

# ALIENBEES™ FLASH UNITS

## AlienBees™ Flash Unit Operation Manual for AlienBees™ B400, B800, and B1600 models



**AlienBees™ Professional Photographic Flash Units** are powerful, compact monolights, designed for the most demanding professional use, while still feeling 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.

**Thank you for purchasing an AlienBees™ Flash Unit!** This manual is designed to provide you with assistance as you learn the features and operation of your flash unit; please read this manual carefully to ensure safe and proper use. If you have any questions or need assistance, please call us on our Toll Free Customer Service Line at **1-800-443-5542**. We are available to help you Monday through Friday, from 9:00 am until 5:00 pm, CT. You can also email us at **[info@paulcbuff.com](mailto:info@paulcbuff.com)** for assistance.

# BUFF

The **AlienBees™ Flash Units** were designed and created in the USA by Paul C. Buff. All AlienBees™ products are manufactured and sold direct by **Paul C. Buff, Inc.™**

Paul C. Buff, Inc.™ • 2725 Bransford Avenue • Nashville, Tennessee • 37204

v. 3/2013

## ABSOLUTE SATISFACTION GUARANTEE and FACTORY WARRANTY

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**60-Day Absolute Satisfaction Guarantee:** Your AlienBees™ flash unit carries a 60-Day Absolute Satisfaction Guarantee, giving you 60 days to try out the unit and make sure that you love it. If you don't love it, you can return it within 60 days for a refund, minus the shipping costs. This is an unlimited, no questions asked guarantee.

**2-Year Factory Warranty:** Paul C. Buff, Inc.™ guarantees to the original purchaser an individual product factory warranty against manufacturer defects in materials and workmanship, beginning with the date that the product is originally shipped to the customer.

**Terms and Conditions of Warranty:** This warranty is limited to the repair or replacement of a product or component that should become defective under normal use, as outlined in the product description and product manual.

If, during the applicable warranty period, the product is found to be defective by Paul C. Buff, Inc.™, we will repair or replace the defective product with an equivalent model without charge for labor or parts.

This warranty will not cover deterioration or malfunction resulting from accident, act of nature, abuse, misuse, neglect, unauthorized product repair, shipping of the product, opening of or modification or failure to follow instructions supplied with product.

This warranty does not apply to any flashtubes or modeling lamps that may arrive with a product as these become exhausted based on normal use.

The product must be returned to Paul C. Buff, Inc.™ for warranty service. For customers in the United States, warranty service includes return shipment via UPS ground to the original destination (where the equipment was sent to the original purchaser). Customers outside of the United States will be responsible for all shipping fees, duties, taxes and brokerage fees to ship the product to and from our offices.

Paul C. Buff, Inc.™ IS NOT RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE OR CONSEQUENTIAL DAMAGES, LOST PROFITS, OR PRODUCTS LOST, STOLEN OR DAMAGED DURING SHIPPING, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE. ALL LIABILITY OF Paul C. Buff, Inc. SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT, AT OUR OPTION, OF ANY DEFECTIVE PRODUCT.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This warranty may not be altered other than in writing.

## SAFETY WARNINGS

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Paul C. Buff™ Flash Units are designed for professional photographic use. As with all electronic equipment, users must observe all warnings and safety precautions. Carefully read all operating instructions and safety instructions before use.

**WARNING! HIGH VOLTAGE! Flash units contain high voltages and internal components that can store dangerous voltages, even when the units are unplugged.**

**WARNING! Do not leave a flash unit unattended when it is turned on and / or in use.** As with all electric equipment, close supervision is necessary. Do not allow unattended children around this equipment as potentially dangerous conditions may result. Turn the system OFF and unplug the power cord when not in use.

**WARNING! Do not operate or store a flash unit in or around water.** Do not operate the units in wet, damp or moist conditions, or in environments where water or other liquid could be dropped, splashed, sprayed or spilled on the unit. High voltage equipment can cause electric shock when operated in or near water. Your unit should only be used in dry, moderate conditions where it is protected from rain, dirt, sand and dust.

**WARNING! Do not use any Paul C. Buff™ equipment without permission in restricted areas.**

**WARNING! Do not operate the unit on or around flammable materials (newspaper, carpet, wood sawdust, gasoline, etc.).** Keep the unit away from fire, flames, and heated surfaces.

