



Blumberg's
Music Theory Cipher
for **Guitar**
and other stringed instruments

Musical Number Formula Translation Tables:
Intervals, Scales, and Chords

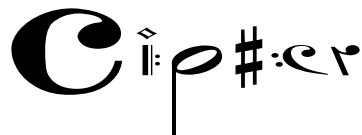
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Blumberg's
Music Theory Cipher
for **Guitar**
and other stringed instruments

Musical Number Formula Translation Tables:
Intervals, scales, and chords
Master Chart Summary Table One (materials of Major and minor)
Universal Speller Transposer
. . . and more . . .



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Intervals

Interval Number-Name Translation Tables

Table One: Standard *word-prefixed* interval number-names to Cipher (or Chromatic) equivalents.

Figure 1-1

Intervals	
Standard	<i>Cipher</i> *
P 1st / <i>dim.</i> 2nd	Unison . . . 0° - 0°
min. 2nd	0° - 1°
Maj. 2nd / <i>dim.</i> 3rd	0° - 2°
min. 3rd / Aug. 2nd	0° - 3°
Maj. 3rd	0° - 4°
P 4th / Aug. 3rd	0° - 5°
Aug. 4th / dim. 5th	0° - 6°
P 5th	0° - 7°
Aug. 5th / min. 6th	0° - 8°
Maj. 6th / dim. 7th	0° - 9°
min. 7th	0° - 10°
Maj. 7th	0° - 11°
P 8th	Octave . . . 0° - 12°
min. 9th	0° - 13°
Maj. 9nd	0° - 14°
min. 10th / Aug. 9th	0° - 15°
Maj. 10th	0° - 16°
P 11th	0° - 17°
Aug. 11th / dim. 12th	0° - 18°
P 12th	0° - 19°
min. 13th / aug. 12th	0° - 20°
Maj. 13th	0° - 21°
min. 14th	0° - 22°
Maj. 14th	0° - 23°
P 15th	Octave . . . 0° - 24°

P = Perfect Aug. = Augmented
 Maj. = Major dim. = diminished
 min. = minor

Italicized interval names are less common. They could be indicated in the second octave of tones as well

* 0° = Tonic or Root. The numbers *to the right* of the dash represent the *half-step* distance or chromatic-position of the upper tone from zero (the tonic/root).

Intervals

Interval Number-Name Translation Tables

Table Two: Standard *accidental-mark prefixed* interval number-names, to Cipher (or Chromatic) equivalents.

Figure 1-2

Major scale only		All intervals	
Standard	<i>Cipher</i>	Standard	<i>Cipher</i>
1 = 0°		♭2, 1 = 0°	
		♭2 = 1°	
2 = 2°		♭3, 2 = 2°	
		♭3, #2 = 3°	
3 = 4°		3 = 4°	
4 = 5°		#3, 4 = 5°	
		♭5, #4 = 6°	
5 = 7°		5 = 7°	
		♭6, #5 = 8°	
6 = 9°		♭7, 6 = 9°	
		♭7 = 10°	
7 = 11°		7 = 11°	
8 = 12°		8 = 12°	
		♭9 = 13°	
9 = 14°		9 = 14°	
		♭10, #9 = 15°	
10 = 16°		10 = 16°	
11 = 17°		11 = 17°	
		♭12, #11 = 18°	
12 = 19°		12 = 19°	
		♭13, #12 = 20°	
13 = 21°		♭14, 13 = 21°	
		♭14 = 22°	
14 = 23°		14 = 23°	
15 = 24°		15 = 24°	

Intervals

Interval Number-Name Translation Tables

Table Three: Summary Table. Standard *word and formula-numeral* interval number-names, to Cipher (or chromatic) equivalents.

