



#### Basic Instrument Functions

Mode of operation	Photometric measurement,(A/T) Concentration measurement(C)
Concentration measurement	Slope method ( $C=K \cdot A$ ) Standard curve method ( $C=K \cdot A+b$ )
Photometric analysis	T, A, and C measurement
Display mode	Wavelength, %T, Absorbance, Concentration
Storage function	50 standard curves in the instrument
Light source switching	Automatic switching at 325nm (can select upto 355nm )
Light source management	Light source on/off status can be controlled to elongate its working life.
System self-testing	Wavelength self-testing, light sources self-testing, energy calibrating.
Instrument control	Standalone or PC Software
Signal output	Printer Port



#### Performance Specification

ITEM	SP-UV 200
Optic system	Single beam with 1200 lines/mm diffraction grating monochromator.
Light path	10mm-100mm
Spectral bandwidth	5nm
Wavelength range	200-1000nm (1.0nm increment)
Wavelength accuracy	±1.0nm
Wavelength repeatability	±0.5nm
Stray light	≤0.3%T (at 220nm NaI & 340nm, NaNO <sub>2</sub> )
Photometric mode	T, A, and Conc. measurement;
Photometric range	0-125.0%T, -0.097-2.5A, 0.000-9,999 Conc.
Photometric accuracy	±0.3%T
Photometric repeatability	±0.2%T
Baseline stability	±0.003A/hr (at 500nm, after lamp turned on for 1 hour)
Light source	Tungsten-Halogen & Deuterium
Detector	Silicon Photodiode

#### Accessories available

- 10mm lightpath, 6 cell auto cuvette holder.\*
- 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 Ø10-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 manual four-cell holder 1pcs
- 10×10×45 mm standard glass cuvettes 4pcs
- 10×10×45 mm standard quartz cuvettes 2pcs
- User manual 1pcs

#### Main Specification

Display	2×20 characters LCD with 4 lines display
Sample compartment	100mm Optical Path
Standard cell holder	10mm
Power requirement	110/220VAC, 50/60Hz, ±10%
Size	465(W)×365(D)×175 (H) mm
Net weight	11Kg
Gross weight	15Kg

\*When the instrument is connected to the PC and controlled by software.



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**SP-UV 300**  
UV-VIS Spectrophotometer

**Spectrum**  
Instruments  
a PerkinElmer company

## ► SP-UV 300

### Basic Instrument Functions

Mode of operation	Photometric measurement,(A/T) Concentration measurement(C)
Concentration measurement	Slope method ( $C=K \cdot A$ ) Standard curve method ( $C=K \cdot A + b$ )
Photometric analysis	T, A, and C measurement
Quantitative analysis	Standard curve measurement
Kinetic analysis	Measurement with time-scanning
Spectrum scan analysis	Spectrum scan function
Multiple wavelength analysis	Measurement with many wavelengths
DNA / Protein analysis	Automatic calculation of the purity and concentration of nucleic acid
Storage function	128 standard curves in the instrument
System self-testing	Wavelength self-testing, light sources self-testing, energy calibrating.
Light source switching	Automatic switching at 325nm (can select upto 370nm )
Light source management	Light source on/off status can be controlled to elongate its working life.
Instrument control	Standalone or PC Software
Signal output	Printer Port



### PC Mode (additional function using Win-spec Software)

Software function	Validation (GLP/GMP) and a lot of other functions
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### Performance Specification

ITEM	SP-UV 300	
Optical system	1200 lines/mm diffraction grating monochromator	
Optic type	Split (Dual) beam	
Light path	10mm-100mm	
Spectral bandwidth	2nm	
Wavelength range	190-1100nm ( 0.1nm increment )	
Wavelength accuracy	±0.5nm	
Wavelength repeatability	±0.3nm	
Stray light	≤0.05% T (at 220nm NaI & 340nm, NaNO <sub>2</sub> )	
Photometric mode	T, A, and Conc. measurement	
Photometric range	0-300.0%T, -3.000 to 4.000A , 0.000-9,999 Conc.	
Photometric accuracy	±0.3%T	±0.004A (0-0.5A) ±0.008A (0.5-1.0A) ±0.01A (1.0-2.0A)
Photometric repeatability	±0.2%T	±0.002A (0-1.0A) ±0.006A (1.0-2.0A)
Baseline stability	±0.001A/hr (at 500nm, after lamp turned on for 1 hour)	
Baseline flatness	±0.002A (200-1100nm)	
Noise level	±0.001A or ≤ 0.0002 RMS (at 0A, 500nm)	
Light source	Tungsten-Halogen & Deuterium	
Detector	2 Silicon Photodiodes	

