



COOL LIGHTS™

CL-255P/PMD 2 X 55 watt Portable Fluorescent Video Soft Light Operations Manual



Cool Lights USA
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Introduction

This is the operations manual for the Cool Lights USA CL-255P and CL-255PMD 2 X 55 watt Portable Fluorescent Softlight. Throughout the manual you will see us refer to the CL-255P/PMD wherever there are commonalities between the 2 models. Wherever there is not commonality between the models, we will refer to the specific model for explanation of the features that differentiate it from the other model. In the CL-255P/PMD boxed kit, as pictured in the inset picture of Figure 1, you should have received either the CL-255P or PMD version of the fixture itself, a 16 foot American IEC type power cord, a CL-BC2 padded bulb case and 2 fluorescent bulbs in your choice of either 3200K or 5600K color temperature. Also, there is optionally included in the kit (based on your order choice) a CL-MPSA multi-axis mount to stand adapter and/or a CL-255EGG eggcrate filter attachment. Figure one shows the various parts of your CL-255P/PMD. Should any parts be missing contact us at info@coollights.biz and mention your order number and which part or parts are missing.



Figure 1: Noteworthy Parts of the CL-255P/PMD

Unpacking and Setup Process

The fixture. The fixture itself comes securely packed with expanded polypropylene (EPE) foam end caps as pictured (left) in Figure 1. Take off the end caps and save them

and the box as well in case you must ever ship the CL-255P/PMD again. The barndoors will have been closed to protect the reflector area. Leave them closed and put the fixture face down so you can attach the optional CL-MPSA multi-axis mount to stand adapter to the multi-axis mount on the back of the fixture.

Unpack the CL-MPSA. If you did not order the CL-MPSA multi-axis mount to stand adapter as part of your kit, you can skip to mounting the MAM to a grip head. Otherwise, If you did order the CL-MPSA as part of your kit, it will come disassembled in three pieces and packed in one side of the EPE end caps that were enclosing the fixture itself as pictured in Figure 2. Remove these 3 stainless steel pieces (the rod, the baby stand adapter and the the MAM receptor). All these parts are better shown in Figure 3.

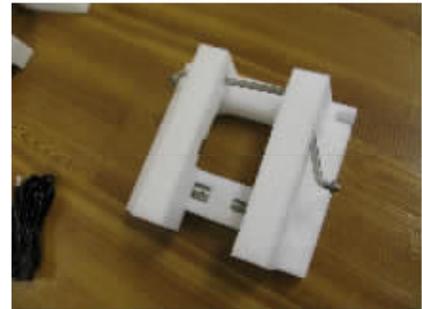


Figure 2 – The 3 parts of the CL-MPSA packed in the EPE end cap



Figure 3 – The 3 parts of the CL-MPSA unpacked

Assemble the CL-MPSA. Figure 3 also shows which part goes on which ends of the rod demonstrated with the red arrows. The baby stand adapter goes on the end pictured and the MAM receptor goes onto the opposite end. These parts simply screw onto the rod which is threaded at each end. There is one threaded female receptor at one end of each of the parts. The MAM Receptor and the Baby Stand Adapter each also have unthreaded receptors on the opposite side from their respective threaded side. They also each include a thumbscrew to lock the parts they mate with securely.

The parts of the Multi-Axis Mount. Your fixture comes with a unique mounting device which we call a “multi-axis mount” or “MAM” as pictured in Figure 4a. This part has also been known as a “lollipop” in grip slang. The MAM allows you to not only change the angle of your fixture but also gives the ability to change the orientation of the fixture in a horizontal or vertical fashion. There are several parts of the MAM all shown in figure 4a. The basic



Figure 4a – The Cool Lights Multi-Axis Mount (MAM) with ratchet handle for the CL-655P/PMD

operation of the MAM is a locking ball with an embedded metal stem. The locking ball is squeezed between two locking clamps which are tightened by a bar “T” handle (CL-255P/PMD and CL-455P/PMD models) and a ratchet handle (CL-655P/PMD models). The ratchet handle was chosen for the CL-655P/PMD models because of these fixtures added weight and the required extra force to clamp them in the desired position. The ratchet handle therefore provides greater leverage for this purpose.



