

PHOTOSONIX  
***InnerPulse***  
Made in the USA  
microfirm inc.  
Signal Hill, CA

# ***InnerPulse*** **Owners Manual**

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by microfirm inc., Signal Hill, California, USA.  
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[www.photosonix.com](http://www.photosonix.com)



# Please read this first, it's important:

## A Welcome from Photosonix:

Thank you for selecting the InnerPulse. It is a quality product with state of the art features, and will give many years of service and exciting adventures as you learn to use it to influence your mood, mental state, and energy level.

Pulsating light and/or sound patterns have been used for thousands of years in almost all cultures to evoke emotional responses, from exciting a crowd to assisting in meditation to encouraging sleep. The techniques are part of folk knowledge, and science is just beginning to find out why they work. So as you begin to use light and sound stimulation you are embarking on a voyage on discovery and exploration.

Use of these technologies is completely safe for most people, and no side effects are known, but they are not for everyone — please read the warning on this page carefully:

## Warning:

Use while seated or lying down. Be sure that ***you*** or ***anyone*** else who will use the InnerPulse are ***not*** subject to any form of epilepsy or visual photosensitivity, using a pacemaker, suffering heart disorders, currently taking stimulants, tranquilizers or psychotropic medications, including alcohol or drugs.

Even if you have never had a seizure, there is a small chance that you are photosensitive and this device can cause one.

For more seizure information, see our web site at [www.photosonix.com](http://www.photosonix.com) and look up the Medical Disclaimer, Seizure links.

While using the machine, if you feel uncomfortable or bothered by the flashing lights, stop your session.

Your Photosonix unit is designed for avocational and entertainment use. No medical claims are made for Photosonix products, express or implied. The Photosonix products are ***not*** medical devices and should not be used for the relief of ***any*** medical condition. Please consult with your practitioner prior to use for any other purpose as the machine is not intended as a replacement for medical or psychological treatment. This device is not intended to affect the structure or any function of the human body.

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## Battery and AC Adapter information

The system comes with 4AA replaceable batteries. Their life span is good for about 30 hours of play. This also depends on how bright you run the glasses (the glasses draw the most current). A low battery voltage signal is built in the InnerPulse (all periods between the numbers in the display will blink) to alert you that the batteries are getting low on power. Also, when the batteries are really low and need replacement you will hear static in the sound.

The InnerPulse will also run on rechargeable batteries, NiCad for example. These you will need to recharge externally, the InnerPulse is not set up to recharge batteries.

If using the InnerPulse at the same location all the time, you can use it with an AC Adapter. The unit takes a 6V 300 ma AC Adapter with the positive (+) in the center of a 2.1mm plug. You can purchase one from us or the local electronic store. Avoid purchasing a variable voltage AC Adapter, it gives too many opportunities for set up errors.

## Warranty provisions:

*The InnerPulse is constructed with high quality components, high standards of workmanship, and thoroughly tested before shipment. Nonetheless, failures are possible and warranty service may be required.*

**WARRANTY DURATION** Photosonix systems are warranted to the original consumer purchaser for a period of one year from the original purchase date.

**SERVICE AND REPAIR:** *For warranty service and/or repair information as well as the cost of out of warranty repairs, please contact our customer service.*

You can do so via telephone 1-800-258-2566 (in the USA), by visiting our web site <[www.photosonix.com](http://www.photosonix.com)> and link to the repair information page and also via email <[repairs@photosonix.com](mailto:repairs@photosonix.com)>

**IF ADVISED TO SEND A UNIT IN, BE SURE TO INCLUDE A LEGIBLE RETURN ADDRESS AND PHONE NUMBER. WE STRONGLY RECOMMEND THAT YOU INSURE THE PRODUCT PRIOR TO SHIPPING.**

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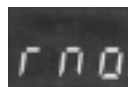
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# Table of contents, Advanced functions

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# Setting Ramps “rno”



Ramps (smooth changes of pitch and frequency) can be set in the manual mode (oPc session) on the InnerPulse. Press **DOWN** from **r01** to **oPc**, press **PLAY**. At the end of the countdown the InnerPulse is in the manual mode. Press **SELECT** until the ramp time display comes on displaying “rno” (no for no ramp) mode. Use the **UP** key to reach the desired ramp time.

The r00 display is an immediate response ramp at zero time, r30 is 30 seconds, r02. (with a decimal point) is two minutes. Frequency and pitch changes are not executed immediately, instead a ramp of the specified time is started when ENTER is pressed.

### To enter a ramp:

**Step 1.** With ramp turned off (rno) set the parameters for the start of the ramp.

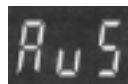
**Step 2.** Select a ramp time, 0 seconds to 15. minutes.

**Step 3.** Enter the commanded ramp target frequencies and pitches.

**Step 4.** Press ENTER to execute the ramp.

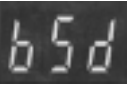
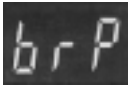
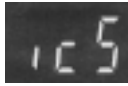
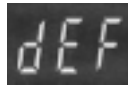
The ramp feature allows you to manually create a simple session that for example, ramps from 15hz to 10hz and stays there for the rest of the session. It is also a good way to experiment with ramping pitch and frequency interactions in dbb and dSb tones.

