

BioPhoton Max

Instructions & user manual

- Stainless steel housing
- Two light channels
- Mechanical timer
- Low EMF design
- Dutch Design

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Introduction

Modern photobiomodulation (PBM), combined with reliable analog controls and rugged build quality.

- World's first red light therapy panel with a stainless steel housing
- Fully passively cooled, so no fan
- Extra wide, handcrafted panel
- Unique mechanical control for red, NIR and session time
- Exclusive VIVO Dutch Design
- External power supply in a metal housing
- Includes a stand that makes horizontal and vertical rotation easy
- Low EMF design thanks to the absence of bluetooth, wifi and digital controls

Welcome

Welcome to Vivo Red Light Therapy. Thank you for your trust. With the BioPhoton Max Bi-Tone you bring home a device that is deliberately designed differently from most light therapy panel systems. No touchscreens, no apps, no bluetooth, no software updates. Just reliable light, a rugged housing and controls that always work.

The Bi-Tone is the world's first panel with a stainless steel front, fully passive cooling and mechanical switches for red and near infrared light. The mechanical timer works without any electronic load, making the device simple and reliable to use.

The extra wide light surface lets you treat more calmly without having to reposition. The wheeled stand helps you place the light exactly where it feels right, whether sitting, standing or lying down.

The combination of stainless steel, thick cooling fins and analog controls provides stability, quiet operation and a constant light output for reliable results.

Many people find morning and evening light the most pleasant light of the day. That is because of the higher share of red and near infrared light.

The BioPhoton Max Bi-Tone uses only the best of that spectrum: five specifically tuned wavelengths for optimal photobiomodulation.

About this device

The BioPhoton Max Bi-Tone combines red light and near infrared light in one panel. It is intended to support recovery, vitality and skin health.

The design is entirely Dutch and focused on effectiveness, simplicity and durability. Stainless steel was chosen because it is sturdy, holds its shape and is easy to clean. Stainless steel has no coating that can wear off and stays looking good, even with intensive use.

The thick aluminum cooling fins provide quiet passive cooling. Because there is no fan, you get no unpleasant noise and no moving parts that can wear out. The system provides a safe and controlled intensity, even during longer sessions.

The external power supply unit is housed in a metal casing and is mounted on the stand. This keeps heat and electromagnetic fields further away from the body. This fits within the low EMF design.

All controls are analog: two metal toggle switches and a mechanical timer. No digital menus, no bluetooth, no wifi. Just precisely tuned light, without distraction.

What is red light therapy

Photo (light), bio (organism), modulation (influencing).

Red light therapy (photobiomodulation) uses specific wavelengths of red and near infrared light. These wavelengths signal the mitochondria, allowing cells to temporarily produce energy more efficiently. This can help recovery processes run more smoothly.

Red light mainly acts on the skin layers, while near infrared penetrates deeper into the tissue. Both are free of UV and produce no harmful heat.

The wavelengths 630 to 660 nm and 810 to 850 nm are the most widely used in scientific literature, because of their clearly described interaction with cytochrome c oxidase, an important enzyme for cellular energy production.

This manual gives a practical explanation, not the full theory. The most important thing is to understand that light has no magical effect, but gives a natural signal that the body can respond to efficiently, setting recovery processes in motion.

How it works

When red or near infrared light is absorbed by the skin, the light particles reach the mitochondria. These are the energy centers of our cells. There, the light is used to temporarily produce more ATP, the energy needed for recovery, maintenance and the creation of new cells. That extra energy provides a brief, efficient boost that activates recovery processes in the body.

Near infrared light (810, 830 and 850 nm) penetrates deeper than visible red light (630 and 660 nm). That is why NIR is mainly applied to muscles, tendons and joints, while red light is more often used for the skin and superficial tissue.

You can use both light channels separately, but our advice is, unless stated otherwise, to use the combination of red and NIR. This gives the most complete and effective range in most situations. Thanks to the separate switches, you can always work in a targeted way without needing different devices.

What are the benefits

Many users experience clear benefits from red and near infrared light. Muscles relax faster, joint stiffness decreases and recovery after exercise noticeably improves.

The skin often responds positively: calmer, less redness and a more even texture. The day and night rhythm can also become more stable, leading to a more consistent energy level throughout the day.

Responses can vary from person to person. Consistent use and an appropriate dosage play a major role in this.