Figure 4b – The “bar handle” version of the MAM for the CL-255P/PMD and the CL-455P/PMD



Figure 5a – Unlocking / locking the MAM screws with a coin

Regardless of the bar handle or ratchet handle, you must set the angle first and then tighten the clamps against the ball to lock the fixture position to the desired one. With the CL-255P/PMD and CL-455P/PMD models it is simply a turning action until the knob is completely tightened. With the ratchet handle, the action is a bit more complex. As with any ratchet, there is a tightening action and then a method to unlock the handle

and turn it back to allow more tightening. This ratchet action is necessary because the ratchet handle is so large to allow leverage in tightening that it cannot turn 360 degrees. It turns about 180 degrees and then must be ratcheted back to its original position for more tightening.



Figure 5b – The receptacles for the MAM screws on the back of the fixture

The MAM is attached to the back of your fixture with 4 screws which can be tightened or untightened with your fingers or a coin as shown in figure 5a. The receptors for the MAM screws on the back of the fixture are shown in Figure 5b. We made the MAM removable for transport purposes in carrying cases such as our CL-CCL1 which was made especially for the Cool Lights Portable Softlight series.



Figure 6 – The CL-MPSA attached to the MAM stem

Attach the CL-MPSA to the MAM Stem. The MAM stem may be attached to a grip head to adapt it to a light stand. However, we provide the CL-MPSA MAM to baby stand adapter to keep the fixture's center of gravity over the stand rather than in front of it as in the case of the grip head type mounting. In other words, a more balanced mounting on a light stand (over it) rather than having the weight toward the front of the stand and unbalanced. To attach the MAM to the CL-MPSA, simply push the MAM Receptor into the MAM stem. Line the Stem Lock Notch of the MAM stem up with the thumbscrew of the MAM

receptor. Then tighten the thumbscrew to lock the two parts in place. You may find that the first time the fit is somewhat tight in the parts but simply working them back and forth will clear any metal burs that may be left from the machining process.

Unpack the 55w biax tubes. The fluorescent tubes come securely packed in a CL-BC2 bulb case (Figure 7) which also has EPE foam end caps to keep it suspended with adequate air space all around it. You will have received either 3200K or 5600K color temperature tubes based on your order choice. Remove the foam end caps and open the CL-BC2 case. You may save the foam end caps in case you ever need them again for shipping purposes. There is a carrying handle and a magnetic latch to keep the case closed. The tubes are inserted in



Figure 7 – The biax bulbs in the CL-BC2 case

EPE foam padding within the case. **Note:** keep the CL-BC2 for use when transporting the tubes to your film and video locations as its not a good idea to carry the fixtures for a long period of time with the bulbs inserted in them—especially when there is risk of a “bumpy” ride along the route.



Figure 8 – Inserting bulbs into sockets

Insert the Fluorescent Tubes. Your CL-255P/PMD uses two 55 watt biax PL fluorescent tubes such as the Cool Lights CL-5532 (3200K version) or CL-5556 (5600K version). Since Cool Lights uses a standard, universal input voltage T5HO (high output) type ballast, just about any 55 watt biax tube with a “2G11” type socket will work regardless of other factors such as color temperature or color rendering index (CRI). When putting the lamps into the sockets, first position the lamp over the bulb clips and sockets

and then insert the socket end of the lamp first (Figure 8) by pressing down until the lamp electrodes lock into place in the locking socket contacts and then situate the lamp into the bulb support clip holders as shown in Figure 9. There are 4 pins on the 2G11 socket of your 55 watt lamps and they are not polarized so there is no necessary orientation of front or back of the bulb facing outward to put them in. They work exactly the same in either position.



Figure 9 – Just push the bulb down into the plastic clip



Figure 10 – Removing the tubes

Removing the tubes. When removing the bulbs, you must release the locking socket contacts by pressing the red release button (see figure 10) on the top of the socket of the bulb you wish to take out. Use your other hand to remove the lamp. Sometimes the pressure required to release the bulbs can be quite a bit. Occasionally a socket will be a bit sticky and won't immediately release the bulb. Please do not force. Be gentle or you may break the socket and/or the lamp! In addition, never lubricate any part of the socket or electrodes.

