

Dear Representative,

Kindly send your best quotation for the following item with various accessories on C.I.P. Bangalore basis to the undersigned. Your quotations should clearly indicate the terms of delivery, delivery schedule, entry tax, payment terms etc. The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach the undersigned, duly signed on or before 1700 hours, November 28, 2019. The technical bid must include details of technical specifications of the equipment along with commercial terms and conditions; however the price components should NOT be shown.

The commercial bid must include the price of the item indicating the break-up of the following:

- (i) The price of the goods quoted on C.I.P. (Bangalore)
- (ii) The charges for any insurance and transportation upto Bangalore customs warehouse.
- (iii) The agency commission charges if any.
- (iv) The installation, training and commission charges, if any.

Please enclose a compliance certificate along with the technical bid.

Terms and conditions:

1. **The vendor should have qualified technical service personnel for the equipment, based in Bengaluru, India who can respond within 24 hours.** Else the equipment should be diagnosable online by the off-site manufacturer within 24 hours.
2. At least 1 year warranty from the date of delivery.

Both documents should be addressed to:

**The Chairman,**

**Solid State and Structural Chemistry Unit,**

**Indian Institute of Science**

**Bangalore 560012.**

Please deliver or mail both sealed quotations to:

**Vivek Tiwari,**

**Solid State and Structural Chemistry Unit,**

**Indian Institute of Science**

**Bangalore – 560012.**

**Instrument Name and description: Line CCD Camera for spectrometer, and compatible Frame Grabber with required accessories**

**Line CCD Specifications required:**

- Linear array of 1024 pixels, pixel size 14 micron x 28 micron or similar, 4 taps
- CameraLink Interface with data rate 160 MPixels/s or higher
- Automatic Flat Field correction
- Automatic Tap balancing
- Built-in Anti-blooming sensors, no lag technology
- Maximum Line Rate – 120 kHz or higher
- Bit Depth at maximum line rate and smallest camera gain – 12 bits
- CCD response at 840 nm, at maximum line rate and smallest camera gain – 120 LSB/nJ/cm<sup>2</sup>
- CCD Full Well Capacity – 312500 electrons, at maximum line rate and smallest camera gain
- Sensor response non-linearity 0.05% or smaller, peak to peak PRNU 1 % or smaller at maximum line rate and smallest camera gain
- Dynamic Range 70 dB or higher at maximum line rate and smallest camera gain
- Upto 32 dB gain, signal-to-noise ratio at minimum gain 48 dB or smaller
- RMS dark noise at minimum gain 1.3 LSB or smaller
- A standard C-mount adapter to mount the CCD camera on a spectrometer should be provided

**Frame Grabber Specifications required:**

- PCIe board type with Camera Link interface compatible with above CCD array operating in 4x12 bit/tap configuration
- 20 to 85 MHz or higher pixel acquisition clock rate
- 512 MB frame buffer or higher
- 4 configurable TTL outputs
- 4-optically isolated inputs, configurable as triggers or general purpose inputs, with upto 24VDC input signals
- SDK compatible with camera and frame grabber, compatible cables with required MDR or SDR connectors to interface the CCD camera with the frame grabber should be provided
- No other accessories or software should be required for satisfactory interfacing of the CCD camera and the frame grabber, and controlling them with a Windows 10 based operating system.