



FINDING FLOW

HOW TO EXPLORE DELTA, THETA, ALPHA, BETA, AND GAMMA BRAINWAVE STATES
USING BIOSONICS' SOLAR HARMONIC SPECTRUM TUNING FORKS AND THE FIBONACCI UPGRADE TUNING FORKS

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SOUND HEALING AND THERAPY CERTIFICATE PROGRAM – GLOBE INSTITUTE

The following information will be detailed:

- brainwave states, the frequency associated with each, and a general description of each
- the Biosonics' tuning forks used by note, interval (Fibonacci), and frequency (Hz)
- instructions for using tuning forks and how the brain processes the sound
- the tuning fork pairs for each brainwave state
- additional information

BRAINWAVE STATES

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Brainwave State	Frequency	General Description
Deep Delta	<.5 Hz	Deep meditation
Delta	.5 – 4 Hz	Deep sleep
Theta	4 – 8 Hz	Dream state; creativity; portal to subconscious and oneness
Alpha	8 – 12 Hz	Relaxed attention; creative problem solving; presence; learning
Beta	12 – 30 Hz	Normal thinking and processing
Gamma	30 – 100 Hz	High state of meditation

The information in this table is from *The Complete Guide to Sound Healing* (page 248). Hz stands for hertz.

Experts vary in their interpretation of which brainwave frequency ranges constitute each state. For example, Biosonics uses the following frequencies: delta is 1 – 3 Hz; theta is 4 – 6 Hz; alpha is 7 – 12 Hz; beta is 13 – 20 Hz; gamma is not mentioned.

BIOSONICS' TUNING FORKS

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	Solar Harmonic Spectrum								Fibonacci Upgrade			
Note	C	D	E	F	G	A	B	C	–	–	–	–
Interval (Fibonacci)	1/1	–	–	–	2/3	3/5	–	1/2	5/8	8/13	13/21	21/34
Frequency (Hz)	256	288	320	341.3	384	426.7	480	512	409.1*	417.2*	413.4*	415.1*
Information	All listed information shown is on the tuning forks.								Only the interval is shown on the upgrade tuning forks.			

* determined with the Keuwlsoft audio frequency counter

HOW IT WORKS

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Instructions for using tuning forks:

1. Hold one tuning fork in each hand by its stem.
2. Tap each tuning fork one time against the side of a rubber-soled shoe or a rubber activator puck.
3. Bring one tuning fork a few inches away from one ear and the other tuning fork a few inches away from the other ear.
4. Listen intently.
5. Hum the sound until it fades.
6. Repeat the process.

How the brain processes the sound:

When the brain hears one frequency in one ear and a different frequency in the other ear, **it focuses on the difference in the frequencies and moves into that brainwave state.**

For example, the following tuning fork pair moves the brain into the delta brainwave state:

$$13/21 = 413.4 \text{ Hz}$$

$$21/34 = 415.1 \text{ Hz}$$

$$\text{Difference} = 1.7 \text{ Hz}$$

$$1.7 \text{ Hz} = \text{Delta brainwave state}$$

DELTA

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.5 – 4 Hz
Deep sleep

Tuning Fork Pair	Difference
13/21 and 21/34	1.7 Hz
8/13 and 21/34	2.1 Hz
8/13 and 13/21	3.8 Hz



*The words shown in the colored ovals on slides 6 – 10 are from
The Complete Guide to Sound Healing.

