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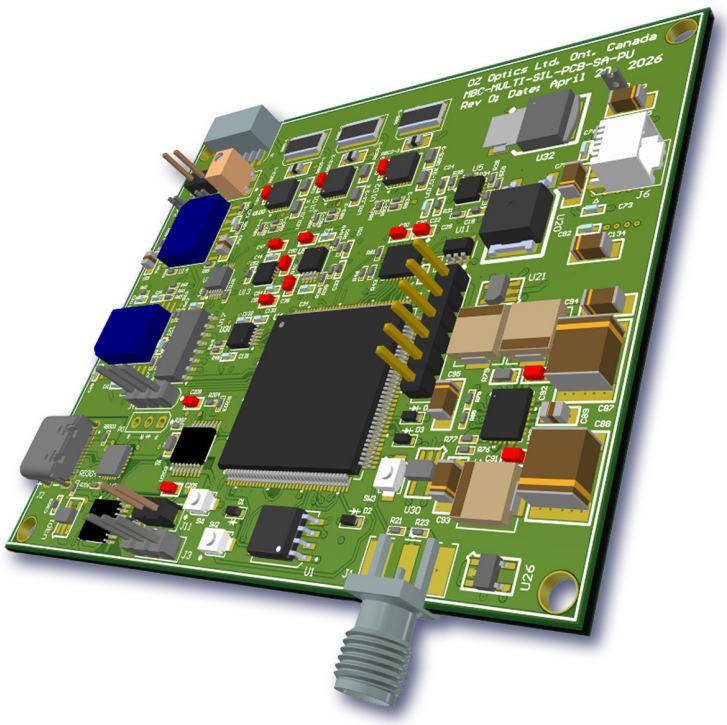
MODULATOR BIAS CONTROLLER – MULTI-SIL

Features

- Designed to be used with either single LN MZ modulators or silicon based modulators
- For DPMZ IQ modulator SSB and its extended applications including Peak, Peak, Quad for the three modulators
- Three modulators can be controlled by one controller
- For single sideband application or applications with two or three individual modulators
- Bias Port can deliver current up to 250 mA (Note: Current limit is configurable per user request)
- Bias Port voltage adjustment capabilities from -12V to +12V
- User adjustable pilot tone amplitude
- Locking slop can be switched for the three bias individually. Locking points around null, quad can be fine-tuned
- Calibration off mode for quick system setup in locking mode
- One PD is integrated
- Access for external photo-detector
- USB Type C interface
- GUI via USB port is included, user can stop pilot tone in manual mode
- All settings are remotely controllable through GUI
- All the parameters can be read and displayed at GUI
- RS232DB9 or RS232FW (Flywires) interface available as an option
- PCB board Size (2.5" x 3" x 0.65")



MBC-MULTI-SIL

Product Description

The Modulator Bias Controller-MULTI is a full-function OEM version of the Modulator Bias Controller (MBC) family. It is designed to be used with either single LN MZ IQ modulators or silicon based IQ modulators or Thin Film Lithium Niobate (TFLN) IQ modulators for single sideband and its extended applications.