**WARNING! Do not cover the unit during operation.** Air circulation must be permitted. Do not obstruct ventilation holes by covering the unit while in use or by operating from inside a carrying bag.

**WARNING! Do not insert any foreign objects into any ventilation holes.** Do not carry or store a flash unit with necklaces, hair pins, nails, paper clips, or other small metal objects.

**WARNING! Do not use ungrounded power cords, power outlets or power strips.** Paul C. Buff™ Flash Units may only be connected to 3-wire grounded AC outlets to avoid shock hazard. Do not connect the unit to an ungrounded outlet or to a two-wire extension cord or adapter that eliminates the ground prong. Do not use any cords that have been damaged.

**WARNING! Paul C. Buff™ flash units contain no user-serviceable parts.** Never open, disassemble, or attempt to repair any components. Only qualified technicians should service the system as incorrect disassembly can create an electric shock hazard. Fingers and other foreign objects must never be inserted or dropped inside any of the vents. If the unit has been dropped or damaged, discontinue use and contact Customer Service. Do not attempt to make any changes or modifications as any modifications made, outside of those performed or approved by Paul C. Buff, Inc.™, may present hazardous conditions and void the warranty. *The only user-replaceable components are the unit's flashtube and modeling lamp.*

**WARNING! Do not connect the flash unit to power lines / outlets of incompatible voltages.** The unit is designed for use at specific voltages, as listed on the unit itself. Do not use adapters to force a physically-compatible connection with an incompatible voltage outlet. This may damage the unit.

**WARNING! The faceplate can get very hot during use.** While in use, the unit's faceplate, flashtube, modeling lamp and faceplate accessories (such as reflectors, grids and umbrella poles) can get very hot to the touch, remaining hot even after the unit has been powered down. Heat is intensified when the unit is used in down-angle positions and/or when used with accessories that trap heat (such as closed softboxes). Disconnect the unit from its power source and allow ample time for the equipment to cool down before touching any component or any accessories.

## SAFETY INSTRUCTIONS

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**1. Always mount the flash unit on a light stand during use.** Before attempting to operate the unit, make sure that it is securely mounted to a light stand. We offer various light stands in assorted sizes - visit our website to learn more ([www.paulcbuff.com](http://www.paulcbuff.com)). The stand mount is compatible with most standard light stands having top couplers up to 5/8-inch in size.

**2. Remove the shipping cover before use.** Remove the cover before turning the unit on.

**3. Do not touch the flashtube or modeling lamp with your bare hands.** When replacing the flashtube or modeling lamp, never touch a tube or lamp with your bare fingers. Always turn the unit off, unplug it from its AC power source, and allow it to cool. Wait at least five minutes for the unit to cool and for the accumulated charge in the cap bank to dissipate. Use a clean cloth or insulating gloves to remove or replace a tube and/or lamp. Do not allow your finger oils to contact the lamp or tube as this can cause excess heat buildup and may cause premature flashtube or lamp failure.

**4. Only use approved flashtubes and modeling lamps.** The unit should only be used with the original flashtube and modeling lamp or an approved replacement tube or lamp. Please see our website ([www.paulcbuff.com](http://www.paulcbuff.com)) to find replacements.

**5. Use care when traveling with or transporting your flash unit.** Always use the shipping cover provided to protect the flashtube and lamp. Use appropriate packaging to protect the unit against bumps and jolts that may damage the components.

**6. When not in use, Paul C. Buff™ Flash Units should be stored in moderate climate conditions** between 32°F and 140°F (0°C and 40°C), protected from water, dirt, sand and dust. Modern electrolytic capacitors normally have a long shelf life. However, if there is no charge applied for long periods of time, they are more likely to have increased leakage current. This means the capacitors may become warmer than normal until they stabilize, and the charge voltage may sag more quickly during use, causing the units to recycle more frequently after firing. If you need to store the unit for long periods of time (one year +), it is a good idea to occasionally turn the units on at their lowest power setting, and slowly increase the power setting over a period of 60 to 90 seconds while firing the unit using the TEST button after each increase.

**7. Paul C. Buff™ Flash Units are designed for use with Paul C. Buff™ accessories.** While other manufacturers design flash equipment and accessories that may claim compatibility with Paul C. Buff™ equipment, each manufacturer defines their own contacts and latching mechanisms which may or may not be suitable for safe use with Paul C. Buff™ equipment. We cannot guarantee or offer our warranty when our equipment is used with accessories made by other manufacturers and cannot accept liability for damages that may be caused as a result.

