

INTRODUCTION

Congratulations! You have purchased the most innovative, high quality audio-visual entrainment device available on the market today. The DAVID PAL combines the necessary principles of audio/visual stimulation in order for the user to achieve entrainment. This allows the user to be safely and effectively guided into desired states of consciousness. We are confident you will find using the DAVID PAL not only an enjoyable, relaxing experience, but also beneficial as you explore heightened states of consciousness and personal awareness.

The DAVID PAL is non-invasive and no electrical current is passed through to the user. All resulting effects are produced in the brain solely by audio-visual stimuli. The portability of the DAVID PAL lends itself to easy travel (airport X-ray machines will not harm the DAVID PAL).

In order to obtain maximum enjoyment and benefits from your DAVID PAL, please read this operator's manual thoroughly.

COMPONENT LIST

- (1) DAVID PAL - Serial Number _____
- (2) Tru-Vu Omniscreen™ Eyeset
- (3) Headphones
- (4) Stereo Patch Cord
- (5) Carry Bag
- (6) 9-Volt Alkaline Battery
- (7) DAVID PAL Operator's Manual
- (8) DAVID User's Guide
- (9) Warranty Card

OPTIONAL ACCESSORIES FOR DAVID PAL

- (1) 9-Volt Adapter
- (2) DAVID Session Editor
- (3) Two-User Package (includes: eyeset, headphones, splitter cords)

If you have any questions, require assistance, or wish to receive information on new product developments and research currently being conducted at Mind Alive Inc., visit our website at www.mindalive.com or call toll free at 1-800-661-MIND(6463). Outside Canada and the U.S. call (780)450-3729.

WARNING

If you are an epileptic or photic epileptic: We recommend that people with a history of epilepsy and/or photic epilepsy **not** use the DAVID PAL unless under the supervision of a medical doctor.

If you are taking drugs or using alcohol: We recommend that people currently using drugs (prescription or recreational) and/or excessive alcohol consumption consult with their doctor before using the DAVID PAL.

If you are a first-time DAVID PAL user: We advise that you always remain seated or reclined while using the DAVID PAL. We also suggest that new users always begin sessions with low intensity (brightness) in the eyesets. If at any time during a session, you begin to feel vertigo, nausea, or a sense of mental instability, lower the intensity of the eyesets and lower the volume of the tones or **discontinue the session**.

PRECAUTIONS

Traumatic Childhood Experiences - The DAVID PAL can cause the release of suppressed memories. If traumatic memories surface during or after a session, be certain to seek appropriate support.

Somnatic Shock - If abruptly returning to a normal conscious state, a mild case of somnatic shock can result, leaving the user feeling disoriented, nauseous, or experiencing a headache. All preset sessions in the DAVID PAL are programmed to end with the lights fading out (Soft Off™) to avoid somnatic shock.

Orthostatic Hypotension – Occasionally when a person becomes very relaxed during a session, his/her blood pressure may fall significantly. We advise rising slowly after a session.

Refer to “*The Rediscovery of Audio-Visual Entrainment Technology*” (available from Mind Alive Inc.) for more detailed information.

WARRANTY

The DAVID PAL is warranted against defects in workmanship or materials for one year from date of original purchase, on the terms stated herein. Should this unit become inoperative within the one-year period, it will be repaired or replaced at our option, without charge. Any postage, insurance and shipping costs incurred in returning the DAVID PAL for service are the responsibility of the customer.

To activate your warranty, return the enclosed warranty card to Mind Alive Inc., 9008 - 51 Avenue, Edmonton, Alberta, Canada, T6E 5X4, or you can register online at www.mindalive.com/registration.htm

This warranty does **NOT** cover:

- shipping damage
- damage caused by accidents or by other than normal use
- improper battery installation and/or charging
- cords for headphones and Omniscreen™ eyeset
- damage caused by exposure to excessive static electricity
- damage caused by any unauthorized person tampering with the DAVID PAL.

Should your DAVID PAL require repairs, you must contact our service department at 1(800) 661-MIND (Canada and U.S. only) or (780) 450-3729 to obtain a warranty/repair authorization number and important shipping instructions.

