CL510
Document Camera

Installation Guide

Lumens™
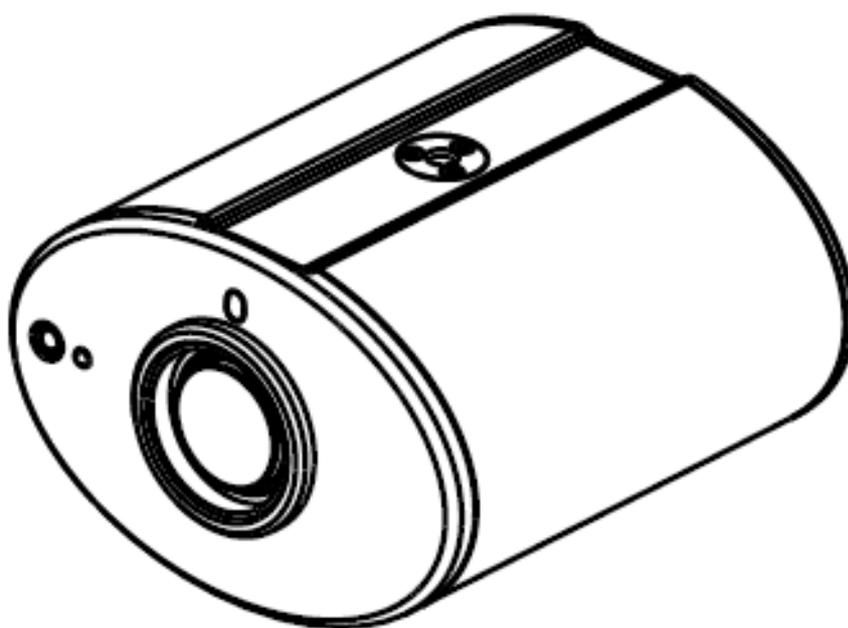
Table of Contents

Copyright Information

Chapter 1 Safety Instructions

Always follow these safety instructions when setting up and using the Ceiling Camera:

1. Use attachments only as recommended.
2. Use the type of power source indicated on the Ceiling Camera. If you are not sure of the type of power available, consult your distributor or local electricity company for advice.
3. Always take the following precautions when handling the plug. Failure to do so may result in sparks or fire.
   - Ensure the plug is free of dust before inserting it into a socket.
   - Ensure that the plug is inserted into the socket securely.
4. Do not overload wall sockets, extensions leads or multi-way plug boards as this may cause fire or electric shock.
5. Do not place the Ceiling Camera where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
6. Do not block the slots and openings in the Ceiling Camera case. They provide ventilation and prevent the Ceiling Camera from overheating. Do not place the Ceiling Camera on the soft surface of sofas, carpets or others.
7. Never push any kind of objects through cabinet slots. Never allow any kind of liquid to spill into the Ceiling Camera.
8. Except as specifically instructed in this User Manual, do not attempt to operate this product by yourself. Opening or removing covers may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
9. Unplug the Ceiling Camera during thunderstorms or if it is not going to be used for an extended period. Do not place the Ceiling Camera or remote control on top of heat-emitting equipment or heated objects such as a car, etc.
10. Unplug the Ceiling Camera from the wall outlet and refer serving to licensed service personnel when the following situations happen:
    - If the power cable or plug becomes damaged or frayed.
    - If liquid is spilled into it or the Ceiling Camera has been exposed to rain or water.
11. Due to safety concerns, please make sure the ceiling mounting which you purchased complies with UL and VESA standard. And it's highly recommended to have the technical persons who are certified by local agents to apply installation and replacement.

<Note> Using an incorrect battery type in the remote control may result in breakdown. Follow your country's instructions on how to dispose of used batteries.

■ **Precautions**

Warning: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

If the Ceiling Camera will not be used for an extended time, unplug it from the power socket.

	Note	
	Risk of Electric Shock	
Caution: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to licensed service Personnel.		
	This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock.	This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.

■ **FCC Warning**

This Ceiling Camera has been tested and found to comply with the limits for a Class A digital device, pursuant to Article 15-J of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

■ **FDA Warning**

This Devise Complies with DHHS Radiation Rules, 21CFR Chapter 1, Subchapter J.

■ **EN55022 (CE Radiation) Warning**

This product is intended for use in a commercial, industrial, or educational environment. It is not intended for residential use.

This is a Class A product. In a residential environment it may cause radio interference, in which case the user may be required to take adequate measures. The typical use is in a conference room, meeting room or auditorium.

■ **EN60825 (Laser) Warning**

	Laser Radiation Do Not Stare Into Beam Class 2 Laser Product

■ **Caution**

Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type. Dispose batteries according to manufacture's instructions.

