

# E-light System

## PRODUCT DESCRIPTION



—Please read the instructions before use!

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# **I . Brief Introduction**

E-light applies three core technology, IPL, RF, and epidermis cooling. It combines the advantage of IPL and RF, in one hand, the skin absorbs IPL energy selectively, and the skin also absorbs RF energy, on the other hand, the RF-surface-touch cooling technology removing the discomfort and complications by high heat of IPL. Therefore, the effect and safety of E-light makes a breakthrough.

## **1.Principle**

Applying the technique of IPL and Bi-polar Radio Frequency, the equipment acts on the entire skin corium and connective tissue, stimulates the collagens of different depth to realign and grow, then gets treatment effect. Bio-polar RF release energy at the same time, with the selective absorption for the skin to light energy, various pathological tissues of corium and epidermis creates Photothermolysis effect. Since light energy is far below conventional IPL, the pigment tissue and vascular pathological tissue of the corium and epidermis would absorb more energy without injuring the epidermis, and then remove these pathological tissues better and get the effect.

## **2. Application:**

1. Hair removal;
2. Skin rejuvenation;Wrinkle removal, fact lifting;
3. Removing freckle, age spots, sun spots, chloasma, pigmentation troubles, etc;
4. Vascular removal;
5. Acne treatment.

## **3. System Self-checking**

The circuit of system entering the self-checking situation when the machine starts, leave the machine carry on the self-checking for 5-10 seconds, then continue the operation.

## **4. System Classification**

Electric shock protection: Grade1    BF Grade

Corrosion prevention liquid: ordinary

Do not use the machine in the environment mixed of flammable narcotic and air or nitrogen

oxide mixture.

## 5. Equipment Consist, Specification, and Accessory List

### 1. Equipment Consist:

#### 1.1. Mainframe

- A. Power supply system
- B. Microcomputer system
- C. Monitor
- D. Cooling System

#### 1.2. E-light Handpiece

- A. Intense pulsed light source, xenon lamp
- B. Reflector and filter
- C. Sapphire wave guide

### 2. Technique Specification

- Light Energy: 1—50J/cm<sup>2</sup>
- RF energy: 1-25
- SR Spectra: 530-1200nm
- Cooling: water+air+semi-conductor
- Spot size: 8×40mm
- N.W.: 35kg
- Voltage: 110V ± 220V 10%, 50~60Hz;

### 3. Accessory List

No.	Item	Unit	Qty	Remark
1	Main frame	set	1	in the main case
2	SR Handpiece	pc	1	in the lateral foam box
3	HR Handpiece	pc	1	in the lateral foam box
4	Power Cord	pc	1	in the lateral foam box
5	Key Switch	pc	2	in the lateral foam box
6	Goggles for Operator	pair	1	in the lateral foam box
7	Goggles for Patient	pair	1	in the lateral foam box
8	Spare Water Plugs	pc	1	in the lateral foam box
9	Spare fuses	pc	1	in the lateral foam box
10	User Manual	pc	1	in the lateral foam box

## II. Standard Treatment Process

### 2.1 Form filling

Fill in the blanks of the Client File, confirm the treatment program, remind the client pay

attention to some points before and after treatment.

## 2.2 Face cleaning

Clean the face with gentle face cream for 3 minutes.

Remind: clean the hands of operator and the handpiece with bromogeramine.

## 2.3 Preheating

Start the equipment after face cleaning, preheat for not less than 3 minutes (without lighting the xenon lamp).

## 2.4 Shaving

Shave the unwanted hair of the treatment area(2 minutes).

## 2.5 Gel coating

Coating the gel evenly (2-3mm) on the skin.

Effect: light guide, cooling, anaesthetisin.

Attention: no coating on eyes, eyebrows, lips.

## 2.6 Eye protection

Operator: wear the safety goggles.

Patient: close the eyes, wear professional safety goggles or cover the eyes with eye patch.

## 2.7 Allergic test

Emit 2 or 3 light spots in the bottom of ears in safe parameter, observe for 3 minutes.

Effect: do not continue to operate if there is a allergic phenomena.

## 2.8 Operation

Carry on the operation with a suitable parameter to the operatee.

Attention:

2.8.1 Inform the operatee that there will be a slight pricking in operation before operating, to avoid panic.

2.8.2 Start the operation with a low energy grade, adjust the parameters in operating while asking the feeling of the operatee.

2.8.3 Move the light spot by one spot overlapping the upper 1/3 part of the previous spot.

No emitting one area repeatedly, otherwise may cause inflaming or burns.

