

Tender Details

Tender No: ISTRAC/PURC/2018E0144201

Tender Date: 08/06/2018

Purchase Entity: PURCHASE

Tender Notice

Tender Notice No. ISTRAC/PURC/2018E0144201

Tender Attachments

Technical Documents Only : These documents will be sent to Vendor

Attachment - I:

IDT0023230000000000isro05401.pdf

Attachment - II:

Attachment - III:

Attachment - IV:

Attachment - V:

FORM B

INSTRUCTIONS TO TENDERERS:

GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

ISRO TELEMETRY TRACKING AND COMMAND NETWORK (ISTRAC)

Plot No. 12 & 13, 3rd Main, 2nd Phase

PEENYA INDUSTRIAL AREA, BANGALORE –560 058

INSTRUCTIONS TO TENDERERS AND TERMS AND CONDITIONS OF TENDERS FOR INDIGENOUS STORES ITEMS :

1.ISRO Telemetry Tracking and Command Network [ISTRAC] has implemented e-tender system for ONLINE tenders. ISTRAC invites offers through e-tender portal <https://e-procure.isro.gov.in> for the supply of items. The suppliers need to get enrolled in the e-tender portal to access tender and submit their offer online. Vendors need to have Digital Signature Certificate as detailed on our e-portal and corporate e-mail ID to register on the above portal. Only online tenders will be accepted. No Manual/Postal/courier/e-mail/Fax offers will be entertained. No Manual tender document will be issued by ISTRAC. Suppliers are requested to note and comply with the Instructions to tenderers for online submission of tenders through E-Procurement System indicated in the document "INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT".

2.Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be distinctly shown separately in the tender.

a.CST/VAT/SERVICE TAX:

With effect from 01.04.2007, Form-D has been withdrawn for Inter-State purchases by Government Departments. Accordingly, the suppliers have to indicate clearly the percentage of CST/VAT applicable. Service Tax if any applicable has to be clearly indicated.

b. EXCISE DUTY:

ISTRAC is eligible for Excise Duty Exemption under Ministry of Finance, Department of Revenue, Government of India, vide Central Excise Notification No.10/97-Central Excise, dated 01.03.1997 as amended by Notification No. 16/2007 dated 01.03.2007 and necessary Exemption Certificate will be provided.

3. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

4. a) Your quotation should be valid for 90 days from the date of opening of the tender.

b) Prices are required to be quoted according to the units indicated in the price bid form. When quotations are given in terms of units other than those specified in the price bid form, relationship between the two sets of units must be furnished.

5. Preference will be given to those tenders offering supplies from ready stocks and on the basis of FOR destination/delivery at site.

6. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be attached through online mode only.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically

mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

7. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

8. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

9. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

10. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

11. The authority of the person signing the tender, if called for, should be produced.

12. For items having shelf life, those with maximum shelf life should be supplied if order is placed.

13. The goods / material offered should be strictly as per our specifications. Change(s) in specifications, if any, should be clearly indicated by the supplier in his quotation. The supplier should also indicate make/type No. of the materials / equipments offered.

14. The drawings, specifications, end-use, etc., given by ISTRAC along with the tender enquiry, are confidential and shall not be disclosed to any third party.

15. In case of two-part tenders, parties shall submit their offers as follows:-

a) Part-I – Technical Bid:

Only Technical details shall be mentioned in this bid and shall not upload any details of price along with the technical bid. Vendor specified terms column is to be filled with out indicating any price details . If any Price detail is mentioned in the Technical Bid such offer shall be rejected.

b) Part-II – Price Bid:

Only the price details along with applicable taxes and other cost if any shall be indicated in the price bid form.

TERMS & CONDITIONS OF TENDER

1. DEFINITIONS:

(a) The term 'Purchaser' shall mean the President of India or his successors or assigns.

(b) The term 'Contractor' shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

c) The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

d)The term 'Purchase Order' shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

2. PRICES:

Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

3. SECURITY DEPOSIT:

On acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause 10(b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

4. GUARANTEE & REPLACEMENT:

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.

(b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use,

arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the Contractor are defective or any defect has developed within the said period of 12 months or as to whether the nature of the defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) PERFORMANCE BANK GUARANTEE: To fulfil guarantee conditions outlined in clause 4 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

(g) All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of the stores at purchaser's site.

(h) Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications then such a specification shall apply in such cases the period of 14 months referred to in para 4 (b) & (c) shall be the 'asked for' guarantee period plus two months.

5. PACKING FORWARDING & INSURANCE:

The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

6. DESPATCH:

The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

7. TEST CERTIFICATE:

Wherever required, test certificates should be sent along with the despatch documents.

8. ACCEPTANCE OF STORES:

(a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.

(b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.

(c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.

(d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. 8 (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

9. REJECTED STORES:

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

10. DELIVERY:

(a) The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the Contract and delivery must be completed on or before the specified dates.

(b) Should the Contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the purchaser shall be entitled at his option either.

(i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 0.5% per week of the price of any stores which the Contractor has failed to deliver as aforesaid or during which the delivery of such store may be in arrears subject to a minimum of 10%, or

(ii) to purchase from elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars, are not, in the opinion of the purchaser, readily procurable, such opinion being final) without cancelling the Contract in respect of the consignment (s) not yet due for delivery, or

(iii) to cancel the Contract or a portion thereof and if so desired to purchase or authorise the purchase of stores not so delivered or others of a similar description (where others exactly complying with the particulars are not, in the opinion of the purchaser, readily procurable, such opinion final) at the risk and cost of the Contractor.

In the event of action being taken under sub-clause (ii) & (iii) of clause 10 (b) above, the Contractor shall be liable for any loss which the purchaser may sustain on that account, provided that the re-purchase or if there is an agreement to re-purchase then such agreement is made within six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. The manner and method of such re-purchase shall be at the discretion of the purchaser, whose decision shall be final. It shall not be necessary for the purchaser to serve a notice of such re-purchase on the defaulting Contractor. This right shall be without prejudice to the right of the purchaser to recover damages for breach of Contract by the Contractor.

11. EXTENSION OF TIME:

As soon as it is apparent that the Contract dates cannot be adhered to, an application shall be sent by the Contractor to the purchaser. If failure, on the part of the Contractor, to deliver the stores in proper time shall have arisen from any cause which the purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances, of the case without prejudice to the purchaser's right to recover liquidated damages under clause 10 thereof.

12. ERECTION OF PLANT & MACHINERY:

Wherever erection of a plant or machinery is the responsibility of the Contractor as per the terms of the Contract and in case the Contractor fails to carry out the erection as and when called upon to do so within the period specified by the purchaser, the purchaser shall have the right to get the erection done through any source of his choice. In such an event, the Contractor shall be liable to bear any additional expenditure that the purchaser is liable to incur towards erection. The Contractor shall, however, not be entitled to any gain due to such an action by the purchaser.

