

dyna-lite

Flash Equipment

power pack instruction manual



Dyna-Lite: The Legacy of Lighting

We thank you for choosing state-of-the-art Dyna-Lite studio lighting equipment. Since 1970 Dyna-Lite has been committed to the design and manufacture of small, lightweight power packs to help professional photographers improve their control over the challenges of lighting. Our products are designed to make it easier for you to brilliantly light people or products, in the studio or on location. We pride ourselves in making an excellent product that keeps up with the ever changing needs of the professional photographer such as the two stop Variator for the ultimate in flash control and Wi packs featuring the Pocketwizard™ radio receivers.

Lighter Weight means less to carry or ship. Yet we pack more watts per pound into our power units than any other power pack on the market.

Compact Size and smaller footprint, makes for power packs that take up less room in the studio, on location, or in a shipping case.

Extended Life of Dyna-Lite power packs insure a longer continuous duty life cycle and more “stamina” than competitive systems.

Flexibility and Control built into sensibly priced Dyna-Lite power packs simplify complex lighting set-ups.

Abuse Resistant Design through the use of arc proof connectors and switches make Dyna-Lite equipment safe and virtually “assistant proof.”

Reliability is engineered into every Dyna-Lite power pack, durable and consistent Dyna-Lite Power Packs are the choice of professional photographers and equipment rental houses worldwide.

Two year Warranty comes standard with all Dyna-Lite power packs. Be sure to return the enclosed warranty card so that we may register you in the growing family of Dyna-Lite power pack owners. Quick turn-around repair service, should you ever need it, is available at Dyna-Lite headquarters in Union, New Jersey, and at conveniently located regional service centers. In addition, factory-trained service capability exists at many Dyna-Lite dealer locations.

If you have any questions about your Dyna-Lite power pack, please call 1-800-722-6638. We are here to help.

Important Safeguards

When using this flash equipment, basic safety precautions should always be followed, included the following:

1. Read and understand ALL instructions and specifications before using your Dyna-Lite equipment.
2. Care must be taken when handling the flash heads as injury could occur from touching the modeling lamp(s) or flash tube(s).
3. **DO NOT** operate a power pack or flash head with a damaged cord or if the unit has been dropped.
4. If an extension power cord is necessary, a cord with a suitable current rating should be used. Cords rated for less than 15 amps may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled from the electric source outlet.
5. Unplug the power pack from the electrical outlet when not in use. **NEVER** yank the cord to pull the plug from the outlet.
6. Let flash heads cool completely before putting them away. Loop flash cables in an 8" to 10" diameter when storing.
7. **DO NOT** allow power cord(s) or flash head cable(s) to hang on or touch hot surfaces.
8. To avoid electrical shock hazard, **DO NOT** attempt to disassemble the power pack. Incorrect reassembly could cause an electrical shock hazard when a power pack is subsequently used. Take it to a qualified Dyna-Lite service technician when repair is required.
9. When the power pack is not in use for one month or more, it is wise to periodically plug the power pack in and turn it ON for a couple of hours. It is not necessary to operate a flash head during this "idling" time.
10. Use the flash head extension cable locking rings with the flash head pigtail not at power pack.
11. The use of properly GROUNDED AC outlet is recommended.
12. Remove plastic or metal flash head cover before shooting.
13. Please set the sync mode switch to the "SYNC" position before turning the power and model lamp switches "ON" and "OFF". This procedure will ensure the longevity of the power and modeling lamp switches.

Personal Records/Insurance

Date of Purchase _____

Dealer Name _____

Address _____

Insurance Company _____

Serial Number _____

Phone _____

Policy Number _____

General Instructions for all power packs

The following instructions are applicable to all Dyna-Lite power packs except as noted. Additional features specific to individual packs are described on the pages that follow.

Flash Heads

To plug in flash heads, first plug the flash head extension cable into flash head pigtail, then plug the other end into a Flash Head Outlet (*this can be done at anytime without shutting down the power pack since outlets are arc protected*). Align the white dot on the extension cable plug with the back of the pack.

