

**BOSE INSTITUTE
KOLKATA**

Tender No.	CAPSS/15/51/P-VII(SKS)/14-15
Tender Date	09/01/2015
Tender Type	OPEN

Tender Title	16 Channel Spectroscopy Amplifier
Specification	Please see Annexure - 1
Quantity	ONE

Last Date & Time for submission	05.02.2015 upto 14:00 hrs.
Date & Time for opening bids	05.02.2015 after 15.00 hrs.
Submission of Tender (address)	CAPSS, Bose Institute, Block EN-80, Sector – V, Salt Lake, Kolkata 700 091
Venue of bid opening	CAPSS, Bose Institute, Block EN-80, Sector – V, Salt Lake, Kolkata 700 091
For any query the interested bidders may contact (Dept./Section/Div./Unit)	09830420035

General Terms & Conditions

Warranty	One year from the date of installation
Payment terms	Payment will be made after complete delivery of the instrument in good condition and satisfactorily installation.
Delivery schedule	Within 30 days from date of order & if any defect of the supplied item is found, it should be replaced immediately from your side.
Bid security (earnest money deposit) if applicable	NO
Submission of Performance Bank Guarantee (PBG), if applicable	NO
Any other information (if applicable)	NO

Name of the instrument and submission of tender should be mentioned on the envelop positively.

Director, Bose Institute reserves the right to accept or reject any or all tenders either in part or in full. The reasons for rejecting the tender of a prospective bidder will be disclosed only when enquiries are made.

Annexure - A

16 Channel Spectroscopy Amplifier (Shaping / Timing Filter) with CFDs and Multiplicity Trigger with following specifications

Parameter	Description / Specification
Housing	16 Channel single width NIM module
Input stage	Input Channels: 16 channels
	Input Signals: differential type , $\pm 1V$
	Input connector: FRC type
Polarity	Changeable
Shaper	Output amplitude: 0 to 10V
	Four- Shaping times: 0.5, 1, 2, 3 μs
	Output connector: 34 pin male connector
	Integral nonlinearity < 0.1 %
	Gain drift < 0.01% / $^{\circ}C$
	Adjustment of Shaping time: via Front panel switch as well as through Remote control
	PZ adjustment : via front panel switch as well as through remote control Gain adjustment: via front panel switch as well as through remote control
Timing filter Amplifier	Rise time should be any value between (15 ns - 25 ns)
	Decay Time should be correlated with shaping times of the shaper
Discriminator	Constant Fraction Discriminator
	CFD delays, (any value between 55 ns to 65 ns)
	CFD 2 fractions: : 20% / 40%,
	CFD -Walk: typically max. 1ns for 30 ns (10% to 90%) input rise time

	Adjustable Threshold (0% to 75% of max range) Adjustment of Thresholds: via Front panel switch as well as through Remote Control
Gate generator	Should have Trigger output
Multiplicity trigger	Multiplicity trigger with adjustable lower at upper multiplicity threshold
	Multiplicity chaining Capability: multiplicity output from several modules can be connected, resulting in total multiplicity level of all connected modules. Multiplicity trigger windows of the connected modules should act independently on the total multiplicity.
	Multiplicities selectable via remote control
Remote Control	Capability for remote control of 4 parameters as mentioned below:
	<ul style="list-style-type: none"> . Threshold of individual channels . PZ compensation of individual channels . Gain adjustment (either Individual channels or group wise) . Shaping time adjustment (either Individual channels or group wise)
Connectors and accessories	<p>Output connector: 34 pin, Flat Ribbon connector</p> <ul style="list-style-type: none"> • Output Signal cable: 16 channel, Flat cable, 34 leads, length 1meter to connect the amplifier output to NIM Front Plate Header to Lemo Adapter. <ul style="list-style-type: none"> • NIM Front Plate Flat Cable to Lemo Adapter to be quoted as accessories.

The Sr. Prof. & Incharge, Registrar's Office