

LED PULSED LIGHT

LPL Manual

Please read this manual carefully before operating the device

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Cosmetic Combine Stimulator
(XML-100)

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1. Device Summary

- LED assembly stimulator safe and firm and designed for users convenient. Therefore, users need periodically clean device and maintenance.
- LPL have Body, Head, Arm three part. Head have 830nm, 635nm, 415nm wavelength, which is for light treatment.
- LED irradiate light part are curve line, which means, user could use LED illuminating part to irradiate wherever user want.
- Control panel could use LCD window easily choose procedure to operate, it also will show saved mode and current system condition.



2. Safety Attention

1) Operating Attention

This part will explain LPL operating basic safety attention. When staff is operating LPL system must know enough about this system.

2) LPL Moving Attention

- LPL without protection to move could damage the device and also could harm user. LPL designed well standing balance to move easy. But still need to move slowly and prevent hitting other things.
- Only holding head part to move device could damage device or lose balance and fall down, so must hold ARM or BODY to move.



Manual Using Method

This manual designed let the users easily understand LPL system device specialty, device safety system, technical specialty and device operating method.

3) Surgical doctor, staff & Patient Attention

- Use Before Attention
Always have to check cable between Head and Arm are connected or not. Check electrical power is connected or not.
-

- Use After Attention

When operating LPL must follow stipulated procedure, finish using be always turn off main power to shut down.

Do not use at sealing place or hot place. If device breakdown, mark the problem then report to Customer Service team.

4) Electrical Attention

LPL main power is AC220V. When operator turn off the power inside might still have power. So if you are not qualify then DO NOT OPEN it. If you open it warranty expire immediately.

LPL Body prevent any liquid get in, it would make tremendous damage or electrical shock.

This device is using electric so be careful of electromagnetic waves from an external user is not intended to be installed and used. When you turn on the power do not maintenance.

User supposed inspect operating room's power are AC220V and before connect power check consumable power is matching or not.

If you are not a formally allowed service member DO NOT OPEN DEVICE. It could bring Electrical accident. Also this kind of acting will end guarantee right away and WE ARE NOT TAKING RESPONSIBILITY FOR THIS ACCIDENT.

LPL designed best quality for surgical doctor, staff and patient. User and staff must confirm below safety system.

- When User turn on the device to run LPL system, then it will control safety system to use safely.
- When LPL running it will constantly monitoring and tell safe condition.
- All the users must clearly know this device, also any emergency happens user should stop at once.
- Check connecting power is AC220V.



220V Port

5) Danger Attention

Related all various cover or robes material should inflammable and avoiding oxygen saturation.

Pay more attention around device have inflammable material. Do not use near Combustible liquid or gas.

Near device always keep a extinguisher. Do not use when something covers device, make sure around environment.

※ Eye protection

During the operation patient should always wear goggles.

When device connect to power or during the operating time do not watch the LED light illuminating part.

3. LPL Product Introduction

1) Product Summary

No	List	Content
1	Class	Cosmetic Stimulate Occur Device
2	Name	Cosmetic Combine Stimulator
3	Model	LPL LED Pulsed Light (XML-100)
4		Name : Cosmetic Combine Stimulator Model : LPL (LED Pulsed Light) / XML-100 Power : AC 100 ~ 240[V] Wavelength : 50 ~ 60[Hz] Consumable electricity : 200 [VA] Electrical Impact Safety & degree : 1 Grade Device / No installing part Electrical impact degree & save : 1 degree device / None
		Maker Information - Name : DAEJIN DMP CO, LTD - ADD : 316-4, Cheonheung-ri, Seonggeo-eup, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Korea Maker allow No : Refer Device Backside License No. : Refer Device Backside Weight & Packing Unit : 23Kg / 1SET Product No / Date : Performance & Using method : Refer Manual Using Attention: Refer Manual ※ THIS ITEM IS COSMETIC DEVICE
		Seller Information - Name : DEAJIN MEDICINE CO., LTD - ADD : +82 2 3444 2030
		MADE IN KOREA

