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 $LiNbO_3$ external modulator. Contact Optilab for more information.

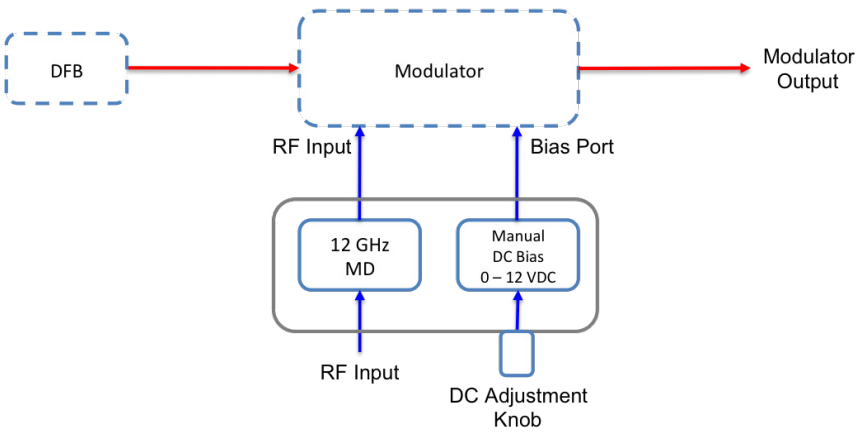
Features

- 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



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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.

OEQuest.com

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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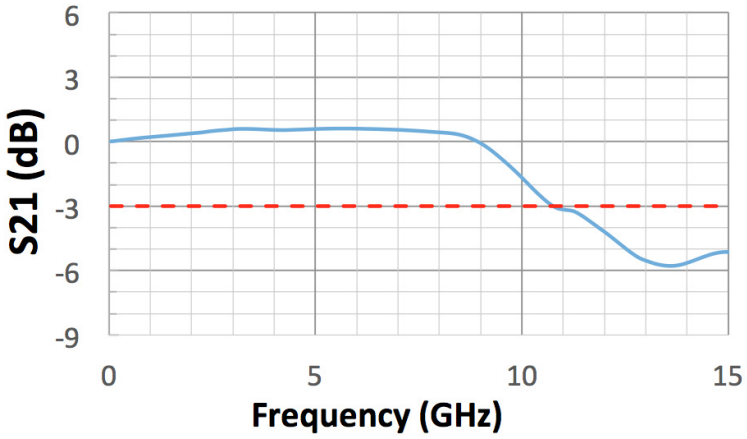
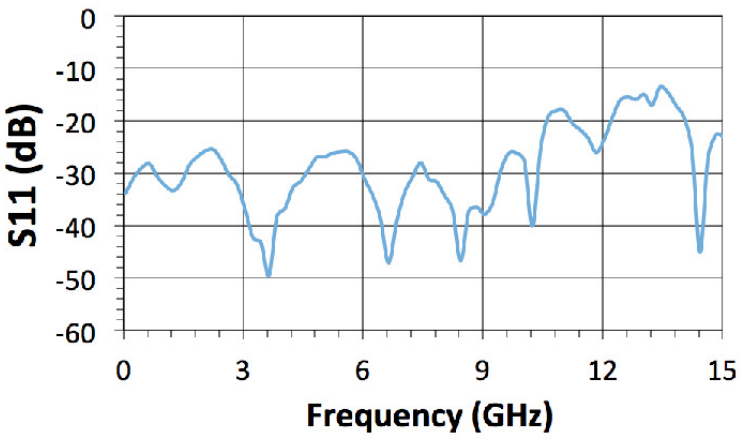
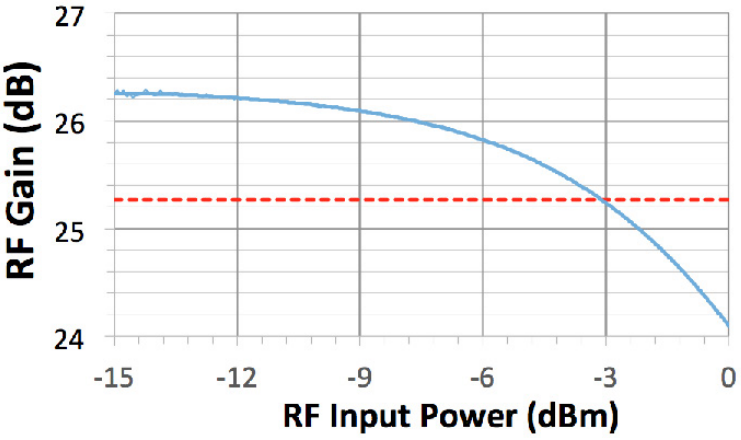
Typical S21 Response



