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IPC Irwin Raymond the Raybox Part Number OPR3000

User Instructions



INTRODUCTION.

The IPC Irwin Raymond the Raybox is a great value Optical Raybox designed specifically for primary and lower secondary schools. The Raybox includes fixed slits at either end - one single slit and one set of triple slits, therefore allowing two student groups to work simultaneously. The Raybox also has inbuilt primary colour filters which, with the use of two plane mirrors (supplied), allows the overlapping of the three colour mixing discs when projecting onto a viewing surface. The Raybox requires a low voltage (DC or AC) supply, making it a very safe unit to use, if required please see the IPC Irwin range for a suitable Power Supply.

DESCRIPTION.

Raymond the Raybox is housed in a black ABS case, and is fitted with a 2-core, 1 metre, power supply lead, terminated with two black 4mm banana plugs. The light source is provided via a 6V (DC or AC), MES, filament lamp, rated at 3W (drawing approx. 0.5Amps). **Note:** a spare MES lamp is also provided.

The required 6V can be provided by either a low voltage power supply unit (DC or AC) or from a set of batteries. If a low voltage power supply is used, it should be capable of supplying 6V at a minimum current of 0.5Amps (500mA). If batteries are used then a set of 4 x C or D type batteries connected in series or a single 6V Lantern Battery (PJ996) would be suitable. **Note:** the IPC Irwin 4 x D Cell Battery Holder (EBH0004) is ideal for this supply option.

The Raybox also comes with two plain Mirrors and two 4mm Crocodile Clips.

IPC Irwin

Holker School, Cark in Cartmel, Grange over Sands, Cumbria LA11 7PQ, United Kingdom

Call: 015395 58555 **Email:** sales@ipcirwin.com

www.ipcirwin.com www.sciencebench.com

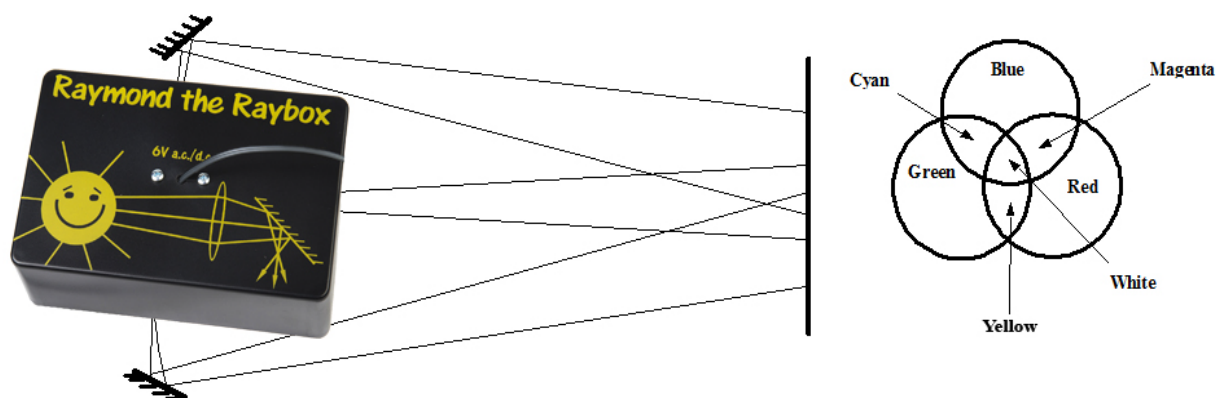


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INSTRUCTIONS/EXPERIMENT.

When using the triple slits, parallel light may be obtained by placing a plano-convex or biconvex, cylindrical lens ($f=75\text{mm}$) against the slits.

The colour mixing circles may be obtained by placing the Raybox approx. 30cm from a white screen. The single slit will need to be masked off when projecting the blue circle of light onto the screen. The two plane mirrors should be mounted with the long side vertical (ie. using Blue-Tac or Plasticine) on either side of the Raybox and aligned so that the red and green circles overlap the blue circle (see diagrams below).



Colour Mixing Circles Diagrams.

SPECIFICATIONS.

Supply Voltage/Current.	= 6V (DC or AC), 500mA (approx.).
Supply Lead.	= 1 metre lead, terminated with 2 x 4mm black plugs.
Filament Bulb.	= MES, 6.0V, 3W

Please Note: This Equipment is for Education, Training, or research Purposes Only.

Thank you for choosing this IPC Irwin product, which has specifically been designed for education and we know it will bring you good service long into the future. This is just one product of a wide range of UK designed and manufactured products to enhance a STEM education. Please see www.ipcirwin.com website for more details on the products and service we provide to support teaching and learning in science and technology.

IPC Irwin also provide Portable Appliance Testers and a Calibration service, for more details please go to www.ipcirwin.com or call our sales and technical support line on 015395 58555.



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