

The multifunctional optical skin Comprehensive
therapeutic apparatus LN-D200

Operation Manual

Security reminder: Please read the instructions carefully before
operating this instrument . Thank you for your cooperation !



Directory

1. Safety Precautions.....	3
2. Transportation Security.....	3
3. Product structure.....	3
4. Treatment principle.....	3
5. Treatment project.....	4
6. Skin knowledge.....	4
7. Host Introduction.....	5
8. Instrument Installation Instructions.....	6
9. Operating Instructions.....	8
10. Parameters Meaning.....	14

11. Taboo Crowd.....	14
12. Instrument Maintenance.....	14
13. Failure Phenomenon and Exclude Method.....	15
14. Tattoo Removal Machine Operation.....	15

1. Safety Precautions

- 1.Must be filled with water before boot , otherwise it will burn treatment gun .
- 2.The native light emitted strong pulse light having a wavelength of 480-1200nm, prohibits direct irradiation on the eye .
- 3.Please not placing reflective objects in the treatment room , such as : watches, jewelry , mirrors , etc.
- 4.Treatment of handle is fragile,so please careful operation , when not fixed on the buttstock..

2. Transportation Security

This equipment includes precision devices , prohibit long-term long-distance move . Damping box factory provided during transport must be used , or it may lead to the optical system disorders affect energy intensity and output .

3. Product Structure

- 1,Interface used to display the operating system.
- 2, Urgent stop switch used for emergency shut down the power supply.
- 3, Key switch used for startup or shutdown.
- 4, Treatment of spear is used in the treatment of operation.
- 5, Quick plug head used to connect the head treatment.

- 6, Water injection port used for instrument injection.
- 7, Weir used to observe whether water fill up, the water is full, it will overflow.
- 8, Drain port in water open the mouth and weir.

4. Treatment Principle

4.1, Permanent Hair Removal

Hair removal principle: it use intense pulsed light direct role in depth of subcutaneous 15 mm energy, with RF radio frequency to prevent hair growth. But it won't destroy sweat glands, hair follicles were closed, hair no melanin, natural won't grow. The growth of hair have three cycle: the growth period, mature period, rest period, only the hair in the growth phase to be effective dispel, so depilatory need 4 -- 6 times.

4.2, Freckle Principle

Use of intense pulsed light extraction skin pigment and decomposition, the use of RF make it from lymph discharge, in part, through the skin metabolism to row away.

4.3 Tender skin whitening , wrinkle , shrink pores , improve facial

Use intense pulsed light in and RF fiber-forming tissue stimulating the dermal layer of the skin , promote collagen , accelerate tissue rearrange , so as to achieve the tender skin whitening , wrinkle removal , shrinkage pores to enhance the effect .

4.4 remove red blood silk

The intense pulsed light make the skin lesions capillary solidification, RF radio frequency can accurate lock the lesion site, so that the pulse light play a strong role. Through the skin and lymph metabolism to wipe out the purpose of red blood silk.

5. Treatment Project

1. Permanent hair removal.
2. Skin rejuvenation, wrinkle removal, tattoo removal.
3. Improve skin texture, smooth, delicate skin and enhance skin elasticity.
4. Improve the complexion, skin whitening, uniform color.
5. Treatment of pigmented scar (freckles, sunburn).
6. Treatment of acne pimples left abnormal pigmentation.
7. Treatment of vascular lesions.

6. Skin Knowledge

Physiological structure of the skin: the skin of adults about 1.5-2.0 square meters, is the largest organ in the body. The skin is divided into three layers, the epidermis, dermis, subcutaneous tissue. Skin metabolism cycle is 28-45 days. Normal human skin is acidic.

The function of the skin: skin protection, secretion, excretion, temperature regulation, immune, absorb, feel, reaction internal problem and so on physiological function.

Pigment contained in the human body: the color of the skin is made of four species of biological pigment: brown melanin, red oxyhemoglobin, blue restore heme and yellow carotene, the color of the skin is mainly determined by the melanocytes.

Factors affecting the changes in skin color: genes, hormones (promote melanocyte hormone, estrogen, etc.), the sun, that the ultraviolet, will produce pigmentation in the skin after 48 hours.

Pregnancy spots, malar rash: more common in young and middle-aged women, main appear in cheek and nose on both sides, vary in size, was brown flaky, sharp edges or showed diffuse shape, symmetry appear; Because the pregnancy ring, oral contraceptive bring about endocrine disorder, there is no discomfort symptoms, incidence unknowingly.

Sunburn: appear in the whole face or local; vary in size, shape indefinite, was brown or brown, the edge is unclear; case of excessive ultraviolet radiation caused no physical symptoms.

Freckles: appear in the whole face, especially the nose on both sides; grain size, pale brown, the occasional net brown, edge line are not clear; cause of the sun or have a family history, does not suffer from discomfort symptoms.

Red blood silk overview: a skin disease caused by telangiectasia form red or purple macular, point-like, linear damage, no self-conscious symptom. More genetic obtained. Part of the secondary, caused by the plateau, cold zone, or the use of chemical exfoliation peels.

