



UNIVERSITY OF MORATUWA - SRI LANKA

BIDDING DOCUMENT

**SUPPLY, DELIVERY AND INSTALLATION OF SOUND SYSTEM
TO THE UNIVERSITY**

NATIONAL COMPETITIVE BIDDING

PROCUREMENT NO. UM/SU/DPC-04/2023/5

Date 08.08.2023

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VOLUME I

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Section I. Instructions to Bidders (ITB)

ITB shall be read in conjunction with the Section II, Bidding Data Sheet (BDS), which shall take precedence over ITB.

General

1. **Scope of Bid**
 - 1.1 The Purchaser **indicated in the Bidding Data Sheet (BDS)**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section V, Schedule of Requirements. The name and identification number of this procurement are **specified in the BDS**. The name, identification, and number of lots (individual contracts), if any, are **provided in the BDS**.
 - 1.2 Throughout these Bidding Documents:
 - (a) The term “in writing” means communicated in written form by mail (other than electronic mail) or hand delivered with proof of receipt;
 - (b) If the context so requires, “singular” means “plural” and vice versa; and
 - (c) “Day” means calendar day.
2. **Source of Funds**
 - 2.1 Payments under this contract will be financed by the source **specified in the BDS**.
3. **Ethics, Fraud and Corruption**
 - 3.1 The attention of the bidders is drawn to the following guidelines of the Procurement Guidelines published by National Procurement Agency:
 - Parties associated with Procurement Actions, namely, suppliers/contractors and officials shall ensure that they maintain strict confidentiality throughout the process;
 - Officials shall refrain from receiving any personal gain from any Procurement Action. No gifts or inducement shall be accepted. Suppliers/contractors are liable to be disqualified from the bidding process if found offering any gift or inducement which may have an effect of influencing a decision or impairing the objectivity of an official.
 - 3.2 The Purchaser requires the bidders, suppliers, contractors, and consultants to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy:
 - (a) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
 - (b) “fraudulent practice” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;

(c) “collusive practice” means a scheme or arrangement between two or more bidders, with or without the knowledge of the Purchaser to establish bid prices at artificial, noncompetitive levels; and

(d) “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.

3.3 If the Purchaser found any unethical practices as stipulated under ITB Clause 3.2, the Purchaser will reject a bid, if it is found that a Bidder directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

4. Eligible Bidders

4.1 All bidders shall possess legal rights to supply the Goods under this contract.

4.2 A Bidder shall not have a conflict of interest. All bidders found to have conflict of interest shall be disqualified. Bidders may be considered to have a conflict of interest with one or more parties in this bidding process, if they:

(a) are or have been associated in the past, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under these Bidding Documents; or

(b) submit more than one bid in this bidding process. However, this does not limit the participation of subcontractors in more than one bid.

4.3 A Bidder that is under a declaration of ineligibility by the National Procurement Agency (NPA), at the date of submission of bids or at the date of contract award, shall be disqualified. The list of debarred firms is available at the website of NPA, www.npa.gov.lk.

4.4 Foreign Bidder may submit a bid only if so stated in the **in the BDS**.

5. Eligible Goods and Related Services

5.1 All goods supplied under this contract shall be complied with applicable standards stipulated by the Sri Lanka Standards Institute (SLSI). In the absence of such standards, the Goods supplied shall be complied to other internationally accepted standards.

Contents of Bidding Documents

6. Sections of Bidding Documents

- 6.1 The Bidding Documents consist of 2 Volumes, which include all the sections indicated below, and should be read in conjunction with any addendum issued in accordance with ITB Clause 8.

Volume 1

- Section I. Instructions to Bidders (ITB)
- Section VI. Conditions of Contract (CC)
- Section VIII. Contract Forms

Volume 2

- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Schedule of Requirements
- Section VII. Contract Data
- Invitation For Bid

- 6.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.

- 7. Clarification of Bidding Documents**
- 7.1 A prospective Bidder requiring any clarification of the Bidding Documents including the restrictiveness of specifications shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received no later than ten (10) days prior to the deadline for submission of bids. The Purchaser shall forward copies of its response to all those who have purchased the Bidding Documents, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB Clause 8.
- 8. Amendment of Bidding Documents**
- 8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addendum.
- 8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have purchased the Bidding Documents.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB Sub-Clause 23.2

Preparation of Bids

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the Bid (including supporting documents and printed literature) exchanged by the Bidder and the Purchaser, shall be written in English language.
- 11. Documents Comprising the Bid**
- 11.1 The Bid shall comprise the following:
- (a) Bid Submission Form and the applicable Price Schedules, in accordance with **ITB Clauses 12, 14, and 15;**
 - (b) Bid Security or Bid-Securing Declaration, in accordance with ITB Clause 20;
 - (c) documentary evidence in accordance with ITB Clauses 18 and 29, that the Goods and Related Services conform to the Bidding Documents;
 - (d) documentary evidence in accordance with ITB Clause 18 establishing the Bidder's qualifications to perform the contract if its bid is accepted; and
 - (e) any other document required in the BDS.

- 12. Bid Submission Form and Price Schedules** 12.1 The Bidder shall submit the Bid Submission Form using the form furnished in Section IV, Bidding Forms. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
- 13. Alternative Bids** 13.1 Alternative bids shall not be considered.
- 14. Bid Prices and Discounts** 14.1 The Bidder shall indicate on the Price Schedule the unit prices and total bid prices of the goods it proposes to supply under the Contract.
- 14.2 Any discount offered against any single item in the price schedule shall be included in the unit price of the item. However, a Bidder wishes to offer discount as a lot the bidder may do so by indicating such amounts appropriately.
- 14.3 If so indicated in ITB Sub-Clause 1.1, bids are being invited for individual contracts (lots) or for any combination of contracts (packages). Unless otherwise indicated in the **BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer any price reduction (discount) for the award of more than one Contract shall specify the applicable price reduction separately.
- 14.4 (i) Prices indicated on the Price Schedule shall include all duties and sales and other taxes already paid or payable by the Supplier:
- (a) on components and raw material used in the manufacture or assembly of goods quoted; or
 - (b) on the previously imported goods of foreign origin
- (ii) However, VAT shall not be included in the price but shall be indicated separately;
- (iii) the price for inland transportation, insurance and other related services to deliver the goods to their final destination;
- (iv) the price of other incidental services
- 14.5 The Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected, pursuant to ITB Clause 31.
- 14.6 All lots, if any, and items must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items.

- 15. Currencies of Bid** 15.1 Unless otherwise stated in Bidding Data Sheet, the Bidder shall quote in Sri Lankan Rupees and payment shall be payable only in Sri Lanka Rupees.
- 16. Documents Establishing the Eligibility of the Bidder** 16.1 To establish their eligibility in accordance with ITB Clause 4, Bidders shall complete the Bid Submission Form, included in Section IV, Bidding Forms.
- 17. Documents Establishing the Conformity of the Goods and Related Services** 17.1 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section V, Schedule of Requirements.
- 17.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description (given in Section V, Technical Specifications) of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Schedule of Requirements.
- 17.3 The Bidder shall also furnish a list giving full particulars, including quantities, available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period if **specified in the BDS** following commencement of the use of the goods by the Purchaser.
- 18. Documents Establishing the Qualifications of the Bidder** 18.1 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) A Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods;
- (b) that, if **required in the BDS**, in case of a Bidder not doing business within Sri Lanka, the Bidder is or will be (if awarded the contract) represented by an Agent in Sri Lanka equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**19. Period of
Validity of Bids**

- 19.1 Bids shall remain valid until the date **specified in the BDS**. A bid valid for a shorter date shall be rejected by the Purchaser as non-responsive.
- 19.2 In exceptional circumstances, prior to the expiration of the bid validity date, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 20, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid.

20. Bid Security

- 20.1 The Bidder shall furnish as part of its bid, a Bid Security or a Bid-Securing Declaration, as specified in the BDS.
- 20.2 The Bid Security shall be in the amount specified in the BDS and denominated in Sri Lanka Rupees, and shall:
- (a) at the bidder's option, be in the form of either a bank draft, a letter of credit, or a bank guarantee from a banking institution;
 - (b) be issued by a institution acceptable to Purchaser. The acceptable institutes are published in the NPA website, www.npa.gov.lk.
 - (c) be substantially in accordance with the form included in Section IV, Bidding Forms;
 - (d) be payable promptly upon written demand by the Purchaser in case the conditions listed in ITB Clause 20.5 are invoked;
 - (e) be submitted in its original form; copies will not be accepted;
 - (f) remain valid for the period specified in the BDS.
- 20.3 Any bid not accompanied by a substantially responsive Bid Security or Bid Securing Declaration in accordance with ITB Sub-Clause 20.1 and 20.2, may be rejected by the Purchaser as non-responsive.
- 20.4 The Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the Performance Security pursuant to ITB Clause 43.
- 20.5 The Bid Security may be forfeited or the Bid Securing Declaration executed:
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Submission Form, except as provided in ITB Sub-Clause 19.2; or
 - (b) if a Bidder does not agree to correction of arithmetical errors in pursuant to ITB Sub-Clause 30.3

- (c) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB Clause 42;
 - (ii) furnish a Performance Security in accordance with ITB Clause 43.

21. Format and Signing of Bid

- 21.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB Clause 11 and clearly mark it as "ORIGINAL." In addition, the Bidder shall submit a copy of the bid and clearly mark it as "COPY." In the event of any discrepancy between the original and the copy, the original shall prevail.
- 21.2 The original and the Copy of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder.
- 21.3 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

Submission and Opening of Bids

22. Submission, Sealing and Marking of Bids

- 22.1 Bidders may always submit their bids by mail or by hand.
 - (a) Bidders submitting bids by mail or by hand, shall enclose the original and the copy of the Bid in separate sealed envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." These envelopes containing the original and the copy shall then be enclosed in one single envelope.
 - (a) The inner and outer envelopes shall:
 - (b) Bear the name and address of the Bidder;
 - (c) be addressed to the Purchaser in accordance with ITB Sub-Clause 23.1;
 - (d) bear the specific identification of this bidding process as indicated in the BDS; and
 - (e) bear a warning not to open before the time and date for bid opening, in accordance with ITB Sub-Clause 261.

If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

23. Deadline for Submission of Bids

- 23.1 Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS.**
- 23.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB Clause 8, in which case all rights and obligations of the Purchaser and Bidders previously subject

to the deadline shall thereafter be subject to the deadline as extended.

24. Late Bids

24.1 The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB Clause 23. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.

25. Withdrawal, and Modification of Bids

25.1 A Bidder may withdraw, or modify its Bid after it has been submitted by sending a written notice in accordance with ITB Clause 22, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB Sub-Clause 21.2, (except that no copies of the withdrawal notice are required). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

(a) submitted in accordance with ITB Clauses 21 and 22 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," or "MODIFICATION;" and

(b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB Clause 23.

25.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 25.1 shall be returned to the Bidders only upon notification of contract award to the successful bidder in accordance with sub clause 41.1

25.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Submission Form or any extension thereof.

26. Bid Opening

26.1 The Purchaser shall conduct the bid opening in public at the address, date and time **specified in the BDS**.

26.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid may be opened at the discretion of the Purchaser. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only envelopes that are opened and read out at Bid opening shall be considered further.

26.3 All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the Bid Prices, including any discounts and

alternative offers; the presence of a Bid Security or Bid-Securing Declaration, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative offers read out at Bid opening shall be considered for evaluation. No Bid shall be rejected at Bid opening except for late bids, in accordance with ITB Sub-Clause 24.1.

- 26.4 The Purchaser shall prepare a record of the Bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, or modification; the Bid Price, per lot if applicable, including any discounts, and the presence or absence of a Bid Security or Bid-Securing Declaration. The bids that were opened shall be resealed in separate envelopes, promptly after the bid opening. The Bidders' representatives who are present shall be requested to sign the attendance sheet. A copy of the record shall be distributed to all Bidders who submitted bids in time.

Evaluation and Comparison of Bids

- 27. Confidentiality**
- 27.1 Information relating to the examination, evaluation, comparison, and post-qualification (if applicable) of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of the Contract Award.
- 27.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post-qualification of the bids or contract award decisions may result in the rejection of its Bid.
- 27.3 Notwithstanding ITB Sub-Clause 27.2, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, from the time of bid opening to the time of Contract Award, it should do so in writing.
- 28. Clarification of Bids**
- 28.1 To assist in the examination, evaluation, comparison and post-qualification of the bids, the Purchaser may, at its discretion, request any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered for purpose of evaluation. The Purchaser's request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB Clause 30.
- 29. Responsiveness of Bids**
- 29.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.

- 29.2 A substantially responsive Bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
 - (c) if rectified would unfairly affect the competitive position of other bidders presenting substantially responsive bids.
- 29.3 If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.

30. Nonconformities, Errors, and Omissions

- 30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.
- 30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 30.3 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:
- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
 - (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 30.4 If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be disqualified and its Bid Security shall be forfeited or its Bid-Securing Declaration shall be executed.
- 31. Preliminary Examination of Bids**
- 31.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in ITB Clause 11 have been provided, and to determine the completeness of each document submitted.
- 31.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the Bid shall be rejected.
- (a) Bid Submission Form, in accordance with ITB Sub-Clause 12.1;
- (b) Price Schedules, in accordance with ITB Sub-Clause 12;
- (c) Bid Security or Bid Securing Declaration, in accordance with ITB Clause 20.
- 32. Examination of Terms and Conditions; Technical Evaluation**
- 32.1 The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the CC and the **Contract Data** have been accepted by the Bidder without any material deviation or reservation.
- 32.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clause 17, to confirm that all requirements specified in Section V, Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.
- 32.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB Clause 29, the Purchaser shall reject the Bid.
- 33. Conversion to Single Currency**
- 33.1 If the bidders are allowed to quote in foreign currencies in accordance with sub clause 15.1, for evaluation and comparison purposes, the Purchaser shall convert all bid prices expressed in foreign currencies in to Sri Lankan Rupees using the selling rates prevailed 28 days prior to closing of bids as published by the Central Bank of Sri Lanka. If this date falls on a public holiday the earliest working day prior to the date shall be applicable.