2.8.4 The handpiece should touch the skin vertically, no over pressing or leaving the skin.

2.8.5 Observing the reaction of skin while operating.

2.9 Cold compress

Keep gel coating for 20 minutes after operation ending; carry out cold compress in obvious slight reddish reaction till reddish fading away.

2.10 Cleaning

Clean the gel with cold water, coat corresponding cosmetics.

2.11 Treatment Course

Skin Rejuvenation Program: 30-45 days/time                      4 times/course

Hair Removal Program: 2-3months/time                      3times/course

2.12 **Special reminding**

2.12.1 Ask the client before treatment: is there a allergic or not; is there a bad reaction before for similar operation; fill the Client File concretely. Adjust the parameters on the basis of full acquaintance of the condition of operatee. Inform the operatee the possible reation in operation before operating.

2.12.2 In large area treatment or long time continuous operating, the water inside the equipment will warm up and the handpiece will be hot, interrupt the operation to refresh the water or leave the water cool down to continue operating.

2.12.3 Refresh the circulating water in one month; use purified water or medical distilled water.

### **III. Operation Instruction**

3.1 Before starting the machine

3.1 Accessories connecting:

3.1.1 Connect the handpieces, filters, and probes:

3.1.1.1. Put the handpiece on the hanger

3.1.1.2. Connect the handpiece:

Connect water pipes (2), signal wires (2, black-to-black, red-to-red), xenon lamp wire, and RF wire to the corresponding jacks on the backboard tightly.

3.1.2 Check the water holes of the backboard, make sure the water outlet hole is plugged well.

3.2 Water infusing:

3.2.1 pull out the plug of the water inlet hole, insert the water funnel

3.2.2 infuse water till water spill out from the spillway hole.

3.3 Checking

3.3.1 Make sure there is no water leaking;

3.3.2 Make sure there is no moisture or wet for electricity connecting parts;

3.3.3 Make sure the key switch is in the off position;

3.3.4 Make sure the emergency stop switch is in the on position.

3.4 Starting the equipment

3.4.1 Connect the power cord, turn on the key switch;

3.4.2 Double confirm there is no leaking of water circulation, fold the protective cover by turning it right.

3.5. Debugging

3.5.1. Make sure water and electric circuit is correct connected; then turn on the power to start the machine.

3.5.2. Turn on the master power switch on the backboard;

3.5.3. Turn on the emergency switch (clockwise turn) in the front side of the mainframe

3.5.4. Turn on the key switch (clockwise turn);

3.5.5. Check is there any leaking of the water connectors.

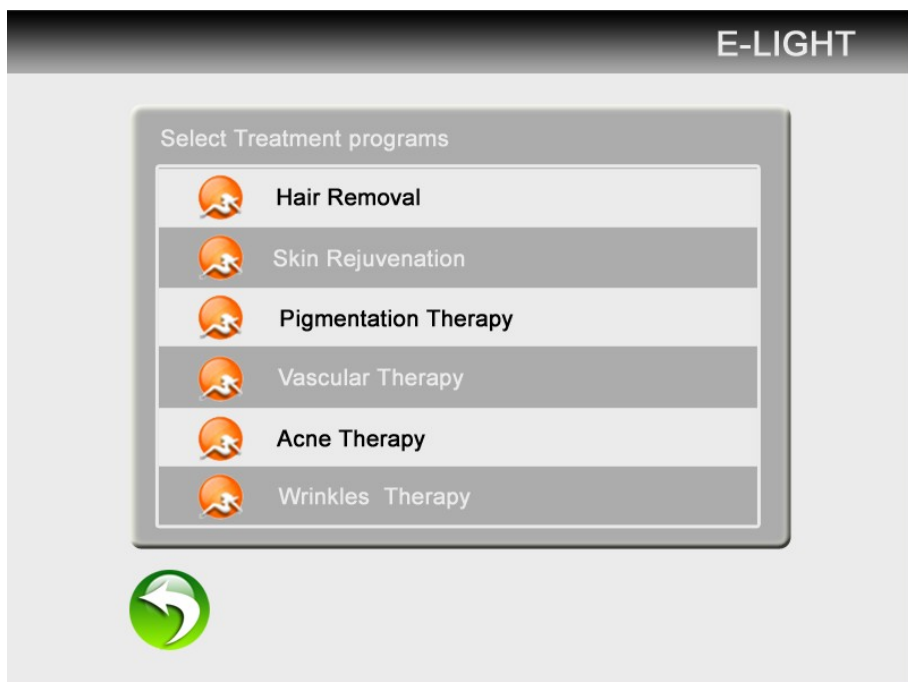
3.5.6. If the above is checked OK, put the wire cover into the neck on the backboard then turn deasil to get fixed.