2) Product Specifaicon

THIS ITEM IS COSMETIC DEVICE

Distinguish		Spec
Size	Total Size	Height 1472mm x Width 745mm x Length 512mm
Weight	Total Weight	23kg
Rated Voltage		1.35 V(D.C)
Type of Electrical impact safe & Degree		Inside Power Device, BF Type Installing Part

3) Function

No.	List		Each head type-specific specifications		
			RED	IR	BLUE
1	Color of the head(Wavelength)		RED	IR	BLUE
2	Wavelength(nm)		635 ± 5%	830 ± 5%	420 ± 5%
3	Pulse Energy (mW/cm ²)	step 1	30 ± 20%	80 ± 20%	25 ± 20%
		step 2	35 ± 20%	100 ± 20%	30 ± 20%
		step 3	45 ± 20%	130 ± 20%	35 ± 20%
		step 4	55 ± 20%	160 ± 20%	40 ± 20%
		step 5	65 ± 20%	190 ± 20%	50 ± 20%
		step 6	75 ± 20%	210 ± 20%	60 ± 20%
		step 7	85 ± 20%	240 ± 20%	70 ± 20%
		step 8	95 ± 20%	270 ± 20%	80 ± 20%
		step 9	105 ± 20%	300 ± 20%	90 ± 20%
		step 10	115 ± 20%	330 ± 20%	100 ± 20%

4) Common Function

No.	List	Function
1	Time Set up	5 ~ 30min, 5min Unit
2	Bright (Pulse) Control	10 Level
3	MODE SAVE Function	MODE 1~9, RED, IR, BLUE Each Bright (Pulse) Controls Setting to save.

4. LPL Formation

- LPL have three parts. Device formation consist for control and operation needing part.

1) LPL BODY

Body is main part of controlling, input from Module signal to starting device.

LCD window is device show current information and each wavelength mode control and save system. Below wheels are movable structure.



2) LPL HEAD

LED light are irradiating 830nm, 635nm, 415nm wavelength part which have 5 unit, on back edge have two handle to control irradiating part.



3) LPL ARM

When operating could handle ARM to move irradiating section. Also could use HEAD backside handle to control irradiating angle.



5. LPL Setting Method

1) Setting Part

This part will explain setting and qualified using environment. Device moving & installing follow Deajin DMP manual. Before install check below list. Each part could purchase via Deajin Medicine.

NO	Consisted Item	Quantity	
1	LPL BODY	1ea	
2	LPL Light Irradiating Part (HEAD)	830nm	1ea
		635nm	1ea
		415nm	1ea
3	LPL ARM	1ea	
4	Electrical Cable	1ea	
5	Safety metal goggles	1ea	
6	Manual	1ea	

2) Environmental Requirement

LPL operating environment have to match with below.

Room air

Have a corrosive acid will likely produce corrosion in the air. Tiny dust could flow in to device to make serious damage, therefore minimize room dust float. Do not use at near hitting, dusty, liquid & toxic smoking place.

Temperature & Humidity

Device suitable temperature are 15~35 degrees, suitable using temperature are 18~25 degrees. Device humidity are at least 30~75%, according to room temperature to maintain humidity and setting it to ventilating place.

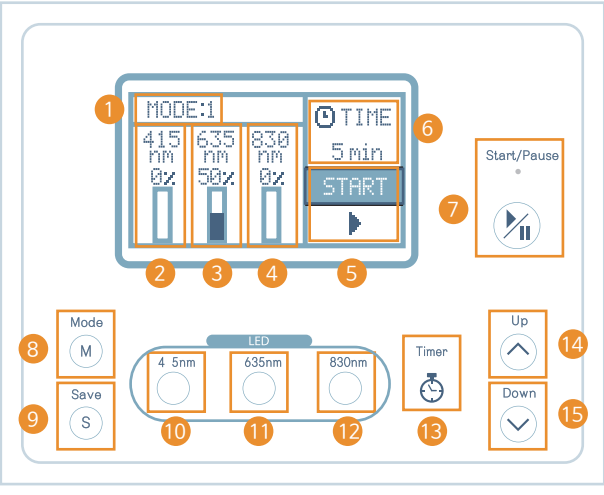
6. Operating Device

1) Using Method & Operating Method

Before Use Attention

- ① Recommending System operator training for SAFETY & OPERATION.
 - ② Before patient going to treatment room, inspecting all related device light.
 - ③ Because the risk of electric light is similar to the high-power electrical devices so pay attention when you connect your device to a wall socket. The area can't be moisture, also dried your hand for prevent electrical shock.
-

