OPT Perfect Pulse System

Directory

Ⅰ Safety Precautions

In order to ensure using safety, the OPT system has done its best in designing and manufacturing, to eliminate the damage to the people and the surrounding environment as much as possible.

Warning!

◆ The emitted light of the operating system is strong pulse light, the wavelength of 610-1000nm, so all personnel (including patients) at the operating system area must wear protective glasses

◆ It is banned to place reflective material such as watches, jewelry, mirror and so on in the therapeutic room

◆ The light system clean at all times and make sure that the condensation agent does not pollute the light guiding system

◆ If there is water leakage, don’t start the machine, and immediately shut it down if it has been started.

Ⅱ Electrical Safety

The operating system uses the single-phase 220V power supply and the maximum output current is not greater than 5A.

In order to prolong the service life of the machine and reduce the impact of the power grid fluctuations on the machine, users need to use the 2000W regulator.

Ⅲ Handling Safety

Inside the operating system, there are precision instruments, the users are prohibited to move the whole machine for a long distance. The shock absorber packaging provided by the original factory must be used during transport, otherwise it may cause misalignment of the optical system and affect energy output.

Ⅳ System Safety Device

◆ In order to ensure the safe use, the product strictly implements (RF type Beauty Equipment) enterprise standard

◆ After starting the machine, immediately check whether the circuit is safe, and always check

the circuit in the whole operation process.

- The light guide system will transmit the light to the skin of the patient

Ⅴ Product Structure:

OPT man-machine interface includes:

1、Operation interface	Used to display operating systems
2、Emergency stop switch	For emergency shutdown of the power supply
3、Key switch	Used to turn on and off the power supply of the whole machine
4、External handle	Detachable OPT handle, used to irradiate treated objects
5、Button switch	This button is sued to control the switch on the xenon lamp lighting handle
6、RF adjustment button	This button can adjust the size of RF energy
7、Drain plug	Used to remove cooling water

Ⅵ OPT Treatment Principle

The perfect OPT core technology (Optimal Pulse Technology) uses 3D technology concepts: Energy + pulse width + pulse waveform. The word, OPT perfect pulse technology may be relatively unfamiliar to most people, in fact, OPT technology mainly makes a great improvement in the hardware, and the core is to accurately control each pulse, and each pulse energy without attenuation applies on our skin, and the perfect pulse energy is also formed due to the elimination of E light and IPL first-pulse high energy peak value, as well as the elimination of the technology disadvantage that Second pulse width energy attenuation one by one, which makes OPT have significant improvement in the treatment effect, especially in the aspects of freckle removal, hair removal and skin rejuvenation. It has a good function in improving skin texture and narrowing pores, so it is a real sense of the skin rejuvenation technology, and the more important is the improvement in treatment safety and avoiding the skin burns and other side effects during the past IPL treatment. It can really ensure that the whole energy output is steady and uniform, the fully intelligent control software, and the pulse intense light skin rejuvenation, pigmented lesions and vascular treatment are integrated into one machine, and once OPT treatment is equivalent to 2-3 times of the traditional treatment technology. Sapphire cooling technology has greatly

improved the safety and effectiveness of the treatment. It is a new breakthrough of the IPL technology after four generations of development. Square wave OPT technology, i.e. perfectly controllable intense pulsed light technology, is the latest generation of pulse technology.

Ⅶ OPT adaptation range

1. Hair removal: permanent hair removal, indecent hair (hair in growing period) throughout the body, including lightly colored fine hair.

2. Freckle removal: Get rid of freckles, sunburn, age spots, acne print, facial defects.

3. Skin rejuvenation: Improving the coarse pores, rough skin and dark complexion, so that the skin is white with uniform color, and the skin elasticity is restored.

