

Handbook

laxman

## Health Notice

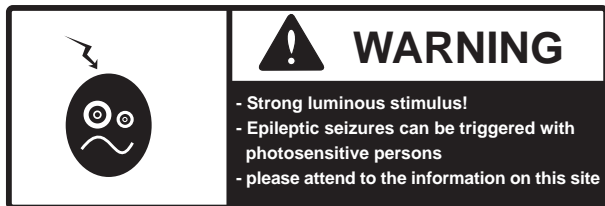
The Laxman has been developed for entertainment and personal development as well as for relaxation and concentration training. It claims no medical effect whatsoever. It is not intended for the diagnosis of illnesses or other disorders. Also not intended for treatment, relief, healing or prevention of disease. The Laxman was not developed to influence body structures.

Please, turn to a doctor before you use the device in case you:

- ever had any kind of seizure or epilepsy
- ever had a severe head injury or concussion
- are currently taking psychotropics such as barbiturates, tranquilizers, or stimulants or other hard drugs.
- suffer from heart or other health troubles which require medical treatment
- are pregnant

Do not use the device in case you use a cardiac pacemaker!

Neither the manufacturer nor the supplier take over any guarantees in case of improper usage.



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Welcome!

The Laxman is a unique device which offers not only a completely new way of entertainment but will also support your personal development. Its special effect is based on the principle of the so-called audiovisual stimulation. This principle has been researched well in numerous studies for several decades.

The special features of the Laxman are its patented All-Color-Ganzfeld-Goggles and its manifold auditive possibilities. Whether preinstalled Laxman sessions, sessions created by yourself, language courses, your own suggestions or audio books, any content may be transported and used by the Laxman. The PC software for creating your own sessions can be downloaded for free from our website [www.mylaxman.com](http://www.mylaxman.com).

Please, read this handbook to make optimal use of the Laxman.

## Scope of delivery

Folgende Bestandteile sollten der Packung beiliegen:

- Laxman device
- All-Color-Ganzfeld-Goggles
- earphones
- USB cable
- two batteries (type AA Mignon)
- 5 x cable straps
- bag
- micro fiber cloth
- this handbook

## Commissioning

To start the Laxman, please put the two AA-sized Mignon batteries (preferable alkaline batteries) into the battery compartment at the bottom of the device. Alternatively you can supply power to the device by means of a conventional USB mains adapter or computer.

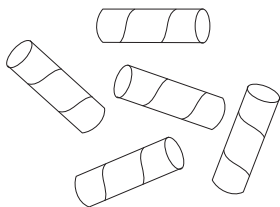
### ATTENTION



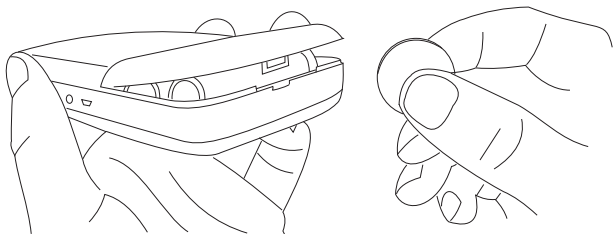
If you want to use a USB mains adapter, please put in the batteries first and turn on the device. Connect the USB cable to the USB jack on the right hand side of the Laxman only after having turned on the device.

Now connect the cable to your computer or in case you use a USB mains adapter to the power socket. Then the batteries are bypassed automatically und do not lose power. After 5 minutes of inactivity the device is turned off automatically.

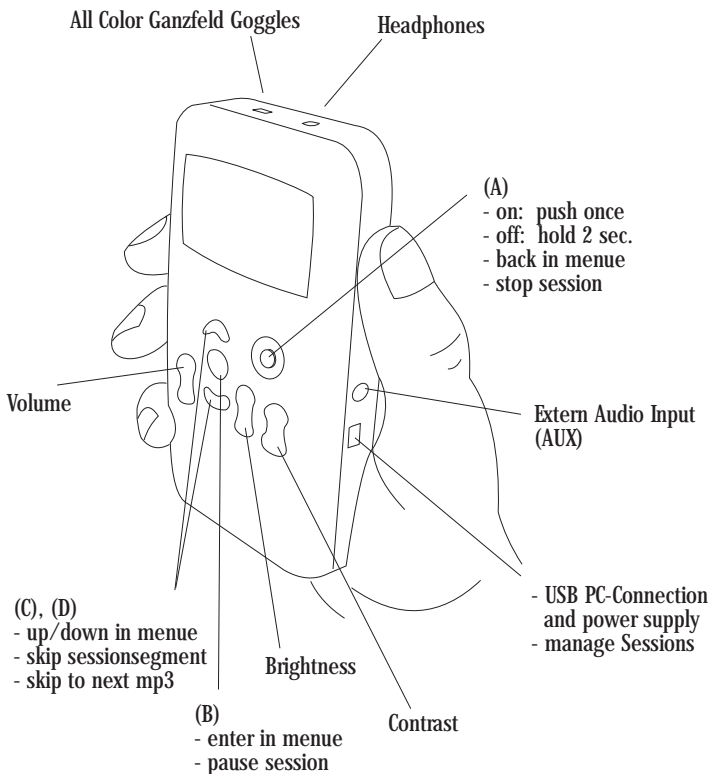
You can use the supplied cable straps to connect the goggles and earphone cables. In the supplied condition the cables are separated in case you already have earphones which you also want to use for the Laxman.



### how to open battery section



## The Handling



Turn on the device by pressing key A. While the CPU boots you see the start picture on the display. Then the main menu opens. It contains the following items, which can be selected by pressing the keys C and D and activated by pressing B.



## 1. Sessions

This menu item contains the preinstalled sessions. There are two different types of sessions: ambient sessions and pulse sessions. Ambient sessions are a unique composition of light and sound and the actual heart of the Laxman. They contain various audio contents such as ambient sound, music etc. By means of the editor software *LaxEdit* (free download at [www.mylaxman.com](http://www.mylaxman.com)) you can create an ambient session on the basis of any audio file in the MP3 format and save it in the Laxman.

The auditive part of pulse sessions are pulsed sounds (burst signals). Like the ambient sessions they are synchronised with light. They are a precise and efficient tool for mental training. The Laxman comes with preinstalled pulse sessions for various ends such as relaxation, learning support, sleep enhancement etc. Free download of further pulse sessions (e.g. for clinical applications) at the Laxman Website [www.mylaxman.com](http://www.mylaxman.com). Of course, you can create your own pulse sessions with *LaxEdit*.

