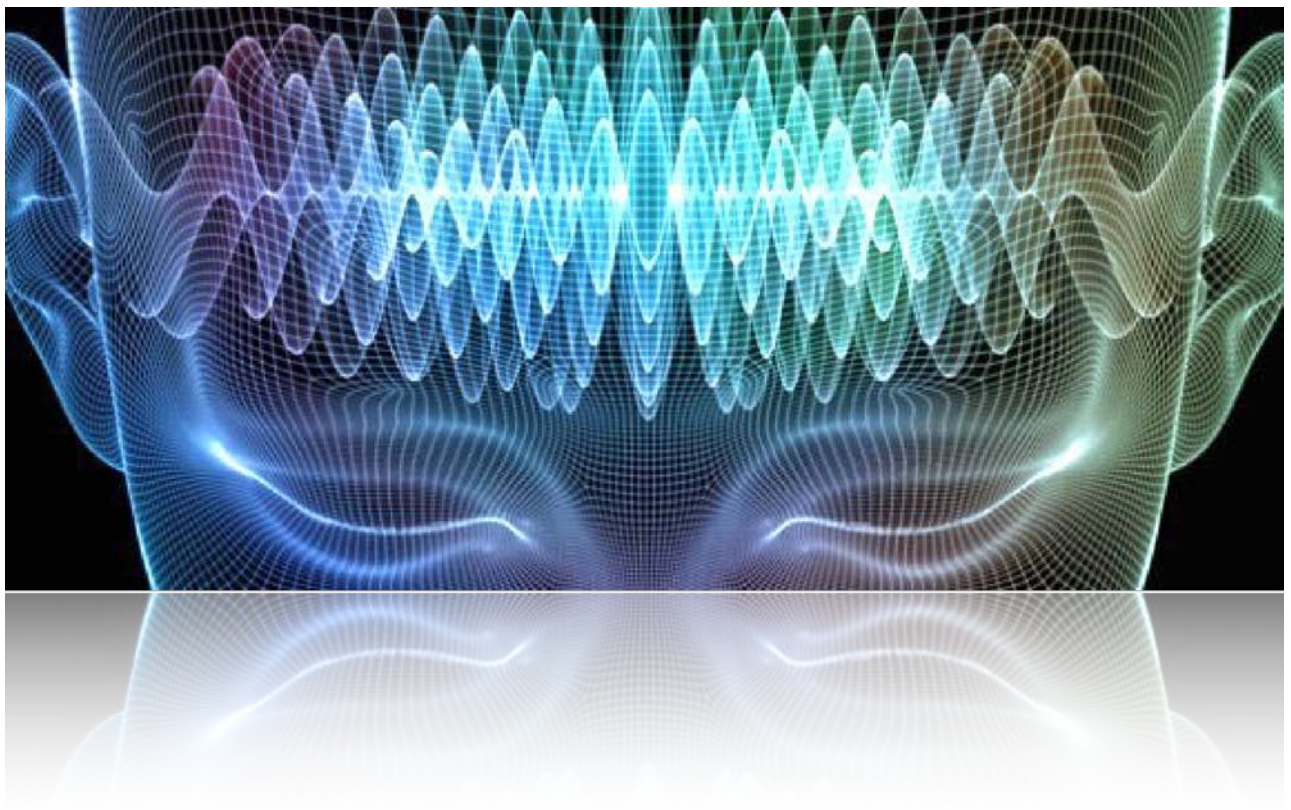




# A Beginner's Guide to Binaural Beats Meditation



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2nd Edition

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1.

## How Binaural Beats Work

German experimenter Heinrich Wilhelm Dove first discovered how binaural beats work in 1839. It wasn't until 1973, however, that biophysicist Doctor Gerald Oster brought the benefits into mainstream awareness through an academic paper named Auditory Beats in the Brain (Scientific American, 1973).

Oster's research concluded that binaural beats could be an effective tool in cognitive and neurological research because of the way in the frequencies altered brain state.

Forty three years on, and a broad range of research by scientists and sound engineers later, binaural beats music is widely used by meditators, therapists, hypnotists and individuals seeking to positively change self-limiting emotions and behaviors, relieve stress, improve memory and focus, increase productivity, and reach higher levels of spiritual consciousness.

