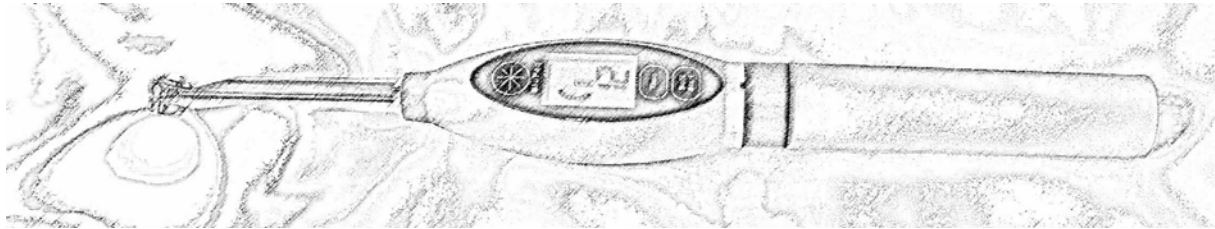


# Easy-Curing™

## High-Power LED Curing Light



### REFERENCE MANUAL

Thank you for purchasing the Easy-Curing™. Before you start to use this device, please read this manual carefully to enjoy optimum performance and a longer service life. Keep this manual for future referencing.

## **Easy-Curing™**

### **High-Power LED Curing Light**

The **Easy-Curing™** LED curing light is a pen-style, high-power output, cordless light polymerization device for use in dentistry.

**Easy-Curing™** LED curing light is characterized by:

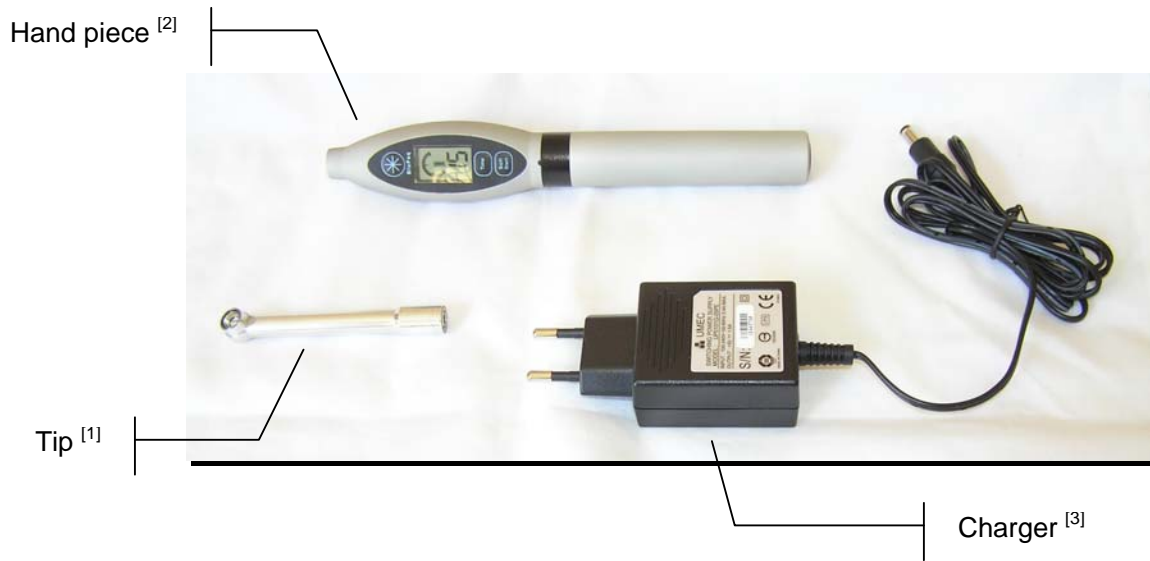
- Small size and low weight
- Cordless operation
- Powerful 5-watt light emitting diode (LED) of latest technology, placed at tip head, acting directly on the material to be cured
- Polymerization area of 8.0 mm in diameter
- Freely adjustable LED Tip, rotating 360°
- Interchangeable tip providing a renewable light source
- 15° angle of light probe for optimum access
- 10 to 20 second curing cycle to be chosen by the operator
- Noiseless and air emission free
- Friendly, LCD interface to the operator
- Rechargeable Li-on battery with long life
- Replaceable battery for enjoying the product for years



***Before installing this unit, read the operating instructions carefully. Always adhere strictly to these operating instructions.***

## Getting to know your **Easy-Curing™** LED curing light

The **Easy-Curing™** system consists of 3 parts: A Tip, Hand piece and Charger.