3.6. Operation

Enter operation condition after debugging and no abnormalities found.

3.6.1. Treatment Selecting Interface



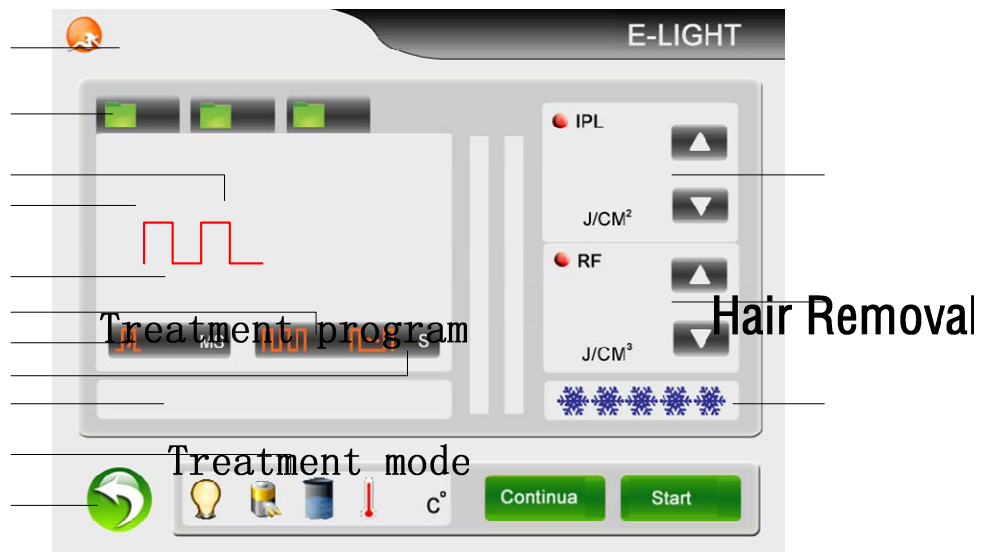


### Treatment Selection Interface

Select the wanted treatment program by clicking.

### 3.6.2. Operation Interface





Operation Interface

pulses  
 pulse1 9.0 9.5

**Treatment mode:** 3 groups of different parameters setting.

**Pulse1:** working time of the first pulse delay1 2 2

**Pluses:** sub pulse width: irradiating time of other light except the first pulse.

**Delay1:** 1st pulse delay: delay time of the first pulse irradiating


**Pulse amount adjusting:** pulse amount of each irradiating

**RF Working time:** working time of RF total counter 280

**Repeat frequency:** interval between two spots

**Total counter:** accumulated spot times of the xenon lamp;

**Status display:** back

 water circulating status

 lamp stauts

 charging statu

 Current temp

**back:** return to the previous interface

**IPL energy adjusting:** increase or decrease the IPL output energy.

**RF energy adjusting:** increase or decrease the RF output energy.

**Cooling adjusting:** adjusting the cooling level

**pasue/continue:** "continue", standby stautus, parameters could be set in this stauts; lamp is on, but could not make shots.

**start/pause:** click "start", zimmer the handle and the capacitor charge automatically; system will enter the treatment status when charge is ready. Click "stop", escape from treatment stauts.

### 3.8 Treatment Advice

3.8.1 Freckle, age pigment: strong pricking for the first treatment (under the tolerance of the operatee). One minute after receiving emitting, there will be a slight reddish, which will fade away in 10 minutes, (for someone special, maybe 30 minutes). Punctuate pigment will appear on the surface of skin and will be metabolized in 3-7 days. The one-off curing rate of freckles by using E-light is 60%-80%, normally freckles could be cured in one course of treatment.

Parameter control: Long pulse width, short interval, medium energy.

3.8.2 Chloasma: Light pain, light reddish, redness disappear in 5 minutes. After radiation, the pigments become darker first in 10 days, and decline in 15 days. Don' t adjust big parameter value to treat chloasma. 1-2 treatment course needed for chloasma.

Parameter control: Short pulse width, long interval, low energy.

3.8.3 Epidermis spot: The most difficult one, so the treatment time is longer correspondingly. IPL+ is the best way of removing epidermis spot. With the cooperation of using laser, 7-8 times radiation will cure the spot.

