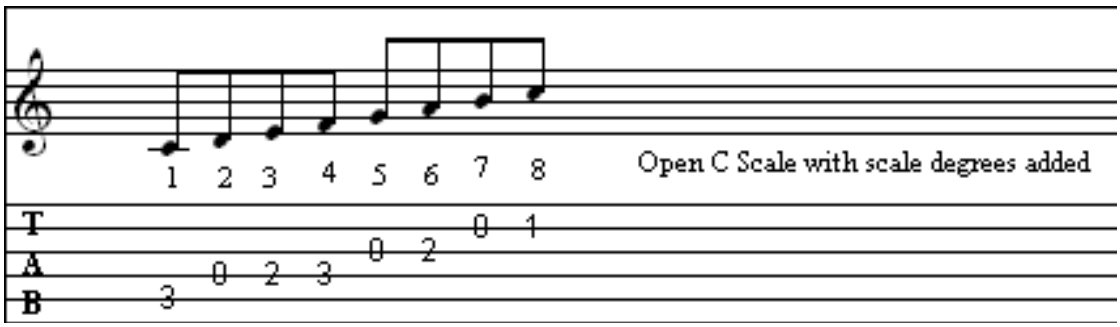
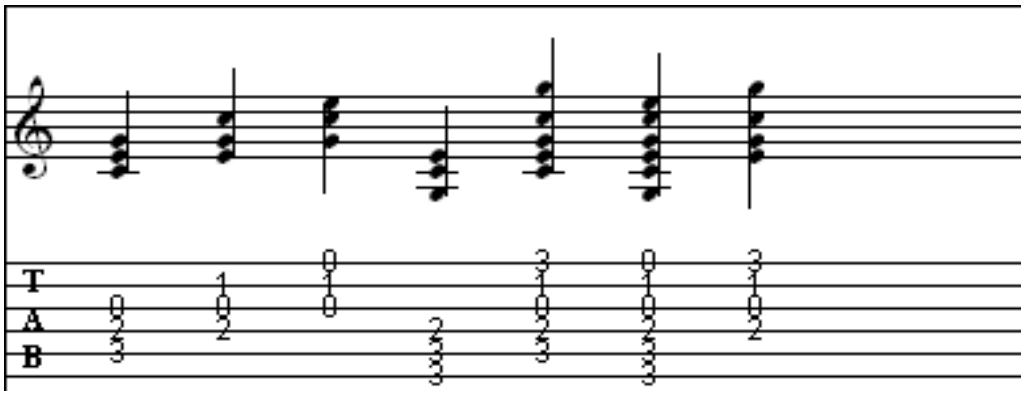
Chord Construction 101
Robert Higginbotham

For simplicity's sake we will start this lesson with an open C major scale as it has no sharps or flats. The example is considered an "open" scale because it uses "open" strings for some of the tones. Note that we speak in the language of scales the words 'tones', 'pitches', and 'degrees' mean the same thing i.e. the third tone of the C scale is E, the third pitch of the C scale is E, and the third degree of the C scale is E Just to really confuse you we might even use the word note – the third note of the C scale is E



Major Triads (Major Chord)

Most music theory states that a chord must have at least three notes (i.e. a triad). The major triad is the most fundamental chord. It consists of the 1st, 3rd, and 5th degrees of the major scale. These tones can be 'stacked' in any order (some are called inversions). With this in mind a C chord can be constructed as:



1.	2.	3.	4.	5.	6.	7.
G	C	E	E	G	E	G
E	G	C	C	C	C	C
C	E	G	G	G	G	G
				E	E	E
				C	C	
					G	

Examples 1-4 above are inversions. Examples 5-7 are inversions with notes added. Notice that the notes we use in all of the examples above are either the first, third, or fifth degree of the C scale (i,e. they are either a C, and E, or a G).

Root Notes

The root note of a C scale is C. The root note of a C chord is C. The root of either is the tonal 'center'. It is important to know where the root is in different chord inversions. Guitar players often use root notes to precede a chord, especially on the first beat of a measure. More on this in another lesson.

Slash Chords

Typically when playing acoustic guitar the bass note of a chord will be the root. When it is not, a 'slash' chord is used to communicate to the player a specific note to play as the lowest note of the chord. The format of a slash chord is chord/bass note. In the preceding example, Example 1 would be communicated as a C chord. Example 6 would be written as a slash chord - C/G.