**Note: New charging base added (not showing)**

## ***Hand Piece Keys***

### **1. ON/OFF key**

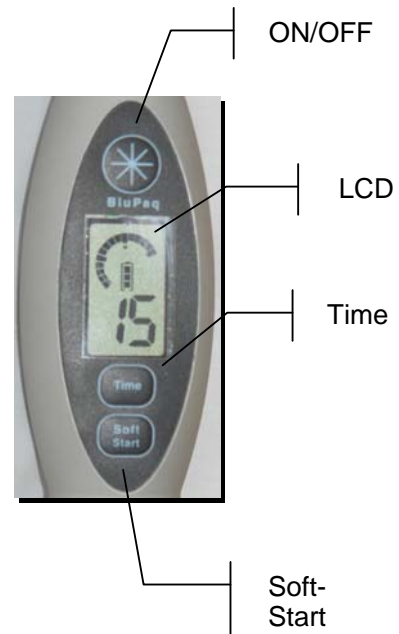
Activates device and starts or disrupts the curing cycle.

### **2. Time key**

Selects the time duration of the curing cycle.

### **3. Soft-Start key**

Toggle selects between a 5 second ramp at the beginning of the curing cycles and a regular start.



## **Hand Piece LCD indications**

### **1. Two Digit display**

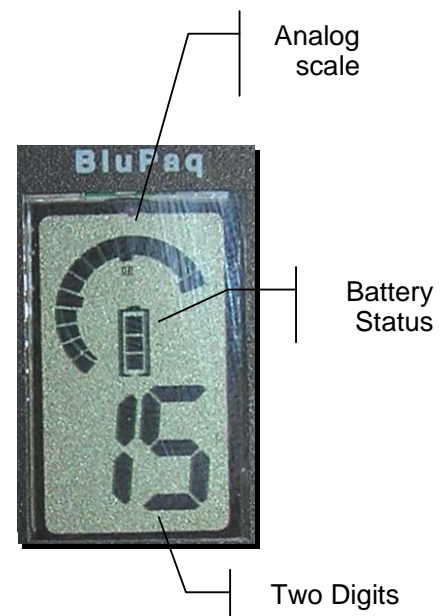
Shows the curing cycle time chosen and counts backwards during the curing cycle itself. These digits also show different states of the unit as charging and error messages.

### **2. Analog time scale**

Shows the curing cycle time chosen and counts forward during operation. It also signifies whether the Soft-Start is on or off.

### **3. Battery status**

Shows the energy left in the battery. If there is only 1 stripe showing there is approximately 2 minutes of curing time left.



## ***INDICATIONS***

Intra-oral light curing of direct restorative materials, adhesives, and sealants which cure at a wavelength of 450 - 490 nm.

## ***CONTRAINDICATIONS***

### **Use for indirect restorations:**

The **Easy-Curing™** LED curing light should not be used for the curing of luting cements for indirect restorations (e. g. ceramic inlays), as no data exist to support the use of **Easy-Curing™** with indirect restorations.

### **Use in patients prone to Photo Biological reactions:**

Do not use the **Easy-Curing™** LED curing light on patients with a history of Photo Biological reactions (including patients with Urticaria solaris or erythropoietic protoporphyrie) or those currently undergoing treatment with photosensitizing pharmaceuticals.

## **WARNINGS**



The **Easy-Curing™** LED curing light should not be used as a tissue retractor, as this may damage the connection between LED tip and handpiece.



Do not use a damaged device, e. g. if among others the glass cover of the LED Tip is scratched, broken or missing.



Do not use for voltages different from the range indicated on the charging unit.



Always unplug the charger before disinfecting.



**Do not try to connect any other device or part of device which does not belong to the Easy-Curing™ system.** This may damage the **Easy-Curing™**.



**High voltages are present inside the charger. Do not open charger or the hand piece.**

Use only under dry conditions. Do not use if the charger is wet. Store dry. Only authorized technicians should repair the **Easy-Curing™** LED Tip, hand piece or charger.

## **PRECAUTIONS**

Anyone with a history of retinopathy should consult their eye specialist before operating this unit. Use the **Easy-Curing™** LED curing light extremely carefully and comply with all the necessary safety precautions (including wearing suitable, light filtering safety glasses).

Anyone who has had a cataract operation may be especially sensitive to light and should be advised against undergoing treatment with a **Easy-Curing™** LED curing light unless adequate safety precautions are taken such as wearing suitable, light filtering safety glasses.

Do not use a device which has not been properly disinfected (see Chapter *Maintenance*).

