

# SP-8001

UV/Visible Spectrophotometer



Provide Accurate Results



TAIWAN  
SYMBOL OF EXCELLENCE



*High performance UV/Visible Spectrophotometer for Research, and Laboratory work*

## Product Features

The Metertech SP-8001 UV/Visible Spectrophotometer is an accurate, reliable, and cost effective instrument designed for quality control, research, and teaching requirements.

The system is also designed with a narrow, and focused beam to provide excellent linearity, and small variance with small samples in semi microcells.

The SP-8001 also offers a large on-board graphical display and soft-keys to provide access to functions, and applications easily. Users can store the datas and parameters from the experiment on-board in standalone or export to a PC with the PC-mate software.

For different experiment needs the SP-8001 offers additional flexibility with temperature control, sipper, 6 cell holder, and rectangular cell holder, modules. The sample compartment modules can be interchanged fast and easy.

With ongoing improvement and upgrades by Metertech the SP-8001, has become a reliable, versatile and easy to use instrument designed to meet the requirements of research institutes, educational needs, and manufacture facilities to perform routine analysis.

## Key Features

### ■ **Intuitive design which requires minimum training to use**

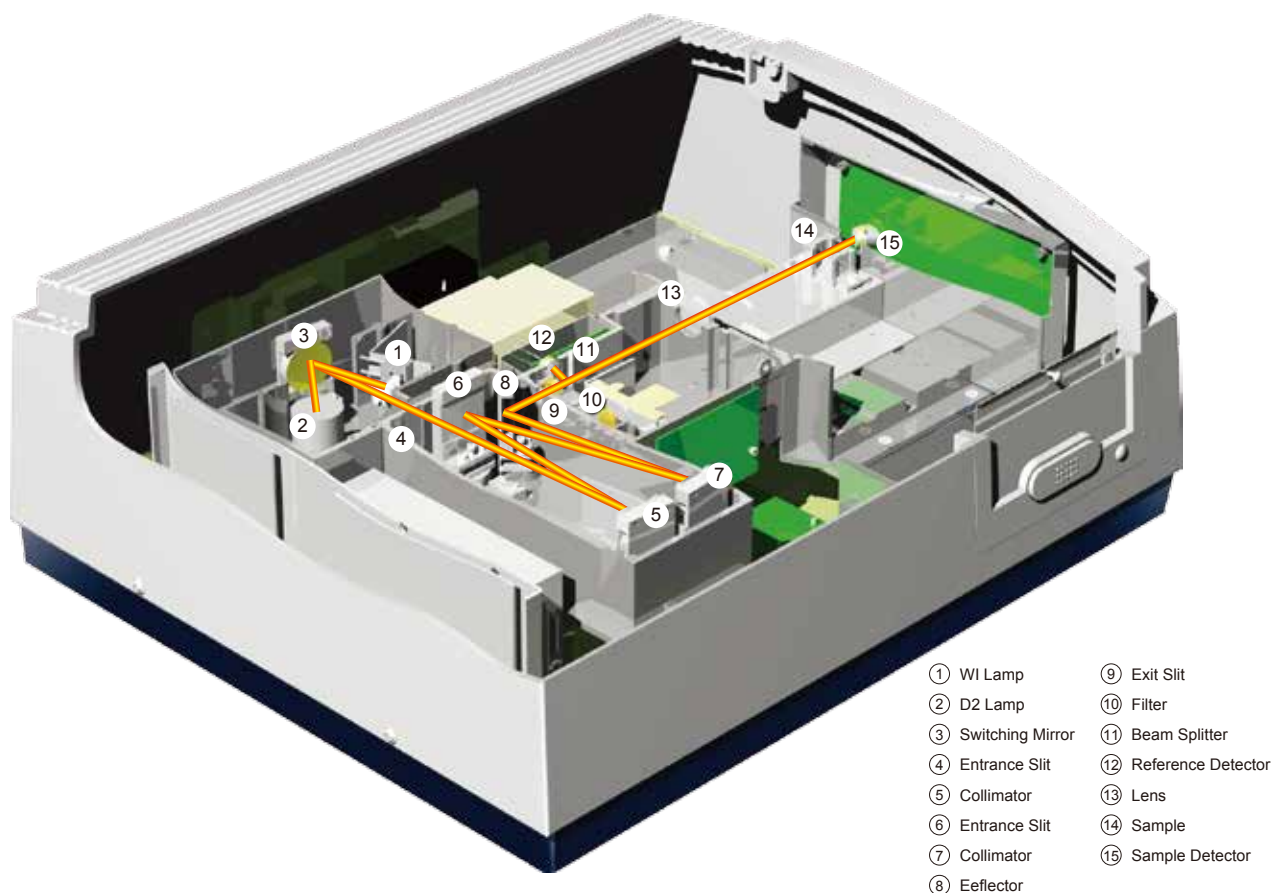
The on board graphic display and softkeys allows user to quickly setup, and execute their experiment with only a few keystrokes on the softkey to get their Absorbance, Concentration, Transmittance, and Spectrum reading data.