- 34. Domestic Preference**
- 34.1 Domestic preference shall be a factor in bid evaluation only if stated in the BDS. If domestic preference shall be a bid-evaluation factor, the methodology for calculating the margin of preference and the criteria for its application shall be as specified in Section III, Evaluation and Qualification Criteria.
- 35. Evaluation of Bids**
- 35.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.
- 35.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined in this ITB Clause 35.
- 35.3 To evaluate a Bid, the Purchaser shall consider the following:
- (a) the Bid Price as quoted in accordance with clause 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB Sub-Clause 30.3;
 - (c) price adjustment due to discounts offered in accordance with ITB Sub-Clause 14.2; and 14.3
 - (d) adjustments due to the application of the evaluation criteria specified in the BDS from amongst those set out in Section III, Evaluation and Qualification Criteria;
 - (e) adjustments due to the application of a domestic preference, in accordance with ITB Clause 34 if applicable.
- 35.4 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the factors stated in ITB Sub-Clause 35.3, if specified in BDS. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids
- 35.5 If so specified in the BDS, these Bidding Documents shall allow Bidders to quote for one or more lots, and shall allow the Purchaser to award one or multiple lots to more than one Bidder. The methodology of evaluation to determine the lowest-evaluated lot combinations, is specified in Section III, Evaluation and Qualification Criteria.
- 36. Comparison of Bids**
- 36.1 The Purchaser shall compare all substantially responsive bids to determine the lowest-evaluated bid, in accordance with ITB Clause 35.
- 37. Post qualification of the Bidder**
- 37.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid is qualified to perform the Contract satisfactorily.

37.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 18.

37.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

**38. Purchaser's
Right to Accept
Any Bid, and to
Reject Any or
All Bids**

38.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

Award of Contract

39. Award Criteria

39.1 The Purchaser shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

**40. Purchaser's
Right to Vary
Quantities at
Time of Award**

40.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section V, Schedule of Requirements, provided this does not exceed twenty five percent (25%) or one unit whichever is higher and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

**41. Notification of
Award**

41.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted.

41.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

41.3 Upon the successful Bidder's furnishing of the signed Contract Form and performance security pursuant to ITB Clause 43, the Purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 20.4.

**42. Signing of
Contract**

42.1 Within Seven (7) days after notification, the Purchaser shall complete the Agreement, and inform the successful Bidder to sign it.

42.2 Within Seven (7) days of receipt of such information, the successful Bidder shall sign the Agreement.

**43. Performance
Security**

- 43.1 Within fourteen (14) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the CC, using for that purpose the Performance Security Form included in Section VIII Contract forms. The Employer shall promptly notify the name of the winning Bidder to each unsuccessful Bidder and discharge the Bid Securities of the unsuccessful bidders pursuant to ITB Sub-Clause 20.4.
- 43.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or execution of the Bid-Securing Declaration. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose offer is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

Section VI. Conditions of Contract

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Section VI. Conditions of Contract

1. Definitions

- 1.1 The following words and expressions shall have the meanings hereby assigned to them:
- (a) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
 - (b) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
 - (c) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
 - (d) “Day” means calendar day.
 - (e) “Completion” means the fulfillment of the supply of Goods to the destination specified and completion of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
 - (f) “CC” means the Conditions of Contract.
 - (g) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
 - (h) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the Contract Data.
 - (i) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
 - (j) “Subcontractor” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
 - (k) “Supplier” means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
 - (l) “The Project Site,” where applicable, means the place named in the Contract Data.

- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
- 3. Fraud and Corruption**
- 3.1 The Government of Sri Lanka requires the Purchaser as well as bidders, suppliers, contractors, and consultants to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy:
- (i) “corrupt practice” means offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
 - (ii) “fraudulent practice” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
 - (iii) “collusive practice” means a scheme or arrangement between two or more bidders, with or without the knowledge of the Purchaser to establish bid prices at artificial, noncompetitive levels; and
 - (iv) “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.
- 4. Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Entire Agreement
- The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.
- 4.3 Amendment
- No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.4 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. Language

5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in English language. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

6. Joint Venture, Consortium or Association

6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

7. Eligibility

7.1 All goods supplied under this contract shall be complied with applicable standards stipulated by the Sri Lanka Standards Institute. In the absence of such standards, the Goods supplied shall be complied to other internationally accepted standards, such as British Standards.

8. Notices

8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **Contract Data**. The term “in writing” means communicated in written form with proof of receipt.

8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

9. Governing Law

9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Democratic Socialist Republic of Sri Lanka.

10. Settlement of Disputes

10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the Arbitration Act No:11 of 1995.

10.3 Notwithstanding any reference to arbitration herein,

- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.

11. Scope of Supply

11.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.

12. Delivery and Documents

12.1 Subject to CC Sub-Clause 32.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. Where applicable the details of shipping and other documents to be furnished by the Supplier are specified in the **Contract Data**.

13. Supplier's Responsibilities

13.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with CC Clause 11, and the Delivery and Completion Schedule, as per CC Clause 12.

14. Contract Price

14.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.

15. Terms of Payment

15.1 The Contract Price shall be paid as specified in the **Contract Data**.

15.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to CC Clause 12 and upon fulfillment of all other obligations stipulated in the Contract.

15.3 Payments shall be made promptly by the Purchaser, but in no case later than twenty eight (28) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.

- 16. Taxes and Duties**
- 16.1 The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17. Performance Security**
- 17.1 If required as specified in the **Contract Data**, the Supplier shall, within fourteen (14) days of the notification of contract award, provide a performance security of Ten percent (10%) of the Contract Price for the performance of the Contract.
- 17.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 17.3 As specified in the **Contract Data**, the Performance Security, if required, shall be in Sri Lanka Rupees and shall be in the format stipulated by the Purchaser in the **Contract Data**, or in another format acceptable to the Purchaser.
- 17.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations.
- 18. Copyright**
- 18.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.
- 19. Confidential Information**
- 19.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under CC Clause 19.
- 19.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

19.3 The above provisions of CC Clause 19 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

19.4 The provisions of CC Clause 19 shall survive completion or termination, for whatever reason, of the Contract.

20. Subcontracting

20.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

20.2 Subcontracts shall comply with the provisions of CC Clauses 3 and 7.

21. Specifications and Standards

21.1 Technical Specifications and Drawings

(a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section V, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.

(b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.

(c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with CC Clause 32.

22. Packing and Documents

22.1 The Supplier shall pack the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract.

23. Insurance

23.1 Unless otherwise specified in the **Contract Data**, the Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery.

24. Transportation

24.1 Unless otherwise specified in the **Contract Data**, responsibility for arranging transportation of the Goods shall be a responsibility of the supplier.

**25. Inspections
and Tests**

- 25.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **Contract Data**.
- 25.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place as specified in the **Contract Data**. Subject to CC Sub-Clause 25.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 25.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in CC Sub-Clause 25.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 25.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 25.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 25.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 25.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to CC Sub-Clause 25.4.

25.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to CC Sub-Clause 25.6, shall release the Supplier from any warranties or other obligations under the Contract.

26. Liquidated Damages

26.1 Except as provided under CC Clause 31, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the **Contract Data** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those **Contract Data**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to CC Clause 34.

27. Warranty

27.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

27.2 Subject to CC Sub-Clause 21.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.

27.3 Unless otherwise specified in the **Contract Data**, the warranty shall remain valid for one **year** after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **Contract Data**.

27.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

27.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **Contract Data**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

27.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **Contract Data**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights

which the Purchaser may have against the Supplier under the Contract.

28. Patent Indemnity

- 28.1 The Supplier shall, subject to the Purchaser's compliance with CC Sub-Clause 28.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:
- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
 - (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 28.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in CC Sub-Clause 28.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 28.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 28.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- 28.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at

the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

- 29. Limitation of Liability**
- 29.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement
- 30. Change in Laws and Regulations**
- 30.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in Sri Lanka that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with CC Clause 14.
- 31. Force Majeure**
- 31.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 31.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

31.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

32. Change Orders and Contract Amendments

32.1 The Purchaser may at any time order the Supplier through notice in accordance CC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

32.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

32.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

32.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

33. Extensions of Time

33.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to CC Clause 12, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

33.2 Except in case of Force Majeure, as provided under CC Clause 31, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to CC Clause 26, unless an extension of time is agreed upon, pursuant to CC Sub-Clause 33.1.

34. Termination

34.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
 - (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to CC Clause 33;
 - (ii) if the Supplier fails to perform any other obligation under the Contract; or
 - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in CC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to CC Clause 34.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

34.2 Termination for Insolvency.

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

34.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

35. Assignment

- 35.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

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1. Contract Agreement

THIS CONTRACT AGREEMENT is made

the [*insert: number*] day of [*insert: month*], [*insert: year*].

BETWEEN

- (1) The University of Moratuwa - Sri Lanka, a Higher Educational Institution and having its principal place of business at Katubedda, Moratuwa (hereinafter called “the Purchaser”), and
- (2) [*insert name of Supplier*], a corporation incorporated under the laws of [*insert: country of Supplier*] and having its principal place of business at [*insert: address of Supplier*] (hereinafter called “the Supplier”).

WHEREAS the Purchaser invited bids for Supply, Delivery and Installation of Sound System and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [*insert Contract Price in words and figures, expressed in the Contract currency*] (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
 - (a) This Contract Agreement
 - (b) Contract Data
 - (c) Conditions of Contract
 - (d) Technical Requirements (including Schedule of Requirements and Technical Specifications)
 - (e) The Supplier’s Bid and original Price Schedules
 - (f) The Purchaser’s Notification of Award
 - (g) Bids submission form
3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *Democratic Socialist Republic of Sri Lanka* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*
in the capacity of Vice Chancellor, University of Moratuwa - Sri Lanka,
in the presence of

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

2. Performance Security

[The issuing agency, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

----- *[Issuing Agency's Name, and Address of Issuing Branch or Office]* -----

Beneficiary: Vice Chancellor, University of Moratuwa- Sri Lanka, Katubedda, Moratuwa.

Date: -----

PERFORMANCE GUARANTEE No.: -----

We have been informed that ----- *[name of Supplier]* (hereinafter called "the Supplier") has entered into Contract No. ----- *[reference number of the contract]* dated ----- with you, for the Supply, Delivery and Installation of Sound System (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Supplier, we ----- *[name of Agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ----- *[amount in figures]*(-----
-----)*[amount in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the day of, 20. *[insert date, 28 days beyond the scheduled completion date including the warranty period]* and any demand for payment under it must be received by us at this office on or before that date.

[signature(s)]

VOLUME II

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Section II. Bidding Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	A. General																						
ITB 1.1	The Purchaser is VICE CHANCELLOR, UNIVERSITY OF MORATUWA-SRI LANKA																						
ITB 1.1	The name and identification number of the Contracts are: Supply, Delivery and Installation of Sound System PROCUREMENT NO. UM/SU/DPC-04/2023/5																						
ITB 2.1	The source of funding is Government of Sri Lanka																						
	B. Contents of Bidding Document																						
ITB 7.1	For Clarification of bid purposes only, the Purchaser's address is: Attention: Deputy Bursar/Supplies, Address: University of Moratuwa, Katubedda, Moratuwa Telephone: 0112 651587 Facsimile number: 0112 651186 Electronic mail address: supplies@uom.lk																						
	C. Preparation of Bids																						
ITB 11.1.e	The bidder shall provide the certified copies of business/ company registration.																						
ITB 18.1 (b)	After sales service is: Required																						
ITB 19.1	The bid shall be valid until 06.11.2023																						
ITB 20.1	<p>Bid shall include a Bid Security (issued by a bank operating in Sri Lanka-Registered with Central Bank of Sri Lanka) using the template included in Section IV Bidding Forms. The total value of Bid Security shall be based on the lots for which the bids are submitted as follows:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">1. Portable Sound System</td> <td style="text-align: right;">Rs. 77,700.00</td> </tr> <tr> <td style="padding-left: 20px;">2. Sound System with Installation</td> <td style="text-align: right;">Rs. 96,000.00</td> </tr> <tr> <td style="padding-left: 20px;">3. Sound System with Installation</td> <td style="text-align: right;">Rs. 24,000.00</td> </tr> <tr> <td style="padding-left: 20px;">4. Sound System with Installation</td> <td style="text-align: right;">Rs. 18,000.00</td> </tr> <tr> <td style="padding-left: 20px;">5. Passive Sound System with Installation</td> <td style="text-align: right;">Rs. 74,500.00</td> </tr> <tr> <td style="padding-left: 20px;">6. Active Sound System</td> <td style="text-align: right;">Rs. 27,500.00</td> </tr> <tr> <td style="padding-left: 20px;">7. Portable Sound System</td> <td style="text-align: right;">Rs. 800.00</td> </tr> <tr> <td style="padding-left: 20px;">8. Portable Sound System</td> <td style="text-align: right;">Rs. 3,500.00</td> </tr> <tr> <td style="padding-left: 20px;">9. Portable Sound System</td> <td style="text-align: right;">Rs. 5,000.00</td> </tr> <tr> <td style="padding-left: 20px;">10. Portable Sound System</td> <td style="text-align: right;">Rs. 7,200.00</td> </tr> <tr> <td style="padding-left: 20px;">11. Wireless Microphone System</td> <td style="text-align: right;">Rs. 6,000.00</td> </tr> </table>	1. Portable Sound System	Rs. 77,700.00	2. Sound System with Installation	Rs. 96,000.00	3. Sound System with Installation	Rs. 24,000.00	4. Sound System with Installation	Rs. 18,000.00	5. Passive Sound System with Installation	Rs. 74,500.00	6. Active Sound System	Rs. 27,500.00	7. Portable Sound System	Rs. 800.00	8. Portable Sound System	Rs. 3,500.00	9. Portable Sound System	Rs. 5,000.00	10. Portable Sound System	Rs. 7,200.00	11. Wireless Microphone System	Rs. 6,000.00
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11. Wireless Microphone System	Rs. 6,000.00																						

	Beneficiary: Vice Chancellor, University of Moratuwa - Sri Lanka, Katubedda, Moratuwa
ITB 20.2	The validity period of the bid security shall be until 04.12.2023
	D. Submission and Opening of Bids
ITB 22.2 (c)	The inner and outer envelopes shall bear the following identification marks: Supply, Delivery and Installation of Sound System to the University of Moratuwa - Sri Lanka PROCUREMENT NO. UM/SU/DPC-04/2023/5
ITB 23.1	For bid submission purposes, the Purchaser's address is: The Chairman Department Procurement Committee, University of Moratuwa, Katubedda, Moratuwa The deadline for the submission of bids is: Date: 08.08.2023 Time: 14.00 hours
ITB 26.1	The inner and outer envelopes shall bear the following identification marks: Supply, Delivery and Installation of Sound System to the University of Moratuwa - Sri Lanka PROCUREMENT NO. UM/SU/DPC-04/2023/5
	For bid submission purposes, the Purchaser's address is: The Chairman Department Procurement Committee, University of Moratuwa, Katubedda, Moratuwa The deadline for the submission of bids is: Date: 08.08.2023 Time: 14.00 hours
ITB 34.1	Domestic preference shall not be a bid evaluation factor.
ITB 35.3 d	The adjustment shall be determined using the following criteria, from amongst those set out in section iii, Evaluation and qualification (a) Deviation in delivery schedule Option 2 is selected and the adjustment is 0.05% per day (b) Not Applicable (c) Not Applicable
ITB 37.2	Not Applicable

Section III. Evaluation and Qualification Criteria

This Section complements the Instructions to Bidders. It contains the criteria that the Purchaser uses to evaluate a bid and determine whether a Bidder has the required qualifications. No other criteria shall be used.