Figure 1-3

Standard interval number-name	Standard formula digit	Cipher formula digit
Perfect First	1	0°
<i>Diminished</i> Second	♭2	0°
Minor Second	b2	1°
Major Second	2	2°
<i>Diminished</i> Third	♭3	2°
Augmented Second	#2	3°
Minor Third	b3	3°
Major Third	3	4°
<i>Augmented</i> Third	#3	5°
Perfect Fourth	4	5°
Augmented Fourth	#4	6°
<i>Diminished</i> Fifth	b5	6°
Perfect Fifth	5	7°
Augmented Fifth	#5	8°
Minor Sixth	b6	8°
Major Sixth	6	9°
<i>Diminished</i> Seventh	♭7	9°
Minor Seventh	b7	10°
Major Seventh	7	11°
Perfect Eighth	8	12°
Minor Ninth	b9	13°
Major Ninth	9	14°
Augmented Ninth	#9	15°
Minor Tenth	b10	15°
Major Tenth	10	16°
Perfect Eleventh	11	17°
Augmented Eleventh	#11	18°
<i>Diminished</i> Twelfth	b12	18°
Perfect Twelfth	12	19°
Augmented Twelfth	#12	20°
Minor Thirteenth	b13	20°
Major Thirteenth	13	21°
<i>Diminished</i> Fourteenth	♭14	21°
Minor Fourteenth	b14	22°
Major Fourteenth	14	23°
Perfect Fifteenth	15	24°

Intervals

Interval Number-Name Translation Tables

Table Four: Octave Equivalents. Associating simple and compound intervals. First-octave and equivalent second-octave number-names of tones, standard and Cipher, (Major scale intervals only).

Figure 1-4

Octave equivalents (Major scale only)

Standard (plus or minus 7)									
Major scale	First Octave	1st	2nd	3rd	4th	5th	6th	7th	8th
Major scale	Second Octave	8th	9th	10th	11th	12th	13th	14th	15th

<i>Cipher</i> (plus or minus 12°)									
Major scale	First Octave	0°	2°	4°	5°	7°	9°	11°	12°
Major scale	Second Octave	12°	14°	16°	17°	19°	21°	23°	24°

Scales

Scale Formula Translation Tables

Table One: The Major and three minor scales. Standard scale-formula to Cipher (or chromatic) equivalents. Scales are spelled *in parallel* from a C tonic.

Figure 1-5

The Major and three minor scales

C chromatic scale <i>reference</i>												
C,	C#/Db,	D,	D#/Eb,	E,	F,	F#/Gb,	G,	G#/Ab,	A,	A#/Bb,	B,	C
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°

spelling	C	D	E	F	G	A	B	C					
whole-steps	1	-	1	-	½	-	1	-	1	-	1	-	½
standard numbers	Major Scale	1	2	3	4	5	6	7	8				
chromatic numbers	Cipher	0°	2°	4°	5°	7°	9°	11°	12°				

spelling	C	D	E ^b	F	G	A ^b	B ^b	C					
whole-steps	1	-	½	-	1	-	1	-	½	-	1	-	1
	Natural minor	1	2	b3	4	5	b6	b7	8				
	Cipher	0°	2°	3°	5°	7°	8°	10°	12°				

spelling	C	D	E ^b	F	G	A ^b	B	C					
whole-steps	1	-	½	-	1	-	1	-	½	-	1½	-	½
	Harmonic minor	1	2	b3	4	5	b6	7	8				
	Cipher	0°	2°	3°	5°	7°	8°	11°	12°				

spelling	C	D	E ^b	F	G	A	B	C					
whole-steps	1	-	½	-	1	-	1	-	1	-	1	-	½
	* Melodic minor	1	2	b3	4	5	6	7	8				
	Cipher	0°	2°	3°	5°	7°	9°	11°	12°				

* Note, the melodic minor in the *descending* direction reverts to natural minor.

Scales

Scale Formula Translation Tables

Table Two: Modal scales; the modes of Major (ecclesiastic or medieval church modes).
Standard scale-formula to Cipher (or chromatic) equivalents.