Causes of wrinkles: With the growth of the age, metabolism slows down, the skin lacks water, loss of collagen, to produce unreal wrinkles, lack of elastic fibers and collagen fibers fracture cause of stereotypes wrinkles while sagging skin.

Overview of hair: hair growth is divided into three cycles: 1. growth phase 2, maturity period 3, dormancy period, treatment in hair growth, the effect is the best.

7. Host Introduction

7.1 Performance Parameters

Spectrum:	480nm-640nm and other multiple wavelength range
Energy Density:	1 ~ 50J/cm ² (IPL) 1 ~ 50J/cm ² (RF)
Pulse Number:	1-10
Light board size:	15mm × 30mm
Power Supply:	220V ±10% or 110V ±10%
Output Power:	1000W
Continuous Work Time :	2-3 hours

Light Conduction Ways:	directly coupled forced cooling sapphire crystal guide light system
Cooling System:	thermoelectric cooling + air cooling + water cooling
Crystal Temperature:	-8℃ ~ 1℃
Connection:	quick plug head interface
Injection Port:	closed
Standard Filters :	
	640 - 1200nm :hair removal filters (standard)
	530 - 1200nm :skin rejuvenation, pore refinement, freckle, cured red blood filters (standard)
	480 - 1200nm :acne acne pit printed repair (standard)
Operating Interface:	8 inch buttons blue screen
Language Display:	English, Chinese.

7.2 Instrument Advantage

- A, Noninvasive: the skin tissue without any trauma.
- B, Painless: no anesthesia, treatment is only slightly acupuncture burning.
- C, Safety: E light efficiently avoid the strong side effects, and at the same time, operation difficulty greatly reduced.
- D, Curative effect: it is suitable for a wider range of customers, instant effect more apparent, long-term effects more lasting.

8. Instrument Installation Instructions

8.1 Equipment standard configuration

When unpacking the equipment should be carefully check the packaging box items,the standard configuration is as follows:

- a.A host
- b.A set of treatment with hand
- c.A piece of the power cord
- d.A water funnel
- e.A manual
- f.A set of safety glasses eye set
- g.Two keys

8.2 Equipment Function Structure

- a.Stop switch:emergency use, not often use, in order to avoid damage the instrument software.
- b.Key switch:control screen open.
- c.Display various parameters Settings and working status display.
- d.Treatment handle:to set the energy used in the treatment .
- e.Gunstock:for fixed treatment handle.
- f.Plug head:used to connect the head treatment and instrument convenient handling.

8.3 Installation Process

A, Hold water: please put pure water or distilled water (do not pack mineral water and tap water, long time will damage the instrument water cycle refrigeration system)

First find the inlet (plus outlet) of the intermediate position of the rear of the instrument, as shown in figure 3 shows, and then to the overflow port (must be open) to open before they are packed in water (overflow port, as shown in Figure 3),the figure 4 of the pipe as shown on the connection, (funnel own) weir overflow water, the water is full, after startup if have water from water inlet overflow, please put the water drain out a little, and then enter into the next step work.

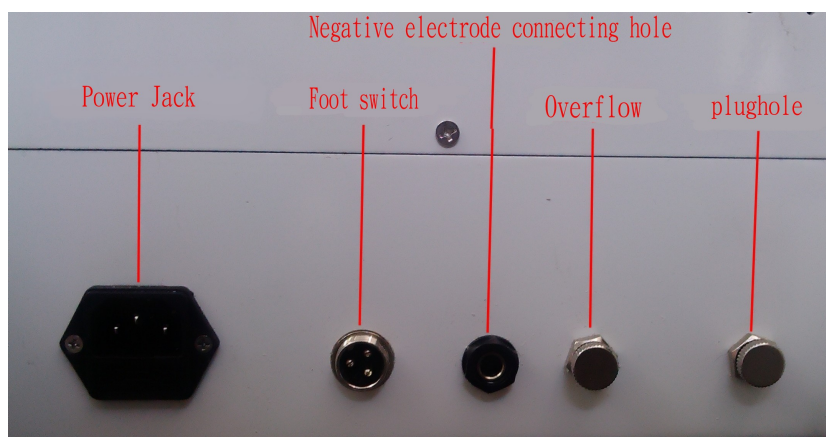


Figure4

B, Boot: insert the power cord, figure 5 power line connected to the instrument back "220 v input" position, the other end connected to the power supply socket, you can open the instrument key show in figure 6, when twist off instrument key,please check instrument red button (urgent stop switch, used for emergency shutdown) is open, if it is to press down, it is also can't open instrument, usually please make sure that the red button switch is open.



