# ChromTech Double Beam UV-6 Series Spectrophotometer

**UV-6** Series are advanced double beam design consisting of four models:

Stand-alone models： **UV6100** with 1.8nm fixed bandwidth and **UV6300** with 1.0nm fixed bandwidth;

PC models： **UV-6100PC** with 1.8nm fixed bandwidth and **UV-6300PC** with 1.0nm fixed bandwidth.

Other specifications of the four styles are almost the same except bandwidth.

The two detectors are measuring sample and reference respectively and simultaneously for optimizing measurement accuracy.

They provide excellent performance for measurements in the range of 190nm to 1100nm. They are suitable for pharmaceutical, biochemical and clinical lab applications as well as routine applications such as quantitative analyses, kinetics, spectrum scanning, multiple components and DNA/Protein，PC Windows application software make these instruments versatile. All instruments provide excellent performance for measurements.

- To Stand-alone models**,** All software methods are included as built-in standard, thus eliminating the need for software options.
- Online software upgrade via internet helps to keep your software up-to-date.
- Data Download-to-PC software expands the data storage to unlimited.

**Stand-alone models of UV-6 Series have the same functions as UV-3 series have, see next page for details.**

| Model | UV-6100 | UV-6100PC | UV-6300 | UV-6300PC |
|---|---|---|---|---|
| Wavelength Range | 190-1100nm | | 190-1100nm | |
| Spectral Bandwidth | 1.8nm | 1.8nm | 1.0nm | 1.0nm |
| Optical System | Double Beam, Grating 1200 lines/mm | | | |
| Wavelength Accuracy | ±0.3nm | | | |
| Wavelength Repeatability | 0.2nm | | | |
| Scanning Speed | Hi, Med., Low. Max.3000nm/min | | | |
| Photometric Accuracy | ±0.2%T | | | |
| Photometric Repeatability | ±0.15%T | | | |
| Photometric Range | -0.3-3A, 0-200%T.0-9999Conc. | | | |
| Stray Light | 0.05%T | | | |
| Stability | ±0.0005A/h | | | |
| Display | LCD (320X240) | PC Model | LCD (320x240) | PC Model |
| Baseline Flatness | ±0.0005A (200-1000nm) | | | |
| Sample Compartment | Accommodates 100mm pathlength cuvette with optional holder | | | |
| Light Source | Halogen& Deuterium lamp (pre-aligned) | | | |
| Output | USB Port & Parallel Port (Printer) | | | |
| Power Requirement | AC 220V/50Hz or AC 110V/60Hz | | | |
| Dimensions (W x D x H) | 600 x 450 x 200mm | | | |
| Weight | 22kg | | 22kg | |

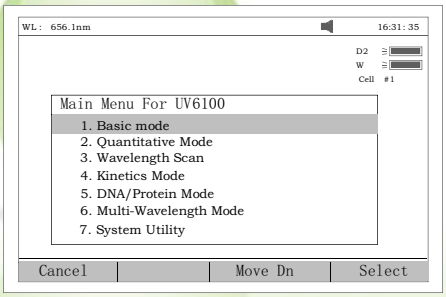
The PC models come standard with Windows® based application software.

**PC models of UV-6 Series have the same functions as UV-3 series have, see next page for details.**

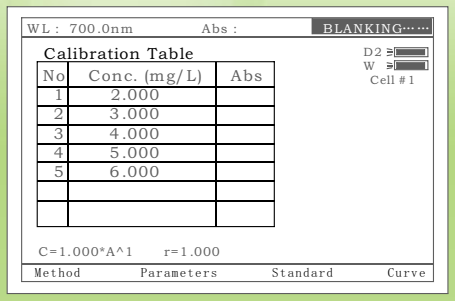
# ChromTech Local-Control Software For UV-6 Series

All software methods are included as built-in standard, thus eliminating the need for software options. Online software upgrade via Internet helps to keep your software up-to-date.

The local control software include functions as: Basic Mode, Quantitative, Wavelength Scan, Kinetics, DNA/Protein, Multi-wavelength Test and System Utilities.

