



# [AVE USER GUIDE]

An Introduction to Audio-Visual Entrainment

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#### INTRODUCTION

Welcome to the world of Audio-Visual Entrainment (AVE). Mind Alive Inc. is dedicated to assisting you in your quest for wellness. Our patented DAVID AVE devices allow various areas of the brain to work together in harmony. By using your DAVID device you may experience your mind in a new and beneficial way.

The DAVID devices integrate the necessary principles of audio and visual stimulation to safely and effectively guide you into desired states of relaxation, consciousness, attention, and boosted brain performance - ideal for those who want to expand their personal development, boost their mood and sharpen their mind. In order to obtain the maximum enjoyment and benefits from your DAVID device, we have created this user guide to introduce the core concepts of AVE, which will provide you with a starting point for your journey of self-improvement.

AVE is a non-invasive form of stimulation: no electrical current is passed through the user. All resulting effects are produced in the brain solely by the audio-visual stimuli.

Cranio-Electro Stimulation (CES) is available on select DAVID devices. CES technology **does** pass a small current of electricity through the user, but must be actively initiated by pushing the CES buttons located on our CES-capable DAVID devices. CES can be used in combination with AVE, or on its own.

#### USING THIS GUIDE

This guide is designed to be a companion and introduction to the world of AVE. Everything you need to know about operating your DAVID device, and the specific sessions contained within it, is included in the Operator's Manual. The information in this guide is provided to help you understand what AVE is and how it can benefit you in your everyday life.

The first part of the guide contains an introduction to AVE principles and concepts. We start by describing the method and cornerstones of AVE, detailing the psychological and physiological benefits you may experience. Several other concepts related to good mental health are also described.

The second part of the guide contains a self-guided survey to help you select which types of sessions you may want to try. Part of the survey is designed to help you identify areas of stress and anxiety in your life. The rest of the survey will help you evaluate which session groups will provide you with the most benefits.

## THE EFFECTS OF AVE

Many users of the DAVID have reported experiencing:

- deep relaxation while feeling more energized
- visual images, colors and patterns
- the sense of feeling "grounded" and calm
- increased mental clarity for resolving problems
- enhanced interpersonal relationships
- cheerfulness
- mental sharpness.

This deep state of AVE-induced regeneration has proven to be useful for many of the mental, emotional and physical challenges that nearly all of us face at one time or another in our lives. When the body/mind effects from experiencing AVE are fully appreciated, the experience becomes as regular and beneficial as many other life essentials such as quality sleep, good nutrition, pure water and exercise.

# **BRAINWAVE FREQUENCIES**

Activity in the brain is often measured by observing and recording "brainwaves" which are rhythmic or repetitive neural activity. Brainwaves can be observed through an Electroencephalography (EEG) which is a test that measures electrical brainwave activity along the scalp. Brainwaves are categorized by frequency with each category having different positive and negative effects, depending on your current and desired level of arousal or alertness.

Brainwaves indicate both the level and type of arousal in a part of the brain. When a person is awake and engaging in a task, delta, theta and alpha activity should be low, revealing beta as the dominant wave. As a person relaxes, alpha quickly increases. As a person becomes deeply relaxed and especially with eyes closed, theta will become the dominant brainwave and as a person falls asleep, delta becomes the dominant brainwave with occasional short bursts of sensori-motor rhythm (SMR) in the sensori-motor strip to prevent sleep-walking.



Brainwaves are situation specific. Therefore, any brainwave can be either a benefit or detriment to the activity a person is trying to engage in. Stress, hectic lifestyle, and less than optimal diet suppresses relaxing brainwaves. And likewise, when we are tired during the day, the brainwaves which are essential for mental performance are suppressed. It's easy to see that if a person's brain is making the wrong frequency for a given situation, the result will be detrimental to his/her ability to succeed at the task at hand. The brain needs to flex with the various activities that one is engaging in.

The following chart demonstrates the positive as well as the negative attributes of each brainwave frequency category.