As in the main menu, the individual sessions are selected with the keys C and D and started with B. By pressing B again the current session is paused. By pressing A the current session is stopped and you return to the session menu. By pressing A again you return to the main menu.

If you connect the device to a PC by means of a USB cable you can delete the installed sessions, replace them by your own ones, or just add new ones (to do this see paragraph "Delete and Save Sessions").

A description of the individual sessions you find in the chapter "The Laxman-Sessions" (page 21).

## 2. MP3 Player

You can also use the Laxman as an MP3 player. Under this menu item you find the MP3 files, e.g. the music of the ambient sessions. In case no MP3 files are saved it says "No MP3 files found". By pressing A you get back (as usual) to the previous menu.

## 3. Random Sessions

This function starts a random session. According to the four neurological states beta, alpha, theta, and delta (see attachment), there are four types of random sessions. In random sessions a great number of relevant frequency segments are combined again and again. Colors and sounds are adapted to the frequencies, which ensures a great variety and an optimal effect.

Each random session can be started with or without an MP3 title. If an MP3 title is selected the synchronized burst signal is deactivated in order not to produce unwanted superpositions.

Please select first one of the four types (keys C and D) and confirm the selection by pressing B. \* in front of the session titel indicates the selection. Now press key D to select either "play with" or "without MP3". If "without MP3" is selected the random session is started as pulse session. It will be played until it is stopped by pressing B or A.

If you select "play with" MP3 you get into the MP3 menu. Please select the title with which you want to combine the random session and confirm the selection (as usual) by pressing B. The random session starts and runs as long as the MP3 title lasts.

#### 4. Manual Session

This menu item allows you to adjust each parameter of a session manually and start it with or without MP3. This option is particularly suitable for advanced users.

The options can be selected with the keys C and D. The selected option is displayed inversely (black). To activate it press key B and change it with C and D.

The first item is Frequency (Freq.). Here you select the stimulation frequency which is kept up during the entire session. It can be adjusted within the neurologically relevant range of 0.1 to 40.0 Hz (Hz = Hertz, i.e. cycles per second). In order to adjust the frequency, please press B. The frequency display is now shown in bold and can be incremented or decremented in steps of 0.1 Hz by pressing C and D. Confirm your selection by pressing B again.

The second item is Color. It is displayed by means of a color wheel and comprises 360 degrees. The color can be selected in steps of one degree. To give a rough orientation each color also has a designation. The scale begins with red at 0 degrees. With each degree the red becomes brighter until it is called orange at 26 degrees etc. Adjustment takes place in the same way as it is described above.

The third item is Tone Pitch (Tone). The steps are displayed in Hz and in notes according to the scale resp. the keys of a piano. It begins with the deep C (32.7 Hz), C# (34.6 Hz), D (36.7 Hz) ... until c" (523.3 Hz).

The fourth item is Chord. There are three possibilities: "On" (with sound), or "Off" (no sound), and "Hemicircle". Select "Off" if you want to underlay the session with an MP3 title or connect an external audio device and do not want to have pulse tones with it. "Hemicircle" is an especially intensive form of stereophone sound production.

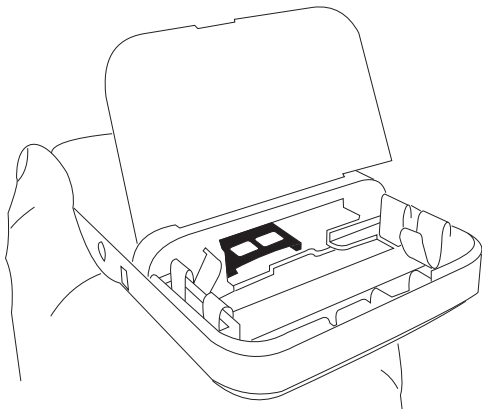
The last menu item allows you to start the session with or without MP3 background music, as it is described in the paragraph "Random".

## 5. FlashCard Mode

Select the FlashCard Mode if you want to access the external memory of the device, i.e. the SD card. The menu items are as you are accustomed to except for being connected with the external memory. On the SD card MP3 files or self-created sessions can be saved.

To return to the internal memory activate the item "Standard Mode" which is now displayed instead of "FlashCard Mode".

The flash card slot is located in the battery section:



## 6. Device Settings

This menu item allows you to make a white balance of the three primary colors red, green, and blue. Red light is usually perceived especially intensive. Additionally it has the largest partial flux in the All-Color-Ganzfeld-Goggles. Some users appreciate this. If red is set too strong it will have an influence on the color composition, especially white is increasingly tinted red. Thus it is reduced in the supplied condition in order to produce pure white.

If you want to adjust the setting, select "White Balance" and then "Start Calibration" and activate the calibration process by pressing B. If you have connected the Goggles, you see them shining. By pressing C and D select the primary color you want to adjust and confirm the selection with B. As in the manual settings (menu item 4) you can adjust the individual primary colors within the range of their digital values between 0 and 255. A reduction to 0 means 100 % "on" and 255 means "off".

For the normal use of the Laxman you can ignore this menu item.

### 6.1 Data Transfer

You can download and upgrade all data on the Laxman. You can change each content as you wish. There are two different memories available. The internal memory has a capacity of 1 GB. In the supplied condition the preinstalled sessions and the firmware is saved there. The Laxman also has a slot for SD cards (not included in the supplied condition). All conventional SD cards of type "mini SD" with any memory size can be used. Currently, SD cards with up to several gigabytes memory size are sold.

Before you can copy MP3s or new sessions from your computer to the Laxman, please turn on the device and confirm "Data Transfer: On" under the menu item "Device Settings".

If you connect the Laxman by means of the USB cable to the computer both drives are displayed as follows:

LAXMAN - this is the internal memory (capacity: 1 GB)

Removable medium or name of the memory card - this is the external memory, i.e. the mini SD card (in case inserted)



Please only use the supplied USB-cable to guarantee frictionless data transfer.

Just copy the data to the respective drive as usual. Afterwards, as with all USB connections, we recommend to log off the drive (with the PC: right click on the drive -> eject) before disconnecting the cable in order to prevent possible data damage.

The data are now shown on the display of the Laxman under Sessions resp. MP3 and can be used as described above (if necessary change to "FlashCard Mode" or "Standard Mode").

