

TENDER NOTICE

PROCUREMENT OF AUDIO, VIDEO CONFERENCING EQUIPMENT, INTERACTIVE WIFI ENABLED SMART SCREEN, SMDs AND ALLIED ACCESSORIES FOR THE NATIONAL ASSEMBLY OF PAKISTAN

1. The National Assembly of Pakistan intends to procure Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan.
2. Proposals are invited from reputable Firms:
 - a. having valid incorporation certificate with SECP/Registrar of Firms,
 - b. required experience as mentioned in the Tender document,
 - c. registered with Income Tax and Sales Tax Departments and
 - d. who are on the Active Taxpayers list of the Federal Board of Revenue.
3. Tender documents can be downloaded from the National Assembly of Pakistan website (www.na.gov.pk) and PPRA's website (www.ppra.gov.pk) free of cost or the hard copy is available s the office of National Assembly Secretariat Islamabad during working hours and working days on written request of firm's letterhead.
4. Pre-bid Conference will be held **7th January, 2022 at 1100 hours** at the National Assembly Islamabad. Due to COVID-19, only one authorized representative will attend the pre-proposal meeting as well as proposal opening event.
5. Procurement will be carried out by adopting the “Single Stage Two Envelopes ” procedure. The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal. The envelopes shall be marked as “FINANCIAL PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion. The Proposal complete in all respects, in accordance with the instructions provided in the Tender document, in sealed envelopes should reach on or before **20th January, 2022 at 1100 hours** in National Assembly ,Islamabad and be clearly marked “Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, Smds And Allied Accessories For The National Assembly Of Pakistan ”
6. Bidders are required to submit their proposals strictly in accordance to Instructions to Bidders in the Tender Document.
7. Proposals must be prepared in hard book binding form to deny the possibility of addition or removal of page(s).
8. Bidders may apply for one or more lots as per the given specification in the tender document however bids for partial items in a lot shall stand disqualified
9. The technical proposals shall be opened on the same day at **1100 hours**, whereas the financial proposals of the technically qualified bidders shall be opened after finalization of technical evaluation. Other details are provided in the Tender Document.
10. All the applicable Federal, Provincial & Local taxes and duties etc must be considered while preparing the financial proposals. All these taxes are required to be built-in in the quoted rates and GST to be mentioned separately.
11. Bidders who provide unsubstantiated and/or incorrect information are liable to legal action and/or disqualification as per PPRA rules and regulations.
12. The National Assembly Secretariat reserves the right to reject all the proposals as per PPRA Rules.

Deputy Secretary (Admin)
National Assembly of Pakistan,
Constitution Ave, Islamabad,
Phone: 051-9207770

Email : daheri786@gmail.com@na.gov.pk , Website : www.na.gov.pk



(TENDER DOCUMENT)

FOR

PROCUREMENT OF AUDIO, VIDEO CONFERENCING EQUIPMENT,
INTERACTIVE WIFI ENABLED SMART SCREEN, SMDs AND ALLIED
ACCESSORIES FOR THE NATIONAL ASSEMBLY OF PAKISTAN

National Assembly of Pakistan,
Constitution Ave,
Islamabad, Islamabad Capital Territory
Phone: 051-9207770

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1. INVITATION TO THE BIDDERS

- 1.1. National Assembly of Pakistan, hereafter referred to as “Procuring Agency” , desires to seek bids from well-reputed, experienced firms for the Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan as specified in the Annex-A of this tender document.
- 1.2. Bidding shall be conducted under Rule 36 (b) of PPRA Rules 2004 “Single stage – two envelope procedure” The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal. The envelopes shall be marked as “FINANCIAL PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion.
- 1.3. Bidders shall strictly comply with the requirements set forth in the Annex-A of the tender document non-compliance shall result in disqualification of bids
- 1.4. Bidders may submit bids for more than one lots as specified in the Annex-A however bids for partial items in any lot shall result in disqualification of bids
- 1.5. Important terms and conditions to be adhered by all bidders are attached as Annex-C.
- 1.6. Queries related to the tender document shall be directed to the undersigned at least (05) working days ahead of the closing date.

Deputy Secretary (Admin)
National Assembly of Pakistan,
Constitution Ave, Islamabad,
Phone: 051-9207770
Email : xxxx@na.gov.pk , Website : www.na.gov.pk

2. INSTRUCTIONS TO THE BIDDERS

2.1. Scope of Work

- A. Scope of Work for the Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan is given in Annex-A of this tender document.
- B. Bidders are required to follow the required specification as detailed in the Annex-A.

2.2. Source of Funds

The National Assembly of Pakistan will make payment from its allocated budget.

