

User's Guide



SYNETIC SYSTEMS
ESP R I TTM
MENTAL FITNESS & RELAXATION SYSTEM



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User's Guide to the Espirit/12

Notice: Read this before using the Espirit/12

The Espirit/12 employs powerful, natural forms of sensory stimulation which are intended to produce controlled shifts in the mental state of the user. No specific physical effects are claimed for it. No medical effects of any sort are claimed to result from its use. Do not use the Espirit/12 unless you have read your warranty and agree to its terms.

About This Manual

The Espirit/12 is an easy to use, state-of-the-art instrument incorporating some of the most powerful features found in our popular Professional series of programmable systems and reflects five years of ongoing research and development.

The purpose of this manual

1. To explain how this technology works
2. How to operate the Espirit/12
3. How to achieve maximum performance from your Espirit/12 mental fitness system.

Please take a few minutes to read this manual before using your Espirit/12 system. It is organized to help you find the information you need as quickly and conveniently as possible.

What is Light & Sound Technology?

What are Brainwaves?

The study of "brainwaves" has played a vital role in the

understanding of how the brain and mind function. Discovered in the 1920s by German researcher Hans Berger, these tiny electrical signals mirror the shifting patterns of mental activity. They are measured by attaching special sensors, called electrodes, to the scalp; these pick up brainwave activity which is then measured by an instrument called an electroencephalograph, or EEG.

Brainwave activity tends to fall into four groups: Beta, Alpha, Theta and Delta. These categories are associated with the rapidity of oscillation (frequency) of brainwaves. As it turns out, certain patterns of brainwave activity are also associated with specific mental states:

Beta Associated with normal, waking consciousness; attention directed towards the external environment. You are most likely in the "beta state" as you read this. Beta waves oscillate between approximately 14 and 30 times per second (hz).

Alpha Relaxed, not thinking about anything in particular, sometimes a pleasurable feeling of "floating". Often dominant in certain kinds of meditation, Alpha waves have for the past twenty years been associated with calm, lucid mental states (the "alpha state"). They are also often detected during dream sleep. Alpha waves oscillate between 9 and 13 times per second.

Theta Found in states of deep relaxation, Theta activity is also associated with bursts of creative insight, twilight ("sleep") learning, and vivid mental imagery. Also found in more advanced meditators. Theta waves oscillate between 4 and 8 times per second.

Delta This slowest of brainwave activity is found during deep, dreamless sleep, and sometimes in very experienced meditators. They oscillate between 1 and 3 hz.

Your brainwave activity is constantly shifting and changing during

the day and night. Virtually every form of mental and physical activity will cause changes in this activity. Abrupt, unexpected noises or other events will quickly alter your brainwave patterns. Even watching TV can dramatically alter brainwave activity in an undirected manner.

Over the years, many techniques have been developed to allow you to alter these states, particularly alpha and theta, at will. Most methods, such as meditation, require years of regular practice to master. Alpha wave biofeedback, quite popular in the 70s, requires the sometimes awkward placement of electrodes as well as considerable practice.

The Frequency-Following Effect

In the 1940's, researcher Gray Walter discovered that brainwave activity tends to mirror flickering light, particularly in the alpha and theta frequencies. This effect has become known as the "frequency-following effect." A familiar example is the tendency to slip into a relaxed or dream-like state while gazing into a fire... the flicker rate of which happens to average in the alpha/theta range!

More recently, sound has been shown to produce similar results, particularly pulsed sound and binaural beats. This last effect, which we call HemiTone(tm), results when one ear hears a pure tone of a slightly differing pitch than the other ear. The brain then actually synthesizes the difference between the two. The portions of the brain associated with hearing tend to fall into step with this pleasant, gently pulsing rhythm. The combination of pulsed light and binaural beat frequencies can be a particularly effective tool for relaxation and preparation for meditation. Pulsed sound in the form of musical rhythms has been entraining people for thousands of years.

