

# UV-Visible Spectrometer

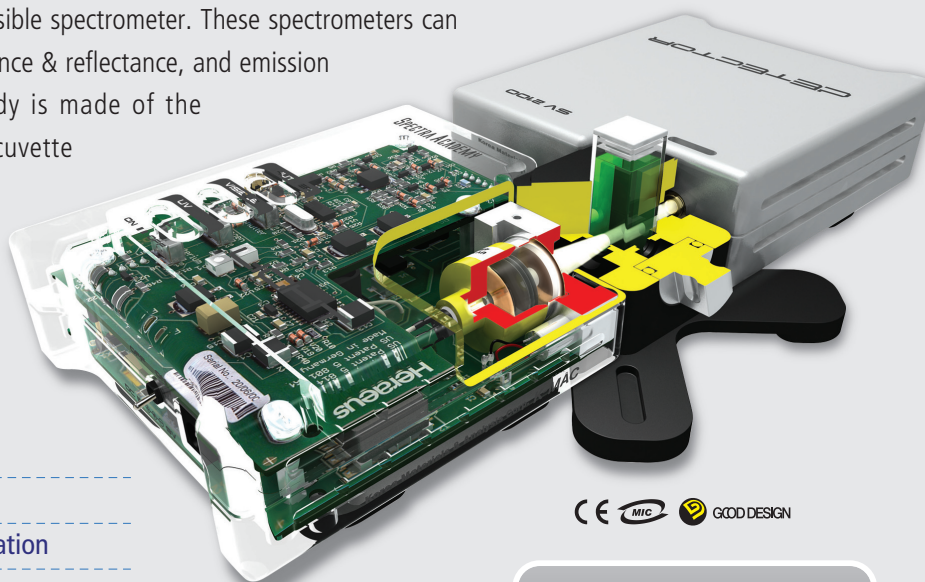
SPECTRA ACADEMY



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## UV-Visible Spectrometer

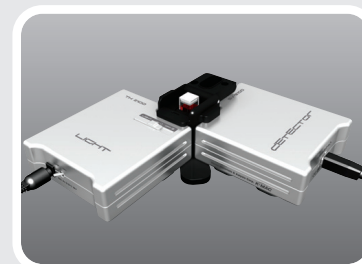
SpectraAcademy consists of a spectrometer (detector), light source, cuvette holder and other accessories. We are supplying UV-Visible and Visible spectrometer. These spectrometers can measure absorbance & transmittance, fluorescence & reflectance, and emission by switching the light source. Its main body is made of the premium silver aluminum housing and the cuvette path length is 1cm. An A/D converter is built into the bottom side of CCD array and the spectrometer interfaces to computer via USB2.0 (USB1.1 compatible).



- 3 modes in one system
- All in one kit for various experiments
- Deuterium & tungsten light source combination
- Compact & miniature module
- For R&D and education in university
- Utilize diverse specific applications using optical fiber



Absorbance/Transmittance Mode



Fluorescence/Reflectance Mode



Irradiance Mode

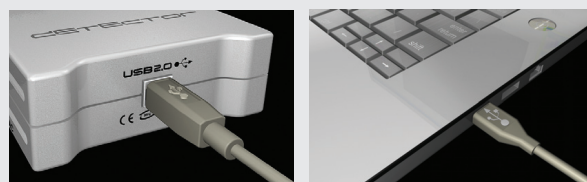
### Experiment Application

- Absorption spectra and  $pK_a$  value of acid-base indicators
- Spectrophotometric analysis of complex ions
- Reverse-phase chromatography : spectrophotometric determination
- Fluorescent solutions (Rhodamine, Fluorescein, Chlorophyll II ) in visible range
- Balmer Series/ Determination of Rydberg's Constant
- Atomic spectra of two-electron systems : He, Hg

### Modular Spectrometer, SV2100

According to your request, we can ship detector only, SV2100.

- CCD Spectrometer, 2nm resolution, Slit
- SMA fiber connector
- Operation Software & USB Cable



