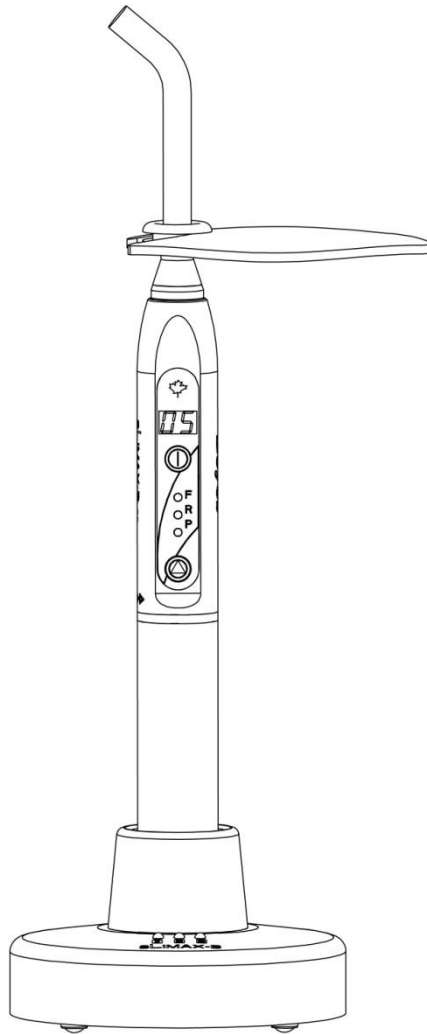




## LED-2000 PLUS Curing Light System

Operators Manual



Southland Distribution & Sales (SDS) 4003 Enterprise Court Augusta, GA 30907  
Phone: 1.800.880.0240 Fax: 706.650.7468 [www.sdssouthland.com](http://www.sdssouthland.com) 02/01/2018

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## **SAFETY PRECAUTIONS**

1. This LED curing unit must be used in strict accordance with the following operating instructions. The manufacturer assumes no liability for any damage resulting from the misuse of this unit or if it is being used for any other purpose.
2. NOTE: Exercise extreme caution when using this product in the presence of a flammable anesthetic mixture or an oxidizer like oxygen or nitrous oxide.
3. This LED curing unit produces a high-output of light energy. A significant increase in light energy is possible when compared to equipment previously used. It is important to observe the following precautions and procedures:
  - Do not place light directly on or towards unprotected gingiva or skin.
  - Adjust curing techniques in accordance with the increase in light energy.
  - Do not look directly at the light emitted from this LED curing unit. Do not use this device without suitable eye protection for the operator, assistant and patient.
  - Persons having a history of photosensitive reactions or who are using photosensitizing drugs should not be exposed to light from this LED curing unit.
4. Use only the Southland Distribution & Sales (SDS) charger provided with this unit. The use of any other charger can result in damage to the battery.
5. Do not allow cleaning agents to enter the unit. This may short-circuit the unit or cause a potentially dangerous malfunction.
6. Only service centers authorized by Southland Distribution & Sales (SDS) may open the Curing Light Controller housing and repair the unit.
7. In order to avoid electric shock do not introduce any objects into the unit with the exception of replacement parts in accordance with the Operating Instructions.
8. Persons (practitioners or patients) who have previously suffered from a retina or crystalline lens condition or who have undergone eye surgery, in particular for cataracts, must see their ophthalmologist before using the LED-2000 PLUS. Even if the eye specialist agrees, prudence is strongly recommended, because the intensity of the light could cause accidents. Class 2M protective eyewear, suitable for use with units emitting radiation at wavelengths between 420 and 480 nm, should be worn at all times.

### **IMPORTANT:**

\* Batteries must be charged prior to use.

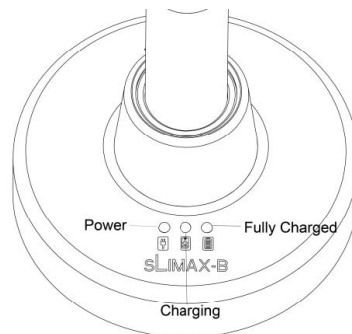
\* The fiber-optic light guide is provided in a non-sterile condition and must be sterilized prior to patient contact.