2) LCD Name

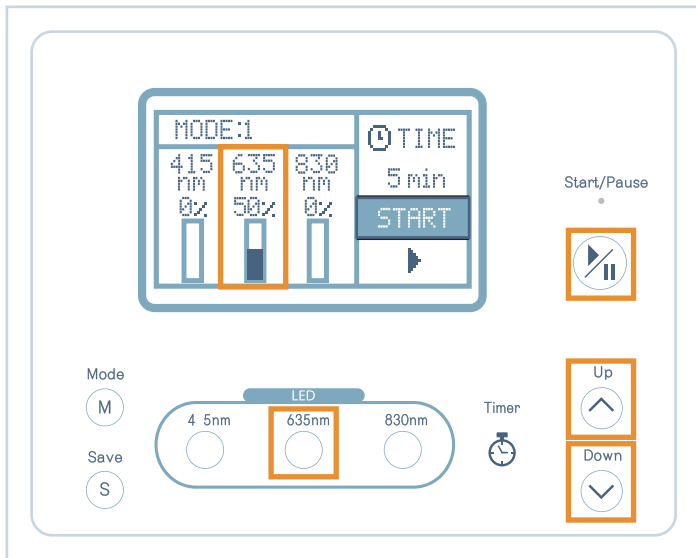
No.		[Display] 1~6 , [Touch key] 7~15
		
1	MODE	Display MODE show 1~9“
2	415nm (BLUE)	415nm (BLUE) LED show 0~100%” 10% unit
3	635nm (RED)	635nm (RED) LED show 0~100%” 10%unit
4	830nm (IR)	830nm (IR) LED show 0~100%” 10%unit
5	START / PAUSE	Start & Pause
6	TIME	Timer "5~30min" 5min unit
7	Start / Pause key	Device Start, Pause Key
8	MODE key	Press MODE key to control UP& DOWN to choose MODE 1~9“
9	SAVE key	Choose and control LED (RED, IR, BLUE) brightness then save to MODE
10	415nm (BLUE) key	Press BLUE key then use UP&DOWN to control per 10% unit Blue LED Brightness.
11	635nm (RED) key	Press RED key then use UP&DOWN to control per 10% RED LED Brightness.
12	830nm (IR) key	Press IR key then use UP&DOWN to control per 10% unit Brightness, RED LED will flash 3% per second.
13	Timer key	5~30 min : Press Timer key then use UP&DOWN to set time per unit are 5min, not working shows OFF. (Press OFF longer will TURN OFF)
14	Up key	MODE, RED, IR, BLUE, Timer, Up controller key
15	Down key	MODE, RED, IR, BLUE, Timer, Down controller key

3) Device Control Method

Setting on Patient affected region after turn on the power.

※ Select Wavelength Method

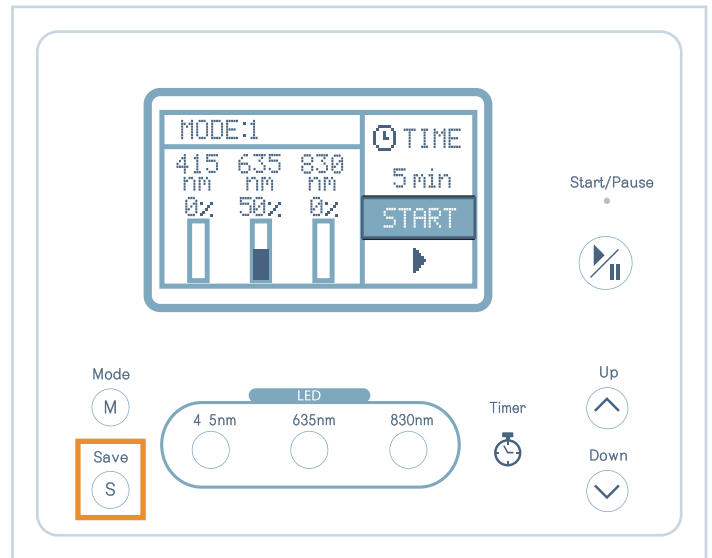
(Ex.) 635nm (RED) 50% Setting Method



After click [635nm] button will see 635nm flashing then use [Up] & [Down] to choose proper % of Pulse Value. (IR & BLUE are the same method.)

