

M.A.M.I.

Matrix Approach to Music Improvisation

Is a concept that was devised as the result of years of experimentation and analysis using musical scales as a basis for improvisation. The Matrix Approach is a unique and revolutionary new system for unraveling the melodic and harmonic creative possibilities of subject scales quickly, easily, and most importantly...logically!

As a lifelong student of the guitar, I had found that learning fingerings and patterns for scales, chords, and modes were great only up to a point. To really comprehend and create music as well as develop my own musical style I needed a better method than what I had found available on the market. Whether through teachers or text. I wanted something to expand my musical, compositional, and especially improvisational boundaries.

I am not ashamed to admit to being a frustrated student for years. Partly because the subject of music has often been made far too complex in its discussion and especially instruction. Music, even complex forms have a simple logical basis at their core. Sometimes teachers forget this fact. Unfortunately quite often, instruction is musically fragmented and absent in terms of the creative process. This guide can assist both teachers and students.

Because most players and their teachers are largely products of instruction theories, methods and techniques which have been handed down for years, there are far too many closed minds regarding musical creativity and newer methods towards this process. In order to grow musically and create, an open mind is absolutely, positively the key.

Creative musicians (and people) view similar things in different ways, and different things in similar ways!!!!...

I firmly believe that each player's approach to music as well as their instrument has to be not only comprehensive but also intimate and personal as well. Consider that a player's musical logic and understanding dictates creative plus effective, inspiring material. It is because of this belief that I offer the Matrix Approach to Musical Improvisation.

My intention is not to "spoon-feed" or regiment you studies at all, but rather to nurture and enhance your creativity on your instrument. There will be hints, but my only rule for this text is: THOUGHT + EXPERIMENTATION = CREATIVITY!

It is for this reason I've worked long and hard to devise a fresh new guide which will allow all players from beginners to advanced, a system to understand, and apply the instrument in a more simple, logical and open manner.

All that is required is a willingness to understand and experiment with the concepts presented, and with patient study this approach will surely pay off. These ideas provide logic and continuity to all forms of music. Instead of spending hours and years of piecemeal learning with little regard to musical relationships, ie. a chord fingering here...a scale there, M.A.M.I. provides insight into scalar relationships and integrates melodic, chordal and harmonic possibilities for a given scale quickly and easily, at-a-glance. It is also unique in that it doubles as a handy chord reference text.

The very best musicians understand that music is all about relationships i.e. intervallic, harmonic, chordal, etc. M.A.M.I. unravels these sometimes "mysterious" relationships and paves the way for independent, inspired, and creative exploration of one's musical boundaries. The nine Matrix Approach to Improvisation Scale Text elements are explained in depth on the following pages and include these elements for the analysis of each subject scale for musical potential.

cont...

Matrix Approach Scale Elements:

1. Subject Scale Listing - both notes and intervals are detailed for convenience.
2. Instrument Fingerboard Chart - shows notes of subject scales and their positions on a standard tuned instrument.
3. Interval Fingerboard Chart - shows intervals of subject scales and their positions on a standard tuned instrument.
4. Modal Matrix Cube - quick visual representation of subject scale from modal aspect, using any tone as the root.
5. Chordal Matrix Cube - immediate visual determination of chords possible within subject scale via intervallic listing.
6. Harmonic Matrix Cube - visual guide which provides clues as to effective harmonic movement within subject scale. Helps with experimenting and creating interesting harmonic changes logically...ideal for composing and rearranging.
7. Descriptive Text - provides observations, descriptions and hints on subject scale's applications.
8. Intervallic Analysis Table - lists the quantities of each interval which compose the subject scale.
9. Chordal Analysis Table - details the triads, chords and inversions which exist at each scale degree.

M.A.M.I. is uniquely designed as a tool unmatched in building logical bridges to musical understanding, creativity and exploration by using scales as a basis for improvisation. It's application will allow the student to develop a practical foundation by systematically analyzing arpeggios, chords and scales in "hip" and interesting ways.

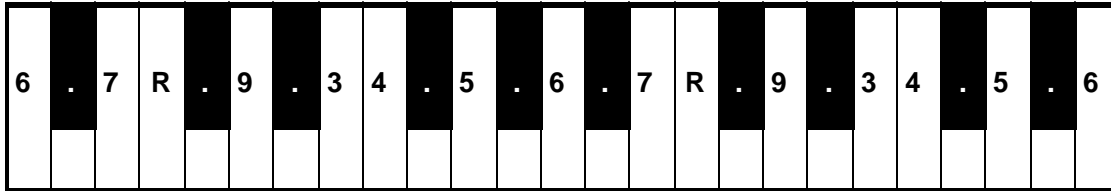
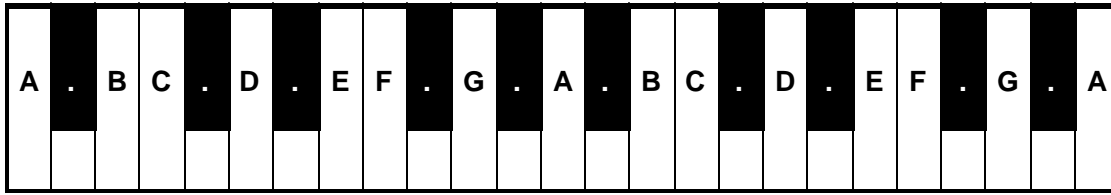
No music reading is required, as this text is designed to support a student's prior musical background. Some basic theory is covered, but more advanced students can skip forward to the Matrix Cube instructions and then on to the subject scale pages as desired.

Each scale is transposed to every key for ease, and a basic interpretation is also provided for your convenience guidance and support. It is strongly recommended that you study the melodic, chordal, and harmonic aspects of each to maximize your musical development. Remember that each scale has its own distinct musical implications and to use them effectively. As always...have fun, and make it a habit to play, create, or listen to some to some new music each day!!!

Thank you for purchasing the Matrix Approach to Music Improvisation Book One, please enjoy it's use!

C-MAJOR SCALE

C . D . E F . G . A . B
 R b9 9 b3 3 4 b5 5 b6 6 b7 7



Preview

In order to understand plus use the harmonies and melodies which are derived from scales, it is vital to interpret the characteristics of those scales.

When presented with a musical movement, the ability to form relationships between a harmony and melody and vice-versa are key. Consider a passage containing the notes G,B,D,F,A,E,C. What harmonies could logic dictate? How about a chordal movement such as G13 to Dm11? An effective melody could be created using notes from which scale? Try C Major, our preview scale. Other chords or scales can be used for effect, however the relational and logical basis for our answer is clear. The fingerboard chart above contains all of the notes needed to make chords and melodies within this scale.

Because the implication of a scale varies depending on the emphasis of a certain tone or harmony as a point of resolution (the concept of modality), it is important to consider the musical qualities of the subject scale using each scale tone as it's root for melodic as well as harmonic purposes. There are seven different modes in this subject scale: C Ionian (Major), D Dorian (Minor), E Phrygian (Minor.b6b9), F Lydian (Major.b5), G Mixolydian (Major.b7), A Aeolian (Minor.b6), B Locrian (Minor.b5,b6,b9). All of the notes used in each mode are exactly identical. Rather it is the specific emphasis on a particular scale degree which influences its modal use and qualities.