### **INTRODUCTION:**



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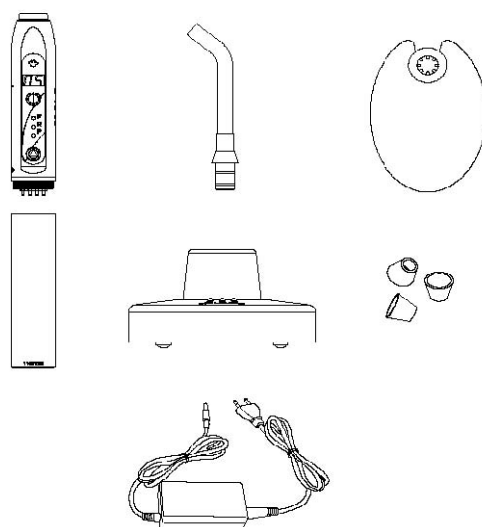
The LED-2000 Plus (Light Emitting Diode) is a cordless pen style curing light used for the polymerization of light-cured dental material used by dental professionals. It is powered by a rechargeable Lithium-Ion battery pack. This curing light system from Southland Distribution & Sales (SDS) generates a powerful output up to 2000 mW/cm ( $\pm 10\%$ ). The curing procedure for composite materials is easier and quicker than ever before with the options of 5, 10, and 20 seconds curing time. Users can either select Full Power, Ramping Power or Pulse. This slim, light weight curing light is ergonomically designed for user's comfort and flexibility. Its solid aluminum body sets it apart from the mass of plastic competitors. The quality, durability, and ease of applied infection control techniques make this curing unit a state of the art instrument. The light comes in Silver.



### ASSEMBLY:

The box contains:

- 1 -- Curing Light Controller
- 1 -- Battery (The battery contains Lithium-Ion cells. A new battery should be charged for 6 hours prior to its first use.)
- 1 -- Battery Charger
- 1 -- Power Supply
- 1 -- 8-mm Curved Light Guide
- 1 -- Light Shield
- 1 -- Operators Manual with Warranty Card



### OPERATION

#### BATTERY

The battery pack contains a Lithium ion (Li-ion) battery. When the battery is low, you will see "LO" on the LED display panel along with slow frequency beeps

#### INSTALL THE BATTERY

- Remove the battery and the Curing Light Controller with LED Display from the box
- Gently screw the battery into the Curing Light Controller
- To remove the battery, gently unscrew the battery from the Controller

#### CHARGING THE BATTERY

1. Plug the power supply into the charger base. The socket is located at the back of the charger base.
2. Plug the power supply into an electrical outlet.
3. Place curing unit with battery into the charger as shown in the Figure

The charging status lights are located on the top of the charger base and indicate the state of battery charge

- **Yellow light**—battery is charging
- **Green light**—battery is fully charged



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## BATTERY DISPOSAL:

The battery pack contains a Lithium ion (Li-ion) battery.  
Recycle or dispose of batteries according to national, state and local regulations.

## MODES

Your New Southland Distribution & Sales (SDS) Curing System offers three different operational modes:

**F (Full):** Provides Maximum Power

**R (Ramping):** The output gradually reaches Maximum Power

**P (Pulse):** The Power Pulses ON and OFF

### Select Modes

Press button "2" continuously for three seconds

## EXPOSURE TIME

### High Power (HP)

**F (Full):** 5 and 10 seconds

**R (Ramping):** 10 and 20 seconds

**P (Pulse):** 10, 20 and 30 seconds

### Low Power (LP)

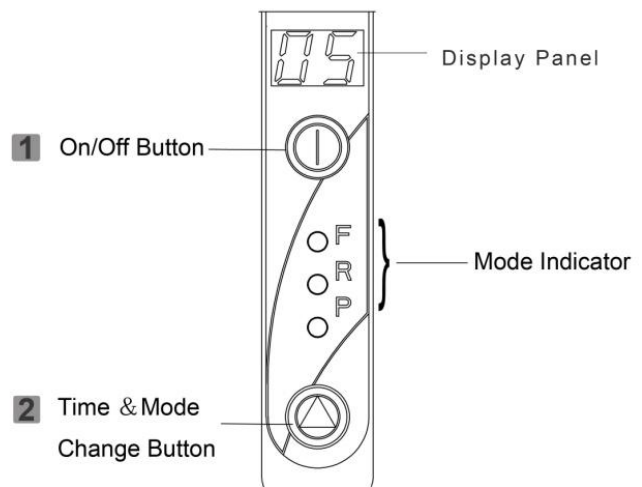
**F (Full):** 10 and 20 seconds

**R (Ramping):** 10 and 20 seconds

**P (Pulse):** 10, 20 and 30 seconds

### Select Exposure Time

Press Button "2"



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## ACTIVATING AND DEACTIVATING THE LIGHT

\* Press the button "1"; the light will turn on.

\* If desired, the light can be turned off by pressing the ON/OFF button before the exposure time is over.

