



TENDER DOCUMENT

FOR

Supply, Installation, Testing and Commissioning of Audio/ Video equipment

AT

EDUCATIONAL MULTIMEDIA RESEARCH CENTRE

**DIBRUGARH UNIVERSITY,
DIBRUGARH – 786004, ASSAM.
Website: dibru.ac.in**

TENDER No.: DU/RG/B.01.07/19/3121

Dated:18.02.2019



OFFICE OF THE REGISTRAR :: DIBRUGARH UNIVERSITY :: DIBRUGARH

No. DU/RG/ B.01.07/19/3121

Date:18.02.2019

NOTICE INVITING TENDERS

Sealed tenders are invited from reputed manufacturers/firms/ their authorized Indian Dealer/Representative for purchase of Audio/Video equipment on supply, installation, testing and commissioning basis for the Educational Multimedia Research Centre (EMRC), Dibrugarh University (D.U.). The list of equipment alongwith technical specifications is enclosed at **ANNEXURE-I & II**.

Availability of Bid papers	From: 20.02.2019 to 14.03.2019 between 10:00 A.M. to 3:00 P.M.
Last date for receipt of Bid	15.03.2019 up to 11:00 A.M.
Time & Date of opening of the Bid	15.03.2019 at 02:30 P.M.
Place of opening of Bid	Office of the Registrar, Dibrugarh University
Cost of Document	Rs. 1000/- (Non refundable)
EMD	2.5 % of the total tendered value

The tender documents can be downloaded or obtained on any working day during office hours between 10:00 A.M. to 5:00 P.M. from the office of the undersigned, by paying the cost of tender document in the form of Demand draft in favour of **The Registrar, Dibrugarh University**, payable at Dibrugarh. In case, the form downloaded from the Dibrugarh University Website, the tendering firm must submit the Cost of Tender Document in the form of Demand Draft along with the Technical Bid of the Tender.

The tender should be submitted in two separate sealed envelopes *i.e.* **Part - I** (TECHNICAL BID) along with EMD as mentioned above, in the form of Demand Draft or Bank Guarantee in favour of **Registrar, Dibrugarh University, Dibrugarh, Assam** payable at **Punjab National Bank, Dibrugarh University Branch** and **Part – II** (FINANCIAL BID). The tenderer should further put both the bids in a single envelope super scribing the item no., tender no. and due date of opening on the outer cover. The Technical Bid shall be opened on above mentioned date and time and the Financial Bid of only those bidders who qualify in Technical Bid shall be opened at a later date.

The sealed tender may be sent by hand/speed post/ registered post or may be dropped at the above mentioned address before the stipulated date and time. Tenders received after the due date and time will not be accepted. Dibrugarh University reserves the right to accept or reject any tender fully or partially without assigning any reason thereof.

Sd/-
Registrar
Dibrugarh University

Dibrugarh University, Assam intends for purchase of Audio/ Video equipment on supply, installation, testing and commissioning basis for Educational Multimedia Research Centre (EMRC), Dibrugarh University (D.U.). for which sealed tenders are hereby invited from the reputed manufacturer(s)/firm(s)/ authorized Indian Dealer(s)/Representative(s) as per the list of equipment mentioned in **ANNEXURE-I**, Specifications/ configurations in **ANNEXURE-II** along with Financial Bid mentioned in **ANNEXURE - III** respectively.

GENERAL TERMS AND CONDITIONS OF TENDER

All the interested manufacturer(s)/ firm(s)/their authorized representatives are requested to read the list of Audio/Video equipment (as listed in **ANNEXURE-I**), Technical specifications (**ANNEXURE-II**) and the Terms and Conditions carefully of the tender before submitting their quotation. This tender is open to the manufacturers (OEM) & their authorized representatives only, having experience in Broadcast Television System in Marketing, Integration, Installation, Testing, Commissioning of equipment mentioned in the list and providing after sales service/Annual Maintenance Contract (AMC) for the equipment. The successful tenderer, shall have to sign an agreement between the manufacturer (which expression shall include his authorized agents/representatives) and EMRC, Dibrugarh University agreeing to the **TERMS & CONDITIONS** as laid down in this tender.

1. The bidders shall have to furnish the offers in separate envelopes clearly mentioning Purchase of Audio/Video equipment accompanied by Earnest Money Deposit (EMD) as mentioned in the tender documents, in the form of demand draft in favour of **Registrar, Dibrugarh University**, payable at **Punjab National Bank, Dibrugarh University Branch**. All envelopes containing the tender shall be properly sealed. The “TECHNICAL BID” envelope should contain duly filled tender documents, Demand draft for Earnest Money, Technical specifications of item(s), pamphlet/catalogue, letter of authorization from Principal/Manufacturer, list of users, financial status of the company etc. as per requirement of terms & conditions of tender.
2. The tender should reach by 15.03.2019 up to 11.00 A.M along with the requisite amount of earnest money. The tenders without earnest money will not be entertained and shall be rejected straightway. The rates should be quoted in figures as well as in words.
3. The rates should be quoted on the basis of per unit and inclusive of all taxes, F.O.R. destination and installation charges.
4. The successful bidders shall supply the equipment within 1 (one) month from the date of issue of formal order failing which the order will stand cancelled. The copy of the formal order will be sent to the bidders to their provided registered e-mail address.
5. The EMD of successful bidders will be converted into security deposit till the completion of the order. The EMD of unsuccessful bidders will be returned after completion of the tender process.
6. The payment will be released after 30 days of installation and commissioning of the equipment at site.
7. If the tenders opening day happens to be holiday, the same will be accepted and opened on the next working day.
8. The date of manufacturer/import and name of the manufacturer of all the equipment should be clearly mentioned in the tender documents.

9. The bidders are required to submit 'Certificates for Satisfactory Supply and Service' from at least three Educational Institutions or Central PSU/State PSU or other government organizations during the last three years of value not less than 75% of the tendered value. It is to be mentioned that if the University authority will have the right to verify the same from the organization where the bidder has successfully completed the work.
10. The person signing the tender form (*or any other document forming part of the contract*) on behalf of another, shall be deemed to warranty that she/he has the authority to sign such documents and if, on inquiry it appears that the person so signing had no authority to do so, the purchaser, may without prejudice to other civil and criminal remedies against the contract, holds the signatory liable for all costs and damages and forfeiture of the earnest money.
11. The attempt on the part of the bidder, to negotiate directly or indirectly, with the authority to whom the tender is being submitted or with the tender accepting authority, before the finalization of tenders, will make the bidders liable for cancellation of their tender.
12. The product profile of the company/vendor along with last 3 years turnover, having an average annual financial turnover not less than Rs. 20 crores duly certified must be attached. Copies of the audited balance sheet of the vendor/bidder for the last three financial years, details of Permanent Account Number and ITR (Income Tax Return) for last 3 financial years must be attached by the bidder together along with the list of clients to whom the vendor/ company is supplying the tendered items for the last three years.
13. Preference will be given to those bidders having ISO certification with validity till the date of tender.
14. In case the bidders fail to supply the ordered material within the stipulated time period the University shall forfeit the E.M.D. amount and lead to cancellation of the order.
15. Eco-friendly packaging materials should be used as far as possible as Non-bio degradable materials are banned in the University.
16. The tender document is not transferable. Only the party who has purchased the tender document shall be entitled to submit the tender.
17. The offer price should be valid for the period of 12 calendar months from the date of issue of order.
18. Acceptance of Purchase Order by the successful bidder is itself an agreement. A separate agreement between Bidders and Registrar, Dibrugarh University, on hundred rupees bond paper has to be executed and the same must be notarized from authorized notary. The cost of bond paper and notary expenses will have to be borne by the Bidder.
19. The successful bidders will be required to deposit Security Deposit (S.D.) @ 2.5% of the accepted value will be in the form of Bank Guarantee/NSC to be duly pledged to the Registrar, Dibrugarh University valid for the warranty period from the date of installation & commissioning. The said certificates will be returned back only after successful completion of warranty period from the date of installation, commissioning and certification by the Director, Educational Multimedia Research Centre (EMRC), D.U. or the any other technical team appointed by the University. The EMD of successful bidders will be converted into security deposit till the completion of the order. The EMD of unsuccessful bidders will be returned after completion of the tender process. The earnest money should be valid for 9 (nine) months from the date of opening the tender. No interest will be paid against EMD.

20. Payment will be made through RTGS/Electronic Clearing System on successful installation and Commissioning at site and after due certification by the Director, EMRC, D.U. or the team appointed by the University after satisfactory commissioning & functioning of equipment.
21. The material to be supplied should be strictly as per the technical specification mentioned in the Purchase Order. The delivered material will be inspected by the user department or the team appointed by the University. The supplier will have to replace the rejected material at their own cost immediately.
23. The University does not bind itself to accept the lowest bidder. However, the offer to the lowest bidder will be evaluated further in terms of the other conditions of contract. The University reserved the right to reject any or all tenders without assigning any reason thereof. Orders can be placed for the whole or part of the quantity or article tendered for.
24. All legal proceedings, if any, necessity arises to be instituted by any of the parties (Dibrugarh University or supplier) shall have to be lodged in courts under the jurisdiction of Dibrugarh and not elsewhere.
25. The approximate quantity to be purchased along with minimum hardware configuration/specifications required have been mentioned at **ANNEXURE – II**.
26. The bidder should be a single Company. No consortium is allowed.
27. Any additional item(s)/accessory found necessary and not included in the EMRC equipment tender specifications should be quoted separately.
28. In the list of equipment (**ANNEXURE-I**), make and model number, if any, has been indicated for illustration/reference only. Any equivalent/better make/model with similar functions and operations would also be considered.
29. Being an educational Institution, Government of India (GoI) has extended concessional Custom Duty to Dibrugarh University. Therefore, for equipment not manufactured in India, if any, equipment price in convertible foreign currency should be quoted by the Tenderer.
30. Most of the manufacturers, world over, offer educational discount while offering equipment and software package to Educational Institutions. The tenderer should therefore also, offer such discounts while quoting prices against the Tender.
31. The manufacturer/representative shall submit the Performa invoices to Dibrugarh University, Dibrugarh. Once a tender is accepted for the purchase, the Dibrugarh University will place the purchase order(s) for their respective requirements after verifying that the rates and terms and conditions as given in the Performa invoice agreed with those of accepted tender.
32. Dibrugarh University reserve the right to purchase varying quantity of material, less or more than the quantity specified in the tender.
33. A security deposit at 2.5% of the value of SITC order shall be obtained by the Director, EMRC, Dibrugarh University or as the case may be, from the supplier in the form of a Bank Guarantee for equivalent amount as a guarantee for satisfactory performance of contract. The security deposit shall be refundable on satisfactory completion of contract and on the expiry of stipulated warranty period of equipment which would be a minimum period of 24 (twenty-four) months from the date of receipt of equipment or from the date of installation/ commissioning whichever is later, if the same is required to be done from the supplier. If the tenderer is not able to supply against the purchase order, the security deposit will be forfeited.

34. The tender quoting equipment, not manufactured in India, should be submitted in Indian Rupees and utilizing the custom exemption certificate, must give an undertaking that the equipment imported by the firm(s)/dealer(s)/distributor(s) on behalf of EMRC, Dibrugarh University, shall be directly imported from the manufacturer/ principles. In this transaction, involvement of intermediary firm shall be summarily rejected.
35. Offers made by Authorized, Indian Representative, on behalf of the original equipment manufacturer (OEM), should submit an Authorization letter from the OEM with reference to the specific Dibrugarh University tender no., authorizing the Indian representative to quote on behalf of OEM. Such Authorization letters should be submitted against each of the major equipment quoted in the system. The Authorization letters should be submitted in Technical Bid Cover and copy in Commercial Bid Cover.
36. **Custom Duty:** Custom Duty is applicable to Dibrugarh University against custom duty Exemption Certificate. Therefore, Dibrugarh University will provide only custom duty exemption certificate to vendor/ supplier. However, all required documentation LC/TT opening & custom clearance processing shall be done by Vendor (s) on behalf of Dibrugarh University. All the charges, custom clearance charges, freight and DO charges, custom duty, local transportation charges *etc.*, shall be inclusive & paid by vendor(s).
37. Custom House Agent (CHA) and Freight Forwarder shall be appointed by Vendor itself and necessary formalities to clear the goods from custom and freight forwarder shall be done by supplier/ Vendors.
38. The COMMERCIAL BID should contain the following information:
 - a. The FOB value, the CIF value for import by airfreight up to EMRC, Dibrugarh University and for air parcel post up to EMRC, Dibrugarh University should be separately indicated.
 - b. The Free on Board (FOB) and CIF value for import should be inclusive of freight forwarding Charges, local transport charges, all taxes, levies and duties arising in the country of origin.
 - c. In respect of items which are not to be imported, FOR value up to EMRC, Dibrugarh University, new locations should be quoted.
 - d. Reference should be given to serial number of item(s) as per our list of Equipment enclosed to contract document for each item of equipment quoted by the tenderer.
 - e. Discount/rebate, if any, in quoted prices and the conditions of availability.
 - f. All essential items including cables, connectors, *etc.* needed for complete installation for the smooth operation of the equipment shall be assumed to have been included in the quoted prices/items if these have not been quoted separately.
 - g. Charges on account of installation, commissioning and user training, if any, should be quoted separately.
 - h. Operation and maintenance manuals both Hard & Soft Copy and necessary extension boards should be supplied with the equipment.