Figure 1-6

Modes of Major									
<i>(Major)</i>	Ionian	1	2	3	4	5	6	7	8
	<i>Cipher</i>	0°	2°	4°	5°	7°	9°	11°	12°
	Dorian	1	2	b3	4	5	6	b7	8
	<i>Cipher</i>	0°	2°	3°	5°	7°	9°	10°	12°
	Phrygian	1	b2	b3	4	5	b6	b7	8
	<i>Cipher</i>	0°	1°	3°	5°	7°	8°	10°	12°
	Lydian	1	2	3	#4	5	6	7	8
	<i>Cipher</i>	0°	2°	4°	6°	7°	9°	11°	12°
	Mixolydian	1	2	3	4	5	6	b7	8
	<i>Cipher</i>	0°	2°	4°	5°	7°	9°	10°	12°
<i>(Nat minor)</i>	Aeolian	1	2	b3	4	5	b6	b7	8
	<i>Cipher</i>	0°	2°	3°	5°	7°	8°	10°	12°
	Locrian	1	b2	b3	4	b5	b6	b7	8
	<i>Cipher</i>	0°	1°	3°	5°	6°	8°	10°	12°

Scales

Scale Formula Translation Tables

Table Three: Miscellaneous scales. Standard scale-formula to Ciphers (or chromatic) equivalents.

Figure 1-7

		Other scales							
		C	D	E \flat	F \sharp	G	A \flat	B	C
		1 - $\frac{1}{2}$ - 1 $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - 1 $\frac{1}{2}$ - $\frac{1}{2}$							
Gypsy minor		1	2	b3	#4	5	b6	7	8
<i>Cipher</i>		0 $^\circ$	2 $^\circ$	3 $^\circ$	6 $^\circ$	7 $^\circ$	8 $^\circ$	11 $^\circ$	12 $^\circ$
		C	D	E	F \sharp	G \sharp	A \sharp	C	
		1 - 1 - 1 - 1 - 1 - 1							
Whole-tone									
<i>Cipher</i>		0 $^\circ$	2 $^\circ$	4 $^\circ$	6 $^\circ$	8 $^\circ$	10 $^\circ$	12 $^\circ$	
		C	D	E	G	A	C		
		1 - 1 - 1 $\frac{1}{2}$ - 1 - 1 $\frac{1}{2}$							
Major Pentatonic		1	2	3	5	6	1		
<i>Cipher</i>		0 $^\circ$	2 $^\circ$	4 $^\circ$	7 $^\circ$	9 $^\circ$	12 $^\circ$		
		C	E \flat	F	G	B \flat	C		
		1 $\frac{1}{2}$ - 1 - 1 - 1 $\frac{1}{2}$ - 1							
minor Pentatonic		1	b3	4	5	b7	1		
<i>Cipher</i>		0 $^\circ$	3 $^\circ$	5 $^\circ$	7 $^\circ$	10 $^\circ$	12 $^\circ$		

Chords

Chord Formula Translation Tables

Table One: Chords grouped by *family*. Standard *root-position* chord-formula to Cipher (or chromatic) equivalents. Not exhaustive, few altered chords.