Research conducted at the Monroe Institute and elsewhere suggests that both binaural beats and flickering light stimulation can

synchronize the activity of the left and right hemispheres of your brain. It is thought that this synchronization can increase the flow of information between the two hemispheres, thereby accelerating learning and increasing creativity.

Altering your mood

An important benefit of light/sound technology lies in its ability to interrupt *negative emotional response loops*. Examples of such "loops" include moderate levels of anger, worry, sadness, irritability and depression. Let's say that you've had a tough day at the office. A driver cuts sharply in front of you without signalling on your way home, nearly causing an accident. You arrive with a "short fuse", growling at your children or spouse. You realize that you are experiencing an undesirable mental state, but don't know quite how to change it. All too often, the solution may be to have a few drinks, or switch on the TV. A nap can be effective, but you don't want to take the time. What are the alternatives?

Before showing you how to reduce this sort of emotional response, let's examine what happens when an event has a negative emotional impact. When the event first occurs, you respond directly. So when your boss snarls at you, you respond internally, even if you cannot voice your response directly. The problem lies in what can happen next: you mentally "act out" the exchange a number of times, and respond emotionally to each of these imaginary events. This is what we call a *negative emotional response loop*, because you are repeating (looping) your emotional response in a series of make-believe events that can stretch out over hours or days. Often times you may not even be aware that this process is taking place. If your boss is a real jerk, then after a number of unpleasant encounters you may become upset just by being near him or her.

An awareness of your mental process is an important step in changing your emotional response. Another step is to interrupt the

feedback loop. Sleep is an effective way to do this, which is why you often wake up feeling refreshed and renewed. Nobel Prize winner Sir Francis Crick hypothesizes that dreaming serves a necessary function by clearing away the various loops and impressions of the day on a synaptic level.

A much faster technique is to run a session with your *EspriV12*. The trick in this case is to run a session that is long enough to divert and refresh you, but not long enough to put you to sleep (try the 15 minute Alpha and Theta sessions). Why is this effective? Because the pulsing light and sound saturates your senses and constantly directs and diverts your attention towards the rhythms and patterns of the experience. Try it! Chances are that after a few weeks of regular use, you will generally feel calmer and more "centered".

Current State of the Art

SYNETIC SYSTEMS, INC. was founded in 1987 to develop new tools and techniques for personal growth and mental fitness, and has pioneered the development of modular, programmable light and sound instruments for professional and serious personal use. Our *MindSEye Plus*, *Courier* and *Synergizer* systems can be found throughout the US, Europe and Japan, and dozens of other countries worldwide. Extensive research and development is underway at Syntec Systems and a network of clinics and Universities to bring the latest advances in light and sound, and other forms of mental enhancement technology, to the public.

This technology is a safe, drug-free way to guide the user into deep relaxation and other beneficial and desirable mental states.

Using the *EspriV12*

What can it be used for?

There are a variety of useful and beneficial applications for your Espirit/12 system. These include:

- 1) *Assistance is reaching states of deep relaxation quickly.* For example, use your Espirit/12 while unwinding after a day's work, to refresh yourself prior to meetings, and during your lunch break.
- 2) *Safe, effective, non-habit forming drug-free assistance in falling asleep.* The gentle, rhythmically pulsing light/sound patterns gently quiet your mind and guide you towards sleep.
- 3) *Creative visualization.* Use the complex, shifting visual images you see during a session as stimulus to your creative imagination. Bursts of creative insight also can occur spontaneously while in the theta state; use the Espirit/12 as an aid to brainstorming.
- 4) *Accelerated learning.* Deep relaxation is an integral part of the famous **Superteaming** technique, and the theta rhythm must dominate in order for **twilight learning** ("sleep learning") to take place. You can use the Espirit/12 in combination with cassette lessons in foreign language instruction, guided imagery, and a very large range of other cassette programs.
- 5) *Visualizing and developing new goals.* These can include psychological goals, such as increasing motivational levels, and physical goals, such as increasing concentration and the other performance factors necessary to sports achievement.
- 6) *Just plain fun!* An Espirit/12 session is a relaxing way to experience a great light show.