4. Acne removal: whelk, acne print.

5. Improving telangiectasia: red blood streak and facial flushing.

Ⅷ OPT photon hair removal effect

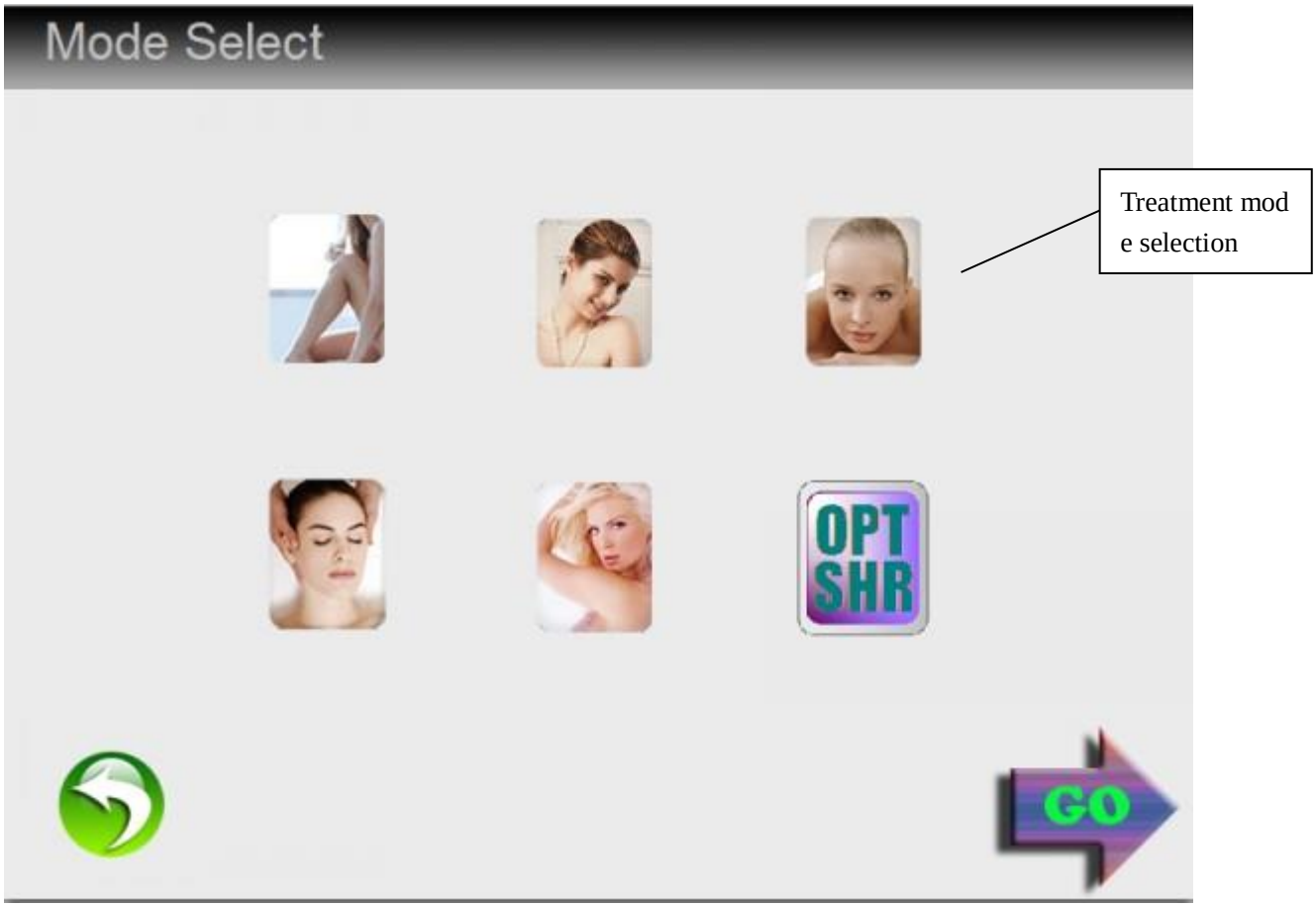
OPT photon hair removal principle is to use strong pulsed light with a wide spectrum of 610-1000nm, and there is wide adjustable pulse range, therefore it can make permanent hair removal for hairs at various parts of the human body with different colors and different depths. Hair removal technology is generally considered to have hair follicles produce heat by using melanocytes in hair follicle to absorb the light with a specific wave band through selective photothermolysis principle of patented intense pulsed light source, so that the selective destruction is made to the hair follicles. At the same time, the heat emitted is transmitted to the deep of the hair follicle through the cross section of the hair stem, so that at the same time of increasing hair follicle's temperature rapidly, the damage to surrounding tissues can also be avoided, and the hair follicle is unable to regenerate, so OPT photon hair removal can realize permanent hair removal effect.