# The Brainwave Spectrum

In the same way that electrical equipment runs at specific frequencies, so does the brain. These frequencies are known as brainwaves and are measured in Hertz (Hz). When we are in high states of anxiety the speed of our brainwaves increases, and when we are relaxed the speed decreases. This concept is key in understanding how binaural beats work.

When the brain is in an awake and aware state, it is usually running at somewhere between 5 – 40 Hz. When we are in a brain state conducive to learning and energetic activity, our brainwaves run at around 20 – 25 Hz; this is known as the Beta state.

In states of deep meditation, our brainwaves will be running at somewhere between 4 – 8 Hz, which is known as the Theta State. In deep sleep, where the regenerative facilities of the body are in operation, our brains run somewhere between 1 – 4 Hz, which is known as the Delta state.

## The 4 Core Binaural Beats Brain Wave States



### Beta: 14-40 Hz

Concentration, arousal, alertness, cognition  
Higher levels associated with anxiety, disease, feelings of separation, fight or flight



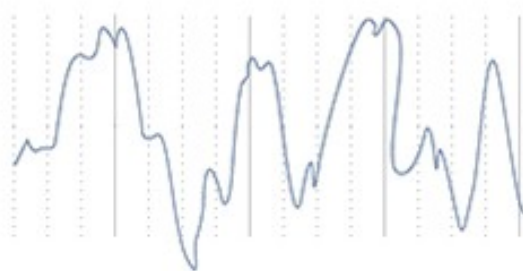
### Alpha: 8-14 Hz

Relaxation, superlearning, relaxed focus, light trance, increased serotonin production  
Pre-sleep, pre-waking drowsiness, meditation, beginning of access to unconscious mind



### Theta: 4-8 Hz

Dreaming sleep (REM sleep)  
Increased production of catecholamines (vital for learning and memory), increased creativity  
Integrative, emotional experiences, potential change in behavior, increased retention of learned material  
Hypnagogic imagery, trance, deep meditation, access to unconscious mind



### Delta: 1-4 Hz

Dreamless sleep  
Human growth hormone released  
Deep, trance-like, non-physical state, loss of body awareness  
Access to unconscious and "collective unconscious" mind, greatest "push" to brain when induced with Holosync®

## A Natural Science

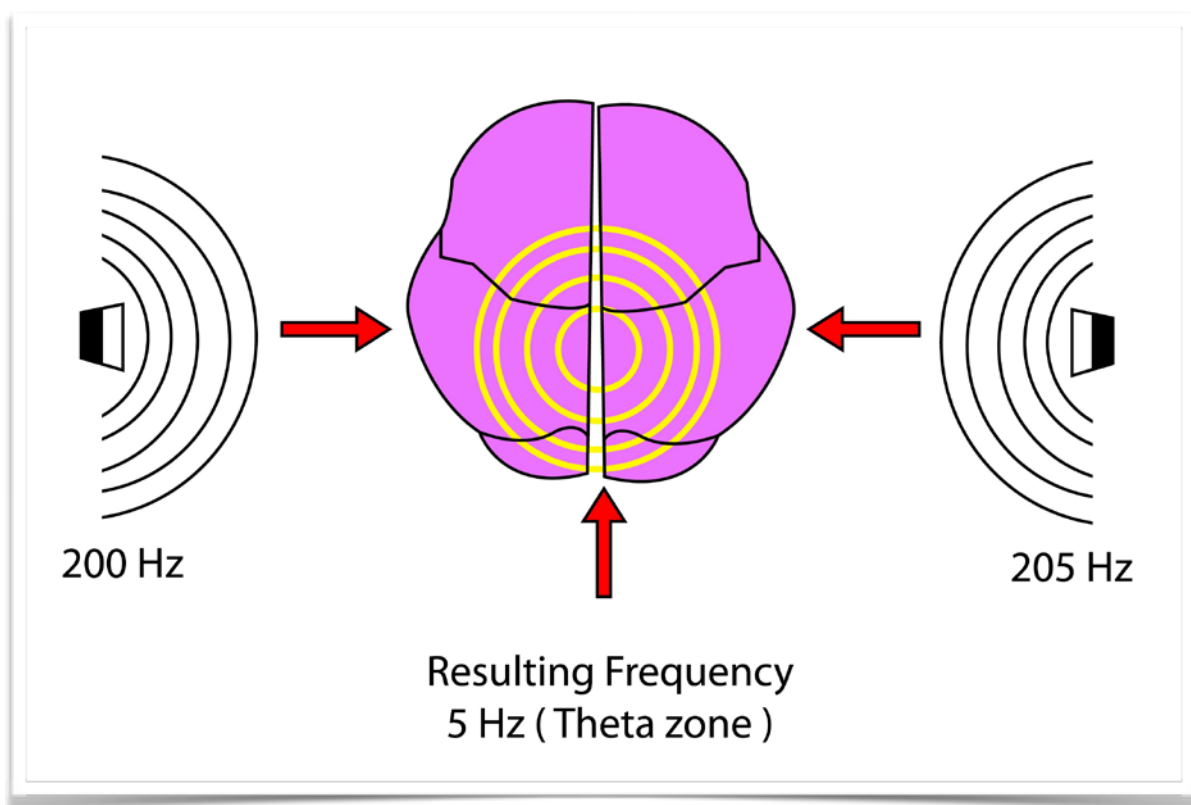
The science of binaural beats occurs naturally in the brain. A separate sound frequency – which sounds like a tone – is sent to the left and right ears through headphones.