- i. Separate rates may be quoted for optional items, if any, which may enhance performance efficiency beyond the normal performance of items quoted by you. The extent and manner of increase in efficiency needs to be suitably explained.
- j. For proposals which are computer based integrated equipment for which tenders are invited, the supplier / manufacturer/tenderer must ensure the following:
 - i. Should supply all the software, which are bundled in the equipment and should also be supplied, in DVD/ Pen drive format as original copy.
 - ii. Should give guarantee / warranty for a period not less than 02 (two) years.
 - iii. Must provide training for the staff operating the equipment of EMRC Dibrugarh University / Media Centre staff on maintenance for the quoted system at the facilities in-house and may quote for this, if any.
 - iv. Should submit quote against each item:
 - a) Annual Comprehensive Maintenance contract.
 - b) Non Comprehensive Maintenance Contract, to be effective after the warranty period is over.
- k. The Tenderer should submit a certificate from the original equipment manufacturer (OEM), that the integrated product quoted by the tenderer has the approval of the manufacturer and the manufacturer stands to support the total integrated product for future AMC, for a period of 5 (five) years, of the tendered product purchased by the Dibrugarh University and shall supply of all components, if needed.
- l. The Tenderer should submit list of similar supplies or projects Undertaken by it, showing schedule of dates of delivery of entire equipment, software, approx. volume, Installation, Testing and commissioning, with reference to the date of signing of such contracts.
- m. Earliest delivery period/schedule should be indicated clearly.
- n. Country of origin of the goods/equipment.
- o. The tenderer should provide warranty/Guarantee for quoted product for a Period of 2 (two) years. The tenderer should also give an undertaking that during warranty period, if any defect in the supplied equipment is noticed by the Purchaser, the supplier or his representative shall rectify the defect or replace the defective item free of cost at the Purchaser's site within a period of 30 days of his notification.
- p. Your banker's name and address.
- q. List of spares recommended for satisfactory operation for a minimum period of two year and their quoted prices is given separately with full justification.
- r. Programme of work showing the schedule of dates of:
 - (i) Delivery of entire equipment and software.
 - (ii) Installation.
 - (iii) Testing and commissioning.

39. Equation of Currency for Evaluation of Tenders:

For evaluation and comparison purposes only, the Purchaser shall convert all bid prices expressed in amounts in various currencies into an amount in Indian Rupees, as available in the National Dailies on the day of opening the tender, using the selling exchange rates established by the source and on the date the bid is opened.

40. Tender form of different code group shall be kept in respective separate envelopes & on the top of the envelop, mark bid for Audio/Video Equipment for EMRC, Dibrugarh University, Assam. Tender shall be sent properly in double sealed envelopes addressed to the Registrar, Dibrugarh University, Dibrugarh (*to be opened by addressee only*). Mention the tender equipment quoted in specifications on the left top side & address of the tenderer on the left lower corner of the envelope.
41. The rate/unit, under any circumstances shall not be altered and shall be entered in words as well as in figures. If there is any overwriting of cancellation on the tender it shall be supported by a short signature of the tenderer.
42. The tender will remain for acceptance in the financial year for which it has been invited. Conditional tender will not be entertained. No tender will be entertained after the due date and time. The Registrar, Dibrugarh University reserve the right to postpone, accept or reject, cancel the tenders in full or in part of this notice without assigning any reason.
43. Tenders would be given by those firms/dealers who are either registered approved suppliers/contractors for those articles/goods /equipment *etc.* or by those who are dealing actually in the goods for which tender is being given. Tenderer should attach letter of registration / dealer & names of agencies to which supplies have been made earlier.
44. The approved supplier/ contractor shall be deemed to have carefully examined the condition/specification, sizes, make *etc.* of the goods to be supplied. If the intending tenderers have any doubt as to the meaning of any portion of these conditions he/she shall, before submitting his/her tender/quotation refer to the Registrar, Dibrugarh University and get clarification.
45. The tenderer shall not assign or subject his/her contract or any part there of any other agency.
46. The tenderer shall be responsible for the proper packing of the goods/equipment so as to avoid damages under normal conditions of transport by sea, rail, road or air and for delivery of the material in good conditions to the consignee at destination. In the event of any loss, damage, breakage, leakage or any shortage, found at the time of checking/inspection of the materials by the consignee, tenderer shall be liable to make good of such loss. No extra cost on such account shall be admissible to him.
47. All rates quoted in the tender must be based on free delivery in good condition, securely packed and F.O.R. destination being Dibrugarh University, Dibrugarh. The rates of the equipment shall be quoted separately & taxes and other charges as applicable separately. The delivery of goods shall have to be given during working hours of the University, or as directed. The supplier shall be required to bear all risks of loss, leakage or damage and shall deliver the goods in good condition to consignees at the destination mentioned in the order.
48. The tenderer whose tender accepted shall arrange supplies within stipulated period as mentioned in tender notice, at the place of destination for the Equipment in question in the specific terms and conditions of the supplies from the date of placing the order. The date of placing the order shall be the date of dispatch of order or the delivery there of to the tenderer.
49. If the supplier fails to supply the ordered equipment in the stipulated time and also do not make request for the extension of the delivery period then the order shall be recommended to be put in black list for a certain period and no any order shall be placed to that supplier by Dibrugarh University.

50. After expiry of delivery period as mentioned in Clause 10 above, if requested by tendered the delivery period can be extended after examining the merits of the case and a penalty on extension @ 0.50% per week shall be imposed. If the supplies are not completed in the extended period than the remaining order shall be cancelled and the security money deposited shall be forfeited and the firm concerned shall be put in the black list for certain period not to receive orders from Dibrugarh University. The delivery period can be extended only once for the maximum of 60 days.
51. The payment shall be made on receipt of the complete equipment ordered. Where the Equipment are supplied partially and the remaining equipment have been cancelled the payment shall be made only for the supplied quantity. A penalty of 5.0% of undelivered Equipment shall be deducted from the payments of the delivered Equipment.
52. In case of imported equipment, quote the FOB and CIF value and mention all terms and conditions of supply.
53. Clearance of the goods through customs shall be arranged by the supplier. This University is registered with the Department of Scientific and Industrial Research (DSIR) for the purpose of availing Customs Duty and Central Excise Duty exemption. The University shall provide the certificate for the purpose of Customs Clearance.
54. If the Equipment are supplied after the delivery period/extended delivery period these would not be accepted in any case.
55. The Supplier shall have to bear commission charges on remittances made in settlement of their claims.
56. Rates for all articles having difference in size shall be quoted size wise.
57. The tender shall be filled in with ink or shall be typed. Tender filled in by pencil shall not be considered. No additions, overwriting and alterations shall be made in the tender. Corrections, if any, shall be done clearly and counter signed.
58. The tenderer shall sign all the copies of tender form and of the general terms and conditions at the bottom of each page, in token of the acceptance of all the terms and conditions of the tender.
59. The successful tenderer shall have to execute all agreement on a non-judicial stamp of Rs.100/- or of such value as may be prescribed by the law on the subject for contract deeds in the prescribed form, within 7 days from the date he/she is informed of the acceptance of his/her tender for the due performance of the contract. In case of failure of the execution of agreement within the specified period, the order shall be liable to be cancelled. The expenses on completion and stamping the agreement shall be borne by the supplier who shall furnish free of charge one copy of the agreement duly executed and stamped to the Registrar, Dibrugarh University, the order copy should be with non-judicial stamp.
60. The successful tenderer shall have to give an undertaking from the manufacturing (principal) company on their letter head that it will ensure service and supply of spare parts of the supplied instruments, as and when required for a period of 5 (five) years, for smooth and uninterrupted functioning of instruments.
61. The successful tenderer shall have to deposit 2.5 % of the cost of the Equipment/Instruments as security amount in the form of fixed deposit for period of 36 months, in favour of the Registrar, Dibrugarh University. This amount shall be retained for 1 (one) year after the installation of the instruments/equipment, in the premises as directed. After the receipt of security amount the earnest money of the successful tenderer shall be returned.

62. If the tenderer is unable to complete the supply or fails to comply with the terms and conditions of the tender within the specified or extended period, the Registrar shall be at liberty to arrange supply either through re-tender or otherwise. The Registrar may give 7 days notice in writing to the approved supplier to complete the supplies or make good the failure, neglect or contravention of compliance of which the date of service thereof, and if the Registrar thinks fit, he may direct the supplier to make good the loss sustained or any expenditure incurred by the University in arranging the supplies through any other agency. The Registrar, D.U. may also use the earnest money/security deposit of the supplier to make good such a loss.
63. The goods shall be delivered at the destination in perfect condition. The supplier, if so desire, may insure the valuable goods against loss by the theft, destruction or damage by fire, flood, under exposure to weather or otherwise viz., to be borne by the supplier and the University shall not be required to pay such charges, if incurred.
64. No advance payment shall be made, except in vary rate and special cases for which valid reasons shall have to be recorded. Payments shall be due and payable by the Registrar, Dibrugarh University, on behalf of the University, only when the supplied quantity has been delivered, inspected and accepted by the Inspection Committee appointed by Registrar, Dibrugarh University and a certificate of having done so is recorded by the committee. In case of disputed equipment 10 to 25% of the amount shall be withheld and shall be paid on settlement of the dispute in terms of the award granted. Progressive payment if agreed to, shall be made according to the entered in the agreements.
65. Upon breach of any of the General Terms and Conditions of contract and breach of trust of the agreement by the supplier it shall be lawful for purchaser to forfeit the earnest Money/Security Deposit in whole or part or impose such penalty as may deem fit and recover the same from the Security Deposit or from any other payment to be made to the supplier or in any other manner as the purchaser may deem fit, but without prejudice to the right of the purchaser to recover any further sum of money as damages from the supplier.
66. Direct or indirect canvassing on the part of tenderers or their representatives shall disqualify their tenders.
67. Tenderer shall have to submit a sale Tax Clearance Certificate from the concerned assessing authority along with the tender without which the tender shall not be considered.
68. No other terms and conditions except those mentioned above will be entertained in the tender. It shall not be binding on the University to accept the terms and condition of the supplier.
69. Receipt of having paid the sales tax on the material/ instruments to be supplied should be attached along with the bill and challan sent to Registrar, Dibrugarh University
70. Specimens of equipment quoted shall have to be demonstrated before the Technical Committee constituted for the purpose compulsorily as and when required.
71. Terms & Conditions of Payment For equipment to be imported:
- a) Full payment of net F.O.B. value shall be released through Letter of Credit as per Purchase Order of the bidder on proof of dispatch by foreign manufacturer/ supplier.
 - b) For equipment manufactured in India or already imported in to India.
 - i. 90 percent payment shall be released after inspection and receipt of stores in good condition.
 - ii. Balance 10 percent after three months of satisfactory performance from the date of commissioning.

