



## INTRODUCTION

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This text explains music theory in a way that is useful in popular styles of mainstream guitar playing (rock, blues, country, folk, pop, funk, jazz, fusion, etc.). It is a practical guide, filled with essential fingering diagrams, common musical patterns, and useful phrases that constitute the most important core vocabularies of all performing guitarists.

On the guitar, intervals, chords, scales, chord progressions and other musical structures can be thought of in terms of relative note positions, or shapes and movement patterns, on the fret board. Certain shapes and movement patterns are common in each musical genre. In fact, a small handful of shapes make up an overwhelming majority of each sort of guitar music. Learning the sounds created by combinations of those shapes, and the ways they are normally put together, is the primary goal of studying music theory on the guitar.

The ultimate goal of this text is to improve your *creative playing ability* as a guitarist. By recognizing and understanding the most commonly used musical patterns, concepts, and techniques used to create mainstream guitar music, you can put those tools to use in real performance, composition, improvisation, etc. The topics covered in this text will help you understand the harmonic and melodic structure of music, and how that knowledge can be employed practically when writing, arranging, jamming, playing by ear, etc. You'll learn how to create, analyze, and train your ear to hear chord progressions using roman numeral patterns, how to harmonize and reharmonize melodies using chord substitutions, how to play and apply pentatonic scale solos in a variety of musical styles, how to find fingerings for every possible scale and chord in common use, how to play through chord changes using arpeggios, related scales, and added passing tones, and much much more.

In order to internalize the theory concepts presented here, you'll need to *practice, memorize and play* the many musical examples in this text. It's not enough to read explanations about how things sound. The examples in this text are meant to present only the most common and *useful* materials played by performing guitarists. All these examples are fundamentally functional as core vocabulary for performance. They've been filtered through use in real lessons with thousands of students over nearly 3 decades. They come from a lifetime of professional performance experience, and they represent the materials that have been most effective at getting students to actually *play well* and to *sound good* by modern standards. If you practice them, you *will* learn to make new and interesting sounds!

This is *not* a general text about "how to play guitar". To develop basic musical skill, technique, rhythm, and intuitive understanding about how the instrument produces common sounds, you need to learn all the basics of reading tablature, chord diagrams, and rhythm notation, and learn how to perform all the common open chord shapes, power chords, bar chord shapes, strumming techniques, hammer-on and pull-off techniques, slides, bends, harmonics, tapping techniques, alternate picking, cross string picking, sweep picking, and finger picking techniques, understand song form concepts, etc. You must learn to play hundreds/thousands of songs and pieces of music by rote, with others in a group, and on your own. *\*Nothing\** can replace that experience - no amount of reading text will teach you to improvise, compose, and understand music, if you haven't learned to play and perform many pieces of existing music with your own two hands. Playing existing music is the most important part of intuitively understanding how the guitar operates. This text simply explains where all those interesting bits and pieces of music "come from". It ties together the intuitive technical skill and performance ability that comes from practicing, playing, and performing music, with cerebral knowledge that allows you to make music on your own and with others, much more easily, creatively, and with a more solid and complete understanding of how and where all possible harmonic and stylistic sounds are found on the instrument.

NOTES ON THE GUITAR

The musical alphabet consists of 7 letters: A B C D E F G. Note names ascend alphabetically from A to G repeatedly, like this: A B C D E F G A B C D E F G A B C D E F G ... (after every G note, start over with another A)

The open string notes of the guitar are named:

- E 1 (the thinnest string, closest to the ground)
- B 2
- G 3
- D 4
- A 5
- E 6 (the thickest string, farthest from the ground)

On each guitar string, the notes B-C and E-F are always found 1 fret apart, and all other notes are 2 frets apart. You can figure out all the note names of every string and fret on the guitar just by memorizing this guideline and the 6 open string note names. For example, the notes on the 5th string are:

- A - Open (0 fret - see the list above)
- B - 2nd fret (B is always 2 frets higher than A)
- C - 3rd fret (\*C is always 1 fret higher than B\*)
- D - 5th fret (D is always 2 frets higher than C)
- E - 7th fret (E is always 2 frets higher than D)
- F - 8th fret (\*F is always 1 fret higher than E\*)
- G - 10th fret (G is always 2 frets higher than F)
- A - 12th fret (A is always 2 frets higher than G)

Here are the string and fret positions of ALL the "natural" notes on the guitar (A B C D E F G). Follow the notes up on each individual string, starting with the open note and ascending through the fret numbers - and notice that, as described above, all B and C notes are 1 fret apart, all E and F notes are 1 fret apart, and all the other notes are 2 frets apart:

Fret Numbers:	OPEN	1	2	3	4	5	6	7	8	9	10	11	12
1st string:	E	F		G		A		B	C		D		E
2nd string:	B	C		D		E	F		G		A		B
3rd string:	G		A		B	C		D		E	F		G
4th string:	D		E	F		G		A		B	C		D
5th string:	A		B	C		D		E	F		G		A
6th string:	E	F		G		A		B	C		D		E

Between ANY of the consecutive letters that are separated by 2 frets, there are notes labeled as either "sharp" and/or "flat" (just like the black keys on a piano).

The sharp ("#") symbol looks like a \*pound sign\*. It moves notes UP one fret.  
 The flat ("b") symbol looks like a \*lower case b\*. It moves notes DOWN one fret.

For example, the fret between any adjacent F and G note on any string can be called EITHER "Gb" ("G flat" - G moved down 1 fret) OR F# ("F sharp" - F moved up 1 fret). F# and Gb are the SAME note. Here are ALL the notes on the guitar, including all the sharp and flat ("accidental") notes. You can figure out all these notes on the guitar by simply memorizing the 6 open string notes, the pattern of 1-2 frets between each letter, and by naming the in-between notes with sharps and flats:

	0	1	2	3	4	5	6	7	8	9	10	11	12
1st string:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E
2nd string:	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B
3rd string:	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G
4th string:	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D
5th string:	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A
6th string:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E

Notice a few important points about note names on the guitar:

- Note names repeat every 12 frets. Add 12 to any fret number, and you'll find a note with the same name. Those notes are called "Octaves".
- Each string contains many notes identical to those on the strings next to it, typically 5 frets apart (for example, the 1st string open (0 fret) is the same as the 2nd string, 5th fret (E). The 4th string 2nd fret (E) is the same as the 5th string 7th fret, etc.). Notes on the 2nd and 3rd strings are 4

frets apart. The guitar is set up this way so that several octaves of notes can be found and played together, all within several inches of each other on the fret board.

### THE MAJOR SCALE AND "INTERVALS" -----

If you find any C note on the guitar, and play up to the next C note on the same string, using only natural letters (C D E F G A B C), you will hear the familiar "Do Re Mi Fa So La Ti Do" melody that makes up the well known "Major Scale" sound. This is the same as playing the white keys on the piano. The pattern of frets between notes in the C major scale is as follows:

The notes in a C major scale:   C D E F G A B C  
# of frets between each note:    2 2 1 2 2 2 1

You've already seen that there's always 1 fret between E-F and B-C, and 2 frets between all the other notes. If you start on any C on the guitar fretboard, and walk up the string through the natural notes, you'll get the same fretboard pattern, and the same melodic sound. In the diagrams below, the letters are notes that make up the C major scale, and the dashes represent empty, unplayed frets on each string:

```
E-----  
B-----  
G-----  
D-----  
A--C-D-EF-G-A-BC (starting on 5th string, 3rd fret)  
E-----  
0123456789111111 <- fret numbers  
          012345
```

```
E-----  
B-----  
G-----  
D-----  
A-----  
E-----C-D-EF-G-A-BC (starting on 6th string, 8th fret)
```

```
E-----  
B-----  
G----C-D-EF-G-A-BC (starting on 3rd string, 5th fret)  
D-----  
A-----  
E-----
```

```
E-----  
BC-D-EF-G-A-BC (starting on 2nd string, 1st fret)  
G-----  
D-----  
A-----  
E-----
```

### INTERVALS:

To understand what "intervals" are, just replace the letters "C D E F G A B C" in the diagrams above, with the numbers "1 2 3 4 5 6 7 1". Intervals are the building blocks of all other harmonic structures in our musical system (scales, chords, chord progressions, chord-scale relationships, substitutions, etc.). They measure the DISTANCE between notes. On the guitar, those distances can be measured as the number of frets between notes on a string. The numbers 1 2 3 4 5 6 7 1 simply refer to each note in the \*PATTERN OF FRETS\* that make up the C major scale above (notes separated by consecutive 2 2 1 2 2 2 1 frets). These numbers can be moved to ANY note on the guitar, and used to measure the distance between it and other notes. The note found by the interval number "2", for example, is always 2 frets above a note numbered "1". Interval number "3" is always 4 frets above number "1", the interval "4" represents a distance of 5 frets above "1", etc.

```
E-----  
B-----  
G-----  
D-----  
A--1-2-34-5-6-78 (starting on 5th string, 3rd fret)  
E-----
```

```

E-----
B-----
G-----
D-----
A-----
E-----1-2-34-5-6-78 (starting on 6th string, 8th fret)

```

```

E-----
B-----
G----1-2-34-5-6-78 (starting on 3rd string, 5th fret)
D-----
A-----
E-----

```

```

E-----
B1-2-34-5-6-78 (starting on 2nd string, 1st fret)
G-----
D-----
A-----
E-----

```

Here is a list of all the intervals that make up the major scale pattern:

Interval Label:	Number of Frets:	Common Name:
1	0 frets	"unison"
2	2 frets	"major second" or "whole step"
3	4 frets	"major third"
4	5 frets	"fourth" or "perfect fourth"
5	7 frets	"fifth" or "perfect fifth"
6	9 frets	"major 6th"
7	11 frets	"major seventh"
8	12 frets	"octave" (SAME note name as interval 1 - the numbers start over here)

We'll use these interval numbers to create other scales, chords, chord progressions, and every possible harmonic and melodic structure in our musical system.

#### OTHER MAJOR SCALES -----

The major scale interval pattern above (1 2 3 4 5 6 7 8) CAN BE STARTED ON ANY OF THE 12 NOTES IN OUR MUSICAL SYSTEM (A A#/Bb B C C#/Db D D#/Eb E F F#/Gb G G#/Ab), and the following collection of ascending note groups are created. These are the notes that make up the 12 "major scales". They can be found by putting interval #1 on a chosen starting note ("ROOT" note), and finding the notes at intervals 1 2 3 4 5 6 7:

1	2	3	4	5	6	7	1
A	B	C#	D	E	F#	G#	A
Bb	C	D	Eb	F	G	A	Bb
B	C#	D#	E	F#	G#	A#	B
C	D	E	F	G	A	B	C
Db	Eb	F	Gb	Ab	Bb	C	Db
D	E	F#	G	A	B	C#	D
Eb	F	G	Ab	Bb	D	D	Eb
E	F#	G#	A	B	C#	D#	E
F	G	A	Bb	C	D	E	F
F#	G#	A#	B	C#	D#	E#	F#
G	A	B	C	D	E	F#	G
Ab	Bb	C	Db	Eb	F	G	Ab

Here's a detailed look at the notes in each scale:

A major: A B C# D E F# G# A

```
E-----  
B-----  
G-----  
D-----  
A-----  
E----1-2-34-5-6-78 (starting on 6th string, 5th fret)  
      A = 5th fret
```

```
E-----  
B-----  
G-----  
D-----  
A-----  
E---A-B-CD-E-F-GA (starting on 6th string, 5th fret)  
      # # #
```

Bb major: Bb C D Eb F G A Bb

```
E-----  
B-----  
G-----  
D-----  
A-----  
E----1-2-34-5-6-78 (starting on 6th string, 6th fret)  
      Bb = 6th fret
```

```
E-----  
B-----  
G-----  
D-----  
A-----  
E---B-C-DE-F-G-AB (starting on 6th string, 6th fret)  
      b b b
```

B major: B C# D# E F# G# A# B

```
E-----  
B-----  
G-----  
D-----  
A-----  
E-----1-2-34-5-6-78 (starting on 6th string, 7th fret)  
      B = 7th fret
```

```
E-----  
B-----  
G-----  
D-----  
A-----  
E-----B-C-DE-F-G-AB (starting on 6th string, 7th fret)  
      # # # #
```

C major: C D E F G A B C

```

E-----
B-----
G-----
D-----
A-----
E-----1-2-34-5-6-78 (starting on 6th string, 8th fret)
      C = 8th fret

```

```

E-----
B-----
G-----
D-----
A-----
E-----C-D-EF-G-A-BC (starting on 6th string, 8th fret)

```

Db major: Db Eb F Gb Ab Bb C Db

```

E-----
B-----
G-----
D-----
A-----
E-----1-2-34-5-6-78 (starting on 6th string, 9th fret)
      Db = 9th fret

```

```

E-----
B-----
G-----
D-----
A-----
E-----D-E-FG-A-B-CD (starting on 6th string, 9th fret)
      b b b b b b

```

D major: D E F# G A B C# D

```

E-----
B-----
G-----
D-----
A-----
E-----1-2-34-5-6-78 (starting on 6th string, 10th fret)
      D = 10th fret

```

```

E-----
B-----
G-----
D-----
A-----
E-----D-E-FG-A-B-CD (starting on 6th string, 10th fret)
      # #

```

Eb major: Eb F G Ab Bb C D Eb

```

E-----
B-----
G-----
D-----
A-----
E-----1-2-34-5-6-78 (starting on 6th string, 11th fret)
      Eb = 11th fret

```

```

E-----
B-----
G-----
D-----
A-----
E-----E-F-GA-B-C-DE (starting on 6th string, 11th fret)
      b b b b

```

E major: E F# G# A B C# D# E

E-----  
B-----  
G-----  
D-----  
A-----  
1-2-34-5-6-78 (starting on 6th string, 0 fret)  
E = open (0 fret)

E-----  
B-----  
G-----  
D-----  
A-----  
E-F-GA-B-C-DE (starting on 6th string, 0 fret)  
# # # #

F major: F G A Bb C D E F

E-----  
B-----  
G-----  
D-----  
A-----  
E1-2-34-5-6-78 (starting on 6th string, 1st fret)  
F = 1st fret

E-----  
B-----  
G-----  
D-----  
A-----  
EF-G-AB-C-D-EF (starting on 6th string, 1st fret)  
b

F# major: F# G# A# B C# D# E# F#

E-----  
B-----  
G-----  
D-----  
A-----  
E-1-2-34-5-6-78 (starting on 6th string, 2nd fret)  
F# = 2nd fret

E-----  
B-----  
G-----  
D-----  
A-----  
E-F-G-AB-C-D-EF (starting on 6th string, 2nd fret)  
# # # # # #

G major: G A B C D E F# G

E-----  
B-----  
G-----  
D-----  
A-----  
E--1-2-34-5-6-78 (starting on 6th string, 3rd fret)  
G = 3rd fret

E-----  
B-----  
G-----  
D-----  
A-----  
E--G-A-BC-D-E-FG (starting on 6th string, 3rd fret)  
#

Ab major: Ab Bb C Db Eb F G Ab

```

E-----
B-----
G-----
D-----
A-----
E---1-2-34-5-6-78 (starting on 6th string, 4th fret)
    Ab = 4th fret

```

```

E-----
B-----
G-----
D-----
A-----
E---A-B-CD-E-F-GA (starting on 6th string, 4th fret)
    b b b b b

```

FINDING INTERVALS ON DIFFERENT STRINGS

You can move the notes of any major scale off of a single string, and onto several adjacent strings, so that they're easier to find and play right next to each other (i.e., so that you don't have to run up and down 12 frets on a single string). For example, instead of starting on a C on the 5th string, 3rd fret, and counting up to the C at the 5th string 15th fret, like this:

```

E-----
B-----
G-----
D-----
A--C-D-EF-G-A-BC
E-----

```

You can collapse those same notes all down to a smaller area of the fretboard, right next to each other, on 3 separate strings (remember, identical notes are found on adjacent strings, 5 frets apart). These are the EXACT same notes as above, just moved to different strings:

```

E-----
B-----
G---BC--
D--F-G-A
A--C-D-E
E-----

```

Using that same idea, you can find the EXACT same notes in a number of different fingering positions on the guitar, starting on any string:

```

E-----
B-----
G-----
D-----BC--
A-----F-G-A
E-----C-D-E

```

```

E-----
B-----
G-----
D-----A-BC
A-----EF-G
E-----C-D

```

```

E-----
B-----
G---BC--
D---G-A-
A---D-EF
E-----C

```



E-----  
B-----  
G-A-BC  
D-EF-G  
A--C-D  
E-----

E---  
BC--  
G-A-  
D-EF  
A--C  
E---

Here are the same scale shapes written out using interval numbers:

E-----  
B-----  
G---71--  
D--4-5-6  
A--1-2-3  
E-----

E-----  
B-----  
G-----  
D-----71--  
A-----4-5-6  
E-----1-2-3

E-----  
B-----  
G-----  
D-----6-71  
A-----34-5  
E-----1-2

E-----  
B-----  
G---71--  
D---5-6-  
A---2-34  
E-----1

E-----  
B-----  
G-6-78  
D-34-5  
A--1-2  
E-----

E---  
78--  
5-6-  
2-34  
A--1  
E---

In fact, the entire fingering you saw earlier, of all the natural notes on the guitar, demonstrates EVERY possible way you could potentially find fingerings for the C major scale on the guitar fretboard. Just start on ANY C note, and ascend alphabetically through the notes C D E F A B C.

Fret Numbers:	OPEN	1	2	3	4	5	6	7	8	9	10	11	12
1st string:	E	F	-	G	-	A	-	B	C	-	D	-	E
2nd string:	B	C	-	D	-	E	F	-	G	-	A	-	B
3rd string:	G	-	A	-	B	C	-	D	-	E	F	-	G
4th string:	D	-	E	F	-	G	-	A	-	B	C	-	D
5th string:	A	-	B	C	-	D	-	E	F	-	G	-	A
6th string:	E	F	-	G	-	A	-	B	C	-	D	-	E

Replace the letters "C D E F G A B C" in the diagram above, with the numbers "1 2 3 4 5 6 7 1" and you can MOVE those numbers to ANY FRET, to play EVERY possible fingering for any major scale on ANY ROOT note. Just as there is always 1 fret between E-F and B-C, and 2 frets between all the other notes, there is always 1 fret between intervals 3-4 and 7-1, and 2 frets between all the other adjacent interval numbers:

3	4	-	5	-	6	-	7	1	-	2	-	3
7	1	-	2	-	3	4	-	5	-	6	-	7
5	-	6	-	7	1	-	2	-	3	4	-	5
2	-	3	4	-	5	-	6	-	7	1	-	2
6	-	7	1	-	2	-	3	4	-	5	-	6
3	4	-	5	-	6	-	7	1	-	2	-	3

To be clear, here is the same movable diagram as above, rearranged a bit and drawn in a more compact form. The dashes represent empty frets. Put ANY #1 in the diagram on ANY root note on the guitar, play the numbers 1-7 in any direction you want, and you'll hear the sound of a major scale on the chosen root. This is the **MOST IMPORTANT** FINGERING PATTERN TO LEARN ON THE GUITAR. It contains the all the fretboard shapes required to play EVERY single scale, chord, chord progression, and other theoretical structure/relationship found in music. We will refer to this diagram throughout the rest of this text - it is the roadmap used to create every harmonic and melodic sound possible on the guitar:

```

1-2-34-5-6-71 (1st string)
5-6-71-2-34-5
-34-5-6-71-2-
-71-2-34-5-6-
4-5-6-71-2-34
1-2-34-5-6-71 (6th string)

```

Turned on it's side, like a chord diagram, the above fingering looks like this:

```

14||51
||73||
251462
|||||
362573
4|||14
|736||
514|25
|||7||
625136
||||4|
7362|7
14||51

```

That's a lot to memorize. To make it easier to learn, notice that certain intervals are always next to each other on adjacent strings: 1-4, 2-5, 3-6, 5-1, 6-2, 7-3, 1-4. 4-7 are always 1 fret apart on adjacent strings. This pattern holds true for all string pairs except the 2nd and 3rd strings, where everything is shifted 1 fret apart (that's because strings 2 and 3 are tuned 4 frets apart, and all the other strings are tuned 5 frets apart). And of course, there's always 1 fret between 3-4 and 7-1, and 2 frets between all other intervals, on each string.

14 || 51

|| 73 ||

251462

|||||

362573

4 || | 14

| 736 ||

514 | 25

|| | 7 ||

625136

|||| 4 |

7362 | 7

14 || 51

|| 73 ||

251462

OTHER SCALE TYPES

-----

To play other scales, all you need to do is CHANGE (and/or add/delete) numbers in the major scale interval pattern. Here are the interval formulas for the most common scales used in popular musical styles. Try picking them out on different root notes, using the interval fingerings above. First try using the intervals found in the single-string major scale pattern, then try playing the intervals across several strings, and starting various root notes found in different positions on the fretboard. You'll hear that, no matter what root note you start on, or where you find the notes on the fretboard, each scale retains its characteristic sound, based on its own unique interval structure. Perhaps THE most important concept to understand in all music theory is that specific INTERVAL STRUCTURES create specific CHARACTERISTIC SOUNDS:

Major:	Major Pentatonic:	Minor Pentatonic:	Blues:
1 2 3 4 5 6 7	1 2 3 5 6	1 b3 4 5 b7	1 b3 4 b5 5 b7
Mixolydian:	Dorian:	Lydian:	Locrian:
1 2 3 4 5 6 b7	1 2 b3 4 5 6 b7	1 2 3 #4 5 6 7	1 b2 b3 4 b5 b6 b7
Natural Minor (Aeolian):	Harmonic Minor:	Melodic Minor:	
1 2 b3 4 5 b6 b7	1 2 b3 4 5 b6 7	1 2 b3 4 5 6 7 (ascending)	
		1 2 b3 4 5 b6 b7 (descending)	
Bebop Dominant:	Bebop Major:	Bebop Minor:	
1 2 3 4 5 6 b7 7	1 2 3 4 5 #5 6 7	1 2 b3 3 4 5 6 7	
Diminished:	Whole Tone:	Lydian Dominant:	
1 2 b3 4 b5 b6 6 7	1 2 3 #4 #5 b7	1 2 3 #4 5 6 b7	
Chromatic (every possible note):			
1 b2 2 b3 3 4 b5 5 b6 6 b7 7			

EXAMPLE SCALE FINGERINGS:

As a reference, below are 2 fingerboard shapes that can be used to create scales. These shapes are taken directly from the full fretboard interval pattern you saw earlier. They're just smaller portions that are easier to learn. The first shape has a root note on the 6th string. The second shape has a root note on the 5th string.

Root note on the 6th string:	Root note on the 5th string:
1 4     5 1	5 1 4   2 5
7 3	7
2 5 1 4 6 2	6 2 5 1 3 6
	4
3 6 2(5) 7 3	7 3 6(2)   7
(1)	(1)       (5) 1

Here are the notes on the 6th and 5th string, for quick reference:

0 1 2 3 4 5 6 7 8 9 10 11 12	0 1 2 3 4 5 6 7 8 9 10 11 12
E F F# G G# A Bb B C C# D Eb E	A Bb B C C# D Eb E F F# G G# A

Plug in the numbers in the scale formulas above, and you will hear the sound of each scale. These scale diagrams are *movable* - just like bar chords. They can be placed on any fret, and the note you cover with the #1 interval is called the *root note*. For example, put the #1 on an "F" note (1st fret on the 6th string or 8th fret on the 5th string), play the major scale intervals (1 2 3 4 5 6 7), and you're playing a "F major scale". Put the #1 on a Bb (6th fret on the 6th string or 1st fret on the 5th string), play the harmonic minor scale intervals, and you will here the sound of a "Bb harmonic minor scale".

Major: 1 2 3 4 5 6 7

1 4     5 1	5 1 4   2 5
7 3	7
2 5 1 4 6 2	6 2 5 1 3 6
	4
3 6 2   7 3	7 3 6(2)   7
(1)	(1)       (5) 1

RO  OR	ORO OO
OO	O
OOROOO	OORROO
	O
OOO OO	OOO  O

Major Pentatonic: 1 2 3 5 6

(1)	(1)
3	
2 5 1   6 2	5 2 5 1 3 6
3 6 2 5   3	3 6 2
1	1       5 1

O	OOOROO
OOR OO	
	OOO
OOOO O	R    OR
R	

Minor Pentatonic: 1 b3 4 5 b7

1 4b7b3 5 1	5 1 4b7   5
	b3
5 1 4	5 1
b3      b7b3	b7b3     4b7

ROOOOR	OROO O
	O O
ORO	OR
O   OO	OO  OO

Blues: 1 b3 4 b5 5 b7

1 4b7b3 5 1	5 1 4b7   5
b5	b5  b3
5 1 4	5 1
b3    b5b7b3	b7b3     4b7

**b5**

ROOOOR	OROO O
O	O O
ORO	OR
O  OOO	OO  OO
	O

Mixolydian: 1 2 3 4 5 6 b7

1 4b7   5 1	5 1 4b7 2 5
3	
2 5 1 4 6 2	6 2 5 1 3 6
b7	b7       4b7
3 6 2     3	3 6

ROO OR	OROOOO
O	
OOROOO	OORROO
O	O    OO
OOO OO	OO



Melodic Minor (ascending): 1 2 b3 4 5 6 7

1 4   b3 5 1	5 1 4   2 5
7	7b3
2 5 1 4 6 2	6 2 5 1   6
b3         b3	b3     4
6 2   7	7   6     7

RO OOR	ORO OO
O	O O
OOROOO	O O O R   O
O       O	O     O
O O   O	O   O     O

Melodic Minor (descending): 1 2 b3 4 5 b6 b7 (same as natural minor)

1 4b7b3 5 1	5 1 4b7 2 5
b6	b6       b3b6
2 5 1 4   2	2 5 1
b3b6     b7b3	b7b3b6   4b7
2	

ROOOOR	OROOOO
O	O       O O
OORO O	OOR
OO    OO	OOO OO
O	

Bebop Dominant: 1 2 3 4 5 6 b7 7

1 4b7   5 1	5 1 4b7 2 5
7 3	7
2 5 1 4 6 2	6 2 5 1 3 6
b7	b7       4b7
3 6 2   7 3	7 3 6     7

ROO OR	OROOOO
O O	O
OOROOO	O O O R O O
O	O       O O
OOO    O	OOO    O

Bebop Major: 1 2 3 4 5 #5 6 7

1 4     5 1	5 1 4   2 5
7 3#5	#5     7   #5
2 5 1 4 6 2	6 2 5 1 3 6
#5	#5   4
3 6 2   7 3	7 3 6     7

OO    OR	ORO OO
O O O	O     O   O
OOROOO	O O O R O O
O	O   O
OOO OO	OOO    O

Bebop Minor: 1 2 b3 3 4 5 6 7

1 4   b3 5 1	5 1 4   2 5
7 3	7b3
2 5 1 4 6 2	6 2 5 1 3 6
b3         b3	b3     4
3 6 2   7 3	7 3 6     7

RO OOR	ORO OO
O O	O O
OOROOO	O O O R O O
O       O	O     O
OOO OO	OOO    O

Diminished: 1 2 b3 4 b5 b6 6 7

1 4  b3   1	1 4   2
b5 7  b6	b6  b5 7b3b6
2   1 4 6 2	6 2   1   6
b3b6  b5  b3	b3b6   4
6 2   7	7   6  b5 7

RO O R	RO O
OO O	O OOOO
O R000	OO R O
OO O O	OO O
OO O	O O OO

Whole Tone: 1 2 3 #4 #5 b7

1  b7     1	1  b7 2
#4   3#5	#5  #4    #5
2   1     2	2   1 3
#5  #4b7	b7  #5    b7
3   2     3	3    #4

R O  R	R OO
O OO	O O  O
O R  O	O R  O
O OO	O O  O
O O  O	O  O

Lydian Dominant: 1 2 3 #4 5 6 b7

1  b7   5 1	5 1  b7 2 5
#4   3	#4
2 5 1   6 2	6 2 5 1 3 6
#4b7	b7        b7
3 6 2     3	3 6  #4

R O OR	OR OOO
O O O	O
OOR O	OOOROO
OO	O   O
OOO  O	OO O

Chromatic (every possible note):

1 b2 2 b3 3 4 b5 5 b6 6 b7 7

1 4b7b3 5 1	5 1 4b7 2 5
b2b5 7 4b6b2	b6b2b5 7b3b6
2 5 1 4 6 2	6 2 5 1 3 6
b3b6b2b5b7b3	b7b3b6b2 4b7
3 6 2   7 3	7 3 6  b5 7

ROOOOR	OROOOO
OOOOOO	OOOOOO
OOROOO	OOOROO
OOOOOO	OOOOOO
OOO OO	OOO OO

### HOW TO PRACTICE:

The practical benefit of learning scales is that they can be used to create melodies. If you want to learn how to compose or to improvise lead guitar solos, scale fingerings provide some of the most important core sources of melodic material. Later in this text, you'll learn much more about how to determine which scales sound good with given chords and progressions (You'll also learn how to create chords and progressions of all types). For now, practicing melodic skips, jumps, and other near/far melodic movement patterns, note combinations, rhythmic patterns, and other structural devices, to create interesting melodic sounds, is an important part of initial scale study. Specifically working on developing speed and technical ability, to play all possible melodic movement patterns, note groupings, etc., on any given group of notes, should be a primary focus of your theory practice.