Upon hearing the two frequencies, the brain responds by interpreting the two frequencies as one consistent, rhythmic sound frequency, known as a binaural beat(s).

The resulting frequency (tone) represents the mathematical difference between the two frequencies (Hz) of the left and right tones that were initially sent to the left and right ears.

For example: If the right ear is sent a tone of 200 Hz, and the left ear is sent a tone of 205 Hz, the brain's waves (brainwaves) automatically begin to vibrate at the difference between these two signals (e.g. 5 Hz).

The technical term for this process is 'frequency following response' (FFR).



To simplify this explanation, we should think about this process as sending a sound tone to the left ear and a sound tone to the right ear. Subsequently a new tone that trains (or “entrains”) the brain to the way we want to feel is naturally produced by the brain.

## How to Test the Effects

You can test the scientific theory by visiting our [How it Works](#) page and putting on headphones. Scroll down the page until you come to the section that contains an audio player.

First press play on the sample provided and listen awhile. Then take off one of your earphones (left or right). Notice how the consistent, pulsating tone is lost when one earphone is removed.

Now swap ears and try the other side. When you listen individually to each earphone, you hear the original sound frequency (tone) being sent to that ear. When you put the other earphone back on, the brain immediately responds to the presence of both frequencies (tones) and effectively creates a third sound frequency (tone), which is the binaural beat(s).

Binaural beats music is completely safe because the process simply replicates human brainwave states that occur within the brainwave spectrum on a daily basis.

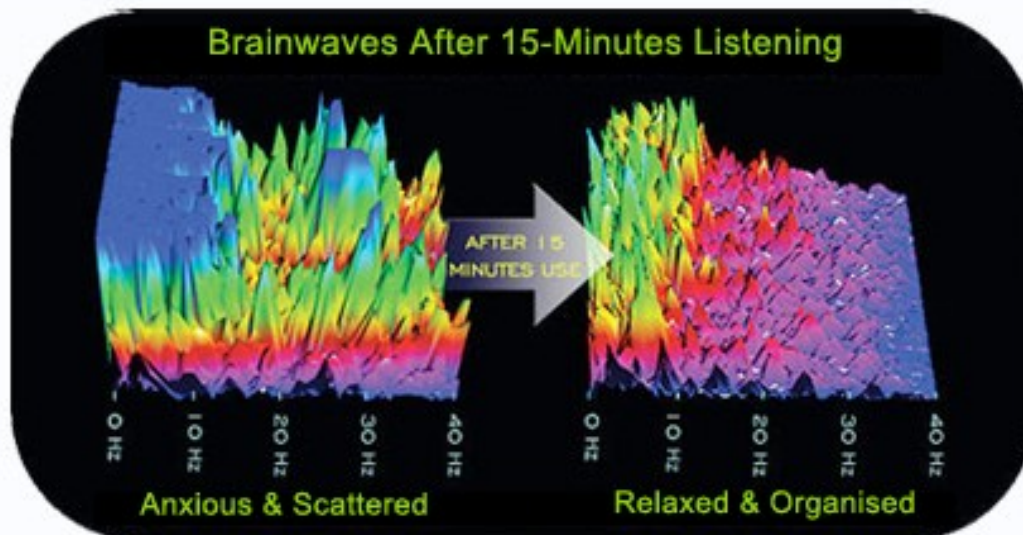
This means we can use binaural beats music to entrain the brain to states conducive to health and wellbeing: such as deep meditation and relaxation, productivity and focus and high-level learning and creativity.

