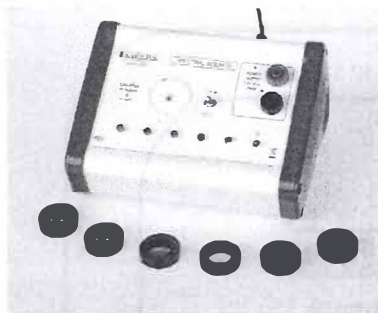


SPECTRAL SOURCE

LA20-840



INTRODUCTION:

This apparatus provides a unique facility for use in spectroscopy and is particularly aimed at digital spectrometers. The unit also provides a useful complement to direct vision and diffraction grating spectroscopes.

DESCRIPTION:

The Spectral Source contains six LEDs (Light Emitting Diodes) and one low voltage tungsten filament lamp for use with gel transmission filters. The LEDs have been chosen to offer a range of wavelengths which make useful comparisons in terms of line and band spectra particularly when compared with the full daylight spectrum derived from a prism. Each LED and filter is summarised below.

SOURCES:

1. BLUE LED

A broad asymmetric continuous spectrum from 380 nm to 600 nm with a peak at 440nm.

2. YELLOW LED

A narrow symmetrical continuous spectrum from 550 to 650nm with a peak at 590nm.

3. CLEAR ENVELOPE RED LED

A narrow symmetrical continuous spectrum from 630 to 690nm with a peak at 660nm.

4. RED ENVELOPE RED LED

The dye in the plastic broadens the spectrum. 610 to 720nm with a peak at 650nm.

5. WHITE LED

Similar to a daylight spectrum but with reduced amplitude at 500nm. Very sharp cut off at 455nm and a long tail into the IR.

6. IR LED

Minimal output below 750nm rising to a peak at 850nm. Note no light is visible by eye from this device

LAMP and FILTERS:

1. LAMP

A very broad continuous spectrum from 390 to 900nm with a peak at 660nm.

2. YELLOW FILTER WITH LAMP

Almost identical to the lamp but with enhanced emission between 550 and 600nm.

3. RED FILTER WITH LAMP

Lamp spectrum with wavelengths below 600nm removed.

4. MAGENTA FILTER WITH LAMP

Similar to the red filter but with slightly increased transmission around 500nm.

5. CYAN FILTER WITH LAMP

A symmetrical continuous spectrum from 450 to 570nm with a peak at 520nm. Also some transmission in the IR.

6. BLUE FILTER WITH LAMP

Similar to the cyan but shifted towards the blue. A peak around 500nm with also some transmission in the IR.

USING THE SPECTRAL SOURCE:

Power can be supplied using the 2.1mm centre positive jack at the rear of the unit **or** using the 4mm sockets on the front panel.

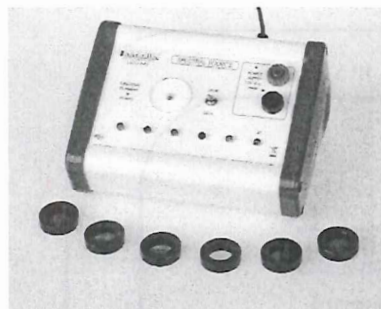
Use only a low voltage d.c. power supply. Note that the LEDs are polarity sensitive (red is positive).

Do not exceed 12V and use lower voltages to reduce the brightness as required.

Note that the IR LED emits no visible light.

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