When returning your DAVID PAL, be sure to surround the DAVID PAL with at least one inch of tight packing on all sides in a strong carton. Neither Mind Alive Inc. nor courier companies will pay for damage incurred by poorly packaged goods. Label the carton "**FRAGILE, HANDLE WITH CARE**". Include a copy of your sales receipt and a brief written description of the problem. All postage, insurance and shipping costs incurred in returning the DAVID PAL for service are the responsibility of the customer.

FOR UNITED STATES AND INTERNATIONAL CUSTOMERS:

Failure to receive proper instructions about completing customs and shipping documents may result in additional brokerage and duties charges to the customer. Some courier companies do not include brokerage fees in their quoted charges. The customer is responsible for any and all charges. Equipment will not be returned to the customer until these charges have been paid. Indicate on **ALL** shipping documents **“RETURN TO COUNTRY OF ORIGIN FOR REPAIRS UNDER WARRANTY”**.

DISCLAIMER OF LIABILITY

Mind Alive Inc., its employees, its authorized dealers and distributors shall not be held liable for any claim, demand, action, cause of action, liability or damages arising out of any injuries resulting from malfunction or defect of the said DAVID PAL whether wilful or negligent either to person or damage to property of the purchaser, employees of the purchaser, persons designated by the purchaser for training in the use of the DAVID PAL, clients or patients of the purchaser, any other person, designated by the purchaser for any purpose, prior to or subsequent to acceptance, delivery, installation and use of the DAVID PAL either at the premises of Mind Alive Inc. or the premises of its dealers or distributors or the purchaser' s premises.

The purchaser, employees of the purchaser, clients or patients of the purchaser or any other person designated by the purchaser for any purpose, hereby undertake to waive and disclaim any action in respect of the aforesaid terms as above.

THE DAVID EXPERIENCE

Welcome to the experience of the DAVID PAL, a digital audio-visual entrainment (AVE) device, designed to support you in your quest for wellness by promoting various areas of the brain to work together in a harmonious fashion. Through the use of AVE, you may experience yourself in a new and beneficial way.

Many users of the DAVID PAL experience:

- 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

How and why do these sensations occur? Several changes take place during and following an AVE session:

The first aspect of AVE involves 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 a Zen mediator would experience.

Secondly, cerebral blood flow increases. Most cognitive and emotional disorders involve areas of the brain that are low in blood flow. A study by Fox and Reichle showed AVE increased cerebral blood flow up to 28%.

Thirdly, 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.

Recommended Reading:

- *Change Your Brain, Change Your Life* - Daniel Amen
- *The Rediscovery of Audio-Visual Entrainment Technology* - Dave Siever
- *New Technology for Attention and Learning* - Dave Siever
- *Getting Started with Neurofeedback* – John Demos
- *The AVE Session & Protocol Guide for Professionals* - Dave Siever

HEART RATE VARIABILITY (HRV)

Long, graceful breathing cycles have long been used as part of meditation. Scientifically, this technique has been analysed and shown to settle down a stressed autonomic nervous system. Both sympathetic (flight-or-fight) activity and para-sympathetic (the brain's efforts to compensate) activity settle down dramatically using controlled, slowed deep breathing techniques.

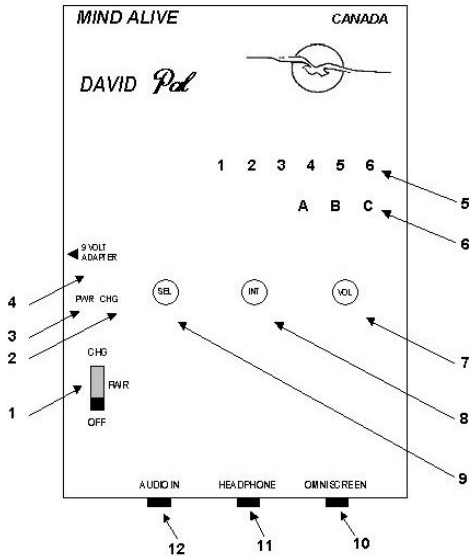
The heart speeds up with every breath in and slows down with every breath out. This difference in heart rate is called Heart Rate Variability (HRV). For example, a relaxed person using controlled breathing may have a heart beat of 80 beats per minute while breathing in and as low as 65 beats per minute while breathing out. The difference or "swing" is about 15 beats per minute (bpm). When people get stressed, their heart typically *clamps* as low as 5 bpm HRV and spikes sometimes as high as 30 bpm HRV. This is abnormal activity and is rough on the heart.