## 6.2 Version

Under this menu item you can check the version number of the currently installed firmware, the version of the file format as well as the version of the status format.

Please, update your Laxman software whenever a new version is available to keep it state-of-the-art. Download the latest version of the software from the Laxman website [www.mylaxman.de](http://www.mylaxman.de) for free. Please, follow the installation instructions. In the supplied condition the Laxman comes with the latest version, so there is no need for an update for quite some time. Please, compare the version number of the firmware with the number available for download. If the number of the download version is higher an upgrade is recommended. Please, follow the installation instructions on the website. (Also see paragraph "Delete and Save Sessions".)

## Start a Session

To select a session, please read the descriptions of the individual preinstalled sessions in chapter x "The Sessions". Take care not to be disturbed during the session (telephone, children, colleagues, etc.). It is recommended to establish regular times for the Laxman sessions, e.g. in the morning before work or in the lunch break (please also see appendix "Training Times").

Choose a comfortable position. An upright position supports the concentration. A lying position can make you sleepy. Since everybody has different dispositions there is no patent solution for the optimal body position. Try out the various positions and settings and decide for the one which is optimal for you.

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The All-Color-Ganzfeld-Goggles are designed such that they can be used with eyes open or closed. If you leave your eyes open the colors are more intensive. Furthermore, you train to keep up a relaxed and concentrated condition with your eyes open.

### ATTENTION

With eyes open, the session duration should not exceed 30 minutes.

If you have your eyes closed (due to evolutionary habits) a so-called Alpha state is naturally supported (see appendix "Frequencies"). This can lead to good results very quickly. Since you have your eyes open during everyday life, however, we recommend to use the Laxman with your eyes open, too. Ultimately, just as the body position, this is up to your personal disposition. Experiment with both options and find out the best solution for yourself.

### The Keys: Volume, Brightness, and Contrast

You can adjust volume, brightness and contrast during the session. Please, set a moderate volume first, the last value is saved.

Now choose a moderate brightness, too. Take care, however, that you feel comfortable with the brightness during the session. In the supplied condition it is set at rd. 2/3 of maximum brightness.

If possible, leave the contrast at 100 % and only adjust the brightness. If you react sensitively to certain colors you can adjust their brightness individually by means of the "Device Settings Whitebalance" to obtain an optimal personal session setting. After switching on and off brightness is at rd. 2/3 again.

Adjusting the contrast is only recommended for very light-sensitive persons. Therefore, this setting is not saved in the device but is reset to 100 % every time the device is turned on again.

In case you rather want to use the Laxman for light therapy instead of mental training, the frequency of the light pulses can be reduced completely by means of the contrast key. The color transitions of the sessions remain, of course. Without contrast, however, a so-called brainwave entrainment (i.e. mental training as a result of audiovisual stimulation) does not take place.

Please, avoid ending a session abruptly. All preinstalled sessions are slowly faded in at the beginning and faded out at the end.



## The Laxman as Learning Support

The audiovisual stimulation enhances the receptiveness of the brain as well as long-term memory. There are different possibilities to use the Laxman as learning tool:

- before learning,
- during learning,
- after learning.

The use before learning is suitable to induce a calm and concentrated state, in which information is taken up very well. This is recommendable especially if the content is not available in an auditive format, e.g. a pure audio language learning course, or when preparing situations where you have to present information such as briefings or presentations.

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Using the Laxman while learning is especially suitable if the content is available in an audio format. Language courses have pure auditive parts to a greater or lesser extent. There are also language courses without accompanying books. This form of learning support is also suitable for suggestions. For this purpose we recommend to create your own sessions with the desired content. Please, choose a frequency in the alpha range (e.g. 10 Hz).

The auditive learning programs can be converted into the MP3 format by means of an appropriate program (e.g. “Audiograbber”, “Exact Audio Copy” or “iTunes”, you can download such a program with the respective manual for free at the internet). Then the content can be saved on the Laxman or can be integrated in a session by means of the Laxman editor software. We recommend a frequency in the alpha range (e.g. 10 Hz) for this application, too.

Another possibility to use the Laxman for learning is learning reinforcement. By creating new synaptic connections in the brain the encoding of the received information is promoted. To this end just take a theta session after learning. The theta range (7 - 4 Hz) promotes the integration of new information since it is connected with the creation of new synapses in the brain.

### Connecting an External Audio Source

If you want to connect an external audio source (e.g. a language course on tape or CD), please select a pulse session or set a frequency manually (see "Manual Session") or select a random session without sound. Connect the audio source by means of a conventional audio cable with 3.5 mm stereo phone jack on the one side and a jack fitting to your audio source on the other to the AUX entry of the Laxman (e.g. via the headphone entry of your audio source; if necessary adjust the volume here).

### Delete and Save Sessions via USB

As described in the chapter "Data Transfer" you can download and upgrade all data on the Laxman. You can change each content as you wish. There are two different memories available. The internal memory has a capacity of 1 GB. In the supplied condition the preinstalled sessions and the firmware is saved there. The Laxman also has a slot for SD cards (not included in the supplied condition). All conventional SD cards of type "mini SD" with any memory size can be used. Currently SD cards with up to several gigabytes memory size are sold.

Before you can copy MP3s or new sessions from your computer to the Laxman, please turn on the device and confirm "Data Transfer: On" under the menu item "Device Settings".

If you connect the Laxman by means of the USB cable to the computer both drives are displayed as follows:

LAXMAN - this is the internal memory (capacity: 1 GB)

Removable medium or name of the SD card - this is the external memory, i.e. the mini SD card (in case inserted)



We recommend to use the SD card for your own sessions or MP3 files and leave the internal memory in its original condition.

Just copy the data to the respective drive. Afterwards, as with all USB connections, we recommend to log off the drive (with the PC: right click on the drive -> eject) before disconnecting the cable in order to prevent possible data damage.

The data are now shown on the display of the Laxman under Sessions resp. MP3 and can be used as described above (if necessary change to "FlashCard Mode" or "Standard Mode").

## Appendix

### The Frequencies

Our brain oscillates at various frequencies, which are made visible by EEG measurements. It is the movement of the electrons through the nerve tracts which generates a measurable electrical field. Different frequency ranges are directly connected to different states of consciousness and physical processes. The measuring unit of these frequencies is called Hertz (Hz) and means cycles per second.