Note that when playing ensemble with a bass player the guitar player typically will leave the root to the bass player. This gives the guitar player the freedom to play in the upper registers while leaving the lower registers to the bass. A general rule of thumb in jazz and blues would be to seldom include notes on the low E or A strings when playing with a bass player. The object is to not muddy up the sound. With this said, never say never.

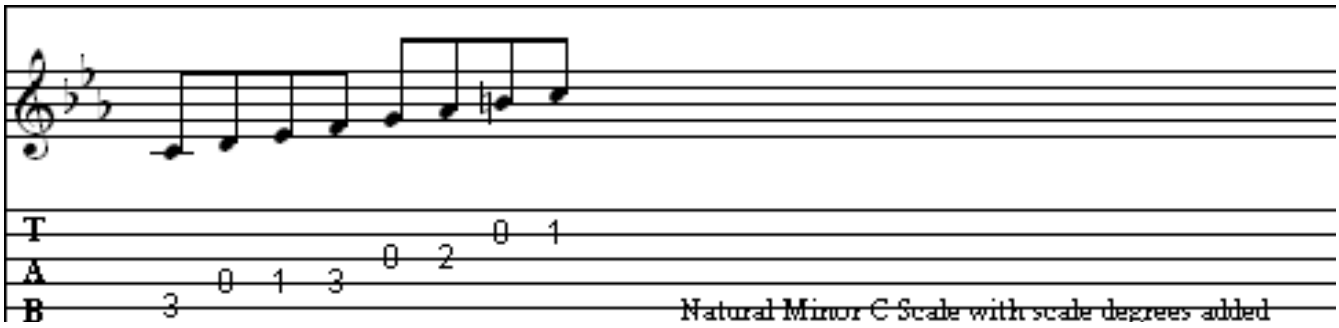
As you saw above, chords can also contain repeated notes, which creates a large number of possibilities on the guitar. For example:

1.	2.	3.	4.	5.	6.
C	E	G	C	E	G
E	G	C	E	G	C
G	C	E	G	C	E
C	E	G	C	E	G
			E	G	C

So, in the end, a major triad consists of the first, third and fifth degrees of the major scale. Did I say MAJOR scale ? Yes, I did. All the same rules apply when using a minor scale. The only difference is that a minor scale contains a flatted third.

Minor Scale

While there are several minor scales, the one element they share in common is they all have a flatted third:



Notice that the third degree in the key of C^{m} is now an E^{b} instead of an E.

A minor chord must be explicitly indicated by one of the following:

Small m - C^{m}
Small min - C^{min}
A minus sign – C^{-}

Major chords are simply expressed by their name:

C

Constructing Triads using Thirds, Diminished and Augmented Chords

Another way to construct chords is by "stacking thirds". The term 'third' refers to the distance between three notes. There are two types of thirds - major and minor. The distance from C to E is two whole steps and is considered a major third (think of the third degree of a major scale). The distance from E to G is one and a half steps and is considered a minor third (think of the third degree of a minor scale).

In addition to major and minor triads we can construct diminished and augmented chords using thirds:

Major Chord = Major third on the bottom, minor third on top
Minor Chord = Minor third on the bottom, major third on top
Diminished Chord = Minor third on the bottom, minor third on top
Augmented Chord = Major third on the bottom, major third on top

Diminished Chords are expressed as

C^{dim} or C^{o}

Augmented Chords are expressed as

C+

Augmented and Diminished chords contain a great deal of tension and are typically used as 'passing' chords to lead from one chord to another, rather than staying on them for a long time.

Diminished 7th chords are constructed of 4 minor thirds. These chords have the distinction of repeating themselves every three frets (the distance of a minor third).

Now, let’s look at some other chords.

Suspended Chords

Suspended chords get their name by 'suspending' the third tone of the scale and replacing it with either the 4th tone, or the 2nd tone of the scale. When the 3rd tone is replaced by the 4th tone, this is often just written as a "sus" chord. When the 3rd tone is replaced by the 2nd tone, it must be explicitly specified in the chord symbol:

C^{sus2} = C,D,G, etc.
C^{sus} = C,F,G, etc.
C^{sus4} = C,F,G, etc. (note that sus and sus 4 are the same chord)

Notice how in all of the above examples there is NO E. That's because it has been REPLACED. More accurately, it has been SUSPENDED. Hence the name Suspended Chord.

Suspended 4th chords typically resolve back to the major, or minor chord (depending on what chord is being suspended). Suspended 2nd chords may or may not resolve. Note that because the third tone of the scale determines whether a chord is major or minor, there is no such chord as a $C^{minsus4}$.