Figure 1-8

Chord Name		Standard Formula						Cipher Formula						
								R	3rd	5th	6 or 7	9th	11th	13th
Major	Triad	R	3	5				0°	4°	7°				
	Sixth	R	3	5	6			0°	4°	7°	9°			
	Seventh	R	3	5	7			0°	4°	7°	11°			
	Ninth	R	3	5	7	9		0°	4°	7°	11°	14°		
	6/9	R	3	5	6	9		0°	4°	7°	9°	14°		
	Eleventh	R	3	5	7	9	11		0°	4°	7°	11°	14°	17°
	Thirteenth	R	3	5	7	9	11	13	0°	4°	7°	11°	14°	17°
Minor	Triad	R	b3	5				0°	3°	7°				
	Sixth	R	b3	5	6			0°	3°	7°	9°			
	Seventh	R	b3	5	b7			0°	3°	7°	10°			
	Ninth	R	b3	5	b7	9		0°	3°	7°	10°	14°		
	6/9	R	b3	5	6	9		0°	3°	7°	9°	14°		
	Eleventh	R	b3	5	b7	9	11		0°	3°	7°	10°	14°	17°
	Thirteenth	R	b3	5	b7	9	11	13	0°	3°	7°	10°	14°	17°
Dominant	Seventh	R	3	5	b7			0°	4°	7°	10°			
	Ninth	R	3	5	b7	9		0°	4°	7°	10°	14°		
	Eleventh	R	3	5	b7	9	11		0°	4°	7°	10°	14°	17°
	Thirteenth	R	3	5	b7	9	11	13	0°	4°	7°	10°	14°	17°
Diminished	Triad	R	b3	b5				0°	3°	6°				
Half-Dim	Seventh	R	b3	b5	b7			0°	3°	6°	10°			
Diminished	Seventh	R	b3	b5	b7			0°	3°	6°	9°			
Augmented	Triad	R	3	#5				0°	4°	8°				
	Seventh	R	3	#5	b7			0°	4°	8°	10°			
Major	Suspended	R	4	5				0°	5°	7°				
Dom. 7th	Suspended	R	4	5	b7			0°	5°	7°	10°			
Min./Maj.	Seventh	R	b3	5	7			0°	3°	7°	11°			

Chords

Chord Formula Translation Tables

Table Two: Chords grouped by *size*. Standard root-position chord-formula to Cipher (or chromatic) equivalents. Not exhaustive, few altered chords, etc.

Figure 1-9

Chord Name		Standard Formula			Cipher Formula									
					R	3rd	5th	6 or 7	9th	11th	13th			
Major	Triad	R	3	5										
Minor	Triad	R	b3	5										
Augmented	Triad	R	3	#5										
Diminished	Triad	R	b3	b5										
Major	Suspended	R	4	5										
<hr/>														
Major	Sixth	R	3	5	6									
Minor	Sixth	R	b3	5	6									
Major	Seventh	R	3	5	7									
Minor	Seventh	R	b3	5	b7									
Dominant	Seventh	R	3	5	b7									
Augmented	Seventh	R	3	#5	b7									
Half-Dim	Seventh	R	b3	b5	b7									
Diminished	Seventh	R	b3	b5	b7									
Min./Maj.	Seventh	R	b3	5	7									
Dom. 7th	Suspended	R	4	5	b7									
<hr/>														
Major	Ninth	R	3	5	7	9								
Minor	Ninth	R	b3	5	b7	9								
Dominant	Ninth	R	3	5	b7	9								
Major	6/9	R	3	5	6	9								
Minor	6/9	R	b3	5	6	9								
<hr/>														
Major	Eleventh	R	3	5	7	9	11							
Minor	Eleventh	R	b3	5	b7	9	11							
Dominant	Eleventh	R	3	5	b7	9	11							
<hr/>														
Major	Thirteenth	R	3	5	7	9	11	13						
Minor	Thirteenth	R	b3	5	b7	9	11	13						
Dominant	Thirteenth	R	3	5	b7	9	11	13						

Master Chart Summary — Table One — The Cipher

The Cipher System's user-friendliness results from extricating music theory from the staff and standard notation. The Master Charts further that operation. The Master Charts are the Cipher System's *comprehensive* number-formula translation tables. There the eight total Master Charts in the book. The following two-plate chart is one of two *summary* charts.

The Master Charts are a catalogue of number formula, both standard and Cipher. They contain diatonic to chromatic number translations of all basic *harmony-in-thirds* (chord formula) taken directly from the staff, plus all indigenous modes (scales) of all degrees of the four primary scales. Charts are included for the Major and three variations of Minor scales (Natural, Harmonic, and Melodic), using both standard (diatonic) and chromatic (Cipher) numbers. The Master Charts reveal all of the stock harmonies and formula natural to all scale degrees of those scales

From every scale degree of each of the four scales covered, you'll find formula numbers corresponding to (and up through) the seven-tone thirteenth chord that stacks naturally (in thirds) above those degrees. Each thirteenth chord contains within it all other smaller chords natural to the given degree. That is, each thirteenth chord (also) contains the triad, seventh, ninth, and eleventh chord, natural to the degree. So the Master Charts are indeed exhaustive — as far as the stock, unaltered, natural materials of (tercian) Western music theory go.

