



AlienBees™ Operation Manual

Professional Photographic Flash Units

The AlienBees™ Flash Units are manufactured and directly sold by Paul C. Buff, Inc.™, home of AlienBees™, White Lightning™ and Zeus™.

AlienBees™ 2725 Bransford Avenue Nashville, Tennessee 37204
Toll Free 1-800-443-5542 Local (615) 383-3982 Fax (615) 383-0676

Thank you for purchasing an AlienBees™ Flash Unit!

This manual will provide you with assistance as you learn the features and operation of the unit. It is important that you read this manual carefully, to ensure safe and proper use of your AlienBees™ units. If you have any additional questions or need further assistance, please call us on our Toll Free Customer Service Line at **1-800-443-5542**. We are available to help you with your questions Monday through Friday, from 9:00am until 5:00pm, Central Standard Time. Thanks!



Your Absolute Satisfaction Guarantee and Factory Warranty

In order for you to be happy, and certain that what you've purchased is what you want and need, we offer a **60 Day Absolute Satisfaction Guarantee**. We are that convinced that you will be completely satisfied with our products. If for any reason you are not satisfied, you may return your equipment within 60 days for a complete refund, minus the cost of shipping. Furthermore, all AlienBees™ Flash Units carry a **2 Year Factory Warranty**. The warranty does apply to a unit's original flashtube, but not to the modeling lamp, as these are standard bulbs that may be exhausted based on use. The obligation of Paul C. Buff, Inc.™ is limited to the repair of products which have become defective under normal use, as outlined in this manual. Should you experience any difficulties, please call us so we can assess your predicament as best we can, and let you know if we need to bring your unit in for repair. Equipment must be returned to Paul C. Buff, Inc.™ or an authorized international repair center for warranty or out of warranty repairs.



Warning! Please Observe These Precautions For Your Safety!

The AlienBees™ Flash Units contain high voltages and internal components that can store dangerous voltages even when the unit is unplugged. The units contain **no user-serviceable parts** and should not be disassembled except by a qualified technician. Please do not attempt to disassemble this unit on your own.

The flashtube and the modeling lamp can get extremely **hot**. To change lamps, turn the unit off, then unplug the power cord from the AC outlet. Allow the unit to cool, and use a clean cloth or insulating gloves to remove or replace lamps. Do not allow your finger oils to contact the lamps as this can cause excess heat build up and may cause premature flashtube or modeling lamp failure.

Before attempting to operate the unit, make sure that the unit is securely mounted to a light stand. Do not allow unattended children around the units as potentially dangerous conditions may result. These dangers may include burns and electrical shock hazards, with the possibility of falling equipment if cords are tripped over. The unit may only be connected to a 3-wire grounded AC outlet to avoid shock hazard. Do not connect the unit to ungrounded outlets, or to two-wire extension cords or adaptors that eliminate the ground prong.

Product Description

The AlienBees™ Professional Photographic Flash Units are powerful, compact monolights, designed for the most demanding professional use, yet are equally at home in the hands of the enthusiastic beginner. Available in models B400, B800 and B1600, the AlienBees™ units are self-contained AC-powered studio flash units, offering consistent performance and versatility for a wide range of subjects.

AlienBees™ Flash Units are sold factory-direct only
from AlienBees™, a division of Paul C. Buff, Inc.™

What Comes With Each AlienBees™ Flash Unit

Each AlienBees™ Flash Unit comes with our standard 150 watt modeling lamp, a 5600°K daylight-balanced flashtube, our 7-inch silver field reflector, 15-foot power and sync cords, a black polycarbonate shipping cover, and small nylon clips (for attaching gels and filters).