# AudioStrobe



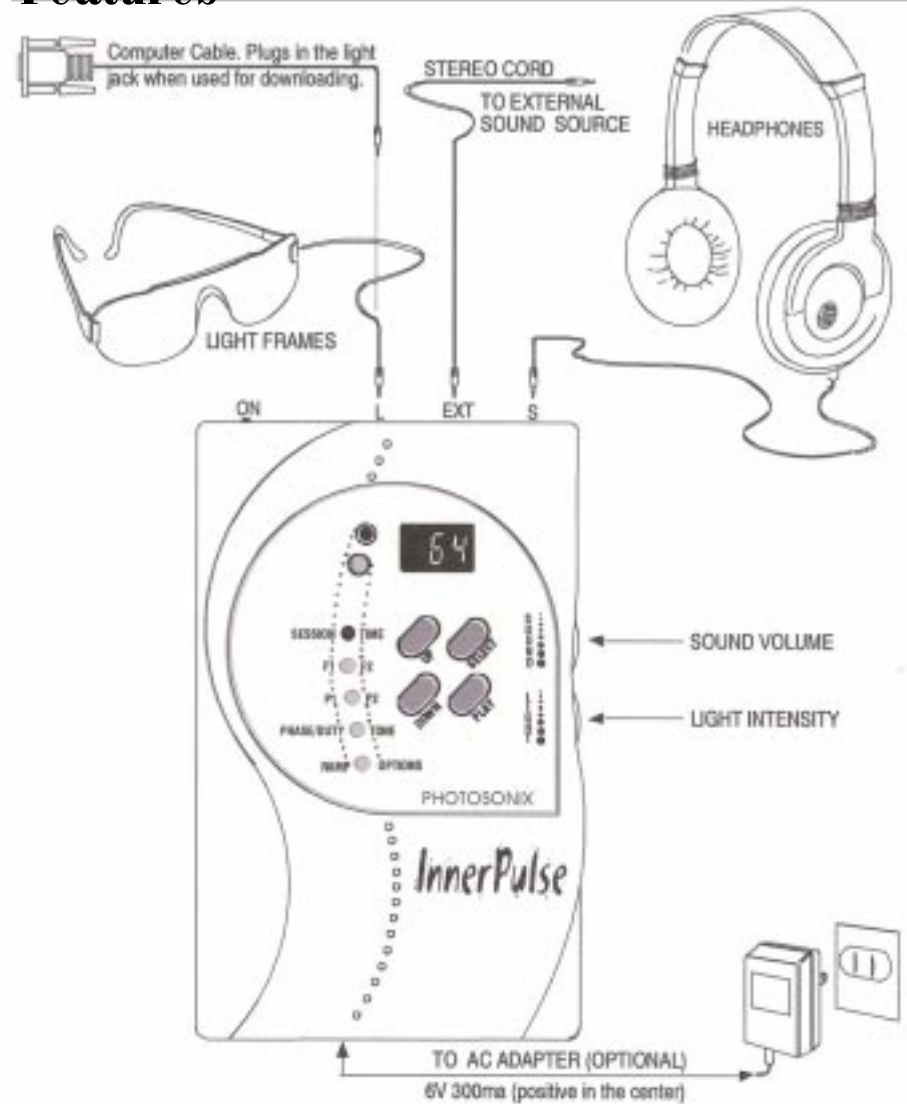
To play AudioStrobe CDs, connect your CD player to the EXT jack with the included stereo cord. Turn the InnerPulse on and go DOWN from r01 to AuS. Press PLAY (the LEDs will blink to show that a session is in progress). Start the CD player, and the AudioStrobe session will play. You can terminate the session by double clicking PLAY.

# Options menu information

Cue	Description, Range	default	
bSd	breath session slowdown	1.0,1.5...4.0	1.5
	This is the slowdown factor used in breath pacing sessions.		
brP	breath rate and pattern	2-30 seconds breath, 1/2-30 second hold	3,1,3,1
	Enters the breath calibration mode, so you can set your own breath pattern. You can record your pattern in PPr.		
icS	improv change speed	15-480 seconds	60 sec
	This is the average parameter change time used in Improv sessions.		
dEF	restore default settings		
	When things get really confused.		

The dEF entry allows the user to restore factory defaults for all oPc and oPL settings. Since it changes a lot of things at once, it is protected from accidental activation. Pressing **UP** or **DOWN** while dEF is displayed will enter the default setting feature and will display "no". A **SELECT** or **PLAY** action while "no" is displayed will do nothing. Pressing **UP** will change the display to a blinking "dEF". A **DOWN** action will go back to "no". A **SELECT** or **PLAY** action while the blinking "dEF" is displayed will set default settings. Note that in a manual session (oPc) these parameters are not recorded, they will just be in effect during the current session. If a dEF action is completed during PPr, the default settings will be recorded and will be in effect in future sessions.  
 Note: This action does not erase downloaded sessions.

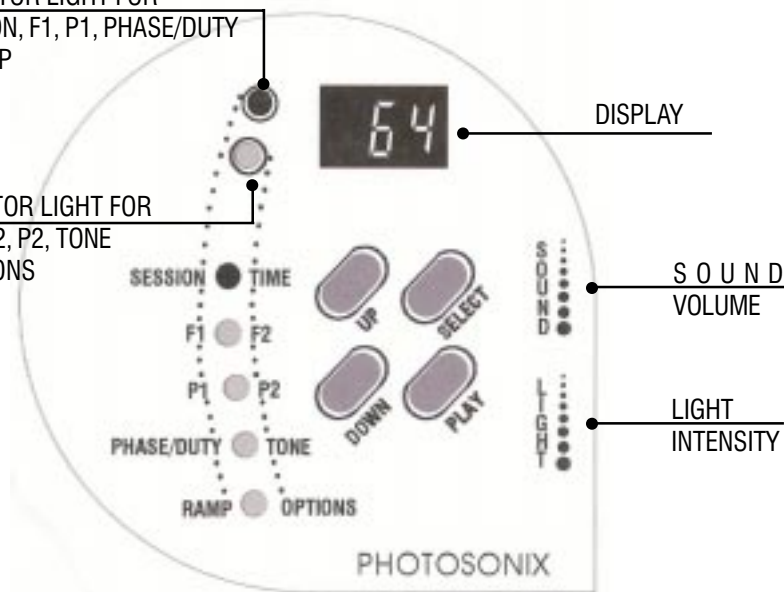
# Features



# Functions

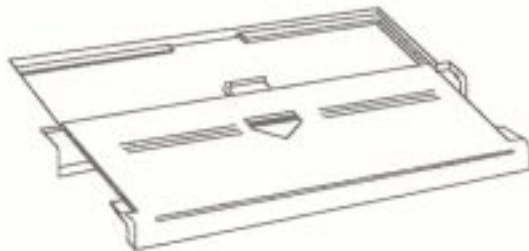
INDICATOR LIGHT FOR SESSION, F1, P1, PHASE/DUTY & RAMP

INDICATOR LIGHT FOR TIME, F2, P2, TONE & OPTIONS



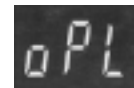
# Battery placement

**Note:** For best contact, insert the PLUS side of the batteries first. Battery sizes vary, please make sure the batteries are in all the way and make contact with the springs.



For more about battery **choices** and **care**, please see the inside cover page.

# Options menu information

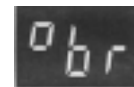
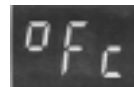


The Innerpulse makes a number of operator options available through a special Options menu. This menu can be accessed when a programmed or manual session is running or when the Personal Preference recording (PPr) mode is selected. When in any of these modes press **SELECT** until **oPL (options list)** is displayed. To enter the options menu, press **PLAY** while **oPL** is displayed.

Once in the options menu, there is a separate **SELECT** sequence. Select will move through a series of label cues for the various features controllable in this mode. To access a feature, press **UP** or **DOWN** while its cue is displayed (this first UP or DOWN does not change the value). To leave the options menu and return to oPL in the main menu select sequence, press **PLAY**.

The features accessible through the Options menu are: (press UP or DOWN to start)

<u>Cue</u>	<u>Description, Range</u>	<u>default</u>
glasses feature control (waveform)	square,sine,PhaseErase 0dC square 0SS sine 0PE PhaseErase	sine
glasses left/right brightness	left/right 0-100 L00-L99 Left intensity reduced, right full 100 both sides full intensity r99-r00 right intensity reduced, left full	100



This allows brighter stimulation to one eye, or with hemiStim glasses, to one hemisphere.