AC Power

First plug the AC power cord into the power pack, then into a grounded AC outlet. Next, turn AC Power Switch on. Then, wait for the ready light or audible beep before firing flash. The Ready Light Switch also serves as an open flash test switch and signals 100% flash readiness. **NOTE:** The Audible Ready Indicator indicates 100% flash readiness and can be turned on or off.

Modeling Lamps

Turn Modeling Light Switch on. Make sure modeling light switch on back of flash head is turned on. All power packs have individually operated modeling light switches that can be used to control the brightness on the modeling lamp to match the relative intensity of the flash.

Flash Head Power

Power Control Switches can be adjusted to provide full, half or quarter power to the flash head outlets in the respective "A" or "B" channels.

Ratio/Combined Switch

All Dyna-Lite power packs feature the Ratio/ Combined switch. On all packs the flash head outlets are grouped into two separate channels (sometimes called banks) marked "A" and "B". The switch has two options; the first is A:B and the second is A+B.

Ratio A:B (Asymmetrical Power)

Uneven distribution of power to the A and B channels is referred to as asymmetrical or ratio and allows more control of light output by dividing the pack into two halves or channels that can each be separately controlled over a three stop range. First make sure that you have the Ratio/Combined switch set to A:B. Now the corresponding Power Control switches control each channel individually. If you plug one head into the Channel A side, that Power Control regulates only that same side. The Channel B side is dormant until you plug a head into an outlet on the "B" side. Consequently, the Power Control switch on the B side only controls Channel B. As you plug in an additional head to either (or both) sides, the power is equally split, but only among each channel. If you had one flash head in Channel A set at 125 watt/seconds and two heads in Channel B set at 125 watt/seconds, the A head would deliver 125 watt/seconds of power and each of the B heads would deliver 62 watt/second each.

Combined A+B (Symmetrical Power)

Even distribution of power, called symmetrical or combined takes the power from both A and B channels. It is the setting to use when you want either the maximum power your pack can deliver sent to a single flash head or if you want every head plugged in to deliver an equal amount of light. To achieve maximum power, plug a flash head into any outlet, set the Ratio/Combined switch to A+B and both Power Output switches to full power. To achieve less than full power with a single head, change the settings of either or both of the Power Output switches. The light output will be the sum of the two channels. If more than one head is plugged in, every head will get equal power. The amount of power each head will get depends on how many heads are plugged in (regardless of which outlet) and the settings of the Power Output switches. The simple calculation is as follows. Take the combined number of both Power Output switches and divide that by the number of flash heads plugged into the pack. The result is the amount of power each head is receiving.

Variator Control

All Dyna-Lite power packs now include the Variator Control (sometimes referred to as the power trimmer). The M500XL, M1000er and M2000er all have a one stop Variator Control. The M500Wi, M1000Wi and M2000Wi all have a two stop Variator. The Variator Control provides maximum flexibility in ascendancy by allowing the light intensity to be adjusted in 1/3 stop increments. The Variator adjusts the entire pack globally, meaning that as you change it, the ratios of "A" and "B" channels will not be affected. This feature is especially useful if you are bracketing exposures. It also becomes important when you are using multiple packs and wish to fine-tune the light balance between packs. There are many times for example where adjusting a single light an entire stop will result in too dramatic a change. **NOTE:** When increasing the power with the Variator Control, the flash output is adjusted automatically. When decreasing the power, "bleed" the pack by pushing the test fire button.

Sync/Slave/Infrared/Radio Operation

The Sync Input Socket circuitry is I.S.O approved and operated and operates on 10 volts DC to avoid damage to camera flash contacts. Plug the sync cord into the sync terminal on the camera first, then plug the other end into the Sync Input Socket on the power pack, inserting the wide blade at the top. The three-pronged plug supplied prevents accidental insertion into an AC outlet, but the socket will also accept a two-pronged plug. On the M500XL the Slave/Sync Switch lets you choose between slave or conventional sync cord operation. Set to Sync position when using only one pack, or when this pack is used to trigger other packs. Use the Slave position when the pack will be triggered by another flash or by an infrared transmitter. (The slave-eye responds to most infrared transmitters.) The M1000er and the M2000er can be operated as slaved units with the use of a separate "H" prong slave-eye available at most photography dealers. Just plug the "H" prong slave eye into the sync socket on the pack and it will trigger when it sees the other units flash. The M500Wi, M1000Wi and M2000Wi have a Radio setting for use with the optional Pocketwizard transmitter.