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Chapter 2 Package Contents
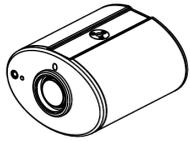
CL510	Quick Start Guide	Instruction for Installation	Remote Control
	(For download of other language versions, please visit Lumens website)		
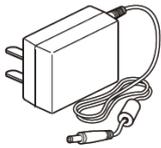
Power Adapter	USB Cable	VGA Cable	IR extender
Appearance may vary depending on country/region			

Ceiling Mount / Hanger
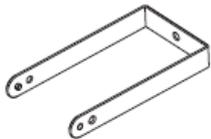
Chapter 3 Product Description

3.1 Body size

3.1.1 The size of CL510 is as follows:
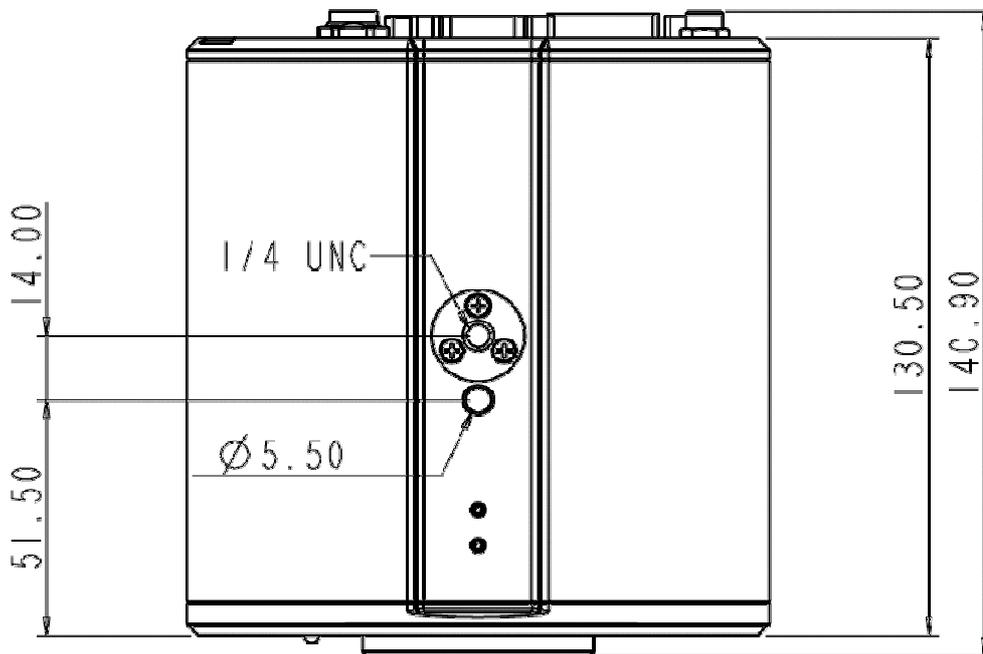
Length: 126mm (4.96inch)
Width: 86mm (3.39inch)
Height: 140.9mm (5.55inch)
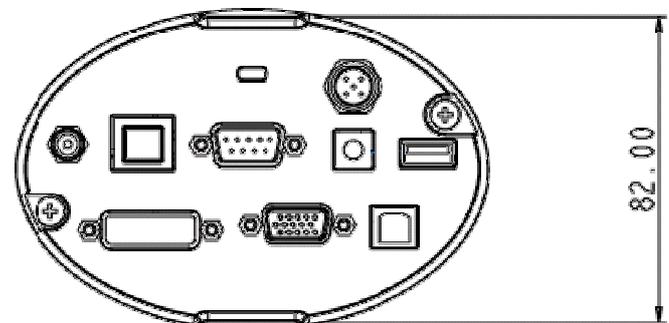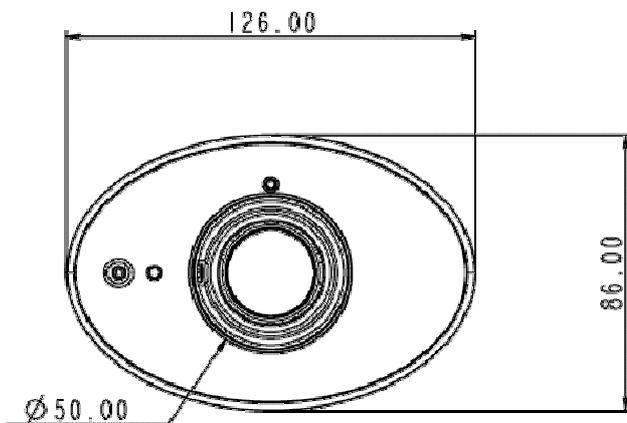
3.1.2 The size of CL510 together with U-hanger is as follows:
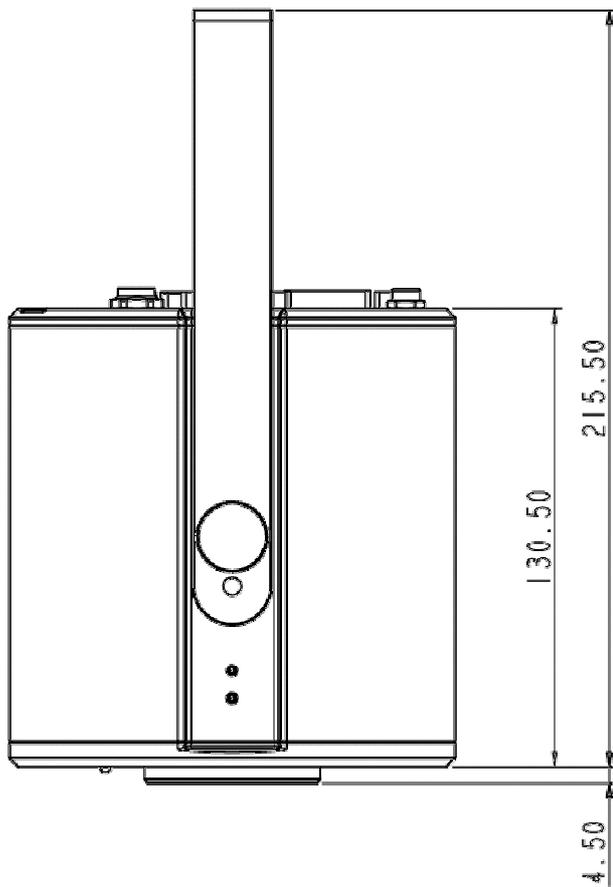
Length: 126mm (4.96inch)
Width: 86mm (3.39inch)
Height: 220mm (8.66inch)
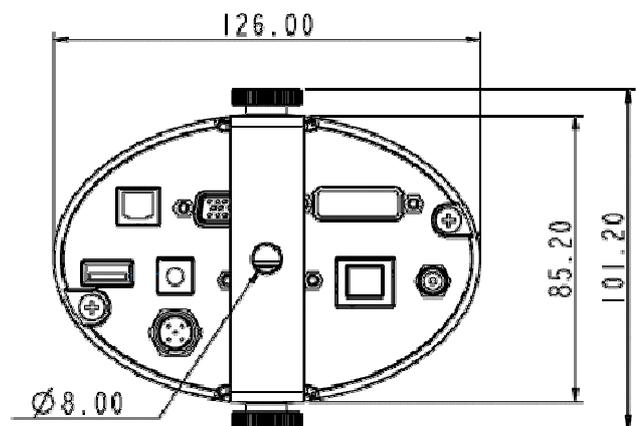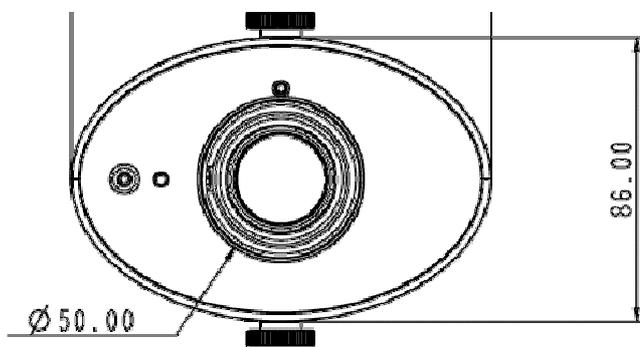
3.2 IO description
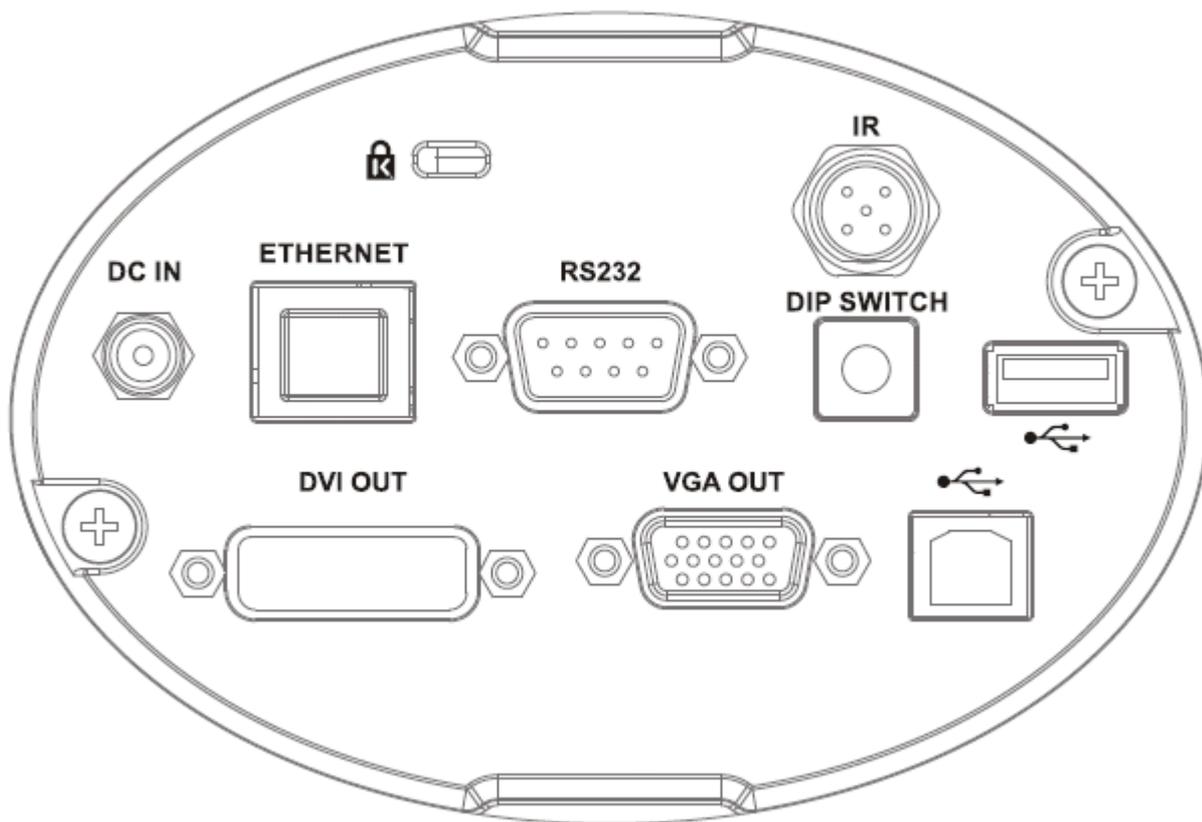
1. **DC IN:** Power input