Contents

1. Evaluation Criteria (ITB 35.3 {d})
2. Evaluation Criteria (ITB 35.4)
3. Multiple Contracts (ITB 35.5) Not Applicable
4. Domestic Preference (ITB 34.1) Not Applicable
5. Post qualification Requirements (ITB 37.2) Not Applicable

1. Evaluation Criteria (ITB 35.3 (d))

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14, one or more of the following factors as specified in ITB Sub-Clause 35.3(d) and in BDS referring to ITB35.3(d), using the following criteria and methodologies.

(a) Delivery schedule

Option 1

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in section in Section VI, Delivery Schedule. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as non-responsive. With this acceptable period, an adjustment, as specified in BDS Sub-Clause 35.3 (d), will be added, for evaluation purposes only, to the bid price of bids offering deliveries later than the " Earliest Delivery Date " specified in Section VI, Delivery Schedule.

Option 2

The goods covered under this invitation are required to be delivered within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as nonresponsive. Within this acceptable range, an adjustment per day, as specified in the **Bid Data Sheet**, will be added for evaluation to the bid price of bids offering deliveries later than the earliest delivery period specified in the Schedule of Requirements.

Option 3

The goods covered under this invitation are required to be delivered in partial shipments, as specified in the Schedule of Requirements. Bids offering deliveries earlier or later than the specified deliveries will be adjusted in the evaluation by adding to the bid price a factor equal to a percentage, specified in the **Bid Data Sheet**, of price per week of variation from the specified delivery schedule.

(b) Deviation in payment schedule.

(i) *Bidders shall state their bid price for the payment schedule outlined in the Contract Data. Bids shall be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The Purchaser may consider the alternative payment schedule and the reduced bid price offered by the Bidder selected on the basis of the base price for the payment schedule outlined in the Contract Data.*

Or

(iii) *The Contract Data stipulate the payment schedule specified by the purchaser. If a bid deviates from the schedule and if such deviation is considered acceptable to the Purchaser, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared with those stipulated in the Contract Data, at the rate per annum specified in BDS Sub – Clause 35.3 (d).*

(b) *Cost of major replacement components, mandatory spare parts, and service. (insert one of the following)*

(i) *The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the BDS Sub – Clause 17.3, is in the List of Goods. An adjustment equal to the total cost of these items, at the unit prices quoted in each bid, shall be added to the bid price, for evaluation purposes only. Add quantities*

Or

(ii) The Purchase will draw up a list of high – usage and high –value items of components and spare parts, along with estimated quantities of usage in the initial period of operation specified in the BDS Sub- Clause 17.3. The total cost of these items and quantities will be computed from spare parts until prices submitted by the Bidder and added to the bid price, for evaluation purposes only.

(c) Specific additional criteria

Other specific additional criteria to be considered in the evaluation and the evaluation method shall be detailed in BDS Sub-Clause 35.3 (d)

2. Evaluation Criteria (ITB 35.4) (*Describe the methodology*)

The contract will be awarded to the lowest evaluated substantially responsive bidder.

3. Multiple Contracts (ITB 35.5)

Not Applicable

4. Domestic Preference (ITB 34.1)

Not Applicable

5. Post qualification Requirements (ITB 37.2)

Not Applicable

Section IV. Bidding Forms

Table of Forms

Bid Submission Form	44 -48
Price Schedule:.....	49 -52
Bid Security (Guarantee)	53
Manufacturer's Authorization	54

The total price of our Bid without VAT, including any discounts offered is Rupees.....
.....

- (a) Our bid shall be valid for the period of time specified in ITB Sub-Clause 19.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 23.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 43 and CC Clause 17 for the due performance of the Contract;
- (c) We have no conflict of interest in accordance with ITB Sub-Clause 4.2;
- (d) Our firm, its affiliates or subsidiaries—including any subcontractors or suppliers for any part of the contract—has not been declared blacklisted by the National Procurement Agency;
- (g) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (h) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed:

In the capacity of
[insert legal capacity of person signing the Bid Submission Form]

Name:
[insert complete name of person signing the Bid Submission Form]

Duly authorized to sign the bid for and on behalf of
.....

Dated on _____ day of _____, _____

Bid Guarantee

[this Bank Guarantee form shall be filled in accordance with the instructions indicated in brackets]

----- *[insert issuing agency's name, and address of issuing branch or office]* -----

Beneficiary: Vice Chancellor, University of Moratuwa - Sri Lanka, Katubedda, Moratuwa

Date: ----- *[insert (by issuing agency) date]*

BID GUARANTEE No.: ----- *[insert (by issuing agency) number]*

We have been informed that ----- *[insert (by issuing agency) name of the Bidder; if a joint venture, list complete legal names of partners]* (hereinafter called "the Bidder") has submitted to you its bid dated ----- *[insert (by issuing agency) date]* (hereinafter called "the Bid") for the Supply, Delivery and Installation of Sound System Items of under Invitation for Bids No. UM/SU/DPC-04/2023/5.

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we ----- *[insert name of issuing agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* *[insert amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder that the Bidder was unsuccessful, otherwise it will remain in force up to ----- *(insert date)*

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date. _____

[signature(s) of authorized representative(s)]

Manufacturer's Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include the original document in its bid, if so indicated in the BDS.]

Date: *[insert date (as day, month and year) of Bid Submission]*
No.: **UM/SU/DPC-04/2023/5**

To: Vice Chancellor
University of Moratuwa
Katubedda
Moratuwa

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 27 of the Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Section V. Schedule of Requirements

Contents

1. List of Goods and Delivery Schedule.....	56 - 57
2. Inspections and Tests.....	58
3. Technical Specifications	61 - 107

1. List of Goods and Delivery Schedule

Special Note : Bidder may bid for one Item or more

	Description of Goods	Quantity	Final (Project Site) as specifies in BDS	Delivery Date	Bidder's Response
01.	Portable Sound System (Annexure I)	16 Nos.	<i>University of Moratuwa, Katubedda, Moratuwa</i>	<i>Within 30 days</i>	
02	Sound System with Installation (Annexure II)	06 Nos.	<i>-Do-</i>	<i>-Do-</i>	
03	Sound System with Installation (Annexure III)	01 No	<i>-Do-</i>	<i>-Do-</i>	
04	Sound System with Installation (Annexure IV)	01 No	<i>-Do-</i>	<i>-Do-</i>	
05	Passive Sound System with Installation (Annexure V)	03 Nos	<i>-Do-</i>	<i>-Do-</i>	

06	Active Sound System (Annexure VII)	02 Nos.	-Do-	-Do-	
07	Portable Sound System (Annexure VII)	01 No.	-Do-	-Do-	
08	Portable Sound System (Annexure VIII)	01 No.	-Do-	-Do-	
09	Portable Sound System (Annexure IX)	02 Nos.	-Do-	-Do-	
10	Portable Sound System (Annexure X)	02 Nos.	-Do-	-Do-	
11	Wireless Microphone System (Annexure XI)	02 Nos.	-Do-	-Do-	

Authorized officers Signature :

Authorized officers Name :

Name of the Company :

6. Inspections and Tests

The following inspections and tests shall be performed at the University of Moratuwa - Sri Lanka

1	Satisfactory completion of supply and delivery of Portable Sound System	16 Nos.
2	Satisfactory completion of supply, delivery and Installation of Sound System	06 Nos.
3	Satisfactory completion of supply, delivery and Installation of Sound System	01 No.
4	Satisfactory completion of supply, delivery and Installation of Sound System	01 No.
5	Satisfactory completion of supply, delivery and Installation of Passive Sound System	03 Nos.
6	Satisfactory completion of supply and delivery of Active Sound System	02 Nos.
7	Satisfactory completion of supply and delivery of Portable Sound System	01 No.
8	Satisfactory completion of supply and delivery of Portable Sound System	01 No.
9	Satisfactory completion of supply and delivery of Portable Sound System	02 Nos.
10	Satisfactory completion of supply and delivery of Portable Sound System	02 Nos.
11	Satisfactory completion of supply and delivery of Wireless Microphone System	02 Nos.

Section VII. Contract Data

The following Contract Data shall supplement and / or amend the Conditions of Contract (CC). Whenever there is a conflict, the provisions herein shall prevail over those in the CC.

[The Purchaser shall select insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]

CC 1.1(h)	The Purchaser is Vice Chancellor, University of Moratuwa - Sri Lanka
CC 1.1	The Project Site/Final Destination is <i>University of Moratuwa - Sri Lanka.</i>
CC 8.1	For notices , the Purchaser's address shall be: Attention: Vice Chancellor Address: University of Moratuwa - Katubedda, Moratuwa, Sri Lanka. Telephone: 0112 651259 Facsimile number: 0112 651671 Electronic mail address: vc@uom.lk
CC 15.1	The method and conditions of payment to be made to the Supplier under this Contract shall be as follows: (i) Full payment on supply, delivery & installation. (ii) No part payments.
CC 17.1	A Performance Security: 10% of the contract price
CC 17.4	28 days beyond the successful operation and certification from the end user, the performance security shall be discharged.
CC 25.1	The inspections and tests shall be: based on best suitable proposal
CC 25.2	The Inspections and tests shall be conducted at: University of Moratuwa, Katubedda, Moratuwa
CC 26.1	The liquidated damage shall be: 0.05% per day
CC 26.1	The maximum amount of liquidated damages shall be 5 % of contract value.
CC 27.3	Warranty is required as mentioned in the technical specification sheet



UNIVERSITY OF MORATUWA
INVITATION FOR BIDS
PROCUREMENT FOR
SUPPLY, DELIVERY AND INSTALLATION OF SOUND SYSTEM
PROCUREMENT NO. UM/SU/DPC-04/2023/5

1. The Chairman, Department Procurement Committee on behalf of the University of Moratuwa invites sealed bids from eligible and qualified bidders for the following items.

S. No.	Brief Description of the Item	Qty	Bid Security	
			Amount of Bid Security	Valid up to
1	Portable Sound System	16 Nos.	Rs. 77,700.00	04.12.2023
2	Sound System with Installation	06 Nos.	Rs. 96,000.00	
3	Sound System with Installation	01 No.	Rs. 24,000.00	
4	Sound System with Installation	01 No.	Rs. 18,000.00	
5	Passive Sound System with Installation	03 Nos.	Rs. 74,500.00	
6	Active Sound System	02 Nos.	Rs. 27,500.00	
7	Portable Sound System	01 No.	Rs. 800.00	
8	Portable Sound System	01 No.	Rs. 3,500.00	
9	Portable Sound System	02 Nos.	Rs. 5,000.00	
10	Portable Sound System	02 Nos.	Rs. 7,200.00	
11	Wireless Microphone System	02 Nos.	Rs. 6,000.00	

2. Bidding will be conducted through National Competitive Bidding.
3. Eligible interested bidders may obtain further information from Deputy Bursar- Supplies, University of Moratuwa and inspect Bidding documents free of charge at the Supplies Division, University of Moratuwa during the office hours **from 9.00 hrs to 16.00 hrs in working days**.
4. Eligible bidders shall be registered Manufacturer, Sole Agent, Dealer and Distributor with valid and appropriate Business Registration. Additional details are provided in the bidding documents.
5. A complete set of bidding documents in English Language may be purchased by interested bidders on submission of written application to the address below and upon payment of a non-refundable fee of **Rs. 9,000.00** to the Shroff of the University from **18.07.2023 up to 15.00 hrs on 07.08.2023**. The method of payment is cash only.
6. Bids must be accompanied by a Bid Security for the amount mentioned above. Any Bid not accompanied by a valid Bid Security will be rejected.
7. Sealed Bids must be delivered to the address below at or before **14.00 hrs. on 08.08.2023**
8. Bids will be opened immediately after the closing of bids at the **Board Room adjoining to the Supplies Division**, University of Moratuwa in the presence of the bidders' authorized representatives who choose to attend in person. Late bids will be rejected.
9. For further details, please contact Deputy Bursar, Supplies University of Moratuwa on Tel No: 011-2651587, Fax No: 011-2651186
10. Bids shall be valid up to **06.11.2023**.

The Chairman
Department Procurement Committee
University of Moratuwa,
Katubedda,
Moratuwa.