**8. Observe power requirements and use the appropriate power cord.** The AlienBees™ flash unit requires a suitable AC power source. Each standard 120V unit arrives with a 15-foot power cord that has a standard IEC connector on one end and a grounded, three-pronged male plug on the other. This power cord connects to the flash unit on its back control panel and is then plugged into a suitable 120 Vac, 50-60 Hz power outlet. **NOTE:** We additionally sell special order 220V International versions of our AlienBees™ flash units. If you have placed a special order and purchased an international 220V unit, please see page 16.

9. When shooting in an environment where a suitable AC power source is not available, we recommend the exclusive use of our Vagabond™ Portable Power Systems. The Vagabond™ systems are designed specifically for Paul C. Buff™ flash units and power packs, offering a convenient, lightweight, self-contained portable power source. We currently offer Vagabond™ models in both 120V and 230V models. Visit our website ([www.paulcbuff.com](http://www.paulcbuff.com)) to learn more.

## FLASH UNIT SPECIFICATIONS

MODEL	AlienBees™ B400	AlienBees™ B800	AlienBees™ B1600
Flashpower	160 True Ws <i>at Full Power</i>	320 True Ws <i>at Full Power</i>	640 True Ws <i>at Full Power</i>
Power Variability <i>(informal term)</i>	6 f-stop flash variability range (from Full to 1/32 power) <i>adjustable across entire range via rear panel slider</i>		
Flash Duration (t.5)	1/6000 sec. <i>(full)</i> 1/3000 sec. <i>(1/32)</i>	1/3300 sec. <i>(full)</i> 1/1650 sec. <i>(1/32)</i>	1/1800 sec. <i>(full)</i> 1/900 sec. <i>(1/32)</i>
Flash Duration (t.1)	1/2000 sec. <i>(full)</i> 1/1000 sec. <i>(1/32)</i>	1/1100 sec. <i>(full)</i> 1/550 sec. <i>(1/32)</i>	1/600 sec. <i>(full)</i> 1/300 sec. <i>(1/32)</i>
Weight	2.5 pounds	2.9 pounds	3.7 pounds
Dimensions	8.5" <i>(length)</i> x 7.875" <i>(height)</i> x 5.75" <i>(width)</i>		
Power	120 Vac, 50 - 60 Hz *** <i>special-order international units are 220 Vac</i>		
Current Draw	6 amps average		
Sync / Trigger Voltage	less than 6 volts		
Recycle to 100%	0.5 seconds	1 second	2 seconds
Modeling Lamp	150 Watt supplied <i>(150 Watt max.)</i>		
Standard Reflector	7AB/R 7-inch Silver Field Reflector <i>(80° beam spread)</i>		
Reflector / Accessory Mount	four quick-release faceplate fingers securely hold standard Paul C. Buff™ / Balcar accessories and allow rotation		
Umbrella Mount	top-mounted umbrella tube and clamp mounts umbrella shafts up to 3/8-inch in diameter		
Light Stand Mount	reversible swivel mount with ratchet handle; mounts on light stands with top couplers from 1/2" to 5/8"		
Camera Sync	1/8" (3.5mm) jack (15-foot 1/8" to PC-connection cord supplied); or fires from optional CST CyberSync™ Transmitter, Cyber Commander™ remote or third-party radio triggers <i>The sync circuit is isolated from the AC line, high voltage circuitry and the control power supply, making it nearly impossible to damage a camera even if the flash unit fails.</i>		

## WHAT ARRIVES WITH YOUR FLASH UNIT

Each standard 120V AlienBees™ Flash Unit arrives with the following:



- a 7-inch silver field reflector (part# 7AB/R)
- a protective shipping cover (part# 1060032)
- a user-replaceable 150 Watt modeling lamp (part# 150W)
- a user-replaceable flashtube (part# AWFT14MMUV)
- a 15-foot 1/8" to PC sync cord (part# ABSC)
- a 15-foot grounded power cord (part# UPC15)
- two nylon clips for attaching gels/filters (part# 1110079)
- your AlienBees™ owner's manual