Programming a Wi pack (using optional Pocketwizard transmitter or transceiver)

Dyna-Lite Wi packs feature a built in Pocketwizard receiver. First make sure that the Sync/Slave/Radio switch is set to Radio. Next turn on your Pocketwizard transmitter and set it to the channel you would like to use. (**Note:** You can program the receiver to respond to an entire channel or a specific quad zone by selecting only that zone.) Turn on your Dyna-Lite pack and hold the test button on your transmitter until your pack flashes. The built in receiver is now programmed and ready for use. There is a 30 second window to "train" your Wi pack. Turning the pack off and back on will reset the built in receiver.

M500Wi / M1000Wi / M2000Wi

Power Packs

1. **AC On / Off Power Switch** - Turns power pack on and off.

2. **Two stop Variator Control** - Fine-tune your power settings in 1/3 stop detented increments. Used in combinations, the power control switches and Variator provide a total of 18 different power settings with a single flash head, going as low as 15 watt/seconds.

3. **Power Control Switches** - Three position full/half/quarter power switches provide power settings over a three stop range per channel. (These can be trimmed using the Variator or combined using the Ratio output switch.)

4. **Tri-color L.E.D. Power Indicators** - Tell at a glance how much power your pack is set to deliver. Red, Orange and Green lights indicate full, half and quarter power, respectively.

5. **Proportional Modeling Light Controls** - Five position proportional modeling light switch allows you to control the ratio of your modeling light for pre-visualization. Flash head fans always run at full speed regardless of switch position.

6. **Flash Head Outlets** - The pack is capable of accepting up to four heads - each outlet is arc protected. This means that it is completely safe to plug and unplug flash head cables into the outlets even while the pack is on.

7. **Modeling Light Delay Circuit** - (M2000 Wi only) Delays the modeling light from coming back on after flash for 1, 2, 4 or 8 seconds. It is especially useful when you are dragging the shutter so the modeling lights will not effect exposure. It also redirects the power from the pack when recycling as the modeling lights draw an additional 2 amps of power each.

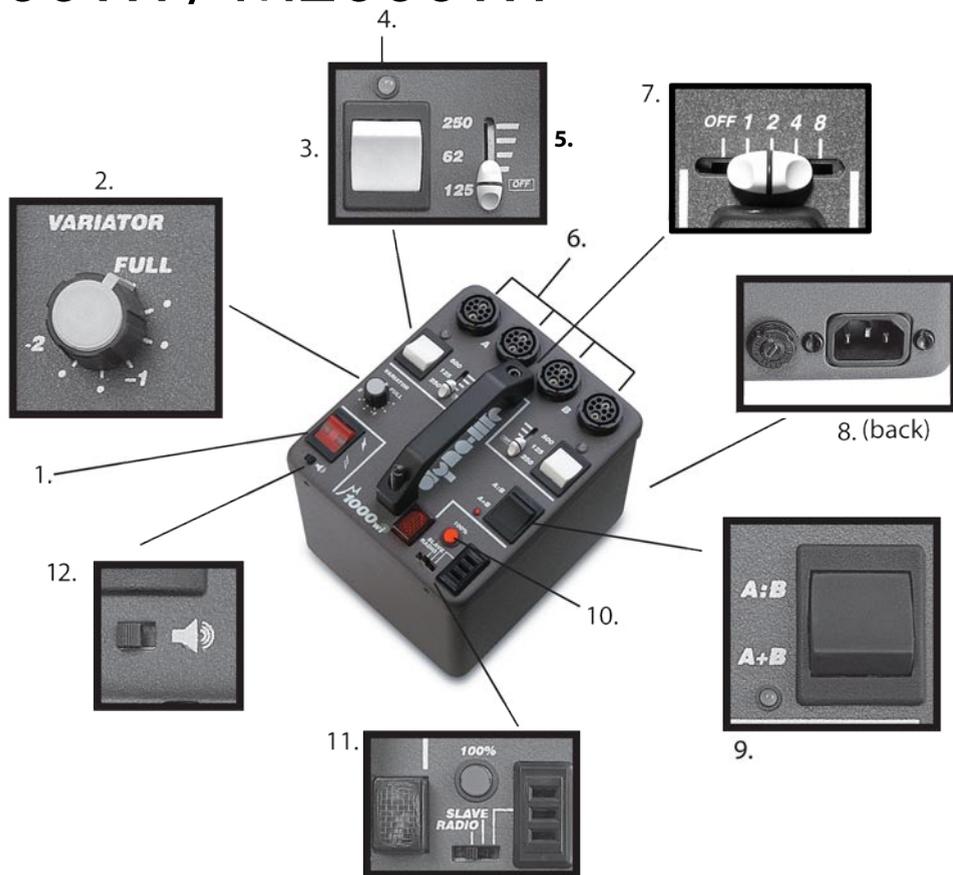
8. **AC Power Cord Socket and Circuit Breaker** - Offers easily reset-able protection.