How often can I use it?

We suggest that the Espirit/12 be used at least three times per week, and it can be used on a daily basis. It provides completely natural forms of stimulation. Multiple sessions per day can cause

increased drowsiness in some users. However, there is no danger of overuse.

Does it affect everyone the same way?

No. Anyone can deliberately resist the soothing effects of pulsed light and sound if they choose to do so. Individuals with excessive "mind chatter" and those with especially rigid mental processes may initially find the Espirit/12 less effective. Using the system for only a few minutes will also generally prove ineffective. Repressed memories and emotions can sometimes "rise to the surface" during sessions in some users, in which case the Espirit/12 may be found to be a valuable adjunct to psychotherapy.

Are there people who should not use it?

Yes. Individuals with the very rare condition known as **photosensitive epilepsy** should not be exposed to flickering light except under medical supervision. Likewise, we suggest that individuals who are uncomfortable with bright light, those with heart conditions, or those who feel at all uncomfortable with the light and sound experience, should consult their physician prior to regular use, as should users who have ever experienced seizures of any sort.

Espirit/12 Programs: Overview

The Espirit/12 system gives you a choice of twelve programs. **Please read the detailed descriptions (below) prior to using any of the sessions.**

Two knobs control light brightness and audio volume, and three jacks are provided for light output, audio output, and input from a cassette tape or compact disk player. The entire unit is powered by 4 replaceable AA Alkaline batteries, which should provide about 50 hours of normal use. Rechargeable NiCad and standard AA

cells may also be used.

The Control Panel

The Espri/12 is operated by four switches. One of six panel display lights (LEDs) is always lit, indicating that the power is ON, as well as showing the currently selected session. Switch functions are:

- 1) ON/OFF. Each press alternates on/off.
- 2) SESSION SELECT. Each press of this key causes one of the 6 session indicator LEDs to light in sequence, showing which session is about to run. When first turned on, session #1 automatically selected. Session names, numbers and lengths are listed on the back of the unit for your convenience. Sessions #7-12 are indicated by blinking indicator lights (session #7=session 1, blinking, etc)
- 3) PITCH. Press and hold this key to change the audio pitch for your session. The pitch will increase in steps to a maximum, then decrease to minimum. Pitch can be changed during the session, if desired.
- 4) START/STOP. Once you have selected your session, press START to begin. If you find a particular portion of the session interesting and would like to prevent the pulse rate of the light and sound from changing (i.e., to pause at the current pulse rate), press STOP. If you would like to end the session early, press OFF.

The AUDIO VOLUME knob controls the overall audio level (internal sound mixed with cassette input) flowing through your Espri/12, while the LIGHT BRIGHTNESS sets the LED brightness in your LiteFrames.

The Sessions

The twelve sessions preprogrammed into your Espri/12 were designed for ease of use and maximum flexibility.

Session One: Sleep Time (20 minutes) A descent into Delta. Use while tired, but not yet sleepy, or if you wake up during the night and cannot get back to sleep.

Session Two: Tranquility (30 minutes) This is a descent into delta with a ramp back up to Alpha. Use as an aid to sleep and memorization.

Session Three: Deep Relax (44 minutes) a longer, gradual descent into Theta, with much time spent in the Theta state. Use this with language and other learning tapes.

Session Four: Cat Nap (10 minutes) Take a few minutes to unwind-move into a dreamlike state releasing the tensions of the day.

Session Five: Visions (25 minutes) A quick ramp to the Theta state. Useful for creative visualization prior to brainstorming new ideas and for general relaxation. Quick perk-up at the end... the ideal program to use while on break or lunch at work.

Session Six: Earth Resonance (30 minutes) Very relaxing and especially useful for meditators and others who prefer a gentle, harmonious experience. Designed to relax without inducing sleep.

Session Seven: Inner Focus (30 minutes) This program will allow you to move into a very relaxed space. Users report this session will capture your imagination!