- c) Payment of software, installation, testing, commissioning and performance will be made as follows:
 - i. 30 percent payment against bank guarantee after the equipment is delivered to the consignee in good condition.
 - ii. The balance 70 percent will be released after commissioning and satisfactory performance of the networking of the system.
- d) Vendor qualification for Design of software jobs and Development of e-content:
 - i. The annual business of the OEM should not be less than Rs. 20 Crore.
 - ii. The vendor should submit Income Tax Returns of last three years.
- e) Mode of Payment regarding Design of software jobs:
 - i. Should supply all the software, which are bundled in the equipment and should also be supplied, in DVD/Pen drive format and as original copy.
 - ii. Should give guarantee/ warrantee for a period not less than two years.
 - iii. Should submit quote against each item:
 - Annual comprehensive maintenance contract.
 - Non comprehensive maintenance contract, to be effective after the warranty period is over.
 - iv. The offer should be valid for a minimum period of Six months from the date of Opening of the tender.

72. The tender should submit list of similar supplies or projects undertaken by it, showing schedule of dates of delivery of entire equipment, software, approx. Volume, Installation, Testing and Commissioning, with reference to the date of signing of such contracts.

73. The tenderer should provide warranty/Guarantee for quoted product for a period of 2 (two) years. The tenderer should also give an undertaking that during warranty period, if any defect in the supplied equipment is noticed by the purchaser, the supplier or his representative shall rectify the defect or replace the defective item free of cost at the purchaser's site within a period of 30 days of his notification.

74. List of spares recommended for satisfactory operation for a minimum period of 2(two) year and their quoted prices be given separately with full justification.

75. Arrangements by supplier for training of EMRC staff in Dibrugarh University, Assam for the maintenance of the equipment tendered by the firm(s)/vendor(s) and the charges, if any, payable by the purchaser.

76. Fraud and Corrupt Practices

- a. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this Tender, Dibrugarh University shall reject a Proposal without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, Dibrugarh University shall, without prejudice to its any other rights or remedies, forfeit and appropriate the EMD or PBG, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to Dibrugarh University for, inter alia, time, cost and effort of Dibrugarh University, in regard to the RFP/ Tender, including consideration and evaluation of such Bidder's Proposal.

b. Without prejudice to the rights of Dibrugarh University under Clause above and the rights and remedies which Dibrugarh University may have under the LOI or the Agreement, if a Bidder is found by Dibrugarh University to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOI or the execution of the Agreement, such Bidder shall not be eligible to participate in any tender or RFP issued by Dibrugarh University during a period of 3 (three) years from the date such Bidder is found by Dibrugarh University to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be. For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:

- i. “**Corrupt Practice**” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of Dibrugarh University who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOI or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of Dibrugarh University, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); or
- ii. Save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the Award or the Agreement, who at any time has been or is a legal, financial or technical consultant/adviser of Dibrugarh University in relation to any matter concerning the Project;
- iii. “**Fraudulent Practice**” means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process.
- iv. “**Coercive Practice**” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Selection Process;
- v. “**Undesirable Practice**” means
 - a) Establishing contact with any person connected with or employed or engaged by Dibrugarh University with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or
 - b) Having a Conflict of Interest; and
- vi. “**Restrictive Practice**” means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.

77. Conflict of Interest:

- a. A Bidder shall not have a conflict of interest that may affect the Selection Process or the Solution delivery (*the “Conflict of Interest”*). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, Dibrugarh University shall forfeit and appropriate the EMD, if available, as mutually agreed genuine pre-estimated compensation and damages payable to Dibrugarh University for, inter alia, the time, cost and effort of Dibrugarh University including consideration of such Bidder’s Proposal,

without prejudice to any other right or remedy that may be available to Dibrugarh University hereunder or otherwise.

- b. Dibrugarh University requires that the bidder provides solutions which at all times hold Dibrugarh University's interests paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The bidder shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of Dibrugarh University.
- c. Without limiting the generality of the above, Bidder shall be deemed to have a Conflict of Interest affecting the Selection Process, if:
 - i) the Bidder, its consortium member (the "Member") or Associates (or any constituent thereof) and any other Bidder, its consortium member or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Bidder, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, its consortium member or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows:
 - where any intermediary controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on
 - a proportionate basis; provided, however, that no such shareholding shall be reckoned under this Sub-clause if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or
 - ii) A constituent of such Bidder is also a constituent of another Bidder; or
 - iii) Such Bidder or its Associate receives or has received any direct or indirect subsidy or grant from any other Bidder or its Associate; or
 - iv) Such Bidder has the same legal representative for purposes of this Application as any other Bidder; or
 - v) Such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's' information about, or to influence the Application of either or each of the other Bidder; or
 - vi) There is a conflict among this and other Systems Implementation/Turnkey solution assignments of the Bidder (including its personnel and other members, if any) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the bidder will depend on the circumstances of each case. While providing software implementation and related solutions to Dibrugarh University for this particular assignment, the bidder shall not take up any assignment that by its nature will result in conflict with the present assignment; or

- vii) A firm hired to provide System Integration/Turnkey solutions for the implementation of a project, and its Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project;
78. The Purchaser will open the Bids received in the presence of the Bidders/ Bidders representatives who choose to attend at the time, date and place specified in the announcement. The Purchaser shall inform the Bidders, whose Technical Bid are found responsive, of the date, time and place of opening of the Financial Bid. The Bidders so informed, or their representative(s), may attend the meeting of opening of Financial Bid.
79. Dibrugarh University reserves to itself the right of accepting the whole or any part of the offer and the tenderer shall be bound to perform the same at his quoted rates.
80. The Contract shall be interpreted, construed and governed by the laws of India. In case of any disputes, the same will be under jurisdiction of courts in Dibrugarh Only.
81. Check List for the Vendors: The tenderer should ensure that the terms and conditions of the Tender Documents issued by the EMRC, Dibrugarh University are followed. For convenience of the tenderer, a Checklist as per below is recommended.

SEAL AND SIGNATURE OF
PROPRIETOR/MANAGER REPRESENTATIVE OF
THE FIRM ON BEHALF OF THE FIRM GIVING TENDER

TECHNICAL BID

The Technical Bid envelop should contain the following documents:

1. 2.5% of earnest money of total tendered value in the form of Demand Draft (DD) from any scheduled nationalised bank in favour of the Registrar, Dibrugarh University, payable at Punjab National Bank, Dibrugarh University Branch along with the bid documents. In case of downloaded tender documents from the University Website, an amount of Rs.1,000/- (One Thousand only) must be paid along with the Technical Bid.
2. **Maintenance & Service Contract for 5 Years:** Qualified technical personal to be at site from 9.30A.M. to 5.30 P.M. on all working days during the warranty period of 5 (five) years including the Normal Warranty Period of 2 (Two) Years. The extra amount beyond the normal warranty period to be quoted separately as applicable. An agreement is to be executed between Dibrugarh University & the Vendor. The cost of the Spare parts required for the service and maintenance will be paid by the University in a mutually agreed condition.
3. The person signing the tender shall be deemed that she/he has the authority to sign the tender on behalf of the said company (*Authority letter from the CEO or the Owner*).
4. The latest income tax, GST Clearance Certificate along with registration number must be attached.
5. The product profile of the company along with last 3 (three) years' turnover, not less than Rs.50.00 lacs duly certified must be attached together with the list of reputed firms/ offices to whom the company is supplying the tendered item(s).
6. The price should not be mentioned in the Technical Bid in any form or manner. In case, the prices are mentioned in the Technical Bid, the offer will be liable for rejection.
7. Duly certified original copy from the manufacturer in case of distributor/dealer to be produced at the time of opening of tender. The University will have the right to verify the said documents from the issuing organisation, if desired.
8. Certified-copy of Registration certificate/Company Registration documents along with all tax clearances of last three years to be submitted with the Technical Bid. Certified copy of the statement of income tax paid by the bidders for the last three years to be enclosed with the Technical Bid.

FINANCIAL BID:

1. The Financial Bid envelop should contain the net rates to be charged on the basis of per unit.
2. The rates should be quoted in figures as well as in words, on the form attached at **ANNEXURE-III** and duly signed and stamped by the authorized person.
3. The rates must be quoted inclusive of all taxes, F.O.R. destination and installation charges at EMRC, Dibrugarh University.

The offer for supply of items is subject to the Terms and Conditions as laid down in the tender document.

Sd/-
Registrar
Dibrugarh University

ANNEXURE-I

List Of Equipment for EMRC, Dibrugarh University

Bill of Material & Technical Specification

Sl. No.	Description	Qty.	Page No.
01.	PTZ Camera	03 Nos.	xviii
02.	Remote Camera Controller	01 Nos.	Xviii
03.	Production Switcher with Built in Multiviewer	01 Nos.	xviii-xxi
04.	Virtual Studio	01 Nos.	xviii-xxi
05.	Display for Multiviewer 50" +/-2" Full HD LED	01 Nos.	Xxii
06.	Display for Studio 32" Full HD LED	01 Nos.	Xxii
07.	17.3" Professional Broadcast Monitor	01 Nos.	Xxiii
08.	Interactive Display 65" Multitouch Screen Inter active Panel	01 Nos.	Xxxiii
09.	Desktop for Touch Screen Interactive Panel	01 Nos.	Xxiii
10.	Audio Mixer & Amplifier 22 Channel	01 Nos.	Xxiv
11.	Wired Lapel Microphone	02 Nos.	xxiv-xxvi
12.	Wireless Professional lavalier Microphone	02 Nos.	xxvi-xxvi
13..	Professional handheld Microphone Wireless	01 Nos.	xxiv-xxvi
14.	Professional Headphone	01 Nos.	xxiv-xxvi
15.	Audio Monitor PCR	04 Nos.	xxiv-xxvi
16.	Ear Piece for Anchor	04 Nos.	xxiv-xxvi
17.	Audio Delay Box	01 Nos.	Xxvi
18.	2 Channel Telephone Hybrid	01 Nos.	Xxvi
19.	Communication System	01 Nos.	Xxvi
20.	Tapeless Recorder/Player	01 Nos.	xxvii-xxviii
21.	Storage 500GB with USB 3.0	02 Nos.	xxvii-xxviii
22.	Scan Convertor	01 Nos.	xxix-xxx

23.	Streaming Server	01 Nos.	xxx-xxxi
24.	3G/HD/SD SDI to HDMI Converter.	02 Nos.	xxx-xxxi
25.	UpDown Cross Converter	02 Nos.	xxx-xxxi
26.	SDI Two Channel Audio Embedder	02 Nos.	xxx-xxxi
27.	1 to 4 HD/SD-SDI Distribution Amplifier	02 Nos.	xxx-xxxi
28.	Encoder Decoder Pair for Contribution Link	01 Nos.	xxxi- xxxvii
29.	Studio Sound Proof Work and Fabrication of studio and Production control Room	01 Nos.	xxxvii

TECHNICAL SPECIFICATIONS OF EQUIPMENT

--Item Nos.: 1 & 2--

For PTZ and Remote Camera Controller**1. Integrated Robotic PTZ Camera**

Integrated Broadcast Quality Robotic PTZ Camera with CMOS Sensors
 HD – 1080/50i & 1080/50p (1920X1080 resolution)

Lens

Lens Zoom Ratio : 14 x (optical) or better

Camera

Imaging Device (Type) : ½ -type CMOS sensor or better
 Focusing System : Auto / Manual
 Horizontal Resolution : ≥1000 lines
 Gain /Focus : Auto/Manual
 SNR : 50db or better
 Output Format : 1080/50p/1080/50i
 Pan/Tilt Operation Speed : Auto/Manual
 Pan Range / Angle : ±170° or better
 Tilting Range : -30° to 90°
 Preset Positions : 50 or more
 White Balance : Auto
 Sync System : Internal/External (BBS/Tri-level Sync)
 Control Interface : IP/RS422/RS 232
 Video Outputs : HD – SDI OR Better
 Power Requirements : DC 12 V (Should be supplied with suitable power supply adaptor, 50 Hz AC).

2. Remote Control for PTZ Camera

Protocol and Interface : IP or RS-422/RS232
 Preset Memory : More than 50
 LAN : 10BASE-T/100BASE-T (for IP control)/RJ45 x 1
 Adjustment functions in Control Panel : Pan/Tilt, Zoom, Focus, Iris, Gain, White Balance (Auto, R/B Gain).

