



*personal*  
**DETECTION**

Now, you can optimize your personal workflow. Promega instruments and reagents integrate easily.

**GLOMAX<sup>®</sup>**  
**MULTI JR**  
DETECTION SYSTEM

A modular, easy to use and cost effective multimode reader for Luminescence, Fluorescence, and Absorbance Life Science applications.



# GLOMAX<sup>®</sup> - MULTI JR SINGLE TUBE MULTIMODE READER

## OVERVIEW

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The GloMax<sup>®</sup>-Multi Jr Single Tube Multimode Reader is designed to provide the utmost flexibility. In addition to high performance, the GloMax<sup>®</sup>-Multi Jr blends user-friendly operation and a small footprint with flexible purchasing options. The result of this design is an instrument with superior performance that is easy to use, affordable, and can be customized to your laboratory's needs.

## PERFORMANCE

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The GloMax<sup>®</sup>-Multi Jr combines the superior performance expected from single-mode instruments with the functionality of multiple modes. To achieve high performance, the GloMax<sup>®</sup>-Multi Jr is designed with optical channels dedicated to each individual technology. Unlike other multimode systems, readings taken with the GloMax<sup>®</sup>-Multi Jr are not degraded by indirect fiber-optic transmission or crowded optical channels. Dedicated optical channeling ensures that the GloMax<sup>®</sup>-Multi Jr provides sensitivity and dynamic range on par with single-mode instruments.

## EASE OF USE

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The GloMax<sup>®</sup>-Multi Jr is designed to be put into use straight from the box without the need for special training. To achieve this plug-and-play usability, the GloMax<sup>®</sup>-Multi Jr combines a color touch screen with an intuitive user interface. The interface makes running samples and viewing data fast and simple while also maintaining the flexibility needed for advanced or custom protocols.

## AFFORDABLE MODULARITY

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The GloMax<sup>®</sup>-Multi Jr is a modular instrument that fits easily into most budgets. Purchase the technology or modes that you need now and add onto the system later as your needs expand. For example, the GloMax<sup>®</sup>-Multi Jr can be purchased as a Luminometer, then Fluorescence and/or Absorbance Modules can be purchased and added later. There's no service call or downtime. With the modular design, changing technologies can be as easy as snapping in a module and restarting the instrument.

# INSTRUMENT FEATURES

## SAMPLE FORMATS

For luminescence measurements, the GloMax®-Multi Jr accepts 1.5-ml microcentrifuge tubes. For fluorescence and absorbance measurements, the GloMax®-Multi Jr accepts standard 10 x 10 mm cuvettes.

## MINICELL ADAPTER

For fluorescence measurements of sample volumes between 100  $\mu$ l and 200  $\mu$ l, a minicell adapter is available as an optional accessory.

## TOUCH SCREEN

The touch screen allows simple navigation to set parameters, set calibrations, and start runs.

## DATA HANDLING

The GloMax®-Multi Jr stores up to 18 calibrations. Data from the last 20 measurements are displayed on the color LCD screen. Optional accessories for easy data exportation include spreadsheet Interface software or a thermal printer.

## TROUBLESHOOTING

Easy access to HELP with the touch of a button.



## LID START

Adjust settings to start measurement immediately after the lid is closed.

## LUMINESCENCE APPLICATIONS

- Luciferase Assays
- ATP Assays
- Chemiluminescent Immunoassays
- Kinetics Assays

## FLUORESCENCE APPLICATIONS

- DNA/RNA Quantitation
- Gene Expression Assays
- Enzyme Assays
- Protein Quantitation

## ABSORBANCE APPLICATIONS

- Protein Quantitation
- Cell Turbidity, OD 600

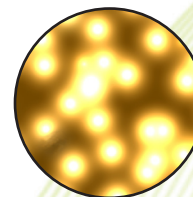
## SEPARATE CHANNELS



Luminescence



Fluorescence



Absorbance

# MULTIMODE PERFORMANCE



## LUMINESCENCE

The GloMax®-Multi Jr with a Luminescence Module is designed to deliver performance equivalent to dedicated single-tube luminometers while also offering the flexibility of a multimode reader. To achieve sensitivity on par with that of a dedicated luminometer, the luminescence channel is separated from other measurement technologies and positioned directly below the sample well. These conditions maximize light capture for the best possible sensitivity. In addition, a low-noise photomultiplier tube ensures that collected light is not compromised. The GloMax®-Multi Jr also has greater than 5 logs of dynamic range. This dynamic range is more than adequate to cover common luminescence applications, thus reducing the need to dilute samples.