Never aim the light directly at unprotected soft tissues, as this may cause injury or irritation. Do not aim the light at eyes. Light reflected from the tooth surface may also injure eyes. Use suitable, light filtering safety glasses.

The time intervals between the curing of consecutive layers have to be at least 30 seconds. If time intervals are shorter, this will result in heat build-up of the LED tip which may cause discomfort or tissue irritation.

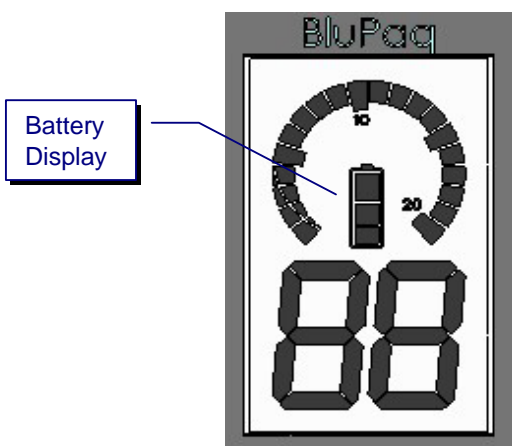
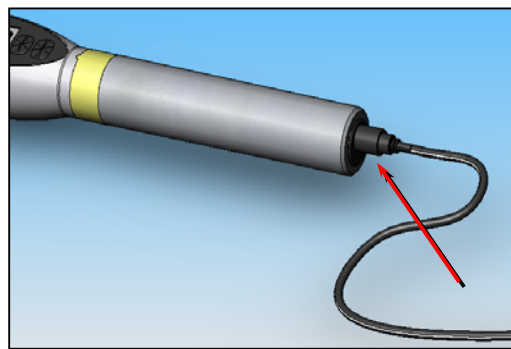
Limit the action of the light to the area being treated.

## Installation and Charging

1. Plug in charging unit.
2. Connect the hand piece [2] into the charging unit [3] as shown.

The battery display will flash a "build up" sequence, indicating ongoing charging of the battery.

3. Charge the device for at least 2 hours prior to first use. Complete charge of the curing light is indicated by the letters CL (complete) on the display. After a full charge the curing light will show 3 stripes indicating
4. The completely charged device allows approx. 2200 seconds of cure (total operating time approx. 35 minutes). Thus, under most conditions of use, the device will normally need recharging at the end of each other day.



## **Operation**

1. **Attach the LED Tip [1]** to the hand piece [2]. The device is now ready for operation (Do not operate unit while it is connected to the charger).
2. **Adjust the LED Tip:** The LED Tip rotates by 360°, thus the position of light emission may be freely adjusted. The tip must be adjusted to an angle that allows optimal curing of the restoration. The tip should be positioned **AS CLOSE AS POSSIBLE TO THE RESTORATION** and may even touch the restoration
3. **Polymerization set up:** Set the time duration to your will (between 10 to 20 seconds of cure) using the 'time' button. Short presses will increase the time duration by 1 second and long presses will increase the time duration by 5 seconds. Set a Soft-Start mode to your will by pressing the Soft-Start button.
4. **Polymerization start:** Briefly press the ON/OFF key [1.1]. Start and end of the curing cycle are indicated by audible signals.
5. To cure a restorative material that requires a curing time longer than 20 seconds, repeat activation by pressing the ON/OFF key immediately after the end of each 20-second curing cycle.

## **Maintenance**

### **1. Prevention of cross infection, cleaning, disinfection, and storage**

**Please use single use protective sleeves any generic single use syringe sleeves.**

**Dispose sleeves after every use! (Sullivan-Schein #127-2519)**

Always safeguard charger, Hand Piece, and LED Tip against moisture as this may cause electrical short-circuit or dangerous malfunction.

### **2. Light output control**

Make sure that the LED aperture is clean and scratch-free; otherwise light output will be reduced and may be insufficient for proper curing of the material.

Control of light efficiency is recommended (e. g. by using any radiometer or light intensity testing device).

### **3. Battery maintenance**

The battery needs approx. 2 hour to be fully re-charged. When the battery is charging, the battery display flashes a "build-up" sequence. Upon complete recharging, the battery display remains continuously full, and displays the letters CL.

If the charger is disconnected while still charging, i.e. showing the "build-up" sequence, the curing light will display two stripes on the battery display as default. After the first curing cycle, the battery display will be updated according to the battery true power.

Fully charged, the battery has a capacity of approx. 2200 seconds of cure (approx. 35 minutes operating time). Therefore, under most conditions of use, the device only needs to be recharged over-night.

