

# UV/VIS SPECTROPHOTOMETER

version  
2006

PG INSTRUMENTS LIMITED



# UV/VIS

## Spectrophotometer

### Features

- **Excellent performance:** The high-performance diffraction grating spectrophotometer with a Czerny Turner Mounting. The Holographic Grating keeps stray to a minimum and other excellent optical resolution over a wide spectral range. The use of photomultipliers as the detectors offer exceptional sensitivity.
- **Very Stable Baseline:** The true double-beam optical array coupled with an efficient and well proven electronic control system ensures high stability and low background noise.
- **High resolution:** The double beam optical design coupled with an high specification holographic grating offer excellent wavelength separation and allows the user to examine wavelengths that are very close whilst providing excellent ratio to background noise.
- **Accurate wavelength:** The automatic wavelength control system and the automatic light sensors ensure wavelength accuracy and high performance of the instrument.
- **Easy accessories replacement:** The modular structure of the sample compartment enables the easy use of a wide range of optional accessories and ensures accurate analysis of various samples types.
- **User-friendly serviceability:** The unique design of the light source chamber for the deuterium lamp and tungsten halogen lamp allows easy light source replacement and simplified routine maintenance.
- **Versatile application software:** The UVWin user friendly operating software which operates on a Windows platform offers many operational and data processing capabilities. Thus presenting the user with a very versatile simple to use spectrophotometer system.
- **The key components:** All the components used in the T90 are proven selected for their reliability and continued performance.

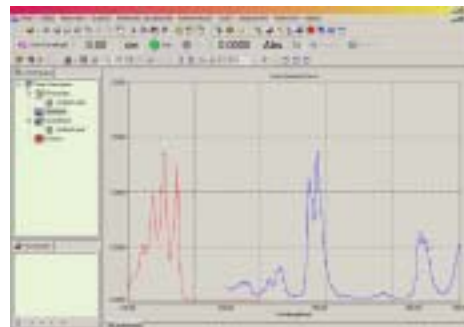


T90

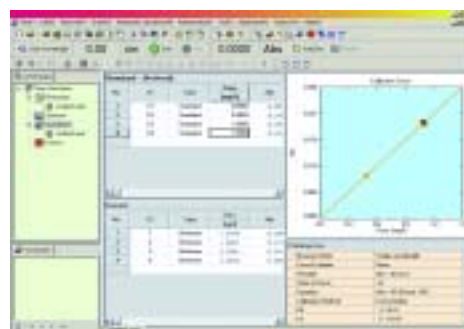
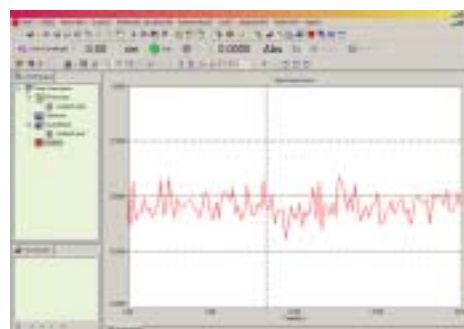
**T90 UV/VIS Spectrophotometer**

## Functions

- The T90 UVWin applications software allows the simultaneous display of different measurement windows, toggling between different measurement modes can be achieved with ease. The Spectrophotometer and all accessories are under the control of UVWin Software. A hard copy of data can easily be obtained and data can also be exported to other Windows based programs for further data manipulation
- The multi-wavelength photometry can measure the absorbance and transmittance of samples using multiple wavelengths, average the measured values, and make calculations based upon operator derived factors and co-efficients.
- Multi-channel measurement with colour display and printout, and various capabilities for data processing can meet the needs of most chemists. This module allows manipulation of information and data display, from spectra calculations to various transforms such as 1st - 4th derivative, smoothing, and logarithms. The data output for peak-picking and data-picking is also available.
- Creation of a standard curve is simple in quantitative analysis mode. This module has many powerful features such as determination of 1st - 4th order curve coefficients, very accurate measurements can also be made on samples with nonlinear absorbance. The quantitative methods use single wavelength, two-wavelength, coefficient two-wavelength, three wavelength and 1st - 4th derivatives.
- Kinetic measurement can monitor the changes of absorbance and transmittance against time at 10 different wavelengths and can easily supply important information about the changes in a sample. This module allows manipulation of information and data display, from calculation of curves to various transforms, such as 1st-4th derivatives, smoothing, and logarithms etc. The data output of peak-pick and data-pick is also available.
- DNA and protein analysis is provided by a unique purpose designed program.