# BRAINWAVE FREQUENCIES

Frequency	Proper Expression	Improper Expression
<b>Delta</b> 1-4 Hz	Deep Sleep.	Deep axonal/glial injury.
<b>Theta</b> 5-7 Hz	Dreamy, pre-sleep, hypnogogic, creativity.	ADHD, dementia, Closed- head injury-especially when eyes-open.
<b>Alpha</b> 8-12 Hz	Main idling rhythm when eyes are closed. Deep meditation, 1 <sup>st</sup> stage of falling asleep, relaxed.	ADD, mild head injury, foggy- headed, too much alpha is associated with internalized anxiety.
Optimal Alpha 10.2-10.8 Hz	The best grad-students have an eyes-closed alpha here.	Near 11 Hz can bring on anxiety and edginess.
<b>Beta 1 / SMR</b> 12-15 Hz	Relaxed attention, calm body, involved in REM sleep.	When continuously present, can indicate Chronic Fatigue Syndrome.
<b>Beta 2</b> 16-24 Hz	Active attention & sharp mind.	Cannot fall asleep.
<b>Beta 3</b> 25-35 Hz	On high-alert, as when under attack. Seen in flightor fight response.	High physical tension and anxiety. Cannot fall asleep or reason well.

## WHAT IS AVE?

Audio-Visual Entrainment (AVE) is a technique that provides pulses of light and sound at specific frequencies in the brainwave range. Through the process of entrainment (the tendency of one's physiological processes to mirror environmental stimuli), AVE is capable of producing situational appropriate brainwave frequencies, increasing cerebral blood flow (blood flow in the brain), and increasing the metabolization of glucose in the brain for improved functioning of the neurons. The combined outcome of these processes is improved mental performance.

#### THE FOUR CORNERSTONES OF AVE

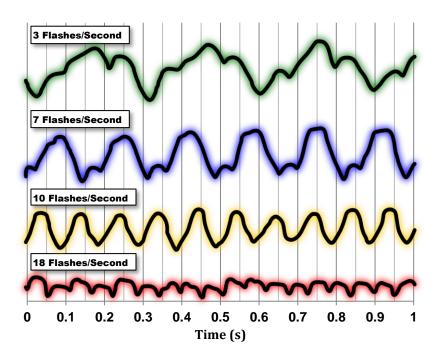
There are many benefits and positive effects caused by the use of AVE. Several changes take place during and following an AVE session that lead to these positive results. Over the next few pages, we will illustrate and discuss the Four Cornerstones of AVE:

- 1. EEG ACTIVITY CHANGES
- 2. AVE INDUCES MEDITATIVE DISSOCIATION
- 3. CEREBRAL BLOOD FLOW INCREASES
- 4. NEUROTRANSMITTERS CHANGE

#### **EEG ACTIVITY CHANGES**

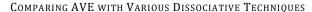
The concept of entrainment is about altering brainwave activity. Quantitative EEG (QEEG) studies have confirmed the normalization of brain activity following an AVE session. Aberrant brainwave activity in various conditions such as depression, anxiety, ADD, seasonal affective disorder, chronic fatigue, etc., may be restructured into healthier patterns. For more information on brainwave frequencies see page 3.

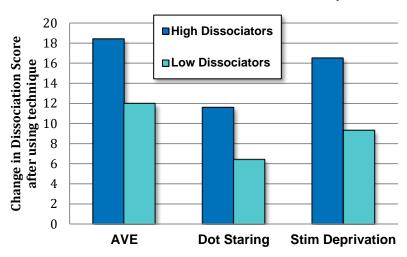
EVOKED POTENTIALS AT VARIOUS STIMULATION RATES



#### **AVE INDUCES MEDITATIVE DISSOCIATION**

Dissociating is the first step towards effective clearing of the mind and meditation. This clearing of thoughts and loss of body awareness is similar to what an experienced meditator would achieve (Glicksohn, 1986-87).



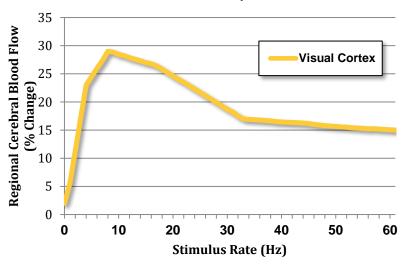


The dissociative state can be first observed by noticing deep and diaphragmatic breathing. Hands and feet become warmer as arteries dilate. Skin color will become pinker as blood flow increases throughout the face and body. This deep state of AVE-induced regeneration has proven to be useful for many of the mental, emotional and physical challenges that nearly all of us face at one time or another in our lives, including but not limited to: anxiety, depression, insomnia, migraines, PMS, blood pressure, and chronic fatigue, along with improved attention, learning and ADD/ADHD.

#### CEREBRAL BLOOD FLOW INCREASES

Most cognitive and emotional disorders (depression, ADHD, one type of anxiety, cognitive decline in seniors/drug users) involve areas of the brain that are low (hypoperfused) in blood flow. A 1985 study showed AVE increased cerebral blood flow up to 28%, peaking at 7.8 Hz (Fox & Raichle, 1985).

