

SAD SOLUTIONS

BLUElight

LED Portable
Light Therapy



The natural way to
improve energy levels
and enjoy that feel
good factor!

instruction guide



LED Portable Light Therapy

long lasting eye-safe LEDs, full EU safety certification, adjustable brightness, clear LCD display, rechargeable battery, adjustable timer, clock, anti-glare soft light diffuser and a convenient SAD Solutions carry case.

The BLUElight is ideal for those on the go, who may not have time to plug in their light, work the night shift, or travel frequently. The improved long-lasting Lithium Ion battery technology means power for up to 5 to 7 treatment sessions. Flexibility is key in the design of the BLUElight and It can also be used directly from Mains power. The BLUElight uses the latest blue light technology and is a leap forward in the treatment of Seasonal Affective Disorders and other Circadian Rhythm related problems such as Jet Lag, sleep disorders and problems brought about by shift working. The BLUElight is one of the world's smallest Light Therapy products, but there has been no compromise on treatment and effectiveness, as it still boasts a full treatment time as quick as the most expensive conventional size light boxes. The SAD Solutions bluLIGHT uses specially designed small LED lights rather than conventional large tubes to deliver a quick, safe and effective Light Therapy treatment.

The BLUElight is extremely small yet just as effective as larger conventional Light Boxes. It's small but powerful specification, plus the carry case makes the BLUElight the ultimate in portable, convenient and effective light therapy.

The reason why the SAD Solutions BLUElight has such a fast and effective treatment time is because it uses special low-intensity LED's that emit only BLUElight at a specific wavelength.

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introduction

Thank you for purchasing the new SAD Solutions BLUElight - SAD Light. The NEW BLUElight from SAD Solutions uses blue light technology to give you a quick, safe and 100% effective light treatment. Medical CE certified to treat SAD this product has been developed based on extensive published research on the efficacy of light therapy.

The BLUElight SAD Light is simple, straightforward and very easy to use - all it takes is the press of a couple of buttons and your light therapy treatment can begin. The BLUElight SAD Light from SAD Solutions features

The effectiveness of these blue LED's is proven because published research revealed that receptors in our eyes convert the blue spectrum of light present in natural sunlight into chemicals that stimulate energy in the human body. That is why people feel better when they are outside in sunshine, especially in summer.

In winter there is less sunshine, so the body receives far less blue light than in summer; and indoor lighting does not contain this natural blue spectrum of light.

That is why people often suffer from lack of energy, mood swings, difficulty sleeping well and feel general more depressed in winter.

The blue LED's in SAD Solutions BLUElight emit only low intensity blue light at a specific wavelength known to be most effective in

stimulating energy. Conventional light boxes emit full spectrum 10,000 LUX designed to simulate natural sunlight. Whilst these can be effective in treating Seasonal Affective Disorder, they are very bright and sometimes uncomfortable on the eyes to sit in front of for the recommended treatment times.

The SAD Solutions BLUElight is not only more effective in a shorter time, because it emits only the blue spectrum of light that provides energy; the blue light can be at a far lower intensity than full spectrum light and therefore much kinder on the eyes. SAD Solutions are a UK company that use only the very best manufacturing techniques, the highest quality components and the best designers in their mission to produce the very best SAD treatment products at affordable, realistic prices.

safety warnings

Please read the following carefully before using SAD Solutions BLUElight.

- Do not place the unit, or use the unit anywhere where it could be exposed to water or moisture. Avoid using anywhere near a basin or bath where it could accidentally fall in water.
- Do not place any heavy objects on top of the unit.
- Do not use if you have any eye disorder, or history of eye disorder or eye disease in your family. If this is the case always consult your optician firstly before using SAD Solution BLUElight.
- Do not use if you have any kind of eye inflammation or eye infection. You should only use the unit if your eyes are in a healthy condition. If in doubt consult your optician.
- Do not use if you are suffering from epilepsy or any associate illness.
- Some medications can react adversely to light emitting devices. If in doubt, consult your doctor.
- Do not place the unit closer to your eyes than the recommended range which is 50cm / 20 inches to 75cm / 30 inches.
- Do not stare directly at the blue LED's. The unit should be placed at an angle as indicated in the instructions.

electrical safety


Please read the following carefully before using SAD Solutions BLUElight.