### Accessories available

- 10mm lightpath, 6 cell auto cuvette holder.
- 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 manual four-cell holder 1pcs
- 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
Sample compartment	100mm Optical Path
Standard cell holder	10mm
Power requirement	110/220VAC, 50/60Hz, ±10%
Size	470(W)×440(D)×244 (H) mm
Net weight	12Kg
Gross weight	15Kg



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



Excellence in Measurement

Accurate · Precision · Affordable Price

## 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, ...etc.

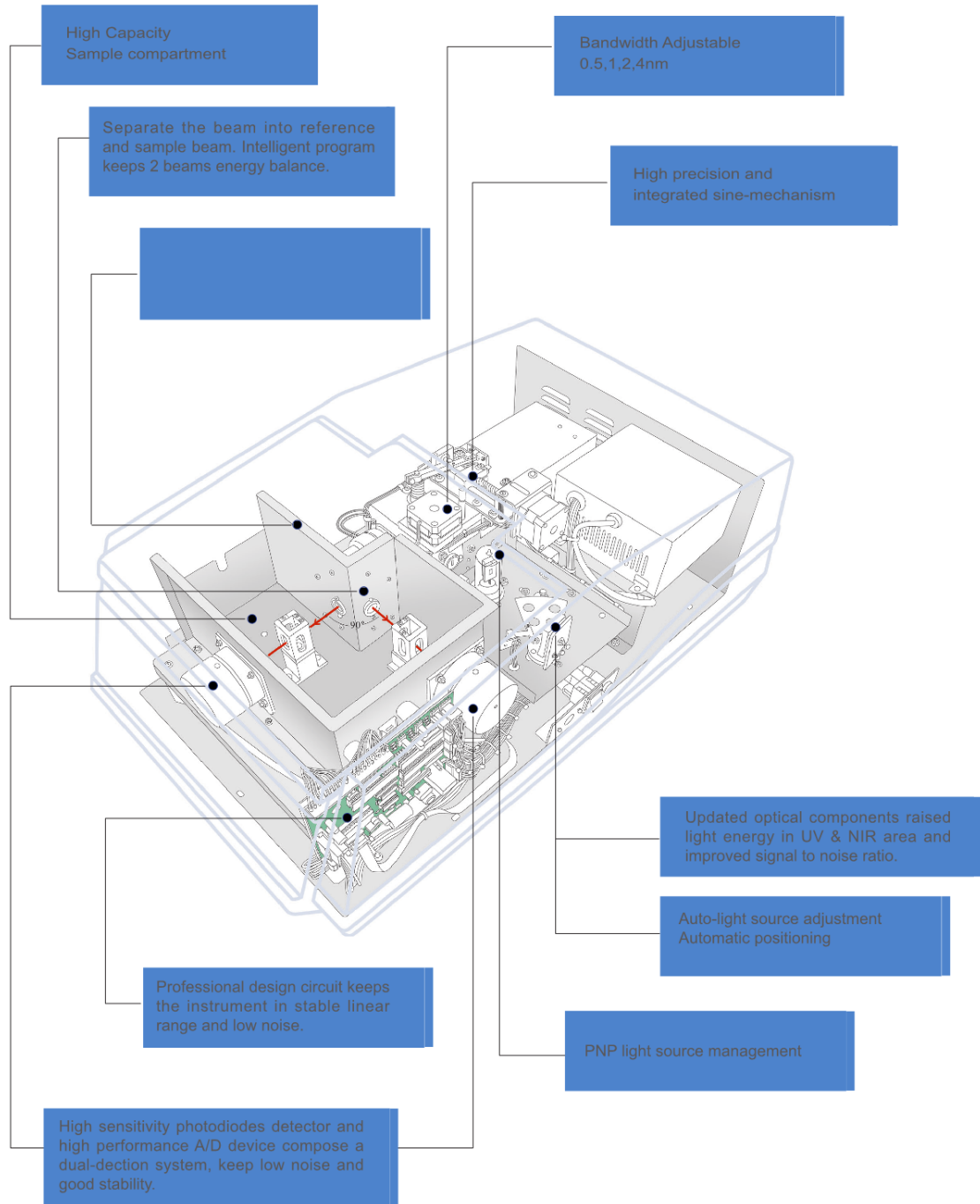