---Item Nos.: 3 & 4---

3. Specifications for Digital Video Production Switcher**Essential Requirements****1. Production Switcher Operations and Features.**

- 1.1 These specifications are for HD-SD Digital Video Production Switcher. It should be compatible with formats SD/ HD-1080/50i/ & 50p.
- 1.2 Minimum Inputs required are 9 Inputs, 6 HD-SD SDI and 3 HDMI.
- 1.3 Switcher should be all in one Electronic & Control panel surface.
- 1.4 The offered equipment should be from an internationally reputed manufacturer having proven records. User submit list of the broadcasters should be submitted along with the bid.
- 1.5 The switcher should have six or more assignable FS (Frame Synchronizer)
- 1.6 User friendly control panel layout is required to facilitate high quality Video compositing in the live environment. It should also have facility to operate the switcher on a computer display panel/touch screen.
- 1.7 The switcher should have 8 directly accessible buttons.

- 1.8 It should also have 5 or more HD SDI configurable outputs and at least 1 HDMI output and should support two PGM, one preview & two aux.
- 1.9 The switcher should be capable of producing two windows (boxes) in live environment matching.
- 1.10 It should have built-in Wipe Generator for M/E
- 1.11 The switcher should have 4 keyers with built-in full functions DVE/Chroma/Linear / Luminance Keyer. It should also have one transition keyer.
- 1.12 Apart from this it should have 2 or more keyers on floating MEs/secondary-mini MEs with dissolve and cuts.
- 1.13 It should support one high quality Chroma keyers matching with Ultimate Chroma keyer quality
- 1.14 The switcher should have built-in multi-viewer with in monitor labels and tally. It should be capable of showing all the sources including PVW and PGM on one screen.
- 1.15 The switcher should have enough memory for the storage of switcher set-up parameters. It should also have in built memory / memory Drive for storing and recalling the various settings of the switcher.
- 1.16 The switcher should have 4 channels of Frame stores.
- 1.17 The switcher should have two or more 2D DVEs.
- 1.18 The switcher should have auto as well as manual transition facility.
- 1.19 It should be possible to preview all the sources and various effects created on them. It should allow each keyers to be adjusted simultaneously.
- 1.20 There should enough buttons /macros to store the events for easy recall. Control panel design should be users friendly easy to use with dedicated effect control module to allow simultaneous memory recall and trimming *etc.* It should also have high quality three axis joystick & T bar to provide position wipes, pattern washes and DVE effects etc. Switcher should also support separate media wipe transaction.
- 1.21 It should also have the provision to attach a computer with touch screen/LCD screen for preview, monitoring and for operation of various parameters/ macros/memories with the help of web buttons, thumbnails etc.
- 1.22 It should have tally out for all the cross buttons for tally light indication of on -air source via tally indicator distributor.
- 1.23 It should also have GPI inputs & outputs

TECHNICAL SPECIFICATION

1 ME Production Switcher	
No. of Video	6 Nos. or more HD-SD SDI, plus 3 or more HDMI inputs
Video input:	4:2:2, HD-SD SDI, BNC, 75 ohms, SMPTE 259M / 292M (1.5 Gbps or 270 Mbps)
Reference input:	standard definition operation - Analogue black burst 0.3 Vpp and for HD(1080i, 1080p) Tri-level Sync., BNC, 75 ohms
Output	Total No. of Video outputs should be 5 or more, plus one HDMI output
	All the outputs on regular BNC, 75Ω, 4:2:2 HD – SD SDI 1080/50i 1.5 Gbps or 576/50i 270 Mbps. Amplitude: 800 m V p-p terminated
General	Power supply: 230 V AC ± 5%, 50 Hz Operating: 5 deg. to 35 deg. C

Specifications for 5 Inputs SD-SDI & 4 inputs HD SDI 3D TRACKLESS VIRTUAL STUDIO System

SCOPE: Trackless 5 cameras SD-SDI or 4 Camera HD-SDI Virtual Studio System is required. The virtual studio system should be easy to operate and user friendly. Vendor/Manufacturer must have supplied the virtual studio systems to reputed government organization as well as private network.

Essential features:-

- The offered equipment should be fully integrated system with all hardware and software. It should be fully plug and play system and no optional or additional hardware or software should be required to use the system at highest configuration level.
- The offered equipment should accept SD-SDI and HD-SDI video inputs in PAL video standard. It should support High Definition (HD) and Standard Definition (SD) resolution simultaneously in a single system. The equipment should be able to switch to any supported resolution with the selection of that resolution.
- The equipment should support SMPTE 259M for SD-SDI and SMPTE 292M for HD-SDI video signal for inputs.
- The equipment should handle multiple cameras and switching through computer keyboard and touch screen monitor panel.
- The equipment should have user interface designed to work with touch screen monitor panel.
- The equipment should have 5 live camera inputs in SD format or 4 live camera inputs in HD format and should be able to simultaneously process, chroma key and display all 5 standard definition live video streams or all 4 high definition live video streams in a virtual set and on the live video output in the single screen.
- The equipment should support three dimensional (3D – non stereoscopic) virtual sets.
- The equipment should have advanced chroma keying facility per video input channel for all 5 standard definition live video inputs or 4 high definition live video inputs.
- The equipment should have the built in virtual camera switcher with 10 virtual camera positions.
- The equipment should have overlay (swipe) transition between two virtual cameras. It should display channel logo or program id during this transition.
- The equipment should have a separate media switcher to switch to any video clip or live video source or network input to full screen. This should work as a standalone basic switcher with mix transition without loading the virtual set.
- The equipment should have Depth of Field (Defocus) facility where the backdrop behind the anchor can be blurred to achieve the realistic look like in the optical camera lens.
- The equipment should have the facility to integrate external CG through downstream keyers – video fill and key (DSK) inputs utilizing the same video inputs. The CG graphics so integrated should be part of the virtual set environment and move with the virtual camera movement.
- The equipment should have real time preview facility to provide the look-ahead preview of the virtual camera motions and angles on VGA monitor.
- The equipment should have in-built gallery for organizing video clips & graphic image files to be used in the virtual studio system.
- The equipment should have in-built 2 digital disk players to play video clips which can be changed dynamically by drag and drop operation on air. The digital disk players should have Cue facility to automatically play and pause the video clips while playing them from these players.
- The equipment should have the facility to replace pre-defined media images and videos used in the virtual sets from the software application by simple drag and drop operation to do last minute changes in the virtual sets.
- The equipment should have in-built automation with dissolve transition between two video or image files.
- The equipment should have in-built playlist generator for playing video clips in sequence with the Mark in and Mark out facility for video clips to do simple last minute editing.
- The equipment should have in-built graphic overlay support to display images with cut and fade transition and it should support 32-bit alpha image in TGA, BMP and PNG file formats.
- The equipment should support one bi-directional scroll line overlay with variable speed.

- The equipment should have built in software capability and Ethernet input to support display of VGA screen from client computer system or laptop.
- The equipment should have in-built software module of audio mixer for 2 live audio input channels and 2 video clips.
- The equipment should have in-built virtual camera switcher with cuts and virtual motion capability like zoom in, zoom out, pan, tilt, and trolley and jib motions.
- The equipment should support reflections of virtual set and shadows of live anchors in real time
- The equipment should have built in motion designer software for creating and modifying virtual camera motion such as zoom, pan, tilt and dolly.
- The equipment should have built in global camera software support for creating and modifying virtual camera angles and motions.
- The equipment should have built in image compositing software for creating images for the use in image overlay facility in the virtual set.
- The equipment should have mechanical and logical bypass facility. SDI input 1 should be routed to SDI output 1 in case of power failure.
- The equipment should have built in audio delay facility to synchronize incoming audio and video inputs to processed video at synchronized output.
- The equipment should have Shader materials supports like glass & metal to give realistic look to the virtual set.
- The equipment should support 3D animated object in the virtual set and it should retain its original animation and should play continuously in loop irrespective of the virtual camera angles and motions.
- The equipment should have built-in Genlock input and reference loop output for synchronizing video inputs.
- The equipment should have GPI, RS 232 and RS 422 interface ports.
- The equipment should have tally facility for all its camera inputs.
- The equipment supplier should offer minimum 25 virtual sets free with the equipment.
- The equipment supplier should design, create and provide 1 custom virtual set free as per our requirement.
- The equipment should function with standard AC230 VOLT, 50Hz power supply. If the offered product function on DC supply than the firm should offer the necessary standard power adapter with required cables.
- The offered equipment should have the standard warranty of 2 years from the date of supply and installation of equipment.
- The equipment supplier should provide onsite training free of cost for operation of equipment at their expenses.
- The equipment supplier should provide onsite training free of cost for creating virtual set at their expenses.
- The equipment supplier should do installation and commissioning of supplied equipment free of charge at our studio.

HARDWARE SPECIFICATIONS:

Computer System:

- 4 RU rack mount cabinet with minimum 700 watts power supply
- Motherboard: Supermicro or Intel or Asus
- Processor: Intel i7 or Intel Xeon
- RAM: DDR IV – 16 GB or more
- Hard Disk Drive: 500 GB (2 nos.) or greater
- Graphic display card: Radeon HD RX 470 with 8 GB RAM or better
- DVD writer
- Computer keyboard
- Optical mouse

- 21.5” or higher size touch screen monitor panel
- Operating System: Microsoft Windows 7 – 64 bit - Licensed version

External breakout box with the following specification:

(For audio and video inputs and outputs with necessary cables to connect to the main system)

Video Inputs:

- 5 x SD-SDI Inputs via BNC connectors or
- 4 x HD-SDI Inputs via BNC connectors

Video Outputs:

- 2 x SDI (SD or HD) via BNC connectors
- 1 x CCVS for SD via BNC connector
- All outputs should be simultaneously visible and available for further utilization.

Audio Inputs:

- 1 x Analogue Balanced (XLR) stereo inputs.

Audio Output:

- 1 x Analogue balanced (XLR) stereo output.

Genlock input and output:

- Analog or digital reference in and loop out via BNC.

Tally:

- 15 Pin Tally Input connector for all video inputs.

Deck Controls:

- 9 Pin RS 232 connector for external VTR or digital disk player
- 9 Pin RS 422 connector for external VTR or digital disk player

--Items No.: 5 & 6.--

4. Displays:

50” +/- 2” LED	
Screen Size (diagonal):	50 +/- 2 inches
Aspect Ratio:	16:9
Panel Backlight:	LED
Display Resolution:	1,920 (W) x 1,080 (H)
Viewing Angle:	176 degree or better
Speakers:	In Built with the Panel
HDMI Input:	2 or more
Other Inputs:	USB, RCA, VGA

32” LED	
Screen Size (diagonal):	50 +/- 1 inches
Aspect Ratio:	16:9
Panel Backlight:	LED
Display Resolution:	1366 (W) x 768 (H)
Viewing Angle:	176 degree or better
Speakers:	In Built with the Panel
HDMI Input:	2 or more
Other Inputs:	USB, RCA, VGA

--Items No.: 7, 8 & 9.--

17" Broadcast Monitor	
Screen Size (diagonal):	17 inch or better
Aspect Ratio:	16:9 / 4:3 switchable
Panel Backlight:	LED
Display Resolution:	1,920 (W) x 1,080 (H)
Viewing Angle:	176 degree or better
Brightness:	350cd/m2
Contrast:	800:1 or better
Image Processing:	10Bits
Input:	3G-SDI x 2, CCVS,
Outputs:	3G-SDI x 1
Audio input	RCA and SDI Embedded
Audio Meter	Min 8 channel or better

5. Interactive Display

Panel	65 -inch LED
Aspect Ratio	16:9
No. of pixels (HxV)	1920x1080 pixels
Contrast Ratio	4000:1
Brightness	350cd/m2 or better
Panel Life	Approx. 50000 hours or Better
Touch Panel/Detection Method	Built in touch/infrared blocking detection method
Multi touch operation	Up to 12 touch in PC Mode
Terminal	Inputs: HDMI IN x 2, DVI-D IN x 1, Video IN x 1, Component Video/RGB IN x 1, PC IN x 1, Audio IN x 2, Output: VGA Out x 1, Control: LAN x 1, RS232C IN, USB memory viewer Type A X 1, External Speaker Out
Other features	Should be able to work without PC E-mail configuration directly on Interactive Display Wireless mirroring of Android/Windows Devices (Miracast) Interactivity with Mac Additional Slot for Analog /Digital inputs-for future expansion Picture in Picture Picture in White board

Note: SDI to HDMI Converter for LED should support all SDI Formats up to 3GB/s (1080p60), should have Reclocked SDI Output, Analog audio RCA Outputs, User Selectable YCbCr or RGB output. Also, it should have Automatic colorspace detection for HD or SD and USB Port for upgrades.