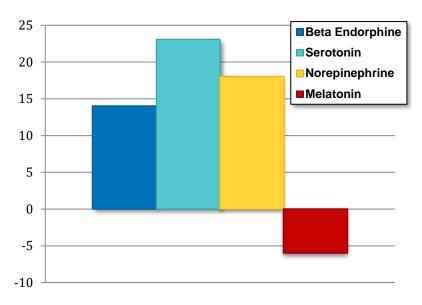
COMPARING CEREBRAL BLOOD FLOW INCREASES WITH FLICKER FREQUENCY



#### **N**EUROTRANSMITTERS CHANGE

A 1989 study has shown that serotonin, norepinephrine and endorphins (all positive neurotransmitters) increase, while melatonin, associated with Seasonal Affective Disorder (SAD), is reduced following the use of AVE (Shealy, et al., 1989).

NEUROTRANSMITTER CHANGES
FOLLOWING AVE STIMULATION AT 10 Hz.



Serotonin increases relaxation and boosts happiness and socialization. It helps to moderate emotions such as depression, as well as sexual or violent urges. Norepinephrine is crucial for a sharp mental focus. When a person is low in serotonin, their norepinephrine often over-expresses dramatically, producing violent tendencies, while impairing sleep, mental performance and socialization. When both serotonin and norepinephrine are moderately high, the person feels great, relaxed, sharp and in the mood for chatting! This is called the "Festive Brain" as this is what humans love to do during big festive events like Thanksgiving, Christmas, Chanukah, Ramadan, etc.

# **GETTING STARTED**

## COMPLETING THE PERSONAL PROFILE QUESTIONNAIRE

The purpose of this questionnaire is to give you a sense of how your stress level, sleep patterns, nutrition, and other factors may be influencing your mind and ultimately your quality of life. By quantifying your concerns, this questionnaire can illuminate certain areas which may require adjustment, and help you to decide which AVE stimulation category will be of most benefit to you.

## How To Use The Personal Profile Questionnaire

Follow the instructions at the top of each page of the questionnaire. Answer the questions according to the time frame stated in each instruction section. Tally your scores at the bottom of pages 13, 14 and 15. Then refer to page 18 & 19 of this guide to discover which *Session Group* is best for you.

YOU CAN VIEW THIS GUIDE ONLINE AT https://mindalive.com/manuals/

Prepared for Mind Alive Inc. by Brain Gym PR March, 2012

# I. REST

1)	Approximately, how many hours do you sleep at night?			
	□ less than 3 hours □ 4-6 hours □ 7-9 hours			
2)	Do you sleep all night long without interruptions or sleeplessness?			
	□ Yes □ No			
3)	When you lay down to sleep, do you fall asleep within the first half hour?			
	□ Yes □ No			
4)	Do you take any medication for sleep?			
	☐ Yes Which one? Since when?			
5)	Do you find yourself dwelling on a particular concern or worry that interferes with your sleep?			
	☐ Yes. Specify:			
6)	When you wake up, do you feel tired?			
	<ul><li>□ Always</li><li>□ Often</li><li>□ Sometimes</li><li>□ Rarely</li></ul>			

# II. LIFE EVENTS & SELF AWARENESS

Indicate any of the situations that have occurred to you within the last year (or those which have happened to somebody very close to you).

Divorce /Separation	Disease or Hospitalization
Loss of employment	Pregnancy or birth of a child
Change of duties at work	Reconciliation
Change of a supervisor	Change of residence
Problems with the law	Economic problems
Change of financial status	Beginning a new job
Difficulty raising children	Beginning a new relationship
Death of a relative (relation:	 )
Other(s)	 

## III. ANXIETY

Read carefully and identify the symptom(s) that you have experienced during the last month. For each symptom, circle the number which indicates the frequency at which you perceive that symptom.

0: Never 3: Most of the time

1: Rarely 4: Constant/Overwhelming

2: Some of the time

Symptoms		Fre	que	ncy	
Nagging thoughts	0	1	2	3	4
Negative thoughts or feelings about yourself	0	1	2	3	4
Feeling insecure	0	1	2	3	4
Fear that someone will notice your anxiety and what might happen if it is noticed	0	1	2	3	4
Upset stomach	0	1	2	3	4
Sweating / Perspiration	0	1	2	3	4
Tremors or shakiness	0	1	2	3	4
Muscle Tension and discomfort	0	1	2	3	4
Palpitating or racy heart	0	1	2	3	4
Constant squirming (feet, hands, scratching, etc.)	0	1	2	3	4
Smoking, eating or drinking in excess	0	1	2	3	4
Avoiding social situations	0	1	2	3	4
Sensation of breathlessness	0	1	2	3	4
Feeling annoyed	0	1	2	3	4
Feeling irritable	0	1	2	3	4
Difficulty concentrating or maintaining focus	0	1	2	3	4

## IV. MOOD

Identify the symptom(s) that you have felt during the last two weeks. For each symptom, circle the number which indicates the frequency at which you perceive that symptom.

