

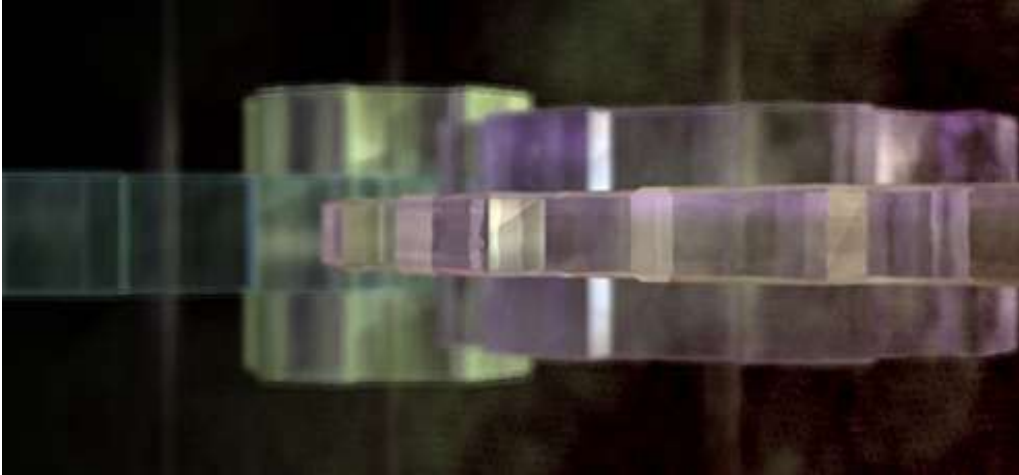
# Tone Transposition Chart

## And Other Matters

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- 1 Welcome
- 2 Tone to Chord Chart
- 3 Transponential Chart Horizontal
- 4 Transponential Chart Vertical
- 5 Hertz Division Table
- 6 Hertz Division Table 2
- 7 Hertz Multiplication Table
- 8 The Sound Polygon *an Illustration*
- 9 Keyboard Layout
- 10 The Dot Matrix
- 11 The Dot Matrix for Piano and Waves
- 12 The Dot Matrix Preset Patterns
- 13 Cognitive Wheels *an Illustration*
- 14 The Sound Molecule and Body
- 15 Wave Example
- 16 The Others *a philosophic notice*
- 17 Appendix

### Welcome.

This is ment as a practical work reference when operating synthesizer modules. Absynth NI has been the prime inspiration. Although it would prove useful for Any other synth soundmodule when you have access to transponens on every Oscillator, and a direct Hertz modulation range accessible.

A comment on the chapters. The search for a pattern is evident. But it is designed as a true concept concerning the current musical System, the 12-tet. If you read the text, one can see a philosophical core And a really long journey into the mind, perception, rhythm and sound. Where deep and profound mysteries of the mind is portrayed.

## Tone Chart

# Tone Transposition Chart

A List of Legal Harmonic Assemblys on 12-tet Temper  
[http://en.wikipedia.org/wiki/Musical\\_temperament](http://en.wikipedia.org/wiki/Musical_temperament)

You can mix freely with the order, of the horizontal sequence.  
 It seems that all tones in an octave, can be arranged harmonical.

Tonal Chord Chart	OSC 1	OSC 2	OSC3	Osc 4	Osc 5
C major flat	0	4	7	*	*
C minor – moll	0	3	7	*	*
C 7	0	4	7	10	*
C m7	0	3	7	10	*
C maj7	0	4	7	11	*
C7 b5	0	4	6	10	*
C7 #5	0	4	8	10	*
Cm 7b5	0	3	6	10	*
C7 b9	0	4	7	10	13_1
C m6	0	3	7	9_-3	*
C 69	0	4	7	9	14_2
C9	0	4	7	10	14_2
C9_2	0	10	14	*	*
Cm9	0	3	7	10	14_2
C maj9	0	4	7	11	14_2
C add9	0	4	7	14_2	*
C13	0	10	14	16_4	20_8
C sus2	0	2	7	*	*
C sus4	0	5	7	*	*
C dim	0	3	6	*	*
C dim7	0	3	6	9	*
C aug	0	4	8	*	*

0                    2-3-4-5            6 – 7 - 8            9 – 10 -11            1 – 13

**Instruction :**

- Osc 1**            The main key (tangent) in your song or chord, determines  
The zero "0" in the chart as the BaseNote.
- Osc 2**            This has a harmonical or structural purpose, most likely harmonical.  
From the zero tangent on the Midi keyboard ( the basenote )  
You count notes and half-notes up or down the claviature  
To determine its function and place, to fulfill the desired soulmirror.
- Osc 3**            The third note backs up either the harmonical or the structural  
In a way to fit a tension required to build a communication  
String between the persons exposed to the song or chord

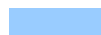

**Format : K. H. O.**            And to their relation of a object or moods in their minds.

Listings like and 13\_1 and 14\_2 and 15\_3 and 16\_4 to 17\_5 It is the tonal transponent code  
For the same note on the previous level.

# Transponential Chart Horizontal

## Transposition Chart Horizontal

**Structural**    **0-4-5-7-9**  
**Harmonic**    **0-3-6-8-10-11**

 Structural colour style  
 Harmonical colour style.

POSITIVE	HALFTONE GRID									
Transposition	12	24	36	48	60	72	84	96	108	120
1	13	25	37	49	61	73	85	97	109	121
2	14	26	38	50	62	74	86	98	110	122
3	15	27	39	51	63	75	87	99	111	123
4	16	28	40	52	64	76	88	100	112	124
5	17	29	41	53	65	77	89	101	113	125
6	18	30	42	54	66	78	90	102	114	126
7	19	31	43	55	67	79	91	103	115	127
8	20	32	44	56	68	80	92	104	116	128
9	21	33	45	57	69	81	93	105	117	129
10	22	34	46	58	70	82	94	106	118	130
11	23	35	47	59	71	83	95	107	119	131

- A) If you want to see which chord that fits the scheme  
 You have to reference the Tonal Chord Chart.  
 B) If you have a negative number like -3 in the chord  
 This is the exactly the same tone as +9.

A positive value like 101 refers to harmonic 5, which relates  
 To -7 on the negative side, so a -103 transpose would be correct.  
 The Value -101 refers to another structural style, the 7<sup>th</sup> harmonic.

Considering the inverting pattern of colour and numbers at level zero  
 Is very intreaguing. It has a seam of polarity. The Brown line 12, 24 ..  
 This scheme is for transponens and relates to any key played as basenote.