## Breath pacing calibration mode

There is a special breath pacing calibration mode available in the Options menu (brP – breath rate and pattern, press **UP** or **DOWN** with brP displayed to start). It is accessible when in a manual session or when in PPr recording. Accessing it from a manual session allows the user to set up a breath pacing pattern and continue to use it as long as desired. No pattern adjustments or breath cycle slowdown occur in this mode. The pattern created is not recorded. Accessing breath pacing calibration during a PPr session results in recording the pattern created as a new default. The breath slowdown factor is also accessible in the Options menu (bSd – breath slowdown), and has the values 1.0, 1.5, 2.0....4.0. The default slowdown factor is 1.5, meaning a 7.5 breath/minute starting rate would be slowed down to 5 breaths/minute.

To end the breath pacing calibration in the Options menu, press **SELECT** to move to the next Options menu item, or **PLAY** to leave the Options menu.

During the calibration period, the user can adjust the length of breath phases using the **UP** key. During the phase you wish to adjust, **PRESS** and **HOLD** the **UP** key until you want the phase to **END**. This works best if you breathe along with the breath cues.

For example, when the rising pitch starts, **PRESS** the **UP** key immediately and start to **INHALE**. When done inhaling, release the key. **PRESS** the **UP** key again for the hold period and release it when you start to exhale.

Continue doing this until the cues match a comfortable breath cycle for you. Inhale and exhale are limited to a minimum of two seconds each. Hold times have 1/2 second minimum.

**Note:** to create a very short hold period, just tap the key at the start of the hold phase. If you greatly extend the length of an inhale or exhale, the rising/falling pitch will get out of its normal range. In fact, a falling pitch will fade out and then start up again as a rising pitch (if you can breathe this slowly you are really good). The pitch ramp will readjust to the new phase time on the next breath cycle.

Every breath pacing session starts with a calibration period. After five breath cycles with no pattern adjustment, calibration ends and the breath pacing continues using that pattern.

For more information on great breathing articles see our web site [www.photosonix.com/pages/breath.htm](http://www.photosonix.com/pages/breath.htm)

## General notes about the displays

There are 7 LEDs and a 3 digit display to give you information about what the InnerPulse is doing.

The two LEDs at the TOP, next to the display (please see drawing on page 4), correspond to two different sections, the top for functions in the left column (Session, F1, P1, Phase/Duty & Ramp) and the bottom for functions in the right column (Time, F2, P2, Tone & Options). One will blink at the same time as the corresponding function light.

The InnerPulse starts up with r01 (relaxation session category) displayed. Once you find a session you like and use often, you can change the setting and have the unit start up with your preferred session selected (please see personal preference recording, page 25).

## General L/S sessions information

The sessions in the InnerPulse combine the rhythm, pitch and musical effect of sound with kaleidoscopic effects from light stimulation to encourage relaxation and mood changes. The effects can vary from energizing thru meditative to sleep-inducing depending on the type of stimulation, just as music can produce any of those effects.

The session names and descriptions relate the effect that was intended for the session — different persons will experience different actual effects, and the effect may vary from day to day.

The titles give a general guide to the type of effect that can be expected. Some of the sessions use fast-changing microloop sequences to give special effects.

The sessions are grouped by different general objectives, and the running time and primary tone selection are given for each session.

In the study of mental states through the electroencephalogram, four different states or types of waveforms have been characterized by neurologists:

Beta	13-40+Hertz	Awake and alert
Alpha	8-12 Hertz	Relaxed
Theta	3-7 Hertz	Reverie, Imagery, near sleep
Delta	0.5-2 Hertz	Sleep

A session's general aim is to help you reach one of those states. Although different frequency combinations in any one session will work differently for many individuals the above are the four general categories and the frequency range which they fall into.

## Quick Start

Using the InnerPulse is very easy. It really is. We do however, strongly suggest the following preparation before you get to the “easy” part:

Do, please take extra care to read about the warnings inside the front cover, the warnings are there as important information, seriously aimed at informing and protecting you and your loved ones.

## To set up

**Step 1.** Choose a comfortable sitting area.

**Step 2.** Make sure you have battery power or an AC Adapter plugged in.

**Step 2.** Plug the glasses into the **L (light)** jack and the headphones into the **S (sound)** jack.

## To play a session

**Step 1.** Turn the InnerPulse unit on: press the ON switch on the top side of the unit.

**Step 2.** Press the **SELECT** switch to cycle thru the session categories. See page 7. Stop at the category you want.

**Step 3.** Press the **UP** and **DOWN** switches to cycle thru the sessions in the selected category. Stop at the session you want.

**Step 4.** Press **PLAY**.

The InnerPulse will start a 10 second countdown before starting to play the session.

Connect yourself to the InnerPulse by putting the glasses and headphones on and explore the light intensity level (with your eyes closed) and volume control level until you find your personal comfort level (brighter and louder is not better).

**Step 5.** Close your eyes and get comfortable. Sit back and enjoy.

## To pause or stop a session

To **pause** a session, press **PLAY**. The right hand decimal point appears on the display. The session will now **pause** and play only the segment parameters that were playing when you paused it. To continue a session after pausing, press **PLAY** again.  
To **stop** a session double click on **PLAY**.

## Breath pacing information

The InnerPulse has 10 breath pacing sessions that guide the user to breath patterns used in pranayama, Yoga and Tao traditions. In addition, it can be made to slow the breath pattern.

## Breath pattern and cycle

A breath cycle is characterized by four times in seconds, for the four breath phases:

inhale breathe (IB),  
inhale hold (IH-lungs full),  
exhale breathe (EB)  
exhale hold (EH-lungs empty)

The default breath cycle is 3,1,3,1 meaning inhale and exhale are 3 seconds each and the hold times between are 1 second each. This is a total of breath cycle of 8 seconds, and a breath rate of 7.5 breaths per minute. Every breath pacing session starts with a calibration period, allowing you to adjust the default pattern to your own.

During a breath pacing session, the user is cued to inhale by a rising pitch. The sound stops during hold period, the exhale is cued by a falling pitch and the sound stops again during the hold period.

Every breath pacing session has a target pattern, defining the ratios between the breath phases. For example, one pattern is “square breathing” where all breath phases are equal. This is a 1,1,1,1 pattern. The breath cues ramp from the start and reach the target rate and pattern halfway through the session.