Technical specifications of portable sound system without installation

Description		Requirement	Bidder's Response	Compliance Yes/No (for office use only)
01	Type	Active speaker		
02	Make & Model	Specify		
03	Country of Origin/Manufacture	Specify		
04	Output Power	1200W Peak Power or above		
05	Transducer Type	8 inch(minimum) woofer		
06	Frequency Response @ $\pm 3\text{dB}$	55Hz – 20 KHz or better response		
07	Maximum SPL	124 dB or better		
08	Horizontal Coverage Angle	90° or more		
09	Vertical Coverage Angle	60° or more		
10	Enclosure Material	Solid Polypropylene Enclosure with impact resistant and steel front grill		
11	Speaker Stand Pole Socket	Standard 35mm speaker stand pole socket for tripod mounting		
12	Transportation Handles	Integrated two side handles and top handles should be included		
13	Input Impedance	10K Ω Balanced		
14	Input/Output Channels	*Two input channels should be available *Minimum one mixed output should be available		
15	Input Connector	2 x XLR/TRS combo Connectors for balance and unbalance microphone signal or line level signal inputs should be available		
16	Output Connector	1 x XLR/M Connector for balanced XLR line output		
17	Bluetooth connectivity	Bluetooth version 5.0 audio connectivity should be available		
18	Switches & Controls for input 1 & input 2	Gain control should be included		
19	Other switches & controls	*Bluetooth ON/OFF switch and indicator Should be available *Minimum four selectable Eq. presets should be available *Bass boost ON/OFF switch should be included *Audio limiting indicator should be included *Master volume level controller should be included		
20	AC Power Requirement	220~240V/50 Hz AC Only (Battery powered unit not accepted)		

Other Requirements			
21	Speaker Tripod	<p>Heavy duty tripod stand should be included</p> <p>Height: 1200-1750mm Main rod: $\phi 38 \times 0.8\text{mm}$ Adjustable rod: $\phi 34.8 \times 0.8\text{mm}$ Base rod: $\phi 30 \times 0.8\text{mm}$ Base spread: 1100mm or above Load Capacity: 50 Kg or above Material: Aluminum alloy tubes + Steel supports Other: Non slip rubber bottom pads</p>	
22	Microphone Stand	<p>Heavy-duty microphone stand should be included</p> <p>Type: Floor Type Height: 950-1500mm or above Cross bar length: 800mm(min.) Main rod: $\phi 20 \times 0.8\text{mm}$ steel(min.) Extension rod: $\phi 15 \times 0.6\text{mm}$ steel(min.) Cross bar: $\phi 15 \times 0.6\text{mm}$ steel(min.) Base: $\phi 19 \times 0.6\text{mm}$ steel(min.)</p>	
23	Cables & Connectors	<p>20m XLR/M to XLR/F Cable should be included 20m TS to Mini stereo cable should be included</p> <p>Cable Specifications: Cable Conductor: Stranded Bare Copper (20~28) x (0.10~0.12) mm Cross Section: 0.22~0.23 mm² Insulation: PE Core Arrangement: 2 Core + Cotton Tracers Twisted Shielding: Bare copper spiral shield Φ (0.10~0.12) x 60 spiral Outer Jacket: Flexible PVC Overall Diameter: 6 mm</p>	
24	Wired Microphone	<p>Dynamic wired microphones should be included</p> <p>Microphone Specifications: Type: Dynamic cardioid microphone Min. terminating impedance: 1000 Ω Sensitivity in free field, no load: (1kHz) 2,7 mV/Pa Frequency response: 40 - 16000 Hz or greater Nominal impedance: 350 Ω Weight w/o cable: Below 350 g Switch: Silent On/Off Switch Other: Microphone holder clip & pouch should be included</p>	
25	Front Surface	Should be covered using metal grill	
26	Weight	Below 10kg	
27	power cord for IEC/M socket	3 prong square type power code should be included(3m)	
28	Warranty	Should be 1 year comprehensive	
29	Delivery Period	Please Specify	
30	Manufacturer's specification broacher	Should be attached with the quotation	

Supply and installation of Sound system for lecture hall

Technical Specification for Speaker System

System should consist of following items:

- (1) Speaker 06
- (2) Mixer 01
- (3) Other Requirements

Description	Requirement	Bidder's Response Yes/No	Compliance Yes/No (for office use only)
1. Technical specification of speaker			
01	System Type	Active 300W 2-Way 8\ PA Speaker	
02	Make & Model	Please Specify	
03	Country of Origin	Please Specify	
04	Country of Manufacture	Please Specify	
05	Year of Manufacturing	Please Specify	
06	Housing	Plastic	
07	Woofer size	8	
08	Ways	2-Way	
09	Mic Preamp	1	
10	HT Driver in Inch	1	
11	Frequency range (-10dB) from	55 Hz	
12	Summary EQ	1	
13	Number of woofers	1	
14	Power (manufacturers info)	300 W	
15	Inputs	1	
16	Number of Tweeters	1	
17	Frequency range (-10dB) to	20000 Hz	
18	AC Power Input	100-120VAC 50/60Hz; 230-	
2. Technical Specification of Audio Mixer			
2.1	Device Type	Audio Mixing Console	
2.2	Make & Model	Please Specify	
2.3	Country of Origin	Please Specify	
2.4	Country of Manufacture	Please Specify	
2.5	Year of Manufacturing	Please Specify	
2.6	Microphone Inputs	8 Inputs or more	
2.7	Line Inputs	6 Balanced Line Inputs or more	
2.8	Stereo Inputs	2 Balanced Stereo Line Inputs or more 1 Unbalanced Stereo RCA Inputs or more	

2.9	Mater Outputs	Two Balanced line level Left and Right XLR outputs should be available Two Balanced TRS line level output should be available		
2.10	Auxiliary Outputs	3 TRS balanced outputs or more		
2.11	Headphone Out	6.5mm TRS stereo output should be available for headphone		
2.12	Equalizer	3 Band equalizer with one swept mid control		
2.13	Limiter Inputs	2 Inputs or more		
2.14	Effects	Single effects processor or more		
2.15	USB Interface	USB audio interface should be available		
2.16	Subgroups	2 Mono & 1 Stereo or more		
2.17	Fader Size	60mm or above		
2.18	Frequency Response	Mic / Line In to any Output: +/-1.5dB, 20Hz-20kHz or better		
2.19	T.H.D	<u>Mono Mic Sensitivity:</u> -30dBu, Input level -16dBu, +14dBu @ Mix output: < 0.002% @ 1kHz or better <u>Stereo Mic Sensitivity:</u> -30dBu, Input level -16dBu, +14dBu @ Mix output: < 0.007% @ 1kHz or better		
2.20	EQ (Mono inputs)	HF: 12kHz, +/-15dB or more MF: 140Hz – 3kHz, +/-15dB or more LF: 60Hz, +/-15dB or more		
2.21	EQ (Stereo inputs)	HF: 12kHz, +/-15dB or more MF: 1kHz, +/-15dB or more LF: 60Hz, +/-15dB or more		
2.22	Phantom Power	48V Phantom power should be available on all mic channels		
2.23	Filters	Selectable Hi-Pass Filters (low-cut) should be available on all mic channels		
2.24	High Impedance Inputs	Minimum two selectable high input impedance for input channel should be included		
2.25	Limiters	Minimum two selectable limiter for input channel should be included		
2.26	Input & Output Levels	*Mic Input: +12.5dBu or above *Line Input: +26dBu or above *Stereo Inputs: +26dBu or above *Mix Output: +21.5dBu or above *Headphones (@150Ω): 300mW or above		

2.27	Input & Output Impedances	Mic Input: 1.2k Ω or better High Impedance Input: 965k Ω or better Line Input: 10k Ω or better Stereo Input: 21.0k Ω or better Outputs: 150 Ω (balanced) and 75 Ω (unbalanced) or better		
2.28	USB Audio	*Bit Depth: 24-bit or more *Sampling rate: 44kHz ~ 192kHz or more		
2.29	USB Interface Compatibility	Should be compatible with Windows 10 & 11		
2.30	USB Power	USB Power socket should be included		
2.31	Supply Voltage	Internal Power Supply AC 230 V - 240 V/ 50 Hz - 60 Hz		
3. Other Requirements				
3.1	Cables & Connectors	20m XLR/M to XLR/F Cable should be included 20m TS to Mini stereo cable should be included <u>Cable Specifications:</u> Cable Conductor: Stranded Bare Copper (20~28) x (0.10~0.12) mm Cross Section: 0.22~0.23 mm ² Insulation: PE Core Arrangement: 2 Core + Cotton Tracers Twisted Shielding: Bare copper spiral shield Φ (0.10~0.12) x 60 spiral Outer Jacket: Flexible PVC Overall Diameter: 6 mm		

3.3	General Installation Details	<p>*Supply and installation 06 nos. of wall mount speaker bracket</p> <p>*Supply and installation of 12U Wall-Mount Powder Coated Cabinet for 19" AV Equipment, with Glass Door and Removable Side Panels, Locks, 2 Fans, 13A/ 6 way power railing and one sliding tray</p> <p>*1.5mm² /3 core power cable should be laying from existing 13A wall socket outlet to the rack</p> <p>* Supply and installation of chrome plated audio face plate including 3 x XLR & 1 x TRS connector bases closer to the wall skirting below to the equipment rack or</p> <p>*Supply and installation of XLR microphone audio cable from audio mixer to the audio wall plate</p> <p>*Supply and installation of computer audio cable from the audio mixer to the audio wall plate</p> <p>*Supply and installation of left & right audio output from the audio mixer to the audio wall plate</p> <p>* Cables from the audio mixer to the audio wall plate should be covered using 2" SLS certified fire resistant casing</p> <p>*Supply and installation of 10m XLR microphone and 3.5mm computer audio patch codes from the audio wall plate to lecturer table and should be covered using 4" High quality SLS certified PVC half round floor casing</p> <p>*Cable specification should be as per the above 5.1</p> <p>*All cables laying from audio Mixer to speakers should be covered using 1 inch. SLS certified fire-resistant PVC conduits or casings</p> <p>And</p> <p>*All installation should be completed as per the instruction given by the authorized officer of the institute</p>		
5.4	Warranty	Should be 1 year comprehensive		
5.5	Delivery Period	Please specify		
5.6	Manufacturer's specification data sheet	Supplier should provide brochure of make/model quoted as per above specification		
5.7	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

Technical Specification for Wireless Microphone System

System should consist of following items:

- a) Wireless Receiver 01
- b) Handheld Microphone 02
- c) Body-Pack Transmitter 02
- d) Lavalier Microphone 02
- e) Headset Microphone 02

Technical specifications of above item for (a),(b),(c) & (d) (e) are given below,

Description		Requirement	Bidder's Response	Compliance Yes/No
(a). Technical specification of Wireless Receiver				
01	Receiver Type	Dual Channel Diversity Receiver		
02	Make & Model	Specify		
03	Country of Origin/Manufacture	Specify		
04	No of channels	16 selectable preset UHF channels		
05	Frequency Preparation	PLL Synthesized Control		
06	Carrier Frequency Range	502 MHz ~ 960 MHz		
07	S/N Ratio	>105 dB		
08	THD	<0.6% @ 1 KHz		
09	Audio Output level	-12dB		
10	AF Output Impedance	600Ω		
11	Operating Voltage	12V DC		
12	Display	LCD		
13	Display Contents	Channel , Antenna RF Level Meter & AF Level Meter		
14	Switches & Controls	Power ON/OFF switch Channel Selector Audio Level control Squelch Level Adjuster		
15	Output connector	XLR/M balanced connector x 02 ¼" TS unbalanced connector x 01		
16	Antenna	Detachable dual antenna should be included		
17	AF Output cable	Should be Included		
18	AC/DC Power Adaptor	12V SMPS power adaptor should be included		
19	Compatibility	This item should be compatible with Mentioned item 01-A		
(b). Wireless Hand held Microphone				
20	Type	Hand Held Wireless Microphone		
21	Make & Model	Specify		
22	Country of Origin/Manufacture	Specify		
23	No of channels	16 selectable channels		
24	Frequency Preparation	PLL Synthesized Control		
25	Carrier Frequency Range	502 MHz ~ 960 MHz		
26	Antenna Type	Internal		
27	RF Output power	10mW or better		

28	Frequency Deviation	± 48 KHz		
29	Audio Frequency Response	50Hz ~ 16 KHz		
30	Display	LCD Display Should be include with contents of channel & battery level		
31	Switches & Controls	Power ON/OFF switch Channel Selector, AF level or other		
32	Battery	AA x 02		
(c).Body pack Transmitter				
33	Type	Body-Pack Transmitter		
34	Make & Model	Specify		
35	Country of Origin/Manufacture	Specify		
36	No of channels	16 selectable channels		
37	Frequency Preparation	PLL Synthesized Control		
38	Carrier Frequency Range	502 MHz ~ 960 MHz		
39	RF Output power	10mW or better		
40	Frequency Deviation	± 48 KHz		
41	Audio Frequency Response	50Hz ~ 16 KHz		
43	Display	LCD Display Should be include with contents of channel & battery level		
44	Switches & Controls	Power ON/OFF switch Channel Selector		
45	Battery	AA x 02		
46	Connector Type	4 pin mini XLR/M		
47	Belt clip & Safety Pouch	Cloth mounting metal clip & Safety pouch should be included		
d). Lavalier Microphone				
48	Type	Condenser Lavalier Microphone		
49	Make & Model	Specify		
50	Country of Origin/Manufacture	Specify		
51	Frequency Response	100Hz ~ 15,000 Hz		
52	Maximum SPL for 1% THD	130dB		
53	Polar Pattern	Cardioid		
54	Impedance	2.2kΩ		
55	Connector Type	4 pin mini XLR/F		
56	Dress attaching clip	Metal dress attaching clip should be included		
57	Windscreen	Should be Included		
e) Headset Microphone				

58	Type	Headset microphone should be included pre-polarized condenser microphone 150 dB SPL 1.5m or above cable length Cardioid Pick-up pattern 1.6 mV/Pa sensitivity 3.5 mm jack with locking connector		
59	Warranty	Should be 1 year comprehensive		
60	Delivery Period	Please specify		
61	Manufactures Specification data Sheet	Supplier should provide brochure of make/model quoted as per above specification		
62	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

- Inspect the location before tendering for installation of Sound System

Supply and installation of Sound system for lecture hall

Technical Specification for Speaker System

System should consist of following items:

- (a) Speaker 04
- (b) Stand 04
- (c) Cable 09
- (d) Mixer 01

	Description	Requirement	Bidder's Response Yes/No	Compliance Yes/No (for office use only)
(a). Technical specification of speaker				
01	System Type	Self powered 12", two-way, bass-reflex		
02	Make & Model	Please Specify		
03	Country of Origin	Please Specify		
04	Country of Manufacture	Please Specify		
05	Year of Manufacturing	Please Specify		
06	Maximum SPL Output	126 dB		
07	Frequency Range (-10 dB)	48Hz – 20kHz		
08	Frequency Response (-3 dB)	57Hz – 20kHz		
09	System Power Rating	1000W Peak (700 LF + 300HF); 500W Continuous (350W LF + 150W HF)		
10	Input Impedance	20k (balanced)		
11	Line Input Gain	Infinity to 26.8 dBu		
12	Mic Input Gain	Infinity to 29 dBu		
13	Line	+14dBu		
14	Mic	-4dBu		
15	Connectors	2 x Balanced XLR-1/4" combination inputs; 1 x male XLR loop thru out		
16	LED Indicators	Front Power LED (Defeatable, white) Rear Power LED (Blue), Bluetooth (Blue), EQ+ (Green) Preset (Green) Signal (Green) Limit (Orange)		
17	Cooling	Passive		
18	AC Power Input	100-120VAC 50/60Hz; 230-240VAC 50/60Hz		

