



TECHNICAL INFORMATION

SIRCHIE Portable AC/DC Dual UV Light Source

Catalog No. UVP120DW

INTRODUCTION

This dual wavelength light was designed to cover longwave and shortwave UV forensic applications. This model is versatile, easily used in the field as well as the laboratory. Each bulb produces 6 watts of light, allowing for coverage of a large area.

The unit is light and includes a permanent handle for easy carrying and manipulation during examinations. It is manufactured from heavy-duty aluminum and features recessed bulb mounts to protect the light and withstand field usage.



No. UVP120DW

OPERATION

These UV lights can be operated by battery or AC power. DC Operation—8 AA (non-rechargeable) Alkaline Batteries for single bulb models and 16 AA (non-rechargeable) Alkaline Batteries for dual bulb models. AC Operation—110V/220V AC Power Adapter (included).

AC Operation

For AC operation, connect the supplied AC Adapter to the unit through the side panel jack and plug into any convenient 110V AC outlet accordingly—this disconnects the AA batteries and provides rectified DC voltage to the lamp. Turn the unit ON with the ON/OFF Switch mounted on top of the housing. A green LED (Light Emitting Diode) power indicator will flash intermittently. **NOTE:** Lamps in the dual bulb models are individually controlled for single or dual bulb use with two separate switches.



DC Operation

For DC operation, install the AA Alkaline Batteries provided into the battery magazine located inside the compartment on the back of the unit.

1. Remove the four thumbscrews that secure the protective metal plate.
2. Remove the battery magazine and insert the batteries while observing the correct polarity.
3. Re-install the magazine into the battery compartment and reattach the metal plate.



Remove the two thumbscrews on the back panel of the unit to access the battery pack.



Observe the correct polarity of the batteries and re-install the magazine into the battery compartment.

Using the ON/OFF Switch mounted on top of the housing, turn the unit ON. A green LED (Light Emitting Diode) power indicator will flash intermittently.

PROCEDURE

Position the hand-held lamp to illuminate the surface being examined with longwave or shortwave UV light. Best results are often achieved when light is reflected at an angle from the surface.

APPLICATIONS

Longwave UV: searching for biological fluid, viewing fluorescent stains or fingerprint powders

Shortwave UV: RUVIS, silver nitrate latent print development, trace metal detection

MAINTENANCE

Lamp replacement is the only field maintenance recommended. **NOTE:** Wait until the lamp has cooled before proceeding as severe burns may result.

1. Use a small Phillips-head screwdriver to remove the screws (top and bottom) that hold the metal face shield in place.
2. Squeeze the sides of the metal face shield and lift it from the unit.
3. Grasp the lamp with thumb and forefinger and twist 90-degrees to remove the lamp from the socket.
4. Place a new lamp in the upper and lower sockets, twisting 90-degrees to seat the lamp securely.



Remove the set screws from the top and bottom of the unit with a Phillips Screwdriver.



Grasp the old lamp between the thumb and forefinger, twisting it 90° to remove it from the sockets.

5. Reattach the metal face shield while squeezing the sides, and re-insert the two screws (do not over-tighten). The unit is now ready for use.

CLEANING

Keep the unit clean of dirt, dust and fingerprints by using a mild soap and water solution applied with a soft cloth or paper towel. Do not use industrial or household cleaners as these may damage the surface.

UVP120DW Specifications:

- **Case Dimensions:** 6.5"W x 9.75"H x 4"D (16.5cm x 24.8cm x 10.2cm)
- **Construction:** 0.062" (62 mil) vinyl-clad aluminum, black
- **Filter Cover:** 0.031" (31 mil) steel w/ brushed nickel finish
- **Longwave Bulb:** UV-A black light type (UV9692), 6-watt, 365nm peak wavelength
- **Shortwave Bulb:** UV-C Germicidal type, 6 watt, 254nm peak wavelength (SW969B)
- **Power Source:** 16-AA alkaline; 110V/220V AC option
- **Switches:** Rocker (ON/OFF)

PRECAUTIONS: UV RADIATION

The three areas of ultraviolet radiation are UV-C at 100 to 280nm, UV-B at 280 to 315nm, and UV-A at 315 to 400nm. UV-C is the shortest wave ultraviolet radiation and UV-A is the longest wave ultraviolet radiation.

The retina of the eye is not very vulnerable in the ultraviolet or the far-infrared portions of the spectrum. It is the cornea and the lens that absorb ultraviolet. High exposure levels can permanently damage these structures of the eye. Intermediate levels in the UV (200-320nm) cause greater injury to the cornea, which is severe but temporary. The injury, photokeratitis, may last for only one or two days but is extremely painful. Near-ultraviolet (long wavelength UV-A) is absorbed heavily in the lens of the eye. Damage to this area of the eye may not be evident for many years and may have lasting effects.

Human skin is also susceptible to radiation injury. This susceptibility occurs in the range of radiant energy present in the ultraviolet spectral region of 400-320nm. This type of radiation can cause severe sunburn. Certain photosensitizing chemicals greatly increase the sensitivity of the skin. Previous exposures to specific wavelength bands that are generally in the long wavelength ultraviolet and visible portion of the spectrum also sensitize the skin. Some orally administered drugs such as tetracyclines and common pain relievers also cause photosensitization.

The factors predisposing individuals to possible harm from ultraviolet radiation are:

- Sensitivity of the individual
- The length of exposure
- Intensity of the ultraviolet light source
- Light source/surface distance

Recommended Personal Protective Equipment:

- UV absorbing face shield or glasses with side shields
- Long sleeved laboratory coat or overalls
- Opaque cotton or garamid fiber gloves

SIRCHIE shortwave UV lamps utilize low-pressure mercury lamps, which emit radiation in the UV-C (254nm) spectrum. Any amount of exposure to these lamps should be considered hazardous and protective equipment for the eyes and exposed skin must be worn. When using any UV lamp, avoid needless exposure to radiation and turn the lamp off when not in use.