Natural minor scale fingering pattern



Root note on 6th string

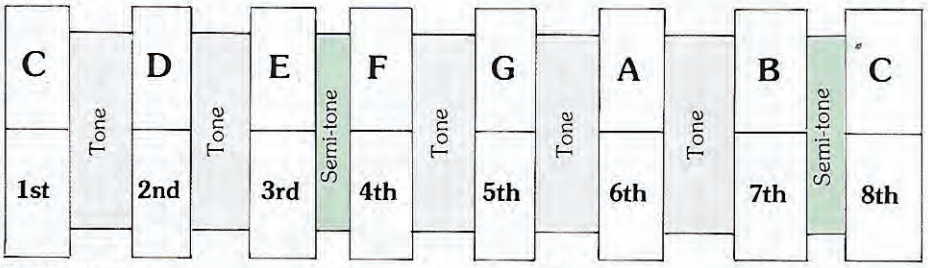
C major scale



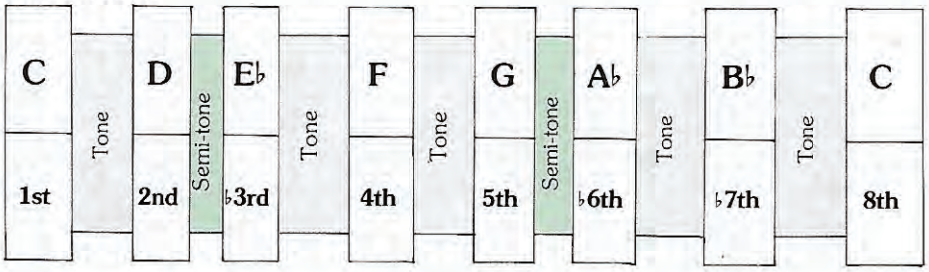
A natural minor scale

How the C natural minor scale differs from the C major scale

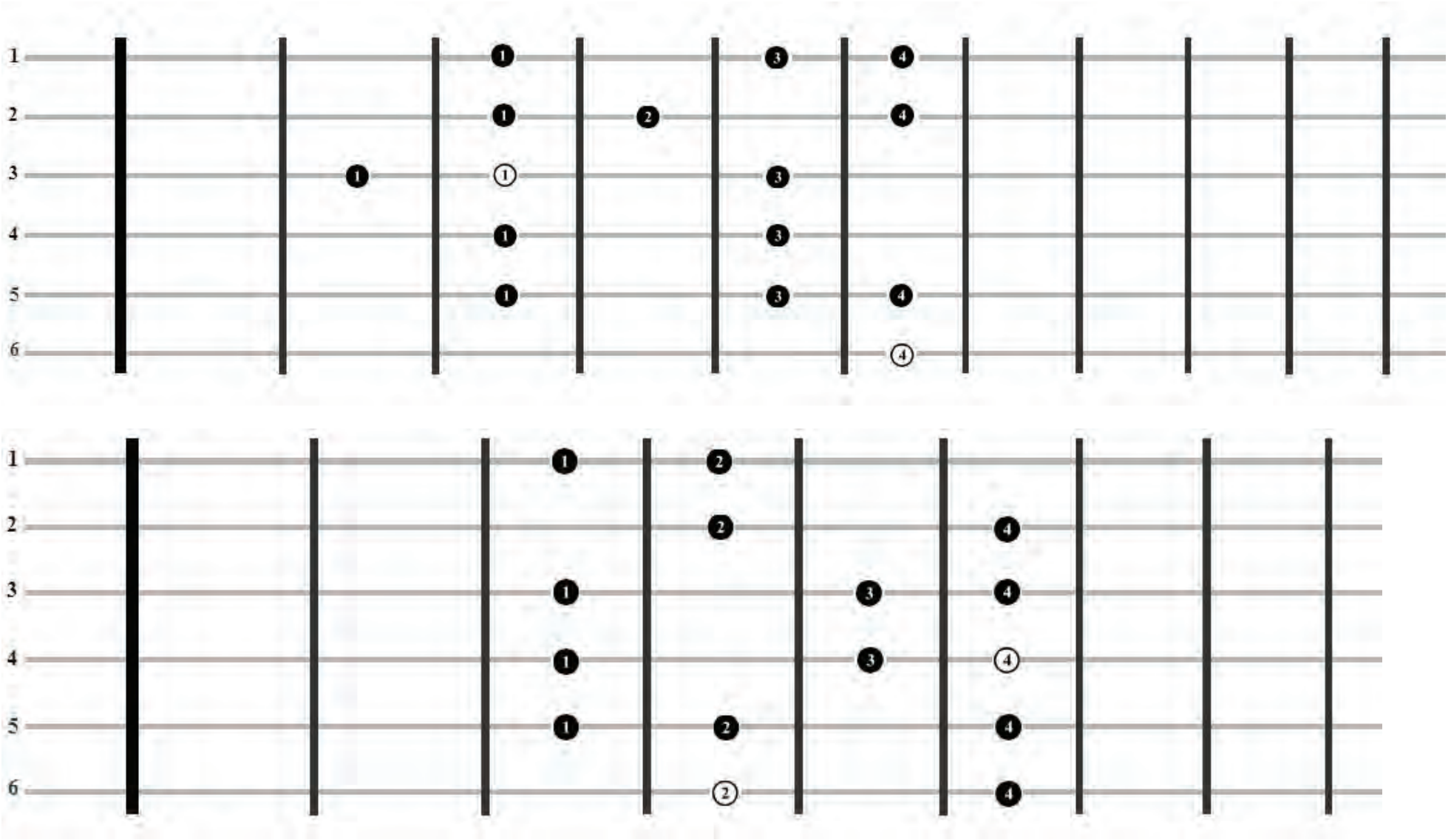
C major

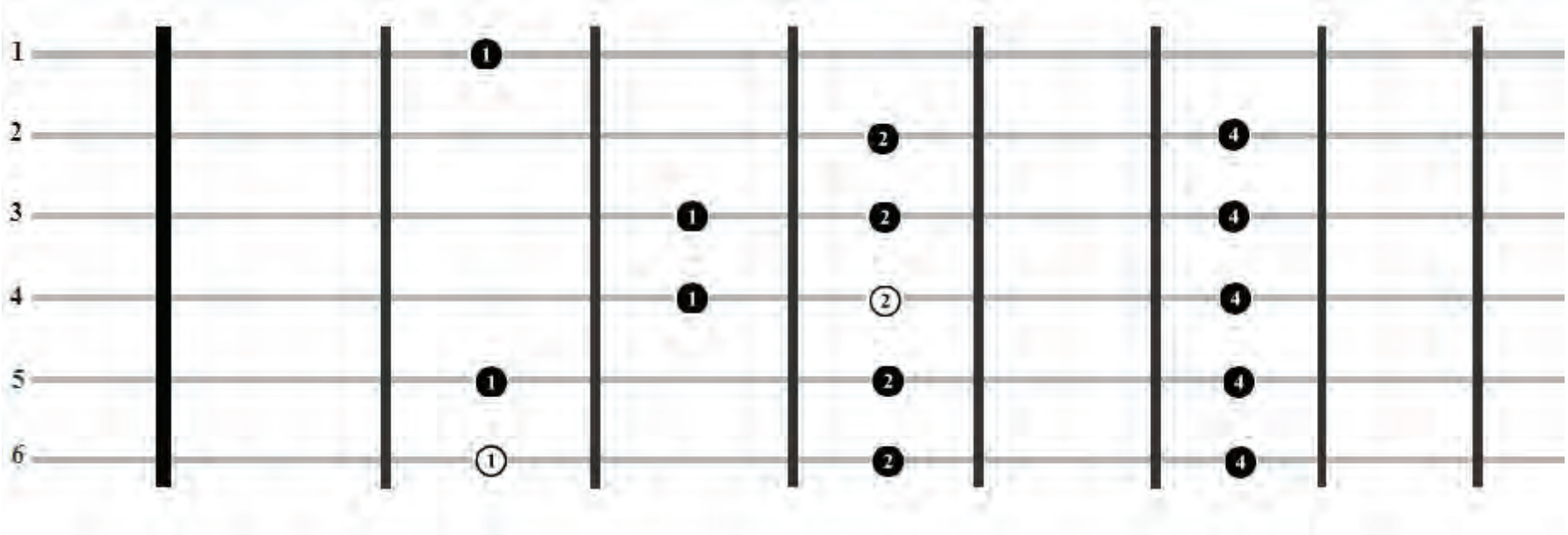


C natural minor



Major Scale Patterns

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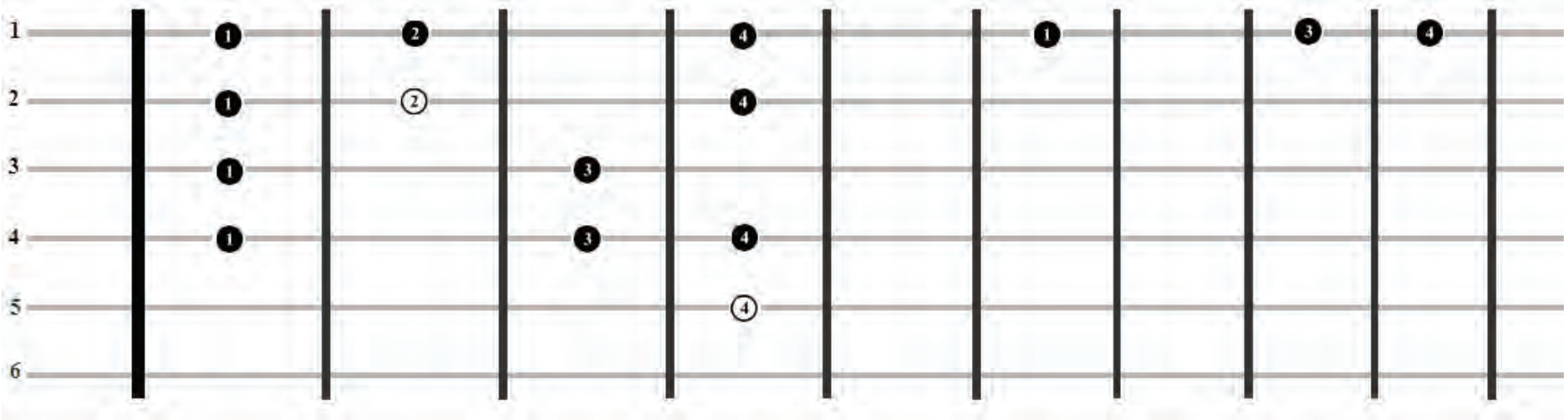
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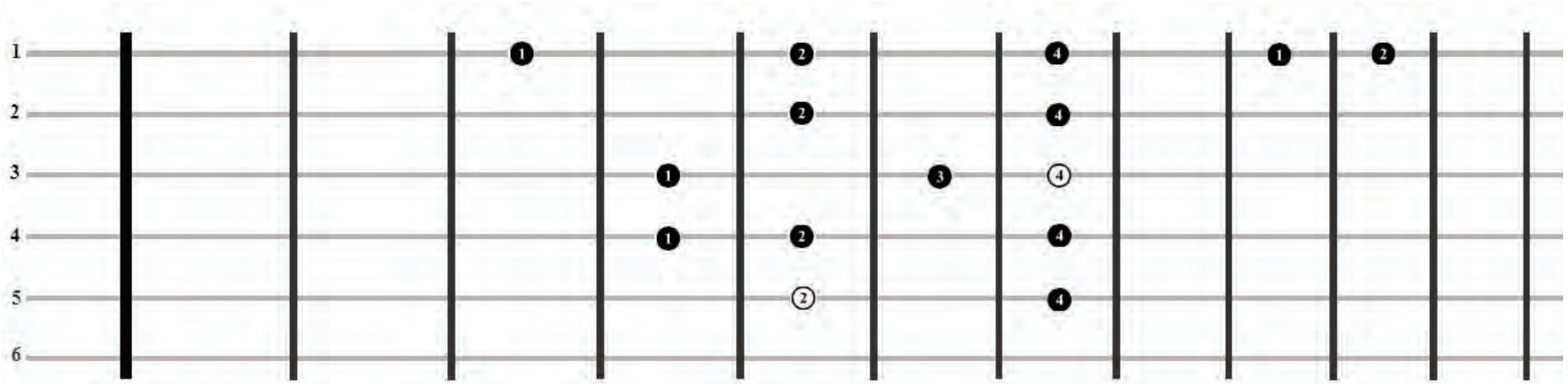
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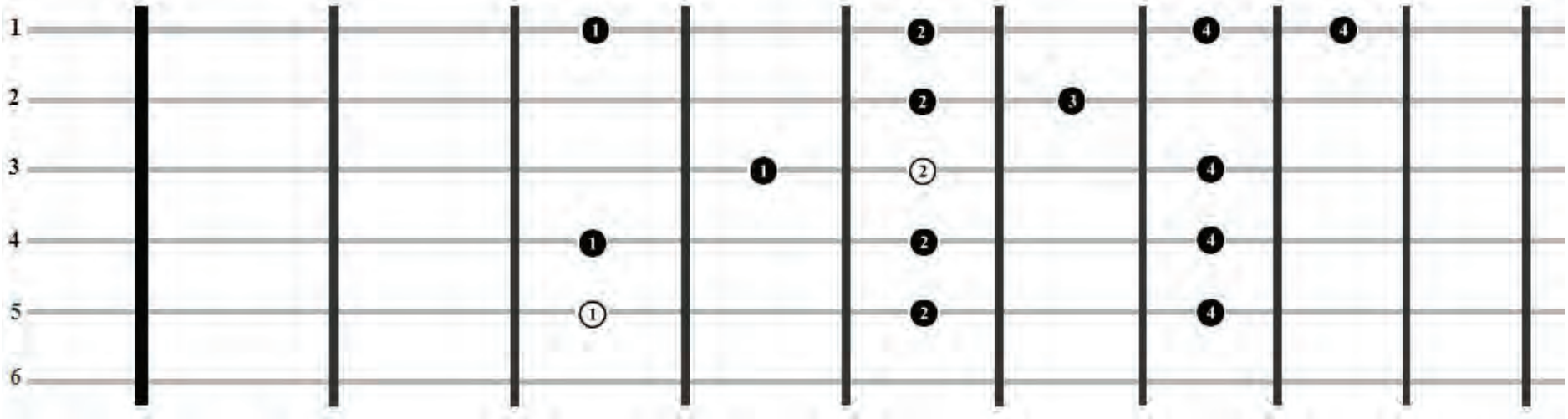
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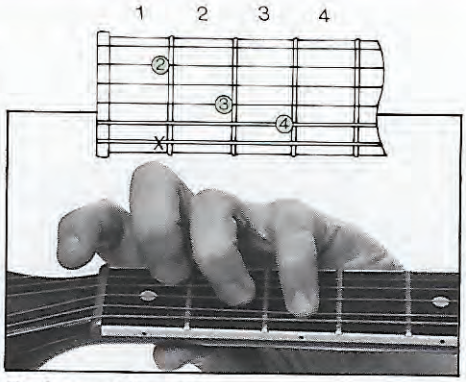
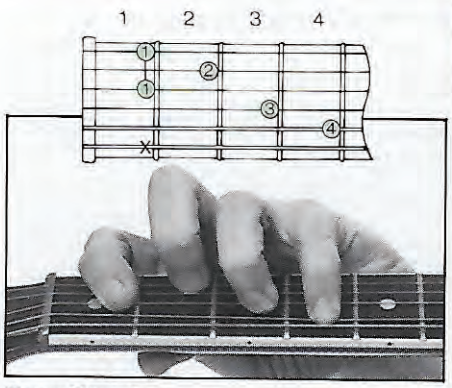
C shape barre chords

The third movable barre form is derived from the simple open C chord (see p. 75). The technique is the same as when building other barre chords. You simply re-finger the basic shape so that your 1st finger can play the barre behind your other fingers. The root note of all barre chords based on this shape is on the 5th string and it is played by the 4th finger, not the 1st finger. C shape barre chords are more difficult to play than those derived from the E shape or A shape. The relatively weak 4th finger has to hold down the bass string – involving a considerable stretch, especially at the lower end of the fingerboard where the frets are noticeably further apart.



Re-fingered C major
This form frees 1st finger so that it can play barre. As with standard form of open C major, 6th string is not included in chord.

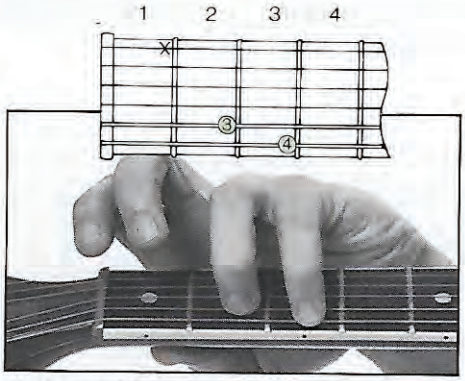


Barre C♯ major
Moved one fret up, with two-finger barre on 1st and 3rd strings. Root note on 5th string is played by 4th finger.

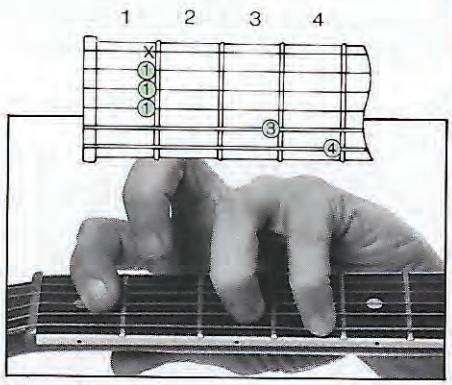
G shape barre chords

The fourth, and last, of the different movable barre forms comes from the simple open G chord (see p. 75). However, the 1st string is not used. All G shape barre chords have their root note on the 6th string – played by the 4th finger, not the 1st finger. Instead, the 1st finger holds down a barre only on the 2nd, 3rd and 4th strings.

Of the four movable barre chords, the G shape is probably the least used, but it is worth learning, if only to understand how it works. It can be handy when used with the C shape, it is a useful shape from which to move to other chords nearby, and it is a good basic position on which to build various "extended" chords.



Re-fingered G major
1st finger is freed to play barre, but 1st string is deadened.



Barre G♯ major
Moved one fret up, with three-finger barre on 2nd, 3rd and 4th strings. Root note on 6th string is played by 4th finger.

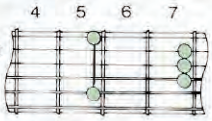
The four barre chord shapes summarized

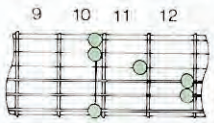
By now it should be apparent that, by using the four barre chord shapes, any major chord can be played in four different places on the fingerboard – more if you go beyond the 12th fret and repeat the fingerings an octave higher. All you have to do is locate the root note and build the right barre chord shape around it.

By way of an example, the illustration below plots out on the fingerboard the positions in which you can play the chord of D major. Its simplest open form is shown at the bottom of the fingerboard. At the 5th fret on the 5th string, the D note can be used as the root note for an A shape barre, and, at the 10th fret on the 6th string, another D forms the root note for a G shape barre and an E shape barre. The C shape barre is rooted on the D at the 17th fret of the 5th string. This gives a chord one octave above the simple open form. Compare these two shapes and you will see how the open D chord fingering is, in fact, a part of the fingering based on the C shape barre form.