Here are the most common structural devices that can be practiced on interval patterns in any scale. Change the numbers to fit the scale you're practicing, and continue the patterns up and down the entire length of the scale fingering:

SCALAR "SEQUENCE" PATTERNS:

4 notes descending	1 7 6 5 7 6 5 4 6 5 4 3 ...
	1 7 6 5 2 1 7 6 3 2 1 7 ...
4 notes ascending	1 2 3 4 2 3 4 5 3 4 5 6 ...
	1 2 3 4 7 1 2 3 6 7 1 2 ...
3 notes descending	1 7 6 7 6 5 6 5 4 ...
	1 7 6 2 1 7 3 2 1 ...
3 notes ascending	1 2 3 2 3 4 3 4 5 ...
	1 2 3 7 1 2 6 7 1 ...
3rds	1 3 2 4 3 5 4 6 ...
	1 3 7 2 6 1 5 7 ...
skip down, ascend	3 1 2 3 4 2 3 4 5 3 4 5 ...
	3 1 2 3 2 7 1 2 1 6 7 1 ...
skip up, descend	1 3 2 1 2 4 3 2 3 5 4 3 ...
	1 3 2 1 7 2 1 7 6 1 7 6 ...
enclosures	1 7 2 1 2 1 3 2 3 2 4 3 ...
	1 7 2 1 7 6 1 7 6 5 7 6 ...

BEND PATTERNS:

Slow: bend-2 2 1 bend-3 3 2 bend-4 4 2 ...  
fast: bend-release-2 pulloff-1 7 1 bend-release-3 pulloff-2 1 2

PEDAL TONE PATTERNS:

1 7 1 6 1 5 1 4 1 3 1 2 1 1  
5 4 5 3 5 2 5 1 5 7 5 6 5 5  
etc...

ARPEGGIO PATTERNS (more about this when studying chords):

1 3 5 7 3 5 7 1 5 7 1 3 7 1 3 5

ROLLS AND DOUBLE STOPS:

Play TOGETHER combinations of any notes from a scale or chord  
Play ALTERNATELY combinations of any notes from a scale or chord

\*\* This is perhaps THE most important melodic and textural device.  
\*\* It encourages melodic skips, instead of straight scalar sequences.  
\*\* It also encourages textural note combinations instead of single notes.

ADDED TONES:

Based on the scale 1 2 3 4 5 6 7, here are added passing tones:

1 b2 2 3 2 b3 3 4 3 4 b5 5 4 5 b6 6

Practicing the above mechanical patterns will provide endless melodic and textural material that can be used when improvising lead guitar parts, composing melodies, etc. You simply need to apply preconceived rhythms to create musical phrases. Learning which scales to play against given chords and chord progressions, is another important part of the theory learning process, which will be covered in depth in future sections of this text.

## EXTENDED INTERVALS

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It's important to see that the numbers 9 = 2, 11 = 4 and 6 = 13. They are the same notes, just an octave (12 frets) apart. Here is a diagram displaying all the intervals as they appear on the frets of any single string of the guitar. Hyphens ("-") represent empty frets:

1 - 2 - 3 4 - 5 - 6 - 7 8 - 9 - 10 11 - 12 - 13

That's the same as:

1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 - 3 4 - 5 - 6

Here is a complete list of all the most common interval labels. You will see many of them with creating chords:

Interval Label:	Number of Frets:	Common Name:
1	0 frets	"unison"
b2 (or #1)	1 fret	"minor second" or "half step"
2	2 frets	"major second" or "whole step"
b3 (or b4)	3 frets	"minor third"
3	4 frets	"major third"
4	5 frets	"fourth" or "perfect fourth"
b5 (or #4)	6 frets	"tritone"
5	7 frets	"fifth" or "perfect fifth"
#5 (or b6)	8 frets	"augmented fifth" or "minor 6th"
6	9 frets	"major 6th"
b7 (or #6)	10 frets	"minor seventh"
7	11 frets	"major seventh"
8	12 frets	"octave"
b9	13 frets	"minor 9th" (b2 + an octave)
9	14 frets	"major ninth" (2 + an octave)
#9	14 frets	"sharp nine" (b3 + an octave)
10	16 frets	"major tenth" (3 + an octave)
11	16 frets	"eleventh" (4 + an octave)
12	17 frets	"twelfth" (5 + an octave)
13	17 frets	"thirteenth" (6 + an octave)

CHORDS

-----

Whereas scales are typically thought of as collections of notes that are played individually (one at a time), up or down in succession, chords are collections of notes that are played TOGETHER. Here are the formulas used to play the most common types of chords:

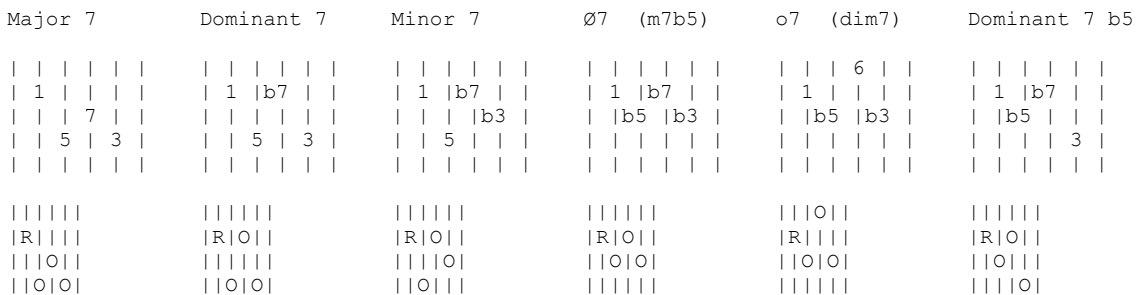
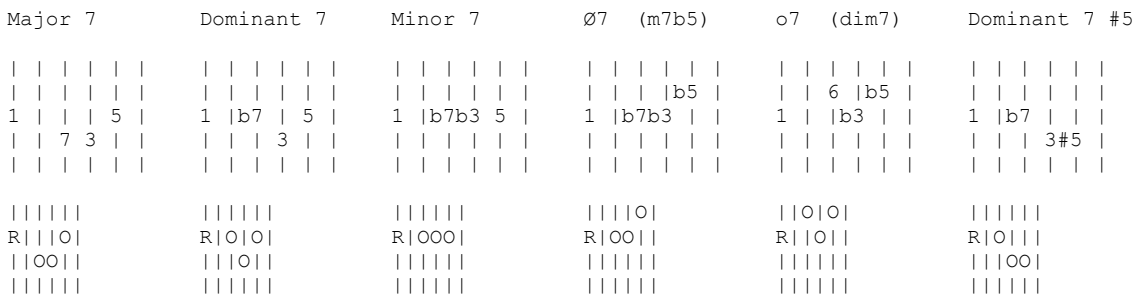
CHORD TYPE:	INTERVALS:	SYMBOLS:
Power Chord	1 5	5
Major Triad	1 3 5	none (just a root note)
Minor Triad	1 b3 5	m, min, mi, -
Dominant 7	1 3 (5) b7	7
Major 7	1 3 (5) 7	maj7, M7, (triangle) 7
Minor 7	1 b3 (5) b7	m7, min7, mi7, -7
Half Diminished 7	1 b3 b5 b7	m7b5, ø7, (circle with line) 7
Diminished 7	1 b3 b5 bb7 (6)	dim7, ø7, (circle) 7
Augmented 7	1 3 #5 b7	7aug, 7(#5), 7(+5)

Here are 2 of the most common fingerings used to find the intervals in chords. They come entirely from the full fretboard interval fingering you saw earlier. They're just smaller, more manageable chunks that are commonly used:

Root 6 interval shapes:                      Root 5 interval shapes:



To create any chord, slide either shape up the fretboard until the number "1" is on the correct root note (i.e., for a "G" chord, slide the root 6 shape up to the 3rd fret, or the root 5 shape up to the 10th fret). Then pick out the required intervals. Here are some examples of the most common types of chords. The first line builds the chords shapes using the root note on the 6th string (the first interval shape above). The second line builds the chord shapes using the root note on the 5th string (the second interval shape above):



Here are the chords to the song "Autumn Leaves" (Dm7 G7 Cmaj7 Fmaj7 Bø7 E7alt Am7 Am7), using the shapes above. Each chord is drawn out with root notes on both the 6th and 5th strings (i.e., using both interval diagrams above). The "E7alt" chord is a dominant chord with any combination of #5, b5, #9, and/or b9 intervals. The fret number for the root note in every chord is indicated to the left of each shape.

Autumn Leaves: Dm7 G7 Cmaj7 Fmaj7 BØ7 E7alt Am7 Am7

Dm7		G7		Cmaj7	
10	R 000   1111   1111   1111	5	R 0 1   11 0   10 1   1111	3	R 0 0   11 0   1111   1111
10	R 0 1   11 0   10 0   1111	8	R  10   100 1   1111   1111	3	R 1 1   11 0   10 0   1111
Fmaj7		BØ7		E7alt	
1	R  00   100 1   1111   1111	8	R 1 1   11 0   10 0   1111	7	R 00 1   1111   1111   1111
1	R 0 1   10 0   1111   1111	12	R 0 1   11 00   1111   1111	7	R 0 1   10 1   11 0   1111
Am7					
5	R 000   1111   1111   1111	12	R 0 1   11 10   11 0 1   1111		

In order to fill up all 6 strings of the guitar with strum-able notes, you can double any interval number in any chord shape (i.e., you can have as many 1, 3, 5, 7, etc. intervals in your chord shape, as desired). Take a look at how the most common **major triad (1 3 5)**, **minor triad (1 b3 5)**, and **dominant 7 (1 3 5 b7)** bar chord shapes are created from the interval patterns above. Notice how the root notes and fifths (intervals 1 and 5) are doubled in each shape, to fill up all 6 strings:

	major	minor	7th	major	minor	7th
Bar:	000000  11 0 1   100 1 1	000000  1111 1   100 1 1	000000  11 0 1   10 1 1   11 (0)	000000  1111 1   1000 1 1	000000  11 10 1   100 1 1	000000  1111 1   10 0 1
	(135)	(1b35)	(135b7)	(135)	(1b35)	(135b7)
Bar:	1 1 1 5 1   11 3 1 1   51 1 1 1	1 1 3 5 1   1111 1 1   51 1 1 1	1 7 1 5 1   11 3 1 1   5 1 1 1   11 (7)	5 1 1 1 5   1111 1 1 3 1   1 5 1 3 1	5 1 1 1 5   11 1 3 1 1   1 5 1 1 1	5 1 7 1 5   1111 1 1   1 5 3 1

To create "extended" chords, just add these intervals to the above 7th chords ("5"s are optional):

9 (is same as 2)      11 (is same as 4)      13 (is same as 6)

Examples:

maj9	=	1	3	(5)	7	9
9	=	1	3	(5)	b7	9
min9	=	1	b3	(5)	b7	9
13	=	1	3	5	b7	13
7(#5b9)	=	1	3	#5	b7	b9
maj9(#11)	=	1	3	(5)	7	9 #11

Major 9	Dominant 9	Minor 9	Dominant 13	Dominant7#5b9	Major 9 #11
 1       5         7 3        (5)      9   	 1  b7   5           3         5       9   	 1  b7b3 5                   5       9   	 1  b7       1         3         5     6     	 1  b7               3#5b9               	#4     1                 7 3                 9   
1111  R  10   100 1   111 9	1111  R 0 0   110 1   01 10	1111  R 000   1111   01 10	1111  R 0 0   110 1   01 10	1111  R 0 1   11000   1111	1110  R 1 1   100 1   111 0

Major 9	Dominant 9	Minor 9	Dominant 13	Dominant7#5b9	Major 9 #11
		b3			
3	3		3	3  b9	3    #4
1     9 5	1  b7 9 5	1  b7 9 5	1  b7 9	1  b7	1     9
7				#5	7
			6		

		O			
O	O		O	O O	O O
R  OO	R OOO	R OOO	R OO	R O	R O
O				O	O
			O		

You'll notice that some of the above shapes are difficult or impossible to play with 4 fingers. In those cases, *simply eliminate the root note*. When performing with a band, you can expect the bass, keyboard, tuba player, etc. to play the root note of each chord. Also remember that the 5th interval can always be left out, unless it is altered (#5 b5). By leaving out the root and/or 5th of any complex chord, you'll find that in every single case, no matter how difficult the chord formula, a complete chord can *always* be performed, in both of the interval shapes above (root 6 and root 5), *using only the top 4 strings of the guitar*.

Here are some more common chord types:

"sus" = change 3 to 4 (also called "sus4")  
"sus2" = change 3 to 2  
"add9" = 1 3 5 9 (same as "add2", there's no 7 in "add" chords)  
"6, maj6" = 1 3 (5) 6  
"m6, min6" = 1 b3 5 6  
"6/9" = 1 3 (5) 6 9  
11 = 1 (5) b7 9 11  
"/" = Bassist plays the note after the slash

sus	7sus4	add9	maj6	6/9	11
					4
				3 6 9	9
1       5 1	1  b7   5 1	(1)       5	(1)         1	1       5 1	1  b7
		3	3		
5 1 4	5   4	1     9	(5) 1   6		
					O
				OOO	O
R   OO	R O OO	O	O	R   OO	R O
		O	O		
OOO	O O	R O	R O		

sus	7sus4	add9	maj6	6/9	11
			1		
		3	3 6	3 6	
5 1       5	5 1  b7   5	1       9 5	1	1       9 5	1 4b7 9 5
5 1	5				
4	4				
			O		
		O	OO	OO	
OR   O	OR O O	R  OO	R	R  OO	ROOOO
OO	O				
O	O				

Below are some examples of complex chords in complete pieces of music. The interval structure of each chord is listed, the root note fret is found on either the 6th or 5th string, and the intervals are presented in diagrams form, as derived from the 2 shapes above:

"Laura":

| E7(b9) | Am9 | Am7/D D7(b9#5) | Gmaj7 Am7 | Bbdim7 Bm(b6) | Gm7 | Db7(#5) C7(b9#5) |  
 Fmaj7 Bb7 | F6/9 | Fm Fm(maj7) | Dm7(b5) G7(b9b5) | Cmaj7 Dm7 | Em7 Am7 | D7(-9+5) |  
 G9sus4 G9 | F#07 Fm7 | Em7 Eb7sus4 | Dm7 Dbmaj7 | Cmaj9(#11) ||

E7(b9) 1 3 5 b7 b9 C shape 1=7th fret (E) x     3  b9     1  b7   5 	Am9 1 b3 5 b7 9 E shape 1=5th fret (A)    b7b3 5               5       9	Am7/D 1 b3 5 b7 "D" E shape 1=5th fret (A) x   Db7b3 5 1 	D7(b9#5) 1 3 #5 b7 b9 C shape 1=5th fret (D) x     3  b9     1  b7              #5	Gmaj7 1 3 5 7 E shape 1=3rd fret (G)         5 1     7 3       5	Am7 1 b3 5 b7 E shape 1=5th fret (A)    b7b3 5 1             5
---	--	---	---	--	--

Bbdim7 1 b3 b5 6 E shape 1=6th fret (Bb)       b3   1  b5             1   6	Bm(b6) 1 b3 5 b6 E shape 1=7th fret (B)      b3   1        b6     5 1	Gm7 1 b3 5 b7 D shape 1=5th fret (G) x  (5)1                b7b3       5	Db7(#5) 1 3 #5 7 C shape 1=4th fret (Db) x x     3         1  b7              #5	C7(b9#5) 1 3 #5 b7 b9 C shape 1=3rd fret (C) x     3  b9     1  b7              #5	Fmaj7 1 3 5 7 D shape 1=3rd fret (F) x  (5)1                b7b3       5 7 3
---	---	---	---	---	---

Bb7 1 3 5 b7 E shape 1=6th fret (Bb)    b7     1       3       5                b7	F6/9 1 3 5 6 9 C shape 1=8th fret (F) x     3 6       1     9 5           	Fm 1 b3 5 D shape 1=3rd fret (F) x  (5)1                b3       5             1	Fm(maj7) 1 b3 5 7 D shape 1=3rd fret (F) x  (5)1                b3       5 7   	Dm7(b5) 1 b3 b5 b7 A shape 1=5th fret (D) x x   1  b7        b5  b3             	G7(b9b5) 1 3 b5 7 b9 E shape 1=3rd fret (G)    b7   5    b5   3  b9           
---	--	--	---	--	---

Cmaj7 1 3 5 7 A shape 1=3rd fret (C) (5)1       5       7         5   3   	Dm7 1 b3 5 b7 A shape 1=5th fret (D) (5)1  b7   5        b3       5       	Em7 1 b3 5 b7 A shape 1=7th fret (E) (5)1  b7   5        b3     5         	Am7 1 b3 5 b7 E shape 1=5th fret (A) 1  b7b3   1             5                b7	D7(-9+5) 1 3 #5 b7 b9 C shape 1=5rd fret (D) x     3  b9     1  b7              #5 	G9sus4 1 4 5 b7 9 E shape 1=3rd fret (G) 1  b7   5               5   4   9 
---	---	---	---	---	--

G9 1 3 5 b7 9 E shape 1=3rd fret (G) 1  b7   5         3       5       9 	F#07 1 b3 b5 b7 D shape 1=4th fret (F#) x x     1            b5b7b3           	Fm7 1 b3 5 b7 D shape 1=3rd fret (F) x  (5)1                b7b3       5     	Em7 1 b3 5 b7 D shape 1=2nd fret (E) x  (5)1                b7b3       5     	Eb7sus4 1 4 5 b7 A shape 1=6th fret (Eb) (5)1  b7   5               5               4	Dm7 1 b3 5 b7 A shape 1=5th fret (D) (5)1  b7   5        b3       5       
--	--	---	---	--	---

Dbmaj7 1 3 5 7 A shape 1=4th fret (Db) (5)1       5       7         5   3	Cmaj9(#11) 1 3 5 7 9 #11 C shape 1=3rd fret (C) x     3    #11   1     9         7
---	---

A Blues Progression:

| A13 A9 | D13 D9 | A9 A7 | A7 A+ | D9 D7(b9) | Adim7 D#dim7 | Amaj7 Bmin7 | C#min9 Cmin9  
 | Bmin9 Bmin13 | E9 E7#9 | C#07 F#7(#9) | B9sus4 Bm7 E9sus E7(b5#9) | A6/9 A6 A6/9 Amaj9(#11) |

A13	A9	D13	D9	A9	A7
1 3 5 b7 (9) 13	1 3 5 b7 9	1 3 5 b7 (9) 13	1 3 5 b7 9	1 3 5 b7 9	1 3 5 b7
E shape	G shape	C/A shape	C shape	E shape	D shape
1=5th fret (A)	1=5th fret (A)	1=5th fret (D)	1=5th fret (D)	1=5th fret (A)	1=7th fret (A)
x	x	x	x	x	x
1  b7     5	3   9	3	3	1  b7   5	(5)1
3	(1) b7   5	1  b7	1  b7 9 5	3	b7
5    13(9)				5       9	5   3
		313			

(major triad, #5)

A7	A+	D9	D7(b9)	Adim7	D#dim7
1 3 5 b7	1 3 #5	1 3 5 b7 9	1 3 5 b7 b9	1 b3 b5 6	1 b3 b5 b7
C shape	C shape	E shape	E shape	D shape	C/A shape
1=12th fret (A)	1=12th fret (A)	1=10th fret (D)	1=10th fret (D)	1=7th fret (A)	1=6th fret (D#)
x	x	x	x	x x	x
1	#5 1	1  b7   5	1  b7   5	1   6	b5     6  b5
3	3	3	3  b9	b5  b3	1
1  b7	1	5       9			b5  b3

Amaj7	Bm7	C#m9	Cm9	Bm9	Bm13
1 3 5 7	1 b3 5 b7	1 b3 5 b7 9	1 b3 5 b7 9	1 b3 5 b7 9	1 b3 5 b7 (9) 13
E shape	E shape	E shape	E shape	E shape	E shape
1=5th fret (A)	1=7th fret (B)	1=9th fret (C#)	1=8th fret (C)	1=7th fret (B)	1=7th fret (B)
1       5 1	1  b7b3   1	1  b7b3 5	1  b7b3 5	1  b7b3 5	1  b7b3   1
7 3					
5	5	5       9	5       9	5       9	5    13
	b7				

E9	E7(#9)	C#07	F#7(#9)	B9sus4	Bm7
1 3 5 b7 9	1 3 5 b7 #9	1 b3 b5 6	1 3 5 b7 #9	1 4 5 b7 9	1 b3 5 b7
C shape	C shape	G shape	C shape	E shape	E shape
1=7th fret (E)	1=7th fret (E)	1=9th fret (C#)	1=9th fret (F#)	1=7rd fret (B)	1=7th fret (B)
x	x	x	x	x	x
3	3	b5	3	1  b7   5	1  b7b3 5 1
1  b7 9 5	1  b7	1  b7b3	1  b7		
	#9		#9	5   4   9	5

E9sus	E7(b5#9)	A6/9	A6	A6/9	Amaj9(#11)
1 4 5 b7 9	1 3 b5 b7 #9	1 3 5 6 9	1 b3 5 6	1 3 5 6 9	1 3 5 7 9 #11
C shape	C shape	G shape	D shape	C shape	C shape
1=7th fret (E)	1=7th fret (E)	1=5th fret (A)	1=7th fret (A)	1=12th fret (A)	1=12th fret (A)
x	x	x	x	x	x
	3    b5	3 6 9	(5)1   6	3 6	3    #11
1 4b7 9 5	1  b7	1       5 1		1     9 5	1     9
	#9		5   3		7

THE "CAGED" INTERVAL PATTERNS:

The "CAGED" shapes are often referred to as a way of understanding the guitar fretboard. They are derived by filling out the intervals found in each of the common C A G E and D movable chord shapes (taken from the common open chord fingerings), with the other intervals of the major scale. The CAGED shapes are helpful because they allow you to visualize intervals within common chords shapes, but they ARE NOT REQUIRED, if you learn the full fretboard interval pattern shown earlier in this text. The CAGED shapes are all derived from that full fretboard interval pattern - they just help to break it up into recognizable parts that relate to commonly known bar chord shapes. The topic is included here simply to clarify what they are, since the terminology is so popular.

C	A	G	E	D
0			0	
0	0 0 0	0	0 0	0   0
0		0         0		0

C	A	G	E	D
362573	514 25	625136	14  51	251462
4   14	7	14	73	1
736	625136	7362 7	251462	362573
514 25	14	14  51	1	4   14
	736 17	7	362 73	73

362573	C	
4   14		0
736		0
514 25	A	0
7		
625136	G	0 0 0
14		
7362 7		0
14  51	E	0       0 0
7		0
251462	D	0 0
362573	C	0
4   14		0
736		0
514 25	\ /	0

(Look to the right to see how these shapes connect together to form the complete fretboard pattern).

CAGED G, C, AND D TRIAD CHORD SHAPES

Here is a set of fingering diagrams that show how to play G, C, and D triad chords all the way up and down the guitar fretboard, using the CAGED shapes. The intervals that make up each chord (1, 3, 5) are shown in every diagram:

G	C	D	
(G shape)	(C shape)	(D shape)	
5 1 3	3 5 3	x 5 1	<- open position
	1		
3	3	5   3	
1         5	1	1	
(E shape)	(A shape)	(C shape)	
1       5 1	5 1       5	5   3	<- 3rd fret
3		3	
5 1	5 1 3	1	
(D shape)	(G shape)	(A shape)	
5 1	5 1 3	5 1       5	<- 5th fret
5   3	3	5 1 3	
1	1         1		
(C shape)	(E shape)	(G shape)	
3     5   3		5 1 3	<- 7th fret
1	1       5 1		
3	3	3	
1	5 1	1         1	
(A shape)	(D shape)	(E shape)	
5 1       5	5 1	1       5 1	<- 10th fret
		3	
5 1 3	5   3	5 1	
	1		
(G shape)	(C shape)	(D shape)	
5 1 3	3     5   3	x 5 1	<- 12th fret
	1		
3	3	5   3	
1         5	1	1	



7TH CHORD INVERSIONS

These 7th chord shapes cover each inversion of every type of 7th chord (major, dominant, minor, half diminished, and fully diminished). They allow you to move up and down the fretboard, playing appropriate 1 3 5 7 intervals for each 7th chord flavor. Notice how 1 interval is flattened in each consecutive chord type (maj7 = 1 3 5 7, dominant = 1 3 5 b7, min7 = 1 b3 5 b7, ø7 = 1 b3 b5 b7, o7 = 1 b3 b5 bb7 (remember, bb7 = 6)). These interval shapes are taken directly from the full fretboard interval pattern presented earlier - that full fretboard fingering diagram will be used throughout this text to create every shape, movement pattern, and characteristic sound that the guitar can produce:

maj7

(r)       5 R	R	R	5 R 3	(5)R      (5)
7 3		3		7
(5)	5 7 3	5	7	5   3
		7		
OR	R	R	ORO	R
OO		O		O
	OOO	O	O	O
		O		

7 (dominant 7)

(r)  b7   5 R	R	R	5 R 3	(5)R  b7  (5)
3	b7	3	b7	
(5)	5   3	b7   5		5   3
O OR	R	R	ORO	R O
O	O	O	O	
	O O	O O		O

min7

			b3	(5)R  b7  (5)
(r)  b7b3 5 R	R	b3   R	5 R	b3
	b7b3		b7	5
(5)	5	b7   5		
			O	R O
OOOR	R	O R	OR	O
	OO		O	O
	O	O O		

ø7 (min7b5)

b5			b5  b3	R  b7
(r)  b7b3   R	R	b3   R	R	b5  b3
	b5b7b3	b5	b7	
		b7		
O			O O	R O
OO R	R	O R	R	O O
	OOO	O	O	
		O		

o7 (dim7)

6  b5			b5  b3	6
(r)  b3   R	R   6	b3   R	R   6	R
	b5  b3	6  b5		b5  b3
O O			O O	O
O R	R O	O R	R O	R
	O O	O O		O

By adding a few intervals to each of the shapes above, you can form scales that are used to create improvised or written melodies/solos over any given chord type. These fingering patterns form a critically useful foundation for creative lead guitar playing in jazz and other styles of music:

maj7

1 2 3 4 5 6 7

6 2   7	7 3	2 5 7 3	7	7 3 6
5 R	R 4 6 2	R 4	5 R 3 6	R 4   2
7 3		3 6	4	7
1 4 6 2	2 5 7 3	4   2 5	6 2   7	2 5 1 3
	1 4		5 1	4

.... .	..	.....	..	...
..  OR	..R...	..  R.	..ORO.	..R...
OO		..O..	..	O
.....	...OOO	... .O	.... O	..O,O.
	..  ..	O	..  ..	..