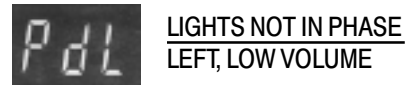
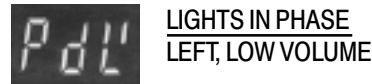
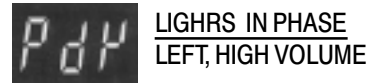
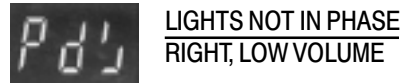
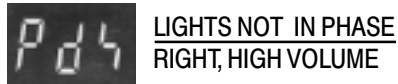
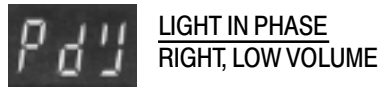
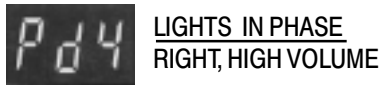
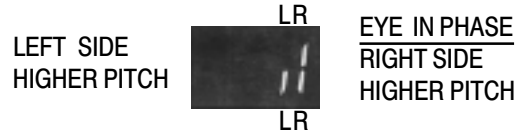
## Breath slowdown factor

In addition to the pattern, there is a breath slowdown factor. This is the lengthening of the breath cycle, and can vary from 1 to 4 in steps of ½. The default slowdown is 1.5. For example, if the starting breath rate were 7.5 breaths/minute (8 second breath cycle) and the slowdown factor were 1.5, then the ending breath rate would be 5 breaths/minute (12 second breath cycle).

A breath phase can be as long as 30 seconds, a breath cycle as long as 2 minutes.  
**Note:** breathing this slowly is very hard for most people to do.

# Phase choices

In dbb and dSb tone PHASE controls which eyes are on at the same time, and also the sound generator #2 controls.



# InnerPulse session information

There are 50 light and sound sessions, 10 Breath pacing sessions and 4 Improv sessions in the InnerPulse. By pressing the **SELECT** switch you can scroll through the categories and by pressing the **UP** and **DOWN** switch you can scroll through the session choices in the displayed category.

## Session select categories



## Session FAQ information

- The 50 light and sound sessions, 10 Breath pacing sessions and 4 Improv sessions in the InnerPulse are in the unit permanently, in other words, they can not be erased or overwritten by sessions you add.
- The permanent sessions can however have the time adjusted (see session time adjust on page 21) to longer or shorter than their original design. In addition, the user breath pattern can be adjusted in breath pacing sessions, see page 31-32.
- The user downloaded sessions (page 24) can be replaced or overwritten as many times as desired.
- For personal preference recording (PPr) or for operator controlled session setting (oPc) please see page 25 in the advanced features section of the manual.
- For designing custom sessions please see LS Designer software information on our web site [www.photsonix.com/pages/downloading.htm](http://www.photsonix.com/pages/downloading.htm)

## To play a session

To play a session all you need to do is turn the InnerPulse, plug the light frames and the headphones, select a session and press PLAY. The system will count down for 10 seconds and start to play the session. **Close** your eyes, put on the light frames and the headphones, sit back and enjoy. It really is that simple.

**USER TIP:** We strongly suggest that you adjust the light intensity and the sound volume to your personal comfort level **before** playing a session. Brighter and louder is **not better**.

**Always** keep your eyes **closed** during a session. The only exception to this is when pvStim or hemiStim glasses are used, they are designed to be used with the eyes open.

If this is your first experience with photosonic (Light/Sound) stimulation, start with the short or half hour sessions once a day or several times a week. Don't overdo it — an hour a day is tops. Experiment and find the sessions that work best for you.

To **pause** a session, press PLAY. The right hand decimal point appears on the display. The session will now **pause** and play only the segment parameters that were playing when you paused it. To continue a session after pausing, press PLAY again.

To **stop** a session double click on PLAY.

## Optional session enjoyment features

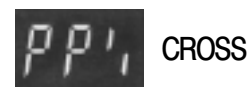
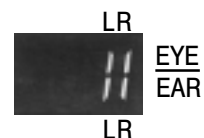
**Stereo hook up:** connect the stereo patch cord from the unit to a music source (tape, CD player) and listen to your favorite music while enjoying the session.

The choice of music is personal, there is no one better than other. You can also listen to motivational tapes and meditation material. As long as you enjoy, it will only make the experience more fulfilling. Avoid music with a strong beat, it will conflict with the beat from the InnerPulse.

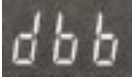
**AudioStrobe feature:** the AudioStrobe feature (press down to AuS) allows the InnerPulse to read AudioStrobe formatted CDs that have pulsed light frequencies in them. To play an AudioStrobe CD please see page 36 of the advanced section of the manual.

## Phase choices

In PF, PS, PC and bb tone PHASE controls which eyes and ears are on at the same time.



# dbb tone sample



Dual binaural beats can also be sampled in the manual (oPc) settings. Set tone to dbb, Frequency **F1** to 4.0Hz and the pitch **P1** to 128 and Frequency **F2** to 4.0Hz and pitch **P2** to 256. You will hear the binaural beat offset from both frequency generators - the right ear is hearing 128 and 256 hertz, the left ear  $128+4 = 132$  hertz and  $256+4 = 260$  hertz, so there are two separate binaural beat offsets, both at 4 hertz. With PITCH2 still selected, go DOWN one note at a time — you will continue to hear the 4 hertz binaural beats, but at 160 hertz you will become aware of the mixed tone beat phenomenon — at 144Hz it is very pronounced and overrides the binaural beats.

You need not be an expert on dbb tones in order to enjoy the sessions. dbb tones are powerful and entertaining. The PHOTOSONIX products are the only tools on the market-place utilizing dbb tones in various session designs. With the InnerPulse you have one of the best opportunities to enjoy the power of this feature.

## Pitch choices

The InnerPulse pitch range is 16Hz to 960Hz, 6 octaves of the just scale, 7 notes/octave. At the top of the P2 adjustment range are 30 pitches relative to P1. These pitches provide powerful beat creation possibilities. The range is  $P1 \pm 15$  hertz, so if P1 is 120hz, the P2 possibilities are 105 to 135hz.

The low frequencies have a very powerful effect with the standard headphones, for even stronger effects you can use more expensive headphones. We have tested our UltraBass headphones with great results and recommend them (please see our web site for more info) and also the Sony MDR-V6.

## Frequency choices

The stimulation frequency range is from 1/4 hertz to 42 hertz. Frequencies go in steps of 1/4 hertz through 2 hertz, 1/2 hertz through 10 hertz, 1 hertz through 20 hertz and 2 hertz through 42 hertz.

The Schumann resonance at 7.8 hertz is also included.

