

# BAUD TRAINING

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Impulse Control Protocol

# Introduction

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- ❑ The BioAcoustical Utilization Device (BAUD) is a battery-operated, hand held auditory stimulation device that emits sound waves for use as an alternative treatment modality for conditions involving physiological arousal.
  - ❑ It is designed to be used after a brief introduction by a professional health care provider and available directly to the user in the home or other mobile locations according to the needs of the individual.
  - ❑ The BAUD can be used as a self-directed method to lower impulsive emotions and natural cravings distracting to the goals of the individual.
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# Advantages of the BAUD

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- The BAUD has been shown to be a very effective as a tool for self care for impulse reduction.
    - For example, the BAUD has been shown to very successful (90%) in lowering cravings of foods in individuals desiring to lose weight.
    - Patients who have undergone bariatric surgery have had tremendous success using the BAUD to control cravings for various foods that would potentially sabotage their outcomes.
    - Success (85%) has been seen in helping people stop or limit smoking habits.
    - In the drug and alcohol detoxification units in two hospital settings, the BAUD has been found to help individuals limit the need for psychotropic drugs in the process toward healing their addiction.
  - The training time is typically brief.
  - The use of the device can be expanded into other uses by the user.
  - There are no known negative effects from the device.
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# General Underlying Principles

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- ❑ The effectiveness of the BAUD is founded on the principles of a psycho-neurological model.
  - ❑ Well-accepted research shows that drumming and other rhythmic auditory stimulation can impose a driving pattern on the brain, particularly in the theta and alpha ranges.
  - ❑ The entrainment of theta- and alpha-waves synchronizes the frontal areas of the brain with ascending discharges from lower brain structures, producing a physiologically altered state of consciousness that is similar to states achieved by deep meditation.
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# General Underlying Principles

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- ❑ The physiological dynamics of entrainment induce relaxation and facilitates self-regulation of physiological processes; thus, can be an effective tool for reducing impulsive thoughts.
  - ❑ The BAUD has been shown to entrain individual brain frequencies by a constant emission of sounds.
  - ❑ The constant emission of a frequency will usually influence the brain to be consistent with that frequency within ten minutes.
  - ❑ For example, if the BAUD is emitting a frequency in the alpha range (8-12 Hertz), the brain will tend to show the similar frequency. In this case, alpha frequencies are those levels that induce relaxation for the person.
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# Principles of Success

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- ❑ The BAUD addresses more complex mechanisms for impulse control.
  - ❑ It is based on a model in which frequencies are sought that are associated with the emotional aspects of a specific impulse or craving.
  - ❑ When there is an impulse, such as a craving, the brain emits that emotional frequency in the area of the body where the person is experiencing the corresponding physiological impulse. This represents the body-emotion of the impulse.
  - ❑ By humming, toning, or merely experiencing the overall pitch of the BAUD in the body, the individual can locate the craving image or impression directly to the body-emotion of the impulse.
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# Principles of Success

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- For example, a person may experience a craving for chocolate, and as they imaged chocolate, felt the sensation in their stomach.\*
- The BAUD pitch can then be set at a level so that the person experiences a vibration or tingling in the stomach.
- This sensation is then representative of the brain experience of the impulse.

\*Generally, areas of felt emotions reside along logical body associations. Food cravings are often felt in the stomach area.

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# Principles of Success

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- ❑ Once the body-emotion area is located, the individual can interrupt those emotional impulse associations by using the BAUD to change an interference frequency.
  - ❑ This technique interferes with the impulse with an action similar to entrainment, but utilizes disruption frequencies.
  - ❑ Disruption frequencies are abrupt and the individual can usually feel the disruption of the emotional aspects of an impulse and quickly dispel the arousal needs associated with the desired object; whether it be food, drugs, or drinks.
  - ❑ The individual can continue to go through the methods with the device and counter the arousal emotions of the impulsive thoughts.
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# BAUD Overview

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- ❑ The BAUD is a battery-operated, hand held device that emits sound waves.
  - ❑ The BAUD emits two distinct tones, one for each ear. These tones are square waves ranging from 38 to 362 Hertz (Hz). If compared to the music on a CD player, iPOD or FM radio, the BAUD's sound production provides simpler and more constrained tones.
  - ❑ The upper limit of decibels (db) generated by the unit is 80 db, which is below the OSHA safety limit of 90 db for eight hours per day [OSHA guidelines section 1910.95(b)]
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# BAUD Overview

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The BAUD unit has four control knobs; two upper and two lower.