9. **Ratio/Combined Output Switch** - An indicator light tells you whether your power is routed symmetrically or asymmetrically between the "A" and "B" flash head outlet banks.

10. **Ready Light/Test Switch** - When lit the pack is fully charged. This button can also be used to manually trigger the pack.

11. **Sync, WEIN slave-eye and Pocketwizard selector switch** - Can be triggered by sync cord, any flash and will also respond to most infra-red triggers or optional Pocketwizard radio slave.

12. **Audible Ready Indicator Switch** - Get audible confirmation that the pack is fully recycled to full power.



M1000er / M2000er Power Packs

1. **AC On / Off Power Switch** - Turns power pack on and off. Also offers a dual proportional dimmer slide switch for modeling light control, including Full Off, so that the cooling fan can continue to run.

2. **Two stop Variator Control** - Fine-tune your power settings in 1/3 stop detented increments. Used in combinations, the power control switches and Variator provide a total of 15 different power settings with a single flash head.

3. **Power Control Switches** - Three position full/half/quarter power switches provide power settings over a three stop range per channel. (These can be trimmed using the Variator or combined using the Ratio output switch.)

4. **Flash Head Outlets** - The M2000er pack is capable of accepting up to three heads and the M1000er can accept four. All outlets are arc protected. This means that it is completely safe to plug and unplug flash head cables into the outlets even while the pack is on.

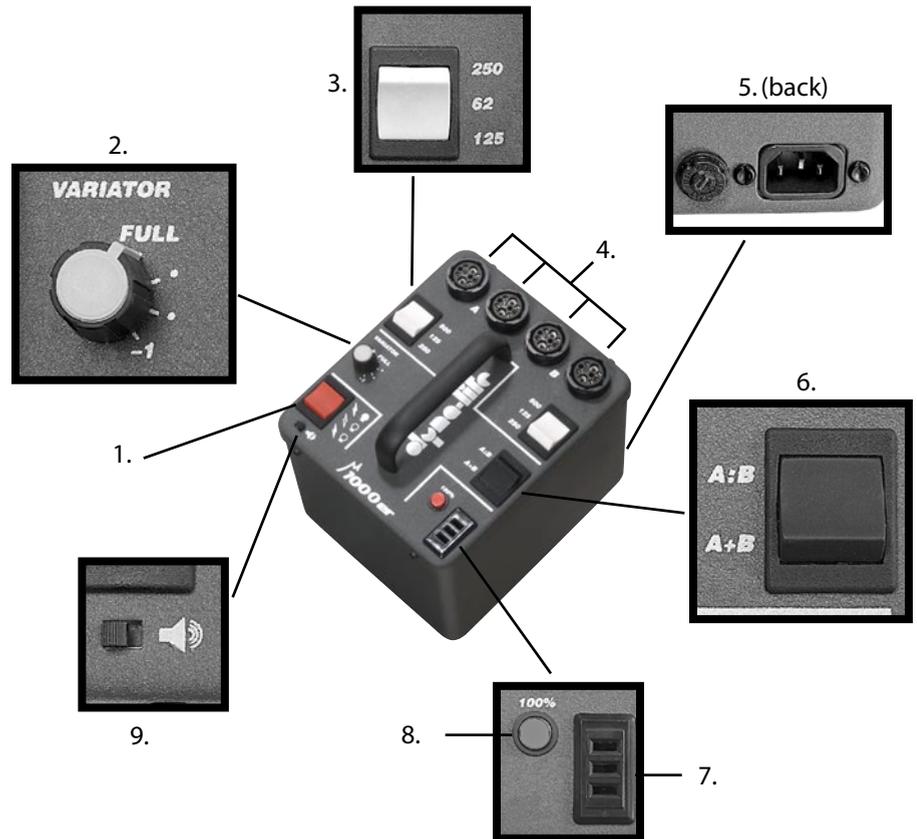
5. **AC Power Cord Socket and Circuit Breaker** - Offers easily rest-able protection.