This critical fact must be understood and applied in order to expand your musical and improvisational ideas. The three Matrix Cubes listed with each scale ideally serve this purpose as they address this issue logically, simply, and directly. By allowing the Modal, Chordal and Harmonic aspects of the subject to be addressed at a glance it is easy to multiply as well as integrate your musical improvisational knowledge and ability.

In the past, I would spend days on one scale just to learn the secrets available immediately by using this system. The savings in time plus gains in knowledge are great.

->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	E	.
b5												
5	G	.	A	.	B	C	.	D	E	F	.	.
b6												
6	A	.	B	C	.	D	E	F	G	.	.	.
b7												
7	B	C	.	D	E	F	G	A	.	.	.	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	C	.	E	G	.	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	B	E	A	D	G
b2												
2	D	G	C	F	B	E	A	.
b3												
3	E	A	D	G	C	F	B	.
4	F	B	E	A	D	G	C	.
b5												
5	G	C	F	B	E	A	D	.
b6												
6	A	D	G	C	F	B	E	.
b7												
7	B	E	A	D	G	C	F

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E	F	G	A	B	C	D	E	F	G	A	B	C	D	E
B	C	D	E	F	G	A	B	C	D	E	F	G	A	B
G	A	B	C	D	E	F	G	A	B	C	D	E	F	G
D	E	F	G	A	B	C	D	E	F	G	A	B	C	D
A	B	C	D	E	F	G	A	B	C	D	E	F	G	A
E	F	G	A	B	C	D	E	F	G	A	B	C	D	E

3	4	5	6	7	R	9	3	4	5	6	7	R	9	3
7	R	9	3	4	5	6	7	R	9	3	4	5	6	7
5	6	7	R	9	3	4	5	6	7	R	9	3	4	5
9	3	4	5	6	7	R	9	3	4	5	6	7	R	9
6	7	R	9	3	4	5	6	7	R	9	3	4	5	6
3	4	5	6	7	R	9	3	4	5	6	7	R	9	3

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1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	A	C	.	E	G	.	B	.	
b3												
3	E	G	.	B	D	.	F	.	A	C	.	
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	A	C	.	E	.
b6												
6	A	C	.	E	G	.	B	D	F	.	.	
b7												
7	B	D	.	F	.	A	C	.	E	G	.	

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	B	E	A	D	G
b2												
2	D	G	C	F	B	E	A	
b3												
3	E	A	D	G	C	F	B	
4	F	B	E	A	D	G	C	
b5												
5	G	C	F	B	E	A	D	
b6												
6	A	D	G	C	F	B	E	
b7												
7	B	E	A	D	G	C	F	

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E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E
A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A
D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D
G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G
B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B
E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E

3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3
6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6
9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9
5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5
7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7
3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3

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1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	E	.
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

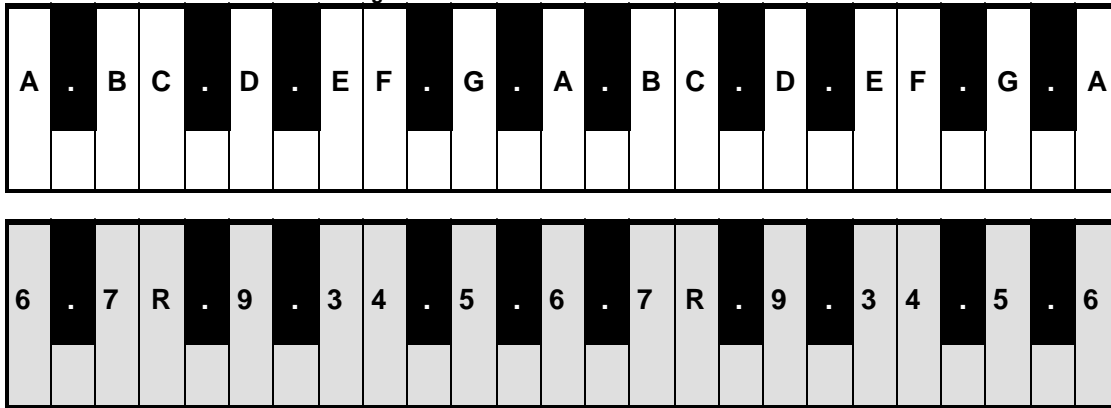
->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	.
b3												
3	E	A	D	G	C	F	B
4	F	B	E	A	D	G	C	.
b5												
5	G	C	F	B	E	A	D	.
b6												
6	A	D	G	C	F	B	E	.
b7												
7	B	E	A	D	G	C	F

C-MAJOR SCALE

C . D . E F . G . A . B
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Fingerboard Chart



Fingerboard Chart Usage

->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	.
b3												
3	E	A	D	G	C	F	.	.	.	.	.	B
4	F	.	.	.	.	B	E	A	D	G	C	.
b5												
5	G	C	F	.	.	.	.	B	E	A	D	.
b6												
6	A	D	G	C	F	.	.	.	.	B	E	.
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

In order to play well and improvise freely it is absolutely critically important to have knowledge of the keyboard. I've included a fingerboard chart with the notes for each subject scale. Depicted is a keyboard fingerboard.

Although I know my instrument pretty well, these charts help me find fingerings for melodic patterns plus scales, chords and harmonic patterns which exist but are often not very obvious when holding the instrument. Viewed head-on, one can discover a fresh perspective and new possibilities just by analyzing the fingerboard without even touching the keys. Remember; great musicians spend a lot of time playing their axes...but the best also devote further time thinking about music and musical possibilities away from their instruments as well!

So once I've determined which notes are needed in a harmony or melody, I make a habit of analyzing the corresponding scale's fingerboard charts for alternate chord voicings and patterns. Chordal harmonization of the subject scale is a breeze. A simple method involves taking one chord fingering (voicing) of your choice that can be derived from this particular scale, let's take a C Major Seventh chord with the notes: C, E, G, B. To find the next chord in our scale, we move each note to the next scale degree on that corresponding string. C becomes D, E to F, G to A, and B moves to C. The notes D, F, A, and C now form our next chord which is D Minor Seventh. This can be done on each scale degree!

By using this approach, it becomes easy to relate a scale to its own distinctive harmonic potential. I'm often surprised when I apply familiar voicings to new scales. It is like traveling to a place where I've never been, on a road which was previously unknown. The beauty of the M.A.M.I. System complete with fingerboard chart is that it provides unsurpassed interpretation of harmonic and melodic scale implications in a visual and logical way. Read on...this is but one way to "break new ground"!!

C-MAJOR SCALE

C . D . E F . G . A . B
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Fingerboard Chart

E	F		G		A		B	C		D		E	F		G		A		B	C		D		E
B	C		D		E	F		G		A		B	C		D		E	F		G		A		B
G		A		B	C		D		E	F		G		A		B	C		D		E	F		G
D		E	F		G		A		B	C		D		E	F		G		A		B	C		D
A		B	C		D		E	F		G		A		B	C		D		E	F		G		A
E	F		G		A		B	C		D		E	F		G		A		B	C		D		E

3	4		5		6		7	R		9		3	4		5		6		7	R		9		3
7	R		9		3	4		5		6		7	R		9		3	4		5		6		7
5		6		7	R		9		3	4		5		6		7	R		9		3	4		5
9		3	4		5		6		7	R		9		3	4		5		6		7	R		9
6		7	R		9		3	4		5		6		7	R		9		3	4		5		6
3	4		5		6		7	R		9		3	4		5		6		7	R		9		3

Fingerboard Chart Usage

In order to play well and improvise freely it is absolutely important to have knowledge of the guitar's fingerboard. I've included a fingerboard chart with the notes for each subject scale. Depicted is a guitar fingerboard which is righthanded and in standard tuning with its strings from top to bottom as follows: high E, B, G, D, A and low E.