13. PAYMENT:

a. Contractor's bill will be passed for payment only after the stores have been received, inspected and accepted by the Purchaser.

b. In case of AMC/CAMC the payment will be made on pro-rata quarterly basis after satisfactory completion of service for the respective quarter against submission of bills duly certified by Engineer in-charge, ISTRAC and endorsed by their Division Head

14. MODE OF PAYMENT:

Normally payment will be made for the accepted stores within 30 days from the date of receipt of the materials.

15. RECOVERY OF SUM DUE:

Whenever any claim for the payment of, whether liquidated or not, money arising out of or under this Contract against the Contractor, the purchaser shall be entitled to recover such sum by appropriating in part or whole, the security deposited by the Contractor, if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claim, whether liquidated or not, against the

Contractor under any other Contract with the purchaser, the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

16. INDEMNITY:

The Contractor shall warrant and be deemed to have warranted that all stores supplied against this Contract are free and clean of infringement of any Patent, Copyright or Trademark, and shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade mark and shall take all risk of accidents or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.

17. ARBITRATION:

In the event of any question, dispute or difference arising under these conditions or any conditions contained in the Purchase Order or in connection with this Contract (except as to any matter the decision of which is specially provided for by these conditions), the same shall be referred to the sole arbitration of the Head of the Purchase office or some other person appointed by him. It will be no objection that the arbitrator is a Government servant, that he had to deal with matter to which the Contract relates or that in the course of his duties as Government servant he has expressed views on all or any other matters in dispute or difference. The award of the arbitrator shall be final and binding on the parties of this Contract.

If the arbitrator be the Head of the Centre/Unit –

(i) In the event of his being transferred or vacating his office by resignation or otherwise, it shall be lawful for his successor-in office either to proceed with reference himself, or to appoint another person as arbitrator, or

(ii) In the event of his being unwilling or unable to act for any reason, it shall be lawful for the Head of the Centre/Unit to appoint another person as arbitrator.

If the arbitrator be a person appointed by the Head of the Purchase Office –In the event of his dying, neglecting or refusing to act or resigning or being unable to act, for any reason, it shall be lawful for the Head of the Centre/Unit either to proceed with the reference himself or appoint another person as arbitrator in place of the outgoing arbitrator.

Subject as aforesaid the Arbitration & Conciliation Act 1996 and the rules thereunder and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this Clause. The Arbitrator shall have the power to extend with the consent of the purchaser and the Contractor the time for making and publishing the award. The venue of arbitration shall be the place as purchaser in his absolute discretion may determine. Work under the Contract shall, if reasonably possible, continue during arbitration proceedings.

In the event of any dispute or difference relating to the interpretation and application for the provisions of the Contracts, such dispute or difference shall be referred by either party to Arbitration of one of the Arbitrations in the Department of Public Enterprises. The Arbitration Act 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute provided however any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Govt. of India. The parties to the dispute will share equally, the cost of arbitration as intimated by Arbitrator.

18. COUNTER TERMS AND CONDITION OF SUPPLIERS:

Where counter terms and conditions printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the Purchaser, unless specific written acceptance thereof is obtained.

19. SECURITY FOR PURCHASE OF MATERIALS:

Successful tenderer will have to furnish in the form of a bank guarantee or any other form as called for by the purchaser towards adequate security for the materials and properties provided by the Purchaser for the due execution of the Contract.

20. Bank Guarantee towards Free Issue Materials (FIM):

The successful Tenderers shall furnish Bank Guarantee (BG) towards the cost of Free Issue Materials issued by Purchaser towards adequate Security for the FIM for the execution of the Contract. The BG is to be kept valid till supply and acceptance of the final product.

21. Earnest Money Deposit/Bid Security:

a. The Tender should be accompanied with an Earnest Money Deposit for a prescribed amount wherever called for in the Notice Inviting Tender [NIT]. Foreign vendors, registered vendors or vendors who have already applied for renewal of registration, Central PSUs/ PSEs/ Autonomous Bodies, Micro and Small Enterprises, KVIC, National Small Industries Corporation, etc., are exempted from the payment of EMD.

b. In case, the vendors are falling under the category of MSME, registered under NSIC and would like to avail exemptions, their quotations should be accompanied with necessary registration certificate with declaration to consider their offer. Quotation received without such declaration and valid registration certificate will not be considered for exemptions under Public Procurement Policy.

22. Risk Purchase:

In case Contractor fails to deliver and install the Stores/Equipment or any part thereof, within the period fixed for such delivery and installation or at any time repudiates the Contract before expiry of such period, the purchaser is entitled to terminate or cancel the Contract and to repurchase the stores not delivered at the risk and cost of the contractor and the contractor shall be liable for any loss which the Purchaser may sustain on that account limited to the contract value.

23. Parallel Contract:

ISTRAC reserves the right to enter into Parallel Contract/s with one or more Contractors.

INSTRUCTIONS TO TENDERERS AND TERMS AND CONDITIONS OF TENDERS FOR IMPORTED STORES ITEMS:

1.ISRO Telemetry Tracking and Command Network [ISTRAC] has implemented e-tender system for ONLINE tenders. ISTRAC invites offers through e-tender portal <https://e-procure.isro.gov.in> for the supply of items. The suppliers need to get enrolled in the e-tender portal to access tender and submit their offer online. Vendors need to have Digital Signature Certificate as detailed on our e-portal and corporate e-mail ID to register on the above portal. Only online tenders will be accepted. No Manual/Postal/courier/e-mail/Fax offers will be entertained. No Manual tender document will be issued by ISTRAC. Suppliers are requested to note and comply with the Instructions to tenderers for online submission of tenders through E-Procurement System indicated in the document "Instructions-for-Online-Submission-of tenders-EGPS.pdf".

2.Suppliers are requested to submit their offer/quotation online complete in all respects with technical specifications, including pamphlets and catalogues.

3.In case of two-part tenders, parties shall submit their offers as follows:-

a) Part-I – Technical Bid:

Only Technical details shall be mentioned in this bid and shall not upload any details of price along with the technical bid. Vendor specified terms column is to be filled with out indicating any price details. If any Price detail is mentioned in the Technical Bid such offer shall be rejected.

b) Part-II – Price Bid:

Only the price details along with applicable taxes and other cost if any shall be indicated in the price bid form.

4. The offer shall contain the following information as applicable. A Proforma Invoice may also be attached containing the following information :

a)The FOB/FCA value, the C & F value for import by Sea freight / Air freight up to and for air parcel post up toshould be separately indicated.

b)Agency Commission: The amount of commission included in the price and payable to the Indian Agent of the Contractor shall be paid directly to the Indian Agent by the Purchaser in equivalent Indian Rupees on the basis of an Invoice from him applying T.T. buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. This payment will be released to the Indian Agent immediately after Customs clearance of the goods in India.

c)The Contractor shall invoice only for the net amount payable to him, after deducting the amount of Agency Commission included in the invoice which will be paid to the Indian Agent directly by the Purchaser. However, the Contractor's invoice should separately reflect the amount of commission payable to his Indian Agent.

d)The earliest delivery period and country of origin of the Stores.

e)Banker's name, address, telephone/fax Nos. & e-Mail ID of the Contractor.

f)The approximate net and gross weight and dimensions of packages /cases.

g)Recommended spares for satisfactory operation for a minimum period of one year.

h)Details of any technical service, if required for erection, assembly, commissioning and demonstration.