The Master Charts are a literal *Rosetta Stone*, an alpha-numeric translation of ancient musical formula rendered in two languages side by side, one of which nearly everyone on earth can understand, counting numbers. It might sound silly, but if some cataclysmic event ever befalls the earth (and it will someday), leaving only a small global population and few if any people who can read music, the kernel of Western musical heritage might survive at least. But we'd still have to write it in *stone* somewhere, and have a copy "off world" to be safe. ;')

Figure 1-11

The Cipher — Summary Master Chart **One** — *diatonic numbers*

Natural Chords and Arpeggios

Major

		R	3	5	7	9	11	13
T	I	R	3	5	7	9	11	13
2	II	R	b3	5	b7	9	11	13
3	III	R	b3	5	b7	b9	11	b13
4	IV	R	3	5	7	9	#11	13
5	V	R	3	5	b7	9	11	13
6	VI	R	b3	5	b7	9	11	b13
7	VII	R	b3	b5	b7	b9	11	b13

Melodic minor

		R	3	5	7	9	11	13
T	I	R	b3	5	7	9	11	13
2	II	R	b3	5	b7	b9	11	13
b3	III	R	3	#5	7	9	#11	13
4	IV	R	3	5	b7	9	#11	13
5	V	R	3	5	b7	9	11	b13
6	VI	R	b3	b5	b7	9	11	b13
7	VII	R	b3	b5	b7	b9	11	b13

Harmonic minor

		R	3	5	7	9	11	13
T	I	R	b3	5	7	9	11	b13
2	II	R	b3	b5	b7	b9	11	13
b3	III	R	3	#5	7	9	11	13
4	IV	R	b3	5	b7	9	#11	13
5	V	R	3	5	b7	b9	11	b13
b6	VI	R	3	5	7	#9	#11	13
7	VII	R	b3	b5	b7	b9	b11	b13

Natural minor

		R	3	5	7	9	11	13
T	I	R	b3	5	b7	9	11	b13
2	II	R	b3	b5	b7	b9	11	b13
b3	III	R	3	5	7	9	11	13
4	IV	R	b3	5	b7	9	11	13
5	V	R	b3	5	b7	b9	11	b13
b6	VI	R	3	5	7	9	#11	13
b7	VII	R	3	5	b7	9	11	13

Indigenous Modes

Major

		T	2	3	4	5	6	7	8
T	I	1	2	3	4	5	6	7	8
2	II	1	2	b3	4	5	6	b7	8
3	III	1	b2	b3	4	5	b6	b7	8
4	IV	1	2	3	#4	5	6	7	8
5	V	1	2	3	4	5	6	b7	8
6	VI	1	2	b3	4	5	b6	b7	8
7	VII	1	b2	b3	4	b5	b6	b7	8

Melodic minor

		T	2	3	4	5	6	7	8
T	I	1	2	b3	4	5	6	7	8
2	II	1	b2	b3	4	5	6	b7	8
b3	III	1	2	3	#4	#5	6	7	8
4	IV	1	2	3	#4	5	6	b7	8
5	V	1	2	3	4	5	b6	b7	8
6	VI	1	2	b3	4	b5	b6	b7	8
7	VII	1	b2	b3	4	b5	b6	b7	8

