

# DU<sup>®</sup> 640B UV/VIS

## Bio-Spectrophotometer System

**INCREDIBLY AFFORDABLE.**

**INCREDIBLY ACCURATE.**

Custom designed and cost-effectively priced for researchers performing routine biological applications, the DU<sup>®</sup> 640B UV/VIS Bio-Spectrophotometer System includes a wide range of ready-to-use applications software. This user-friendly, graphical window-oriented environment with full mouse support significantly reduces learning time and increases productivity. The DU 640B's focused beam technology assures precise, accurate measurements of samples as small as 5  $\mu$ L.

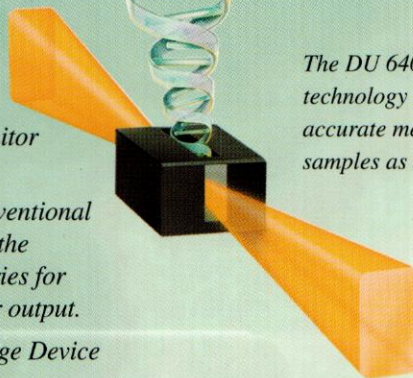
### FULL RANGE OF POWERFUL APPLICATIONS SOFTWARE

- **Fixed Wavelength** with up to 12 selected wavelengths in absorbance or transmittance.
- **Wavelength Scanning** from 120 to 2,400 nm/minute with comprehensive analysis and manipulations software.
- **Kinetics/Time** with real-time graphic display and calculation of rate, variance and enzyme activity.
- **Quantitative Protein Analysis** of common assays including Bradford, Lowry (low and high sensitivity), Biuret, Bicinchoninate, Direct UV and Colloidal Gold.
- **Nucleic Acid Analysis** to characterize and quantify DNA, RNA and oligonucleotide samples, determine the theoretical  $T_m$  as well as check for protein contamination using standard or user-defined multiple ratios.



### FLEXIBLE CONFIGURATION

- Available with or without VGA Color Monitor. Supply your own standard VGA Monitor and save.
- Includes drivers for conventional dot-matrix printers and the popular HP DeskJet Series for black and white or color output.
- Optional External Storage Device (3.5-inch disk drive).



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**BECKMAN**

# Applications Software

The DU 640B comes with internal memory to store and recall data, standards, scans and user-defined methods. The File Utility Mode allows moving, renaming, copying and converting of files to ASCII and Lotus 1-2-3 formats.

*Applications software includes:*

## FIXED WAVELENGTH

Examines up to 12 selected wavelengths in absorbance or transmittance. Sample absorbance readings at each wavelength are directly converted to concentration by entering the appropriate factor of units of concentration.

## WAVELENGTH SCAN

Fast and precise scanning at speeds from 120 to 2,400 nm/minute. View and manipulate as many as 12 stored scans under multiple functions including absorbance, transmittance, logA and 1st through 4th derivatives. Data manipulation

functions include automatic peak and valley pick, addition and subtraction, multiplication, zoom, trace and annotation for customizing plotted data. Additional spectral function includes scatter correction and net absorbance calculations.

## KINETICS/TIME

Data can be reviewed in real time, plotted or tabulated and stored in the instrument memory. Kinetic reaction rate is calculated using linear regression for best straight line fit.

## PROTEIN ANALYSIS

Easy-to-use methods such as Bradford, Lowry (low and high sensitivity), Biuret, Bicinchoninate, Direct UV and Colloidal Gold that automatically determine amount of protein in samples. Adaptable user-defined wavelength method is also standard for other assays.

## NUCLEIC ACID ANALYSIS

**Generic Mode** — Methods with preselected parameters, such as General Ratio and Concentration, 260/280 Ratio with and without Background Correction, and 230/260 Ratio with Background Correction to determine the concentration and purity of nucleic acid samples. An additional method uses coefficients determined by Warburg and Christian.

**DNA/Oligo Quant Mode** — A number of pre-defined methods are provided to accurately quantify and characterize DNA, RNA and oligonucleotide samples and check for protein contamination using multiple ratios. The oligo methods determine and report molecular weight, molar absorptivity (extinction coefficient,  $\epsilon$ ), concentration and the theoretical melting point ( $T_m$ ) based on base composition (long oligos) or sequence (short oligos). The methods Oligo DNA Long and Short, Oligo RNA Long and Short, dsDNA, ssDNA, RNA and 260/230 and 260/280 Ratio with and without Concentration are available in this mode.

## Ordering Information

### SPECTROPHOTOMETERS

P/N 517500	DU 640B, 120V without Monitor <sup>1</sup>
P/N 517503	DU 640B, 120V with VGA Color Monitor
P/N 517501	DU 640B, 240V without Monitor <sup>1</sup>
P/N 517504	DU 640B, 240V with VGA Color Monitor

*Drivers for conventional dot-matrix printers and the popular HP DeskJet Series are included.<sup>2</sup>*

### SINGLE CELL HOLDERS

P/N 594439	Cell Holder (Unheated) <sup>3</sup>
P/N 523407	Cell Holder (Water-regulated) <sup>3</sup>
P/N 523382	Cell Holder for 50 $\mu$ L Microcell

### MICROCELLS

P/N 523450	50 $\mu$ L Microcell (set of two)
P/N 514261	5 $\mu$ L Ultra-Microcell <sup>*</sup> (one)

<sup>1</sup> For use with any standard VGA monitor; available through computer stores or retailers.

<sup>2</sup> Save by supplying your own printer through computer stores or retailers.

<sup>3</sup> Holds one standard cell or Semi-Microcell (2 or 4 mm path width) with 10 mm path length and the 5  $\mu$ L Ultra-Microcell.<sup>\*</sup>

<sup>\*</sup> Manufactured by General Atomics.

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