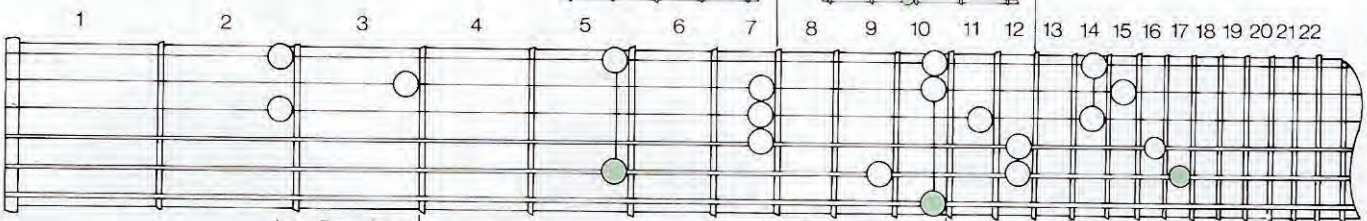
Example: five ways to play D major

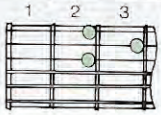
Barre A shape
Root note: 5th fret on 5th string.



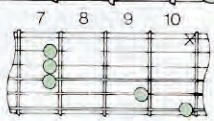


Barre E shape
Root note: 10th fret on 6th string.

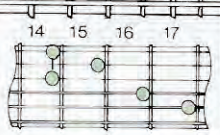




Open D shape
Root note: open 4th string.



Barre G shape
Root note: 10th fret on 6th string.



Barre C shape
Root note: 17th fret on 5th string.

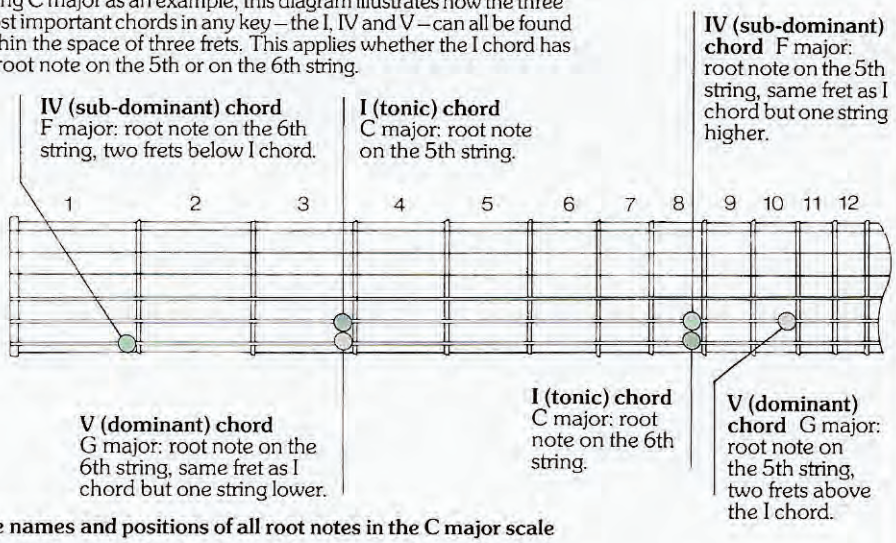
Barre chord relationships

The best way to incorporate barre chords into your playing is to start using them immediately in chord progressions. And the best way to do this is to go back to the "three-chord theory" (see p. 76). As soon as you apply the I-IV-V rule to barre chords, you will come up against a surprising – and useful – fact: the root notes are always within three frets of each other, whatever key you are in and whether you build the I chord on the 5th string or the 6th string. The diagram below illustrates this principle with the I-IV-V chords in the key of C major.

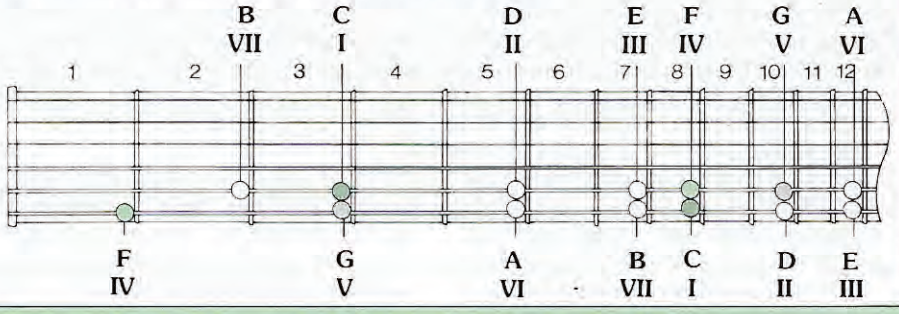
The second diagram shows where all the other chords built on a major scale can be found in relation to the tonic (I) chord – again in C major, since it has no sharps or flats. It is worth remembering that the VI chord, the "relative minor" can always be found three frets below the I chord on the same string. So, as an example, A minor is played with its root note on the 5th fret of the 6th string – three frets below its tonic (I) chord, C major, played on the 8th fret.

It should now be obvious that you *must* learn the names of the notes on each fret of the 5th and 6th strings. Once you have memorized these, you should have no problem putting together sequences of barre chords in any key.

The position of root notes for I-IV-V barre chords
Using C major as an example, this diagram illustrates how the three most important chords in any key – the I, IV and V – can all be found within the space of three frets. This applies whether the I chord has its root note on the 5th or on the 6th string.



The names and positions of all root notes in the C major scale



Barre minor sevenths and major sevenths

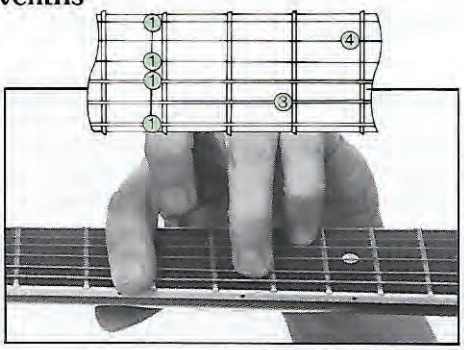
So far we have only dealt with three types of chords – the major, the minor and the seventh. But, if you look at any page in the *Chord Dictionary* (see pp. 225-49), you will see that there are five different chords in the first column of each key. Generally, these are the five most commonly used chords.

The two we have not yet covered are the *minor seventh* and the *major seventh*. They can both be played as movable barre forms, with their root note on either the 5th string or the 6th string.

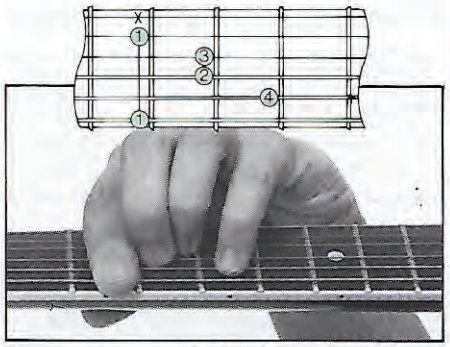
The minor seventh chord is derived from the minor chord by introducing an extra note. It therefore becomes a four-note chord instead of a three-note "triad". You can see from the illustrations here that this can be done simply by making a slight alteration to the fingering of the standard barre minor shapes.

The major seventh chord is also a four-note chord. It is derived from the major triad, but differs from the ordinary seventh chord in that the "interval" between the root note and the extra fourth note is not quite the same. It, too, can be played by slightly altering the barre major shapes.

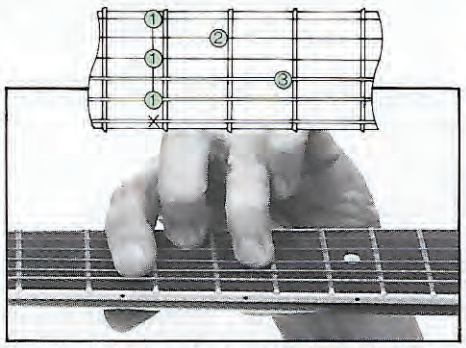
More details on the construction of these and other new chords appear later on pp. 126-9.



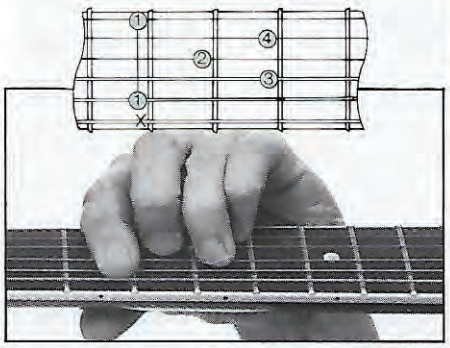
Barre minor seventh chord based on E shape
Movable form with root note on 6th string.



Barre major seventh chord based on E shape
Movable form with root note on 6th string.



Barre minor seventh chord based on A shape
Movable form with root note on 5th string.



Barre major seventh chord based on A shape
Movable form with root note on 5th string.

Barre chords

On p. 75, we showed you how to play fifteen basic beginner's chords. Over the next four pages, we introduce what are called *barre* chord shapes. Learning the simplest of these will increase your chord vocabulary from fifteen to over 150 chord fingerings.

Barre chords take their name from the role of the 1st finger. It acts as a "bar" across all six strings, replacing the nut, and thereby enabling you to adapt open-string chord shapes to any position on the fingerboard.

The key to understanding barre chords is to realize that they are *movable* forms. The same shape can be moved up and down the fingerboard, from one fret position to another, without altering the fingering at all, to give you any one of twelve different chords. The note at the fret on which the shape is built determines the name of the chord.

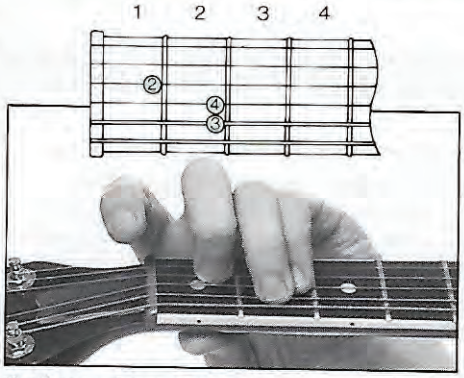
As soon as you start to work through the examples that follow, you will also see that, by using the various barre shapes, you can play one chord in several different places on the fingerboard. This demonstrates an important characteristic of the guitar. Being able to choose where you place a chord means that you can play any progression in a variety of ways, each producing a different sound.

There are four basic barre shapes, each derived from an open chord. The "E shape" is based on an open E major, the "A shape" on A major, the "C shape" on C major and the "G shape" on G major. The E shape and A shape can easily be adapted to give minor, seventh, minor seventh and major seventh barre forms.

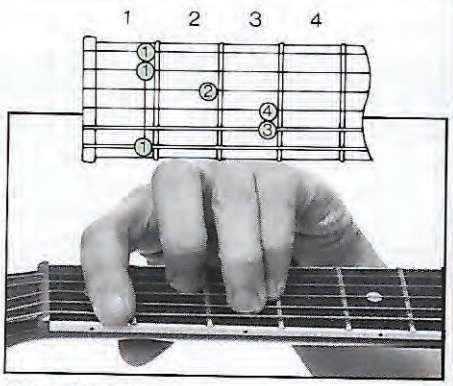
The 1st finger "barre"
The essence of E and A shape barre chords is that the 1st finger replaces the nut of the guitar – thus creating chord shapes which can be played anywhere on the fingerboard.

E shape barre chords

The principle of all barre chords is to take an open-chord fingering and transform it into a shape that can be moved up the fingerboard. Begin by playing a simple E major chord, the way you were shown on p. 75. Now, in order to release your 1st finger so that it can play the barre, you must change the fingering of the open chord. The second step is therefore to hold down the notes of the chord with your 2nd, 3rd and 4th fingers. The third step is to move this whole shape up one fret, bringing your 1st finger down behind the others and laying it right across the 1st fret so that it covers all six strings. This is the barre. The shape you are now holding is a chord of F major, the chord one fret up from an open E major. The F on the 6th string tells you its name.



Re-fingered open E major
In order to play a barre, the 1st finger must be free, so the chord is re-fingered: 2nd finger on the 1st fret of 3rd string; 4th finger on 2nd fret of 4th string; 3rd finger on 2nd fret of 5th string.



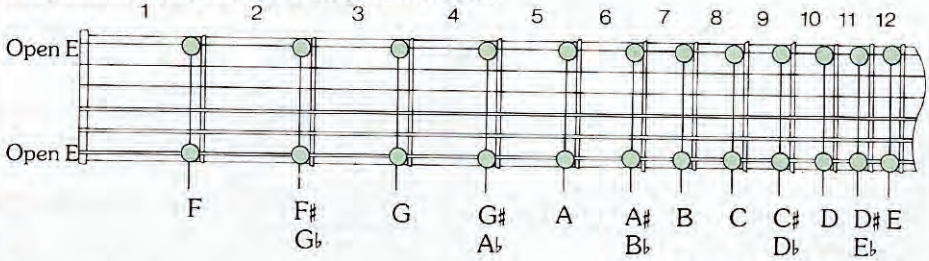
Barre F major
The basic E shape is moved up one fret and the 1st finger holds down a barre behind the other fingers: 1st finger plays barre on 1st fret of 1st, 2nd and 6th strings; 2nd finger on 2nd fret of 3rd string; 4th finger on 3rd fret of 4th string; 3rd finger on 3rd fret of 5th string.

How the E shape moves up the fingerboard

The root note of all E shape barre chords is on the 6th (E) string. When you play a simple open E major, the 6th string is played open – and the bottom E is the root note of the chord. When you play a barre F major, the 6th string is held down on the 1st fret. This gives the note F – and F is the root note of the F major chord.

On the guitar fingerboard, every fret represents a "semi-tone" (see p. 68). This means that, every time you move a barre shape up one fret, the name of the chord rises by a semi-tone. Moving the F barre shape up one fret gives you F♯ major; moving it up two frets gives you G major, and so on. At the 12th fret, you are playing E again.

The position of root notes for E shape barre chords

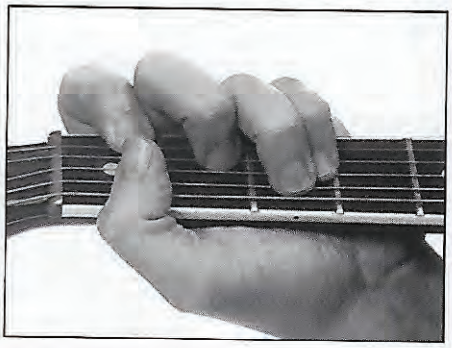


Root note on 6th string

At the 12th fret, the chord becomes E major again

Alternative fingering

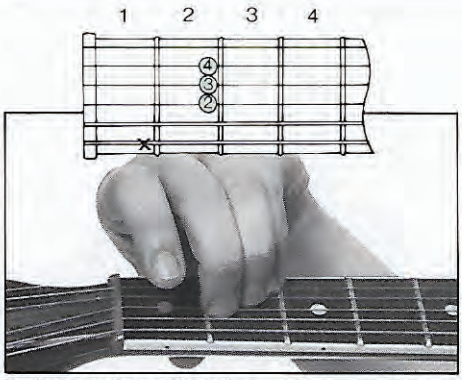
Many modern guitarists choose to use their thumb to fret the 6th string and play just a two-string barre on the top strings with their 1st finger. The thumb moves from its standard position in the middle of the back of the neck and is hooked over the top of the fingerboard as shown below. This allows the bass note to be damped or altered as well.



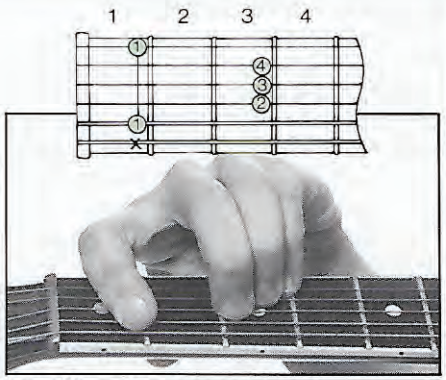
A shape barre chords

The simple open-string form of the A major chord is also a movable form which, when played with a barre, can be positioned anywhere on the fingerboard to produce any one of twelve different chords.

As with the E shape, the A also has to be re-fingered slightly in order to free the 1st finger so that it can play the barre (see right). Start with the re-fingered form, and then slide the whole shape up one fret so that your 1st finger plays a barre across the 1st fret. This will now have transformed the chord from an A major to a B♭ major.



Re-fingered open A major

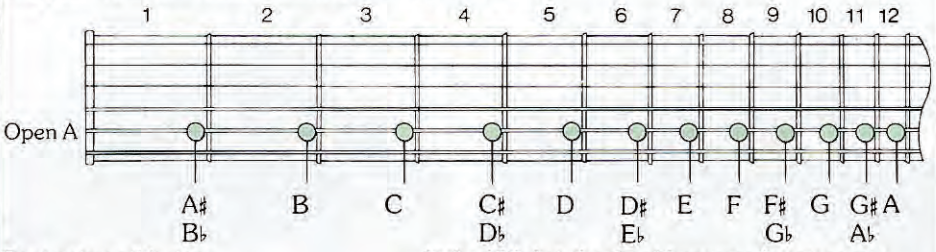


Barre B♭ major

How the A shape moves up the fingerboard

The root note of all A shape barre chords is on the 5th string. When you move up from an open A major to a barre B♭ major, the 5th string is held down by your 1st finger on the 1st fret. This gives the note B♭ – and B♭ is the root note of the B♭ major chord. Moving the B♭ chord up one more fret will give you a chord of B major, and so on up the fingerboard. In short, the note you are holding down on the 5th string will always tell you the name of the chord. At the 12th fret, you will be playing A again.

The position of root notes for A shape barre chords

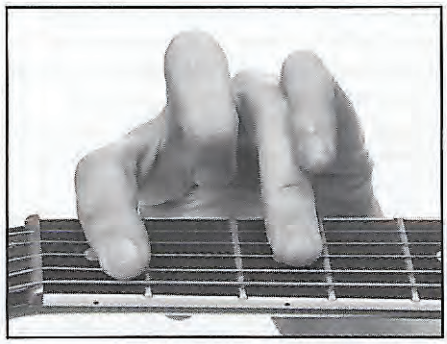


Root note on 5th string

At the 12th fret, the chord becomes A major again

Alternative fingering

The A shape barre chord is often played with a 3rd finger barre. The three notes on the 4th, 3rd and 2nd strings are held down by flattening the 3rd finger into a smaller "half" barre as shown below.

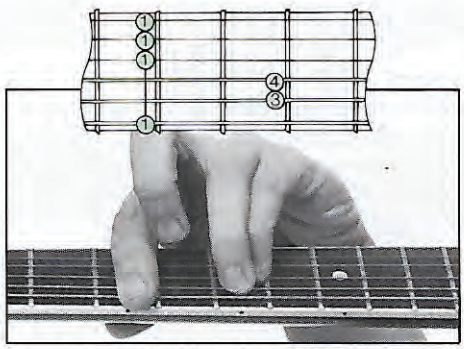


Barre minors and sevenths

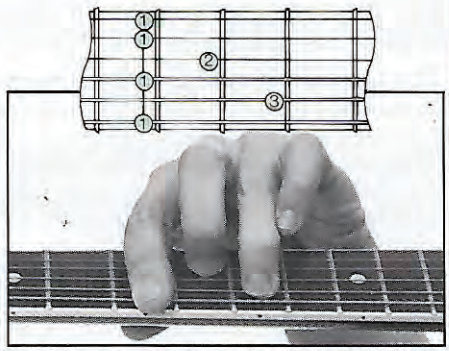
Movable barre shapes of minor and seventh chords are possible in exactly the same way as they are for the major chords. In some cases, they are even easier to play.