Harmonic minor

		T	2	3	4	5	6	7	8
T	I	1	2	b3	4	5	b6	7	8
2	II	1	b2	b3	4	b5	6	b7	8
b3	III	1	2	3	4	#5	6	7	8
4	IV	1	2	b3	#4	5	6	b7	8
5	V	1	b2	3	4	5	b6	b7	8
b6	VI	1	#2	3	#4	5	6	7	8
7	VII	1	b2	b3	b4	b5	b6	b7	8

Natural minor

		T	2	3	4	5	6	7	8
T	I	1	2	b3	4	5	b6	b7	8
2	II	1	b2	b3	4	b5	b6	b7	8
b3	III	1	2	3	4	5	6	7	8
4	IV	1	2	b3	4	5	6	b7	8
5	V	1	b2	b3	4	5	b6	b7	8
b6	VI	1	2	3	#4	5	6	7	8
b7	VII	1	2	3	4	5	6	b7	8

Figure 1-12

The Cipher — Summary Master Chart **One** — *chromatic numbers*

Natural Chords and Arpeggios

Major

		R	3	5	7	9	11	13
0°	I	0°	4°	7°	11°	14°	17°	21°
2°	II	0°	3°	7°	10°	14°	17°	21°
4°	III	0°	3°	7°	10°	13°	17°	20°
5°	IV	0°	4°	7°	11°	14°	18°	21°
7°	V	0°	4°	7°	10°	14°	17°	21°
9°	VI	0°	3°	7°	10°	14°	17°	20°
11°	VII	0°	3°	6°	10°	13°	17°	20°

Indigenous Modes

Major

		T	2	3	4	5	6	7	8
0°	I	0°	2°	4°	5°	7°	9°	11°	12°
2°	II	0°	2°	3°	5°	7°	9°	10°	12°
4°	III	0°	1°	3°	5°	7°	8°	10°	12°
5°	IV	0°	2°	4°	6°	7°	9°	11°	12°
7°	V	0°	2°	4°	5°	7°	9°	10°	12°
9°	VI	0°	2°	3°	5°	7°	8°	10°	12°
11°	VII	0°	1°	3°	5°	6°	8°	10°	12°

Melodic minor

		R	3	5	7	9	11	13
0°	I	0°	3°	7°	11°	14°	17°	21°
2°	II	0°	3°	7°	10°	13°	17°	21°
3°	III	0°	4°	8°	11°	14°	18°	21°
5°	IV	0°	4°	7°	10°	14°	18°	21°
7°	V	0°	4°	7°	10°	14°	17°	20°
9°	VI	0°	3°	6°	10°	14°	17°	20°
11°	VII	0°	3°	6°	10°	13°	16°	20°

Melodic minor

		T	2	3	4	5	6	7	8
0°	I	0°	2°	3°	5°	7°	9°	11°	12°
2°	II	0°	1°	3°	5°	7°	9°	10°	12°
3°	III	0°	2°	4°	6°	8°	9°	11°	12°
5°	IV	0°	2°	4°	6°	7°	9°	10°	12°
7°	V	0°	2°	4°	5°	7°	8°	10°	12°
9°	VI	0°	2°	3°	5°	6°	8°	10°	12°
11°	VII	0°	1°	3°	4°	6°	8°	10°	12°

Harmonic minor

		R	3	5	7	9	11	13
0°	I	0°	3°	7°	11°	14°	17°	20°
2°	II	0°	3°	6°	10°	13°	17°	21°
3°	III	0°	4°	8°	11°	14°	17°	21°
5°	IV	0°	3°	7°	10°	14°	18°	21°
7°	V	0°	4°	7°	10°	13°	17°	20°
8°	VI	0°	4°	7°	11°	15°	18°	21°
11°	VII	0°	3°	6°	9°	13°	16°	20°

Harmonic minor

		T	2	3	4	5	6	7	8
0°	I	0°	2°	3°	5°	7°	8°	11°	12°
2°	II	0°	1°	3°	5°	6°	9°	10°	12°
3°	III	0°	2°	4°	5°	8°	9°	11°	12°
5°	IV	0°	2°	3°	6°	7°	9°	10°	12°
7°	V	0°	1°	4°	5°	7°	8°	10°	12°
8°	VI	0°	3°	4°	6°	7°	9°	11°	12°
11°	VII	0°	1°	3°	4°	6°	8°	9°	12°