Warning. All 55w PL Biax lamps contain mercury which is an essential component for their operation. You should check local regulations in your area for disposal of these tubes as they would normally be considered hazardous waste.

Attach CL-MPSA / MAM to a light stand.

Attaching the CL-MPSA and MAM combination to a light stand is relatively simple. Be sure to untighten the baby stand adapter thumbscrew lock before you insert the baby stand adapter onto the top of a baby spud (5/8" male) at the top of a light stand. Once inserted, re-tighten the thumbscrew until it locks into the baby 5/8" male adapter as shown in figure 11. You may find some metal burrs in the baby receptacle which can be cleared out by forcing the receptacle down onto the baby spud until it feels as if it has securely rested on it.



Figure 11 – CL-MPSA baby adapter attached to baby stand



Figure 12 – Power plug, power switch (and dimmer on CL-255PMD only)

Power Cord and Switches.

The CL-255P/PMD includes an IEC male adapter on the side of the unit. This is the same type of power adapter on the back of personal computers (PC) in use everywhere (see figure 12). It was originally designed to allow use of the same model PC power supplies around the world and easily adapt to the different mechanical requirements of all the varied plugs in use today. Your CL-255P/PMD also includes a cord with a U.S. style wall 3 pin (grounded) male power plug on one end and an IEC female adapter on the other end. Should you use the CL-255P/PMD in another country outside of the USA, there is no issue with voltage as the ballasts used are universal voltage and automatically sense and adapts

to whatever country's voltage you happen to be using (100v to 277v and 50/60 hz). To adapt the plug you can choose one of two ways: 1). Adapt with a mechanical adapter on the end of the included U.S. plug; or 2). Adapt by replacing the American IEC power plug with one from your country.

The CL-255P/PMD includes one power switch (see figure 12) to allow switching on/off both the bulbs at the same time. Some customers ask why they can't switch on/off individual bulbs. This is because fluorescent tubes are far more complex than incandescent ones. Switching on/off per fluorescent bulb is not possible with the CL-255P/PMD since normal on/off can only be accomplished by switching the ballast which is driving the bulbs. The CL-255P/PMD uses one ballast which drives both bulbs hence the reason for only one switch. To switch on/off individual bulbs would require one ballast per bulb which would increase the cost as well as the weight of your CL-255P/PMD (two ballasts would be needed instead of just one).

Dimming Note -- CL-255PMD Only. The CL-255PMD is a "manually dimmable" version which allows continuous dimming from around 2% to 100% intensity thanks to special internal dimming ballasts. In addition to the power switch it includes a dimming dial which adjusts from lowest intensity at one end to highest at the other. Fluorescent tubes are not stable much below 5% however (and with some tubes not even stable below 10%) so you may find that turning intensity down completely causes some flickering in the tubes. To stop the flickering back the intensity slightly off of the farthest dimming setting just enough until the tubes stabilize.

Optional CL-255EGG Eggcrate Filter attachment.

The CL-255P/PMD comes with an accessory attachment gasket which allows accessories like eggcrate filters to be attached as shown in figure 13. There are also Velcro attachments on the sides of the fixture to keep the accessory securely attached. In order to attach the optional CL-255EGG Eggcrate Filter (Figure 14) to the accessory gasket of the CL-255P/PMD, you should first take the eggcrate and insert its bottom lip in the first rib of the bottom accessory gasket (as shown by the bottom arrow).



Figure 14 – CL-255EGG and its Velcro straps

Then, slightly pushing down, insert the eggcrate into the same first rib on the top accessory gasket (as shown by the top arrow). After the eggcrate is in place, to be sure it doesn't pop out, attach the eggcrate Velcro straps to the Velcro receptors on the sides of the fixture. Figures 15a and 15b show final positioning of the eggcrate and attachment.