NEGATIVE	TRANSPONITION MATRIX										
1	-11	-23	-35	-47	-59	-71	-83	-95	-107	-119	-131
2	-10	-22	-34	-46	-58	-70	-82	-94	-106	-118	-130
3	-9	-21	-33	-45	-57	-69	-81	-93	-105	-117	-129
4	-8	-20	-32	-44	-56	-68	-80	-92	-104	-116	-128
5	-7	-19	-31	-43	-55	-67	-79	-91	-103	-115	-127
6	-6	-18	-30	-42	-54	-66	-78	-90	-102	-114	-126
7	-5	-17	-29	-41	-53	-65	-77	-89	-101	-113	-125
8	-4	-16	-28	-40	-52	-64	-76	-88	-100	-112	-124
9	-3	-15	-27	-39	-51	-63	-75	-87	-99	-111	-123
10	-2	-14	-26	-38	-50	-62	-74	-86	-98	-110	-122
11	-1	-13	-25	-37	-49	-61	-73	-85	-97	-109	-121
Transposition	0	-12	-24	-36	-48	-60	-72	-84	-96	-108	-120

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Always count transponens from your current, main note.  
 If you hold down C the zero trp is not Hz220 but maybe Hz261 that counts as zero.  
 Perhaps you want a E. Then transpose (count halves) C0 to E4, C up 4.  
 From then on, you play 4 halfnotes up considering the keyboard layout.  
 Zero represent the actual tone to keyboard layout, all others are off, but fixed to the grid.

## Transponential Chart Vertical

Those of Harmonical order and those of Structural order  
Have different purpose. When composing a chord, depending on the basenote.

**The Structural wave** Has a strengthly direction. A driving force,  
Crystalized and heroic sounding. Static clock. Square symbol.

**The Harmonice wave** Understates the fenomena of a subjective polarity,  
a negative or positive charge to the chord. Cyclic. Cirkular symbol.

-132	-131	-130	-129	-128	-127	-126	-125	-124	-123	-122	-121	
-120	-119	-118	-117	-116	-115	-114	-113	-112	-111	-110	-109	
-108	-107	-106	-105	-104	-103	-102	-101	-100	-99	-98	-97	
-96	-95	-94	-93	-92	-91	-90	-89	-88	-87	-86	-85	
-84	-83	-82	-81	-80	-79	-78	-77	-76	-75	-74	-73	
-72	-71	-70	-69	-68	-67	-66	-65	-64	-63	-62	-61	
-60	-59	-58	-57	-56	-55	-54	-53	-52	-51	-50	-49	
-48	-47	-46	-45	-44	-43	-42	-41	-40	-39	-38	-37	
-36	-35	-34	-33	-32	-31	-30	-29	-28	-27	-26	-25	
-24	-23	-22	-21	-20	-19	-18	-17	-16	-15	-14	-13	
-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	<b>Pos</b>
<b>Neg</b>	1	2	3	4	5	6	7	8	9	10	11	12
	13	14	15	16	17	18	19	20	21	22	23	24
	25	26	27	28	29	30	31	32	33	34	35	36
	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72
	73	74	75	76	77	78	79	80	81	82	83	84
	85	86	87	88	89	90	91	92	93	94	95	96
	97	98	99	100	101	102	103	104	105	106	107	108
	109	110	111	112	113	114	115	116	117	118	119	120
	121	122	123	124	125	126	127	128	129	130	131	132

The zero transposition row shifts place after its polarity moves through the other side  
A sound however can never be negative. Only at system origo in representation to rootnote.  
By attaching the seam, the brown line on each side, you will form a cylinder  
By tapering the middle of the cylinder into two cones, meeting at the tip.

Then you have a model for how it looks, see illustration Spiral Hz

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Hertz Table 1 Division

# HZ WAVELENGTH CHART

HARMONICAL PHASES

FOR SYNCING BPM, ECHO MILLISECONDS, MODULATION OSC AND LFO RATES

NOTE	TONE	DIVISION		SOUND		SOUND		SOUND		SOUND		SOUND	
		INITIAL WAVE				BPM		RING ROD		RING MOD		FREQ SHIFT	
		FREQUENCY										DISTORTION	
		. 1/1 .	TR	. 1/2 .	AN	. 1/4 .	SP	. 1/8 .	AR	. 1/16 .	EN	. 1/32 .	CY
	A	440.000	12	220.000	0	110.000	-12	55.000	-24	27.500	-36	13.750	-48
B b	A#	466.164	13	233.082	1	116.541	-11	58.271	-23	29.135	-35	14.568	-47
	B	493.883	14	246.942	2	123.471	-10	61.735	-22	30.868	-34	15.434	-46
	C	523.251	15	261.626	3	130.813	-9	65.406	-21	32.703	-33	16.352	-45
D b	C#	554.365	16	277.183	4	138.591	-8	69.296	-20	34.648	-32	17.324	-44
	D	587.330	17	293.665	5	146.833	-7	73.416	-19	36.708	-31	18.354	-43
E b	D #	622.254	18	311.127	6	155.564	-6	77.782	-18	38.891	-30	19.445	-42
	E	659.255	19	329.628	7	164.814	-5	82.407	-17	41.203	-29	20.602	-41
	F	698.456	20	349.228	8	174.614	-4	87.307	-16	43.654	-28	21.827	-40
G b	F#	739.989	21	369.995	9	184.997	-3	92.499	-15	46.249	-27	23.125	-39
	G	783.991	22	391.996	10	195.998	-2	97.999	-14	48.999	-26	24.500	-38
A b	G#	830.609	23	415.305	11	207.652	-1	103.826	-13	51.913	-25	25.957	-37

First you have a desired note and desired effect.  
 Later you try to make reason from the system, to make it resonate  
 Within your own composition or chord selection.

To get a resonant Millisecond from the BPM, just multiply or divide  
 The BPM sufficient times, with factor 2 they are dependent on each other.  
 Phases are achieved at greatest, with small offsets  
 Like 1 note or a just half note. Cyclic or Harmonical order.

The BPM is suggested at 440/4 row. So any song in 120 is Local 123 BPM  
 It doesn't seem to matter, if you have a ground note in F  
 And the song's actual tempo resonates with the note G at BPM 196.  
 The music piece tempo will convincingly resonate with the actual  
 Wavelength of the chosen basenote or (any) harmonical choice.

There are audible and inaudible oscillators depending on their  
 Scale of frequency rate output. The numbers and calculation of relationships  
 Is still valid beyond human hearing range. This advantage is to make sense  
 Of spreading the chords notes, on to modulations and effects way out  
 Of the conscious hearing range. Into new resonant features and values.  
 However, still retaining the specific harmonical consistence of relationship.

The chord is like a sound molecule, representing a mental image.  
 If the waves are transposed out of natural range, new images and rhythmic  
 Structures is evident. When the sound molecule is transposed, it is warped!  
 Memory structures not defined by natural encounters can be searched here.