To this point we have covered all the 'triads'. Now let's add some degrees to the basic major or minor triads.

Sixth Chords

Sixth chords simply add the 6th degree of the scale to the triad. In the key of C, A is the sixth degree so adding an A to either a major or minor triad creates a sixth chord.

When notated, sixth Chords look like the following:

C Sixth - C^{6}
C minor Sixth - C^{min6}
C minor Sixth - C^{m6}
C minor Sixth - C^{-6}

Seventh Chords

Seventh chords are a special breed. Not scary, not very logical, but special none the less. Why? Because there are two kinds – a seventh chord actually adds the FLATTED seventh of a scale to a major or minor triad. So, in the key of C, a C7 is spelled C-E-G-B^{b}, C^{min7} would be spelled C-E^{b}-G-B^{b}. A Major seventh chord adds the seventh tone of the major scale to the major triad. So, in the key of C, a C major 7 is spelled C-E-G-B. Note that the rules of stacking and inversions still apply. The seventh, whether it be a seventh or major seventh, can be anywhere in the 'stacking; of the chord.

C7 is the 'funkier' of the two. It is noted as either:

C7 or
C^{7}

Major Seventh chords have a very sweet sound. The major seventh is explicitly noted as:

Cmaj7
C^{maj7} or with a triangle -
$C^{\Delta 7}$

So, remember – if only a seventh is indicated, a 'flatted' seventh is added to the chord. If a 'major' seventh is to be added then it is explicitly noted.

Seventh chords can also be constructed by these formulas of thirds:

Seventh chord = Major third + minor third + minor third
Major Seventh Chord = Major third + minor third + major third
Minor Seventh Chord = Minor third + major third + minor third
Major Minor Seventh Chord = Minor third + major third + major third

So what do we do with all of this knowledge? Learn, listen, and Experiment of course ! All of the chords we have just discussed have certain 'feels' to them. Only by experimenting with them will we find the ones that work in given situations. Always pay attention first and foremost to how chord movements fit with the melody of a given song. Some general guidelines to get you started –

Suspended chords - use these to add 'movement' to a single chord. For instance if you are playing a C chord over two measures of 4 each try playing C for four beats, Csus4 for two beats, C for two beats. In the same situation play C for four beats then one beat each on C, Csus2, Csus4, and C. As long as you 'resolve' back to the originating chord you can take a lot of liberties with Sus chords.

Sixth chords – these fit sometimes and not other times. Listen to how they fit in with the melody. For instance, you might use the sixth chord only on the I chord.

Seventh chords – The spice of life. Try seventh chords anywhere. Again the regular seventh chord is the 'funky' one. Substituting a seventh chord instead of a 'straight' chord often works. The major seventh chord has a very sweet sound and is substituted in very particular situations.

Once you have learned the notes in the various keys to spell out chords, it is a great way to assimilate all of this information. For instance a C6 would be spelled C-E-G-A. An $E^{\Delta 7}$ would spelled E-$G^{\#}$-B=$D^{\#}$. Another great way to assimilate it is to pick up the guitar and use these chords.

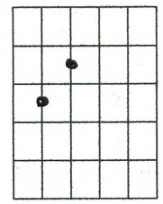
Following are some open position chord shapes to get you started.

Enjoy !

