



## 2500B Series Microwave Signal Generators Configuration Guide

Ultra-Low Phase Noise and Fast-Switching Speed in a Single Unit

## 2500B Series Microwave Signal Generator Configuration Guide

The standard 2500B series Microwave Signal Generators include Automation Xpress software, user documentation in electronic format, rack cabinet brackets “rack ears”, and a power cord.

This configuration guide is meant to assist in the ordering process for the 2500B series Microwave Signal Generators. Refer to the 2500B Technical Datasheet for complete specifications.

Contact Giga-tronics Application Engineering for additional support: 1-800-726-GIGA (4442)

You can also find the latest product and application information on our website: [www.gigatronics.com](http://www.gigatronics.com).

### Step 1. Select the Frequency Range by 2500B Model Number:

2502B	100 kHz to 2.5 GHz
2508B	2 GHz to 8 GHz
2520B	2 GHz to 20 GHz
2526B	2 GHz to 26.5 GHz
2540B	2 GHz to 40 GHz
2550B	2 GHz to 50 GHz

Note: The model number sets the maximum frequency range.

### Step 2. Extend the Frequency Range:

Select Option 18, Adds 100 kHz to 2 GHz frequency range.

- Note: Option 18 extends the minimum frequency range
- Note: Option 18 is standard on 2502B.
- Note: Option 18 adds 10 MHz to 2 GHz when ordered with Option 27, Electronic Attenuator.

### Step 3. Add Modulation Options:

Option 17A, Adds AM, FM, Phase and Pulse Modulation Capability, including an internal baseband waveform generator.

- Note: Option 17A adds a complete suite of analog modulation capability with amplitude, frequency, phase and pulse microwave modulators, and an internal low frequency baseband waveform generator to provide commonly used modulating waveforms.
- Note: The internal baseband waveform generator outputs are available for monitoring on the 2500B rear panel BNC connectors. External baseband modulating signals can be applied (via rear panel BNC connector inputs).

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Option 17B, Adds AM, FM, Phase and Pulse Modulation Capability.

- Note: Option 17B adds a complete suite of analog modulation capability with amplitude, frequency, phase and pulse microwave modulators.
  - Note: The baseband modulating signals must be externally supplied (via rear panel BNC connector inputs).
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- Note: the 2500B series standard model is continuous wave (CW) with no modulation capability. Option 17A and 17B add modulation capability including Amplitude, Frequency, Phase and Pulse Modulation, including narrow pulse performance with 10 ns minimum pulse width.
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### Step 4. Select RF Output Options:

Option 20, Add High RF Output Power

- Note: Option 20 increases the 2500B RF output power, without degrading signal purity.
  - Note: Option 20 is available on all 2500B model numbers. Refer to the 2500B Technical Datasheet for power level specifications.
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Option 22, Add Rear panel RF Output Connector

- Note: Option 22 moves the RF output from the front panel to the rear panel.
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Option 23, Add Type-N RF Connector, for 2520B only

- Note: Option 23 replaces the standard SMA female connector with a Type-N female connector.
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### Step 5. Select Step Attenuator

Option 26A, Add 90 dB Mechanical Step Attenuator, for 2502B, 2508B and 2520B models.

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Option 26B, Add 90 dB Mechanical Step Attenuator, for 2526B model.

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Option 26C, Add 90 dB Mechanical Step Attenuator, for 2540B model.

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Option 26D, Add 90 dB Mechanical Step Attenuator, for 2550B model.

- Note: Option 26A/26B/26C/26D adds a 90 dB range, 10 dB step attenuator, which extends the minimum output power range by 90 dB, but with a slight (1 to 2 dB) decrease in the maximum output power.
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Option 27, Add 110 dB Electronic Step Attenuator, for 2502B and 2508B models.

- Note: Option 27 adds a 110 dB range, 10 dB step electronic attenuator, which extends the minimum output power range by 110 dB and provides fast amplitude switching speed, but with a decrease in the maximum output power.
  - Note: Option 27 may not be ordered with Option 26A.
  - Note: Option 27 limits Option 18 extended frequency range to 10 MHz to 2 GHz.
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### Step 6. Select Signal Purity Options:

Option 28A, Adds Low Phase Noise

- Note: The standard 2500B has excellent phase noise performance. Option 28A provides enhanced overall low phase noise.
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Option 28B, Adds Ultra-Low Close-In Phase Noise

- Note: Option 28B provides ultra-low phase noise performance close-to-carrier.
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### Step 7. Select Frequency Switching Speed Option:

Option 29, Adds Fast Frequency Switching Speed

- Note: Standard 2500B frequency switching speed is 2 ms per point. Option 29 provides fast frequency switching, typically < 500  $\mu$ s and as fast as < 100  $\mu$ s for narrow frequency hops.
- Note: Option 29 does NOT degrade RF Output Power nor Signal Purity nor Phase Noise performance.
- Note: Option 29 may be export restricted due to switching speeds < 500  $\mu$ s. Contact factory for your specific requirements.

### Step 8. Select International Export Compliance Option:

Option 31, Adds Minimum Pulse Width > 100 ns.

- Note: Option 31 complies with US Government export restrictions for certain international sales. Consult Factory for your specific requirements.
- Note: Option 31 may not be ordered with Option 29

### Step 9. Select Miscellaneous Options:

Option 44, Deletes Front Panel

- Note: Requires Option 22, rear panel RF output.

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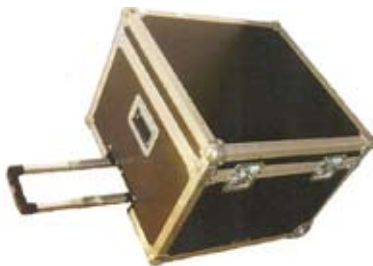
Option 46, Adds Rack Slide Kit

- Note: Option 46 is for HP style rack cabinets.
- Note: Standard 2500B models come with rack mount brackets ("Rack Ears").

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Option A011, Adds Ruggedized Carrying Case ("transit" case).

- Note: Option A011 provides a ruggedized transit case with handles, wheels and a custom foam interior for the 2500B series. Approximate exterior dimensions are 23" (W) x 24" (D) x 18" (H).
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### Step 10. Select a Warranty Plan:

Option EWS20, Adds Three Year Warranty (Extends the warranty an additional two years).

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Option EWS40, Adds Five Year Warranty (Extends the warranty and additional four years).

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**2500B Series Microwave Signal Generator  
Front and Rear Panel**



Giga-tronics offers several microwave power amplifiers as accessories to our microwave signal generators for applications requiring power up to 10 Watts to 10 GHz, 5 Watts to 20 GHz, 1/2 Watt to 40 GHz and 1/4 Watt to 50 GHz.



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