

DEPARTMENT OF MECHANICAL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY DELHI

Dated: July 25, 2014

**Notice Inviting Quotations**

Quotations are invited for the purchase of a **CCD Camera** for microscopy. More details on the desired specifications are provided below.

1. Sensor should be 14 bit CCD or better.
2. The camera should be Monochrome or better.
3. Exposure times should at least range between 5  $\mu$ s to 60 s.
4. The sensor resolution should be 1392  $\times$  1040 Pixels or better.
5. The pixel size should be 6.45  $\mu$ m  $\times$  6.45  $\mu$ m or better.
6. Pixel output depth should be 14 bit or better.
7. Quantum Efficiency 65% or better @ peak.
8. Dark current should be 1e<sup>-</sup>/pixel/s or less.
9. Fullwell capacity should be 16000 e<sup>-</sup>(full frame) and 24000 e<sup>-</sup>(binning) or better.
10. Spectral range should be between 290 nm to 1100 nm or better.
11. Readout noise should be 5...7 e<sup>-</sup> rms@12 MHz(typ.) and 6...8 e<sup>-</sup> rms @24 MHz(typ.) or less.
12. Frame rate should be at least 7.3/13.5 fps (12/24 MHz, at full resolution) or better.
13. Smear should be less than 0.002%.
14. Nonlinearity should be less than 1%.
15. Binning should be 1  $\times$  1 and 2  $\times$  2 or better.
16. The data interface should be USB 2.0.
17. USB cable and software with SDK should be provided along with the camera.
18. The software should be able to capture video.
19. The camera should be compatible with popular third party software such as micro-manager and MATLAB.
20. The camera should be compatible with C-mount lenses. The camera should have female threads for mating with C-mount lens.

**Terms & Conditions**

1. Technical and Commercial bids are required to be submitted in separate sealed envelopes. Both these envelopes can be enclosed in a single envelope which should be clearly labeled as “**Quotation for CCD Camera**”.

2. Compliance chart conforming to the specifications as per the NIQ should be attached along with technical bid. A bid without the compliance chart shall be rejected (Note: The Compliance chart should match the specifications of the NIQ)
3. The Model number must be mentioned with the technical datasheet.
4. The bidder must be a reputed OEM or an authorized local agent.
5. List and addresses of organizations in India where similar equipment has been supplied should be provided.
6. If there is any Indian agent associated with the foreign supplier, then an appropriate "Letter of Authorization" certificate has to be provided with the quotation.
7. Validity of the quotation should be at least 120 days from the date of submission.
8. Quotation must indicate a delivery schedule, which in no case should exceed 8 weeks from the date of placement of order.
9. Please indicate the cost as FOB, IIT Delhi.
10. Payment will be made after satisfactory installation as per IIT norms.
11. Installation, commissioning and staff training expenses are to be borne by the supplier.
12. The Institute reserves the right to accept/reject any or all quotation without assigning any reason.
13. Taxes as applicable should be indicated clearly.
14. No advance payment will be possible.
15. Country of origin should be mentioned.

**Sealed quotations should reach the undersigned on or before August 11, 2014 by 11:00 a.m.**

Please quote best prices with appropriate discounts for academic institutions. The quotations can be sent to the undersigned:

Dr. Supreet Singh Bahga  
Department of Mechanical Engineering  
Indian Institute of Technology  
Hauz Khas, New Delhi- 110016