Although I know my instrument pretty well, these charts help me find fingerings for melodic patterns plus scales and harmonic patterns which exist but are often not very obvious when holding the instrument. Viewed head-on, one can discover a fresh perspective and new possibilities just by analyzing the fingerboard without even touching the guitar. Remember; great musicians spend a lot of time playing their axes...but the best also devote further time thinking about music and musical possibilities away from their instruments as well!

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->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	.	B	E	A
b3												
3	E	A	D	G	C	F	.	.	.	.	.	B
4	F	.	.	.	.	B	E	A	D	G	C	.
b5												
5	G	C	F	.	.	.	.	B	E	A	D	.
b6												
6	A	D	G	C	F	.	.	.	.	B	E	.
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

C-MAJOR SCALE

C . D . E F . G . A . B
R b9 9 b3 3 4 b5 5 b6 6 b7 7

Fingerboard Chart

E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E
A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A
D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D
G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G
B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B
E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E

3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3
6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6
9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9
5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5
7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7
3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3

Fingerboard Chart Usage

In order to play well and improvise freely it is absolut important to have knowledge of the guitar's fingerboa I've included a fingerboard chart with the notes for ea subject scale. Depicted is a guitar fingerboard which lefthanded and in standard tuning with its strings fro top to bottom as follows: low E, A, D, G, B and high E

Although I know my instrument pretty well, these char help me find fingerings for melodic patterns plus scal chords and harmonic patterns which exist but are ofte not very obvious when holding the instrument. Viewe head-on, one can discover a fresh perspective and ne possibilities just by analyzing the fingerboard withou even touching the guitar. Remember; great musicians spend a lot of time playing their axes...but the best als devote further time thinking about music and musical possibilities away from their instruments as well!

So once I've determined which notes are needed in a harmony or melody, I make a habit of analyzing the corresponding scale's fingerboard charts for alternat chord voicings and patterns. Chordal harmonization the subject scale is a breeze. A simple method involv taking one chord fingering (voicing) of your choice th can be derived from this particular scale, let's take a C Major Seventh chord with the notes: C, E, G, B.

To find the next chord in our scale, we move each not to the next scale degree on that corresponding string C becomes D, E to F, G to A, and B moves to C. Notes D, F, A, and C now form our next chord which is D Mi Seventh. This can be done on each scale degree!

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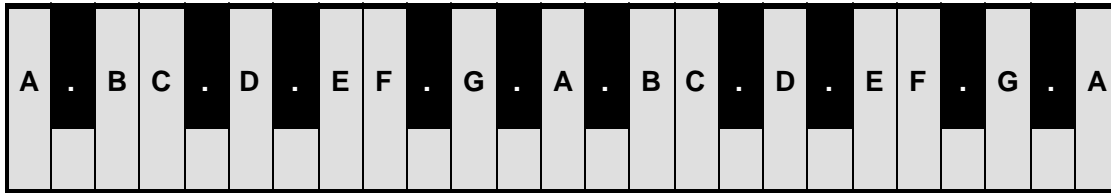
->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

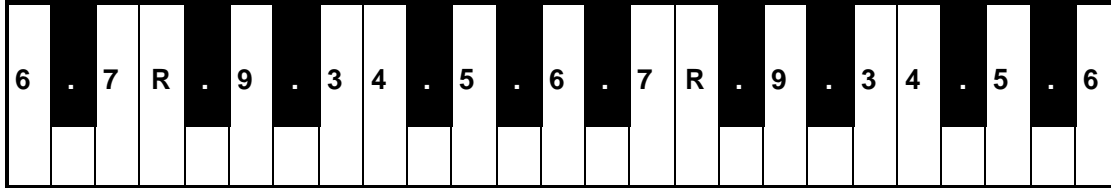
->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	.	B	E	A
b3												
3	E	A	D	G	C	F	.	.	.	.	.	B
4	F	.	.	.	.	B	E	A	D	G	C	.
b5												
5	G	C	F	.	.	.	.	B	E	A	D	.
b6												
6	A	D	G	C	F	.	.	.	.	B	E	.
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

C-MAJOR SCALE

C . D . E F . G . A . B
R b9 9 b3 3 4 b5 5 b6 6 b7 7



Interval Chart



Interval Chart Usage

->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

In order to play and improvise modally it is absolutely vital to understand a scale's interval construction. Included is an interval chart with the relationships for each subject scale. Depicted is a standard keyboard.

Listed is the C Ionian Major scale notes by interval with relationship to the scale's root note, which is "C"

Intervallic awareness is important for several reasons. When one considers interval relationships within the keys, modes, scales, chords or melodies being played they can understand, interpret and emphasize the actual musical characteristics of these sounds. In other words why these things sound as they do, and perhaps even more important...why they feel as they do. Each has its own "architecture", and its construction greatly dictates its sound and feel. Keep this important fact in mind.

Interval composition is what makes an Ionian Major sound and feel different than a Lydian Major, both of which differ from a "Harmonic" Major scale. Yes, it is true that the notes also differ in each of these scales but the intervallic arrangement of these note groupings form relationships that dictate their musical character

If our goal is to become more creative and musical then we must understand and use the characteristics of intervals to express their sounds and feelings!

For example, once we know the sound and feel of a Major 7th interval versus a Minor 7th in a scale, melody or harmony, we know how and where a C Maj7th chord differs from a C7th chord and why it would be used.

Knowledge of the a scale's interval construction allow you to tap into the relationships which form the essence of both sound and feeling. Use the M.A.M.I. Interval chart to focus on, compare and utilize those important scale relationships when creating new lines and improvising. Read on...there are more ways to "break new ground"

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	.
b3												
3	E	A	D	G	C	F	.	.	.	.	B	.
4	F	.	.	.	.	B	E	A	D	G	C	.
b5												
5	G	C	F	.	.	.	.	B	E	A	D	.
b6												
6	A	D	G	C	F	.	.	.	.	B	E	.
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

C-MAJOR SCALE

C . D . E F . G . A . B
R b9 9 b3 3 4 b5 5 b6 6 b7 7

E	F	G	A	B	C	D	E	F	G	A	B	C	D	E
B	C	D	E	F	G	A	B	C	D	E	F	G	A	B
G	A	B	C	D	E	F	G	A	B	C	D	E	F	G
D	E	F	G	A	B	C	D	E	F	G	A	B	C	D
A	B	C	D	E	F	G	A	B	C	D	E	F	G	A
E	F	G	A	B	C	D	E	F	G	A	B	C	D	E

Interval Chart

3	4	5	6	7	R	9	3	4	5	6	7	R	9	3
7	R	9	3	4	5	6	7	R	9	3	4	5	6	7
5	6	7	R	9	3	4	5	6	7	R	9	3	4	5
9	3	4	5	6	7	R	9	3	4	5	6	7	R	9
6	7	R	9	3	4	5	6	7	R	9	3	4	5	6
3	4	5	6	7	R	9	3	4	5	6	7	R	9	3

Interval Chart Usage

In order to play and improvise modally it is absolutely vital to have knowledge of a scale's interval construction. Included is an interval chart with the relationships for each subject scale. Depicted is a guitar fingerboard which is righthanded and in standard tuning with its strings from top to bottom as follows: high E, B, G, D, A and low E. Listed is the C Ionian Major scale notes by their intervals with relationship to the scale's root note, which is "C".