## POWER REQUIREMENTS

As each AlienBees™ flash unit requires 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 must then be connected to a grounded 120 Vac, 50-60 Hz 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 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 power setting, the unit requires approximately 1 to 2 amperes to illuminate the modeling lamp and maintain the flash charge. **NOTE:** *If you have placed a special order for an international 220V unit, please see page 16.*

## INITIAL SETUP: GETTING STARTED WITH YOUR ALIENBEES™ FLASH UNIT



**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, used to protect the unit's flashtube and modeling lamp while in transit. **You must remove this cover prior to operation.**



The shipping cover is held in place by four holding fingers on the front faceplate of the flash unit. To remove the cover, squeeze the bee's two black "antennae" located on the top of the unit. These antennae are actually the lever controls for holding and releasing the shipping cover and other faceplate accessories. When the antennae are squeezed together, the four holding fingers on the unit's faceplate will contract, allowing you to pull the cover straight off of the faceplate. Releasing the antennae will allow the holding fingers to expand back into the holding position. *This quick-release system is used for attaching and removing all faceplate accessories such as reflectors and softbox / octabox or PLM™ system speedrings.*

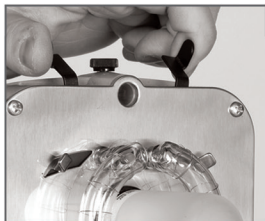




**3. Securely mount your flash unit to a light stand.** The unit's swivel mounting bracket allows you to mount your unit on any of our light stands (or to any standard light stand having a top coupler measuring 5/8-inch or less in diameter). Once you have set up your light stand and expanded its footprint to a stable position, place the flash unit on top of the stand, allowing the stand's top coupler to slide inside the mounting bracket opening. Use the tightening knob on the mounting bracket to secure the coupler inside the bracket.



**4. Adjust the position of the flash unit using the ratchet handle on the side of the mounting bracket.** Loosen the handle to swivel the flash unit up or down. The handle has a ratchet action: pulling out on the handle allows you to alter its position in order to make adjustments without hitting the housing.



**5. Attach your chosen accessories.** The 7AB/R reflector arrives with each unit; all other accessories are sold separately. *To learn more about each accessory, please visit our website.*

**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 / Octaboxes:** The speeding of your assembled softbox will fit on the faceplate in place of the reflector, attached and removed with the faceplate holding fingers. With the added weight of larger accessories such as softboxes / octaboxes, it is crucial to ensure that all four fingers on the faceplate are securely holding the speeding.



**Umbrellas:** Umbrellas can be mounted on the unit with or without a reflector. To use an umbrella with a reflector (with our standard 7AB/R reflector or optional 8.5HOR and 7UR reflectors), you will need to line up the hole in the reflector with the umbrella hole on the top of 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).

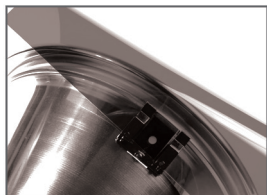


**The PLM™ System:** For each PLM™ system, either the on-axis speeding-mounted PLM™ model or umbrella-mounted PLM™ model (shown left) may be used with your AlienBees™ flash unit. The speeding-mounted version attaches to the faceplate using the holding fingers while the umbrella-mounted version attaches via the unit's umbrella shaft.





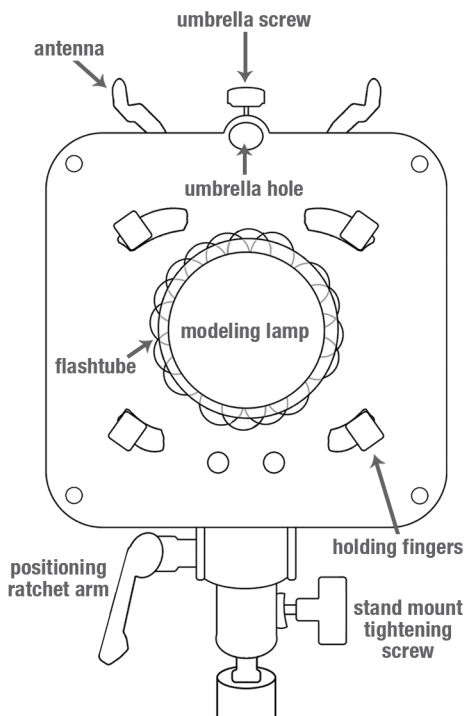
**Grids:** To use our honeycomb grids, you will need either the standard 7-inch reflector provided or the UMF LiteMod™ Mainframe. With either the standard reflector or Mainframe reflector attached, you can snap any single honeycomb grid directly into the recessed outer lip of the reflector. We additionally offer grids fitting various optional reflectors, please see our website to learn more.



