GENOVA
LIFE SCIENCE ANALYSER
OPERATING MANUAL

SAFETY

Please read this information carefully prior to installing or using this equipment.

1. The unit described in this manual is designed to be operated only by trained personnel. Any adjustments, maintenance or repair must be carried out as defined in this manual, by a person qualified to be aware of the hazards involved.

2. It is essential that both operating and service personnel employ a safe system of work, in addition to the detailed instructions specified in this manual.

3. The covers of the unit should only be removed by personnel who have been trained to avoid the risk of shock.

4. References should always be made to the Health & Safety data supplied with any chemicals used. Generally accepted laboratory procedures for the safe handling of chemicals should be employed.

5. If it is suspected that safety protection has been impaired in any way, the unit must be made inoperative and secured against any intended operation. The fault condition should immediately be reported to the appropriate servicing authority.

GENOVA
LIFE SCIENCE ANALYSER
OPERATING MANUAL

CONTENTS

SECTION 1

INTRODUCTION

1.1 INSTRUMENT DESCRIPTION

The Genova UV/Visible spectrophotometer is optimised for use by the life science research chemist for the routine purity tesing of proteins, DNA and bacterial samples. Fully menu driven operation allows ease of use without the need for detailed knowledge of spectroscopy and makes the product ideal for use in teaching laboratories.
Features include dedicated operating modes for DNA/RNA oligonucleotide and protein analysis. Includes DNA programs, auto ratio and direct calculation of ssDNA, dsDNA, RNA and oligonucleotide concentrations and protein calculations including Lowry, Bradford, BCA and direct reading with display of calibration curve. Scanning capability for peak purity check.

1.2 INSTRUMENT SPECIFICATIONS

Transmittance	
Range:	0 to 199.9%
Resolution:	0.1%
Stray light	<0.5% @ 340nm and 220nm
Photometric accuracy:	±1%
Absorbance	
Range:	-0.300 to 1.999A
Resolution:	0.001A
Photometric stability:	<0.002A Hr after 30 minute warm up
Photometric noise:	<0.001A @ 0A @ 400nm
Concentration	
Range:	-300 to 9999
Resolution:	1, 0.1, 0.01 or 0.001
Units:	ppm, mg/l, g/l, M, %, µg/l, µg/ml, mg/ml, ng/ml or blank
Wavelength	
Range:	198 to 1000nm
Resolution:	1nm
Accuracy:	±2nm
Repeatability:	±0.5nm
Bandwidth:	5nm typical @ 270nm (8nm over full wavelength range)
Factor:	0 to 199.9, 1000 to 9999
Readout:	Custom LCD Graphics
Outputs:	Analogue (0 to 1.999V d.c.) / RS232 serial port
Light source:	Xenon flash lamp module
Input voltage:	115/230V a.c. –20% +10%
Input power:	<50W
Size:	365(w)x272(d)x160(h) mm
Weight:	6kg

SECTION 2

INSTALLATION

2.1 UNPACKING

Remove the Genova from the packaging and ensure the following items are present:

1. Genova Life Science Analyser
2. Mains cable
3. Pack 8 (300μl) disposable plastic cuvettes (035 132)
4. Instruction manual
5. Optional accessories (as ordered)

2.2 INSTALLATION

MAINS SUPPLY

The Genova is designed to operate on 115/230V a.c. supplies (-20% +10%) 50/60Hz.
The standard 2 metre mains cable supplied with the unit is fitted with an IEC type connector which can be plugged directly into the POWER IN socket on the rear panel.
The mains fuse is housed within the POWER IN socket. When replacing the fuse the unit should be disconnected from the mains supply.
In the event of the fuse failing after replacement it is advisable to consult with the manufacturer or your local dealer before proceeding further.

Fuse rating: 2A 'F' (fast blow type)

NOTE: The unit should be positioned within 1.5 metres of an earthed mains supply.