EEG measurements have shown that these frequencies can be affected by applying a pulse frequency to the body. In case of the Laxman these frequencies are obtained by light and sound. The principle behind this effect is called „Frequency Following Response“ and says that the brain will attempt to duplicate the frequency perceived by the sense organs within a few minutes. It is the same principle why gazing into a flickering campfire or a glittering aquarium is relaxing. It is the same effect shamans use when dancing around a campfire to rhythmic drum beats. For the surrounding viewers their silhouettes interrupt the light of the fire in time with the drums, thus producing the frequency for trance and similar states of consciousness.

Neurological research categorizes basically four frequency ranges:

#### Beta Waves (30 to 13 Hz)

Fritz Perls called this state the "general awareness of permanent alert". The usual symptoms of this state range from watchfulness, analytic problem solving, tension, stress, hectic activity and imbalance to panic. A training in this frequency range is rarely necessary since most people are in this state most of the time anyway. A training of attention or concentration is recommended in the following cases:

An application of frequencies between 15 and 18 Hz is useful in the treatment of listless people or hyperactive children. Frequencies of about 18 Hz have been successfully applied with top athletes to achieve optimal performance.

According to some studies, frequencies around 20 Hz are said to release stress and should therefore be avoided in the training.

#### Alpha Waves (12 to 8 Hz)

In contrast to the Beta state the Alpha state is a calmer state. It is characterised by light watchfulness, easy concentration, heightened learning and memorizing ability, as well as a feeling of unity of body and mind. It is a relaxed and balanced, yet energized and wakeful state.

According to a hypothesis which up to now has held up under examination, the Alpha state - in contrast to the Beta state - produces self-calming neurotransmitters (endorphins, serotonin). People who are unable get into the Alpha state on their own because of their high excitability are lacking them.

Dr. Thomas Budzynski recommends an „Alpha 3 Training“ (12 - 14 Hz) to increase cognitive abilities.

The range between 11.5 and 13.5 Hz is often considered as the basis for the creative flow of ideas. Other sources recommend a frequency range beginning at 6 Hz with a prolonged listening time at 10 Hz. The frequency of 10 Hz in the alpha state has a special role: it is called the "biological universal frequency" and can be measured in the EEG of almost all mammals, thus being predestined for harmonization and stabilization.

"Under clinical conditions the stimulation frequency of 10 Hz is best suitable to stabilize and harmonize the organism and it does not seem to play a significant role whether the impulses are electrical, electromagnetic or light impulses." (Equinox)

Use this frequency to get into a relaxed state where the neurotransmitters (especially endorphines and serotonin) are harmonized. It is also recommended for the treatment of addiction problems.

#### Schumann Waves (8 resp. 7.83 Hz)

The frequency of 8 Hz, more precisely: 7.83 Hz, equals the frequency of the earth's magnetic field and has, according to numerous studies, a positive influence on the human physis and psyche: e.g. relaxation and concentration, better wound healing, superlearning, quicker reactions.

As one of the oldest pulse generators on the planet the Schumann waves coined long periods of the evolution and are echoed in numerous body rhythms. Astronauts always take a magnetic field device with them to simulate this frequency.

Alpha waves are especially suitable to increase the receptiveness e.g. for learning. If you want to use the Laxman for learning support, please choose an alpha session.

#### Theta Waves (7 to 4 Hz)

The theta state is a meditative state. It is characterised by deep relaxation, high creativity as well as strong imagination resp. easy access to a visionary world. We experience it during sleep and deep meditation.

In recent years the frequency of 7.5 Hz has been increasingly discussed in connection with the stimulation of surprising insights and creative problem solving. For instance by Dr. Barbara Brown who has done a lot of research in the upper theta range of the brainwaves. Others refer to Itzhak Bentov who discovered interesting 5.5 Hz phenomenons in the blood circuit (standing waves).

For 32 - 73% of the population, the frequency of 6.5 Hz known as Theta 2 is connected with frontal activities during the solution of mental problems. (Yamaguchi, 1983)

In 1990 Richardson and McAndrew examined the influence of audiovisual mental systems on the imagination. They showed that frequencies between 6 and 10 Hz are more effective than higher frequencies (18 Hz and more). 6 Hz seem to be especially suitable to support imagination. This was confirmed by J. Glickson as well (however only 4 probands) and in 1979 EEG studies by Lehmann, Koukou & Andreae showed that in the alpha state only 9% of the test persons see internal pictures compared to 59% in the theta state.

Researches by Dr. Margaret Patterson and the biochemist Dr. Ifor Capel at the Marie Curie Cancer Memorial Foundation Research Department in Surrey, England, have shown that frequencies around 4 Hz stimulate the production of catecholamines, which are important for memory and learning.

A well-known study by Fox and Raichle from 1985 shows that the cerebral perfusion is improved by up to 28% by means of an optical stimulation frequency of 4 Hz.

#### Delta Waves (3 to 0.5 Hz)

lead to a state of deep relaxation. They are rarely perceived since we experience them in deep sleep, trance or deep hypnosis. They are connected with healing (in the delta state growth hormones are released).

Frequency that helps with sleep disturbances and pain; releases endorphins, body-own opiats. In general, the frequencies between 0.5 and 4 Hz induce a deep relaxation, support sleep and reduce pain by stimulating the endorphin system (Equinox).

Ronald deStrulle calls 1.5 Hz (more precisely: 1.45 Hz) "Tri-Thalamic Entrainment Format." It is designed to create entrainment between the hypothalamus, pituitary and pineal gland of the brain. DeStrulle writes that "several doctors and audiologists from the New England Dyslectic Center Group have been obtaining excellent results with dyslexia by using Tri-Thalamic Format and that a study was presently being conducted which indicated profound improvement with Alzheimer's patients. We have been unable to confirm these reports ..." (Jonathan Goldman).

Feeling of well-being, balance and harmony. The frequency is connected with the release of growth hormones (Michael Hutchison).

0.5 Hz is connected with deep relaxation, some natural body rhythms and preparation for sleep.



## The Laxman-Sessions

### Underwater (alpha - 20 Min.)

Water is not only an elixir which gives us strength and is an indispensable component of ourselves, but is also the habitat for a large variety of creatures and plants. On a trip into the unexplored depths of our fascinating water landscapes we discover undreamed-of beauty. Immerse into a crystal clear sea of satin and enjoy iridescent colors and forms of the underwater world.