Power Cord

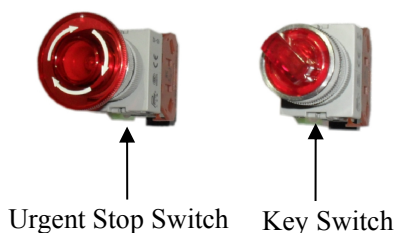


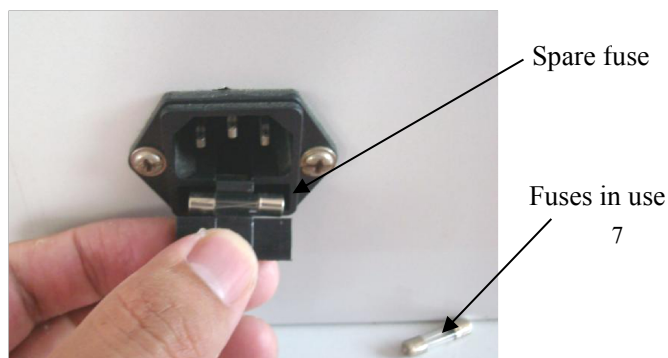
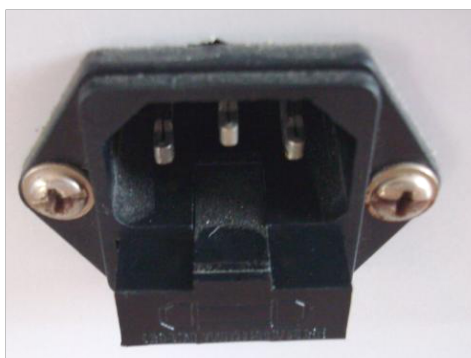
Figure 6

Startup problem: if can't meet the normal boot or can't hear any sound after twist off key switch, please check the problem according to the order

A, the power supply is properly connected or complete connection.

B, check whether the red emergency switch button is turned on.

C, check whether the fuse in the "220V input" position at machine back is damaged, if damaged please replace the spare fuse,as shown in figure 7 and figure 8.



8.4 Fixed Gunstock

After unpacking screwed the gunstock, placed the treatment head in gunstock, fixed good position.

8.5, Treatment Preparation

Light 2-3 minutes before you can do the treatment, the purpose is to ensure that the treatment of head cooled sufficiently, Opened the machine and immediately press the button of the treatment head will seriously damage the instrument life.

Please check the treatment head gem crystal position is frost or sweat condensation, otherwise considered not refrigeration. No refrigeration cases do not long time, or treatment head will overheat serious damage. Should check the following reasons.

Not cooling reasons: (checking please shutdown)

A, check whether add water.

B, whether the water cycle, plug head is linked.

C, please open the back cover check whether there is water pipe die fold (can prevent water cycle).

D, check the water pump is working.

Note: super refrigeration system due to the instrument, so add water for the first time, it is necessary to boot run 2-3 minutes after the operation. When the instrument is used frequently, it is recommended that water once 15 days.

9. Operating Instructions

9.1 Welcome Screen

When equipment on AC220V power supply, the system automatically into the welcome interface, as shown in figure:



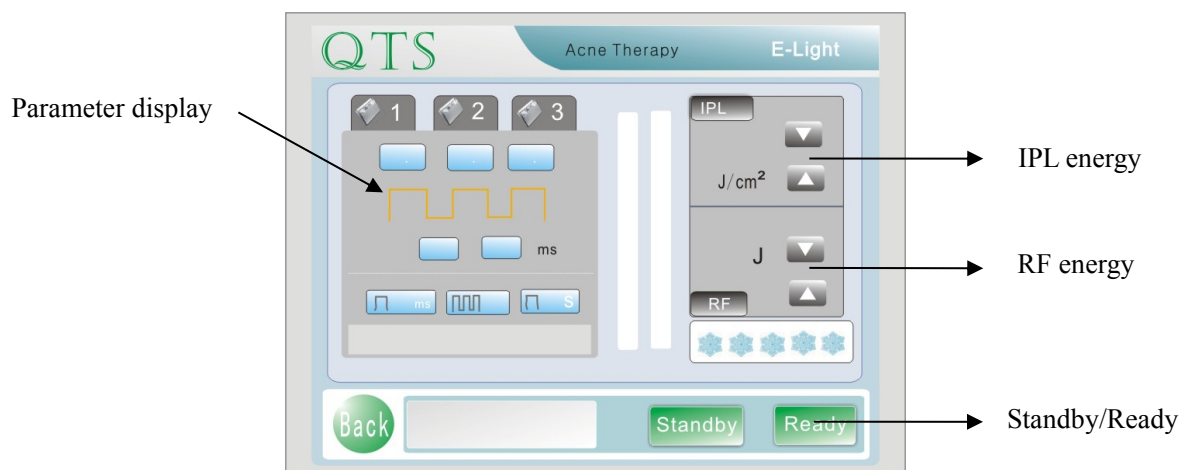
9.2 Treatment Mode Selection

Wait for about 2 seconds, the system into the option interface as shown in figure:



At this time, can press UP or DOWN, select the hair removal or tender skin function, and then press ENTER into treatment interface as shown in figure 4