->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

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->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	A	C	.	E	G	.	B	.	
b3												
3	E	G	.	B	D	.	F	.	A	C	.	
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	A	C	.	E	.
b6												
6	A	C	.	E	G	.	B	D	F	.	.	
b7												
7	B	D	.	F	.	A	C	.	E	G	.	

Interval composition is what makes an Ionian Major sound and feel different than a Lydian Major, both of which differ from a "Harmonic" Major scale. Yes, it is true that the notes also differ in each of these scales but the intervallic arrangements of these note groupings form relationships which dictate their musical character.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	B	E	A	D	G
b2												
2	D	G	C	F	B	E	A	
b3												
3	E	A	D	G	C	F	B	
4	F	B	E	A	D	G	C	
b5												
5	G	C	F	B	E	A	D	
b6												
6	A	D	G	C	F	B	E	
b7												
7	B	E	A	D	G	C	F	

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C-MAJOR SCALE

C . D . E F . G . A . B
R b9 9 b3 3 4 b5 5 b6 6 b7 7

E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E
A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A
D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D
G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G
B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B
E	F	.	G	.	A	.	B	C	.	D	.	E	F	.	G	.	A	.	B	C	.	D	.	E

Interval Chart

3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3
6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6
9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9
5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5
7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7
3	4	.	5	.	6	.	7	R	.	9	.	3	4	.	5	.	6	.	7	R	.	9	.	3

Interval Chart Usage

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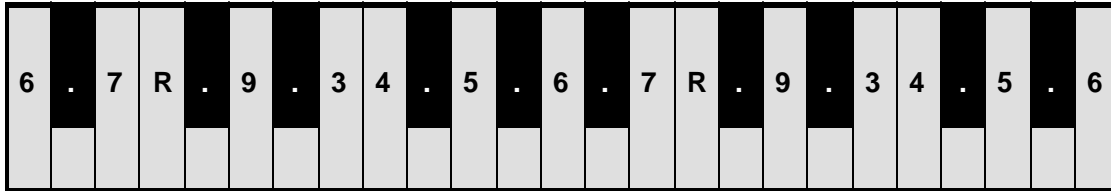
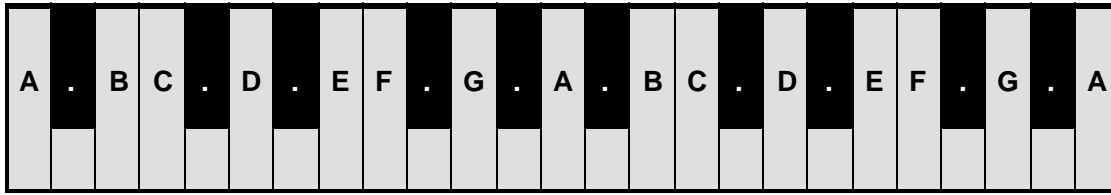
->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	.
b3												
3	E	A	D	G	C	F	.	.	.	.	.	B
4	F	.	.	.	.	B	E	A	D	G	C	.
b5												
5	G	C	F	.	.	.	.	B	E	A	D	.
b6												
6	A	D	G	C	F	.	.	.	.	B	E	.
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

C-MAJOR SCALE

C . D . E F . G . A . B
R b9 9 b3 3 4 b5 5 b6 6 b7 7



Modal Cube "A"

->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	
b3												
3	E	A	D	G	C	F	.	.	.	.	.	B
4	F	.	.	.	.	.	B	E	A	D	G	C
b5												
5	G	C	F	.	.	.	.	B	E	A	D	
b6												
6	A	D	G	C	F	.	.	.	.	.	B	E
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

MODAL MATRIX CUBE USAGE

A close examination of the Matrix Cubes will reveal their differences. Although they appear complex, they really are quite simple to use. There are three Matrix Cubes per each subject scale, and they all are designed to be read left to right (along rows + across columns). Each cube has a unique interpretation of our scale and can provide specific information for the purpose of analysis. We will consider each cube and it's function separately.

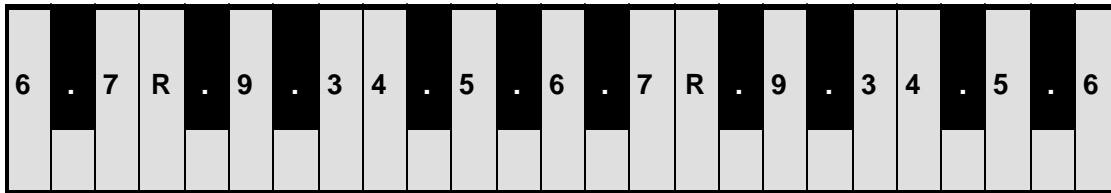
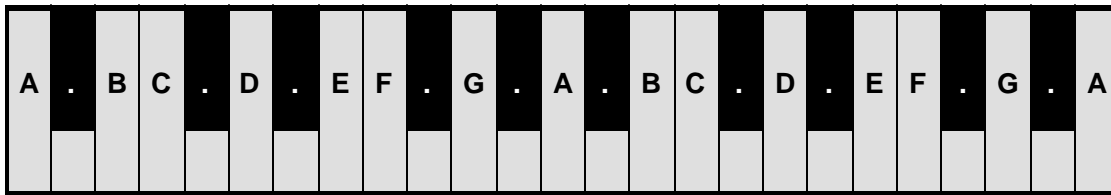
Modal Matrix Cube "A" provides a quick modal analysis of the subject scale by allowing the use of any of it's degrees as the root tone. The modality of a scale is basically determined by the degree emphasized for resolution of a phrase. A scale containing five notes will have five modes; six notes...six modes, etc. The mode is simply described as a musical emphasis on a particular degree of a given scale.

I believe that it is more musically effective and efficient to consider the implications of all degrees when doing scale study and analysis. A melody generated from any degree will have it's own particular sound and musical feel. This is why understanding the concept of modes as as applied in the context of family relationships within a subject scale is so important. We need to develop the ability to consider every musical possibility implied by our subject scale. This provides power to improvisation!

So let's consider the modal possibilities of the following notes: C,D,E,F,G,A+B. This just happens to be C Major, our subject scale. Using Modal Cube "A". If we wanted know what intervals are generated using "C" as our root tone we find the row which lists the "C" note (row one in this example) and read across the columns which show the interval relationships to "C". So our root is "C", our 2nd is "D", 3rd is "E", 4th is "F", 5th is "G", 6th is "A" and 7th is "B". If we went down the rows to make "E" our root, we would find that the next interval is a b2: "F", followed by a b3rd: "G", next a 4th: "A", then a 5th: "B", a b6th: "C" and finally, a b7th: "D". It can now be seen how a scale's implications can change by using modes. Powerful stuff!