### ■ **High performance optical design for reliability and easy maintenance**

The split beam optical design allows the SP-8001 to measure samples with enhance stability. With the design of a reference detector the readings are subtracted by the sample detector results, so the results will be more accurate and less affected by the environmental condition.

The narrow(0.3x 0.6mm) and focused beam design within the system allows users to produce excellent resolution and reproducible results for normal, and small samples (50uL).

The UV and Visible light source will automatically switch independently to save lamp life and cost. The Deuterium will only turn on when the instrument is scanning samples in the UV range.



## Key Features

### ■ **Ingenious sample compartment design accommodates all needs**

The universal sample compartment can easily accommodate all kinds of cell from 10~100mm path length cuvette to 10~13mm diameter test tube, users will be able to choose different type of sampleholder for their experiment needs.

Thermal-controlled sample compartment and multiple sampleholder can be adapted on SP-8001. Change of cell holder is quick and simple.



Sipper unit



Thermo-fluid cell holder



Single cell holder

### ■ **Automatic 6 cell changer accessory**

The 6 cell changer on the SP-8001 provides a simple automatic method to measure multiple samples at once. User can designate one position as blank leaving a total space of 5 samples to be measured.



Automatic 6 cell holder

### ■ **Advance temperature control**

The SP-8001 offers advance temperature control accessory. User will have the option to use a standalone thermal electric for temperature control or use a re-circulating water circulating bath for temperature control.