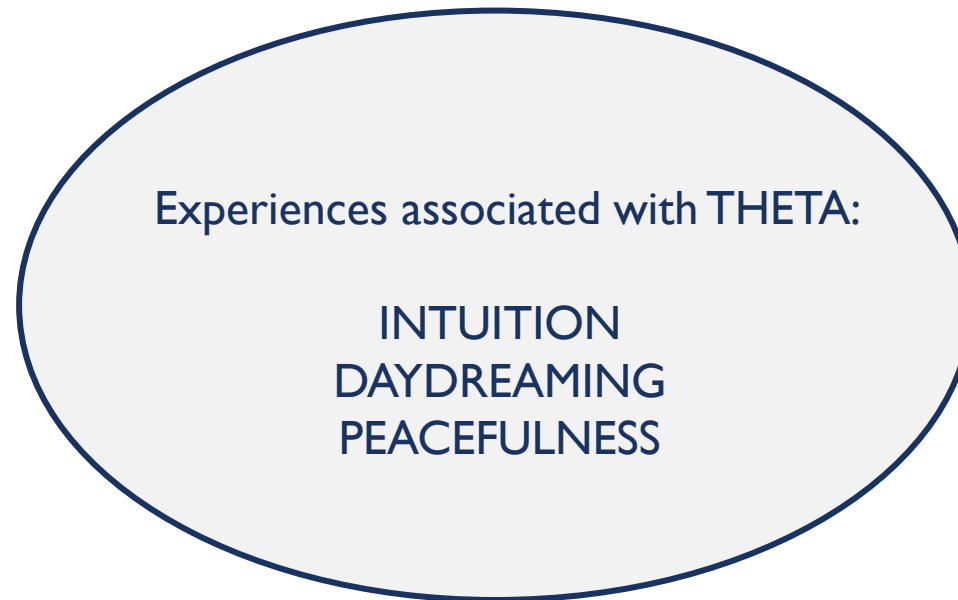
THETA

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4 – 8 Hz

**Dream state; creativity; portal to
subconscious and oneness**

Tuning Fork Pair	Difference
5/8 and 13/21	4.3 Hz
5/8 and 21/34	6.0 Hz



ALPHA

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8 – 12 Hz

**Relaxed attention; creative problem solving;
presence; learning**

Tuning Fork Pair	Difference
5/8 and 8/13	8.1 Hz
3/5 and 8/13	9.5 Hz
3/5 and 21/34	11.6 Hz

Experiences associated with ALPHA:

CALM ALERTNESS
PRESENCE
MIND/BODY COORDINATION
STRESS REDUCTION
CLARITY

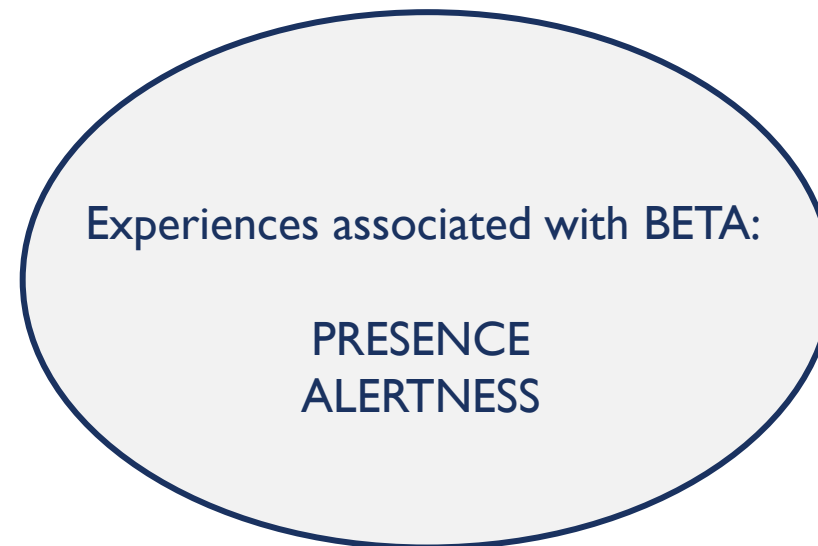
BETA

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12 – 30 Hz

Normal thinking and processing

Tuning Fork Pair	Difference
3/5 and 13/21	13.3 Hz
3/5 and 5/8	17.6 Hz



GAMMA

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30 – 100 Hz

High state of meditation

Experiences associated with GAMMA:

BRAIN SYNCHRONIZATION
COGNITION
MEMORY

Tuning Fork Pair	Difference	Tuning Fork Pair	Difference
1/1 and 288	32.0 Hz	21/34 and 341.3	73.8 Hz
2/3 and 341.3	42.7 Hz	8/13 and 341.3	75.9 Hz
3/5 and 480	53.3 Hz	1/1 and 341.3	85.3 Hz
8/13 and 480	62.8 Hz	3/5 and 341.3	85.4 Hz
21/34 and 480	64.9 Hz	1/2 and 8/13	94.8 Hz
13/21 and 480	66.6 Hz	2/3 and 288	96.0 Hz
5/8 and 341.3	67.8 Hz	1/2 and 21/34	96.9 Hz
5/8 and 480	70.9 Hz	8/13 and 320	97.2 Hz
13/21 and 341.3	72.1 Hz	1/2 and 13/21	98.6 Hz

ADDITIONAL INFORMATION

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The lists of tuning fork pairs for each brainwave state are not all-inclusive. For example, in the gamma range, tuning fork pair 1/2 and 480 and tuning fork pair 320 and 288 both have a difference of 32 Hz.

Using Biosonics' Modal Spectrum Tuning Forks can further enhance exploration. They include the following frequencies:

	Modal Spectrum				
Note	D ^b	E ^b	F [#] G ^b	A ^b	B ^b
Frequency (Hz)	273.1	307.2	360	409.6	455.1

At the cusp of deep delta/delta, tuning fork pair 5/8 and 409.6 create a difference of .5 Hz.

In gamma, 40 Hz has been shown in studies to improve mood, memory, and cognition. Tuning fork pair 320 and 360 create a difference of 40 Hz. One study related to 40 Hz can be found online: "Gamma entrainment frequency affects mood, memory and cognition: an exploratory pilot study" by Ryan L. S. Sharpe, Mufti Mahmud, M. Shamim Kaiser, and Jianhui Chen. Additionally, a YouTube video with Dr. Lee Bartel, titled Music Medicine, contains details about a 40 Hz treatment protocol that was helpful in stalling cognitive decline in some Alzheimer's patients.