2. **ETHERNET:** RJ-45 Network cable interface

3. **DVI OUT:** DVI Image out

4. **RS232:** RS232 Interface

5. **VGA OUT:** VGA Image out

6. **IR:** IR Interface

7. **DIP SWITCH:** DIP Switch setting

8. **USB PORT (A-type):** USB Port

9. **USB PORT (B-type):** USB Port

Chapter 4 Installation and Connections

Installation and connection of CL510 Ceiling Camera requires special skills. To install by yourself, please follow necessary steps, ensure steady and tight installation of the device, and pay attention to your safety to avoid any accident.

4.1 Preparation before installation

4.1.1 Ensure the safety of the installation environment. Please do not install the device on unstable ceiling or in a place where the device is in danger of falling to avoid any accident.

4.1.2 Please check whether accessories in the box are complete or not. Please contact the supplier for any shortage, and make sure to keep the accessories in the box intact.

4.1.3 Please choose a proper place for installation of CL510 in advance. Please determine an installation place according to the following requirements:

4.1.3.1 Confirm the position for the object to be captured.

4.1.3.2 Calculate the height required for hanging the device according to the position of the object to be captured. If it is not possible to install the device at this height, you need to change the position of the object to be captured.

4.1.4 Please prepare the following tools for easy installation and shorter installation time:

4.1.4.1 Accessories of CL510 in the box

4.1.4.2 Hanging parts (ceiling mounted hanger, screw for fixing the hanger 1/4-UNC x 4 pcs)

4.1.4.3 Drilling machine, screw driver

4.1.4.4 Ladder
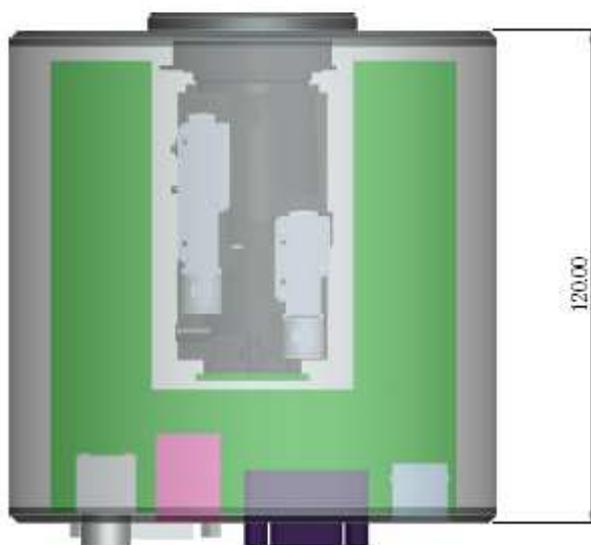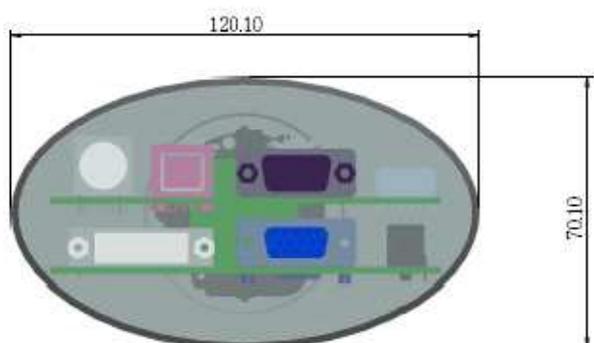
- **To achieve the best effect, please ensure that the machine is set at a distance of not more than 2 meters away from the object to be captured.**

2 meters or less
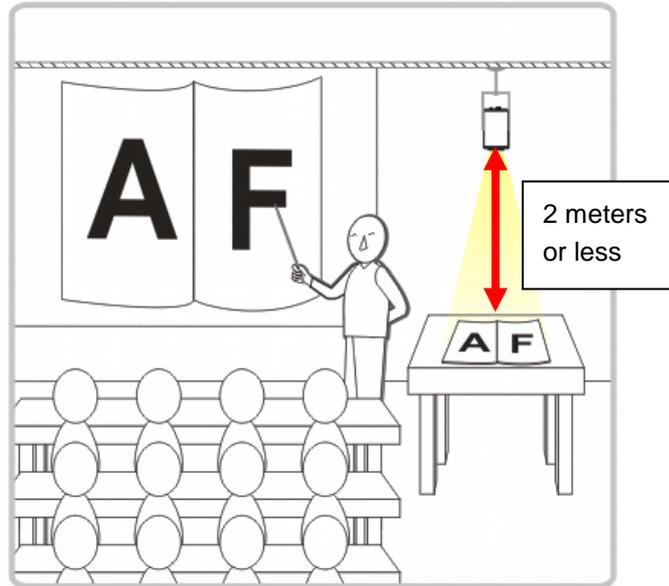
4.1.5 Schematic diagram for the size of U-hanger and preparation before installation

