

SP-UV 500DB
SP-UV 500VDB
UV-VIS Spectrophotometer



Excellence in Measurement

Your Friendly Concern Is The Source Of Our Achievement

The SP-UV 500 series is a double beam spectrophotometer in the production series of Spectrum Instruments. It gets a technology patent - "space separated double beam, Non-Symmetric vertical optical path". Compared with traditional double beam technology, simplified optical path improves reliability. The "width narrow and depth deep" design saves placement room.

Original Touch Screen of SP-UV500, the end users can control the instrument by the touch screen without the keypress. Streamline appearance and pretty colors express a new style fashion.

Specification of SP-UV 500 Series:

SP-UV 500VDB

Bandwidth adjustable
0.5, 1, 2, 4nm
8 inches touch screen for operation

SP-UV 500DB

Bandwidth fix at 1nm
8 inches touch screen for operation

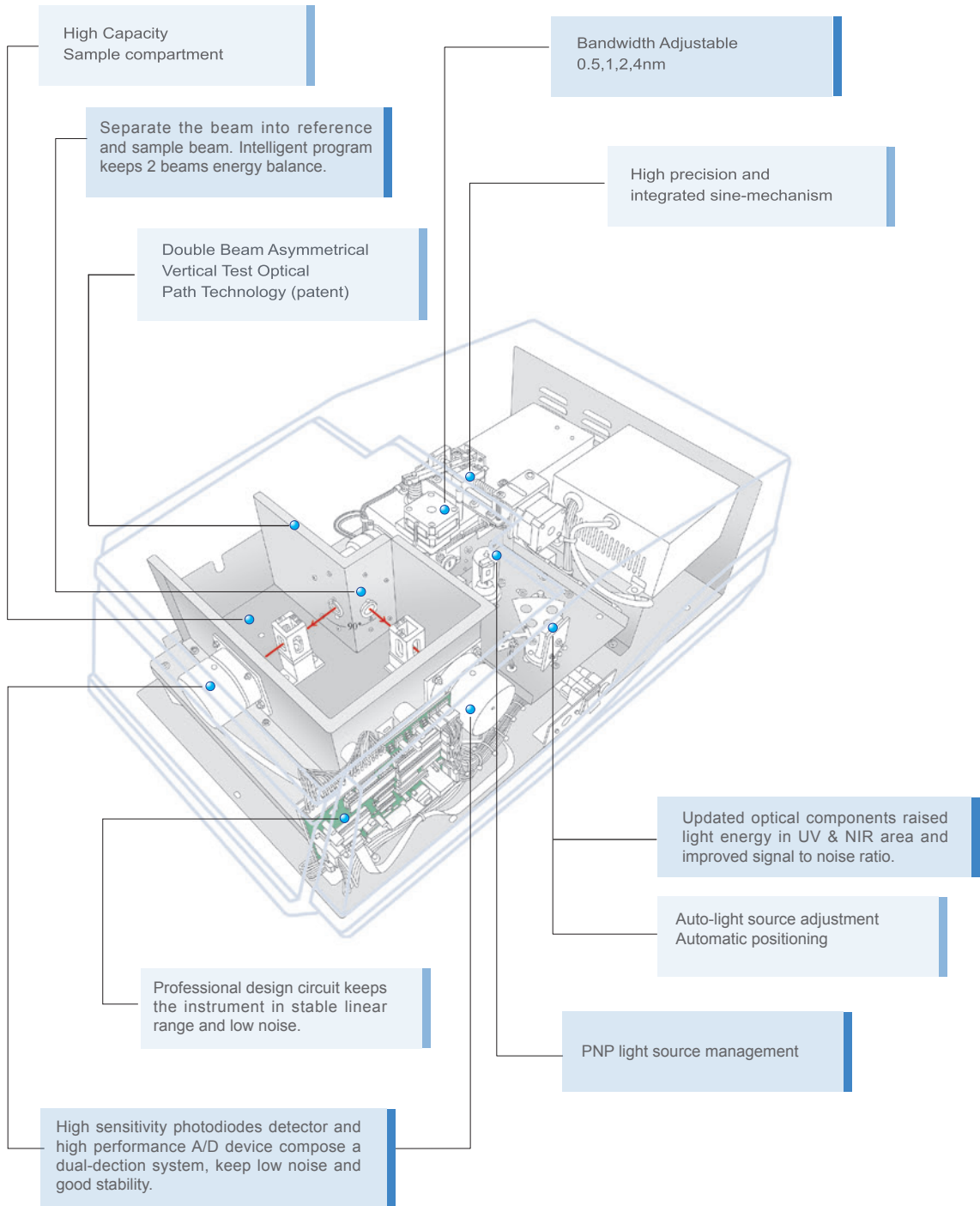
Recommended Application:

Universities, Medicine, Food, Agriculture, Environmental Protection, Petroleum, Chemical industry, Research and Development, QA & QC...etc.



