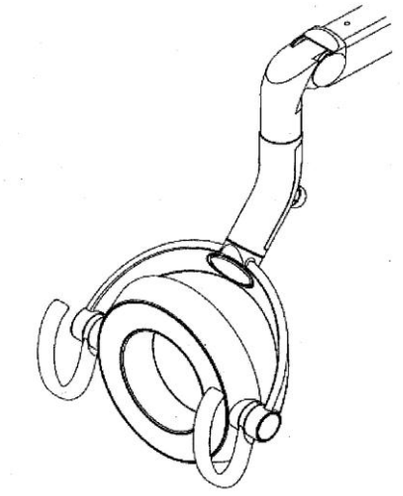
DENTAL LIGHT

900

Troubleshooting



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In the case of a trouble, please see troubleshooting below, so it may help you to solve the problem or to find the solutions. The troubleshooting described speculates on various problems. If the problems or symptoms are not listed here, please contact Takara Belmont.

CAUTION:
Please make sure disconnect power supply line before repair or replace defective parts. If not, it may cause injury from electrical shock. Special care must be taken when repairing the chair motor, capacitor, solenoid valve and power supply cable which parts are operated with high voltage.

High voltage parts

* Unit in j-box : power cable, power switch, fuse, air switch, terminal block, transformer, Noise filter, 900LED Power supply PCB.
* Chair : Motor, capacitor, solenoid valve, power cable, chair PCB (input voltage).

In the case of the repair of the chair hydraulic circuit. Make sure that the hydraulic circuit is not pressurized before removing the hydraulic parts such as motor, solenoid valve and cylinder.
Remove the chair to lowest end and fully reclined position for unpressurized chair position by “LIMIT MODE”.