The lower knobs allow the user to control the unit's volume for the right and left ear independently.



The upper right knob allows the user to control the frequency of the emitted sound wave.

The upper left knob allows the user to control the degree of interference with the emitted frequency.

The BAUD is designed so that the user can independently set the volume and frequency to specifically target and alter subjective internal states.

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# Procedure

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- The Bioacoustical Utilization Device (BAUD) should be introduced by a professional health care provider who understands the specific uses of the device and can guide the individual through its simple steps.
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# Step One: Identifying the Impulse

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- The first step is to determine the specific nature of the impulse or craving. This step might actually take a great deal of clinical patience for maximizing specificity. The more specific, the more powerful the results.
    - For example, many people often express cravings for “fast food,” but the more precise the description the better the results.
    - People crave special foods based on associations that vary with personal or family history; for example craving pumpkin pie because of association to joy and the need for support.
    - Food cravings may also represent “self-medication;” for example cravings for chocolate cake often relate to a deepening of depression and the stimulating aspects of chocolate. The impulsive craving for french fries often relates to anxiety and the need to lower stress levels through complex sugars.
    - The same principle holds with nicotine, alcohol, and drugs. Individuals have deep-seated associations with a wide variety of substances that they crave in times of emotional distress and grief.
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# Step Two: Locating the Impulse

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- ❑ For most cravings, people feel the sensations in their stomach and chest (anxiety and self-esteem/depression).
  - ❑ However, many people are confused about the term *sensations* and say they feel them in their mouths (where they ingest the substance) or in their head (where they image their stresses).
  - ❑ It may take more than one session to help the client to relax and get in touch with feelings and emotions related to an impulse or craving. Some excellent questions that might help them discover their emotional needs are:
    - How do you feel when you have these impulses or cravings?
    - What kinds of feelings do you satisfy when you consume or act on your impulse?
    - When you are prevented from acting out or consuming these substances, where in your body do you feel the most tension?
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# Locating the Impulse - Special Precaution

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- ❑ In some cases an individual with anxiety or fears will have difficulties locating the stress points in the body.
  - ❑ This is usually a history in which the person has tried to control their anxiety or fear through denial, avoidance, and dissociation.
  - ❑ In these situations the individual may require some preliminary biofeedback and relaxation exercises.
  - ❑ It may be important to assess the anxiety levels and use relaxation strategies in preparation for BAUD training.
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# Biofeedback Assessment for Awareness

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- In the event of restricted awareness of anxiety and stress associations in the body or even high levels, it would be important to conduct a psychophysiological assessment (PPA).
  - This consists of evaluating the systems measured by biofeedback technology, such as finger temperature, EMG, heart rate, EDR or other objective measures.
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# Relaxation Strategies for Priming

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- Relaxation strategies used in preparation for the BAUD could include:
    - Relaxation scripts and CDs (i.e.: [Mindbodyseries.com](http://Mindbodyseries.com))
    - Using therapist's sensitivity as feedback, offer direct instruction.
    - Imagery techniques
    - Cognitive therapy
    - Breathing techniques
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# Step Three: Introduction to BAUD

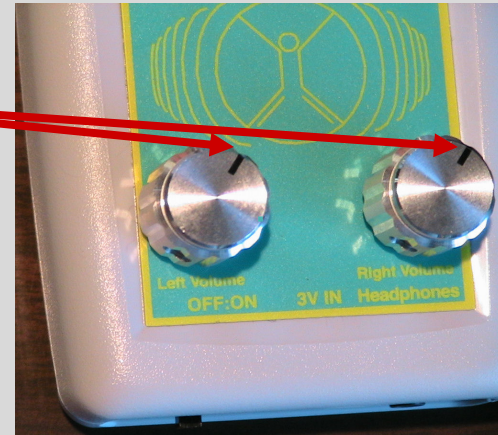
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- Offer the client to examine the device and demonstrate the sounds from each ear bud.
    - Be sure and explain that there is nothing electrical that could shock or give pain.
  - Have the client put the ear buds in their ears and focus on the basic operation of the device for the time being.
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# Step Four: Centering the Tone

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- ❑ Adjust both lower volume knobs to the OFF position
- ❑ Turn on the device
- ❑ Insert the plug for the ear buds
- ❑ Have the client adjust the volume such that the balance is equal between the ears
- ❑ The volume should be “relatively” high
- ❑ Turn off the BAUD