Thermo electric cell holder



Thermo fluid cell holder



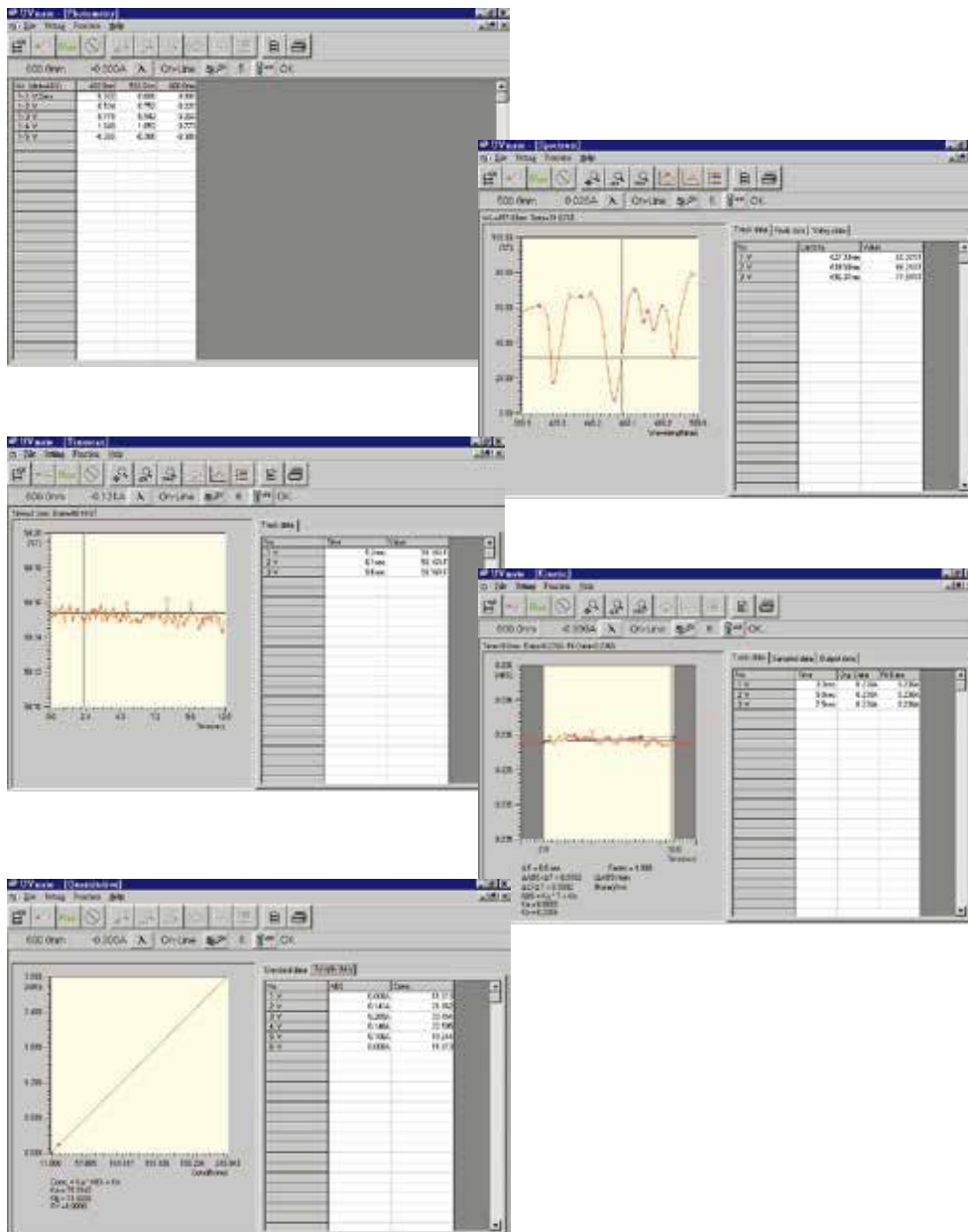
Cylindrical cell holder

## Key Features

### ■ Enhance features on UV-Mate PC software

For enhance features and data storage, the SP-8001 can connect to a PC with the UV-Mate software.

The UV-Mate software comes with the standard Photometric, Spectrum, Timescan, Kinetic, and quantitative features, but also comes with more complex features such as DNA/RNA, and Protein analysis. Users will also have the flexibility to save the data into Excel format.



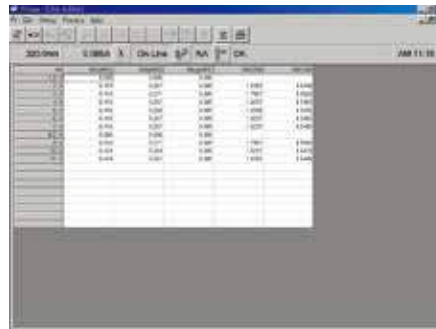
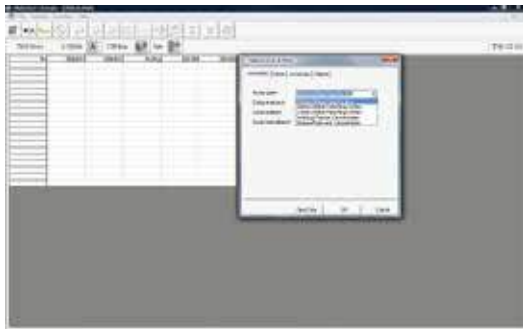
## Key Features

### ■ Application of lab routine measurement of nucleic acid and protein

DNA/RNA

SP-8001 can perform quantitation of nucleic acid from the absorbance of two wavelengths, at either 260/280 nm or 230/260nm with or without background 320nm. Different measurement parameters can be selected:

