

## SPECIFICATIONS

### Input Power:

85-265VAC 50-60Hz

### Internal Lamp:

500Watt Xenon arc lamp

### UV-Vis Light Guide:

Two meter long, 8mm internal diameter liquid light guide with steel re-inforced casing

### Optical output bands:

BAND	COLOUR	BAND WIDTH	APPLICATION EXAMPLES
BLANKED			
400-680nm	White light band	280nm	General searching (footprints)
350nm	Ultra violet band	80nm	General searching (stains)
415nm	Violet (blood filter)	40nm	Blood prints, splatter, gunshot residue
450nm	Blue	100nm	General searching (semen, urea, fibres)
470nm	Blue	40nm	General searching (Ninhydrin prints)
490nm	Blue	40nm	General (semen, urea, fibres)
505nm	Blue/Green	40nm	Superglue and Ninhydrin treated prints
530nm	Green	40nm	DFO treated prints, background reduction
555nm	Green/Orange	27nm	DFO treated prints, background reduction
590nm	Orange	40nm	Ninhydrin prints, background reduction
620nm	Orange/Red	40nm	Ninhydrin prints, background reduction
650nm	Red	40nm	Ninhydrin prints, background reduction
IR	IR	700 - 1100nm	General infrared applications (optional)

### Maximum Optical Output Power:

Total maximum output power at the end of the two meter light guide is approximately 20 watts of optical power.

### Front Panel Indicators:

Selected band pass filter, filter and power tuning. Error messages and warnings.

### Front Panel Buttons:

000, UV, 415, 450, 470, 490, 505, 530, 555, 590, 620, 650, + (tuning up), - (tuning down)

### Remote Control:

Hand held four button remote on a three meter cable.

Able to perform all filter selections, filter and power tuning.

### **NEW** Infra-Red Option (option)

Now available.

### **NEW** Remote Computer Control Software (option)

Windows 95/98 remote control (via RS232) software provides an application based user interface.

### **NEW** Security Password (option)

A security password option is available to lock out unauthorised users.

### **NEW** Automatic Turn Off (standard)

If left unattended the PL500 will turn itself off to provide a safer working environment.

### **NEW** Intelligent Light Guides (standard)

Automatic recognition of light guides and automatic Polilight configuration. Prevents light guide damage. Also protects users from exposure to high intensity light.

### **NEW** Variable Light Shutter (standard)

A new light shuttering system provides full output intensity control. Output intensity can be controlled to very low levels. Use only the amount of light you need.

### Weight:

Gross packed weight: 13.6 Kg. (30 lbs.)

Net Polilight® PL500 weight: 9.5 Kg. ( 22 lbs.)

### Dimensions:

Gross carrying case dimensions are: 47 x 36 x 23 cm (18.5" x 14.3" x 9")

Net Polilight® PL500 dimensions are: 32.5 x 35 x 15 cm (13" x 14" x 5.7")

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# POLILIGHT® PL500

## UNIVERSAL FORENSIC LIGHT SOURCE

**VERSION 2**  
with new improved features



*s m a l l e r*

*l i g h t e r*

*b r i g h t e r*

# POLILIGHT® PL500

## UNIVERSAL FORENSIC LIGHT SOURCE

The Polilight® PL500 is a state-of-the-art Forensic Light Source that has been under development for more than two years. Its design is built on the previously highly successful Polilight® models, however, new microprocessor control, power supply and electro-optical technologies introduced by Rofin Engineers, have resulted in a quantum leap in performance.