Figure 13 – Accessory gaskets and Velcro attachments



Figure 15a – The CL-255EGG in place with Velcro straps securely fastening it



Figure 15b – Showing the other side

Test the Unit. After the bulbs are securely fastened in their sockets, the fixture is mounted for operation, any eggcrate filter is attached and you've inserted the IEC plug into the CL-255P/PMD on one end and the wall plug on the other, (on the CL-255PMD model make sure the intensity dimmer is turned all the way to full intensity), turn on the unit by turning the power switch to the "1" setting from the "0" setting. Both bulbs should light. Go to the Troubleshooting section if any of the bulbs do not turn on.

Otherwise, congratulations! Your unit is now ready to use in all your visual media productions.

Tube Life Note -- CL-255PMD Only. Dimming is exceptionally hard on fluorescent tubes and may shorten the life of the tubes. Also, it should be noted that most tubes manufacturers (Cool Lights included) recommend breaking the tubes in for 100 hours at full intensity before attempting dimming at all. This should help increase the life somewhat.

Caution: Please do not move the fixture while it is on. This can result in a tube being dislodged, even partially and potential arcing between contacts and tube. In general it's not a good idea to move any kind of lighting fixture while it is on!

Troubleshooting

When troubleshooting any problem, always start with the simplest possibilities and work forward to the more complex ones as you exhaust each scenario. Start with the power plug and make sure it is not only securely plugged into the wall but the IEC connector as well is securely plugged into the CL-255P/PMD. Next, logical troubleshooting would look at the mechanical connections of the power plug to make sure they were not defective by carefully using a volt/ohmmeter to measure resistance between different connections (while the unit is unplugged from the wall voltage supply!). After that, make sure you have bulbs securely fastened into all the sockets and are working within the suggested optimum operating temperatures of 60°F and 125°F (15°C to 51°C).

It should be noted that with any fluorescent fixture, the CL-255P/PMD included, if any one bulb being driven by a ballast is not working or if it's electrodes are not sufficiently in contact with the socket, then all the bulbs on that circuit won't function. Since the CL-255P/PMD includes one ballast which drives 2 bulbs, you may expect that if even only one bulb is defective or poorly connected to its socket then the other bulb being driven by that ballast will not light. Troubleshooting problems such as this requires first making sure the bulbs are adequately seated in their sockets. If this still doesn't fix the issue, then swapping the bulbs that are known to be working into the sockets of the troubled area is the next step. If they still do not work you most likely have developed a bad switch, ballast or socket on that circuit. If the unit is still in warranty, you will need to

acquire an RMA from info@coolights.biz so the defective unit can be returned and repaired or replaced.

Operating Specifications and Parameters

General Specifications

Power Requirements: 100v to 277v 50 / 60 hz

Amperage: 2 amps at 110v / 1 amp at 220v

Power plug type: IEC Adapter changeable per country requirements

Weight: 8 lbs.

Construction: Stamped and machined light gauge sheet metal

Dimensions: 24" long X 5.5" wide X 4" high

Lamp Type: 55w biax PL Lamps 2G11 socket

Dimming Capability: No with model "P" / Yes with model "PMD"

Ballasts: 1 T5HO Type 2 X 55w (110w output each / 220w total)

Switching: 1 switch per ballast / 2 bulb combination

Ballast Specifications

Voltage: Universal Adapting (100v – 277v) 50 / 60hz

Output Frequency: 40khz

Input Watts: 105w for 2 x 55 biax lamps

Power Factor: .>.95

THD: < 15%

Approvals/Certifications: U.L. Approved / Complies with FCC Part 18 A UL935

Class P, Type 1 Outdoor

Protection against open circuit and lamp fault conditions

Operating Specifications

Optimal Temperature Range: 60°F to 125°F (15°C to 51°C)

Conclusion

This completes setup and testing of the Cool Lights CL-255P/PMD 2 X 55 watt Portable Fluorescent Video Soft light. With proper care, you should get many years of service out of its lightweight and space-age plastic construction, high quality sockets and reflectors and superior universal voltage input ballasts. Thanks for your business!

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