5. The FOB/FCA and C & F prices quoted should be inclusive of all taxes, levies, duties arising in the tenderer's country.

6.The offer should be valid for a minimum period of 120 days from the due date of opening of the tender.

7.Samples, if called for, should be sent free of all charges.

8.Offers made by Indian Agents on behalf of their Principals, should be supported by the proforma invoice of their Principals.

9. The details of Import License will be furnished in the purchase order.

10.The authority of person signing the tender, if called for, shall be produced.

11.Instructions / Operation Manual containing all assembly details including wiring diagrams should be attached through online mode only. All documents /correspondence should be in English language only.

12.The Purchaser reserves the right to accept or reject the lowest or any offer in whole or part without assigning any reason.

13.It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

14.a)Part shipment is not allowed unless specifically agreed to by us.

b)As far as possible stores should be despatched by Indian Flag Vessels /Air India through any Agency nominated by us.

15. Inspection / Test Certificate should be provided for the goods after testing it thoroughly at the Contractor's works. If any Inspection by Lloyds or any other testing agency is considered necessary, it shall be arranged by Contractors.

16. Where erection or assembly or commissioning is a part of the Contract, it should be done immediately on notification. The Contractor shall be responsible for any loss/damage sustained due to delay in fulfilling this responsibility.

17. For items having shelf life, those with maximum shelf life should be supplied if order is placed.

18. The goods / material offered should be strictly as per our specifications. Change(s) in specifications, if any, should be clearly indicated by the supplier in his quotation. The supplier should also indicate make/type No. of the materials / equipments offered.

19. Indian Agents while quoting on behalf of their principals shall attach necessary authorization letter from their Principals along with the bid.

20. In a tender, either the Indian Agent on behalf of the Principal/OEM or Principal/ OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

21. If an Indian agent submits bid on behalf of the Principal/OEM, the same Indian agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

22. If a firm quotes 'Nil' charges/consideration, the bid shall be treated as unresponsive and will not be considered;

23. The drawings, specifications, end-use, etc., given by ISTRAC along with the tender enquiry, are confidential and shall not be disclosed to any third party.

TERMS AND CONDITIONS OF THE TENDER:

1. DEFINITIONS:

- (a) The term 'Purchaser' shall mean the President of India or his successors or assignees.
- (b) The term 'Contractor' shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's Successors, representatives, heirs, executors and administrators unless excluded by the Contract.
- (c) The term 'Purchase Order' shall mean the communication signed on behalf of the Purchaser by an officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the Tender or offer of the Contractor for supply of stores of plant, machinery or equipment of part thereof.
- (d) The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.

2. PRICES:

Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.

3. TERMS OF PAYMENT:

3.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. However, other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon.

3.2 The Sight Draft / Letter of Credit will be operative on presentation of the undermentioned documents:

a) Original Bill of Lading / Airway Bill

b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts, if any, and Agency Commission separately.

c) Packing List showing individual dimensions and weight of packages.

d) Country of Origin Certificate in duplicate.

e) Test Certificate.

f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the Stores are guaranteed as per the specifications asked for by the Purchaser.

g) Warrantee and guarantee Certificate/s vide Clause 20 herein below

4. IMPORT LICENCE:

Reference to Import License No. & date and Contract number & date shall be prominently indicated in all the documents vide para 3.2

5. DEMURRAGE:

Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in para 3.2 to the bankers within a reasonable time (say within 10-12 days) from the date of bill of lading for sea consignments and within 3-4 days from the date of Air Way Bill for air consignments.

6. ADDRESS OF INDIAN AGENTS:

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7.GUARANTEED TIME DELIVERY:

The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

8.INSPECTION AND ACCEPTANCE TEST:

8.1 The Purchaser's representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractor's premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchaser's representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractor's premises. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.

8.2 For tests on the premises of the Contractor or of any of his sub-Contractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchaser's representative to carry out the tests efficiently.

8.3 When the stores have passed the specified test, the purchaser's representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test/s certificates to the purchaser as may be required.

9.MODE OF DESPATCH:

Generally, stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser. A copy of the invoice and packing list should invariably be kept inside each of the packages.

10.PORT OF ENTRY:

Thiruvananthapuram/Chennai/Mumbai/Hyderabad/Bangalore/.....

11.CONSIGNEE:

Purchase & Stores Officer(Stores)

Plot No. 12 & 13, III Main, II Phase,

Peenya industrial Area,

Bangalore-560058

12.SHIPPING MARKS.

The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follow:

PURCHASE ORDER NO.

DATED

GOVERN MENT OF INDIA

DEPARTMENT OF SPACE

ISTRAC/ISRO

Plot No. 12 & 13, III Main, II Phase,

Peenya industrial Area

Bangalore-560058

Destination: &

Port of Entry:

13.INSURANCE OF THE STORES:

The necessity or otherwise of insurance will be as indicated in the PurchaseOrder.

14.CONTRACTOR'S DEFAULT LIABILITY:

14.1The purchasermay upon written notice of default to the Contractorterminate the Contract in whole or in part in circumstancesdetailedhereunder:

a) If in the judgement of the Purchaser the Contractor fails to makedelivery of Stores within the time specified in the Contract/agreement orwithintheperiodforwhichextensionhasbeengrantedbythePurchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply withany of the other provisions of this Contract.

15.In the event the Purchaser terminates the Contract in whole or in part asprovided in Clause 14 the Purchaser reserves the right to Purchase, upon suchterms and in such a manner as he may deem appropriate, stores similar to thatterminated and the Contractor shall be liable to the Purchaser for any additionalcosts for such similar stores and/or for liquidated damagesfor delay as defined inClause 19 until such reasonable time as may be required for the final supply ofstores.

15.1 If this Contract is terminated as provided in Clause 14 the Purchaser in additionto any other rights provided in this Article, may require the Contractor tottransfer title and deliver to the Purchaser under any of the following clauses inthe manner and as directed by the Purchaser:

a)Any completed stores.

b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the purchaser and for manufacturing material delivered and accepted.

15.2 In the event the Purchaser does not terminate the Contract as provided in Clause 14, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delays set out in Clause 19 until the stores are accepted.

16. REPLACEMENT:

If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.

17. REJECTION :

In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either –

a) replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or

b) terminate the Contract for default as provided under clause 14 above, or

c) acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser's rights under clause 19.

18. EXTENSION OF TIME:

If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restriction, strikes, freight embargoes, etc., the Contractor shall give notice within 15 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

19. DELAY IN COMPLETION / LIQUIDATED DAMAGES:

If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.