For example, a person suffering from stress can listen to binaural beats music that contains Theta waves. By doing so, the brainwaves will be entrained to a state of lower activity, therefore calming the mind and releasing stress and leaving the listener more relaxed.



## The Impact of Binaural Beats on Brain State

After listening to a Theta binaural beats recording for 15-minutes, the graph shows how the brainwaves have gone from an anxious, scattered state to a relaxed, organised and functional state.



Think of binaural beats like taking vitamin supplements to enhance the brain's performance. By using the appropriate recording in a specific situation, the brain can be habitually trained to move into the desired state.

For example, a person who suffers from anxiety before a particular event, such as flying or interviewing for a job, could listen to a recording designed to relieve symptoms of anxiety beforehand to assist in creating a positive, habitual mental association.

When entrained in this way over a prolonged period, the brain will naturally begin to adopt this state in future occurrences of the same event.

2.

## How to Use Binaural Beats

You can use binaural beats music anywhere at anytime, as long as you have headphones. The reason you need headphones is that the brain needs to hear both tones (left and right) at the same time to produce the desired effect.

Technically speaking, if you put your head between a set of speakers, you could listen without headphones. However, the effects would be greatly reduced – not to mention that this is an impractical way to enjoy the experience.



The 'frequency following response' process is not location dependent, which means that generally speaking you can listen wherever you want to.

The process happens naturally when the brain receives the sound frequencies to each ear, so it doesn't matter whether you're at home or at work. However, as with standard meditation practice, to achieve optimum results, we recommend that you listen in a relaxed environment, free of distraction.

The reason for this is because whether you are using binaural beats to meditate, relax, improve concentration and focus, relieve stress or sleep better, the brain will respond best to entrainment when it is least distracted by external sounds and movement.

## Best Practice Listening

When listening to a recording for meditation or relaxation purposes, and for stress and anxiety relief, we particularly recommend that you find an isolated space, ideally in a neutral environment that isn't associated with high-energy activity.

Your environment should be free of disturbance, so be sure to turn off your phone and let those likely to disturb you know that you will not be available for the duration.

Sitting in close proximity to nature is ideal. You might choose to sit in the park, by a lake or river, or an area surrounded by plants, flowers and trees. You might choose to sit in your garden, or, if you can't go outside, find a relaxing room in the house that benefits from plenty of natural light.

Focus on being in the moment; present and relaxed. If you find this difficult, close your eyes and concentrate on the rise and fall of your breath as you listen. Visualise your breath coming and going from your body. Watch it flow in and consume your body, and then flow out as it connects you with the natural world. The aim is to release your mind from the attachments of everyday life and allow the brain to centre itself for optimal entrainment.

If you are listening to a recording designed for high-level concentration, heightened creativity, increased productivity or wakefulness, then by all means listen while you engage in the activity you wish to entrain the brain for. This might include working at the computer, writing or

painting. But again, the less distracted by outside influence (traffic noise, people talking, etc.,) the more effective the entrainment will be.

We advise that you sit or lie down rather than walking around. This is purely for your own safety. The last thing we want is for you to have an accident because you couldn't hear what was going on around you, or because you were too relaxed or focussed to sense danger.