- This device can only be used with the adapter supplied with the product.
- SAD Solutions BLUElight contains an internal rechargeable Lithion-Ion battery. Do not expose the product to excessive heat over 40°C or excessive cold below -10°C.
- Rechargeable battery cannot be removed from this product. Dispose of product in accordance with your local regulations for environmental protection and re-cycling of raw materials.
- Always remove the cord from the unit after recharging by holding the jack-plug. Do not pull the cord.
- Always hold the adapter when unplugging it from a socket. Do not pull the cord.
- You should not use the adapter if there are any signs of damage to the cord.

product contents

- ▶ SAD Solutions BLUElight
- ▶ Adapter with 4 interchangeable plugs
- ▶ Full instructions
- ▶ Zip pouch for adapter set
- ▶ Zip storage pouch for complete product

symbol indicators on product

symbol	description
	Consult accompanying instructions for use
— — — —	DC Power
⊖ ⊕	DC Jack Polarity
SN	Serial Number
REF	Model Number
CE	European Declaration of Conformity
	Compliant with the Waste Electrical and Electronic Equipment/Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (WEEE) recycling directives
	European Representative

understanding SAD Solutions **BLUE**light

user interface



product keys

key	description
Power	Turns the Unit on and off
Light	Turns the Blue LED's on / off
Timer	Sets the treatment time / sets the clock
+	Used for Increasing LED intensity, setting the time and setting timed treatment
-	Used for Decreasing LED intensity, setting the time and setting timed treatment

product LCD display

symbol	description
	Treatment session timer indicator
	Battery capacity / charge indicator
	LED intensity indicator
	Sun Symbol will always remain on

battery charge level

- No bars indicates $\leq 20\%$ level. Product should be charged.
- No bars flashing indicates battery is empty – must be charged as product will auto shut off.
- 1 bar indicates 20% - 40% charged
- 2 bars indicates 40%-80% charged
- 3 bars indicates 80% - 100% charged.

Low Battery

- The battery symbol will flash showing no bars indicating battery needs charging.

getting started

Charge Battery

1. The charger comes with adapter plugs suitable for all countries. Select correct plug. Position plug in adapter at bottom of arrow indicators half way along adapter guides, then slide towards "push" button and it will click and secure. To release plug, push button and slide out. Do not try to slide in plug in front of metal contacts!
2. The initial charge should be a minimum of 12 hours. Subsequent re-charging will take 5-6 hours.
3. Battery indicator on LCD screen will flash whilst charging and stop flashing indicating 3 bars when fully charged.

Position your SAD Solutions BLUElight Correctly

- ▶ You should sit in a comfortable chair in front of a table or desk.
- ▶ Place BLUElight at an angle of around 45° to the left or right of your vision directly in front of you. (See diagram 1).
- ▶ Adjust stand so LED's are directed to your eye level.
- ▶ BLUElight should be positioned NOT CLOSER than 50cm (20 inches), AND NOT FURTHER than 70cm (30 inches) from your eyes.
- ▶ The environment where you are using BLUElight should be a well lit room – Natural daylight or electric lighting if it is dark.
- ▶ You can carry on doing normal activities whilst using BLUElight ie. Reading, writing, using a computer or watching TV.

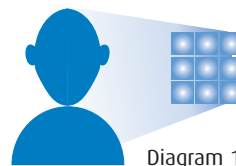


Diagram 1

Easy Operation

1. Press the round power button to turn on. LCD display will indicate 12:00.
2. To set the time press timer button using finger of one hand and hold down, whilst at the same time press + or – button with finger of other hand to adjust time.
If you keep + or – button depressed, display will move very quickly!
You will not need to set time again even if unit is switched off. It will memorise the time set.