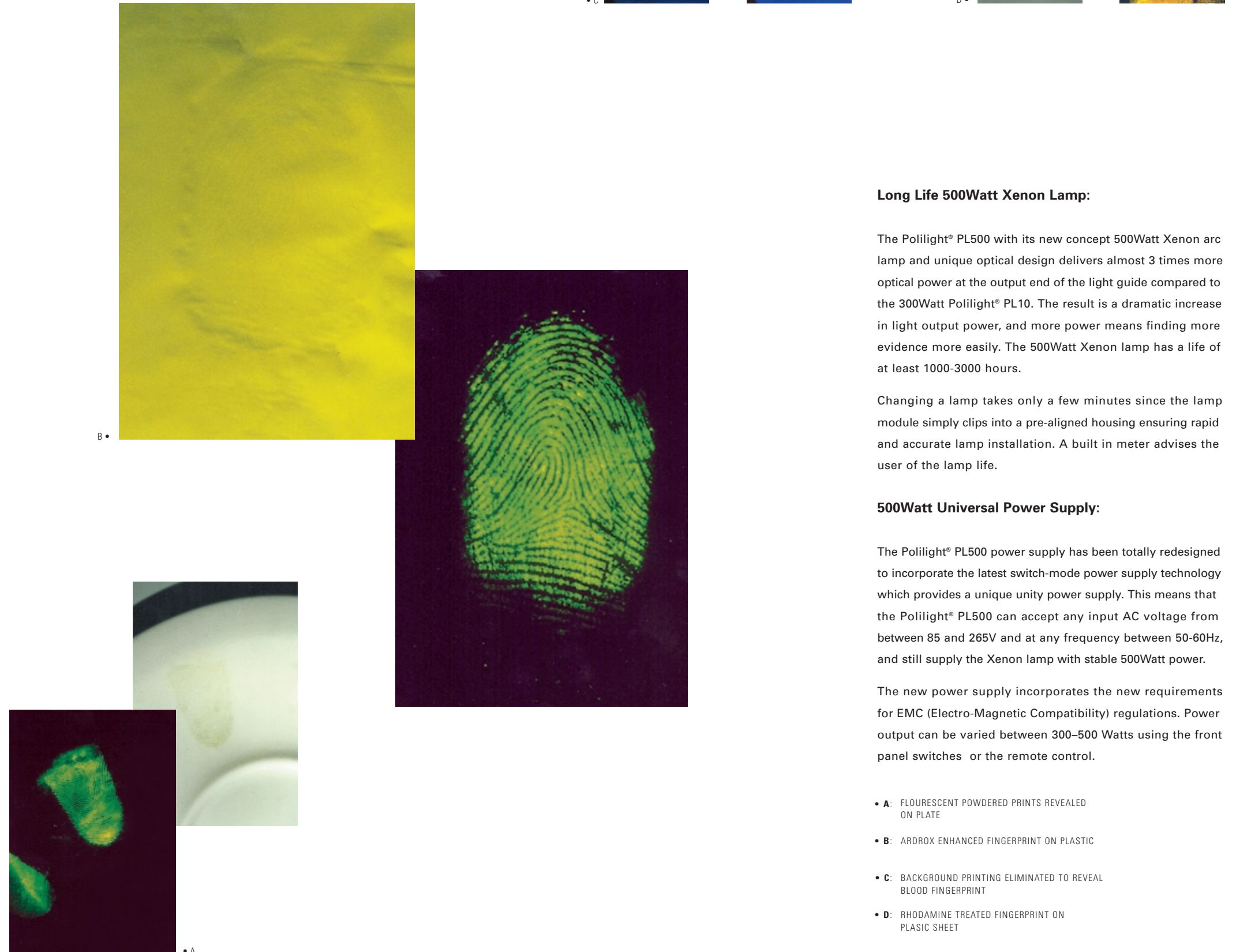
The result is a Forensic Light Source which has a far greater output power, which is smaller and lighter, is highly intelligent and is designed for even greater reliability and ease of use.

### Applications of a Forensic Light Source:

Applications for portable forensic light sources have been developed now for over ten years, but even today more applications are being discovered and developed for use at the crime scene and in the laboratory. Replacing the large, expensive and inflexible lasers previously used, applications cover a wide range of forensic investigation.

Well documented Polilight® usage includes the location and capture (photographic) of latent fingerprints, footprints, bloody fingerprints and blood patterns, fibres, powders, stains, paint-chips, gunshot residues, tattoos, bruises, semen, and also include a variety of forensic document applications including obliterations, alterations and forgeries.