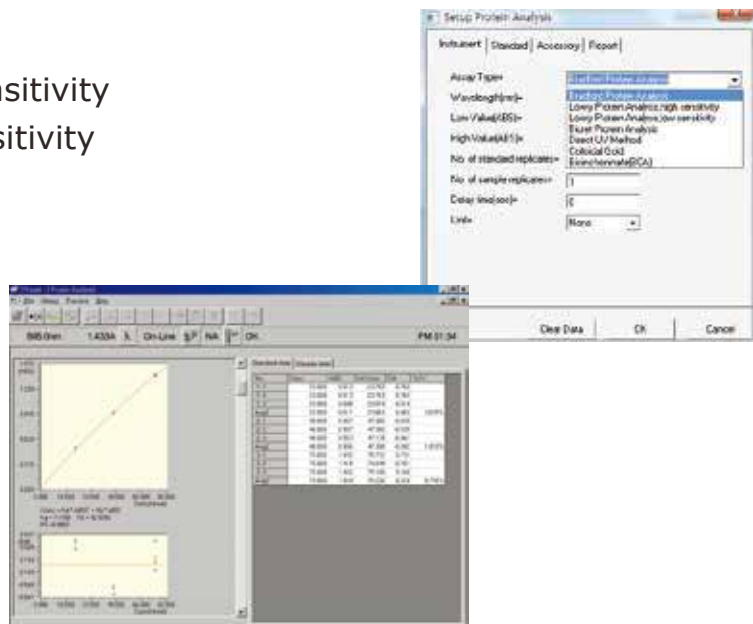
- 260/280 nm ratio, no background
- 260/280 nm ratio, background 320nm
- 230/260 nm ratio, background 320nm
- Warburg-Christian concentration
- General ratio and concentration for customized equation calculation



Protein

With embedded quantitative methods user can determine the protein concentration using coloring reagents. The SP-8001 includes the most commonly used assay methods:

- Bradford protein analysis
- Lowry protein analysis, high sensitivity
- Lowry protein analysis, low sensitivity
- Biuret Protein analysis
- Direct UV method
- Colloidal Gold
- BAC method



## Specification

Model Number	SP-8001
Optical Design	Split Beam (Internal double beam design)
Light Source	Deuterium and Halogen lamp, auto switching at 320~360nm
Detector	Silicon photodiode
Wavelength Range	190-1100 nm
Bandwidth	<2nm
Wavelength Accuracy	+/- 0.5 nm
Wavelength Repeatability	+/- 0.2 nm
Measurement mode	Absorbance, Transmittance (%T), Concentration
Photometric accuracy	+/- 0.005Abs at 1.000Abs
Photometric range	-0.300~4.500Abs
Baseline flatness	+/-0.001Abs (210~1000nm)
Noise level	+/-0.0015Abs (500nm)
Stability	< 0.0003 Abs /hr at 500nm after 1hr warm-up
Stray Light	<0.05% at 340 and 220 nm by NIST SRM2031
Wavelength scanning speed	100-5000 nm/min (user programmable)
Display	6 Inch LCD display with back light
Interface	RS232 and parallel port
Power	100 ~ 240V at 50/60Hz
Dimension	506(W) x 430(D) x 220(H) mm
Weight	18 kg

\*Metertech reserve the right to alter specifications without notice

## Ordering Information

DESCRIPTION	PART NUMBER
SP-830+	Visible spectrophotometer
SP-880	Visible spectrophotometer with PC compatibility
SP-8001	UV- Visible spectrophotometer
M8001-001	Deuterium lamp
M8001-002	Halogen lamp
M8001-100	6-cell holder unit
M8001-300	Flow-cell unit
M8001-301	Sipper unit
M8001-400	Water circulation temperature control unit for single cell holder (10mm light path)
M8001-401	Electronic type temperature control unit for single cell holder
M8001-500	Single cell holder(round or square cuvette)
M8001-600	10-100nm Sample compartment versatile