Manual Operation

Press light button and Blue LED's will come on. Press + or – button to required level of intensity. There are 4 setting which are indicated on the LCD display. Press light button to switch off LED's after you have ended your session. Switch power button OFF and LCD display will disappear. (If you forget to turn power OFF, it will Auto switch off.

Timed Session

- Press timer button and timer symbol will appear on LCD screen with default time of 10 mins underneath which will flash.

- To adjust required length of session press + or - button. (Up to 60 mins) Blue LED's will automatically come on after 5 seconds.
- If you want to re-set session time again press light button so LED's go off. Press timer button again and the + or - button to select required session length.
- Session length time will count down on the LCD screen.
LED's will go off after your selected session length has ended.
- Auto Memory
The BLUElight will automatically remember time, LED intensity and session length from your last session.

Re-Set Button

The re-set button is located at the back of the unit. Insert tip of ball point pen and press until you here "click". Unit will re-set to factory settings.

when you should use SAD Solutions BLUElight

- ▶ If you are feeling generally rather "down" and "lacking in energy" particularly during the dark winter months – you may benefit greatly from a daily session of around 30 minutes using SAD Solutions BLUElight at 50% intensity. This will help compensate for the lack of natural sunshine.
- ▶ Light affects your circadian rhythm or body clock. In simple terms this means the body "wakes up and all functions are fully on" during daylight hours. During darkness the body "slows down" and all functions reduce until it goes into "sleeping mode".
- ▶ This is why you may find it easier to wake up and start your day in summer months when it is light. Conversely in winter when it is dark, you may feel less inclined to wake up.
- ▶ With the stresses of modern day life, your natural circadian rhythm and body clock can go out of sync.
- ▶ It is possible to use SAD Solutions BLUElight to re-set your body clock to suit your routine and lifestyle. Below are some examples of how SAD Solutions BLUElight can be very effective.
- ▶ It is recommended that you start using BLUElight at 50% intensity and gradually increase to your comfort level.

Waking Up and Sleeping

- If you fall asleep in front of the TV and when you go to bed have difficulty sleeping – then use BLUElight for 30 mins while you are watching TV and you are less likely to go to sleep in your armchair and more likely to sleep when you go to bed.
- If you find yourself going to bed early, and then waking up too early in the morning, then also use BLUElight to keep you awake longer in the evening. You are then more likely to wake up later.

- If you find it difficult to wake up in the morning, and feel “slow and drowsy” then try a 30 minute session of BLUElight when you wake up - then you will feel refreshed and ready to start your day.

Shift Work

- If you have trouble staying awake particularly at the start of a night shift routine then use BLUElight for 30 minutes before you start work and repeat for another 15 minutes during the night if you start to feel drowsy.

This should help your body clock adjust to this new routine. If possible avoid bright light when coming off a night shift and preferably wear sun glasses. You may find this helps you go to sleep when you return home.

- After coming off a night shift schedule, the temptation is to fall asleep because your body clock is used to this routine. Use BLUElight to keep you awake until evening – and again this will help re-set your body clock so you sleep at night rather than during the day.

Jet Lag

- Long distance air travel East or West across different time zones can play havoc with your body clock. As a general tip try planning your arrival time at your destination in the morning rather than the evening. Sleep on the plane if you are able. Then try to keep awake for as long as possible after you reach your destination, preferably in natural daylight – and using your BLUElight can be a great help in keeping you awake until it gets dark.
- Bad sufferers of jet-lag can use SAD Solutions BLUElight to try to adjust their body clock to the new time at their destination before they leave. Here are some tips.

Travelling West

Before you depart UK use SAD Solutions BLUElight for at least 30 minutes in the evening for 2 or 3 days, preferably one or two hours later each evening. This will help your body clock adjust to your destination time.