Other noted applications are, location of bone fragments, drugs with cutting agents, lipstick residue, saliva, fire accelerant, and an unlimited number of possible contaminants such as greases, industrial chemicals and plant samples.



### Long Life 500Watt Xenon Lamp:

The Polilight® PL500 with its new concept 500Watt Xenon arc lamp and unique optical design delivers almost 3 times more optical power at the output end of the light guide compared to the 300Watt Polilight® PL10. The result is a dramatic increase in light output power, and more power means finding more evidence more easily. The 500Watt Xenon lamp has a life of at least 1000-3000 hours.

Changing a lamp takes only a few minutes since the lamp module simply clips into a pre-aligned housing ensuring rapid and accurate lamp installation. A built in meter advises the user of the lamp life.

### 500Watt Universal Power Supply:

The Polilight® PL500 power supply has been totally redesigned to incorporate the latest switch-mode power supply technology which provides a unique unity power supply. This means that the Polilight® PL500 can accept any input AC voltage from between 85 and 265V and at any frequency between 50-60Hz, and still supply the Xenon lamp with stable 500Watt power.

The new power supply incorporates the new requirements for EMC (Electro-Magnetic Compatibility) regulations. Power output can be varied between 300-500 Watts using the front panel switches or the remote control.

- A: FLOURESCENT POWDERED PRINTS REVEALED ON PLATE
- B: ARDROX ENHANCED FINGERPRINT ON PLASTIC
- C: BACKGROUND PRINTING ELIMINATED TO REVEAL BLOOD FINGERPRINT
- D: RHODAMINE TREATED FINGERPRINT ON PLASIC SHEET



blood

paint chips

gunshot residue

bruises

scars

semen

documents

footprints

fingerprints



**Easy to use Front Panel Design:** (PICTURED TO THE RIGHT)

The Polilight® PL500 is designed with the user in mind and incorporates state-of-the-art microprocessor control with stepper motor driven filter selection, filter tuning and power selection. All filters are individually selected at the touch of a single button on the front of the instrument. The selected centre wavelength of the band is shown on an LED display with a second LED displaying the extent of filter tuning and output power selected.

After initial power-up, the Polilight® PL500 will automatically go to the 450nm broad band blue filter which is the most commonly used filter for general crime scene examination. For safety the default power setting is set to low.

**Liquid Light Guide:**

The light output from the Polilight® PL500 is via a unique and flexible 8mm (internal diameter) liquid light guide designed to collect and transmit the light output with high efficiency. The new light guide is connected to the light source by a unique plug and twist mechanism which makes fitting and removing the light guide extremely rapid and easy.

The output light is focused using a quartz lens producing an even light spot. The stainless steel protective sheath ensures the long life of the light guide in the field.



MAIN IMAGE : SHOWS THE NEW ERGONOMIC DESIGN AS COMPARED TO THE PREVIOUS MODEL.

**Ergonomic Design:**

The Polilight® PL500 is smaller and lighter than existing Polilight models, even though the optical power output is three times higher. The Polilight® PL500 is designed with crime scene applications in mind and is designed to be carried on aircraft as carry on or checked baggage.

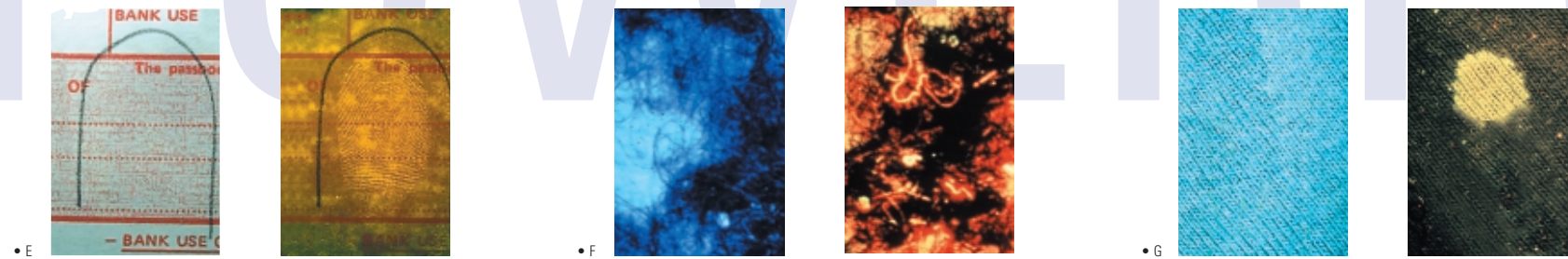
The unit is built in an aluminum case with bumpers on all corners to provide shock protection. A reinforced carry case is provided for easy transportation of the Polilight® PL500 and its accessories.