## (HP) Boost and (LP) Regular Light Output

The LED-2000 Plus Curing Light offers you two tiers of light intensity to meet your daily needs:

LP = Low Power - Regular Output: 800 mW/cm<sup>2</sup> ± 10%

HP = High Power - Boost Output: 2000mW/cm<sup>2</sup> ± 10%

1. Press button "2" continuously
2. Press button "1" to select LP or HP

## RECOMMENDED CURING TIME BASE ON THE BOOST POWER

Due to the high light output of the Southland Distribution & Sales (SDS) Curing Light System, the normal exposure times for conventional units can be cut in half without compromising polymerization performance.

## SDS TESTING INDICATES THE FOLLOWING RECOMMENDED CURING TIMES:

Universal composite shades A3 and lighter (2-mm depth).....5 seconds

Universal composite shades A3.5 and darker.....10 seconds

Bonding agents, universal resin luting cements and Self-etch,  
self-adhesive cements.....5 seconds

**Note:** It is highly recommended that curing capability be tested using a Hardness Disk to ensure a complete cure.

## CURING LIGHT CONTROLLER:

The efficiency of your new Southland Distribution & Sales (SDS) Curing Light is designed to provide an entire days use when fully charged. A fully charged battery will yield 850 ten-second cures.

Problem	Cause(s)	Solution(s)
No indicator lights on the controller	Battery Not Charged  Battery is improperly connected	✓ Recharge the battery ✓ Unscrew the battery to clean the circuit contact dot of the battery and the two contact pins located at the end of the unit
The battery does not charge	Check Power Supply and Charger Base for proper connections  Check that Controller is seated properly in Charger Base	✓ Ensure there is a good connection electrical outlet and plug ✓ Clean the battery electronic contact and charge needle inside of the charger base.
The controller has not been used for a long time and will not turn on	Battery no charged	✓ Place Controller in the charger and re-charge the battery.
Low light intensity.	The light guide may be not clean	✓ Clean the light guide and the protecting glass in the light guide mounting hole
Cannot activate the light by pressing the ON/OFF button	LED light is burned out	✓ Call Southland Distribution & Sales (SDS) for an authorized service center



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### Manual Cleaning and Disinfection of the Light Guide

- Place the light guide for the specified application time into the solution, making sure that it is completely covered (as needed, using ultrasonic support or careful brushing with a soft brush). A neutral enzymatic cleaning agent is recommended.
- Remove the light guide from the solution and rinse thoroughly (at least 10 sec.) in water with low germ count.
- To disinfect, place the cleaned light guide for the specified application time into the solution, making sure that it is completely covered. Disinfectants containing o-phthalaldehyde are recommended.
- Remove the light guide from the solution and rinse thoroughly (at least 10 sec.) in water with low germ count.
- Dry the light guide with a clean soft cloth.

### Steam Sterilization

- Check the light guide
- Effective cleaning and disinfection are absolutely essential requirements for effective sterilization. Only steam sterilization is approved
- Maximum sterilization temperature 134 °C (273 °F)
- Sterilization time (exposure time at sterilization temperature) at least 20 min. at 121°C (250 °F) or at least 3 min. at 132 °C (270 °F) /134 °C (273 °F)

### Check

Before using the light guide again, check it for damaged surfaces and discoloration;  
Do not use damaged light guides.

### Clean Charger, Main board, and Glare Shield

- To disinfect all components, spray the disinfectant on a towel and use it to disinfect the unit. Do not spray the disinfectant directly on the Curing Light Controller or the Charger.
- Disinfection agents must not enter the unit!
- Clean the protecting glass of the Curing Light Controller with a soft and lint-free cloth.
- Dry residual disinfectants on the Charger, the Curing Light Controller and the Glare Shield with a soft and lint-free cloth.
- Solvents or abrasive cleaners **SHOULD NOT** be used at any time for cleaning any of the Curing Light System components!
- Cleaning agents **MUST NOT** enter the Curing Light Controller!
- Make sure that the charge contact pins remain dry and are not contacted by metallic or greasy parts.
- Care must be taken to avoid bending the charge contact pins during drying. Wet charge contact pins will cause an operating error (malfunction message: the LED showing the operating status in the charger glows red steadily).

### Storage of the (SDS) LED-2000 PLUS during Extended Periods of Non-Use

- If the Southland Distribution & Sales (SDS) LED-2000 PLUS curing light is not to be used for an extended period of time – e. g., during vacation - fully charge the battery prior to departure or keep the Curing Light Controller inserted in the operational charger. A safety switch within the battery prevents a total discharge.
- Discharged or nearly discharged batteries must be recharged as soon as possible.