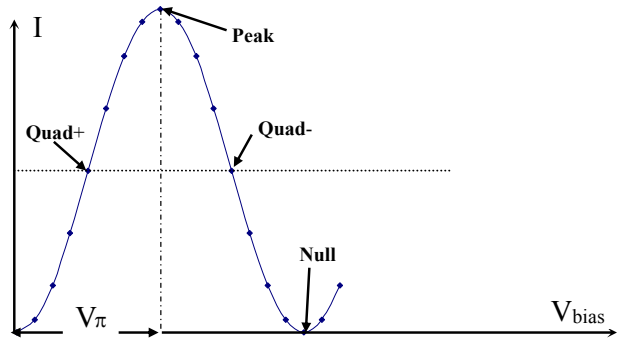


Figure 1. MZ modulator working function

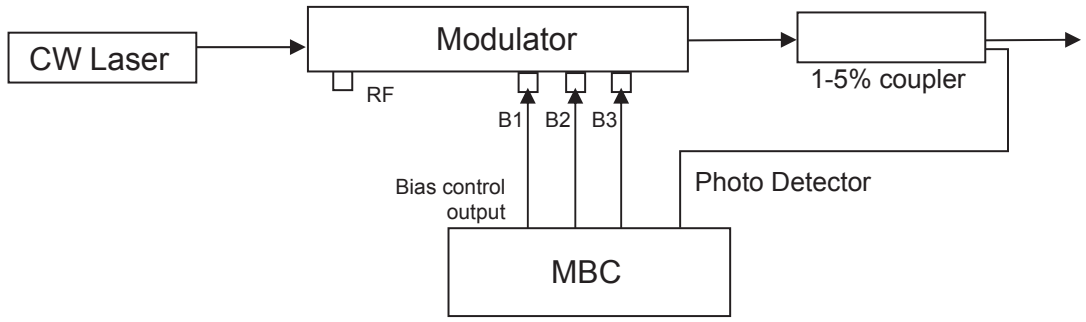


Figure 2. Configuration for Modulator Bias Controller (MBC)

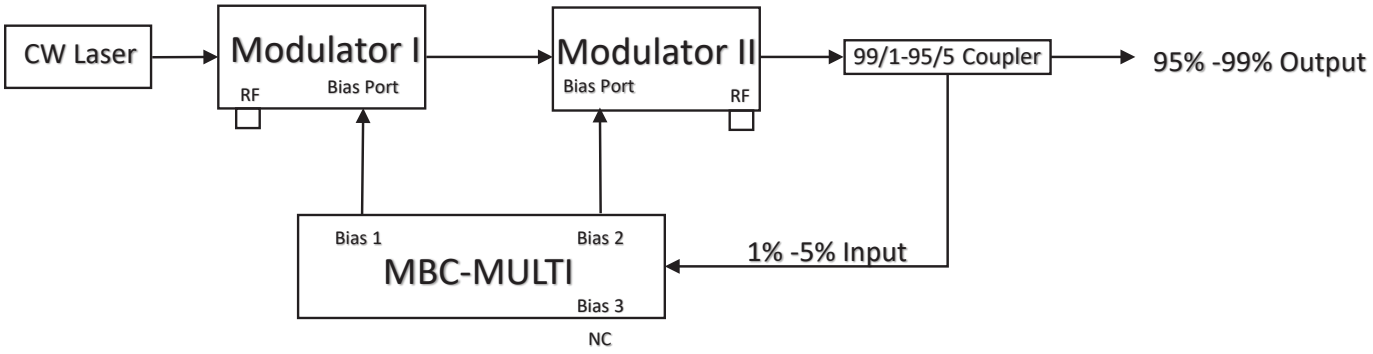


Figure 3. Configuration II for MBC-MULTI

Specifications

Parameters	Min.	Typ.	Max.
Optical Performance			
Detector Input Power[1] (dBm)	-25		-10
Optical Wavelength (nm)		1000–1650	
Electrical Performance			
Bias Voltage (V)	-12		12
Bias Current (mA)[3]		Configurable	250
Null Mode Extinction Ratio[2] (dB)		25	40
Locking Slope		Positive or Negative	
Locking Mode		Peak/Null, Quad	
Pilot Tone			
Peak-to-Peak Voltage (Vpp)		Adjustable	
Pilot Tone Frequency (QUAD) (Hz)		500, 1000	

Parameters	Min.	Typ.	Max.
Power Supplies			
DC Positive Power Voltage (V)	14.5	15	15.5
DC Negative Power Voltage (V)	-15.5	-15	-14.5
DC Positive Power Current (mA)		190	
DC Negative Power Current (mA)		105	
General			
Operating Temperature (°C)		0–70	
Storage Temperature (°C)		-40–85	
Dimension (inch)		2.7 x 3.27 x 0.65	
Weight (lb)		0.2	

1 For a given input, detection power refers to the coupled optical power to the photodiode of DPMZi-MBC when the modulator output is at its minimum attenuation (The detection power does not describe the detected power at locking status).

2 In this case, the modulator output power was greater than 0 dBm. 1% coupler was used. The extinction ratio will be close to but not exceed the extinction ratio of the modulator.

3 Bias Current limit can be configured by manufacturer as per user request.

Part Number ***MBC-MULTI-SIL-PP-X***

PP = Pigtailed Photodiode code:
PD = Pigtailed photodiode included
00 = Pigtailed photodiode not included
Leave connector code blank

X = Connector code:
3U = FC/UPC
3A = FC/APC
SCU = SC/UPC
SCA = SC/APC
LCU = LC/UPC
LCA = LC/APC