19	AC Power Consumption (120V~)	1/8th Power – 1.14A (Max), 1/4th Power – 1.71A (Max), 1/3rd Power – 2.03A (Max)		
20	LF Driver	1 x 612H 380mm (12 in) woofer		
21	HF Driver	1 x 2414H-1 25.4mm (1 in) polymer diaphragm, neodymium compression driver		
22	Coverage Pattern	110 x 60		
23	Crossover Frequency	1.8kHz		
24	Material	Polypropylene, black		
25	Monitor Angle	Both sides		
26	Suspension/Mounting	35mm pole socket, 3 x M10 Suspension points		
27	Handles	4		
28	Grille	Powder coated, Obsidian, perforated steel with acoustically transparent black cloth backing		
(b) Stand				
29	Required Accessories	Lightweight Aluminum Speaker Stand for Each Speaker Dual Diameter Inner Tube For 35mm and 38mm Speaker Mount Red Safety Trim On Feet (Removable) 60 Lb Weight Capacity (27 kg) Min / Max Height: 48/81 Inches (1219/2057 mm)		
(c) Cables				
30	Cables & Connectors	4 20m XLR/M to XLR/F Cable & 4 20M TS M to M Cable should be included 20m TS to Mini stereo cable should be included Cable Specifications: Cable Conductor: Stranded Bare Copper (20~28) x (0.10~0.12) mm Cross Section: 0.22~0.23 mm ² Insulation: PE Core Arrangement: 2 Core + Cotton Tracers Twisted Shielding: Bare copper spiral shield Φ (0.10~0.12) x 60 spiral Outer Jacket: Flexible PVC Overall Diameter: 6 mm		

(d) Technical specification of Mixer				
31	System Type	High-Performance 22-input small format analogue mixer with onboard effects		
32	Make & Model	Please Specify		
33	Country of Origin	Please Specify		
34	Country of Manufacture	Please Specify		
35	Year of Manufacturing	Please Specify		
36	Channels	22		
37	Preamps	16		
39	EQ	4-band (2 bands of swept mids)		
40	Limiters on inputs	8		
41	Effects	Dual Engine		
42	USB Interface	2-in/2-out (24-in/22-out on 22 MTK)		
43	Auxes	5		
44	Subgroups	4 mono/2 stereo		
45	Faders	100mm		
46	Warranty	Should be 1 year comprehensive		
47	Delivery Period	Please specify		
48	Manufactures Specification data Sheet	Supplier should provide brochure of make/model quoted as per above specification		
49	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

Technical Specification for Wireless Microphone System

System should consist of following items:

- a) Wireless Receiver 01
- b) Handheld Microphone 02
- c) Body-Pack Transmitter 02
- d) Lavalier Microphone 02
- e) Headset Microphone 02

Technical specifications of above item for (a),(b),(c) & (d) (e) are given below,

Description	Requirement	Bidder's Response	Compliance Yes/No
(a). Technical specification of Wireless Receiver			
01	Receiver Type	Dual Channel Diversity Receiver	

02	Make & Model	Specify		
03	Country of Origin/Manufacture	Specify		
04	No of channels	16 selectable preset UHF channels		
05	Frequency Preparation	PLL Synthesized Control		
06	Carrier Frequency Range	502 MHz ~ 960 MHz		
07	S/N Ratio	>105 dB		
08	THD	<0.6% @ 1 KHz		
09	Audio Output level	-12dB		
10	AF Output Impedance	600Ω		
11	Operating Voltage	12V DC		
12	Display	LCD		
13	Display Contents	Channel , Antenna RF Level Meter & AF Level Meter		
14	Switches & Controls	Power ON/OFF switch Channel Selector Audio Level control Squelch Level Adjuster		
15	Output connector	XLR/M balanced connector x 02 ¼" TS unbalanced connector x 01		
16	Antenna	Detachable dual antenna should be included		
17	AF Output cable	Should be Included		
18	AC/DC Power Adaptor	12V SMPS power adaptor should be included		
19	Compatibility	This item should be compatible with Mentioned item 01-A		
(b).Wireless Hand held Microphone				
20	Type	Hand Held Wireless Microphone		
21	Make & Model	Specify		
22	Country of Origin/Manufacture	Specify		
23	No of channels	16 selectable channels		
24	Frequency Preparation	PLL Synthesized Control		
25	Carrier Frequency Range	502 MHz ~ 960 MHz		
26	Antenna Type	Internal		
27	RF Output power	10mW or better		
28	Frequency Deviation	± 48 KHz		
29	Audio Frequency Response	50Hz ~ 16 KHz		
30	Display	LCD Display Should be include with contents of channel & battery level		
31	Switches & Controls	Power ON/OFF switch Channel Selector, AF level or other		
32	Battery	AA x 02		

(c).Body pack Transmitter				
33	Type	Body-Pack Transmitter		
34	Make & Model	Specify		
35	Country of Origin/Manufacture	Specify		
36	No of channels	16 selectable channels		
37	Frequency Preparation	PLL Synthesized Control		
38	Carrier Frequency Range	502 MHz ~ 960 MHz		
39	RF Output power	10mW or better		
40	Frequency Deviation	± 48 KHz		
41	Audio Frequency Response	50Hz ~ 16 KHz		
43	Display	LCD Display Should be include with contents of channel & battery level		
44	Switches & Controls	Power ON/OFF switch Channel Selector		
45	Battery	AA x 02		
46	Connector Type	4 pin mini XLR/M		
47	Belt clip & Safety Pouch	Cloth mounting metal clip & Safety pouch should be included		
d). Lavalier Microphone				
48	Type	Condenser Lavalier Microphone		
49	Make & Model	Specify		
50	Country of Origin/Manufacture	Specify		
51	Frequency Response	100Hz ~ 15,000 Hz		
52	Maximum SPL for 1% THD	130dB		
53	Polar Pattern	Cardioid		
54	Impedance	2.2kΩ		
55	Connector Type	4 pin mini XLR/F		
56	Dress attaching clip	Metal dress attaching clip should be included		

57	Windscreen	Should be Included		
e) Headset Microphone				
58	Type	Headset microphone should be included pre-polarized condenser microphone 150 dB SPL 1.5m or above cable length Cardioid Pick-up pattern 1.6 mV/Pa sensitivity 3.5 mm jack with locking connector		
59	Warranty	Should be 1 year comprehensive		
60	Delivery Period	Please specify		
61	Manufactures Specification data Sheet	Supplier should provide brochure of make/model quoted as per above specification		
62	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

- Inspect the location before tendering for installation of Sound System

Supply and installation of Sound system for lecture hall

Technical Specification for Speaker System

System should consist of following items:

- (a) Speaker 02
- (b) Stand 02
- (c) Cable 09
- (d) Mixer 01

	Description	Requirement	Bidder's Response Yes/No	Compliance Yes/No (for office use only)
(a). Technical specification of speaker				
01	System Type	Self powered 12", two-way, bass-reflex		
02	Make & Model	Please Specify		
03	Country of Origin	Please Specify		
04	Country of Manufacture	Please Specify		
05	Year of Manufacturing	Please Specify		
06	Maximum SPL Output	126 dB		
07	Frequency Range (-10 dB)	48Hz – 20kHz		
08	Frequency Response (-3 dB)	57Hz – 20kHz		
09	System Power Rating	1000W Peak (700 LF + 300HF); 500W Continuous (350W LF + 150W HF)		
10	Input Impedance	20k (balanced)		
11	Line Input Gain	Infinity to 26.8 dBu		
12	Mic Input Gain	Infinity to 29 dBu		
13	Line	+14dBu		
14	Mic	-4dBu		
15	Connectors	2 x Balanced XLR-1/4" combination inputs; 1 x male XLR loop thru out		
16	LED Indicators	Front Power LED (Defeatable, white) Rear Power LED (Blue), Bluetooth (Blue), EQ+ (Green) Preset (Green) Signal (Green) Limit (Orange)		
17	Cooling	Passive		
18	AC Power Input	100-120VAC 50/60Hz; 230-240VAC 50/60Hz		
19	AC Power Consumption (120V~)	1/8th Power – 1.14A (Max), 1/4th Power – 1.71A (Max), 1/3rd Power – 2.03A (Max)		
20	LF Driver	1 x 612H 380mm (12 in) woofer		

21	HF Driver	1 x 2414H-1 25.4mm (1 in) polymer diaphragm, neodymium compression driver		
22	Coverage Pattern	110 x 60		
23	Crossover Frequency	1.8kHz		
24	Material	Polypropylene, black		
25	Monitor Angle	Both sides		
26	Suspension/Mounting	35mm pole socket, 3 x M10 Suspension points		
27	Handles	4		
28	Grille	Powder coated, Obsidian, perforated steel with acoustically transparent black cloth backing		
(b) Stand				
29	Required Accessories	Lightweight Aluminum Speaker Stand for Each Speaker Dual Diameter Inner Tube For 35mm and 38mm Speaker Mount Red Safety Trim On Feet (Removable) 60 Lb Weight Capacity (27 kg) Min / Max Height: 48/81 Inches (1219/2057 mm)		
(c) Cables				
30	Cables & Connectors	4 20m XLR/M to XLR/F Cable & 4 20M TS M to M Cable should be included 20m TS to Mini stereo cable should be included Cable Specifications: Cable Conductor: Stranded Bare Copper (20~28) x (0.10~0.12) mm Cross Section: 0.22~0.23 mm ² Insulation: PE Core Arrangement: 2 Core + Cotton Tracers Twisted Shielding: Bare copper spiral shield Φ (0.10~0.12) x 60 spiral Outer Jacket: Flexible PVC Overall Diameter: 6 mm		
(d) Technical specification of Mixer				
31	System Type	High-Performance 22-input small format analogue mixer with onboard effects		
32	Make & Model	Please Specify		
33	Country of Origin	Please Specify		
34	Country of Manufacture	Please Specify		

35	Year of Manufacturing	Please Specify		
36	Channels	22		
37	Preamps	16		
39	EQ	4-band (2 bands of swept mids)		
40	Limiters on inputs	8		
41	Effects	Dual Engine		
42	USB Interface	2-in/2-out (24-in/22-out on 22 MTK)		
43	Auxes	5		
44	Subgroups	4 mono/2 stereo		
45	Faders	100mm		
46	Warranty	Should be 1 year comprehensive		
47	Delivery Period	Please specify		
48	Manufactures Specification data Sheet	Supplier should provide brochure of make/model quoted as per above specification		
49	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

Technical Specification for Wireless Microphone System

System should consist of following items:

- a) Wireless Receiver 01
- b) Handheld Microphone 02
- c) Body-Pack Transmitter 02
- d) Lavalier Microphone 02
- e) Headset Microphone 02

Technical specifications of above item for (a),(b),(c) & (d) (e)are given below,

Description		Requirement	Bidder's Response	Compliance Yes/No
(a). Technical specification of Wireless Receiver				
01	Receiver Type	Dual Channel Diversity Receiver		
02	Make & Model	Specify		
03	Country of Origin/Manufacture	Specify		
04	No of channels	16 selectable preset UHF channels		
05	Frequency Preparation	PLL Synthesized Control		
06	Carrier Frequency Range	502 MHz ~ 960 MHz		
07	S/N Ratio	>105 dB		
08	THD	<0.6% @ 1 KHz		
09	Audio Output level	-12dB		

10	AF Output Impedance	600Ω		
11	Operating Voltage	12V DC		
12	Display	LCD		
13	Display Contents	Channel , Antenna RF Level Meter & AF Level Meter		
14	Switches & Controls	Power ON/OFF switch Channel Selector Audio Level control Squelch Level Adjuster		
15	Output connector	XLR/M balanced connector x 02 ¼" TS unbalanced connector x 01		
16	Antenna	Detachable dual antenna should be included		
17	AF Output cable	Should be Included		
18	AC/DC Power Adaptor	12V SMPS power adaptor should be included		
19	Compatibility	This item should be compatible with Mentioned item 01-A		
(b).Wireless Hand held Microphone				
20	Type	Hand Held Wireless Microphone		
21	Make & Model	Specify		
22	Country of Origin/Manufacture	Specify		
23	No of channels	16 selectable channels		
24	Frequency Preparation	PLL Synthesized Control		
25	Carrier Frequency Range	502 MHz ~ 960 MHz		
26	Antenna Type	Internal		
27	RF Output power	10mW or better		
28	Frequency Deviation	± 48 KHz		
29	Audio Frequency Response	50Hz ~ 16 KHz		
30	Display	LCD Display Should be include with contents of channel & battery level		
31	Switches & Controls	Power ON/OFF switch Channel Selector, AF level or other		
32	Battery	AA x 02		
(c).Body pack Transmitter				
33	Type	Body-Pack Transmitter		
34	Make & Model	Specify		
35	Country of Origin/Manufacture	Specify		
36	No of channels	16 selectable channels		
37	Frequency Preparation	PLL Synthesized Control		
38	Carrier Frequency Range	502 MHz ~ 960 MHz		
39	RF Output power	10mW or better		

40	Frequency Deviation	± 48 KHz		
41	Audio Frequency Response	50Hz ~ 16 KHz		
43	Display	LCD Display Should be include with contents of channel & battery level		
44	Switches & Controls	Power ON/OFF switch Channel Selector		
45	Battery	AA x 02		
46	Connector Type	4 pin mini XLR/M		
47	Belt clip & Safety Pouch	Cloth mounting metal clip & Safety pouch should be included		
d). Lavalier Microphone				
48	Type	Condenser Lavalier Microphone		
49	Make & Model	Specify		
50	Country of Origin/Manufacture	Specify		
51	Frequency Response	100Hz ~ 15,000 Hz		
52	Maximum SPL for 1% THD	130dB		
53	Polar Pattern	Cardioid		
54	Impedance	2.2kΩ		
55	Connector Type	4 pin mini XLR/F		
56	Dress attaching clip	Metal dress attaching clip should be included		
57	Windscreen	Should be Included		
e) Headset Microphone				
58	Type	Headset microphone should be included pre-polarized condenser microphone 150 dB SPL 1.5m or above cable length Cardioid Pick-up pattern 1.6 mV/Pa sensitivity 3.5 mm jack with locking connector		
59	Warranty	Should be 1 year comprehensive		
60	Delivery Period	Please specify		
61	Manufactures Specification data Sheet	Supplier should provide brochure of make/model quoted as per above specification		
62	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