6. Audio Equipment

Wired Lapel Microphone
Transducer Principle: Pre-polarized condenser Frequency Range: 20–20,000 Hz Polar Pattern: Omni directional Sensitivity at 1,000 Hz: 10 mV/Pa= ^ -40 dB Equivalent Noise Level: 32.4 dB (DIN 45 412) Sound Pressure Level for 1% THD: 118 dB (for 3 % THD: 126 dB) S/N Ratio (A-weighted): 60 dB Electr. Impedance: 200 ohms Load Impedance: 1,000 ohms Power Requirement: 9–52 V phantom power (DIN 45596)
Wireless Lapel Microphone
<p><u>Receiver</u></p> Switching bandwidth: ≤30.5 MHz (country dependent) Sensitivity: 6.3 dBμV / -100 dBm Diversity System: Microprocessor-controlled diversity Modulation: Wideband FM Audio bandwidth: 35 – 20 000 Hz (±3 dB) T.H.D.: 0.3 % SNR (A-weighted): typ. 120 dB(A) Audio outputs: 1 x XLR sockets balanced, 1 x TS ¼” / 6.3 mm jack sockets unbalanced
<p><u>Transmitter (Battery Operated)</u></p> Switching bandwidth: ≤30.5 MHz (country dependent) RF output power: 10 or 50 mW (ERP, country dependent) Modulation: Wideband FM Audio input: TB3M / 3-pin mini-XLR socket (max. 2.5 Vrms) Audio bandwidth: 35 – 20 000 Hz (±3 dB) T.H.D.: ≤0.7 % SNR (A-weighted): > 120 dB(A)
Wireless Handheld Microphone
<p><u>Receiver</u></p> Switching bandwidth: ≤30.5 MHz (country dependent) Sensitivity: 6.3 dBμV / -100 dBm Diversity System: Microprocessor-controlled diversity Modulation: Wideband FM Audio bandwidth: 35 – 20 000 Hz (±3 dB) T.H.D.: 0.3 % SNR (A-weighted): typ. 120 dB(A) Audio outputs: 1 x XLR sockets balanced, 1 x TS ¼” / 6.3 mm jack sockets unbalanced
<p><u>Transmitter (Battery Operated)</u></p> Switching bandwidth: ≤30.5 MHz (country dependent) RF output power: 10 or 50 mW (ERP, country dependent) Modulation / Bandwidth: Wideband FM Microphone capsules: super cardioid Max. SPL: ≤144 dB SPL Audio bandwidth: 35 – 20 000 Hz (±3 dB) T.H.D.: ≤ 0.7 % SNR (A-weighted): > 120 dB(A)

Professional headphone	
<u>General Specifications</u>	
Headphone type semi-open	
Audio frequency bandwidth 15 - 25000 Hz	
Sensitivity headphones 104 dB SPL/V	
Rated Impedance 55 Ohms	
Detachable cable Yes	
Cable Length 3 m	
<u>Audio Interface</u>	
Type Jack Stereo (1/8") -3.5mm with 6.3mm (1/4") Screw on Adaptor	
Gender Male	
Contacts 3-pin	
<u>Wearing Style</u>	
Over ear	
<u>Cup Style</u>	
Semi Open	
Ampli Speakers	
Frequency Range	: 43 Hz-24 kHz
Max Peak SPL	: 108 dB SPL C-Weighted
Max Peak Input	: +23 dBu
LF Driver Size	: 127 mm (5")
HF Driver Size	: 25 mm (1")
LF Driver Power Amp:	41 W Class D
HF Driver Power Amp:	41 W Class D
LF Trim Control	: +2 dB, 0, -2 dB
HF Trim Control	: +2 dB, 0, -2 dB
Input Types	: 1 x XLR, 1 x TRS Balanced
AC Input Voltage	: 100-240 VAC +/- 10% 50/60 Hz
Audio Mixer	
<ul style="list-style-type: none"> • 22 or more -input analogue mixer with onboard effects • Mic preamps with ultra-low noise performance • EQ with sweepable mid-bands per channel • Reverbs, Delays, Choruses and Modulations • Limiters (High-ratio Compressors) on input channels • 2-in/2-out USB audio playback and recording • Switchable Hi-Z inputs for instruments • Hi-Pass Filters (low-cut) and 48V Phantom Power on all mic channels • Audio routing • Internal universal power supply 	
Channels: 22	
Preamps: 16	
EQ: 4-band (2 bands of swept mids)	
Limiters on inputs: 8	
Auxes: 5	
Subgroups: 4 mono/2 stereo	
Faders: 100mm	
Audio Delay Unit	
<ul style="list-style-type: none"> • Should have Microphone Input • Should have LCD display for Menu and Mode selection setting • Output volume attenuating from 0 ~ - 60 dBu • Audio delay time from 0 ~ 700m SEC • 1KHZ test tone output attenuating from +26 ~ - 34 dB 	

<ul style="list-style-type: none"> • Works on DC 12V input <p>Audio Input:</p> <ul style="list-style-type: none"> • Balanced Audio (XLR) x 2 • Unbalanced Audio (RCA) x 2 • Microphone (XLR)x1, gain +20/40/60 dB <p>Audio delay Output:</p> <ul style="list-style-type: none"> • Balanced Audio (XLR) x 2, Mic mixed • Unbalanced Audio (RCA) x 2, Mic mixed

--Items No.- 18 & 19.--

7. Telephone Hybrid – 2 Channel

Should be 2 Channel telephone Hybrid and should have the following features:

- Separate Send level and Receive level meters for each hybrid
- Place caller on-hold via front panel button
- Auto-Answer with selectable ring count
- Wide-range AGC and Dynamic EQ by Omnia, with adjustable gain settings
- Adjustable caller overrides to improve performance and allows to individualize the degree to which the announcer ducks the caller audio.
- Digital Dynamic EQ and adjustable smart leveller keeps audio spectrally consistent from call to call.
- Display meter for EQ High and EQ Low for each hybrid.
- Incoming Line Capacity - 2 POTS Analog
- Audio Interface: XLR (Analog)
- Input Range Selection: Mic and Line Levels

- **Technical Specification**

Telephone Hybrid	
Input Level	Adjustable from -10 to +4 dBu (nominal) Or better
Impedance	Bridging, > 50K Ohms
Analog Clip Point	+21 dBu
Analog to Digital conversion	20 Bits
Digital-to-Analog Converter Resolution	24 bits
Analog Outputs Connector	XLR Male
Output Level	Nominal at +4 dBu
Impedance	<50 ohms
Headroom Before Clipping	20 dB headroom from 4dBu nominal levels
Frequency Response	200 to 3400 Hz, +/- 1 dB
THD+N/Input	< 0.5% THD+N using 1 KHz sinewave
Signal to Noise	>90 dB
General purpose Input/output	Single 9 pin D-Sub connector with 2 status outputs (Ringing and ON-AIR) and 2 control inputs (ON and OFF) per hybrid
Trans-hybrid Loss	> 55 dB

8. Intercom

Intercom System	
No of Port	8 (Eight)
Call / Talk Button on Belt Pack	
Volume control on Belt Pack	

Selectable channel talk, Broadcast all or Mute buttons.	
Audio output	* Inbuilt Speaker * Headphone and earphone output Jack
Gooseneck Microphone and LED Light.	
Half Duplex design for Belt Packs	
Power ON/OFF button, Power indicator	
Volume Control	
19" Rack mountable	
Carry Case	4 Nos. Each with following Accessories * Headset with Microphone, Bi-color Tally Light indicator. * 20 Meter intercom cable, 1.8 m tally cable

--Items No.: 20 & 21--

Technical Specification for Tapeless Recorder/Player

Sl. No.	Connection	
1.	i. Video input Digital	SD / HD SDI ,10-Bit Single LINK 4:2:2(2 × BNC) HDMI.
	ii. Video output Digital	SD/HD SDI,10- Bit Single LINK 4:2:2(2 × BNC) HDMI.
	iii. Video Input Analog	SD/HD Component(3×BNC) 12-bit A/D,2×oversampling <2ns Y/C delay inequity or Composite
	iv. Video Output Analog	Component(3×BNC) HD: YPbPr,RGB SD: YPbPr,RGB(Component Mode) 12-bit D/A,8×Oversampling PAL <1ns Y/C delay inequity or Composite
	v. Audio Input Digital	2-Channel or 8 Channel user Selectable 8 Channel,24-bit SDI embedded audio,48khz sample rate,synchronous 2-Channel,24 bit HDMI embedded audio,48khz sample rate,synchronous. 8-Channel,24-bit AES/EBU audio,48khz sample rate,synchronous or non synchronous,internal sample rate conversion(4×BNC)
	vi. Audio Output Digital	8 Channel,24-bit SDI embedded audio,48khz sample rate,synchronous 8-Channel,24 bit HDMI embedded audio,48khz sample rate,synchronous. 8-Channel,24-bit AES/EBU audio,synchronous or non synchronous,internal sample rate conversion(4×BNC) 2-Channel,24-bit A/D analog audio,48khz sample

vii. Audio Input Analog	rate,balanced(2×XLR) +24dBu full scale digital. 20 to 20 khz frequency response.
viii. Audio Output Analog	2-Channel,24-bit A/D analog audio,48khz sample rate,balanced(2×XLR) +24dBu full scale digital. 20 to 20 khz frequency response. Stereo unbalanced headphone
ix. Up Conversion	Hardware 10-bit Anarmophic fullscreen Pillarbox 4:3 image in center Zoom 14:9 Zoom Letterbox Zoom Wide
x. Down Conversion	Hardware 10-bit. Anarmophic:full screen Letterbox Crop
xi. Time Code	SDI RP188/SMPTE 12M via SDI BNC LTC input (1 ×BNC) LTC output (1×BNC)(active during playback) Hardware 10-bit
xii. Cross Conversion	1080i to 720p 720p to 1080i
xiii. Network Interface	10/100/1000 Ethernet (RJ-45) Embedded web server for remote Control.
xiv. Reference Input	Analog color Black (1V), OR Composite Sync(2 or 4V)
xv. User Interface	2×20 character display with dedicated buttons.
xvi. Storage Module	Removable
xvii. Codec Support	Apple ProRes422 Apple ProRes 422(HQ) Apple ProRes 422(LT)
xviii. Video Formats	Apple Pro Res 422(Proxy) Avid DN×HD 36 Avid DN×HD 145 Avid DN×HD 220 1080i 25,29.97,30 1080PsF 23.98,24,25,29.97 1080p 23.98,24,25,29.97
	720p 23.98,25,29.97,50,59.94,60 625i25 525i 29.97

	xix. Power Supply	100-240 VAC 50/60Hz, Dual redundant power supply
	xx. Warranty	36 month manufactures warranty

--Item Nos.-22 & 23--

9. Scan Converter

Scan Converter to Convert computer content to broadcast video
Should have feature to select region of Interest out of complete frame that can be processed and scale up/down as required to integrate with other broadcast equipment.
Should have Analog black burst bi-level or tri-level genlock feature
Should have hue, chroma, saturation, and brightness levels adjustment of output signal.

<u>Technical Specification</u>	
Input	DVI-I (Digital)/HDMI DVI-I (Digital) single-link 29-pin female connector (1920 x 1200 @60FPS maximum resolution)
Output	DVI-I (Digital)/HDMI, SDI HD/SD Output, Y/C Output, Composite Output
Supported video ouput formats	PAL, NTSC 720p 50/59.94 1080i 25/29.97
SDI output	SD-SDI, YUV 4:2:2 10-bit 24-bit, 48 kHz BNC connector (75 Ω) Compliant with SMPTE 259M-C, SMPTE 272M HD-SDI, YUV 4:2:2 10-bit 24-bit, 48 kHz Compliant with SMPTE 292M, SMPTE 299M BNC connector (75 Ω)
Analog output	<u>S-Video & composite video output</u> PAL, NTSC, NTSC-EIAJ Frequency response: +/- 0.25 dB max to 5 MHz <u>Analog component video output</u> Betacam, Betacam SP (NTSC & NTSC-EIAJ) SMPTE/EBU N10 (PAL) Frequency response Y: +/- 0.25 dB max to 5 MHz

10. Streaming Device

Dual-Channel H.264 Encoder for Broadcast Streaming and Recording
Should have dual channel Streaming facility
Should have Dual Channel Recording facility on either SD card/USB or remotely to network mapped drive on selectable bitrates.
Should have selectable input between HDMI and Professional SDI inputs.
Should have easily selectable presets/Custom presets for streaming and recording that define all the encoding parameters including resolution and bitrate.
Should be control and configured easily from any device on the network.

