

# Technical Notes

## RMS and DC Board

The RMS and DC board enables you to compare the brightness of a lamp when lit by DC and by AC. When both sources give the same brightness then the energy supplied by both sources is the same. A scope can then be used to compare the DC voltage and the peak AC voltage.



### Using the RMS and DC Board

- Firstly set the switch to DC and check that the battery and lamp are working.
- Connect a signal generator to the board but do not switch on.
- **Turn the output voltage right down.**
- Now switch on the signal generator and set it to a 50Hz sine wave.
- Set the switch on the board to AC and slowly increase the voltage of the signal generator.
- Increase the voltage of the signal generator until the brightness is the same as on the DC setting.
- Flick the switch between the two supplies until you are satisfied that the brightness is the same.
- Now connect your scope to the board and compare the DC voltage with the peak of the AC voltage.
- The DC value should be the peak AC value divided by root 2.
- When you are finished turn the output of the signal generator right down.

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