- Inspect the location before tendering for installation of Sound System

Supply and installation of passive audio system for lecture hall

Description		Requirement	Bidder's Response Yes/No	Compliance Yes/No (for office use only)
1. Technical specification of speaker				
1.1	Type	Two-way passive speaker		
1.2	Make & Model	Please Specify		
1.3	Country of Origin	Please Specify		
1.4	Country of Manufacture	Please Specify		
1.5	Year of Manufacturing	Please Specify		
1.6	Speaker Quantity	04 Nos. should be included		
1.7	Power Handling	The system should be capable of handling 120 Watts continuous pink noise @ 8 ohm		
1.8	Low Frequency Transducer	8" woofer with woven fiberglass cone		
1.9	High Frequency Transducer	1" PEI diaphragm tweeter with fluid cooling		
1.10	Nominal Impedance	8 ohm		
1.11	Maximum Input Voltage	27.5 V RMS or above		
1.12	Maximum SPL	112 dB ave. Continuous Pink Noise or better		
1.13	Frequency Response @ ±3dB	62 Hz – 15 kHz or better response		
1.14	Frequency Response @ ±10dB	50 Hz – 20 kHz or better range		
1.15	Horizontal & Vertical Coverage Angle	100° or above		
1.16	Enclosure Material	High Impact Polystyrene (HIPS) with glass fill and painted with highly-UV resistant paint		
1.17	Grille Type	Grille should be heavily zinc-plated and finished in a tough, high-grade powder coating for rust resistance		
1.18	Crossover Type	2nd order low-pass and 1st order high-pass		
1.19	Terminals	*Screw-down terminal strip, zinc-plated copper based, nickel-plated metal screws and washers. *Accepts up to 9 mm outside 4 mm inside open lugs with Bare wire (up to 12 AWG / 2.5 mm ²)		
2. Technical specification of audio power amplifier				
2.1	Type	Audio power amplifier		
2.2	Make & Model	Specify		
2.3	Country of Origin	Please Specify		
2.4	Country of Manufacture	Please Specify		
2.5	Year of Manufacturing	Please Specify		
2.6	Amplifier Quantity	01 no. should be included		

2.7	No of Input Channels	Minimum Two channels should be available		
2.8	Rated Output Power	450W @ 4Ω stereo(per channel) or above 330W @ 8Ω stereo(per channel) or above 900W @ 8Ω Bridge Mono or above		
2.9	Frequency Response @ 1W	20 Hz - 20 kHz @ +/-1 Db or better		
2.10	THD	<0.5%, 20 Hz - 20 kHz below		
2.11	Voltage Gain	31 dB or above		
2.12	Input Sensitivity for full rated power at 8 ohms	0.775V or 1.4V		
2.13	Input Impedance	Balanced - 20kΩ Unbalanced - 10kΩ		
2.14	Input Connectors	One balanced XLR and one unbalanced RCA or 6.5mm Standard connectors per channel should be included		
2.15	Output Connectors for speakers	4-POLE Speakon and one pair Binding Post speaker terminal should be included per channel		
2.16	Front Panel Controls	Power on/off switch, one gain control per channel should be available		
2.17	Rear Panel Controls	Output mode switch for stereo, parallel or bridge and Input sensitivity select switch should be available		
2.18	Indicators	*Power Indicator, Signal Indicator, Clip Indicator and Fault Indicator LEDs should be available for each channel *All indicators should have different colors for easy identification		
2.19	Protection	Protection against short circuits, no-load, on/off muting, RF interference. Stable into reactive or mismatched loads protections should be available * Overload protection circuit breaker should be available		
2.20	Ventilation Method	Grills should be available for front panel for Flow-through ventilation from front to back		
2.21	Cooling System	Internal heat sinks with forced air Fan cooled, speed regulated , thermal protection technology should be available *Two fans should be located in rear panel to provide front to back forced airflow for cooling		
2.22	Mounting	19" Rack mountable with four mounting holes		

2.23	Weight	Below 15Kg		
2.24	Supply Voltage	AC 230 V - 240 V/ 50 Hz - 60 Hz		
3. Technical Specification of two wireless receivers with Headset microphone & Handheld microphone				
(a) Wireless Receivers				
3.1	Receiver Type	True diversity half-rack receiver		
3.2	Make & Model	Please Specify		
3.3	Country of Origin	Please Specify		
3.4	Country of Manufacture	Please Specify		
3.5	Year of Manufacturing	Please Specify		
3.6	Receiver Quantity	02 receivers should be included		
3.7	Frequency Ranges	516 MHz ~ 865 MHz or above		
3.8	Modulation	Wideband FM		
3.9	No of channels	12 Channels or more		
3.10	Bandwidth	42 MHz or more		
3.11	Nominal/peak deviation	± 24 kHz / ± 48 kHz or above		
3.12	Audio output	6.3 mm socket (unbalanced): +12 dBu or above XLR socket (balanced): +18 dBu or above		
3.13	RF output power	30 mW or above		
3.14	S/N Ratio	≥ 110 dBA or better		
3.15	Squelch level	adjustable from 5 dB μ V to 25 dB μ V or more range		
3.16	THD	$\leq 0.9\%$ or better		
3.17	Operating Voltage	12V DC		
3.18	Display	LCD should be available		
3.19	Display Contents	RF Level Meter & AF Level Meter, Channel No, Frequency, Mute Indicator, Battery status of the transmitter and other		
3.20	Switches & Controls	Power ON/OFF, Channel Select, Audio Level control Squelch Level Adjust buttons should be available in front panel		
3.21	Cables	3m XLR Cable & TS AF output cable should be included		
3.22	Antenna	Detachable dual antenna should be included		
3.23	Antenna connector	2 BNC sockets should be available		
3.24	Power supply	12 V power adaptor should be included		
3.25	Rack mount kit	19 inch. Rack mount kit with screws should be included		
3.26	Adjacent channel rejection	≥ 65 dB or better		

3.27	Intermodulation attenuation	≥ 65 dB or better		
3.28	RF sensitivity	< 2.5 μV or better		
3.29	Equalizer	Pre set equalizer should be available		
(b) Body Pack Transmitter + Headset Microphone				
3.29	Transmitter Type	Body pack transmitter		
3.30	Make & Model	Please Specify		
3.31	Country of Origin	Please Specify		
3.32	Country of Manufacture	Please Specify		
3.33	Year of Manufacturing	Please Specify		
3.34	Frequency Ranges	516 MHz ~ 865 MHz or above		
3.35	Modulation	Wideband FM		
3.36	No of channels	12 Channels or more		
3.37	Bandwidth	42 MHz or more		
3.38	Nominal/peak deviation	±24 kHz / ±48 kHz or above		
3.39	AF frequency response	Mic: 80 – 18,000 Hz or better Line: 25 – 18,000 Hz or better		
3.40	Input impedance	40 kΩ		
3.41	RF output power	30 mW or above		
3.42	S/N Ratio	≥ 110 dBA or better		
3.43	THD	≤ 0.9% or better		
3.44	Operating Voltage	3 V AA Standard Battery and 2.4 V Rechargeable Battery		
3.45	Current consumption	@ Nominal voltage: ≤180 mA @ Transmitter switched off: ≤ 25 μA		
3.46	Weight (including standard batteries)	≤180 g		
3.47	Cables	6.3mm connector cable to 3.5mm locking connector should be included		
3.48	Headset Microphone	Headset microphone should be included pre-polarized condenser microphone 150 dB SPL 1.5m or above cable length Cardioid Pick-up pattern 1.6 mV/Pa sensitivity 3.5 mm jack with locking connector		

3.49	Clip-on Microphone	<p>Clip-on microphone should be included</p> <p>*Connector should be 3-pin 3.5 mm jack plug</p> <p>*Cable length should be 1.5m or above</p> <p>*Nominal impedance: 1000 ohms</p> <p>*Frequency response: 20 - 20,000 Hz or better</p> <p>*Max. sound pressure level: 140 dB or above</p> <p>*Pick-up pattern should be Omni-directional</p> <p>*Sensitivity in free field, no load(1kHz): 5mV/Pa \pm3.5dB or better</p>		
(c) Handheld Transmitter + Microphone Head				
3.40	Transmitter Type	Handheld transmitter		
3.41	Make & Model	Please Specify		
3.42	Country of Origin	Please Specify		
3.43	Country of Manufacture	Please Specify		
3.44	Year of Manufacturing	Please Specify		
3.45	Frequency Ranges	516 MHz ~ 865 MHz or above		
3.46	Modulation	Wideband FM		
3.47	No of channels	12 Channels or more		
3.48	Bandwidth	42 MHz or more		
3.49	Nominal/peak deviation	\pm 24 kHz / \pm 48 kHz or above		
3.50	AF frequency response	80 – 18,000 Hz or better		
3.51	Input impedance	40 k Ω		
3.52	RF output power	30 mW or above		
3.53	S/N Ratio	\geq 110 dBA or better		
3.54	THD	\leq 0.9% or better		
3.55	Operating Voltage	3 V AA Standard Battery and 2.4 V Rechargeable Battery		
3.56	Current consumption	@ Nominal voltage: \leq 180 mA @ Transmitter switched off: \leq 25 μ A		
3.57	Weight (including standard batteries)	\leq 500 g		
3.58	Microphone Head	<p>Cardioid dynamic microphone head should be included.</p> <p>*pre-polarized condenser microphone</p> <p>*150 dB or above SPL</p> <p>*2.1 mV/Pa sensitivity</p>		
4. Technical Specification of Audio Mixer				
4.1	Device Type	Audio Mixing Console		
4.2	Make & Model	Please Specify		
4.3	Country of Origin	Please Specify		
4.4	Country of Manufacture	Please Specify		

4.5	Year of Manufacturing	Please Specify		
4.6	Microphone Inputs	8 Inputs or more		
4.7	Line Inputs	6 Balanced Line Inputs or more		
4.8	Stereo Inputs	2 Balanced Stereo Line Inputs or more 1 Unbalanced Stereo RCA Inputs or more		
4.9	Mater Outputs	Two Balanced line level Left and Right XLR outputs should be available Two Balanced TRS line level output should be available		
4.10	Auxiliary Outputs	3 TRS balanced outputs or more		
4.11	Headphone Out	6.5mm TRS stereo output should be available for headphone		
4.12	Equalizer	3 Band equalizer with one swept mid control		
4.13	Limiter Inputs	2 Inputs or more		
4.14	Effects	Single effects processor or more		
4.15	USB Interface	USB audio interface should be available		
4.16	Subgroups	2 Mono & 1 Stereo or more		
4.17	Fader Size	60mm or above		
4.18	Frequency Response	Mic / Line In to any Output: +/-1.5dB, 20Hz-20kHz or better		
4.19	T.H.D	<u>Mono Mic Sensitivity:</u> -30dBu, Input level -16dBu, +14dBu @ Mix output: < 0.002% @ 1kHz or better <u>Stereo Mic Sensitivity:</u> -30dBu, Input level -16dBu, +14dBu @ Mix output: < 0.007% @ 1kHz or better		
4.20	EQ (Mono inputs)	HF: 12kHz, +/-15dB or more MF: 140Hz – 3kHz, +/-15dB or more LF: 60Hz, +/-15dB or more		
4.21	EQ (Stereo inputs)	HF: 12kHz, +/-15dB or more MF: 1kHz, +/-15dB or more LF: 60Hz, +/-15dB or more		
4.22	Phantom Power	48V Phantom power should be available on all mic channels		
4.23	Filters	Selectable Hi-Pass Filters (low-cut) should be available on all mic channels		
4.24	High Impedance Inputs	Minimum two selectable high input impedance for input channel should be included		
4.25	Limiters	Minimum two selectable limiter for input channel should be included		

4.26	Input & Output Levels	*Mic Input: +12.5dBu or above *Line Input: +26dBu or above *Stereo Inputs: +26dBu or above *Mix Output: +21.5dBu or above *Headphones (@150Ω): 300mW or above		
4.27	Input & Output Impedances	Mic Input: 1.2kΩ or better High Impedance Input: 965kΩ or better Line Input: 10kΩ or better Stereo Input: 21.0kΩ or better Outputs: 150Ω (balanced) and 75Ω (unbalanced) or better		
4.28	USB Audio	*Bit Depth: 24-bit or more *Sampling rate: 44kHz ~ 192kHz or more		
4.29	USB Interface Compatibility	Should be compatible with Windows 10 & 11		
4.30	USB Power	USB Power socket should be included		
4.31	Supply Voltage	Internal Power Supply AC 230 V - 240 V/ 50 Hz - 60 Hz		
5. Other Requirements				
5.1	Cables & Connectors	20m XLR/M to XLR/F Cable should be included 20m TS to Mini stereo cable should be included <u>Cable Specifications:</u> Cable Conductor: Stranded Bare Copper (20~28) x (0.10~0.12) mm Cross Section: 0.22~0.23 mm ² Insulation: PE Core Arrangement: 2 Core + Cotton Tracers Twisted Shielding: Bare copper spiral shield Φ (0.10~0.12) x 60 spiral Outer Jacket: Flexible PVC Overall Diameter: 6 mm		
5.2	Microphone Stand	2 x Heavy-duty microphone stand should be included Type: Floor Type Height: 950-1500mm or above Cross bar length: 800mm(min.) Main rod: φ20 x 0.8mm steel(min.) Extension rod: φ15 x 0.6mm steel(min.) Cross bar: φ15 x 0.6mm steel(min.) Base: φ19 x 0.6mm steel(min.)		