The HRV technique used in the DAVID PAL is based on a 10 second breathing cycle (six breaths/minute, by inhaling slowly for 5 seconds and exhaling slowly for 5 seconds in an easy, relaxed breath). **When using HRV paced breathing, listen to the heartbeat generated by the PAL through the headphones. Inhale for two heartbeats and exhale for two heartbeats (not your own heartbeats!).** All PAL sessions begin at seven breathing cycles/minute (28 heartbeats/min) and slow to six breaths /minute (24 heartbeats/min). This allows the user to breathe a little faster at the onset of a session until he/she has had time to relax.

For more information about HRV, see our newsletter on our website at www.mindalive.com/1_0/spring03.htm#tech%20talk

DAVID PAL DIAGRAM

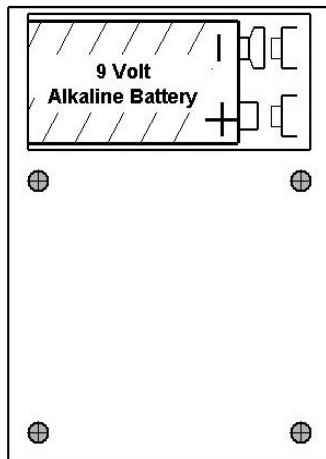
Figure 1 – Front Panel



- (1) **Power Switch (OFF/PWR/CHG)** – Set to PWR to turn the PAL on. To recharge the 9-volt battery, set the switch to CHG. See Operating Instructions for proper battery and power management.
- (2) **Charge Light (CHG)** – Indicates that the battery is being charged.
- (3) **Power Light (PWR)** - Indicates that the PAL is on or in standby.
- (4) **9-Volt Adapter Jack** – Insert adapter plug into adapter jack (use a 9-volt adapter with 1.3 mm plug and centre positive).
- (5) **Session Number Lights (1 - 6)** – Indicate the session number. They are also used to display the battery power, intensity, and volume levels. Also indicates when Soft Off™ and/or Preferences Selection has been made.
- (6) **A B C Indicator Lights** - Indicate the session number.
- (7) **VOL Button (Volume)** – *Note: button raised to guide you in locating with eyes closed during sessions.* Use to increase or decrease the volume of the tones. Also used to clear most recent played sessions.

- (8) **INT Button (Intensity)** – *Note: button raised to guide you in locating button with eyes closed during session.* Use to increase/decrease intensity of the lights in the eyeset.
- (9) **SEL Button (Select)** – Use to select session while sessions are scanning. During a session, use to select tone – Pulsed Tone, Binaural Beats, Chime, or to turn all tones off. Also use to turn heartbeat sound on or off.
- (10) **OMNISCREEN Jack** - Insert Omniscreen eyeset plug into OMNISCREEN jack. Use the patch cord with the small 2.5 mm plug.
- (11) **HEADPHONE Jack** - Insert headphone plug into HEADPHONE jack.
- (12) **AUDIO IN Jack** – Use to listen to music during a session. Also use to download or erase a session with the DAVID Session Editor. Plug one end of the patch cord with the larger 3.5 mm plug into the headphone output of your CD player, computer or MP3 player and the other end into the AUDIO IN jack of the PAL.

Figure 2 – Back



Battery Compartment - Install 9-volt battery into battery compartment as shown.

OPERATING INSTRUCTIONS

For best results, we recommend that you drink a glass of water 15 minutes before a session. Ensure that your environment is conducive to relaxation. For example, be sure that you will not be interrupted, you are wearing comfortable clothing, there is no excessive noise and the room is set at a comfortable temperature. You should be sitting down in a reclined position or lying down. Although you may keep your eyes open or closed, most people enjoy the sessions with their eyes closed.

Turning DAVID PAL On and Off

To turn the PAL on, slide the switch to the PWR position. To turn the PAL off, slide the switch to the OFF position. If no session is selected, the PAL will go into standby in two minutes. The green PWR light will remain dimly lit reminding you to turn the PAL off.

To End a Session Early Using Soft Off™

Press and hold the INT and VOL buttons. When you select Soft Off™ the indicator lights will scroll from 6 to 1 to confirm that Soft Off™ is in process. Soft Off™ will take 2 minutes to complete.

