



SATYENDRA NATH BOSE NATIONAL CENTRE FOR BASIC SCIENCES

[Funded by the Department of Science & Technology, Government of India]

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Ref#: SNB/ENQ/MP/Acoustic Modulator/13-14/1499/WP

26.12.2013.

Dear Sir,

Sealed quotations are hereby invited for the following items in **two parts** (Technical and Commercial bids). One large envelope containing two smaller envelopes containing Part A: Technical Bid and Part B: Commercial Bid need to be submitted separately –

Two smaller envelopes should be super-scribed "**Technical Bid**" / "**Commercial Bid**" as the case may be.

S/N	PARTICULARS	Qty
1.	Acoustic Optic Modulator & RF Drivers for 7.8 micron	01 no.
2.	Acoustic Optic Modulator & RF Drivers for 5.3 micron (See following pages for detailed technical specification. For any technical query write to manik.pradhan@bose.res.in)	01 no.

Technical bid should contain complete technical information literature/working manual of the quoted item, & authorization certificate of the manufacturer. **Price Bid** - In case of imported item CIF/CIP Kolkata airport price should be mentioned and for indigenous item FOR price up to S. N. Bose Centre may be quoted.

Note:-

- 1) The quoted price should be inclusive of delivery charges.
- 2) Validity should be for 90 days from the date of opening.
- 3) Minimum One (1) year standard onsite warranty is to be provided.
- 4) Our payment term is subject to after receipt of material only.
- 5) Delivery period should be mentioned in the quotation.
- 6) Our ref. no. should be mentioned on top of the quotation envelope.
- 7) Quotation for the above item should reach this office by **09th January' 2014.**

Thanking you,

Yours faithfully,

S. K. Singh
AR(Purchase)

Technical Specifications

Acousto Optic Modulator & RF Drivers for 7.8 micron Specification:

Material	Single Crystal Optical Germanium
Anti Reflection Coating	6 to 9 micron
Static Optical Insertion Loss	<10%
Center Frequency	40 MHz
Frequency Shift Range	30-50 MHz
Active Aperture Height	6 mm
Optical Rise Time	117 nsec /mm Beam Diameter
Beam Separation	5.6 mrad (7.8 micron, 40 MHz)
Bragg Angle	2.8 mrad @(7.8 micron, 40 Hz)
Diffraction efficiency	85%
Optical polarization for best efficiency	Horizontal (Parallel to base)
RF Drive power	18 W @ 7.8 micron
Water cooling	500 ml/min at 20-23 deg C
Input Impedance	50 ohms
RF Connector	BNC
Size : (Less connector)	1.5(38.1)H × 2.97(75.5)D × 2.42(61.5)W Inches(mm)

Modulator Driver Specification: (for above)

Crystal Oscillator Frequency	40 MHz
CW RF output	0-20 Watts for level control Zero to Maximum
Input	Analog (0-20 Watts RF output for 0-1 Volt input)
Extinction ratio (RF ON/RF OFF)	40 dB
Input/output Impedance	50 Ohm (VSWR<1.2:1)
Connectors	BNC
SIZE	4.5(11.5) H× 16.0 (40.7) D × 5.7 (14.5) W Inches (Cm)
Main Power	110/230 V, 50-60 Hz

QTY : 1 (ONE)

Acousto Optic Modulator & RF Drivers for 5.3 micron Specification:

Material	Single Crystal Optical Germanium
Anti Reflection Coating	4.5 to 7 micron
Static Optical Insertion Loss	<5%
Center Frequency	40 MHz
Frequency Shift Range	30-50 MHz
Active Aperture Height	6 mm
Optical Rise Time	117 nsec /mm Beam Diameter
Beam Separation	38.5 mrad*(5.3 micron, 40 MHz)
Bragg Angle	19.3 mrad @(5.3 micron, 40 Hz)
Diffraction efficiency	85%
Optical polarization for best efficiency	Linear (Parallel to base)
RF Drive power	15 W @ 5.3 micron
Water cooling	500 ml/min at 20 deg
Input Impedance	50 ohms
RF Connector	BNC
Size : (Less connector)	1.5(38.1)H × 3.00(76.2)D × 1.3(33)W Inches(mm)

Modulator Driver Specification: (for above)

Crystal Oscillator Frequency	40MHz
CW RF output	0-20 Watts for level control Zero to Maximum
Input	Analog (0-20 Watts RF output for 0-1 Volt input)
Extinction ratio (RF ON/RF OFF)	40 dB
Input/output Impedance	50 Ohm
Connectors	BNC
SIZE	4.5(11.5) H× 16.0 (40.7) D × 5.7 (14.5) W Inches (Cm)

QTY : 1 (ONE)