



INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
GT ROAD, KALYANPUR, KANPUR – 208016
UTTAR PRADESH, INDIA

TENDER REFERENCE NO.: IITK/AE/VA/SERB/2021-22/08

Bid Submission End Date- 14.04.2022

Tender Document

For

“Purchase of Synchronizer”

Tender document

Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur (UP) 208016 India

Tender Ref. No.: IITK/AE/VA/SERB/2021-22/08

Bid Submission Start Date: 24.03.2022

End Date: 14.04.2022 15:00 hrs

Sealed quotations are invited for Purchase of Synchronizer in two bid system ie. Technical bid & Financial bid.

Both Technical bid and Financial bid in separate envelopes must be kept in a big envelop which must be superscribed by **Name of Tender, Tender Reference number and bid submission end date**. Only Technically qualified bidders will be eligible for opening of financial bid.

The detailed specifications and address for bid submission is given below:

Technical Specification for “Synchronizer”

Internal Rate Generator	
<i>Rate (To Period)</i>	<i>0.001MHz to 20MHz (1000s to 50 ns)</i>
<i>Resolution & Accuracy</i>	<i>4 ns</i>
<i>Jitter</i>	<i><50 ps RMS</i>
<i>Burst/Duty Cycle Mode</i>	<i>1 to 1,000,000 pulses</i>
<i>Time base</i>	<i>200 MHz / 250MHz low jitter PLL</i>
<i>Oscillator</i>	<i>50 MHz, 50 ppm crystal oscillator, optional 1 pp clock</i>
<i>Pulse control Modes</i>	<i>Internal rate generator, external trigger /gate</i>
<i>System Output Modes</i>	<i>Single, continuous, burst, duly cycle, cycle counts</i>
<i>Pulse & Period Counter</i>	<i>32 Bit</i>
Pulse Delay Generation	
<i>Within/Delay / Resolution</i>	<i>4 ns</i>
<i>Width Range</i>	<i>10 ns – 1000 s</i>
<i>Width Accuracy</i>	<i>10 ns + 0.0001x(width + delay)</i>
<i>Delay Range</i>	<i>±1000 s</i>
<i>Delay Accuracy</i>	<i>4 ns /5 ns + (0.0001x delay)</i>
<i>Multiplexer</i>	<i>Any / all channels may be OR'd to any / All outputs. 2X the number of outputs via virtual channels for mixing</i>
<i>Channels Output Modes</i>	<i>Single shot, normal, burst, duly cycle</i>
<i>Channel control Modes</i>	<i>Internally triggered or externally gated. Each channel may be independency set to any or the modes.</i>
<i>Jitter (channel l to channel)</i>	<i><250 ps RMS</i>
Internal Gate/Trigger Input	
<i>Threshold</i>	<i>0.2 to 15 VDC</i>

<i>Max Input Voltage</i>	<i>30 V Peak</i>
<i>Gate Polarity</i>	<i>Active high/active low</i>
<i>Gate control Modes</i>	<i>Pulse inhibit /Output inhibit</i>
<i>Trigger Edge</i>	<i>Resining or falling</i>
<i>Trigger Rate</i>	<i>DC to 20 MHz</i>
<i>Trigger Input Jitter</i>	<i><5 ns RMS</i>
<i>Trigger Minimum Pulse Width</i>	<i>20 ns</i>
<i>Trigger Insertion, Delay</i>	<i><100 ns</i>
<i>Pulse Inhibit Delay</i>	<i><150 ns</i>
<i>Output Inhibit Delay</i>	<i><100 ns</i>
<i>Trigger Input Function</i>	<i>System can generate a single, burst or duly cycle response of pulse for every external trigger pulse.</i>
<i>Outputs</i>	
<i>Output Impedence</i>	<i>50 ohm</i>
<i>Output Level</i>	<i>3.3 – 5 VDC into ≥ 1 K ohm, 1.7 – 2.5 VDC into 50 ohm</i>
<i>Resolution</i>	<i>20 mV</i>
<i>Current</i>	<i>5, mA into, 1 K ohm, 50 mA into, 50 ohm</i>
<i>Rise Time</i>	<i>< 2ns @ 5 V (high impedance), < 1 ns @ 2.5 V (50 ohm)</i>
<i>Overshoot</i>	<i>< 100 mV + 10% of pulse amplitude</i>
<i>General</i>	
<i>USB</i>	<i>Standard USB 2.0</i>
<i>Baud Rate</i>	<i>Up to 115200 bits/ sec typ.</i>
<i>Voltage</i>	<i>+ 5 VDC \pm 250 mVDC</i>
<i>Current</i>	<i><470 mA</i>
<i>Dimension</i>	<i>7.125 x5.1x 1.5 inches (18.1 x 13 x 3.8 cm) 11b</i>

Quotations must reach on or before the bid submission end date to the address given below:

Dr. Vaibhav Arghode

Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur 208 016, India
Email: varghode@iitk.ac.in

Terms and Conditions:

1. All equipment must be compatible with Indian electrical standards and codes. Engineering documentation on the physical sizes and weights of all major and minor components must be submitted.
2. TENDER Specific Manufacturer Authorization Form from OEM Required.
3. IIT Kanpur is partially exempted from payment of GST (@5% only), IIT Kanpur will provide GST exemption certificate for the same (Govt. Notification and date of issue: 47/2017-Integrated Tax (Rate), dt. 14-11-2017).

4. The Institute reserves the right of accepting or rejecting any/all quotations without assigning any reason thereof.
5. All prices should be **F.O.R.**
6. Installation by OEM is preferred.

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: -

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: _____ as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)

Declaration for Local Content

**(To be given on Company Letter Head - For tender value below Rs.10 Crores)
(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above
Rs.10 Crores)**

Date: _____

To,
The Director,
Indian Institute of Technology Kanpur,
GT Road, Kalyanpur, Kanpur -208016

Sub: Declaration of Local content

Tender Reference No: _____

Name of Tender / Work: - _____

1. Country of Origin of Goods being offered: _____
2. We hereby declare that items offered has ____% local content.

“Local Content” means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

“False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.”

**Yours Faithfully,
(Signature of the Bidder, with Official Seal)**