Customer experiences

After watching all of VIVO Red Light Therapy's helpful videos and asking questions, which Michel kindly and carefully answered, we decided three months ago to welcome the BioPhoton Max into our home. Initially for my skin, which had been affected by a persistent parasite leaving visible marks. Twice a day I connect with Max at about 20 cm distance and the marks have clearly become less deep, everything is softening. After three months of intensive twice daily use, I am moving to three or four times a week. I follow my intuition on this. Max is also wonderful for the lower back. After strenuous woodcutting work, both my friend's back and my own had seized up, and after two sessions in direct skin contact with trusty Max, our backs were as supple as ever. Max has also done an excellent job with fresh tick bites: the spots were treated immediately via direct skin contact, about twice a day for two weeks. Sudden shooting pains in my molar were banished after two sessions of direct jaw contact with Max. A twitching upper eyelid also disappeared quickly after direct skin contact around the eye socket. Every day I take about two minutes of Max eye time. I immediately feel joyful, bubbling life energy. In short, Max is a welcome guest in our home, and who knows what else is possible. For anyone wondering how much time Max and I spend per session: I set my timer to 25 minutes, 15 minutes at a distance for my skin, and I split the other 10 minutes over whatever comes up, in direct skin contact. It is especially pleasant to give the lower back and calves some Max attention before going to sleep. Everything relaxes and I sleep like a log. Thank you Michel for your warm, personal attention!

— Anthonie

I have been using the BioPhoton Max for a few weeks now and mainly notice a positive change in my energy level and mood. It is still too early to judge the skin improvement, though I think I can already see something happening. When I use it directly on the body for muscle soreness, I feel like I recover faster. All I can say is: advice on purchase, five stars. Advice on use, five stars. After sales service, yes, five stars.

— Google review

The BioPhoton Max Bi-Tone

Stainless steel front: Durable, holds its shape and easy to clean. The front stays looking good, even with intensive use, and gives the device a solid, premium look.

Two light channels: With two metal toggle switches you choose red, near infrared or the combination in a targeted way. You always have control over what you are treating.

Mechanical control: No electronics or digital menus, just rugged controls. The analog timer ticks quietly through the treatment and switches off automatically afterward.

Passive cooling: No fan noise. The thick aluminum cooling fins safely dissipate heat and keep the light intensity stable.

Wide light coverage: The extra wide panel gives an even light distribution over a large surface, so you can light your whole body width at once.

Includes a wheeled stand: The panel switches effortlessly between a vertical and horizontal position. Handy for back, legs, stomach or face, whether sitting or lying down.

External power supply: The power supply sits in a metal housing and is mounted on the stand. This keeps electromagnetic fields further away from the body.

Flicker free light: The light is very stable and has practically no flicker. This feels calmer for the eyes and nervous system, especially during longer sessions.

Targeted wavelengths: Five functional wavelengths (630, 660, 810, 830 and 850 nm) that are the most studied in the literature and best suited to photobiomodulation.

Flicker and wavelengths

No light flicker

The BioPhoton Max Bi-Tone has a stable, virtually flicker free light output. The measured flicker percentage is 0.14% and the Flicker Index is 0.0012.

Both values fall within the 'No Risk' zone according to the IEEE PAR1789 standard and are at the same level as measurements of natural sunlight.

Wavelengths

The Bi-Tone works with five specifically chosen wavelengths within the photobiomodulation spectrum.

Nominal values and measured spectral peaks:

- 630 nm nominal, 631 nm measured peak
- 660 nm nominal, 660 nm measured peak
- 810 nm nominal, 812 nm measured peak
- 830 nm nominal, 832 nm measured peak
- 850 nm nominal, 853 nm measured peak

Why these wavelengths?

Photobiomodulation works mainly within two well known absorption ranges of cytochrome c oxidase (CCO): 630 to 670 nm and 800 to 850 nm. These ranges are the most described in scientific literature.

By working exclusively with these functional wavelengths, the spectrum stays pure and targeted. Additional wavelengths outside these core bands can weaken the effectiveness of the primary mechanism of action (CCO).

Measured light power

The intensity of the light, combined with the treatment time and distance, determines the final dose. That is why we measure the light power with a spectrometer, which records the actual intensity in mW/cm² (milliwatt per square centimeter) within the wavelengths used.

The specifications section shows the measured values at various distances. These values form the basis for the dosage recommendations.