Ⅸ Operation of equipment (treatment process)

1. Treatment mode selection interface

Turn on the main power switch of the device. The screen displays the treatment mode selection interface. As shown in Figure 1, touch the screen, and the corresponding mode option enters the

treatment interface.

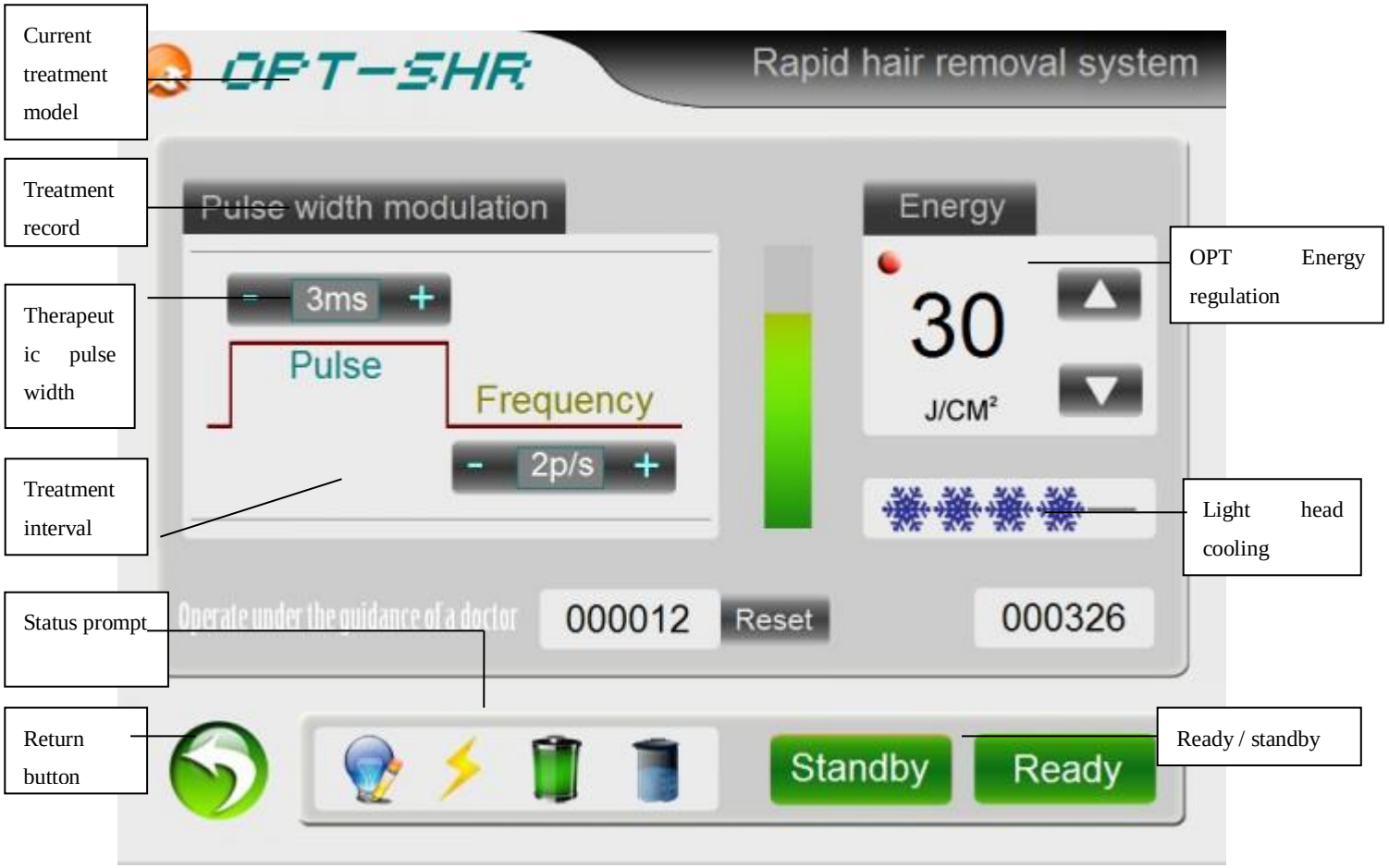


（Figure 1）

2．Therapeutic interface

（Figure 2）

After entering the treatment mode, select the interface as shown in Figure 2. Press the “Ready” button to trigger the light head and charge the capacitor automatically. When the charging is completed, enter the treatment state, press the “Standby” button to turn off the light head and enter the standby mode.