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# HZ WAVELENGTH CHART

## HARMONICAL PHASES

FOR SYNCING BPM, ECHO MILLISECONDS, MODULATION OSC AND LFO RATES

NOTE	TONE	DIVISION		FREQUENCY SHIFT MODULATION									
		CHORD FX		CHORD FX		CHORD FX		CHORD FX		RIFF OR PATTERN EFFECT			
		TREMOLO		TREMOLO		MEDITATION		MEDITATION					
		. 1/64 .	TR	. 1/128 .	AN	.1/256 .	SP	.1/512.	ON	.1/1024.	EN	. 1/2048 .	CY
	A	6.8750	-60	3.4375	-72	1.7188	-84	0.8594	-96	0.4297	-108	0.2148	-120
B b	A#	7.2840	-59	3.6420	-71	1.8210	-83	0.9105	-95	0.4553	-107	0.2276	-119
	B	7.7170	-58	3.8585	-70	1.9293	-82	0.9646	-94	0.4823	-106	0.2412	-118
	C	8.1760	-57	4.0880	-69	2.0440	-81	1.0220	-93	0.5110	-105	0.2555	-117
D b	C#	8.6620	-56	4.3310	-68	2.1655	-80	1.0828	-92	0.5414	-104	0.2707	-116
	D	9.1770	-55	4.5885	-67	2.2943	-79	1.1471	-91	0.5736	-103	0.2868	-115
E b	D #	9.7230	-54	4.8615	-66	2.4308	-78	1.2154	-90	0.6077	-102	0.3038	-114
	E	10.3010	-53	5.1505	-65	2.5753	-77	1.2876	-89	0.6438	-101	0.3219	-113
	F	10.9130	-52	5.4565	-64	2.7283	-76	1.3641	-88	0.6821	-100	0.3410	-112
G b	F#	11.5620	-51	5.7810	-63	2.8905	-75	1.4453	-87	0.7226	-99	0.3613	-111
	G	12.2500	-50	6.1250	-62	3.0625	-74	1.5313	-86	0.7656	-98	0.3828	-110
A b	G#	12.9780	-49	6.4890	-61	3.2445	-73	1.6223	-85	0.8111	-97	0.4056	-109

## ALMOST INAUDIBLE

## RING MOD FOLLOWS WAVE STRUCTURE

		1/4096	1/8192	1/16384	1/32768	1/65536	1/131072
B b	A	0.1074	-132	0.0537	-144	0.0269	0.0134
	A#	0.1138	-131	0.0569	-143	0.0285	0.0142
	B	0.1206	-130	0.0603	-142	0.0301	0.0151
D b	C	0.1278	-129	0.0639	-141	0.0319	0.0160
	C#	0.1353	-128	0.0677	-140	0.0338	0.0169
E b	D	0.1434	-127	0.0717	-139	0.0358	0.0179
	D #	0.1519	-126	0.0760	-138	0.0380	0.0190
	E	0.1610	-125	0.0805	-137	0.0402	0.0201
G b	F	0.1705	-124	0.0853	-136	0.0426	0.0213
	F#	0.1807	-123	0.0903	-135	0.0452	0.0226
	G	0.1914	-122	0.0957	-134	0.0479	0.0239
A b	G#	0.2028	-121	0.1014	-133	0.0507	0.0253

A facination of beauty constructed in the built in harmonical properties  
 Of this system is practical. As it relates to geometry and shapes  
 When described on plot paper 2D. Also, as it relates to theimagination  
 And neurological responses in the brain. The chemical balance.  
 The human body resonate to musical notes in a chemical way.

That makes out, that when the Plot geometric posisions are changed  
 Then equally the emotional response is changed from a human view.

Actually the same as the chemical response is resonance.  
 The mind resonates in images and moods, thoughts.  
 The basic language of a harmonical clock.

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## Hertz Table 3 Multiplication

# HZ WAVELENGTH CHART

HARMONICAL PHASES

FOR SYNCING BPM, ECHO MILLISECONDS, MODULATION OSC AND LFO RATES

MULTIPLIED

NOTE	TONE	. 1*1 .	TR	. 1*2 .	AN	. 1*4 .	CE	. 1*8 .	LU	. 1*16 .	MI	. 1*32 .	NA
<b>B b</b>	<b>A</b>	440.0	12	880.0	24	1760	36	3520	48	7040	60	14080	72
<b>B b</b>	<b>A#</b>	466.2	13	932.3	25	1865	37	3729	49	7459	61	14917	73
	<b>B</b>	493.9	14	987.8	26	1976	38	3951	50	7902	62	15804	74
	<b>C</b>	523.3	15	1047	27	2093	39	4186	51	8372	63	16744	75
<b>D b</b>	<b>C#</b>	554.4	16	1109	28	2217	40	4435	52	8870	64	17740	76
	<b>D</b>	587.3	17	1175	29	2349	41	4699	53	9397	65	18795	77
<b>E b</b>	<b>D #</b>	622.3	18	1245	30	2489	42	4978	54	9956	66	19912	78
	<b>E</b>	659.3	19	1319	31	2637	43	5274	55	10548	67	21096	79
	<b>F</b>	698.5	20	1397	32	2794	44	5588	56	11175	68	22351	80
<b>G b</b>	<b>F#</b>	740.0	21	1480	33	2960	45	5920	57	11840	69	23680	81
	<b>G</b>	784.0	22	1568	34	3136	46	6272	58	12544	70	25088	82
<b>A b</b>	<b>G#</b>	830.6	23	1661	35	3322	47	6645	59	13290	71	26579	83

		. 1*64 .		. 1*128 .		. 1*256 .		. 1*512 .	
<b>B b</b>	<b>A</b>	28160	84	56320	96	112640	108	225280	120
<b>B b</b>	<b>A#</b>	29834	85	59669	97	119338	109	238676	121
	<b>B</b>	31609	86	63217	98	126434	110	252868	122
	<b>C</b>	33488	87	66976	99	133952	111	267905	123
<b>D b</b>	<b>C#</b>	35479	88	70959	100	141917	112	283835	124
	<b>D</b>	37589	89	75178	101	150356	113	300713	125
<b>E b</b>	<b>D #</b>	39824	90	79649	102	159297	114	318594	126
	<b>E</b>	42192	91	84385	103	168769	115	337539	127
	<b>F</b>	44701	92	89402	104	178805	116	357609	128
<b>G b</b>	<b>F#</b>	47359	93	94719	105	189437	117	378874	129
	<b>G</b>	50175	94	100351	106	200702	118	401403	130
<b>A b</b>	<b>G#</b>	53159	95	106318	107	212636	119	425272	131

### Useful Rules

Keyboard Intervals, in classic music theory has distinctive names  
And it is good to know them. Musician operates on of Tertial Harmonys  
Like chords with three simultaneous pitches.