Further Information: [www.taikonauten.cn](http://www.taikonauten.cn)

### Across (alpha - 20 Min.)

Synthesized sounds take us from the scenarios of the past day into the oasis of relaxation. Silence prevails, you immerse yourself in a world of sound. What remains is a flight of thought over flowering gardens, past all walls of our civilization, to this old tree that has put down its roots here for more than 100 years. It represents the recurring blossoming in the course of the world. The old man has been sitting here for all his life and tells this story about the only thing important in life ... love.

### Bionik (theta - 20 Min.)

"We are not the innovators we think we are; we are just repeaters."

Often inventors have only copied what plants or animals have been doing for thousands of years. Applying the principles of nature is so common that a name has been coined for it: BIONICS.

Further Information: [www.ant-zen.com/telepherique](http://www.ant-zen.com/telepherique)

### Countryside (alpha - 20 Min.)

The classic: natural sounds to relax and feel well. Chirping birds and purling brooks, calm and contemplative spirits in nature, experience a summer day anytime and anywhere. Created by the child therapist Dr. Arndt Stein.

Further Information: [www.vtm-stein.de](http://www.vtm-stein.de)

### Beach (theta - 20 Min.)

A contemplative walk along a deserted beach, only the sound of the waves and the call of the sea gulls. You are at one with yourself and feel the elementary power of the sea. This relaxation classic was also created by Arndt Stein.

Further Information: [www.vtm-stein.de](http://www.vtm-stein.de)

### Chanting (alpha - 20 Min.)

Overtone singing is a singing technique in which the partials of a sound wave are selectively amplified and made audible. Each pitch that we hear contains additional pitches which determine the tone color or timbre of the pitch. Everyone can experience these pitches in his or her own voice by slowing down the modulation of the vowels.

In the shamanic singing of many cultures the overtones play an important role to contact other consciousness dimensions which transcend the usual forms of our perception.

Further Information: [www.stimmlabor.de](http://www.stimmlabor.de)

### Didgeridoo (alpha - 20 Min.)

From time immemorial the didgeridoo has been used by Australian Aborigines as cult instrument. The overtone wind instrument produces rhythmic vibrations deeply affecting the body, thus leading to a synchronization, so to speak a "reset", of various body frequencies. Let yourself be carried off by the trance of the musician into the night of the Australian bushes.

Further Information: [www.aboriginalart.com.au](http://www.aboriginalart.com.au)

### Vibrations (delta - 20 Min.)

"Vibrations" is a journey through a world of unheard and yet strangely confident sounds touching your inner self. The sound of the crystal sound bowls of Carlo Michael, starting gently and getting more intensive later on, creates multilayered vibrations which can be physically experienced. Experience yourself as a vibrating part of the infinite space.

Further Information: [www.lighttouch.de](http://www.lighttouch.de)

### Highlands (delta - 20 Min.)

In the poikilothermic areas of our earth the life of man is constantly affected by the forces of nature. Where the summer rain falls downhill onto the leafy canopies of the tropical forests, the fresh high land wind blows over the seemingly endless high mountain ranges, driving enormous wafts of mist, there is a place of relaxation for anyone. Who responds to the call of nature far from the densely populated civilization experiences the overwhelming diversity of species of primitive times.

Further Information: [www.taikonauten.cn](http://www.taikonauten.cn)

### Lovely (theta - 20 Min.)

The flashing ascent of our galactic, great giver of warmth and light - the sun. A spirited, beautiful day full of live and unique moments. The entire color spectrum of nature followed by an inspiring sunset on the horizon. A vespertine, crackling open fire blazes against the background of a crystal-clear night with full moon and thousands of jingling stars. The cuddly warmth of the glowing logs makes the body comfortable and conveys a languorous feeling of timelessness.

### MegaBrainZones:

The MegaBrainZones - sessions by Michael Hutchison are produced in an outstanding quality, recorded with enormous technical and scientific expenditure, and to this day belong to the best psycho acoustic music available.

### Peak Performance (alpha - 30 Min.)

The Espresso replacement for a spirited start after rests and for mental or sportive continuous peak performance. Ideal for PC work, for learning and for superlearning.

Inner state: the consciousness gradually adopts the tendency to peak performance, highly active at peace with yourself.

### Deep Relaxation (delta - 30 Min.)

These frequencies induce natural meditative states, accompanied by deep physical relaxation, which may also lead to a recovering, natural, and healthy sleep.

Inner state: Deep physical relaxation is consciously observed or replaced by recovering sleep.

Further Information: [www.bornhorst.de](http://www.bornhorst.de)

### The Pulse Sessions

Some people relax better without music. For other purposes than relaxation, e.g. learning languages, music may be disturbing. The pulse sessions have been developed for various purposes. Apart from relaxation and concentration, there are special sessions for learning support, sleep enhancement, preparation of sportive peak performances and other topics.

The main focus of pulse sessions is on the requirements of an optimal brainwave entrainment, i.e. an efficient audiovisual stimulation, rather than on aesthetic aspects.

### AlphaClassic I (alpha - 25 min.)

This pulse session is an efficient relaxation classic. It promotes a calm and concentrated state as it is known from light meditation. The target frequency is at 7.8 Hz (Schumann resonance frequency), the colors are green and yellow.

### AlphaClassic II (alpha - 30 min.)

This relaxation session is a little more intense than AlphaClassic I. This means that the target frequency of 7.8 Hz is maintained for a longer time. At the same time it takes a bit longer to reach the target frequency. Furthermore, the predominant red and intensive light is to support cerebral perfusion (comp. Fox & Raichle 1985 and others).

### Activate (beta - 20 min.)

This beta session is to improve attentiveness. The frequency is mainly at 14 Hz. Apart from a yellow fade in and fade out phase, the color is red. Please choose this session when your attention is decreasing e.g. after long concentration, or when getting tired during work.

### Sportmental (alpha - 30 min.)

Sportmental leads you into the alpha range within very short time, where a calm and concentrated state is supported. The colors are predominantly yellow with a some green and little red. Choose this session to mentally prepare for sport events.

### CreaTheta (alpha/theta - 25 min.)

After a relaxation phase in the alpha range this session leads into the theta range. The theta range is connected with a state of deep relaxation and a rich world of images. Choose this session to promote your creative potential.

