

OPERATOR MANUAL FOR THE PowerLight 2500DR

INTRODUCTION

The PowerLight 2500DR has both light unit and power supply self-contained. It has a plug-in professional flashtube, a 250-watt adjustable quartz modeling light, and bare bulb capability, both vertically and horizontally. The PowerLight 2500DR is fitted with Photogenic's quick-change reflectors and accessories made by Photogenic.

Before using your new PowerLight 2500DR for the first time, please read this manual carefully and acquaint yourself with the controls and features. In this way, you can quickly get the greatest benefit from your new unit and maintain efficient and safe operation.

SAFETY PRECAUTIONS

Despite the measures that have been taken to make electronic flash equipment safe, it must be recognized that high voltages and high temperatures do exist within the power supply / lighting unit. Certain precautions must be observed in handling the unit.

1. Be sure this appliance is turned off, cooled, and unplugged from AC power before removing or inserting flashtube or modeling lamp. Always use a rag or wear gloves to protect your hand from glass breakage and heat.
2. Do not defeat the purpose of the three-wire line cord by disconnecting the ground. Connect to properly functioning and grounded 3-pin receptacles only (including extension cords).
3. Do not insert a screwdriver or other metal objects into the flashtube socket area or vents. Contact with high voltage may result.
4. Do not operate this appliance with a frayed or damaged line cord. When replacing or using the unit with an extension cable, be sure the cable has an equivalent or greater rating and is a properly connected 3-wire grounded cable.
5. Do not attempt to use this appliance if it has been dropped or damaged, until a qualified service person has serviced it.
6. Do not operate the unit with a damaged or broken flashtube or modeling lamp. Do not use flashtubes with broken, cracked or missing glass envelopes.
7. Perform no internal service work on this unit. Refer all such service to a qualified service person or return to the factory.

PREPARATION AND BASICS

Unpacking and Setup

Unpack all units carefully to remove all parts from the carton(s). Do not discard or destroy the packing material until the equipment has been inspected, assembled, and all parts accounted for.

After unpacking, all parts should be examined for any damage, which may have been caused by rough handling during shipment. If any damage is detected, contact the delivering carrier at once. Claim for damage should be made to the delivering carrier before destroying packing cartons.

To set up the unit, first mount it on a suitable stand. The PowerLight stand adapter allows the unit to be mounted on a stand with a 3/8" to 5/8" post. Be sure to use a stand that is stable and will not tip easily. The unit is shipped with the modeling lamp and flashtube not installed. While installing the modeling lamp and flashtube (with glove or rag to protect the hand) be sure they are properly inserted and tight to

avoid arcing and failure of the socket contacts during operation. [Never touch a quartz modeling lamp with the bare hand. Body salt may shorten the life of the lamp.]

The reflector is attached by the quick-change mechanism. Three tabs on the unit grip the ring on the reflector. Two of these tabs are controlled by finger levers. To mount the reflector, squeeze the finger levers towards each other and tilt the reflector past the stationary tab, then past the two tabs that are controlled with the levers. Release the finger levers and make sure all three tabs are securing the reflector (see illustration below.)

Illustration from PL1500 p. 2

With power switch OFF, attach the line cord to the power input connector, located on the bottom of the PowerLight, and connect it to a grounded wall outlet. Turn the power switch ON. The power indicator in the switch should light. The READY light will light when the unit has charged to the power level set by the FLASH power control.

CONTROL PANEL AND BASIC OPERATION

Illustration from PL1500 p. 3

Power Input:

The power required to operate the PowerLight 2500DR is 105 to 125 volts AC, 60 Hz, 10 Amp. The PowerLight 2500DR power cord has a 125V, 10 Amp. rating. Cords rated for less amperage may overheat.

Circuit Protection:

Circuit protection automatically protects this appliance from excessive damage due to circuit or component failure. Operation exceeding the rated cycle of the appliance may cause the fuse to open. [Always replace fuse with same rating of fuse.] An additional thermal protector is located inside the PowerLight 2500DR and may open, if the rated duty cycle is exceeded. A cooling off period of 10 to 45 minutes is required to reset the thermal fuse.