C-MAJOR SCALE

C . D . E F . G . A . B
R b9 9 b3 3 4 b5 5 b6 6 b7 7



->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

Chordal Cube "B"

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	
b3												
3	E	A	D	G	C	F	.	.	.	.	B	
4	F	.	.	.	.	B	E	A	D	G	C	
b5												
5	G	C	F	.	.	.	.	B	E	A	D	
b6												
6	A	D	G	C	F	.	.	.	.	B	E	
b7												
7	B	E	A	D	G	C	F	.	.	.	.

CHORDAL MATRIX CUBE USAGE

Cube "B" is the Chordal Matrix Cube. Although it is re along the rows from left to right (across columns) as our previous cube, notice that the interval arrangement in the uppermost row differs dramatically. Instead of the first scale degree being followed by the flattened second (b2nd) interval as in Modal Cube "A", the next interval is the flattened third (b3rd) and then the major 3rd (3) and so on in Chordal Cube "B". Check out the differences.

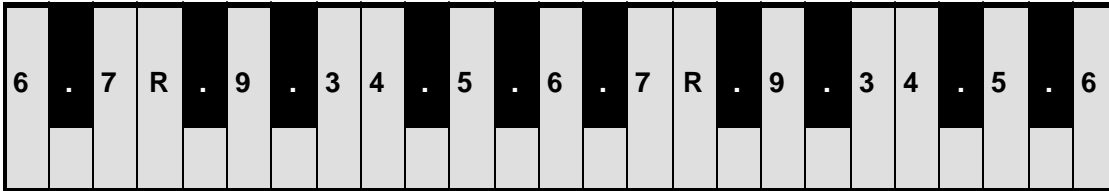
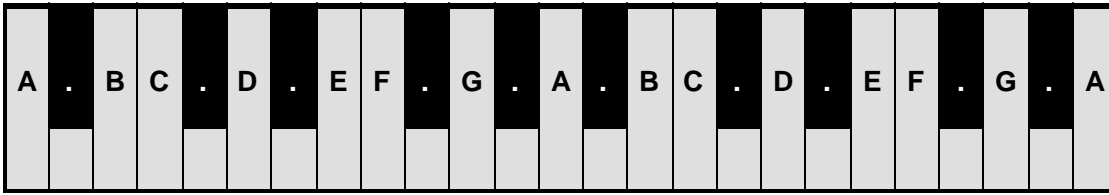
Chordal Matrix Cube "B" is designed to analyze subject scales quickly and easily for chordal possibilities using any scale degree as a potential chord root. So this cube is ideal if we need to know what chords can be derived directly from our scale. It is extremely important to know which chords are generated by a scale because this can provide valuable insight into its potential harmonic as well as melodic uses in composition and improvisation.

Say we wanted to determine what harmonies (chords) can be built from a particular scale degree. First we have to find that degree (note) in the cube row's two leftmost columns. For example, let's use degree "1", the "name root of our scale. This is the "C" note. Reading this row left to right across the columns reveals that this scale generates the following chordal intervals from our root "C": a 3rd "E", a 5th "G", a 7th "B", a 9th "D", an 11th "F", finally a 13th "A". These intervals can yield a number of chords based on...that's right, "C Major". We could also use this scale to play these chords, or over these chords.

What other harmonies might we make from this scale? Let's see which chords can be built from the fifth tone which is the "G" note. To make "G" our chord root we go down the two leftmost columns to find the "G" row. Reading across this row reveals the following interval "G" our root tone, a 3rd "B", a 5th "D", a b7th "F", a 9th "A", an 11th "C" and finally a 13th which is "E". Note the close interval relationships when using the "G" note as root. The b7th (F note) relationship to the root lets us form play over Dominant (b7th) type chords containing the b7 intervals. Using a modal approach to each degree is k

C-MAJOR SCALE

C . D . E F . G . A . B
 R b9 9 b3 3 4 b5 5 b6 6 b7 7



->	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
1	C	.	D	.	E	F	.	G	.	A	.	B
b2												
2	D	.	E	F	.	G	.	A	.	B	C	.
b3												
3	E	F	.	G	.	A	.	B	C	.	D	.
4	F	.	G	.	A	.	B	C	.	D	.	E
b5												
5	G	.	A	.	B	C	.	D	.	E	F	.
b6												
6	A	.	B	C	.	D	.	E	F	.	G	.
b7												
7	B	C	.	D	.	E	F	.	G	.	A	.

->	1	b3	3	b5	5	b7	7	b9	9	11	b13	13
1	C	.	E	.	G	.	B	.	D	F	.	A
b2												
2	D	F	.	.	A	C	.	.	E	G	.	B
b3												
3	E	G	.	.	B	D	.	F	.	A	C	.
4	F	.	A	B	C	.	E	.	G	.	.	D
b5												
5	G	.	B	.	D	F	.	.	A	C	.	E
b6												
6	A	C	.	.	E	G	.	.	B	D	F	.
b7												
7	B	D	.	F	.	A	.	C	.	E	G	.

Harmonic Cube "C"

->	1	4	b7	b3	b6	b2	b5	7	3	6	2	5
1	C	F	.	.	.	.	.	B	E	A	D	G
b2												
2	D	G	C	F	.	.	.	.	B	E	A	.
b3												
3	E	A	D	G	C	F	.	.	.	.	.	B
4	F	.	.	.	.	B	E	A	D	G	C	.
b5												
5	G	C	F	.	.	.	.	B	E	A	D	.
b6												
6	A	D	G	C	F	.	.	.	.	B	E	.
b7												
7	B	E	A	D	G	C	F	.	.	.	.	.

HARMONIC MATRIX CUBE USAGE

Last, but not least, is the Harmonic Matrix Cube "C". Note how this cube is again characterized by a different interval arrangement than our two previous cubes when viewed along its rows and across columns. Although it appears somewhat abstract in design at first glance, this interval arrangement in perfect fourths actually functions as an optimized cycle of fourths display of our scale.

I use this cube primarily to assess a scale's potential basic logical harmonic movement from each scale tone. Be aware that I don't consider this cube's assessment an absolute "etched in stone" rule for chordal movement. Unlike the previous two cubes which are more definitive and absolute regarding their scalar reference point, Harmonic Cube "C" is useful as a quick, "at a glance" guide to the logical, common harmonic motion in fourths.

Keep in mind that there are many ways to move chords, especially with good voice leading. However, because of its relative musical strength and commonality, when confronted with a new or unfamiliar scale for the point of harmonization, I like to base the chordal motion in fourths initially and then experiment from there.

The influence of modality will strongly dictate the logic and direction of chordal movement as well. For example, let's take our C Major Scale. Using the Harmonic Matrix Cube "C". Reading across the row that shows the note "C" as our subject, we see that the only perfect fourth movement possible is to the "F" degree. So if we had a C Major 7th chord to move by fourths, the next chord would be an F Major chord or one of its relatives which could be derived from this particular scale degree. I use the "Matrix Cube "B" for this kind of reference.

However, because this is obviously not the only chord movement possible (we could move to D Minor Seventh or B Minor Seventh Flat Five, etc., for example), I always emphasize this cube's use as a guide to relative melodic or harmonic tension or balance within the scale instead of an absolute reference to potential harmonic motion.