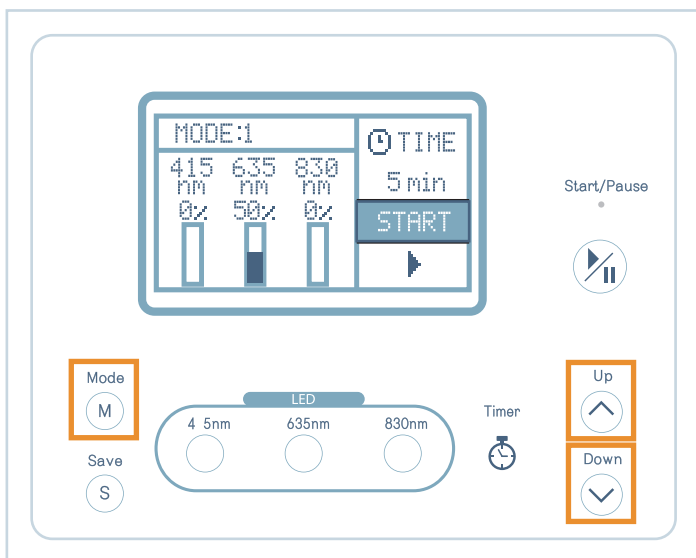
※ SAVE

(Ex.) Mode1 memory SAVE Setting Method



Continue above setting, screen shows flashing RED 50% MODE1 then press [SAVE] 2sec to save to MODE:1. (IR & BLUE are same method.)

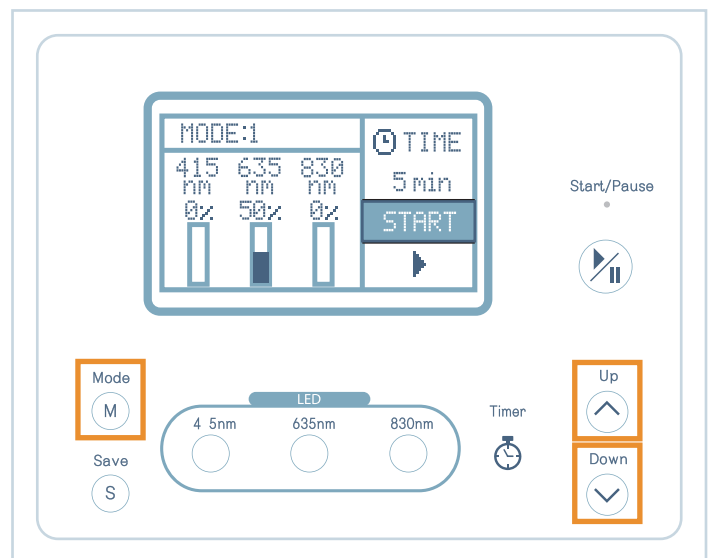
※ Mode memory Setting



Continue setting 635nm 50% condition, press [MODE] later the screen will show MODE flash then use [Up] & [Down] to save MODE:1. Same method could use mode 1 to 9.