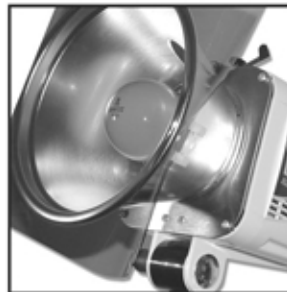
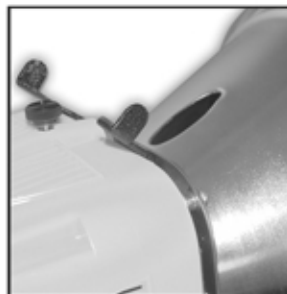
Power Requirements

As the units require an AC power source, each unit comes with a 15-foot power cord. This cord connects to the flash unit on the back control panel with a standard IEC connector, and then must be connected to a 120VAC, 50-60Hz power outlet. The units are rated at 6 amps average current, and may briefly peak at nearly 18 amps input current at the very beginning of the recycle period. The AlienBees™ units will draw less average current if the flashpower is set for lower output and the modeling lamp is off. Depending on the model lamp rating, and the model lamp power setting, the AlienBees™ require approximately 1 to 2 amperes to illuminate the model lamp and maintain the flash.

When shooting in an environment where an AC power source is not available, we recommend the exclusive use of the Vagabond™ II Portable Power System (see specific product for details). The Vagabond™ II is designed specifically for Paul C. Buff, Inc.™ flash units, to provide a convenient, lightweight, self-contained portable power source at a very low cost. In addition, the Vagabond™'s internal battery can be recharged from any source of commercial AC power nearly anywhere in the world. Multiple Vagabond™ II units may be purchased for the price of a single generator or high power true sine wave inverter system.

Flash Capacitors

Using precision voltage regulation and well-designed internal thermodynamics, the AlienBees™ Flash Units produce consistent and correct output levels based on the output settings that you assign. The regulator circuit inside the flash unit controls the electrical energy from the AC power source by continuously monitoring the back panel control settings, the status of the back panel switches, and the remote control input (when you are using either our wired or wireless remotes) to determine the correct amount of energy to be applied to the high voltage converter circuit. The high voltage is then used to charge the flash capacitor(s) to the appropriate level, thus storing a precise amount of electrical energy proportional to the prescribed settings. The flash capacitors hold this energy, then release the energy as a short, controlled burst of light (a "flash") when the signal to fire is received. The advanced durability flash capacitors in AlienBees™ flash units are designed to provide consistent output levels, shorter flash duration, decreased heat build-up, and higher capability.



4. Attach your accessories.

Reflectors: To attach any of our reflectors to the faceplate of your flash unit, you will use the antennae to expand and contract the holding fingers in the same manner used to remove your shipping cover. When the antennae are squeezed, the holding fingers will contract, allowing you to place your reflector around the fingers. When the antennae are released, the four fingers will expand to hold the reflector securely in place. For proper fitting, ensure that all four of the fingers are holding the inside of the reflector.

Softboxes: The speeding of your assembled softbox will fit on the unit's faceplate in place of the reflector, attached and removed as the reflectors are, with the holding fingers.

Umbrellas: You may use umbrellas with the standard 7-inch reflector provided, or bare-bulb. To use an umbrella with the reflector, you will need to line up the hole in the reflector with the hole in the unit's housing. The umbrella pole fits through the hole in the reflector, then through the corresponding hole in the top of the unit's housing, and is tightened in place with the black screw (*holds poles 3/8" or less*).

Honeycomb Grids: To use our honeycomb grids, you will need either the standard 7-inch reflector provided or the UMF LiteMod Unit Mainframe. With either the standard reflector or Mainframe reflector attached, you can snap any single honeycomb grid directly into the recessed outer lip.

Gels/Filters: Gels and filters may be used either with the Unit Mainframe, the Background Reflector or our standard 7-inch reflector. To use gels with the Mainframe, you will slide them into the frame using the GELH Gel Holder. To use gels and filters with the standard or background reflectors, you can use the provided nylon clips for attachment. These clips will adhere to the reflector, holding a gel over the reflector to modify the output of the light.

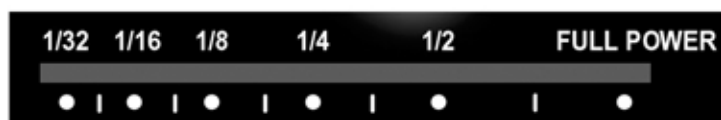
(Please see the individual accessories for a complete description of use and attachment.)