# Session library guide summary

## Relaxation

Session	Time	Frequency Range	Tone
r01. Relax and Back	46 min	3-14Hz	dbb
r02. Power Relaxation	15 min	10-11Hz	dbb
r03. Calmdown	5 min	7-18Hz	dbb
r04. Waves of Calm	10 min	7.83-12Hz	dbb
r05. Relax Wave	22 min	7-14Hz	bbs
r06. Lite/low relax	25 min	7-13Hz	dbb
r07. Deep rest	42 min	0.5-15Hz	dbb

## Special Applications

Session	Time	Frequency Range	Tone
P01. Low Range Aerobic Jumper	20 min	4-10Hz	bb
P02. High Range Aerobic Jumper	20 min	10-18Hz	bb
P03. Hut-Ten-Hut!	21 min	10,18Hz	chord
P04. Banish the Winter Blues	18 min	30-40Hz	chord
P05. Left Brain	15 min	3-24Hz	dsb
P06. Right Brain	15 min	3-24Hz	dsb
P07. Left Hemisphere	20 min	7-42Hz	dsb
P08. Right Hemisphere	18 min	7-42Hz	dsb

## Meditation

Session	Time	Frequency Range	Tone
d01. Meditation of Earth	32 min	4-24Hz	tone
d02. Earth Grounding	33 min	4-24Hz	dbb
d03. Mind Awake, Body Asleep	43 min	2.5-15Hz	dbb
d04. Chakra Balancing	38 min	7,14Hz	dbb surf
d05. Cosmic Consciousness	35 min	3.5-20Hz	dbb
d06. Deep Low Meditation	36 min	.25-12Hz	dbb
d07. Deep 'n back	34 min	.25-12Hz	dsb

# Session library guide summary

## Sleep

Session	Time	Frequency Range	Tone
S01. Pleasant Dreams, Sleepy Head	37 min	2.5-10Hz	dbb
S02. Knockout!	42 min	1-14Hz	dbb
S03. Catnap	42 min	3-14Hz	dbb
S04. Deepsleep	37 min	.50-8.50Hz	dsb
S05. Quick Nap	23 min	2-15Hz	dsb
S06. TKO	45 min	2-10Hz	mixed

## Learning

Session	Time	Frequency Range	Tone
I01. Quick Pre-Study	15 min	4-14Hz	dbb surf
I02. Quick Post-Study	16 min	1-12Hz	dbb surf
I03. Assisted Suggestion Assimilation	51 min	6-12Hz	bb surf
I04. Memory/Recall	30 min	4.5-14Hz	bb surf
I05. Baroque Beat	43 min	1-16Hz	dbb
I06. Accelerated Learning	44 min	5-16hz	tone

## Energize

Session	Time	Frequency Range	Tone
E01. Pre-Workout	18 min	1-20Hz	dbb
E02. AM Pumper	17 min	1-14Hz	dbb
E03. Varoom	10 min	1-42Hz	dbb
E04. Wired	5 min	9-42Hz	dbb
E05. Sportswave	30 min	16-30Hz	tone
E06. Hi N-R-G	18 min	1-20Hz	dbb

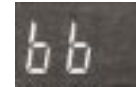
## Create/Visualize

Session	Time	Frequency Range	Tone
c01. Music Creativity	23 min	3-24Hz	chord
c02. Hyper Alert Creativity	28 min	20-40Hz	dbb
c03. Dreamy Visuals	47 min	4.5-11Hz	dbb surf

# About binaural beats

When the ears hear tones at different frequencies but close in pitch, a mechanism in the sound processing machinery of the brain detects the difference between the frequencies and perceives “binaural beats”, stimulation at the difference between the frequencies. The effect is most pronounced at low frequency differences and low carrier frequencies. If you are not familiar with the effect, in the oPc session try the sample below.

## bb tone sample



To experience a binaural beats tone sample, you can use the manual (oPc) session. In oPc set tone to bb, then use **SELECT** to reach the frequency parameters. Set the frequency **F1** to 1.0Hz and the pitch **P1** to 128. Listen to the sound one ear at a time - note that the tones are almost the same - the left ear is at 128 Hz, the right at 129 Hz. Now listen with both ears at once, and you will hear beats at the one Hertz difference frequency. If you put on the glasses, you will find that the lights are synchronized to the “difference frequency” or binaural beat offset.

## About dual binaural beats

In dual binaural beats, each ear hears a mixture of two tones. This results in chords, and makes the sound richer and fuller. In addition to the chord effect, there is a “beat” effect - when closely spaced tones at two different frequencies are mixed, the result is a “beat” phenomenon - the resulting sound is the average frequency pulsed at the difference frequency. If the two frequencies are far apart, they will be perceived as two distinct tones. As they get closer together, the beat phenomenon becomes more pronounced. To experience the dbb tone effect try the sample on the following page.

# Tone choices

There are 8 sound tones, utilizing the two frequencies F1 and F2 and pitches P1 and P2.



PFr, pulsed frequency. The selected pitch P1 is pulsed at the selected frequency F1. The lights also blink at the F1 rate.



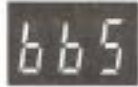
PSu, pulsed surf. A surf sound and the lights are pulsed at frequency F1.



PCh, a pulsed chord with controllable chord separation from a minor third to a full octave (a two note chord and the lights are pulsed at the selected frequency).



bb, binaural beats sends different pitches to two ears (pitch P1 to the left ear, Pitch P1 plus frequency F1 to the right ear) and the sound source direction detection mechanism in your auditory system picks up the difference frequency F1, while the lights blink at the F1 rate (see page 27).



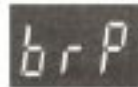
bbS, binaural beats with surf, a soothing surf sound is the background for binaural beats. The lights blink at the F1 rate.



dbb, in dual binaural beats there are four tone generators running at once, the left ear receives pitches P1 and P2 mixed together, the right ear receives pitch (P1+F1) mixed with pitch (P2+F2). This gives two binaural beat ranges at the same time, and provides for many beat possibilities.



dSb, dual monaural beats, monaural beats occur when two closely spaced pitches are mixed in the same ear, beats are heard at the difference of the pitches. The dSb tone, sends P1 and P1+F1 to the left ear (creating monaural beats at F1) and P2 and P2+F2 to the right ear (creating monaural beats at F2). in dSb, the left eye lights blink at the F1 rate, the right eye at the F2 rate, for a true dual stimulation frequency experience.



brP, breath pacing, available only in breath pacing sessions, please see page 31-32 for more information.