The simple E minor and E seventh chords shown in the beginner's chord dictionary on p. 75 are, in essence, slightly altered forms of the open-string E major chord. By re-fingering them slightly and using a 1st finger barre to take the place of the nut, they can be played anywhere on the fingerboard. The same holds for the A minor and A seventh chords; they, too, can be played as adapted forms of the A shape barre chord.

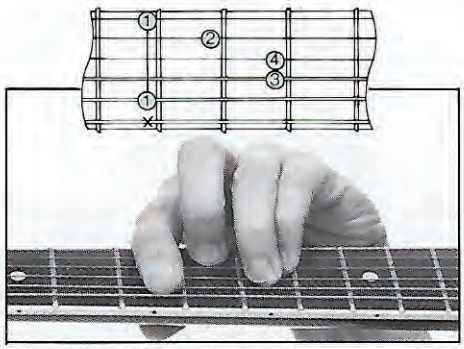
If you learn to play each bar chord variation in each position – and also memorize the notes on the 5th and 6th strings – you will find your chord vocabulary easily expanded to include twelve major chords, twelve minors and twelve sevenths based on the barre E shape, and twelve majors, twelve minors and twelve sevenths based on the barre A shape. Together, this gives you a total of 72 chord shapes – for 36 different chords. The *Chord Dictionary* (pp. 225-49) shows these chords in their correct positions, using all the barre shapes.



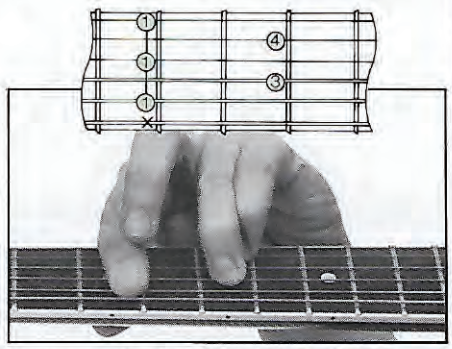
Barre minor chord based on E shape



Barre seventh chord based on E shape



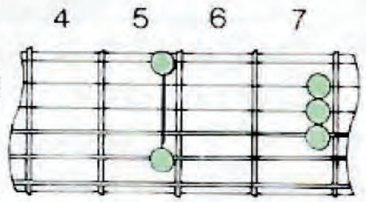
Barre minor chord based on A shape

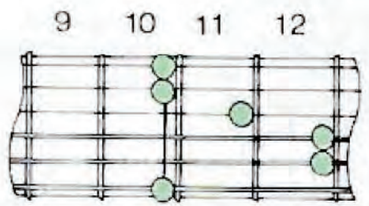


Barre seventh chord based on A shape

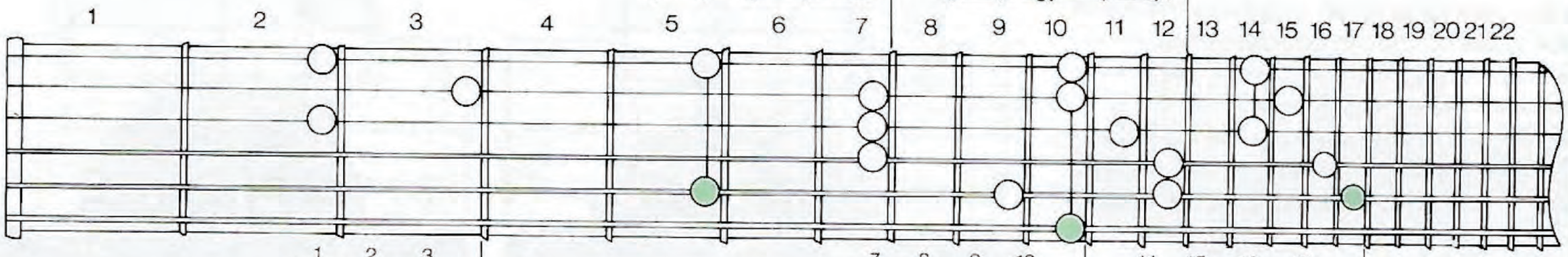
Example: five ways to play D major

Barre A shape
Root note: 5th fret on 5th string.

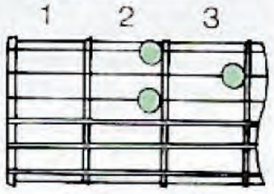




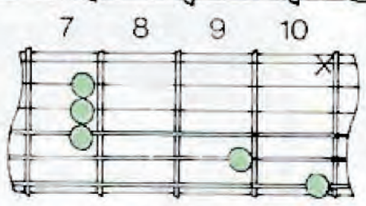
Barre E shape
Root note: 10th fret on 6th string.

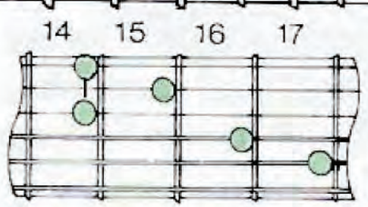


Open D shape
Root note: open 4th string.



Barre G shape
Root note: 10th fret on 6th string.

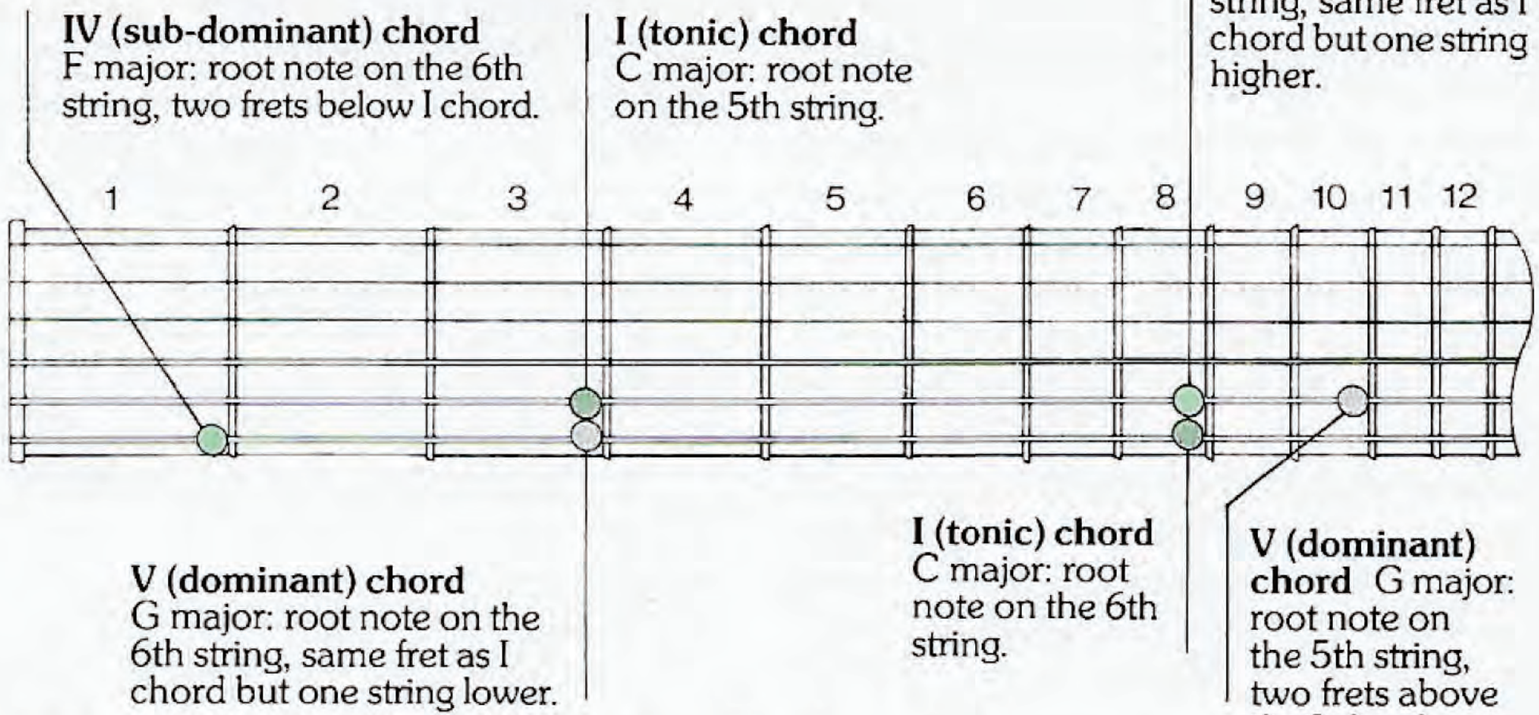




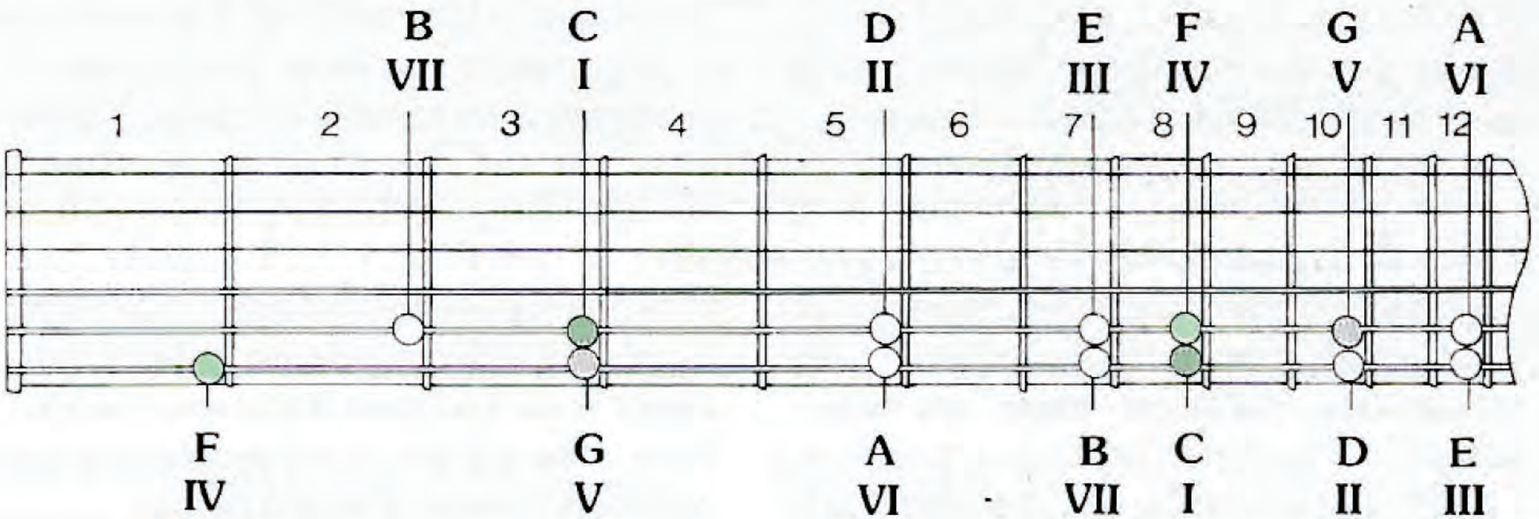
Barre C shape
Root note: 17th fret on 5th string.

The position of root notes for I-IV-V barre chords

Using C major as an example, this diagram illustrates how the three most important chords in any key – the I, IV and V – can all be found within the space of three frets. This applies whether the I chord has its root note on the 5th or on the 6th string.



The names and positions of all root notes in the C major scale



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Triads

Major	1 3 5
Minor	1 b3 5
Diminished	1 b3 b5
Augmented	1 3 #5
Suspended 4	1 4 5
Suspended 2	1 2 5
Flat 5	1 3 b5

Tetrads

Major 7	1 3 5 7
Major 7 #5	1 3 #5 7
Major 7 b5	1 3 b5 7
Dominant 7	1 3 5 b7
Dominant 7 #5	1 3 #5 b7
Dominant 7 b5	1 3 b5 b7
Minor Major 7	1 b3 5 7
Diminished Major 7 (Minor Major 7 b5)	1 b3 b5 7
Minor 7 b5	1 b3 b5 b7
Diminished 7	1 b3 b5 bb7
Minor 7	1 b3 5 b7
Minor 7 #5 (Minor 7 b6)	1 b3 #5(b6) b7
Dominant 7 sus 4	1 4 5 b7
Major 7 sus 4	1 4 5 7
Major 6	1 3 5 6
Minor 6	1 b3 5 6
Major add 9	1 3 5 9
Minor add 9	1 b3 5 9

Triads

Major	1 3 5
Minor	1 b3 5
Diminished	1 b3 b5
Augmented	1 3 #5
Suspended 4	1 4 5
Suspended 2	1 2 5
Flat 5	1 3 b5

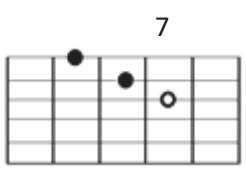
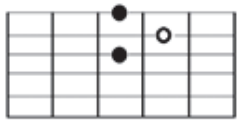
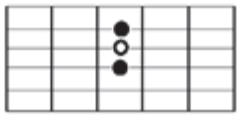
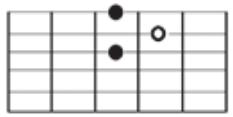
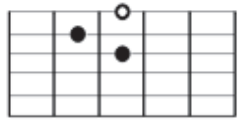
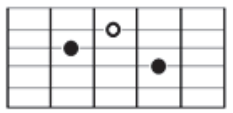
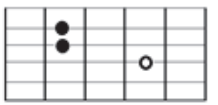
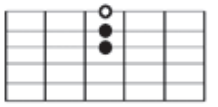
Still Got the Blues

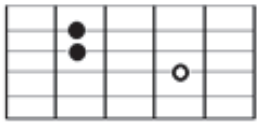
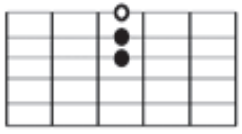
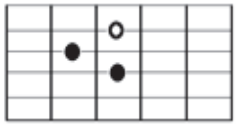
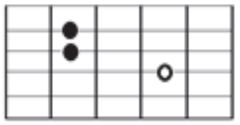
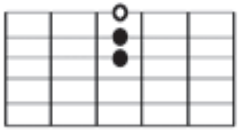
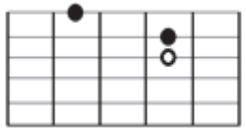
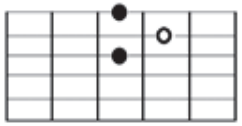
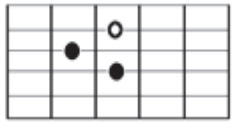
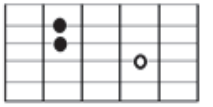
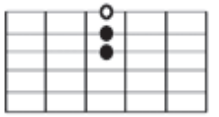
- Use only tri-chords on highest 4 strings
- Stay within one fret-range (there are a total of 3 for all 3 inversions)
- Play it in all 3 inversions

Dm D F A	G G B D	C C E G	F F A C	Bdim B D F	E E G# B	Am A C E

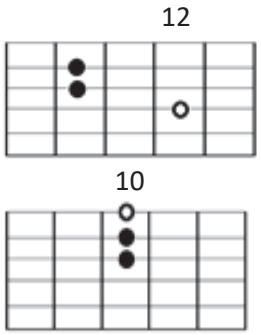
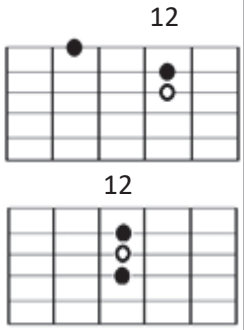
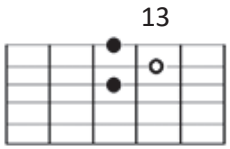
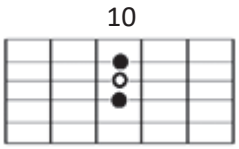
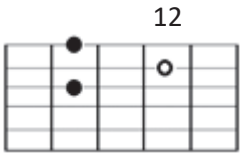
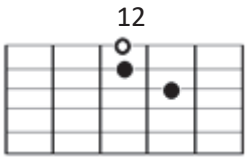
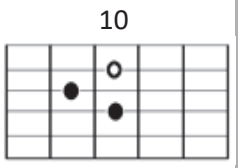
Am A C E	Em E G B	Am A C E	D D F# A	F F A C	Em E G B	Am A C E

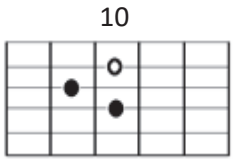
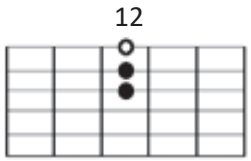
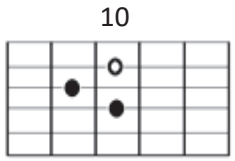
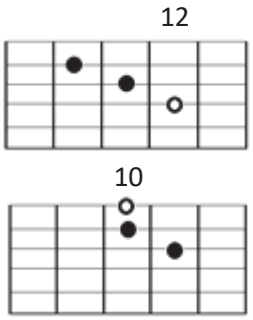
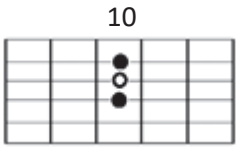
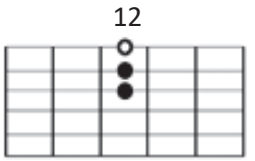
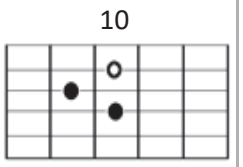
Version 1

Dm 7 	G 8 	C 5 	F 6 	Bdim 7 	E 5 	Am 7  5 

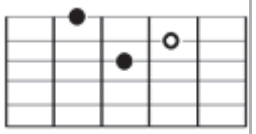
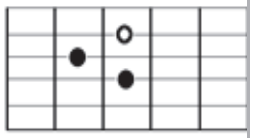
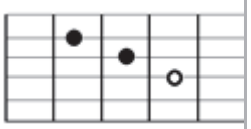
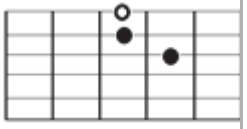
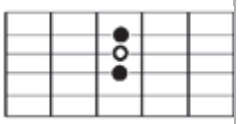
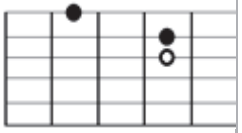
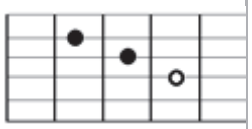
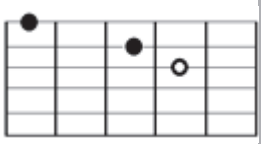
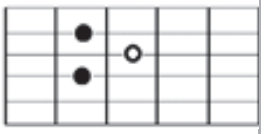
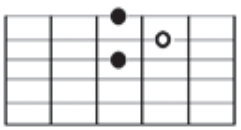
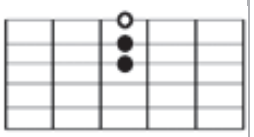
Am 7  5 	Em 5 	Am 7  5 	D 7 	F 6 	Em 5 	Am 7  5 