**SP-UV 500VDB**



# UVVisible Spectrophotometer

## Double Beam Asymmetrical Vertical Test Optical Path Technology





## 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.



**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

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

**Pesticide Residue:**  
Standard Function+Fast Pesticide Residue Test

**Environment:**  
Standard Function+Formaldehyde/Nitrogen Test



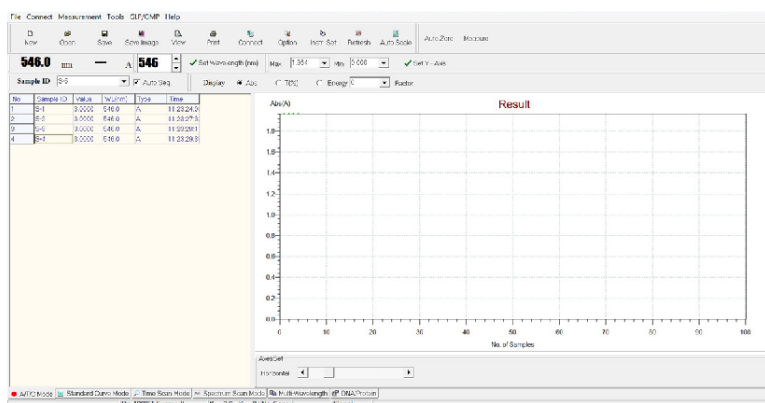


# Standard

## Introduction of standard-version function

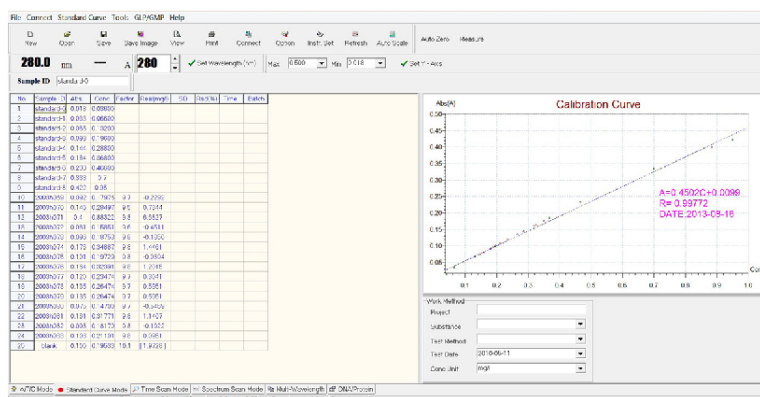
### Photometry Analysis

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



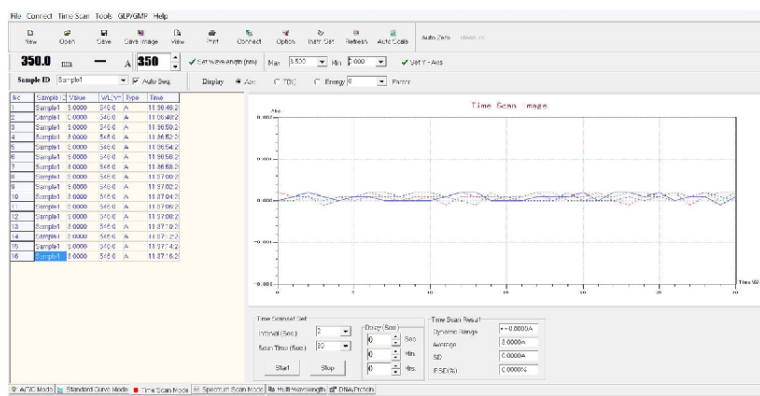
### Standard curve quantitative analysis

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.