# Session library guide summary

## Create/Visualize Continued

Session	Time	Frequency Range	Tone
c04. Reset	10 min	1-30Hz	dbb
c05. Mindspin	4 min	3-30Hz	dSb
c06. Visualize	43 min	3-15Hz	dbb

## Entertain/Fun

Session	Time	Frequency Range	Tone
F01. Nirvanaphoria	35 min	1-16Hz	bb surf
F02. Sensual Magic	15 min	7-40Hz	dbb
F03. Kaleidoscope	40 min	1-40Hz	tone
F04. A Muse Ment Park	27 min	1.5-40Hz	mixed

## Breath pacing sessions

Session	Time	breath pattern	Tone
b01. Natural Clarity I	15 min,	user pattern 1/2 slowdown	brP
b02. Natural Clarity II	15 min,	user pattern full slowdown	brP
b03. Vitality Breathing	15 min,	user pattern fast breaths	brP
b04. Pranayama I	15 min,	equal breaths	brP
b05. Pranayama II	15 min,	equal breath and full hold	brP
b06. "Four Square" Relaxation	15 min,	all breaths and holds equal	brP
b07. Pranayama III	15 min,	long hold on full	brP
b08. Pranayama IV	15 min,	1,4,1,2 pattern	brP
b09. Yoga breath	15 min,	exhale twice inhale	brP
b10. Taoist breath	15 min,	inhale twice exhale	brP

## Improv

Session	Time	Frequency Range	Tone
i01. Theta Improv	30 min	3.00-6.5Hz	bb surf
i02. Alpha Improv	30 min	7.00-11.00Hz	bb surf
i03. SMR Improv	30 min	12-15Hz	tone
i04. Beta Improv	30 min	16-26Hz	tone

## Session Choices, Relax:



- 1. Relax and Back**                      **46 min, dual binaural beats 3-14 Hz**  
This session begins at 16 Hertz and ramps into the Alpha/Theta range for light to medium relaxation, then on down to Delta for deep relaxation. It ends with a return to relaxed alertness.
- 2. Power Relaxation**                      **15 min, dual binaural beats 10-11 Hz**  
This is relaxation for the physical body. Use after a workout or strenuous physical activity.
- 3. Calmdown**                                      **5 min, dual binaural beats, 7-18 Hz**  
Calm your jangled nerves and reduce emotional strain with this rolling alpha/theta wave soak. Use after a stressful and upsetting event as a quick balancer.
- 4. Waves of Calm**                              **10 min, dual binaural beats, 7.83-12 Hz**  
Experience waves of calmness with this peaceful, smooth and relaxing session. Use it whenever you need to relax quickly.
- 5. Relax Wave**                                      **22 min, binaural beats with surf, 7-14 Hz**  
Take a relaxing trip to the cyber-sea. Ocean waves and low pitched binaural beats fade in and out opposite the lights for a beach like experience.
- 6. Lite/low relax**                              **25 min, dual binaural beats, 7-13 Hz**  
A mild relaxation session, calming but not too deep.
- 7. Deep Rest**                                      **42 min, dual binaural beats, 0.5-15 Hz**  
When you require total rebuild and repair, this is the session for you. Also good after strenuous activity. Allow time afterwards to gradually come back to doing active things. Try it with nature sounds.

## Personal preference recording:



The **PPr** feature in the InnerPulse allows you to record personal preference settings. You can select the session you like best and enter it in the PPr setting and the InnerPulse will remember the setting and always come up with that session when turned on.

**For example:** if you want the InnerPulse to always turn on ready to play Relaxation session r03, Press the **DOWN** key to PPr and press **PLAY** (the session LEDs will blink). Press **SELECT** to the session category you like, press **UP** or **DOWN** to get to the session that you want to record. Double click **PLAY** to remember the session.

You can extend the PPr mode to record preferences for the operator controlled (oPc) session, and the options menu (oPL) features. This allows you to really customize the machine to your preferences. To enter this extended recording mode, press **PLAY** just once after selecting a preferred session. The system will enter the operator controlled session without a countdown, and will create the stimulation you select, so you can easily select the parameters that sound good to you. Select all the parameters, and set the values you like. Double click **PLAY** to record your values. While in this extended recording oPc session, you can also enter the options menu (oPL) and set values there, which will also be recorded (see page 34-35).

## Operator controlled session “oPc”



The operator controlled session, or manual mode, allows you to control the stimulation from the keyboard of the InnerPulse. In the session select mode, press **DOWN** from r01 to get the oPc display, then press **PLAY**. The oPc session starts with a countdown, same as any other session, and its run time can be changed in the same way (see page 24).

When in the oPc session, you can select through the various stimulation parameters and change them with the **UP** and **DOWN** keys. Doing this is an excellent way to become familiar with the features in the InnerPulse. The parameters are explained on the following pages, but playing with them in the oPc session is much easier and more fun than reading the manual.

You can enter the oPc session from Personal Preference recording, PPr, and the system will remember your settings.

# Advanced Functions

## Adjusting session time

The duration of the InnerPulse sessions can be adjusted from 1/2 to twice the default time. A session may be run at 1/2 to 2 (in steps of 1/4) times its designed time. The 3 digit display can display up to 4 hours of run time; however, downloaded sessions may be designed to run much longer than this.

To change the time of a session press **SELECT** during the 10 second countdown. The default session time will be displayed. Use the **UP & DOWN** keys to scroll through the possibilities and change the time length to your preference. Press **PLAY** when done and the session will play according to your new setting. There are seven choices, from 1/2 to 2 times the default time.

**EXAMPLE:** A session with default time of 30 minutes will give choices of 15, 22, 30, 37, 45, 52, 1.0. Times below 1 hour are displayed in minutes (01 to 59) and above that in hours and minutes (1.17 is 1hr 17 minutes).

## About “dL” (downloading) sessions

The InnerPulse has room for up to 25 downloaded sessions, or a total of 250 segments of storage space, that can be added from your computer via the supplied cable. Also, a USB port serial adapter is available from Keyspan (part # USA-19QW) <[www.keyspan.com](http://www.keyspan.com)> .

**To download sessions:** first, you will need to download our L/S Librarian software (available free from our web site <[www.photosonix.com](http://www.photosonix.com)>) and the computer cable plugged in the L (light) jack. More downloading instructions are in the Librarian help section.

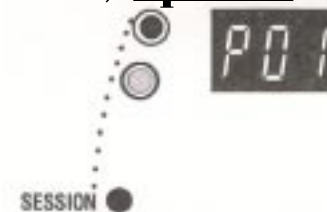
The downloaded sessions are displayed in the user downloaded (u01-#) category. You can use L/S Librarian to print a list of the sessions you are downloading and keep the list as a reference of the current dL sessions in your system.

**To design sessions:** you will need to purchase our L/S Designer software.

For more information on downloading or creating new sessions please see the **downloading** link on our web site.

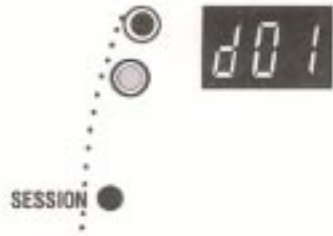
**Note:** If you are running Librarian (or Designer) software that does not mention the InnerPulse, you can use the Nova Pro 100 download commands for downloading into the InnerPulse, they work the same way.