4.1.5.1 Schematic diagram for the size of U-hanger

The installation personnel should prepare the screw hanger in compliance with the size of the hole used for securing the U-hanger. (The screw hanger should be used with UL-Listed approval.)
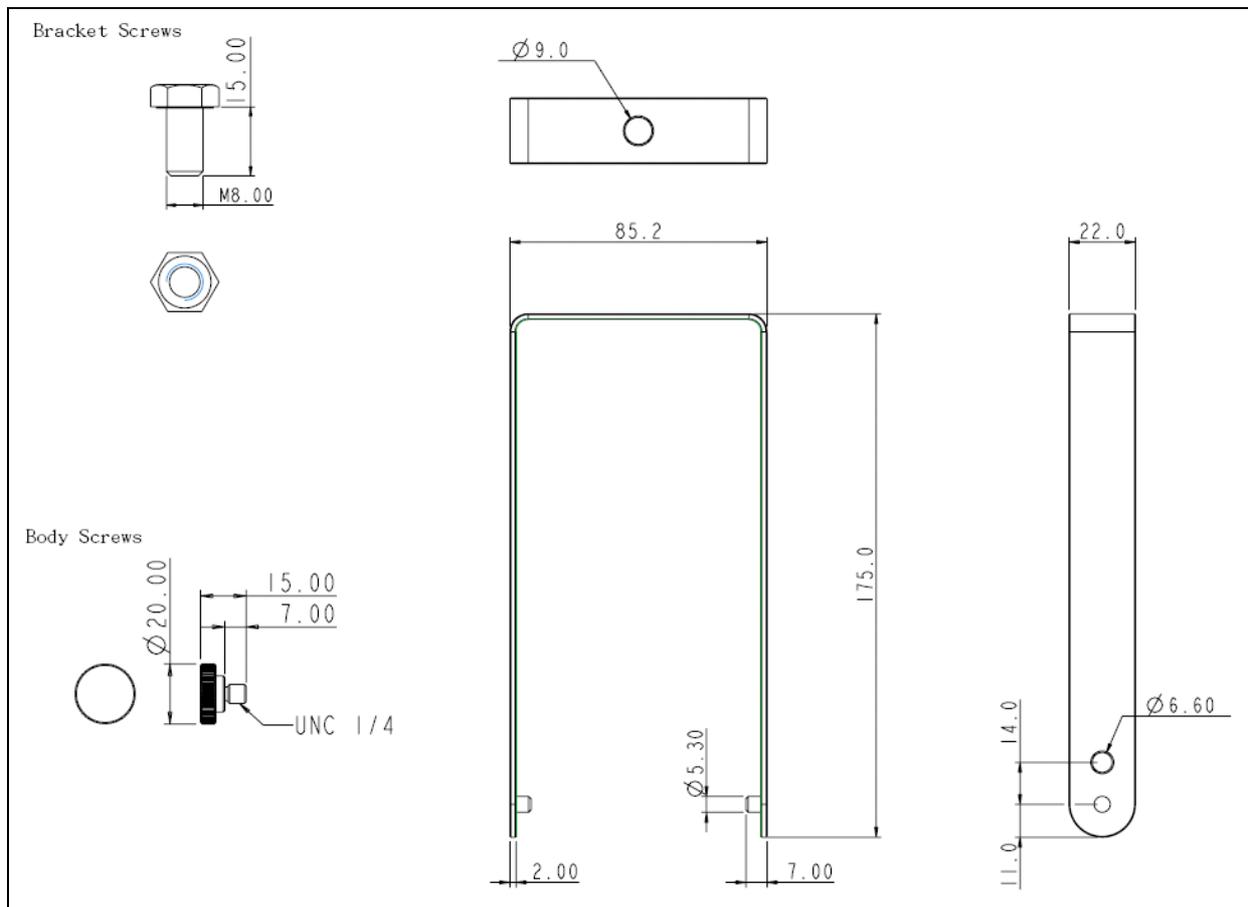
4.1.5.2   Installation steps
● Adjust the DIP SWITCH to the desired output specifications
● Assemble the U-hanger and the device using screws supplied.
● Please follow the instruction for the screw hanger to install it on the ceiling.
● Screw the device onto the screw hanger and complete the installation.
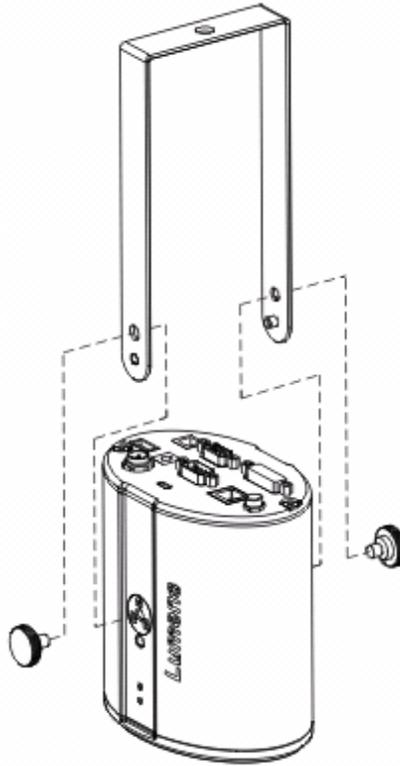
4.2 Switch setting