M.A.M.I.

Matrix Approach to Music Improvisation Book One Scale Page Listing

C Major 7th Arp: 1	Major 7th Arpeggios	Ab Major 7th Arp: 361
Db Major 7th Arp: 46	E Major 7th Arp: 181	A Major 7th Arp: 406
D Major 7th Arp: 91	F Major 7th Arp: 226	Bb Major 7th Arp: 451
Eb Major 7th Arp: 136	Gb Major 7th Arp: 271	B Major 7th Arp: 496
	G Major 7th Arp: 316	
	Major 7b5 Arpeggios	
C Major 7b5 Arp: 2	E Major 7b5 Arp: 182	Ab Major 7b5 Arp: 362
Db Major 7b5 Arp: 47	F Major 7b5 Arp: 227	A Major 7b5 Arp: 407
D Major 7b5 Arp: 92	Gb Major 7b5 Arp: 272	Bb Major 7b5 Arp: 452
Eb Major 7b5 Arp: 137	G Major 7b5 Arp: 317	B Major 7b5 Arp: 497
	Minor 7th Arpeggios	
C Minor 7th Arp: 3	E Minor 7th Arp: 183	Ab Minor 7th Arp: 363
Db Minor 7th Arp: 48	F Minor 7th Arp: 228	A Minor 7th Arp: 408
D Minor 7th Arp: 93	Gb Minor 7th Arp: 273	Bb Minor 7th Arp: 453
Eb Minor 7th Arp: 138	G Minor 7th Arp: 318	B Minor 7th Arp: 498
	Minor 7b5 Arpeggios	
C Minor 7b5 Arp: 4	E Minor 7b5 Arp: 184	Ab Minor 7b5 Arp: 364
Db Minor 7b5 Arp: 49	F Minor 7b5 Arp: 229	A Minor 7b5 Arp: 409
D Minor 7b5 Arp: 94	Gb Minor 7b5 Arp: 274	Bb Minor 7b5 Arp: 454
Eb Minor 7b5 Arp: 139	G Minor 7b5 Arp: 319	B Minor 7b5 Arp: 499
	Suspended Arpeggios	
C Sus Arp: 5	E Sus Arp: 185	Ab Sus Arp: 365
Db Sus Arp: 50	F Sus Arp: 230	A Sus Arp: 410
D Sus Arp: 95	Gb Sus Arp: 275	Bb Sus Arp: 455
Eb Sus Arp: 140	G Sus Arp: 320	B Sus Arp: 500
	Diminished Arpeggios	
C Dim Arp: 6	E Dim Arp: 186	Ab Dim Arp: 366
Db Dim Arp: 51	F Dim Arp: 231	A Dim Arp: 411
D Dim Arp: 96	Gb Dim Arp: 276	Bb Dim Arp: 456
Eb Dim Arp: 141	G Dim Arp: 321	B Dim Arp: 501
	Dominant 7th Arpeggios	
C7th Arp: 7	E7th Arp: 187	Ab7th Arp: 367
Db7th Arp: 52	F7th Arp: 232	A7th Arp: 412
D7th Arp: 97	Gb7th Arp: 277	Bb7th Arp: 457
Eb7th Arp: 142	G7th Arp: 322	B7th Arp: 502
	Dominant 7b5 Arpeggios	
C7b5 Arp: 8	E7b5 Arp: 188	Ab7b5 Arp: 368
Db7b5 Arp: 53	F7b5 Arp: 233	A7b5 Arp: 413
D7b5 Arp: 98	Gb7b5 Arp: 278	Bb7b5 Arp: 458
Eb7b5 Arp: 143	G7b5 Arp: 323	B7b5 Arp: 503
	Dominant 7#5 Arpeggios	
C7#5 Arp: 9	E7#5 Arp: 189	Ab7#5 Arp: 369
Db7#5 Arp: 54	F7#5 Arp: 234	A7#5 Arp: 414
D7#5 Arp: 99	Gb7#5 Arp: 279	Bb7#5 Arp: 459
Eb7#5 Arp: 144	G7#5 Arp: 324	B7#5 Arp: 504

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Matrix Approach to Music Improvisation Book One Table of Scales

	Major 9th Pentatonics	
C Major 9th Pent: 10	E Major 9th Pent: 190	Ab Major 9th Pent: 370
Db Major 9th Pent: 55	F Major 9th Pent: 235	A Major 9th Pent: 415
D Major 9th Pent: 100	Gb Major 9th Pent: 280	Bb Major 9th Pent: 460
Eb Major 9th Pent: 145	G Major 9th Pent: 325	B Major 9th Pent: 505
	Major 9b5 Pentatonics	
C Major 9b5 Pent: 11	E Major 9b5 Pent: 191	Ab Major 9b5 Pent: 371
Db Major 9b5 Pent: 56	F Major 9b5 Pent: 236	A Major 9b5 Pent: 416
D Major 9b5 Pent: 101	Gb Major 9b5 Pent: 281	Bb Major 9b5 Pent: 461
Eb Major 9b5 Pent: 146	G Major 9b5 Pent: 326	B Major 9b5 Pent: 506
	Minor 9th Pentatonics	
C Minor 9th Pent: 12	E Minor 9th Pent: 192	Ab Minor 9th Pent: 372
Db Minor 9th Pent: 57	F Minor 9th Pent: 237	A Minor 9th Pent: 417
D Minor 9th Pent: 102	Gb Minor 9th Pent: 282	Bb Minor 9th Pent: 462
Eb Minor 9th Pent: 147	G Minor 9th Pent: 327	B Minor 9th Pent: 507
	Minor 9b5 Pentatonics	
C Minor9b5 Pent: 13	E Minor9b5 Pent: 193	Ab Minor9b5 Pent: 373
Db Minor9b5 Pent: 58	F Minor9b5 Pent: 238	A Minor9b5 Pent: 418
D Minor9b5 Pent: 103	Gb Minor9b5 Pent: 283	Bb Minor9b5 Pent: 463
Eb Minor9b5 Pent: 148	G Minor9b5 Pent: 328	B Minor9b5 Pent: 508
	Dominant 9th Pentatonics	
C9 Pent: 14	E9 Pent: 194	Ab9 Pent: 374
Db9 Pent: 59	F9 Pent: 239	A9 Pent: 419
D9 Pent: 104	Gb9 Pent: 284	Bb9 Pent: 464
Eb9 Pent: 149	G9 Pent: 329	B9 Pent: 509
	Dominant 9b5 Pentatonics	
C9b5 Pent: 15	E9b5 Pent: 195	Ab9b5 Pent: 375
Db9b5 Pent: 60	F9b5 Pent: 240	A9b5 Pent: 420
D9b5 Pent: 105	Gb9b5 Pent: 285	Bb9b5 Pent: 465
Eb9b5 Pent: 150	G9b5 Pent: 330	B9b5 Pent: 510
	Dominant 9#5 Pentatonics	
C9#5 Pent: 16	E9#5 Pent: 196	Ab9#5 Pent: 376
Db9#5 Pent: 61	F9#5 Pent: 241	A9#5 Pent: 421
D9#5 Pent: 106	Gb9#5 Pent: 286	Bb9#5 Pent: 466
Eb9#5 Pent: 151	G9#5 Pent: 331	B9#5 Pent: 511
	Dominant 7b9th Pentatonics	
C7b9 Pent: 17	E7b9 Pent: 197	Ab7b9 Pent: 377
Db7b9 Pent: 62	F7b9 Pent: 242	A7b9 Pent: 422
D7b9 Pent: 107	Gb7b9 Pent: 287	Bb7b9 Pent: 467
Eb7b9 Pent: 152	G7b9 Pent: 332	B7b9 Pent: 512
	Dominant b9b5 Pentatonics	
C7b9b5 Pent: 18	E7b9b5 Pent: 199	Ab7b9b5 Pent: 378
Db7b9b5 Pent: 63	F7b9b5 Pent: 243	A7b9b5 Pent: 423
D7b9b5 Pent: 108	Gb7b9b5 Pent: 288	Bb7b9b5 Pent: 468
Eb7b9b5 Pent: 153	G7b9b5 Pent: 333	B7b9b5 Pent: 513