Thanks to the optical lens configuration, the light power stays well predictable as the distance to the panel increases. This makes it possible to treat in a controlled and consistent way, both up close and at 20, 30, 40 or 50 cm.

Why not use solar power meters?

Simple solar meters respond to a broad light spectrum and can therefore give higher or inaccurate readings that do not match the actual therapeutic intensity.

A spectrometer measures only within the relevant wavelength range and gives a reliable picture of the amount of light the body actually receives.

Why accurate measurements are necessary

Without reliable intensity measurements it is not possible to determine an appropriate dose. Different applications each call for a specific amount of light per unit of surface area.

By using accurate measurements, we can state exactly how much light you receive at a given distance and base the dosage guidelines on that.

EMF and safety

EMF design

The BioPhoton Max Bi-Tone is developed with a low EMF construction. The device contains no fans, internal power supplies, wifi, bluetooth or wireless signal modules, and works exclusively with analog switches and a mechanical timer, avoiding unnecessary electromagnetic emissions.

Measured EMF values at 0 cm (grounded outlet):

- Electric field: 7 V/m (volts per meter)
- Magnetic field: 0.1 mG (milligauss)

These values are well below the internationally used exposure limits for electromagnetic fields and fall within the lowest categories used in independent measurement guidelines for electronic equipment.

External power supply

The power supply is a Mean Well GST160A24-R7B and is housed in a metal casing that is mounted on the stand. By placing the power supply outside the panel, the electromagnetic load around the light surface stays minimal.

The DC connection uses a multi pin connector, spreading the current over several contact points. This provides a more stable, cooler power transfer, less electrical noise and higher reliability during long term use than a standard DC connector.

Electrical safety and material standards

The device and power supply comply with the relevant CE and RoHS directives for electrical safety and electromagnetic compatibility.

Structural safety

The stainless steel front plate, metal rear panel and passive cooling construction provide mechanical stability and safe heat dissipation, without fans or electronic cooling that typically generate high EMF emissions.

Dosage and use

For the best results, follow the guidelines in the table below.

- Use the device up to twice a day on the desired area.
- Always shine the light on bare, clean skin.
- Build up the dosage gradually and start with one session a day.
- Use a maximum of 30 minutes per session.
- With two treatments a day, leave about six hours between sessions (morning and evening).

- Our general advice is, unless stated otherwise, to use RED and NIR together.

Note: the near infrared light at wavelengths of 810 nm, 830 nm and 850 nm is not visible to the naked eye, this is normal. These wavelengths are still active.

Distance	Time	Range	Benefits
0 cm	4 to 7 min	deep penetration	Muscles, joints, organs
20 to 40 cm	5 to 20 min	tissue / skin care	Skin concerns, circulation, collagen, skin rejuvenation, pain complaints, (sports) recovery
20 to 40 cm	20 to 30 min	deeper tissue	Sleep, general health

Tip: also use our handy dosage calculator on the website for time and distance advice per application.

How to use the BioPhoton Max Bi-Tone

1. Positioning and setting up the stand

- The included stand can be set up both vertically and horizontally. Use the manual in the stand's box to assemble it.
- The hinge points move smoothly, so the panel can be turned into the desired position without force.
- Choose a position that suits the area being treated. Common positions are sitting or lying down, with the panel aimed at the relevant part of the body.

2. Preparing for treatment

- Keep the skin free of clothing in the area you are treating.
- Position yourself generally at 20 to 50 cm distance for even exposure.
- Optionally, you can work with direct skin contact, following the dosage advice.

3. Connecting the device

- Plug the cord into a grounded outlet.
- Connect the power cord to the external power supply.
- Connect the 4 pin DC cable to the back of the panel.

4. Setting the light channels and treatment time

- Switch on red light, near infrared light or both. Unless advised otherwise, it is recommended to use both light channels.
- Set the desired treatment time with the mechanical timer.
- Note: the near infrared light (810 nm, 830 nm and 850 nm) is not visible to the eye. These wavelengths are still active.

5. During the session

- Take a comfortable position and relax.
- Maintain the chosen distance throughout the entire session.
- The device switches off automatically afterward.

6. After use

- Switch off the device if needed.
- Unplug the cord from the outlet.

Frequently asked questions

When will I see results?

Relaxation is often noticed immediately. Improvement in energy and recovery usually appears within a few days. Visible skin improvement takes on average six to twelve weeks of consistent use. This matches what studies show about collagen production and cell repair.

Do I need to wear glasses?