7 (dominant 7)

1 2 3 4 5 6 b7

6 2	3	2 5   3		3 6
b7   5 R	R 4 6 2	R 4	5 R 3 6	R 4b7 2
3	b7	3 6	4b7	
1 4 6 2	2 5   3	4b7 2 5	6 2	2 5 1 3
b7	1 4		b7   5 1	4

...	..	.... .		...
..O OR	..R...	..  R.	..ORO.	..R.O..
O	O	O..	..  ..O	
.....	...O O	...O.O	...	..O.O.
..	..  ..		...  ..	..  ..

min7

1 2 b3 4 5 6 b7

6 2		2 5	6	6
b7b3 5 R	R 4 6 2	b3   R 4	4b7 2 5	R 4b7 2
	b7b3	6	b3	b3
1 4 6 2	2 5	4b7 2 5	5 R   6	2 5 1
b7b3	b3   R 4	b3	4b7	b3     4

...		...	..	..
..OOOR	..R...	..O R.	.....	..R.O..
	..  OO	..	O	O
.....	..O	...O.O	..OR .	..O.. .
..  ..	... ..	..	..  ..O	..  ..

Ø7 (min7b5)

1 2 b3 4 b5 b6 b7

b7b3   R	R 4	b3b6 R 4	4b7	R 4b7
b6b2	b2b5b7b3	b2b5	b5  b3b6	b2b5  b3
R 4		4b7	R	1
b2b5b7b3	b3b6 R 4	b5  b3b6	b6b2 4b7	b3b6b2 4
	b2b5		b5	b5

..OO R	R..	..O.R.	...	R.O
..  ..	...OOO	..  .O	..O O.	..O O.
..		..O	R	..
.....	.....	... ..	.....O	.....
..  ..	..  ..	..	..	..

Ø7 (dim7)

R 2 b3 4 b5 b6 6 7

6 2b5 7	7		b5 7b3b6	b3b6 1
b3   R	R 4 6 2	b3b6 R 4	R   6	7   6
7  b6	b5  b3	6  b5	b6   4	R 4   2
R 4 6 2	2   7	4   2	6 2b5 7	b5 7b3
	b6 R 4	b5 7b3b6		2

O.O.	..		O.O.	...
O R	R.O.	O.R.	R O	.. O
.. .	O O	O O	.. .	R.. .
....	.. .	.. .	....	O.O
	...	....		..

CAGED ARPEGGIOS

-----

Major Triad:

R       5 1	5 R		5 R       5	5 1 3
3		5   3		
5 1	3     5   3	R	5 1 3	3
	1	3		R       5 1
3         3	3	5 R       5	3	

R   Or	OR		OR   O	OrO
O		O O		
Or	O  O O	r	OrO	O
	r	O		R   Or
O   O	O	OR   O	O	

E                    D                    C                    A                    G

Major Triad (Simplified):

5 1			5	1 3
3		5   3		
	5   3	1	1 3	
	1			5 1

Or			O	rO
O		O O		
	O O	r	rO	
	r			Or

E                    D                    C (same as D)    A                    G

Minor Triad:

R    b3 5 1	5 R	b3	5 R       5	5 1
	b3        b3	5	b3	b3
5 1	5	b3   R	5 1	
b3        b3	b3   1		b3	R    b3 5 1
		5 R       5		

R   OOr	OR	O	OR   O	Or
	O   O	O	O	O
Or	O	O r	Or	
O   O	O r		O	R   OOr
		OR   O		

Minor Triad (Simplified):

b3 5 1		b3	5	1
	b3	5	b3	
	5	R	1	
	1			b3 5 1

OOr		O	O	r
	O	O	O	
	O	r	r	
	r			OOr

Major 7:

R       5 1	5 R		5 R       5	5 1 3
7 3		5 7 3	7	
5 1	3     5 7 3	R	5 1 3	7 3       7
	1	7 3		R       5 1
3       7 3	7 3	5 R       5	7 3       7	7
R      Or	OR		OR       O	Or O
O O		O O	O	
Or	O     O O O	r	Or O	O O       O
	r	O O		R       Or
O       O O	O O	OR       O	O O       O	O

Dominant 7:

R   b7   5 1	5 R		5 R   b7   5	5 1 3
3	b7	5   3		b7         b7
5 1	3     5   3	b7     R	5 1 3	3
b7	b7     1	3	b7         b7	R   b7   5 1
3         3	3	5 R   b7   5	3	
R   O   Or	OR		OR   O   O	Or O
O	O	O   O		O         O
Or	O     O   O	O     r	Or O	O
O	O     r	O	O       O	R   O   Or
O       O	O	OR   O   O	O	

Minor 7:

R   b7b3 5 1	5 R	b3	5 R   b7   5	5 1
	b3         b7b3	5	b3	b7b3       b7
5 1	5	b7b3   R	5 1	
b3       b7b3	b7b3   1		b7b3       b7	R   b7b3 5 1
		5 R   b7   5		
R   O O r	OR	O	OR   O   O	Or
	O       O O	O	O	O O       O
Or	O	O O   r	Or	
O       O O	O O   r		O O       O	R   O O r
		OR   O   O		

Half Diminished (m7b5):

R   b7b3   1	b5	b5   b3	b5         b5	b5
b5	R		R   b7	1
1	b3     b5b7b3	b7b3   R	b5   b3	b7b3       b7
b3       b5b7b3		b5         b5	1	b5
	b7b3   1	R   b7	b7b3       b7	R   b7b3   1
R   O O   r	O	O   O	O       O	O
O	R		R   O	r
r	O     O O O	O O   r	O   O	O O       O
O     O O O		O       O	r	O
	O O   r	R   O	O O       O	R   O O   r

Diminished 7:

R     b3   1	b5	b5   b3	b5       6   b5	b5
b5	R   6	6	R	6     1   6
1   6	b3     b5   b3	b3   R	b5   b3	b3
b3     b5   b3	6	b5       6   b5	6     1   6	6   b5
6	b3   1	R	b3	R     b3   1
R     O   r	O	O   O	O     O   O	O
O	R   O	O	R	O     r   O
r   O	O     O   O	O   r	O   O	O
O     O   O	O	O     O   O	O     r   O	O   O
O	O   r	R	O	R     O   r

ROMAN NUMERAL CHORD PROGRESSIONS

Just as notes are put together to form scales and chords, using interval number patterns, chords are also organized into "PROGRESSIONS" that are labeled by interval number patterns. Because all music in our culture is basically derived from chord progressions, this is a very important part of understanding music as a whole. Learning to recognize characteristic harmonic sounds as roman numeral progressions is perhaps the most important part of ear training. You'll find that almost all the music you've ever heard can be reduced to a tiny set of about 20 roman numeral chord labels. The power of this understanding cannot be overemphasized.

When writing out chord progressions, the root notes of chords are typically labeled by numbers written as roman numerals. Large roman numerals represent major chords. Small roman numerals represent minor chords. Large roman numerals with a "7" represent dominant 7th chords. Here are all the roman numerals used to label musical chord progressions:

	1	2	3	4	5	6	7	(8=1)
Large:	I	II	III	IV	V	VI	VII	I
Small:	i	ii	iii	iv	v	vi	vii	i
	\	/	\	/	\	/	\	/
	2 frets	2 frets	1 fret	2 frets	2 frets	2 frets	1 fret	
	apart	apart	apart	apart	apart	apart	apart	

You can use any interval fingering to find the root notes of chords in progressions notated with roman numerals, but these two diagrams serve as a useful reference:

6th string:	5th string:
7	4
1 4	7
	5 1
2 5	
	6 2
3 6	
	3

And here are the notes on the 6th and 5th string, for quick reference:

0 1 2 3 4 5 6 7 8 9 10 11 12	0 1 2 3 4 5 6 7 8 9 10 11 12
E F F# G G# A Bb B C C# D Eb E	A Bb B C C# D Eb E F F# G G# A

(remember, # = up 1 fret b = down 1 fret)

These major, minor, and 7th chord fingerings can be used to play each type of chord, with roots on the 6th and 5th strings. The first 3 shapes have a root note on the 6th string. The next 3 shapes have root notes on the 5th string:

	major	minor	7th	major	minor	7th
Bar:	R00000	R00000	R00000	OR0000	OR0000	OR0000
	O		O		O	
	OO	OO	O	OOO	OO	O O
			(O)			

These roman numerals are the most common in popular music:

I	IV	V	(most common chords, blues progressions use the same root notes w/ 7th chords)		
vi	ii	iii	(minor chords)		
bVII	bIII	bVI	bII	bV	(rock and metal)
IV->iv	vii7b5->III7alt	(other common chords)			
I7	II7	VI7	VII7	(secondary dominants)	
	(II7->V III7->vi III7->IV VI7->ii VII7->iii IV->iv)				

Below are some examples of chord progressions written out as roman numerals. The "key" note of the progression is determined by wherever you put the number "1". All the other notes in the key land on numbers that are outlined by the interval fingerings presented earlier.

Example 1: I7 IV7 V7 I7  
 Example 2: vi IV I V  
 Example 3: I bVI bVII I  
 Example 4: I I7 IV iv  
 Example 5: I iii IV V I ii IV I  
 Example 6: vi ii V I IV bVII III7 III7  
 Example 7: I bIII IV III7 vi II7 V7 I  
 Example 8: i biii #iv #v <- BAD, unusual chords, not in the list above

Example 1 in the key of A: A7 D7 E7 A7 (starting at the 5th fret)  
 Example 1 in the key of G: G7 C7 D7 D7 (starting at the 3rd fret)  
 Example 1 in the key of C: C7 F7 G7 C7 (starting at the 8th fret)

Example 2 in the key of A: F#m D A E  
 Example 2 in the key of G: Em C G D  
 Example 2 in the key of C: Am F C G

Example 3 in the key of A: A F G A  
 Example 3 in the key of G: G Eb F G  
 Example 3 in the key of C: C Ab Bb C

Example 4 in the key of A: A A7 D Dm  
 Example 4 in the key of G: G G7 C Cm  
 Example 4 in the key of C: C C7 F Fm

Example 5 in the key of A: A C#m D E A Bm D A  
 Example 5 in the key of G: G Bm C D G Am C G  
 Example 5 in the key of C: C Em F G C Dm F C

Example 6 in the key of A: F#m Bm E A D G C#7 C#7  
 Example 6 in the key of G: Em Am D G C F B7 B7  
 Example 6 in the key of C: Am Dm G C F Bb E7 E7

Example 7 in the key of A: A C D C#7 F#m B7 E7 A  
 Example 7 in the key of G: G Bb C B7 Em A7 D7 G  
 Example 7 in the key of C: C Eb F E7 Am D7 G7 C

Example 8 in the key of A: Am Cm D#m E#m  
 Example 8 in the key of G: Gm Bbm C#m D#m  
 Example 8 in the key of C: Cm Ebm F#m G#m

Example #8 is meant to sound BAD. It's NOT a common set of roman numerals.

More Practice Progressions:

I I I I IV IV I I V IV I V (Twelve Bar Blues)  
 I7 I7 I7 I7 IV7 IV7 I7 I7 V7 IV7 I7 V7 (12 bar blues w/ 7th chords)  
 I I I V V V V7 V7 V7 I I I I7 I7 I7 IV IV iv I I V I (Happy Birthday)  
 I V IV I ii iii IV V  
 vi V IV III7  
 I bVII IV I  
 I III7 vi IV I I7 IV iv  
 I VII7 iii IV iv

By playing these patterns in any of 12 keys, using any combination of the 5 CAGED fingerings, for example, or any other possible fingering derived from intervals that make up the chords, the possibilities for creating interesting guitar parts becomes virtually limitless. By adding chord-scale relationships to the basic chord structures defined by these simple roman numeral progressions, the creative possibilities become truly infinite (chord-scale relationships are described in depth later in this text, with many licks and full solo examples).

Here are a number of charts for well known popular songs, with the chords written out as roman numerals:

STAND BY ME - Ben E. King (A:)

I I vi vi IV V I I

KNOCKING ON HEAVEN'S DOOR - Eric Clapton (G:)

I V ii ii I V IV IV

HOTEL CALIFORNIA - The Eagles (D:)

Intro/Verse/Solo: vi III7 V II IV I ii III7

Chorus: IV I III7 vi IV I ii III7

FORTUNATE SON - CCR (G:)

Into: ---3-----1-----  
-----5-----3-----  
/4-----/2-----  
-----/5-----/5-----  
-----1b-----  
-----3-----

Verse: |: I | bVII | IV | I :|

Chorus: |: I | V | IV | I :|

Verse

Chorus

Solo: -----  
-6----5----5-1-----1-3--  
-7----6----6-2-----2-4--  
-----  
-----  
-----

Verse

Chorus

Chorus##

SWEET MELISSA - Allman Brothers (F:)

Intro: | I | ii | iii | ii |

Verse: | I | ii | iii | ii | I | ii |  
| IV V | vi bVII | I ii | iii IV | bVI | V (hold) |

Intro

Verse

Intro

Bridge: | I | bVII | IV | V | vi | bVII | V | V (stop) |

Verse + | I | ii | bVI | V |

Solo (intro 4x)

UNDER THE BOARDWALK - The Drifters (G:)

Intro: Bass 2x

Verse: | I | I | V | V | V7 | V7 | I | I7 |

Chorus: | IV | IV | I | I | I | V | I | I |  
|: vi | vi | V | V :| + | vi (V vi) | vi (V vi) |

Verse

Chorus

Verse (Solo)

Chorus

FIRE AND RAIN - James Taylor (A:)

Intro: | I | bVII | IV | I | I | V | bVII | bVII |

Verse: (intro 2x)

Chorus: |: IV IV/iii | ii V | I | Isus :| 3x | bVII | IV | I | I |

Verse

Chorus

Verse

Chorus

Outro: |: bVII | I :|

WHEN I COME AROUND - Greenday (G - tuned down to F#)

Intro: |: I | V | vi | IV :| 1x + 2x

Verse: (intro) 4x

Verse

Chorus: | II | IV | II | IV (stop) |

Intro 2x

Verse

Verse

Chorus

Solo (Verse 2x)

Chorus

Verse



HARD DAY'S NIGHT - The Beatles (G:)

Intro: I7sus

Verse: |: I IV | I | bVII | I :|

Chorus: | IV | V | I IV | I |

Verse

Chorus

Bridge: | iii | vi | iii | iii | I | vi | IV | V |

Verse

Chorus

Solo: (verse)

Chorus

Bridge

Verse

Chorus + |: I IV | I :| 3x + | F Fadd9 |

I WILL FOLLOW YOU INTO THE DARK - Death Cab for Cutie (F:)

Intro: | vi | I | IV | I |  
vi	I	V	V
vi	I	III7	vi V
IV	iv	I	I

Verse: |: I | I | vi | vi | IV | IV | I | V :|

Chorus: (intro)

Verse

Chorus

Verse

Chorus

Bridge: | vi | IV | IV | IV | IV |

Chorus + tag (IV iv I I)

LAYLA - Derek and the Dominoes

Intro: F: |: vi (V) | IV | V | vi :|

Verse: E: | vi | iii | vi bVI7 bVII7 | I7 | ii V | I IV | ii V | I |

Chorus: (intro)

Verse Stop time 4 measures

Chorus

Chorus

Chorus (solo)

Solo: Db: |: I | I/iii | IV | IV | iv | iv | I | I :|  
| vi | ii | V | I | vi | II7 | V | V |  
|: I | I/iii | IV | IV | iv | iv | I | I :| (tag)

DOCK OF THE BAY (G:)

Intro: ||: G :|| 4x

Verse: ||: G | B7 | C | A :|| I III7 IV II

Chorus: | G | E | G | E | G | A | G | E | I VI I VI I II I VI

Verse  
Chorus

Bridge: ||: G D | C :|| 3x | F | D | |: I V | IV :| 3x bVII V

Verse  
Chorus

Whistling: ||: G | G | G | E :|| repeat and fade

ALL THE SMALL THINGS - Blink 182

Intro: |: I I V IV :|

Verse: |: I V IV V :| 4x

Chorus: (Intro 3x)

Solo: (Intro 2x)

Verse 2x

Chorus 2x

Bridge: |: I I IV V :| 4x (stop time)

Chorus 4x (extra IV hits)

BABY I NEED YOUR LOVIN - The Four Tops (Eb:)

Intro: |: V IV :|

Verse (intro) 8x

Chorus: |: IV | ii | I | vi :|

Verse 5x

Chorus

Verse 12x

Chorus 2x and fade

BACK IN BLACK

(drums)

Intro 2x

Verse (Intro) 2x | : E DDD AAA (stop) :| I bVII IV  
 Chorus | : A E B A B :| : G D A G A :| IV I V IV V bIII bVII IV bIII IV  
 | : A E B A B :| G | D | IV I V IV V bIII bVII

Verse 2x

Chorus

Solo: (Verse - no lick) 6x

Chorus

Bridge Lick: E 4x A 2x E 2x

Chorus (stop)

(Solo) 4x (fade)

BAD MOON RISING

Intro: | D | A G | <sup>open</sup> D | % | I V IV I I

Verse: (intro) 4x

Chorus: | G | % | <sup>open</sup> D | % | A | G | <sup>open</sup> D | % | IV IV I I V IV I I

verse  
chorus

Solo: verse 2x, chorus

verse  
chorus  
chorus - stop on the last D

BLACK VELVET - Alannah Myles

Ebm: (Gb:) (slow swing)

Intro: |: vi :| 8x

Verse: | vi | % | % | % |

PC: | III7 | II7 | I | V |

Chorus: | ii | V | ii | bVII IV | ii | V | IV III7 |

Intro 4x

Verse

PC

Chorus + | vi |

Bridge: | ii | III7 | vi | vi | ii | bVII | IV | III7 |

Solo |: vi :| 4x

Chorus + vi

Chorus (hold end)

Solo out (vi)

CALIFORNIA GIRLS - Beach Boys (B:)

Intro: -----  
-----  
-----  
-9-----  
---9-11-9-----  
-----

Verse: |: I | % | bVII | % | IV | % | V | % :|

Chorus: | I | IV | (down 2 frets) | (down 2 more frets) | B | B |

Verse

Chorus

Intro: -----  
-----  
-----  
-9-----11-----  
---9-11-9-----9-11-9-  
-----

Chorus - NO MODULATION##

DARNIT - Blink 182

Intro: | : I | V | vi | IV :| 2x guitar, 2x band

Verse: 2x .... 2x rhythm (same chords)

Intro 2x

Verse

Chorus | : I | I | V | V | vi | vi | IV | IV :|

Intro 2x

Verse

Chorus

Bridge: (STOP time, clean guitar lick 2x)

Intro 4x

EIGHT DAYS A WEEK - Beatles (D:)

Intro: | I | II | IV | I | (10th, 12th, and 15th fret)

Verse: |: I | II | IV | I :| vi | IV | vi | II |  
| I | II | IV | I |

Verse

Chorus: | V | (hold) | vi | (hold) | II | (hold) | IV | V |

Verse

Chorus

Verse + |: IV | I :| 2x

Intro

GOD BLESS THE USA - Lee Greenwood (F:)

Intro: | : I V | IV :| (I pedal tone in bass)

Verse: | I | IV | ii | bVII V | I | iii | ii | vi | IV |

Chorus: | : V | IV I :| vi iii | IV iii | ii iii | iii IV V | I |

Intro

Verse

Chorus last measure: | vi | IV |

Chorus ending: | ii iii IV V | I |

HERE COMES THE SUN - George Harrison

Intro: | : A | A | D | E7 :| (stop) Verse: I I IV V7

Chorus: | A | A | D | B7 | A | D A D A E7 | lick (fast): Chorus: I I IV II7 I IV I IV I V7

Verse: | : A | A | D | E7 :|

Chorus + | A | E7 |

Verse

Chorus

Bridge: | : C G | D | A | E7 :| 4x + | E7 | fast: Bridge: bIII bVII IV I V7

Verse

Chorus

Chorus

Outro: | A | D A D A E7 | A | C G | D | A |

HOTEL CALIFORNIA (bm: (D:))

Intro: | Bm | F#7 | A | E | vi III7 V II IV I ii III7  
F#m C#7 E B

(intro) IV I III7 vi IV I ii III7

Verse: (intro)

(verse)

Chorus: | G | D | F#7 | Bm |

D A C#7 F#m

| G | D | Em | F#7 |

D A Bm C#7

(verse)

(verse)

(chorus) - pause at end

(verse)

(verse)

Solo: (verse)

(solo)

(solo) - repeat and fade

I SAW HER STANDING THERE - The Beatles (E:)

Intro: | E | % | % | % |

Verse: | E | % | A7 | E | % | % | B7 | % | I I IV7 I I I V7 V7

Chorus: | E | E7 | A | C | E | B7 | E | % | I I7 IV bVI I V7 I I

Verse  
Chorus

Bridge: | A | % | % | % | % | % | B7 | % | A | % | IV -> V7 V7 IV IV

Verse  
Chorus

Solo: | E | % | % | % | % | % | B7 | % | I -> V7 V7  
| E | % | A | % | E | B7 | E | B7 | I I IV IV I V7 I V7

Bridge

Verse  
Chorus + ||: E | B7 | E | % :|| E

LOLA - Kinks

Intro: | bVI bVII | I |

Verse: |: I | IV bVII :| 4x | bVI bVII | I | I | lick

Verse 4x

Bridge: | V | II | IV | IV |

Verse 2x (no pent lick)

Verse 1x

Bridge2: |: IV I V :| 3x | I iii vi | V |

Verse 4x (no end, no lick)

Bridge

Verse 2x (no lick)

Verse 1x

Verse 1x

MONY MONY - Tommy James and the Shondells

Intro: | I | I |

Verse: |: I | (hold) | I (IV) | I :| 3x | I | I | IV | V | V | V | V |

Chorus: |: I bVII I :| 4x |: IV bIII IV :| 4x | V | V | V | V |

Intro

Verse

Chorus

Solo: 1 (2) + + + 1  
Bb minor pentatonic lick 4x + | V | V | V | V |

Verse: |: I | V | vi | IV :|

PC: | V open | IV open| V | IV V |

Chorus: |: I I V V IV IV V V :| vi | IV | ii | IV | V |

TAKE IT EASY - The Eagles (C:)

Intro: |: C | C | Fadd9 | Gsus :| C | C | |: I I IV V :| I I

Verse: | C | C | C G | F | I I I V IV  
| C | G | F | C | I V IV I

Chorus: | Am | Am | F | C | vi vi IV I  
| Dm | F | Am | Am | ii IV vi vi  
| F | C | F | C | IV I IV I  
| Dm | F | C | C | ii IV I I  
| C | C | I I

Verse

Chorus

Solo: Verse + 1/2 Chorus

Verse

Chorus

Outro: |: F | % | C | % :| F | F | |: IV IV I I :| IV IV  
|: C | C7 | F | % :| Am | |: I I7 IV IV :| vi##

TAKE IT EASY - The Eagles (G:)

Intro: | : G | G | Cadd9 | Dsus :| G | G | | : I I IV V :| I I

Verse: | G | G | G D | C | | I I I V IV  
| G | D | C | G | | I V IV I

Chorus: | Em | Em | C | G | | vi vi IV I  
| Am | C | Em | Em | | ii IV vi vi  
| C | G | C | G | | IV I IV I  
| Am | C | G | G | | ii IV I I  
  
| G | G | | I I

Verse

Chorus

Solo: Verse + 1/2 Chorus

Verse

Chorus

Outro: | : C | % | G | % :| C | C | | : IV IV I I :| IV IV  
| : G | G7 | C | % :| Em | | : I I7 IV IV :| vi##

WHO SAYS YOU CAN'T GO HOME - Bon Jovi, Jennifer Nettles

Intro: lick (1x band hold, 1x groove:) | : I IV ii IV :| 2x  
(sync hits)

Verse: | : I | IV | ii | IV | I | IV | Vsus | V :|

PC: | vi | IV | I | I | iii | IV | Vsus | V |

Chorus: verse 2x

Intro 1x ("it's alright")

Verse

IV horus

Solo (Verse)

Verse 1x (hold)

Chorus 1x

Intro 2x + I



WORKING MY WAY BACK TO YOU BABE - The Spinners (C:)

Intro: C: |: IV | I V :|

Chorus: C: |: IV | V | iii vi I iii | vi :|

C: | V IV I (IV IV) I | V IV I IV (#IV) V |

Verse: G: |: I | V | IV | V :| ii | iv | I | #IVdim7 |

|: I IV :| 3x | bIII ii I |

Chorus

Verse

Chorus

Bridge: C: |: IV | (hold) | I V | (hold) :|: V | % | IV | % :|

|: III7 vi | IV I :| 3x | III7 vi | #IVdim7 | % | V | % |

Chorus

Chorus E:##

YOU REALLY GOT ME - Kinks (A:)

Intro: bVII I I bVII I 4x

Verse: bVII I I bVII I 8x

PC: I II II I II 4x

Chorus: IV V V IV V 6x + IV (hold)

Verse

PC

Chorus

Solo: (verse)

Verse

PC

Chorus + V V V V

More About Roman Numerals:

Every piece of music you've ever heard comes from a small set of roman numerals. The most common chord progressions in popular music are made up of I, IV, V, vi, and bVII chords. More than half the music you hear on the radio is created from those 5 chords alone!

The "Diatonic" chords (I, ii, iii, IV, V, vi, viim7b5) are used in virtually every type of music. Every single one of those chords comes from a single major scale. They are most common in traditional, folk, classical, and pop music. The I IV and V(7) chords are used in virtually every piece of music you hear, regardless of style (V can be either major or dominant). Learning those three chords in every key is fundamental to understanding and recognizing chord patterns of every type.

Borrowed chords (bVII, bIII, bVI, iv) are used heavily in rock music. You'll see them used regularly with distorted guitar sounds in heavy mainstream pop music. You'll also see them used in bluegrass and other model styles. bII and bV are used commonly in heavy metal.

Blues progressions are defined by dominant 7th chords (also dominant 7ths with added 9th, 11th, and 13th intervals) on the numbers I, IV, and V. You'll see them most in "bluesy" music.

Secondary dominant chords are 7th (9th, 11th, and 13th) chords that come from other keys ("secondary keys"). They create an interesting, unexpected harmonic "twist" - a bit of temporary harmonic tension when added to a chord progression. You'll see secondary dominants most in jazz and classical music, but also in pop ballads that have a "playful" sound reminiscent of ragtime music and the like. Secondary dominant chords have a strong tendency to resolve (move) in the following ways when found in real music:

- I7 -> IV
- II7 -> V or V7
- III7 -> V, V7, and sometimes IV
- III7 -> vi or VI7, and sometimes IV
- VI7 -> ii or II7
- VII7 -> iii or III7

Minor chord progressions tend to sound sad, dark, and more serious than other types of chord progressions. To create a minor chord progression, just START and end on a vi chord, and use any of the chords from other categories to form a progression. Minor chord progressions typically contain the secondary dominant "III7" chord. That chord helps to create a harmonic focus on the vi chord (because III7 has a tendency to resolve to vi - see the notes in the previous section). It's also possible to label minor chord progressions by starting on a "i" minor, and using an entirely different set of roman numerals to label all other possible chords around that tonic - that is not the method used in this text, because it introduces much additional and unnecessary memorization.