5.3	General Installation Details	<p>*Supply and installation 04 nos. of wall mount speaker bracket</p> <p>*Supply and installation of 12U Wall-Mount Powder Coated Cabinet for 19" AV Equipment, with Glass Door and Removable Side Panels, Locks, 2 Fans, 13A/ 6 way power railing and one sliding tray</p> <p>*1.5mm² /3 core power cable should be laying from existing 13A wall socket outlet to the rack</p> <p>* Supply and installation of chrome plated audio face plate including 3 x XLR & 1 x TRS connector bases closer to the wall skirting below to the equipment rack or</p> <p>*Supply and installation of XLR microphone audio cable from audio mixer to the audio wall plate</p> <p>*Supply and installation of computer audio cable from the audio mixer to the audio wall plate</p> <p>*Supply and installation of left & right audio output from the audio mixer to the audio wall plate</p> <p>* Cables from the audio mixer to the audio wall plate should be covered using 2" SLS certified fire resistant casing</p> <p>*Supply and installation of 10m XLR microphone and 3.5mm computer audio patch codes from the audio wall plate to lecturer table and should be covered using 4" High quality SLS certified PVC half round floor casing</p> <p>*Cable specification should be as per the above 5.1</p> <p>*All cables laying from audio amplifier to speakers should be covered using 1 inch. SLS certified fire-resistant PVC conduits or casings</p> <p>And</p> <p>*All installation should be completed as per the instruction given by the authorized officer of the institute</p>		
5.4	Warranty	Should be 1 year comprehensive		
5.5	Delivery Period	Please specify		
5.6	Manufacturer's specification data sheet	Supplier should provide brochure of make/model quoted as per above specification		
5.7	Manufacturer Authorization Certificate	Manufacturer Authorization for the tender should be provided(Originals should be provided on request)		

Technical Specification of Active Sound System

Description		Requirement	Bidder's Response Yes/No	Compliance Yes/No (for office use only)
1. Technical specification of Active Speaker				
1.1	Type	Two-way active speaker		
1.2	Make & Model	Please Specify		
1.3	Country of Origin	Please Specify		
1.4	Country of Manufacture	Please Specify		
1.5	Year of Manufacturing	Please Specify		
1.6	Power Rating	1500W or above		
1.7	LF Transducer	12 inch woofer or above		
1.8	HF Transducer	1.5inch. annular polymer diaphragm compression driver		
1.9	Amplifier Type	Class D		
1.10	Frequency Response @ $\pm 3\text{dB}$	55Hz – 20 KHz or more		
1.11	Maximum SPL	135 dB or better		
1.12	Horizontal Coverage Angle	90° or more		
1.13	Vertical Coverage Angle	50° or more		
1.14	Input Impedance	20K Ohms (balanced) 10K Ohms (unbalanced)		
1.15	Enclosure Material	18 mm ~ 25mm strong light-weight poplar plywood made		
1.16	Speaker Stand Pole Socket	Standard 35mm speaker stand pole socket for tripod mounting		
1.17	Transportation	Integrated side handle should be included		
1.18	Input Controlling	Limiter circuit should be available to input level controlling		
1.19	Cross over Frequency	1.8 kHz or better		
1.20	Input Connectors	Two Female balanced XLR and 1/4 inch TRS jack combo input connectors for Microphone and line level signal inputs Female unbalanced RCA, Left & Right input connectors should be available		
1.21	Output Connector	1 x XLR/M Connector for balanced XLR line output signals for linking of multiple speakers		

1.22	Switches & Controls	<p>Gain control should be included for each balanced inputs</p> <p>Line/Mic selector switch should be included for balanced inputs</p> <p>Main & Monitor selector switch should be included</p> <p>Wi-Fi connect button should be included</p> <p>Mixed output percentage selector button should be included</p>		
1.23	Signal Indicators	<p>Limit or Clipping indicator should be available to indicate when input clipping occurs or peak output has been reached</p> <p>Signal Indicators should be available for each balanced and unbalanced channels to indicates when the line level signal is present at the input connectors</p> <p>Signal indicators should be available for each channels when the MIC level signal is reached.</p> <p>WI-FI Link LED should be available to indicate when the system is connected to Wi-fi controlling</p> <p>EQ LED should be available to indicate when the equalizer setting applied through WI-FI application software</p>		
1.24	Wireless Controlling	<p>Built-in Wi-Fi should be available for wireless control of the system</p>		
1.25	EQ	<p>User selectable presets for Main or Monitor position should be available</p> <p>Advanced EQ settings should be available using Wi-Fi through software</p>		
1.26	Mobile App	<p>Free Android app should be included for wireless control over volume levels, 8-band (minimum) parametric EQ and other</p>		

1.27	AC Power Requirement	220~240V/50 Hz		
1.28	Protections	fuse protection should be included		
1.29	Front Surface	Powder coated 16 gauge perforated steel with acoustical transparent black cloth backing		
1.30	Weight	20 kg(max.) or below		
1.31	power cord for IEC/M socket	3 prong square type power code should be included		
2. Technical Specification of wireless receivers with Handheld microphone				
(a) Wireless Receivers				
2.1	Receiver Type	True diversity half-rack receiver		
2.2	Make & Model	Please Specify		
2.3	Country of Origin	Please Specify		
2.4	Country of Manufacture	Please Specify		
2.5	Year of Manufacturing	Please Specify		
2.6	Receiver Quantity	02 receivers should be included		
2.7	Frequency Ranges	516 MHz ~ 865 MHz or above		
2.8	Modulation	Wideband FM		
2.9	No of channels	12 Channels or more		
2.10	Bandwidth	42 MHz or more		
2.11	Nominal/peak deviation	±24 kHz / ±48 kHz or above		
2.12	Audio output	6.3 mm socket (unbalanced): +12 dBu or above		
2.13	RF output power	30 mW or above		
2.14	S/N Ratio	≥ 110 dBA or better		
2.15	Squelch level	adjustable from 5 dBμV to 25 dBμV or more range		
2.16	THD	≤ 0.9% or better		
2.17	Operating Voltage	12V DC		
2.18	Display	LCD should be available		
2.19	Display Contents	RF Level Meter & AF Level Meter, Channel No, Frequency,		
2.20	Switches & Controls	Power ON/OFF, Channel Select, Audio Level control		
2.21	Cables	3m XLR Cable & TS AF output cable should be included		
2.22	Antenna	Detachable dual antenna should be included		
2.23	Antenna connector	2 BNC sockets should be available		
2.24	Power supply	12 V power adaptor should be included		
2.25	Rack mount kit	19 inch. Rack mount kit with screws should be included		
2.26	Adjacent channel rejection	≥ 65 dB or better		
2.27	Intermodulation attenuation	≥ 65 dB or better		
2.28	RF sensitivity	< 2.5 μV or better		

2.29	Equalizer	Pre set equalizer should be available		
(b) Handheld Transmitter + Microphone Head				
2.30	Transmitter Type	Handheld transmitter		
2.31	Make & Model	Please Specify		
2.32	Country of Origin	Please Specify		
2.33	Country of Manufacture	Please Specify		
2.34	Year of Manufacturing	Please Specify		
2.35	Frequency Ranges	516 MHz ~ 865 MHz or above		
3.36	Modulation	Wideband FM		
2.37	No of channels	12 Channels or more		
2.38	Bandwidth	42 MHz or more		
2.39	Nominal/peak deviation	±24 kHz / ±48 kHz or above		
2.40	AF frequency response	80 – 18,000 Hz or better		
2.41	Input impedance	40 kΩ		
2.42	RF output power	30 mW or above		
2.43	S/N Ratio	≥ 110 dBA or better		
2.44	THD	≤ 0.9% or better		
2.45	Operating Voltage	3 V AA Standard Battery and 2.4 V Rechargeable Battery		
2.46	Current consumption	@ Nominal voltage: ≤180 mA @ Transmitter switched off: ≤ 25 μA		
2.47	Weight (including standard batteries)	≤500 g		
2.48	Microphone Head	Cardioid dynamic microphone head should be included. *pre-polarized condenser microphone *150 dB or above SPL *2.1 mV/Pa sensitivity		
3. Other Requirements				
3.1	Cables & Connectors	20m XLR/M to XLR/F Cable should be included 20m TS to TS cable should be included 20m 2 x TS to Mini stereo cable should be included <u>Cable Specifications:</u> Cable Conductor: Stranded Bare Copper (20~28) x (0.10~0.12) mm Cross Section: 0.22~0.23 mm ² Insulation: PE Core Arrangement: 2 Core + Cotton Tracers Twisted Shielding: Bare copper spiral shield Φ (0.10~0.12) x 60 spiral Outer Jacket: Flexible PVC Overall Diameter: 6 mm		

3.2	Microphone Stand	<p>2 nos. of Heavy-duty microphone stand should be included</p> <p>Type: Floor Type Height: 950-1500mm or above Cross bar length: 800mm(min.) Main rod: $\phi 20 \times 0.8$mm steel(min.) Extension rod: $\phi 15 \times 0.6$mm steel(min.) Cross bar: $\phi 15 \times 0.6$mm steel(min.) Base: $\phi 19 \times 0.6$mm steel(min.)</p>		
3.3	Wired Microphone	<p>Dynamic wired microphones should be included</p> <p>Microphone Specifications: Type: Dynamic cardioid microphone Min. terminating impedance: 1000 Ω Sensitivity in free field, no load: (1kHz) 2,7 mV/Pa Frequency response: 40 - 16000 Hz or greater Nominal impedance: 350 Ω Weight w/o cable: Below 350 g Switch: Silent On/Off Switch Other: Microphone holder clip & pouch should be included *Manufacturer's specification broacher should be attached</p>		
3.4	Speaker Tripod	<p>02 nos. of Heavy duty tripod stand should be included</p> <p>Height: 1200-1750mm Main rod: $\phi 38 \times 0.8$mm Adjustable rod: $\phi 34.8 \times 0.8$mm Base rod: $\phi 30 \times 0.8$mm Base spread: 1100mm or above Load Capacity: 50 Kg or above Material: Aluminum alloy tubes + Steel supports Other: Non slip rubber bottom pads</p>		
3.5	Warranty	Should be 1 year comprehensive		
3.6	Delivery Period	Within 30 days		
3.7	Manufacturer's specification broacher	Should be attached with quotation		
3.8	Manufacturer Authorization Certificate	<p>Manufacturer Authorization for the tender should be provided for above all equipment and accessories (Originals should be provided on request)</p>		

Minimum Specification for Compact Speaker

Qty-6

Feature type	Minimum Requirement	Yes/No	Remarks
Brand			
Brand/Model			
Country of Origin			
Type	Compact Speaker		
Low Freq: Driver Component (Size & Used Materials)	8" woofer		
	Cone Material- woven-fiberglass or Better		
	Surround-area -butyl rubber or Better		
	Voice Coil wire should support High Temp		
High Freq: Driver Component (Size & Used Materials)	0.75" Tweeter or Higher		
	Diaphragm - PEI or Better		
	Cooling type - Fluid		
Max SPL	115dB or Better		
Power	Cont: Program 200W or Higher		
Cover Area Angle	100° x 100° or Better		
Nominal Impedance	8 ohms or 4 ohms		
Transformer Taps	70V: 30W, 15W, 7.5W, 3.7W		
	100V: 30W, 15W, 7.5W		
Physical Appearance (Colour - Black)	HIPS or Better material for Enclosure		
	Zinc Plated, Powder coated Grille or Aluminum Grille		
Dimensions (H x W x D)	Not More than 250 x 190 x 150 mm		
Wall mount Bracket	Required - From Original supplier		
	Able to Adjust the speaker for any angle		
Warranty	1 Year Minimum		

Qty-
1

Minimum Specification Audio Mixer

Feature type	Minimum Requirement	YES	NO	Remarks
Type	8 channel Analog Mixing Console			
Make & Model	Please Specify			
Country of Origin	European brand or Equivalent			
ISO Certificate	Mandatory(please attach)			
Faders	60mm or Higher			
Input - mic preamps	Minimum 8x XLR			
Inputs line	10xTRS or Higher			
Phantom power	Mandatory			
Inputs other	1xstereo (RCA)			
Input main	Please specify			
Outputs Other	Please specify			
Head phones	1x1/4			
Aux Sends	Please Specify			
EQ Bands	3- band (HF: 12kHz, +/-15dB- MF: 1kHz, +/-15dB- LF: 60Hz, +/-15dB)			
Warranty	1 Year Minimum			
MA Letter	Mandatory			

Minimum Specification Professional Amplifier
Qty-2

Feature type	Minimum Requirement	Yes/No	Remarks
Brand			
Brand/Model			
Country of Origin			
Rated Output	240W or Higher		
Frequency Response	50 - 20,000 Hz (± 3 dB) or Better		
Distortion	Under 1% at 1 kHz, 1/3 rated power or Better		
Input	MIC 1 - 3: -60 dB*, 600 Ω , balanced, phone jack		
	AUX 1,2: -20 dB*, 10 k Ω , unbalanced, RCA pin jack		
Output	Speaker out: Balanced (floating)		
	High impedance: 42 Ω (100 V), 21 Ω (70 V)		
	Low impedance: 4 Ω (31 V)		
	Rec out: 0 dB*, 600 Ω , unbalanced, RCA pin jack		
Phantom Power	DC +21 V (MIC 1)		
S/N Ratio	Over 60 dB or Better		
Tone Control	Bass: ± 10 dB at 100 Hz or Better		
	Treble: ± 10 dB at 10 kHz or Better		
Muting	MIC 1: Mutes other input signals by 0 - 30 dB attenuation		
Indicator	Power, signal, peak		
Finish	Panel: ABS resin, black		
	Case: Steel plate, black		
Dimensions	please specify		
Warranty	1 Year Minimum		

Minimum Specification for Handheld Microphone
Qty-1

Feature type	Minimum Requirement	Yes/No	Remarks
Brand			
Brand/Model			
Country of Origin			
Microphone Element	Dynamic/Polar Patter Super Cardioid		
Audio Frequency	80 - 15000 Hz or Better		
Impedance	600 Ohms or Better		
Sensitivity	-55dB ± 3 dB or Better		
Connector	3pin XLR		
Microphone Switch	Required (ON / OFF)		
SPL	124 dB or Better		
Accessories Required	Microphone holder/Mic Stand/ XLR 10m Cable		
Warranty	1 Year Minimum		

Minimum Specification for Headband Wireless Microphone

Qty-1

Feature type	Minimum Requirement	Yes/No	Remark
Minimum Upto 10 Selectable Channels Required with Auto Frequency synchronization			
Microphone and Transmitter Should be light weight & compact			
Operating time Minimum 10 Hours from 2x AA Batteries			
Wireless Receiver			
frequency response	50 to 16,000 Hz (-3 dB) or Better		
Sensitivity	< 3 μ V or Better		
Line/Mic level	20dB or Better - switchable		
Squelch	Required 3 dBuV to 28 dB μ V		
Audio adjustment	5Steps from 45dB or Better		
Weight	below 350g		
Wireless Transmitter			
RF output power	10 mW or Better		
frequency response	50 to 16,000 Hz (Line) 80 to 16,000 Hz (Mic) or Better		
Audio input	3.5mm Connector		
Battery Time	10 Hours or Better		
transmitter sensitivity	0 to -30 dB, adjustable in 10-dB steps or Better		
Weight	Below 100g		
Headband Microphone			
Type	condenser/Headband pre-polarized		
Sensitivity	1.6 mV/Pa or Better		
Polar Pattern	cardioid or Super cardioid only		
Max SPL	150 dB or Better		
Frequency ranges	Please specify		
Brand	Please specify		
Country of Origin	Please specify		
Country of Manufacture	Please specify		
Warranty	Minimum 1 Year		

Minimum Specification Gooseneck Mic with Base & 5M XLR Cable

Qty-1

Description	Required Specifications	Compliance		Bidder's Response
		Yes	No	
Make &	Please Specify			
Model	Please Specify			
Country of Origin	Please Specify			
Country of Manufacturer	Please Specify			
Product Specification				
Polar Pattern	Super Cardioid			
System	Back electret			
Audio frequency range	80-18,000 HZ or highest			
Nominal impedance	220Ω ± 30%			
Sensitivity	16 mv/pa			
Max sound pressure	125 db. Or highest			
Power supply	Dc 48 v phantom power			
Admiss. Ambient temp	0-40 c			
Connection	XLR, bal.			
Warranty	Please Specify			
Microphones Base				
Make &	Please Specify			
Model	Please Specify			
Country of Origin	Please Specify			
Country of Manufacturer	Please Specify			
Product Specification				
Type	Power supply adapter			
Power supply	48 v phantom power or 2x 1.5 batt. AA Size (not supplied) 0.88 MA (operation)0.62 MA (Standby)			
Connections	XLR, bal. (in/out)			
Other features	20-20,000 HZ, 600Ω or highest			
Warranty	Please Specify			
Accessories	XLR Male to XLR Female 5M Cable			