Easy connection to PC via USB 2.0

# Software *Visual Spectra 2.1*

Signal intensity & appearance control by means of acquisition

Parameters : Integration time, Average, Boxcar

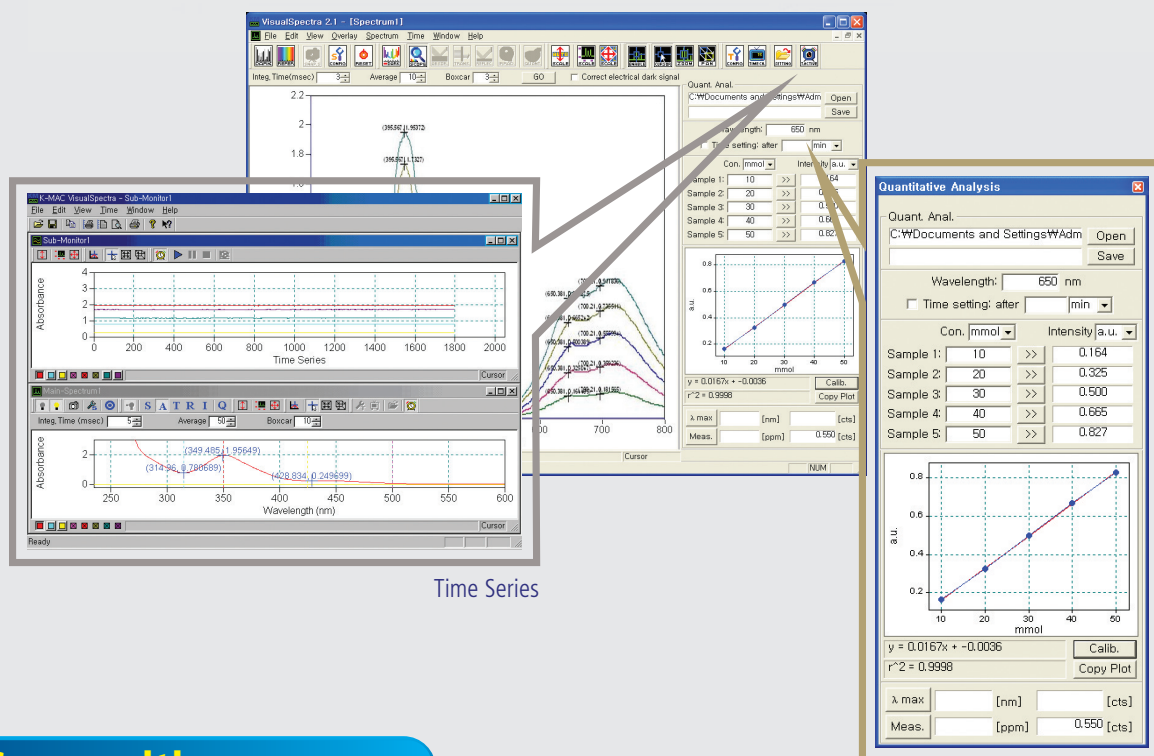
High Speed data acquisition : Max. 1ms for full spectrum (200~1000nm)

## Data Presentation

- Scope mode (raw data display) : Intensity (counts)
- Absorbance :  $\log(I_0/I)$
- Transmittance % :  $(I/I_0)\%$
- Reflectance % :  $(\text{Sample Reflectance}/\text{Ref. Reflectance})\%$
- Irradiance
- Qualifications

## Time Series Acquisition

- Intensity change monitoring at a wavelength for a certain period of time
- Apply to the analysis of chemicals and the environment and process management

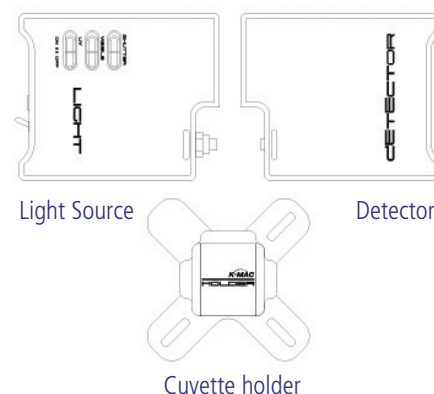


Time Series

Quantitative Analysis

## Composition

Item	Qty	Unit
Detector	1	EA
Light source	1	EA
Cuvette holder & cover	1	EA
Power supply	1	EA
USB cable	1	EA
Software CD	1	EA
Cuvette(Quartz 1, PS 1)	2	EA
Hex. Wrench	1	EA
Manual	1	EA
Plastic carrying box	1	EA



# Specification

SYSTEM	Visible	UV/Visible
Wavelength range	400 ~ 1000 nm	200 ~ 800 nm
Optical Resolution	~2.0 nm FWHM	~2.0 nm FWHM
Integration time	1 ms to 60 sec	1 ms to 60 sec

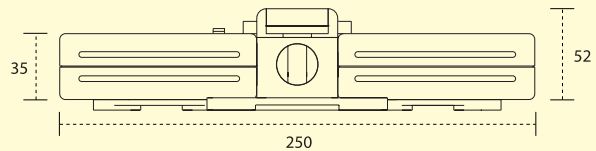
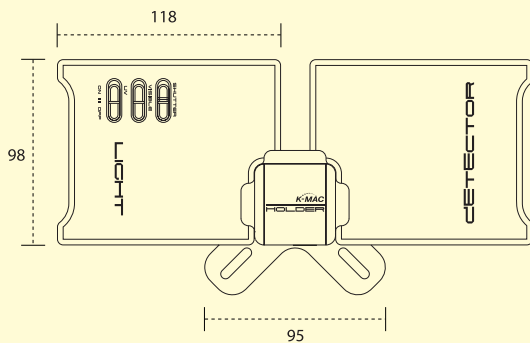
## DETECTOR & OPTICAL BENCH

Detector	CCD array	CCD array
Pixels	2048 pixels	2048 pixels
Optical bench design	Czerny-Turner	Czerny-Turner
Entrance aperture	50 um in width	50 um in width
Grating	600 lines/nm	600 lines/nm
Coating	Blazed at 500 nm	Blazed at 400 nm

## LIGHT SOURCE & SAMPLE HOLDER

Bulb(s)	Tungsten	Deuterium/Tungsten
Bulb lifetime	1,500 hours	1,500 hours
Cuvette path-length	1 cm	1 cm

Dimensions



Detector : 35 × 98 × 118 mm  
 Light Source : 35 × 98 × 118 mm  
 Cuvette Holder : 52 × 95 × 95 mm  
 Box Case : 35 × 98 × 250 mm

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