Book No. 1E05K7A0

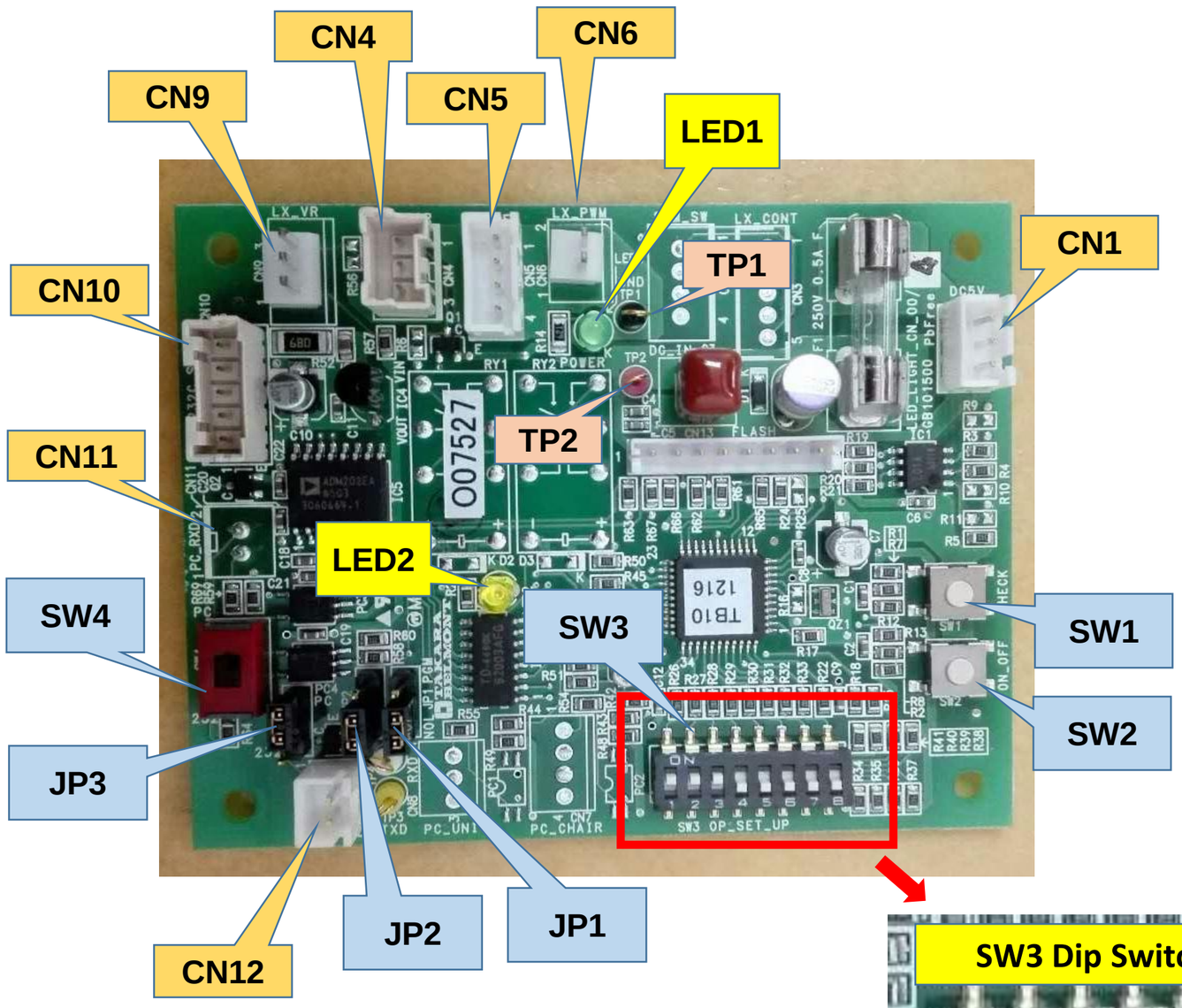
900LED Dental Light Troubleshooting

Defective Part	Symptom	Check Point	Possible Cause	Solution
16.Dental Light 920	Light does not turn on at both manual and sensor mode	Check the sensor/manual (mode selection switch) on the cuspidor front panel	Sensor/manual switch (mode selection switch) is off	Select manual or sensor mode
		Check harness between 900 power pcb (CN204) and sensor/manual mode switch (1:Pink, 2:Bright green)	Disconnection or break of harness if no continuity	Repair or replace harness
		Check LED module	Damage LED module	Replace LED module Assy
		Check input voltage of LED module (approximately DC20V)	Disconnection or damage the harness between 900 power pcb and LED module if there is no power	Repair or replace harness
		Check input power of 900 power pcb	There is power (current voltage) on the terminal block on j-box connecting to 900 power pcb > Defective noise filter section or 900 power pcb.	Replace noise filter or 900 power pcb
			There is input power (current voltage) to 900 power pcb (CN101) > Defective 900 power pcb.	Replace 900 power pcb
	Light does not turn on at sensor mode	Check the touch less switch	Dirty sensor cover	Clean the sensor cover (Toush less sensor surface)
		Check sensitivity of touchless sensor	Improper setting of sensitivity	Adjust sensitivity screw on the touch less sensor pcb.
		Check harness between sensor pcb (CN1) and sensor control pcb (CN4) (1:Yellow, 2:Green, 3:Blue)	There is no continuity > Disconnection or damage of the harness	Repair or replace harness
		Check harness between 900 power pcb (CN202, 1:black, 2:White) and sensor control pcb (CN1,1:black, 3:white)	There is no continuity > Disconnection or damage of the harness	Repair or replace harness
		Check harness between sensor control pcb (CN6, 1: light blue, 2:N/A.) and sensor/manual select switch	There is no continuity > Disconnection or damage of the harness	Repair or replace harness
		Check operation of touchless sensor	LED2 (Yellow) on the sensor control pcb is not light up when pass your hand to touchless sensor or continuously light up before pass your hand to touchless sensor	Clean the sensor cover (Toush less sensor surface)
				Check fixing position of touchless sensor (pcb) > Replace touchless sensor (pcb)
			Can't not improved from above action > Defective sensor control pcb.	Replace sensor control pcb.