Travelling East

Before you depart UK use SAD Solutions BLUElight for at least 30 minutes first thing in the morning for 2 or 3 days, preferably one or two hours earlier each morning. This will help your body clock adjust to your destination time zone.

emc information

Guidance and manufacturer's declaration – electromagnetic immunity


The “SAD Solutions BlueLight” is intended for use in the electromagnetic environment specified below. The customer or the user of the “SAD Solutions BlueLight” should ensure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<p><5 % U_T (>95 % dip in U_T) for 0,5 cycle</p> <p>40 % U_T (60 % dip in U_T) for 5 cycles</p> <p>70 % U_T (30 % dip in U_T) for 25 cycles</p> <p><5 % U_T (>95 % dip in U_T) for 5 sec</p>	<p><5 % U_T (>95 % dip in U_T) for 0,5 cycle</p> <p>40 % U_T (60 % dip in U_T) for 5 cycles</p> <p>70 % U_T (30 % dip in U_T) for 25 cycles</p> <p><5 % U_T (>95 % dip in U_T) for 5 sec</p>	Mains power quality should be that of a typical commercial or hospital environment. If the user of the "SAD Solutions Bluelight" requires continued operation during power mains interruptions, it is recommended that the "SAD Solutions Bluelight" be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	<p>Portable and mobile RF communications equipment should be used no closer to any part of the "SAD Solutions Bluelight", including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d=1.2\sqrt{P}$ $d=1.2\sqrt{P}$ 80MHz to 800MHz $d=2.3\sqrt{P}$ 800MHz to 2.5 GHz</p>
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	

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Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
			<p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b Interference may occur in the vicinity of equipment marked with this symbol:</p> 
<p>NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			
<p>Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and I and mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the "Daylight Lamp" is used exceeds the applicable RF compliance level above, the Medical Daylight should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the "Daylight Lamp".</p> <p>Over the frequency range 150 kHz to 80 MHz, field strengths should be less than $[V_1]$ V/m.</p>			

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The "SAD Solutions Bluelight" uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The "SAD Solutions Bluelight" is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

emc information

Recommended separation distances between portable and mobile RF communications equipment and the SAD Solutions Bluelight

The "SAD Solutions Bluelight" is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the SAD Solutions Bluelight can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the "SAD Solutions Bluelight" as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2,5 GHz
	$d = \left[\frac{3,5}{V_1}\right]\sqrt{P}$	$d = \left[\frac{3,5}{E_1}\right]\sqrt{P}$	$d = \left[\frac{7}{E_1}\right]\sqrt{P}$
0,01	0.12	0.12	0.23
0,1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
<p>For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.</p> <p>NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			

technical specifications

Model No.	1708 SAD Solutions BLUElight
Power Input	9v DC up to 1.1A via external Transformer / Adaptor
Batteries	Rechargeable Li-Ion Polymer. Capacity 850MA
Battery Performance	Fully charged LED Run time + 3hrs at full intensity
Blue LEDs	60 x single peak wavelength 470 - 475 nm
LED life	Approx. 30,000 hrs
Light Output	350-400 LUX at full intensity At 100% intensity energy between 1.5 – 2.5 mW/cm ² @ 18"
Display	ELP – Backlit LCD
Plastic Material	PC and ABS Plastic

cleaning

Use a soft dry cleaning cloth only. Do not use a damp cloth, or any cleaning solution. Take care not to scratch the lens.

guarantee

The SAD Solutions BLUElight is guarantee for two years against original factory faults in material and workmanship. If repairs are necessary as a result of accident or misuse this is not included in our guarantee.

Important: This undertaking is in addition to consumer's statutory rights and does not affect those rights in any way.

repairs and services

If the unit is damaged, it must be returned to Internet Fusion Ltd. Do not tamper with wires or attempt to open control unit as this will invalidate the guarantee.



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