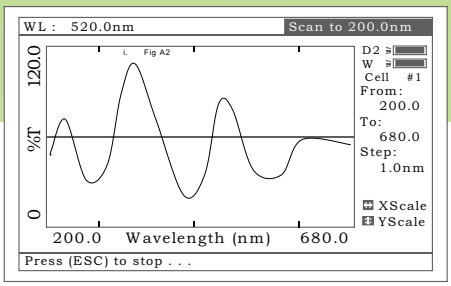



## Main Menu



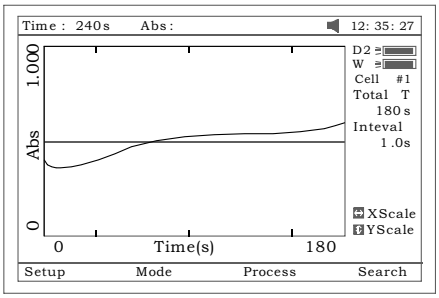

## Standard Curve

Up to 10 standard solutions may be used to establish calibration equation curve. There is a choice of four methods for fitting a curve through the calibration points: Linear fit, Linear fit through zero, square fit and cubic fit.



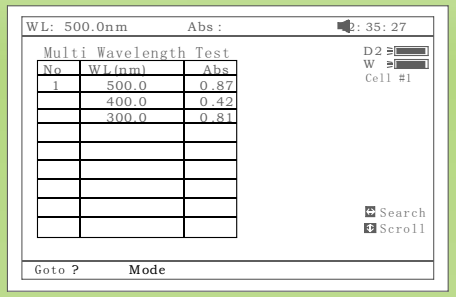

## Wavelength Scan

The wavelength scan intervals are 0.1, 0.2, 0.5, 1, 2, 5nm,and Hi, Medium and Low scan speeds are available. Scan speeds vary from 100 to 1000 nm/min. Wavelengths are scanned from high to low so that the instrument waits at high wavelength. This minimizes the degradation of UV sensitive samples. Precise control of filter and lamp changes means that their effects are not seen on the final scan. Post-run manipulation includes re-scaling axes, curve tracking and peak picking



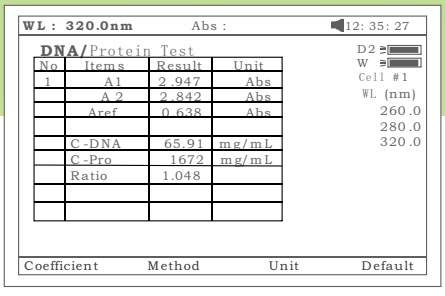

## Kinetics

This mode may be used for time course scanning or reaction rate calculations. Abs. vs. time graphs are displayed on the screen in real time. Wait time and measurement time up to 12 hours may be entered with time intervals of0.5,1, 2, 5, 10, 30 seconds and 1 min. Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for the rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor.




## Multi-Wavelength

Up to 10 wavelengths may be entered, allowing the measurement of multiple wavelengths on a series of Samples.




## DNA/Protein Test

Concentration and DNA purity are calculated:

Absorbance ratios 260nm/280nm or 260nm/230nm

With optional subtracted absorbance at 320nm

DNA Concentration=62.9 x A260 - 36.0 x A280

or 49.1x A260 - 3.48x A230

Protein Concentration=1552 x A260 - 757.3 x A280

or 183 x A260 - 75.8 x A230

Other wavelengths and factors may be entered.

# ChromTech PC- Control Software For UV-6 Series

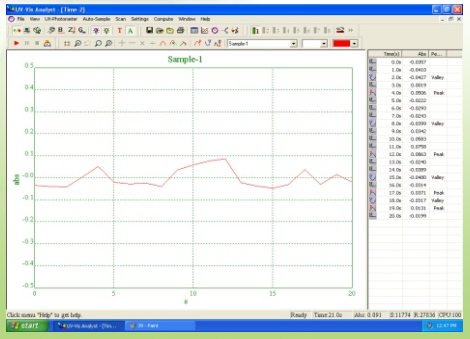
The **ChromTech** Windows-based PC application software takes the best features of the stand-alone version plus more powerful data processing and expanded data collecting and storage capability. It comes standard with **ChromTech** PC models and is optional to stand-alone models.

