



# **LED 60**

**Cordless LED Curing Light**

## **USER'S MANUAL**



- 
- **LED 60** must be installed by a qualified dental engineer.
  - All instructions in this USER'S MANUAL must be completely read before installation or operation.
  - **The user should wear colored protection glasses to avoid eyes injured by the light.**

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<b>LED 60</b>	<b>CE</b>
<b>Cordless Dental Curing Light</b>	
<input checked="" type="checkbox"/> 8mm	<input type="checkbox"/> 11mm
<input type="checkbox"/> European Plug	<input checked="" type="checkbox"/> American Plug
S/N: XXXXXX	
<b>TPC Advanced Technology</b>	
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## **1. INTRODUCTION**

Thank you for purchasing the **LED60** LED curing light. The **LED60** is a dental curing light which use the latest LED technology to polymerize composite materials. Because of its particular advantages, **LED60** has become indispensable equipment by many dentists and professionals.

## 2. FEATURES

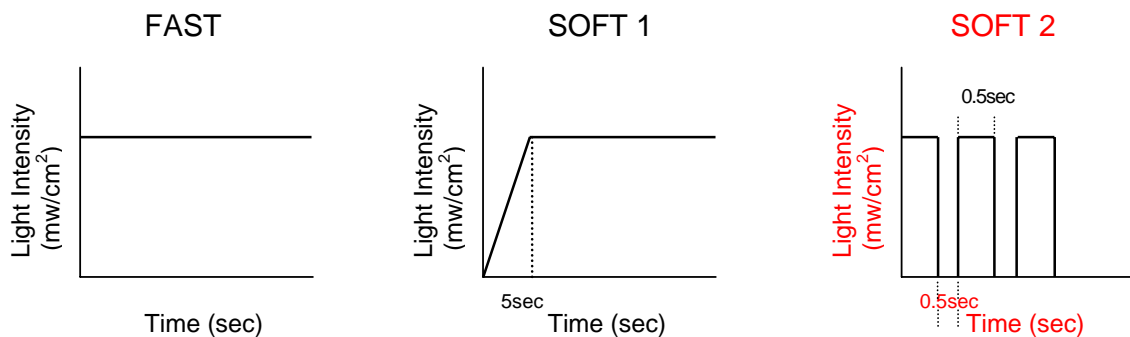
- 1.Latest LED technology with longest life.
- 2.Less heat produced and patient will feel more comfortable.
- 3.Easy operating with LCD panel - what you see, is what you get.
- 4.Three preset programs

FAST: Full power output all the time.

SOFT 1: Gradually increasing output in first 5 seconds, then FULL power output till end.

SOFT 2: 0.5 second interval after full power output for 0.5 second.

- Except the Fast program, the curing time for other programs will start from 10 seconds.



### 5.Timer

Five preset curing time from 5, 10, 20, 30, till 40 seconds.

- Follow the manufacture's instructions of composite resin to adjust the curing time for better curing performance.

### 6.Low Battery Sign

- When flashed on the panel or there is a double beep tone alarmed every 20 seconds, the battery needs to be charged for at least 4 hours.

### 7.Sleeping Mode

- When **LED60** is no longer in use for 3 minutes, the handpiece will turn into sleeping mode to save power.

### 8.Auto Memory

- **LED60** will keep the latest setting for next operation, including the curing time and the curing program.

