



# MLC-24D & MLC-24Da Master Lighting Controllers

C.A.P. offers a full range of equipment for the growing enthusiasts. The MLC-24D & MLC-24Da allow you to control up to Twenty Four 1000 watt HID lights from one 120 amp, 240 volt power source. They come with two 120 volt trigger cables, which will allow you to independently control two banks of 12 lights each, with standard 120 volt timers. Each outlet is circuit breaker protected!

## POWER & WIRING REQUIREMENTS

**WARNING:** This product must be installed by a Licensed Electrician!

- 1) The main 240 volt / 120 amp power must be supplied to the MLC-24D using 1 AWG Cables.

**NOTE:** Please check local codes for wire sizing requirements.

- 2) You must provide over current protection for the MLC-24D using an 120 amp double pole circuit breaker at the Main Panel.
- 3) 120 amps of power require a wire size of at least 1 AWG.
- 4) Make certain that your ballasts are wired for 240 volt.

## CONNECTING THE MAIN 240 VOLT 120 AMP POWER

- 1) Secure the MLC-24D to the wall using appropriate hardware. Keyholes for screws are provided on the back for easy mounting.
- 2) Make sure that all ballasts are disconnected from the sockets on the front of the MLC-24D. Make sure that the Trigger Cable is disconnected from any timers or other outlets. Make sure that all of the circuit breakers on the MLC-24D are OFF.
- 3) Open the MLC-24D by unscrewing the five screws on the front top. The front cover will then hinge open.
- 4) Carefully strip the three wires (2 power wires and the ground) approximately 1". Pass all of the wires through the strain relief connector on the bottom of the MLC-24D, being careful to route them behind all of the wires going to the duplex receptacles on the front of the MLC-24D. (See picture). Please use the correct size wire for your application. Minimum of 1 AWG.

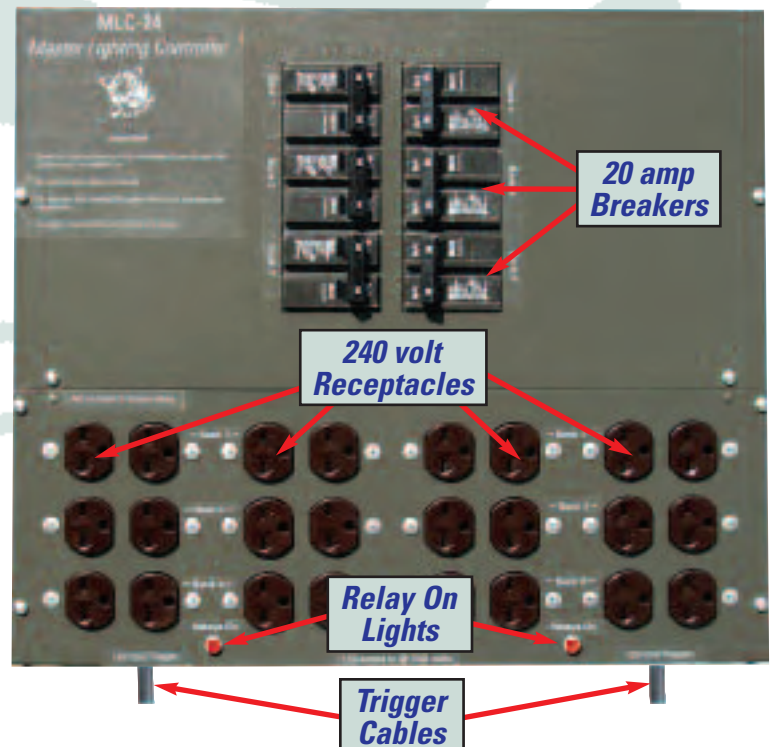
**NOTE:** Please check local codes for wire sizing requirements.

- 5) Connect the 2 power wires to the lugs on the breaker panel plate and tighten them using an allen wrench. Make sure that you strip the wire enough so that you do not have any insulation under the nut. Tighten again with an allen wrench.
- 6) Connect the ground wire to the aluminum lug on the left side of the box that has a green wire attached. Tighten securely using an allen wrench. Make sure that you strip the wire enough so that you do not have any insulation under the nut. Tighten again with an allen wrench.

**CAUTION:** Tighten all of your connections. Loose connections will cause extreme heat buildup in the wires followed by arcing. Arcing is NOT covered by the warranty! Tighten your Connections! Tighten them again!

- 7) Resecure the cover on the MLC-24D by putting the 5 screws back into the front cover.

**WARNING:** This product must be installed by a Licensed Electrician!



## CHECKING YOUR BALLASTS FOR 240 VOLT CONFIGURATION

**WARNING:** Before making any connections, you should verify the ballasts you plan to run with the MLC are properly internally connected for 240 volt operation. Most ballasts have multiple taps which allow you to choose the voltage that the ballast will be used on. Please consult your ballast manufacturer if you have any questions about the voltage of your ballast. If you plug in a ballast wired for 120 volts into an MLC-24D, you will burn out your ballast and potentially risk having a fire.

- 1) Disconnect power from the ballast. Allow 5 minutes before continuing to provide time for the voltage to drain from the capacitor!
- 2) Open the ballast cover exposing the ballast core, capacitor and wiring.
- 3) Look for wires coming from the ballast core that are marked 120 volt and 240 volt. If there are no wires with these markings or no spare wires, the ballast is not a Multi-Tap or Multi Voltage ballast.
- 4) If the 240 volt wire is not connected to anything and the 120 volt wire is connected, the ballast is wired for 120 volt operation.
- 5) If the 240 volt wire is connected and the 120 volt wire is not connected to anything, the ballast is wired for 240 volt operation.