▲ SP-UV 500VDB

Double Beam Asymmetrical Vertical Test Optical Path Technology





General spectrophotometer workstation software
Standard, Drug test, Biochemistry, Chemical Residue, Environment.

Standard Function:
 Photometric Analysis+Standard Curve Quantitative Analysis+Spectral Analysis+Time Scan.

Drug Test Function:
 Standard Function+Multi-wavelength Quantitative Analysis+GLP/GMP.

Biochemistry:
 Standard Function+Kinetics Analysis+DNA/Protein Analysis.

Pesticide Residue:
 Standard Function+Fast Pesticide Residue Test.

Environment:
 Standard Function+ Formaldehyde/Nitrogen Test.

Characteristic

- Operation software: Win-spec SP-5.0EN can run on Windows XP, Windows 7/8
- Data sharing: test data can be shifted to word,excel program or other application software.
- Data processing and graphical representation function include: Calculation, Automatic peak search, Feature point, Mathematical statistics, Free remark and so on.
- Professional application function: Data processing function, Standard curve,Time scan, Spectrum scan,Multi-wavelength analysis, DNA/Protein analysis.
- QA/QC function, automatic calculation of linear correlation coefficient.
- GLP/GMP support.
- Data encryption and E-mail function.
- Standard and graceful test report & graphic output.

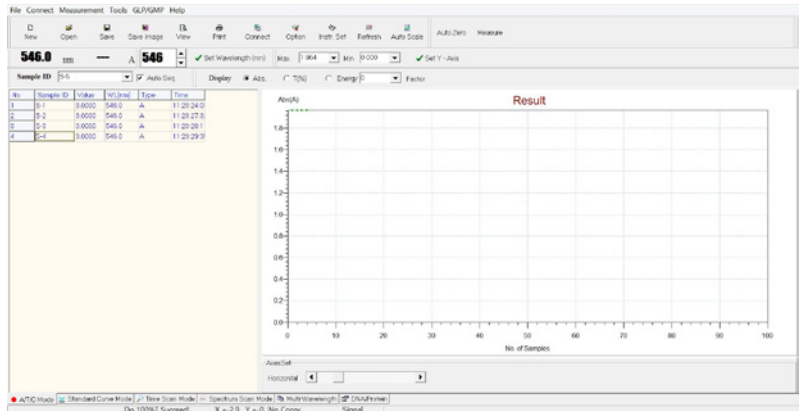


Standard

Introduction of standard-version function

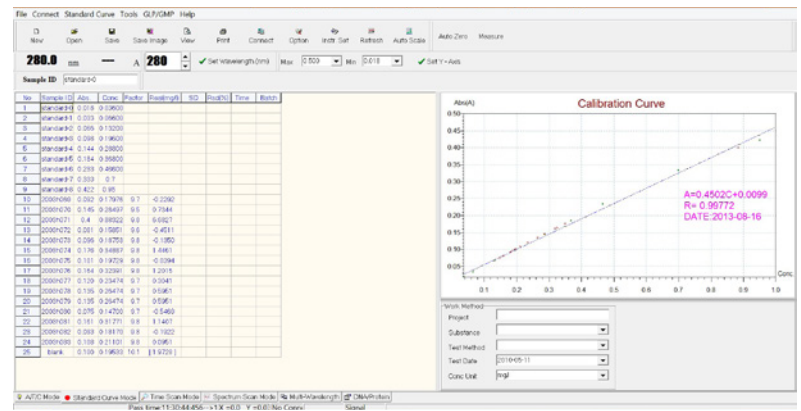
Photometry Analysis

1. Mode: Abs/%T/Conc.
2. Concentration Mode: read sample concentration directly compare to known factor.
3. Concentration factor save and calibration function.
4. Data Test report



