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CONVENTIONS Used in this Manual
The following conventions in the form of notes, cautions and warnings are used in this manual:

Note
The content of this Note offers general information that is important to keep in mind.

Caution
A Caution alert to the possibility of a problem with the device associated with its use or misuse. Such problems include system malfunction, failure, and damage to the system or other property. The caution statement includes a precautionary action that should be taken to avoid the hazard.

Warning
A Warning alert to the possibility of injury, death, or serious adverse reactions associated with misuse of the system.
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1. Before Use

A. Notice
Before the usage of this equipment, safety precautions and operating procedures should be acknowledged thoroughly.

In general all laser devices might cause side-effects and accidents in case of improper use.

Please be careful about all potential risks of danger and conduct all necessary precautionary actions according to this manual.

Please also be noted that this equipment should be considered for all repairing works, upgrading and other necessary technical works by our instruction.

B. Symbols (Label)

![Laser Warning Label](image)
Laser Warning Label for laser emission, will be adhered on main body.

![Warning Alert Label](image)
Warning Alert Label for potential risks in usage of laser devices, will be adhered on main body.

![Laser Aperture Label](image)
Laser Warning Label, Invisible laser radiation avoid eye or skin exposure to direct or scattered radiation CLASS 4 LASER PRODUCT

Laser Aperture Label will be adhered in front of tip of hand-piece
2. System Features

EPICARE PLUS® is a new concept of 808nm diode laser which can eternal hair removal. EPICARE PLUS® delivers stable and uniformed pulse to skin through CW (continuous wave) technology. EPICARE PLUS® is a new high standard of diode laser which provide effective and outstanding clinical result and stability to doctors and customers.

Special features are:

a) Powerful energy output up to 100mJ

b) 5 modes to be saved for frequent using parameter

c) Large Tip Size, 12 x 12mm

d) Most of Skin Types are available to treat (Fitzpatrick skin type I – V)

d) STC® (Smart Temperature Control) maintains ideal cooling temperature on epi-dermal area thus pain-relief and side-effects reduced gradually.

e) Fast Epilation mode up to 10Hz

f) Powerful cooling thanks to specially designed ‘cooler bracket unit’

f) Skin Tightening will be also improved by collagen remodeling in dermis.

g) PDT will be available for acne treatment.
3. System Composition

Main Unit

HP Hanger
Protection google
Handpiece
Main key & Interlock
Power cord
4. Description of product

A. Main unit
① Hand-piece that equipped with LASER exposure part and output button
② Hand-piece holder where hand-piece can be fixed while not being used
③ Hand grip for moving main unit
④ Display: LCD monitor by which operation conditions can be established and which displays operation state
⑤ Emergency stop button
⑥ Main switch terminal
⑦ Handpiece connector between handpiece cable and main unit
⑧ Power cord connector

⑨ Inter-lock switch connector

⑩ Foot switch connector

⑪ Castors for moving

⑫ Ventilating outlet

B. Hand-piece

① Tip : Exposure part where LASER is coming out.

② LASER shot button: Button that makes LASER come out

③ Hand Piece Cable: Cable that delivers energy to the exposure part from the main body
5. Operating Instruction

A. Preparation

1) Connect remote Interlock key into the appropriate socket, Identify safety.
2) Make sure hand-piece is correctly positioned.
3) Check the using voltage and connect the power cord. **AC220V**
4) Check whether the exposure part is polluted and foreign materials exist.

⚠️ **Make sure if cooling water is filled properly before you run system!**

B. Control panel

![Control Panel Diagram]

① MODE SAVE: There are four modes provided for saving a frequent using parameter
② SAVE : When you desire to save certain parameter, press Save once then you will see ‘saved’ letters shown on ‘Ready/Stand-by’ window automatically.

③ HOME : It is using for returning initial screen.

④ Long, short Pulse : It can be selected for the treatment of either thin hair or thick hair and, system runs appropriately by programmed parameter.

⑤ FLUENCE : Total energy (fluence) to be emitted will be adjusted depending on the status of patients from $1\ J/\text{cm}^2$ to $100\ J/\text{cm}^2$. It runs relatively with repetition for safety reason.

⑥ REPETITION : It is used to select frequency of each shot from 1 Hz up to 10 Hz.

⑦ FLUENCE WINDOW : It shows you values that determined to shot on patient.

⑧ COOL : This is to show the status of cooling before you operate system.

⑨ STAND-BY / READY : It is used to activate operation by pressing Ready after the cooling temperature is reached to programmed level. When you turn on this machine, the cooling process is automatically started showing ‘Waiting’ for a few minutes then it becomes ‘Stand-by’. Then you will be able to use machine after pressing ‘Stand-by’ once to get ‘Ready’.

⑩ SHOT COUNTER : It shows you total number of shots accumulated during operation.

C. Safety check before operation

① Renew the patient's treatment record.

② It takes few seconds that Hand-piece tip reaches a proper Contact Cooling Temp.

③ Touch hand-piece tip to feel whether it is cool after few seconds then, touch ‘READY’ button for make sure if the system is activated automatically.

④ Establish proper parameter considering patient's condition assessment and clinic treatment guideline.