CHORD-SCALE RELATIONSHIPS, PART 1: ROCK, BLUES, COUNTRY, FOLK, AND POP PENTATONIC SCALE SOLOS IN A KEY

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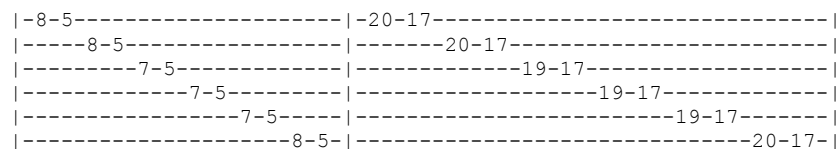
By combining chords and chord progressions with scales, every harmonic and melodic sound in our musical system becomes possible.

Most guitarists begin learning about soloing and improvisation by using the PENTATONIC scale. The diagram below is a picture of the pentatonic scale as it appears on the 6 strings of the guitar. The "O" symbols represent fingers, and the dashes represent empty, unplayed frets on each string. This fingering pattern is "movable", which means that it can be slid to any fret on the guitar neck. The notes on the first string are provided to label the "key" in which the scale is played when it's moved to a given fret:

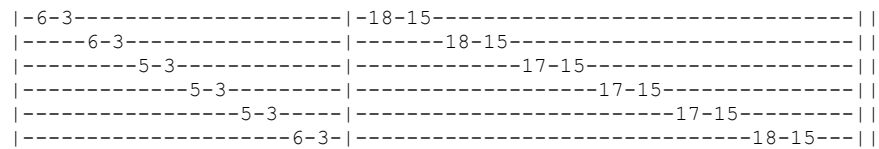
OOOOOO	Fret #:	0	1	2	3	4	5	6	7	8	9	10	11	12
	Note Name:	E	F	F#	G	G#	A	A#	B	C	C#	D	D#	E
OOO				Gb	Ab	Bb					Db	Eb		
O OO														

For most common chord progressions, you can put your pointer finger on the key note of the progression, and the diagram above will sound correct. You can also move up 12 frets for the "octave" position. For example, here are the A (5th and 17th frets) and G (3rd and 15th frets) minor pentatonic scales:

"A" minor (also called "C" major) Pentatonic



"G" minor (also called "Bb" major) Pentatonic



Here are some basic rules explaining how to choose a pentatonic key note to play over given chord progressions:

- For I IV V, or I7 IV7 V7 (blues chord progressions), play EITHER major or minor pentatonic (pinky or pointer finger on root note of the key)
- For bVII, bVI, bIII, play MINOR pentatonic (pointer finger on root note of the key)
- For ii, iii, vi, play MAJOR pentatonic (pinky finger on root note of the key)
- For "Secondary Dominants" and others, play major pentatonic on the root note of the CHORD.

Try the Am and Gm pentatonic scales against the following chord progressions:

	vi	IV	I	V	I7	IV7	I7	V7	I	ii	vi	V	I	bVI	bVII	I
Key of Am (C):	Am	F	C	G	A7	D7	A7	E7	C	Dm	Am	G	A	F	G	A
Key of Gm (Bb):	Gm	Eb	Bb	F	G7	C7	G7	D7	Bb	Cm	Gm	F	G	Eb	F	G

The pentatonic scales always tend to sound "correct" when played in the correct key, over a given chord progression, but they're boring when played straight up or down. Here are some techniques, licks, and patterns that create interesting sounds from the scale. All licks in this example are written in the key of A (A minor pentatonic):

bends:

```
| -8b10--8-5- | ----- | ----- | | -8b10r(8)p5---5- |
| ----- | -8b10--8-5- | ----- | | -----8--- |
| ----- | ----- | -7b9--7-5- | | ----- |
| ----- | ----- | ----- | | ----- |
| ----- | ----- | ----- | | ----- |
| ----- | ----- | ----- | | ----- |
```

```
| ----- | ----- | ----- | -----5- | |
| -8b10r(8)p5---5- | ----- | -----5- | -8b10--- |
| -----7--- | -7b9r(7)p5---5- | | -7b9--- | ----- |
| ----- | -----7--- | | ----- | ----- |
| ----- | ----- | ----- | | ----- |
| ----- | ----- | ----- | | ----- |
```

```
| -----5- | ----- | ----- | -----8- | ----- |
| -----5--- | -----5-8- | -----8- | -8b10--- | -----8--- |
| -7b9----- | -7b9----- | -7b9----- | ----- | -7b9=====7r(7)-5---5- |
| ----- | ----- | ----- | ----- | -----7--- |
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
```

```
| -----8----- | -8pb10===8-8r8-5--- |
| -----8---8--- | ----- | ----- |
| -7b9=====7-----7r(7)-5- | ----- | |
|---|---|---|
| ----- | ----- | ----- |
| ----- | ----- | ----- |
```

short repeating motives:

```
| ----- | ----- | -----5- | | -8p5--- | ----- | | -8p5--- | ----- | | |
| ----- | -----5- | -5h8--- | | -----8- | -8p5--- | ----- | | -----5- | -8p5--- | ----- |
| -----5- | -5h7--- | ----- | | -----7- | -7p5--- | ----- | | -----5- | -7p5--- |
| -----5- | -5h7--- | ----- | | -----7- | -----7- | ----- | | -----5- |
| -5h7--- | ----- | ----- | | ----- | ----- | ----- | | ----- |
| ----- | ----- | ----- | | ----- | ----- | ----- | | ----- |
```

string crossing rolls and bars:

```
| -5h8p5--- | ----- | ----- | | ---8---5- | ----- | | ----- | ---5----- | |
| -----8- | -5h8p5--- | ----- | | -8---8--- | ---8---5- | ----- | | ---5----- | -5---5-8b10- |
| -----7- | -5h7p5--- | ----- | | -7---7--- | ---7---5- | ----- | | -5---5--- | ----- |
| ----- | -----7- | ----- | | ----- | -7---7--- | -----7- | ----- |
| ----- | ----- | ----- | | ----- | ----- | ----- | | ----- |
| ----- | ----- | ----- | | ----- | ----- | ----- | | ----- |
```

double stop hammers:

pedal tones:

```
| ----- | ----- | ----- | | ----- |
| -5---5- | ----- | ----- | | -----5--- |
| -(5)h7-5- | -5---5---(5)- | ----- | | -5---7---7---5b5.5--- |
| ----- | -(5)h7-(5)h7-(5)- | -5---5--- | | -7---7---7---7---7---7--- |
| ----- | ----- | -5h7-5h7- | | ----- |
| ----- | ----- | ----- | | ----- |
```

added notes:

```

|-----|-----|-----|-----|
|-5---5-|-----|-----5-----|-5-7-7b8-7-5-|
|-5---5-|-7-5S4-----|---8p7p5---8p7p5---|-5-7-7b9-7-5-|
|---7---|-----5S7-(5)-|-----7-----7-|-----|
|-----|-----|-----|-----|
|-----|-----|-----|-----|

```

To bend notes, scrunch your right hand fingers next to the fret and slide your finger up against the fret. If the string loses contact with the fret, it will stop sounding. Keep constant pressure on the string - it will be physically difficult when you first start playing bends. Your fingers may need to build up some muscle. Use your wrist and arm to help with the motion. For "full" bends, make the bent note sound like the note 2 frets higher. To hear how it should sound, slide your finger up 2 frets, and then move back down and make the bent note sound the same as the note 2 frets higher. ½ step bends should sound 1 fret higher, 1½ step bends = 3 frets, 2 step bends = 4 frets, ¾ step bends are half way to the next fret, etc.

Bends

```

|-8b10-8-5--|-----|-----|-----|
|-----|-----8b10-8-5--|-----|-----|
|-----|-----|-7b9-7-5--|-5b5.5---|
|-----|-----|-----|-----7-|
|-----|-----|-----|-----|
|-----|-----|-----|-----|

```

```

|-----|-----|-5b8-----|
|-----|-----|-5b8-----|
|-----|-----|-----7b10--5b6-----|
|-5b6-7-|-----|-----7b10-----|
|-----|-8b9-5-|-----5b8---|

```

"Motives" are created by taking patterns of motion and moving them around the strings:

Scale Motives Down/Up

```

|-----|-----|-----|-8-5-----|-----|
|-----|-----|-----|-----8-5-8--|-----|
|-7-5-----|-----|-----|-----5-7-(7)S=9--5b5.5---|
|-----7-5-7--|-7-5-----|-----|-----5-7-----7-|
|-----|-----7-5-7--|-7-5-----|-----|-----|
|-----|-----|-----8-5-8--|-----|

```

```

|-----5-8-(8)S=10--8-5-|-----5h8p5---|-8p5---|-----5-|
|-----5-8-(8)S=10--|-5-8-----|-----8-|-----5-|-5h8---|
|-5-7-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|

```

"Double stops" are created by holding down notes on adjacent strings in the scale. These are very important:

Double Stops

```

|-----|-----|-----|-----5--|
|-----|-----|-----|-----5-----|
|---7-5b5.5--|---5b5.5---|-----5---|---7---5b5.5---|
|-7-----|---5-----7--|---7-----7-|---7---7-----|
|-----|-----|---7---7-|-----|
|-----|-----|-----|-----|

```

```

|---5-----|---8---5--|-----|-----5-----|-8b10--8--5-----|
|-5---5-8b10--|-8---8---|---8---5--|-----5-----|-----5-----|
|-----|-----|---7---7---|-----5---|-----5-----|
|-----|-----|-----|---5---7--|-----7-----|
|-----|-----|-----|---5h7-----|-----|
|-----|-----|-----|-----|-----|

```

Here are some more common pentatonic licks that guitarists regularly use:

More Bends, Slides, Motifs

```
|-----5-|-----5-|-----5-|-----5-5-|-----|
|-----5-5-|-----5-5-|-----5-8-|-8b10--8b10-|-----|
|-7b9--7b9-|-7b9-|-7b9-|-7b9-|-7b9r=5-|-----7-|
|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|
```

```
|-----5-|-----8-|-----|-----|
|-----8-|-----8b10====8r(8)-|-5-5b5.5-|-----|
|-7b9====7r(7)--5-|-----|-5-5b5.5-|-----|
|-----|-----|-----7-|-----|
|-----|-----|-----|-----|
|-----|-----|-----|-----|
```

In general, your fingers should stay aligned so that 1 individual finger covers each fret (that's called a "1 finger per fret" stretch).

COMPLETE PENTATONIC SOLOS:

The following 3 lead guitar solos come entirely from the first position pentatonic scale fingering. They contain a variety of common licks, techniques, and musical cliches known by most guitarists, and they demonstrate how phrases can be put together to form complete pieces. Learning these pieces will provide a solid foundation in basic lead guitar technique and understanding.

Solo 1 - Key of A, Medium Tempo Rock:

```
      A5                                E5  A5
|-----|-----|-----|-----|
|-----5- (5)-----|-----|-----|-----|
|-----5--5- (5)-----|-7b9r=5-7-----|-----5-----|-----|
|-/7-----|-----7- (7) --|-/5-----7- (7)-----|-----5-----|
|-----|-----|-----|-----|-----5h7-----|
|-----|-----|-----|-----|-----8b8.5-5-----|
```

```
      A5
|-----|-----|
|-----|-8b10r=5-8b10-8b10-|
|-----5-- [5] - (5)-----|
|-/7-----|-----|
|-----|-----|
|-----|-----|
```

```
      E5  C5  A5
|-----|-----|
|5-----|-----|
|---7-5---7-5-----|-----|
|-----7-----7-5-|---5-----|
|-----|-----7-----|
|-----|-----8b8.5-5- (5)-----|
```

```
      D5                                A5
|-8b10==8-8r-8b10r=5-----|-----|
|-----8b10-|-8b10r=5-----5-----|
|-----|-----7b9--5-----|
|-----|-----7-----|
|-----|-----|
|-----|-----|
```

```

C5          E5      A5
|-----|-----|
|-----|-----|
|-----5---7---5---|-----7b9r=5-----|
|-5h7---7---7---7-|-----7-----|
|-----|-----|
|-----|-----|

```

```

D5          A5
|-----|-----8- (8) ----|
|-----8-----|-----5-8pb10=====|
|-5-7b9=====7r-5-|-----|
|-----7---|-----|
|-----|-----|
|-----|-----|

```

```

          E5      G5C5      A5
|-----5-----|-----*|
|-----5-8-----5-----5-|-----8-----8b10----*|
|-7b9---7b9---7b9---|-----7b9r=5-----*|
|-----|-----*|
|-----|-----*|
|-----|-----*|

```

Solo 2 - Key of A, Medium Tempo Blues:

```

|-----|-----|
|-----|-----|
|-----5b5.5-|-----5h7-|
|-----5-7-----|-----7p5---5b5.5--7- (7) ----|
|-----/7-----|-----7-----|
|-----|-----|

```

```

|-----/5-5-5-----|
|-----8---5-----|-----5---5-/5-5-5-----|
|-7b9--7b9r (7) p5---7b9=====7r---5b5.5-|-----5---5-----7p5---|
|-----7-----|-----7-7---7-----7-|
|-----|-----|
|-----|-----|

```

```

|-----5-----5-5-----5-----5-|-----8b10--8pb10r8p5---8b8.5--5- (5) ----|
|-----5---8b10-----5---8p5---|-----8-----8p5-|
|-7b8-----7b8-----|-----|
|-----|-----|
|-----|-----|
|-----|-----|

```

```

|-----5-----8-----|
|-8b10r=5-8b10---8b10=====8r-5-----|
|-----7b7.5---|
|-----|
|-----|
|-----|

```

```

|-----|-----|
|-----5b5.5-----|
|-5-----5-----|-----5b5.5-----|
|-----/7-----5-----|-----7-7-----7- (7) --7p5-----|
|-----/7-----\5-----|-----7-5-|
|-----8-5-|-----|

```

```

|-----|
|-----|
|-----5--5--|
|-----5--5-7p5-7--7--|
|-7p5-7--7-----|
|-----|

```

```

|-----5-----5-|-----5-----5-----|
|-----5--5-8p5-8--8b10--|-----8b10--8b10===8r-5-----8-----|
|-7p5-7--7-----|-----7b9===7r-5--5-|
|-----|-----7--|
|-----|
|-----|

```

```

|-----5-----|----|
|-----5-8p5-----5--8p5-----|----|
|-7b9-----7b9-----7b9r=5-|----|
|-----|----|
|-----|----|
|-----|----|

```

Fast Motive Patterns:

Fast rock solos typically make use of repeating motive patterns. The exercises below demonstrate how a variety of these common finger motion patterns can be moved across the strings of the pentatonic scale. The following solo demonstrates how these patterns can be put to use in real music:

4 Note Patterns

```

|-5h8p5-----|
|-----8-5h8p5-----|
|-----7-5h7p5-----|
|-----7-5h7p5-----|
|-----7-5h7p5-----|
|-----8-5--|

```

```

|-8p5--5-----|
|-----8--8p5--5-----|
|-----7--7p5--5-----|
|-----7--7p5--5-----|
|-----7--7p5--5-----|
|-----8--8b9--5--|

```

```

|-----5h8-8-8-8b10--8b9--|
|-----5h8-8-8-----|
|-----5h7-7-7-----|
|-----5h7-7-7-----|
|-----5h7-7-7-----|
|-5h8-8-8-----|

```

```

|-8b10r==5-----|
|-----8b10r==5-----|
|-----7b9r==5-----|
|-----7b9r==5-----|
|-----7b9r==5-----|
|-----8b10r==5--|

```

```

|-----5h8-8b10--|
|-----5h8-5h8-----|
|-----5h7-5h7-----|
|-----5h7-5h7-----|
|-----5h7-5h7-----|
|-5h8-----|

```

```

|-8p5-----|
|-----8p5-8p5-----|
|-----7p5-7p5-----|
|-----7p5-7p5-----|
|-----7p5-7p5-----|
|-----8p5-5-----|

```

3 Note Groups

```

|-----5-----| |-----8p5-----|
|-----5-5h8---8b10--| |-----5-8p5-----|
|-----5-5h7-----| |-----5-7p5-----|
|-----5-5h7-----| |-----5-7p5-----7--|
|-----5-5h7-----| |-----5-7p5-----|
|-----5h8-----| |-----5-----|

```

Solo 3 - Key of F, Fast Rock with motive patterns:

```

      F5                Eb5                F5                Ab5
|-13h16p13----13h16p13----13h16p13----13----| |-----|
|-----16-----16-----16-----| |-----16b18r==13-----|
|-----| |-----15b17--13- (13) -----|
|-----| |-----x\-----|
|-----| |-----x\-----|
|-----| |-----|

```

```

      F5                Eb5                C5
|-----1-----| |-----1-----4p1-----|
|-----1h3-3-3-| |-----3b5-----3p1-3b5-----|
|-----1h3-3-3-1h3-3-3-| |-----|
|-----1h3-3-3-| |-----|
|-----| |-----|

```

```

      F5                Eb5                F5                Ab5
|^13-----16p13-----16p13-----16b18---| |-----16b18r==13-16b18--16- (16) -----|
|^ (x) --16p13-----16p13-----16p13-----| |-----1h4-----|
|^ (x) -----| |-----1h3-----|
|-----| |-----|
|-----| |-----|
|-----| |-----|

```

```

      F5                Eb5                C5
|-1--1--4p1--1-----| |-----1-----|
|-1--1-----4-----| |-----1h4p1--4p1--1- (1) -----|
|-----3b5r==1-3p1--1-| |-----3-----3-----|
|-----3-----| |-----x--x-x-----|
|-----| |-----|
|-----| |-----|

```

```

      F5                Eb5                F5                Ab5
|-----1-----| |-----1-----|
|-----1h4-----| |-----1h4--4p1--1--/13--|
|-----1h3-----1h3-----| |-----1h3-----3-----|
|-3--3-1h3-1h3-----1h3-----| |-----|
|-----| |-----|
|-----| |-----|

```

```

      F5                Eb5                C5
|-----13h16p13----| |-----13h16p13----13-----13\-----|
|-15b17r==13-----15p13-----15p13-----15-| |-----15-----15b17r= (15) --13\-----|
|-----15p13-----15p13-----| |-----|
|-----| |-----|
|-----| |-----|

```



```

F5          Eb5          F5          Ab5
|-----|-----|-----|-----|
|-1--1b1.5-----|-----|-----|-----|
|-1--1-----|-----|-----|-----|
|-----3/--(15)\---1h3p|1---1h3-----3-----| | |
|---|---|---|---|
|-----|-----|-----|-----|

```

```

F5          Eb5          C5
|-----|-----|-----|-----|
|-----13h16p13-----|13h16p13-----16p13-----16p13-----16b18-*|
|-----13h16-----16-----|-----16-----16p13-----16p13-----*|
|-----13h15-----13h15-----|-----|-----|-----*|
|-----13h15-----13h15-----|-----|-----|-----*|
|-13h15-----|-----|-----|-----*|
|-----|-----|-----|-----*|

```

**MORE PENTATONIC SCALES:**

There are 4 additional fingering patterns for the pentatonic scale (5 total):

1	2	3	4	5	1
000000	000	0	0000 0	00	000000
	0   00	000 00	0	00  00	
000	0		00		000
0 00	000 00	0000 0	00 00	000000	0 00
		0			

On every string, the top note in each fingering position is the same as the bottom note in the next position. All 5 positions connect to cover the entire fretboard in every key, as follows in the key of A:

5 pentatonic fingerings

```

|-8-5-----|-----|-----|-----|
|-----8-5-----|-----10-8-----|-----|
|-----7-5-----|-----9-7-----|-----|
|-----7-5-----|-----10-7-----|-----|
|-----7-5-----|-----10-7-----|-----|
|-----8-5-----|-----10-8-----|-----|

```

```

|-12-10-----|-----|-----|-----|
|-----13-10-----|-----|-----|-----|
|-----12-9-----|-----|-----|-----|
|-----12-10-----|-----|-----|-----|
|-----12-10-----|-----|-----|-----|
|-----12-10-----|-----|-----|-----|

```

```

|-15-12-----|-----|-----|-----|
|-----15-13-----|-----17-15-----|-----|
|-----14-12-----|-----17-14-----|-----|
|-----14-12-----|-----17-14-----|-----|
|-----15-12-----|-----17-15-----|-----|
|-----15-12-----|-----17-15-----|-----|

```

```

|-20-17-----|-----|-----|-----|
|-----20-17-----|-----|-----|-----|
|-----19-17-----|-----|-----|-----|
|-----19-17-----|-----|-----|-----|
|-----19-17-----|-----|-----|-----|
|-----20-17-----|-----|-----|-----|

```

**The Rotating Pattern:**

Notice that each scale fingering consists of a rotating pattern of 3 adjacent narrow fingerings (ring and pointer fingers on each string) and 2 adjacent wide fingerings (pinky and pointer fingers on each string). You can move all the bends, motives, double stops, and other moves found in the 1st position,

to any other position. Just follow the pattern of wide and narrow fingerings. For example, any licks played in the 2 wide fingerings in the first position can be played in the 2 wide fingerings in any other position, and they'll sound the same:

Same lick in each fingering

```
|-----5-8-8b10--8-5---|-----|-----|
|-5-8-----|-----|-----10-13-13b15--13-10---|
|-----|-----|-----9-12-----|
|-----7-10-10b12--10-7---|-----|
|-7-10-----|-----|
|-----|-----|-----|
```

```
|-----|-----|
|-----|-----|
|-----14-17-17b19--17-14---|
|-14-17-----|
|-----12-15-15b17--15-12---|
|-12-15-----|
```

```
|-----| -10b12r=8---|-----|-----|-----|
|-----|-----10-|-----| -15b17r=13---|-----|
|-7b9r=5---|-----|-----|-----14-|-----|
|-----7-|-----| -12b14r=10---|-----|
|-----|-----|-----12-|-----| -17b19r=15---|
|-----|-----|-----|-----|-----17-|
```

```
|-----5-|-----|-----|-----|-----|
|-----|-----|-----10-| -13b13.5---|-----|
|-5b5.5---|-----|-----|-----|-----14-|
|-----7-|-----| -10b10.5---|-----|
|-----|-----|-----|-----12-| -15b15.5---|
|-----| -8b8.5---|-----|-----|-----|
```

Here are some additional common licks from each scale fingering:

```
|-----5-----5-----| -5-----5-----|
|-----5-----5-----5-| -5-----5---8-5-----|
|-7b9-----7b9-----7b9---| ---7b9-----7-5-|
|-----|-----|
|-----|-----|
|-----|-----|
```

```
|-----|-----|
|-----|-----|
|-7b9r=5---5b5.5---|-----|
|-----7-----7---| -7p5---5---7---|
|-----|-----7-----|
|-----|-----|
```

```
|-----|-----8b8.5-----|
|-----8---8---8---| -8---8-----10---|
|/9---9---9---9-| ---9---9-----|
|-----|-----|
|-----|-----|
|-----|-----|
```

```
| -10b12r=8---8b8.5---|-----|
|-----10-----10---| -10p8---8---10---|
|-----|-----9-----|
|-----|-----|
|-----|-----|
|-----|-----|
```

-12- (11) -10-----	-----
-----13b13.5--10-----	-----
-----9- (9)-----	-----
----- (13) -12-10-----	-----
-----12-----	-----

| -----12b15--12-- | -10----- |  
| -----10-13-10----- | -----13-10----- |  
-12b14-----	-----12b14- (12) -----
-----	-----
-----	-----

-12-----12-----12-----	(12) -12-----
-13b14--13b14-----13b14-	(13) -13-----
-----14p12-----	-----14p12-----12- (12) --
-----14-----	-----14-----
-----	-----

| -----15----- | -----15----- |  
| -15b17-----15b17== | (15) ----15-13----- |  
-----14-----	-----
-----	-----
-----	-----

-----17-----	-----17- (17) --
-/17-----17- (16) -15-----	-----
-----17b17.5--	-14-----17b18- (17) -----
-----17-14-----	-----
-----	-----

-----15h17---	-----
-----15-15h17-----	-----
-----14-14h17-----	-----
-----14-14h17-	-----
-----15-15h17-----	-----
-15h17-----	-----

| -17-----17-17-----17-17-----17- | -17-----17-17-----17\----- |  
| -20b22-----20b22-----20b22----- | -20b22---20b22r=17\----- |  
-----	-----17\-----
-----	-----
-----	-----

| -20b22---20---17h20p17--- | -17h20p17---17h20p17---17--- |  
-----20-	-----20-----20-----
-----	-----
-----	-----
-----	-----

| ----- | ----- |  
| --8--8--8- | -----8-----5- |  
| -9--9--9- | (7) S=9---9S=7-5---5- |  
-----	-----7---
-----	-----

```

|-----8-|-10p=8-----| |-----8-----8-|-----8-----10---8-----| |
|-8h=10---|-----10---| |-/10---10---|---8---10---|-----10---8-|
|-----|-----| |-----| -9---9---9---9---9---9---9---|
|-----|-----| |-----|-----|-----|
|-----|-----| |-----|-----|-----|

```

```

|-10b12--10--8-----10---8-| --8-----8-----8-|-----| -10--8S7-----| | |
|-----10---10---| -(8)h=10--(8)h=10-8-| -10b13--10-|-----8S10-|
|-----|-----| |-----|-----|-----|
|-----|-----| |-----|-----|-----|
|-----|-----| |-----|-----|-----|

```

```

|-----15-----| -15b17--15b17--15-| -12-12-12-12-12-----|
|-15b17-----15b17r=13---13-|-----| -13-13-13-13-13-----|
|-----14---|-----|-----14-12---|
|-----|-----|-----14-|
|-----|-----|-----|
|-----|-----|-----|

```

```

|-----12-|-----|-----| -12h13p12---12h15p12-----|
|-15b17r=(15)p13---13-| -13h15---|-----13-| -15p13---|-----13-----13---|
|-----14---|-----| -12h14---|-----12-|-----|
|-----|-----|-----|-----|
|-----|-----|-----|-----|
|-----|-----|-----|-----|

```

Solo 4 - Pentatonic Positions #1 and #2, Slow Blues, Key of E:

E7

```

|-----|-----|
|-----|-----|
|-----|-----0-|
|-2---2--0-2-5b6-(5)--(5)-0h2---|
|-0-2-----|
|-----3b4-|-----|

```

```

|-----|-----3---3---|
|-2b4---2b4---0-----0-| -/4-0--/2---/4---4-2h4p2p0-----|
|-----2-(2)--2---|-----2---2-----2---|
|-----|-----|
|-----|-----|

```

A7

```

|-----0-0-0-/3-3-3-/3-0---|-----|
|-/5-5-5-/5-5-5-/5-5-5-/5-0-/3-|-----|
|-----/4-| -2---2--0-2b4-0--(0)-----0-|
|-----|-----0h2---|
|-----|-----|
|-----|-----|

```

```

|-----0-3h5-0h3-----|
|-----3-----0-----0h3---|
|-2b4====2r--0-2b4-----0-|
|-----|
|-----|
|-----|

```

```

E7
|-----|-----|
|-----0--0-----3--3-|-----/5-5-5-3h5p3p0-----|
|-----0--0-----4--4-|-----/4-4-4-----2h4p2p0---0-2p0-|
|-2--2-----2--2-----|-2--2-----2-----|
|-----|-----|
|-----|-----|

```

```

B7
|-----3-5-5b7---5p3p0---0-3-0--|
|-----3h5-----3-----|
|-----/4--4-----|
|-----|
|-----|
|-----|

```

```

A7
|-----/5-5-5-5p3p0---0-----3-----|
|-----5---3s5---5-3-0-----3-----|
|-----2s4---4-2-0-----|
|-----2-0-|
|-----|
|-----|

```

```

E7
|-----0-----|
|-----0---3-0-----|
|-----2b4-----2h4p2p0---0-2p0-----0h2h4-0h2h4---|
|-2--2-----2-----0h2h5-----|
|-----|
|-----|

```

```

B7                                     E7
|-----0h3h5-5b5.5-5b6-5b6.5-5b7-5b7-5b7---|-3-----|
|-0h3h5-0h3h5-----|-5- (5) --5--5--5---|
|-----|
|-----|
|-----|
|-----|