It is not required. You can close your eyes or use the included glasses if you are sensitive to bright light. Choose what feels comfortable to you.

Will I get a tan from red light?

No. Red and NIR contain no UV, cause no tanning and cause no sun damage.

Is this the same as an infrared sauna?

No. Infrared saunas work with heat (long wavelengths above 1000 nm). The Bi-Tone works with photobiomodulation at wavelengths of 630, 660, 810, 830 and 850 nm and stays cool in use.

Can I use too much red light therapy?

Yes. Too much light can reduce the effect. Stick to the dosages and start with one session a day.

Does it work together with skincare products?

Yes, but not all products are suitable before a session. Avoid products with acids, retinoids or other active ingredients that can increase light sensitivity. Preferably use red light on clean skin and apply products only afterward.

Can I keep my clothes on?

Red and NIR work best on bare skin. Thin clothing lets some light through but blocks a large part of the intensity. For the best effect, treat the area without clothing.

How do I maintain the device?

You can clean the stainless steel with a dry or slightly damp cloth. Do not use aggressive cleaning agents. The passive cooling is maintenance free.

Warranty and maintenance

Maintenance

The BioPhoton Max Bi-Tone is designed for long term use with minimal maintenance. Keep the panel clean and dry and move the device carefully. Always use the device according to the recommended treatment times and do not leave it switched on continuously for long periods.

The mechanical switches were deliberately chosen for their reliability and simple operation. With normal use they last for years. Avoid knocking or forcing the switches, especially while moving or transporting the device.

Warranty

The BioPhoton Max Bi-Tone carries a 5 year Vivo warranty. This warranty covers manufacturing and material defects that occur during normal use of the device.

If the device stops functioning during normal use and there is no improper use involved, Vivo Red Light Therapy will repair or, if necessary, replace the device.

Damage resulting from dropping, incorrect transport, improper use, modifications or visible wear damage to mechanical parts is not covered by the warranty.

Such damage can in many cases still be repaired. Vivo offers a paid repair service and spare parts for this, so the device can continue to be used even after the warranty period.

Specifications

Specification	Value
Number of LEDs	220 x 3W dual chip
Nominal power	660 watt
Actual consumption	143 watt

Wavelengths (nominal / measured)	44 x 630 nm, 631 nm measured peak 44 x 660 nm, 660 nm measured peak 44 x 810 nm, 812 nm measured peak 44 x 830 nm, 832 nm measured peak 44 x 850 nm, 853 nm measured peak
Flicker percentage	0.14%
Flicker Index	0.0012
Flicker frequency	> 27 kHz

Measured light power by distance:

Distance	Spectrometer (mW/cm²)	Solar power meter (mW/cm²)
0 cm	85.4	184
15 cm	18.2	36
30 cm	15.2	30.5
40 cm	14.2	27.5
50 cm	12.8	25

Specification	Value
Device weight	10.4 kg
Dimensions	67 (L) x 35 to 37 (W) x 4.5 (D) cm
Lens beam angle	30 degrees
EMF at 0 cm (grounded)	7 V/m (electric field), 0.1 mG (magnetic field)
External power supply	Mean Well GST160A24-R7B
Maximum power supply output	160 watt
Power supply input	100 to 240 V AC
Power supply output	24 V / 6.67 A
Material	Stainless steel front, black metal rear
Stand mounting	VESA 10 x 10 cm via the rear
Warranty	5 years
Stand dimensions	Depth > 73 cm, width > 62 cm, height > 13 cm (with wheels)
Note	Stand suitable for both vertical and horizontal mounting
Optional	Electrically height adjustable stand with 360° manual tilt

Parts overview

Front of device

- RED toggle switch with indicator LED
- NIR toggle switch with indicator LED
- Stainless steel front plate
- LEDs and lenses

- Cooling vents

Back of device

- Mechanical timer dial
- 4 pin DC connector
- 4 x VESA mounting holes
- Black metal rear panel
- Cooling vents
- Protective cap

Stand, lowest position

- Holder for the external power supply
- Floor to top of horizontal tube: 106 cm
- Base height including wheels: 12 cm

Stand, highest position

- VESA mount for the panel
- Floor to top of horizontal tube: 166 cm
- Widest point of the base: 62 cm
- Base height without wheels: 5 cm

Included parts

- Mean Well power supply with fixed 4 pin DC cable
- Mounting bracket with hanging cables
- Wheeled stand

Dosage and treatment log

Use one page per goal or complaint. If you change your distance, treatment time or light channels, use a new page.