Please Note: Never listen to binaural beats music while driving or operating machinery.

## Sitting Vs. Lying Down

Binaural beats music is commonly used by meditators, and by those seeking to attain higher levels of consciousness and spirituality. This is because the music enables the brain to move quickly into states of deep relaxation – conducive to stimulating and opening the third eye. This, combined with ambient sounds that contain hypnotic-like properties, contribute to a state of deep concentration and mindful awareness of the present; thus the term binaural beats meditation.



It is therefore quite common for users to assume the traditional seated meditation position, also known as the lotus position. If you find this position uncomfortable, don't worry, it isn't a necessity. You can instead sit on a cushion or a comfortable seat. You can also lie down on a couch or on the floor.

However, if you are likely to fall asleep, refrain from lying down, particularly on your bed, unless of course you are listening to [Deep](#)

Sleep. in which case the purpose is exactly that. Whether you decide to sit, lie down or walk around, ensure you aren't restricted by tight clothing, and that you aren't too hot or too cold. The general rule is to try and make yourself as comfortable as possible.



3.

## How to Choose the Right Headphones

While any pair of standard earbuds – like those that come free with your phone – will do the job, if you are using binaural beats music on a regular basis, it really is worth investing in some good quality headphones to get the most out of your experience.

We recommend using closed-back headphones for an optimal listening experience, and where possible avoiding cheaper models that have poor frequency response and cause reflections and resonance.



If you aren't aware of the difference between closed-back and open headphones, here is a short explanation:

Closed headphones have a sealed cup, whereas open headphones are “open” behind the driver. Basically this means that closed headphones will stop you hearing outside sounds, and stop sound leaking from your headphones into the earshot of others.

In short, closed headphones tend to give you a more "in head" soundstage, which is great for listening to music in general.



However, lower-end brands of closed-back headphones, despite having a sealed cup, still present problems because they produce reflections and resonances, unlike higher-end models from the likes of Bose, Sennheiser, and Sony, which deal these issues very well.

[Amazon.com](https://www.amazon.com) regularly has good deals on affordable, good quality closed-back headphones. We have also written an extensive post on this subject to help you choose the right pair for your budget. [Read that post here.](#)

## Setting the Volume

You don't want to give yourself earache, but at the same time you don't want the music to be so low that you can hear external sounds. When listening, set the volume so that you can't be disturbed by outside noise like passing traffic or people talking.

Depending on the track you purchase from [our store](#), you will find that the prominence of the binaural beats (the tone) underneath the music varies. This is because the frequencies used to create the binaural beats track (the pulsating tone underneath the music) differs for each brain state in the spectrum (Delta/Theta/Alpha/Beta). For example, [Astral](#)

[Projection](#) has a subtler binaural beats track than [Zen Focus](#). Simply adjust the volume of each recording to a level you are comfortable with.

4.

## How Often to Listen

Binaural beats are safe and there are no known side effects. However, from a legal standpoint we are unable to recommend our music to pregnant women, those with a history of seizures, and those with heart problems.

In addition, we do not advocate excessive use, but purely as a precaution. Consider that binaural beats meditation music is different to standard music. While normal music does contain Theta, Beta and Delta frequencies within it's soundscape; and we are exposed to these frequencies in nature every day, the frequencies aren't delivered in such a concentrated form. Therefore we advise moderate use to air on the safe side of avoiding possible headaches caused by excessive headphone use.

Listening on a daily basis is fine, but we suggest a limit of two to three 30-minute recordings per day. We user test our music prior to commercial release, and research has shown us that this level of useage is more than sufficient to bring about profound, positive change.

5.

## Further Reading

If you have found this guide useful and would like more information on binaural beats and brainwave entrainment, you can join us over [on our blog](#) where we regularly post up useful helpful tips and research findings.

If you are interested in purchasing one or more of our meditations, you can find out all you need to know under our [FAQ section](#). Alternatively, if you have a question you'd like to ask us, you can [contact us here](#).

We hope you thoroughly enjoy our music and look forward to hearing from you soon.

Best regards.

Daniel Finch (founder).

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