900LED Dental Light Troubleshooting

Defective Part	Symptom	Check Point	Possible Cause	Solution
16.Dental Light 920	Light does not turn off	Check the sensor/manual (mode selection switch) on the cuspidor front panel	Light doesn't turn off even selected to OFF mode > defective sensor/manual mode switch	Replace sensor/manual mode selection switch
		Check operation of touchless sensor	LED2 (Yellow) on the sensor control pcb is not light up or continuously light up when pass your hand to touchless sensor	Check fixing position of touchless sensor (pcb) > Replace touchless sensor (pcb)
	Can't adjust intensity	Check display LED (Yoke section)	If the display LED (green) is blinking > composite mode	Switch to normal mode
		Check status of sensor/manual select switch	Mode becomes manual mode	Switch to sensor mode
		Check harness between intensity volume and LED display pcb and sensor control pcb. (1:Red, 2:Orange, 3:N/A) * Volume switch line	There is no continuity > Disconnection or damaged harness	Repair or replace harness
	No constant light intensity (light flickers, Blinking or only light up 5 LEDs)	Check around equipment	There is other equipment generated noise around dental light	Turn off main switch and contact your dealer
		Check around dental light	Malfunction occurs when light head close to room light > room light affects touchless sensor	Turn off main switch and contact your dealer
		Check LED module	Break in the lead wire of LED module	Replace LED module Assy
		Check 900 power pcb	Defective 900 power pcb	Replace 900 power pcb
	Light position is not stable	Head moves horizontally	Head angle is not upright	Adjustment of head angle (refer to the separate installation manual)
		Balance arm moves up or down	Misalignment of balance arm spring nut	Adjustment of balance arm spring nut (refer to the separate installation manual)
		Horizontal arm moves	Loose brake set screw (M5x2pcs) inside light pole	Adjust or tighten set screw (refer to dental light manual)
			Cuspidor section is not flat	Adjustment of cuspidor section (refer to the installation manual)

Detail of 900LED (300LED) Sensor Control PCB



LED1 (Green) _ PCB Power LED

LED2 (Yellow) _ Touch-less Sensor Signal LED

SW1_ VR lower limit setting

SW2_ Manual SW for operation test

SW3_ See below

SW4_ Type of communication (See below)

JP1,2_ writing program data

CN1_Input Power (DC5V)

CN4_To Touchless Sensor PCB

CN5_To Display LED PCB (Display LED)

CN6_To Power PCB (PWM Output)

CN9_To Display LED PCB (Volume)

CN10_RS230 Communication (CP ONE PLUS)

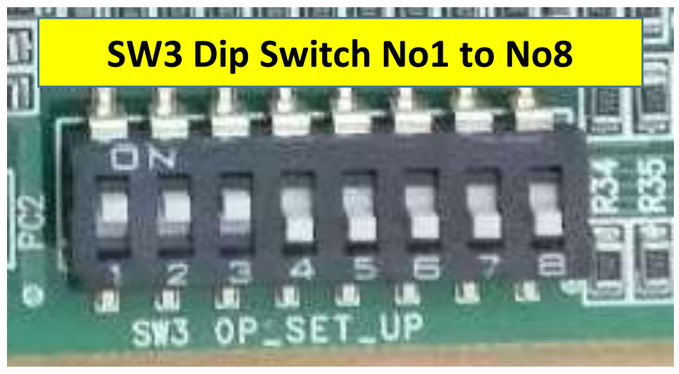
CN11_PC Communication (Clesta II)

CN12_PC Communication (N/A)