9.3 Treatment Interface



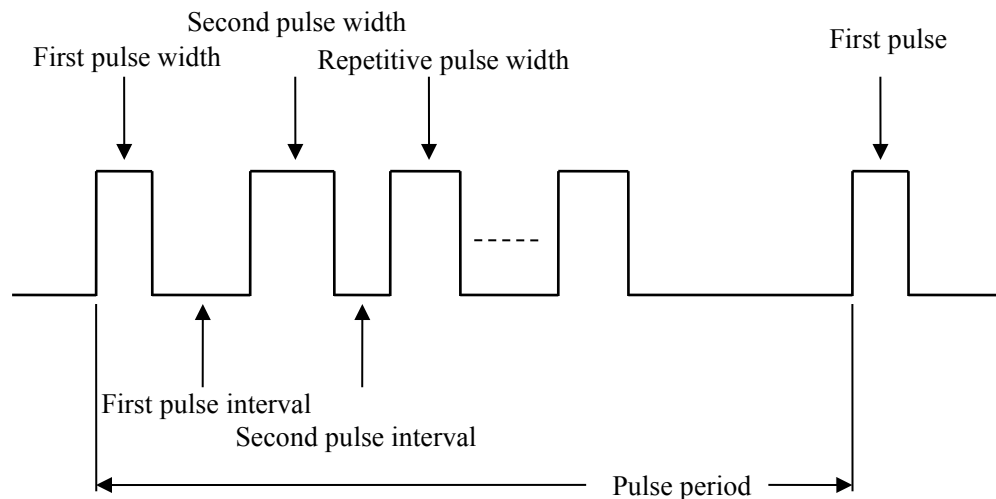
At this time, press the "Ready" button to start ,after the success of the pre-combustion system will automatically begin charging, waiting for 3 seconds later charging completed, now can press the handle switch for treatment. Various parameters can be adjusted before the precombustion or after charge.

In turn according to the arrow keys to be adjustable parameters will in turn against the selected state, and then press the "up arrow" or "down arrow" plus or minus value, adjust the parameters,the system will automatically save the parameters. IPL and RF energy regulator is in the standby state or the working state, directly by the "arrow" or "down arrow" can be adjusted.

The adjustment range of each parameter see table below:

First pulse width:	1 - 50ms	Pulse number:	1-10
First pulse interval:	1-100 ms	RF energy:	1 - 50J
Second pulse width:	1 - 50 ms	IPL energy:	1 - 50J/cm2
Second pulse interval:	1-100 ms	Pulse period:	2-4s
Repetitive pulse width:	1-10 ms		

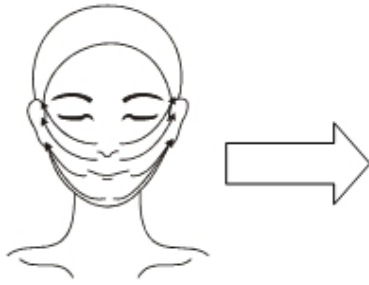
Pulse diagram:



RF Operation Technique:

1. Facial

First time: Stretch



From the chin along the skin up to go to the earlobe.

From the mouth along the skin upward arc to ears middle.

Go up along the skin from the nasal groove arc to ear end.

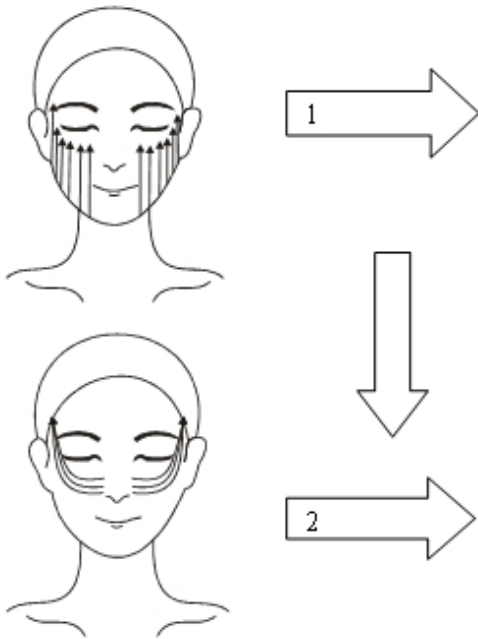
From the central ditch along the skin upward arc, and the temporal above hairline end

Note: each line must be ended to the hairline.

Energy is adjusted according to customer affordability.

Do energy testing on sensitive part below ear before operation, first from energy 1, adjusted to customer is able to withstand the energy range. Sensitive skin is low energy, after several operations with the adaptation of the instrument energy and energy than the first energy will increase.

Second time: Upgrade



From the neck edge up along the skin go to the eye. Close to the ear and face relaxation more serious parts, pull upward force should be heavier, and must pull to the hairline.

After steps 1, must be immediately from the nasal groove center to the temple, so that the skin can completely unfolding, must also be pulled to temporal above to hairline.

Third time: Shaping



Repeat the first pass approach.

Note: Each line must ended to hairline.

At this time because the customer has a certain adaptive capacity, should increase energy intensity appropriately (the greater the intensity, the better the results), but can not exceed the range of customers able to withstand.