# Session Choices, Special:



- 1. Low Range Aerobic Jumper**      **20 min, binaural beats, 4-10 Hz**  
Random frequency, tone and pitch changes at 5 second intervals in the alpha-theta range. Designed to promote mental flexibility.
  - 2. High Range Aerobic Jumper**      **20 min, binaural beats, 10-18 Hz**  
The same concept as session 1, moved to the alpha/beta range of 10-18 Hertz.
  - 3. Hut-Ten-Hut!**      **21 min, pulsed chords, 10-18 Hz**  
The classic light/sound session for assistance in reducing distractions.
  - 4. Banish the Winter Blues**      **18 min, pulsed chords, 30-40 Hz**  
The lights come on slowly as the stimulation frequency reduces from 40 to 30 hertz, then 15 minutes of 30 hertz, then 15 minutes of 30Hz light stimulation help to combat the winter blues.
- Note:** Sessions 5-8, designed with dual monaural beats are best suited for hemiStim glasses.
- 5. Left Brain**      **15 min, dual monaural beats, 3-24 Hz**  
This session stimulates the left, logical hemisphere in beta while relaxing the right hemisphere. Try with math or other linear/logical thinking tasks.
  - 6. Right Brain**      **15 min, dual monaural beats, 3-24 Hz**  
This session is designed to stimulate the right brain while calming the left. Helpful for creativity or other right-brained activity.
  - 7. Left Hemisphere**      **20 min, dual monaural beats, 7-42 Hz**  
This session stimulates the left hemisphere and subdues the right. For linear/logical thinking.
  - 8. Right Hemisphere**      **18 min, dual monaural beats, 7-42 Hz**  
This session excites the right hemisphere while calming the left. Great for creative thinking.

## Session Choices, Meditate:



### 1. Meditation of Earth

**32 min, pulsed tone, 4-24 Hz**

Multi-mode meditation featuring the Schumann resonance frequency of 7.83 Hertz and its harmonics.

### 2. Earth Grounding

**33 min, dual binaural beats, 4-24 Hz**

Uses the Schumann resonance and its harmonics with dual binaural beat tones set at chord intervals of fifths (frequency ratio 3 to 2) on the Just scale. The chord interval of a fifth is known in Eastern cultures as the "Heaven and Earth Interval". A powerful earth meditation.

### 3. Mind Awake, Body Asleep

**43 min, dual binaural beats, 2.5-15 Hz**

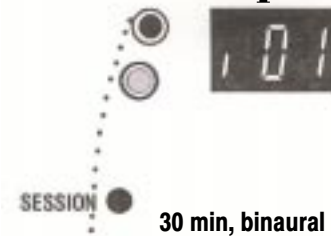
This program creates a dynamic state in which the body is resting and the higher mind is awake. It is similar to sessions that have been used to promote oobe (out of body experience) states. See "Awakening Mind" by James Mann.

### 4. Chakra Balancing Meditation

**38 min, dual binaural beats/surf, 7-14 Hz**

The first two minutes are spent in frequency ramps to aid in focussing. Then after a short blackout the tone changes to binaural beats with surf, and the exercise begins. The Chakras are meditated upon one at a time, beginning with the base, then the genital, solar plexus, heart, throat, third eye, and finally the crown. A four octave microloop introduces each meditation period, which moves through four octaves at one minute intervals. The octave sequence used for each chakra is based on the traditional note for that chakra, and the binaural beat offset frequency is set to 7 Hertz for theta meditation. Instruction in chakra meditation is beyond the scope of this manual — the meditation should be learned first, and this program used as an accompaniment.

## Session Choices, Improv:



### 1. Theta Improv

**30 min, binaural beats with surf, 3.00-6.5 Hz**

### 2. Alpha Improv

**30 min, binaural beats with surf, 7.00-11.00 Hz**

### 3. SMR Improv

**30 min, pulsed frequency, 12-15 Hz**

### 4. Beta Improv

**30 min, pulsed frequency, 16-26 Hz**

An Improv session has randomly selected segment times, with each segment having randomly selected start and end frequency (in the selected frequency range). Pitch and Phase are also randomly selected.

**You can use the Improv sessions as ever-changing sources of stimulation in your choice of frequency ranges and parameter change speeds.**

**A true endless Kaleidoscope of possibilities.**

## How do Improv session parameters work

An operator-controllable parameter in the options menu controls the speed of changes in an Improv session. You can select/change the speed of parameter changes (the default is 60 seconds) to get a faster changing busy session or a mild relaxing one. The actual segments have random lengths spread around the average.

To see the parameter, enter the **options** menu (see page 34) to icS (Improv change speed). The values representing the average length (in seconds) of the individual segments of a session are 15, 30, 60, 120, 240 and 480. Press **UP** or **DOWN** to see the value.

To permanently change the value enter PPr (see page 25) and then the options menu.

You can change the session run time (the default is 30 minutes) to run in 15 minutes to 1 hour using the standard session time adjust feature (page 24)

## Session Choices, Breath Pacing:

For information on how  
Breath Pacing sessions  
work please see the  
information on page 31-32  
in the advanced section  
of the manual



**7. Pranayama III** **15 min, long hold on full**  
Set to slow and lengthen the hold on full to four times the equalized inhale exhale and hold on empty periods. Try after Pranayama I & II are easy for you.

**8. Pranayama IV** **15 min, 1,4,1,2 pattern**  
The most demanding of the pranayama sessions. Can only be done after mastering the other pranayama programs. In this session, the hold on full is four times the equalized inhale and exhale periods and the hold on empty is twice the inhale and exhale periods.

**9. Yoga Breath** **15 min, exhale twice inhale**  
Yoga is believed to emphasize ascension of the spirit, promoted by lengthening the outbreath. This session doubles the length of the exhale period relative to the inhale.

**10. Taoist Breath** **15 min, inhale twice exhale**  
The Taoist way emphasizes grounding and the accumulation of Chi, promoted by lengthening the inhale period. This session doubles the length of the inhale period relative to the exhale.

## Session Choices, Meditate:



**5. Cosmic Consciousness** **35 min, dual binaural beats, 3.5-20 Hz**  
This session is designed to help recreate the mystical awakening into high consciousness associated with many eastern religions.

**6. Deep Low Meditation** **36 min, dual binaural beats, .25-12 Hz**  
Deep bass tones and low binaural beat offsets make this a very deep meditation session.

**7. Deep 'n Back** **34 min, dual monaural beats, .25-12 Hz**  
A deep relaxation/meditation session that leaves you feeling refreshed.

## Session Choices, Sleep:



- 1. Pleasant Dreams, Sleepy Head**      **37 min, dual binaural beats, 2.5-10 Hz**  
Experience how quickly and easily you can drift off to sleep with the power of dual binaural beats. Feel free to remove the headphones and goggles when you become very drowsy.
- 2. Knockout!**      **42 min, dual binaural beats, 1-14 Hertz**  
A powerful sleep trainer. Use when an effect stronger than S01 is needed.
- 3. Catnap**      **42 min, dual binaural beats, 3-14 Hz**  
Ramps deep into delta and stays for 18 minutes, followed by a return to refreshed awareness.
- 4. Deepsleep**      **37 min, dual monaural beats, .50-8.50 Hz**  
A sleep session using dual monaural beats. Good night.
- 5. Quick Nap**      **23 min, dual monaural beats, 2-15 Hz**  
A 5 minute descent into a 16 minute nap, with a quick return to energized wakefulness.
- 6. TKO**      **45 min, mixed dbb/bbs, 2-10 Hz**  
This is "Technological Knock Out", a high tech sleep aid. Who needs those sleeping pills anyway?