<Note> You should unplug and reconnect the power cord, and then restart the CL510 for all DIP switch settings to take effect.
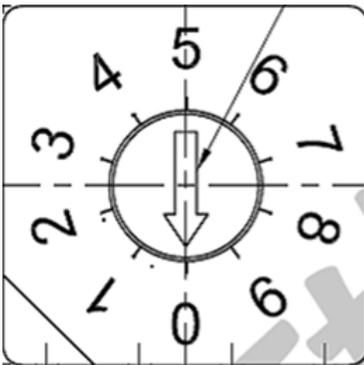
Output Mode	Position of DIP Switch
Default (XGA)	0
SXGA	1
WXGA	2
UXGA	3
1080P	4

4.3 System diagram
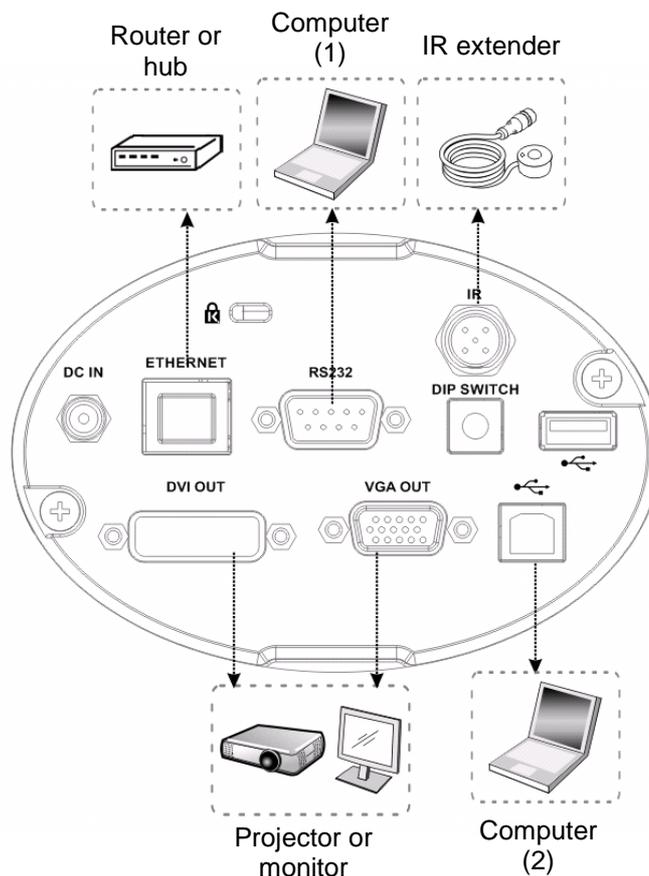
4.4 Set up the power frequency

Set the applicable power frequency depending on different regions. Please refer to Appendix 1 for applicable frequency.

4.4.1 After using the remote control to turn on the power, press [MENU] on the **remote control** to enter the Service Menu.

4.4.2 Press [▶] or [◀] to the [Advanced] menu.

4.4.3 Press [▼] to the [Power Frequency].

4.4.4 Press [▶] or [◀] to adjust the frequency.

4.4.5 Press [MENU] to exit.

4.5 Set the position of the object to be captured (Laser mark)

4.5.1 Prepare a cross point screw driver.

4.5.2 After using the remote control to turn on the power, press [LASER] on the remote control to enable the laser mark (the red cross round box).

4.5.3 Press [FREEZE] -> [DEL] -> [◀] on the remote control to enable the center positioning mark (the blue round box).

4.5.4 Use a cross point screw driver to adjust the laser knob of the machine (the adjustment should be made at the place marked by the red box in the following figure).

Adjust right and left
Adjust up and down
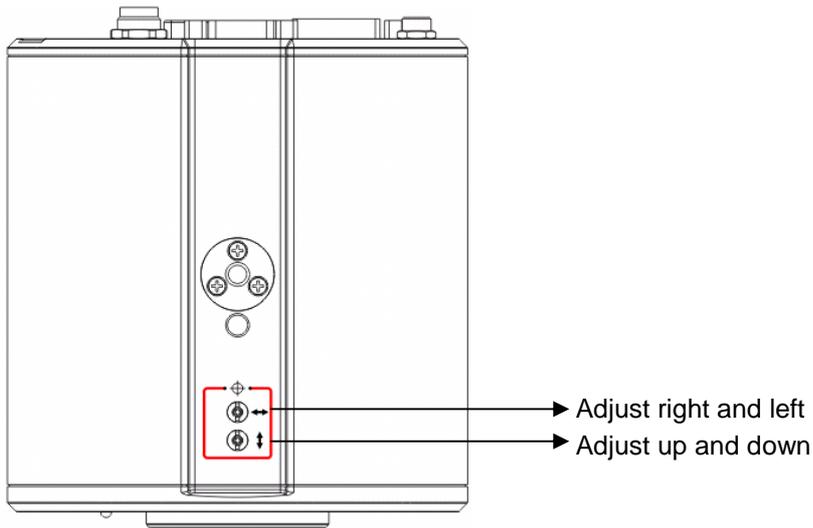
4.5.5 Adjust the cross laser mark (red box) deviated on the screen to the center point of the blue positioning mark, as shown in the following figure:
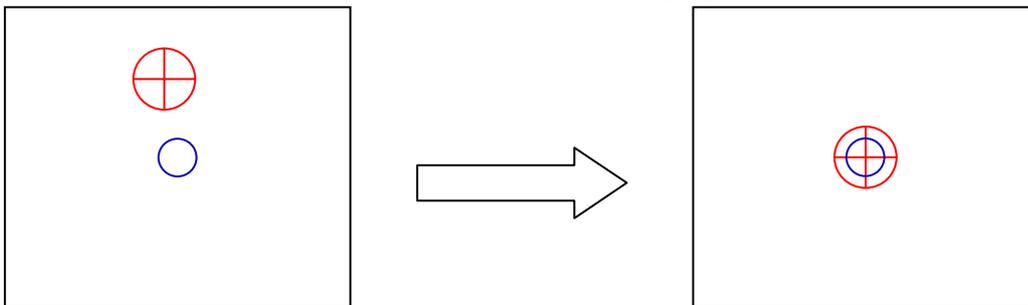
4.6 AF Table Set for auto focus setting