（Figure 3）

Light head state: displaying the currently selected treatment mode;

Treatment parameters: treatment parameters recorded under treatment mode;

Status prompt: displaying the current status of the device and the number of times the light head has emitted light;

Treatment record: displaying the current treatment record, it can record different treatment parameters, convenient for the treatment of different patients, and the treatment records can be changed through point selection, and there are 3 choices;

Cooling regulation: it is used to adjust the cooling temperature of the treatment light head, and a total of 5 positions can be adjustable, and the more the blue snowflakes, the more strong the cooling effect is, and when the blue snowflakes disappear, cooling will be closed;

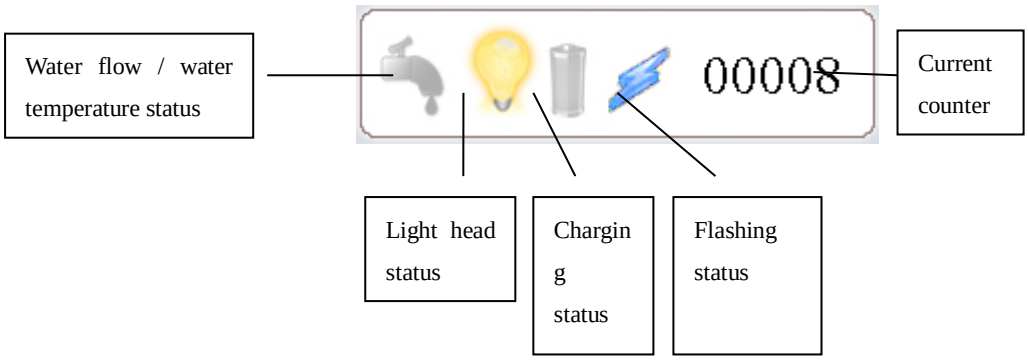
Return button: it is used to return to the treatment mode selection menu, which is not available when turning gray (treatment state);

IPL energy: adjust the energy output size of the light head, and during the adjustment, the energy

display window will display the current value of the output energy, adjustment range of 1~50J/cm^2, and the setting can be adjusted directly in the treatment process, and it is regulated by the "△ or ▽" key, "△" button is used to increase "▽" button is used to reduce, and press "△ or ▽" key can quickly adjust the output energy;

RF energy: adjust the energy output size of RF, and during the adjustment, the energy display window will display the current value of the output energy, adjustment range of 1~30， and the setting can be adjusted directly in the treatment process, and it is regulated by the "△ or ▽" key, "△ " button is used to increase "▽" button is used to reduce, and press "△ or ▽" key can quickly adjust the output energy;