Natural minor

		R	3	5	7	9	11	13
0°	I	0°	3°	7°	10°	14°	17°	20°
2°	II	0°	3°	6°	10°	13°	17°	20°
3°	III	0°	4°	7°	11°	14°	17°	21°
5°	IV	0°	3°	7°	10°	14°	17°	21°
7°	V	0°	3°	7°	10°	13°	17°	20°
8°	VI	0°	4°	7°	11°	14°	18°	21°
10°	VII	0°	4°	7°	10°	14°	17°	21°

Natural minor

		T	2	3	4	5	6	7	8
0°	I	0°	2°	3°	5°	7°	8°	10°	12°
2°	II	0°	1°	3°	5°	6°	8°	10°	12°
3°	III	0°	2°	4°	5°	7°	9°	11°	12°
5°	IV	0°	2°	3°	5°	7°	9°	10°	12°
7°	V	0°	1°	3°	5°	7°	8°	10°	12°
8°	VI	0°	2°	4°	6°	7°	9°	11°	12°
10°	VII	0°	2°	4°	5°	7°	9°	10°	12°

Universal Speller-Transposer — The Cipher

The Cipher's Universal Speller-Transposer is meant to help you do two separate things, spell and transpose:

- Take any number formula (standard or Cipher) for any interval, scale, or chord, and you'll be able to find the correct letter-spelling for it in any key (i.e. from any tonic or root).
- or you can transpose (change) the letter spelling of any musical material from one key, tonic, or root, to another.

The Speller-Transposer works even if you ignore the chromatic numbers, (the Cipher specific content) and use only standard diatonic formula numbers.

At first glance the Speller-Transposer might make your head spin a bit. It's not a pretty sight as they say. But I didn't create that spelling system. That's how it is. Hopefully though, you'll get a feel for it after a few minutes of explanation. You'll probably only need it on occasion. [Note; the book contains explanatory text and illustrations.]