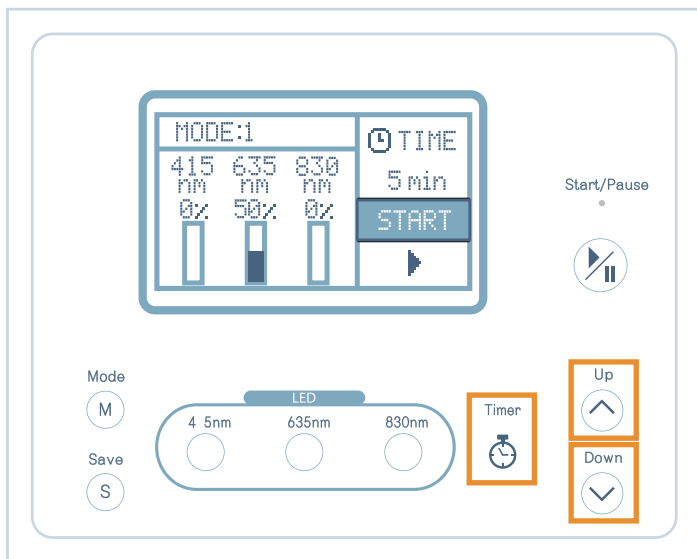
※ Use saved Mode memory

(Ex.) Use saved MODE 1



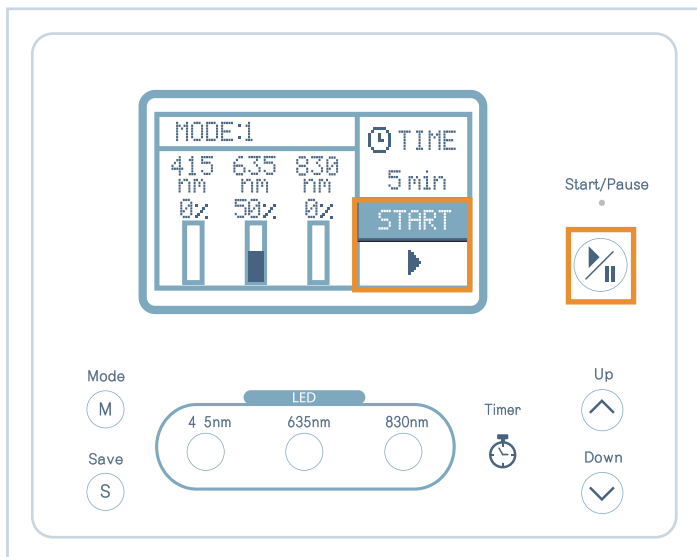
After press [MODE] button (LCD will flash) use [Up] & [Down] to setting MODE:1
Use same method to setting 1 to 9.

※ Timer
(Ex.) Use 30min Timer



Use original setting value to press [Timer(LCD will flash)] then use [Up] & [Down] to set maximum 30min(per unit is 5min).

※ Mode START
(Ex.) LPL Start with saved mode



At the original mode press START button and press again will pause. (IR&BLUE are same method)
Use saved mode to finished treat procedure then press Pause button to stop and turn off the power.

4) After Use Safely-keep & Manage Method

- ① Switch and other conditions return to original then turn off power.
- ② Disconnecting power do not pull electrical plug to hard.

- ③ When you are set up LPL avoid high-voltage, high-temperature, high-humidity, day-light, dust, salinity, sulphur area.
- ④ When you moving or setting avoid slop, vibration, impact.
- ⑤ Attention do not just put there when powers on the device (Light irradiating condition)
- ⑥ Device do not near inflammable or narcotic area.
- ⑦ Don't use device or taking break must press pause to change to waiting condition.
- ⑧ Product polluted then use dry towel pour some alcohol to clean.

7. Using Attention

- This device do not use for other intention.
Before use our device, you have to clearly know this manual.

- ① Before setting device, inspect device have any damage. If have any damage notice maker.
- ② Do not pull plug wire to pull out from socket.
- ③ Every user MUST cover LPL goggle to protect eye.
- ④ Before use Device must install wheels.
- ⑤ Check Electric plug & socket.
- ⑥ Check cables are twisted or not.
- ⑦ During the operation, device have smoke or gas to arise stop device and turn off.
- ⑧ Treatment room or operating room door stick notice note.
- ⑨ Stick notice not on exit for prevent someone in, during the operation.
- ⑩ Use proper material to interior to prevent light out during the operation, and avoid reflect material.
- ⑪ Do not see direct or reflect light.
- ⑫ Inspect ground connection.
- ⑬ Patient have heart disease, mental disease, hypertension that any disease are not qualify light treatment patient don't use it.