
TECHNICAL INFORMATION

BLUEMAXX™ Portable Illumination Systems

Catalog Nos. BM600, BM600220

BLUEMAXX™ SYSTEMS OVERVIEW

BLUEMAXX™ systems are illumination sources useful for performing fluorescent examinations on materials of forensic interest having excitation bands between 390 and 520 nanometers (nm), including physiological fluids such as urine, semen and saliva, and materials treated with certain powders and dyes. These devices are especially useful in the search for evidence at crime scenes.

BLUEMAXX™ systems work with any potential evidence having excitation bands between approximately 390nm and 520nm. BLUEMAXX™ systems are essential in area searches for evidence at the crime scene, and excellent for the photography of evidence after location. BLUEMAXX™ light sources provide the best results when used under subdued lighting conditions. Total darkness is not necessary to see the fluorescence produced from most items of evidentiary value.



CAUTIONS

- The BM600 Light Source may be used in conjunction with the application of fluorescent powders or chemicals. Before using this kit, consult the appropriate Material Safety Data Sheets (MSDS) found on our website at www.sirchie.com/support.
- DO NOT look directly into the light beam as this may cause serious injury to your eyes.

HOW IT WORKS

The BLUEMAXX™ Portable Illumination System emits light at a wavelength of approximately 455nm (blue region). This excitation source causes certain materials to give off weak fluorescence. When used in a totally darkened room, only the light emitted by the BM600 is present. This light frequency causes some materials to fluoresce, but this fluorescence is hidden or masked by the intense blue light. For this reason, BLUEMAXX™ alternate light sources employ an orange barrier filter between the objects being examined and your eyes. This filtration effectively blocks the blue light permitting viewing of the weaker fluorescence.

INTRODUCTION

The BLUEMAXX™ Portable Illumination System offers a convenient means of searching crime scenes for physical evidence that exhibits fluorescent properties. The light source in the kit provides an alternate light operating at or near 455 nanometers (nm), a light frequency known to be of value when seeking items of forensic interest. The kit contains all of the elements necessary for use in the field or crime lab.

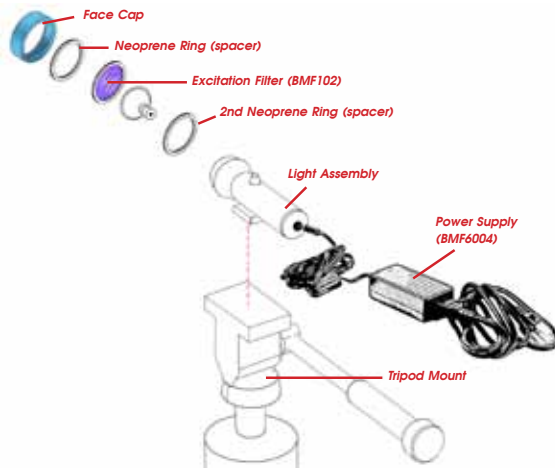


The BM600 is a tripod-mountable, AC-powered version of the BLUEMAXX, especially useful in conjunction with fluorescence photography. The BM600 emits a high-intensity blue light (455nm) that can be viewed through the orange barrier filter goggles provided. It is excellent for locating and facilitating photographs of a variety of forensic evidence including physiological fluids (urine,

saliva and semen), and latent prints enhanced with fluorescent powders or dyes. The light source measures 6.5" (16.5cm) in length with a barrel of 1.70" (4.3cm) minor dia. and 2.25" (5.7cm) major dia., and weighs 9.4 oz. (266.5g).

INITIAL SETUP/USAGE

Attach the light head of the unit to a tripod via the mounting hole in its mounting plate. Attach the light head to the power supply with the connecting cord provided. The power supply should be plugged into a standard wall outlet. Place the light head as close to the subject as possible for photography. *Note: A significant amount of heat is projected by the light head. Use caution with illuminating evidence subject to damage by heat.* Use the brightness adjustment knob on the light head to dim or brighten the illumination rather than repositioning the tripod.



PHOTOGRAPHY

Evidence photos may be taken using a standard 35mm or digital camera. The camera lens must be equipped with a barrier filter, which may be ordered from the factory. Lengthy exposures may be necessary, therefore we recommend that the camera be mounted on a sturdy tripod. The area must be darkened as much as possible. When using film (ASA400), begin with a trial exposure of $f/5.6$ at $1/2$ second and bracket exposures on either side of this value. If the camera is equipped with a full automatic mode (film or digital camera), use this mode for best results.

BLUEMAXX™ Forensic Photography

Not all substances are capable of luminescence. They will not luminesce at all, regardless of the light wavelength used, or may require excitation by specific wavelengths. Fortunately, many substances of primary interest at the crime scene do luminesce

when exposed to radiation from a BLUEMAXX™ light source. Those substances that are non-luminescent or are weakly luminescent such as blood and palmer oils, may be made luminescent by bonding luminescent agents to them. The photographs shown to the right are of latent prints developed with SIRCHIE fluorescein powders and exposed to the BLUEMAXX™ light. The maximum level of brilliance for optimum photographic fingerprint ridge detail may be obtained by varying exposure time. This type of photographic enhancement is not possible with powder-developed fingerprints that have not been externally excited by a forensic light source. **Note:** A standard 35mm camera and Kodak Ektachrome Elite 150 color slide film were used, and exposure times were varied.