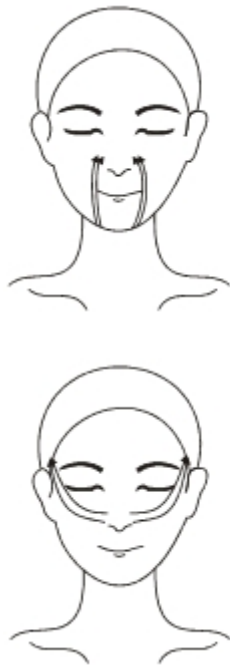
Fourth times: Modified



This is modified some of the more serious area, such as cheek place and Earlobe back special easy relaxation place, we must strengthen efforts and do a few times.

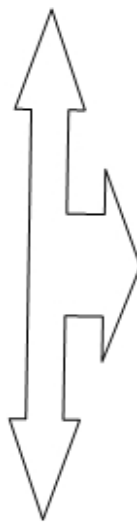
Note: during the operation, due to familiarity with the practices and the customer's ability to adapt, should be appropriately increased energy, and do a few times in the serious parts.

Nasal Groove



Nasolabial groove is a place easier to display old, also must strengthen operation, repeat several times. First from the mouth nose groove along the direction of the nasal groove upward to up the skin, and then to temporal direction open until the hairline above the temple area.

2. Eyes



Energy should be reduced when eye operation, energy adjusted to 1, and then according to the customer's feeling slowly adjusted up. First starts from the eyes below toward the temple above with an arc pulling, can do a few times more, especially the canthus wrinkles and crow's feet. Then from the brow to the temple avoiding the eye, and must approach always was upward posture, reusable do a few times. and then upward along the forehead, speaking from the eyebrows beneath the skin of the forehead lift must be pulled up to the hairline. Forehead tolerance is lighter, efforts need to be lighter, the energy down starting from 1.

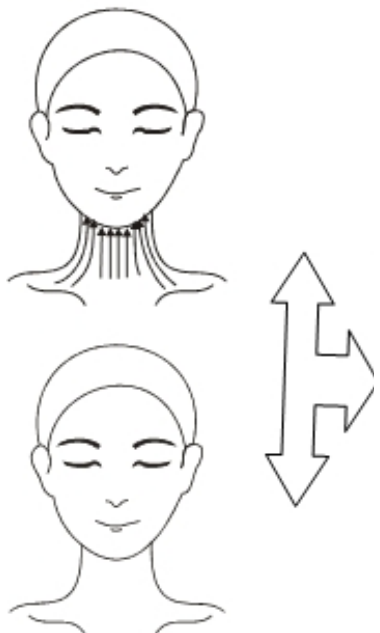
3. Forehead



From the forehead central pulled to both sides of the hairline, pulled upward along the direction of the wrinkles to the hairline, which can effectively reduce the wrinkles, and then pulled up to both sides of the hairline from the wrinkles.

Note: forehead with less fat, poor endurance, energy should be reduced. Deeper wrinkles, should operate several times, the energy same to used in eyes.

4. Neck



On face operation fully familiar situation can be for the neck treatment. The end of the neck operation need to pull the excess fat and skin of the neck to the hairline above the temple. Cervical lymph and nerve is more, people is more sensitive, energy need to adjust a little bit small, starting from 1.

10. Parameters Meaning

First pulse width: the working time of the first pulse effect on the skin.

First pulse interval: the time interval of the first pulse and the second pulse, i.e. the time interval between the two pulses.

Second pulse width: the working time of the second pulse acting on the skin.

Discharge interval: refers to the time interval between the two discharges.

The number of pulses: each trigger discharge, the number of the pulses that the system sends, the increase in the number of pulses so that the depth of the enhanced light acts on the skin. A maximum of 10, the smallest one.

Light energy: refers to the intensity of light, the greater the energy of light to stimulate the skin's intensified.

The more the number of pulses, the greater the stimulation of the skin deep, so more pulses to treat deep-seated problems.

The greater the pulse width, the stronger the tingling, the greater the energy, the stronger the sense of heat. Select the higher first pulse width to treat of the top layer of skin pigmentation.

The greater the pulse interval, the longer the skin to ease.

A little gap between the first pulse and the sub-pulses is good for the whitening effect.

11. Taboo Crowd

1. Pregnant women, light allergic constitution
2. Recent take allergic food, drug person (such as celery, vitamin A acid, etc.)
3. The body is equipped with cardiac pacemaker or defibrillator of patients
4. Therapeutic part skin damage of the patients
5. Diabetes, heart disease, hypertension, epilepsy patients
6. Suspected patients with skin cancer
- 7, female menstrual

12. Instrument Maintenance

This equipment consists of precision optical instruments and electronic equipment. Its maintenance and repair should be consistent with the general provisions of precision optical instruments and electronic equipment. Cooling water inside the tank must be replaced every 3,000 points, to prevent energy loss. Use and storage process should take strict precautions against bump, extrusion, vibration. Recommends that after each treatment, checking whether the lens surface have splash content attached, if any, with a cotton swab dipped in anhydrous alcohol to gently

wipe treatment head.