Should have Closed Captioning Support

Technical Specification	
Supported SDI Video Input	1080p @ 60/59.94/50/30/29.97/25/24/23.98 720p @ 60/59.94/50 1080i, 576i
Supported HDMI Video Input	1080p @ 60/59.94/50/30/29.97/25/24/23.98 720p @ 60/59.94/50 1080i 29.97/25
HDMI Video Output	Preview output of video input signal
SDI output	Passthrough of Input signal, with hardware bypass relay
Audio Input	Two Channel of SDI and HDMI input signal Analog audio input via 3.5mm jack
Audio Output	HDMI and SDI audio Analog stereo output via 1/8" (3.5mm) jack— passthrough of input.
H.264/MPEG-4 Video Encoder	
Resolutions	128x128 to 1920x1080 selectable
Bit Rates Range	Max -30Mbps for both channel and 20Mbps for single channel
Recording File Format	MP4 and MOV
Network Interfaces	RJ45 providing 10/100/1000 Base-T Ethernet
Protocols	RTMP, RTSP/RTP IPv4 Support Unicast and Multi Unicast

--Item Nos.- 24, 25, 26 & 27—

Technical Specification for SDI to HDMI Converter.

Conversion	3G/HD/SD-SDI To HDMI
Video Input	1×3G/HD/SD-SDI
Loop Through	1
Video Outputs	1×HDMI with Embedded Audio
Audio Inputs	2×RCA (Stereo Pair) 2×SDI Audio Embedded
Audio Outputs	2×HDMI Audio Embedded
Supported Video Input Formats	480i(NTSC),576i(PAL),720p(50/59.94/60Hz),1080i(50/59.94/60Hz), 1080p(23.98/24/24/25/29.97/30/50/59.94/60Hz)
Output Resolutions	Automatically matches the SD, HD AND 3G SDI video input
Equalizer	Yes
Reclock	Yes
SDI Cable Drive	Yes
Power	DC 12 V,4 Watt

Technical Specification for Up Down Cross Converter.

Conversion	VGA/HDMI/SDI To HDMI /SDI Multi – Format Up/Down/Cross
Video Inputs	Sel:1×VGA,1×HDMI,1×3G/HD/SD-SDI
Loop Through	Yes
Video Output	2×3G/HD/SD-SDI with Embedded Audio

	1×HDMI
Audio Input	2×RCA(Stereo Pair), 2×SDI/HDMI Audio Embedded
Audio Output	SDI embedded audio up to 8CH, 48KHz, PCM Audio HDMI embedded audio up to 8CH,48KHz, PCM Audio.
Supported Video Input Formats	800×600(60Hz),1024×768(60Hz),1280×1024(60Hz),1366× 768(60Hz) 1400×1050(60Hz),1600×1200(60Hz),1280×720(60Hz),1920 ×1080(60Hz), 480i,480p,525i,576i,576p,625i,720p(50/59.94/60Hz),1080i(50/59.94/60Hz), 1080psf(23.98/24/25/29.97/30Hz),1080p(23.98/24/25/29.97/ 30/50/59.94/60Hz)
Output Resolutions	Sel:525i,625i,720p(50/59.94/60Hz) 1080i(50/59.94/60Hz) 1080p(23.98/24/25/29.97/30/50/59.94/60Hz)
Equalizer	Yes
Reclock	Yes
SDI Cable Drive	Yes
Power	DC 12V,6 watts

Technical Specification for SDI Audio Embedder

SDI Video Input	3G/HD/SD SDI ×1
SDI Video Output	3G/HD/SD SDI ×2
Analog Audio Input	Mini XLR (balanced)×2, RCA (unbalanced)×2 Mini XLR 1 & RCA 1 mixed to CH 1 Mini XLR 2 & RCA 2 mixed to CH2
Analog Audio Output	N/A
Indicator	Power LED ×1 Audio Level LED :2 Rows
Updates and Configuration	Mini USB ×1
Audio Format Selection	SMPTE, EBU
Gain	Yes

Technical Specification for 1×4 HD/SD-SDI distribution Amplifier

Video Input/output	Input: 1×BNC, Output:4 ×BNC
Video Format	1080i 60/59.94/50,720p 60/59.94/50,525i,625i
Audio Format	Support SDI embedded audio
Power	12V/1.6W

-ITEM NO- 28- Specifications for Encoder

Video Compression	MPEG -2 SD 4:2:0, MPEG-2 SD 4:2:2, MPEG-2 HD 4:2:0, MPEG-2 HD 4:2:2, MPEG-4 AVC 4:2:0 SD, MPEG -4 AVC 4:2:2 SD 8/10 Bits, MPEG-4 AVC 4:2:0 HD, MPEG -4 AVC 4:2:2 HD 8/10 Bits.
Profiles and Levels	MPEG-2 MP@ML, MPEG-2 M@HL, MPEG-4AVC MP @L4.0, MPEG- 4AVC HP @L4.0, Hi422 @L4.1

Video Format	PAL, NTSC
Resolution 576(PAL)	Auto,720×576,704×576,640×576,544×576,528×576,480×576,368×576,352×576,352×288
720	Auto,1280×720,960×720,640×720
1080	Auto,1920×1080,1440×1080,1280×1080,960×1080
MPEG-2, MPEG-4 Pre Processing	Scene cut Detection Analog/Digital Time base corrector (TBC) TO HANDLE RAW VTR outputs. Auto Frame resizing Motion Compensated temporal filter. Noise reduction filters. Low pass Filter.
MPEG-4 AVC Video In –Loop Processing	Deblocking Filter.
Audio	
Number of Channels	Up to four digital stereo channels AES/EBU, EMBEDDED OR TWO ANALOG CHANNELS. Up to eight digital channels AES/EBU, embedded or eight analog channels (optional)
Audio Formats	
Standard	MPEG-1 Layer 2 Dolby Digital (AC-3)5.1 Passthrough
Optional	AC-3 2.0 MPEG -2 AAC LC MPEG-4 HE-AAC v1, v2 Linear Audio Passthrough Dolby –E Passthrough
Operating Modes	Joint stereo, single channel, dual channel
Video and Audio Input	
Video Inputs	Composite (PAL/NTSC) SD-SDI (SMPTE-259M) WITH EDH HD-SDI(SMPTE-292M) Support video Loop Through
Audio Inputs	Four balanced XLR INPUTS Eight Terminal Block Inputs (optional) Integrated sample rate Converter(SRC)
DVB-ASI	Built in Multiplexer for encoder Cascading Passive Loop through Cascading

Sync Lock	Black Burst Through capability
Data	Asynchronous RS-232 UPTO 115 Kbaud MPE (Multi Protocol Encapsulation) Upto 20 Mbps.
Video and Audio Output	
DVB – ASI	
Output Rate	350 kbps-120Mbps
Number of Connectors	One or More
IP Output	Dual GbE IP OUTPUT, RJ-45, AUTO –NEGOTIATION Auto MDI/MDIX Crossover UDP/RTP TOS/TTL Configurable Values. SMPTE-2022 (Optional)
System Management	
Remote	Web Based Management, snmp
Local	Graphical front panel with quick access keys and alphanumeric keypad.
Software Update	Via FTP
Dry Contact Alarms(GPI)	One Output for Various status and faults
Presets	Up to 60 different configurations.
Power	
Input Voltage Range	90-260 VAC -48 DC(Optional)
Consumption	Up to 88W UP TO 100W(WITH DC power feed for BUC)
Physical	
Dimensions(w×h×d)	17.1 in × 1.75 in × 19.1 in(1RU) Approx.
Weight	6kg approx.
ENVIRONMENTAL	
Operating Temperature Range	+32 degree to +122 degree F 0 degree to 50 degree Celsius
Storage Temperature Range	-4 degree to +158 degree F -20 degree to 70 degree Celsius
Operating Humidity	85% non-condensing

Specifications for Decoder

RF Input Interfaces DVB-S/S2	
No of inputs	Four L-band(optional)
Connectors	Four F-Type 75 OHM

Freq range	950-2150 MHz
LNB Power	13VDC,18VDC/350mA
Transport Stream Input Interfaces	
DVB/DVB-S2/DVB-S2X ²	
Inputs	Single Service
Constellation	DVB-S:QPSK,8PSK
Symbol Rate	1-45 Msym/s
Input Level	-65 to -25dBm
Throughput Range	Up to 108 Mbps
Tuning Step Size	125kHz
FEC	All Ratios compliant with Standard
FEC Blocks	Normal
Roll-Off	0.2,0.25,0.35 and 0.05 etc.
Modes	CCM, VCM
Pilots	On & Off
ASI	
No of inputs	Four
Connectors	One BNC 75 ohm
Packet Length	188 or 204 byte packets
TS Max Input Bitrate	160 Mbps
MPEG Over IP1	
No of Inputs	Four simultaneous SPTS/MPTS
Connectors	Two 100/1000 Base –T RJ45 for Redundancy
Sockets	Four
Encapsulation Protocols	MPEG-2 TS Over UDP

Transport Stream Output Interfaces

ASI	
Outputs	four
Connectors	BNC ,75 Ohm
Packet Length	188
TX Max Output Bit rate	108 Mbps
MPEG Over IP	
No of Inputs	Four simultaneous SPTS/MPTS
Connectors	RJ45,100/1000 Base-T

Sockets	four
Redundancy	1+1 physical layer support.
Encapsulation Protocols	MPEG-TS over UDP
Addressing	Multicast
FEC	SMPTE-2022 FEC Deep Packet Recovery (DPR) For Public Internet delivery (Optional)

Processing/Remultiplexing
Stream and Service level remultiplexing with service/unreferenced PID remultiplexing
Service filtering and remapping
ES PID remapping
Unreferenced PID filtering and remapping
High Accuracy PCR restamping
PSI/SI Processing and regeneration
CA signaling removed when descrambling

DESCRAMBLING

Embedded Descrambling	BISS, Verimatrix
DVB-CI Interface	Two Independent CI Slots, EN-50221
CA Methods	Multicrypt, Simulcrypt
Support CAMs	Aston Multi for Conax, Irdeto and Viaccess –Orca /SCM/DECRYPT CAMs and encryption etc
Multi Channel	Variable Depending on CAM (e.g. Aston)
Descrambling	Professional enables descrambling of upto 12 services and upto 24 PIDs)

Video Decoding

Number of Channels	One
Decoding Formats	
MPEG-2 SD 4:2:0	MP@ML
MPEG-2 HD 4:2:01	MP@HL
MPEG-4 AVC SD	MP@L3
MPEG-4 AVC HDI	MP@L4.0 , HP@4.0
Maximum Video Rate	
MPEG-2 SD	15 Mbps

MPEG-2 HD	20 Mbps
MPEG -4 AVC SD	10 Mbps
MPEG-4 AVC HD	20Mbps(MP),25Mbps (HP)
Video Formats	1080i229.97,30,25fps 720p 59.94,50,60 fps 480i@29.97 fps 576i@25fps 480p@59.94fps
Analog Video Output	PAL-B/G/I/M/N/D NTSC SECAM
VIDEO PROCESSING	
HD Video down-converted to SD with SD with aspect ratio conversion	
Aspect ratio conversion 16:9 to 4:3	
Simultaneous HD-SDI and SD-SDI Output	
VBL reinsertion in composite video and embedded in SDI	
CC CEA 608/708 re-insertion in composite video and embedded VANC	

Audio Decoding

Audio PID Decoding	Two Audio PIDs
Decoding Formats	Stereo Down Mix MPEG -1 Layer II (Music am) Dolby Digital (AC-3)/Dolby Digital Plus(E-AC-3)Stereo Decode AC-3/E-AC-3 5.1 Decoder AC-3/E-AC-3 5.1 down mix pass-through AAC/HE-AAC,LC stereo decode AAC/HE-AAC LC 5.1 decode, down-mix pass-through