REDCHARGE™ LL601 treated prints, excited by BLUEMAXX™ light—exposed for 4 sec. @ $f/5.6$.



REDESCENT™ LL701 treated prints, excited by BLUEMAXX™ light—exposed for 15 sec. @ $f/5.6$.

CARE AND MAINTENANCE

Excitation Filter

The excitation filter possesses superior spectral stability and physical durability. No degradation of performance is apparent with age—unlike commonly used organic dye and gelatin filter systems. The filter coatings are hard, all-dielectric coatings, extremely durable when exposed to humidity, heat, thermal shock, abrasion and handling. All filters are manufactured to meet the standards of MIL-C-675A and MIL-M-13508C.

Maintenance of the excitation filter is limited to cleaning the surface on occasion. Use standard lens cleaning solutions and tissue. If stubborn dirt or grease is encountered, clean the filter with an organic solvent such as acetone. **Note:** *Remove the filter from the light before using any organic solvents as they may soften or dissolve plastics.* The filter material is glass, so use reasonable care to prevent breakage.

Barrier Filter

The barrier filter is a transparent acrylic material selected for its spectral characteristics and durability. But like all plastics, the surfaces of this filter are subject to scratching. Minor scratches are generally not a problem unless photography through the filter is attempted. Polishing can reduce the effects of minor scratches and abrasions. Use a clean, soft cotton buffing wheel at low speeds. Fine alumina buffing compounds may be needed, followed by tallow and a final buffing from a compound-free cotton flannel wheel. Replacement filters are available.

Bulbs

Best results are obtained with quartz envelope bulbs. Krypton or halogen gas and similar bulbs are highly preferable to standard incandescent bulbs.

BM600 CONTENTS:

- 1- BM6001 AC Extension Cord, 6 ft. (1.8m)
- 1- BM6002 Cigarette Lighter Adapter Cord, 10 ft. (3m)
- 1- BM6003 Light Head, ABS Body w/Aluminum Head
- 1- Power Supply, 110/220V AC to 12V DC, 2 amp
- 1- BM6004 DC Extension Cable, 6 ft. (1.8m)
- 1- BMS300 Barrier Filter Goggles
- 1- KCP224 Texturized Polypropylene Accessory Case
- 1- BM600CC Carrying Case w/custom Inserts; Dimensions: 17.5" x 10.25" x 8.625" (14.5cm x 26cm x 21.9cm)

ACCESSORIES AND REPLACEMENT SUPPLIES:

CAT. NO.	DESCRIPTION
BMF100	BLUEMAXX™ Excitation Filter for Mag-Lite® Flashlights
BMF101	BLUEMAXX™ Excitation Filter for Streamlight® Flashlights
BMF102	BLUEMAXX™ Excitation Filter for Pro-Light® Flashlights
BMS100	BLUEMAXX™ Barrier Filter/Mag-Lite®
BMS101	BLUEMAXX™ Barrier Filter/Streamlight®
BMS102	BLUEMAXX™ Barrier Filter/Pro-Light®
BMS200	BLUEMAXX™ Large Barrier Filter/Mag-Lite®
BMS201	BLUEMAXX™ Large Barrier Filter/Streamlight®
BMS202	BLUEMAXX™ Large Barrier Filter/Pro-Light®
BMS300	BLUEMAXX™ Barrier Filter Goggles
BMS400	BLUEMAXX™ Barrier Filter Glasses w/side shields
BMCF100	BLUEMAXX™ Camera Filter (specify size)
BM200	Mini BLUEMAXX™ Light w/barrier and excitation filters, uses 2 standard AA batteries
BM300	BLUEMAXX™ Light w/barrier and excitation filters, uses 3 standard D-cells
BM500	BLUEMAXX™ Rechargeable Forensic Light w/halogen lamp and high-capacity battery
BM600	BLUEMAXX™ System 600 Kit, High-powered, tripod-mountable, portable blue light source utilizing AC power supply, 110-volt or 220-volt power supply unit
BMK200	Mini BLUEMAXX™ Kit, Small but powerful, battery-operated
BMK700	BLUEMAXX™ Patrol Kit w/fluorescent fingerprint powders, BM300 D-cell light
BMK705	BLUEMAXX™ Patrol Kit w/fluorescent powders, w/Rechargeable BM500 110V AC
BMK705220	BLUEMAXX™ Patrol Kit w/fluorescent powders, w/Rechargeable BM500 220V AC
BMK750	BLUEMAXX™ Latent Specialist Kit w/BM300 D-cell light
BMK755	BLUEMAXX™ Latent Specialist Kit w/Rechargeable BM500, 110V AC
BMK755220	BLUEMAXX™ Latent Specialist Kit w/Rechargeable BM500, 220V AC
BMK860	SUPER BLUEMAXX™ 1.5-Million Candlepower for extended crime searches
BMMB100	Micro BLUEMAXX™ w/handy carrying case, battery-operated
BMP950	BLUEMAXX™ Photographic Illumination Kit w/heavy-duty tripod, 110V AC
BMP950220	BLUEMAXX™ Photographic Illumination Kit w/heavy-duty tripod, 220V AC
MFE1000	BLUEMAXX™ Master Fuming and Evidence Locating Kit, Rechargeable 110V AC
MFE1000220	BLUEMAXX™ Master Fuming and Evidence Locating Kit, Rechargeable 220V AC

