

Government of India
Bhabha Atomic Research Centre
Beam Technology Development group
Trombay, Mumbai -400085

3rd Floor, 285-H, Mod. Labs.,
L&PTD, BARC, Trombay,
Mumbai-400 085
Date: 21/5/2022

Ref.: ATLAF/TLS/Works/SKMau/2022-2023/39209

Due Date: 17/05/2022

Sub: Minor Fabrication- Invitation of quotations

Dear Sir,

Quotations are invited for the “**Fabrication and Supply of 20 –channel High speed Photodiode amplifier (PDA) unit: 01 no.**” as per the enclosed specifications in annexure-1.

1. The bidder shall quote for fabrication & services of these components with material.
2. Taxes shall be quoted separately.
3. Quotations are to be in printed letter head / quotation format which should consist of GST tax, registration number registered with the local ST authority/ CST authority, PAN number etc.
4. The quotations via Indian postal service (speed/registered post) must reach. **Head- TLS by 17/05/2022 (due date)** and must be sent in a sealed envelope superscripted with the above **reference number and due date** given above.
5. The address on the envelope should read:
To,
**Head-TLS,
3rd floor, 285-H, Mod. Labs., L&PTD
Bhabha Atomic Research Centre,
Trombay, Mumbai-400 085.
Attn: Shri. S. K. Maurya**
7. The bidder shall have to take an insurance policy against any material issued to him by the purchaser.
8. The fabrication work shall be subject to inspection by our engineer. The finished components shall not be dispatched prior to approval by our engineer at bidder's works. Necessary inspection facilities shall be provided to our engineers during fabrication at bidder's premises.
9. The bidder shall deliver the finished components after the approval by our engineer, within **40 days** from the date of our firm work order is issued to the bidder. The finished components and the scrap from the free issue material (if any) shall be delivered by the bidder at Engg. Hall-6, L&PTD, BARC, Trombay, Mumbai-400 085.
10. Head- TLS, ATLAF BARC, reserves the right to accept/reject any or all quotations without assigning any reason.

Yours sincerely,

S. Kundu
(S KUNDU) 21/5/22.
Head-TLS, ATLAF,
BTDG

Encl.: Annexure-1.

Copy to:

- (1) BARC website (for uploading), Head SIRD.
- (2) Notice boards. V S Bhavan,
- (3) Accounts Officer (Works). CC.

श्री एस. कुंडू / Shri S. Kundu
अध्यक्ष, समस्वरणीय लेसर अनुभाग
Head, Tunable Laser Section,
एटीएलए - सुविधा, बीटीबीजी,
ATLA-Facility, BTDG
बीएआरसी, मुंबई - 400085.
BARC, Mumbai - 400085.

GENERAL SPECIFICATIONS

1.0 Free issue materials

- 1.1 The free issue supply material issued by the purchaser to the fabricator shall be covered by insurance policy taken by the fabricator at his own cost for its full value.
- 1.2 The insurance policy shall cover losses of damages to the purchaser's materials due to fire, riot, strikes, theft, civil commotion etc. or any other cause.
- 1.3 The insurance policy shall be valid till the date of actual delivery of the components to the purchaser.
- 1.4 The purchaser shall be named as the beneficiary.
- 1.5 The fabricator shall return the balance materials such as scraps, outputs, etc. after the fabrication to the purchaser.
- 1.6 Free issue material is NIL and shall be issued to fabricator/bidder at

2.0 Quality surveillance, inspection and inspection report

- 2.1 All works covered by the specification shall be subject to quality surveillance by the purchaser or his authorized representative for which purpose the fabricator shall allow access at all reasonable time during manufacture to
 - 2.1.1 The premises in which the work is being carried out.
 - 2.1.2 The drawing and/or tooling involved.
 - 2.1.3 Gauge, instruments, etc. required for inspecting the work.
- 2.2 Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.
- 2.3 The fabricator shall submit three copies of inspection report to the purchaser for approval.
- 2.4 Components found unsatisfactory as to workmanship or material shall be removed by fabricator and replaced by components which are satisfactory.
- 2.5 Fabricator shall use materials as specified by the purchaser and submit to the purchaser, the material test certificate for his approval.
- 2.6 The finished components shall not be dispatched prior to approval by our engineer at bidder's works.

3.0 Delivery

- 3.1 The bidder shall deliver the finished components within 40days from the date of firm work order issued to bidder.

4.0 Subcontract

- 4.1 The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible to the purchaser for all work of the sub-contractor of the fabricator, if allowed by the purchaser.

5.0 Tax/ GST as applicable.

- 5.1 **Income Tax @2%** /as applicable will be deducted from your bill.
- 5.2 Any delay which is attributable to the contractor is liable for penalty @ ½ % per week (max.5%) to be imposed on the contractor.
- 5.3 **PAN No. & GST no. shall be furnished** by the contractor along with the bill for payment.
- 6.0 **Guarantee certificate/warranty certificate** for a period of one year from the date of installation may be obtained from the party and forwarded along with the bills.
- 7.0 **Payment:** Payment shall be made only on satisfactory completion of work and on production of bill, advance stamped receipt and guarantee/warranty certificate.