TP1_Measurement Pin (GND) of CN1

TP2_Measurement Pin (DC5V) of CN1

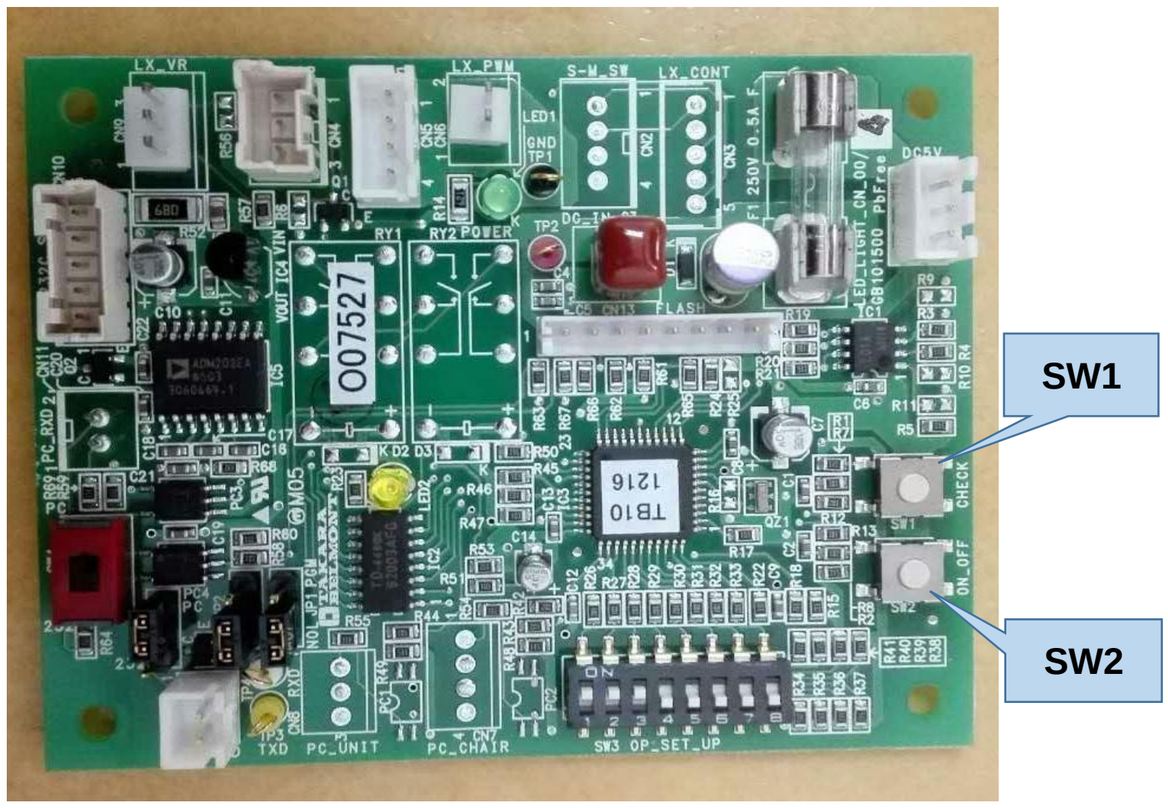
SW3 Dip Switch No1 to No8



Setting of Dip Switchs (SW3 & SW4) and Jumper Pin (JP3)

No.		Setting condition		901/902/905	920S for Clesta II SP-CLEO2	920S for CP-ONE PLUS
SW3	1	Test mode (Always OFF)	**OFF** : Normal operation, ON: Test operation	OFF	OFF	OFF
	2	Transition time to Composite mode (by a sensor)	OFF : 1 second, **ON**: 2 seconds	ON	ON	ON
	3	Wake-up brightness setting from light OFF condition.	OFF : 1. Composite Mode when a light is turned on by using a sensor. : 2. Keeps on getting on/off signal from dr table, light stays in composite mode **ON** : 1. Regular Mode when a light is turned on by using a sensor. : 2. Keeps on getting on/off signal from dr table, light goes into regular mode.	ON	ON	ON
	4	Combining dental unit	OFF : Clair unit, ON: CP-One plus	**OFF**	**OFF**	**ON**
	5	Sensor activation setting	**OFF** : Activate when a hand goes away. ON : Activate when a hand comes in.	OFF	OFF	OFF
	6	Includes Composite Mode	**OFF** :With Composite Mode, ON: Without Composite Mode	OFF	OFF	OFF
	7	Speed setting of communication line	**OFF** : 4800bps, ON: 2400bps	OFF	OFF	OFF
	8	LED blink setting of Composite Mode	**OFF**: Slow blinking, ON: Rapid blinking	OFF	OFF	OFF
SW4		PC side: Clair Unit, 232 side: CP-One plus		**PC**	**PC**	**232**
JP3		PC side: Clair Unit, 232 side: CP-One plus		**PC**	**PC**	**232**

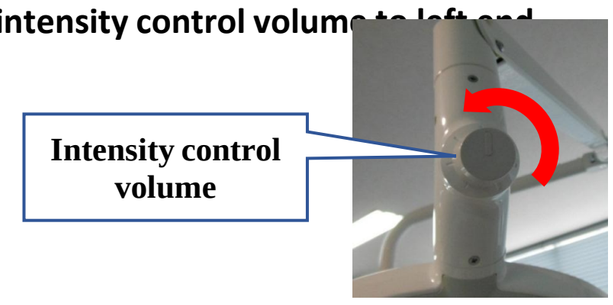
Intensity volume lower limit adjustment



In the case of replacing the light head or sensor control PCB. Set lower limit position of intensity control volume into the sensor control PCB.

***Set to sensor mode and turn off light by touch-less sensor.**

1. Turn intensity control volume to left end



2. Press SW1 [CHECK] once

3. Press SW2 [ON_OFF] once