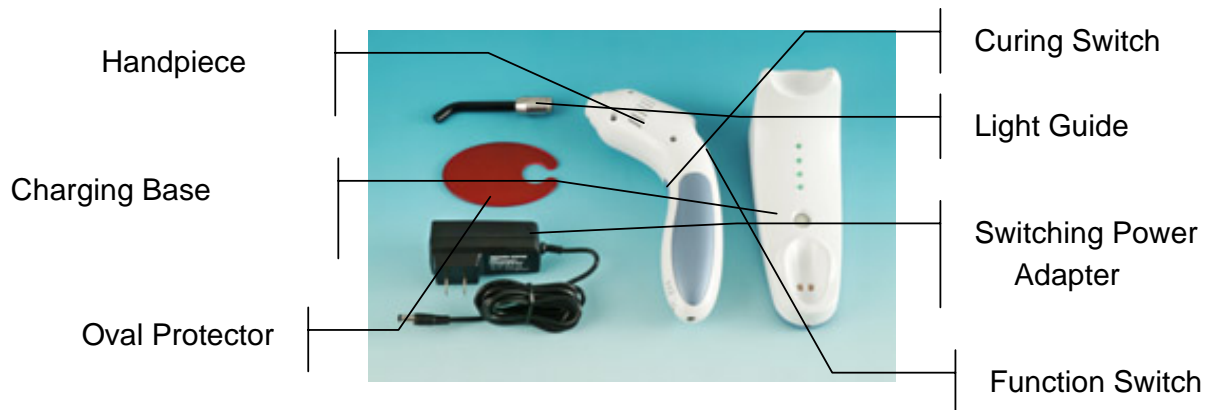
#### 9.Cord/Cordless Interchangeable

- When running out of battery life, LED60 can be operated directly with switching power adapter and the battery will be **charged** simultaneously.

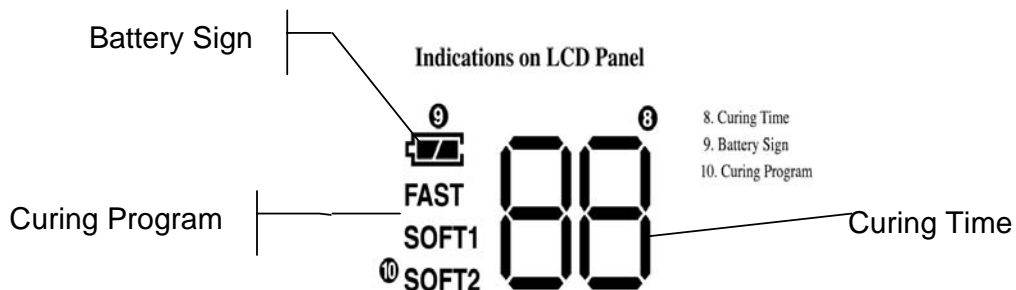
#### 10.Build-in Radiometer

- Dentist can adjust the curing time refer to the reading of the radiometer which is settled by the number of the lighting-up LED indicators.

## ACCESSARY



### Indications on LCD panel



### **3. INSTALLATION**

#### **Step 1 Charge Li-ion battery**

- For the best performance, charge handpiece continually for 4 hours (charge battery at least 8 hours for first time using). The battery sign on the LCD panel will show the sign of full power when battery is fully charged. While the battery sign is blinking, it means the battery should be recharged or dentist can directly connect it to the switching power adapter for continued use.
- The handpiece will detect the charging automatically. There will be three short “beep” tone are generated when it has been properly put on to the Charging Base or steadily connect to the adapter.

#### **Step 2 Install the Oval Protector**

- Directly insert it onto the front of the handpiece. It can be rotated after proper installation.

#### **Step 3 Install Light Guide**

- Directly insert the Light Guide to the handpiece, make sure it has been totally insert and fixed steadily. It also can be rotated when properly installed.

#### **Optional**

#### **Step 4 Connect Switching Power Adapter**

- **LED60's** are available to use directly with switching power adapter when battery run's out of power. Directly connect the switching power adapter to the handpiece, then plug the adapter into the outlet (AC100V ~ 240V).

### **4. OPERATION**

#### **a. Set Curing Program**

- Press curing switch and hold, then press function switch to select suitable Curing Program  
(1)FAST (2) SOFT 1 (3) SOFT 2

#### **b. Set Timer**

- Press function switch to select curing time between 5, 10, 20, 30, and 40 seconds.
- When choosing “SOFT 1” or “SOFT 2”, the curing time will start at 10 seconds automatically.

#### **c. Start to Operate**

- Press curing switch to start curing program. Beep tone will be heard every 10 seconds. To interrupt a program, just press curing switch again. When the program finished, the **LED60** will beep again then turn off the light immediately.

#### **d. Wake Up from Sleeping Mode**

- The curing light will turn into sleeping mode automatically when *it* is no longer in using for 3 minutes. Press function switch or curing switch once will wake up the handpiece.

#### **e. Low Battery Sign**

- When the low battery indicator is blinking, The LED60 should be recharged immediately or directly connected to the switching power adapter for continued use. There will be a double beep tone alarmed every 20 seconds to remind user to recharge the battery.

#### **f. Turn off the Power**

- Let handpiece turn into sleeping mode automatically, it will shut down all the curing function except the LCD panel to save the power.
- If the curing light have to be totally turn off, just disconnected the battery will turn off the electrical power.