# Step Five: Locating the Body-Emotion Impulse

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- ❑ With the device off so the individual can hear your instructions, have the person close their eyes to locate where in their body they feel the emotions of the impulse or craving.
  - ❑ This has a major feature of clinical skills to help the person get in touch with their feelings as represented by the physical sensations.
  - ❑ The underlying principle of using the device is the ability to the sensitivity to personal feelings. Otherwise, there will be difficulty noting the changes in their own sensations and emotions. Like biofeedback, the person will be using their own sensitivities to determine what frequencies will be most effective.
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# Strategies to Assist in Locating the Body-Emotion Impulse

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- Strategies to assist the client during Step Five:
  - Have the client place their hand on parts of their body and see if it creates a sense of comfort.
  - Sometimes the person will need to learn to relax enough to get in touch with their feelings. Taking them on a 20-minute relaxation script will help them tune into their emotions better
  - *Many clinicians find it very useful for the individual to hum a tone that vibrates or can be felt at the spot of the feelings.\**
  - Nearly all individuals can accomplish this humming feat, although they might feel conspicuous.
  - It may be helpful for the therapist to hum along with the person and use his or her own body to understand the location and possible associated emotional states.

\* Don Campbell refers to this as “toning” in his book, *The Mozart Effect*.

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# Step Six: Toning the Body-Emotion Impulse

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- With the tone and location found, instruct the individual to use the upper right knob to bring the device pitch to approximate the tone he or she was just expressing.
- Ask if the pitch from the device also stimulated the associated body location.



For example, a client felt the impulse for eating French fries in the top of her chest, right below the neck. She hummed a tone that brought a feeling of some stimulation (warmth) in that location. She tuned the knob so the pitch from the BAUD sounded similar to her tone as well as creating some stimulation in the lower throat area.

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# Step Seven: Impulse/Craving Imagery

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- Once the pitch has been determined, have the individual image the impulse action he or she often has, such as wanting French fries or eating chocolate cake.
- Have the individual enhance the imagery by smelling, touching or moving toward the action. This is the critical step.

*Note: It may be preferable to turn the device off for Step Seven instructions because of the distraction of the noise coming from the device; however, the therapist may be able to “talk over” the noise.*

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# Step Eight: Impulse/Craving Disruption

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- Instruct the individual use the upper left knob (Disrupter) and “erase” the impulse emotion.
- In other words, instruct the person to use the upper left knob to disrupt the connection between the impulse and the emotional drive.



For example, if the individual was imaging French fries, have him or her disrupt the *need* or emotional drive toward them with the knobs.

- Allow the individual to adjust the toning and disruptor knobs as necessary (primarily the disruptor knob) until he or she finds the correct settings.
  - Continue this correction procedure (using the disruptor knob primarily) and discover the *disconnect*.
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# Step Eight Notes

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- Allow the person plenty of time to discover the shift in emotional association.
  - Most people will smile as they find the right frequency.
  - Some will comment that they have “almost” found it. In these cases, reinforce them to play with all the knobs to tweak the frequency. Many will find the volume balance to be the final key, others will recalibrate the pitch. With support, very few will not be successful.
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# Step Nine: Reinforcing Success

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- ❑ Once successful, continue to have the individual challenge the experience of their impulses.
  - ❑ Invite them to image stronger and stronger images of the impulsive actions.
  - ❑ For example, have him or her image more of the substance they crave.
  - ❑ Strengthen the disruption experience.
  - ❑ Have him or her continue experimenting for five minutes.
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# Step Ten: Completion

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- Turn the BAUD unit off
  - Have the individual practice a couple of more images without the device and record the experience.
  - Reinforce the impact and experience and encourage the person to go through the same steps for the next week.
  - Review the steps they went through, and continue the overall therapeutic process.
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# Follow-Up

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- ❑ The effects of the BAUD usually last several days and even months; however, the user is strongly encouraged to experiment with it from time to time.
  - ❑ Often the user will want to use it for a friend, and this is also encouraged because the user is gaining confidence in himself or herself as well as re-training themselves.
  - ❑ For any discomfort or ill effects, such as ear-ringing or shifts in comfort levels with the impulse behaviors noted before, suggest discontinuation of the device for a month. This may be due to some reorientation of the brain associative processes, and may be helpful in adaptation.
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