Transp	Name	Interval	
3	Minor third	3rd	C to D#
4	Mayor third	3rd	C to E
5	Perfect Forth	4 th	C to F
6	Diminished	5 th	C- F# – E
7	Perfect Fifth	5 th	C to G
-8	Minor Sixth	M6	C to E
-9	Mayor Sixth	M6	C to D#
10	Harmonize	7 or 9	C to A#
11	Harmonize	Maj	C to B
	Augmented	Aug	

Inverse Perfect Fifth 5 th

Tritone

Guitar is tuned this way

Inverted Mayor 3 rd. Equals Aug 5 th.

Inversed Minor 3 rd

In C it makes a C7

The chord is rearranged

The lowest key replaces itself on the next octave up or down. It increases one semitone by doing so.

Tritone, Aug 4 th, also called Dim5 th, is disputed since baroch times

Since the chord has the devils eerie feeling in it. And it is the 6 th note.

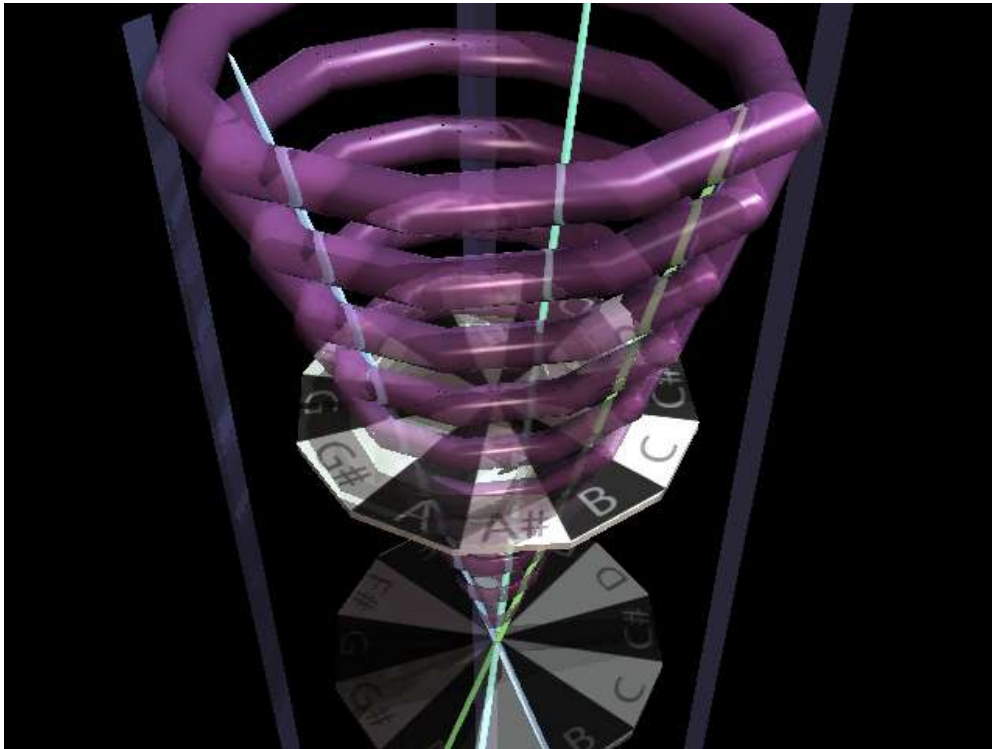
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<http://en.wikipedia.org/wiki/Harmony>

Illustration Hz

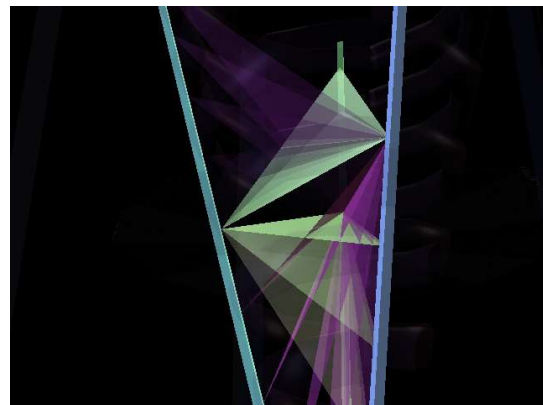
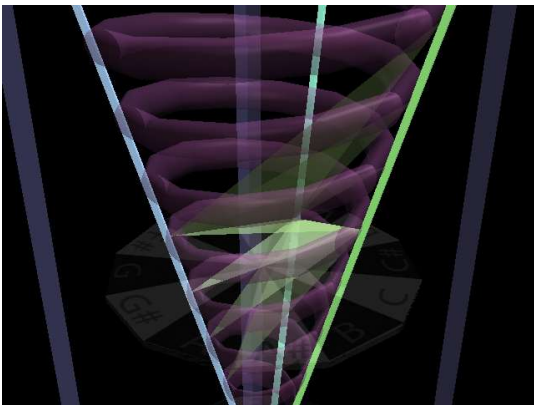
## Hertz Coil – The Sound Molecule

The Sound Polygon Detachment File



C Mayor Flat Dur

Format : K. H. O



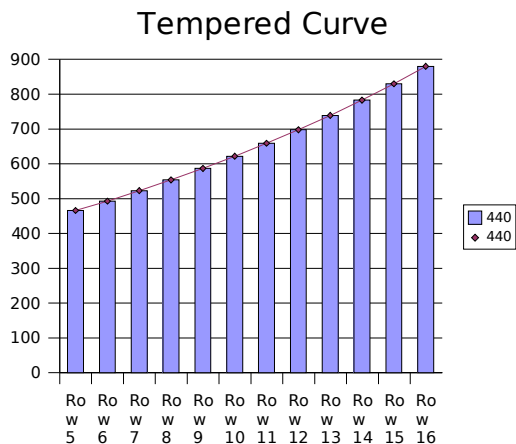
Here is an illustration animating the vision of the Sound Molecule.  
The sound molecule is visualized as a 3 point polygon. Devised inside a Hz coil.  
The Hz spiral is zero Hz at Origo point and infinit high pitch on top. Moving one octav upward  
Each round it passes. The disc in the middle represent the notes on the keyboard.  
This polygon holds information in form of angles, its relative positions is defining its shape.  
It will only fit at one place inside a Hertz pipe, because of its unique size and angular relation.  
The tones are conducted and played when all corners of the polygon interacts with the Hz coil  
The polygon can be detached and animated further on another time sequencer.