⑤ Make patient’s skin ready for LASER treatment. Make sure that pieces of hair after
shaving, black mark, lotion, perfume, sun-blocker, partial anesthetic etc. don’t exist.

6. The equipment should stay with STAND BY mode except using period for surgical operation.

7. The cool hand-piece tip can be used to cool skin, but should be used at STAND BY mode all the time.

We recommend to wear eye protective guard or goggles for both operator and patient during operation !!

D. Operation procedure

1) Make sure KEY switch ON, and an initial screen will be displayed as below.

![Initial Screen]

2) Touch ‘OPERATION’ gently then the operation screen will be appeared as following.

![Operation Screen]

3) Cooling is activated automatically and the color of cooling symbol will be changed from red to light blue as the above.
4) Set all parameters desires by pressing each parameters and set values you want to treat.

5) You will enter ‘Ready’ mode by pressing ‘stand-by’ once.

6) Place hand-piece on target area contacting smoothly then press shot switch to treat.

We recommend to apply laser gel on target area before operation in order to avoid thermal damages might be happened accidently !!

Frequent-using-values can be saved by keep pressing ‘SAVE’ icon. And, this saved value will be automatically displayed on initial screen on next switching on.

E. Information Screen

1) When you select ‘INFORMATION’ on an initial screen you will get information screen as following.

![Information Screen]

2) Level of all sounds and buzzers can be adjusted by pressing up/down arrows.

3) Drain (ON/OFF) : This is needed for doing water-circulation forcibly only at the time of changing water.
6. Specification

A. System Classification

1) Electric shock protection: Class I equipment, Type BF applied part
2) LASER System Class by IEC60825-1(2001): Class IV
3) Protection against ingress of liquids: Ordinary equipment
4) Mode of operation: Continuous Wave

B. Electrical Specification

1) Input rating: 220VAC±10%, 50/60Hz, 1 KVA
2) Laser Part
   ① Laser diode power: 320Watt, CW Laser Diode
   ② Optical energy: 1 - 100J/cm² adjustable. 1J/cm² step
   ③ Spectrum: 808nm ± 3nm
   ④ Spot size: 12mm x 12mm
   ⑤ Pulse duration: 6.5 ~ 700ms
   ⑥ Pulse repetition rate: Up to 10 Hz
   ⑦ Cooling: Water cooling
   ⑧ Optical guide: Sapphire crystal
3) Display: LCD Touch Screen
4) Protection
   ① Laser Output: LASER doesn’t come out though shot button is pushed in a state of inactivated STAND-BY position.
   ② Emergency stop switch: LASER generation is stopped immediately if emergency stop switch is pushed.
   ③ Remote Interlock: LASER generation is stopped if remote interlock signal is input from outside.
④ Laser over current: LASER output is stopped if 20% or more electric current than normal flows at LASER diode.

⑤ Protection circuit should work when over voltage or current is imposed.

C. Mechanical Specification

1) Dimension: 400mm x 420mm x 800mm [WxDxH, Main body]

2) Hand-piece Length: 1.4m

3) Weight: About 45 Kg

7. General Cautions

A. Environment and Restrictions for use

1) Environment: Do not use where humidity is high (example: bathroom)

[1] Operating Temperature: 10°C ~ 40°C (With enclosure)

[2] Operating Humidity: 10% ~ 80%, Non-condensing

[3] Storage Temperature: 10°C ~ 60°C (With enclosure)

[4] Storage Humidity: 10 - 90%, Non-condensing

[5] Pressure: 500 ~ 1060 hPa

B. Cautions before use

1) Check operation procedure preliminary.

2) Check buttons to make sure they work normally.

3) Do not modify without our consent.

4) Check all codes connections to make sure they are not separated.

5) Check the others except the previous articles when using the equipment after a long
halt in the operation. Check whether the other instruments are normal and work safely.

6) A bunch of cords can be a cause of overheat. Do not use cables in a state of that.

7) Do not step on plugs or give strong impact on them.

8) Do not use inflammables or fire.

C. Cautions during use

1) Wear goggles for users and make patient wear eye-guard for patients.

2) Stop using the equipment and power off immediately when its malfunction is found.

3) Power off immediately when power is failed. And return operation handles, switches etc. to the original position.

4) This equipment should not be used in contiguity of patient monitor equipments.

5) Only persons who had special training are allowed to use.

6) The equipment should be used after consulting with a medical specialist.

7) Pay attention to following cautions during use.

① Check whether there are abnormal conditions in the equipment or patient.

② If any abnormal condition in the equipment or patient is found, take care of patient first.

③ Then, stop using the equipment. Start reusing after checking patient and the equipment.

④ Not qualified persons, including patient, are not allowed to contact the equipment.

⑤ LASER beam shouldn’t be given to persons directly except patient.

⑥ Do not smoke during LASER beam exposure.

⑦ Eye protection: Don't look at the direct or indirect (rebounded) LASER beam.

⑧ Do not use the equipment where chemicals are kept or gas is generated.
D. Cautions after use

1) Power off after returning operation handles, switches etc. to the original position according to the procedure when operation is finished.

2) Don't do unreasonable actions (example: holding cord) to cord connection part when removing cord.

E. Maintenance

1) Do not repair at discretion when out of order. Ask the store or maker.

2) Do not open the case of the equipment or controller.