4.6.1 Set up AF table
This setting can speed up the AF operation.

1. Press [FREEZE] -> [DEL] -> [ENTER] on the **remote control** to enter the *Service Menu*.
2. Press [►] or [◄] to select the [Image] menu.
3. Press [▼] to <Without Close-up Lens> -> [Focus Table], and press [Enter] to activate the **Focus Table**.
   <Note> If Close-up Lens (Optional) was installed, select <With Close-up Lens> for operation.
4. Press [MENU] to select **[Adjust]**, and press [Enter] to adjust.
5. Press [MENU] to select **[Save]**, and press [Enter] to save.
6. Press [►] or [◄] to select **[Yes]**, and press [Enter] to save it.
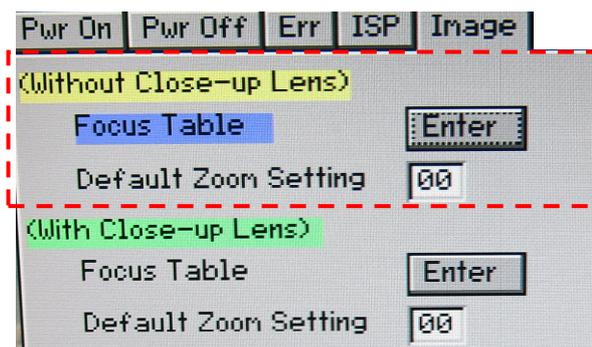
4.6.2 Set up the Default Zoom

1. Press [FREEZE] -> [DEL] -> [ENTER] on the **remote control** to enter the *Service Menu*.
2. Press [▶] or [◀] to select the [Image] menu.
3. Press [▼] to <Without Close-up Lens> -> [Default Zoom Setting].
   <Note> If Close-up Lens (Optional) was installed, select <With Close-up Lens> for operation.
4. Press [▶] or [◀] to enter the type required. (The setting is subject to posterior changes made to AF Table)
5. Press [MENU] to exit the Service Menu.
6. Press [MENU] again to enter the [Advanced], and activate [Factory Reset].

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Chapter 5 Troubleshooting

This chapter describes problems you may encounter while using CL510. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurred, please contact your distributor or the service center.

1. Why cannot I start the device even when I use the PoE?

ANS: Please confirm if your network communication device is supported for Power over Ethernet (PoE).

2. Does "Please set up the Focus table" appear on the screen when the device is started?

ANS: Please follow the steps of 4.6 AF Table Set for auto focus setting.

3. Why does out of focus still occur when **AUTO TUNE** is activated?

ANS: Please confirm if there is any fingerprint or stain on the lens. Try to refocus after cleaning the lens.

Attachment 1

World voltage & frequency

Region/Country		Frequency	Region/Country		Frequency	Region/Country		Frequency
Chinese	English		Chinese	English		Chinese	English	
阿 富 汗	Afghanistan	50	大 陸	China	50	關 島	Guam	60
阿 爾 及 利 亞	Algeria	50	哥 倫 比 亞	Colombia	60	石 榴 島	Grenada	50
安 哥 拉	Angola	50	剛 果	Congo	50	瓜 地 馬 拉	Guatemala	60
安 地 瓜	Antiqua	50	哥 斯 大 黎 加	Costa Rica	60	幾 內 亞	Guinea	50
阿 根 廷	Argentina	50	古 巴	Cuba	60	蓋 亞 納	Gayana	50
澳 洲	Australia	50	塞 普 路 斯	Cyprus	50	海 地	Haiti	60
澳 地 利	Austria	50	捷 克	Czechoslovakia	50	夏 威 夷	Hawaii	60
亞 述 爾	Azores	50	達 荷 美	Dahomey	50	宏 都 拉 斯	Honduras	60
巴 哈 馬	Bahamas	60	丹 麥	Den mark	50	香 港	Hong Kong	50
巴 林	Bahrain	60	多 明 尼 加	Dominican	60	匈 牙 利	Hungary	50
孟 加 拉	Bangladesh	50	杜 貝	Dubai	50	冰 島	Ice land	50
巴 貝 多	Babados	50	厄 瓜 多 爾	Ecuador	60	印 度	India	50
比 利 時	Belgium	50	埃 及	Egypt	50	印 尼	Indonesin	50
百 慕 達	Bermuda	60	薩 爾 瓦 多	El Salvador	60	伊 朗	Iran	50
玻 利 維 亞	Bolivia	50	赤 道 幾 內 亞	Equatorial Guinea	50	伊 拉 克	Iraq	50
波 札 那	Botswana	50	衣 索 匹 亞	Ethiopia	50	愛 爾 蘭	Ireland	50
巴 西	Brazil	50 60	法 羅 群 島	Faeroe Island	50	曼 島	Isle of Man	50
保 加 利 亞	Bulgaria	50	裴 濟	Fiji	50	以 色 列	Israel	50
緬 甸	Burma	50	芬 蘭	Finland	50	義 大 利	Italy	50
蒲 隆 地	Burundi	50	法 國	France	50	象 牙 海 岸	Ivory Coast	50
高 棉	Cambodia	50	蓋 亞 那	French Guiana	50	牙 買 加	Jamaica	50
喀 麥 隆	Cameroon	50	加 彭	Gabon	50	日 本	Japan	50 60
加 拿 大	Canada	60	甘 比 亞	Gambia	50	約 旦	Jordan	50
康 那 利 群 島	CanaryIsland	50	德 國	Germany	50	肯 亞	Kenya	50
中 非 共 和 國	Central Africa Rep.	50	迦 納	Ghana	50	韓 國	Korea	60
錫 蘭	Ceylon	50	直 布 羅 陀	Gibraltar	50	科 威 特	Kuwait	50
查 德	Chad	50	大 不 列 顛	Great Britain	50	黎 巴 嫩	Lebanon	50
海 峽 群 島	Channel Island	50	希 臘	Greece	50	賴 索 托	Lesotho	50