Figure 1-13

Universal Speller/Transposer – The Cipher

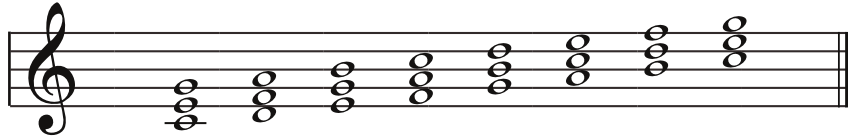
Diatonic (or Major) scale degrees (standard numbers) →	T/R 1st	2 9	3 b4 #11	4 b4 #11	5	6 b7	7	8 or 1st								
	I	II	III	IV	V	VI	VII	I								
Chromatic (Cipher) scale degrees →	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°			
Tonics/Roots or Keys →	A	A	B ^b	B	B [#]	C	C [#]	D	D [#]	E	E [#]	F	F [#]	G	G [#]	A
A [#]	A [#]	B	B [#]	B ^x	C [#]	C ^x	D [#]	D ^x	E [#]	E ^x	F [#]	F ^x	G	G [#]	G ^x	A [#]
B ^b	B ^b	C ^b	C	C [#]	D	D ^b	E ^b	E	F	F [#]	G	G ^b	A ^b	A	B ^b	B
B	B	C	C [#]	C ^x	D [#]	D	E	E [#]	F [#]	F ^x	G [#]	G	A	A [#]	B	B [#]
C ^b	C ^b	D ^b	D ^b	D	E ^b	E ^b	F ^b	F	G ^b	G	A ^b	A ^b	B ^b	B ^b	C ^b	C
B [#]	B [#]	C [#]	C ^x	D [#]	E	E [#]	F [#]	F ^x	G [#]	G ^x	A	A [#]	A ^x	B [#]	B ^x	C [#]
C	C	D ^b	D	D [#]	E ^b	E ^b	F	F [#]	G	G [#]	A ^b	A ^b	B ^b	B ^b	C	C [#]
C [#]	C [#]	D	D [#]	D ^x	E [#]	E [#]	F [#]	F ^x	G [#]	G ^x	A [#]	A [#]	B [#]	B [#]	C [#]	C [#]
D ^b	D ^b	E ^b	E ^b	E	F ^b	F ^b	G ^b	G	A ^b	A ^b	B ^b	B ^b	C	C ^b	C ^b	D ^b
D	D	E ^b	E	E [#]	F [#]	F [#]	G	G [#]	A	A [#]	B [#]	B [#]	C ^b	C	C [#]	D
D [#]	D [#]	E	E [#]	E ^x	F [#]	F [#]	G [#]	G ^x	A [#]	A ^x	B [#]	B [#]	C [#]	C [#]	D [#]	D [#]
E ^b	E ^b	F ^b	F	F [#]	G ^b	G ^b	A ^b	A ^b	B ^b	B ^b	C ^b	C ^b	D ^b	D ^b	E ^b	E ^b
E	E	F	F [#]	F ^x	G [#]	G [#]	A	A [#]	B	B [#]	C [#]	C [#]	D ^b	D	D [#]	E
F ^b	F ^b	G ^b	G ^b	G	A ^b	A ^b	B ^b	B ^b	C ^b	C ^b	D ^b	D ^b	E ^b	E ^b	F ^b	F ^b
E [#]	E [#]	F [#]	F ^x	G [#]	A	A [#]	A ^x	B [#]	B [#]	B ^x	C [#]	C [#]	D	D [#]	D ^x	E [#]
F	F	G ^b	G	G [#]	A ^b	A ^b	B ^b	B ^b	C	C [#]	D ^b	D ^b	E ^b	E ^b	F	F
F [#]	F [#]	G	G [#]	G ^x	A [#]	A [#]	B [#]	B [#]	C [#]	C ^x	D [#]	D [#]	E ^b	E	E [#]	F [#]
G ^b	G ^b	A ^b	A ^b	A	B ^b	B ^b	C ^b	C ^b	D ^b	D ^b	E ^b	E ^b	F ^b	F ^b	G ^b	G ^b
G	G	A ^b	A	A [#]	B ^b	B ^b	C	C [#]	D	D [#]	E ^b	E ^b	F	F [#]	G	G
G [#]	G [#]	A	A [#]	A ^x	B [#]	B [#]	C [#]	C ^x	D [#]	D ^x	E [#]	E [#]	F [#]	F [#]	F ^x	G [#]
A ^b	A ^b	B ^b	B ^b	B	C ^b	C ^b	D ^b	D ^b	E ^b	E ^b	F ^b	F ^b	G ^b	G	A ^b	A ^b

Triads of Major — Data

Figure 1-14

Key signature
C Maj / A min
(no ♭ 's or # 's)

Triads of Major
C Major



I	ii	iii	IV	V	iv	vii°	I
C	D	E	F	G	A	B	C
Maj	min	min	Maj	Maj	min	dim	Maj
0°	2°	4°	5°	7°	9°	11°	12°

0°	I	=	C, E, G . . .	Major	R	3	5	0°	4°	7°
2°	ii	=	D, F, A . . .	minor	R	♭3	5	0°	3°	7°
4°	iii	=	E, G, B . . .	minor	R	♭3	5	0°	3°	7°
5°	IV	=	F, A, C . . .	Major	R	3	5	0°	4°	7°
7°	V	=	G, B, D . . .	Major	R	3	5	0°	4°	7°
9°	vi	=	A, C, E . . .	minor	R	♭3	5	0°	3°	7°
11°	vii°	=	B, D, F . . .	diminished .	R	♭3	♭5	0°	3°	6°
12°	I	=	C, E, G . . .	Major	R	3	5	0°	4°	7°