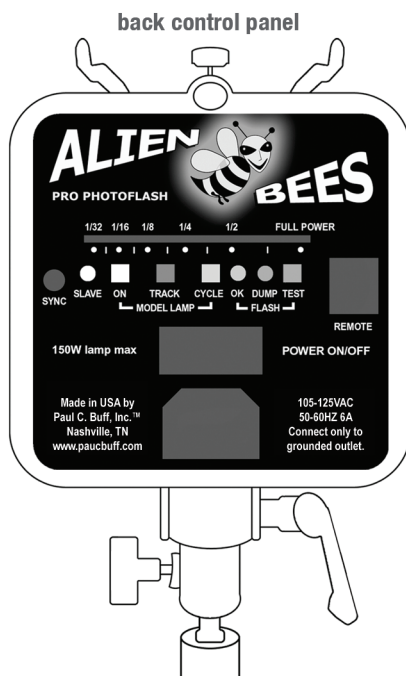
**Gels / Filters:** Gels and filters may be used with various reflectors. To use gels and filters with the standard (supplied) reflector or other small reflectors, you can use the provided nylon clips for attachment. These clips will adhere to the reflector, holding a gel over the reflector to modify the output of the light. Gels / filters can also be used with our UMF Unit Mainframe, sliding inside the GELH gel holders.



**6. Connect the power cord.** Each standard 120V unit arrives with a 15-foot power cord. This cord connects to the flash unit on the back control panel, then plugs in to a standard 120 Vac, 50 - 60 Hz 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.



**FRONT VIEW**



**BACK VIEW**



## THE ALIENBEES™ CONTROL PANEL

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

**Flashpower Control Slider:** This slider continuously adjusts the flashpower from full power down to 1/32 power, marked in fractional power settings.



white **MODEL LAMP ON button:** turns modeling lamp on  
dark grey **MODEL LAMP TRACK button:** turns tracking on  
light grey **MODEL LAMP CYCLE button:** turns recycle indication on

**Model Lamp ON:** Pressing this button in turns the modeling lamp on.

**Model Lamp TRACK:** When the TRACK button is depressed, the modeling lamp will track the flashpower settings, brightening or dimming proportionally as the flashpower is adjusted up or down. When the TRACK button is released, the modeling lamp will remain at full brightness regardless of flashpower changes. *For more information on MODELING and TRACKING, see page 11.*

**Model Lamp CYCLE:** When depressed, the modeling lamp visually indicates the flash unit's recycle status by going dark when the unit is flashed and coming back on when the unit is recycled. 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. Releasing the CYCLE button turns off the recycle status indication feature, allowing the modeling lamp to remain on during recycle (if turned on).



green **FLASH OK LED:** flash is recycled and ready  
red **FLASH DUMP LED:** unit is recycling; excess power is dumping  
red **FLASH TEST button:** test flashes the unit

**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 the unit is charged to a higher flashpower than what is selected. This occurs 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 LED to shine green. Whenever the DUMP light is on, the unit's automatic circuitry is draining the excess charge to set the proper charge. The process may take several seconds up 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 unit for testing and metering. Test flashing with the TEST button will also serve to dump excess power.

**REMOTE Jack:** The remote jack is provided for use with our CyberSync™ system receivers and the LG4X™ wired remote control (as well as our retired models of wired remote controls). 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. *Remote Controls and CyberSync™ system components are each sold separately. For more information, please visit our website.*

**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. *For more information on SYNCHRONIZED FIRING, see page 10.*

## ADJUSTING FLASHPOWER OUTPUT

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Each AlienBees™ unit has a stepless 6 f-stop power variability range from full power (100%) down to 1/32 of the total power, adjustable in whole f-stop increments and everywhere in between. This flashpower is adjusted on the back control panel with a slide fader that shows marked fractional increments in whole f-stops.



## SYNCHRONIZED FIRING: the SYNC CORD and BUILT-IN SLAVE EYE

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**Hardwired Sync:** Each unit arrives with a 15-foot sync cord for hardwired, synchronized firing. The cord's 1/8-inch miniplug connects to the flash unit on the back control panel, then connects to your camera via PC-sync connection. With the sync cord connected and the flash unit powered on, pressing your camera's shutter will simultaneously fire the flash unit.