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Matrix Approach to Music Improvisation Book One Table of Scales

Dominant b9#5 Pentatonics

C7b9#5 Pent: 19
Db7b9#5 Pent: 64
D7b9#5 Pent: 109
Eb7b9#5 Pent: 154

E7b9#5 Pent: 199
F7b9#5 Pent: 244
Gb7b9#5 Pent: 289
G7b9#5 Pent: 334

Ab7b9#5 Pent: 379
A7b9#5 Pent: 424
Bb7b9#5 Pent: 469
B7b9#5 Pent: 514

Dominant 7#9th Pentatonics

C7#9 Pent: 20
Db7#9 Pent: 65
D7#9 Pent: 110
Eb7#9 Pent: 155

E7#9 Pent: 200
F7#9 Pent: 245
Gb7#9 Pent: 290
G7#9 Pent: 335

Ab7#9 Pent: 380
A7#9 Pent: 425
Bb7#9 Pent: 470
B7#9 Pent: 515

Dominant #9b5 Pentatonics

C7#9b5 Pent: 21
Db7#9b5 Pent: 66
D7#9b5 Pent: 111
Eb7#9b5 Pent: 156

E7#9b5 Pent: 201
F7#9b5 Pent: 246
Gb7#9b5 Pent: 291
G7#9b5 Pent: 336

Ab7#9b5 Pent: 381
A7#9b5 Pent: 426
Bb7#9b5 Pent: 471
B7#9b5 Pent: 516

Dominant #9#5 Pentatonics

C7#9#5 Pent: 22
Db7#9#5 Pent: 67
D7#9#5 Pent: 112
Eb7#9#5 Pent: 157

E7#9#5 Pent: 202
F7#9#5 Pent: 247
Gb7#9#5 Pent: 292
G7#9#5 Pent: 337

Ab7#9#5 Pent: 382
A7#9#5 Pent: 427
Bb7#9#5 Pent: 472
B7#9#5 Pent: 517

Suspended 6th Pentatonics

C Sus6 Pent: 23
Db Sus6 Pent: 68
D Sus6 Pent: 113
Eb Sus6 Pent: 158

E Sus6 Pent: 203
F Sus6 Pent: 248
Gb Sus6 Pent: 293
G Sus6 Pent: 338

Ab Sus6 Pent: 383
A Sus6 Pent: 428
Bb Sus6 Pent: 473
B Sus6 Pent: 518

Suspended 9th (Blues) Pentatonics

C Sus9 Pent: 24
Db Sus9 Pent: 69
D Sus9 Pent: 114
Eb Sus9 Pent: 159

E Sus9 Pent: 204
F Sus9 Pent: 249
Gb Sus9 Pent: 294
G Sus9 Pent: 339

Ab Sus9 Pent: 384
A Sus9 Pent: 429
Bb Sus9 Pent: 474
B Sus9 Pent: 519

Suspended 9th add b5 (Blues) Sexatonic

C Sus9b5 Pent: 25
Db Sus9b5 Pent: 70
D Sus9b5 Pent: 115
Eb Sus9b5 Pent: 160

E Sus9b5 Pent: 205
F Sus9b5 Pent: 250
Gb Sus9b5 Pent: 295
G Sus9b5 Pent: 340

Ab Sus9b5 Pent: 385
A Sus9b5 Pent: 430
Bb Sus9b5 Pent: 475
B Sus9b5 Pent: 520

Whole-Tone Sexatonic

C Whole-Tone: 26
Db Whole-Tone: 71
D Whole-Tone: 116
Eb Whole-Tone: 161

E Whole-Tone: 206
F Whole-Tone: 251
Gb Whole-Tone: 296
G Whole-Tone: 341

Ab Whole-Tone: 386
A Whole-Tone: 431
Bb Whole-Tone: 476
B Whole-Tone: 521

Diminished Whole-Tone Sexatonic

C Dim. Wh-Tn: 27
Db Dim. Wh-Tn: 72
D Dim. Wh-Tn: 117
Eb Dim. Wh-Tn: 162

E Dim. Wh-Tn: 207
F Dim. Wh-Tn: 252
Gb Dim. Wh-Tn: 297
G Dim. Wh-Tn: 342

Ab Dim. Wh-Tn: 387
A Dim. Wh-Tn: 432
Bb Dim. Wh-Tn: 477
B Dim. Wh-Tn: 522

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Matrix Approach to Music Improvisation Book One Table of Scales

Ionian Major Scales

C Major Scale: 28
Db Major Scale: 73
D Major Scale: 118
Eb Major Scale: 163

E Major Scale: 208
F Major Scale: 253
Gb Major Scale: 298
G Major Scale: 343

Ab Major Scale: 388
A Major Scale: 433
Bb Major Scale: 478
B Major Scale: 523

Major 7b6th (Harmonic Major) Scales

C Majb6 Scale: 29
Db Majb6 Scale: 74
D Majb6 Scale: 119
Eb Majb6 Scale: 164

E Majb6 Scale: 209
F Majb6 Scale: 254
Gb Majb6 Scale: 299
G Majb6 Scale: 344

Ab Majb6 Scale: 389
A Majb6 Scale: 434
Bb Majb6 Scale: 479
B Majb6 Scale: 524

Major 7b6b9th (Persian Gypsy) Scales

C Majb6b9 Scale: 30
Db Majb6b9 Scale: 75
D Majb6b9 Scale: 120
Eb Majb6b9 Scale: 165

E Majb6b9 Scale: 210
F Majb6b9 Scale: 255
Gb Majb6b9 Scale: 300
G Majb6b9 Scale: 345

Ab Majb6b9 Scale: 390
A Majb6b9 Scale: 435
Bb Majb6b9 Scale: 480
B Majb6b9 Scale: 525

Major 7b5th (Lydian) Scales

C Major7b5 Scale: 31
Db Major7b5 Scale: 76
D Major7b5 Scale: 121
Eb Major7b5 Scale: 166

E Major7b5 Scale: 211
F Major7b5 Scale: 256
Gb Major7b5 Scale: 301
G Major7b5 Scale: 346

Ab Major7b5 Scale: 391
A Major7b5 Scale: 436
Bb Major7b5 Scale: 481
B Major7b5 Scale: 526