## The PC application software offers:

1、Basic Photometric Mode　2、Quantitative test（standard curve）

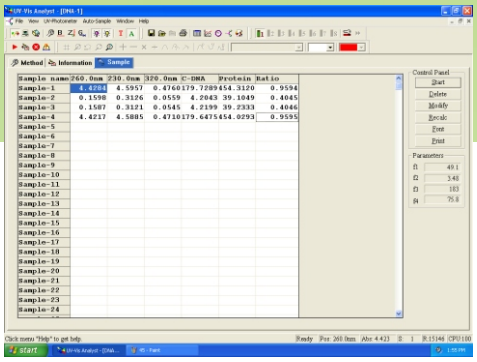
3、Wavelength Scanning　4、Kinetics　5、DNA/Protein

6、Multi-wavelength Test　7、System Utility



## Kinetics(Abs vs. Time)

The Kinetics mode may be used for time course scanning or reaction rate calculations. Abs. vs. time graphs is displayed on the screen in real time. Wait time, measurement time and time intervals may be entered. Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for the rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor.



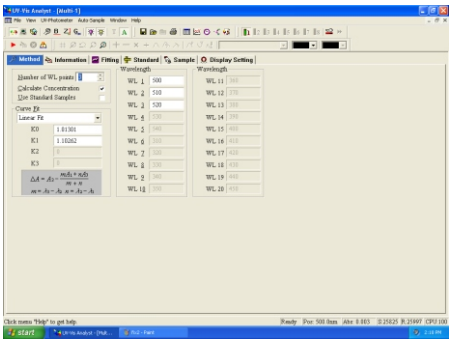
## DNA/Protein

Concentration and DNA purity are quickly and easily calculated: Absorbance ratios 260nm/280nm with optional subtracted absorbance at 320nm.

DNA concentration= 62.9 x A260 - 36.0 x A280

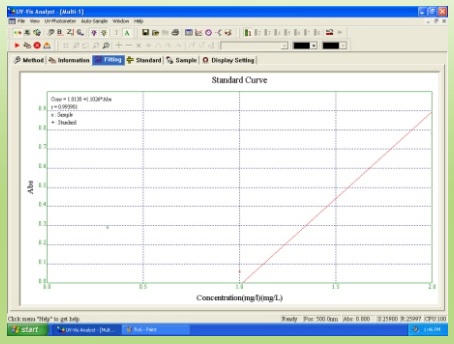
Protein concentration=1552 x A260 - 757.3 x A280

Other wavelengths and factors may be entered.



## Multi-wavelength

Up to 32 wavelengths can be selected and multiple samples can be measured.(Auto cell changer is required to run multiple samples automatically)

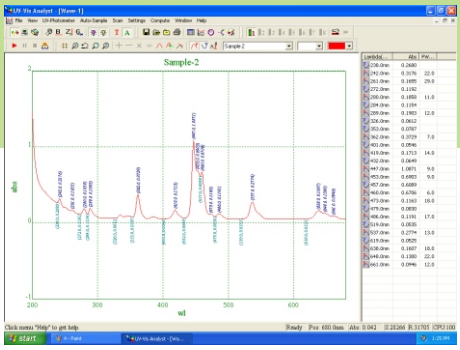



## Quantitative Test (Standard Curve)

Use up to 32 standards to establish standard curve. Four methods for fitting a curve:

1. Linear fit　2. Linear through zero

3. Square fit　4. Cubic fit




## Wavelength Scanning

Automatically record peaks and valleys.　The quantity of channels is unlimited, you can simultaneously store curves as many as you want. Post-run manipulation and processing includes:

1. Re-scaling axes, curve
2. 1st to 4th derivative
3. Smoothing, combination, zooming, overlap…