20. GUARANTEE & REPLACEMENT:

a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down for material, workmanship and performance.

b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein are found to have developed under proper use arising from faulty

materials, design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the Purchaser who shall state in writing in what respect the stores or any parts thereof are faulty.

c) If in the opinion of the purchaser it becomes necessary to replace or renew any defective stores, such replacements or renewals shall be made by the Contractor free of all costs to the purchaser provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

e) The decision of the Purchaser, notwithstanding any prior approval or acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the Contractor are defective or any defects have developed within the said period of 12 months or as to whether the nature of the defects requires renewal or replacement shall be final, conclusive and binding on the Contractor.

f) PERFORMANCE BANK GUARANTEE:

To fulfill guarantee conditions outlined in Clause 20 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser - Bank Guarantee format enclosed) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

g) All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at purchaser's site.

h) Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications, then such a specification shall apply, and in such cases, the period of 14 months referred to in Clause 20 (b) and (c) shall be asked for guarantee period plus two months.

21. REQUIREMENT OF ADDITIONAL NUMBERS OF THE STORES/SPARE PARTS ORDERED:

The Contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date, the actual price to be paid shall be mutually agreed to after negotiations.

22. PACKING:

a) The Contractor wherever applicable shall pack and crate all stores for sea / air shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail or sea for space qualified stores. The Contractor shall be held responsible for all damages due to improper packing.

b) The Contractor shall ensure that each box / unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.

c) The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.

d) The Contractor shall give complete shipment information concerning the weight, size, content of each packages, etc.

e) Transshipment of equipment shall not be permitted except with the written permission of the purchaser.

f) Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air-consignments:

a) Commercial Bill of Lading / Air Way Bill / Post parcel Receipt. (Two non-negotiable copies)

b) Invoice (3 copies)

c) Packing List (3 copies)

d) Test Certificate (3 copies)

e) Certificate of Origin.

The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

23. ARBITRATION:

If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the adjudication of two arbitrators, one to be nominated by purchaser, other by a Contractor and in the event of any difference of opinion, the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However, the venue of such arbitration should be in India.

24. LANGUAGE AND MEASURES:

All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

25. INDEMNITY:

The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark, and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfillment of the Contract.

26. COUNTER TERMS AND CONDITIONS OF SUPPLIERS:

Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.

27. SECURITY INTEREST:

On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

28. BANK CHARGES:

While the purchaser shall bear the bank charge payable to his Bankers (State Bank of India), the Contractor shall bear the Bank charges payable to his Bankers including the cheques towards advising amendment commissions.

29. TRAINING:

The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchaser's engineering / technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract / stores, number of such personnel to be mutually agreed upon.

30. APPLICABLE LAW:

The Contract shall be interpreted, construed and governed by the laws of India.

31. Bank Guarantee towards Free Issue Materials (FIM):

The successful Tenderers shall furnish Bank Guarantee (BG) towards the cost of Free Issue Materials issued by Purchaser towards adequate Security for the FIM for the execution of the Contract. The BG is to be kept valid till supply and acceptance of the final product.

32. Customs Duty:

ISTRAC is eligible for concessional Customs duty @ 5.15% vide Notification No. 51/96-Cus dated 23.07.1996 as amended vide Customs Notification No. 24/2007 dated 01.03.2007. The necessary Customs Duty Exemption Certification [CDEC] shall be provided by ISTRAC for Imported Items. Tenderers are requested to take note of this aspect while submitting the offer wherever applicable.

33. High Sea Sale:

Tenderers submitting offer[s] against High Sea Sale Trade, the price of such offers be in Indian Rupees only and shall be inclusive of Freight and Clearance Charges for delivery up to ISTRAC, Bengaluru. The offers shall be Firm, Fixed Price without any variation in Exchange Conversion Rate whatsoever. No Sales Tax will be applicable for High Sea Sale. Customs Duty Exemption Certificate 51/96 will be provided by ISTRAC. Customs Duty at actuals will be reimbursed against documentary evidence such as Bill of Entry.

34. Earnest Money Deposit/Bid Security:

a.The Tender should be accompanied with an Earnest Money Deposit for a prescribed amount wherever called for in the Notice Inviting Tender [NIT].Foreign vendors, registered vendors or vendors who have already applied for renewal of registration, Central PSUs/ PSEs/ Autonomous Bodies, Micro and Small Enterprises, KVIC, National Small Industries Corporation, etc., are exempted from the payment of EMD.

b.In case, the vendors are falling under the category of MSME, registered under NSIC and would like to avail exemptions, their quotations should be accompanied with necessary registration certificate with declaration to consider their offer. Quotation received without such declaration and valid registration certificate will not be considered for exemptions under Public Procurement Policy.

35. Risk Purchase:

In case Contractor fails to deliver and install the Stores/Equipment or any part thereof, within the period fixed for such delivery and installation or at any time repudiates the Contract before expiry of such period, the purchaser is entitled to terminate or cancel the Contract and to repurchase the stores not delivered at the risk and cost of the contractor and the contractor shall be liable for any loss which the Purchaser may sustain on that account limited to the contract value.

36. Parallel Contract:

ISTRAC reserves the right to enter into Parallel Contract/s with one or more Contractors.

INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT

INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM:

GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

ISRO TELEMETRY TRACKING AND COMMAND NETWORK (ISTRAC)

Plot No. 12 & 13, 3rd Main, 2nd Phase

PEENYA INDUSTRIAL AREA, BANGALORE –560 058

Phone No.: 080-28376383 Fax: 080-28094061 E-mail: purchase@istrac.org

1. Conditions for online submission of tenders:

1.1. It is mandatory for interested parties to register as vendors in our e-procurement portal <https://eprocure.isro.gov.in> for participating in online eProcurement process of ISRO. Only registered vendors can submit their offers online in our eProcurement portal.

1.2. To register as vendors please refer to the help demos listed on the home page of the e-procurement link mentioned above. They may approach help desk (contact details provided on the home page) for any technical help for registration and subsequent process.

1.3. Bidders shall arrange themselves all resources, including Digital signature certificates and Internet Connections at their own cost, for participating in online tendering.

1.4. Vendors can download the tender details and submit their offers online using their vendor accounts (obtained during registration) in our portal. Help demos for tender download and bidding processes are given on home page. 1.5. The tender should be submitted online in the ISTRAC link before the due date and time as specified in the tender schedule in the portal.

1.6. Vendors shall also take note of other Instructions to tenderers indicated in the tender documents.

2. Procedure for seeking clarifications/help for the tender:

2.1. All enquiries regarding the tenders and submission of offers shall be online and only through our eProcurement portal.

2.2. Vendors may approach help desk e-mail id and phone number given on the home page for any technical help (e-mail: support.isro@nextenders.com and Ph: 020-30187500).

3. Procedure for reporting technical issues, if any, in online submission:

3.1. In case bidder encounters any technical snag pertaining to e-procurement system while acting on the tender, computer screen shot of the error message with date & time stamp on the web-browser along with the query shall be e-mailed by the bidder to the help desk (as mentioned above) for problem resolution at least 24 hours before the due date and time of the tender.

3.2. The time taken to ascertain, evaluate and suggest a solution for the problem reported by vendor may vary from case to case. Hence vendors are advised to submit the bid well in advance before closing date and time to avoid last minute issues.