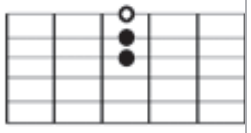
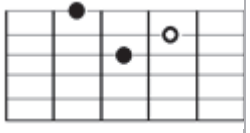
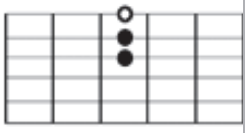
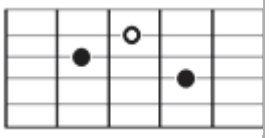
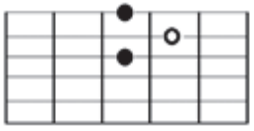
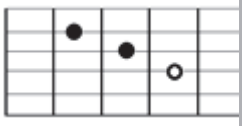
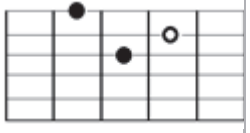
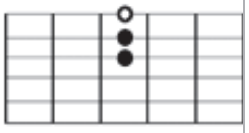
Version 2

Dm	G	C	F	Bdim	E	Am
						

Am	Em	Am	D	F	Em	Am
						

Version 3

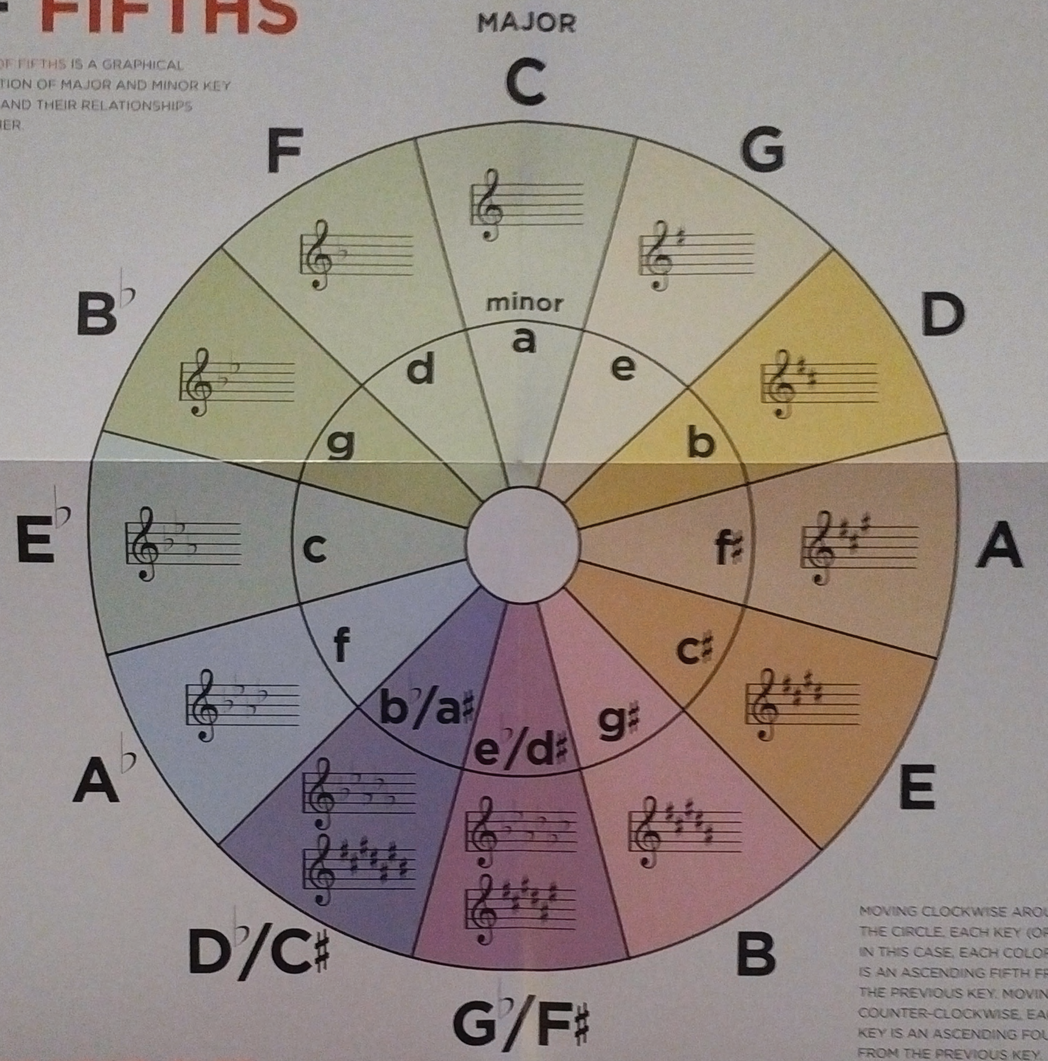
Dm	G	C	F	Bdim	E	Am
15  15 	17  15 	17  17 	15 	16  16 	17 	17 

Am	Em	Am	D	F	Em	Am
17 	17 	17 	15  15 	15 	17 	17 

THE CIRCLE OF FIFTHS

D'Addario

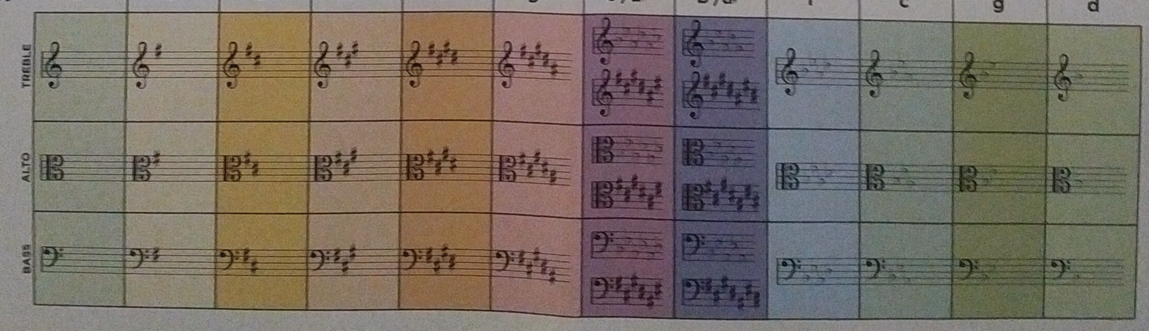
THE CIRCLE OF FIFTHS IS A GRAPHICAL REPRESENTATION OF MAJOR AND MINOR KEY SIGNATURES AND THEIR RELATIONSHIPS TO EACH OTHER.



MOVING CLOCKWISE AROUND THE CIRCLE, EACH KEY (OR IN THIS CASE, EACH COLOR) IS AN ASCENDING FIFTH FROM THE PREVIOUS KEY. MOVING COUNTER-CLOCKWISE, EACH KEY IS AN ASCENDING FOURTH FROM THE PREVIOUS KEY.

CHOOSE YOUR CLEF

MAJOR	C	G	D	A	E	B	G♭/F♯	D♭/C♯	A♭	E♭	B♭	F
minor	a	e	b	f♯	c♯	g♯	e♭/d♯	b♭/a♯	f	c	g	d



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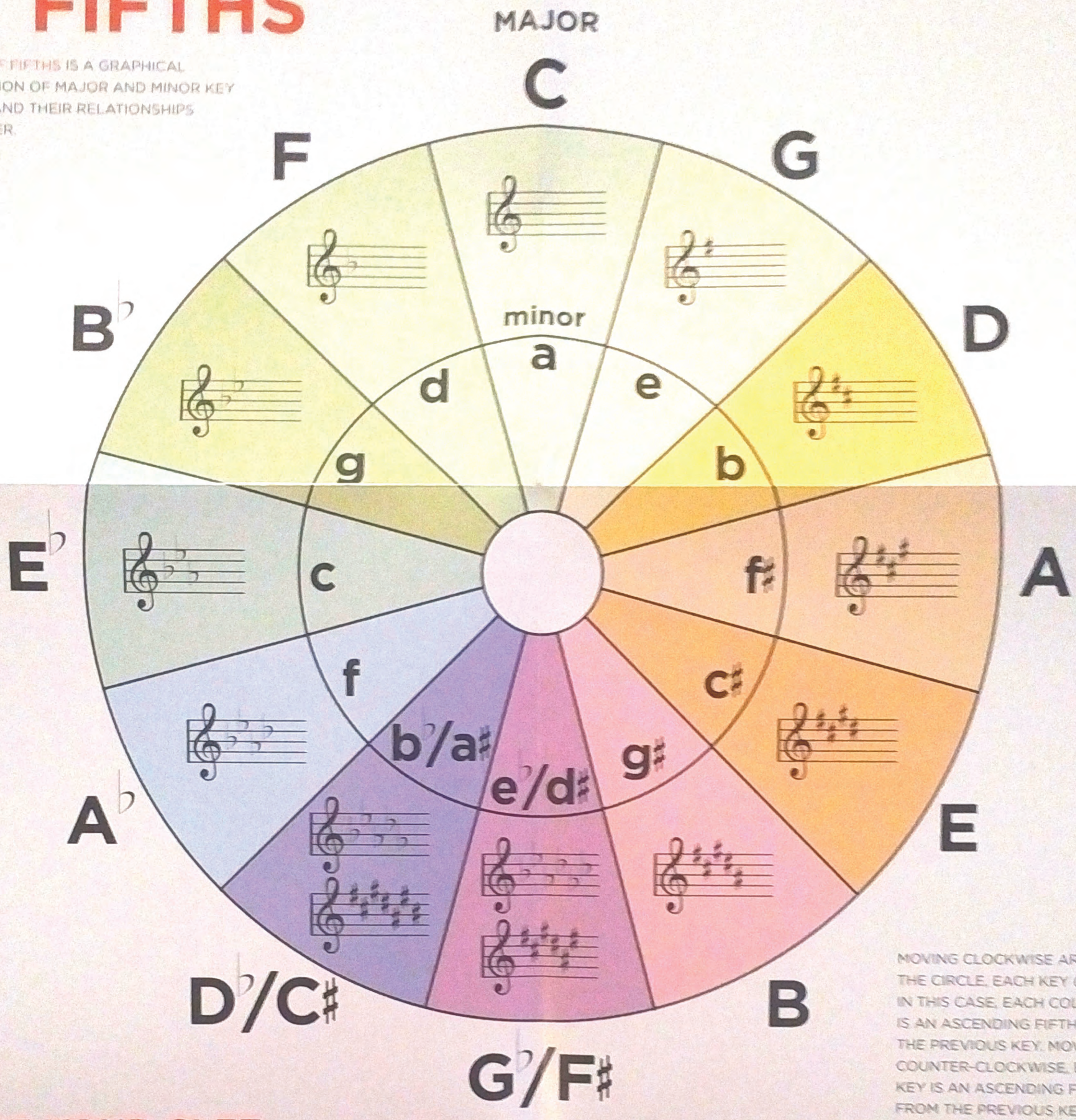
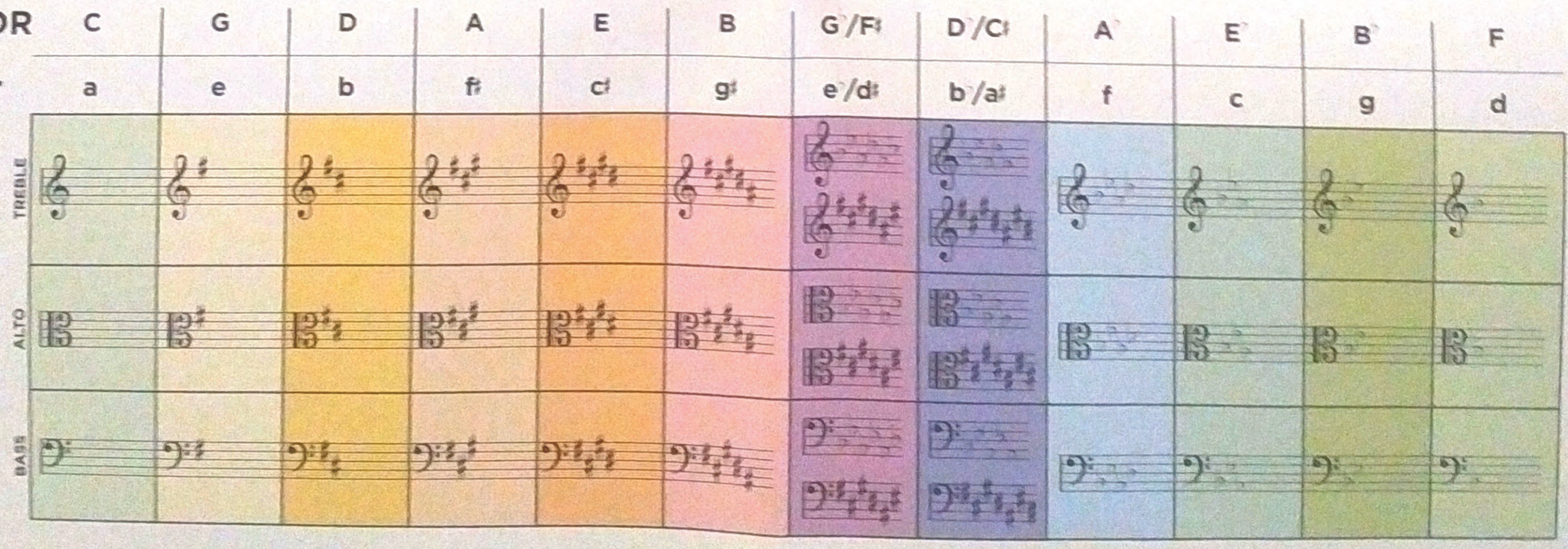


MOVING CLOCKWISE AROUND THE CIRCLE, EACH KEY (OR IN THIS CASE, EACH COLOR) IS AN ASCENDING FIFTH FROM THE PREVIOUS KEY. MOVING COUNTER-CLOCKWISE, EACH KEY IS AN ASCENDING FOURTH FROM THE PREVIOUS KEY.

CHOOSE YOUR CLEF



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"Understanding Basic Harmony"

Diatonic Chord Progressions Basic

Primary (Diatonic) ⇒ R ii iii IV V vi vii° Octave

C_{maj7} Dm^7 Em^7 F_{maj7} G^7 Am^7 B^{ϕ} C_{maj7}

Secondary Dominants ⇒ A^7 $B^7_{\flat}$ C^7 $D^7_{\flat}$ E^{7*} (can be major as well)

Parallel (nat Minor (Aeolian)) ⇒ Root (G7) Octave

Cm^7 D^{ϕ} $E\flat_{\Delta}^7$ Fm^7 Gm^7 $A\flat_{\Delta}^7$ $B\flat^7$ Cm

i ii ♭III iv v ♭VI ♭VII viii

Parallel Harmonic Minor

$Cm^{\Delta 7}$ $D^{\phi}_{m7\flat5}$ $E^{\circ}_{maj7\#5}$ Fm^7 $G^{7\flat9}$ $A\flat_{\Delta}^7$ $B^{\circ 7}$ $Cm^{\Delta 7}$

i♭m ii ♭III iv V ♭VI vii° viii

Parallel Melodic Minor

$Cm^{\Delta 7}$ Dm^7 $E^{\flat}_{maj7\#5}$ $F7$ $G^{7\flat9}$ A^{ϕ} B^{ϕ} Cm_{Δ}^7

i♭m iim ♭III IV V vi vii° viii

Further chord progressions

On p. 76, we showed how to find the I, IV and V chords built on the 1st, 4th and 5th notes of a "harmonized" major scale. We now move on to introduce the chords built on the 2nd, 3rd and 6th notes. These are called the *secondary chords*. Roman numerals are used to indicate on which note of the scale each chord is based.

The VI chord is built on the 6th note of the major scale in any key, and is called the *relative minor*. Its natural form is as a minor chord, but it can also be played as a major or a seventh. (For more details on its special relation to the tonic or I chord, see p. 106.)

The II chord is built on the 2nd note of the major scale, and is called the *supertonic*. It, too, is usually minor but can be played as a major or a seventh.

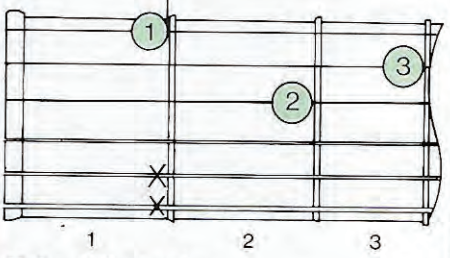
The III chord is built on the 3rd note of the major scale, and is called the *mediant* – so-called because it lies midway between the tonic (I) and the dominant (V) chords. It is generally played as a minor but can be a major chord as well.

Because it has no sharps or flats, take the key of C major as an example again. As you can see from the chart on the right, the II chord is a D, the III chord an E, and the VI chord an A. These chords can be worked out in other keys using the same method of counting up the notes in the appropriate major scale. The chart on p. 76 shows them in the five most common keys.

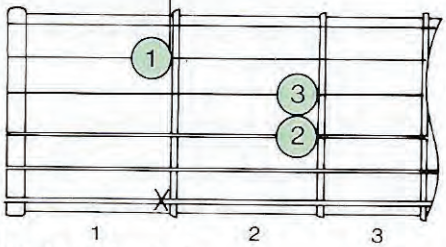
Finding the II, III and VI chords

Example: key of C major

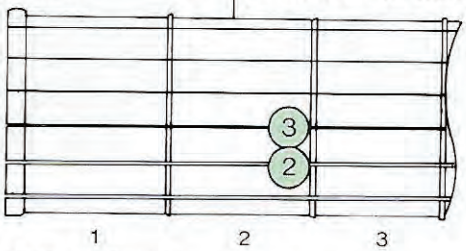
C	D	E	F	G	A	B	C
I	II	III	IV	V	VI	VII	I



II chord (D minor)
Built on 2nd note of major scale.



VI chord (A minor)
Built on 6th note of major scale.



III chord (E minor)
Built on 3rd note of major scale.

Common progressions using the six scale chords

You now have six "scale" chords from which to create chord sequences. The progressions shown here represent most of the variations used in simple popular songs.

Note The last two progressions in the key of G contain a B minor chord. This is usually played as a "barre" (see p. 83 and the *Chord Dictionary*, p. 230).

	I	VI	IV	V	I
Key of C	C	Am	F	G	C
Key of G	G	Em	C	D	G

	I	II	VI	V	I
Key of C	C	Dm	Am	G	C
Key of G	G	Am	Em	D	G

	I	VI	II	V	I
Key of C	C	Am	Dm	G	C
Key of G	G	E7	A7	D	G

	I	III	II	V	I
Key of C	C	E7	Dm	G	C
Key of G	G	B7	Em	D	G

	I	II	IV	V	I
Key of C	C	Dm	F	G	C
Key of G	G	A7	C	D	G

	I	III	VI	V	I
Key of C	C	Em	Am	G	C
Key of G	G	Bm	Em	D	G

	I	III	IV	V	I
Key of C	C	E7	F	G	C
Key of G	G	Bm	C	D	G

The three-chord theory

As soon as you are able to play the fifteen beginner's chords, it will become obvious that some sound better together than others. In any key, there are three chords which appear in virtually every basic progression. They will always sound good together, whatever order you put them in and whatever key you play them in. They are called the *primary chords*, and they represent the building blocks of all composition.

You can find these three chords in any key by looking at the major scale. Take C as an example. The key of C major has no sharps or flats in it. So, in one octave, the notes are:

C D E F G A B C.

