

MD-12-B



12 GHz Modulator Driver / RF Amplifier, Benchtop

The Optilab MD-12-B Modulator Driver (MD) is a 12 GHz RF Amplifier in a user-friendly benchtop that provides a high-quality, single-ended voltage to drive an external optical modulator. Typical applications include driving EML, EAM, and Mach-Zehnder devices, and it can also be used as a wideband RF amplifier with useable bandwidth of 100 kHz to 12 GHz, including its +26 dBm adjustable output, making it suitable for many RF link applications. The MD-12-B amplifies 15 Gb/s data input signals to 7.5 Vp-p drive levels, and the flat gain and group delay response yield a high quality, low-jitter electrical drive signal for digital applications. In addition to its amplification function, the MD-12-B also features a manually adjustable DC bias output voltage port, to further compliment its effectiveness when used with a standard LiNbO₃ external modulator. Contact Optilab for more information.

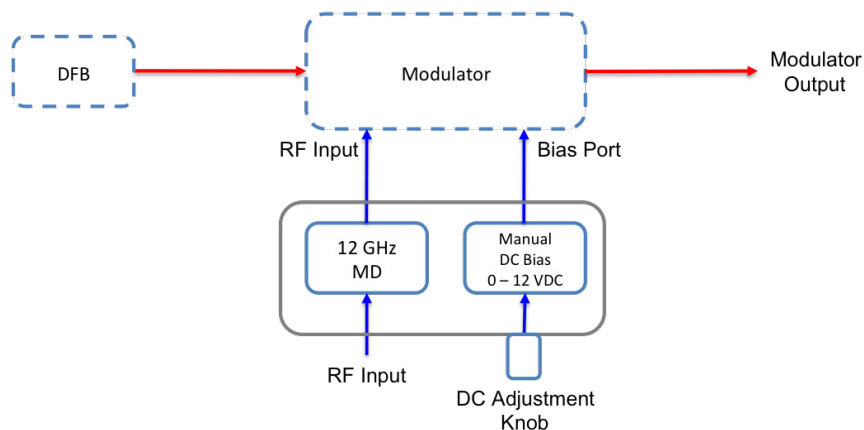
Features

- Bandwidth up to 12 GHz
- Data rates exceed 15 Gb/s
- Manual DC Bias Output Port to 12 Volt
- Benchtop with LCD Display
- Variable RF Gain Control

Applications

- 15 Gb/s Digital Modulation
- DPSK Driver
- Analog RF Amplification to 15 GHz
- RF over Fiber Link Amplified
- General Laboratory Testing

Functional Diagram



12 GHz Modulator Driver w/ RF Amplifier, Benchtop

OPTIONS

MD-12-DC-B

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

WEB ORDER

To order, please click below.



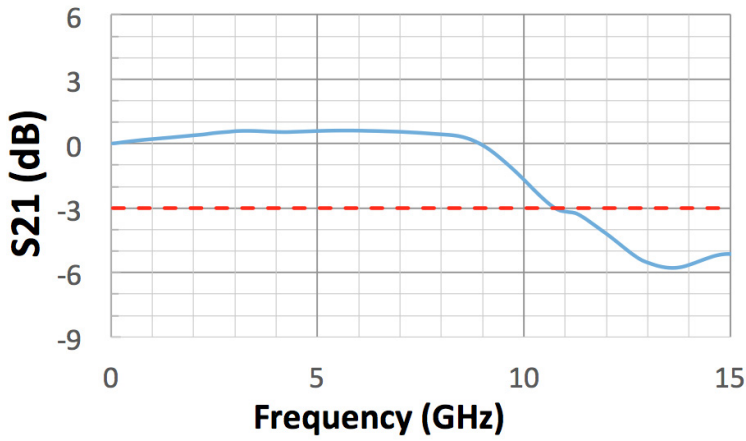
Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