Wavelength	Absorbance	Transmittance
215	0.0000	0.9999
220	0.0000	0.9999
225	0.0000	0.9999
230	0.0000	0.9999
235	0.0000	0.9999
240	0.0000	0.9999
245	0.0000	0.9999
250	0.0000	0.9999
255	0.0000	0.9999
260	0.0000	0.9999
265	0.0000	0.9999
270	0.0000	0.9999
275	0.0000	0.9999
280	0.0000	0.9999
285	0.0000	0.9999
290	0.0000	0.9999
295	0.0000	0.9999
300	0.0000	0.9999
305	0.0000	0.9999
310	0.0000	0.9999
315	0.0000	0.9999
320	0.0000	0.9999
325	0.0000	0.9999
330	0.0000	0.9999
335	0.0000	0.9999
340	0.0000	0.9999
345	0.0000	0.9999
350	0.0000	0.9999
355	0.0000	0.9999
360	0.0000	0.9999
365	0.0000	0.9999
370	0.0000	0.9999
375	0.0000	0.9999
380	0.0000	0.9999
385	0.0000	0.9999
390	0.0000	0.9999
395	0.0000	0.9999
400	0.0000	0.9999



# Specifications

## Software---The Windows platform application software Photometric System---The double-beam ratio recording system

Photometric Method:	Transmittance, absorbance, reflectance, energy, concentration.
Photometric Range:	-4.0-4.0Abs
Photometric Accuracy:	0.3%T (0-100%T) +/-0.002Abs (0-0.5Abs) +/-0.004Abs (0.5-1.0Abs)
Photometric Reproducibility:	0.001Abs (0-0.5Abs)
Baseline Flatness:	+/-0.001Abs
Baseline Stability:	0.0004Abs/h (500nm, after preheating)

## Optic System--- The Czerny-Turner monochromator configuration with high-resolution holographic grating.

Wavelength Range:	190nm-900nm
Spectral Bandwidth:	0.1nm, 0.2nm, 0.5nm, 1.0nm, 2.0nm, 5.0nm
Stray Light:	0.01%T (220nm NaI)
Wavelength Accuracy:	+/- 0.3nm (automatic correction)
Wavelength Reproducibility:	0.1nm
Light Source:	Automatic interchange (selectable within the working range of light source)

## Software---The Windows platform application software

- Baseline Operations such as photometric measurement, spectrum measurement, quantitative measurement and kinetic measurement are offered in UVWin Windows applications.
- Measures up to 10 wavelengths according to the user-entered formula.
- Up to 10 spectra and time-course curves can be measured and recalled in memory with data handling of mathematic calculation, logarithmic calculation, reciprocal calculation, smoothing, derivative (1st - 4th), Abs to/from %T conversion and peak pick.
- Up to 24 standards can be entered and measured for the calibration curve with 1st - 4th order. Offering quantitative methods of single wavelength, two-wavelength, coefficient two-wavelength, three-wave-length and 1st- 4th derivatives.
- Kinetic measurement can monitor the changes of absorbance and transmittance against a time line at 10 different wavelengths. This module allows flexibility in manipulation and data display.
- With Windows clipboard, the measured data and graphics can be copied to other applications software filing functions, display functions, and others (such as auto file and repeat measure/scan etc.) are offered.

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