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|------------------------------------|-------------------------------|----------------------|--------------------|
| 1. Upper cover                     | 2. Projection screen          | 3. Front cover plate | 4. Blue light knob |
| 5. Red light knob                  | 6. Green light knob           | 7. Device case       | 8. Power switch    |
| 9. AA batteries (3x 1.5V) (351005) | 10. Battery compartment cover |                      |                    |

## Introduction

The mixing of the primary colours red, green and blue (RGB) is called additive colour mixing. The colour mixer allows red, green and blue light to be mixed which, in the right proportions, produce white light.

## Scope of application

The device is designed to be used in the student experiment, when they study the perception of colour. The synthesis of three primary colours is demonstrated by applying the device.

## Design and structure

The design of the equipment is quite simple, but it is user-friendly and very convenient to use. The structure of the device is shown in the picture above.

## Experiment

1. By mixing red, green and blue light in different proportions, different colours can be produced and observed. Therefore, red, green and blue are called the three primary colours.
2. RGB colour mixer could display red, green and blue colour separately; it can also display red-green, red-blue and green-blue two-colour mixtures; Furthermore, it can display red-green-blue three-colour mixtures. By using the equipment, the students will more intuitive understand the three primary colours and the sources of the rich colours on the TV screens.
3. The device is not only small and exquisite, but also easy to use. The brightness of the three colours are all adjustable. It is a very good equipment for the students to use.

## Operations

1. Put three AA batteries (351005) into the battery compartment. (Note that the positive and negative poles are correctly positioned). Turn on the power switch 8, close the battery compartment cover 10, then the equipment is ready to operate.
2. On the projection screen 2, the three demonstration spots of red, green and blue light can be observed. Turn the blue light knob 4, red light knob 5, green light knob 6 to respectively adjust blue light illumination, red light illumination and green light illumination, thus a variety of colour changes can be observed.
3. After the experiment, turn off the power switch, take out the batteries from the battery compartment.

## Maintenance

- Use three AA batteries (3 x 1.5V) as power supply. Make sure the positive and negative poles are positioned correctly, when placing the batteries into the compartment. If the device will not be used for a long period, please take out the batteries from the battery compartment.
- Always keep the projection screen clean and avoid scratches from hard objects, otherwise the effects of demonstrations will be impacted. If there are fingerprints and other contaminants on the surface of the projection screen, you can use water or alcohol to gently wipe them away.

## Power supply

- Uses 3 x 1.5 V. AA batteries. (351005) (not included)