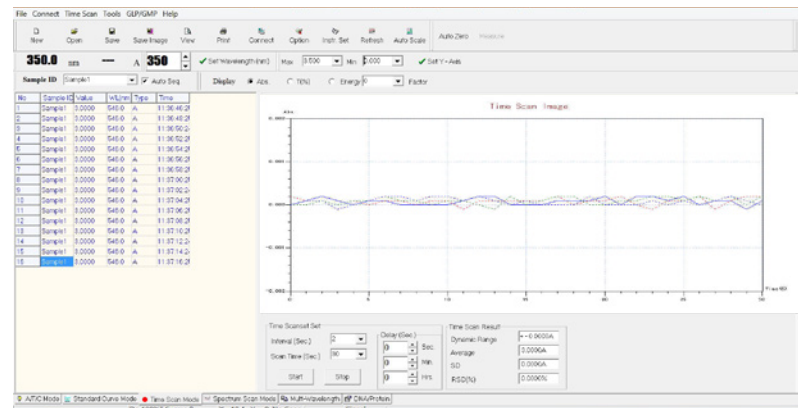
Standard curve quantitative analysis

1. In 1,000 standard points range: establish one order linear standard.
2. 10,000 No. of samples can input.
3. Calculate sample concentration automatically .
4. Real time graphical representation, standard point, sample point and standard curve.
5. The unit of concentration can be selected from the software e.g.mg/l, mg/kg, ug/l, ug/g, ng/ml,ng/g, pg/g, pg/ml...ect.



Time scan (Kinetics analysis)

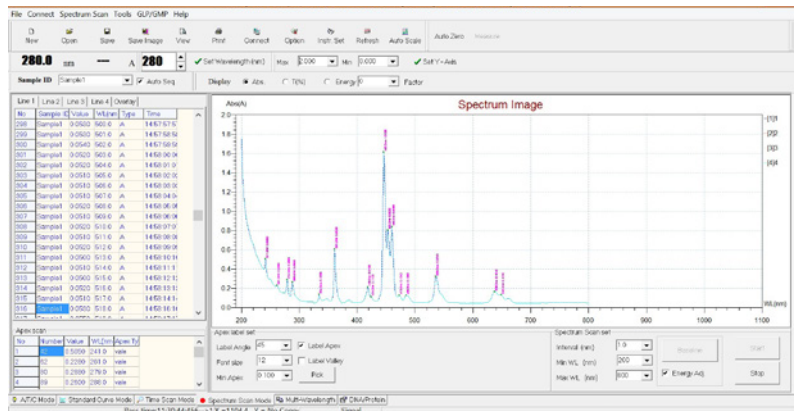
1. Scan range, Interval and Delay free set up
2. Dynamic range, Average value, SD, RSD(%)





Spectrum Scan

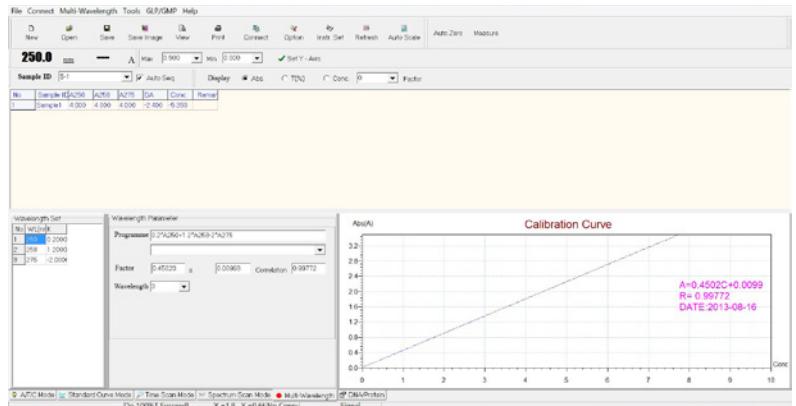
1. Scan mode: %A,%T, Energy
2. Derivative spectrum (4 bands)
3. Label angle, Label apex, Label valley, Font size
4. Auto scale of spectrum image