Flash Duration

The flash duration is a measurement of the time that it takes for the capacitor(s) to release their charge. As discharging the capacitor's stored energy produces a flash, the amount of time that the flash is present will vary based on the amount of energy to be discharged. A higher power model flash unit, with more capacitors storing more energy, will have a longer flash duration, as there is more energy to discharge. For example, the B400 unit at full power has a shorter flash duration than the B800 unit at full power. However, when you lower the flashpower of that B800, the flash duration does not get shorter. When the flashpower is lowered, the amount of voltage applied to the capacitor(s) is lowered. So, even though the same flashpower output can be achieved by a B400 and a lowered B800, the B400 has only one capacitor to discharge, whereas the B800 has two to discharge, taking slightly more time. When you reduce the flashpower on a unit, the flash duration actually increases. The duration gets longer by roughly 1/4 to 1/2 as you lower the power from full down to 1/32 power.

Output

The output of each unit is continuously variable over a stepless 5 f-stop range from Full down to 1/32nd of the total power, in whole f-stop increments, and everywhere in between. The flashpower is adjusted on the back control panel of the unit, with a slide fader that shows marked f-stop increments. This convenient slider allows you to adjust the output of your unit simply and quickly, changing the quantity and intensity of the light produced without having to physically move the light source back and forth.



The flashpower is adjusted with a slider on the unit's back control panel.

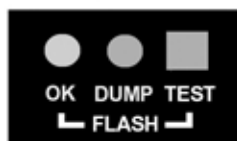
Firing

Each AlienBees™ unit comes with a 15-foot sync cord, having a 1/8-inch miniplug on one end, and a standard PC-sync connection on the other. This sync cord connects your camera to the flash unit, so that when you press your camera's shutter to take a picture, the flash unit will fire simultaneously. The miniplug on one end of this cord will plug in to the sync jack on the back panel of the unit, and the other end of the cord will connect to your camera with its PC-sync connection. If your specific camera does not have an input for this PC-sync connection, you can still connect the sync cord to your camera by using a hot shoe adaptor. We offer a durable and inexpensive hot shoe adaptor that will slide directly into your camera's hot shoe, providing an input for your sync cord.



The sync/trigger voltage is less than **6 volts**, safe for both film and digital cameras. Most other brands of flash units have sync/trigger voltages much higher than these, as high as 50-60 volts. When using a digital camera with any external flash unit, it is best to check on the maximum sync voltage allowed for your camera, found in your camera's manual.

As each AlienBees™ unit has a built-in slave tripper, when using a multi-light setup you will only need to connect one unit in the setup to your camera. With one unit connected, the other units will reliably fire at the same time via their built-in slave trippers. The slave tripper is activated by the **slave cell**, located on the back control panel. This slave cell is disengaged whenever a miniplug is inserted into the **sync jack**. When a sync cord is inserted, the unit will only take its cue to fire from this cord, whether the signal is sent from your camera, from a flash meter, or from a remote control. When there is no sync cord present, however, the slave cell will serve to fire the unit whenever it "sees" the light from another flash. This cell will fire the unit when tripped by a flash 50+ feet away. This slave tripper allows you to connect one light in your setup to your camera, leaving the other lights to fire with this slave cell. The slave tripper will fire the individual unit, at its prescribed settings, simultaneously with the connected unit.



Green OK light = READY

Red DUMP light = WAIT

Recycle

After the unit fires (releasing the stored energy from the flash capacitors), the unit will begin recycling, to recharge the capacitors. The red **DUMP LED** will light as the unit recycles, then the green **OK LED** will light to indicate that the recycle is complete, and the unit is again ready to fire at the same settings. The AlienBees™ units boast fast recycle times, recycling quickly for time-constrained work. The recycle time is at its longest when the unit is set to full power, and shortens as the flashpower settings are lowered.