6. **Ratio/Combined Output Switch** - An indicator light tells you whether your power is routed symmetrically or asymmetrically between the "A" and "B" flash head outlet banks.

7. **Sync Input Socket** - Outlet for plugging in sync cord, slave or optional radio slave.

8. **Ready Light/Test Switch** - When lit the pack is fully charged. This button can also be used to manually trigger the pack.

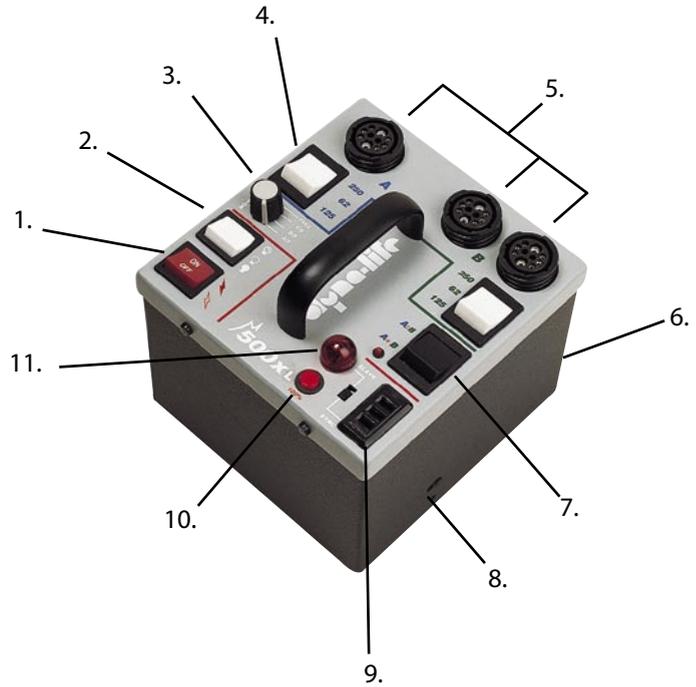
9. **Audible Ready Indicator Switch** - Get audible confirmation that the pack is fully recycled to full power.



M500xl

Power Pack

- 1. AC On / Off Power Switch** - Turns power pack on and off.
- 2. Modeling Light Switch** - Three-position modeling light control; full on, off, or direct tracking. Flash head fans always run at full speed regardless of switch position.
- 3. One stop Variator Control** - Click stops allow you to fine-tune your basic power settings in 1/3 stop increments. Used in combinations, the power control switches and Variator provide a total of 15 different power settings with a single flash head.
- 4. Power Control Switches** - Three position full/half/quarter power switches provide power settings from 62 to 250 watt/seconds per channel. (These can be trimmed using the Variator or combined using the Ratio output switch.)
- 5. Flash Head Outlets** - The pack can accept up to three heads. Each outlet is completely arc protected. You can plug and unplug flash head cables without shutting down the power pack.
- 6. AC Power Cord Socket and Circuit Breaker** - Offers easily reset-able protection.
- 7. Ratio/Combined Output Switch** - An indicator light tells you whether your power is routed symmetrically or asymmetrically between the "A" and "B" flash head outlet banks.
- 8. Audible Ready Indicator Switch** - Audible beep for aural confirmation.
- 9. Sync Input Socket** - Outlet for plugging in sync cord or optional radio slave.
- 10. Ready Light/Test Switch** - When lit the pack is fully charged. This button can also be used to manually trigger the pack.
- 11. Built-in WEIN slave-eye with on/off switch** - Can be triggered by any flash and will also respond to most infrared triggers.