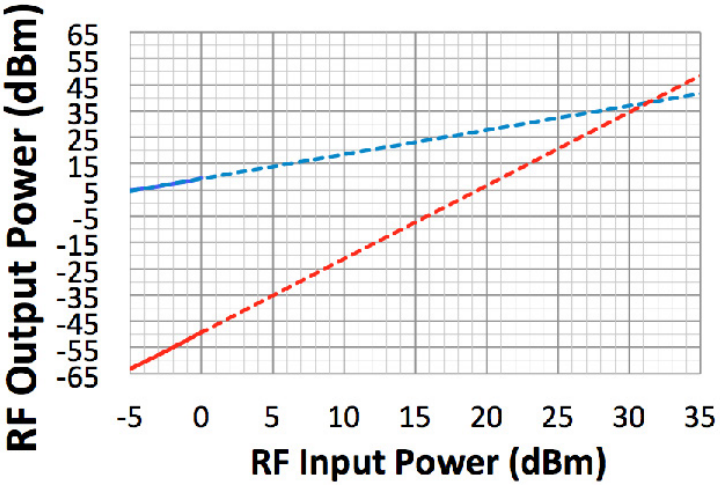
Typical S11 Response



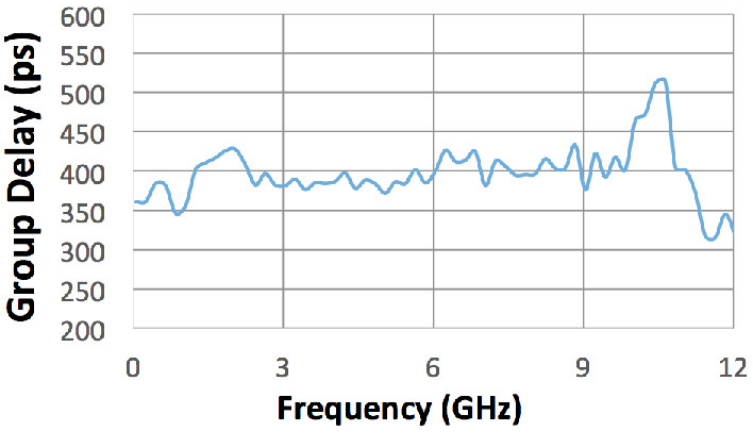
1 dB Compression



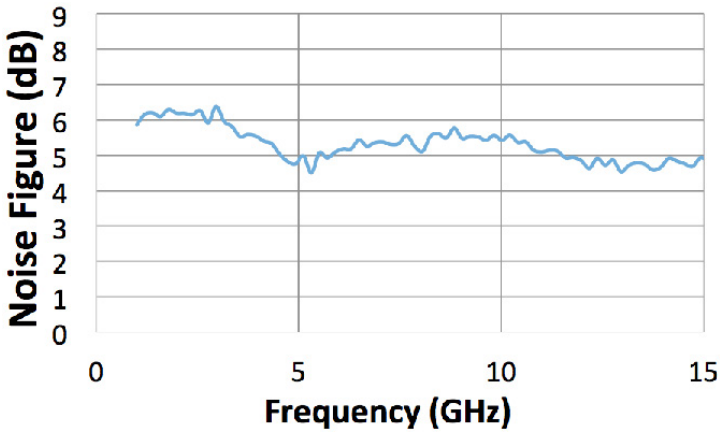
Third Order Intercept



Group Delay



Noise Figure



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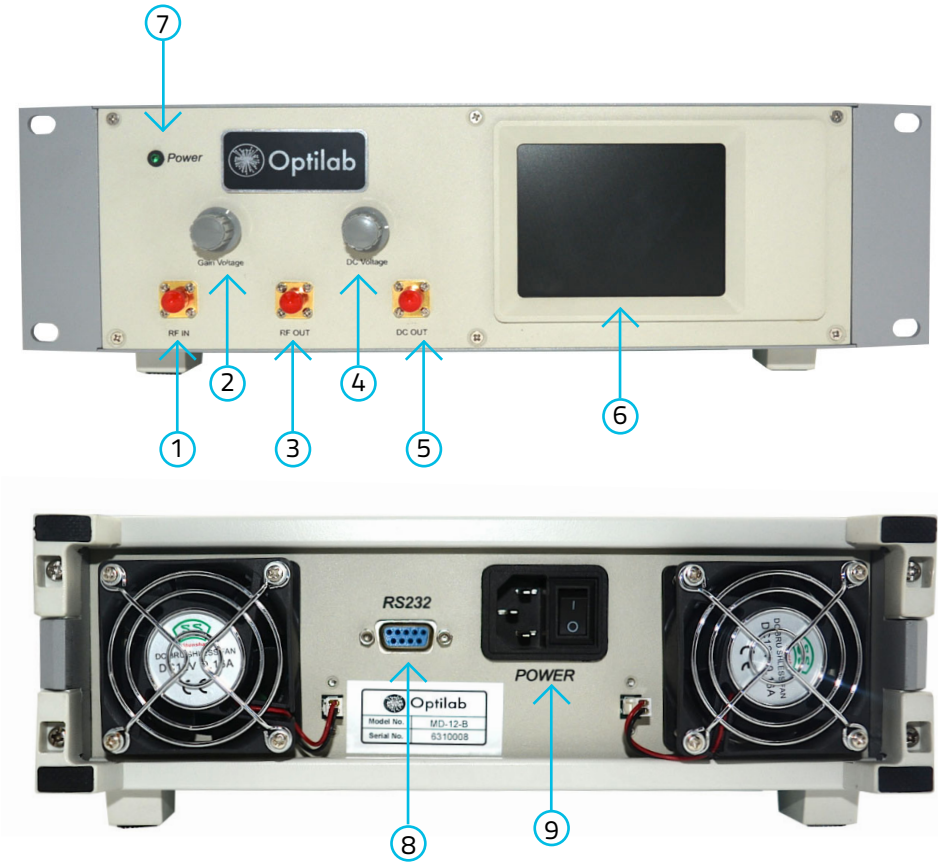
Port Function Description

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.