Status prompt window



（Figure 3）

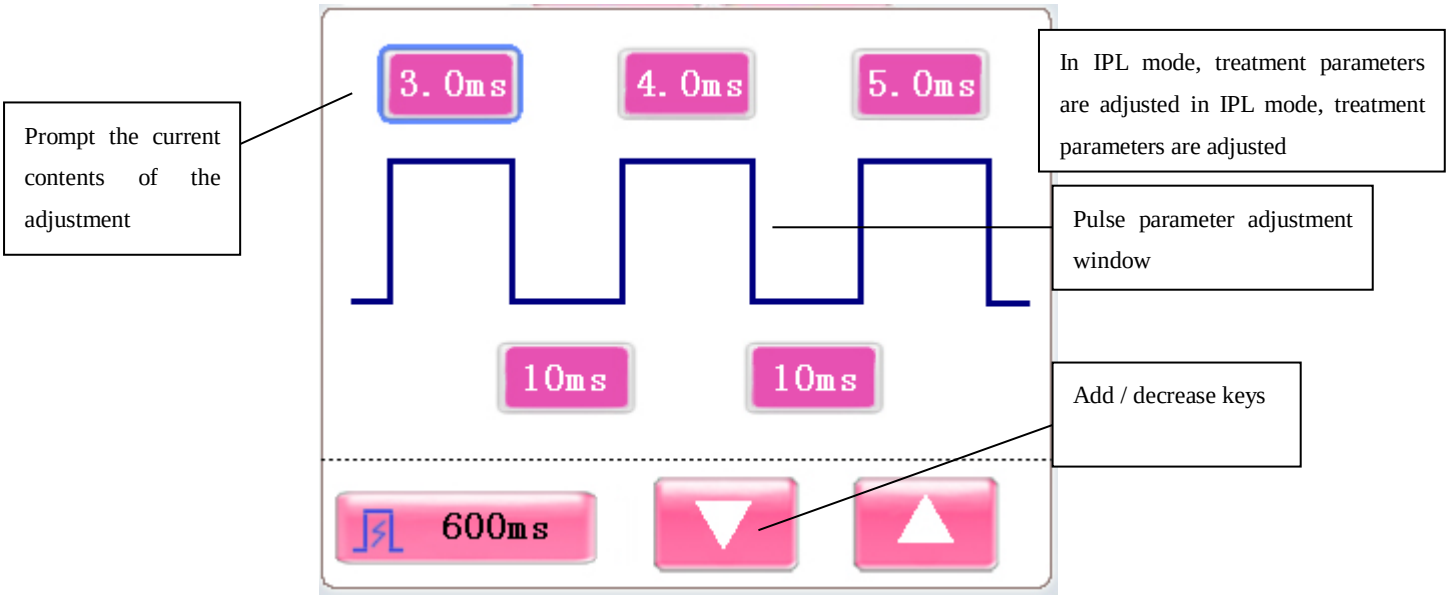
The state of the light head: there are two states of lighting and  extinguishing; after the light head is lit, it will enter the charging state, and if the light head is not lit within 5s, it will then return to standby state;

Flashing state: it is used to display the light emitting state,  indicates the light is emitting;

Current counter: it is used to display the number of the light emitting during current treatment.

Modification of treatment parameters

In the treatment interface, we can adjust the treatment parameters. Point select the parameter to be modified in "treatment parameter settings" interface, and the corresponding treatment parameter will be selected, and at the same time, the up and down arrow will appear at the bottom, and press the up arrow to increase value, press the down arrow to reduce the value, and point select the parameters again after the completion of the adjustment, to store it.



（Figure 3）

The treatment parameters indicate the data can be adjusted in the treatment process, and through adjusting the parameters of treatment data, we can change the treatment light head's output energy, pulse width and pulse number, so as to achieve different treatment effects.

There are a total of 8 adjustable treatment parameters (see Figure 4):

：Adjust the pulse interval of the treatment pulse, the range of adjustment (1~4S) seconds, and it can be adjusted directly through point selection;

：Adjust the number of therapeutic pulses, the range of adjustment (1~6), and it can be adjusted directly through point selection;

：Adjust the applying time of RF, adjustment range (50~2000) ms, and it can be adjusted directly through point selection, the unit of 50ms, the larger the number, the longer the time between RF is, and it is recommended to use 300-900ms, and it can be adjusted according to the actual situation;

First-pulse width: adjust the first-pulse width, and during the single pulse application, it is the pulse width, and when the multi-pulse is applied, it is the width of the first pulse. Range of adjustment (1~10ms), for 0.1ms stepping.