The red **DUMP LED** will also light whenever the unit is adjusted from a higher power to a lower power setting. As there is more power stored in the capacitors from the previous higher setting, this power must be "dumped," so that the capacitors hold the correct amount of energy for the new, lower power setting. The unit will automatically dump this excess charge quickly, and the green **OK** light will indicate that this excess charge has been dumped. If you do not wish to wait for the unit to automatically dump this charge, you can push the red **TEST** button, to immediately dump the charge. When the green **OK** light comes on, the unit holds the correct amount of energy for the settings, and is ready to fire based on those settings.

Flashtubes

The flash capacitor's terminals are connected to electrodes inside the flashtube, which is a hollow, circular glass envelope containing xenon gas. When the signal to fire the light is received, a high voltage pulse is created by the control circuitry, and is applied to a "trigger electrode" attached to the flashtube. This high voltage pulse causes the xenon gas inside to ionize. The ionization process makes the xenon gas highly conductive, and the energy stored in the flash capacitor(s) is discharged through the xenon gas. The energy flowing through the ionized xenon gas is dissipated as heat, and as a brilliant pulse of light. The initial burst of brilliant light fades as the energy stored in the flash capacitor(s) is depleted, until finally the pulse of light is extinguished. This entire process occurs very quickly, typically in fractions of a millisecond!

The spectral content, or color balance, of light emitted by a light source is stated in terms of "color temperature," and is measured in degrees on the Kelvin scale. The Kelvin scale relates to energy emitted by an object, and starts at absolute zero, or -273° Celsius. Direct sunlight is usually stated as having a color temperature of about 5500-5700°K.

The flashtubes used in AlienBees™ units are daylight-balanced at 5600°K, providing accurate color rendition. Each AlienBees™ unit comes with a standard 5600°K 14mm flashtube (AWFT14MMUV). The life expectancy of a flashtube is stated as the number of flashes it will produce before needing replacement due to decreased output. The flashtubes used in AlienBees™ units have a life expectancy of well over 100,000 flashes, and depending on use they will typically provide over 250,000 flashes. The flashtubes for all AlienBees™ units are user-replaceable, with replacements sold inexpensively.

Modeling

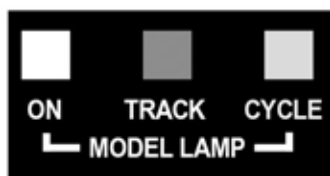
With precision voltage-regulated circuits supplying consistent output, the AlienBees™ boast true "what-you-see-is-what-you-get" modeling lamp accuracy.

Each unit comes with a 150 watt modeling lamp, which is essentially a light bulb, having a standard medium Edison-type base. This lamp provides accurate modeling, with simple and inexpensive replacement. It is normal for modeling lamps to become exhausted by use, and replacements can be purchased through AlienBees™, or from any local hardware store carrying comparable bulbs. Any incandescent light bulb can be used, as long as it is rated under 150 watts. Bulbs with wattages higher than 150 watts, and fluorescent bulbs may not be used, as these can produce excessive heat or electrical noise. Please call our Technical Services Department if you have questions about using different bulbs.

The modeling lamp can be set to full brightness, turned completely off, or set to track the power changes by pushing in the grey **TRACK** button. When set to tracking mode, the modeling lamp will brighten and dim as you adjust the flashpower, matching the output from Full down to 1/32nd of the brightness. This allows you a true preview, and is especially beneficial in multi-light setups. When using multiple flash units, if you set the modeling lamp in each unit to track the changes made in power, you will have an accurate preview of the brightness and specularities of each light in exact ratios, regardless of the individual settings for each light.

For multi-light setups, we strongly recommend that you use multiple lights in the same model (for example, three B800 units) to maintain the accuracy of this preview. When using multiple light setups where different power models are present, you may want to replace the modeling lamp(s) in the lower power model(s), to get an accurate preview with matched ratios. For example, if you have a three-light setup with two B1600 units and one B800 unit, you can keep the 100 watt bulbs in the B1600 models, and replace the lamp in the B800 model with a 75 watt bulb. This way, the preview will not only reflect the power settings, it will additionally maintain the accurate ratios of power in your setup.

The modeling lamp in each unit may also be used as a recycle indicator, turning itself off when the unit is recycling, and coming back on to let you know when the unit is fully recycled and you are ready to shoot again. To utilize this feature, simply push in the white **CYCLE** button.