Battery Power Level

As soon as the PAL is turned on, the battery power level will show on the lights from 1 to 6. If the power level is 1, then the battery is too low to operate the PAL, and it will automatically go into standby. If the power level is 2 or less, the battery may not have enough power for the entire session and the session will end early. Replace or recharge the battery or use an adapter, if battery power level is 1 or 2. If you have the PAL plugged into a 9-volt adapter, the power level will show a power level of 6.

Selecting a Session

As soon as the PAL is turned on, the last three sessions that were used will be displayed. Then the PAL will start to scroll through each of the preset session numbers starting with group “A” (A1, A2, A3, etc.). After the “A” sessions, the PAL will scroll through the “B” sessions, and then the “C” sessions. When the desired session lights up, press SEL. If you prefer a session from group “B” or “C”, wait for the “A” group to finish and the “B” group will scan, followed by group “C”. Pressing the INT button will allow you to scan through the sessions faster. Once a session has been selected, the session number will flash a few times. Then the eyeset lights and headphone volume will start low and gradually increase over ten seconds until the levels reach the preset settings of intensity and volume (Soft On).

This allows you time to put on the eyesets and headphones. During the remainder of the session, the session light (eg. A1, B4) will flash briefly every few seconds to remind you of the session number selected. Every eighth flash will show the battery power level (1 to 6). As the session ends, the eyeset lights and volume will fade out (Soft Off™). If no buttons are pressed, the PAL will go into standby in two minutes. The green PWR light will remain dimly lit reminding you to turn the PAL off. Press any button to begin scrolling sessions again.

Selecting Heartbeat

All of the DAVID PAL sessions (except session C6) begin with the heartbeat on. To turn to heartbeat off, press and hold the SEL button for approximately one second. To turn the heartbeat back on, press and hold the SEL button again for approximately one second.

Selecting Pulsed Tone/Binaural Beats/Chime

All of the DAVID PAL sessions (except session C6) begin with the pulsed tone on. Press the SEL button once to turn the pulsed tone off and select Binaural Beats. Press the SEL button again to turn Binaural Beats off and select Chime. Press SEL once more to turn all tones off.

Adjusting Volume

Note: The volume button (VOL) is raised to guide you to locate button with eyes closed during sessions. To increase the volume of the tones through the headphones, press and hold the VOL button. To decrease the volume, release VOL button and press and hold again. Or you may press short single steps for small adjustments in the volume. The indicator lights 1 to 6 will show the volume level.

Adjusting Intensity

Note: The intensity button (INT) is raised to guide you in locating button with eyes closed during sessions. To increase the intensity of the lights in the Omniscreen eyeset, press and hold the INT button. To decrease the intensity, release the INT button and press and hold again. Or you may press short single steps for small adjustments in the intensity. The indicator lights 1 to 6 will show the intensity level.

To Save Intensity, Volume, Tone and Heartbeat Settings

Specific preferences (settings of intensity, volume, tone and heartbeat on or off) can be saved for each session. To save preferences, while the session is running, adjust intensity, volume, tone and heartbeat as desired. Press and hold SEL and INT. The indicator lights 1 to 6 will scroll from 1 to 6 and

back to 1. Your new preferences will be saved only when the session ends. You may use Soft Off™ (press and hold INT and VOL) to end the session sooner (2 minutes).

Playing Pre-Recorded Material

To play pre-recorded material into the headphones, plug one end of the patch cord provided into the headphone jack of the CD, MP3, computer or cassette tape player and plug the other end into the AUDIO IN jack of the DAVID PAL. If the playing time of the audio material is longer than the session selected, the session will end, but the audio material will continue to play and be heard through the headphones.

Playing Session C6 – Sound Sync

Using the patch cord provided, connect your CD, MP3, computer or tape player to the DAVID PAL (follow instructions above). Select session C6. With the Omniscreen eyeset on, increase the volume on the audio material until you notice the lights "dance". If there is no sound for 30 seconds, the Omniscreen eyeset lights will Soft Off™. When the sound returns, the lights will brighten up and "dance" again.

Battery Replacement and Power Management

The DAVID PAL can be powered using a 9-volt battery or with a 9-volt (positive centre, 1.3 mm plug) AC adapter. To replace the battery, slide battery compartment cover off. Ensure that the battery is lined up properly for positive (+) and negative (-) posts. Refer to Figure 2 (page 8). Slide the bottom of the battery into the battery compartment under the edge, push the battery down into place to connect the poles. **Damage will occur to the PAL if the unit is powered on if the battery is installed incorrectly. Warranty does not cover this damage.** If the PAL is plugged into an adapter, no power will be used from the battery. The PAL will remain in standby at the end of a session and use minimal battery power. Turn the PAL off at the end of the session to preserve your battery.