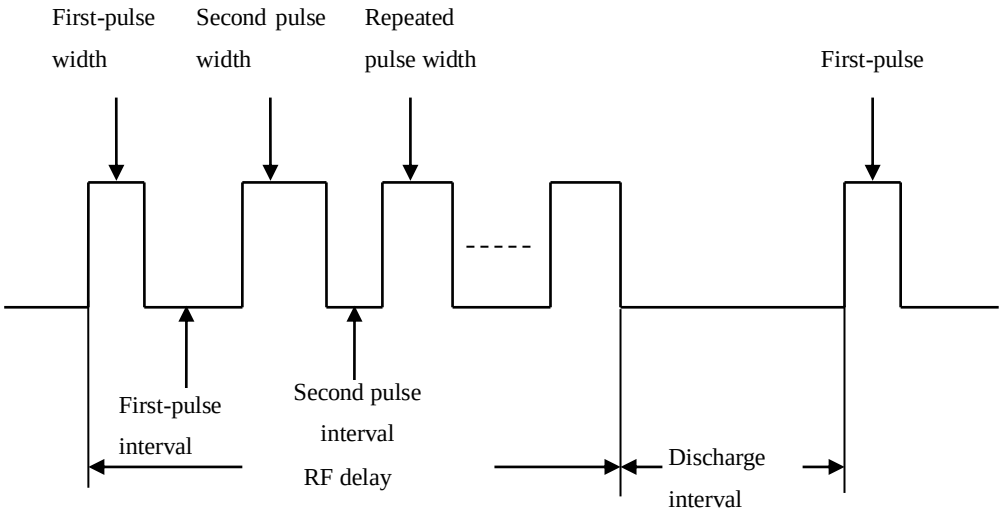
First-pulse interval: Adjust the delay between the first pulse and the auxiliary pulse (second pulse), range of adjustment（1~100ms）, for 1ms stepping.

Second pulse width: adjust the pulse width of the auxiliary pulse (second pulse), and during the single pulse application, it is not displayed, range of adjustment (1~10ms), the 0.1ms stepping.

Second pulse interval: Adjust the delay between the auxiliary pulse (second pulse) and the repeated pulse (the third pulse and the subsequent pulses), range of adjustment（1~100ms）, for 1ms stepping.

Repeated pulse width: adjust the repeated pulse ((the third pulse and the subsequent pulses), and during the single pulse application, it is not displayed, range of adjustment (1~10ms), for 0.1ms stepping.

Schematic diagram of pulse output



（Figure 4）

Treatment

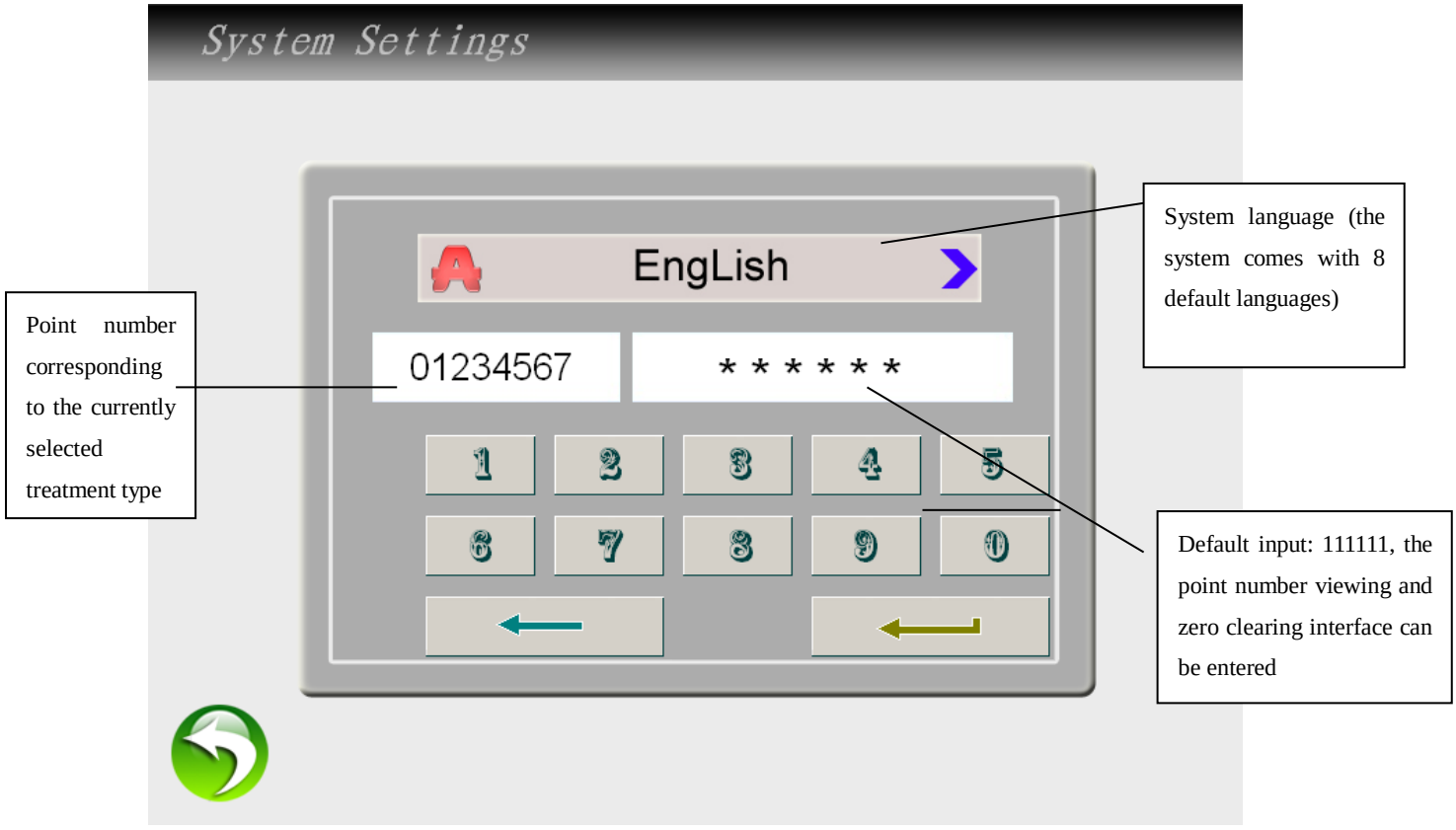
Press the “Ready” button (green) to trigger the light head and charge the capacitor automatically. When the charging is completed, enter the treatment state, press the “Standby” button (red) to turn off the light head and enter the standby mode. After the completion of charging, please wait for about 10s, after the light head’s temperature drops, the treatment can be started. Press and hold the “work button” for the treatment light head, and the light head begins to work in accordance with the set treatment parameters. After pressing and holding the “work button” of the light head, pressing any key, the system will not respond, so the operation can be implemented after releasing the work button. Treatment parameters can be modified in the course of treatment. After the end of the treatment, press the “Standby” button to quit the treatment program and turn off the light head.