Drug test: Standard Function+Multi-wavelength Quantitative Analysis+GLP/GMP

Multi-wavelength Quantitative Analysis

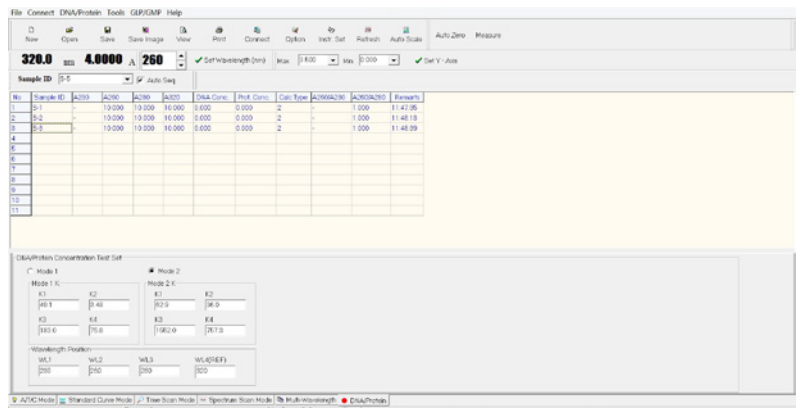
1. Parameter: A or T
2. Numbers of wavelength setting ≤ 100
3. Factors or standard curve
4. Customize Equation programme
5. Storage and transfer function
6. Multi-wavelength quantitative analysis



Biochemistry Standard Function+Kinetics analysis+DNA/Protein analysis

DNA/Protein analysis

1. Test and calculate: DNA/Protein concentration at 230, 260, 280, 320nm
2. 2 methods of calculation
3. Customize factor and wavelength
4. Real time display Absorbance of 4 points.
5. DNA/Protein quantitation using the absorbance at 260/230 nm or 260/280 nm.





Technical Specification

Main specification and accessories for choice

Performance Specification		
ITEM	SP-UV 500DB	SP-UV 500VDB
Monochromator	1200 grooves/mm diffraction grating monochromator.	
Optical System	Double beam	
Light path through sample	10mm (standard), up to 100mm (option)	
Spectral bandwidth	1nm	0.5,1,2,4nm
Wavelength range	190-1100nm (0.1nm increment)	
Wavelength accuracy	±0.3nm	
Wavelength repeatability	±0.1nm	
Stray light	≤0.02%T (at 220nm NaI & 340nm, NaNO ₂) ≤1.0%T (at 198 nm KCL)	
Photometric modes	T, A, and Conc. measurement	
Photometric range	0-300.0%T, -3.000 to 4.000A , 0.000-9,999 Conc.	
Photometric accuracy	±0.002A (0-0.5A) ±0.004A (0.5-1.0A) ±0.006A (1.0-2.0A)	
Photometric repeatability	±0.001A (0-1.0A) ±0.003A (1.0-2.0A)	
Baseline stability	±0.0003A/hr (at 500nm, after lamp turned on for 1 hour)	
Baseline flatness	±0.0006A (200 to 1100nm)	
Noise level	≤0.00008RMS (at 0A, 500nm)	
Light sources	Tungsten-Halogen & Deuterium	
Detectors	2 Silicon Photodiodes	

Basic instrument functions	
Storage function	128 standard curves
Baseline setting (100%T or 0%T) setup	Automatic.
System self-testing	Wavelength self-testing, light sources self-testing, filter switching, energy calibration.
Switching-over of light sources	Automatic switching at 325nm (can select upto 370nm)
Light source management	Light source on/off status can be controlled to elongate its working life. Lamp usage time
Signal output	USB & Printer Port
Communication function	Intercommunication can be realized after connecting to PC.

Accessories available
• 10mm lightpath, 8 or 12 cell auto cuvette holder.
• Micro-volume cuvette (30µl, as the minimum volume.) (Adjustable cuvette holder should be used.)
• Ultra-micro cuvette (0.1µl, as the minimum volume.)
• Peltier single cell holder system (Used for example : kinetic analysis.)
• Sipper system
• Sipper with adjustable temperature cuvette holder.
• Multipurpose cuvette holder for both 10mm light path cuvette and Ø8- Ø22 round tube
• 16 mm round tube holder for COD test
• Thin film test holder
• Reflectance holder for glass filter sample

Scope of supply
■ 10mm cell holder 2 sets
■ 10×10×45 mm standard glass cuvettes 4pcs
■ 10×10×45 mm standard quartz cuvettes 2pcs
■ USB connection cord 1pcs, Power cable 1pcs
■ User manual 1pcs

Main Specification
Display 8 inches Color Touchscreen
Standard cell holder 10mm
Power Requirement 110/220VAC, 50/60Hz, ±10%
Size 604(W)×465(D)×255(H) mm
Net Weight 30Kg
Gross weight 34Kg



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