0: Never 2: Most of the time

1: Some of the time 3: Constant/Overwhelming

Symptoms Frequen					
Feelings of Sadness		0	1	2	3
Feeling Pessimistic		0	1	2	3
Feeling like a Failure		0	1	2	3
Lack of Pleasure		0	1	2	3
Feelings of Guilt		0	1	2	3
Feelings of being punished by life		0	1	2	3
Self-Critical		0	1	2	3
Thoughts of self-harm or suicide		0	1	2	3
Weeping or crying		0	1	2	3
Restlessness		0	1	2	3
Lack of interest in most everything		0	1	2	3
Difficulty in making decisions		0	1	2	3
Lack of self-appreciation		0	1	2	3
Lack of energy		0	1	2	3
Irritability		0	1	2	3
Changes in sleeping pattern		0	1	2	3
Changes of appetite		0	1	2	3
Difficulty with concentration		0	1	2	3
Fatigue		0	1	2	3
Loss of interest in sex		0	1	2	3

# V. DISENGAGEMENT

Identify the symptom(s) that you have felt during the past year. For each symptom, circle the number which indicates the frequency at which you perceive that symptom.

0: Never 2: Most of the time

1: Some of the time 3: Constant/Overwhelming

Symptoms	F	requ	uenc	y
Difficulty paying close attention to details	0	1	2	3
Difficulty sustaining attention in tasks	0	1	2	3
Difficulty organizing tasks and activities	0	1	2	3
Avoiding tasks that require mental effort	0	1	2	3
Losing things necessary for tasks or activities	0	1	2	3
Easily distracted	0	1	2	3
Difficulty following instructions and making mistakes	0	1	2	3
Forgetful in daily activities	0	1	2	3
Fidgets with hands or feet or squirms in seat	0	1	2	3
Always "on the go"	0	1	2	3
Interrupts or intrudes on others	0	1	2	3
Difficulty waiting for one's turn	0	1	2	3
Often late for events and appointments	0	1	2	3

# VI. NUTRITION

1)	Do	you incl	ude	fresh fru	nits and vegetables in your diet?
		No		Yes	How much?
7)	Do	you eat	gree	n leaves	or seaweed?
		No		Yes	How much?
8)	Но	w many	cups	of wate	er do you drink daily?
9)		es your d litives?	diet (	contain a	artificial colors, preservatives or
		No		Yes	
10)	Do	you drin	ık so	das or c	arbonated drinks?
		No		Yes	How many cans/bottles daily?
11)	Do	you drin	ık co	offee or c	raffeinated drinks?
		No		Yes	How many cups per week?
12)	Do	you smo	ke c	igarette	s or marijuana?
		No		Yes	How many per week?
13)	Do	you drin	ık al	cohol?	
		No		Yes	How many drinks per week?
14)	Do	you use	whi	te sugar	and/or products with refined flours?
		No		Yes	
15)	Do	you nee	d co	mfort fo	ods (chocolate, fried food, red meat, etc.)
		No		Yes	What foods?
16)	Do	you take	e vita	amin sup	oplements?
		No		Yes	

# VII. MEDICATIONS

Make a list of the pharmaceutical drugs that you are taking or have taken in the past 6 months:

Condition	Medication		
Diabetes			
Thyroid			
ADD/ADHD			
Hypertension			
Asthma			
1) What have you done to feel be	tter?		
2) Have you visited a doctor, specemergency room due to any of			
□ Yes □ No			
If "Yes", what was done to help	you feel better?		

## CHOOSING A DAVID SESSION

Once you have calculated your scores for each section of the questionnaire, use the following guide to determine which sessions may be of most benefit to you. Select a session type based on whichever category (or categories) yielded the highest scores, therefore indicating the greatest concern.

- III. Anxiety Try the A Meditation and/or Feeling Better sessions.

  If your anxiety keeps you up at night, consider the Sleep category as well.
- IV. Mood Try the Feeling Better and/or 🛓 Meditation sessions.
- V. Disengagement- Try a → Brain Brightener and/or ✓ Energizer session.