Dominant b5th (Lydian Dominant) Scales

C7b5 Scale: 32
Db7b5 Scale: 77
D7b5 Scale: 122
Eb7b5 Scale: 167

E7b5 Scale: 212
F7b5 Scale: 257
Gb7b5 Scale: 302
G7b5 Scale: 347

Ab7b5 Scale: 392
A7b5 Scale: 437
Bb7b5 Scale: 482
B7b5 Scale: 527

Major 7b13b5th (Lydian Augmented) Scales

C Maj7b13b5 Scale: 33
Db Maj7b13b5 Scale: 78
D Maj7b13b5 Scale: 123
Eb Maj7b13b5 Scale: 168

E Maj7b13b5 Scale: 213
F Maj7b13b5 Scale: 258
Gb Maj7b13b5 Scale: 303
G Maj7b13b5 Scale: 348

Ab Maj7b13b5 Scale: 393
A Maj7b13b5 Scale: 438
Bb Maj7b13b5 Scale: 483
B Maj7b13b5 Scale: 528

Dominant b13#5th (Lydian Augmented Dominant) Scales

C7b13b5 Scale: 34
Db7b13b5 Scale: 79
D7b13b5 Scale: 124
Eb7b13b5 Scale: 169

E7b13b5 Scale: 214
F7b13b5 Scale: 259
Gb7b13b5 Scale: 304
G7b13b5 Scale: 349

Ab7b13b5 Scale: 394
A7b13b5 Scale: 439
Bb7b13b5 Scale: 484
B7b13b5 Scale: 529

Minor 7th (Dorian Minor) Scales

C Minor7 Scale: 35
Db Minor7 Scale: 80
D Minor7 Scale: 125
Eb Minor7 Scale: 170

E Minor7 Scale: 215
F Minor7 Scale: 260
Gb Minor7 Scale: 305
G Minor7 Scale: 350

Ab Minor7 Scale: 395
A Minor7 Scale: 440
Bb Minor7 Scale: 485
B Minor7 Scale: 530

Minor 7b6th (Aeolian Minor) Scales

C Min7b6 Scale: 36
Db Min7b6 Scale: 81
D Min7b6 Scale: 126
Eb Min7b6 Scale: 171

E Min7b6 Scale: 216
F Min7b6 Scale: 261
Gb Min7b6 Scale: 306
G Min7b6 Scale: 351

Ab Min7b6 Scale: 396
A Min7b6 Scale: 441
Bb Min7b6 Scale: 486
B Min7b6 Scale: 531

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Matrix Approach to Music Improvisation Book One Table of Scales

Minor 7b9b13th (Phrygian Minor) Scales

C Min7b6b13 Scale: 37	E Min7b6b13 Scale: 217	Ab Min7b6b13 Scale: 397
Db Min7b6b13 Scale: 82	F Min7b6b13 Scale: 262	A Min7b6b13 Scale: 442
D Min7b6b13 Scale: 127	Gb Min7b6b13 Scale: 307	Bb Min7b6b13 Scale: 487
Eb Min7b6b13 Scale: 172	G Min7b6b13 Scale: 352	B Min7b6b13 Scale: 532

Minor #7th (Harmonic Minor) Scales

C Minor #7 Scale: 38	E Minor #7 Scale: 218	Ab Minor #7 Scale: 398
Db Minor #7 Scale: 83	F Minor #7 Scale: 263	A Minor #7 Scale: 443
D Minor #7 Scale: 128	Gb Minor #7 Scale: 308	Bb Minor #7 Scale: 488
Eb Minor #7 Scale: 173	G Minor #7 Scale: 353	B Minor #7 Scale: 533

Minor #7b6th (Melodic Minor) Scales

C Min7b6th Scale: 39	E Min7b6th Scale: 219	Ab Min7b6th Scale: 399
Db Min7b6th Scale: 84	F Min7b6th Scale: 264	A Min7b6th Scale: 444
D Min7b6th Scale: 129	Gb Min7b6th Scale: 309	Bb Min7b6th Scale: 489
Eb Min7b6th Scale: 174	G Min7b6th Scale: 354	B Min7b6th Scale: 534

Minor 7b9b13b5 (Locrian Minor) Scales

C Min7b9b13b5 Scale: 40	E Min7b9b13b5 Scale: 220	Ab Min7b9b13b5 Scale: 400
Db Min7b9b13b5 Scale: 85	F Min7b9b13b5 Scale: 265	A Min7b9b13b5 Scale: 445
D Min7b9b13b5 Scale: 130	Gb Min7b9b13b5 Scale: 310	Bb Min7b9b13b5 Scale: 490
Eb Min7b9b13b5 Scale: 175	G Min7b9b13b5 Scale: 355	B Min7b9b13b5 Scale: 535

Minor 7#9b13b5 (Locrian #2 Minor) Scales

C Min7#9b13b5 Scale: 41	E Min7#9b13b5 Scale: 221	Ab Min7#9b13b5 Scale: 401
Db Min7#9b13b5 Scale: 86	F Min7#9b13b5 Scale: 266	A Min7#9b13b5 Scale: 446
D Min7#9b13b5 Scale: 131	Gb Min7#9b13b5 Scale: 311	Bb Min7#9b13b5 Scale: 491
Eb Min7#9b13b5 Scale: 176	G Min7#9b13b5 Scale: 356	B Min7#9b13b5 Scale: 536

Minor 7b9#9b13b5 (Super Locrian Minor) Scales

C Min7b9#9b13b5 Scale: 42	E Min7b9#9b13b5 Scale: 222	Ab Min7b9#9b13b5 Scale: 402
Db Min7b9#9b13b5 Scale: 87	F Min7b9#9b13b5 Scale: 267	A Min7b9#9b13b5 Scale: 447
D Min7b9#9b13b5 Scale: 132	Gb Min7b9#9b13b5 Scale: 312	Bb Min7b9#9b13b5 Scale: 492
Eb Min7b9#9b13b5 Scale: 177	G Min7b9#9b13b5 Scale: 357	B Min7b9#9b13b5 Scale: 537

Dominant 7th (Mixolydian) Scales

C7th Scale: 43	E7th Scale: 223	Ab7th Scale: 403
Db7th Scale: 88	F7th Scale: 268	A7th Scale: 448
D7th Scale: 133	Gb7th Scale: 313	Bb7th Scale: 493
Eb7th Scale: 178	G7th Scale: 358	B7th Scale: 538

Diminished (Half-Whole) Scales

C Dim Hf-Wh: 44	E Dim Hf-Wh: 224	Ab Dim Hf-Wh: 404
Db Dim Hf-Wh: 89	F Dim Hf-Wh: 269	A Dim Hf-Wh: 449
D Dim Hf-Wh: 134	Gb Dim Hf-Wh: 314	Bb Dim Hf-Wh: 494
Eb Dim Hf-Wh: 179	G Dim Hf-Wh: 359	B Dim Hf-Wh: 539

Jazz Dominant (Bebop)

C Jazz Dominant: 45	E Jazz Dominant: 225	Ab Jazz Dominant: 405
Db Jazz Dominant: 90	F Jazz Dominant: 270	A Jazz Dominant: 450
D Jazz Dominant: 135	Gb Jazz Dominant: 315	Bb Jazz Dominant: 495
Eb Jazz Dominant: 180	G Jazz Dominant: 360	B Jazz Dominant: 540

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