3.3. ISTRAC shall not be responsible for failure of vendors in submitting bids online caused due to technical reasons at vendor end such as network or power failures, computer failure, internet-browser, mistakes / errors in filling the bids on line by vendor etc.

3.4. Queries by vendors on technical problems on the last day of tender will not be binding on ISTRAC/ISRO for resolving/addressing. ISTRAC will not be responsible for non-submission of bids for those cases.

4. Terms & conditions for extension of Tender Due Date:

4.1. The Server Date & Time as appearing on our website <https://eprocure.isro.gov>. in shall only be considered for the cut-off date and time for receipt of tenders.

4.2. Request, if any, for extension of tender due date shall reach ISTRAC at least 4 working days in advance of due date and time for consideration. ISTRAC is not bound by such requests to extend the due date unless it feels necessary.

4.3. The e-procurement system does not permit submission of any offer after closing date and time of the e-tender. Hence, there is no scope for any late or delayed offer in the on-line bidding process. Requests for extension of due date and time citing technical issues in online submission of offers will not be entertained.

4.4. In case there is complete breakdown of eProcurement system on the last day of the tender for any reason then ISTRAC may extend the date for submission after their own assessment.

5. Reworking on Submitted bids:

5.1. Vendors have to note that once rework is initiated the status of the earlier submitted bid becomes Pending till the bidding process is completed once again. During the process of rework earlier submitted bid data becomes invalid and will not be available for opening. If rework is initiated then vendor has to complete the entire process of bid submission once again within the due date and time for a valid bid submission.

5.2. ISTRAC will not be responsible for non submission of bids resulting due to failure of vendor to once again complete the process of bid submission before due date after reworking of submitted bid is initiated.

5.3. Please note that unsolicited clarifications / changes / modifications sought by the vendors after submitting their bids will not be considered.

6. Procedure for filling offers online:

6.1. Vendors may please note that in case of two-part tender, the price details shall be mentioned only in the price-bid template. If the price details either in part or full are indicated in the technical bid, the bid will be disqualified.

6.2. Vendors may note that in e-procurement system submission of bid is a two-step process. After submission of their bids, vendors have to wait for bid sealing by ISTRAC purchase officer. Following that vendors have to submit open authorization in the e-procurement system to enable the purchase officer to open the bid. If open authorization is not completed by the vendor then purchase officer will not be able to open the bid and the bid becomes invalid.

7. Using Digital Certificates for online submission:

7.1. Vendors may note that digital keys of class-III USB tokens, which supports both digital signing and encryption are to be used for bidding in ISTRAC e-procurement system.

7.2. Vendors may note that they have to use the same digital key with which they submitted the bid to give open authorization. If vendors use different key for open authorization, the system will not accept the open authorization and the bid becomes invalid.

7.3. In case the digital key which is used during bid submission expires before giving open authorization, then vendor has to first login with the new key and use the expired key for completing open authorization process for the bid.

8. Uploading files in to E-procurement portal:

8.1. Vendors may please note that the maximum file size that can be uploaded per attachment in e-procurement system is 4 MB. If the document is more than 4 MB then the document is to be split into multiple documents of size less than 4 MB and upload into attachments. Literature / Technical data should accompany the quotation.

8.2. Similarly, if the number of files to be uploaded is more than the number of attachments allowed in the tender then group the files into folders such that the number of folders is less than the number of

attachments. Further zip/archive the folders and upload as attachments. However, the attachment size should still be less than 4 MB.

8.3.Vendors may note that documents including Literature / Technical data are to be uploaded through e-procurement system only.

Bid Templates

Document Solicited from Vendor

Attachment 1:

Attachment 2:

System Description

Item Specifications

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1.0	ISTRAC is using Zodiac data system make CRT-XL TTC processors since year 2007 for TTC support for its satellite and launch vehicle missions. Under this RFP ISTRAC, is willing to procure new latest CRT-Q (or equivalent) TTC			

	processor with latest state of the art hardware and software elements by offering the old CRT-XL systems as a buyback option. The new TTC Processor shall be capable of providing Telemetry data acquisition, tele-command generation and modulation, ranging and Doppler measurement, simulation etc., The offered TTC processor should functionally adhere to all technical requirement listed in the attached document.			
1.1	The TTC Processor shall receive two orthogonally polarized (RCP & LCP) 70 MHz down converted signals; perform pre-detection diversity combination and carryout Phase, Frequency, BPSK and QPSK demodulation of the carrier.			

1.2	In case of direct PCM/PM, PCM/FM, PCM/BPSK, PCM/QPSK, PCM/OQPSK and PCM/SOQPSK modulated signals, the unit shall bit and frame synchronize the demodulated PCM signal, carry out CCSDS decoding, if required, and make it available as formatted and time tagged data on a TCP/IP and UDP/IP (selectable).			
1.3	In case of PCM/PSK/PM modulated signals the unit shall also carry out PSK sub-carrier demodulation, bit and frame synchronization, for two sub-carriers simultaneously and make both data streams available as formatted and time tagged on a TCP/IP bus.			
1.4	The unit should be able to output data without a			

	break, even if the bit rate changes (with also frame size change) in between, by having suitable configuration (i.e. by configuring two separate TM demodulator for different data rates).			
1.5	<p>The system should have CCSDS standard Derandomizer, Viterbi, Reed-Solomon and Turbo Decoders for both streams for all kinds of modulations. The TTC Processor shall, in the uplink chain, phase or frequency modulate the internally generated range tones and the tele-command video or the externally provided ISRO standard Tele-command video, either one at a time or simultaneously, on a 70 MHz carrier and the 70 MHz modulated output shall be provided for further up conversion.</p>			

	Noise generator for simulation at 70 MHz, shall also be provided as an internal part of the system. The modulator shall also accept external simulation signal for modulation.			
1.6	The uplink module shall also consist of a CCSDS compatible Tele-command encoder/ controller for the generation of CCSDS standard command signals and the PSK sub-carrier modulator.			
1.7	It shall house a, continuous-tone ranging system, with major tone of 100 KHz and harmonically related minor tones up to 8 Hz (ESA-100 Standard) including ESA programmable tones, USB standard, for the measurement of slant range. It shall also provide the Range rate			

	information, by measuring the two-way Doppler shift. The range and the range rate data shall be made available on the TCP/IP bus after formatting and time tagging.			
1.8	The system shall accept 5/10 MHz external frequency reference to which all the signal sources of different functions will be phase locked.			
1.9	The system shall accept IRIG-B mod. code for deriving time information. Can have optional NTP/PTP client for locking to time information.			
1.10	The system shall also have a simulation and testing function, like BER measurement with an internal base band noise source, for internal and long loop checks.			

1.11	The system shall have local and remote monitor and control through TCP/IP (1000/100 Base T or more) bus. System shall offer 8" TFT / LCD monitor with KB/mouse functionality for local control.			
1.12	Please see attached PDF document along with this RFP for all details requirements and offer Compliance accordingly.			