Internal Fan Cooling

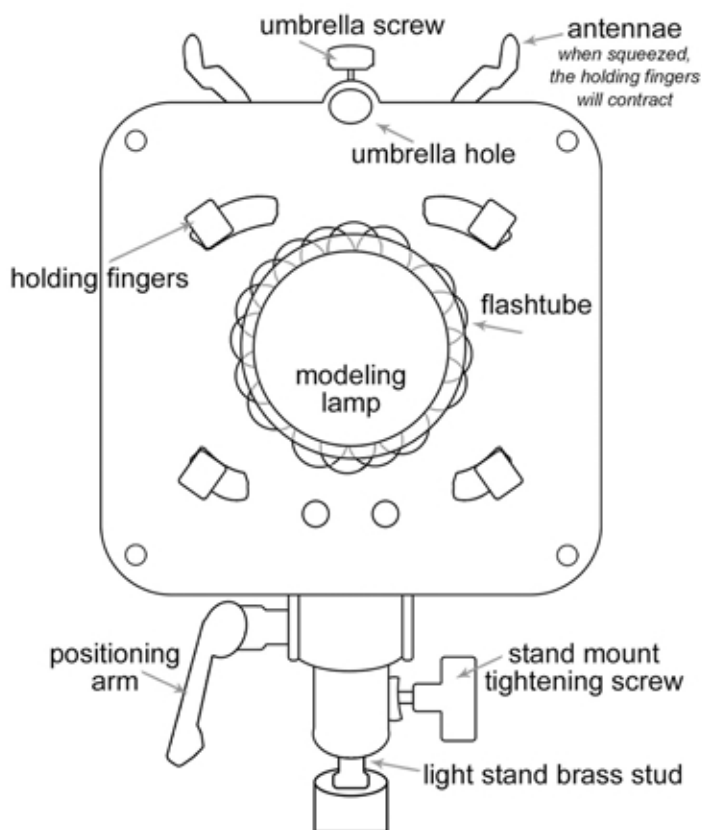
AlienBees™ flash units, like any electronic device, produce heat during normal operation. We incorporate axial-flow thermodynamics to reduce heat build-up, and offer a built-in cooling fan that allows extended, all day shooting sessions, and prevents overheating when using accessories such as softboxes and honeycomb grids which enclose the flashtube and modeling lamp, containing the heat.

Housing

The AlienBees™ units are housed in high-impact Lexan polycarbonate (the same material used for bullet-proof glass). This material makes the unit both indestructible and lightweight. The housing additionally has a built-in hole for umbrellas, located on the top of the unit, with a small black screw to hold the umbrella in place.

On the front of the unit is a silver, quick-release faceplate. This faceplate has a hole for the modeling lamp and flashtube, with four small holding fingers around it. These fingers expand and contract to hold accessories, including the black protective shipping cover and the standard 7-inch field reflector, as well as our other light modifiers, reflectors, and softbox speedrings.

As the flash unit must be securely attached to a light stand before being operated, each unit has a swivel bracket stand mount already attached to the housing. This stand mount will fit all of our light stands, and almost any stand with a connection up to 5/8-inch. The black knob turns to securely fasten the stand mount to a light stand. The black arm is then loosened to adjust the angle of the flash unit, tightening to hold the unit in the desired position.



Accessories

We offer a full line of accessories to be used with the AlienBees™ flash units, including light stands, reflectors, light modifiers, softboxes and umbrellas. The units may be remote controlled with either our LG4X 4-Channel Wired Remote Control or our CyberSync™ System, and may be portably powered with our Vagabond™ II Portable Power System. For more information on the specific accessories available, kindly call us or visit our website.



Power ON/OFF Switch: The Power Switch turns the entire unit on or off, and also serves as a circuit breaker.

Model Lamp ON: This button turns the modeling lamp on.

Model Lamp TRACK: When the TRACK button is depressed, the modeling lamp will track the flashpower settings. When released, the modeling lamp will remain at full brightness regardless of flashpower changes.