VOLTAGE SELECT

NOTE: When changing the voltage select switch position always ensure the fuse rating is correct.

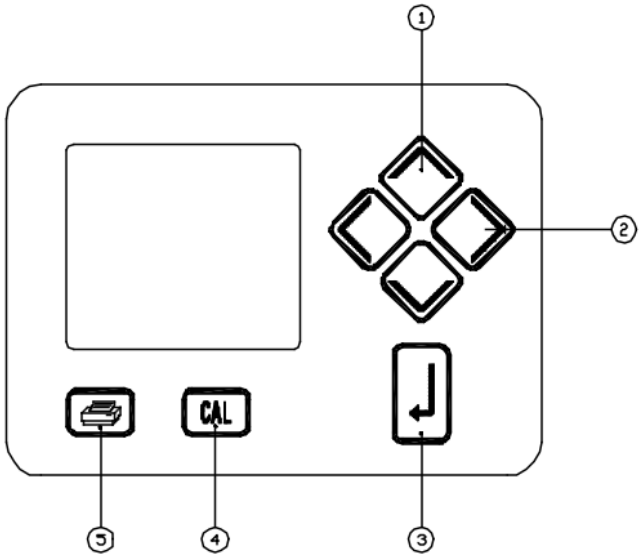
Before attempting to change the voltage select disconnect the unit from the mains supply. withdraw the fuse holder form the power input socket and remove the fuse. Extract the grey fuse retainer and rotate so that the correct voltage is visible through the aperture in the fuse holder. Replace the fuse retainer in its holder, fit the correct fuse and push assembly back into the power input socket.

MAINS CONNECTIONS

A suitable plug should be connected to the 3 wires on the mains lead. These are colour coded to conform with the internationally recognised standard such that:

BROWN	**LIVE**
BLUE	**NEUTRAL**
GREEN/YELLOW	**EARTH**

2.3 CONTROLS



1. **UP/DOWN KEYS** used to move the highlight around menu/screen options unless editing a parameter. In this instance these keys are used to adjust the highlighted parameter.

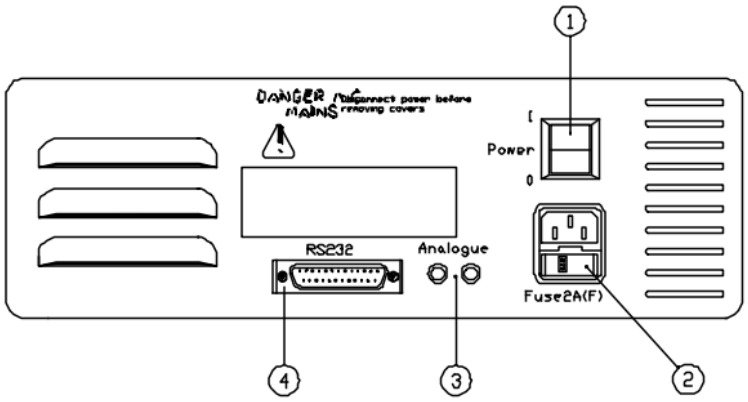
2. **LEFT/RIGHT KEYS** used to move the highlight around menu/screen options. If editing a numeric value the highlighted digit can be altered. If the highlight is moved off the left most digit the data editing will be aborted and the previous value will be re-instated.

3. **ENTER KEY** used to select the highlighted menu option or to store the current parameter being entered.

4. **CAL KEY** initiates a calibration routine (absorbance zero).

5. **PRINT KEY** provides a printout of the current reading with an incremental sample number. When pressed for the first time after a calibration, the print out will give calibration information. The incremental sample number will be reset after a calibration.

2.4 INPUTS/OUTPUTS



1. **ROCKER SWITCH**	On/off switch for the unit
2. **POWER IN SOCKET**	IEC type connection socket for mains cable
3. **OUTPUT SOCKETS**	Analogue output
4. **OUTPUT SOCKET**	Output socket for (25 way) for RS232