Telemetry Processing

Item Specifications -I

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
2.0	The receiver shall perform the following functions.1. Receives two orthogonal (Channel RCP and LCP) polarizations of IF signals at 70 MHz with independent acquisition			

	management.2. Tracking of both IF channels using two, second order PLLs.3. Anti-sideband facility using FFT selectable.4. Optimal Ratio Pre-detection diversity combination of channels A and B.5. Automatic recovery of data frame lock even in case of modulation On/Off, in presence of carrier, for all kind of modulation. 6. Doppler measurement from the best channel or combined received signal.			
2.1	Input Frequency: 70 MHz +/-4 MHzInput bandwidth: +/-15 MHz min. (3 dB)Dynamic Range: -20 dBm to -100 dBm			
2.2	No. of IF Receivers: Minimum two (one for RHCP & LHCP signal each)No. of IF ports per receiver: 2 (Main and alternate)Isolation			

	between inputs: >60 dB				
2.3	Impedance: 50 Ohms.VSWR: Better than 1.4:1				
2.4	Noise Figure: 10 dB (Typical) or better Noise Density: -100 dBm/Hz Max.				
2.5	Loop BW: 10, 30, 100, 300, 1000, 3000 Hz Selectable Acquisition Range: Up-to +/-500 KHz Selectable				
2.6	AGC Time Constant: 1,10,100,1000 msec. Selectable Should hold lock for a variation of 30 dB/sec within dynamic range.AGC Type: Non-coherent before carrier Acquisition, there after Coherent. AGC Output: Analog / Digital				
2.7	Lock in threshold (PM): 10 dB (8 dB desirable) C/N in Selected PLL BW Anti side				

	band: Using FFT technique, On/OFF SelectableCapable of locking correctly to carrier under the following signal dynamics and varying modulation formats, by analyzing spectral symmetry. 1) Max. doppler: 10 KHz. 2) Max. doppler rate: 10 KHz/sec 3) Max. Fade Rate: 20 dB/sec			
2.8	Threshold degradation with ASB On: <1 dB Acquisition time (with ASB on): < 1 sec			
2.9	Combiner Type: Optimal ratio/pre-detection combiner Combiner modes: CH-A, CH-B, CombinedCombiner Improvement: i) Within 0.5 dB of theoretical, when diff. Between channels is less than 10 dB. ii) Best channel selected when S/N			

	difference between channels exceed 10 dB, with hysteresis to avoid frequent toggling at cross-over point.			
2.10	Demodulation Modes: PM, FM, BPSK, QPSK, OQPSK, GMSK, UQPSK Demodulation Frequency Response: i) Sub-carrier freq. upto 2000 KHz.ii) Direct PCM/PM (Biphase-L) and BPSK and QPSK/OQPSK having basic data rate of 20 Mbps. 40 Msymbols/s with Viterbi & RS coding.Up-to 10 Mbps with Turbo Code (rate $\frac{1}{2}$).			
2.11	PM demodulation index: 2 rad. Max.FM Max. Deviation: 20 MHz.FM Threshold: <6 dB AFC range for FM demodulation: up to +/- 250 KHz			
2.12	Doppler Measurement: On best channel selected or			

	for combined signal (with hysteresis to avoid toggling) i) Resolution: 0.01 Hz. ii) Accuracy: 0.1 Hz. RSS @ -65dBc phase noise iii) Data Format: As per agreed ICD. iv) Time tagging Resolution: 0.1 milli sec.			
2.13	Group Delay Stability: <10 nsec over signal dynamic range <5 nsec over 8 hours < 15 nsec over carrier frequency < 5 nsec over temperature			
2.14	Type of demodulation: PCM/BPSK Code: Bi-phase (L,M,S) or NRZ (L,M,S) Bi-phase ambiguity resolution: Automatic.			
2.15	Sub-carrier Frequency Range: 5 KHz to 2 MHz in 1 Hz step No. of sub-carrier to be processed: 2, Simultaneously PCM bit rate (For sub-carrier modulation): 100 bps to			

	256 Kbps in 1 bit step				
2.16	PCM bit rate for direct modulation: Up-to 20 Mbps basic data rate (with Bi-phase decoding). Upto 40 M symbols/s with Viterbi & RS coding for direct PCM/PM, PCM/FM, BPSK and all variants of QPSK (I+Q) modulation. Up-to 10 Mbps with Turbo Code (rate $\frac{1}{2}$). Capability to handle a bit rate change over, in high rate direct PCM modulated stream and provide continuous data without break.				
2.17	Sub-carrier loop BW: 0.03, 0.1, 0.3, 1, 3% of bit rate PCM loop BW: 0.03, 0.1, 0.3, 1, 3% of bit rate Sync. Threshold: E_b/N_0 ≥ 0 dB.				
2.18	Bit sync fly-wheeling: Should be able to hold lock for data containing 128 bits of continuous zeros or ones, with 1000 bits				

	gap.PSK demod./ Bit sync. Performance: <1 dB of theoretical up to 5 Mbps <2 dB of theoretical up to 10 Mbps			
2.19	De-randomizer: CCSDS Standard - latest applicable			

FRAME SYNCHRONIZER and TC encoder

Item Specifications -II

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
3.0	The frame sync. Shall perform the following functions1. Frame locking using dedicated sync. word by classical locking phases of Search, Check and Lock.2. For all kinds of modulation, the frame sync should be able to lock automatically, without the need for manual receiver re-acquisition, when the			

	modulation is made OFF and ON in between, with the carrier being present continuously.3. Processing of 2 TM streams simultaneously. 4. Automatic BPSK / QPSK ambiguity resolution.5. CCSDS standard RS, Viterbi and Turbo decoding & Packet Telemetry Processing.			
3.1	Bit rate: Net 100 bps-20 Mbps without coding. (With Bi-Phase Decoding). Up to 40 Msps with RS & Viterbi code. Turbo code (rate $\frac{1}{2}$) up-to 10 Mbps (20 Msps).			
3.2	Sync. Pattern Length: 16 to 32 bits programmable. Unit shall also support FSP length up-to 64 bits programmable.3. Sync. Window: 1 or 3 bits			
3.3	Word Length: 8 to 16 bits programmableFrame			

	length: 16 to 16,000 bytes. Error parameters tolerance (Selectable): a) Search to Check: 0 to 7b) Check to Lock: 1 to 8c) Lock to Search: 1 to 8			
3.4	Time tagging: Corresponds to last bit of FS code (Desirable) - settable Data Output: TCP/IP (1000/100 base T) and UDP/IP Format: As mutually agreed			
3.5	Data Decoding: 1. De-randomizer (CCSDS) 2. Reed-Solomon Decoder (CCSDS) 3. Turbo decoder rate $\frac{1}{2}$ (CCSDS) Data Quality Indicator: The header should contain Information on data Quality like Rx., PSK demod, Bit & Frame Sync lock status, FS error presence, no of uncorrected errors for coded signal etc.			