```

THE "BLUES" SCALE AND OTHER ADDED NOTES

To create more interesting sounds, you can add notes to a pentatonic scale. The "blues" scale is a pentatonic scale with 1 additional note. The added note is often found on several strings in the same fingering pattern (the "+" symbol in the diagrams below), and always in the same place in the rotating pattern:

1	2	3	4	5	1
000000	000	0	0000 0	00	000000
+ + +	0  +00	000 00	+ 0	00  00	+ + +
000	0	+ + + +	00	+ +	000
0 +00	000 00	0000 0	00 00	000000	0 +00
	+ +	+ 0	+	+	

You can also add a variety of other notes, as long as the focus stays on the pentatonic pitches. In fact, any note can be used as a quick passing tone, as long as it's not accented or dwelled upon:

1	2	3	4	5	1
+++++	+++++	+++++	+++++	+++++	+++++
000000	+000+	+++0+	0000+	++00+	000000
+++++	0+++00	000+00	++++0+	00++00	+++++
+000+	+++0+	+++++	++00+	+++++	+000+
0+++00	000+00	0000+0	00++00	000000	0+++00
+++++	+++++	++++0+	+++++	+++++	+++++

Here are some licks that use added notes in each pentatonic position:

-----|---5-(7)p5-8S(9)-5---||  
-----5-(7)p5-|-8-----8-||  
-5h(6)---7S(8)-----||  
-----7-----||  
-----||  
-----||

-----|-----||  
-----||  
-7b9--5-(4)-----||  
-----7-(6)-5-(4)-||  
-----||  
-----5-(6)-7-----||  
-----8b9--5---||

-10h(11)-10-8h(9)-----||  
-----10-8-----||  
-----9-|(8)-7-----||  
-----10-(9)-7-----||  
-----7-----||  
-----||

-----|-----||  
-----||  
-----||  
-10b12r=(9)-7-----7-(7)-----||  
-----10-(9)-(8)-7-|-----7-----||  
-----8h(9)-----||

-----10-12-----||  
-----10S(9)S|=10-(11)-(12)-----13-10--||  
-----9S(8)S9-----||  
-10S(9)S10-----||  
-----||  
-----||

-----|-----10-----||  
-----9-|(10)-(11)-12-(13)-----||  
-12h(13)-12-10-(11)-12-(13)---||  
-----12---||  
-----||

-(14)h15-(14)-12-----||  
-----15p(14)-13h(14)-|-----||  
-----14p12---14-(14)-----||  
-----14-----||  
-----||  
-----||

-(16)h17-x-15h(16)-x-(14)h15-x-----||  
----- (16)h17-15-----||  
-----17-(16)-14---||  
-----||  
-----||  
-----||

Solo 5 - Pentatonic 1st position with added notes, Key of C, Fast Rock:

```

          C  Bb          Eb          C    C          Bb
|-----|-----|-----|-----|
|-----|-----|-----|-----|
|-8\-----8-|-10-8--10b11-----|-8-----8--8-11p8--8--|
|-----8h10-|-8\-----8h10-|-----|-----|
|-8h10-----|-----|-----|-----|
|-----|-----|-----|-----|

```

```

          Eb          C          F
|-----|-----|-----|
|-----|-----|-----|
|-10-8---8-----|-----8-10p8-10p8---8--|
|-----10---10p8-10-----|-----8-8h10-----10---|
|-----|-----8h10-----|-----|
|-----|-----|-----|

```

```

          Ab          Bb
|-----|-----|
|-8h11p8---8-----|
|-----11---10-(10)b12r====|
|-----|-----|
|-----|-----|
|-----|-----|

```

```

          F
|-----10h11p10p8-|
|-10h11p10p8-----10h11p10p8-----|
|-----10h11p10p8-----|
|-----|-----|
|-----|-----|
|-----|-----|

```

```

          Ab          Eb          C          Eb
|-10h11p10p8-10-----|-----|
|-----10-(10)b12r=(10)--|-----|
|-----8-10-8-11p10p9p8---8--|
|-----8h9h10-----10---|
|-----|-----|
|-----|-----|

```

```

          Eb          C          C          Bb
|-8-8-----|-----8h9h10h11p10p9p8---8--|
|-----11-11-10---10-(10)-8-10-8--|-----8h9h10h11-----11---|
|-----10b12r10-(10)-8-10-8--|-----8h9h10h11-----|
|-----|-----|
|-----|-----|
|-----|-----|

```

```

          Eb          C
|-----11-----|
|-11pb13====11r-8-----11-----|
|-----10b12---8-----|
|-----10\---|
|-----|-----|
|-----|-----|

```

MAJOR PENTATONIC SCALES:

All the pentatonic fingerings you've seen in the solos so far are actually called "Minor" pentatonic scales. "Major pentatonic" scales use the exact same fingerings as minor pentatonic scales, only they're moved down 3 frets. For example,

"A minor" pentatonic starts with the POINTER finger at the 5th fret (the "A" note):

1st	2nd	3rd	4th	5th	1st
00000+ 5	000	0	0000 0 12	0+	00000+ 17
	0   00 8	000 +0 10	0	00  00 15	
000	0		0+		000
0 00 8	000 +0 10	0000 0 12	00 00 15	00000+ 17	0 0 20
		0			

"A major" pentatonic starts with the PINKY finger at the 5th fret (the "A" note):

1st	2nd	3rd	4th	5th	1st
000+00 2	000	0	0000 0 9	00	000+00 14
	0   0+ 5	000 00 7	+	00  00 12	
000	0		00		000
0 0+ 5	000 00 7	0000 0 9	00 00 12	000+00 14	0 0+ 17

In all the fingerings above, the "A" root notes are marked by a "+" symbol.

Major pentatonic scale notes can be used in many of the same places as minor pentatonic scales, over many of the same chord progressions, but they produce a sweeter, more pastoral sound. They are very commonly used in country music - they form the basis for soloing in that style. Understanding the use of major pentatonics requires a bit more understanding of roman numeral chord theory. As a reference, the following guidelines apply:

Rule 1:

Over I(7) IV(7) V(7) bVII bIII and bVI chords, you can play the MINOR pentatonic, blues scale, or any variation (with added notes, etc.), in the same key. That's what you've been doing with pentatonics so far. For example,

Over A G D C  
(I bVII IV bIII in the key of A)

00000+ (5th fret) --> Play A minor pentatonic, POINTER at the 5th fret  
 |||||  
 |000||  
 0 00

Rule2:

Over I(7) IV(7) V(7) ii iii and vi chords, you can play the MAJOR pentatonic scale in the same key. For example,

Over A C#m D E7 F#m Bm D A  
(I iii IV V7 vi ii IV I in the key of A)

000000  
 |||||  
 |000||  
 0 0+ (5th fret) --> Play A major pentatonic, PINKY at the 5th fret.

There are several things to be aware of concerning major pentatonic scales:

An "A Minor" pentatonic is the same as "C Major" pentatonic (pointer finger on 5th fret, pinky finger on the 8th fret = same fingering). An "A Major" pentatonic is the same as an "F# minor" pentatonic (pointer finger on the 2nd fret, pinky finger on the 5th fret = same fingering). EVERY pentatonic fingering has BOTH a major and a minor name, based on where the pinky and the pointer fingers are positioned.

You can play either major or minor pentatonic scales over I, IV, and V chords (those chords are found in both rules above).

This is a point of confusion for everyone, and it's an important scale concept in all popular lead guitar styles (rock, country, blue, jazz, heavy metal, etc.) so take a second to figure it out on the guitar.



Solo 6 - Major Pentatonic 1st position with added notes B and F, Key of C, Slow Folk:

C	G	Am	Em
-----5-----		-----5-----	
-8-5-6-8-5-6-8-6-5--6-5--		-5-----5-----5-----	
-----7-----7-5-		--5-7--5-7--7-5-4-7-5-4-5-	
-----		-----	
-----		-----	
-----		-----	

F	C	Dm	G7
-----5-----		-----5-8-7-5--7-8--	
-6--8-6-5-6-8-5--		--6-----8-----8--	
--5-----		-7-----	
-7-----		-----	
-----		-----	
-----		-----	

C	G	Am	Em
---8-7-8---8-7-8---8-7-8---8-7-8-		---8-7-8---8-7-8---8-7-8-5-----	
-----8-----6-----		-----8-----5-----8-6-5-	
-5-----7-----		-5-----	
-----		-----	
-----		-----	
-----		-----	

F	C	Dm	G7	C
-----5-----		-----5-8-7-5--7-8--		-----
-6-8-6-5-6-8-6-5-6--5--		-6-8-6-5-6-8-6-5-6--8--		-5--
-----7-----		-----7-----		-----
-----		-----		-----
-----		-----		-----
-----		-----		-----

PLAYING DIFFERENT PENTATONIC SCALES OVER EACH CHORD IN A PROGRESSION  
-----

So far, you've been learning to play a single pentatonic scale over an ENTIRE chord progression. We'll call the chord scale relationships you learning in the previous section "Approach 1". Another approach is to play a different scale for EACH CHORD in a chord progression:

- For MAJOR CHORDS, play a MAJOR PENTATONIC on the chord root note
- For MINOR CHORDS, play a MINOR PENTATONIC on the chord root note
- For 7th chords, play a MAJOR PENTATONIC on the chord root note

To play the first position pentatonic over each chord (changing positions for each chord - i.e., don't stay in a single key for the whole song):

- Put your PINKY finger on the root note on the first string for MAJOR and 7th chords (go up 12 frets to the octave, if the pinky is below the 3rd fret).
- Put your POINTER finger on the root note on the first string for MINOR chords

Here are the notes on the 1st string, for quick reference:

0	1	3	5	7	8	10	12	13	...
E	F	G	A	B	C	D	E	F	...

Example Progression 1: G Bm C D G Am C G

Approach 1: play either G major or G minor for the progression (switch between them by taste).

Approach 2:

G - pinky on 3rd fret  
Bm - pointer on 7th fret  
C - pinky on 8th fret  
D - pinky on 10th fret  
G - pinky on 3rd fret  
Am - pointer on 5th fret  
C - pinky on 8th fret  
G - pinky on 3rd fret

Example Progression 2: Am F C G Am Dm E7 E7

Approach 1: play A minor for the progression.

Approach 2:

Am - pointer on 5th fret  
F - pinky on 13th fret  
C - pinky on 8th fret  
G - pinky on 3rd fret  
Am - pointer on 5th fret  
Dm - pointer on 10th fret  
E7 - pinky on the 12th fret

Example Progression 3: Bb7 Eb7 Bb7 F7

Approach 1: play A minor for the progression.

Approach 2:

Bb7 - pinky on 6th fret  
Eb7 - pinky on 11th fret  
Bb7 - pinky on 6th fret  
F7 - pinky on 13th fret

"CAGED" PENTATONICS:

It's important to note that you can find all the common fingerings for the C, A, G, E, and D ("CAGED") MAJOR chords WITHIN each pentatonic fingering. This helps to immediately locate the correct pentatonic scale fingering around well known bar chord shapes. The "X"s in the following diagrams outline each of the 5 MAJOR (triad 1 3 5) bar chord shapes, within the pentatonic scale fingerings (capital "X" is the root note). The "M"s indicate additional major chord arpeggio notes:

1G	2E	3D	4C	5A
ooXxo	Moo	M	xoox x	Mo
	X   xX	oxX oo	X	xX  ox
xoo	x		xo	
X xX	oxX oo	Moox x	MX oM	ooXxo
		X		

You can also find all the common fingerings for the CAGED MINOR chords in each pentatonic fingering. The "X"'s in these diagrams designate the 5 MINOR (triad 1 b3 5) bar chord shapes, within each pentatonic scale fingerings (capital "X" is the root note). The "m"s indicate additional minor chord arpeggio notes:

1E	2D	3C	4A	5G
XooxxX	mX	x	mXoo x	xX
	m   ox	oox Xo	x	ox  oo
xXo	x		xX	
m om	oom Xo	mXoo m	om oo	XoomxX
		m		

You don't need to understand how the CAGED chord shapes are found within the pentatonics, but it can really help you visualize which scale you should be playing over any given bar chord in a rhythm

backing pattern. Becoming familiar with the CAGED shapes is also helpful in gaining more understanding about guitar in general, as it tends to be the most popular method used to describe all advanced theory concepts on the guitar fretboard.

Here are the CAGED pentatonic scale diagrams written out, with each interval labeled:

Major Pentatonic:

C (4)	A (5)	G (1)	E (2)	D (3)
3 6 2 5   3	3 6	6 2 5 1 3 6	3 6 2	3
1	5 1     2 5		1       5 1	2 5 1   6 2
3 6		3 6 2	3	
5 1     2 5	6 2 5 1 3 6	1       5 1	2 5 1   6 2	3 6 2 5   3
				1

Minor Pentatonic:

C (3)	A (4)	G (5)	E (1)	D (2)
5	5 1 4b7   5	5 1	1 4b7b3 5 1	5 1 4
4b7b3   1 4	b3	b7b3     4b7		b3      b7b3
	5 1		5 1 4	5
5 1 4b7   5	b7b3     4b7	1 4b7b3 5 1	b3      b7b3	4b7b3   1 4
b3				

CHORD-SCALE RELATIONSHIPS PART 2: PENTATONIC JAZZ - CHORD PROGRESSIONS AND SOLOS THAT CHANGE KEYS

You can use the pentatonic scales, with a few added and/or changed notes, to play over every type of chord found in jazz tunes. The great benefit of learning to improvise jazz solos using the pentatonic scales is that the learning curve is reduced tremendously, compared to all the other traditional instruction methods. Most guitarists ingrain musical lead guitar techniques, fingerings and phrases, from the earliest stages of learning. With just a little understanding and practice, those fingerings, techniques, and phrases can be instantly and easily put to use to play jazz solos. This text explains everything that's required to play over every type of "jazz chord", in every position of the fretboard, using only the common pentatonic scale fingerings.

Below are the 5 well known pentatonic scale fingerings. In these diagrams, the capital "M" designates the \*Major\* root note, and lower case "m" designates the \*minor\* root note. Put an "M" on any chosen root note, and you are playing a major pentatonic scale in that note's key. Put an "m" on any chosen root note, and you are playing a minor pentatonic scale in that key:

1	2	3	4	5
mooMm	omo	o	omoo o	om
	M       oM	ooM   mo	M	oM     oo
o m	o		o m	
M oM	ooM mo	omoo   o	oM oo	mooMm
		M		

Notice that ALL these scales are formed from a consistent ROTATING pattern of fingerings on each adjacent string, with a 1 fret "shift" apart between the 2nd and 3rd strings. The repeating pattern of fingerings is:

WIDE WIDE NARROW NARROW NARROW

wide = pointer finger and pinky on a string, separated by 2 empty frets  
 narrow = pointer finger and ring finger on a string, separated by 1 empty fret

Here's the tablature for each of the fingerings in "C major" (pinky on the 8th fret "C" on the 1st string, in the first fingering position). This scale can also be called "A minor" (pointer finger on the 5th fret "A" on the 1st string, in the first fingering position):

```

8-5-----10-8-----
---8-5-----10-8-----
-----7-5-----9-7-----
-----7-5-----10-7-----
-----7-5-----10-7-----
-----8-5-----10-8-----
  
```

```

12-10-----15-12-----
-----13-10-----15-13-----
-----12-9-----14-12-----
-----12-10-----14-12-----
-----12-10-----15-12-----
-----12-10-----15-12-----

```

```

17-15-----
-----17-15-----
-----17-14-----
-----17-14-----
-----17-15-----
-----17-15-----

```

Play through every scale fingering above until you recognize the pattern of WIDE WIDE NARROW NARROW NARROW fingerings on adjacent strings.

BLUES SCALE:

In every fingering, you can add the "blues" note, labeled below with a period ("."). Notice that in every case, the octave blues notes are found just above the first NARROW fingering (just to the right of the ring finger note), and in the middle of the third NARROW fingering (in between the pointer and ring finger notes):

1	2	3	4	5
mooM <sup>o</sup> m	o <sup>o</sup> m	o	o <sup>o</sup> o o	o <sup>m</sup>
.	M   oM	ooM mo	. M	oM  oo
omoll	o.l	.    .	om	.l
M .oM	ooM mo	o <sup>o</sup> o o	oM oo	mooM <sup>o</sup> m
.	.	. M	.	.

In blues, rock, country, and pop styles of music, you tend to stay in ONE KEY for an entire solo, over the entire rhythm backing chord progression (perhaps shifting back and forth between major and minor pentatonic positions on the same root). IN JAZZ TUNES, YOU SWITCH SCALES FOR \*EVERY CHORD\*. 1 or more notes may also be added or changed in each position (in every octave), to add necessary harmonic color.

MAJOR:

For MAJOR chords (i.e., Cmaj7, Bbmaj6, G#maj9, etc.), play major pentatonic with 1 added note in all octaves. In these diagrams, the capital "M" designates the root note, lower case "o" notes are other notes in the main pentatonic scale fingering, and period "." notes are added notes. Notice that ALL the added notes are ONE FRET BELOW the "M" root note, always in the same position in the rotating WIDE WIDE NARROW NARROW NARROW pattern:

1	2	3	4	5
.	.	.	.	.
oooM <sup>o</sup> o	.ooo .	.o	oooo.o	.oo
	M   oM	ooM oo	M	oM  oo
.ooo .	.o		.oo	.
M oM	ooM oo	oooo.o	oM oo	oooM <sup>o</sup> o
		M		

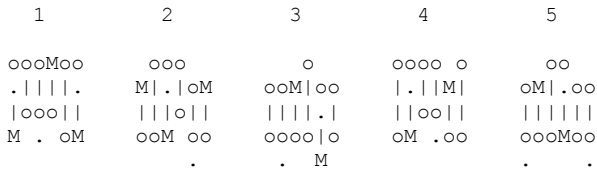
MINOR:

For MINOR chords, play minor pentatonic with the SAME added note fingerings. In these diagrams, the lower case "m" designates the root note, lower case "o" notes are other notes in the main pentatonic scale fingering, and period "." notes are added notes. Notice that ALL the added notes are TWO FRETS ABOVE the "m" root note, always in the same position in the rotating WIDE WIDE NARROW NARROW NARROW pattern:

1	2	3	4	5
.	.	.	.	.
moooom	omo .	.o	omoo.o	.om
	o   oo	ooo mo	o	oo  oo
.omo .o	.o		.om	.
o oo	ooo mo	omoo.o	oo oo	moooom
		o		

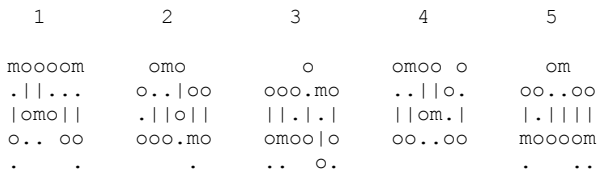
DOMINANT:

For DOMINANT chords (i.e., C7, Bb9, G#13, etc.), play major pentatonic with 1 DIFFERENT added note in all octaves. In these diagrams, the capital "M" designates the root note, lower case "o" notes are other notes in the main pentatonic scale fingering, and period "." notes are added notes. Notice that ALL the added notes are TWO FRETS BELOW the "M" root note (as opposed to ONE fret in the major chords), always in the same position in the rotating WIDE WIDE NARROW NARROW NARROW pattern:



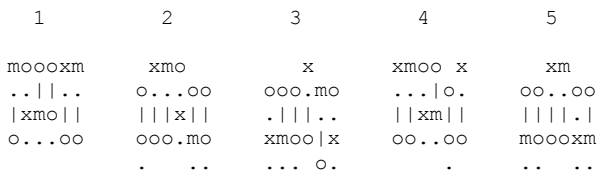
ALTERED DOMINANT:

For ALTERED DOMINANT chords (i.e., C7b9, Db7#5, G#7b5, B7#9, Eb7+5-9, A7-5+9, etc. - dominants with any combination #9 and/or b9, #5, and/or b5) play minor pentatonic with THREE DIFFERENT added notes in all octaves. In these diagrams, the lower case "m" designates the root note, lower case "o" notes are other notes in the main pentatonic scale fingering, and period "." notes are added notes. Notice that the added notes are always in the same position in the rotating WIDE WIDE NARROW NARROW NARROW pattern:



HALF DIMINISHED:

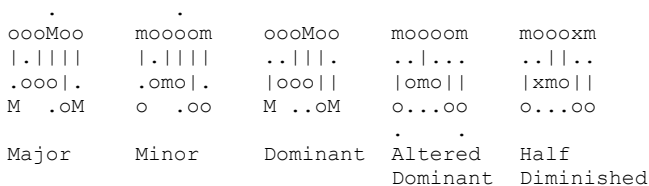
For HALF DIMINISHED chords (i.e., Cm7b5, Bbmin7b5, G#-7b5, etc.), play minor pentatonic with the BLUES NOTE ADDED, TWO ADDITIONAL NOTES ADDED, and the "5th" note REMOVED in all octaves (the note just to the right of the blues note). In these diagrams, the lower case "m" designates the root note, lower case "o" notes are other notes in the main pentatonic scale fingering, "x" notes are the REMOVED notes from the original pentatonic scale (DON'T PLAY THEM), and period "." notes are added notes. Notice that the added notes are directly to the right of the 3 NARROW pentatonic fingerings, and on the left inside of the WIDE pentatonic fingerings:



You can also play the major scale with the root 1 fret above the half diminished chord root note.

ADDING THE "BLUES" NOTE:

In EVERY one of the scales above, you can add the "blues" note found in the blues scale shown earlier. Here are the 1st position fingerings for each of the scales above, with the blues note added. MEMORIZE AND PRACTICE THESE FINGERINGS \*FIRST\*:



FULLY DIMINISHED:

For fully diminished chords, instead of using a pentatonic scale, it's best just to learn the following simple arpeggio shape. Any note in this shape can be used as the root note, and it can be moved up or down the fretboard in successions of 3 frets, in either direction, and all the notes are the same:

```
| | | | | O
| | | | |
| | | | O |
| | | O | O
| | | | |
| | O | O |
```

You can also play the altered dominant 1 fret below the diminished chord (i.e., for Bbdim7, play A7alt).

CHORD SHAPES FOR RHYTHM BACKUP:

This section of the text is primarily about playing lead guitar, but you will rarely find yourself in a situation where you play lead guitar without also having to play backing chords. Here are a variety of useful fingerings used to play the most common types of "jazz" chords. Capital "R" is the root note, capital "O"s are other notes in the main chord shape, small "r"s are root notes which shouldn't be played (they're just in the diagram to help position the chord), small "o"s are notes that can be added, and periods "." are less important optional added notes:

MAJOR (maj, maj7, M, triangle, maj9, maj13, etc.):

```
R | | | O | | R | | | O   r | | | | |   | r | | | |   | | | O O O   | | | | | O   | | O O | |
| | O O | |   | | | O | |   | | | | |   | | | | |   | | | | |   | | | | O |   r r r | O O
| | | | |   | | O | O |   | | R | | |   | | O R O |   | | O | |   | | O | |   | | | | | | | | |
| | | | |   | | | | |   | | | | |   | | | | |   | R | | |   | | R | | |   | | | | |
| | | | |   | | | | |   | | | O O O   | | | | | O   | | | | |   | | | | |   | | | | |
```

That last "6/9" shape is particularly useful because when positioned with the (unplayed) root note on either the 6th or 5th string, the shape can be slid up 2 frets, providing quite a few major voicings all over the fretboard, with just a single shape.

MINOR (min, min7, m, m7, -, -7, m9, etc.):

```
R | O O O O   | R | O | O   r | | | | |   | r | | | |   | | O | O |   | | O | | |   | O | | | |
| | | | | |   | | | | O | |   | | | | |   | | | | O |   | | | | |   | | | | |   | | | O | |
| O | | . o   | | O | | .   | | R | | |   | | | R | |   | R | O | |   | R | O O O   r | O | O |
| | | | . .   | | | | | .   | | | | O O   | | | | | O   | | | | |   | | | | |   | | | | |
| | . | | |   | | | . | |   | | | O | |   | | | | |   | | | | |   | | | | |   | | | | |
```

DOMINANT (7, 9, 13, etc.):

```
R | O | O O   | R | O | O   r | | | | |   | r | | | |   | | | | O |   | | | | |   | | | | |
| | | O | |   | | | | | |   | | | | |   | | | | |   | | O | | |   | | O | | |   | O | O | | |
| O | | o .   | | O | O .   | | R | | |   | | O R O |   | R | O | |   | R | O O O   r | O | O |
| | | | . |   | | | | .   | | | | O |   | | | | | O   | | | | |   | | | | |   | | | | |
| | | | | |   | | | | | |   | | | O | O   | | | | |   | | | | |   | | | | |   | | | | |
```

ALTERED DOMINANT (7#5, 7b9, 7+5, 7-9, aug (same as #5), etc.):

```
r | O | O |   | | O | O |   | | | | |   R | O | | r   | | | | |   | | | O O |   O r | O | O
| | | O | O   | r | O | O   | | r | | |   | | | O O |   | | O | | |   | | O | | |   | O | | | | | | | | |
| | | | | |   | | | | | |   | | O | O |   | | | | |   | R | O | |   | R | | | |   | | O | O |
| | | | | |   | | | | | |   | | | O | O   | | | | |   | | | | O |   | | | | |   | | | | |
```

```
r | | | | |
| | | O | |
| | R | | |
| | | O O
```

HALF DIMINISHED (m7b5, min7b5, m7-5, -7b5, -7-5, circle with a line through it, etc.):

```

||||O|   ||||O   |||||   |||||
R|OO||   |R|O||   |R|O||   ||R||
|||||   ||||O|   ||O|O|   |||OOO
|||||   |||||   |||||   |||||

```

FULLY DIMINISHED (dim7, circle 7, etc.):

```

||O|O|   O||O|O   ||||| | | |
|||O|O   |O||||   ||O|O|
|||||   ||O|O|   O||O||
|||||   |||||   |||||

```

ANY of the notes in the diminished shapes can be used as the root.  
 The diminished shapes can also be slid up or down 3 frets, and they contain the exact same notes.

HOW TO PRACTICE:

It's suggested that you initially study and practice all the chord types first using ONLY THE \*1ST POSITION\* PENTATONIC SCALE VARIATION FOR EACH CHORD. You'll be amazed at how musical the resulting solos can be. Use and leverage all the licks, phrases, muscle memory, and musical familiarity you've mastered creating rock, blues, country, and pop melodies, licks, and lines in that position, to create lines over common jazz chords. Practice THE 1ST POSITION fingering of a single type of chord, over a single chord backing track for just that one type of chord on one root note, in all 12 keys, until each of the 5 positions is mastered. Then play the chords in a song context, with each chord moving 2-4 times slower than normal (lasting 2-4 times as long as normal), so that you can find the correct root notes and fingerings for each chord. Gradually speed up the chords in the song until you can play the entire chord progression up to speed. Once you've done that, do the exact same thing with several more songs, using ONLY THE 1ST POSITION pentatonic fingerings. You'll be amazed at the musical and technical results that can be achieved with only the 1st position fingering on every chord. You'll cover the entire fretboard in most songs, using only the first position fingering, because you need to move to different frets to find each root note. Focus on being musical and making melodies when practicing. Don't just play the scale up and down - try to connect melody lines on the same string when shifting to different root notes. Once you can play a few songs, repeat the entire process, adding a 2nd fingering position for each chord. Then repeat the process all over again using the rest of the 5 pentatonic fingerings. You'll begin to quickly see the repetition in the fingerings, if you focus on where notes are added within the rotating WIDE WIDE NARROW NARROW NARROW pattern.