Major Seventh & Dominant Seventh Chords

Date _____

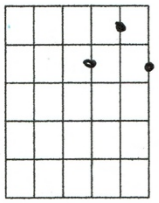
$C^{\Delta 7}$



X 3 2 0 0 0

R

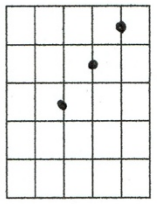
D^{7}



XX 0 2 1 3

R

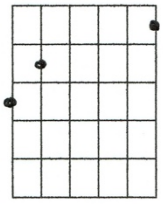
$F^{\Delta 7}$



XX 3 2 1 0

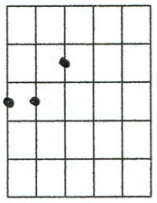
R

G^{7}



3 2 0 0 0 1

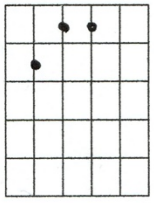
$C^{\Delta 7}/G$



2 3 1 0 0 0

R

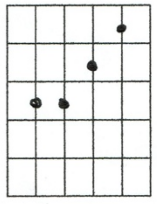
$E^{\Delta 7}$



0 3 1 2 0 0

R

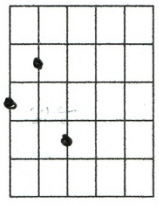
$F^{\Delta 7}/C$



X 3 4 2 1 0

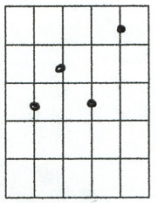
R

$G^{\Delta 7}$



2 1 4 0 0 X

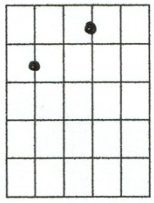
C^{7}



X 3 2 4 1 X

R

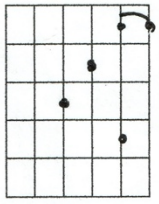
E^{7}



0 2 0 1 0 0

R

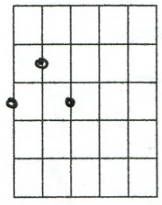
F^{7}



XX 3 2 1 1

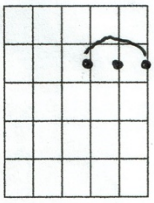
R 4

G^{7}



2 1 3 0 0 X

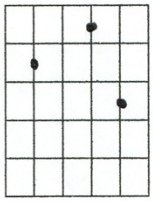
$D^{\Delta 7}$



XX 0 1 1 1

R

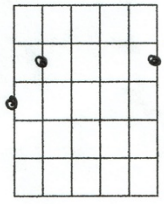
E^{7}



0 2 0 1 4 0

R

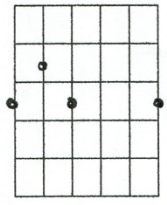
$G^{\Delta 7}$



3 2 0 0 0 1

R

G^{7}



2 1 3 0 0 4

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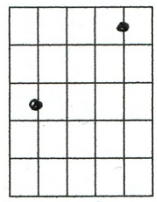
OPEN POSITION sus & slash chords

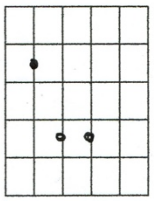
Date _____

C sus2



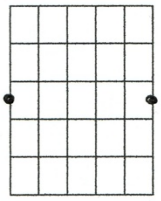
X 3 0 0 1 X
R

E sus2



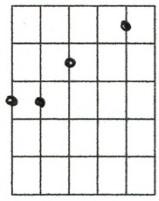
0 1 3 4 0 0
R

G sus2



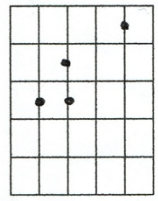
2 0 0 0 X 3
R

C/G



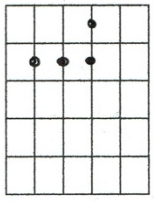
3 4 2 0 1 0
R

C sus4



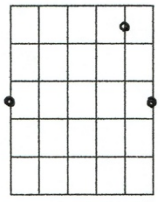
X 3 2 0 1 X
R 4

E sus4



0 2 3 1 0 0
R 4

G sus4

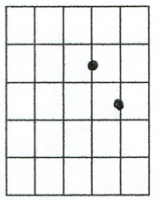


3 X 0 0 1 4
R

D/F♯

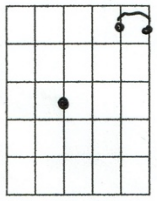
T 0 0 1 3 2
R

D sus2



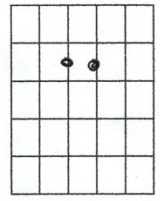
X X 0 1 3 0
R

F sus2



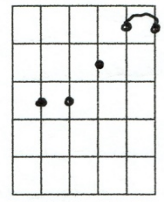
X X 3 0 1 1
R

A sus2



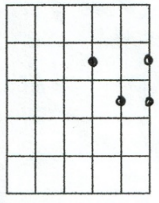
X 0 2 3 0 0
R

F/C



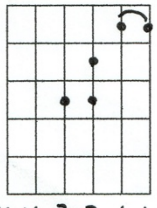
X 3 4 2 1 1
R

D sus4



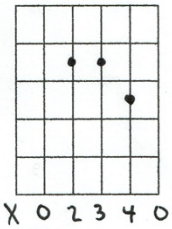
X X 0 1 3 2
R 4

F sus4



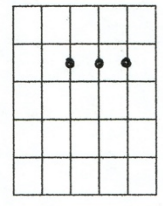
X X 3 2 1 1
4

A sus4



X 0 2 3 4 0
R

A/E



0 0 1 2 3 0
R (2) (3) (4)

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