In the RF treatment, be sure to ensure RF electrode and skin are in good contact, and cold gel

should be coated, and RF energy should be adjusted from low to high, and the contact time between electrode and skin should not be too long, to avoid scald of skin. During the treatment of RF, the sense is mainly heated inside the skin, and if feeling too strong sense of needling, it is mainly because too small amount of cold gel is coated or the electrode plate is in poor contact with the skin. Re-coat the cold gel or adjust the position of the electrode plate.

RF action time can be adjusted according to need, but it should not be too long (it is recommended for 300-900ms), and in case of too short action time, it is not easy to generate effect, and too long action time is easy to burn the skin.

3 Interface setting



The power supply is designed for OPT beauty machine power supply with high-power, high frequency full bridge series resonant switch technology, featuring large output power, compact structure, stable performance and so on.

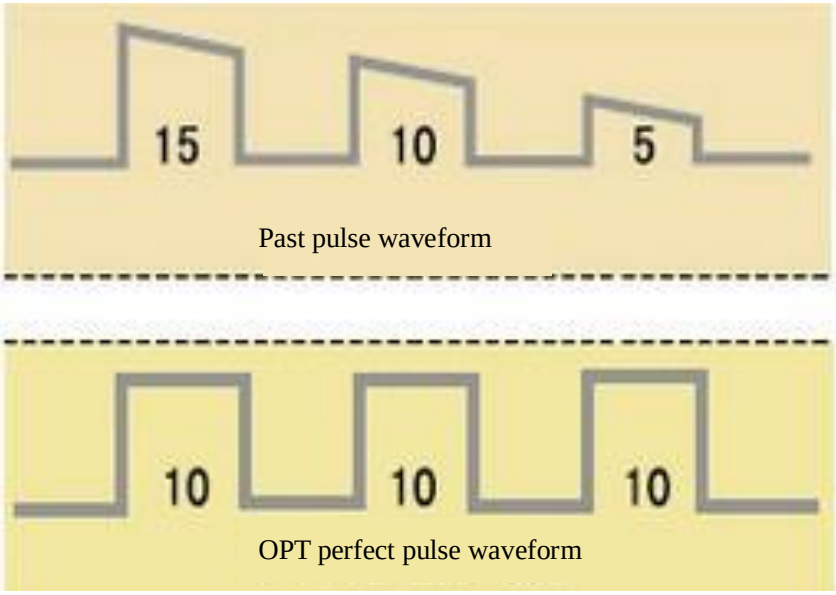
Digital voltage follow technology exclusively developed make the output voltage signal automatically follow the rise or decline of the controller, so as to effectively avoid the defects of too large energy output during the first discharge pulse , so that the energy output is more uniform, and there is a more safe and reliable treatment.