13. Failure Phenomenon and Exclude Method

Failure Phenomenon	Cause Analysis	Solution
Machine does not power	1、Power cord is not plugged or damaged. 2、The emergency stop switch is not open. 3、Key switch is not open.	Connect the power cord or replace the power cord. The emergency stop switch is rotated to the right pop-up. Open the key switch.
After startup, treatment head not refrigeration	1、Do not add water 2、Quick plug head is not connected 3、Plug head waterway clogging 4、Refrigeration is damaged	Contact manufacturer
Treatment head leaking	1、Screw in the treatment head loose 2、Pipes in the treatment head off 3、Lamp or crystal broken	Unload the treatment head contact manufacturer maintenance
Don't flash (discharge)	1、Operational errors, not timely completion of the pre-combustion charge 2、Manual switch contact is not good 3、The display controller is broken 4、Bad power supply	Telephone counseling manufacturer to analyse the reason

14. Tattoo Removal Machine Operation

14.1 Pre-operation

1, beautician should be established the treatment files for the customer before surgery, ask in detail about the customer is scar constitution, whether for allergic skin, whether for cover or use other methods to wash eyebrow, eyebrow tattoos before, observe whether the scars exist, explain to patients that may have color pigmentation marks and pigmentation marks after a period of time of tattoos removed. These pigmentation marks are caused by the sun after the grain thorn before, and after one and a half to be treated again. If patients with munsu colorant is a compound pigment or chemical pigment, because the toner contains iron ions and lead ions, and after blue, melanin removing there may be light-colored

marks printed, after one and a half can be treated again. For large tattoo or nevus of ota, it is recommended that is divided into small pieces and repeated treatment, in order to avoid excessive postoperative reaction, cause patient discomfort, and available preoperative remarkably postoperative contrast help people build confidence and continued adherence to treatment.

2, According to the actual situation of the customer to select the appropriate treatment handle (the 1064nm wavelength used to get rid of the blue, black, green pigmentation; the 532nm wavelength to get rid of the red, coffee, brown pigmentation) and the required dose of laser. At the same time, the beautician should patiently explain to customers the advantages of laser beauty treatment, so that customers will feel completely relaxed with treatment.



3, The treatment site should be clean and the treatment tools should be disinfected before the surgery. Such as doing the washing eyebrow treatment, before surgery scrape the eyebrows, clean the affected area with saline smear, disinfect the eyelids board and medical gauze. Must be noted that the treatment must ensure that the affected area absolutely dry, the laser can not be irradiated in water, or light energy decay rapidly, seriously affecting the therapeutic effect.

4, Operating personnel and patients should be dressed in a white or light-colored clothes, protective glasses to wear the appropriate wavelength, do not use the mirror or high-light tools, to ensure the cleanliness of the operating room, indoor illumination is large enough, the temperature at 18-38°C. Laser irradiation non-treatment area should be avoided.



5, Avoid operation with watch and necklace, bracelet bracelet, etc accessories which can reflect laser.

14.2, In the operation:

1, In the treatment, the operator holding a laser handle to form a 90 degree angle with the treatment site as much as possible, to ensure laser vertical light, reduce the loss of laser energy. Washing eyebrow, eyeliner, lip, the set point should be stacked translation form a straight line. Washing the nevus should take small area points over the fractionated therapy, each a small part of the treatment, the parts do oozing phenomenon.

2, Due to the instantaneous high energy irradiation of the laser, the pigment of the shallow part of the epidermis was immediately ejected *in vitro*, deep tissue within another portion is evenly arranged to the epidermis, after a short time grain color replies. The treatment pattern color pattern layer deep tissue, due to the melanin strong absorption of laser energy, may produce local swelling, blisters, and even form the bleeding point bleeding, these are the normal inflammatory response of the tissue, and the severity of local inflammation vary, alleviate inflammation touch the organization may be itching organization stiff feeling. Generally, after 3-7 days all the bad feelings will disappear on their own, some individuals may last 1-3 months time because of physical reasons.

3, The optical factors should be considered in the laser treatment; wavelength, spot size, energy density, irradiation angle.

Energy density = energy / spot area. The larger the energy density, the stronger crushed dye; different depths of different wavelengths to penetrate the skin, in the case of a certain wavelength, the larger the spot area, to penetrate the skin depth becomes deeper.

4, Remove black and blue pigments using the 1064nm laser. The treatment pattern color pattern layer deep tissue, due to the melanin strong absorption of laser energy, may produce a strong dye burst accompanied with strong sound. The shallower table pigment groups absorb energy will burst the epidermis. Minority cuticle thin people even form the bleeding point. The first pass of the laser treatment, then the organization will become very shallow, but ten minutes after they get some recovery, which is the organization of a normal reaction. Macrophage phagocytosis and transport function will continue for a long time, during which the organization's pattern color faded, it is recommended that a second treatment (treatment for the first time after a month and a half). Due to the Eyes sensitive, prone to tears, the tears will absorb the laser, so washing the eye-line is generally done twice.

5, After the treatment of black and blue pigment, hair may be decolorized and may come off in about two weeks time, but will re-grow new hair may temporarily be more dense than the original, will gradually become normal. The treated area will appear bleeding, mild edema. The swelling may have itchy feeling, touch may be organized stiff, the organization of these are normal reactions, all the bad feelings will completely disappear in about two weeks to one month time, the length of time varies from person to person.