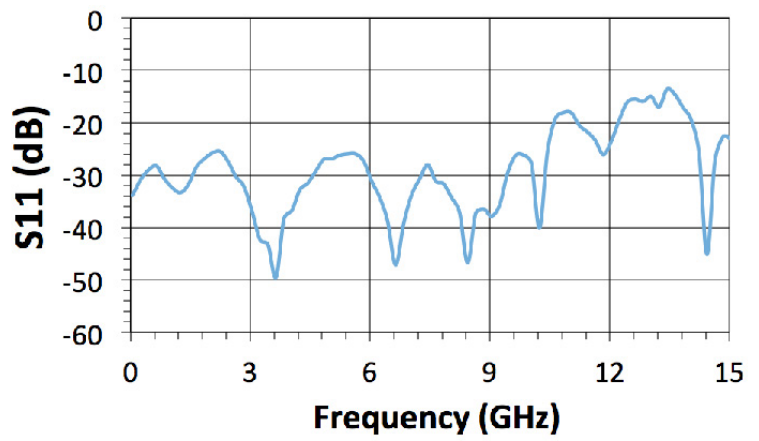
| General Specifications | |
|------------------------------|---------------------------|
| 3dB S21 Bandwidth | 12 GHz min. |
| S11 Characteristics | < -10 dB at 10 GHz |
| Saturated Output Power | >26 dBm typ. |
| RF Gain | 16 db to 26 dB, variable |
| Gain Ripple | ±1.5 dB over 5 GHz |
| Input, Output Impedance | 50 Ω |
| Input VSWR to -10 GHz | 1.6:1 typ. |
| Output VSWR | 2.0:1 typ. |
| Total Power Dissipation | 7 W max. |
| Gain Adjustment Range | 10 dB typ. |
| DC Control | |
| Manual DC Control Adjustment | -12 V to +12 V |
| Manual Bias Adjustment Range | -12 V to +12 V |
| Digital Applications | |
| Data Rate | Up to 15 Gb/s |
| Pulse Response | 10%, rise time 35 ps typ. |
| Output Amplitude | 7.5 Vp-p typ. |
| Input Range | 500 mV to 1.5 V |
| Analog Applications | |
| Useful Frequency Range | 75 KHz to 15 GHz |
| P1dB Output | > 23 dBm max. |
| Group Delay (2 to 10 GHz) | ± 25 ps |
| Noise Figure | 11 dB |
| Small Signal Gain | 30 dB typ. |
| Mechanical Specifications | |
| Operating Temperature | 0° C to +70° C |
| Storage Temperature | -45° C to +100° C |
| Operating Humidity | 85% |
| Power Supply Requirements | 110/220 VAC, 50/60 Hz |
| RF Input/Output Connector | K Connector Female |
| Dimensions | 280 mm x 90 mm x 320 mm |

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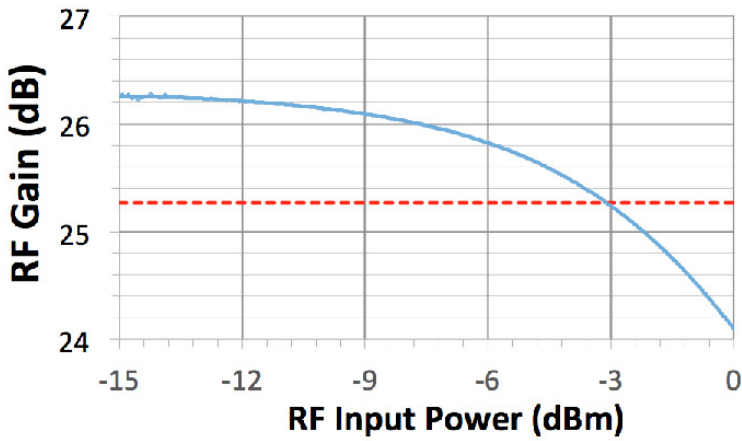
Typical S21 Response



