



## CHEM4 Systems for Education

The Ocean Optics' CHEM-4 series of Spectrophotometers for Education are computer based spectrometer systems that are fully integrated teaching tools. All the CHEM-4 series systems include a basic spectrometer, a light source and a cuvette holder. These systems are fully configured spectrophotometers which are able to acquire and display real time transmittance and absorbance spectral data (3648 wavelength points) in less than one second.

### CHEM4 Series

Series	Wavelength Range	Optical Resolution	Light Source
CHEMUSB4-UV/VIS	210 - 880 nm	~1.0 nm FWHM	Deuterium tungsten
CHEMUSB4-VIS/NIR	370 - 985 nm	~1.0 nm FWHM	Tungsten & LED
CHEM4-UV-FIBER*	200 - 885 nm	~1.0 nm FWHM	Deuterium tungsten
CHEM4-VIS-FIBER*	430 - 990 nm	~1.0 nm FWHM	Tungsten + LED

\*Attached to cuvette holder by 2 meter long fiber optic cable (supplied)

### CHEM4 Features

- ▶ Fully integrated, preconfigured spectrophotometer
- ▶ Able to see small differences in Absorbance Units
- ▶ Direct-attach light source or fiber optic cable attach with sample holder
- ▶ Small-footprint spectrophotometer system ideal for the laboratory and the classroom
- ▶ USB interface for fast, straight-forward spectrophotometer-to-computer connection

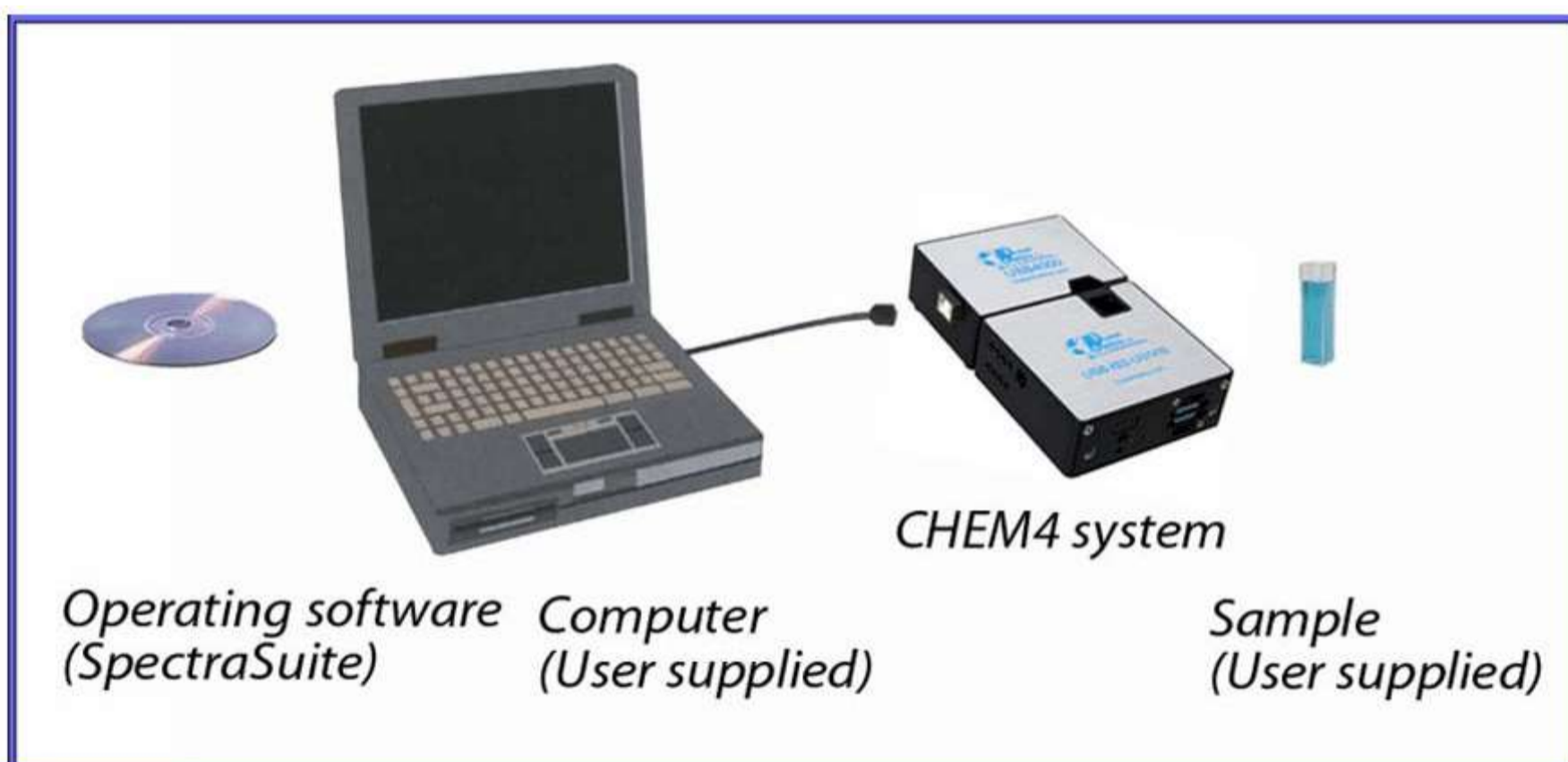
### Basic spectrometer

All CHEMUSB4-UV-VIS spectrophotometers use the Ocean Optics' USB4000 Spectrometer. The USB4000 features an onboard programmable micro controller that provides you considerable flexibility in controlling the spectrometer and accessories. Through a 22-pin connector, all operating parameters can be controlled via the software. Processes can be created and information on external objects can be retrieved. Plus, there is access to 8 user-programmable digital Inputs/Outputs for interfacing to other equipment.

## Set-up

The CHEMUSB4-UV-VIS interfaces to a computer, a PLC or other embedded controller, via USB 2.0 or RS-232 serial port. When using the serial port, the system requires a single 5-volt power supply (not included). For easy set-up, data unique to each spectrometer is programmed into a memory chip on the particular USB4000, the spectrometer operating software reads these values for easy setup and for hot swapping among computers.

Note that the Ocean Optics "SpectraSuite" software is suggested for the operating software. SpectraSuite is a modular, Java-based spectroscopy software platform that operates on Windows, Macintosh and Linux operating systems, and includes modules for irradiance and color measurement. Please note that Spectra Soft does not support spectrometer operation via the serial port.



## Prices

CHEMUSB4-UV/VIS	\$ 4,619.	(less \$1,500 trade-in for used spectrometer)
CHEMUSB4-VIS/NIR	\$ 3,464.	(less trade-in for used spectrometer)
CHEM4-UV-FIBER	\$ 4,619.	(less trade-in for used spectrometer)
CHEM4-VIS-FIBER	\$ 3,464	(less trade-in for used spectrometer)
SpectraSuite	\$ 199.	(\$150 if purchased with a spectrophotometer)

Connection USB cable from the spectrophotometer to a computer is included

## Order

To order, you may fax Ancal an order at 1-602-532-7018. In response, you will promptly receive an acknowledgement confirming current prices and noting estimated delivery. Please be aware that in some cases, such as in sales to new customers or in special items, pre-payment of the order may be required.

Should you want to order via the internet, go to the order section, in the Contact Us site, and follow the instructions for placing the order.

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