Parameter control: Long pulse width, short interval, medium energy.

3.8.4 Acne scar and other pigmentation: Patient would have a strong pain (under the limit of patient). Pigmentation will decline in 3-7 days.

Parameter control: Long pulse width, short interval, high energy.

3.8.5 Vascular, redness: Using high pulse width on the basis of easing the skin.

Parameter control: Long pulse width, long interval, suitable energy.

3.8.6 Bulky pore, black head, acne: Strong pain under the limit. Blackhead and oil comeout in 2-3 days, and disappear in 7 days.

Parameter control: Long pulse width, short interval, high energy.

3.8.7 Winkle, pouch, black circle: Light pain.

Parameter control: Short pulse width, long interval, suitable energy.

3.8.8 Skin rejuvenation: Strong pain under the patient limit, reddish; redness disappear in 10 minutes. No suggesting repeat operation.

Parameter control: Long pulse width, long interval, high energy.

3.8.9 Hair Removal: Strong pain, follicular orifice will become a little reddish, with a burning smell. Caution for arms, lips, and legs hair removal, avoid pigmentation by over high energy. According to the growing period of hairs, growing period- maturation period-rest period, 3 times of treatment will remove the hair completely.

Parameter control: Long pulse width, long interval, suitable energy.

Special Attention:

For the sensitive and dark skin, there might be delayed reaction in 24-48 hours, therefore do not raise the energy casually. Adjust the parameter value according to the whiteness of skin. The whither, the higher endurance of the skin is. For dark skin, please pay more attention to use long interval and suitable energy of parameter value.

## **V. Safety Notice**

### **4.1. Safety of E-light**

The equipment takes maximum consideration of the safety of both operator and operatee in the designing, the following are some safe measures of it:

- Circuit self-checking after machine starting;
- Using filter/light guide crystal, strong pulse light comes out only from the front side of the handpiece.
- Designed with independent safety circuit, electricity could be shut down automatically when the IPL power is to high;
- Emergency stop switch, shut down the power in emergency;
- Key switch to avoid starting the machine by any people;
- Use high quality engineering plastic frame, preventing electricity creepage.

#### **【Alarm】**

All strong pulsed light device may cause hurt by improper handling. Operators should keep

vigilant and take necessary protection measures according to the manual.

Operatee: Carry out the treatment in the professional treatment room; take effective eye protecting measure;

Operator: wearing protective glasses;

Treatment room: marked the treatment room clearly with in operating of IPL.

To ensure to the safe use of the equipment, please read the following instructions carefully.

- No one except technician authorized by the manufacture could dismantle or repair the equipment, especially for the power source, handpiece; high voltage electricity inside;
- Voltage rating: 110-120V;
- Maintaining the equipment after disconnecting the power cord;
- Keep the handpiece clean all the time; do not let the gel leaking into the handpiece;
- In case leaking of the handpiece, do not start the equipment; already started, turning off immediately;
- No emitting light to one area repeatedly, otherwise may cause inflaming or burns, and may leave pigmentation.

#### **【Alarms of Strong IPL】**

- IPL may hurt the eye or cause burns or fire, take all necessary prevention measures before operating;
- Emitting too much light to one part may burn the skin which may cause pigmentation;
- Do not watch the IPL light directly from the handpiece even wearing protective glasses;
- Do not emit the light to the air; keep the handpiece on the hanger when not using it.

#### **4.2. Electricity & Machinery Safety**

- Keep all the boards closed, open the board may bring danger;
- There is high voltage electricity inside, some parts still carry electricity even after turn off the power, therefore, do not dismantle the backboard without under supervising by our technicians;
- Do not move the equipment by pulling the handpiece;
- Do not use the equipment in inflammable and explosive environment;
- Do not use alcohol or acetone before treatment;

- Do not start operating before the handpiece dry enough after clean the handpiece or other parts of the equipment.

## **VI. TABOO**

The following people is not suitable to be operated by the machine:

1. pregnant, high blood pressure, heart attack, diabetic;
2. allergic to IPL;
3. open wound parts;
4. people who could not avoid strong sun light;
5. scar, birthmark, or mole higher than the skin.

## **VII. Attentions After Treatment**

1. Not using irritative makeups;
2. No hot water face wash or sauna in 7 days;
3. No stimulating food or pigmentary food as chocolate, coffee; no smocking; no drinking;
5. No scratch in case of scabbing;
6. Make a water replenishing care in 10 days

## **VIII. WARRANTY POLICY**