At the lower row are pictures when the polygon octav is being warped up  
And down on different keys.

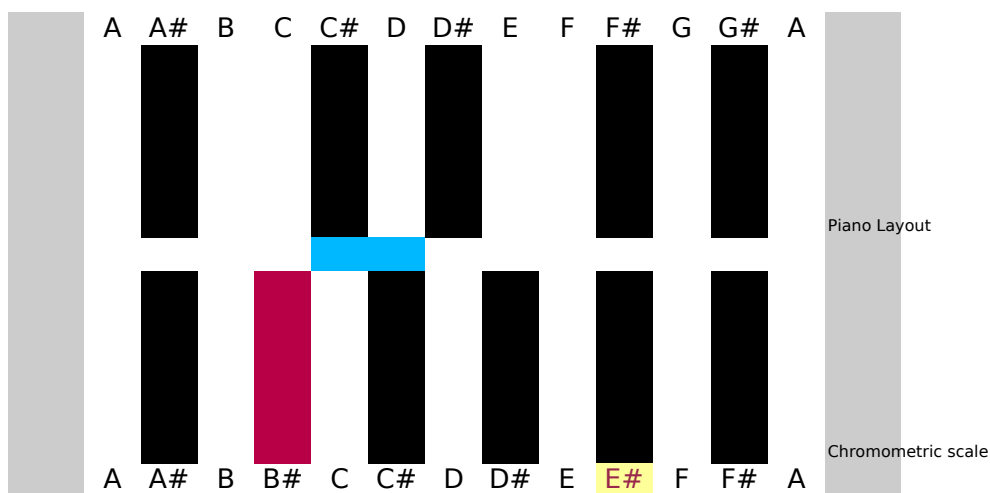
# Keyboard Layout

## Keyboard Layout

Here is a Tempered 12-tet curve. You can see it bends a bit.



A	440	440
A#	466	466
B	493	493
C	523	523
C#	554	554
D	587	587
D#	622	622
E	659	659
F	698	698
F#	739	739
G	783	783
G#	830	830
A	880	880

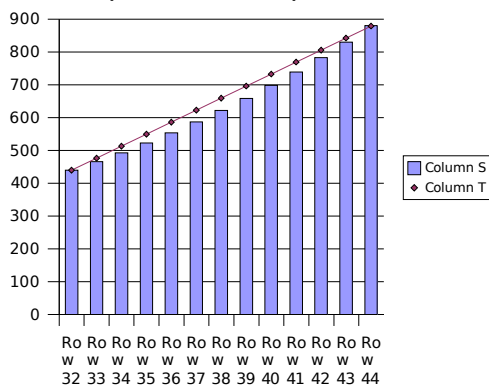


The keyboard layout looks like this then one additional halfnote is created As number 6. the natural half of 12, has few harmonical values in the system. To gain harmonical control one has removed one half note B# and replaced it With a whole note C. The obtion is three wholenotes on a row. By shifting the C – E area downward on half note and rename E#.to F. This leaves room for the G and G# notes. See that F moves a whole note down

Here is a Tempered Column with an Additional layer Of direct repetitions Of equal interval.

Clearly they miss by A fraction. The tempered curve Is exponential.

Tempered and Equal Interval



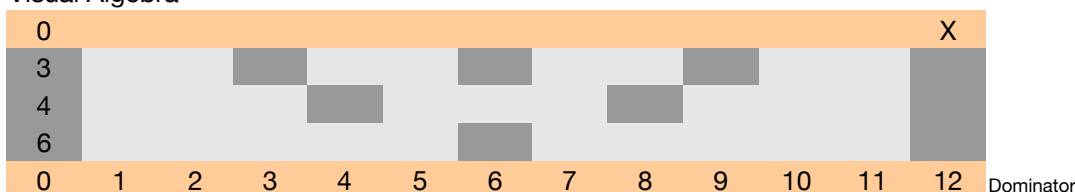
	440 / 12 =	+36,6
A	440	440
A#	466	477
B	493	513
C	523	550
C#	554	586
D	587	623
D#	622	660
E	659	696
F	698	733
F#	739	769
G	783	806
G#	830	843
A	880	879

## Cognitive Wheels

A study of how many repetitions of a wave or a riff to make a loop clip.  
 Repetitions of itself is in itself a basic language. Inspired by  
 Pythagoras it is called the stone matrix. Where one stone is 1, and that  
 Two stones form a line. Three stones form a linear shape. Plato too, claimed this.  
 This is imagined as a set of spiral cog wheel, loop type style maya calendar  
 Or you might like it as like a old Lire kasse sound module.

A set of mathematical wheels to make a sentence or a meaningful set of information  
 Or pieces of relations in a space. Algebra like  $3 / 4 / 6$ . is very pretty when you see it unfold.  
 By looking at a convenient example. We shall see that algebra is related to waves and beats.  
 Here in a bit layout, think of each dark square as the middle 0 of the wave.  
 Between these points it goes up one half + and down one half- to make a complete currence  
 The sum of the currencies phasing in and out make a fantastic electrical pattern.

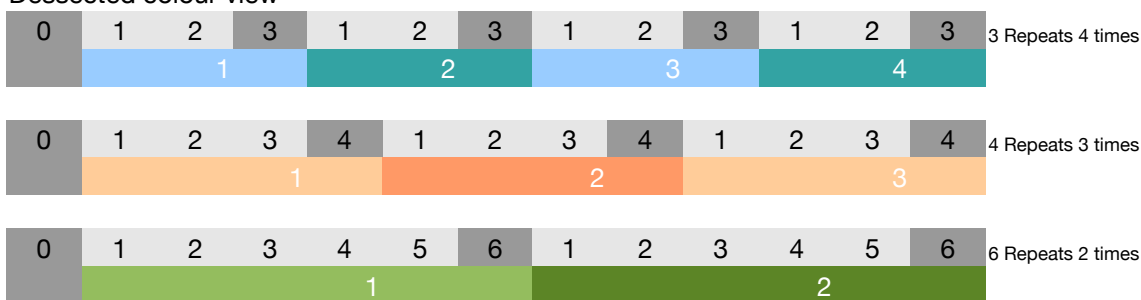
### Visual Algebra



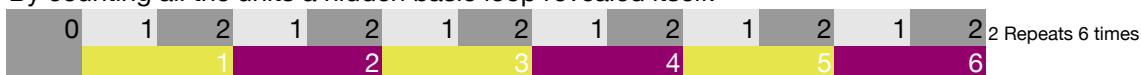
The harmonic relation respond in duality. The wave repetision of a sound must be in relation  
 With another frequency to carry out any relevant information, It can not be stored.  
 This information being the remnants of the soul matter, esthetics, logistic or art.