To replace a blown fuse (power cord disconnected), simply unscrew the fuse holder cap and replace the exposed fuse with a new fuse. If fuses continue to blow, contact your dealer or qualified service person.

Power Switch:

Illustration of new control panel

The power switch controls the AC power to both the modeling and flash circuits. The power switch illuminates in the ON position.

Flash Power:

All settings and controls of the PowerLight 2500DR are extremely stable and repeatable due to the use of an internal microcomputer.

Use the *Adjust* button to turn on the *Flash* red LED. Adjust the PowerLight 2500DR *Flash* power setting using the 1/2 or 1/10 UP/DOWN arrow buttons.

Ready Light:

The PowerLight 2500DR is fully charged when the READY lamp is on. Full power charge (1000 ws) time is a maximum of 3 seconds. The unit may be flashed before fully charged.

Test:

The TEST button is pressed to fire the flashtube for test purposes.

Flash Indication:

The flash indication feature will dim the modeling light to its lowest setting, then intensify slowly to full brightness, and then back to its original state. This will occur after each flash, even though the modeling light may be off. This feature is turned ON (LED on) or OFF (LED off) with the FLASH INDICATION button.

Modeling Light:

The modeling light has three modes of operation:

1. MANUAL [press the ADJUST button to turn the MODEL yellow LED on] adjusts the modeling lamp intensity using the 1/2 or 1/10 UP/DOWN arrow buttons.
2. TRACK mode causes the modeling lamp intensity to track the FLASH setting. The modeling lamp may be set to full intensity at any FLASH value, by simply pressing the TRACK/SET button a second time, with the FLASH already set to desired watt-seconds. Setting is retained when user returns from another mode.
3. FULL ON/OFF is exactly what it says. Press the FULL ON/OFF button to turn the modeling lamp OFF (LED off) or ON (LED on).

All mode settings are retained, even after power has been off.

Automatic Flash Dump:

This feature will automatically flash the unit when the FLASH setting is reduced in 1/2 stop increments; otherwise, the internally stored power is discharged through a resistor, before the unit is READY. Flash Dump is faster. This feature can be turned on or off, by the user.

Turn FLASH DUMP on: With unit power off, press and hold the FULL ON/OFF button. While holding the FULL ON/OFF button, turn the unit power on and wait until the FULL ON/OFF LED blinks. Next, release the FULL ON/OFF button and the FULL ON/OFF LED will go off.

Turn FLASH DUMP off: With unit power off, press and hold the ADJUST button. While holding the ADJUST button, turn the unit power on and wait until the ADJUST LED blinks. Next, release the ADJUST button and the ADJUST LED will go off. [The ADJUST LED will come back on, if it was on when power was turned off.]

Also, each time the AC line power is disconnected or switched off, the flashtube will flash. This removes most of the flash capacitor charge to prolong the life of the unit and is a much safer condition for storage, transporting, and replacement of flash tube or modeling lamp. This is a feature, over which the user has no control.

Synchronization and Triggering:

Triggering is accomplished by using a built-in photoslave or a trigger cable from the power supply to the camera shutter contacts of "X" or "zero" delay. Other units in the system are then triggered by photoslave operation. It is best to connect the fill light directly to the camera since it will be positioned furthest back in the studio and will usually provide sufficient illumination to trigger the other units. It is suggested that all walls and ceiling be painted either in white or light neutral colors for most reliable photoslave operation.

After the trigger cord is properly connected, check the synchronization with the camera. Adjust the lighting unit to same height as the camera lens and face the lights into the lens. The lens aperture should be

open to its fullest extent and set on “X” or “zero” delay. Remove the camera back. It is best to perform this test with the modeling lamps turned off.

While looking at the lens through the back of the camera, operate the shutter. A few sheets of white paper in front of the lens will cut down the brilliance of the flash and aid in making the observation. The flash of the light should then appear as a circle the same size as the aperture. If the circle is flattened on the sides, or if no light appears through the lens, the shutter is not synchronized. If the shutter appears not to be synchronized, a reputable camera repair shop should check the shutter contacts.

