

Dated: 24th February 2014

Notice Inviting Quotations for Supply of Underwater Acoustic Transducers

Extended Due Date: 4th March 2014, 5:00 pm

Sealed quotations are invited for the supply of underwater acoustic projectors, hydrophones, power amplifiers, pre-amplifiers and accessories. The technical and commercial bids must be enclosed in two separately sealed envelopes, and marked as "Technical bid" and "Commercial bid" on the respective covers. Both the envelopes should be put in a common sealed envelope with the heading "Bid for Underwater Acoustic Transducers".

The minimum required specifications are given below. The required numbers for each item are indicated alongside.

1. Omni-directional Broadband hydrophone and projector: (2 nos.)

Flat sensitivity: 0.1 Hz to 140 kHz @ 205 dB +/- 2 dB re 1V/ microPa
Usable frequency range: 0.1 Hz to 180 kHz
Transmit voltage response: 70 kHz-140 kHz > 142 dB (147 dB +/- 5 dB) re 1 microPa/V @1m
Horizontal directivity: Omnidirectional +/- 2 dB @120 kHz
Vertical directivity: 290 degrees +/- 2dB @ 120 kHz
Operating depth: > 400 m
Diameter: < 25 mm
Cable: 6 m BNC Male.

2. Omni-directional Broadband hydrophone and projector: (4 nos.)

Flat sensitivity: 0.1 Hz to 300 kHz @ -213 dB +/- 2 dB re 1V/ microPa
Usable frequency range: 0.1 Hz to 450 kHz
Transmit voltage response: 160 kHz-300 kHz > 129 dB (136 dB +/- 7 dB) re 1 microPa/V @1m
Horizontal directivity: Omnidirectional +/- 2 dB @350 kHz
Vertical directivity: 280 degrees +/- 2dB @ 350 kHz
Operating depth: > 400 m
Diameter: <10 mm
Cable: 6 m BNC Male.

3. Ultrasonic Preamplifier compatible with items 1 and 2: (2 nos.)

Flat Gain: 40 dB @ 10 kHz to 500 kHz with single 9V battery
Built-in HPF: 1 kHz
Operating depth: > 200 m
In/out: Coax 50ohm BNC connector

4. Power Amplifier compatible with items 1 and 2: (2 nos.)

Signal Gain: 30 dB
Max signal input: 2V
Power Capability: > 50 Watts @ 12VDC supply
-3dB Power Bandwidth: 300 kHz @ 12VDC
Stand-by Control Voltage: TTL/CMOS compatible
Supply: Single 12-36 VDC

Terms and conditions:

1. The Technical Bid must include specification brochures for each item.
2. The Technical Bid must give a Compliance Chart for each item with reference to all the required specifications.
3. Any other necessary accessory for operating the above items may also be quoted for.
4. The quotation must have validity of at least two months or till 31st March 2014.
5. The system should be covered with 1 year manufacturer's warranty.
6. Shipment mode shall be FOB / FOR CIF. "Hi sea sale" is not allowed.
7. The Institute reserves the right to accept or reject any or all of the quotations without assigning any reasons.
8. Payment terms should be clearly mentioned. Advance payment is not allowed.
9. If it is a foreign product supplied by Indian agent, the agency/distributor certificate from foreign supplier must be enclosed in favour of Indian agent/distributor. Import/export registration code no. and PAN no. copy of Indian agent should also be enclosed.

The sealed quotation must mention "Bid for Underwater Acoustic Transducers" on the outer envelope that contains the separately sealed envelopes for Technical and Commercial Bids, and should be submitted by 5:00 pm on 4th March 2014 to the following:

Prof. R. Bahl
Centre for Applied Research in Electronics
Indian Institute of Technology, Delhi
Hauz Khas, New Delhi – 110016, INDIA.
(Phone: +91-11-26591103; Email: rbahl@care.iitd.ernet.in)

**Prof. I. N. Kar
(Purchase Committee Chairman)**