### Dessected colour view



By counting all the units a hidden basic loop revealed itself.



This is a fundamental language of waveloops and the essence of numbers.  
 The clock loop harmony. And the universal language derived from it.

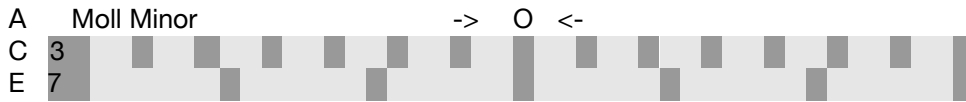
Format : K. H. O.

## The Dot Matrix for Piano Chords

Taken the knowledge and putting it to test, we shall see if it can describe A regular chords and not just algebra. It proves great efforts in math and at Present time not functioning other than a suggestion.

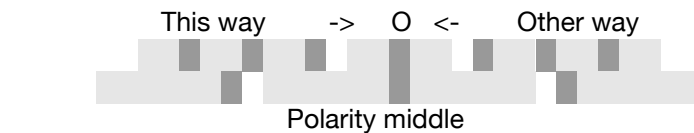
A piano chord would be like  
Chord in Moll Minor A-C-E.

A=0=12 trp is all resonating but not visible on the grid. C=3 trp, E=7 transpose



The harmony here is implying a fake transposed 12 which is else impossible to account for. The basenote is not to access (?) Only Harmonical and structural Order. The 4 respond to that trp of 12, 3 and 4 is not possible in the harmonic Scale .A system correction. It also makes them unneccecarry large.

I think the polarity of the number message is reversed beyond zero middle Of the loop So instead of a contiinous pulse rhythm it is percieved in polarities Across the repeating strata.



Their places does not however skip like in this example.

$$+ \text{ } = \text{ } -$$

The last part of the wave bit, suddenly becomes the first After passing polar mid.

It takes the areal space of the numbers relation to realise For instance 7 in 8 is 56 dots to describe the sequence.

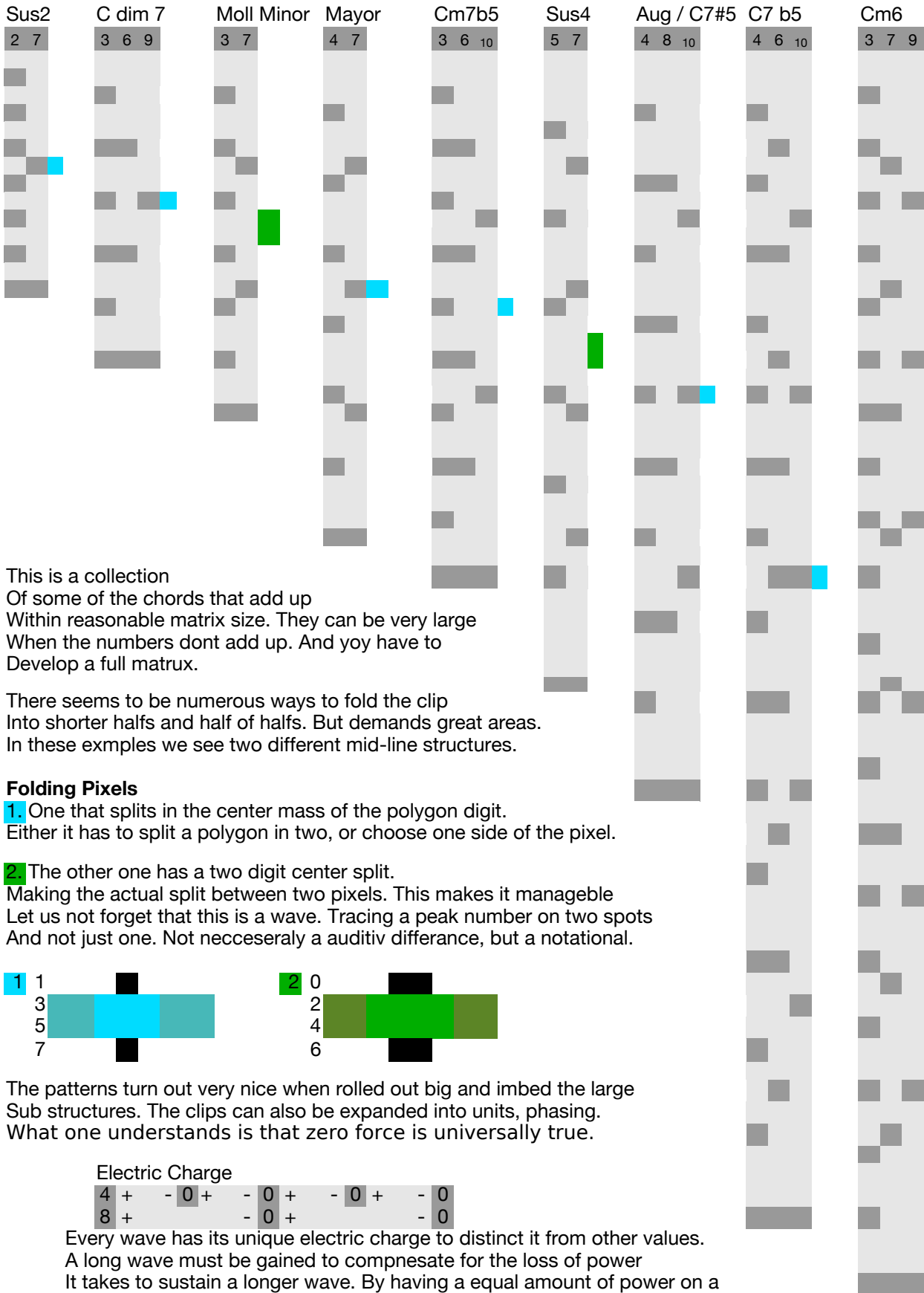
7 \* 8 Areal Matrix = 56 dots to visualize.



This however, is where this introduction stops. Because it doesnt really add up musically, sometimes it does, and sometimes It doesnt. Very interesting but also difficult.

Format : K. H. O.

Dot 3 Presets



This is a collection  
Of some of the chords that add up  
Within reasonable matrix size. They can be very large  
When the numbers dont add up. And yoy have to  
Develop a full matrux.

There seems to be numerous ways to fold the clip  
Into shorter halves and half of halves. But demands great areas.  
In these exmples we see two different mid-line structures.

**Folding Pixels**

1. One that splits in the center mass of the polygon digit.  
Either it has to split a polygon in two, or choose one side of the pixel.

2. The other one has a two digit center split.  
Making the actual split between two pixels. This makes it manageable  
Let us not forget that this is a wave. Tracing a peak number on two spots  
And not just one. Not necceseraly a auditiv difference, but a notational.