Session Eight: Mind Magic 1 (60 minutes) Designed for use on airplanes in order to counteract jet-lag, this complex session ramps from Beta down to Alpha and Theta, then back again. Light patterns and sounds also change. Users have reported feeling the equivalent of several hours sleep after just one session.

Session Nine: Sports Performance. (15 minutes) Users describe this program as being both energizing and relaxing. Creates mental focus for that competitive edge.

Session Ten: Energize (15 minutes) A short but intense ascent from low Alpha to Beta. Try the sound at higher volumes and focus your attention on it. High light brightness is also useful. Just right for that afternoon break.

Session Eleven: Mind Magic 2 (30 minutes) Multiple changes in frequency and light pattern designed to induce especially vivid geometric imagery. Recommended for artists or aspiring artists. Great also for pure entertainment--why watch yet another TV rerun?

Session Twelve: Fourth of July (13.5 minutes)* Very high energy with lots of colored patterns. Designed to enhance productivity, this session contains over 80 individual frequency hops. Bon Voyage!
*The label on the case erroneously indicates that this is 20 minutes long.

Tips for getting the best results from your system.

- 1) Remember to keep your eyes closed during the session!
- 2) Start with shorter programs, increasing length as needed.
- 3) Keep the lights fairly dim when you first start a session, particularly when you begin using the machine. Increase the brightness gradually, staying always at a comfortable level. However, brighter settings are the most effective ones.
- 4) Use the system at least three times a week, and preferably daily for at least the first few weeks, for best results. It's okay to use shorter programs--the important factor is regular use.
- 5) Enjoy yourself! The light show provided by the Esprit/12 is great fun, and can be used to boost visual creativity and mental

imagery. Also, if your mind begins to wander back into those "loops," focus your attention very closely on the visual imagery... notice the sharp, colorful borders of the patterns you are seeing, try to imagine that they are castles in the air, etc.

6) Turning your lights to maximum level while the audio is turned all the way down will sometimes reveal a gentle sound pulsing at the same rate as the lights. Should this occur and bother you, turn the lights down slightly, or turn the audio up a bit. If you just want to hear the tape, then connect your headphones directly to the tape player, bypassing the Esprit/12 base unit.

Care and Maintenance

The Esprit/12 was designed to provide years of trouble-free use with proper care. Please observe the following suggestions to help maximize the life of your unit.

-Don't wrap the LiteFrame cable around the glasses, as this can eventually break the wire.

-Disconnect wires from control unit while not in use.

-If you clean the Control Panel, use a mild soap on a *slightly* damp cloth. Do not use alcohol or other solvents.

-You can attach virtually any headphones to the audio output. However, do not attach glasses designed for other light/sound machines to the Esprit/12, as they may damage the unit.

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SELECTED REFERENCES

- Budzynski, T. H. (1977). Tuning in on the twilight zone. *Psychology Today*, August.
- Budzynski, T. H. (1991). *Clinical Applications of Sound and Light*. Seattle: Syntetic Systems Press.
- Cade, C. M. & Coxhead, N. (1979) *The Awakened Mind: Biofeedback and the Development of Higher States of Consciousness*. New York: Delacorte Press.
- Glicksohn, J. (1986). Photic driving and altered states of consciousness: An exploratory study. *Imagination, Cognition and Personality*, 6, 167-182.
- Hutchison, M. (1992). *Megabrain*. Second Edition, updated. Ballantine Books.
- Hutchison, M. (1990). Special issue on sound/light. *Megabrain Report: Vol.1, No.2*.
- Mavromatis, A. *Hypnagogia: The Unique State of Consciousness Between Wakefulness and Sleep*. New York: Routledge & Kegan Paul, 1987.
- Miller, E. E. (1987). *Software for the Mind: How to program Your Mind for Optimum Health and Performance*. Berkeley, CA: Celestial Arts.
- Richardson, A. & McAndrew, F. (1990) The effects of photic stimulation and private self-consciousness on the complexity of visual imagination imagery. *British Journal of Psychology*, 81, 381-394.