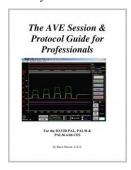
FOR YOUR FIRST DAVID EXPERIENCE, WE OFTEN RECOMMEND THAT YOU TRY AN "ALPHA BRAINWAVE" SESSION, SUCH AS THOSE FOUND IN THE MEDITATION CATEGORY. YOU MAY EVEN WANT TO TRY A FEW MEDITATION SESSIONS DURING YOUR FIRST WEEK, BEFORE MOVING ON TO THE SESSION GROUP SUGGESTED BY THE QUESTIONNAIRE.

There is no harm in alternating between sessions and categories from one day to the next until you find a protocol which works for you. For instance, you can try an \*\*Energizer session one day and a \*\*\* Brain Brightener the next. Or alternate between \*\*Default \*\* and \*\*Energizer session one day and a \*\*\* Brain Brightener the next. Or alternate between \*\*Default \*\*Default \*\* and \*\*Energizer session one day and a \*\*\* Brain Brightener the next.

This is a guideline only. You will discover which times work best for you.

#### **ADDITIONAL RESOURCES**

AVE Session & Protocol Guide for Professionals by Dave Siever



## PERSONAL PROFILE INTERPRETATION

#### I. REST

This section helps to determine if you have particular worries or perhaps nutritional/health issues, which may be interfering with your sleep.

#### IS MY INSOMNIA CAUSED BY STRESS OR A NUTRITIONAL ISSUE?

Good nutrition is absolutely necessary for good brain function! This is very important in relation to sleep. To determine if you have a sleeping problem that is caused by inadequate nutrition, first ask yourself these questions:

Is there a reoccurring theme to the thoughts which keep you up at night? Is your mind filled with thoughts of issues with your mate, assignments or upcoming exams? Are you worrying about money issues or perhaps concerned about something you saw in the news, the state of the environment, health issues, or a personal crisis?

If you answered yes to any of the above questions, you may have stress issues. The DAVID can help soothe the mind and quiet troubling thoughts.

However, if your thoughts are just a bunch of random nonsense, then it's more likely that your insomnia is due to a nutritional issue. The following supplements will almost always reduce, and often eliminate insomnia:

- 1) Vitamin D<sup>3</sup>
- 2) Omega 3s
- 3) Minerals particularly magnesium
- 4) B complex

See Page 22 for more information.

# II. LIFE EVENTS & SELF AWARENESS

Depending on the extent of the stressors and/or major changes in your life, symptoms of anxiety, insomnia, depression or mixed mood could simply be evidence of adaptive behavior in response to stressful situations. However, if your troubles persist beyond a reasonable time frame, given the initial stressor, we recommend that you consult with a psychologist in case these are symptoms of a larger-scale problem or clinical disorder.

Once you have identified the source of your symptoms, you can begin to address the problem through AVE.

See Page 23 for session information.

#### III. ANXIETY

Total Scores	Result
0 – 16 points	Minimal symptoms of anxiety
16 - 20 points	Slight anxiety
21 – 30 points	Symptoms of moderate anxiety Consider consulting a psychologist
31 – 64 points	Symptoms of severe anxiety Consider consulting a psychologist

#### IV. MOOD

<b>Total Scores</b>	Result
0 – 13 points	Minimal depressive symptoms
14 - 19 points	Slight depressive symptoms
20 - 28 points	Moderate depressive symptoms
29 - 60 points	Severe depressive symptoms Consider consulting a psychologist

Audio-Visual Entrainment (AVE) is an effective tool for dissociating a depressed/anxious person out of his/her destructive thoughts, leaving them with emotional neutrality and somatic re-stabilization (Siever, 2000). Even with increasing anxiety, AVE has been shown to reduce heart rate and may be used as a desensitization tool (Leonard & Telch, 2000). AVE also increases norepinephrine and serotonin (Shealy, 1989).

See Page 23 for session information

## PERSONAL PROFILE INTERPRETATION

#### V. DISENGAGEMENT

Total Scores	Result
0 – 10 points	Minimal symptoms of inattention
10 - 14 points	Possible mild ADD Inattentive type
14 - 20 points	Possible mild ADD/ADHD Hyperactive type.
21 - 30 points	Possible moderate ADD/ADHD Hyperactive type
30 - 39 points	Very hyperactive Severe ADHD symptoms.