Protocol

Area	
Goal / complaint	
Distance (cm)	
Treatment time (min)	
Light channels: ☐ Red ☐ NIR ☐ Red + NIR	
Frequency (per week)	
Date / session (time)	
Observations / experiences	

Protocol

Area	
Goal / complaint	
Distance (cm)	
Treatment time (min)	
Light channels: ☐ Red ☐ NIR ☐ Red + NIR	
Frequency (per week)	
Date / session (time)	
Observations / experiences	

Protocol

Area	
Goal / complaint	
Distance (cm)	
Treatment time (min)	
Light channels: ☐ Red ☐ NIR ☐ Red + NIR	
Frequency (per week)	
Date / session (time)	
Observations / experiences	

Protocol

Area	
Goal / complaint	
Distance (cm)	
Treatment time (min)	
Light channels: ☐ Red ☐ NIR ☐ Red + NIR	
Frequency (per week)	
Date / session (time)	
Observations / experiences	

Protocol

Area	
Goal / complaint	
Distance (cm)	
Treatment time (min)	
Light channels: ☐ Red ☐ NIR ☐ Red + NIR	
Frequency (per week)	
Date / session (time)	
Observations / experiences	

Safety instructions, warnings and disclaimer

General use

Read this manual completely before use. Follow all instructions carefully. Store the device in a cool, dry place and use it only as described in this manual. The device is intended for home use and professional settings focused on wellbeing and recovery support.

Do not use the device in the following situations:

- Do not let children use the device without adult supervision.
- Do not use the device on infants.
- Do not let sleeping, unconscious or otherwise non self reliant persons use the device.
- Do not use the device for longer than 30 minutes per session.
- Do not use the device on open or fresh wounds.
- Do not use the device together with lotions, ointments or balms that generate heat or make the skin light sensitive.
- Do not modify the device and do not attempt to repair it yourself. The device contains no parts that can be serviced by the user.

Electrical safety

Follow the instructions below to prevent electric shock and other electricity related risks:

- Never clean electrical parts with water or other liquids.
- Do not let the device fall into water or other liquids and do not expose it to moisture or running water. Do not use the device in humid spaces such as bathrooms.
- Do not touch the device, the plug or the switches with wet hands.
- Do not shine the light on wet or damp skin.
- Do not pull or carry the device by the power cord. Do not use the device if the power cord is damaged.
- Do not use the device on or near heated surfaces.
- Do not use the device in environments where flammable or combustible substances or vapors are present.
- Do not store or use the device at temperatures above 50°C.
- Do not use the device if it is visibly damaged.
- Do not use an extension cord unless it is suitable for the device's total power.
- Always unplug the device by holding the plug itself, not the cord.
- Do not cover the cooling vents during use and ensure enough free space around the device.

Eye safety

Do not look directly into the light for extended periods. For treatments close to the face, or if you are sensitive to bright light, the included protective glasses can be used. Close your eyes whenever this feels more comfortable.

Placement and environment

Always place the device on a stable, flat surface or on the included stand. Keep enough distance to walls and objects so that heat can be safely dissipated and the switches do not come under strain.

Warnings

Consult a healthcare professional before use if one or more of the following apply to you:

- use of light sensitive medication (such as certain antibiotics, painkillers or allergy medication)
- pregnancy
- suspicious skin conditions or a (history of) skin cancer
- recent steroid injections or use of steroid ointments
- known light sensitivity

Stop use immediately in case of discomfort, doubt, unexpected reactions or technical abnormalities (such as an unusual smell, heat or sound) and contact a healthcare professional. Unplug the device when it is not in use, among other things to prevent a tripping hazard.

Conformity and material safety

The device complies with the applicable European directives for electrical safety and electromagnetic compatibility (CE). All electronic components used comply with the European RoHS directive on the restriction of hazardous substances.

Waste and environment

This device may not be disposed of with household waste. Hand it in at a recognized collection point for waste electrical and electronic equipment (WEEE).

Disclaimer

The BioPhoton Max Bi-Tone is not a medical device and is not intended for the diagnosis, treatment or cure of any disease or condition. Red and near infrared light can support natural biological processes, but do not replace medical care. Use of the device is at your own responsibility. Vivo Red Light Therapy is not liable for damage resulting from improper use or use contrary to this manual.

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