Video and Audio Interfaces

Video Input Transcoding	MPEG-4AVC SD, MPEG-4AVC HD
Video Output	One or more composite (PAL/NTSC) SD/HD/3G-SDI with embedded Audio. HDMI
Audio Output	Two analog audio stereo pairs, balanced ,15-pin D-connector. Two digital audio (AES/EBU-S/P-DIF) EMBEDDED SDI /Two digital audio, balanced ,15-pin D- Connector

Control and Monitoring

HTTP browser interface
Ethernet: RJ 45 10/100Base T Control Interface
Front –Panel keypad and LCD
SNMP TRAPS AND Alarms/Telnet/Terminal via RS-232 o RS-485
XML interface for control and monitoring
Harmonic DMS Video distribution management system
Control
GPI

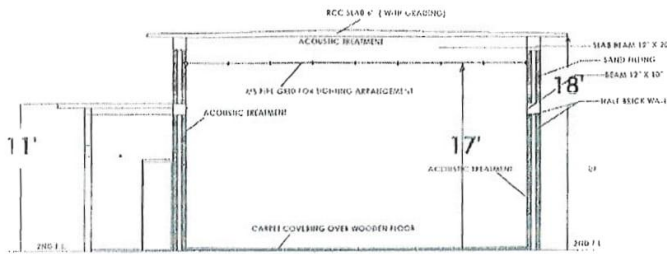
ENVIRONMENTAL

Operating Temperature	0-50 degree Celsius
Operating Humidity	5-90% (non conducting)
Storage and Transportation Temperature	-40 degree Celsius -70 degree Celsius
Storage and Transportation Humidity	0-95 % (non-conducting)

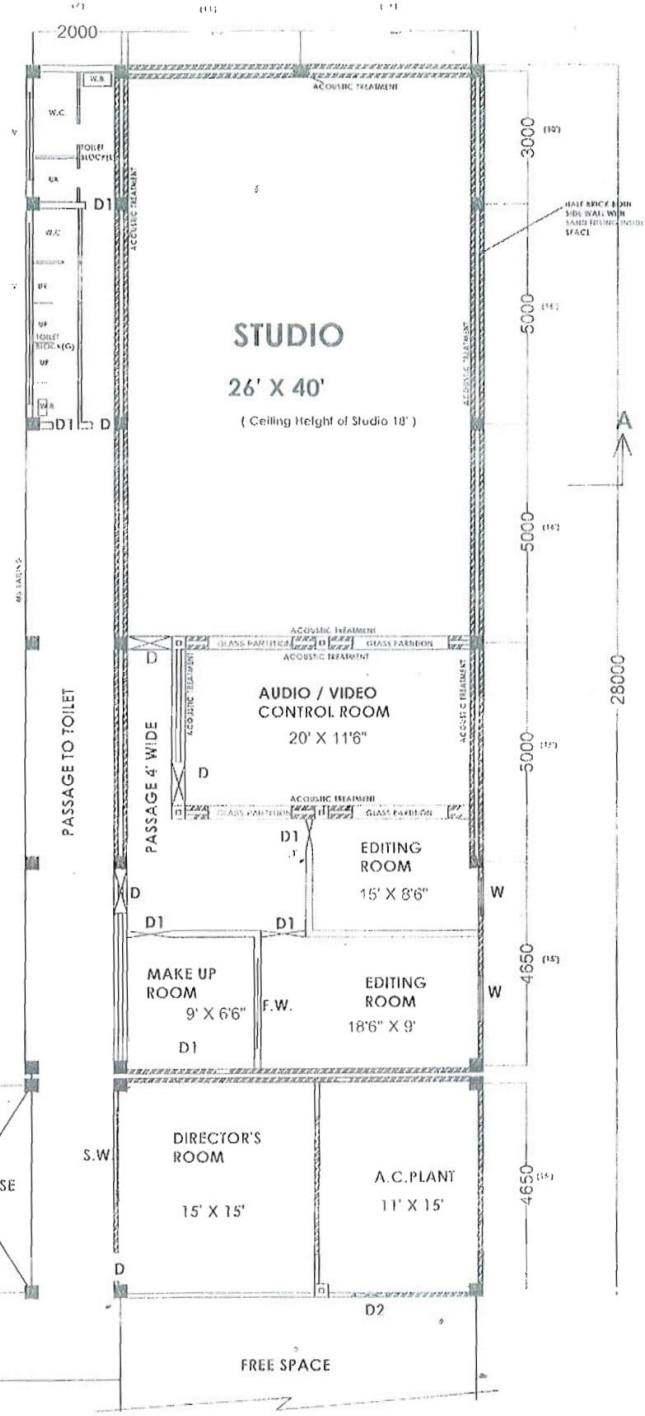
--Item No.- 29—

Specification for Studio Sound Proof Work and Fabrication.

Sl. No.	Work Detail	Specification	Quantity
1.	Studio Acoustic Work Studio Size	L×B×H (40×26×18)	
2.	Production Control Room (PCR)	L ×B (20×11.6)	
3.	Studio LED Light	1ft ×2 ft Bi color 12w	20
4.	Studio LED Light	1ft ×1ft Bi color 60w	8
5.	Safety chain and c- clamp	Safety chain and c- clamp	28
6.	DMX Controller for Lighting		01

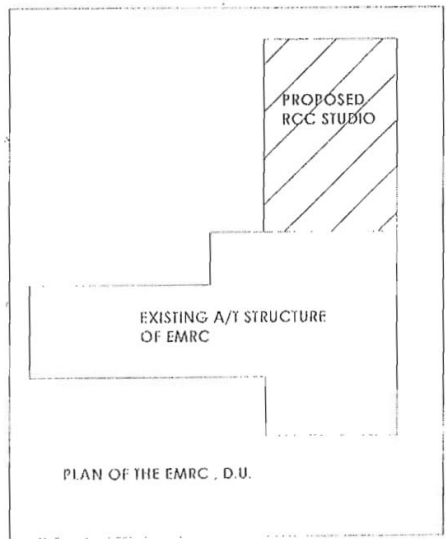


SECTION AT "AA"



DOOR SPECIFICATION:

- D= Specially Designed 250mm thick Solid Flush Door
- D1= Aluminium Single leaf glazed door
- D2= Solid Flush door fitted on iron angle frame 3'3" x 7'



TOTAL BUILT UP AREA 3000 SQFT.

PLAN FOR THE PROPOSED STUDIO OF E.M.R.C. , DIBRUGARH UNIVERSITY.

All Installation Material to complete the studio setup along with cable (Belden/Canare), connectors (Neutrik/Canare). Quantity and material are suggestive only and any other item required/necessary for completing the SITC of the Studio need to be quoted separately.

1. Tender forms, specification of Instrument & terms and condition are available on the Dibrugarh University website www.dibru.ac.in. Tender documents of specified Code No. item can be downloaded. The tenderer should submit separate tender form /application form for each item.
2. The tender forms will also be issued by the Office of the Registrar, Dibrugarh University, Dibrugarh until one day prior to the date fixed for submitting the tender form on a requisition submitted by applicant in person along with the tender form fee receipt.
3. The applications received later than the prescribed date and time will not be considered. The undersigned will not be responsible for any delay or non-receipt of tender forms.
4. Tenderer will have to submit a bank draft of earnest money in favour of Registrar, Dibrugarh University as shown against the tendered equipment. This will be refundable after the finalization of the tender.
5. The successful tenderer, on receipt of supply order, will have to deposit 03 % of the cost of the tendered instrument as security money in the form of fixed time deposit (for 18 months) which will be refundable as per terms & conditions of the tender.
6. Tenderers should give minimum 1 (one) year guarantee and 3 (three) years warranty on the item (s) proposed in tender.

Important Note:

1. Tenders not fulfilling the terms and conditions of the tender are liable to be rejected.
2. D.U. reserves the right to accept/reject any/all the tenders without assigning any reason thereof.
3. Dibrugarh University reserves the right to Add / modify / relax or waive any of the conditions stipulated in the tender document whenever deemed necessary.

**Sd/-
Registrar**
Dibrugarh University

Copy to:

1. The Hon'ble Vice-Chancellor, D.U. for favour of kind information.
2. The Deputy Registrar (F&A) *i/c*, D.U. for information.
3. The Programmer, D.U. is requested to upload the same on the University website
4. Office File

**Sd/-
Registrar**
Dibrugarh University

CONTRACT FORM

(To be made on Rs 100.00 Non Judicial Stamp Paper)

DRAFT AGREEMENT FORMAT

This agreement is made at Dibrugarh on theday ofTwo Thousand Nineteen between.....**acting through Shri**....., **Dibrugarh University, Dibrugarh, Assam** (hereinafter called 'Client' which expression shall, unless repugnant to the context or meaning thereof be deemed to mean and include its successors, legal representatives and assigns) of the First Part.

SECOND PART

M/s....., having its registered office at.....(hereinafter called the 'Agency' which expression unless repugnant to the context shall mean and include its successors-in-interest assigns etc.) of the **Second Part**.

WHEREAS the '**CLIENT**' is desirous to engage the '**AGENCY**' for purchase, supply, installation, testing & commissioning of Audio/Video for Educational Multimedia Research Centre (EMRC), Dibrugarh University as per the terms and conditions stated below:

1. If the selected Agency fails to deliver the equipment or replace the defected/spurious items within the stipulated date & time, a penalty on a daily basis for delay @ Rs. 500/- (Five Hundred) on per day basis, subject to maximum of Rs. 5000/- per item as penalty and the actual cost paid to be an outside agency by the Dibrugarh University, for the desired Equipment's, shall be deducted from the firm's pending bills or Performance Security, as the case maybe.
2. The Agency shall be bound by the details furnished by him/her to the Dibrugarh University while submitting the tender or at subsequent stage. Upon selection of the Agency, if at any stage, the documents furnished by him/her is found to be false or the quality of the articles or rates are found of poor quality/different Technical Specifications, it would be deemed to be a breach of terms of contract, the contract shall be cancelled and performance security shall be stand forfeited.
3. The rate quoted by the selected Agency, and as approved by the Dibrugarh University, shall remain valid throughout the period of contract and the request to increase the rates for any or all items, during the currency of contract, shall not be entertained at any stage.
4. The selected Agency shall not be allowed to transfer, assign, pledge or subcontract its rights and liabilities under this contract to any other agency/ies without prior written consent of the Dibrugarh University If it is found that the firm has given sub-contract on the basis of procurement/ supply order, the contract shall stand cancelled & the performance security shall stand forfeited.
5. Dibrugarh University shall not be responsible for any financial loss or other damaged or injury to any item(s) or person deployed/supplied by the successful bidder in the course of their performing the duties to this office in connection with purchase order/supply/testing/installation/commission of order for Equipment's.
6. The Competent Authority of Dibrugarh University reserves the right to relax/withdraw any of the terms and conditions mentioned in the tender documents, if doing so is in the interest of the Dibrugarh University

7. The rate submitted by the Agency should not be higher than the Govt. Approved /DGS&D Rates at which the Equipment's are being supplied by it to other Govt. Institutes/Ministries/Departments. If subsequently it is found that the firm has supplied equipment at higher rates to the D.U., the excess amount shall be recovered from the Performance Security and/or from the pending bill(s) of the firm along with a penalty of Rs.1,000/-on firm on such occasion and shall be doubled on subsequent occasions.

8. Quality of Goods and Services: The equipment/product must confirm to the Technical specifications given in page No.vii-vvx and of desired quality. The bidder shall guarantee that item(s) delivered to the purchaser are brand new and not refurbished one. Consistency in quality shall be maintained for the entire lot of products offered. All the required quantity of items in schedule of requirement shall be of the same brand and model no. The bidder shall not substitute any internal components or subsystems of the product by similar items of different manufacturers. All the equipment shall be supplied with the relevant interface cables, Peripheral's Setup/Software CDs, and necessary standard accessories. The vendor shall be responsible for the quality of supply. Successful bidder has to past non-removable sticker on all the equipment with details of Tender no., Bidder's name, Address, Contact detail, Service Centre/ help line number and warranty expiry date.

9. Delivery & installation: Within 30 working days from the date of confirmed purchase Order/Purchase Instruction issued by the Competent Authority of Dibrugarh University.

