

NUMBER SYSTEMS

Ukulele Tuesdays – Evergreen Library

November 19, 2019

1



2

PLAYING MUSIC IS MORE THAN JUST MEMORIZING A BUNCH OF CHORDS ON YOUR INSTRUMENT.

That's difficult. And takes a long time.

NUMBER SYSTEMS

- Number systems are methods of transcribing music
- They can be used to show which chords to play
- They are Key agnostic, meaning you can use them to play in *any* Key
- Commonly used by recording studio musicians
- Requires some musical knowledge:
 - Knowledge of Scales (use the Circle of Fifths as a reference)
 - A solid number of memorized chord shapes
 - The ability to figure out chord shapes you don't know

A SCALE: A REVIEW

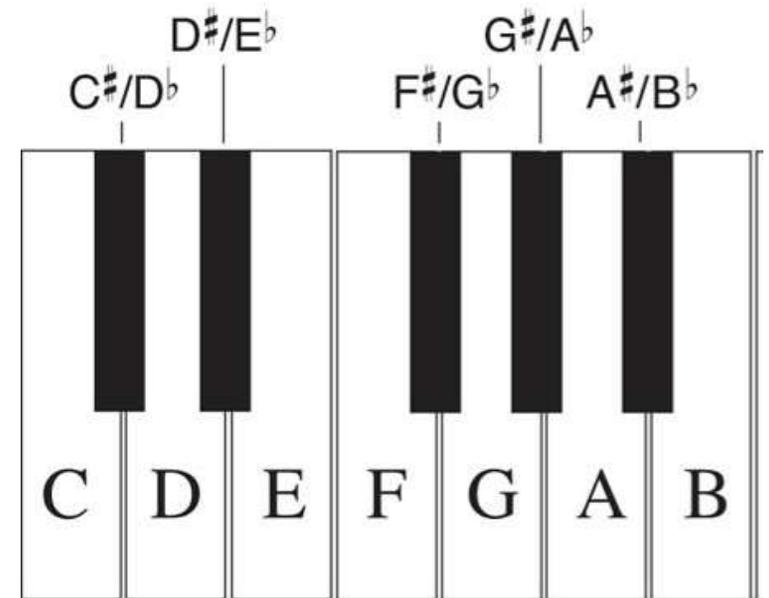
- A scale is a sequence of Intervals or, more specifically, *Scale Degrees*

C Major Scale	C	D	E	F	G	A	B	C
G Major Scale	G	A	B	C	D	E	F#	G
Interval Number	1	2	3	4	5	6	7	8 / 1
Interval Name	Unison	Major 2 nd	Major 3 rd	Perfect 4 th	Perfect 5 th	Major 6 th	Major 7 th	Octave / Unison
Roman Numeral	I	II / ii	III / iii	IV	V	VI / vi	VII / vii	VIII / I
Scale Degree	Tonic	Super- tonic	Mediant	Sub- dominant	Dominant	Sub- mediant	Leading Tone	Tonic



INTERVALS AND SCALE DEGREES

- An Interval is simply the distance between two notes
 - *Major 2nd* – 2 half steps
 - *Perfect 5th* – 7 half steps
 - *Major 7th* – 11 half steps
- A Scale Degree is the distance of a note to the root of the scale
 - It's still an interval, but more specifically defined
 - *Supertonic* – a Major 2nd, but only from the Root of the Scale
 - *Dominant* – a Perfect 5th, but only from the Root of the Scale
 - *Leading Tone* – Major 7th, but only from the Root of the Scale



ROMAN NUMERAL SYSTEM

- Developed in the 18th century
- A nomenclature where chords are represented by Roman Numerals and other symbols
- Numerals denote a *scale degree* (distance from the root note of the key)
 - Major or minor
- Additional symbols denote chord quality
 - Augmented, diminished, additional notes (such as the 7th), chord inversions