## FLUORESCENCE

The GloMax®-Multi Jr with a Fluorescence Module is designed to deliver both high performance and flexibility. To achieve high performance, each Fluorescence Module utilizes powerful light-emitting diodes (LEDs) as excitation sources. LEDs have very specific light-output profiles which closely match the excitation profiles of commonly used fluorescent molecules. LED usage increases sensitivity by fully exciting the fluorophore and reducing non-specific light leakage, a common problem when using broad-spectrum light sources. Additionally, the highly-sensitive GloMax®-Multi Jr uses a 90-degree fluorescent design to minimize light scatter and lower background resulting in high sensitivity.

The GloMax®-Multi Jr as a fluorometer uses four easily exchangeable modules to measure the most popular fluorophores. In addition, custom modules can be made for non-standard applications.

Fluorescence Module	Typical Fluorophores
UV (Ex 365 nm, Em 410 - 450 nm)	Hoechst Dye, 4-methyl-umbelliferone (4-MU)
Blue (Ex 460 nm, Em 515 - 570 nm)	EGFP, rAcGFP, DNA, RNA, and Protein Quantitation
Green (Ex 525 nm, Em 580 - 640 nm)	Rhodamine, Cy3, RFP
Red (Ex 625 nm, Em 660 - 725 nm)	Cy5, RNA Quantitation



## ABSORBANCE

The GloMax®-Multi Jr with the Absorbance Module provides measurements that are highly sensitive and cover a wide dynamic range. Because the optics are not shared with any other detection technology, the focused absorbance measurements yield outstanding performance. The absorbance channel has a large reading range of 0 - 4 OD with an accuracy that deviates less than 0.7%. The GloMax®-Multi Jr has three factory available filter paddles with filters for measuring 560, 600, and 750 nm. These filters accommodate the most common protein assays. Filter paddles can be easily exchanged in seconds. In addition, custom filter paddles can be readily made for non-standard applications.

# INTUITIVE USER INTERFACE

## LUMINESCENCE

Choose from pre-loaded Promega protocols, saved protocols, or create your own custom protocol. Use the Instrument Control screen to edit parameters, then press MEASURE LUMINESCENCE.

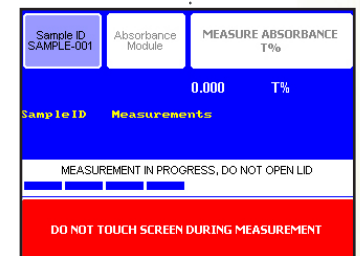
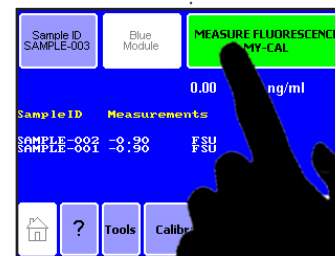
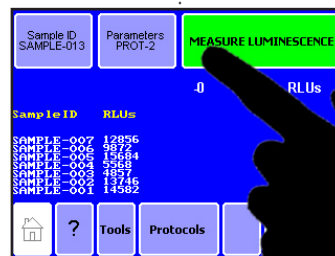
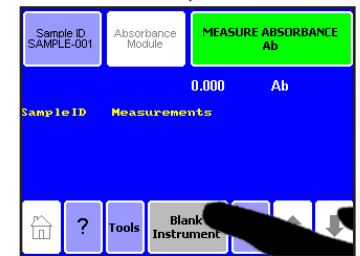
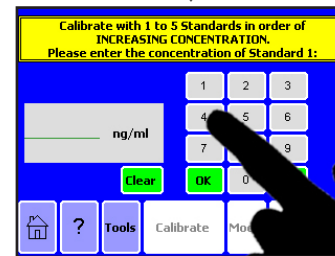
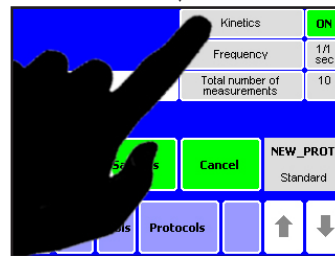
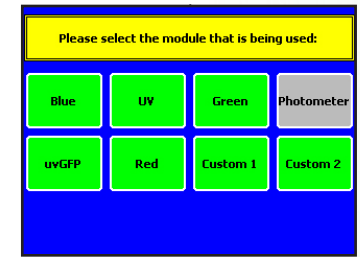
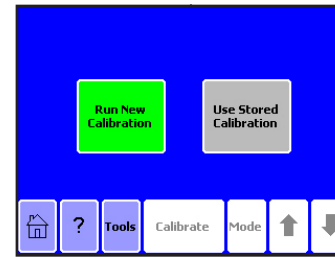
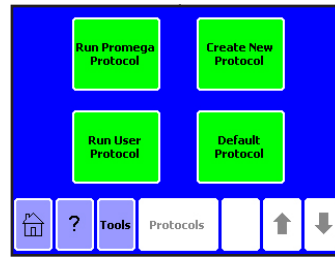
## FLUORESCENCE