Here a some licks and phrase examples, all in the first position C Major/A Natural Minor fingering, that demonstrate how to use the scale fingering to create melodies. Treat each short lick as a "word" that can be combined to form longer "phrases". Try moving each one of these licks up 5 frets, so that they are in the D minor (dorian) position. They will work just as perfectly in that position, for the EXACT SAME CHORD BACKING TRACKS:

```

|-/7---|-----|-----|-5-8-7-|-7-----|-8-7---|
|----8-|-8-5-|-5-8-|-----|---8-5-|-----8-|
|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|

```

```

|-5---|-5---|-5-----|-----5-|-7-5-|-7---|
|---8-|---5-|---8-5-|-5-8---|-----|---5-|
|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|

```

-----|-----|-----|-----|-----|  
-8-5---|-8-5---|-5-----|-5-----|-----|  
-----5-|-4-----|-5-----|-7h8---8-7-5-4-|-----|  
-----	-----	-----7-	-----	-----7-5-
-----|-----|-----|-----|-----|

-----	-----	-----	-----	-----	-----
-----|-5-4-|-----|-----|-----|-----|  
-5-7-|-7-----|-----|-----5-|-7---|-5---|  
-----|-----|-7-5-|-5-7-|-7---|-5-|-7-|  
-----|-----|-----|-----|-----|

-----|-----|-----|-----|-----|  
-----|-----|-----|-----5-8---5-----|  
-----|-----|-----|-7---7---7---7-5-4---|  
-----5-|-----|-----|-----7-|  
-6h7---|-5h6p5---|-5-----|-----|  
-----|-----8-|-8-5-7-|-----|

-----|-----|-----|-----|  
-----|-----|-5-----|-----5-----|  
---5---7---5-4-|---5-(4)-|-4-5-7-8-5-7-8---5-----|  
-7---7---7---	-----	-----7-5---
-----|-----|-----|

-----|-----|-----|-----|-7p5---|  
-----|-----|-----|-5-8-|-----5-|  
-----|-5---|-7-5-|-5-----|-----|  
---7-(5)-|-5---7-|-7-----|-----|  
-7-----	-----	-----	-----

-8p5---(7)-|-----/5---|-----|-----|  
-----8-----|-5-8-----|-----5-----|-----|  
-----|-----7-----4-|-5-7---4---|-----5-7p5-4---|  
-----	-----	-----7-	-5h7-----
-----|-----|-----|-----|

-----|-----|-----8---7---5-----|-----5-7h8-7-|  
-8p5---5-----|-----5-|-8---8---8---8-5-|-----5-----|  
-----8---8-7-5s4---|-----5-7h8---|-----4s5-----|  
-----7-	-5h7-----	-----	-----
-----|-----|-----|-----|

-8-7-5---7-5---5-----|  
-----8-----8-5---8-5---8-5---5-----|  
-----8-----8-7---8-7---8-7-5-8-7-5-4-7-5-4---|  
-----	-----	-----7-
-----|-----|-----|

-----5-----5-7---5-7-8-|-7h8p7-5-7h8p7-5---5-|  
-----5-----5-8---5-8---5-8---8-----|-----8---|  
-4-5-7-8-5-7-8---7-8---8-----|-----|  
-----	-----	-----
-----|-----|-----|



```

|-----5h7p5---7h8p7---5h7p5---5-|-8-5-----7-5-----| |
|-8p5---5---5---5---5---5---|-----8-----8-----8---|-----8-5-----8-5---|
|-----7---8---7---5-----|-----|-----7b9-|
|-----7---5-|-----|-----|
|-----|-----|-----|
|-----|-----|-----|

```

```

|-----5h7p5---8-7-5---5-|-5-----|
|-5h8---8---8---8---|---5---5-----|
|-----7---5---4-----4-|
|-----7---5---5h7---|
|-----7-5---5h6-7---|
|-----7h8---|

```

```

|-----|-----5-7-5-----|-----|
|---5---8---5---|---5---8---5-8-5---|-5-----|
|-4---4---4---4---|---4---7-----7-4-7-|---8p7p5---5s4---|
|-----7-|-7---7---7-----7-|-----7-----/7-5---5-|
|-----|-----|-----7---|
|-----|-----|-----|

```

```

|-----5-/7-----/7-----|
|-----5h8-----8-5---8-5-/8-|
|-----5-4h7-8-----|
|---5-5h7-----|
|-5h7-----|
|-----|

```

```

|-----5-----7-----|
|-----5-----8-5-----8-5---8-5---|
|-(5)h(7)---8-7---8-----7b9-|
|-----|
|-----|
|-----|

```

```

|-----5-----|
|-5h8p5---8p5---5-----|
|-----8-----8---8-7-5-4-|
|-----|
|-----|
|-----|

```

```

|-----|
|-----5-----|
|-----4h5-7-5-4---8-7-5-4-----|
|-----5h7-5h7---7-----7-5-----|
|---5h7-5h7-----7-6-5---|
|-5h7-----8-7-5---|

```

```

|-----5-----|
|-----5-----8p5-----|
|-----4---4h5---4h5-7---8p7-5---8-7p5-4-|
|---5---5h7---5h7---5h7---7-----|
|-5h6-7---6h7---7-----|
|-----|

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|-----|
|-----|
|---/7-5---5-----|
|---/7-5---5---7---/7-5---5-----|
|---7-----7---/7-5---5-----|
|-----8---/7---|

```

Here are some songs and chord progressions that you can practice to learn the scales:

Misty  
 All Of Me  
 Fly Me To The Moon  
 I Got Rhythm  
 ii V7 I Exercises, in 12 Keys  
 Minor ii7b5 V7alt i Exercises, in 12 Keys  
 Green Dolphin Street  
 Girl From Ipanema  
 Ain't Misbehavin'  
 Autumn Leaves  
 Blue Bossa  
 Cherokee  
 Jazz Blues  
 Minor Blues  
 Giant Steps  
 The Christmas Song  
 Crazy  
 Donna Lee  
 Georgia On My Mind  
 ii-V7-I SUBSTITUTIONS ("two-fives"):

You can use any of the ii-V7-I scales (minor ii, dominant V7, major I) to substitute for any of the other ii-V7-I scales. For example, over a C major chord, you can play D minor (dorian), or G dominant (mixolydian). Over D minor, you can play C major or G7. And over G7, you can play Dm or Cmaj. Here are the ii-V7-I chords in each key. Memorize them, practice each chord individually using each substitution chord, then find sections of songs that use these chord progressions, and use any of the substitution scales to play over any or all of that section of the song:

dm	G7	C		
am	D7	G		
em	A7	D		
bm	E7	A		
f#m	B7	E		
c#m	F#7	B	(dbm	Gb7 Cb)
g#m	C#7	F#	(abm	Db7 Gb)
ebm	Ab7	Db	(d#m	G#7 C#)
Bbm	Eb7	Ab	(a#m	D#7 G#)
fm	Bb7	Eb		
cm	F7	Bb		
gm	C7	F		

The ii-V-I substitutions in minor consist of the same root notes with half diminished (m7b5, or minor 7th with a flat 5), altered dominant (7b9, 7#9, 7b5, 7#5, 7+5-9, 7-5+9, etc.), and minor 6 (m6) chords. You can substitute any of these chord/scales for any other in the same key (i.e., dm7b5, G7alt, and Cm6 are interchangeable):

dm7b5	G7alt	Cm6		
am7b5	D7alt	Gm6		
em7b5	A7alt	Dm6		
bm7b5	E7alt	Am6		
f#m7b5	B7alt	Em6		
c#m7b5	F#7alt	Bm6	(dbm7b5	Gb7alt Cbm6)
g#m7b5	C#7alt	F#m6	(abm7b5	Db7alt Gbm6)
ebm7b5	Ab7alt	Dbm6	(d#m7b5	G#7alt C#m6)
Bbm7b5	Eb7alt	Abm6	(a#m7b5	D#7alt G#m6)
fm7b5	Bb7alt	Ebm6		
cm7b5	F7alt	Bbm6		
gm7b5	C7alt	Fm6		

#### HARMONIC REDUCTION:

An important benefit of knowing ii-V7-I progressions is that many sections of jazz tunes often consist largely, or entirely, of major ii-V7-I and minor ii7b5-V7alt-i6 progressions in different keys (collectively just called "ii-V"s). Instead of playing over every single chord, changing scales for each one, you can group each of the ii-V7s together and play a single scale over that entire section (i.e., any single minor ii, dominant V7, or major I scale in a ii-V7-I). This eases the thought process a bit during fast chord progressions, and also puts focus on the harmonic substitution sounds, which are a fundamentally idiomatic characteristic of "jazz flavor".

This harmonic reduction idea can be extended further by playing a single major scale for any chord that fits within the "diatonic" group of chords Imaj7 ii7 iii IVmaj7(#11) V7(9) vi vii-7b5 (III7alt). You'll often find large sections of songs, and in fact some entire tunes that can be reduced to a single diatonic scale. "Turnarounds", particularly the chords iii vi ii V I, are really common. Here

are all the diatonic chords of every major scale key. Find sections of tunes made up of any combination of these chords, and you can play a single major scale for that entire section (because all these chords are made up entirely of the notes from that one major scale):

Imaj7	ii7	iii	IVmaj7(#11)	V7(9)	vi	vii7b5	III7alt
Cmaj7	dm7	em	Fmaj7(#11)	G7(G9)	am	bm7b5	E7alt
Gmaj7	am7	bm	Cmaj7(#11)	D7(D9)	em	f#m7b5	B7alt
Dmaj7	em7	f#m	Gmaj7(#11)	A7(A9)	bm	c#m7b5	F#7alt
Ama7	bm7	c#m	Dmaj7(#11)	E7(E9)	f#m	g#m7b5	C#7alt
Emaj7	f#m7	g#m	Ama7(#11)	B7(B9)	c#m	d#m7b5	G#7alt
Bmaj7	c#m7	d#m	Emaj7(#11)	F#7(F#9)	g#m	a#m7b5	D#7alt
(Cbma7)	dbm7	e#m	Fbma7(#11)	Gb7(Gb9)	abm	bbm7b5	Eb7alt
F#ma7	g#m7	a#m	Bma7(#11)	C#7(C#9)	d#m	e#m7b5	A#7alt
(Gbma7)	abm7	bbm	Cbma7(#11)	Db7(Db9)	e#m	fm7b5	Bb7alt
Dbma7	ebm7	fm	Gbma7(#11)	Ab7(Ab9)	bbm	cm7b5	F7alt
(C#ma7)	d#m7	e#m	F#ma7(#11)	G#7(G#9)	a#m	b#m7b5	E#7alt
Abma7	bbm7	cm	Dbma7(#11)	Eb7(Eb9)	fm	gm7b5	C7alt
(G#ma7)	a#m7	b#m	C#ma7(#11)	D#7(D#9)	e#m	f*m7b5	B#7alt
Ebma7	fm7	gm	Abma7(#11)	Bb7(Bb9)	cm	dm7b5	G7alt
Bbma7	cm7	dm	Ebma7(#11)	F7(F9)	gm	am7b5	D7alt
Fma7	gm7	am	Bbma7(#11)	C7(C9)	dm	em7b5	A7alt

Notice that each key contains all the chords required for a full major "iii vi ii V7 I" turnaround, and also for a full minor "ii7b5 V7alt i" (minor ii-V7-i) progression. The chords vii7b5-III7alt-vi in major, are the same as ii7b5-V7alt-i in the relative minor key (i.e., bm7b5-E7alt-am = ii7b5-III7alt-vi in the key of Cmajor, or ii7b5 V7alt i in the key of Aminor, which is the relative minor of Cmajor). You are most likely to see portions of ii-V, ii7b5-V7alt, and iii-vi-ii-V7-I progressions making up portions of jazz songs. Memorizing the table above is perhaps the most important theoretical knowledge required to understand useful jazz harmony. By being able to reduce entire sections of songs down to a single major scale, you can play over fast moving progressions much more easily.

To be clear, harmonic reduction provides a separate, totally different (and simpler) way of finding notes that fit over chord progressions. With the addition of harmonic reduction, it's important to understand that there are 2 distinct approaches to finding notes that fit over any given progression:

1) You can play over each individual chord, using a different scale for each chord, as described so far in this text. This works for any chord in any progression, but requires a lot of fast thought and fingerboard positioning.

2) You can play a single scale over a group of chords that reduces to a single key (diatonic chords that are made up of only notes from that single scale, as defined in the list above). This is only possible for portions of progressions that stay in one key, and requires crystal clear recognition of the chord groupings above, but does ease the amount of switching between scales, and can provide smoother, faster, and more musically flowing note choice options, especially in songs with fast moving progressions.

The practical essence of harmonic reduction is that you can stay within a single scale for longer. For example, when playing dm7 G7 Cmaj7 (ii-V in C), you can stay on dm7 for a bit longer, to play a longer phrase in the same key, without having to jump between each scale required for dm7, G7, and Cmaj7.

#### CHORD SUBSTITUTIONS:

You will often see chords "substituted" for other chords in jazz songs. Be aware that backup chords may often be changed, on the spot, by rhythm players. The basic chord substitution rules are as follows:

- 1) Substitute vi and/or iii for I
- 2) Substitute ii for IV
- 3) Precede any unaltered dominant chord with a minor chord on the root note a fifth above (i.e., precede G7 with dm). This is called the "ii V" substitution.
- 4) Precede any chord with the dominant chord a fifth above (i.e., precede G7 with D7). This is called "back-cycling".
- 5) When back cycling to a minor chord, the dominant chord should be altered with a #5, b5, #9, or b9 (i.e., precede dm with A7b9)
- 6) When using a ii V substitution for an altered dominant chord, use a m7b5 chord for the ii substitution (i.e., precede A7b9 with Em7b5).

7) Remove the root note from any 7b9 chord, and what's left is a diminished 7th chord, which you can move up or down 3 consecutive frets (i.e., A7b9 is the same as Bbdim7, C#dim7, Edim7, and Gdim7).

8) Use a tritone (b5) root note substitution for any dominant chord (i.e., replace G7 with Db7). These chords contain the same 3rd and b7th intervals.

9) Extensions, especially 7ths, 9ths, and 13ths can be added to just about any basic triad or 7th chord (i.e., Cmaj9 can replace Cmaj7).

10) Alterations can most often be added to dominant chords: #5, b5, b9, #9, sus, etc. (i.e., G7#5 can be played in many cases, instead of G7)

#### BLUES REDUCTIONS AND VARIATIONS:

"Blues" chord progressions are based on a 12 bar progression of I7 IV7 and V7 chords, the most basic of which is:

I7 IV7 I7 I7 IV7 IV7 I7 I7 V7 IV7 I7 V7

Rock, blues, country and pop guitarists often play a single pentatonic or blues scale for an entire 12 bar blues progression, very often switching between major and minor pentatonic scales in the same key (with added blues notes), typically by ear. The major pentatonic scale provides a "country" sound, and the minor pentatonic provides a more "bluesy" or "rock" sound.

The jazz approach to playing blues typically involves playing a separate scale for each, just as in all other jazz styles tunes. The blues/rock/country/pop approach of reducing the blues progression to a single pentatonic key, however, can also be very useful in tunes that contain the I7, IV7, and V7 chords - especially when the chords move quickly. The first section of "Rhythm Changes" (based on the song "I Got Rhythm"), for example, can be treated this way. Play major pentatonic (with blues notes added) for the first 8 bars, minor pentatonic over the next 4 bars, and major pentatonic over the last 4 bars of the A section. Here are a few of the common chord progression variations used to play 12 bar blues in jazz:

Diminished sub on D7, Backcycle and ii-V subs on last four measures:

A7 | D7 | A7 | A7 | D7 | D#dim7 | C#m | F#7 | Bm | E7 | C#m F#7 | Bm E7 |

Tritone subs for F#7 and E7, Use original A7 in measure 7, half-diminished/alterd dominant on Bm E7:

A7 | D7 | A7 | A7 | D7 | D#dim7 | A7 | F#7 | Bm | Bb7 | C#m C7 | Bm7b5 E7b9 |

var #1 (after D#dim):

A7 | Bm | C#m7 Cm9 | Bm9 Bm13 | E7 (4 variations) | C#m7b5 F#7(#9) | Bm7 E7(b9) Bb7 | A7 G#7  
G7 F#7 | Bm7 E7 |

Since so many jazz songs are based on 12 bar blues and I Got Rhythm song forms, the I7 IV7 V7 blues reduction is important to know.

Here are some more substitutions that you can use to play the 12 bar blues:

I I I I IV IV I I V IV I V  
IV V I  
I I I I IV IV (put a TURNAROUND HERE, lasting for 4 measures) (then put ANOTHER TURNAROUND HERE, twice as fast, lasting for 2 measures)

Here are some common TURNAROUNDS (4 measures):

#IVdim7 iii7 vi7 ii7 V7  
III7 VI7 II7 V7  
III9 VI9 II9 V9  
iii7(b5) ii7(b9)  
VI7(b9) V7(b9)  
dim7 dim7  
VI7(#9) V7(#9)  
VI(#5) V(#5)  
III7(b9) II7(b9)  
dim7 dim7  
III7(#5) II7(#5)

tritone:

#VI7 bIII7 bVI7 bII7

instead of iii vi  
(instead of 1st 2 measures):

I VII7 bVII7 VI7  
I ii iii biii

Try using these shapes for the I and IV chords:

A: (I in "A")

-5-(7)-----9-----12-(14)--(12)-----15-----  
-5-(7)(8)-(5)-8-----14-----12(10)-14-----  
-6-----4)-9-----12-(14)---12-----14-----  
-5-(7)-----5--7-----14-----11-----14)-----  
-7-----4-----12-----12-----  
-5-----5-----

D: (IV in "A") (the above shapes, 7 frets up, or 5 frets down:)

-10-(12)-----14-----5-(7)--(5)---8-----  
-10-(12)(13)-(10)--13-----7-----5(3)-7-----  
-11-----9)---14-----5-(7)---5-----7-----  
-10-(12)-----10---12-----7-----4----(7)-----  
-12-----9-----5-----5-----  
-10-----10-----

WHY STUDY THIS?

Learning to position a proper scale QUICKLY over changing root notes in each chord of a tune is the FUNDAMENTAL challenge required to play any "jazz" song. This approach, once learned, can be applied to songs in any other style, to provide more note choice "pathways", a better variety of potential finger movements on the fretboard, and far greater harmonic interest, than can be achieved with a single scale in a single key. The substitution rules can also be used to create even more interesting sounds.

This idea sounds great in theory, but most players just don't ever seem to get very far with studying jazz. There are many approaches to learning all the notes of the different types of chords and scales. You can learn to read all the notes on the guitar, and then learn the note spellings of every single chord and scale label. This requires many years of study, yet doesn't provide much insight into the harmonic structure of how scales and chords are created, or why certain relationships, substitutions, etc. sound nice together. Another, perhaps better option is to study the interval structures that form every type of scale, chord, and harmonic relationship, and then learn the movable fingering patterns that form every possible interval shape on the guitar. This typically requires numerous months of dedicated daily study (at least a few hours every day) to ingrain the minimum required fingerings needed to play even the most basic jazz tunes, and can take YEARS to really ingrain all the commonly used chord and scale combinations (not to mention a varied vocabulary of reusable phrases and interesting musical materials made up of the common interval structures). There are many approaches to help organize and ease the learning curve required to play common interval patterns: "CAGED" chord

shape interval fingerings, "Rotating" scale mode fingerings, "Octave Interval" shape fingerings, "Root Note Centered Cluster" fingerings, etc. Those approaches all help provide organized methods of mapping out the entire fretboard, in ways that provide "good sounding" authentic note choice for jazz guitar solos.

The problem is that most players simply do not have the time, motivation, or interest to practice for months or years simply to play simple solos over simple jazz chord changes.

Not only does the pentatonic approach provide an EASIER way to initially approach jazz soloing, it can be dramatically effective at producing authentic MUSICAL sounds, compared to other methods. That's because not only are most guitarists intimately familiar with the pentatonic scale fingering(s), they are also intimately familiar with its \*MUSICAL\* application. Guitarists typically learn the basics of lead guitar technique by studying and performing well known rock, blues, country and other popular style guitar solos. The first position, at least, is typically well known by even beginner guitarists. The way that bends, double stops, hammer-on and pull-off licks, sequence patterns, string crossings, and other techniques are used to create truly interesting music, even in a single key, is clearly understood by most players. Leveraging this knowledge and ability is critically important in building jazz chops, and just as important at avoiding the daunting feeling of "starting all over again" with totally unknown scales and chords. If you know even one position of the pentatonic scale, you can use it to play over every common chord in any jazz progression. All you have to do is add a couple notes, and position it over the correct root note of every chord in a song.

The basic idea, theoretically, is that major pentatonic scales (pinky on the first string root note) can be played for major and dominant chords, with a few added notes depending on chord type. Minor pentatonic scales can be played for minor, altered dominant, and half diminished chords, with a few added/changed notes depending on chord type. Major ii-V7, minor ii7b5-V7alt, I/iii-vi-ii-V7 turnaround and other harmonic reduction progressions can be grouped together as a single scale. There's really very little new to learn - you just need to be able to move the known shape(s) to each root note, quickly.

By learning the pentatonic approach to jazz soloing, not only can you begin playing jazz tunes immediately, you also use it to become more familiar with the "CAGED" approach to learning, the "Rotating" approach, the "Octave" interval approach, and other common ways of learning the fretboard. The pentatonics form a solid framework for understanding all those approaches to finding "good sounding" notes, that are 100% appropriate for each style of music. And if you have any experience playing any sort of mainstream lead guitar, you can get up to speed very quickly, by using shapes that you already know and can play well. If you apply yourself for a few hours, learning to move quickly between root notes and adding just a few notes to the basic fingering(s), you'll be amazed at the authentic and interesting jazz lead sounds you can create immediately.

### CHORD-SCALE RELATIONSHIPS PART 3: BEYOND PENTATONIC SCALES - PLAYING THROUGH CHORD CHANGES BY INTERVALS

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Most guitarists learn to play lead guitar first with pentatonic scale licks. Many performers never learn any other approach to soloing, and the rock guitar repertoire is filled with famous guitar solos that are primarily based on pentatonic licks. Pentatonic scales provide an easy to learn set of notes that derive from and complement the notes found in common chord progressions. The problem is, they tend to create only one characteristic sound. To really understand music, and to create even more interesting sounds, learning to play melodies derived from each individual chord in a progression is required.

All common mainstream music is created from chords. Every melody you've ever heard can be thought of as a series of notes that come from a given set of chords. In fact, every complete piece of music you've ever heard can be thought of as a collection of notes that basically make up a chord progression. Any attempt to write, improvise, play by ear, arrange, or otherwise create music, therefore, is ultimately an effort to manipulate the notes of chords. The following sections of this text will teach you how to do that.

#### MELODIC VOCABULARY:

Melodies are created by playing notes from chords in a given progression. "Passing tones", or non-chord tones (intervals not contained in any given chord) are often added to create musical interest, and to move interestingly from one chord tone to the next. Below are several melodic interval fragments to learn for dominant 7th chords (1 3 5 b7). These interval patterns can be strung together throughout octaves to create interesting sounds. Practice them, and remember to land on and rhythmically accent the chord tones 1, 3, 5, b7:

b3 3 1 4 3 1 1 7 b7 6 b7 1 5 b5 4 3 2 b2 1 2 b3 3 1 2 b3 3 5 6 b7 5 b6 6 b7

Here are a variety of longer melodic examples to practice and play over dominant 7th chords. These examples provide a basic vocabulary of licks that you can practice, in order to understand and

internalize how melodies are created from interval patterns:

Dominant 7th chord licks:

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  
1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3  
1 3 1 3 1 5 1 5 1 5 1 5 1 5 1 5  
1 3 4 3 1 1 3 4 3 1 1 3 4 3  
2 b3 3 1  
3 4 3 1 3 5 3 1  
3 2 3 4 3 3 2 3 4 3  
6 b7 4 3 6 b7 4 3 5 b5 4 3  
1 1 3 1 4 4 1 3 1 3 1 7 b7  
b7 1 1 1 2 3 3 3 4 3 3 3 4 5 5 5  
5 5 1 5 b7 5 1 5 2 6 b7 (play 5 in lower octave)  
2 open b7 1 5 open b3 3 (tap first note, move up through octaves)  
5 3 4 3 2 b7 1 b7  
5 4 3 1 5 4 3 b7 5 4 3 6  
1 3 4 #4 5 b5 4 3 1  
b7 1 3 b7 1 3 b7 1 3 b7 1 3 5 3 1  
bend4) 4 3 1 3 1  
5 3 1 b7 5 3 1 b7 5 3 1 b7 5 3 1 7 1  
2 2 1 1 3 3 1 1 4 4 1 1 5  
1 b7 1 2 3 2 3 4 b5 5 b7 1  
1 3 next octave > 1 b7  
1 b7 7 1 b3 3 1 3 4 3 1 b7  
2 bend release 1 b7 1 bend release b7 6  
5 bend release 4 3 2 bend 1 b7  
5 b5 4 3 4 b3 3 1 2 b2 1 b7  
5 5 1 1 b5 b5 1 1 4 4 1 slide> 3 1  
1 1 b7 1 1 6 1 1 b7 1 b7 1 (play 1 in lower octave)  
b7 bend 1 b7 bend 1 5 4 3 b7 bend 1 2 bend 1 b7 5 (play 5 4 3 in lower octave)  
2 3 2 1 3 1 b7 3 b7 1 3 1 4 3 2 1 2 3 2 1 3 1 b7 3 b7 1 3 1 5  
b3 3 1 3 4 1 4 b5 1 b5 5 1 2 b7 1  
b3 3 b7 4 3 1 5 4 3 2 1 b7 1  
5b 5 4 3 b5 4 3 b3 4 3 b3 2 1  
b7 7 1 2 1 b2 2 3 b3 3 4 b5 5  
2 b2 1 3 2 b2 1 b7 2 b2 1 4 2 b2 1 5  
3 4 3 2 5 4 3 2 3 4 3 1 b7

5 4 3 2 4 3 2 1 3 2 1 b7 1

b7 1 2 3 1 2 3 4 2 3 4 5

1 b7 5 6 b7 2 1 b7 1 (play 5 in lower octave)

play together (double stop):

5 3 4 4 3

1 1 2 1 b7 1

To create melodies for any other chord type, you can alter the above licks by changing the appropriate interval numbers to fit the interval pattern of another given chord. For example, the only difference between a dominant 7th chord and a minor 7th chord is that the 3rd is flatted in the minor 7th formula. Examine the following melody patterns to understand how dominant 7th chord licks can be altered to fit other chord types:

Dominant 7th chord licks:

1 3 4 3 1 1 3 4 3 1 1 3 4 3

b7 1 3 b7 1 3 b7 1 3 b7 1 3 5 3 1

Minor 7th chord versions:

1 b3 4 b3 1 1 b3 4 b3 1 1 b3 4 b3

b7 1 b3 b7 1 b3 b7 1 b3 b7 1b3 5 b3 1

#### UNDERSTANDING HOW THIS ALL WORKS - SOME GENERAL CONCEPTS:

To make music with the above patterns, you need a chord progression as a basis. If you want to jam (improvise) with other musicians, you'll all choose a chord progression to play (or a series of chord progressions in a given order), and then take turns creating lead solos over that progression while the others play background accompaniment. When you play a song with a band, each musician plays bits of the chords that make up that song, in a way that is appropriate for their instrument (i.e., the bassist may walk or slap notes of the chords to create a bass line, the guitarist may strum chord shapes, or play licks and melodies from notes that outline those chords, the singer will sing a melody that outlines notes of those same chords, etc.). The next section of this text describes how to create chord progressions. This section describes, in a very general way, how to create interesting musical lines from chords.

When you play "rhythm" guitar, or accompaniment, you basically play collections of chord tones, typically in an unobtrusive (generally repetitive and rhythmically even) pattern, to provide harmonic background for other melodies. For guitarists, that generally means strumming chords and playing bits of arpeggios in a simple rhythmic pattern. When you play "lead" guitar, you typically try to create more interesting melodies with some sort of singable character and/or technical instrumental interest.