Getting Started with Basic Lighting

Light Meters

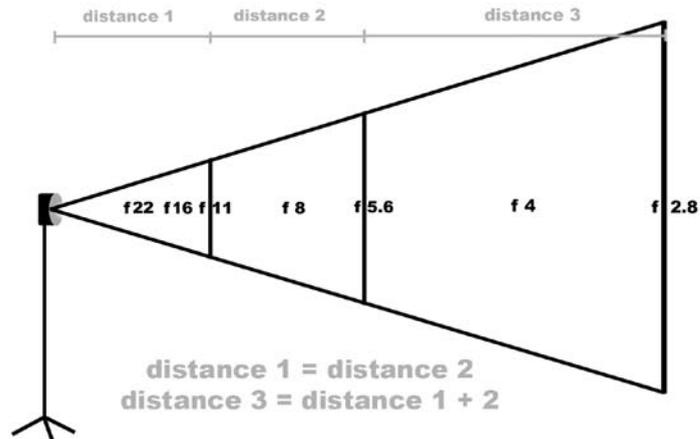
It is recommended that you purchase a flash meter. This device measures the amount of light coming from your flash system. This light can vary depending on the distance of the light from the subject and various light modifiers, which are used to change the quality of the light. Flash meters are available from manufacturers such as Sekonic, which features PocketWizard technology in select models. Most flash meters are incident flash meters, meaning you take the meter and point it back towards the camera from the perspective of the subject to maintain an accurate reading of light falling upon the subject. You may also wish to point your meter at the direction of the light source from the position of the subject when you are using multiple lights to understand the ratios between the lights. Some meters are reflective meters (often referred to as spot meters) and measure the light being reflected back from the subject taken from the camera position.

Halving and Doubling

Photography is based on the principle of halving and doubling. Shutter speeds are expressed this way as well as the amount of light between f-stops. Your flash unit works based on the same principle. That is why the units are expressed in terms of this numerology. Consequently, 250 watt/seconds will deliver twice as much light as 125 watt/seconds and the relationship between these settings is one stop. Another thing to consider is the inverse square law. As you double the distance between the light and the subject, you lose two f-stops of illumination. (See inverse square law diagram.) Keep in mind the actual f-stop values vary depending on the actual power of the light source.

illustration of the characteristic fall off of light

(based on the inverse square law)



Sample lighting setups

Basic single light

There is an amazing amount of versatility that you can get out of one light. Consider for a moment that the sun is only one source, however the angle of the light (ie time of day, atmosphere it passes through and location in the world) affects the quality. In addition there are surfaces that are reflecting, modifying and diffusing light all the time.

Using a simple umbrella for example, diffuses the light and creates a larger and softer, broader source, then using the strobe by itself. The closer you make the source the more specular or harder the light appears (fig.1) and the further the source the flatter or softer that the light appears. (fig. 2)

The first thing you want to do is position the umbrella in the light to the point just before there is no spillage outside the umbrella's interior surface. If you place the light too close to the umbrella, you are not taking advantage of the broad source your umbrella offers. Next, position the umbrella off to one side of your subject to create dimension. (fig. 1-A) Start at three or four feet away for a basic head and shoulders portrait and slightly above the subject pointing slightly down. (fig. 2-A) Experiment with the angle relationship to your subject.

It is best to do this in a dark room with the modeling light on to watch how the light falls on your subject. Keep in mind that the closer your subject is to the background and the further the light is to the subject the more illumination of the background will occur. (Also by using a darker back ground, more light will be needed to illuminate it.) To create separation from the background use a second light either illuminating the background or as a hair light to illuminate the back of the subject.

figure 1

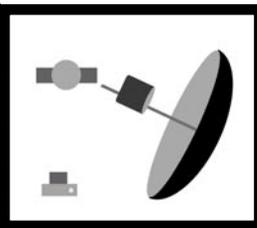


figure 1-A

figure 2-A

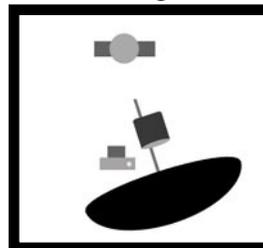


figure 2

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FAQ's / Troubleshooting

What is a Watt/Second and what does it measure?