### PreLearn (alpha - 20 min.)

PreLearn is a short and intensive alpha session for learning preparation. The session aims to lead you into a calm, concentrated and attentive state of mind, where you are especially capable to receive new information. PreLearn is suitable whenever as much information as possible is to be received and remembered within a short time.

### Learn (alpha - 60 min.)

This learning session has been created to support learning. Soft color transitions between yellow, orange, and green lead to the target frequency of 7.8 Hz after having listened to 10 Hz for 15 min. Choose this session to listen parallelly e.g. to an audio language course via the AUX jack.

### PostLearn (theta - 30 Min.)

Learning reinforcement focuses on the encoding of received information rather than on the ability to receive information. As it is known from sleep research this encoding mainly takes place in the theta state where new synaptic connections are developed, thus implementing the received information. To this end it is not necessary to take the PostLearn session directly after learning, but preferably in the evening hours. Try to let your mind flow without consciously concentrating on the newly learned contents. PostLearn leads you into the theta state at 4 Hz with blue and violet light.

### Sleep I (alpha/theta - 45 Min.)

Standard sleep session: The first target frequency is the Schumann resonance frequency in the alpha range at 7.8 Hz. It serves to calm down everyday thinking. Concentrate on something pleasant, far from everyday life; e.g. an imaginary walk. The second target frequency of 6 Hz in the theta range supports the introduction into the sleep phase. This is enhanced in the third part of the session. The frequency remains at 4 Hz.

The color of the session starts with bright violet which is getting darker and finally blue in the course of the 45 minutes. The sound is gradually getting deeper and from target frequency is transported as hemi circle sound.

### Sleep II (alpha/theta/delta - 60 Min.)

Intensive sleep session: in the beginning this variation of the standard sleep session puts more emphasis on the alpha range (10 Hz and 7.8 Hz) in order to cope better with persistent everyday thoughts. The second target frequency is in the theta range and the last quarter concludes with the delta range to enhance a deep and healthy sleep. This session mainly uses hemi circle sound, too.



## Tips and Suggestions for Sessions

### The Body Position

Choose a comfortable body position. You should stay in this position during the entire session. Lying positions can make you sleepy. You can also choose an upright position, in which the body is relaxed, however not completely lackadaisical. A slight strain is favorable for your concentration. A suitable analogy for this kind of strain might be a lurking tiger ready to jump or an oarsman waiting for the starting signal. The classical meditation positions (asanas) as known from Hatha Yoga are particularly suitable.

Feel free to experiment with different positions, however, in the long run, it is better to settle on a position and maintain it. After some time a favorable mental attitude is attached to this special body position, just as one usually becomes tired when taking the usual sleeping position in bed.

To summarize this: In principle each position is good in which you are successful. There is no "perfect" body position. When having longer sessions (more than 30 minutes) each position can become a bit uncomfortable. Nevertheless, try to keep the body calm and relaxed.

After having chosen your position, put on the Goggles and the headphones. Select the session you like from the menu. For a start we recommend an alpha session. Adjust light and volume as it pleases you. Please, take into account that the brighter the light and the higher the contrast the visual patterns and the audiovisual experience are more effective. The eyes usually get used to the light quickly. In any case the brightness should be pleasant for you. If desired it can be adjusted during the session as well. The actual mental training is not influenced by the brightness.

## The Mentality

For optimal progress we first recommend to observe the contents of your mind during the session. Please, do not judge the emerging thoughts, pictures, sensations, emotions or identify with them. Practice in the „art of mere observation“; interested, but not involved - like a biologist who studies the behavior of a rare species. You can make notes on your experiences after a session.

After the first sessions, if you want to train your concentration, concentrate on an object. Such an object can be the sensation of expanding and pulling in the abdominal wall while breathing (kinesthetic object), or the visualization of a form (e.g. a ball of a defined color and size) (visual object), or the sound of a syllable, a word, or a sentence you repeat internally like a mantram (auditive object). If you note that your mind deviates from this object simply return to the object.

In case a particularly interesting thought turns up, please also brush it aside for the time being and, where necessary, write it down after the session.

As with the body position you can at first experiment with different objects. After some sessions you should settle on the object with which your concentration is best and maintain it. After some time a favorable condition is attached to this object.

If you prefer a less intensive training, you can just let your mind drift and enjoy the session.



## Training Times

We recommend to carry out the sessions regularly (best daily) at the same time of the day. If you take one in the morning, you can profit best from the positive effects during the day. Of course, you can take additional sessions if necessary - e.g. for a break at work. Two shorter sessions, one in the morning and one in the evening, have proved their value. In principle, it can be said that an increasing occurrence and duration of the sessions promotes relaxation and mental abilities (concentration ability, stress resistance, positive distance towards the things of everyday life etc.).

Make sure not to be disturbed during the session (telephone, children...).



## Tips for Special Relaxation Training

For special relaxation training a lying body position, where the body is as relaxed as possible, is generally recommended. You can, however, also choose an upright body position for relaxation training. An easy strain of the body as is developed in an upright position is just as favorable to release (chronical) tensions and to relax the musculature as a lying position. Settle on the position in which you achieve the best results. If you get too sleepy in a lying position, you should think about an upright position.

Of course, your progress in relaxation training is also dependent on habits in everyday life. Pay attention to a relaxed posture in everyday life, too. In which situations do you (unnecessarily) tense your muscles? Are these perhaps special social situations? How relaxed is your back when you sit at the desk? Which muscles do you tense while driving a car? What happens if you relax these muscles?

If you have some experience with the Laxman, additional relaxation techniques such as progressive muscle relaxation or autogenous training can be combined very well with audiovisual stimulation. You can listen to an audio CD or tape with relaxation techniques while taking a session. Just convert the respective audio program to an MP3 format (see the free conversion program with detailed manual on [www.mylaxman.de](http://www.mylaxman.de)) and save it on the Laxman or connect an audio reproducer (e.g. CD player) to the Laxman and start a pulse session, a random session, or select the frequency manually (preferable without sound).

For tips on converting programs please see the FAQ on our website [www.mylaxman.de](http://www.mylaxman.de)

Thus, you can naturally combine other techniques (e.g. superlearning, language courses ...) with the Laxman, too. To this end select a frequency in the alpha range (e.g. 10 Hz).