An alkaline 9-volt battery will provide approximately seven hours of operation. A NiMH or NiCad battery may be recharged by setting the PWR/OFF/CHG switch to the CHG position. To fully recharge a NiMH battery will take approximately 10 hours and will provide about 3 hours of operation. To fully recharge a NiCad battery will take approximately 5 hours and will provide about 1½ hours of operation.

To Record or Clear Session History

Each time you play a preset session, the session number will be stored in the PAL, so that you can have faster access to the last three sessions selected. To clear these sessions, press VOL while the PAL is scrolling for a session to be selected. This will erase or clear the session history.

Downloading/Erasing a Session

Your DAVID PAL is programmable. All of the sessions may be reprogrammed or erased using the optional DAVID Session Editor. The PAL may also be programmed automatically from an encoded CD. If the preset sessions in your PAL are not the same as the sessions listed in this Operators' Manual, the factory installed sessions may have been changed. Please go to our www.mindalive.com for instructions to re-install the sessions.

CARE AND MAINTENANCE FOR THE DAVID PAL

Cleaning of the DAVID PAL should be done with a soft cloth slightly moistened with water (or with a mild detergent). Do not clean with any solvents. Although precautions have been taken to protect the PAL from static electricity, do not subject the PAL to static, such as placing it near a television set or static producing fabrics and materials. Do not place the PAL near heat sources such as radiators or air ducts, or in direct sunlight, or expose to excessive dust or mechanical vibration. Should any liquid enter the PAL, turn it off immediately. Although the PAL is water resistant, it is not waterproof. If liquid does enter the electronics, we advise that the PAL be checked by authorized personnel before commencing operation.

DESCRIPTION OF PRESET SESSIONS

Note: All Preset Sessions include Heart Rate Variability (Refer to Page 6). For Dual Brainwave Stimulation Sessions (eg. Session C4 - L10/R19), the ‘L’ and ‘R’ for the target rate represent the visual field of stimulation. Left visual field stimulation means right brain hemisphere stimulation; right visual field stimulation means left brain hemisphere stimulation.

Session Number	Description	Session Time	Target Rate (Hz)
SMR and Beta - Let's Get Alert			
A1	Sensory Motor Rhythm (SMR) - Use to achieve relaxed attention.	24 min	14
A2	Sensory Motor Rhythm (SMR) with Dissociation - Use to improve sleep for those who have insomnia due to a ‘racing’ mind but relaxed body).	40 min	14
A3	Beta Perker - A great way to get going in the morning without caffeine. This session helps reduce ADD and SAD symptoms. May cause anxiety.	20 min	20
A4	ADD and Learning – This session has rapid transitions for mental stimulation to help keep the user “engaged” in the session. Used in the ADD study published in the Journal of Neurotherapy.	26 min	L14/R18 & 10
A5	Brain Brightener – Use with seniors to improve mental functioning and memory. Based on Budzynski’s study. Similar to <i>ADD and Learning</i> (A4) but uses gentle transitions more amenable for seniors. Can also be used for ADD.	30 min	L14/R18 & 10
A6	Skill/Sport Enhancement - Use this session to develop any skill or improve performance. Visualize feeling your best during the first half (alpha). Then visualize your perfect performance during the second half (beta) of the session.	24 min	8 to 18

Session Number	Description	Session Time	Target Rate (Hz)
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Alpha - Great for Relaxation and Meditation

B1	Healthy Alpha Relaxer with Dissociation - Healthy alpha is 10 Hz. Most disorders have alpha slowing. This session re-establishes the natural alpha rhythm. Good for beginners.	30 min	10
B2	Extended Deep Alpha Relaxer with Dissociation - Stay relaxed for your dental, massage, physiotherapy, chiropractic and other appointments.	80 min	8.4
B3	Schumann Resonance with Dissociation - For a quick, thorough afternoon meditation. For those on the go.	22 min	7.8
B4	Extended Schumann Resonance with Dissociation - For effective deep meditation and particularly to improve the onset of sleep. Calms ‘hyper/chatter’ minds. Also for chronic fatigue, fibromyalgia and anxiety. Ideal for those with insomnia who have a busy mind and tense body.	40 min	7.8
B5	“State Five Meditation” - Use for ultra-deep meditation and for sleep. Use to quiet ‘hyper’ minds. Based on Maxwell Cade’s work with Zen meditators.	33 min	7

Theta - The Dream State - Enhance Your Creativity - Use theta with guided imagery, music or for learning new behaviours and habits.