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**Technical:****Curing Light Controller**

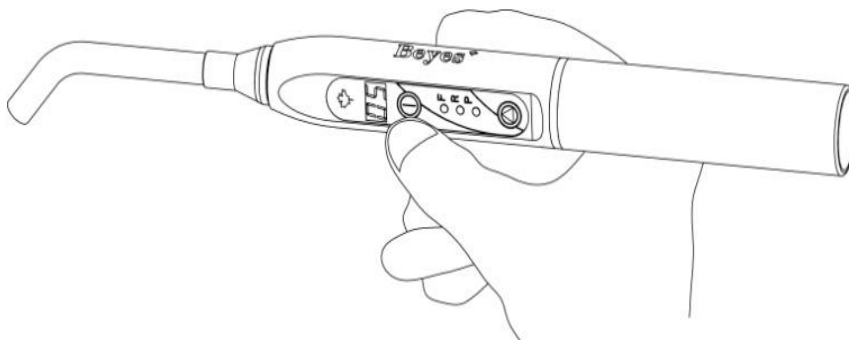
Power Supply                      Lithium-ion battery (3.7V 2200mAh)  
Wavelength Range              430-480 nm  
Wavelength Peak                455 nm +/- 10 nm  
Light Intensity (between 400 and 515 nm)      2000 mW/cm<sup>2</sup> ± 10% (independent of battery power level)  
Total Exposure Time ( fully charged battery)      850 Uses at 10-second cures  
Charging Time (depleted battery)                  approximately 3 hours  
Dimensions                        Diameter 23 mm (0.92"), Length 254 mm (10")  
Weight                                4.8 oz (0.3 lb) (excludes light guide)

**Charger**

Voltage rang of the charge                      100-230V 50/60Hz  
Power input                              10 W (5V/2A)  
Dimensions                              Diameter 96 mm (3.8 in), High 75 mm (2.95 in)  
Weight                                      6.4 oz (0.4lb)



Federal law restricts this device to sale by or on the order of a dentist, physician, or any other practitioner licensed by the law of the states in which he or she practices to use or order the use of this device

**LED 2000-Plus Replacement Parts List**

Item #	Product Description	Purchase Qty	Retail
<b>LED-2000Plus</b>	LED-2000 Plus Curing Light 8mm BLACK tip with Base & Charger SILVER	1 each	\$498.00
<b>LED-1025B</b>	Light Guide LED-2000 Plus (BLACK)	1 each	\$138.00
<b>LED-1215</b>	Eye Protection Shield	1 each	\$26.00
<b>LED-1022</b>	Light Guide Barrier Sleeve (200 Pieces/Box)	1 Box	\$14.95
<b>LED-1024</b>	Curing Light Sleeves (500 Pieces/Box)	1 Box	\$39.95



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## **WARRANTY**

**Please Fax a copy to SDS 706-650-7468 for Warranty Coverage**

Southland Distribution & Sales (SDS) hereby warrants that for a period of one (1) year from the date of purchase, this instrument shall be free from defects in material and workmanship and will perform satisfactorily under normal use and service.

Users MUST complete the Warranty Registration Form within 30 days of the purchase date and fax it to Southland Distribution & Sales (SDS) at 706-650-7468 in order to qualify the warranty. If multiple units have been purchased, fill out one registration form per unit. Please keep your dealer invoice. A copy of the invoice will be required should warranty service be required.

In the event of a breach of this warranty, Southland Distribution & Sales (SDS) liability is limited to, at Southland Distribution & Sales (SDS) option, to replace the defective product or part thereof, or reimbursement of the actual cost of the defective product. In order to take advantage of this limited warranty, the defective product must be returned to Southland Distribution & Sales (SDS). In no event shall Southland Distribution & Sales (SDS) be liable for any indirect, incidental, or consequential damages.

Southland Distribution & Sales (SDS) warrants this product will be free from defects in material and manufacture. Southland Distribution & Sales (SDS) MAKES NO OTHER WARRANTIES ACTUAL OR IMPLIED. User is responsible for determining the suitability of the product for user's application. If this product is defective within the warranty period, your exclusive remedy and Southland Distribution & Sales (SDS)'s sole obligation shall be to the repair or the replacement of the SDS product.

### **LED-2000 Plus Warranty**

**Model Number:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Doctor:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Battery #:** \_\_\_\_\_ **Panel #:** \_\_\_\_\_

**Dealer:** \_\_\_\_\_ **Sales Rep:** \_\_\_\_\_



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