Vocabulary:

Learning to play and create music is very much like learning to speak a language. Just as you begin learning a language by repeating and speaking isolated words and phrases at appropriate moments, so do you learn to create music by memorizing, repeating, and applying short melodic fragments in appropriate places against given chord progressions. Just as you string together words to form and express complex ideas, so will you learn to join together small bits of musical phrases to create longer compositions. Just as a strong vocabulary of spoken words can help you express your ideas and feelings at any given moment, a rich vocabulary of learned musical phrases can help you express your musical impulses at any given moment.

With spoken language, you don't improve your speaking skills by creating new words. You simply become more proficient at manipulating and putting together the existing elements of a language, in a way that is constructive and which makes sense. No single word completely expresses all your ideas. The same is true with musical language. There are no magical little phrases that completely express all your musical impulses. It's about how you put various little melodic fragments together to create an expressive whole. You can imagine improvising a melody with a band very much like having a spoken conversation with a group of people. When you have a conversation with others, you don't speak from a written script. Instead, you string together words in your existing vocabulary to express ideas and thoughts that flow freely within the conversation. The same is true in a musical improvisation. You



string together bits of musical vocabulary to construct a communicative and interactive musical expression. The only difference between improvisation and composition is that composed pieces are typically more finely crafted - more like a written out speech, or a fixed spoken presentation. Learning to perform compositions by other musicians is very much like memorizing and reciting a speech by another person. Learning to improvise generally starts more simply - just as you can learn to speak simply in a foreign language with a small vocabulary, so can you start to improvise with a small collection of learned musical phrases. As you acquire new vocabulary and work at putting phrases together, you become skilled at creating more finely structured and expressive musical thoughts.

With that perspective in mind, a fundamental part of learning to improvise and write music is the acquisition of basic vocabulary. You need to learn a large collection of existing musical words and phrases in order "speak" fluently. The collection presented so far in this text will take many months to really master, and will provide a rich and complete foundation. To become a capable musician, it's up to you to really practice putting them together in ways that flow naturally. This takes a lot of time, repetition, and experimentation. Just as with learning to speak a language, you need to practice "speaking" improvised musical ideas regularly, in an applied way. Just as you can study a foreign language for years, if you don't actually speak it regularly in an applied way, you won't become fluent. The same is true with music. If you don't practice improvising regularly against chord progressions, you won't become fluent. And, just as with spoken language, once you do become fluent, musical improvisation and composition becomes very easy, natural, intuitive.

To build your musical skills in an organized way, analyze music you like in a theoretical context. Examine the chord progressions on which the music is based. Look at how the chords are used to create a rhythmic background. Look at how intervals of the chords are employed, along with passing tones, to create melodies (both vocal and instrumental). Your goal as a creative musician is to build a vocabulary of rhythmic patterns, melodic interval moves, and chord progression patterns that you can mix freely to create infinitely varied and interesting musical sounds. This text provides the necessary information and materials, but you will continue learning, acquiring, and internalizing favorite materials for the rest of your life.

#### Understanding More About Creating Melodies - Pitch Choice:

Devising melodic movements with an interesting mix of short and long jumps from low to high pitches is an important part of creating "good" music. Mixing short and long jumps from high to low, and weaving up and down through pitches generally creates more interesting musical variety than staying in one predictable set of notes. Passing tones are also very important in creating harmonic and melodic "color" interest. This may seem surprising, but in just about any chord progression, at any moment, any note on the guitar can be played, as long as it moves towards a chord tone in a musical way. If you focus on playing notes that come from the intervals of a given chord in a progression, you won't play any wrong notes, and as long as you "resolve" any extraneous passing tones by landing on chord tones. Especially if you pass through non-chord tones quickly and on unaccented beats, you'll create interesting, good sounding music. (If you land on, and rhythmically accent, non-chord tones, you'll create sounds that are dissonant with a given accompaniment chord progression). That's a fundamental concept that has been used to create music of every style, for hundreds of years.

In our musical culture, it's generally accepted that "good", aesthetically pleasing, interesting sounding music is created by taking a chord progression, creating a basic rhythmic background of unobtrusive chord tones, and making a melody that has all the characteristics of rhythmic, pitch (large leaps and small jumps), and harmonic (interesting passing tone movements) creativity. This is the thing that takes years of experience, some innate talent, and an inherent musical drive, to accomplish effectively. Years of experience are perhaps most important part of the equation. By playing thousands of pieces of music, you learn to intuitively understand what musical elements combine to create music that sounds "good" and satisfying to you. You can however, begin to experiment with your own creations, just by playing a chord progression and finding the notes of each chord on the fret board. By using your own existing rhythmic impulses, and by exercising your own creativity to jump from note to note on the fret board in varied patterns, you can begin to explore real, genuinely effective improvisation and composition, using only the information in this document.

#### Understanding More About Creating Melodies - Rhythm:

The use of rhythm is perhaps the most important element required to create interesting musical lines. Combinations of long and short notes, with accents at interesting points in the rhythmic meter are what create moving sounds with physical impetus and musical life. When you attempt to create any music, whether improvised on the spot, or more finely crafted, a fundamental requirement is the creation of interesting rhythm patterns. Rhythm patterns are created by subdividing (doubling and redoubling) the basic beat of a given meter (i.e., a basic beat pattern of 4 beats to a measure can be doubled into 8th and 16th note subdivisions), and then any variety of those beats can be OMITTED, so that an interesting, moving, and varied rhythm pattern is created. Triplet, quintuplet, and other subdivisions can also be used to create interesting rhythms. Many rhythm patterns are learned and practiced. As with every other aspect of music, rhythmic understanding and creativity comes only from lots of experience playing music. By playing thousands of pieces of music over the course of years, you'll become very familiar with common rhythm patterns that are used in all kinds of music. Intuitive creative rhythmic ability, however, is possible for most students. Most people can devise an improvised rhythmic pattern when presented with a given accompaniment. This skill can be developed by

simple exploration and trial & error, and it only improves with practice and experience. It is fundamental to have a "rhythmic sound" in your head when attempting any creative music making over a given chord accompaniment. Fitting notes into such a created rhythmic pattern is the basis for all creative music making. An understanding of music theory only helps you to find notes on the instrument that fit within the given chord progression - using appropriate shapes. To bring life to those notes, a rhythmic impulse is required. A complete study of rhythm is typically the domain of beginner-intermediate music lessons, and a mastery of rhythm, both in physical, technical ability and conceptual understanding, is only achieved by playing lots of music. For now, understand that any creative musical attempt should involve creating a rhythm pattern, and that notes should be fit into that rhythm pattern, using the guidelines in this text.

#### MORE ABOUT CHORD PROGRESSIONS - MODULATION

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Modulation is defined as the changing of key. It basically involves playing roman numerals around one given root note, and then shifting to roman numerals around a different key note. Key changes are often used to create harmonic variety within songs and compositions of all types. Starting a song with the chords I, IV, V7 in the key of G (G, C, and D7), then playing the same chords in the key of A (A, D, and E7) is called a modulation from G to A. Below are a number of typical modulation patterns found in common use:

**Direct:** Moving directly from one key to another, without any specific transitional chords. The shift is abrupt, from one key to another. This type of modulation is common in popular music. Most often keys are modulated up by half or whole step to create a sense of heightened energy. A song may start in the key of C, and then modulate to D and then E at the end to create a dramatic finish.

**Relative:** Remember, a minor key can be defined as a progression starting on the vi chord - A minor is the vi chord in the key of C major. The scales C major and A natural minor contain the exact same notes. It is common to start and end a progression on vi for one section of a tune, and then start and end a progression on I for another section of the tune. Although this is not a true modulation, it creates a sense of harmonic shift between the two modes. Another common move is between major keys with the relative minor-major (vi-I) root note relationship. If C major and A minor are relative major and minor keys, for example, C major and A major are relative major keys (they have the same root notes, defined by the I-VI relationship). This type of shift is a true modulation between two totally different sets of chords.

**Parallel:** Progressions often move between major and minor keys with the same root note. A song may start in the key of C major, for example, and shift to the key of C minor. C minor is the same key as Eb major (where cm = vi, Eb = I), so there is a totally different set of chords used in this type of modulation (one in which C=I, and one in which Eb=I).

**Pivot Chord:** V7 chords are often used to move to new keys. Before playing the I of the new key, the V7 of the new key is played at the end of a progression in the starting key. For example, to switch from the key of C to the key of Ab, an Eb7 chord can be placed at the end of the C progression to make the change sound more natural. Remember, the V7 chord has the strongest tendency of any chord to move towards I (Eb7 = V7 in the key of Ab). Secondary dominant chords are often used to make this type of progression away from the starting key. III7, for example, often moves to vi (see the tendency guidelines given earlier). If you resolve the III7 to VI instead (not a chord in the starting key), it facilitates a shift in which VI can be treated as a new I (a "parallel major" modulation). In the key of C, such a progression would look like:

```
Starting key of C:      I -> III7 -> VI
                      C -> E7  -> A  -> C#7 -> F#m ...
In the new key of A:      I  -> III7 -> vi ...
```

**ii -> V7 Progressions:** Virually every tune in the jazz idiom contains "ii-V" progressions. These two chords are often played through quick successions of keys:

```
| Bb:          | Db:          | F:          | | | | | | |
| ii | V7 | I | I | ii | V7 | I | ii V7 | I |
| Cm7 | F7 | Bb | Bb | Ebm7 | Ab7 | Db | Gm7 C7 | F |
```

**iimin7(b5) -> V7(alt) Progressions:** This is the minor version of the ii-V progression. It typically resolves to a minor chord (thought of here as i ("minor 1"), but can also be thought of as vi in the relative major). This progression contains a half diminished chord (m7b5), followed by an altered dominant (often an extended chord, with a b9/#9 and/or a b5/#5):

```
| Em:          | Dm:          | | | | | |
| i | iim7(-5) | V7(alt) | i | iim7(-5) | V7(alt) | i |
| Em7 | F#m7(-5) | B7(b9) | Em7 | Em7(-5) | A7(b9) | Dm7 |
```

MORE ABOUT CHORD PROGRESSIONS: HARMONIZING AND REHARMONIZING MELODIES WITH CHORD SUBSTITUTION

In most song harmonization situations, you typically start with a basic I IV V harmonization of the melody, add some vi ii and iii root note substitutions, backcycle to add new harmonies, add some ii-V and tritone substitutions, and extend/alter the chords in the final progression (i.e., the diminished chord is simply a 7b9 extension/alteration). Here are some examples that demonstrate how to start with I IV V chords and devise increasingly complex harmonizations, for several well known melodies. Use what you know about jazz soloing to create a solo for each progression!

Jingle Bells:

I				IV	I	V	V	
C	C	C	C	F	C	G	G	I IV V
		Am		Dm	Am	(Em)		Diatonic Subs
	E7		C7		E7	A7 D7	G7	Back Cycle
		Gm	Gb7		(Am)		Db7	ii-V, Tritone
CM7	E7b9	Am7	Gm9 C9 Gb7	Fmaj9	E7b9	A7		Extended Chords
CM9	Fdim7 G#dim7 Bdim7 Ddim7	D7#5 Ab7		Dm	Am9	D9	G7	(7b9 or dim -> min)
CM7	CM9	E7b9	Fdim G#dim Bdim	Am7	Ab7	Gm9	C9(Gb7)	F(add9) Dm7

More Jingle Bells Substitutions:

C		Em	Am	C	F	C	Dm	G7
C		E7	Am	C C7	F Dm	C A7	D7	G7
C	E7	Am A7	Dm G7	C C7	F Dm	C E7 A7	D7	G7
Cmaj9	E7(b9)	Am7 A7(b9)	Dm7 G7(#5)	Cmaj7 C9	Fmaj7 Dm9	Cmaj9 E7 A7(b5)	Dm D7 Ab7	G7 Db9

Happy Birthday:

C	G	G	C	C	F	C C G	C
C Am Dm	G Em A7b9	Dm G7 Db7	C Em D7b9	Gm C7 C#dim	F Dm Db7	Am D7 G7	C
C Am Dm	G Em7b5 A7b9	Dm G7 Db7	C Am7b5 D7b9	Gm C7 C#dim	F Dm Db7	Am D7 G7	C
I iii vi	V V7 bIIIdim7	ii V7 V7#5	I ii V7	I I7 I7#5	IV ii iv	iii vi V	I

Have Yourself a Merry Little Christmas:

C	G	C	G	C	F	C	F	G	C
C Am	Dm G	Em A7b9	Dm G	Em	Dm	Am C7	F	G7	C
Cmaj7 Am7	Dm9 G7	Em7 D#7	Dm7 Db13	Em A7b9	Dm Fdim	Am7 C7#5	Fmaj7 Dm7	G#9 G9	Cmaj9 (E7b9)
Cmaj7 Am7	Dm9 G7	Em7 D#7	Dm7 Db13	Cma7 Am7	Dm7	E7 A7	D7 G7		
Cmaj7 Am7	Dm9 G7	Em7 D#7	Dm7 Db13	Cma7 Am7	Dm7 E7	Am	C7		
Fmaj7 Fm	Em7 Cdim7	Dm G7#5	Em E7b9	Am B7b9	Em G7#5	Em D7	G7sus4 Db9		

```
| Cmaj7 Am7 | Dm9 G7 | Em7 D#7 | Dm7 Db13 | Em A7b9 | Dm Fdim | Am7 C7#5 | Fmaj7 Dm7 | G#9 G9 |  
| Cmaj9 Am7 | Dm Db7 | C |
```

Georgia on my Mind:

```
C          E7          Am          Dm   G7          C   A7   Dm   G7  
Em7(F#7)Bm9   E7 Bb7   A7(b9)   D7   Db7   EmE7   A7#5   Db7   G7#5  
   C9          Bbdim7
```

Silent Night:

```
C      C      G7      C      F      C      F6      C      G7      C      C      G7      CM9  
Em  Am  C      A7b9  Dm  G7      C7      Dm  G7      Gm9  C7(D7  G7)Am  D7  G7b9  Am  F#m7b5  D7  Db7b9  
      Bbdim          Ab7      D#dimG#dim          Bdim          Ddim          Fdim
```

Amazing Grace:

```
C      F      C      C      G      C      F      C      C  G  C
```

Try adding your own substitutions for Amazing Grace here, and use what you know about jazz soloing to create a solo over the chords!

#### OTHER WAYS OF THINKING: ROTATING SCALE MODES

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The fingerings of EVERY mode of EVERY possible scale can be found in EVERY possible position on the guitar, using ONE simple 5 string pattern that \*rotates\* around the fretboard.

#### PENTATONIC SCALES:

The rotating pentatonic scale fingering looks like this. Notice that it consists of 2 adjacent "wide" index-PINKY finger patterns, then 3 adjacent "narrow" index-RING finger patterns:

```
<- The pattern starts over here, on the next string, 1 fret LOWER  
omooM           (this is the "rotation")  
|||||  
||omo  
oM
```

Put the LARGE "M" in the above fingering ON ANY ROOT NOTE, ON ANY STRING, follow the fingering, and you will play a MAJOR pentatonic scale.

Put the SMALL "m" on any root note, ON ANY STRING, follow the fingering, and you will play a MINOR pentatonic scale.

#### IMPORTANT:

WHEN \*ASCENDING\* THROUGH THE FINGERING, SHIFT THE NOTES ON THE 2ND AND 1ST STRINGS \*UP\* 1 FRET HIGHER.

WHEN \*DESCENDING\* THROUGH THE FINGERING, SHIFT THE NOTES ON THE 3RD AND ALL OTHER STRINGS \*DOWN\* 1 FRET LOWER.

You will find that all 5 of the common pentatonic scale fingerings are constructed using ONLY the above guidelines, all derived from the simple 5 string rotating pattern above. Notice that every position contains notes only from the "2 wide, 3 narrow" shapes of the rotating pattern, with shifts down a fret when starting the pattern over, and shifts 1 fret apart between the 2nd and 3rd string (the first position contains BOTH these rules between the 2nd and 3rd string):

1	2	3	4	5
mooMom	omo	o	omoo o	om
	M   oM	ooM mo	M	oM  oo
om	o		om	
M oM	ooM mo	omoo o	oM oo	mooMom
		M		

MAJOR SCALES:

The rotating major scale fingering looks like this. Notice that it consists of 2 adjacent index-MIDDLE-pinky finger patterns, then 2 adjacent index-RING-pinky finger patterns, then 1 short index-ring pattern. It's very easy to memorize!:

<- The pattern starts over here, on the next string, 1 fret LOWER

```
ooooo
Mo|||
||ooo
ooMo
```

Just remember, the same 2 string shift rules apply:

- start the pattern over (rotate) 1 fret lower (ascending)
- shift apart 1 fret between strings 2-3

This yields the following 5 fingerings which cover the entire fretboard (note that they are the same as the pentatonic scale fingerings, just with 2 added notes):

1	2	3	4	5
o				
oooMoo	oooo o	oo	oooooo	ooo
o	Mo  oM	ooMooo	o   Mo	oMo oo
oooo o	oo		ooo	o
Mo oM	ooMooo	oooooo	oMo oo	oooMoo
		o Mo		o

MODES OF THE MAJOR SCALE:

By simply placing the root on a DIFFERENT STARTING NOTE in the rotating pattern, you can play any mode of the major scale, on any root note, in any position on the fretboard:

MIXOLYDIAN:

Note that the rotating fingering pattern used to play the Mixolydian scale is the same as in the major scale (2 middle, 2 ring, 1 short fingering). The root note is just in a different place within the fingering:

<- The pattern starts over here, on the next string, 1 fret LOWER

```
ooooM
oo|||
||ooo
oMoo
```

It could also be thought of like this:

```
oooo
Moo||
|||oo
ooMoo
```

Just remember to apply the 2 string shift rules (rotate 1 fret lower, shift between strings 2-3). Here are five basic mixolydian fingerings, covering the entire fretboard. Note again that these fingerings all correspond with pentatonic fingerings, just with a 2 notes added (1 DIFFERENT added note than those in the major scales):

1	2	3	4	5
oooMoo	ooo	o	oooo o	oo
o   oo	Moo oM	ooMooo	oo  Mo	oMoooo
ooo	o	o	oo	
Moo oM	ooMooo	oooo o	oMoooo	oooMoo
	o	oo Mo		o oo

All of the other modes of the major scale work the same way. Where Mixolydian starts on the 5th degree of the major scale pattern, Dorian starts on the 2nd degree, Aeolian starts on the 6th degree, Lydian starts on the 4th degree, Phrygian starts on the 7th degree, \*Major starts on the 1st degree\*, etc. All the modes of the major scale can be seen as pentatonic scale fingerings, with notes added ... or visa-versa ... all the pentatonic scale fingerings can be thought of as major scale modes WITH TWO NOTES REMOVED. That means that EVERY single scale in common use in popular music comes from this single rotating fingering!:

```
73625
14|||
||736
2514
```

Here are a few more examples of modes of the major scale. The root notes are simply in different positions within the 2 middle, 2 ring, 1 short rotating fingering. The important thing to notice is that every one of these fingerings is derived solely from that ONE rotating pattern, just starting in different places:

DORIAN:

1	2	3	4	5
oo			o	
mooooom	omooo	ooo	omoooo	oom o
	o   oo	ooo mo	o	oo  oo
oomooo	ooo	o	oom o	oo
o oo	ooo mo	omoooo	oo oo	mooooom
		o		

AEOLIAN:

1	2	3	4	5
o				
mooooom	oomo o	oo	omoooo	oom
o	oo  oo	ooooom	o   oo	ooo oo
oomo o	oo		oom	o
oo oo	ooooom	omoooo	ooo oo	mooooom
		o oo		o

AN EXTENDED MAJOR SCALE FINGERING:

This alternate version of the rotating major scale fingering is slightly more complex (7 strings). It allows you to play 3 note per string runs consistently across all 6 strings of the guitar. This pattern is NOT necessary to learn. It simply provides an additional (extended) way of understanding how the major scale and all its modes can be found on the guitar:

```
ooooMo
Mo|||| <- This pattern starts over here, next string, 1 fret HIGHER
||oooo
ooMo|||
ooo
```

1	2	3	4	5
oooM	oooo		oooo	o
o	Mo  oM	ooMo	o   Mo	ooo
oooo o	oo		ooo	o
Mo  oM	ooMooo	oooooo	oMo oo	oooMoo
oo		o   Mo	o	o
oo	oo	ooo	oo	o
		oo		

OTHER SCALE FINGERINGS:

Melodic Minor:

```
  b3
7 | 6 2 5
1 4 |b3 |
| | 7 | 6
2 5 1 4
```

Harmonic Minor:

```
  b3b6
7 | | 2 5
1 4 |b3b6
| | 7 |
2 5 1 4
```

Whole Tone:

```
  3  2
1 |b7 | b6
|b5 | 3 |
2 | 1 | b7
  b6  b5
```

Diminished:

```
  6 2
1 4 |b3
|b5 7 |b6
2 | 1 4 6
b3b6  b5 |
          7
```

```
  3 6  b5
1 |b7b3 5
b2b5 | 3 |
| 5 1 | 6
b3  b2 4b7
```

Arpeggios:

```
73||5
1||||
||73|
|51||
```

WHY LEARN THIS?

There are several great benefits of using rotating scale fingerings to find scale/chord tones:

- 1) There are only two simple shift rules (start over 1 fret lower, shift apart between strings 2-3) and one 5 string pattern to memorize, and you can instantly play every mode of every possible scale, in every position on the fretboard, with just a little rote practice. The small volume of required memorization makes the learning process more about thought and understanding, than mindless repetition, and the quick learning curve is encouraging.
- 2) The logic of the rotating patterns turns the entire fretboard into a clearly organized road map in which MELODIES can be learned and transposed within consistent fingerings in any octave, key, and/or position on the fretboard. For example, any pentatonic lick that occurs on the 2 adjacent "wide" fingerings in the pentatonic scale, can be played anywhere else you find the 2 "wide" fingerings, anywhere else on the neck. The same is true for ANY melody that can be found in the major scale fingerings. For example, try sounding out "Happy Birthday" in any position on the neck, figure out how it fits into the rotating major scale fingering, and you can suddenly play "Happy Birthday" in any key, in any octave, in any position on the fretboard, simply by finding that same fingerings anywhere else on the neck, using the rotating pattern on any chosen root note. This is perhaps the most powerful

reason to learn the rotating framework. Using a simple 5 string pattern, you can reuse and re-apply ANY lick you learn, in any key, in any octave, anywhere on the neck. Learning to re-apply licks, phrase, melodies, and other learned pieces of music is absolutely the most fundamentally necessary and useful skill required when learning how to improvise, write, internalize and otherwise create and experiment with \*making\* music on your own.

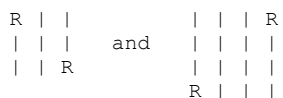
3) The relationship between modes and their relative "base" scales becomes immediately apparent. All the modes contain the exact same fingerings, just starting on different notes in the 5 string pattern. This makes learning and applying modal licks much simpler. Changing between modes, also ends up being much easier to visualize in the fretboard. There end up just being a few common fingerings that ALL common guitar licks fit into: pentatonic, major, pentatonic and major with added tones (i.e., blues, bebop, etc), and a few "exotic" scale fingerings (whole tone, diminished, etc.). Even the most basic and fundamentally useful changing, such as shifting between major and minor pentatonic modes are much more easily visualized.

4) The REPETITIVE nature of using a single 5 string fingering in practice promotes HABITUAL, and therefore FAST, technical movement. By learning, recognizing, and ingraining the SAME simple fingering patterns in EVERY melody or scale pattern you practice, you will be able to play runs, lines, licks, etc. more QUICKLY and more EASILY. Forming habitual movement via repetitive practice is the basis of improving all playing skills, and the practice of a single pattern encourages thorough learning of all practical musical skills (sequences, repeating patterns, etc.).

The rotating patterns play an absolutely fundamental role in visualizing, understanding, finding, and clarifying the layout of the fretboard and the melodies/licks you play. Working particularly on practicing the modes of the major scale, especially starting on the dorian, mixolydian, and major notes, will set a practical foundation of understanding and ability that can be applied to PLAYING INTERESTING MUSIC over any type of chord progression.

OTHER WAYS OF THINKING ABOUT FINGERINGS: OCTAVE INTERVAL SHAPES

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 All pitches that have the same note name, in different high/low registers are called "octaves". There are only 2 basic octave shapes on guitar fretboard:



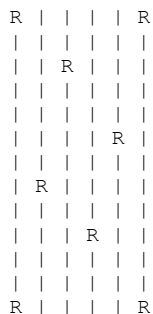
These shapes can be positioned on any string, at any fret, and the two notes defined by the shape have the same note name.

The first shape above is separated by 1 empty string and 1 empty fret, and faces RIGHT from the lower (thicker string) note.

The second shape is separated by 2 empty strings and 2 empty frets, and faces LEFT from the lower note.

IMPORTANT RULE: Whenever the octave shape encompasses the 2nd and 3rd string, the top (thinnest string) note needs to be MOVED UP 1 fret.

By combining the 2 octave shapes and the 2nd-3rd string shift rule above, you can find all the possible positions of any note on the guitar:



The entire pattern starts over here, 12 frets higher, and repeats infinitely up and down the fretboard.



MAJOR SCALES WITHIN THE OCTAVE SHAPES:

The major scale interval patterns found within the 2 basic octave shapes are as follows:

The "right" facing shape looks like this (notes in parentheses are optional or alternate):

```
(7) (3) (6)
R 4 |
| | 7
2 5 R
| | |
3 6 2
| | |
| (7) 3
```

The "left" facing shape looks like this:

```
| | | 7
6 2 5 R
| | | |
7 3 6 (2)
R 4 | |
| | (7) (3)
(2) | | |
```

IMPORTANT RULE: Whenever the octave shape encompasses the 2nd and 3rd string, the intervals on the 2nd AND 1st strings need to be MOVED UP 1 fret.

By connecting the 2 shapes above, along with the 2nd-3rd string shift rule, you can find every possible major scale fingering which can be played on the instrument, all the way up and down the neck:

```
R 4 | | 5 R
| | 7 3 | |
2 5 R 4 6 2
| | | | | |
3 6 2 5 7 3
4 | | | R 4
| 7 3 6 | |
5 R 4 | 2 5
| | | 7 | |
6 2 5 R 3 6
| | | | 4 |
7 3 6 2 | 7
R | | | 5 R    The entire pattern starts over here, 12 frets higher
```

You'll notice a few common patterns. For example, the intervals R/4 2/5 3/6 5/R 6/2 and 7/3 are always on the same fret on adjacent strings, and 4/7 are always one fret apart (except on the 2nd-3rd string, where all the notes are split apart by one additional fret). The intervals 7/R and 3/4 are always one fret apart on the same string. All other intervals are 2 frets apart on the same string. Equivalent intervals can be found 5 frets higher on the adjacent bass/thicker strings (except between the 2nd-3rd string, where the 2nd string note is shifted up 1 fret).