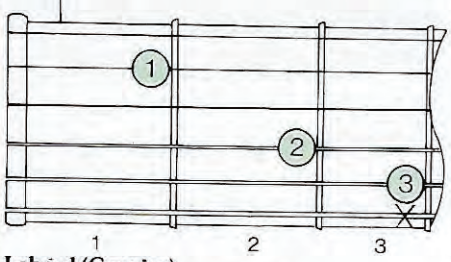
The note of C itself is the root note, and the chord built on this note is C major, called the *tonic* chord. The other two primary chords are the 4th and the 5th in the scale. Counting up four notes, including C itself as the first, brings you to F, and counting up five notes brings you to G. The 4th chord (built on the note of F) is called the *sub-dominant*, and the 5th chord (built on the note of G) is called the *dominant*. F is therefore the sub-dominant chord and G is the dominant chord in the key of C. (For more details on scales, see p. 104, and on chord construction, see p. 121.)

In any key, these three chords have the same relationship to one another. Together, they comprise the "three-chord theory".

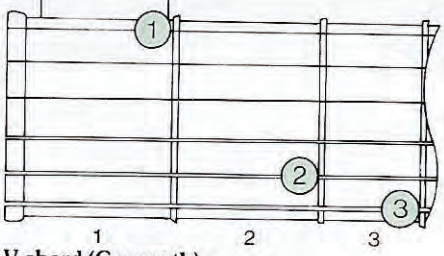
Finding the I, IV and V chords

Example: key of C major

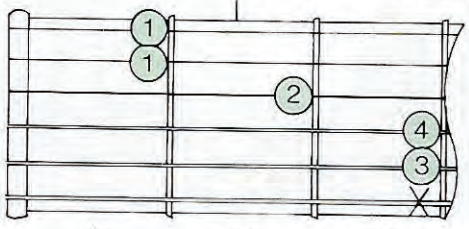
I	II	III	IV	V	VI	VII	I
C	D	E	F	G	A	B	C



I chord (C major)
Built on 1st note of major scale.



V chord (G seventh)
Built on 5th note of major scale.



IV chord (F major) Built on 4th note of major scale.

The Roman numeral system

There is a system in music theory which can identify each chord in a key by a Roman numeral. The 1st chord, the one built on the root note, is I, the 2nd chord is II, the 3rd is III, and so on up to VII. Chord number VIII is the same as chord number I but an octave higher.

Each chord also has a name according to its position in the scale and its Roman numeral – whatever key you are in. We have already seen that the I chord is the *tonic*, the IV chord is the *sub-dominant*, and the V chord is the *dominant*. The other names are given below, and their function in chord progressions is explained in the following pages.

I	Tonic (root)
II	Supertonic
III	Mediant
IV	Sub-dominant
V	Dominant
VI	Sub-mediant or relative minor
VII	Seventh or leading note
I	Tonic (octave)

Chords built on the major scale in five common keys

Key of C major		Key of D major		Key of E major		Key of G major		Key of A major	
No sharps		2 sharps		4 sharps		1 sharp		3 sharps	
I	C	I	D	I	E	I	G	I	A
II	D	II	E	II	F♯	II	A	II	B
III	E	III	F♯	III	G♯	III	B	III	C♯
IV	F	IV	G	IV	A	IV	C	IV	D
V	G	V	A	V	B	V	D	V	E
VI	A	VI	B	VI	C♯	VI	E	VI	F♯
VII	B	VII	C♯	VII	D♯	VII	F♯	VII	G♯
I	C	I	D	I	E	I	G	I	A

Chord progressions based on the three-chord theory

The best way of taking in this information and of understanding how the three-chord theory works is to familiarize yourself with the *sounds* behind the rules. And the only way to do this is to play the chords one after another, in various combinations, while listening to the effects they create.

On the right is a chart which sets out many of the most common I–IV–V chord progressions using the fifteen beginner's chords from p. 75. The tonic (I) and sub-dominant (IV) chords may be major, minor or seventh forms, but the dominant (V) chord in these examples is always major and is usually played as a seventh.

You will soon discover that many of these chord combinations are familiar and that most of them form the basis of popular songs. What makes one different from another – apart from the order in which the chords are arranged – is the length of time you stay on each chord and the rhythm you give to the sequence.

Try playing them. Give each chord an equal count of anything from one to four, and try all the permutations shown within one key so that you can hear how major, minor and seventh chords will sound in combination.

	I	IV	V	I
Key of E	E	A	B7	E
	Em	A7	B7	Em
	Em	Am	B7	Em
Key of A	A	D	E7	A
	Am	D7	E7	Am
	Am	Dm	E7	Am
Key of D	D	G	A7	D
	Dm	G	A	Dm
	Dm	G7	A7	Dm
Key of G	G	C	D7	G
	G7	C	D7	G
Key of C	C	F	G7	C
	C7	F	G7	C

Blues chord progressions

The blues is a musical form based almost entirely on the three-chord theory. Although the blues was certainly not analyzed by its creators, its formula has survived to become the structure of popular music, the accepted roots of jazz, and the heart of rock.

The most common blues pattern is probably the one known as the *twelve-bar blues*. It gets its name from the fact that it takes twelve "bars" to complete each cycle of the chord progression. "Bars" are explained fully on pp. 89-90, but for now we can say that one bar equals a count of 1-2-3-4.

The blues is difficult to categorize, however. There are many variations on the theme and many different ways of arranging the three chords. Sometimes the chords are majors and sometimes they are sevenths; sometimes the progression is not even twelve bars long, but may be just eight. The blues is characterized just as much by its rhythms (see p. 97) and its vocal and lead solo styles (see p. 144) as by the construction of its chord progressions.

Below are four typical blues chord sequences in the key of E. The first represents what is usually considered to be the basic twelve-bar pattern. The second shows the same progression but with sevenths introduced. The third is a common variation. And the fourth is an eight-bar rather than a twelve-bar sequence.

Basic 12-bar blues

1 E	2 E	3 E	4 E
5 A	6 A	7 E	8 E
9 B	10 A	11 E	12 B

12-bar blues variation

1 E	2 A	3 E	4 E
5 A	6 A	7 E	8 E
9 B	10 B	11 E	12 E

Basic 12-bar blues with sevenths

1 E	2 E	3 E	4 E7
5 A	6 A	7 E	8 E
9 B7	10 A	11 E	12 B7

8-bar blues

1 E	2 B	3 E	4 A		
5 E	6 B	7 E	A	8 E	B

I chord IV chord V chord

Chords built on the major scale in five common keys									
Key of C major		Key of D major		Key of E major		Key of G major		Key of A major	
No sharps		2 sharps		4 sharps		1 sharp		3 sharps	
I	C	I	D	I	E	I	G	I	A
II	D	II	E	II	F♯	II	A	II	B
III	E	III	F♯	III	G♯	III	B	III	C♯
IV	F	IV	G	IV	A	IV	C	IV	D
V	G	V	A	V	B	V	D	V	E
VI	A	VI	B	VI	C♯	VI	E	VI	F♯
VII	B	VII	C♯	VII	D♯	VII	F♯	VII	G♯
I	C	I	D	I	E	I	G	I	A

Common progressions using the six scale chords

You now have six "scale" chords from which to create chord sequences. The progressions shown here represent most of the variations used in simple popular songs.

Note The last two progressions in the key of G contain a B minor chord. This is usually played as a "barre" (see p. 83 and the *Chord Dictionary*, p. 230).

	I	VI	IV	V	I
Key of C	C	Am	F	G	C
Key of G	G	Em	C	D	G

	I	II	VI	V	I
Key of C	C	Dm	Am	G	C
Key of G	G	Am	Em	D	G

	I	VI	II	V	I
Key of C	C	Am	Dm	G	C
Key of G	G	E7	A7	D	G

	I	III	II	V	I
Key of C	C	E7	Dm	G	C
Key of G	G	B7	Em	D	G

	I	II	IV	V	I
Key of C	C	Dm	F	G	C
Key of G	G	A7	C	D	G

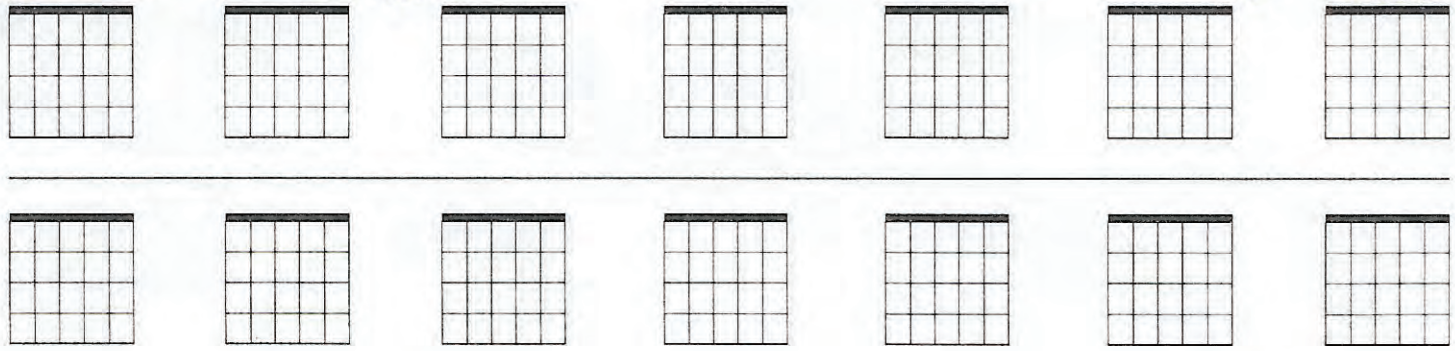
	I	III	VI	V	I
Key of C	C	Em	Am	G	C
Key of G	G	Bm	Em	D	G

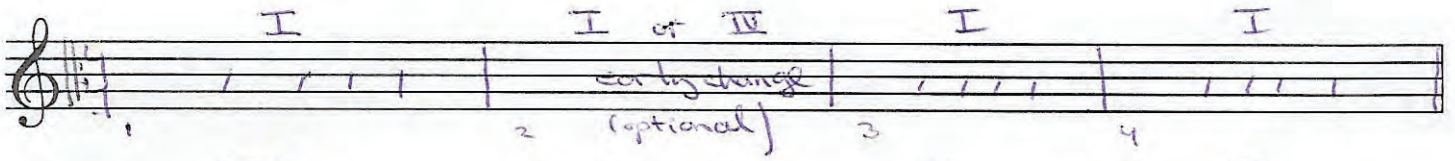
	I	III	IV	V	I
Key of C	C	E7	F	G	C
Key of G	G	Bm	C	D	G

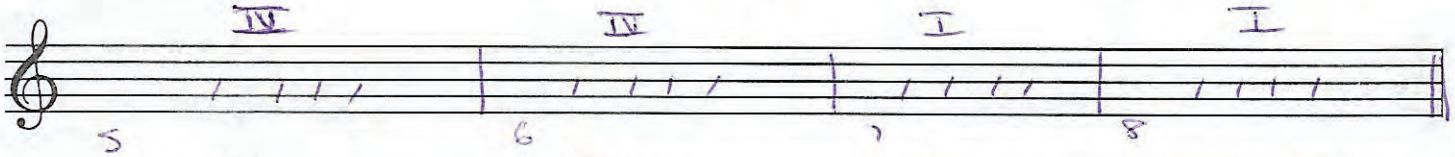
using open chords / barre chords.

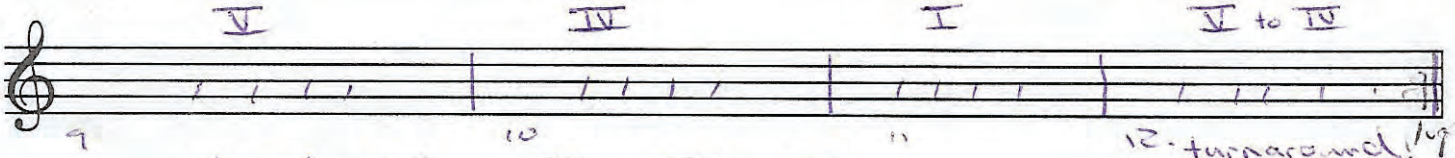
TITLE 12 Bar Progressions

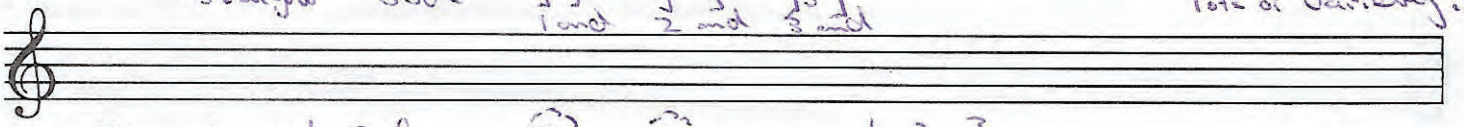
+ country, blues, rock, jazz, funk ... } variety of uses

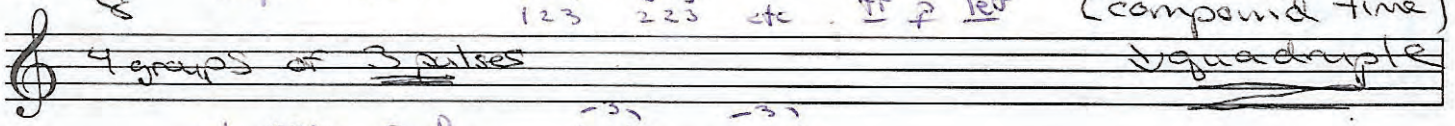


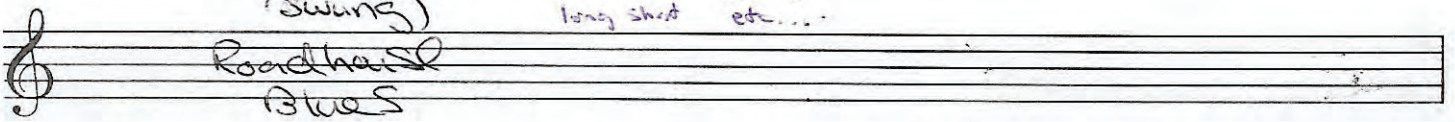


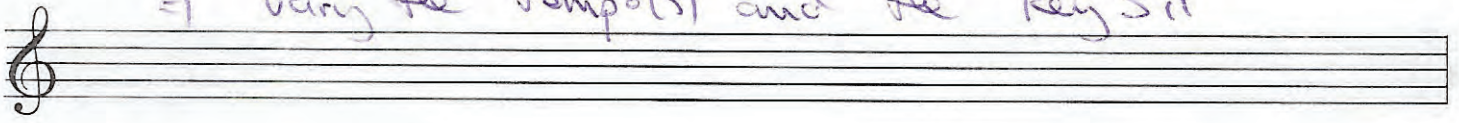












Seventh chords

The evolution of triad harmony established the prominent role of the dominant (V) chord. There is a strong resolution when it is followed by the tonic (I) chord. In four-part writing an extra note evolved on top of the dominant triad. Instead of simply doubling the root, the new note was considered to be a continuation of the construction of the triad; another minor third was added on top of the fifth so that the interval between the root note and the new note was a minor seventh. This produced a four-note chord called the dominant seventh, built on the 5th note of the diatonic scale.

As shown below, there are various other types of seventh chord created by adding to the triads built on each note of the scale – in all, there are ten different kinds. However, all seventh chords must consist of a root, a 3rd, a 5th and a 7th. And, when it is in its root position, each seventh chord must comprise three vertical thirds stacked on top of one another, totaling an interval of a seventh between the bottom and top notes. The actual tonality of the thirds may be either major or minor. It is this variation that produces the ten different seventh forms.

How seventh chords are built from the diatonic major scale

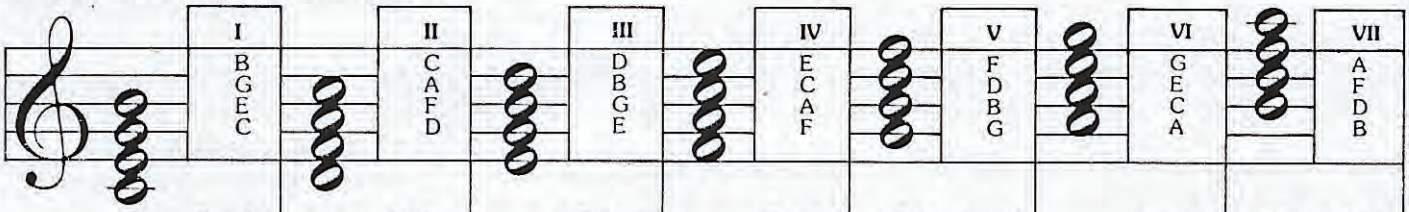
Adding intervals of a third to each of the triads built on the notes of the major scale produces the following pattern: major seventh, minor seventh, minor seventh, major seventh, dominant seventh, minor seventh, half-diminished seventh.

The term *dominant seventh* came to apply not only to the chord built on the dominant note but to the type of seventh chord that it is. The usual abbreviation for a dominant seventh chord is simply to refer to it as the "seventh". Although the interval between the tonic and the extra note is a minor seventh, the term "minor seventh" is reserved for seventh chords built on a minor triad – for example, the supertonic (II), mediant (III) and sub-mediant (VI) seventh chords. The *triad* determines the name, not the interval between tonic and seventh.

When the extra note is added on top of the tonic (I) triad, it is an interval of a major seventh above the tonic note. Initially referred to as the "tonic seventh", this type of seventh chord is called a *major seventh*. The sub-dominant (IV) seventh chord is also a major seventh type.

The seventh chord built on the leading note of the scale (VII) produces an entirely new type of chord. It is made up of a major third on top of a diminished triad. This produces a minor seventh interval between the tonic note and the new note. The chord is called a *half-diminished seventh* because the triad is diminished but the seventh is not. It also has an alternative name – a "minor seventh diminished fifth".

The harmonized diatonic C major scale



C major seventh: major triad plus major seventh

D minor seventh: minor triad plus minor seventh

E minor seventh: minor triad plus minor seventh

F major seventh: major triad plus major seventh

G (dominant) seventh: major triad plus minor seventh

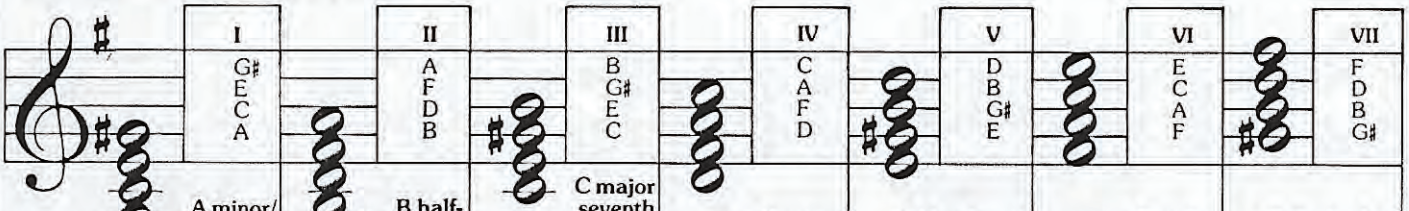
A minor seventh: minor triad plus minor seventh

B half-diminished seventh: dim triad plus minor seventh

How seventh chords are built from the diatonic minor scales

Seventh chords built on the relative *natural* minor scale are identical to those derived from the major scale. Only their relative functions within the scale change. However, when the *harmonic* minor scale is used (see p. 107), three new kinds of seventh chord are produced. These are the "minor/major seventh", the "major seventh augmented fifth" and the "diminished seventh". The *minor/major seventh* is built on the 1st note of the scale, the tonic. It is made up of a major third on top of a minor triad, so the interval from the root note of the chord to the 7th note is a major seventh. The *major seventh augmented fifth*, built on the mediant (III) note of the scale, is a minor third on top of an augmented triad. From bottom to top, the interval is actually an augmented major seventh, but, because this is a potentially confusing name, it is identified as a "major seventh sharp five". The *diminished seventh*, the chord built on the leading note (VII), is a special case. It is explained in more detail on p. 128.