A Watt/Second is a unit of energy, commonly used for AC-powered studio flash units. It is not, however, a unit of actual light output, thus comparing the watt-second ratings of different flash units do not give an accurate description of actual flash power. Among a given system, you can expect the halving and doubling of watt/seconds to correspond with halving and doubling of light output.

I decreased the power on my pack and the output remains the same.

This should only occur for the first flash after resetting the power. It is recommended that when you decrease the power setting on your pack with the Variator that you should "bleed" the pack. This is achieved by hitting the test fire button.

How come the slave eye is not triggering the pack?

1. Make sure that the switch is turned onto the slave setting.
2. The WEIN slave responds to line of sight. If you are using a modifier (such as a grid spot or snoot) that does not allow the slave-eye to physically "see" the flash it may not fire.
3. When the pack is first turned on there is a 15 second delay while the Wein slave energizes.

Modeling light doesn't work.

There is a power switch on the back of the Dyna-Lite head. This switch controls the power to the modeling light. If this switch is off the modeling light will not work, independent of how the pack is set. If head switch is on and the modeling light switch from the pack is on, check and make sure that the cables are properly seeded. If they are, it is likely that you need to replace the bulb.

The Pocket Wizard will not fire my Wi pack.

The training period for Wi packs is 30 seconds. Turn the pack off and back on, then you are able to re-train the pack as detailed in the General Instructions. (Page 2)

Flash will not fire when using sync cord.

Though rare, there are some cases which polarity matters. Unplug the sync cord from the pack and re-plug it in 180 degrees in the opposite direction.

Pack will not turn on.

Make sure that the unit is properly plugged in and that there is A/C power delivered from the outlet. Check that the Circuit Breaker has not tripped. If it has, push in the breaker switch.

Circuit Breaker repeatedly trips.

Your Dyna-Lite pack is equipped with a circuit breaker to prevent unit overheating. If your circuit breaker trips repeatedly, it could be a result of firing too many flashes repeatedly. The solution is to shut down the pack temporarily and let it cool down. If this does not solve the problem it is recommended that you should send the pack in for servicing at an authorized repair facility.

Specifications	M500XL	M500Wi	M1000er	M1000Wi	M2000er	M2000Wi
Total Power - Watt/Seconds	500	500	1000	1000	2000	2000
Recycle Time - Full Power in seconds	1.5	1.5	1.5	1.5	1.8	1.8
Average Power Consumption - Amps	7	7	14	14	18	18
Flash Consistency - F - stop	1/10	1/10	1/10	1/10	1/10	1/10
Flash Duration - seconds Maximum (two heads min power)	1/4500	1/4500	1/4200	1/4200	1/3800	1/3800
Full Power (one head max power)	1/800	1/1000	1/550	1/550	1/700	1/700
Sync Circuit Voltage - volts	10	10	10	10	10	10
F - stop Range	5	6	5	6	6	6
Variator Range (in 1/3 stop delents)	1	2	1	2	2	2
Built in WEIN light slave	yes	yes	no	yes	no	yes
Built in POCKET WIZARD receiver	no	yes	no	yes	no	yes
Maximum heads allowed	3	4	4	4	3	4
Dimensions Foot Print	5 3/8" x 5 7/8" 43mm x 149mm	5 7/8" x 6 7/8" 149mm x 175mm	5 7/8" x 6 7/8" 149mm x 175mm	5 7/8" x 6 7/8" 149mm x 175mm	7 1/8" x 9 1/4" 181mm x 235mm	7 1/8" x 9 1/4" 181mm x 235mm
Height (including handle)	5 3/4" 146mm	6 1/2" 162mm	7" 175mm	7" 175mm	8 1/4" 210 mm	8 1/4" 210 mm
Weight	4.1 lb	6.2 lb	6.7 lb	6.9 lb	12.4 lb	12.6 lb



dyna-lite
Flash Equipment

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