6, Using the 532nm laser remove the brown, red pigment. since the human hemoglobin have certain absorption of the 532nm, so the skin surface after the laser irradiation is whitish, epidermal necrosis and produce depigmentation or pigmentation.

7, Remove the brown, red pigment using the 532nm laser, the capillaries tissue which absorbs 532nm laser will happen subcutaneous, form hematoma, the phenomenon of "purpura", severe cases can lead to crusting, recovery time varies from person to person about 20 -60 days.

8, At the time of treatment, the operator must ensure that the operator and the surgeon of good eye protection, laser to eye damage is irreversible!

* Strict and effective eye protection must be provided to patients. Such as with wet gauze or thick cotton piece, eyelid board cover protection, etc. Operator should block the surgeon's eyes moist gauze or thick cotton piece. When washing the eyeliner, must be in accordance with the company training fingering, skilled operation before eyewash line surgery! Such as eyelids board, goggles eye protection for surgery, the operation should have experience in clinical ophthalmology. Strictly do be sure to use these instruments disinfected, otherwise improper eye protection can cause great

discomfort by the surgeon, the light cause corneal inflammation, severe cases cause corneal loss and even blindness.

* Laser protective goggles can not completely block the laser direct or reflected by the glass, mirrors, and the smooth metal surface. Therefore prohibited to wear protective glasses to look directly into the direct laser and reflected light.

* Must not look directly at the pistol the first aimed at the end of the port as well as any reflection of the laser beam!

9, The instrument operations start with the low-energy, if not enough energy can be gradually sliding scale, and at the same time to ask the customer feeling, the results are not satisfactory if one treatment can be repeated to operate.

14.3 Instrument Instructions

1. Boot

Open the key switch, the display shows "Please wait ...", to be three to five seconds later, the system self-test is completed, after the success of the system self-test to enter to the next interface.

2. Work and Parameter Adjustment



The first row shows operating voltage, i.e. the size of the working energy.

The second row displays the operating frequency, default is 1Hz or 0.5Hz.

The third row shows the water temperature.

The forth row display the operational status of the system, and the prompt information.

a. Work

Press "trigger key" in the interface, the system enters a state of readiness.

Press the last "set key", when "OK" appears at thermometers number behind, step on the pedal in this state, the system can enter into the working state, the output laser in accordance with the set parameters, if the energy regulator, within three seconds press the minus key, press the plus or minus key energy level can be raised or lowered.

b. Frequency adjustment

Press the plus button for three seconds, press the plus or minus key to increase or decrease the light frequency.

3. Prompt Information and Test Items

Tip 1

Switch (handle or foot) prompt, that is, in the state of work switch closed, press the pre-ignition key. This is not allowed in the system security reasons, please disconnect switch before pressing pre-ignition key.

Tip 2

The temperature prompted too high, the water temperature is too high at this time. Please stop, but continue on the power and wait for the machine to cool down.

Tip 3

Water protection tips, no water or water cycle. Check the cooling water.

Tip 4

Precombustion error ,precombustion without success. Check lights and try again.

Tip 5

Background light mode adjustment. Press the plus button to switch.

14.4 Post-operation

(A) Post-operative Care

- 1, prohibits eyebrow drawing at bleeding;
 - 2, no washing within 48 hours after operation;
 - 3, not in the sun;
 - 4,3-7 days do not eat spicy food, ban alcohol and tobacco;
 - 5, in case of more bleeding, swelling sensitive customers, we recommend postoperative oral antibiotic medicines (Acetylspiramycin), the recovery period (after 72 hours) topical erythromycin ointment smearing the affected area to help healing also smear repair solution to repair.
- (B) after treatment to achieve a better effect as follows: mild redness, slight bleeding.

14.5. Taboo Crowd

- 1, pregnant women, high blood pressure, serious heart disease;
- 2, the physical scars of the crowd (part permanent make up guests can wash);
- 3, birthmarks and moles higher than skin;

14.6, Determinants of the Pigment Remove Difficulty:

- 1, The pigment is divided into: plant pigment, compound pigment, chemical pigment.
The eliminate difficulty from easy to difficult, usually compound colors and chemical pigment containing iron and lead minerals calm in skin deep, the pigment texture of the good and bad directly caused difficulties to the treatment;
- 2, Embroidery techniques: shallow surface pigment is easy to remove, the deep dermal layer pigment is difficult to treat;
- 3, The physical differences. This includes age, type of skin, the body immunity and so on;
- 4, The correct operating practices;
- 5, The energy level of the instrument;
- 6, For the initial treatment of pigmented dispel,the effect is obvious, the second is weakened.

14.7 Installation

- 1, Install the laser operating handle.
- 2, Add water, and connected to the power supply and foot switch under the condition of ensure the instrument no infiltration leakage.
 - ① Water injection for equipment, only pure water or medical distilled water (preferably cold water), joining other water is prohibited, to avoid damage to the instrument.
 - (2) Each instrument water injection, should be added to the maximum water level. Best in standby

state again after the machine is running for a second add water to the highest water level. Remember prohibiting no water to use.