### Tips for Special Concentration Training

In order to check the progress of your power of concentration, you can count the number of interruptions of your concentration while having a session and write them down afterwards. An interruption is a situation in which your mind is no longer focused on your concentration object (see above), even if this lasts only for one or more seconds. Please keep in mind that a rising number of interruptions can also be a consequence of refined observation. After some time of practice you can check the progress on the basis of your recordings.

For a successful concentration training prolonged sessions (starting from 30 minutes daily) are especially recommended. The more often and longer you practice, the faster your concentrativeness will develop. Please, select an upright body position for your concentration training.

The choice of the session depends on your personal disposition. Experiment with different sessions.

## Cleaning And Safety Instructions

The Laxman is an electronic device and should be handled carefully. Please, heed the following instructions:

- Use a dry cloth only (preferably the supplied micro fiber cloth) to clean the housing or a mild soap-water mixture.
- Protect the device against electrostatic charging (do not place it next to a TV or other electrostatically charged devices).
- Do not expose the device to extreme heat (direct sun shine, oven etc.) nor to dust, moisture etc.
- If liquid is spilled on the device, immediately take out the batteries until the moisture has evaporated.
- The goggles can be cleaned with a moist cloth.
- The goggles are not designed for the use in water.
- Do not deform the goggles beyond the intended usage since the incorporated electronics might be damaged.

## Troubleshooting

The Laxman is micro-processor controlled. As with any computer, unusual conditions may lead to system breakdowns. In especially complex cases it might be necessary to reset the system. To this end please take out the batteries for about 15 seconds. After reinsert the device works well again.

## Part 2

### LaxEdit

#### The Editor Software for the Computer to Create Your Own Laxman Sessions

##### General

With LaxEdit you can create your own sessions resp. visual effects for audio files you want to use with the Laxman. Sessions with an MP3 file we call ambient sessions. With the help of LaxEdit also mere pulse sessions can be created, i.e. sessions without MP3, which work with pulsed sounds as acoustic effect.

For ambient sessions a lax file is created which is synchronized with the loaded MP3 file. The lax file contains the visual data and the MP3 file the auditive data. If burst signals are integrated into the session they are also contained in the lax file. Both files (lax file and MP3) must have the same file name to be recognized as one session by the Laxman. After having been edited, the files are transferred to the Laxman by means of the USB cable.

A session consists of segments. The segments are defined by parameters such as frequency, color, sound and other features.

To adapt it to your specific requirements there are two ways to create sessions with LaxEdit:

##### 1. The "Integrated" Way

With a mouse click you can place the segments on the time line (Time Edit) and adjust the parameters in the field "Modulation Parameters".

##### 2. The "Analytic" Way

Here the segments and parameters are entered in a table (Table Editor).

Of course, you can combine both methods.

## Create an Ambient Session

First choose the MP3 file you want to use for the session with the button "MP3 File" in the segment "Audio", top left on the program surface (unselect the file again by right-clicking on the button). An explorer opens by means of which you can access your drives to find and open the file. The storage position on your drive is displayed in the address line on the right hand side of the MP3 button.

After opening the file you are asked whether the length of the session is to be automatically adjusted to the length of the MP3 file. Please, confirm with "yes" if you do not want the session to be longer or shorter than the MP3. By means of the button "Fit to Contents" bottom right on the "Table Editor" you can also automatically adjust the duration of a session to the duration of the MP3. Furthermore, the duration is displayed on the right hand side of the timeline (Session Duration) and can be modified there. This can be useful in some cases, e.g. if you want to edit only the first chapter of a language course.

Now you can add segments to design the session as you wish. For an optimal result all parameters have to be set manually. You have to listen to the entire MP3 once in order to find out where a new segment begins and to note the time at which a visual event (Event) is to take place. Do that exclusively by means of the integrated player in the LaxEdit software (upper menu item "Play"), since it is calibrated, i.e. contrary to other software players (such as WinAmp or Windows Media Player) it measures the time precisely also in case of long titles.

Please, note the time in form of hh:mm:ss:t, i.e. hours/minutes/seconds/tenth of seconds. Since the tenth of seconds can hardly be noted exactly while listening they can be adjusted precisely afterwards by means of the preview field (please also see paragraph "Further Functions", subchapter "Checking a Session"). While listening to the MP3 for the first time you can also make notes on the type of the event next to the time index (e.g. color change to blue, frequency increase to 10.3 Hz etc.).

Now transfer the settings to the "Table Editor" by pressing the button "Add" to add the respective number of segments and indicate the respective Start Times according to your noted values. To have a better overview you can expand the table. Alternatively you can place the segments by clicking on the timeline (Time Edit) and positioning them with the mouse (click and hold the left mouse button).

Each new segment automatically takes over the parameters of the previous segment. Then the single parameters can be modified. To this end mark the active segment on the timeline - it becomes black and the segment number is indicated above. You can also do this by means of the field "Segment" on the left hand side below the timeline. Please, adjust the respective parameters in the field "Modulation Parameters" on the right hand side below the timeline.

Alternatively you can also create the entire session by entering the single values in the table. You can set the value by double clicking in the respective table cell.

## The Parameters

**Start Time:** This is the start time of the respective segment as described above, indicated in minutes/seconds/tenth of seconds.

**Duration:** Indicates the duration of a segment. This value is set automatically after all start times have been set. It can, however, also be adjusted manually.

**Color:** Here you can set the color in the segment. After a double click the color wheel is displayed in the Table Editor (in the form of a scale). Select the desired color in the color scale by means of the black cursor or enter the RGB value between 0 and 359 degrees in the field on the left side of the scale. For white light click the field "white" (since for manufacturing reasons the single colors of the All-Color-Ganzfeld-Goggles do not always have the same intensity, you might have to make a white balance in the Laxman in order to obtain the optimal white; to this end, please see paragraph 6 "Device Settings").

Apart from aesthetic reasons you can select the colors according to color meaning tables as are used in the modern color psychology or the color correspondencies from the chakra teaching, quabalah or other systems, depending on the purpose.

If you prefer pure colors, use the following numbers:

|     |       |      |
|-----|-------|------|
| Red | Green | Blue |
| 0   | 120   | 240  |

Numbers from 0 to 360 which can be divided by 60 resp. 30 are also a good basis for mixed colors such as yellow, turquoise, violet, orange etc.

Please, also see the FAQ "How Does Color Therapy Work?" on the homepage [www.mylaxman.com](http://www.mylaxman.com).