| Region/Country | | Frequency | Region/Country | | Frequency | Region/Country | | Frequency |
Chinese	English		Chinese	English		Chinese	English	
智　　　利	Chile	50	格　陸　蘭	Greenland	50	賴 比 瑞 亞	Liberia	60
利　比　亞	Libya	50	阿　　　曼	Oman	50	敘　利　亞	Syria	50
盧　森　堡	Luxembourg	50	巴 基 斯 坦	Pakistan	50	大　溪　地	Tahiti	60
澳　　　門	Macao	50	巴　拿　馬	Panama	60	中 華 民 國	R.O.C. Taiwan	60
馬 得 拉 群 島	Madeiral	50	巴　拉　奎	Paraguay	50	坦 尚 尼 亞	Tanzania	50
馬 約 卡 島	Majokca Island	50	秘　　　魯	Peru	60	泰　　　國	Thailand	50
馬 拉 加 西	Malagasy	50	菲　律　賓	Philippines	60	多 哥 共 和 國	Togo Rep.of	50
馬　拉　威	Malawi	50	波　　　蘭	Poland	50	東　　　加	Tonga	50
馬 來 西 亞	Malaysia	50	葡　萄　牙	Portugal	〃	千　里　達	Trinidad	60
馬　　　利	Mali Rep.	50	波 多 黎 各	Puerto Rico	60	他　巴　哥	Tobago	60
馬　爾　他	Malta	50	科　　　托	Qatar	50	突 尼 西 亞	Tunisia	50
馬 丁 尼 克 島	Martinique	50	羅 德 西 亞	Rhodesia	50	土　耳　其	Turkey	50
茅 里 塔 尼 亞	Mauritania	50	羅 馬 尼 亞	Romania	50	烏　干　達	Uganda	50
模 里 西 斯	Mauritius	50	盧　安　達	Rwanda	50	美　　　國	USA.	60
墨　西　哥	Mexico	60	沙 烏 地 阿 拉 伯	Saudi Arabia	50 60	蘇　　　聯	USSR	50
摩　那　哥	Monaco	50	蘇　格　蘭	Scotland	50	英　　　國	United Kingdom	50
蒙 特 色 納 島	Montserrat	60	塞 內 加 爾	Senegal	50	上　伏　塔	Upper Volta	50
摩　洛　哥	Morocco	50	獅　子　山	Sierra Leone	50	烏　拉　奎	Uruguay	50
莫 桑 鼻 克	Mozambique	50	新　加　坡	Singapore	50	委 內 瑞 拉	Venezuela	60
尼　泊　爾	Nepal	50	索 馬 利 亞	Somalia	50	越　　　南	Viet-Nam	50
荷　　　爾	Netherlands	50	南 非 共 和 國	South Africa Rep.	50	維 爾 京 群 島	Virgin Island	60
新 蘇 格 蘭	New Caledonia	50	西　班　牙	Spain	50	西 薩 摩 亞	Western Samoa	50
紐　西　蘭	New Zealand	50	斯 里 蘭 卡	Sri Lanka	50	葉 門 亞 丁	Yeman (Aden)	50
尼 加 拉 瓜	Nicaragua	60	蘇　　　丹	Sudan	50	葉 門 阿 拉 伯	Yemen (Arab)	50
尼　　　日	Niger	50	蘇　利　南	Surinam	60	南 斯 拉 夫	Yugoslavia	50
奈 及 利 亞	Nigeria	50	史 瓦 濟 蘭	Swaziland	50	薩 伊 共 和 國	Zaire Rep. of	50
挪　　　威	Norway	50	瑞　　　典	Sweden	50	尚　比　亞	Zambia	50
琉　　　球	Okinawa	60	瑞　　　士	Switzerland	50			