***NOTE:** If your camera does not have an input for this PC-connection, we offer a hot shoe adapter (sold separately; please see our website at [www.paulcbuff.com/hot-shoeadapters.php](http://www.paulcbuff.com/hot-shoeadapters.php) to learn more).*

**Built-In Slave Cell:** Each unit has a built-in slave tripper for wireless firing when used as part of a multi-light setup. With a multi-light setup, you will only need to connect one flash unit in the setup to your camera using the sync cord. With one unit connected, the other units will fire at the same time via their slave trippers. The tripper on each unit is activated by the slave cell, located on the back control panel, firing the unit whenever it "sees" the light from another flash as far as 50+ feet away. This slave cell is disengaged whenever a sync cord or "dummy plug" (used with some remote controls) is inserted in the sync jack.

***NOTE:** The slave cell is designed to sense flashes of light (both visible and infrared); any flash that it "sees" can trigger it, including the flash from another unit in your setup, a conventional on-camera, built-in, or pop-up flash (and its pre-flash), and/or an infrared remote transmitter. Although this gives you more options for triggering, the presence of extraneous triggers must be considered when you are not the only photographer in the area. Other flashes (whether on professional or even disposable cameras), and infrared remotes can inadvertently trigger your flash unit(s).*

We additionally offer various remote control options that provide synchronization between your camera and your flash unit(s), allowing your flash unit(s) to be remotely triggered. We additionally offer remote control options that provide complete control over all parameters of the light. To learn more about the remote control options that we offer for use with the AlienBees™ units (systems and components sold separately from flash units), please visit our website.

- to learn about our CyberSync™ system, visit: [www.paulcbuff.com/cybersync.php](http://www.paulcbuff.com/cybersync.php)
- to learn about our LG4X™ system, visit: [www.paulcbuff.com/lg4x.php](http://www.paulcbuff.com/lg4x.php)

## RECYCLE and AUTOMATIC POWER DUMP

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When the flash unit fires (releasing the stored energy from the flash capacitors), the unit will begin recycling to recharge the capacitors. 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 offer fast recycle times, recycling quickly for time-constrained work. The recycle time is at its longest when the unit is set to full power, shortening as the flashpower is lowered.

The red DUMP LED will light whenever the unit is adjusted from a higher 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 and the green OK LED will shine to 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.

## MODELING and TRACKING: WHAT-YOU-SEE-IS-WHAT-YOU-GET

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With precision voltage-regulated circuits supplying consistent output, the AlienBees™ offer true “what-you-see-is-what-you-get” modeling lamp accuracy. Each unit comes with a 150 watt modeling lamp, used to indicate the pattern of light to be produced by the flash. 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 recommend using multiple lights in the same model (for example, three B800 units) to maintain the accuracy of this preview. When using multiple lights of varying power models, you may want to replace the modeling lamps in some of the units in order to get an accurate preview with matched ratios. For example, if you have a three-light setup with one B1600 unit, one B800 unit and one B400 unit, you may want to replace the modeling lamp in the B800 unit with a 100-Watt bulb and replace the modeling lamp in the B400 unit with a 75-Watt bulb (keeping the supplied 150-Watt bulb in the B1600 unit). With these replacements, the modeling preview will not only reflect the power settings, it will additionally maintain the accurate ratios of power in your setup.

**NOTE:** *If you are using the Cyber Commander™ as part of the CyberSync™ system, you can use its proportional modeling feature in lieu of physical lamp replacements.*

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.

## FLASH CAPACITORS and FLASH DURATION

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**Flash Capacitors:** Using precision voltage regulation and well-designed internal thermodynamics, the AlienBees™ units produce consistent and correct output levels based on the 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 (if you are using a wired or wireless remote) 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.

**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 approximately twice as long at the minimum power setting.

## METERING and SHOOTING

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The flashpower 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 determine positioning, showing you exactly where your light will hit, matching the specularly of the source with any modifying accessories. Once you have positioned your unit(s) and adjusted the flashpower settings, you are ready to take a meter reading, adjust any settings on the camera or flash unit(s), and begin shooting.

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 desired film speed (ISO) and 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 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 the results of your meter 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. 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. Additionally, the signal from the in-camera meter may inadvertently trip your unit's built-in slave tripper, causing a premature flash.