Ⅹ Specific indicators are as follows

Items	Parameters
Power supply	220VAC±15%
Output power	2000W
Single pulse energy	1600J
Repeated frequency	3 times/second
Maximum pulse width	20ms
Output voltage	200~400V adjustable
Output load	Pulsed xenon lamp with polar spacing of 50~100mm
Power supply volume	Depth 330mm× width 220mm× height 133mm

ⅩⅠ OPT Technological Advantage

If the photon used in E light skin rejuvenation technology of the past is the intense pulsed light IPL, then the OPT light will be the intense pulsed light with OPT cutting-edge technology, which belongs to the fourth generation of photonic technology, and due to changes in the treatment light output mode, it completely changes the face of intense pulse light, for a leap in the development of light, which not only greatly improves the efficacy, but also greatly increases the safety.



Instrument advantages

1. Short duration: only 20-30 minutes for one treatment

2. Noninvasive: no invasion to the skin tissue

3. Painless: without the need of anesthesia, and there is only a slight burning sense in the treatment

4. There is no need for follow-up care: special postoperative care is not needed

5. No side effects: there is no physical or chemical adverse effects after treatment

6. Effect stability: equivalent to the effect more than ten times of treatment with other methods

7. Safety: OPT perfect pulse system is the combination of high-tech optics and human biological engineering technology. It changes the past way of skin rejuvenation, which can make deep color removal with high safety factor, difficult to produce pigmentation

Instrument characteristics

1. Safety: OPT can effectively avoid the common side effects of laser / intense light, and the operation difficulty will be greatly reduced.

2. Curative effect: suitable for a wider range of customers, immediate effect is more obvious, long-term effect is more lasting

3. Service: because it avoids various kinds of side effects, it makes the treatment more private and comfortable

4. Cost: durable supplies, low cost of treatment and consumption.

Shutdown :

（1） Release handle switch

（2） Reset the photon quantum therapeutic handle

（3） Switch the touch screen interface to the interface 1

（4） Turn off the key switch

（5） Cut off the main power supply

ⅩⅡ Matters Needing Attention

1. There is a slight burning sense at the treatment site, and the hair may become white, black or coking, and a lighter erythema around the hair follicles, which is a normal response. If necessary, local

cold compress can be made for 10 - 15 minutes to alleviate or eliminate the red hot phenomenon.

2. In the area of treatment, the remnant hair piles can be scraped within 24 hours, and they can also gradually fall off of their own in a few days.

3. On the day of depilation cold water should be used to clean the skin, and the liquid or gel like skin care products can be used. Very few people are likely to develop scab, blisters, or transient pigmentary changes after treatment. If it occurs, please cooperate with the doctor to do the corresponding treatment. During the treatment, please pay attention to sun protection.

ⅩⅢ Contraindications

It is prohibited to be sued by patients with cancer, low blood pressure, diabetes, scar constitution, and suffering wounds, ulcers or infected skin, with special physique or easy to peel during allergies (it is banned to use within three months), and endocrine disorders.

ⅩⅣ Maintenance

The equipment is mainly composed of precision optical instruments or electronic instruments. Its maintenance and repair shall comply with the general requirements for precision optical instruments and electronic instruments. During storage and use, prevent the collision, extrusion and vibration. It is recommended that after each treatment, check whether on the surface of the lens there is splash matters attached, and if any, gently wipe the light head with lens paper or swab dipped in anhydrous alcohol.