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## CONNECTING YOUR BALLASTS

- 1) Each 20 amp Circuit Breaker on the MLC-24D controls 4 outlets. They are labeled BANK 1 to BANK 6. Each Circuit Breaker can control up to 20 amps of H.I.D. lighting for a total of 120 amps.
- 2) Make sure that your ballast power cord plug configuration matches the outlets on your MLC-24D or MLC-24Da.
- 3) Plug in all of your ballasts to the receptacles on the front of the MLC-24D.
- 4) Make sure that all of the circuit breakers are in the ON position.

**NOTE:** Plug only one ballast into each outlet.

**WARNING:** Do not exceed the amperage rating of this product.

**WARNING:** Do not connect any ballasts that are wired for 120 volts. They will instantly be ruined. Double check your ballasts for 240 volt operation.

## CONNECTING THE 120 VOLT TRIGGER CABLES

The small cables coming from the MLC are the trigger cables. They are 120 volt signal cables, each which will turn on two of the relays inside the MLC when power is supplied to the plug. Connect them to separate timers to control two different lighting cycles. The left eight outlets are controlled by one trigger cable and the right eight outlets are controlled by the other trigger cable.

## TROUBLESHOOTING

If you are having problems with this unit, refer to these troubleshooting hints.

### Problem

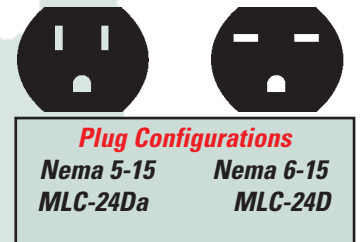
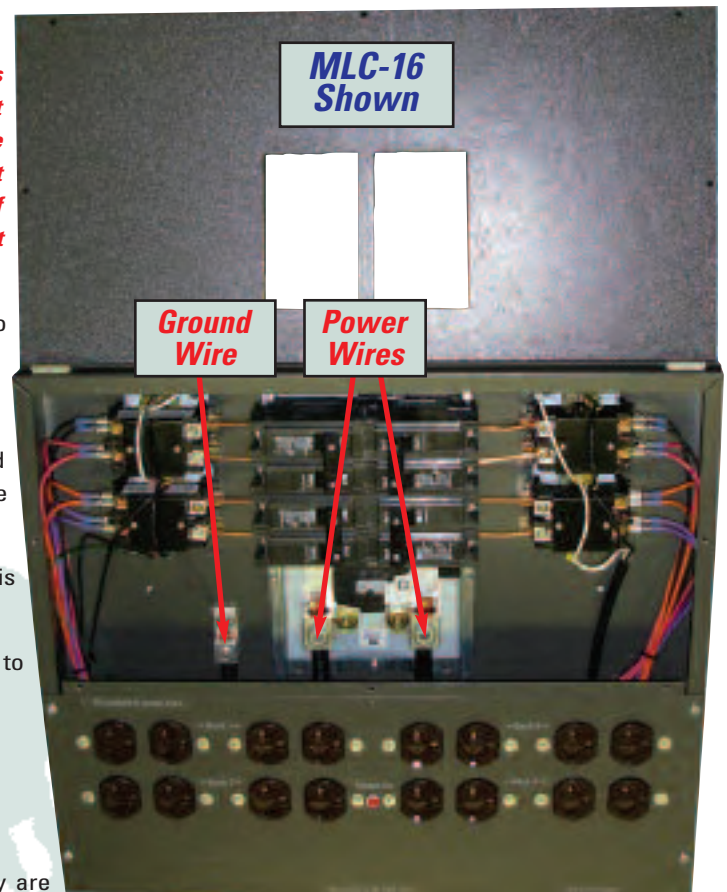
### Suggested Action

#### **The Lights will not turn on**

Check to make sure that there is power to the trigger cable. The Relay On light should be on.  
Check the circuit breakers. Make sure that they are in the ON position. Reset them if necessary.  
Verify that the unit is wired correctly. Check with an electrician if there are any questions concerning proper installation of this product.

#### **The Circuit Breakers keep tripping.**

Verify that only H.I.D. lighting is connected to the MLC-24D. If there are any motor loads, they can trip the circuit breakers, usually on startup.  
Move some of the ballasts to other breakers. If the problem follows certain ballasts, there is a problem with the ballast.



## PRECAUTIONS

**WARNING:** *This product must be installed by a Licensed Electrician!*

**Do not plug in ANY 120 volt devices into the sockets on the front of an MLC-24D. You will instantly destroy any 120 volt device that is plugged in!**

## WARRANTY

**The MLC-24D is warranted against defects in workmanship and parts for Three Years.**

## SPECIFICATIONS

Trigger Voltage:	120 volts
Receptacle Type:	MLC-24D: Nema 6-15 MLC-24Da: Nema 5-15
Main Power Voltage:	240 volts
Maximum Relay Amperage:	120 amps
Minimum Feeder Cable Size:	1 AWG ***Please check local codes for sizing requirements.
Maximum Wattage:	24,000 watts/1000 watts per receptacle
Operating Temperature Range:	32-120° F
Operating Humidity Range:	0-99% RH
Relay Operations (minimum):	100,000 Electrical

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