The patterns turn out very nice when rolled out big and imbed the large  
Sub structures. The clips can also be expanded into units, phasing.  
What one understands is that zero force is universally true.

Electric Charge

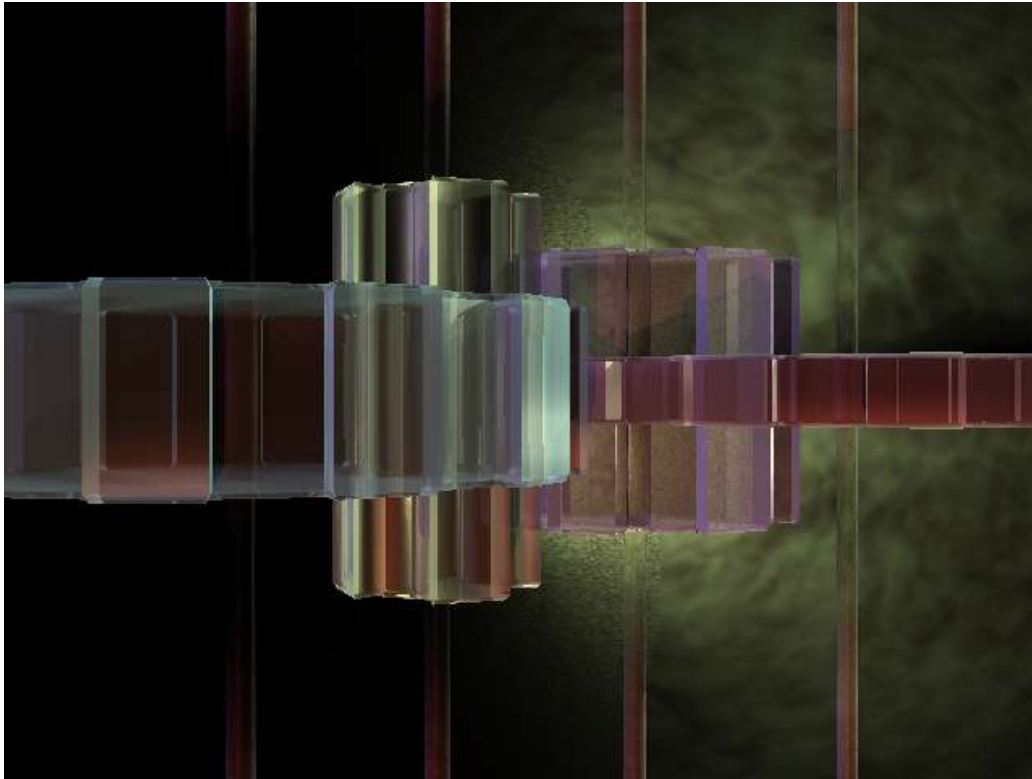
4	+	-	0	+	-	0	+	-	0	+	-	0
8	+		-	0	+		-	0	+		-	0

Every wave has its unique electric charge to distinct it from other values.  
A long wave must be gained to compesate for the loss of power  
It takes to sustain a longer wave. By having a equal amount of power on a  
Short wave results in a proportionally loud sound.

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## Illustration CogWheels

### Tone Gears



Chord D mayor with subharmonics

The words of Pythagoras survives to this day and quote  
Number is the ruler of forms and ideas  
And the cause of gods and demons.

Seen in the light of good news this is to be true.  
However equations is not what drives the world around, to quote  
Stephen Wolfram – A new kind of science.

[http://www.youtube.com/watch?v=\\_eC14GonZnU](http://www.youtube.com/watch?v=_eC14GonZnU)  
Enjoy !

Numbers however form a valuable tool for sharing information.  
A common ground, for describing media for transporting matter and energy.  
With geometric electric conductivity.

Format : K. H. O

## Sound Molecule

# Composition

A sound can be perceived as a note, as a rhythm or as colour of light. Tones are visualized as atoms on a fictive strata and chords are as molecules. Several chords make a refrain, verse or body..

When calling Body 1 the verse, the verse consists of a rhythm and some changes To make it dynamic and interesting. When varying the rhythm Significantly the emotional response equally change. To use notes that already Are within the algorithm for composing is naturally favoured.

Notes	Keys	Osc	Pillar	Transp	Trad	Riff	Order	Scope
C	1 key	1 osc	*		Mono	*	*	1atom *
C-D#	2 keys	2 oscs	*		Harmony	*	*	1 molecule *
C-D#-G	3 keys	3 oscs	*		Harmony	*	*	1 molecule *
C-G-D#	3 keys	3 oscs	C	0	Verse	Variation	Key1 Basenote	Topic 1 Body 1
G-C-D#	3 keys	3 oscs	G	7	Refrain	Variation	Key3 Structural	Topic 2 Body 2
D#-G-C	3 keys	3 oscs	D#	3	Interplay	Variation	Key2 Harmonic	Topic 3 Body 3

By analyzing the initial riff of the song, one should be able to see or calculate where The tonal emphasis of the variations should land, to form a logic diversion of the piece

Considered the amounts of repetitions a riff should have in a composition. Or how many waves that must interact before the change of riff is natural. Is suggested with the Dot Matrix. A algebraic way of point to point describe loops Of waves in a chord syntax. Then scale the initial material up to another dimensional port

[http://en.wikipedia.org/wiki/Beat\\_\(acoustics\)](http://en.wikipedia.org/wiki/Beat_(acoustics))

It makes sense in bigger classical scores, where natural drifts are so plausible. If one can autotrigger harmonical repetitions, topics or schemes One can also program the variations concerning that initial Set of chords. Or just phase them in and out. To logically defend ones free choice ...

### Example

Key2 Cyclic	Key1 Base	Key1 Base	Key3 Struct	Key2 Cyclic	Key1 Base	Key3 Struct	Key2 Cyclic
Interplay	Verse	Verse	Refrain	Interplay	Verse	Refrain	Interplay

Variations of each set is derived from each pillar note. From Body or the Riff Modulations that overlap or slide from one topic to the next, it is up to your skill to make. A pillar is something from music theory, where main focus is in one direction on a Specific tonal variation. From ancient music 24 tet. It might last for a while And then change when it feels natural to demand for a change of focus in the Musical animation, where an interplay of dreams and participation at one time is real Skipping out of real time. Hoover in dream space for a moment. Then live for the stream.

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## Wave Example

### WAVE EXAMPLE

The structural and harmonial orders give different kinds of rhythmic behaviour.  
 The equal voltage on each oscillator might make the bassnotes weak compared  
 To higher effect on lower power such as brighter pitches.