#### **g. Use Radiometer**

- Place the light guide against the radiometer spot. The meter will measure the intensity of LED curing light by lighting-up the LED indicators. User can use the reading to adjust the curing time.

### **Conditions of Reading:**

- 1 LED -- Test composite to determine the curing time.
- 2 LED -- Extend the curing time or break up the thickness of composite to several layers.
- 3 LED -- Use recommended curing time.
- 4 LED -- Reduce curing time appropriately.

\*The reading comes from the radiometer is a reference for dentist to adjust the appropriate curing time. Dentists still need to follow the curing procedures which are provided by composite resin manufacturer. The radiometer is designed for test LED curing light only, the reading comes from a Halogen curing light will not be a good reference in this moment.\*

## **5. MAINTENANCE**

1. Be sure there is no any resin or material sticking on the surface of the light guide after every time using.
2. If materials are sticking on the Light Guide, immediately clean it with soft cloth. Keep it clean for better light intensity and curing
3. ~~The light guide~~ The light guide should be sterilized after each use. It can be safely autoclaved at 121°C, 1kg/cm<sup>2</sup> for 30 minutes. Let it cool down for 30 minutes before handling.
4. The other accessories such as handpiece, plastic oval protector...etc., which is close to patients or other possible contamination should be scrubbed by pure water or antiseptic and sheathed in accordance with standard disinfection procedures.
5. Keep handpiece charged after work everyday will avoid running out of the battery by accident.
6. If it is necessary, The Li-ion batteries should be dumped according to the national law.
7. **The user should wear colored protection glasses to avoid eyes injured by the light.**

## 6. TROUBLE SHOOTING

(Troubleshooting)

FAULT	POSSIBLE CAUSE	SOLUTION
<p>Curing light, LCD panel or Fan is not working. No power comes out.</p>	<p>a. Running out of battery life, the battery protect function was active. b. The battery is not properly connected to the handpiece. c. The Control unit is out of order.</p>	<p>a. Charge handpiece immediately for at least 4 hours. b. Reconnect the battery and the handpiece. c. Directly Connect it to the adapter, If it still can not be used with adapter, return the light for repairing.</p>
<p>No power comes out after charging, but it can be used with adapter.</p>	<p>a. The control unit or battery is out of order.</p>	<p>a. First charge the battery for at least 4 hours, if the same situation reserved when disconnected the adapter, change battery to see if it is recovered or return the light for</p>
<p>The battery power is running out very soon, even after fully charged.</p>	<p>a. the battery haven't fully charged.</p>	<p>a. repairing the handpiece has been properly connected to the charging base or adapter when charging (if the connecting is correct, the battery sign</p>

	<p>b. Control unit or battery is out of order</p>	<p>will running steadily), and it should be charged at least 4 hours.</p> <p>b. Change battery to see if it is recovered or return the light for repairing.</p>
<p>Curing light cannot be charged, the battery sign doesn't show charging condition.</p>	<p>a. adapter or charging unit is not properly connected to the handpiece.</p> <p>b. adapter is out of order.</p>	<p>a. Check the power indicator on the charging base, reconnect adapter and charging base, and check if there are three beep tones when they get connected.</p> <p>b. Return the light for repairing.</p>
<p>Curing light is not working, but LCD panel still work.</p>	<p>a. LED is out of order.</p> <p>b. Control unit is out of order.</p>	<p>a. Return the light for repairing</p> <p>b. Return the light for repairing</p>

## 7. SPECIFICATION

### 1 Switching Power Adapter

Input	AC 100~240V, 50/60Hz
Output	DC 5V, 2.4A
Operating power	15W Max

### 2 LED

Model	: 4 LED die type
Wavelength	: 430~490nm

### 3 Battery

Type	Li-ion
Voltage	DC 3.7V
Capacity	2000mAH

## STANDARD ACCESSARIES      Part No.

<b>LED60</b>	10003	
1) <b>LED60 Handpiece</b>	10010	× 1
2) <b>Charging Base</b>	10020	× 1
3) <b>Light Guide (8mm)</b>	10110	× 1
4) <b>Oval Protector</b>	10120	× 1
5) <b>Lithium Battery</b>	10170	× 1
6) <b>Switching Power Adapter</b>		× 1
<b>US Plug</b>	10340	
	10341	
7) LED60 user's manual	10392	× 1

## OPTIONAL ACCESSARIES

6) <b>Light Guide (11mm)</b>	: 10111	× 1
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