**Bracketing:** When shooting, bracketing is the practice of 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.

## AUTOMATIC VS. MANUAL CAMERA MODES

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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 setting, 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.

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

## THE ALIENBEES™ HOUSING and PHYSICAL DESIGN FEATURES

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**Housing:** The unit is housed in high-impact polycarbonate (the same material used for bullet-proof glass), making the unit both indestructible and lightweight.

**Faceplate:** On the front of the unit is a silver, quick-release faceplate with four small holding fingers. 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.

**Mounting Bracket:** As the flash unit must be securely attached to a light stand, each unit has a swivel bracket light stand mount attached to the housing. Compatible with all of our light stands (and almost any stand with a connection up to 5/8-inch), the bracket tightens to securely hold a light stand's top coupler. The black ratchet arm is then used to adjust the angle and directional position of the flash unit.

## HEAT and INTERNAL FAN COOLING

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AlienBees™ flash units, like any electronic device, produce heat during normal operation. The unit incorporates axial-flow thermodynamics to reduce heat build-up and holds a built-in cooling fan that allows extended, all day shooting sessions and prevents overheating.

While heat is expected when using any electronic device, please note that **while in use, the unit's faceplate, flashtube, modeling lamp and faceplate accessories (such as reflectors, grids and umbrella poles) can get very hot to the touch**, remaining hot even after the unit has been powered down. Heat is intensified when the unit is used in down-angle positions and/or when used with accessories that trap heat. Before touching any component or any accessories, first turn the unit off, disconnect the unit from its power source and allow ample time for the equipment to cool down.

## FLASHTUBES and COLOR BALANCE

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The unit's flash capacitor terminals are connected to electrodes inside the flashtube, which is a hollow, circular glass envelope containing xenon gas. When the signal to fire 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 measured in milliseconds.

The spectral content, or color balance, of light emitted is stated in terms of "color temperature" and is measured in degrees on the Kelvin scale. This scale relates to energy emitted by an object, starting 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.

## PORTABLE POWER

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For portable, battery power, we recommend the use of our Vagabond Mini™ Lithium system (*sold separately, visit our website at [www.paulcbuff.com/vagabond.php](http://www.paulcbuff.com/vagabond.php) to learn more*). This system provides a reliable, portable, current-limited, true sine wave power source for one to four Paul C. Buff™ flash units. When using the standard 120V AlienBees™ unit with the supplied power cord, the unit connects to one of the 120V outlets on the Vagabond Mini™ Lithium system. The design of the AlienBees™ unit allows crash-free operation of multiple units from the Vagabond Mini™ Lithium system and other current-limited, pure sine wave battery inverter supplies from other manufacturers (*international 220V flash unit users, please see page 16*).



## REMOTE CONTROLS

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**The CyberSync™ System:** For remotely controlled firing and adjustments, the AlienBees™ units may be used with our CyberSync™ system (compatible with both the CST transmitter and the Cyber Commander™). As the AlienBees™ are generation one Paul C. Buff™ lights, they may be used with either the CSR, CSRB, CSR+ and/or CSRB+ receivers, but not the CSXCV transceiver.

**The LG4X™ Wired Remote Control:** The units may additionally be used with the LG4X™ wired remote control as well as older Paul C. Buff™ remotes incorporating the telephone cord connection (such as the retired RR1 RadioRemote One).

**Remote Controls from Other Manufacturers:** The AlienBees™ units are compatible with most other third party triggering receivers (such as the PocketWizard®). A 1/8-inch to 1/8-inch non-attenuated mini male mono cord such as our CSSC may be required to connect the receiver to the AlienBees™ unit.

*All Paul C. Buff™ remote controls, receivers, and accessory cords are sold separately. To learn more about our remote controls, please visit our website.*

## REPLACING COMPONENTS

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It is normal for the flash unit's flashtube and modeling lamp to become exhausted over time, based on use. We offer inexpensive replacements for these items, available for ordering on our website and by phone.

**Flashtube:** For future replacement needs, the flashtube used in each AlienBees™ unit is the 14mm single-ring flashtube (part # AWFT14MMUV). This is a user-replaceable tube arriving with instructions for replacement. *Please see [www.paulcbuff.com/flash-tubes.php](http://www.paulcbuff.com/flash-tubes.php) for more information and ordering.* Only the approved flashtube available from Paul C. Buff, Inc.™ may be used in the unit. Do not substitute with other tubes.