To clarify how the entire fretboard interval pattern is laid out, here is the entire diagram above, broken up into individual octave fingerings (and pieces of fingerings, where the entire octave fingering runs out of strings):

```
R 4 | | | |
| | 7 | | |
2 5 R | | |
| | | | | |
3 6 | | | |

| | | 2 | 7
| | | | 5 R
| | | 3 | |
| | R 4 6 (2)
| | | | | |
| | (2) | (7 3)
```

```

| | R 4 (6) | | |
| | | | |
| | 2 5 7 |
| | | | R |
| | 3 6 | |

```

```

2 5 R | | |
| | | | |
3 6 | | | |
4 | | | | |
| 7 | | | |

```

```

| | | | 6 2
| | | | |
| | | | 7 3
| | | | R 4

```

```

| | | | R 4
| | | | |
| | | | 2 5
| | | | |
| | | | 3 6

```

```

| | 2 5 7 | | |
| | | | R |
| | 3 6 | |
| R 4 | | |
| | | (7) | |

```

```

3 6 | | | |
4 | | | | |
| 7 | | | |
5 R | | | |

```

```

| | | (6) | |
| R 4 | | |
| | | 7 | |
| 2 5 R | |
| | | | |
| 3 6 | | |

```

```

| | | | (R) 4
| | | 6 | |
| | | | 2 5
| | | 7 | |
| | | R 3 6

```

```

5 R | | | |
| | | | |
6 | | | | |
| | | | |
7 | | | | |

```

```

| | | R(3) 6
| | | | 4 |
| | | 2 | 7
| | | | 5 R
| | | 3 | |

```

```

| | | (7) | |
| 2 5 R | |
| | | | |
| 3 6 | | |
R 4 | | | |
| | (7) | | |

```

Again, all those little shapes fit together to cover the entire fretboard, in this complete interval fingering that covers the entire fretboard:

```

R 4 | | 5 R
| | 7 3 | |
2 5 R 4 6 2
| | | | | |
3 6 2 5 7 3
4 | | | R 4
| 7 3 6 | |
5 R 4 | 2 5
| | | 7 | |
6 2 5 R 3 6
| | | | 4 |
7 3 6 2 | 7
R | | | 5 R

```

This author prefers to think of the fretboard as being separated into 4 distinct sections, 2 (left and right facing) based around the 6th string root note, and 2 (left and right facing) based around the 5th string root note:

```

| | | (7) | |
6 2 5 R 3 6
| | | | 4 |
7 3 6 2 | 7
R 4 | | 5 R
| | 7(3) | |

```

(two root 6 shapes)

```

R 4 | | 5 R
| | 7 3 | |
2 5 R 4 6 2
| | | | | |
3 6 2(5)7 3

```

```

3 6 2 5 7 3
4 | | | R 4
| 7 3 6 | |
5 R 4 | 2 5

```

(two root 5 shapes)

```

5 R 4 | 2 5
| | | 7 | |
6 2 5 R 3 6
| | | | 4 |
7 3 6(2) | 7

```

It is suggested that you practice and learn these patterns intimately, so that you can play them quickly, and instantly name every single interval number in each of the positions.

The most important thing to understand about the fingering patterns above, and especially the complete fingerboard interval pattern it creates, is that they are ALL DERIVED ENTIRELY FROM THE 2 SIMPLE OCTAVE INTERVAL PATTERNS AND THE 2ND-3RD STRING SHIFT RULE. If you ingrain only those two shapes and the 2-3 string shift rule, you can find \*any\* interval pattern possible on the guitar, anywhere on the instrument, in every position, throughout the entire range of the instrument. There is very little to memorize, and the fingerings allow you to find notes in a way that makes the whole fretboard fit together logically and musically, both vertically across the strings, and horizontally up and down the neck.

The key to learning this large and daunting fingerboard pattern is to simply practice the 2 octave shapes on every string, combining them into larger 2 octave sections (the 4 sections above), as you learn the logic.

TAPPING:

Tapping, also called right hand fretting, is a technique in which the right hand reaches over the fretboard to strike the strings against the fretboard. The force of the string hitting the fret causes the tapped notes to vibrate, just as with a left hand hammer-on. Tapped notes in the right hand are typically combined with left hand pull-offs and hammer-ons to create fast, flowing patterns that would be difficult or impossible to play otherwise. By combining both hands and mixing open string notes, complex patterns can be created without any complicated finger gymnastics in either hand. Because the strings never need to be plucked when tapping, hammering, and pulling, the coordination typically required when picking notes is eliminated.

Most tapping licks are pattern oriented - they typically involve simple repeated fingering patterns moved across the strings to different fret positions. In tablature, the letter "T" is used to indicate a note tapped by the right hand. The letter "P" indicates a pull-off, and the letter "H" indicates a left hand hammer on. In the following solo, only two patterns are used: T P H H (right hand taps then pulls off, then two fingers in the left hand hammer-on), and T P P P (right hand taps then pulls off, then two fingers in the left hand pull-off). Very simple stuff to play, but it sounds impressive:

```

      T      T      T      T
|-----|
|-----|
|-----12p0h5h7-|
|-----12p0h5h7-----|
|-----12p0h5h7-----|
|-12p0h5h7-----|

```

```

      T      T      T      T      T
|-----|
|-----12p0h5h7-----12p0h5h7-|
|-----12p0h5h7-----12p0h5h7-----|
|-12p0h5h7-----|
|-----|
|-----|

```

```

      T      T      T      T      T      T      T      T
|-12p0h5h7-12p7p5p0-12p0h5h7-12p7p5p0-12p0h5h7-12p7p5p0-12p0h5h7-12p7p5p0-|
|-----|
|-----|
|-----|
|-----|
|-----|

```

```

      T      T      T      T      T      T
|-7p0h4h5-7p5p4p0-----|
|-----7p0h4h5-7p5p4p0-----|
|-----7p0h4h5-7p5p4p0-|
|-----|
|-----|
|-----|

```

```

      T      T      T      T      T      T      T
|-----|
|-----|
|-7p0h4h5-7p5p4p0-----|
|-----7p0h4h5-7p5p4p0-----|
|-----7p0h4h5-7p5p4p0-|

```

Tapping Chord Progressions:

To play over chord progressions using tapped arpeggios, all you need to do is pick out the intervals that make up each chord, all on a single string. Using the basic interval theory and chord definitions from the beginning of this text, you'll see the following fingerboard patterns can be played on a single string:

MAJOR SCALE:

1-2-34-5-6-71-2-3

ARPEGGIOS:

Major 1---3--5----1---3

Minor 1--3---5----1--3-  
           b                  b

Major7 1---3--5---71---3

7th 1---3---5--7-1---3  
                           b

Minor7 1--3---5--7-1--3-  
           b      b      b

Min7 (b5) 1--3--5---7-1--3-  
           b   b

Here are a few examples of major triads (1 3 5). Try repeating each measure several time, quickly:

A	F	G	A
T	T	T	T
-12p5h9-   -13p5h8-   -15p7h10-   -17p9h12-			
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

Here, the major and minor triads C#m A E and B are played in two separate places around root notes on the same string:

C#m	A	E	B
T	T	T	T
-16p12-16p12p9h12-   -17p12-17p12p9h12-   -16p12-16p12p7h12-   -14p11-14p11p7h11-			
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

C#m	A	E	B
T	T	T	T
-12p9-12p9p4h9-   -12p9-12p9p5h9-   -12p7-12p7p4h7-   -11p7-11p7p2h7-			
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

Here, the intervals that make up 3 simple major triads are found on all 6 strings:

Em

```
| -12-3-7-----|
| -----12-5-8-----|
| -----12-4-9-----|
| -----12-7-9-----|
| -----14-7-10-----|
| -----15-7-12-----|
```

Am

```
| -12-5-8-----|
| -----13-5-8-----|
| -----14-5-9-----|
| -----14-7-10-----|
| -----15-7-12-----|
| -----17-8-12-----|
```

D

```
| -14-5-10-----|
| -----15-7-10-----|
| -----14-7-11-----|
| -----16-7-12-----|
| -----17-9-12-----|
| -----17-10-14-----|
```

Try finding the notes in the following progressions on all 6 strings, in every position possible:

```
A   F   G   A
G   Eb  F   G
C   Ab  Bb  C
```

```
A7   D7  E7  A7
G7   C7  D7  D7
C7   F7  G7  C7
```

```
F#m   D   A   E
Em    C   G   D
Am    F   C   G
```

```
A   C#m   D   E   A   Bm   D   A
G   Bm   C   D   G   Am   C   G
C   Em   F   G   C   Dm   F   C
```

```
F#m   Bm   E   A   D   G   C#7   F#m
Em    Am   D   G   C   F   B7   Em
Am    Dm   G   C   F   Bb  E7   Am
```

You can also pick out the notes of scales using the same tapping technique. 3 note per string and 4 note per string fingerings are most common.

For quick reference, here are all the notes on the guitar:

	Open	1	2	3	4	5	6	7	8	9	10	11	12
1:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E
2:	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B
3:	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G
4:	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D
5:	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A
6:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E

Here's a musical example that demonstrates a 4 note tapping pattern being used to pick out a chord progression across all 6 strings, with some non-chord passing tones added for ease of playability and musical interest:

```

Em
T      T      T      T      T      T
|-----7p0h2h3-----|
|-----8p0h3h5-----|
|-----9p0h2h4-----|
|-----9p0h2-5-----|
|-----7p0h2-5-----|
|-----7p0h2h3-----|

Am
|-----12-0-5-8-----|
|-----10-0-5-8-----|
|-----9-0-2-5-----|
|-----7-0-2-5-----|
|-----7-0-2-3-----|
|-----8-0-3-5-----|

D
|-----10-0-2-5-----|
|-----10-0-3-7-----|
|-----7-0-2-5-----|
|-----7-0-2-4-----|
|-----9-0-3-5-----|
|-----10-0-2-5-----|

G
|-----10-0-3-7-----|
|-----8-0-3-5-----|
|-----7-0-2-4-----|
|-----9-0-2-5-----|
|-----10-0-2-5-----|
|-----10-0-3-7-----|

C
|-----8-0-3-5-----|
|-----8-0-1-5-----|
|-----9-0-2-5-----|
|-----10-0-2-5-----|
|-----10-0-3-7-----|
|-----8-0-3-5-----|

F
|-----8-0-1-5-----|
|-----10-0-5-6-----|
|-----10-0-2-5-----|
|-----10-0-3-7-----|
|-----12-0-7-8-----|
|-----13-0-5-8-----|

B7
|-----11-0-5-7-----|
|-----12-0-4-7-----|
|-----11-0-4-8-----|
|-----13-0-7-9-----|
|-----14-0-6-9-----|
|-----14-0-7-11-----|

```





SWEEP PICKING ARPEGGIOS

Sweep picking is a technique in which series of notes on consecutive adjacent strings are all picked using consecutive up or down strokes of the pick. Sweep picking is particularly suited to playing arpeggios (separated notes of a chord), because many notes of any chord can be found on separate adjacent strings. By sliding the pick across the strings in one smooth downward or upward "sweeping" motion, the economy of motion produces very fast potential runs (as opposed to alternate picking, for example).

Here are several basic major and minor triad shapes that are commonly used in sweep picking solos. "x"s are ROOT notes, "o"s are chord tones, and dots are notes that are commonly added to the chords.

Major:	Minor
ox    o      ... (up 5 frets)	oox           . .     ..
o o     x.    .       .. (up 4 frets)	o    o       x.           ...
.o           xo.     .  (up 3 frets)	..o     o     x       ..

They connect up the fretboard like this (the number are frets, using root note "A"):

major triads:	minor triads:
   0 R 5 0                 0   0 9   R             0 12       R 0                 0 R 17 0	 0 0 R 5                 0 8 0       R             0 12   0   R                 0 0 R 17 

Here's a musical example using the above shapes:

Am	Dm	G	C
-12p8-----8-	-13p10-----10-	-10p7-----7-	-12p8-----8-
-----10-----10-	-----10-----10-	-----8---8-	-----8---8-
-----9-----	-----10-----	-----7-----	-----9-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
0 R 17	0 0 R 17		
0			

F	Bb	G	E7
-8p5-----5-	-10p6-----6-	-10p7-----7-	-12p7-----7-
-----6---6-	-----6---6-	-----8---8-	-----9---9-
-----5-----	-----7-----	-----7-----	-----9-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

```

Am
|-12p8-----8-|-8p5-----5-|-5p0-----0-|-8p5-----5-|
|-----10---10---|-----5---5---|-----1---1---|-----5---5---|
|-----9-----|-----5-----|-----2-----|-----5-----|
|-----|-----|-----|-----|
|-----|-----|-----|-----|
|-----|-----|-----|-----|

```

```

|-12p8-----8-|-17p12-----12-|-17-----|
|-----10---10---|-----13---13---|-----|
|-----9-----|-----14-----|-----|
|-----|-----|-----xS=0-----|
|-----|-----|-----xS=2-----|
|-----|-----|-----x-----|

```

```

|-12p9-----9-9p5-----5-|-5p0-----0-9p5-----5-|
|-----10---10---5---5---|-----2---2-----5---5---|
|-----9-----6-----|-----2-----6-----| |
|---|---|---|
|-----|-----|-----|
|-----|-----|-----|

```

```

A
|-12p9-----9-17p12-----12-|-17-----| |
|-----10---10---14---14---|-----|
|-----9-----14-----|-----|
|-----|-----|-----xS=0-----|
|-----|-----|-----xS=2-----|
|-----|-----|-----x-----|

```

Here's an example that demonstrates sweeping on 4 string chord shapes:

```

Em
|-----0-0-----|-----3-3-----|
|-----0-----0-----|-----5-----5-----|
|---0-----0---|---4-----4---|
|-2-----2-|-5-----5-|
|-----|-----|
|-----|-----|

```

```

|-----7-7-----|-----12-12-----|
|-----8-----8-----|-----12-----12-----|
|---9-----9---|---12-----12---|
|-9-----9-|-14-----14-|
|-----|-----|
|-----|-----|

```

```

Am
|-----0-0-----|-----5-5-----|
|-----1-----1-----|-----5-----5-----|
|---2-----2---|---5-----5---|
|-2-----2-|-7-----7-|
|-----|-----|
|-----|-----|

```

```

|-----8-8-----|-----12-12-----|
|-----10-----10-----|-----13-----13-----|
|---9-----9---|---14-----14---|
|-10-----10-|-14-----14-|
|-----|-----|
|-----|-----|

```

D

-----2-2-----	-----5-5-----
-----3-----3-----	-----7-----7-----
-----2-----2-----	-----7-----7-----
-----4-----4-----	-----7-----7-----
-----	-----
-----	-----

-----10-10-----	-----14-14-----
-----10-----10-----	-----15-----15-----
-----11-----11-----	-----14-----14-----
-----12-----12-----	-----16-----16-----
-----	-----
-----	-----

G

-----3-3-----	-----7-7-----
-----3-----3-----	-----8-----8-----
-----4-----4-----	-----7-----7-----
-----5-----5-----	-----9-----9-----
-----	-----
-----	-----

-----10-10-----	-----15-15-----
-----12-----12-----	-----15-----15-----
-----12-----12-----	-----12-----12-----
-----12-----12-----	-----12-----12-----
-----	-----
-----	-----

C

-----0-0-----	-----3-3-----
-----1-----1-----	-----5-----5-----
-----0-----0-----	-----5-----5-----
-----2-----2-----	-----5-----5-----
-----	-----
-----	-----

-----8-8-----	-----12-12-----
-----8-----8-----	-----13-----13-----
-----9-----9-----	-----12-----12-----
-----10-----10-----	-----14-----14-----
-----	-----
-----	-----

F

-----1-1-----	-----5-5-----
-----1-----1-----	-----6-----6-----
-----2-----2-----	-----5-----5-----
-----3-----3-----	-----7-----7-----
-----	-----
-----	-----

-----8-8-----	-----13-13-----
-----10-----10-----	-----13-----13-----
-----10-----10-----	-----10-----10-----
-----10-----10-----	-----10-----10-----
-----	-----
-----	-----

B7

```

|-----2-2-----|-----5-5-----|
|-----0-----0-----|-----4-----4-----|
|-----2-----2-----|-----4-----4-----|
|-----1-----1-----|-----4-----4-----|
|-----|-----|
|-----|-----|

```

```

|-----7-7-----|-----11-11-----|
|-----10-----10-----|-----12-----12-----|
|-----8-----8-----|-----14-----14-----|
|-----9-----9-----|-----13-----13-----|
|-----|-----|
|-----|-----|

```

Em

```

|-----12-12-----|-----7-7-----|
|-----12-----12-----|-----8-----8-----|
|-----12-----12-----|-----9-----9-----|
|-----14-----14-----|-----9-----9-----|
|-----|-----|
|-----|-----|

```

```

|-----3-3-----|-----0-0-----|-----*|
|-----5-----5-----|-----0-----0-----|-----*|
|-----4-----4-----|-----0-----0-----|-----*|
|-----5-----5-----|-----2-----2-----|-----*|
|-----|-----|-----2-----*|
|-----|-----|-----0-----*|

```

These 2 octave shapes provide fingerings that are commonly used to play major and minor triads across the fretboard:

Major, root 5, index finger:

Minor, root 5, index finger:

```

|-----12-17p12-----|-----12-17p12-----|
|-----14-----14-----|-----13-----13-----|
|-----14-----14-----|-----14-----14-----|
|-----14-----14-----|-----14-----14-----|
|-----12h16-----16-----|-----12h15-----15-----|
|-----|-----|

```

Major, root 5, pinky finger:

Minor, root 5, pinky finger:

```

|-----9h12h17p12p9-----|-----8h12h17p12p8-----|
|-----10-----10-----|-----10-----10-----|
|-----9-----9-----|-----9-----9-----|
|-----11-----11-----|-----10-----10-----|
|-----12-----12-----|-----12-----12-----|
|-----|-----|

```

Major, root 6, index:

Minor, root 6, index finger:

```

|-----|-----|
|-----5-10p5-----|-----5-10p5-----|
|-----6-----6-----|-----5-----5-----|
|-----7-----7-----|-----7-----7-----|
|-----7-----7-----|-----7-----7-----|
|-----5h9-----9-----|-----5h8-----8-----|

```

Major, root 6, pinky:

Minor, root 6, pinky finger:

```

|-----|-----|
|-----2h5h10p5p2-----|-----1h5h10p5p1-----|
|-----2-----2-----|-----2-----2-----|
|-----2-----2-----|-----2-----2-----|
|-----4-----4-----|-----3-----3-----|
|-----5-----5-----|-----5-----5-----|

```

This examples demonstrates how to combine the two octave fingerings above with the 3 string shapes shown earlier:

A

Gtr I

```
|-----12-17-12-----12-17-12-----12-17-12-----12-|
|-----14-----14-----14-----14-----14-----14-----14-----|
|-----14-----14-----14-----14-----14-----14-----|
|-----14-----|
|-12-16-----|
|-----|
```

```
|-----17-12-----12-12-9-----9-9-5-----5-5-0-----0--|
|-----14-----14-----10---10-----5---5-----2---2-----|
|-----14-----9-----6-----2-----|
|-----|
|-----|
|-----|
```

F#m

```
|-----9-14-9-----9-14-9-----9-14-9-----9-|
|-----10-----10-----10-----10-----10-----10-----10-----|
|-----11-----11-----11-----11-----11-----|
|-----11-----|
|-9-12-----|
|-----|
```

```
|-----14-9-----9-9-5-----5-5-1-----1-9-5-----5--|
|-----10-----10-----7---7-----1---1-----7---7-----|
|-----11-----6-----1-----6-----|
|-----|
|-----|
|-----|
```

PRACTICE CHORD PROGRESSIONS

Here are a number of simple chord progressions you can use to practice chord playing, or use them as background progressions to practice lead guitar improvisation:

```

||: Am ^F | Gsus ^G :||: Am ^E/G# | G ^D/F# | F | E7 ||
-----
|| G | Bm | C | D || G | Am | C | ^G ||
-----
|| E7#9 | % | G | A ||
-----
||: D | C :||: G | F :||: D | C :||: A | % | C | G || A | % ||
-----
|| CM9 | FM7 | Bbm7b5 | E7 || Am | Dm7 | DbM7 | C ||
-----
|| Gadd9 | Fadd9 | Cadd9 | Bbadd9 ||
-----
||: E | C#m | A | B :|| E A | E E B/F# E/G# ||
||: A | G#m7 | F#m7 B | E E B/F# E/G# :||
-----
||: F Dm7 | Gm7 C7sus :|| Bb F/A | Gm7 C | A/C# Dm7 | Bb C ||
-----
||: A Bm7 | E7sus E7 :|| D A/C# | Bm7 E | F#m7 | D E7sus :|| C#m7 D | A Bm7 | C#m7 D |
E7sus E7 ||
-----
|| D G/D | A/D D | Bm7 G/B | A7sus A || D G/D | A D | G/B A7sus |
D | Bm7 F#m7 | G D | Em7 F# | Bm7 /A || G A/C# | D G/B |
C | A7sus ||
-----
|| D | A | Bm7 | F#m7 || Em7 | A | D F#m7 | G A |
| Bm7 | D/F# | G | E/G# || D/A | A | G | D ||
-----
|| Bb Eb | F Gm7 | Cm7 Dm7 | Eb F || Gm7 Eb/G | F/A Bb | Eb F | Bb |
| Cm7 D | Gm7 /F | C/E C | Fsus F || Bb Eb | Gm7 Ab | Cm7 F | Bb ||
-----
|| Bm | % | D | % || G | A | Em | % ||
| A | ^Bm | G | ^D || A | ^Bm | G | F#sus F# ||
-----
|| Dm7 | Gm7 | Am7 | Dm7 || Dm7 | Gm7 | Bb | C |
| Dm7 | Gm7 | Am7 | Dm7 || Bb | Gm7 | C | Am7 ||
-----
|| Dm7 | Bb | Csus C | Gm || Fsus F | Am | Bb | C7sus |
| Dm7 | Bb | C | Gm || Bb | F | Eb | Gm7 C7sus ||
-----
|| G | C | Am7 | Em7 || F | C | G/B | D7sus ||
-----
|| A | D/F# | G | C/E || F A/E | D | D7sus |
| G | C/G | D/F# C/E | D || F | G/B | C | E7sus ||
-----
|| CM7 | FM7 | G7sus | Am7 || Em7 | Dm7 | FM7 | G7sus |
| CM7 | FM7 | G7sus | Am7 || Bbm7 | FM7 | G7sus | CM7 ||
-----
|| A7 | % | D7 | % | A7 | % | E7sus | E7 |
| A7 | % | D7 | % | G7 | C7 | F7 | E7sus E ||
-----
|| G#m | E | B | F#7 F# || G#m | ^C#m | E | A |
| G#m | E | B | F#7 F# || G | ^D | Em7 | A7sus ||
-----
|| F | % | Eb | % || Gm7 | C | F | % |
| Bb | % | Dm7 | % || G | % | C | % ||
-----
|| CM9 | GM9 | Bbm9 | FM9 | Am7 | Dm7 | AbM9 | G7sus ||
-----
|| A | A7/C# | D | D#dim7 | A/E | F#m7 | B7 | E7 ||
-----
|| C | % | F | G7 || Am7 | C/G | F | % |
| Dm7 | G7 | C | F || Dm7 | Bb | G7sus | G7 ||

```

F   Bb   Gm7   C7    Dm7   Am7   Eb   C7sus
F   Bb   Gm7   C#dim7    Dm7   G7   Eb   C7sus
G7   %   A7   D7    C7   F7   C7   A7 D7
G7   %   A7   D7    C7   F7   Bb7   Eb7 D7
C   Gm7   F7   Eb Bb    C   Gm7   F7   Ab Bb
Eb   %   Ab   Bb    Fm7   Cm7   Gm7   Bb7sus
Eb   %   Ab   Bb    Fm7   Cm7 Ab7   Eb Bb7sus   Eb
: G   Am :  : CM7   FM7/A :  : Dsus Dmaj9   Bm A :  : AM7 F#m7   Bm7 E7 :
: Am7   Am13 :  : Cm7   F9 :  : Em7 A   Em7 A :  : Bm11   Bm6 :
: Am7   BbM7 :  : Csus4   DbM7b5 :
: AM7b5   EM7 :  : G   A/G :  : Csus2   Csus2b5   Am6/7   Gmaj7 :
: A   Asus9 :  : C7 F   C7 F :  : F#13   F#9 :  : E9 :
: Am7   Bm7b5 :  : Cm7   AbM7 G7#5 :  : Em7 Esus9   Am7 :
: Cm7b5 :  : Db/G Eb/G :
: Gm(M7) Gm6   Gm(M7) Gm :  : Cm6   Cm6 Cm9(M7) :
: C7b5   C9b5 :  : A7#5   A9 C#m7b5 :  : Gm7b5   Gm7#5 :
: A7#5b9   A7b5 :  : E7#9 G :
: Am   E :  : Em   Em(M7) Cm/E :  : Cm   F9b5 :
: Am7b5   Am11 :  : E7#9   E7b9 :  : Cm13   C13b9 :
: AM7#5 :
: Am7   Am6/7 :  : E9   E7#9 :  : C7b5   C7#9 :
: A   Bb/A :  : Esus7   E7#5b9 :  : AM7 :  : EM9 EM7b5   EM9 EM7 :
: Adim7   Ebdim7 :  : C7b5   C7#9 :
: E5   G5 A5 :  : C7   F9 :  : Gm7   C Bb :  : D7#9 :
: G   C :  : Am G   F :  : E9 :
: C   Am   F   G :  : C   G/B   Am   % :
: C   Dm7/A   C/G   G :   C   C/Bb   Am7   G :
CM7   Dm7   Em7   FM7   G7   Am7   Bm7b5
Cadd9   Am7   Fadd9   G
A   D/F#   A   Esus7
Cm7   Dm7b5   EbM7   Fm7   Gm   AbM7   Bb7
Cm(M7)   Cm7   EbM7#5   F7   G7   Am7b5   Bm7b5
Cm7   Dm7b5   EbM7   Fm7 F7   Gm7 G7   AbM7 Am7b5   Bb7 Bdim7
Am   E7   FM7   G
Cm7   Fm7 G7#9
Dm7   Em7b5   C#dim7   BbM7   Gm7   A7
A5   D5   C5   Bm   F#m   G   D5   E5
Cadd9   F6/9   Am7 G   FM7    Cadd9   F6/9   Cadd9 Am7   G

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|| C B7 | Em C7 | F G | C ||

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|| Cm Bb7 | EbM7 Eb7 | AbM7 G7 | Cm ||

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|| Cm7 Edim7 | Fm7 Dm7b5 | EbM7 Eb7 | AbM7 ||

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|| Cm A+7 | AbM7 Gb7 | Fm G7 | Cm ||

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|| CM7 Dm7 | EbM7 / Am7b5 G7 | CM7 G7 | CM7 ||

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|| G | B7 | C7 B7 | A7 ||

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|| FM7 Gm7 BbM7 C7 | DbM7 GbM7 Csus7 C7 | FM7 ||

---

|| F6 | Ab7 Gm7 | C7 F7 | Dm7 G7 || Gm7 C7 | Am7 D7 | Gm7 Gb7 | F6 ||

---

|| G6 | B7 | Em7 | A7 | Am7 | D7 | Bm7 | Bb7 | Am7 | D7 | G6 ||

---

|| EbM7 | Gb7 | Fm7 | Bb7 || Cm7 F7 | Gm7 C7 | Fm7 E7 | Eb6 ||

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||: C6 | Ebm7 | Dm7 | G7 :|| C6 | Gm7 C7 | FM7 | Bb7 ||

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| C6 C#dim7 | Dm7 G7 | C6 | % ||

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|| CM7 | Dm7 G7 | E7 Am7b5 | Bm G7sus | Em Am7 | Dm G7b9 | C6 A7 | D7 G7  
1.

2.  
|| C6 || C6 | Em7 A7 | Em7 A7 | DM7 | DM7 Bm7 | Dm7 G7 | Dm7 G7 | C6 E7  
| Am7 G7sus ||

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|| Dm | Bb7 | Dm | A7#9 || Dm | Bb7 | Em7b5 A7 | Dm ||

|| F7 | Bb7 | F7 | Bb7 || F7 | Bb7 | Em7b5 A7 | Dm ||

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|| GM7 | % | Gm7 | C7 || FM7 | % | Fm7 | Bb7 ||

|| EbM7 | Am7b5 D7#5 | Gm7 | Gm7 D7b9 || GM7 | Am7 D7 | Bm7 E7 | Am7 D7  
||

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|| Bb Gm | Cm7 F7 | Dm Gm7 | Cm7 F7 | Fm7 Bb7 | EbM7 Edim7 |  
Bb Gm | Cm F7 ||

| D7 | Am D7 | G7 | Dm G7 || C7 | Gm C7 | F7 | Cm F7 ||

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