Model Lamp CYCLE: When depressed, the modeling lamp visually indicates the recycle status by going dark when the unit is flashed and coming back on when the unit is recycled. When released, the lamp remains on during recycle. This recycle indication feature may be used whenever the lamp is on, whether the lamp is set on full brightness, or when it is set to track the power changes.

Flashpower Control Slider: This slider continuously adjusts the flashpower from Full down to 1/32 power, marked in whole f-stops and fractional power settings.

Flash OK: The green OK LED will light to indicate that the unit is 100% recycled.

Flash DUMP: The red DUMP LED will light to indicate that either the unit is recycling, or it is charged to a higher flashpower than what is selected. This occurs when you fire the unit, or when you change the flashpower from a higher value to a lower value. To avoid underexposing or overexposing the next frame, wait for this light to go out, and the green OK light to come on. Whenever the DUMP light is on, the unit is either recycling, or its automatic circuitry is draining the excess charge to set the proper charge. The dump process may take from several seconds to a full minute, depending on the change made. Pressing TEST will fire the unit to immediately dump excess power.

Flash TEST: The TEST button fires the flash for testing and metering, and will also serve to dump excess power.

REMOTE Jack: Plugging a wired remote phone cord into this jack causes the unit's flashpower and modeling lamp to be externally controlled. When a cord is plugged in, the rear panel controls are ignored. All flashpower, modeling and firing signals will be received from the remote control.

SYNC Jack: The supplied 15-foot sync cord has a 1/8-inch miniplug on one end, and a standard PC-connection on the other. The miniplug will plug into the sync jack on the back panel of the unit, and the other end of the cord will connect to your camera with its PC connection.

specifications	the B400	the B800	the B1600
true wattseconds	160 wattseconds	320 wattseconds	640 wattseconds
effective wattseconds	400 wattseconds	800 wattseconds	1600 wattseconds
lumenseconds	7,000 lumenseconds	14,000 lumenseconds	28,000 lumenseconds
power range	5 f-stop range (full to 1/32 power)	5 f-stop range (full to 1/32 power)	5 f-stop range (full to 1/32 power)
recycle to full	0.5 seconds	1 second	2 seconds
flash duration (t.5 method)	(at full power) 1/6000 second	(at full power) 1/3300 second	(at full power) 1/1800 second
	(t.1 method) 1/2000 second	1/1100 second	1/600 second
weight	2.5 pounds	2.9 pounds	3.7 pounds
dimensions	9" x 7.5" x 5.5"	9" x 7.5" x 5.5"	9" x 7.5" x 5.5"

Power Ratings: Wattseconds/Effective Wattseconds/Lumenseconds/Joules

The quantity of electrical energy is measured in **Wattseconds (ws)**, also known as **Joules**. This rating defines the amount of electrical power discharged with each flash. While the actual amount of light produced for a given number of wattseconds varies, depending on the unit's design, this term provides a reasonable guide to comparative light output, as long as real/true wattseconds are specified. In the conversion of Watts to Lumens, or Wattseconds to Lumenseconds, the efficacy of the system determines how much light will result from a given number of wattseconds. The poor efficiency in this conversion by manufacturers has given rise to the term **Effective Wattseconds**. If one flash system converts 400 Wattseconds of energy into 16,000 Lumenseconds of light, and another flash system converts 800 Wattseconds of energy into the same 16,000 Lumenseconds of light, then the first system could claim to have "800 Effective Wattseconds" as it is effectively producing the same amount of light as a system starting with 800 True Wattseconds. The absolute amount of light emitted each time a flash system is fired is correctly specified in **Lumenseconds**. The number of lumenseconds produced by a particular flash system depends on the efficacy, how effectively the system turns electrical energy into light energy, or wattseconds into lumenseconds.



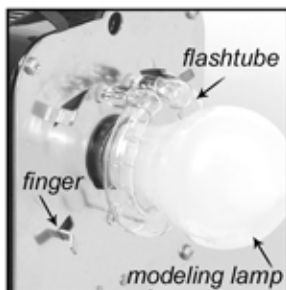
Getting Started with your AlienBees™

An AlienBee has just invaded your home!
Open the box and let's get started flashing...