ROMAN NUMERAL SYSTEM

Symbol	Meaning	Examples	Examples
Uppercase Roman numeral	Major chord	I	C
Lowercase Roman numeral	Minor chord	i	Cm
Superscript ⁺	Augmented chord	I ⁺	C ⁺
Superscript [°]	Diminished chord	i [°]	C [°]
Superscript ^{number}	Added note	V ⁷	C7

THE NASHVILLE NUMBER SYSTEM

- Developed by Neal Matthews in the late 1950s
- Resembles the Roman Numeral System
- Uses 1, 2, 3, 4... instead of I, II, III, IV...
- Also uses additional symbols to denote chord quality or other modifications

REFERENCE

Chord (key of C)	Notation	Scale Degree	Interval	Roman Numeral	Nashville Number
C Major	C	Root	1	I	1
E Minor	Em	Minor 3 rd	3	iii	3m
F Major	F	Perfect 4 th	4	IV	4
G Major	G	Perfect 5 th	5	V	5
G Dominant 7th	G7	Perfect 5 th with a Minor 7 th added	5	V ⁷	5 ⁷
A Minor	Am	Minor 6 th	6	vi	6m

CONVERTING CHORDS TO NUMBERS

Common Intervals	Chord in C Major	Roman Numeral	Chord in G Major
1	C	I	G
4	F	IV	C
5	G	V	D

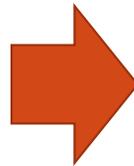
EXAMPLE — FROM KEY OF C MAJOR

Verse 1

[C] I see a [G] bad [F] moon [C] rising
[C] I see [G] trouble [F] on the [C] way
[C] I see [G] earth [F] quakes and [C] lightning
[C] I see [G] bad [F] times to- [C] day

Chorus

[F] Don't go around tonight
Well, it's [C] bound to take your life
[G] There's a [F] bad moon on the [C] rise



Verse 1

[I] I see a [V] bad [IV] moon [I] rising
[I] I see [V] trouble [IV] on the [I] way
[I] I see [V] earth [IV] quakes and [I] lightning
[I] I see [V] bad [IV] times to- [I] day

Chorus

[IV] Don't go around tonight
Well, it's [I] bound to take your life
[V] There's a [IV] bad moon on the [I] rise

EXAMPLE – TO KEY OF G MAJOR

Verse 1

[I] I see a [V] bad [IV] moon [I] rising
[I] I see [V] trouble [IV] on the [I] way
[I] I see [V] earth [IV] quakes and [I] lightning
[I] I see [V] bad [IV] times to- [I] day

Chorus

[IV] Don't go around tonight
Well, it's [I] bound to take your life
[V] There's a [IV] bad moon on the [I] rise



Verse 1

[G] I see a [D] bad [C] moon [G] rising
[G] I see [D] trouble [C] on the [G] way
[G] I see [D] earth [C] quakes and [G] lightning
[G] I see [D] bad [C] times to- [G] day

Chorus

[C] Don't go around tonight
Well, it's [G] bound to take your life
[D] There's a [C] bad moon on the [G] rise

EXERCISE 1

Verse 1 (vocals only)

[I] If I was a flower growing [IV] wild and [I] free

[I] All I'd want is you to be my [V] sweet honey [I] bee

[I] If I was a tree growing [IV] tall and [I] green

[I] All I'd want is you to shade me, [V] be my [I] leaves

Chorus

[I] All I want is you, will you [IV] be my [I] bride?

[I] Take me by the hand, stand [V] by my [I] side

[I] All I want is you, will you [IV] stay with [I] me?

[I] Hold me in your arms, [V] sway me like the [I] sea

EXERCISE 2

Verse 1

[I] Where have all the [vi] flowers gone

[IV] Long time [V] passing

[I] Where have all the [vi] flowers gone

[IV] Long time a- [V] go

[I] Where have all the [vi] flowers gone

[IV] Girls have picked them [V] every one

[IV] When will they [I] ever learn

[IV] When will they [V] ever [I] learn



QUESTIONS?