4.0	TELECOMMAND ENCODER/ IF MODULATORThe Tele- command Encoder/ IF Modulator shall perform the following functions.1. Internal CCSDS compatible command encoder.2. Provision of COP software to handle segment level and CLTU level telecommand messages.3. Handles externally fed or internally generated telecommand video for modulation.4. Carrier sweeping facilities.5. PM/FM modulation of tones and TC video (internal or external) independently or simultaneously.6. Internal Noise generator provision when used as simulator.7. Should accept external command video during real-time for PM modulation and external PCM and PCM/PSK (sub- carrier) signals during			
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	simulation for all specified modulations.				
4.1	Tele-command Encoder1. Command standard: CCSDS Standard2. Bit rates: $4000/2^n$ where $n=0$ to 9				
4.2	Modulation: PCM/PSKSub-carrier frequencies: 4-50 KHz (Selectable)				
4.3	Frequency accuracy: ± 1 in 106 or betterFrequency stability: ± 1 in 106 / Day				
4.4	IF Modulator:Output Frequency: 70 \pm 4 MHz. Type of Modulation: PM/FM/BPSK/QPSK/AQPS K/GMSK Selectable.				
4.5	Sweep Range: ± 1 KHz to ± 500 KHz in steps of 1 KHz, single sweep positive going. Automatic disabling of Modulation while sweeping.Sweep Rate (Linear): 1 Hz/s to 150				

	KHz/s				
4.6	Output Level: -70 to 0 dBm. Adjustable. Output stability over a day/ temp. range: +/- 0.5 dB.				
4.7	Output impedance: 50 ohmsVSWR: Better than 1.4:1				
4.8	Phase Noise (PM Mode): 10 dB max. degradation when locked to station 5 / 10 MHz reference.Spurious: Better than -60 dBcHarmonics: Better than -60 dBc				
4.9	No. of External Modulation Inputs: One for connecting external TC video or External simulation signal.Modulation Input Impedance: 50 ohmsModulation Sensitivity: 1 rad./ volt				
4.10	PM Modulation Index: 2.0				

	radians (Max.) in steps of 0.1 rad. Independently adjustable for tones and TC.Sense: PositiveLinearity: 2% or better			
4.11	Group Delay Stability: < 5 ns over 8 hours < 10 ns over dynamic range < 15 ns over temperature < 5 ns over Doppler			

Tracking Processor

Item Specifications -III

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
5.0	RANGING:The ranging shall perform the following functions.1. Range tone generation and sequential transmission.2. Ambiguity resolution & Range measurement.3. Accurate Time tagging.4. Internal			

	test loop and calibration for ground station delay and phase compensation.5. Automatic compensation of calibration and correction memory values from measured range value.6. Automatic selection of RHCP / LHCP / Combine D/L signal for Range delay measurement.7. Unit shall have Doppler Aid capability for Range loop PLL.			
5.1	Tone Standard: Harmonically related Sinusoidal range tones. ESA-100 tone, ESA-like, ESA-code, USB tone.			
5.2	Tone Frequencies (ESA-100):1. Major Tone (MRT): 100 KHz.Ambiguity Resolving Tones (ART): 20KHz, 4KHz, 800Hz, 160Hz, 32Hz and 8 Hz minor tones (Continuous			

	transmission of MRT and Sequential transmission of ARTs) 2. ESA Like User Specific tones: Major and minor tones (ART) user programmable. Major Tone up-to 1 MHz. Lower most minor tone till 1 Hz.3) ESA tone + code standard: Tones from 100 KHz to 1 MHz. ESA Codes: 0 to 24 code length.			
5.3	Lower tone complementation on: User specific for ESA like/USB standard. 16 KHz for ESA-100.Amplitude: Settable separately for major & minor tones. for M.I. up to 1.5 rad. in IF modulator.			
5.4	Acquisition Time duration: <2 sec. at 50 dBHz SNDR, <5 sec for lower SNDR Tone PLL BW: 0.1 to 8 Hz Adaptable to meet Dynamics and accuracy.Major Tone acquisition threshold:			

	S/No iÜ 13 dBHz.				
5.5	Overall accuracy: 13m RSS at 27 dBHz SNDR with 100 KHz MRT in 1 Hz loop BW. Within 1 dB of theoretical (1 sigma). Sampling rates: 0.1, 1 & 10 Samples/ sec No. of measurement samples per block: 1, 10, 100 per block selectable				
5.6	Time tagging i) Resolution: 0.1 msec. ii) Accuracy: Within 1 microsecond of time ref. signal, with 1 pps input iii) Instant of time tagging: Instant of sampling of received tone.				
5.7	Data Output: Time tagged data output on TCP/IPFormat: To be mutually agreed as per ICD. Calibration loops & Delay entry: RF Calibration memory for 4 RF paths and delays.				

5.8	Time and Frequency Reference: This unit shall perform the following functions.1. Distribution of reference frequency to other internal units.2. Demodulation of input time code.3. Time distribution to other internal functions.4. Shall have Leap second & leap year management.5. Provides time tagging information to other modules.6. Accepts 1 pps signal for ranging time tag.			
5.9	Input frequency: 5 / 10 MHz, 0 dBm +/- 5 dBmImpedance: 50 ohms.VSWR: <1.3:1Reference frequency output: Suitable for internal distribution.			
5.10	Input time code: IRIG-B Mod Code (optional NTP/PTP) Time code Input level: 0.5 volt to 5 volt p-p			

5.11	Time tag capacity: 365 days, 23 hours, 59 minutes 59 seconds & 999 milliseconds.Resolution: 0.1 msec.Time tag Accuracy: 0.1 msec. worst case or better			
5.12	Phase noise degradation: <10 dB with reference to input.			

TM simulator and interfaces

Item Specifications -IV

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
6.0	TM SIMULATOR:The TM Simulator shall perform the following functions.1. Programmable sub-carrier frequency and bit rate generation.2. PCM generation using PRN sequence or stored TM file from disk.3. Analog PSK/PCM or PCM signal			

	output with amplitude control.4. BER Measurement.5. Internal Noise generator at 70 MHz to cover C/No range of 25 dBHz to 85 dBHz.6. Encoding for RS, Convolution and Turbo coding and Randomizer.			
6.1	Analog signal output level: 0.1 V to 4 V peak in 0.1 V steps.Impedance: 50 ohms			
6.2	Sub-carrier frequencies (Sine): 5 KHz to 1024 KHz in 1 Hz step.Bit rate: 100 bps to 500 Kbps in 1 bps step. Up-to 20 Mbps for direct PCM Mod.			
6.3	PCM code: NRZ (L,M,S) and bi-phase (L,M,S)PCM sequence type: PRN or stored file from HDD or LAN mode of simulation.			
6.4	Modulation type: PCM/PSK on subcarrier, PCM/PM, PCM/FM, PCM/BPSK, PCM/QPSK,			