At audible range we start with a tone A at 220, saw fit1 waveform  
 Make a Mod Freq Shift Hz 1.718, make the second mod likewise.  
 With the last one you can slowly increase the number and listen to the cyclick beats.  
 It has best power with saw and square. The wave examples are marked in yellow.

EXAMPLE 1				Rhythmic	Structural
Osc 1	Mod	Mod		Cyclic	Harmonic
Saw fit 1	Freq shift	Freq Shift	Transp		
	Square fit 1	Square fit 2			
0	110.00	1.718	1.7180	-84	Unison
	A			Transp	
1	110.00	1.718	1.8210	-83	
	A#			Transp	
2	110.00	1.718	1.9293	-82	
	B			Transp	
3	110.00	1.718	2.0440	-81	Saggy
	C			Transp	Moll / Minor
4	110.00	1.718	2.1655	-80	
	C#			Transp	Dur / Mayor
5	110.00	1.718	2.2943	-79	Tight
	D			Transp	Perfect 4 th
6	110.00	1.718	2.4308	-78	
	D#			Transp	Dim
7	110.00	1.718	2.5753	-77	Gallopp
	E			Transp	Perfect 5 th
8	110.00	1.718	2.7283	-76	Redraw
	F			Transp	Polarized Moll
9	110.00	1.718	2.8905	-75	
	F#			Transp	Palarized Dur
10	110.00	1.718	3.0625	-74	
	G			Transp	Adds a 7 feat.
11	110.00	1.718	3.2445	-73	
	G#			Transp	Maj
12	110.00	1.718	3.2445	72	
	A				

### EXAMPLE 2

Another way to experiment with the beating of the sounds is to transpose a SAW  
 Note down to -84. So that just clicks can be heard. Add a Mod :Ringmod – 12 trp.  
 Do the same on Osc2. But change the transpose number to 7-84=-77. The number  
 This number is 2.5 Hz static. -77 respond to 7 on the + grid, this is the actual  
 Middle of the whole 12 tet Not the 6<sup>th</sup> which one would expect from 12 / 2.  
 See the curve in page 8. After a while you will hear that all combinations  
 Bear their own signature.

### EXAMPLE 3

When having a basic 220 osc 1 and two modulators. One on 8.17 that is naticc C rhythm  
 And one that is in one halftone down, its result count 8 in recognisable rhythm  
 If the riff has a basenote in A, the grid should be started at that as Zero.

#### TIPS

- 1 However if the basenote is in C, you must calculate all the transpositions  
 From that particular tone, and its intervals.
- 2 One method is to transpose the note first then check which beat the riff uses  
 On the keyboard, then lock the rhythm to static with a Hz value.

Format : K. H. O.

## The Creation From The Void

This is a discussion on which numbers the objects have in counting them.

What is a zero object, a real object

That their value is the same but different characteristics

This is a view on how to divide and count structures.







1 stone makes one object, and 2 stones make two objects. That we must agree on.

When constrained to a linear format, you need 2 membran to contain one entety inside

that makes 2 units in count. A real cell has one entety and a membrane wrapped around

When a cell splits it duplicates the internal then adds a third membran to split them.

You always need a +1 for looping when dot formatted. To count 4 you need 5 enteties.

- A)  A) One Physical object in nature  
As it appears. A stone, a tree or a person.
- B)  B) Two objects  
With distance between them.  
If there were no distance  
it would still be one object.
- C)  C) 3 physical shapes, forms 2 rooms  
between them, illustrated as blocks.  
like 2 objects create one room between them.  
You need 2 objects to describe a negative form.
- D)  D) By having 2 objects you actually create one  
extra on each side This acts as a loop point or  
defint count. The outer membrane is shared  
And taped exactly on top of the loop point  
to make a continous Rhythm, like an atoms binds  
When copied into a molecule or a wavepatch  
This is in theory the same thing.
- E)  E) When having just one object you actually  
have 2 of nothing That surrounds it.  
A membran that relates to the format. The  
Format can be time, distance, size or temprature  
The concept of the Void is a construct  
That works paralell with our subconscious.
- F)  F) By removing the physical object, you still have  
a negative form. Considering the remnants  
of the construct. The format is active although  
It has nothing to process.

Zero  
Split Unit  
The Void  
Membrane  
Loop Point  
Negative Space

However implied and a rather surprising result from  
The riddle is, when having one unit of nothing.  
You are given 2 objects! The construct is The mind of God  
Also called the world or universe  
4 is the frame animation loop. Frame A equals frame E  
5 is the loop construct for loop copy and paste. E on top of A  
6 frames to describe it in extracted form, like here.

## Appendix

24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3

When you choose a Transponential function in the selector it differs  
From Hertz selector in one important way

1. The Transpose Follows the keyboard and makes faster or slower waves.  
For chords in one note. ARP effects, timechange, uniq articulations
2. The Hertz In the modulator retains the distance of the wave, so you can  
Have a chord running and not alter the micro ARP speed.  
For constant repetitions of the wave no matter where  
you press on the keyboard. Macro effects like  
LFO or Tonal Rhythm Features

By activating the sync, the Saturn looking object helps the micro ARPs not to restart  
Every time you hit the tangent. Absynth has this tendency to create  
A new start anyway you press these sync buttons.

It would be less confusing if the synth drove its own basic wave  
and you could "tap into" the sound pipe.

I realized when testing the system for my own needs, that this  
Is pretty difficult and not very spontan system. Particularly if rehersing with others  
It is better to do a spontanius version, then clean it afterwards.

Absynth seems to have the Hz parameters matrix somewhat built in.

Sound, rhythm, composition and even light share the same space domain.

Time is not a real dimension but rather an animation between points.

The goal is to be able to make a harmonical format. That can be saved as  
A compressed file, that can be detached and reproduced, when remounted later.

But also that is self creationate, and flowers from the torqe algebra.

To sum up a specific sound. The brains chemical response of ear stiumuli  
and nevrotansmissions. States an intelligible object or an emotional feeling.

A stream of thoughts. The topic of the music, called the songs refrain or verse.

That consists of sound molecules which is its right place are chords.

At clean matrix relee experiments they trigger crystalized channels of communication.

The geometric nature of beauty comes from light and the matrix of masks

That is mask matter makes it possible to transform energy and to communicate  
information between cosmic layers of higher and lower energy.

A masking is a structural device for the universe to give only some spectras to  
Some and other spectras of information and life to others.

This construct is a purely harmonical, and thus refers to the universe as it is

And to us, being composite of universes own things. And responding to similar laws.

At one time a wave is a tone, other times it is a rhythem, it can also be a composition

Moving images across the mind.

Format : Kenneth H. Olsen

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