8.0 **Confidentiality:**

- 8.1 No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as "Property" in nature by disclosing party shall be kept strictly confidential by receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.
- 8.2 "Restricted information" categories under section 18 of the Atomic energy Act, 1962 and "Official Secrets" under Section 5 of the Official act. Any contravention of the above mentioned provisions by any contractor, sub-contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.
- 8.3 Prohibition against use of BARC's name without permission for publicity purposes. The contractor or sub-contractor, consultant, advisor or employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like Press, Radio, TV or Internet without the prior written approval Of BARC.

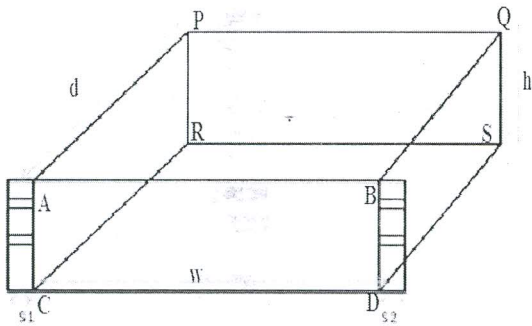
श्री. ए. ए. कुण्ड
Head, Tunable Laser Section,
एन. टी. ए. केंद्र,
ए. टी. ए. बिल्डिंग,
एन. टी. ए. - ४०००८५,
मुंबई - ४०००८५

ANNEXURE-1

Fabrication and Supply of 20 –channel High speed Photodiode amplifier (PDA) unit: 01 no.

Specifications/scope of work:

- Twenty identical PDA channels fabricated on two printed circuit boards/PCBs (10 PDAs circuits on each PCB). Both PCB should be mounted/stacked in a 3U 19" rack mountable aluminum enclosure.
- PCB and components placing:
 - Good quality double side PTH PCB (FR-4) with green masking and well finishing.
 - Components like IC-LM6181IN with socket, pot., Si PIN photodiode (**HR020L OSI Optoelectronics or S5973-01 Hamamatsu or equivalent**), right angle BNC female connector and 3-pin relimate connector for $\pm 12V$ supply with ground must be placed on top side only. Shortest possible signal routing should be preferred.
 - Surface mount device/SMD components like resistors and capacitors may be placed on both side of PCB.
 - Circuit schematic of single channel PDA is given in **diagram (2)**. Each circuit must be isolated from other.
 - Ground plane on bottom side and +12V power plane on top side of PCB.
 - Track width around 20-30mils.
 - Each type of component of circuit should be aligned in a row on PCB. Schematic of 10-channel PCB shown in **diagram (3)**.
 - Good quality female right angle PCB mount 50Ω BNC connectors with gold plated pins and plastic/PTFE insulation for output signals. Female right angle PCB mount 50Ω BNC connectors for output must be fitted on front of the enclosure unit and pins of the connectors should be soldered on PCB.
 - Photodiode pins must be soldered on PCB and its cylindrical head coupled with optical fibre of around 4mm OD.. Photodiode head should be covered along its length with cylindrical Teflon- insulation ring (1mm thick). Coupling arrangement is required on backplane of enclosure to couple fiber with photo diode.
- Good quality SMPS DC power supply (6A/ $\pm 12V$ /Ground) compatible with 230V AC $\pm 10\%$ /~50Hz input power cord and an ON-OFF illuminated rocker switch.
- One 3-pin connector on backplane of enclosure for entry of $\pm 12V$ & ground. Terminal strips fitted inside enclosure for wiring of $\pm 12V$ & ground to the PDA circuits.
- Rack mountable powder coated aluminium enclosure (thickness around 1.5mm) with good surface finishing: Dimensions (w x h x d): ~43 cm x ~13 cm x 7.5 cm, as given in **diagram (1)**. S1 & S2 are equal, w (max.) = 45cm, and maximum (S1+w+S2) = 48cm. Enclosure should open at least from front, back and top sides.



3U 19" rack mountable enclosure

Diagram (1): Schematic of enclosure

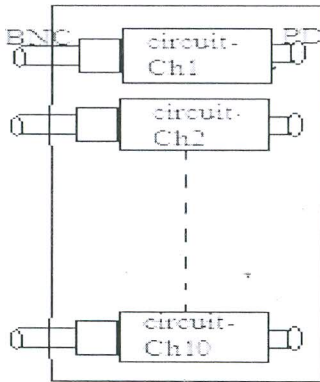


Diagram (3): Schematic of 10-channel PCB

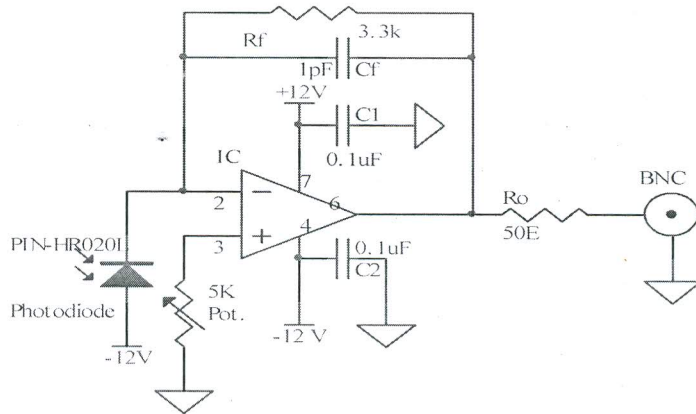


Diagram (2): Photodiode Amplifier (single channel)

Sruenid Kuma Maurya
(S.K. MAURYA)