The harmonized harmonic A minor scale



A minor/major seventh: minor triad plus major seventh

B half-diminished seventh: dim triad plus minor seventh

C major seventh augmented fifth: aug triad plus major seventh

D minor seventh: minor triad plus minor seventh

E (dominant) seventh: major triad plus minor seventh

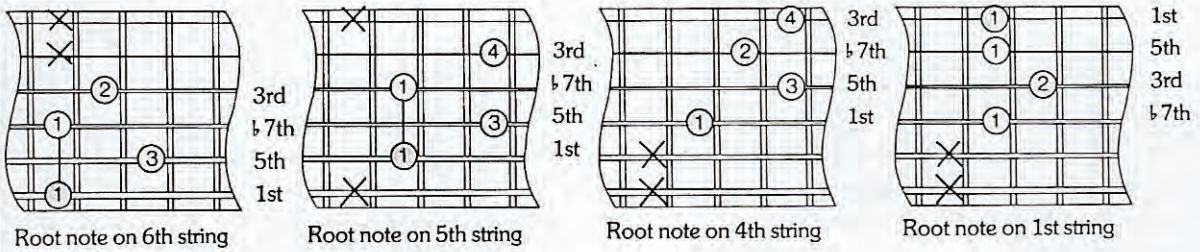
F major seventh: major triad plus major seventh

G diminished seventh: dim triad plus dim seventh

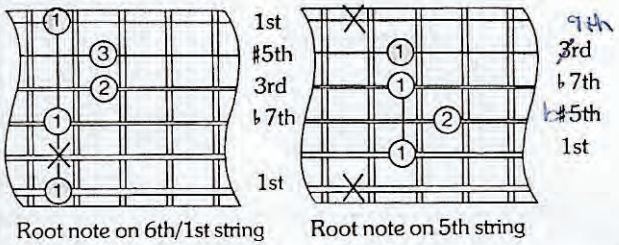
The dominant seventh chords

The three chords included in this family are all derived from major triads plus minor sevenths. They are the *dominant seventh* (usually just called the "seventh"), the *seventh augmented fifth* (or "seventh sharp five"), and the *seventh diminished fifth* (or "seventh flat five"). The dominant seventh is formed by adding a minor seventh on top of a major triad, the seventh augmented fifth is based on an augmented triad, and the seventh diminished fifth on a diminished triad. The fingering shapes below are all "movable" forms; the name of the chord is determined by the tonic or root note. The root note is colored green.

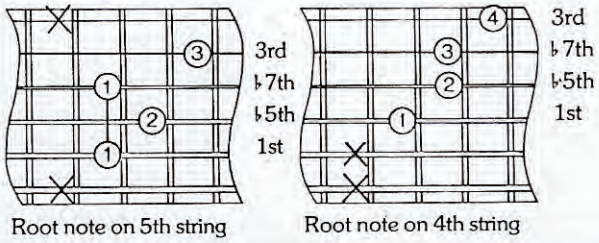
Seventh chord fingerings
Usually abbreviated from "dominant seventh" to "seventh".
Written simply as 7.



Seventh augmented fifth chord fingerings
Also called "seventh sharp five".
Written as 7+5.



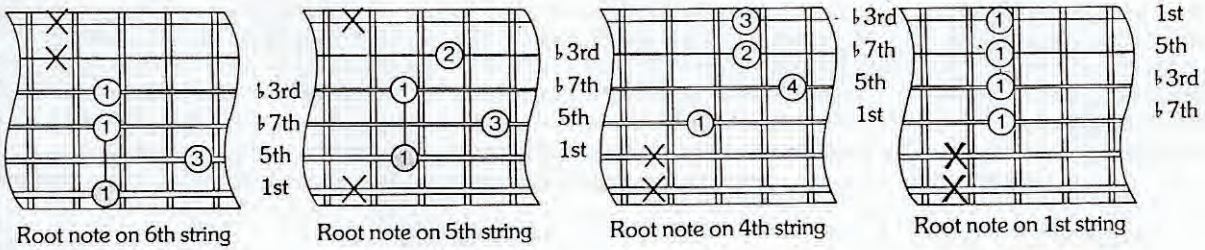
Seventh diminished fifth chord fingerings
Also called "seventh flat five".
Written as 7–5.



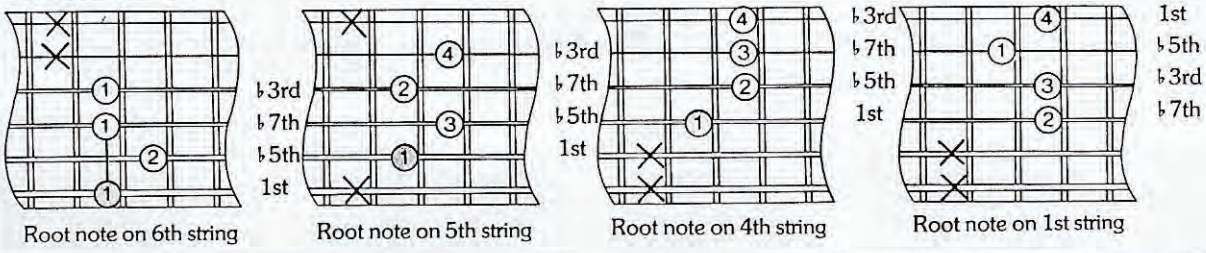
The minor seventh chords

There are also three chords in the minor seventh family. These are the *minor seventh* itself, the *half-diminished seventh* (or "minor seventh diminished fifth"), and the *diminished seventh*. The first two are shown here – with a choice of four different fingerings for each – and the third is dealt with separately on p. 128. The minor seventh is formed by adding a minor seventh interval on top of a minor triad. The half-diminished seventh is built on top of a diminished triad (one in which the 5th note is flattened).

Minor seventh chord fingerings
Written as m7.



Half-diminished seventh chord fingerings
Also called "minor seventh diminished fifth".
Written as m7–5 or ø7

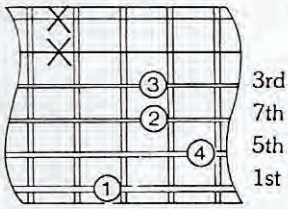


The major seventh chords

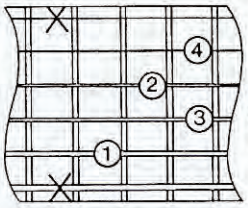
The family of major sevenths includes four different chords. These are the *major seventh* itself, the *minor/major seventh*, the *major seventh augmented fifth* (or "major seventh sharp five"), and the *major seventh diminished fifth* (or "major seventh flat five"). These chords differ from those in the other families in that they all have an interval of a major seventh between the lowest and highest notes. Chords in the dominant and minor seventh families (see p. 127) both have an interval of a minor seventh.

The four major seventh chords are shown here in various fingering shapes, with their tonic or root notes on different strings. In most cases, they can be transformed from four-note chords into six-note chords (one note for each string) by "doubling" some of the notes (see p. 123). They can be doubled, inverted and spaced in any manner without affecting the chord.

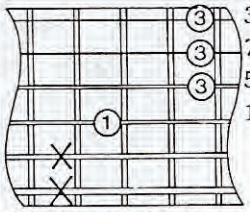
Major seventh chord fingerings
Written as maj 7 or △ 7.



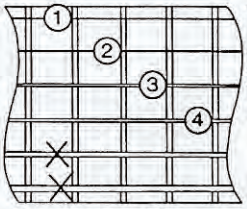
Root note on 6th string



Root note on 5th string

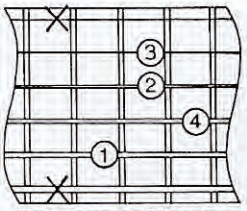


Root note on 4th string

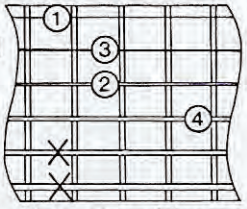


Root note on 4th string

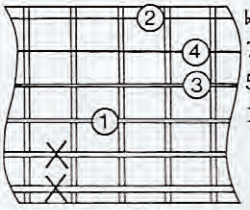
Minor/major seventh chord fingerings
Written as min/maj 7.



Root note on 5th string



Root note on 4th string



Root note on 4th string

The diminished chord

The seventh chord built on the leading note (VII) of the diatonic scale was considered to be an important musical discovery – the *diminished seventh*. This chord is often abbreviated to the name "diminished".

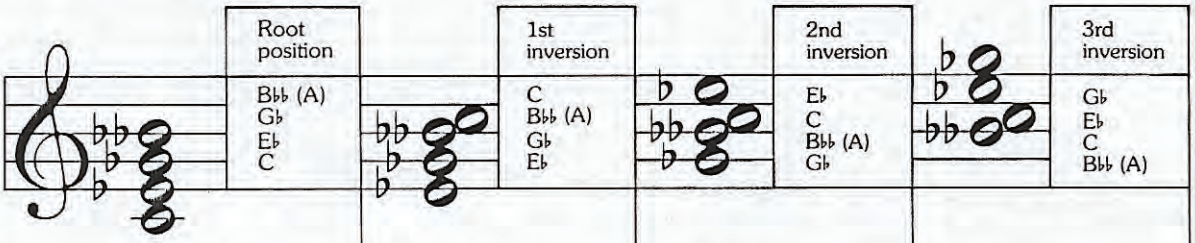
Because both the 5th in the existing triad and the new, added note are flattened, this seventh chord creates an interval of a diminished seventh to the tonic. The diminished seventh is a double flattened seventh – the enharmonic name for a major sixth (see p. 118). The most unusual feature of the diminished seventh chord is therefore the fact that it is made up of three minor thirds stacked on top of each other. And, when the tonic is doubled at the top, yet another minor third is formed. This means that, in effect, the octave is divided equally into four intervals of a minor third.

If each of the four notes (the root, the 3rd, the 5th and the 7th) is doubled in turn, so that two octaves are spanned, it is clear that any of the notes in the chord can be considered to be the root of a new chord that has exactly the same structure and tonality as the original. When viewed enharmonically, all four chords are, in fact, part of the same chord. In each inversion of the original chord, specific notes can be renamed as either the root, the 3rd, the 5th or the 7th to create the intervals necessary for forming a new diminished seventh chord.

The diminished chord was originally used to extend the properties of "resolution" that were a feature of leading note sevenths. However, it was soon realized that this was only part of its potential. Because it can be any one of four different chords, it occupies four different tonalities. This means that it is interchangeable between four separate keys, and that it represents a unique "gateway" between these keys. The sound of the chord quickly gained in popularity, and the effects it made possible opened up a new world of modulation (see p. 138).

For details of the "diminished scale" – also built on a series of minor third intervals – see p. 112.

The diminished seventh: four chords in one This example is in C and shows four inversions of a C diminished seventh chord. It illustrates the fact that, because the intervals remain the same from one inversion to the next, the notes C, E♭, G♭ and B♭♭ (A) give four diminished chords that are enharmonic equivalents of one another: they all share the same four notes.



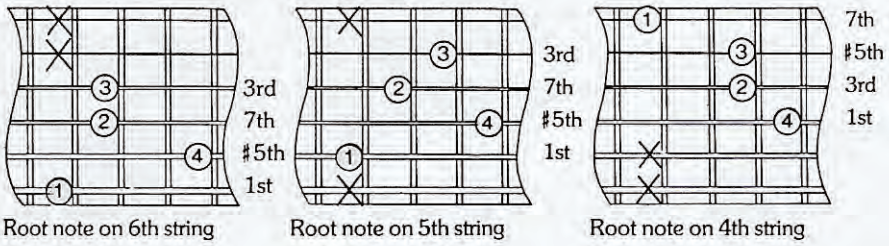
C diminished
Each note of the chord represents an interval of a minor third. From C to B♭♭ (A) is a diminished seventh.

E♭ diminished
In the 1st inversion, E♭ is the root note. C is a minor third above B♭♭ (A) and still a diminished seventh above E♭, the new root.

G♭ diminished
In the 2nd inversion, G♭ is the root note. E♭ is a minor third above C and still a diminished seventh above G♭.

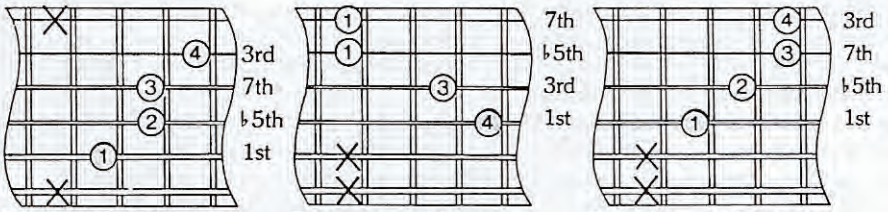
A diminished
In the 3rd inversion, B♭♭ (A) is the root note. G♭ is a minor third above E♭ and still a diminished seventh above B♭♭ (A).

Major seventh augmented fifth chord fingerings
Also called "major seventh sharp five".
Written as maj7+5 or △7+5.



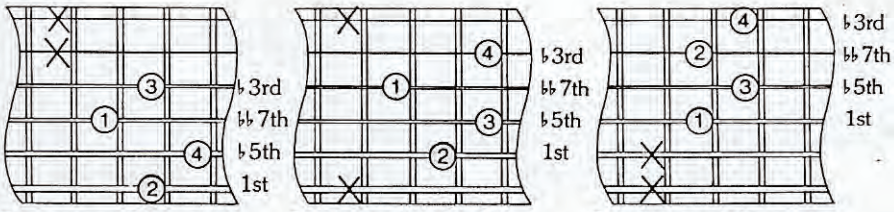
Root note on 6th string | Root note on 5th string | Root note on 4th string

Major seventh diminished fifth chord fingerings
Also called "major seventh flat five".
Written as maj7−5 or △7−5.

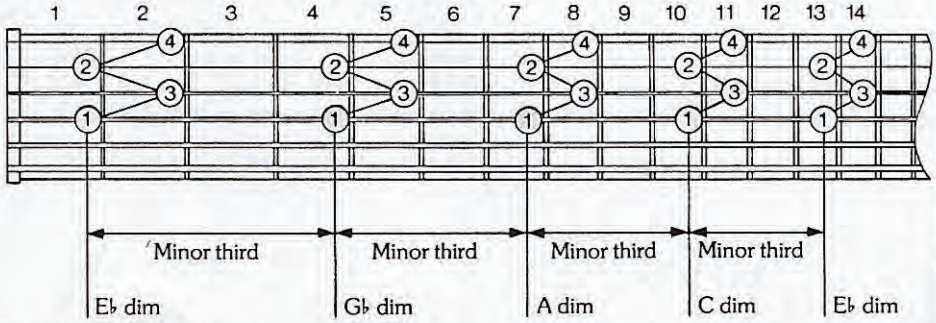


Root note on 5th string | Root note on 4th string | Root note on 4th string

Diminished seventh chord fingerings
Usually abbreviated from "diminished seventh" to just "diminished".
Written as dim7 or °.



Root note on 6th string | Root note on 5th string | Root note on 4th string



Locating diminished chords
On the guitar fingerboard, a minor third equals three frets. Therefore, any diminished chord shape can be moved up or down the fingerboard by three frets to give a new chord that is an enharmonic inversion of the original one. Since four different chords share the same four notes, three chords can cover all twelve tones.

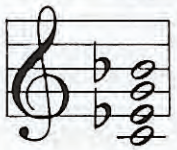
1	C dim, E♭ dim, G♭ dim, A dim
2	C♯ dim, E dim, G dim, B♭ dim
3	D dim, F dim, A♭ dim, B dim

A summary of the ten different seventh chords

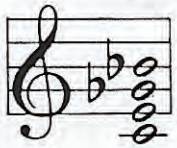
The chords on the staves below represent all ten different seventh chords in the key of C. The pitch notation is accompanied by the names of the chords, their spellings, and the intervals from which they are built. Fingerings are shown on the previous few pages and in the *Chord Dictionary* (see pp. 225-49).

C diminished (seventh)
C dim or C°
Spelling: 1st, ♭3rd, ♭5th, ♭♭7th. Intervals: root, minor third, diminished fifth, diminished seventh.

C half-diminished
C°7 or Cm7−5
Spelling: 1st, ♭3rd, ♭5th, ♭7th. Intervals: root, minor third, diminished fifth, minor seventh.

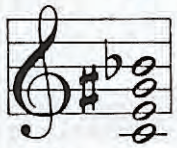


C minor seventh
Cm7
Spelling: 1st, ♭3rd, 5th, ♭7th. Intervals: root, minor third, perfect fifth, minor seventh.

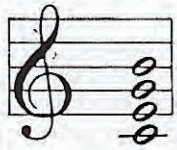


C seventh diminished fifth C7−5
Spelling: 1st, 3rd, ♭5th, ♭7th. Intervals: root, major third, diminished fifth, minor seventh.

C seventh (dominant)
C7
Spelling: 1st, 3rd, 5th, ♭7th. Intervals: root, major third, perfect fifth, minor seventh.

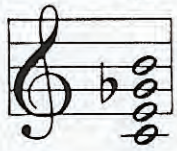


C seventh augmented fifth C7+5
Spelling: 1st, 3rd, ♯5th, ♭7th. Intervals: root, major third, augmented fifth, minor seventh.

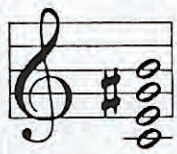


C major seventh
C maj 7 or C△
Spelling: 1st, 3rd, 5th, 7th. Intervals: root, major third, perfect fifth, major seventh.

C minor/major seventh
C min/maj7 or Cm/△7
Spelling: 1st, ♭3rd, 5th, 7th. Intervals: root, minor third, perfect fifth, major seventh.

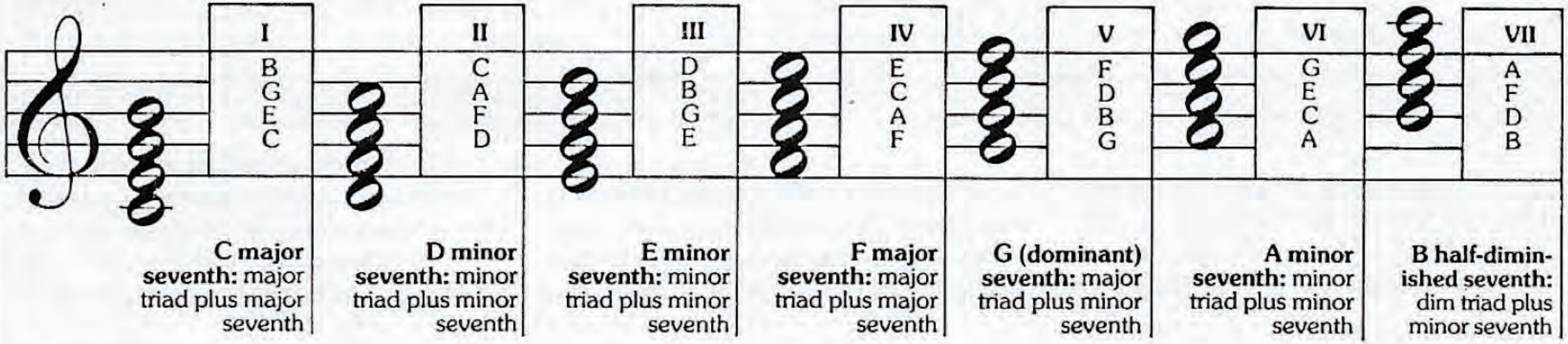


C major seventh diminished fifth
Cmaj7−5 or C△7−5
Spelling: 1st, 3rd, ♭5th, 7th. Intervals: root, major third, diminished fifth, major seventh.



