

## GIGA-TRONICS

# 8502A - new version

The Giga-tronics 8502A (8500A Series) is a dual-channel peak power meter designed for high-performance peak and CW microwave power measurements. This updated version features a modernized display and improved system processing while maintaining full compatibility with Giga-tronics' extensive line of peak and CW power sensors. It is ideal for analyzing pulsed radar, electronic warfare, and telecommunication signals.

## SPECIFICATIONS

### General

|                       |                                                         |
|-----------------------|---------------------------------------------------------|
| Interfaces            | GPIB (IEEE-488.2)                                       |
| Display               | Color LCD graphic display                               |
| Warm-up Time          | 30 minutes                                              |
| Saved Setups Capacity | 10 complete instrument setups                           |
| Self-Test Capability  | Automatic power-on self-test of RAM, ROM, and circuitry |

### Physical

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| Power Supply          | 100 / 120 / 220 / 240 VAC $\pm 10\%$ , 48 to 440 Hz |
| Operating Temperature | 0 to +50 °C °C                                      |
| Dimensions (W×H×D)    | 426 mm × 133 mm × 457 mm mm                         |
| Weight                | 13.6 kg kg                                          |

### Measurement Performance

|                              |                                   |
|------------------------------|-----------------------------------|
| Frequency Range              | 0.01 to 50 GHz (sensor dependent) |
| Peak Power Measurement Range | -20 to +20 dBm                    |
| CW Power Measurement Range   | -70 to +47 dBm (sensor dependent) |
| Maximum Rise Time            | < 15 ns (with 85001 sensor)       |
| Maximum Fall Time            | < 15 ns (with 85001 sensor)       |
| Minimum Pulse Width          | 100 ns                            |
| Instrumentation Linearity    | $\pm 0.1$ dB (or $\pm 2.3\%$ )    |
| Dynamic Range (Peak)         | 40 dB                             |
| Dynamic Range (CW)           | 90 dB (sensor dependent)          |

### Channel and Sensor Specifications

|                           |                                                                      |
|---------------------------|----------------------------------------------------------------------|
| Number of Channels        | 2                                                                    |
| Sensor Compatibility      | Giga-tronics 8500 Series Peak Power Sensors & 8000 Series CW Sensors |
| Sensor Input Impedance    | 50 ohms (nominal)                                                    |
| Sensor Calibration Method | EEPROM-programmed factory calibration factors applied automatically  |

## Internal Calibration Source

|                                  |                   |
|----------------------------------|-------------------|
| Calibrator Frequency             | 1.0 GHz           |
| Calibrator Power Output Level    | 0 dBm (1.0 mW)    |
| Calibrator Output Connector Type | Type N (female)   |
| Calibrator VSWR                  | < 1.15 at 1.0 GHz |

## Triggering and Timebase

|                              |                                              |
|------------------------------|----------------------------------------------|
| Trigger Modes                | Internal, External, Free Run                 |
| Trigger Sources              | Channel A, Channel B, External Trigger Input |
| Trigger Level Range          | -20 to +20 dBm (internal)                    |
| External Trigger Input Level | TTL compatible                               |
| Timebase Range               | 10 ns/division to 10 ms/division             |
| Timebase Accuracy            | ±0.01%                                       |

## Display and User Interface

|                             |                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------|
| Auto-Measurement Parameters | Rise time, fall time, pulse width, pulse period, PRF, duty cycle, delay, peak power, average power |
| Measurement Units           | dBm, dB, W, mW, $\mu$ W, nW, pW                                                                    |

## System Interfaces and Connectivity

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| Analog Recorder Output           | Rear panel BNC connector (0 to 10 V scale) |
| External Trigger Input Connector | Rear panel BNC (female)                    |

## Power and Electrical

|                   |                |
|-------------------|----------------|
| Power Consumption | 120 VA maximum |
|-------------------|----------------|

## Physical and Environmental

|                           |                                       |
|---------------------------|---------------------------------------|
| Storage Temperature Range | -40 to +75 °C                         |
| Relative Humidity         | Up to 95% non-condensing              |
| Rack Height Unit          | 3U (standard 19-inch rack compatible) |

## Triggering

|                          |                  |
|--------------------------|------------------|
| Trigger Delay Range      | 100 ns to 100 ms |
| Trigger Delay Resolution | 10 ns            |

## Calibration

|                               |                           |
|-------------------------------|---------------------------|
| Calibrator Frequency Accuracy | ±1.0%                     |
| Calibrator Power Accuracy     | ±0.06 dB (±1.4%) at 0 dBm |
| Calibration Factor Range      | 50.0% to 150.0%           |
| Calibration Factor Resolution | 0.1%                      |

**Power Requirements**

|                          |                              |
|--------------------------|------------------------------|
| AC Input Voltage Range   | 90 to 260 VAC (auto-ranging) |
| AC Input Frequency Range | 47 to 440 Hz                 |

**Performance**

|                                  |                                        |
|----------------------------------|----------------------------------------|
| Display Resolution (Logarithmic) | 0.001 dB to 1 dB (selectable)          |
| Display Resolution (Linear)      | 1 to 4 digits (selectable)             |
| Averaging Range                  | 1 to 1024 (selectable in binary steps) |

**Environmental**

|                            |                      |
|----------------------------|----------------------|
| Maximum Operating Altitude | 4,572 m (15,000 ft)  |
| Maximum Storage Altitude   | 15,240 m (50,000 ft) |

**Calibrator**

|                             |      |
|-----------------------------|------|
| Calibrator Source Impedance | 50 Ω |
|-----------------------------|------|

**Inputs & Outputs**

|            |              |
|------------|--------------|
| VGA Output | 15-pin D-sub |
|------------|--------------|

**TECHNOLOGY**

RF & Microwave Diode Detection

**APPLICATIONS**

Pulsed RF signal analysis, radar testing, and CW power measurement

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.