OPERATION

Flashing Rate:

The unit recharges quickly, as indicated by the READY light on the control panel. A quick series of flashes can be obtained within the limits of the recharge time. Continuous rapid flashing, however, can overheat and damage the flashtube and internal parts. The maximum recommended rate of flashing depends on the power level being used and the amount of operation time. Use the following chart to serve as a guide for the maximum rate to use in your situation.

Power Level	Operating Time	Seconds Between Flashes	Number of Flashes
Full	Continuous	15	Continuous
	30 minutes	10	180
	3 minutes	6	30
1/4	Continuous	6	Continuous
	30 minutes	3	600
	3 minutes	3	60
1/32	Continuous	3	Continuous

Exposure Information:

The following charts give the BCPS output for various umbrellas and reflectors. Coverage angle is given in degrees.

Umbrella Diameter	28 inch	45 inch	54 inch
Coverage	120°	120°	130°
Full Power	11000	11166	11166
1/2	5500	5583	5583
1/4	2750	2792	2792
1/8	1375	1396	1396
1/16	688	698	698
1/32	344	349	349

Reflector Diameter	None*	7.5"	14"	16"	20"	24"
Coverage	360°	35°	40°	60°	65°	145°
Full Power	4666	50000	35000	46666	32666	8400
1/2	2333	25000	17500	23333	16333	4200
1/4	1167	12500	8750	11667	8167	2100
1/8	583	6250	4375	5833	4083	1050
1/16	292	3125	2188	2916	2042	525
1/32	146	1562	1094	1458	1021	262
GN @ ASA100 @ Full Power	160	515	430	495	415	210

*Data for no reflector is with unit positioned vertically.

SPECIFICATIONS

General:

Flash Power.....	1000 watt-seconds maximum
Flash Duration.....	1/xxx second at Full 1/xxx second at 1/32
Recycling time.....	0.4 to 3 seconds
Power Control.....	Full to 1/32 range. 0.1 f-stop resolution.
	Side Display/ Wired-Remote Accessory Available. Side Display/ Infrared-Remote Accessory Available.
Modeling Light Power	250 Watt Quartz, ESS
Modeling Light Control	Full to 1/32 range. 0.1 f-stop resolution. Line voltage regulated.
Triggering	Built in Photoslave. Synchronization Jack, 5 volt isolated. Push to Test button.
Main Supply	105-125 VAC, 60 Hz, 15 Amp.
Consumption	0.2 amps idling, 15 amps charge.
Voltage Stabilization	Plus or minus 0.05 f-stop.
Overload Protection	Fuse.
Packaging	Extruded Aluminum case.
Weight	X pounds, Y ounces.
Dimensions	4.5" x 4.5" x X.XX" Without tube, lamp, reflector.

Flashtubes and Modeling Lamps:

Flashtube	Plug-in style, use only Photogenic C4-9.
Modeling Lamp	250-Watt Quartz Halogen, ESS. 150-Watt Quartz Halogen, ESP. 100-Watt Quartz Halogen, ESR.
Fuse	3AG type, 16 Amp, SLO-BLO.

COMMON PROBLEMS AND CAUSES

Unit does not charge.

Probable causes:

- Fuse blown. (Replace fuse.)
- No line power to unit. (Check line cord and outlet.)

Modeling light does not turn on.

Probable causes:

- Lamp turned off. (Press FULL ON/OFF button until LED lights.)
- Lamp burned out. (Inspect and replace, when cool.)

Light flashes by itself without apparent reason.

Probable causes:

- Defective trigger cord, or trigger cord incorrectly polarized.
- Bright light falling on photoslave.
- Poor connection in line cord.
- Reverse connection on trigger cord connection at camera.

Trigger cord will not flash unit, but charge indicator shows that the system has charged.

Probable causes:

- a. Defective trigger cord.
- b. Defective flashtube. Turn unit off. Wait until cool, then replace flashtube.

SERVICE

The photographer should not attempt to make repairs himself. Consult a dealer for an authorized Photogenic Machine Company service agent.

For replacing the flashtube or modeling lamp, follow the directions given in this manual.