10. Any complementary scheme offered by the manufacturer shall be provided to the Dibrugarh University with no additional cost.

11. The contract shall be for a period of 01 (one) year from the date of award of contract or as indicated in the letter communicating award of contract to the selected firm(s). The contract may be extendable year to year, subject to maximum period of 1 (one) year, on the same terms and conditions or with some addition/deletion/modification mutually agreed upon by the successful Bidder and D.U.

DRAFT AGREEMENT

THIS AGREEMENT will take effect from.....day ofTwo Thousand Nineteen and shall be valid for 01 (one) year.

IN WITNESS WHEREOF both the parties here to have caused their respective common seals to be hereunto affixed / (or have hereunto set their respective hands and seals) the day and year mentioned above in Dibrugarh in the presence of the witness:

<p>For and on behalf of the ‘Agency’</p> <p>Signature of the authorized Official</p> <p>Name of the Official</p> <p>Stamp / Seal of the ‘Agency’</p> <p>SIGNED, SEALED AND DELIVERED</p> <p>By the Said</p> <p>_____</p> <p>Name on behalf of the ‘Agency’ in presence of</p> <p>Witness: _____</p> <p>Name : _____</p> <p>Address: _____</p> <p>_____</p>	<p>For and on behalf of the Registrar, D.U.</p> <p>Signature of the authorized Officer</p> <p>Name of the Officer</p> <p>By the said</p> <p>_____</p> <p>Name on behalf of the Registrar, D.U. in presence of</p> <p>Witness: _____</p> <p>Name: _____</p> <p>Address: _____</p> <p>_____</p>
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LETTER OF AUTHORISATION FOR ATTENDING BID OPENING
(In Organisation Letterhead)

To,

**The Registrar
Dibrugarh University
Dibrugarh, Assam
786004**

Subject: Authorisation for attending bid opening on..... (date) in the Tender of.....

Following persons are hereby authorised to attend the bid opening for the tender mentioned above on behalf of.....(Bidder) in order of preference given below.

Order of Preference

Name Specimen

Signatures

I.

II.

Alternate Representative

Signatures of bidder

Or

Officer authorized to sign the bid

Documents on behalf of the bidder.

Note :

1. Maximum of two representatives will be permitted to attend bid opening. In cases where it is restricted to one, first preference will be allowed. Alternate representative will be permitted when regular representatives are not able to attend.
2. Permission for entry to the hall where bids are opened may be refused in case authorization as prescribed above is not recovered.

TENDER FORM
(TO BE FILLED UP BY THE TENDERER)

1. NAME & FULL ADDRESS OF THE FIRM :

2. ADDRESS OF THE REGISTERED OFFICE :

3. INCOME TAX PAN NO. :

4. (A) SALES TAX REGISTRATION NO. :
(B) YEAR OF CLEARANCE CERTIFICATE :
(Attach Certificate)
5. WHETHER PVT. FIRM/LIMITED COMPANY/
PRIVATE LTD / PARTNERSHIP :

6. IF SINGLE PROPRIETOR, NAME & :
ADDRESS OF THE PROPRIETOR

7. IF PARTNERSHIP FIRM, NAME & :
ADDRESSES OF THE PARTNERS

8. WHETHER YOU HAVE ANY SHOP OR :
ESTABLISHMENT IN INDIA, IF SO
DETAIL ADDRESS OF THE SAME

9. NAME & ADDRESS OF THE PERSON WHO :
WILL REPRESENT THE FIRM WHILE DEALING
WITH DIBRUGARH UNIVERSITY

SIGNATURE OF THE TENDERER WITH SEAL

CHECK LIST OF DOCUMENTS ENCLOSED

Sl. No.	CHECKLIST	COMPLIANCE
1.	The Earnest money & value	
2.	Dibrugarh University Tender Number	
3.	Quoted by Manufacturer/Representative	
4.	Whether the firm has been blacklisted by any govt. Deptt.	
5.	Annual Turnover during last 3 years – minimum Rs. 20 crores?	
6.	Valid authorization letter from the OEM with reference to the specific Dibrugarh University tender	
7.	Quotation of each tendered item submitted separately and in separate covers	
8.	Two bid system, Technical and Commercial bids for each item in separate and sealed covers	
9.	Tender validity for 6 (six) months) from the date of opening of the tender	
10.	Undertaking that the Tenderer will provide after sale service, service & operation Manual (Hard & Soft Copy) extension boards and spare parts for the equipment in India for a minimum period of 5 (five) years.	
11.	Compliance statement	
12.	Detailed technical literature, specifications, relevant diagrams	
13.	Submit list of similar supplies or projects undertaken	

DETAILS OF TENDERER

Sl. No.		
1.	Name of tenderer/company	
2.	Registration number	
3.	Registration Address	
4.	Name of Partners/Directors	
5.	Bidder Type (Indian)	
6.	City	
7.	State	
8.	Postal Code	
9.	Company's Establishment Year	
10.	Company's nature of Business	
11.	Company category (Micro unit as per MSME/SMALL UNIT as per MSME/Medium Unit as per MSME/Ancillary Unit/Project affected person at this Company/SSI/Other	
12.	Contact Details (please provide company contact person details)	
13.	Contact Name	
14.	Date of birth (DD/MM/YYYY)	
15.	Correspondence:	
16.	Company legal status (Limited/Undertaking/Joint Venture/Partnership/Other)	
17.	Designation	
18.	Phone/Mobile	
19.	Registration details:	
	a) PAN No./TAN No./GSTN (attach proof)	
	b) Service Tax Registration No.	
	c) Sale Tax Registration	
20.	Details of Earnest Money Deposit	
	a) Amount in Rupees	
	b) DD No. and date	
	c) Drawn on Bank.	
	d) Valid up to	
21.	Total Turnover of three preceding years	
	a) 2015-16	
	b) 2016-17	
	c) 2017-18	
22.	Minimum Annual Turnover 20 crores	a) YES b) NO.
23.	The firm should have at least 5 years experience in supply of similar equipment supply, installation, testing and commission experience in Govt./Ministry/Department/Autonomous Body/PSU etc.)	
24.	Whether your Agency has been blacklisted by any of the Department/Organization (Attach undertaking on the letter head of the firm)	
25.	Firm must provide customer satisfaction letter from customers from Govt. Department/PSU/Autonomous Body, while submitting the technical bids.	

This is to certify that we have carefully read the contents of the tender document and fully understood all the terms and conditions therein and undertakes myself/ourselves to above by the same.

PLACE:

Signature of the tender:

Date:

Name of the firm/Company:

TECHNICAL BID

TENDER FORM - "I"

- (i) Subject: Tender for Equipment against Tender No.
for Equipment
- (ii) Name and Full Address of the firm submitting the tender)
- (iii) Address to: The Registrar, Dibrugarh University, Dibrugarh-786004
- (iv) Tender fee amounting Rs. 1000/- has been deposited vide Demand draft No.
dtd..... Bank..... in favour of the Registrar, Dibrugarh
University, Dibrugarh-786004.
- (v) We agree to abide by all the terms & conditions mentioned in attached sheets (Page
1 to 5) GENERAL TERMS AND CONDITIONS OF TENDER AND CONTRACT)
WITH tender NOTICE No.....
- (vi) Tender form and all the attached sheets of terms & conditions have been signed in the
prescribed margin by us, in token of our acceptance of the terms and conditions there in.
- (vii) Our specifications for the supply of are as under:
(Mention name of Item)
(Mention specifications in the above space and also quote Equipments (s) on letter head
of firm along-with detail specifications and attach pamphlet and literature of quoted
Equipment).
- (viii) Draft No..... Date Rs..... (In words)
.....
Bank in favour of the Registrar, Dibrugarh
University, Dibrugarh-786004 against earnest money as mentioned in the advertisement,
is enclosed herewith.

SEAL AND SIGNATURE OF PROPRIETOR/
MANAGER / REPRESENTATIVE OF THE FIRM
ON BEHALF OF THE FIRM GIVING TENDER

Note: Please ensure

1. The name of Tendering firm is written on the overleaf of Demand draft of EMD.
2. Enclose hard copy & CD of Tendered Specification.

ANNEXURE-III

FINANCIAL BID

TENDER FORM -"2"

- (i) Subject: Tender for Equipment No. :
- (ii) Name and full Address of the firm:
submitting the tender
- (iii) Address to : The Registrar, Dibrugarh University, Dibrugarh-786004.
- (iv) Reference TENDER Notice No.:
and date
- (v) Our rates supply of are as under:
(Mention name of Equipment)
(Mention rates in the above space and also quote Equipments (s) on letter head of firm
along-with detail specifications and attach pamphlet and literature of quoted Equipment).
- (vi) We further agree to deliver mentioned University within a period ofdays
from the date of the receipt of supply order.
- (vii) We confirm the rates quoted above are valid up to

SEAL AND SIGNATURE OF
PROPRIETOR/MANAGER/
REPRESENTATIVE OF THE FIRM ON
BEHALF OF THE FIRM GIVING TENDER

Note: Please ensure

1. Letter head containing specification of the equipment is also attached with this form & the envelope has been super-scribed "TECHNICAL BID for"
2. The name of Tendering firm is written on the overleaf of Demand draft of EMD
3. The cost or equipment and taxes should be shown separately

Other requirements:

1. Acceptance Criteria

- i. The company should send the XRD patterns of the NIST standard samples, recorded on the machine after the fabrication of the system at the factory. Subsequently, they should demonstrate the same parameters after the installation of the machine at Dibrugarh University. The set of NIST standard samples should be provided by the company.
- ii. To check the temperatures, company should send the XRD patterns of the standard samples, recorded on the machine after the fabrication of the system at the factory, at the temperatures specified by the users. Subsequently, they should demonstrate the same parameters /temperature on the same samples after the installation of the machine at Dibrugarh University. These set of standard samples which show well

defined transition temperatures, for testing the temperature, should be provided by users.

2. Deliverable Documents

All documentation shall be in English language. In addition to the hard copies, soft copies of the manuals shall be submitted vide –CD

- System Operational Manual in print and CD
- System Maintenance Manual in print and CD
- Calibration Procedure Manual in print and CD
- Complete set of Service Manuals for all components, circuit diagrams of subsystems and electronic boards
- Complete set of Engineering Drawings
- Alignment procedure and hardware setting in print and CD should be clearly given.

3. Installation & Commissioning

The instrument(s) to be installed tested and commissioned by representative of supplier at Dibrugarh University to the satisfaction of user.

4. Training

The supplier should provide the adequate training to at least three users at Dibrugarh University free of cost.

5. Warranty

2 (Two) year on site comprehensive warranty for entire system including all cost. Purchaser will not pay any amount during warranty period. The spares and support should be available for 10 years after the warranty period or in other words up to 12 years from the date of installation and commissioning of the quoted model, and manufacturer should give in writing along with offer. In case of any failure within the warranty period, the machine should be attended by engineer within 03 working days. Any delay in attending to the failure beyond 03 working days will be added to 1 year warranty period.

6. Pre-installation requirements

Pre-installation requirements such as room size, tolerable limits of EM field and vibration (mechanical), required power rating. Utility requirements are to be stated clearly, and to be verified/surveyed by the supplier at the installation site.

7. Environmental requirements

Necessary environmental requirements i.e. Temperature, humidity etc during the operation of XRD system should be specified clearly.

8. The vendor should provide documentary evidence that consignment should be manufactured at country of origin.

9. Optional: (to be provided in quote)

9.1 System Upgradability

The possible system upgradability with suitable software options may be quoted.

9.2 Necessary spares and consumables required for smooth and efficient operation of XRD after 2 years.

9.3 Annual Service Contract: Annual service contract should be quoted along with the price bid separately.

9.4 Information of full details of flexibility with the add-on modules in actual operational conditions along with description of all the parts should be submitted.

9.5 Any additional advanced features of the equipment and accessories can be quoted with full details and specifications as optional.

9.6 All essential and recommended spares should be informed and should be quoted.

9.7 Necessary pre-installation advice including power requirement should be enclosed along with the offer.

9.8 Service facility in India with details and experience of service engineer located nearest place of North East India.

9.9 List of users in India particularly North East India should be provided.

NOTE: The spares and support from the supplier should be available for 7 (Seven) or more years from the date of installation and commissioning of the quoted model.