

H28093 Nuffield Operational Amplifier

NFU 98



Purpose

The Nuffield Operational Amplifier Board had been designed to meet the specifications (1519) required for Unit 1 of the Nuffield A level Physics course.

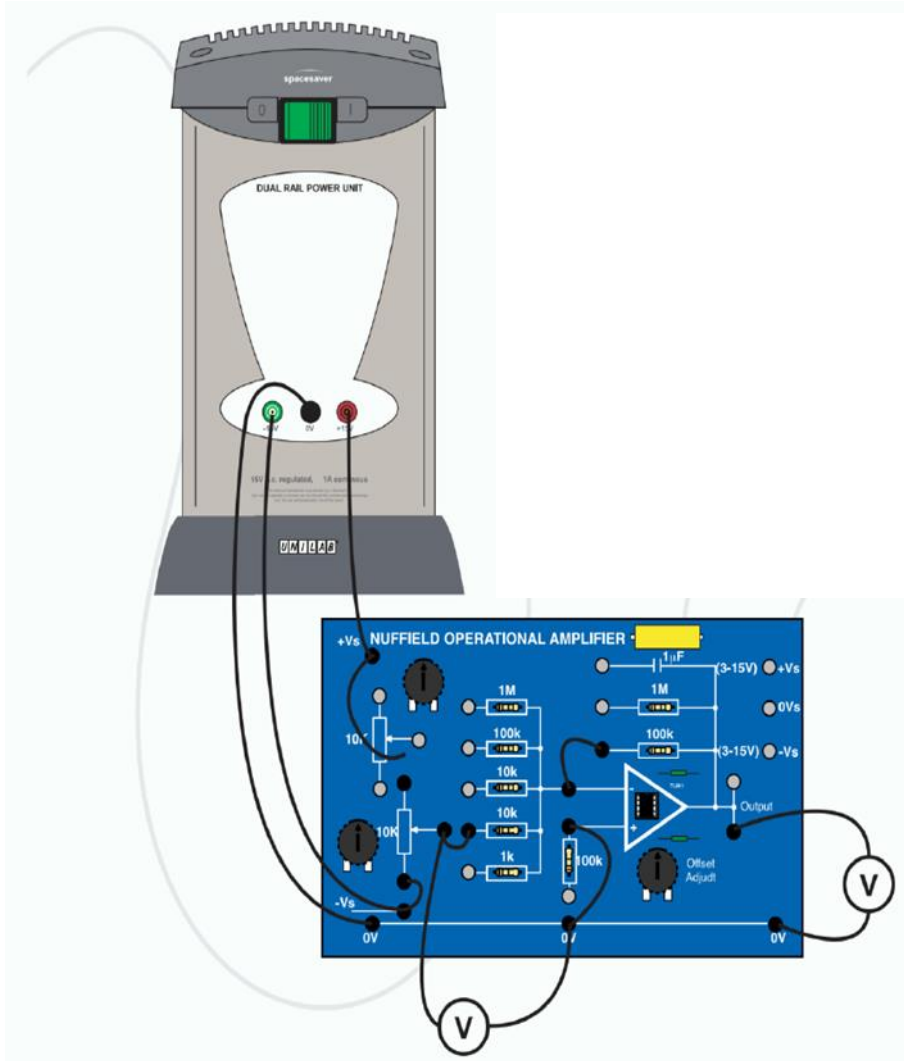
Apparatus details

The board requires a dual power supply between $\pm 5V$ and $\pm 15V$. Connections are made using either 2 or 4mm sockets depending on the version being used. These sockets can be used to connect individual components, or to investigate the circuit's operation with a meter etc.

The board is fitted with two potentiometers which can be connected either between the two power supply rails, or between one rail and 0V. In the first arrangement the potentiometer will act as a potential divider and the voltage can be varied either positive or negative with respect to 0V. The second arrangement could be used, for example, where the amplifier is used as an integrator. There is a range of input and feedback resistors that can be selected. The resistor values are chosen so that the resistance value can be varied in logical steps $\times 10$ for example. A $1\mu F$ capacitor has also been included above the feedback resistors. This capacitor can be used with work on the amplifier as an integrator, negative feedback: solving $dV/dt = -V/RC$, or oscillation type experiments. This board can also be used for demonstrations described in the Nuffield Students Guide.

version R01234.15.03

Students can connect the board as shown. They can explore how the output voltage varies when the input voltage is changed.



Safety advice

For your safety, this product should be used in accordance with these instructions; otherwise, the protection provided may be impaired. Risk of shock if the unit is opened.

This unit is intended for use in DRY conditions. Avoid spillage of water and other liquids on to the unit. If spillage occurs, disconnect the power supply.

Disclaimer

If the equipment is used in a way not specified by Philip Harris, then the protection provided may be impaired.

Warranty, repairs and spare parts

The power supply is guaranteed for a period of one year from the date of delivery to the customer. This warranty does not apply to defects resulting from the action of a user such as misuse, improper wiring, any operations outside of its specification, improper maintenance or repair, or unauthorized modification.

version R01234.15.03

Our liability is limited to repair or replacement of the product. Any failure during the warranty period should be referred to Customer Services.

In the event of a fault, apart from replacing the instrument fuse in the IEC socket, the power supply should be referred to the Philip Harris recommended repair agent.

Disposal of Waste Electrical and Electronic Equipment (WEEE)



Do not dispose of this product with household waste

- For the proper treatment , recovery and recycling please take this product to an appropriate collection point.
- If you are unsure where this is, contact your Local Authority
- By disposing of this product correctly you will be providing positive help to the environment.

Philip Harris Education, 2 Gregory Street, Hyde, Cheshire SK14 4RH

Orders and Information Tel: 0845 120 4521

Fax: 0800 138 8881

Repairs Tel: 0845 120 3211

E-mail: techsupport@philipharris.co.uk

Website: www.philipharris.co.uk

© Philip Harris Education, 2002, 2014

version R01234.15.03