B6	Theta with Dissociation - Use for creative visualization and sleep.	36 min	5.5
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Session Number	Description	Session Time	Target Rate (Hz)
Delta - The Sleep State -These sessions help bring on sleep by turning off the “chatter” that sometimes occurs after a busy day.			
C1	Meditate to Sleep with Dissociation - Meditate, visualize and think soothing thoughts during the first half (8 Hz); fall asleep during the second half (3 Hz).	45 min	8 to 3
C2	Delta with Dissociation - To aid in falling asleep. Best for those with pain. Fall asleep with session running.	45 min	3.5
C3	Sub-Delta - Mildly dissociating. Calms the hypothalamus. Beneficial for some with fibromyalgia and hypertension.	24 min	0.5 - 1

Depression Reduction

C4	Alpha/Beta with Dissociation - Settles down negative emotions from the right brain while stimulating the left brain to rebalance alpha asymmetry.	30 min	L10/R19
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Hypnosis

C5	Fractionated Hypnosis/Alpha - This session simulates the hypo-therapy process.	30 min	8
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Lucid Experiences

C6	Lucid Dreaming – Sound Sync - Based on audio input frequency range of 52 to 1275 Hz. Audio frequencies below 160 Hz will slow the rate down by up to 1 Hz. Frequencies above 160 Hz will increase the rate by up to 1 Hz. Travel on lucid journeys with your favorite music.	---	7 - 9
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BEFORE YOU CALL FOR REPAIRS

If	Means	Response
PWR light is dim and PAL is unresponsive	PAL is in standby	Turn off PWR switch, then turn PWR switch back on
Light 1 flashes, then PAL shuts off	Battery is low	Replace or recharge battery or use adapter
PAL does not turn on. (PWR light not on)	Battery is dead	Replace or recharge battery or use adapter
Lights in eyeset are on left side only	Eyeset not plugged in completely	Check eyeset connection
Tones in headphone are on left side only/sound hollow	Headphone not plugged in completely	Check headphone connection
No sound from audio player	Plugged into audio player incorrectly	Check all connections to audio player
Download is not recognized	Audio player improperly plugged in	Check all connections to audio player
	Volume too high/too low	Adjust volume to moderate listening level
Session runs but no lights and/or tones on start up, but can be adjusted manually	Preferences have been set/saved at zero	Re-adjust settings and re-set preferences

WARNING

ALL persons who:

- a) have a history of epilepsy, photic epilepsy or any seizure disorder
- b) suffer from any mental disorder/illness
- c) are currently using ANY drugs (prescription or recreational)
- d) are under the influence of alcohol

SHOULD NOT USE the **DAVID PAL** unless under the supervision of or consultation with a medical doctor.

THE DAVID PAL IS NOT RECOGNIZED AS A TREATMENT OR CURE OF ANY MEDICAL CONDITION OR DISABILITY. HOWEVER, RESEARCH SUGGESTS THAT THE DAVID PAL IS AN EFFECTIVE RELAXATION AND MEDITATION TOOL.

The **DAVID PAL** is a non-invasive tool.
All resulting effects are produced in the brain solely by audio and visual stimulation.

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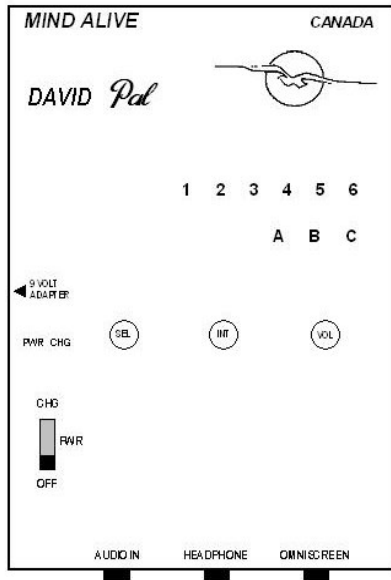
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DAVID PAL



Operator's Manual