C major seventh augmented fifth
Cmaj7+5 or C△7+5
Spelling: 1st, 3rd, ♯5th, 7th. Intervals: root, major third, augmented fifth, major seventh.

The harmonized diatonic C major scale



C major seventh: major triad plus major seventh

D minor seventh: minor triad plus minor seventh

E minor seventh: minor triad plus minor seventh

F major seventh: major triad plus major seventh

G (dominant) seventh: major triad plus minor seventh

A minor seventh: minor triad plus minor seventh

B half-diminished seventh: dim triad plus minor seventh

Scales and modes

The ancient Greeks are credited with having the earliest form of scales. These were named after their most important tribes – the Dorian, Phrygian, Lydian and Mixolydian. They all contained eight notes (including the octave) which were equivalent to the notes on the white keys of a keyboard, and they were written in descending order. The Dorian scale descended from E, the Phrygian from D, the Lydian from C, and the Mixolydian from B.

In the Middle Ages, these scales were adopted by musicians in the Christian Church. But, for an obscure reason, they introduced various changes: first, they reversed the order, so that the scales ascended; second, they changed the notes from which they started; and third, they substituted the term "mode" for "scale". This meant that the Greek Dorian scale became the Dorian Mode and went up from D to D, the Phrygian Mode went up from E to E, the Lydian Mode went up from F to F, and the Mixolydian Mode went up from G to G.

Furthermore, the old Greek Lydian scale, which had originally descended from C, now ascended from C and was renamed the Ionian Mode. And the Greek Mixolydian scale, which had descended from B, now ascended from B and was renamed the Locrian Mode. The scale that began on the note A was called the Aeolian Mode.

This meant that there were now seven modes – one for each of the white notes. We have already seen that the characteristic sound of any scale or series of notes is determined by its step-pattern of tone or semi-tone intervals. Since each mode has its own step-pattern, each mode has its own sound.

In the Middle Ages, the modal system was the source of melody. However, by the early sixteenth century, the increasing complexities of "polyphony" (music containing two or more harmonized melody lines) were leading to the breakdown of the modal system.

By the seventeenth century, a new harmonic language had been developed. The idea of "tonality" was expanded to include the *key* system (see p. 108). All music was written with a "key signature" which identified the tonic (or first) note of the scale as the "key-center" or "home key". The intervals between notes were fixed by their distance from the tonic note or key center.

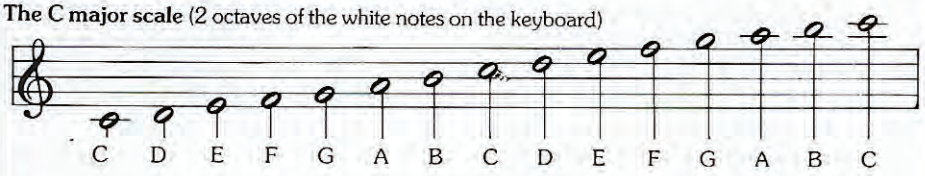
At the heart of the key system lay the concept of diatonic major and minor scales. A "diatonic" scale comprises the notes proper to the key. The diatonic major scale has the same pattern of tones and semi-tones as the medieval Ionian Mode (which started on C), and the diatonic natural minor scale has the same pattern as the Aeolian Mode (which started on A). However, the resemblance is one of structure, not usage.

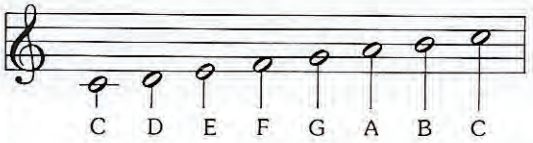
The modal system

A *mode* is a series of notes, like a scale, in which there is one principal note to which all the others are related. The first and last note of the octave is always the principal note in any mode. It is this note that establishes the "tonality" of the mode, and it is the step-pattern of tones or semi-tones that establishes its "modality". Take the Aeolian Mode as an example. It begins and ends on A; therefore, A is its "tonality". Its intervals are tone, semi-tone, tone, tone, semi-tone, tone, tone; therefore, this step-pattern describes its "modality".

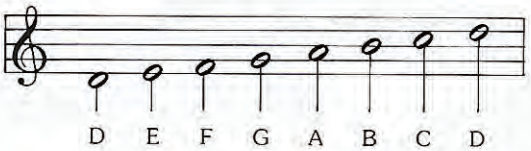
The staves below set out the seven modes, and show from which note each one starts. You can see that because they are formed by playing only the white notes on the keyboard, each mode has its own different step-pattern. This gives it its own sound characteristic.

The C major scale (2 octaves of the white notes on the keyboard)

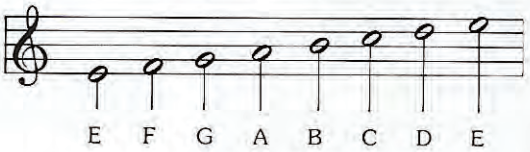




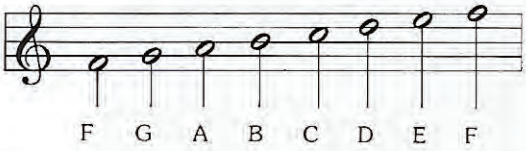
The Ionian Mode
From C to C.



The Dorian Mode
From D to D.

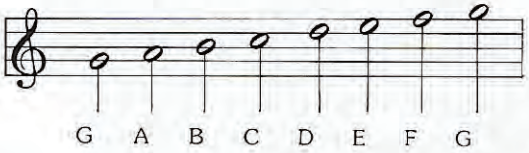


The Phrygian Mode
From E to E.

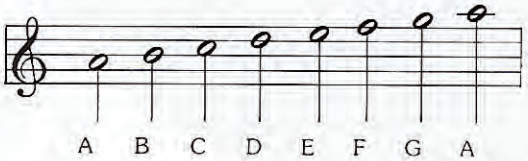


The Lydian Mode
From F to F.

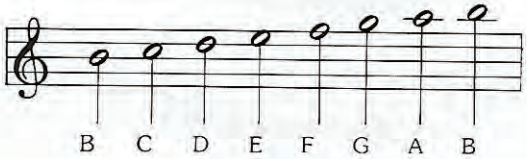
The Mixolydian Mode
From G to G.



The Aeolian Mode
From A to A.



The Locrian Mode
From B to B.



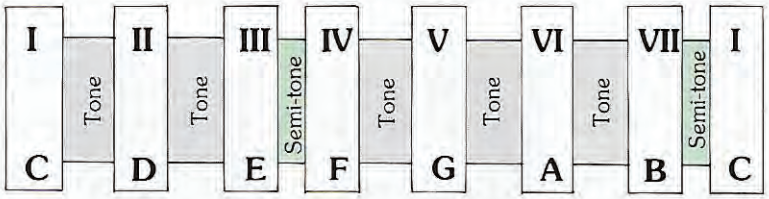
From modes to scales

The sound characteristic of each mode can be translated into any key as long as its original step-pattern is not altered. The scales below show the results of starting each mode on the note C.

In effect, this produces five new scales – not seven, since the Ionian and Aeolian are the same as the diatonic major and natural minor. These five new scales represent an *alternative* to the melodic and harmonic structure of the diatonic scales. In fact, modes and scales have different applications. Scales determine harmony and modes express melodic variation.

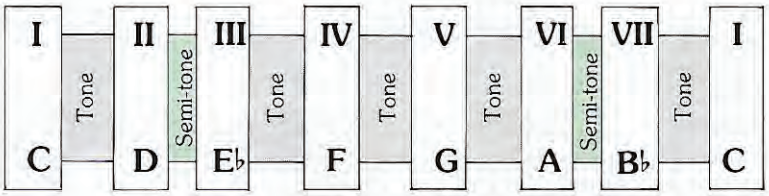
You can tell whether a mode is major or minor by looking at the interval between its 1st and 3rd notes (see p. 118). The Lydian and Mixolydian turn out to be major, and the Dorian and Phrygian are minor. The Locrian is unusual in that its tonic chord is "diminished" (see p. 121). The overall mood of the mode can be heard by playing chords built on its various steps, using only the notes which that mode contains.

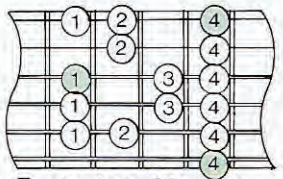
Ionian Mode (in key of C)
This mode was the predecessor of the diatonic major scale. It has the same step-pattern and therefore the same sound.



Note Fingering pattern is same as that of major scale (see p. 105).

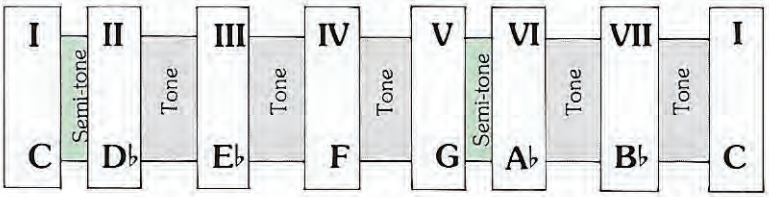
Dorian Mode (in key of C)
This is a minor mode. It differs from the natural minor (Aeolian) scale in that the 6th note is sharpened. It suits minor chord sequences (e.g., I m, II m, III, IV, V m, and VII chords), and produces a jazz feel.

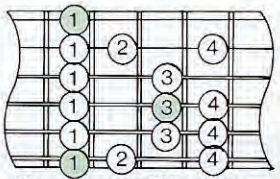




Root note on 6th string

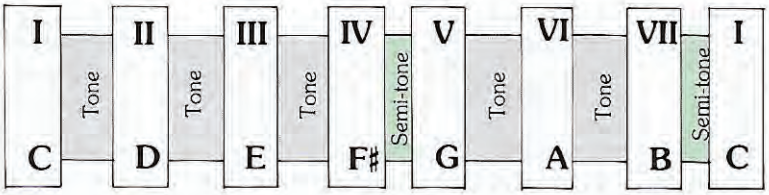
Phrygian Mode (in key of C)
Also a minor mode, this is identical to the natural minor (Aeolian) scale except that it has a flattened 2nd note (the D♭). This note is heard as a "flattened 9th" when played against a tonic minor seventh chord.

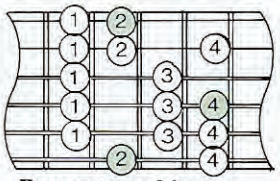




Root note on 6th string

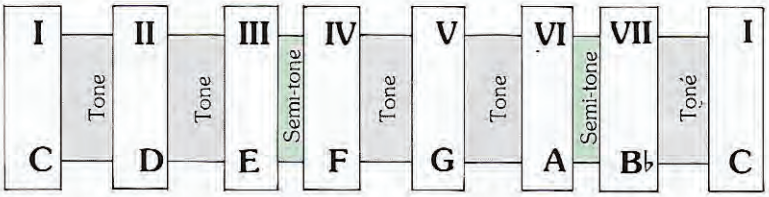
Lydian Mode (in key of C)
This is a major scale. It differs from the diatonic major (Ionian) because it has a sharpened 4th note (the F♯). This means that it has the same notes as the major scale in the key of G – and G is the 5th (dominant) note in the C scale.

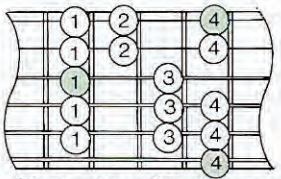




Root note on 6th string

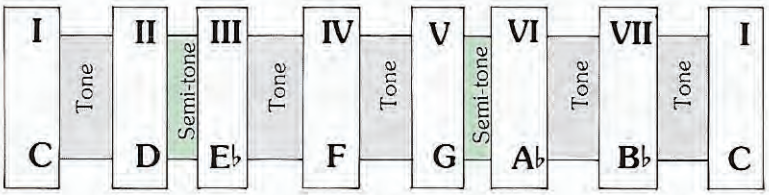
Mixolydian Mode (in key of C)
The Mixolydian scale contains a flattened 7th note (the B♭). This is the only thing that differentiates it from the diatonic major (Ionian) scale. In fact, it is one of the most commonly used modes in blues and jazz improvisation.





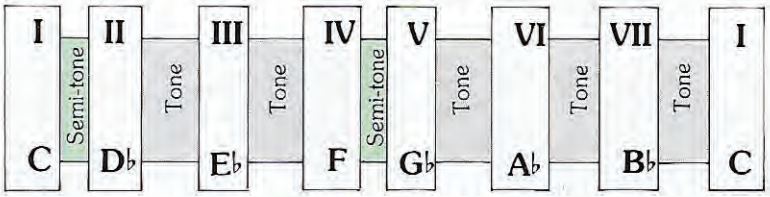
Root note on 6th string

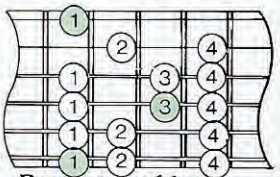
Aeolian Mode (in key of C)
This mode was the predecessor of the diatonic natural minor scale. It has the same step-pattern and therefore the same sound.



Note Fingering pattern is same as that of natural minor scale (see p. 106).

Locrian Mode (in key of C)
All the notes in this scale are flattened except for the tonic (1st) and the 4th (the F). Of the seven modes, it is the least often used in Western music, but it forms an important part of Japanese and Hindu music.





Root note on 6th string

Know your Fretboard - Sight Reading Strategy

Here are the new learning strategies /plan I want you ALL to begin to CONSISTETLY practise and I promise it will yield awesome results if you stick to it. No pain, no gain mentality right!!?? 15 min a day for reading, 5 min a day for notes on fretboard. **Consistency is KEY!!!**

Please apply this to all your studies with reading music, learning chords, scales, arpeggios, notes on fretboard, intervals, you name it!! Bass or guitar **BUT first start with single natural notes**

Level 1: Freestyle the new info with the Berklee or related music book/chart etc.. **with no metronome** – **NO GUITAR/BASS allowed for reading music** yet. Just read the notes as you see them, pick any page, doesn't matter.

For the notes on the guitar/bass use your instrument obviously. Climb up and down the fretboard string by string finding the **natural notes first**, then move on **#'s and b's** when you are ready, **don't rush again natural note mastery first!!**

For notes, chords or scales, same approach as reading can be used first before you use your guitar, as visual practise is still recommended so you "see the notes, scales, chords on your fretboard"

Level 2: Begin to use the butt kicker (metronome) at 40-50 till you can read the notes out loud time after time **IN TIME** with very little or no mistakes. **Still with NO GUITAR/BASS in your hands**. Increase metronome to 70-80

For your chord practise – triads, CAGED, now the 7ths etc… 6^{th}, 5^{th}, 4^{th} root position, use your guitars but also visualization practise is important.

Level 3: Once you can sight read/clap/stomp foot with metronome, start to add pitch and sing the notes in time at various tempos for reading study, **listen with your ears and not with your eyes**. Keep working on this till its getting easier. Goal is to develop relative pitch and ear training, not to be a concert level vocalist.

Level 4: Once you can handle the first 3 levels, **NOW grab your guitar/bass** and apply the reading notes to your hands and fretboard in time with a metronome from 40-80 BPM's. Don't memorize the Berklee book tunes, or any chart/music, just keep things fresh and varies day to day.

Level 5: Add phrasing, your touch and technique to make things musical for you and the listener. Add dynamics, timbre, ornamentation, hammers, pulls, vibrato, grace notes, slides, slurs etc… to personalize it.

The American music known as "jazz" is nearly impossible to precisely define. Some fans cite improvisation, others emphasize swing, while many practitioners contend its harmonic structures best characterize the style. Whatever your opinion, the essence of jazz has filtered through nearly all derivatives of modern music since its conception in the late 1800s, and continues to receive potent admiration from musicians *and* general music lovers alike. Along the way, the guitar emerged as an important accompaniment and solo instrument, leaving a permanent imprint on the jazz heritage, thanks to Charlie Christian, Wes Montgomery, Kenny Burrell, Tal Farlow, Joe Pass, and many other important innovators.

Today guitarists like Pat Metheny, Pat Martino, and Mark Whitfield carry on the traditional jazz guitar legacy, while many others tip their hats via various other jazz-tinged variants. Jazz-rock fusion, contemporary funk, avant-garde, and even many accomplished blues and rock players have all borrowed from the jazz vocabulary. This installment of *GuitarOne's* "Spotlight on Style" presents a capsule view of the essential jazz guitar components. So raise your guitar strap a few notches and let's dig in.

THE SOUND

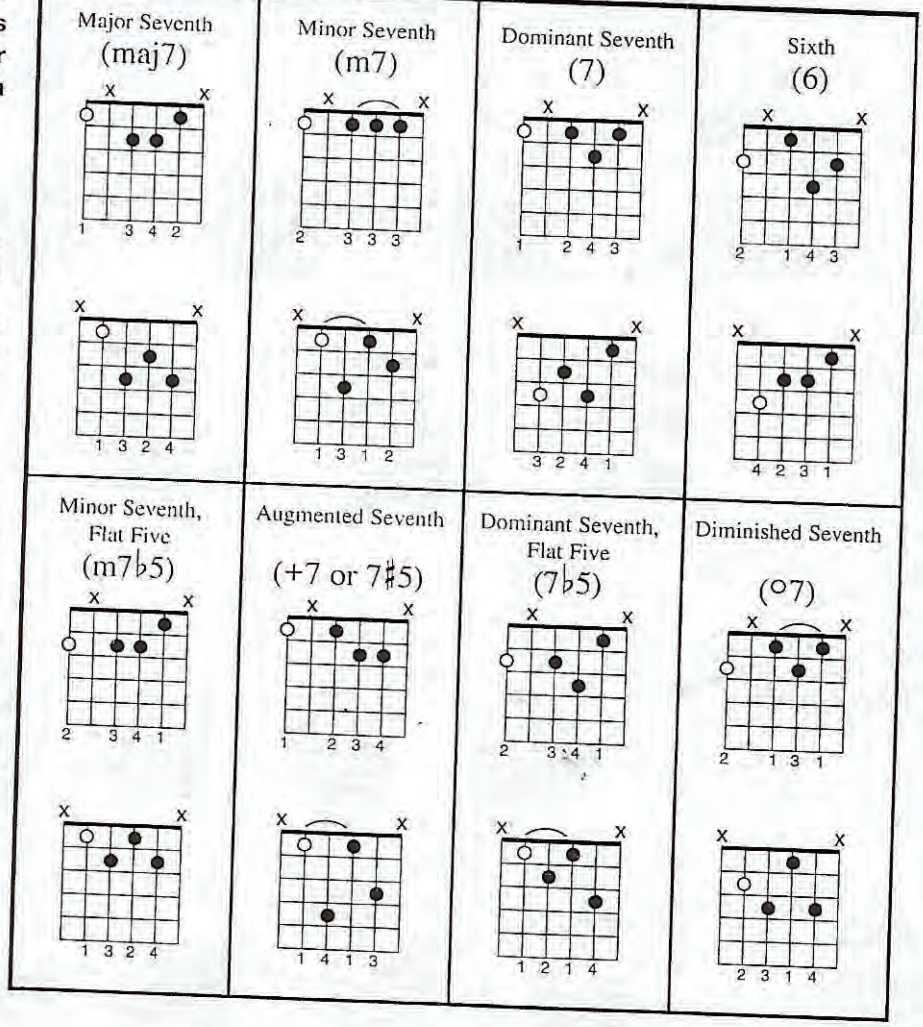
If you want to sound like a real jazzer you need to first lose the distortion. Most players prefer a "mids-heavy" clean tone using the neck pickup with the tone knob backed off slightly. Archtop hollowbodies are the ideal instrument for a true traditional jazz tone, but other warm, full sounding guitars (such as a Les Paul or an ES-335) are also suitable.