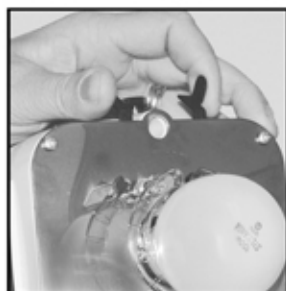
1. **Remove your new AlienBees™ Flash Unit from the cardboard shipping box.** Your bee cannot be operated from the inside of this box. Hee, hee.



2. **Remove the black shipping cover.** Your flash unit arrives with a black polycarbonate shipping cover in place. ***You must remove this cover prior to operation.*** The cover is held in place with the four holding fingers on the front faceplate of the unit, which are used to hold accessories as well, such as reflectors and softbox speedrings. The modeling lamp that comes with your AlienBees™ unit is a standard, medium Edison base 150 watt incandescent bulb. Please make sure the modeling lamp is installed before using the flash unit. The flashtube supplied is our 5600°K Daylight-Balanced flashtube. Both the modeling lamp and flashtube are user-replaceable, with replacements available from AlienBees™ for a minimal cost.



To remove the cover, squeeze the bee's "antennae." These antennae are actually the lever controls for holding and releasing faceplate accessories. When squeezed, the four holding fingers on the unit's faceplate will contract, allowing you to pull the black cover straight off of the faceplate. Releasing these antennae will allow the holding fingers to expand back into the holding position.



3. **Securely mount your flash unit to an appropriate light stand.** The swivel mounting bracket allows you to affix your unit to any of our light stands. Once you have expanded the footprint of the stand to its stable position, set the unit on top of the stand, allowing the brass stud on the stand to slide inside the mounting bracket opening (*fits most stands 5/8" or less*).



4. Attach your accessories.

Reflectors: To attach any of our reflectors to the faceplate of your flash unit, you will use the antennae to expand and contract the holding fingers in the same manner used to remove your shipping cover. When the antennae are squeezed, the holding fingers will contract, allowing you to place your reflector around the fingers. When the antennae are released, the four fingers will expand to hold the reflector securely in place. For proper fitting, ensure that all four of the fingers are holding the inside of the reflector.

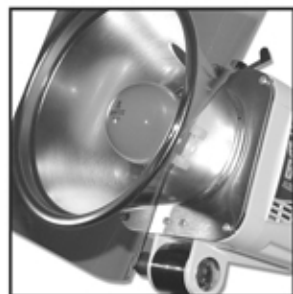
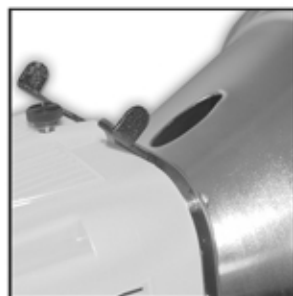
Softboxes: The speeding of your assembled softbox will fit on the unit's faceplate in place of the reflector, attached and removed as the reflectors are, with the holding fingers.

Umbrellas: You may use umbrellas with the standard 7-inch reflector provided, or bare-bulb. To use an umbrella with the reflector, you will need to line up the hole in the reflector with the hole in the unit's housing. The umbrella pole fits through the hole in the reflector, then through the corresponding hole in the top of the unit's housing, and is tightened in place with the black screw (*holds poles 3/8" or less*).

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Gels/Filters: Gels and filters may be used either with the Unit Mainframe, the Background Reflector or our standard 7-inch reflector. To use gels with the Mainframe, you will slide them into the frame using the GELH Gel Holder. To use gels and filters with the standard or background reflectors, you can use the provided nylon clips for attachment. These clips will adhere to the reflector, holding a gel over the reflector to modify the output of the light.

(Please see the individual accessories for a complete description of use and attachment.)





connect only to a
three-wire, grounded
AC power outlet

5. Connect your power cord. This provided 15-foot cord connects to the flash unit on the back control panel, then plugs in to a 120VAC, 50-60Hz power outlet. With the power cord connected, turn your unit on. The green OK light indicates that your unit is powered and ready to fire.