	OQPSK, GMSK, SOQPSK.				
6.5	<p>BER Measurement:•</p> <p>Automatic delay adjustment between transmitted and received signal. • Bit to bit comparison between transmitted and received signal.S/N dynamic range: +2dB &#8804; Eb/N0 &#8804;12dB or betterBER measuring range: 103 to 108 and totalizer</p>				
6.6	<p>TTCP unit shall also be supplied with 2nd simulator (having same above specs as per 6.0 to 6.5) for simultaneous two sub carrier simulation.</p>				
6.7	<p>Accessories:1. Spectrum Analysis Display and spectral data on LAN.2. Data Logging on internal Hard disk (Min. 500 GB) for logging time tagged TM, Range, Doppler, digital AGC and M&C data</p>				

	and retrieval.3. Display of selected words.4. Self test sequence for locating faults including TCP/IP Ports.			
7.0	GENERAL Requirements:1. Power: 230 V+/-10%, 47-53 Hz, 1-Phase2. Dimension: 19" Rack mountable, Max. 5U height			
7.1	Operating Temperature: 5-45 deg. C, Max. Humidity 95%Storage Temperature: 0-55 deg. C			
7.2	Remote M&C interface: TCP/IP (1000/100 Base T). As per Annexure-A of attached RFP documents. In addition, Web based interface also preferable.			
7.3	MTBF: To be provided by party. Min. 40,000 hours required.MTTR: <1 Hour with spare parts availableOperation & Maintenance Manual: To			

	be provided in English.				
7.4	<p>Data Exchange</p> <p>Formats: Once the confirm Purchase Order is received, party shall submit preliminary Interface Control Document (ICD) to ISTRAC for Review if any major change is envisaged compared to ICD document of present similar system used by ISTRAC presently.</p> <p>Document shall cover all data exchange format (Telemetry Data, Doppler & Range data, TC requests, Monitoring & Control requests etc.) being used by any TT&C ground station. Based on the feedback provided by ISTRAC and with mutual agreement, party shall carry out any changes required in ICD and submit FINAL copy of the ICD to ISTRAC along with Factory</p>				

	Acceptance Test Results for review and clearance by ISTRAC.				
7.5	<p>Factory Acceptance Tests: For TTC Processor, the factory acceptance tests shall be carried out before shipment, as per the standard procedures. The supplier shall provide the types of tests to be carried out & the test procedures for carrying out the Factory Acceptance Tests well in advance, for the approval & mutual agreement. The tests results shall be submitted to ISTRAC for approval, before the actual shipment of the equipment.</p>				
7.6	<p>Buy Back Option: 1. As this RFP is being processed under buy back proposal party, in his offer, shall clearly mention the total price of their new unit,</p>				

	discount offered under buy back scheme, and net price offered to ISTRAC after buyback of old units. ISTRAC reserves right to either opt for buyback option or buy only new systems under this RFP.2. ISTRAC is having old CRT-XL TTC processors model CRT XL F260450 with turbo code license. Their year of production is 2006. Presently all are under working condition. However due to ageing their failure rate is on rise.			
7.7	3. Under this RFP ISTRAC wishes to exchange total 08 nos. of old CRT-XL systems against start of the art new TTC Processor (CRT-Q or equivalent).4. Old TTCP units (CRT-XL) will be returned to the party after reception of new TTCP at ISTRAC Bangalore.			

7.8	Warranty:Minimum 3 years comprehensive warranty from OEM covering on-site support. Warranty should start from the date of acceptance of the system.			
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General Terms

Item Specifications -V

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
8.0	The party shall be ISO 9001:2015 certified one with established Quality Assurance Plan which shall consist of periodical inspections and progressive Quality Control throughout the developmental and production cycle of the product offered.			
8.1	The bidder shall provide complete technical details			

	of the offer with detailed explanation of the function of the system, the various options available and any other information that may be required to evaluate the offer. The bidder shall bring out point-by-point technical compliance matrix against all the specifications and functional requirements. The bidder shall explicitly bring out all the points in the remark column wherever the specifications are not met or exceeded. ISTRAC reserves right to reject any incomplete offer.			
8.2	Additionally, if asked by ISTRAC, party shall be ready to provide one fully functional TTC Processor unit (as per ISTRAC RFP) to ISTRAC for technical assessment during tender evaluation process before the placement of actual			

	order.				
8.3	The bidder may obtain required clarifications, if any, before presenting the bid. Use of high reliable screened components to be ensured.				
8.4	The system shall be considered to be accepted by ISRO only after the successful completion of the on-site acceptance tests (performed at Bangalore) duly certified by ISRO. Party or its local representative shall be able to provide technical support at ISTRAC premises towards acceptance testing of the supplied unit.				
8.5	At the time of installation and commissioning of the system if it is found that some additional hardware accessories or software items with licenses are required to complete the				

	configuration to meet the total system requirement as per RFP which were not included in the vendor's original list of deliverables then vendor is required to supply such items to ensure the completeness of the configuration at no extra cost. Vendor should ensure completeness of the list of deliverables in the offer to avoid such discovery during installation.			
8.6	The bidder shall also provide the quotation for extended warranty period (after the expiry of standard warranty) up to 5 years.			
8.7	Software updates, if any, should be supplied free of cost, as and when required.			
8.8	The bidder shall guarantee supply of spares and maintenance support for			

	at least 10 years from the date of acceptance of the system.			
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Vendor Specified Terms

Description	Vendor Terms			
Taxes and other costs, if any				
Warranty				
Delivery Term				
Delivery Period				
Payment Term				
Validity				
Any other terms				
Provide your GSTIN number and Bank details				
Name and Address of the company on whom the Purchase Order to be placed.				
SECURITY DEPOSIT: You shall provide a Security deposit in the form of Bank Guarantee or fixed deposit receipt from any of the Scheduled Banks on non-judicial stamp paper for the value equal to 10% of the order value. Security Deposit shall be submitted by you immediately after receipt of P.O and shall be valid for a period of 60 days. In the				

event of non-execution of the PO/Contract or breach of any terms and conditions of the PO, the SD shall be forfeited.	
<p>PERFORMANCE BANK GUARANTEE: You shall furnish a Performance Bank Guarantee (as per format enclosed) from any of the Scheduled Banks on Non-judicial stamp paper for Rs.200/- for an amount equivalent to 10% of the value of the PO. PBG shall be valid till the completion of Warranty period plus two months. On performance and completion of the contract in all respects, Performance Bank Guarantee will be returned to you without any interest.</p>	
<p>DELAY IN COMPLETION / LIQUIDATED DAMAGES: If the contractor fails to supply the items within the time specified in the PO or any extension thereof, the purchaser shall recover from the contractor as liquidated damages a sum of one half of one percent (0.5%) of the contract value of the undelivered portion for each calendar week of delay. The total liquidated damages shall not exceed 10% of the contract price of the unit(s) so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.</p>	

Supporting Documents from Vendor

Attachment - I:

Attachment - II:

Price Bid Form

Item Description	Slab Range	Qty	UOM	Currency	Unit Price	Total Price
TTC Processor Supply of TT&C Processor (ZDS CRT-Q or equivalent) as per attached specifications.	-	8	no	-	-	-
TTC PROCESSOR Extended Warranty or any other optional items to meet ISTRAC specifications.	-	8	no	-	-	-

Break-up of other taxes and other costs should be specified in respective narration columns.

Sum of these Break-up values should be specified in respective value columns.