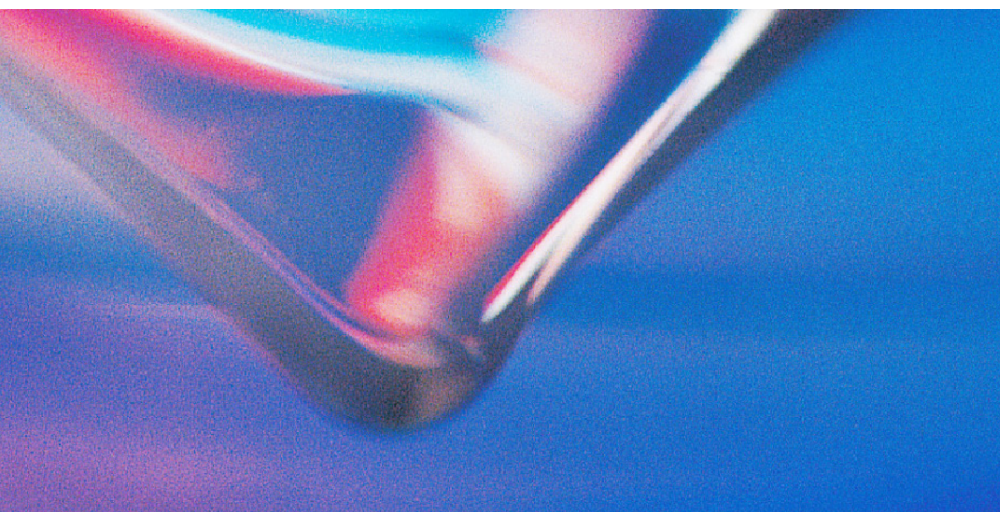


### Time scan (Kinetics analysis)

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

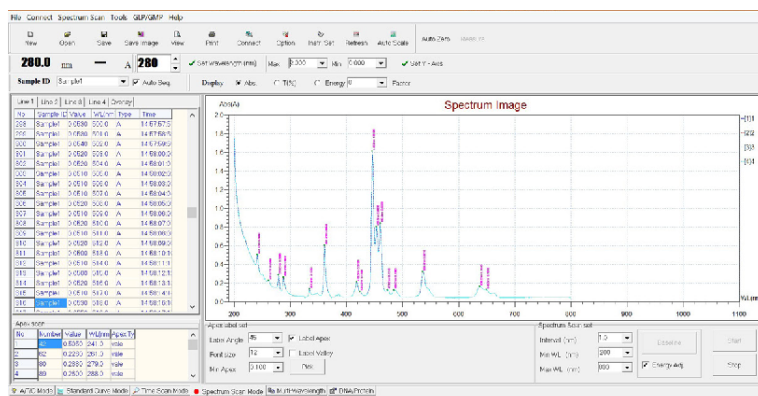






## Spectrum Scan

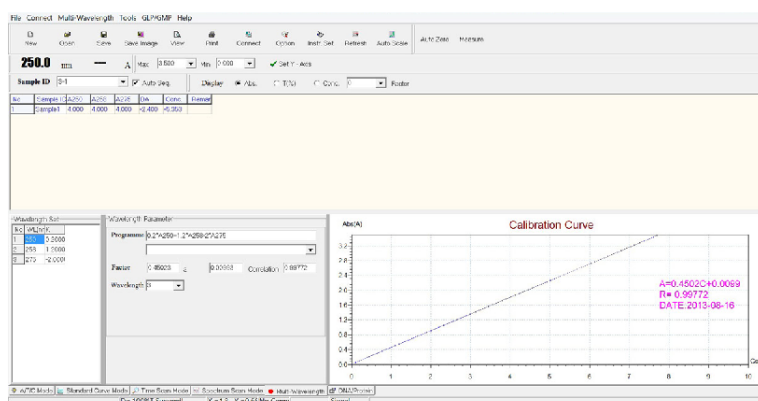
1. Scan mode: %A, %T, Energy
2. Derivative spectrum (4 bands)
3. Label angle, Label apex, Label valley, Font size
4. Auto scale of spectrum image



## Drug test: Standard Function+ Multi-wavelength Quantitative Analysis

### Multi-wavelength Quantitative Analysis

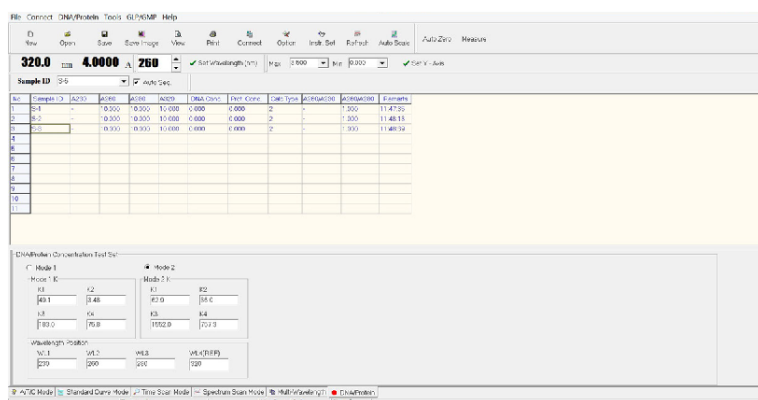
1. Parameter: A or T
2. Numbers of wavelength setting  $\leq 100$
3. Factors or standard curve
4. Customize Equation programme
5. Storage and transfer function
6. Multi-wavelength quantitative analysis



## Biochemistry Standard Function+Kinetics analysis+DNA/Protein analysis

### DNA/Protein analysis

1. Test and calculate: DNA/Protein concentration at 230, 260, 280, 320 nm
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 <sub>2</sub> ) ≤1.0%T (at 198nm KCl)	
Photometric modes	T, A, and Conc. measurement	
Photometric range	0-300.0%T, -3.000-4.000A, 0.000-9,999 Conc.	
Photometric accuracy	±0.003A (0-0.5A) ±0.005A (0.5-1.0A) ±0.007A (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 (200-1100nm)	
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.)	
• AC-210 Plus Peltier single cell holder system	
• AC-230 Plus Sipper with adjustable temperature cuvette holder	
• 16 mm round tube holder for COD test	
• 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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