When the battery light indicates 1 stripe, the battery needs to be recharged. Approx. another 3 minutes curing time remains for completion of the treatment. Light output is not reduced during this period. Approx. after these 3 minutes, the device switches off automatically and shows a battery empty display, indicating the need to recharge.

Completely discharge the device by regular use at least every 6 months and recharge the battery immediately thereafter.

#### **4. Replacing the Battery**

As every rechargeable battery, it needs to be changed at the end of its life cycle. The estimated life cycle of the battery is over a year. When this occurs, battery replacement is needed.

- 4.1 Make sure the Hand piece is not connected to the Charger.
- 4.2 Gently unscrew the battery compartment.
- 4.3 Gently screw back a new battery compartment.
- 4.4 You have now successfully replaced the battery.



## Serial Number (SN)

The serial number should be quoted in all correspondence, which requires identification of the product.



**ACCESSORIES**

Easy-Curing™ LED Tip,	Reorder no.	003-100-000
Easy-Curing™ Eye Protection Shield	Reorder no.	003-500-000



**ENVIRONMENTAL NOTE****Battery recycling:**

This device is provided with a Lithium Ion battery. For environmental reasons, please dispose of the device according to local environmental guidelines or regulations.

**SPECIFICATIONS AND EQUIPMENT CLASS**

AC supply connection:	EU charger (Model no. UP0101G-05PE): 100...240 V~ 50...60 Hz MAX 0.4A	
Power input:	8 W	
Equipment class:	Class II	
Protection from electric shock:	Type BF	
Protection from ingress of liquids:	IP X4	
Operation:	For permanent operation mode: 10 seconds ON / 30 seconds OFF	
	Ambient temperature:	10 – 32°C
	Relative humidity:	30 – 100%
	Atmospheric pressure:	500 hPa to 1060 hPa
Storage:	Ambient temperature:	-15 - +40 °C
	Relative humidity:	30% - 80% (non-condensing)
	Atmospheric pressure:	500 hPa to 1060 hPa
Transport:	Ambient temperature:	-15 - +40 °C
	Relative humidity:	30% - 80% (non-condensing)
	Atmospheric pressure:	500 hPa to 1060 hPa

Battery performance:	Handpiece will operate approx. 35 minutes time starting upon complete recharging. Time to battery recharge: approximately 1 hour	
Battery over current protection	Supplied by battery manufacturer	
Battery life	Approx. 400 full recharge cycles	
Light emitting diode:	5 W LED	
Average light intensity	Approx. 2100 mW/cm <sup>2</sup>	
Output peak wavelength range:	450 – 490 nm (intensity maximum at 460 nm)	

Unit hand piece dimensions:	Length	190 mm
	Width	32 mm
Tip dimensions:	Length	85 mm
	Width	11 mm
Unit weight:		
Handpiece and tip	150 grams	
Charger	45 grams	
Additional symbols:		Consult accompanying documents
		Battery recycling

**Complies with the following Directives/Standards:**

93/42/EEC	Council Directive 93/42/EEC of 14 June 1993 concerning medical devices
EN 60601-1	1990 – Medical Electrical Equipment (General requirements for safety)
EN 60601-1 A1	1993 – Amendment 1 to EN 60601-1
EN 60601-1 A2	1995 – Amendment 2 to EN 60601-1
EN 60601-1-2	1993 – Medical Electrical Equipment Part 1: General requirements for safety 2: Collateral standard: Electromagnetic compatibility – Requirements and tests

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## **Warranty terms**

A 1-year warranty on hand piece and charger excluding battery and a 6-month warranty on the LED Tip commencing on the date of purchase is granted. Within the warranty period, any defects in the appliance resulting from faults in material or workmanship will be eliminated either by repairing or exchanging parts or exchanging the whole device at the manufacturer's discretion.

A 3 months warranty on the battery given within the device is granted.

Not covered by this warranty: Damage arising from improper use (operation with incorrect current/voltage, unsuitable power point, breakage, cleaning by other than the recommended methods), normal wear and defects which have a negligible effect on the value or operation of the appliance.

This warranty becomes void if repairs are undertaken by unauthorized persons.

This warranty extends to every country where this device is supplied or its appointed distributor and where no import restrictions or legal regulations hinder or prevent service being given under warranty.

Service under this warranty does not affect the expiration date of the warranty. The warranty on parts or entire devices which are exchanged ends when the warranty on this device expires.

In the event of a claim of this device, return the complete device (charging unit and the LED curing light) together with the invoice to your dealer or send it to your nearest service Center.

All other claims including those for damages resulting from this warranty are excluded unless our liability is legally mandatory.

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