**Modeling Lamp:** For future replacement needs, the modeling lamp used in each standard 120V AlienBees™ unit is the 150 Watt bulb (part # 150W). This is a user-replaceable bulb that screws into the unit in place of the exhausted bulb. *Please see [www.paulcbuff.com/modelinglamps.php](http://www.paulcbuff.com/modelinglamps.php) for more information and ordering.* Replacement modeling lamps can be purchased from Paul C. Buff, Inc.™ or compatible bulbs in various wattages can be found locally. When choosing a replacement bulb, the bulb must not exceed 150 Watts and must have a standard, medium Edison-type base.

**AWFT14MMUV Flashtube**



**150W Modeling Lamp**



## EXPECTED OUTPUT

The chart below shows expected output values for the three AlienBees™ flash unit models. All output readings were taken at a distance of **ten feet** and represent the expected output at **Full Power (100%)** for each unit with the various accessories listed.

MODEL / ACCESSORY	AlienBees™ B400	AlienBees™ B800	AlienBees™ B1600
the <b>7AB/R Standard 7-inch Reflector</b>	f5.6 +9/10 <i>at Full Power</i>	f8 +9/10 <i>at Full Power</i>	f11 +9/10 <i>at Full Power</i>
the <b>8.5HOR Optional 8.5-inch Reflector</b>	f11 +1/10 <i>at Full Power</i>	f16 +9/10 <i>at Full Power</i>	f22 +1/10 <i>at Full Power</i>
the <b>11LTR Optional 11-inch Reflector</b>	f16 +6/10 <i>at Full Power</i>	f22 +6/10 <i>at Full Power</i>	f32 +6/10 <i>at Full Power</i>
our rectangular foldable <b>Softboxes</b>	f4 +7/10 <i>at Full Power</i>	f5.6 +7/10 <i>at Full Power</i>	f8 +7/10 <i>at Full Power</i>

*These output readings have been measured with a Sekonic L358 flashmeter set to 1/125 second shutter speed at ISO 100, placed 10 feet from the flashtube for direct reflector specs. Readings were taken in a 14-foot x 14-foot room (with an average ceiling height of 14 feet) with both the walls and floor painted grey. Please note that readings may vary when taken in other environments and with other meters, as different brands of flashmeters can vary in their interpretation of correct values. For our softbox readings, the readings between all three sizes of our rectangular softboxes were the same, within +/- 1/10 of an f-stop. The 8.5HOR, 11LTR, and softboxes are optional accessories, each sold separately. Please visit our website for more information. For additional expected output readings, visit our website at [www.paulcbuff.com/output.php](http://www.paulcbuff.com/output.php).*

## SPECIAL ORDER 220V INTERNATIONAL ALIENBEES™ UNITS

For international customers, we offer 220V versions of each unit, specially ordered through our customer service department (with an additional \$10 charge per unit, not available online). The 220V units offer the same specifications and are designed for use following the same instructions and descriptions as the standard units, as outlined in this manual. The 220V units arrive with the same user-replaceable flashtube (part # AWFT14MMUV) used in our standard units, but they arrive with a different 220V modeling lamp (part # 150W-230V). **NOTE:** Our standard 120V modeling lamps that are available online **CAN NOT** be used with 220V units; please contact us to order a replacement or find out more information about locating a suitable bulb locally.

The 220V units arrive with a **220V “Schuko” power cord** (part # PC15-220V) that has a standard IEC connector on one end and a type F CEE 7/4 “Schuko” plug on the other.

- **To use the unit in various countries on 220V power lines with different outlet configurations,** you can purchase a standard power cord locally. Choose a cord with an IEC connector on one end and the suitable plug for your location on the other.
- **To use a 220V unit in Australia or China, or to use the unit with our 230V Vagabond Mini™ Lithium system,** we offer a Type 1 international power cord (sold separately, available in 15-foot [part # VM-UPC15-230V] and 3-foot [part # VM-UPC3-230V] lengths - see [www.paulcbuff.com/powercords.php](http://www.paulcbuff.com/powercords.php)). Type 1 cords can also be found locally.

For additional information about these special order 220V AlienBees™ units, please contact our Customer Service Team (Toll Free 1-800-443-5542 / Local 615-383-3982).