## Session Choices, Breath Pacing:



For information on how  
**Breath Pacing sessions**  
work please see the  
**information on page 31-32**  
in the advanced section  
of the manual

- 1. Natural Clarity I**      **15 min, user pattern 1/2 slowdown**  
For beginners. A good start and the easiest. Use it first to get used to slowing your breath. It maintains your breath pattern, and uses half the slowdown factor.
- 2. Natural Clarity II**      **15 min, user pattern full slowdown**  
Suitable for everyone after having become accustomed to slower breathing.
- 3. Vitality Breathing**      **15 min, user pattern fast breaths**  
This is a favorite of many meditators. It alternates 10 slow breaths with five fast breaths. During the slow breath, you naturally get drawn into the breathing process and during the fast breaths you experience a tremendous sense of vitality. Breath slowing works as in b02.
- 4. Pranayama I**      **15 min, equal breaths**  
Set to slow your breath and equalize inhale and exhale periods. Aims at attaining a calm, poised state. Practice this for several sessions before going into Pranayama II.
- 5. Pranayama II**      **15 min, equal breath and full hold**  
Set to prepare you for deeper exercises by providing a hold on "full" making the inhale, exhale and hold on full the same length. Practice this for several sessions before attempting the later pranayama programs or the "four square" breathing.
- 6. "Four Square" Relaxation**      **15 min, all breaths and holds equal**  
More demanding than Pranayama I or II sessions, set to slow your breath and make each of the four breath phases of equal length. The aim is to lead to deep absorption in the breathing process.

## Session Choices, Entertain/Fun:



- 1. Nirvanaphoria**                      **35 min, binaural beats/surf, 1-16 Hz**  
Microloops of binaural beats with surf and octave pitch progressions lead to the final 9 minutes of blissful energy-giving relaxation.
- 2. Sensual Magic**                      **15 min, dual binaural beats, 7-40 Hz**  
This program uses beta range stimulation in the four octave pitch tones of the chakra associated with sexuality. Be sure the right person is the first one you see when the session ends.
- 3. Kaleidoscope**                      **40 min, pulsed tone, 1-40 Hz**  
An exciting session offering experience with kaleidoscopic color patterns.
- 4. A Muse Ment Park**                      **27 min, mixed, 1.5-40 Hz**  
Unexpected twists and turns give a lively feel to this fun and games session.

## Session Choices, Learning:



- 1. Quick Pre-Study**                      **15 min, dual binaural beats/surf, 4-14 Hz**  
The power of dual binaural beats allow this session to be short, but focussing and calming. Use to get into the mood for study.
- 2. Quick Post-Study**                      **16 min, dual binaural beats/surf, 1-12 Hz**  
Use immediately following study for quick, deeply relaxed delta integration of newly learned material. The session ends with a return to relaxed awareness.
- 3. Assisted Suggestion Assimilation**    **51 min, binaural beats/surf, 6-12 Hz**  
This session sets up conditions for the hypnagogic state in the Alpha Theta region, close to sleep, the state of relaxed receptivity. Suggestions will be most effective after the first 12 minutes. Use with your favorite positive suggestion or behavior modification tapes.
- 4. Memory/Recall**                      **30 min, binaural beats/surf, 4.5-14 Hz**  
This session moves between alpha and theta to encourage entry into a hypnagogic state, the twilight state where past memories can come to light.
- 5. Baroque Beat**                      **43 min, dual binaural beats, 1-16 Hz**  
Some say baroque music is the ideal background for advanced learning. This session uses dual binaural beats in counterpoint, the main features of baroque music. Try using it with Baroque music, you may be amazed by this dynamic duo!
- 6. Accelerated Learning**                      **44 min, pulsed tone, 5-16 Hz**  
Classical light/sound accelerated learning, for relaxation and retention.

## Session Choices, Energize:



- 1. Pre-Workout** **18 min, dual binaural beats, 1-20 Hz**  
Dual binaural beats with beta offsets centered on low pitched tones for an energizing effect. Great for “psyching up” before a workout or physical exercise.
- 2. AM Pumper** **17 min, dual binaural beats, 1-14 Hz**  
Ramps from delta into beta stimulation, with goggles frequency peaks at 14 Hertz. Use after waking up for a gentle ramp into the day.
- 3. Varoom** **10 min, dual binaural beats, 1-42 Hz**  
This motivational session will get you up and running. Great for use as a body/mind tonic whenever you are feeling sluggish.
- 4. Wired** **5 min, dual binaural beats, 9-42 Hz**  
Get wired with gamma waves, beta waves and stretching pitches. This session is designed to get your mind racing.
- 5. Sportswave** **30 min, pulsed tone, 16-30 Hz**  
Designed to help you psych up for sports or other high alertness activities.
- 6. HI N-R-G** **18 min, dual binaural beats, 1-20 Hz**  
Begins at 1 hertz and progresses to 20 hertz, using beta offset frequencies and low pitch for energizing stimulation.

## Session Choices, Create/Visualize:



- 1. Music Creativity** **23 min, pulsed chord, 3-24 Hz**  
Pulsed chord progressions create a musical effect while providing creative microloop stimulation in the alternating mode. The latter part of the program uses ramped tones with phase changes for inspiring effects. Use before playing your favorite musical instrument, or just for general inspiration.
- 2. Hyper Alert Creativity** **28 min dual binaural beats 20-40 Hz**  
Beginning in mid-Beta and moving to high Beta, this program promotes a hyper-alert state of awareness. It is energizing while sharpening perception and stimulating creative thinking.
- 3. Dreamy Visuals** **47 min, dual binaural beats/surf, 4.5-11 Hz**  
Stepwise progressions (no ramps) dominated by soothing theta relaxation and its dream-like images.
- 4. Reset** **10 min, dual binaural beats, 1.5-30 Hz**  
Reset your mind, get focused and relieve boredom with Reset! Dual binaural beats, ramps and rapid changes make this session excellent for getting back on track.
- 5. Mindspin** **4 min, dual monaural beats, 3-30 Hz**  
Put a new spin on your mind with this session. The twisting, turning, visual trip goes great with exciting music.
- 6. Visualize!** **43 min, dual binaural beats, 3-15 Hz**  
The ability to visualize “crystal clear” is not easily done. This program is designed to assist you in acquiring skills of deep visualization. Have a goal in mind while using this session. Use with active music.