Installation Guide Lines

		Yes/No
Installation	All the cables should in proper standard.	
	Branded Connectors/ Cables must use	
	Suitable Powered coated System Rack Required	
	All Cables should inside of Conduits/Casings	
	After completion proper training Session	
	Able to supply Spare parts for 3 years after warranty	

Mandatory Documents & Bidder Requirements

		Yes/No
1	Bidder's Succesfull projects Customer list with POs.	
2	Minimum 5 Year Experience Audio Visual industry	
3	Bidder's ISO Certificate - Mandatory	
4	Bidder Should Quote the full Solution with Installation	

Specification for a Sound System

No	Description	Requirement	Supplier's Response		Remarks
			Yes	No	
	Brand	Please specify			
	Model	Please specify			
	Country of Origin	Please specify			
	Detailed Specification	Must be attached			
MICROPHONE					
	Type	XLR, balanced			
	Sensitivity	-54dBV			
	Impedance	10k Ω			
LINE INPUTS					
	Type	¼" TRS connector, balanced			
	Sensitivity	-11dBV			
	Impedance	10k Ω			
STEREOLINE INPUTS (5/6)					
	Type	¼" TRS connector, balanced			
	Sensitivity	-11dBV			
	Impedance	10k Ω			
RCA INPUT (5/6)					
	Sensitivity	-11dBV			
	Impedance	10k Ω			
RCA INPUT (7/8)					
	Sensitivity	-11dBV			
	Impedance	15k Ω			
Mp3 playback USB Type A					
	File system	FAT 16, FAT 32			
	Format	MP3			
	Bit rates	8-320 kbps, VBR			
	Sample rates	8kHz, 16kHz, 32 kHz, 11.025kHz, 22.05 kHz, 44.1 kHz, 12 kHz, 24kHz, 48kHz			
WIRELESS SYSTEM					
	Connector	USB 3.0			
	Frequency band	2.400-2.483 GHz			
	Frequency response (wireless link)	20Hz-14.7kHz(+0/-2.5Db)			
	Range	Max. 120 m (line of sight)			
AUDIO OUTPUTS					
	Type	1/4TS, unbalanced			
	Impedance	1 k Ω			
LEVEL CONTROL					
	Input trim	- ∞ to +16.5 dB			
	Max input level	26 dBu			
LOUDSPEAKER SYSTEM DATA					
	Woofer	8"/209mm			
	Tweeter	1"/25.4mm			
	Frequency response (-10Db)	50Hz to 20kHz			

Crossover frequency	2.5khz			
EQUALIZER				
High	-+15Db@10khz			
low	-+15Db@80hz			
MICROPHONE				
Type	BEHRINGER XM1800S,Dynamic			
Frequency response	80hz-15khz			
POWER SUPPLY				
Voltage (Fuses)				
USA/ Canada	100-120 V-,50/60 Hz			
UK/ Australia	220-240 V-,50/60 Hz			
Europe	220-240 V-,50/60 Hz			
China/ Korea	220-240 V-,50/60 Hz			
JAPAN	100-120 V-,50/60 Hz			
Main connection	Standard IEC receptacle			
Dimensions/ weight				
H x W x D	Appr. 18.3X10.87X10.1" Appr. 466X276X257mm"			
Weight	Appr. 41.3lbs/18.8kg			

Other notes: -

Specification of portable sound system and accessories

Description		Requirement	Bidder's Response	Compliance Yes/No (for office use only)
01	Type	Active speaker		
02	Make & Model	Specify		
03	Country of Origin/Manufacture	Specify		
04	Output Power	1200W Peak Power or above		
05	Transducer Type	8 inch(minimum) woofer		
06	Frequency Response @ +3dB	55Hz – 20 KHz or better response		
07	Maximum SPL	124 dB or better		
08	Horizontal Coverage Angle	90° or more		
09	Vertical Coverage Angle	60° or more		
10	Enclosure Material	Solid Polypropylene Enclosure with impact resistant and steel grill		
11	Speaker Stand Pole Socket	Standard 35mm speaker stand pole socket for tripod mounting		
12	Transportation Handles	Integrated two side handles and top handle should be included		
13	Input Impedance	10KΩ Balanced		
14	Input/Output Channels	Two input channels should be available Minimum one mixed output should be available		
15	Input Connector	2 x XLR/TRS combo Connectors for balance or unbalance microphone signal or line level signal inputs should available		
16	Output Connector	1 x XLR/M Connector for balanced XLR line output		
17	Bluetooth connectivity	Bluetooth version 5.0 should be available		
18	Switches & Controls for input 1 & input 2	Gain control should be included		
19	Other switches & controls	Bluetooth ON/OFF switch and indicator Should be available Minimum four selectable Eq. presets should be available Bass boost ON/OFF switch should be included Audio limiting indicator should be included Master volume level controller should be included		
20	AC Power Requirement	220-240V/50 Hz		
Other Requirements				
21	Speaker Tripod	Aluminum heavy duty tripod stand should be included		
22	Microphone Stand	Heavy-duty microphone floor type stand should be included		

23	Cables & Connectors	<p>2nos. of 20m XLR/M to XLR/F Cable should be included.</p> <p>20m TS to Mini stereo cable should be included.</p> <p>20m TS to TS Cable should be included</p> <p>2 x XLR/M to TS Converter should be included.</p> <p>2 x XLR/F to TS Converter should be included.</p>		
24	Wired Microphone	<p>Dynamic wired microphones should be included.</p>		
25	Wireless Microphone	<p>Transmitter & Receiver Specifications: <u>AF response:</u> 80Hz to 18KHz or better <u>Audio output:</u> 12 dBu or above <u>Signal-to-noise ratio:</u> ≥ 106 dB or better <u>THD:</u> $< 0.1\%$ or better <u>RF range:</u> 2400 - 2483.5MHz <u>Transmission power:</u> 10 mW or above <u>Modulation:</u> GFSK with TDMA <u>Battery Cell:</u> Li-Ion 3.7V <u>Cell capacity:</u> 850 mAh or above <u>Operating time:</u> Up to 4 hours battery life on a single charge <u>Charging:</u> USB C interface for charging <u>Wireless range:</u> 50m or above <u>Weight:</u> Each unit should be below 100g</p> <p>Other Requirements: *Dynamic handheld cardioid dynamic vocal microphone should be included. *Transmitter should be very light ultra compact with female XLR input and should be plugged into the any XLR dynamic microphone. *Receiver should be ultra compact with male XLR output and should be compatible to the any XLR female inputs *Minimum four systems should be used simultaneously *System should be automatically selects its own frequency, and should be automatically switch to a new frequency if interference is detected</p> <p>*Out of range indicator should be available for both transmitter and receiver.</p>		

		<ul style="list-style-type: none"> *Charge remaining indicator should be available for both transmitter and receiver *Mic holder clip should be included *USB-A to USB-C charging cable should be included *One year warranty should be available (Mentioned bided price separately) 		
26	Front Surface	Should be covered using metal grill		
27	Weight	Below 10kg		
28	power cord for IEC/M socket	3 prong square type power code should be included(3m)		
29	Warranty	Should be 1 year comprehensive		
30	Delivery Period	Within 30 days		
31	Manufacturer's specification brocher	Should be attached with the quotation		
32	Manufacturer Authorization	The supplier should have the manufacturer's authorization for selling the bided product		

Specification of portable sound system and accessories

Description		Requirement	Bidder's Response Yes/No	Compliance Yes/No (for office use only)
01	Type	Two-way active speaker		
02	Make & Model	Specify		
03	Country of Origin/Manufacture	Specify		
04	Low Frequency Output Power Rating	Continuous Power - 350W or above Peak Power - 700W or above		
05	High Frequency Output Power	Continuous Power - 150W or above Peak Power - 300W or above		
06	Input Impedance	20K Ω Balance		
07	Line Input Gain	Infinity to 26.8 dBu or better range		
08	Mic Input Gain	Infinity to 29 dBu or better range		
09	Maximum Line Input Level	+14dBu or better		
10	Maximum Mic Input Level	-4dBu or better		
11	LF Transducer	10 inch woofer or above		
12	HF Transducer	1 inch(minimum) polymer diaphragm, neodymium compression driver		
13	Frequency Response @ -3dB	60Hz - 20 KHz		
14	Frequency Response @ -10dB	55Hz - 20 KHz		
15	Maximum SPL	124 dB SPL @ 1m or better		
16	Horizontal Coverage Angle	90° or more		
17	Vertical Coverage Angle	60° or more		
18	Enclosure Material	Solid Polypropylene Enclosure with impact resistant		
19	Speaker Stand Pole Socket	Standard 35mm speaker stand pole socket for tripod mounting		
20	Transportation	Integrated two side handles and top handle should be included		
21	Encloser Angles	Bothe sides should be angled for stage monitor applications		
22	Cross over Frequency	1.8 kHz rated		
23	Input Channels	2 x Combo XLR/TRS Connectors for balance or unbalance microphone signal or line level signal inputs		

24	Output Connector	1 x XLR/M Connector for balanced XLR line output signals should be available		
25	Switches & Controls for channel 01 & 02	Gain control should be included LED Signal indicator should be included Line/Mic selector switch		
26	Other switches & controls	Minimum four selectable Eq. presets should be available. Clipping indicator should be included Master volume level controller should be included		
27	AC Power Requirement	220-240V/50 Hz		
Other Requirements				
28	Speaker Tripod	Aluminum heavy duty tripod stand should be included		
29	Microphone Stand	Heavy-duty microphone floor type stand should be included		
30	Cables & Connectors	2nos. of 30m XLR/M to XLR/F Cable should be included 20m TS to Mini stereo cable should be included 30m TS to TS Cable should be included 2 x XLR/M to TS Converter should be included 2 x XLR/F to TS Converter should be included		
31	Microphone	Dynamic microphones should be included.		

32	Front Surface	Should be covered using metal grill		
33	Weight	12 kg(max.) or below		
34	power cord for IEC/M socket	3 prong square type(fused) 3m power code should be included		
35	Warranty	Should be 1 year comprehensive		
36	Delivery Period	Please specify		
37	Manufacturer's specification broacher	Should be attached with quotation		
38	Manufacturer Authorization	The supplier should have the manufacturer's authorization for selling the bided product		

Specification for Wireless Microphone System

System should consist of following items:

- Wireless Receiver
- Handheld Microphone
- Body-Pack Transmitter
- Headset Microphone

Technical specifications of above item for (a),(b),(c) & (d)

Description	Requirement	Bidder's Response	Compliance Yes/No
(a).Wireless Receiver			
Receiver Type	True diversity double superheterodyne		
Make & Model	Specify		
Country of Origin/Manufacture	Specify		
Carrier Frequency Range	548 MHz ~ 937.5 MHz with selectable frequency banks		
Modulation	Wideband FM		
No of channels	Each frequency bank should be minimum 12 factory-preset channels		
Sensitivity (at peak deviation)	< 3 μ V at 52 dB(A)rms S/N or better		
AF frequency response	50 to 16,000 Hz (-3 dB) or more		
Max. AF output voltage (at peak deviation, 1 kHz AF)	1/4" (6.3 mm) jack socket (unbalanced): +6 dBu XLR socket (balanced): +12 dBu		
Audio adjustment range	40 dB, adjustable via jog dial		
Squelch	adjustable from 3 dB μ V to 28 dB μ V		
Line/Mic level	20 dB, switchable		
Housing material	rugged metal housing		
Transmitter synchronization	2.4 GHz, Low Power OQPSK		
S/N Ratio	\geq 103 dBA or better		
THD	\leq 0.9% or better		
Operating Voltage	12V DC		
Display	LCD		
Display Contents	Channel , Antenna RF Level Meter & AF Level Meter		
Switches & Controls	Power ON/OFF switch Channel Selector Audio Level control Squelch Level Adjuster		
Cables	3m XLR Cable & TS AF output cable should be included		
Antenna	Detachable dual antenna should be included		
Power supply	12 V power adaptor should be included		
Rack mount kit	19 inch. Rack mount kit with screws should be included		
(b).Wireless Hand held Microphone			
Type	Hand Held Wireless Microphone		
Make & Model	Specify		
Country of Origin/Manufacture	Specify		

No of channels	12 factory-preset channels or more		
Carrier Frequency Range	548 MHz ~ 937.5 MHz with selectable frequency banks		
Microphone type	Condenser pre-polarized		
Pick-up pattern	super-cardioid		
Antenna Type	Internal		
RF Output power	10mW or better		
Input sensitivity (capsule)	1.8 mV/Pa		
Adjustment range of transmitter sensitivity	0 to -30 dB, adjustable in 10-dB steps or more range or steps		
Audio Frequency Response	80Hz ~ 16 KHz or better		
Display	LCD Display Should be include with contents of channel & battery level		
Switches & Controls	Power ON/OFF switch Channel Selector, AF level or other		
Battery	AA x 02		
Housing material	rugged ABS housing		
Weight	Below 250 g		

(e). Body pack Transmitter

Type	Body-Pack Transmitter		
Make & Model	Specify		
Country of Origin/Manufacture	Specify		
No of channels	12 factory-preset channels or more		
Carrier Frequency Range	548 MHz ~ 937.5 MHz with selectable frequency banks		
RF Output power	10mW or better		
Adjustment range of transmitter sensitivity	0 to -30 dB, adjustable in 10-dB steps or more range and steps		
Audio Frequency Response	50 to 16,000 Hz (Line) or better 80 to 16,000 Hz (Mic) or better		
Display	LCD Display Should be include with contents of channel & battery level		
Switches & Controls	Power ON/OFF switch Channel Selector		
Battery	AA x 02		
Housing material	rugged ABS housing		
Weight	Below 150 g		
Connector Type	3.5mm jack socket with thumbnail screw		
Belt clip	Cloth mounting metal clip should be included		

d). Headset Microphone

Type	Condenser pre-polarized		
Make & Model	Specify		
Country of Origin/Manufacture	Specify		
Frequency Response	100Hz ~ 15,000 Hz approx..		
Maximum SPL	150dB		
Sensitivity	1.6 mV/Pa or better		
Polar Pattern	Cardioid		
Connector Type	3.5mm mini jack		
Windshield	Should be Included		
Warranty	1 year comprehensive warranty required for above a,b,c and d		