The GloMax®-Multi Jr can operate in raw fluorescence mode, or touch calibrate to create a new calibration or run a previously stored calibration.

## ABSORBANCE

For absorbance measurements, insert a blank control and press BLANK. Based on what you've selected on the touch screen, absorbance data is presented in either percent of transmission or absorbance units.

- Simple parameter set up allows flexibility without adding complexity.
- Collect data quickly and easily while still maintaining total instrument control.



# INSTRUMENT SPECIFICATIONS

## GLOMAX® - MULTI JR

Available Detection Modes	Luminescence, Fluorescence, Absorbance
Read Type	Glow, Kinetic, Repeat
Sample Format	10 x 10 mm cuvette, 100 - 200 µl minicell vial (optional), 1.5 ml microcentrifuge tube (Luminescence)
User Interface	Touch screen navigation and operation
Data Output	Data displayed on screen or connect to PC (not included) via serial cable to download. Optional thermal printer available.
External PC Requirements (optional)	Windows XP SP2 or higher
Computer Interface	100% ASCII format through a 9-pin RS-232 serial cable at 9600 baud rate
Power	Instrument: 12V DC, 0.7A Max AC Adapter: 100-240V AC, 50/60Hz, 0.3A
Auto Shutoff	Touch screen hibernates after 15 minutes of inactivity
Dimensions	12.92" D x 10.44" W x 8.42" H (32.82 cm D x 26.52 cm W x 21.39 cm H)
Weight	~6.5 lbs (2.95 kg)
Operating Temperature	59 - 86 °F (15 - 30 °C)
Warranty	One year
Approvals	CE

## LUMINESCENCE

Detector	Photomultiplier tube (PMT)
Spectral Range	350 - 650 nm
Peak Wavelength:	420 nm
Detection Limit	1 x 10 <sup>-16</sup> moles ATP or 1 x 10 <sup>-20</sup> moles Luciferase
Linear Dynamic Range	5 logs
Sample Format	1.5 ml microcentrifuge tubes

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## FLUORESCENCE

Light Source	Wavelength-matched LED
Detector	Photodiode
Wavelength Selection	Snap-in Fluorescence Modules UV (Ex 365 nm, Em 410 - 450 nm) Blue (Ex 460 nm, Em 515 - 570 nm) Green (Ex 525 nm, Em 580 - 640 nm) Red (Ex 625 nm, Em 660 - 725 nm) UV-GFP (Ex 365 nm, Em 515 - 570 nm)
Detection Limit	6 ppt fluorescein, 450 pg/ml DNA Quantitation Dye
Linear Dynamic Range	6 logs, assay dependent
Sample Format	10 x 10 mm cuvette, 100 - 200 µl minicell vial (optional)
Read Out	Fluorescence Standard Units, Direct Concentration
Calibration	1 - 5 point calibration
Discrete Sample Average	Sample readings are averaged over 5 seconds to improve accuracy

## ABSORBANCE

Light Source	LED
Detector	Photodiode
Spectral Range	400 - 800 nm
Wavelengths for Installed Filters	560, 600, 750 nm
Photometric Measuring Range	0 - 4.0 OD
Linear Dynamic Range	0 - 2.5 OD, assay dependent
OD Accuracy	±0.7%
OD Precision	±0.5% at 1.0 OD