6. Connect your sync cord to your camera. The 1/8-inch miniplug end of the provided sync cord plugs into the sync jack on the back panel of the unit, and the other end of the cord will connect to your camera with its PC connection. When the cord is plugged into the sync jack, the flash unit will fire. This flash will indicate that the sync cord is detected, and that the unit will take its cues to fire from your connected camera.

You are now ready to position your unit(s) and adjust the flashpower settings to take your shot. The output settings that you choose will vary based on your subject, your environment, and your desired effects. The positioning will vary as well, depending on the coverage, distance and intensity required. The modeling lamps will help you to determine positioning, as they show you exactly where your light will hit, matching the specularity of the source with any modifying accessories. To adjust the flashpower, you will simply move the back panel slider left and right: left to lower the output (down to 1/32 power) and right to raise the output (up to Full). When the green **OK** Light comes on, the flash unit is ready to flash at the prescribed setting. You are now ready to take a **meter reading**, adjust your camera's settings, and begin shooting.

Metering

When using flash units and various light modifying techniques, the best way to ensure a proper exposure is to use a high quality, dedicated flash meter. There are several manufacturers who offer excellent meters, allowing you to enter the specific settings that you've chosen for a shot, and read the amount of light present. You can connect the provided sync cord directly to a hand-held meter, and select the "cord" option for the meter's fire signaling. Once you have entered the appropriate film speed (ISO) and aperture or shutter speed into the meter, you are ready to take a reading. The meter's "test" or "fire" button will fire the unit(s) in your setup, and indicate the appropriate settings so that you may set your camera controls accordingly. A reading from the camera position or from the subject position may be used to determine an overall average scene reading. Depending on the subject, you may additionally want to take spot meter readings.

With these readings, you can set your camera's controls appropriately for the amount of light present, considering the aperture and shutter speed needed for the specific effect desired. For example, if you are shooting a portrait, you may want to use a lower speed film with less grain, such as ISO 50 or ISO 100. For shooting a sports event, you may want to use very fast shutter speed to stop the action. Depending on your needs, you can take a reading, then adjust the output of your flash units accordingly until the reading indicates settings that fit within your desired range. Once you have taken your reading, made necessary adjustments, and set your camera's controls, you can remove the sync cord from the meter and return it to your camera. You are now ready to shoot.

Note: When metering for a correct exposure, you cannot rely on your in-camera meter, as it cannot detect the light that will be produced by the flash unit(s) when fired. Most cameras employ a Through-The-Lens Meter (TTL), which takes light readings by sending out a pre-flash or infrared sensor in order to detect the amount of available light. While this reading has no way of detecting the flash, the signal may also inadvertently trip your unit's built-in slave tripper, causing a premature flash.

Automatic vs. Manual Camera Modes

The automatic mode is a setting on your camera that allows the camera to use its internal meter to automatically adjust the aperture and shutter speed for a shot based on the prescribed ISO speed of your film, and the available light. When using studio flash units, you cannot leave your camera in automatic mode, as its internal meter will not be able to detect the light that will be emitted by your flash units, and will thus be set to an inaccurate shutter speed and aperture opening, causing your picture to be overexposed. Furthermore, when in automatic mode, many cameras have TTL metering which will send out an infrared signal to read the light, and that signal may inadvertently trip your unit's built-in slave tripper.

Manual exposure is a camera mode which is non-automatic and requires the photographer to set their own aperture and f-stop for each shot. This mode does not rely on the camera's internal metering system, but requires you rather to take a reading with a separate flash meter to determine correct settings. When using external flash units, your camera should be adjusted manually.

Bracketing

When shooting, bracketing is taking several photographs of the same scene and setup with different exposure settings both above and below the target setting indicated by the flash meter. As different brands of meters vary in their readings for a "correct" exposure, bracketing both above and below the indicated settings will ensure that you get a properly exposed picture.



Remember, should you still need assistance of any kind, our mastermind bees are here for you. We invaded this planet to guide you to a higher level of intelligence, and we're prepared to help you in any way that we can. No question is too big or too small. Just give us a call! *We bees aim to please.*

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