

Control and Instrumentation

Modulator Bias Controller

Photline's Modulator Bias Controllers (MBC) are a family of subsystems specially designed to stabilize the operating point of LiNbO₃ modulators.

The MBC design uses digital signal processing based on an original Fast Fourier Transformer (FFT) principle that allows the change of the dithering frequency used to lock the bias point. The modulator operating bias point can be locked at the Min, Max, Quad+ or Quad- of the transmission curve as shown in the adjacent plot.

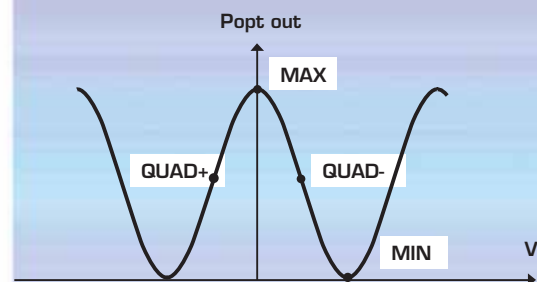
Alternatively this operating bias point can be set manually so as to adapt to a wide variety of applications.

Features:

- Designed for LiNbO₃ modulators
- MIN, MAX, Quad+, Quad- and manual set point
- High sensitivity <-30 dBm
- Low dithering amplitude < 1% V
- Dither frequency 400 Hz - 1400 Hz

Applications:

- Digital transmission NRZ, RZ
- Analog transmission
- Pulse generation
- Instrumentation



Integrated Modulator Boxes

The ModBox systems are a family of turnkey optical transmitters and external modulation benchtop units for Digital / Analog / Pulse transmission applications.

The Modbox design integrates within an enclosure a laser source (optional), a complete modulation stage featuring an external LiNbO₃ modulator with its RF driver and bias control circuit, and a receiver stage (optional).

ModBoxes can be tailored to specific transmission needs in order to provide systems engineers with reliable performance and high speed modulation capabilities together with the peace of mind of a ready-to-plug equipment.

ModBox examples:

- QPSK 20 Gbps & 40 Gbps Modulation Unit
- NRZ- & RZ- 12.5 Gb/s & 28 Gbps & 40 Gbps digital transmission
- DFB laser / Tunable laser / Photoreceiver Integration
- NRZ to RZ electrical / optical conversions
- multi format : RZ, NRZ, DPSK, CS-RZ, DB modulation unit
- 4 channel WDM NRZ 10 Gb/s
- Pulse picking / slicing unit
- Spectrum broadening
- Custom units based on customer need...

