

The BioTek 800 TS Microplate Absorbance Reader

Performance upgrades to a robust and proven platform

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BioTek is an industry leader in life science instrumentation, including liquid handling, multi-mode microplate detection, imaging and microscopy, and automation designed to serve a wide range of applications. BioTek products enable research by providing high-performance, cost-effective solutions to challenging tasks in many application workflows.

BioTek's innovative microplate detection instruments excel in versatility, performance, and value. Available as multi-mode and specialized single mode systems, BioTek absorbance readers provide total flexibility for many applications from basic ELISA to high throughput detection.

Released in 1995, the ELx800 was a cost-effective, high quality absorbance reader line designed for applications within the clinical, biotechnology research and pharmaceutical laboratory. Its compact footprint and proven robust design made it a capable solution for many microplate-based biological assays.

BioTek's modern upgrade to this line, the 800 TS series, incorporates core features while offering significant enhancements over the older technology. Advancements include: a new color touchscreen interface, improved read speed, temperature and shaking control, onboard data processing, updated data ports, and optional printer compatibility.

| Updated Features | ELx800 (1995) | 800 TS (2017) |
|------------------------|----------------------------------|--------------------------|
| Display Type | Two-line LCD Touchpad | Color LCD Touchscreen |
| USB Printer Option | No | Yes |
| Incubation and Shaking | No | Yes |
| Data Ports | RS232 (1), USB (1), Parallel (1) | Type 2 USB (3) |
| Speed | Normal, Rapid | Normal, Rapid, Sweep |
| Onboard Data Reduction | Yes | Yes – Delta & Blanking |

Standard performance features are built in to the 800 TS.

- The 800 TS platform is compatible with 6-, 12-, 24-, 48-, 96-, and 384-well microplates.
- The available Gen5 software permits endpoint, kinetic, and area scanning modes for a variety of detection and imaging applications.
- The Gen5 Reader Control software controls detector function and data collection while the optional Gen5 Data Analysis software allows computer based data analysis.

A wide wavelength detection range is coupled with excellent accuracy and precision.

- Five optical filters are available and the Tungsten halogen light source and photodiode detector provide excellent dynamic range (0 to 3.0 OD) and resolution (0.001 OD).
- The accuracy (<1% at 2.0 OD), linearity (<1% at 2.0 OD, <3% at 3.0 OD), and repeatability (<0.5% at 2.0 OD) together provide the high sensitivity levels needed to meet demanding applications.
- This proven platform has produced years of optical performance with very low maintenance.

The new 800 TS line of instruments incorporate significant enhancements in performance. Starting with upgrades in speed, the 800 TS adds significant improvements over the ELx800 for both single and dual wavelength detection.

- In *Normal* mode, the 800 TS processes 96-well plates in 39 sec (35 sec kinetic) using single wavelength detection and 73 sec (69 sec kinetic) using dual wavelength detection. This is compared to ELx800 times of 50 sec and 95 sec, respectively.
- In *Rapid* mode, the 800 TS single wavelength time of 26 sec (22 sec kinetic) is an improvement over 30 sec for the ELx800.
- The 800 TS offers a new *Sweep* mode in addition to the *Normal* and *Rapid* modes, with speeds clocking in at 18 sec for the TS and 16 sec for the kinetic measurements.

The user interface and data access features have been completely redesigned.

- The new 800 TS incorporates a modern color LCD touchscreen, a stark departure from the two-line LCD touchpad in the older ELx800.
- Data ports have been updated to 3 USB ports in the 800 TS, from RS232 (1), USB (1), and parallel port (1) seen previously on ELx800.
- There is also an optional Seiko RP-D10 USB printer for easy data readouts.
- The 800 TS has delta and blanking capabilities built in.

The new LCD touchscreen allows users to easily view and manipulate control of the 800 TS. User

defined protocols can be run directly from the main menu.

- The pre-configured and expanded *Quick* method now permits quick read, shake, or incubation options outside of a defined protocol.
- The *Protocol* method allows users to define up to two wavelengths, plate type, read speed, shaking, temperature, and blank well locations.
- Automated delta calculation and blank subtraction is possible.
- The updated *Results* method permits viewing of the last 12 reads of 96 data points shown directly on the screen, with output options via USB and/or printer.
- Finally, the *Instrument* method displays parameters, output options, utilities, data format, system test, absorbance test plate, and other information.

The 800 TS also includes optional shaking and temperature-controlled incubation modes, especially useful for temperature sensitive and kinetic measurements.

The devices are CE and TUV marked, are ROHS compliant, and IVD compliant. Many of the aforementioned modules and options are model specific, with three versions available for custom applications. Five 800 TS configurations are offered with model specific options and a number of available accessories.

Major upgrades in the 800 TS line of instruments such as detection speed, temperature control, and shaking capabilities add significant value in applications ranging from endpoint ELISA assays to temperature-sensitive enzyme kinetic assays. The updated onboard software and LCD touchscreen capabilities provide a more complete interface with which to collect and process data. These attributes, combined with modern data access and output options, equate to a more versatile and complete solution for microplate absorbance detection.

[View BioTek 800 TS information and request a quote on LabX.com](#)

This article was written by LabX in conjunction with BioTek

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service centers, scientific application experts and a knowledgeable field sales and service specialists. Our expertise, quest for innovation, and efficiency all combine to provide the best possible technologies for our customers.

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