③ Machine during use about 15-20 days to replace the water at a time and change the water should be clean the last residue in the tank . Summer to pay more attention to the tank water level changes.

④ Such as a long time operation lead to treatment head hot, should be in the standby mode to change the water of low temperature and the best in two-thirds of the water in the tank. Because in too little water, less than the effect.

3, Plug the power cord and foot pedal

A, The foot switch installation: make the switch break face up ,align and tighten in clockwise direction.

B, The installation of the power outlet: the party aligned with the direction of the outlet referred access instrument, the party to insert a grounded single-phase three-wire power outlet and installed.



4, Open the emergency stop and key, the whole energized, switch key 2-3 times repeatedly, make sufficient water cycle, at the time of water cycle, operating handle must be lower than the body.



5, Until the water is full circle, you can operate the instrument.

14.8. Operation Note:

- 1, Each boot, please observe water level, to ensure adequate water inside the instrument.
- 2, Open the key switch must be see the instrument internal water flow from the filler .(Note: see water overflowing from the injection port or fluctuations in water) before the next operation.
- 3, If the water can not be recycled ,please repeatedly boot several times (Note: The key switch repeatedly to boot, can not press the work key) and held the gun up and down, repeated several times, until the water is full circle so far.
- 4, Add water while observing the water level to prevent adding more water flow into the instrument, lead to the instrument internal power supply burned.
- 5, After changing the water, if the water is not normal cycle, please refer to the third.
- 6, In the normal use of the instrument, 7-10 days to completely replace pure water at a time.
- 7, The treatment handle of the product are installed with precision, fragile laser devices, prevent drop when placement and use!

Solutions to Common Problems

The whole machine without electricity	1、 Whether to lift the emergency switch (red button). 2、 Whether the power plug is inserted. 3、 Check whether the fuse is in a good condition. 4、 The power supply connection is disconnected. 5、 Network power has power. 6、 Whether the supply outlet has power measured with a multimeter。
Unable to enter the ready state	1, Check whether water pump is running. 2, Check whether the cooling water level is too low. 3, Check whether the machine is protected. 4, To see whether the xenon lamp is cracked. 5, Check whether the connection of handle have errors. 6, Check whether the lamp wire cathode distance is too close to other circuits. 7, Check whether the work switch is in a closed state.
Press the handle switch no light output	1, Check whether the system is to enter the ready state . 2, Check wether the machine is in the operator interface. 3, Check wether the handle switch is normal. 4, Check whether the controller count. 5, Check the controller is to enter the working state.
Light output is significantly weaker	1、 Check whether the net electricity power supply is too low. 2, Check whether the output lens is clean; 3, Check whether the power is adjusted too low.
The the controller screen goes black, with buzzer sounds	Please measure the 5V power supply.
Tip 1	1、 Work switch is in the closed state. 2、 Check and disconnect switch. 3、 Use multimeter to test the work resistance on both ends of the switch, the normal situation with a digital multimeter measured resistance should be > 100K, use pointer multimeter 100R , the red pen connected to pin1 black pen to pin2 around 280R, then black pen to pin1 red pen to pin2 should be about 700R. If the resistance is too small. 6 pin plug can be pulled out directly measured outlet 1,2 feet. If the resistance is not normally,please send the controller back to the company maintenance.
Tip 2	1、 Temperature is too high. 2、 The continuous use of time is too long or the ambient temperature is too high. Please stop the work, do not turn off the power to wait for the machine to cold. Cool

	<p>before use.</p> <ol style="list-style-type: none"> 3、 Temperature probe failure. 4、 Check wether the temperature probe and line of six core plug is normal. 5、 Close protection. 6、 Turn the power off, hold down the fourth key is not loose, boot, until the bottom right of the screen shows the test 0, release. Press the fourth button until the display test 6, press three keys, and then press the 4 key repeatedly until the display test 5, then long press a key. Hear a long tone. Complete close protection function.
Tip 3	<ol style="list-style-type: none"> 1、 Water protection prompted. 2、 No water or water cycle. Check the cooling water. 3、 Check the 6-pin plug 3,4 feet connection is normal, if you do not use this function, you can make the 3,4 feet short. 4、 Close protection. 5、 Turn the power off, hold down the fourth key is not loose, boot, until the bottom right of the screen shows the test 0, release. Press the fourth button until the display test 6, press three keys, and then press the 4 key repeatedly until the display test 5, then long press a key. Hear a long tone. Complete close protection function.
Tip 4	<ol style="list-style-type: none"> 1、 Lighting fails. Check wether the light gun and connection is normal. 2、 Wether the high-voltage lines of Lamp cathode and their connections insulation is better to be far enough away from other conductors. 3、 Replace it with a good laser gun, and to ensure that all connections are normal, and pressure-resistant enough. 4、 If it will not work, please send the controller back to the company maintenance.

Abnormal situation, you can turn off the key switch,try again 1 minute later.