Modulation Frequency (Hz): Here you adjust the frequency of the blinking light segment (which in case of pulse sessions is also the frequency of the pulsed audio signal). A neurological description of the frequencies is given in the appendix on page 17. This parameter also affects the patterns which appear before the eye during the session. Already little modifications can lead to a change of the patterns which, apart from the aesthetic effect, also have captivating, stimulating, or relaxing effects.

A classical so-called Brainwave Entrainment, i.e. a neurological effect by means of an audiovisual stimulation, starts with a session duration of at least 5 minutes with constant frequency. A rule of thumb is: the more frequency changes a session has, the higher the entertainment and the less the neurological effect and vice versa.

An example:

The neurological "perfect" relaxation session has a constant frequency of 10 Hz (except from a short initial and final phase, where it is recommended to fade in resp. out of the target frequency with a higher frequency, e.g. 16 Hz). Relaxation, however, depends on various and partly individual factors, so that some parameters can be varied. E.g. some people relax better with music. Also a change of the patterns, i.e. a slight variation of the frequency, can have a captivating and relaxing effect. There is no one universally right pattern so that it is recommended to experiment with various settings in order to obtain the optimal result depending on the respective purpose.



**Sound Intensity:** Here you can adjust the volume of the pulsed sound (not of the MP3) between 0 and 100 %.

**Light Intensity:** Here you can adjust the light between 0 and 100%. The Laxman will automatically fade in the first segment of your session from 0 to 100 % volume and brightness and fade out the last segment to 0 % volume and brightness again. Thus, you do not have to set the soft tuning in manually.

**Light Contrast:** Here you can adjust the light contrast between 0 and 100%. 0% means continuous light and 100% means full brightness in the "on-phase" and no light in the "out-phase" of the blinking. With decreasing contrast the out-phase becomes gradually brighter.

Contrast should always be 100% since with decreasing contrast both the neurological as well as the aesthetic effect (especially the visual patterns which are generated by the frequency) are lost.

A session with contrast 0 % can e.g. be applied for color-therapeutical purposes, even though no brainwave effect is achieved thereby.

**Crossfade:** With Crossfade color transitions from one to the next segment can be made. In the course of the segment the color gradually changes to the color of the next segment. Thus, flowing transitions between the colors can be made.

**Audio Pulse:** Here the type of sound for pulse sessions can be set (as usual by double clicking). You can choose between "on/off", which means switching the usual pulse signal on or off, or you choose "circle", which is an especially intensive form of audio frequency.

If you want to listen to the MP3 only in case of ambient sessions select "none". Of course, you can also combine the pulsed sound with an MP3, e.g. if you want to paint a pulse session with a soft background sound such as the rushing sea.

**Pitch (Hz) Chord:** Here you can adjust the pulsed sound according to the keyboard of the piano. To hear it, "on" or "circle" has to be selected under "Audio Pulse". The number in front of the sound indicates the frequency of the pitch in Hz. The spectrum ranges from C1 (32.7 Hz) to C5 (523.3 Hz).

## Further Features:

### Displayed Names

After the session has been edited you can name it in the field "Session Display Name" top right on the program surface. This name is shown on the Laxman display (max 17 characters).

### Checking Sessions

After having edited the segments and their parameters you can check the session - especially the exact starting position of the segments - by means of the LaxEdit menu item "Play". Open the Play window and start the session with the Play button. Now you can either listen to the entire session or fast-forward by means of the arrow keys or the timeline of the Play window. The color changes can be checked in the field "Color Preview".

If you want to correct something the start times and other parameters can be adjusted in the table editor. You can check and edit as often as you want to obtain the degree of perfection you want.

For editing the play window has to be closed again. Furthermore, take care that the duration of the ambient session concurs with the length of the MP3 title!



Please take note that the following segment start times then also have to be adjusted resp. reset so that the further course of the session is not changed. Therefore, when adjusting a segment, keep in mind the start time of the following segment.

### Save and Transfer a Session

To save the session select the function "Save" or "Save As" in the menu item "Session File". Best save the session in the same folder as the correspondent MP3 file. Afterwards you can transfer both files (the lax file and the MP3 file) to the Laxman.

Before you can copy MP3s or new sessions from your computer to the Laxman, please turn on the device and select "Data Transfer: on" under the menu item "Device Settings".

Then connect the Laxman with the computer by means of the USB cable and copy the lax file and, if required, the respective MP3 from your computer to the Laxman folder (LAXMAN or resp. the mini SD card). Please, take heed that the file names of both files are identical! Otherwise the Laxman cannot assign the MP3 to the lax file.

If the Laxman is connected to the computer and a memory card is inserted the two drives of the Laxman are displayed:

LAXMAN - this is the internal memory of the computer. It has a size of 1 GB and contains the preinstalled sessions.

Removable medium or name of the SD card - this is the external memory of the Laxman, i.e. the SD card, which you can insert behind the batteries of the device to expand the memory.

To select a session, please take care to have the right operating mode: To access the external memory, please select the item "FlashCard Mode" in the main menu. To get back to the internal memory select "Standard Mode", which is displayed now instead of "FlashCard Mode".

### Creating a Pulse Session

A pulse session is created in the same way as an ambient session except that you do not select an MP3 file. In this case take care that Chord is set on "on" or "circle".

### Printing Data

Use the button "Print" bottom right on the table editor to print the data of a session.

CE

The Laxman meets the rules of conformity. A complete declaration of conformity can be retrieved at the Neurotronics GmbH.

## Warranty conditions

Your device is subject to a guarantee from the date of purchase in accordance with the legal provisions of the country in which the device was purchased.

As evidence of the date of purchase, please keep the receipt, or the warranty card - if handed out by the retailer. All defects attributable to material and manufacturing faults will be corrected free of charge within the warranty period, either by repairing or replacing the defective equipment.

The warranty does not cover expandable materials (batteries), defects which affect the value or use of the equipment only insignificantly, and damage caused by incorrect use, ordinary wear and tear, or manipulation by third parties e.g. damage of the sealing wax.

The warranty does not cover consequential damage caused by the use, failure or defectiveness of the product. In particular, no liability whatsoever is accepted for damage to property and pecuniary loss.

To claim under this warranty, please contact the retailer where you purchased your Laxman.

## Disposal



please dispose of batteries and accessories in an ecological manner. Do not dispose of them in domestic waste.