Heavy-gauge strings are another must. The typical .009s used by most rock players will sound too thin. Instead, slap on either .012-.052 or .013-.056 sets, and kiss your string-bending licks good-bye.

THE CHORDS

Almost all forms of jazz use *extended* chords exclusively. Unlike simple power chords (dyads) and triads, extended chords contain four or more different notes. These more complex harmonic structures include seventh chords (major, minor, and dominant), ninth chords, eleventh chords, thirteenth chords, and other altered variations. (Are you still with us?!) For now, don't let all this theory jargon intimidate you. For all practical purposes, the chords in Fig. 1 will provide you with enough voicings sufficient for most jazz tunes. They're all movable, so take note of the root in each diagram.

FIG. 1

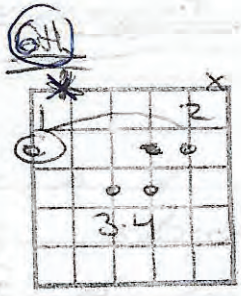


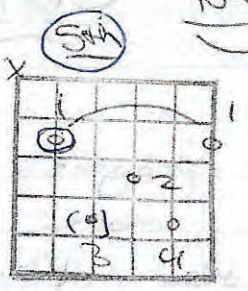
(o) = root

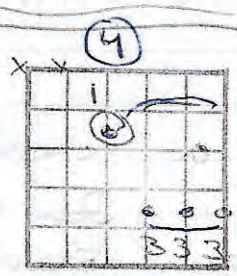
(o) optional

1 = index
2 = middle
3 = ring
4 = pinky

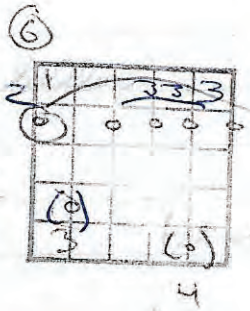
7th Chords (Tetrads) (4 note chords)

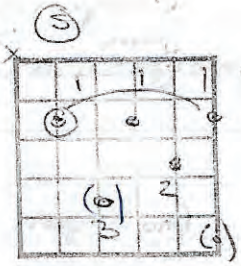


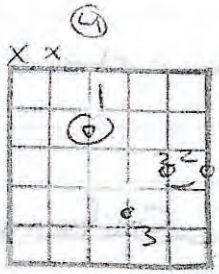




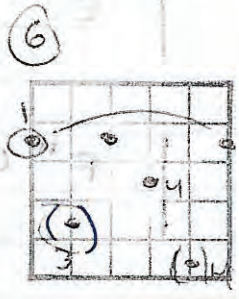
majors 7ths
R 3 5 7

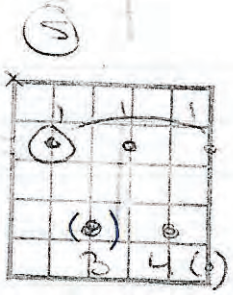


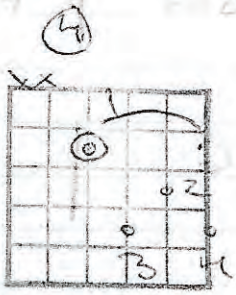




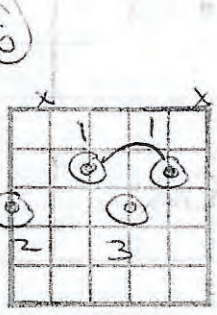
minor 7th
R b3 5 b7

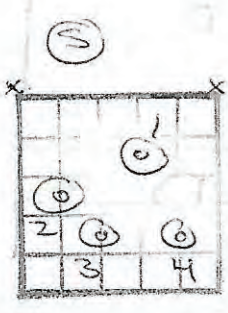


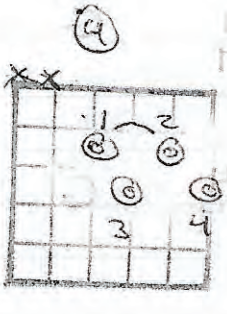




minor 7th
R 3 5 b7

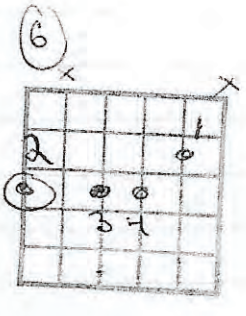




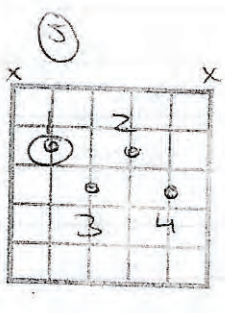


diminished 7th
R b3 b5 bb7

(any note can be the root.)



half dim ∅
min 7 b5
R b3 b5 b7



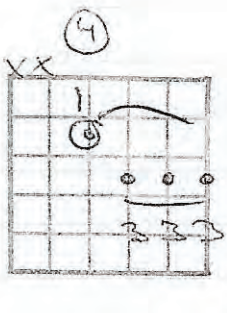
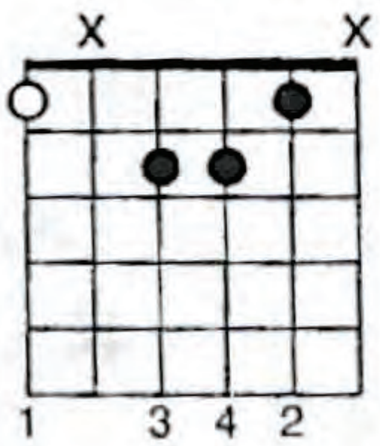
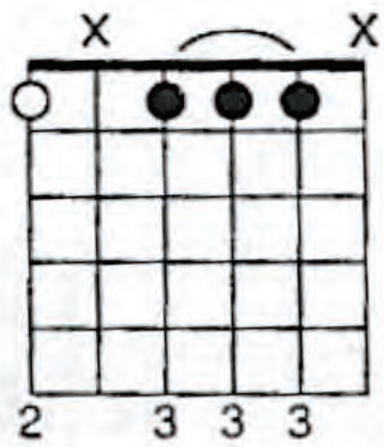
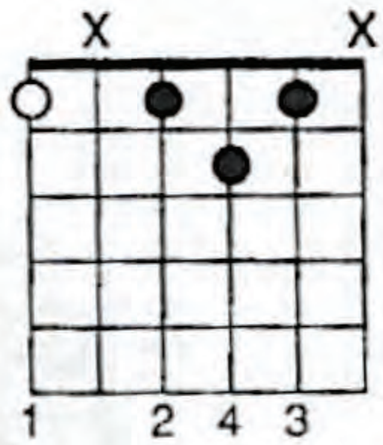
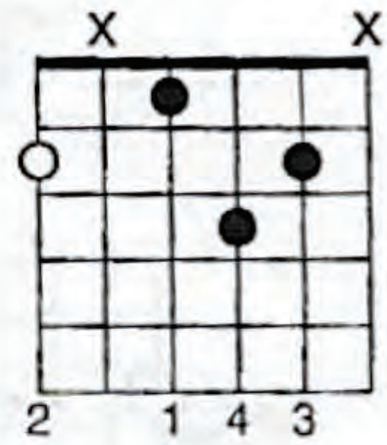
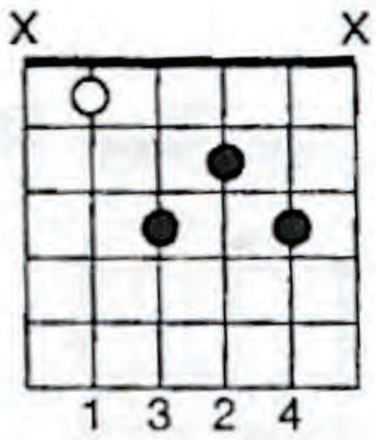
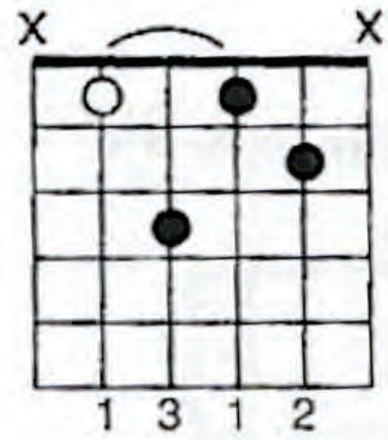
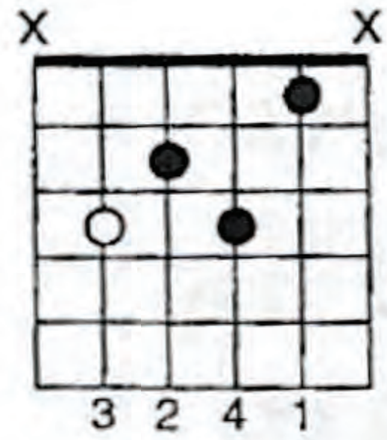
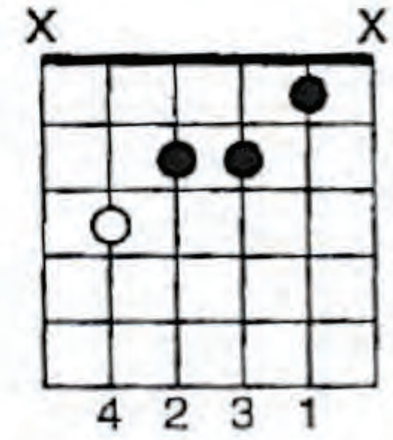
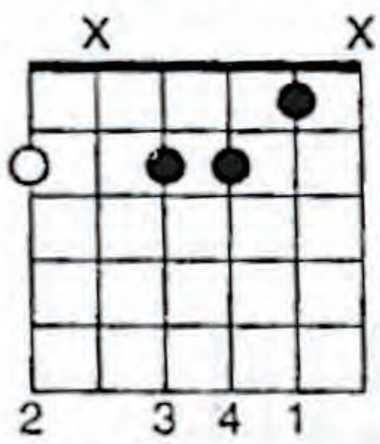
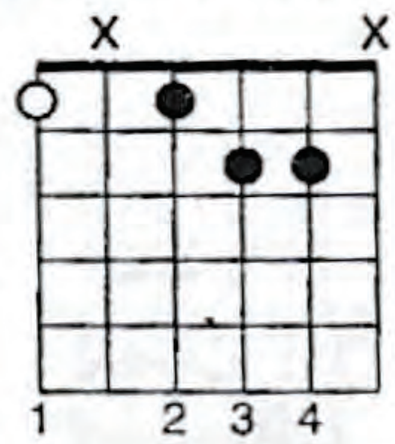
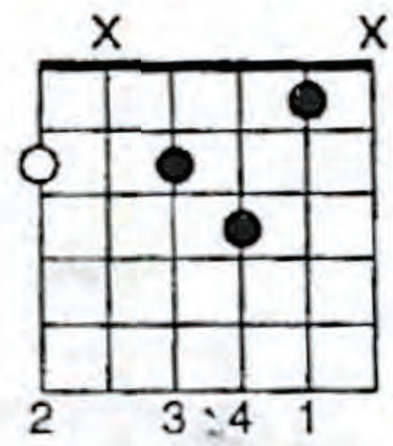
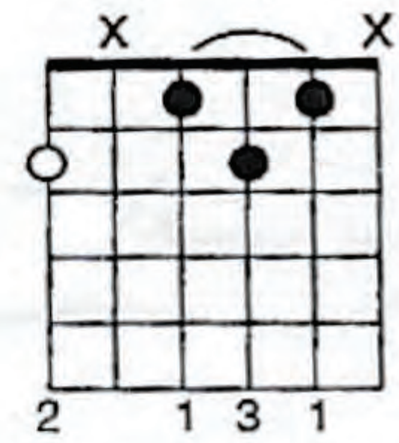
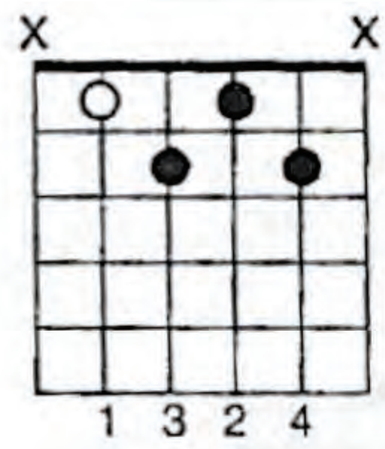
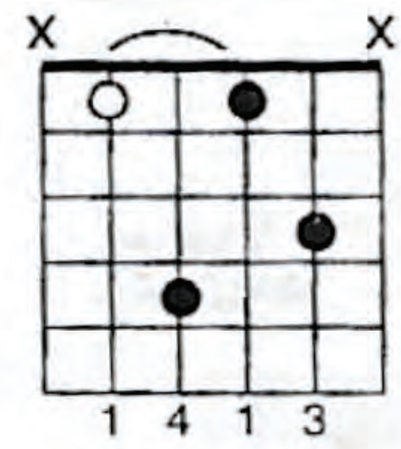
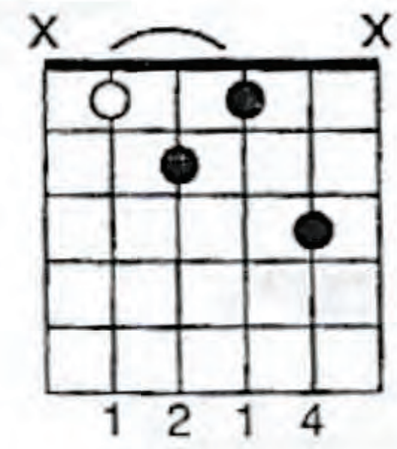
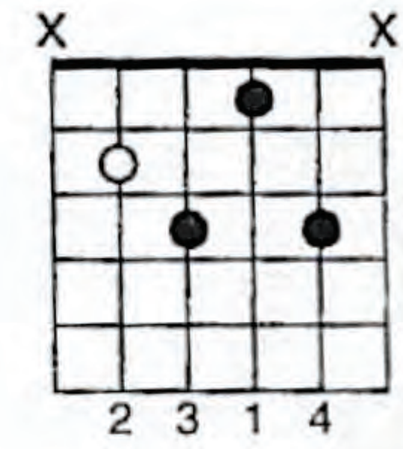


FIG. 1

Major Seventh (maj7)	Minor Seventh (m7)	Dominant Seventh (7)	Sixth (6)
			
			
Minor Seventh, Flat Five (m7♭5)	**Augmented Seventh (+7 or 7♯5)**	**Dominant Seventh, Flat Five (7♭5)**	**Diminished Seventh (°7)**
			
			

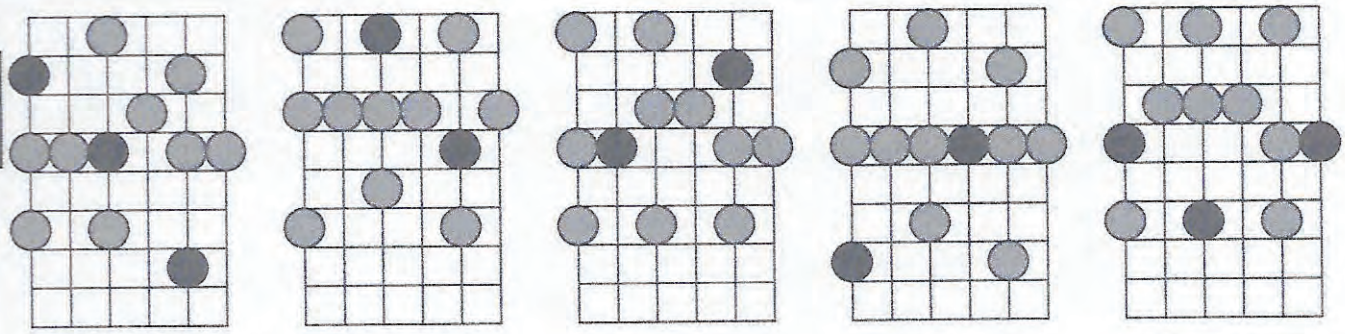
The Scale-Master 1

Clear - View Reference Charts

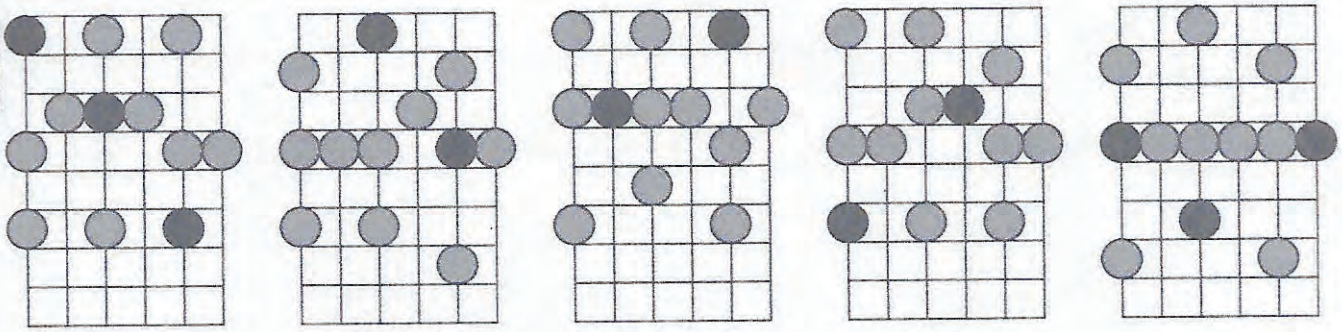
Your Guide To Major & Minor Pentatonic Scale Forms For The Guitar (Scale Forms For Alternate & Sweep Picking)

SCALES ARRANGED FOR SWEEP PICKING

Major Pent



Minor Pent



Alternate picking is quite simple. All you have to do is make sure each down stroke, is followed by an up stroke. Sweep picking attempts to maximize picking efficiency by utilizing as many continuous down strokes or up strokes, as possible. Alternate picking is still necessary but the emphasis is on sweep picking.

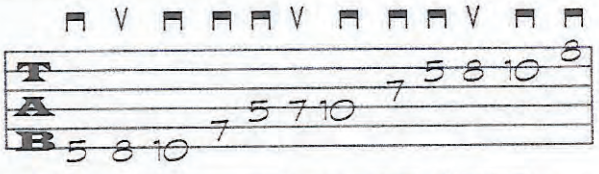
The following example will show you how to play the first Minor Pentatonic Scale Form, shown on this page. The scale form has been moved to the fifth fret. This will give you an A Minor Pentatonic Scale.

When you have two or more pick attacks in the same direction, try to combine them into one continuous stroke. For the example below, the three down strokes in a row should not be played as three separate strokes, but rather as one.

To read tab, remember that each horizontal line represents a string (the sixth is on the bottom) while the numbers indicate which fret to place your fingers.

⊓⇒ indicates an down stroke

V⇒ indicates an up stroke



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