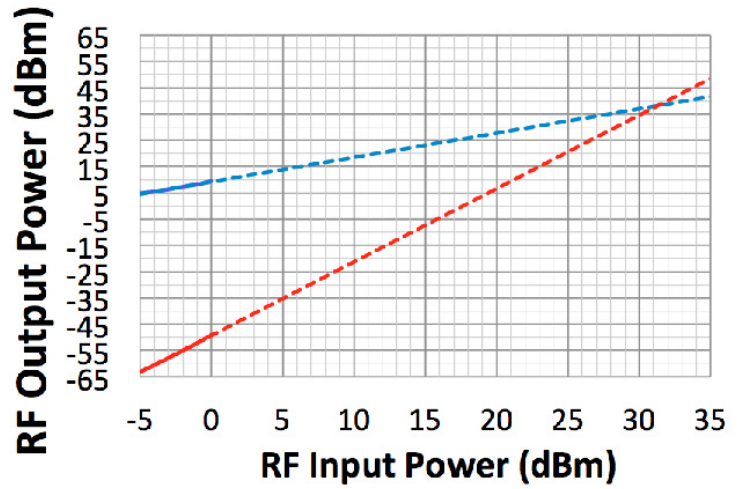
Typical S11 Response



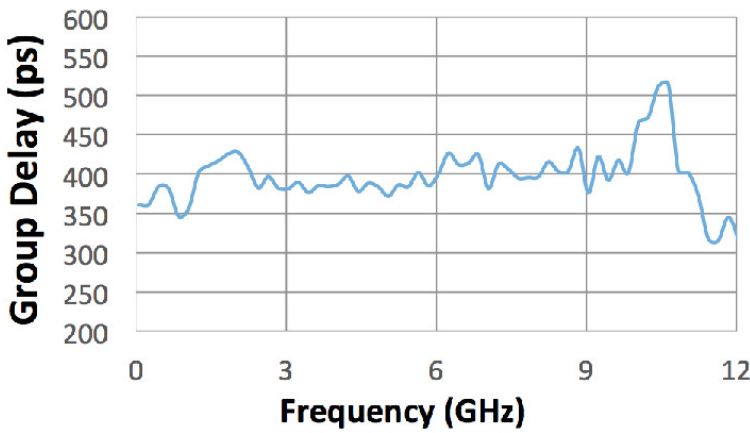
1 dB Compression



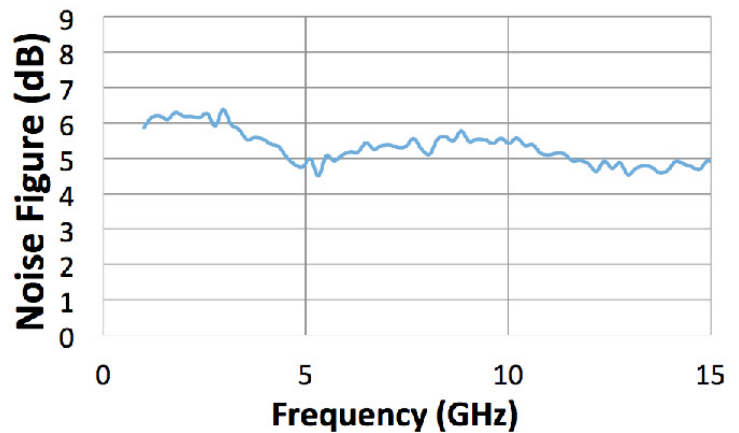
Third Order Intercept



Group Delay



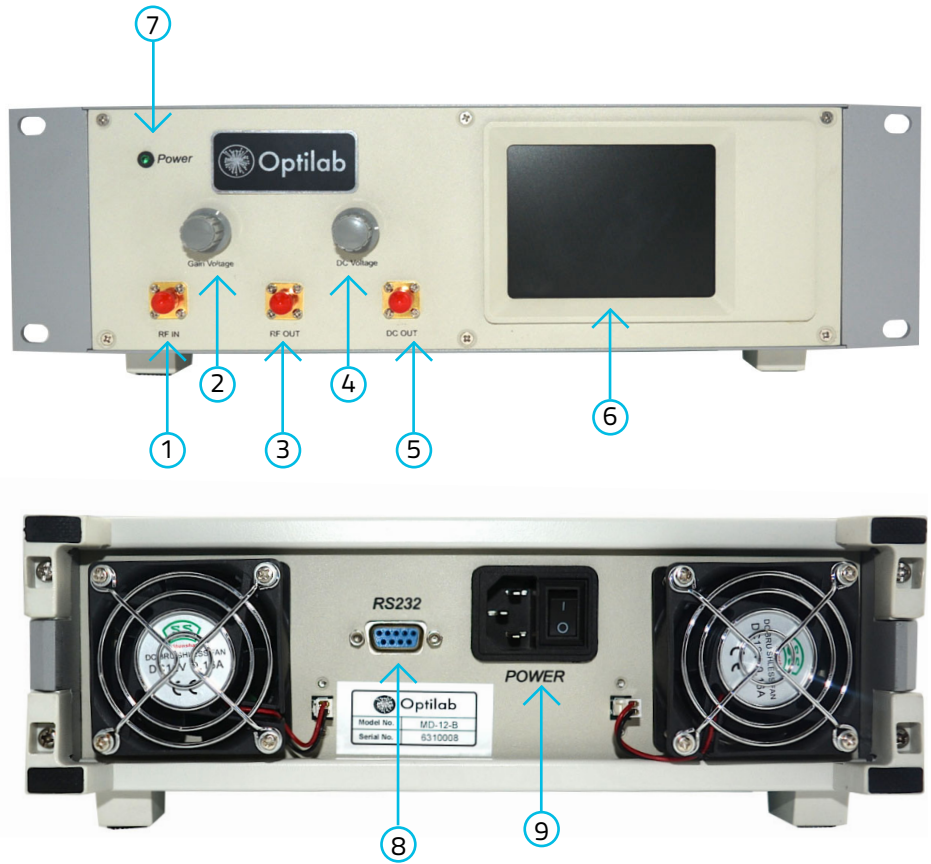
Noise Figure



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Port Function Description

| | |
|---|------------------------|
| 1 | RF Input |
| 2 | RF Gain Voltage Adjust |
| 3 | RF Output |
| 4 | DC Voltage Adjust |
| 5 | DC Output |
| 6 | LCD Display |
| 7 | Power LED |
| 8 | RS232 |
| 9 | Power switch |



Remote Labview Interface

Optilab offers remote interface via Labview software, for parameter adjustment and status monitoring, contact Optilab for more details.