An under-engaged mind over several years could be an indication of ADD or ADHD (hyperactivity). If the symptoms have been of shorter duration, it could be an indication of stress, depression, poor nutrition or eating a typical sugary breakfast.

When people feel tired, depressed or foggy-headed, they often crave high glycemic foods or simple carbohydrates such as pasta, cake, cookies, doughnuts, chocolate, sugary breakfast cereals, etc. And although this will temporarily perk up the brain for an hour or so, insulin will inevitably cause your glucose levels to crash, and unfortunately, your temporary mental alertness will crash along with it. Behaviorally, this often shows up as anxiety, inattention, impulsiveness and grumpy behavior.

Intake of these high glycemic foods should be restricted whenever possible. Most breakfast cereals contain simple sugars and have very little nutrition. It's better to eat a high protein breakfast such as ham & eggs, or peanut butter on sprouted grain breads and cereals, as many people have difficulty tolerating the gluten found in whole grains such as wheat, rye, and barley.

#### VI. NUTRITION

Evaluate your nutritional habits. Proper nutrition is a critical factor in overall mental and physical health. Consult with your physician or dietician if necessary.

#### NUTRITION

Ensuring proper daily intake of vitamins and good general nutrition is vital for anyone trying to maintain optimum mental health. Most children and adults have been found to be deficient in vitamin D, tryptophan and omega 3 as well as many other minerals. Recent studies have shown that fish oil supplements have reduced the symptoms of ADD/ADHD more effectively than stimulant drugs.

Poor nutrition can cause symptoms to occur in three of the major categories of the personal profile questionnaire (Anxiety, Mood, and Disengagement). Most issues involving the mind also involve a nutritional deficit of some sort.

#### THINGS YOU CAN DO:

- 1) Supplement with liquid vitamin D throughout the winter
  - Liquid (oil-based) vitamin D<sup>3</sup> is the most effective form
  - Dosage: If you have not been tanning or taking D<sup>3</sup> in the past 2-months, begin with 10,000IU/day for 2-weeks then reduce to 3000IU/day for the average woman and 4000 IU/day for the average man. (Pure Encapsulations® is an excellent brand).
  - Consult with your physician or get a test kit if you would like your vitamin D levels tested.
  - Refer to Dave's article on vitamins for more information
- 2) Take Omega 3s, liquid minerals and Vitamin B complex
  - 6 drops of a liquid trace mineral supplement like ConcenTrace®
  - Only take Vitamin B complex with food. If you notice a stomach ache after taking vitamin B complex, then you are taking too much. Break your tablets in half or take less often.
- 3) Take iodine/iodide in the morning
  - 1 drop of Iosol Iodine every other day or 1/10 of a tablet of Iodorol® daily
- 4) Eat organic foods from Farmers' Markets as much as possible
  - Organic foods have been shown to contain 3-5 times more nutrition than supermarket-bought foods.

YOU CAN FIND ARTICLES AND DISCUSSIONS ON NUTRITION ON OUR WEBSITE AT **www.mindalive.com** 

## **AVE SESSION GUIDE**

# **F** ENERGIZER

These are best used upon wakening, as they have a tendency to wake a person up and can act as a replacement for coffee. We recommend these sessions be used only in the morning or as an energy boost before an evening of socializing.

Those with ADD/ADHD will often fall asleep during Energizer sessions and wake up completely relaxed. So, although we normally recommend that these sessions be used in the morning, those with ADD/ADHD can try running these sessions at bedtime if they need help falling asleep.

#### **≜** MEDITATE

Meditation sessions are designed to lower arousal levels associated with frantic, unsettled thoughts and stress. They can be used at any time of day, but are best used after lunch.

# BRAIN BRIGHTENER

These sessions have been shown to boost concentration and memory. We recommend using this category in the morning.

# MOOD BOOSTER

These sessions have been proven to reduce depressed feelings and increase happiness. They will also boost logical thinking and organizational abilities. They are best used upon awakening as a way to start your day with a happy disposition. However, they can also be helpful at bedtime.

# **SLEEP**

These are best used at bedtime. For those on a modified sleep schedule (such as shift workers), these may be used in the AM, before falling asleep

The low-frequency sessions such as Schumann, Paradise, Alpha-Theta are best used when the issue involves a busy mind AND a tense body.

The SMR Sleep session is for those with a busy mind, but a relaxed body.

Many people are not often aware as to just how tense they are until they find relief. Therefore, we generally suggest that people begin with the low-frequency sessions, and then move to the SMR type after a few weeks, once the AVE has allowed their body to relax.

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