**Remote Control Operation:** (PICTURED ABOVE)

A small hand held remote control provides the option of operating the Polilight® PL500 from up to three meters away. Filter selection, filter and power tuning can all be performed through a simple four button remote control.

# POWERFUL



THE MOST POWERFUL AND INTELLIGENT FORENSIC LIGHT SOURCE



### Easy Maintenance:

A major design objective of the new Polilight® PL500 has been to dramatically reduce any potential maintenance down time. The new 500Watt Xenon lamp unit is designed into an easy access position and lamp change over time has been reduced by 80%. The power supply replacement time has been reduced by 95%. These savings have been achieved by adopting a modular construction design and by applying ten years of light source servicing experience. Instrument down time and possible service charges will be significantly reduced as a result.

(THE NEW EASE OF LAMP REMOVAL IS PICTURED ABOVE)

DFO TREATED FINGERPRINT REVEALED ON BANKSLIP :E•

VACUUMINGS FROM SCENE OF CRIME ILLUMINATED TO SHOW DETAILED FIBRES :F•

SEMEN STAIN ON FABRIC REVEALED BY THE POLILIGHT® :G•

### Tunable High Power Optical Filters:

The high powers resulting from the 500Watt Xenon lamps would damage and drastically reduce the lifetime of the filter types used in previous Polilight® models. So unique new filters were specifically developed for the highly powered Polilight® PL500 to ensure long life and purity of light. The new filters are specifically designed to withstand the very high optical energy output by the Polilight® PL500. Purity of the light band produced was critical and high rejection of stray light essential to the success of previous Polilight® models.

The new Polilight® PL500 filters are interference type filters and can be tuned to achieve the precise output bands required.

### Safeguards:

The use of microprocessors within the new Polilight® PL500 has allowed us to incorporate some new safety designs not able to be implemented on any other light source.

The Polilight® PL500 monitors its internal temperatures and will turn off the lamp rather than let any potential damage occur. Should any internal electrical levels not be within acceptable limits the unit will not allow the power supply to attempt to strike the lamp. Light flashes occurring between filter changes have been eliminated. All these features are designed to provide protection to the operator, and the instrument, against any accidental or ill-advised usage.

### Output Light Bands:

Instead of the 10 bands supplied with the Polilight® PL10 and six bands of the Polilight® PL6, the new Polilight® PL500 has twelve bands in the UV/Visible range. The new bands are the blue 470nm and 490nm. These bands add flexibility to investigations since they are narrower than the general investigation wide blue 450nm band. The continuous tunability of the Polilight® filtering system makes it possible to select any peak wavelength in the range 385 to 665nm. Future Infra-Red options will add another four IR light bands.

*Rofin Australia Pty Ltd has been producing Forensic Light Sources*

*for over 10 years, and now has over 1000 users. Already over fifty*

*countries have experienced the reality of using a Polilight® in their*

*daily investigations. Following the reputation, of reliability and*

*performance associated with the name Polilight®, we are proud to*

*introduce the new Polilight® PL500. The most powerful and advanced*

*Forensic Light Source to date.*

- RUGGED CONSTRUCTION AND PORTABILITY
- 3X THE POWER OF PREVIOUS POLILIGHT®
- MORE SELECTABLE VISIBLE FILTERS
- SINGLE PUSH BUTTON CONTROL
- MICROPROCESSOR CONTROLLED
- EASY TO OPERATE
- REMOTE CONTROL
- POWER TUNING
- FILTER TUNING
- EASY TO USE