2.3. ELIGIBLE BIDDERS (MANDATORY ELIGIBILITY REQUIREMENTS)

The bids, which meet the following minimum requisite criteria, shall be declared eligible for further evaluation as per [TECHNICAL EVALUATION CRITERIA](#) (clause 4 of the Tender document) and subject to fulfillment of the requirements as detailed in Annex-A of this Tender document. Requisite documents must be attached in respect thereof. Bidders shall meet the following minimum eligibility criteria and shall provide the following:

- A. Application letter of Intent for participation in the tendering process clearly stating that the firm intends to apply for the supply of _____ out of the total 03 lots and that no partial bids are submitted and if partial bids are submitted will result in the disqualification of the bids.
- B. Valid Company Registration Certificate with SECP or Registrar of Firms etc.,
- C. Copy of Income Tax / Sales Tax Registration.
- D. Authorized Distributor/System Integrator and Manufacturing Authorization Letter (MAL) from the Principal Only (Valid letters attached) from the manufacturer of each quoted item.
- E. Signed and stamped Compliance Certificate as specified in the Annex-C of the tender document with compliance of all terms as specified.
- F. Affidavit on judicial stamp paper of PKR 100 attested by Notary Public clearly stating that *"None of the items quoted and supplied shall have the date of manufacturing not earlier than the year 2021. All the quoted items shall have the date of manufacturing during the year 2021 or later. Failure to which at any time shall disqualify the contract. Any tampering of dates shall result in disqualification of the bidders at any stage of the process before or after the award of the contract and the bidders understand and acknowledge that the Procuring Agency shall proceed for Blacklisting of such bidders"*. The bidders who fail to attach the required form as per the instructions in the Annex-G shall stand disqualified.
- G. Office details at Islamabad / Rawalpindi, and other cities (if applicable) with Phone Numbers / Addresses
- H. Affidavit on Judicial / Stamp Paper of Rs. 100/- or above duly attested by Notary Public that the firm is not black listed by any government / semi government Department as per Specimen at Annex-D.

- I. Affidavit on Judicial / Stamp Paper of Rs. 100/- or above, duly attested by Notary Public that the firm would supply / install and maintain Brand New / Original equipment in response to this tender. Non compliance to the same may result in immediate termination of supply / work order leading to forfeiture of earnest money / performance security and blacklisting of firms as per Specimen at Annex-E. The Undertaking and Evidence shall be presented that the quoted Goods are genuine, brand new, non- refurbished, un-altered in any way, of the most recent / current model, imported through proper channel, and incorporate all recent improvements in design and materials
- J. Power of Attorney if an authorized representative is appointed
- K. Annual turnover of last five years

2.4. COST OF TENDERING

The bidders shall bear all costs associated with the preparation and submission of its documents, while the Procuring Agency, in no case, shall be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

2.5. CLARIFICATIONS OF TENDERING DOCUMENTS

A prospective bidder requiring any clarification(s) may notify the Procuring Agency or an Officer authorized on its behalf in writing. The Procuring Agency or concerned Officer authorized on its behalf will respond to any request for clarification, which is received well before (approximately 05 working days or more) to the deadline set for the submission of bids. Copies of response by the Procuring Agency to such clarification will be forwarded to prospective bidders (if not already clarified in the tender document or deemed necessary for the bidders).

2.6. AMENDMENT OF TENDER DOCUMENT

- A. At any time prior to the deadline for submission of bids, the Procuring Agency may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the tender document by issuing an addendum.
- B. Any addendum thus issued shall form an eternal part of the tender document. To afford bidder's a reasonable time frame in which to take an addendum into account in preparing their bids, the Procuring Agency may at its discretion extend the deadline for submission of bids.

2.7. LANGUAGE OF DOCUMENTS

- A. Bid Documents and related correspondence will always be in the English language.
- B. The bid should have a covering letter on printed letterhead of the firm. All pages of the bid shall be initiated/signed and shall bear the official seal of the person(s) authorized to sign/endorse.
- C. All the relevant technical literature in English Language should be attached with the bid.

2.8. PRICE

- A. Price/bid offer should be quoted in Pak Rupees.
- B. The price/bid offer quoted should be firm, final and clearly written/typed without any ambiguity.
- C. The bid price should include all the government taxes, as per prevailing taxation rates of provincial/federal governments etc.
- D. The price/bid offer shall be entered for the whole duration of one-year (12 x months from the date of opening of the bid).
- E. The bidder shall deem to have obtained all related information as to the requirements thereto which may affect the bid offer/price if required.

2.9. BID SECURITY / EARNEST MONEY

- A. The Bidders shall submit relevant bid security against each Lot separately as given below:
 - a. LOT-1 PKR 850,000-/
 - b. LOT-2 PKR 510,000-/
 - c. LOT-3 PKR 350,000-/
- B. The bid security shall be in the form of a Bank/Demand Draft, Pay Order in favor of the National Assembly Secretariat, Islamabad.
- C. Any bid not accompanied by an acceptable bid security shall stand liable to be rejected by the Procuring Agency as non-responsive.
- D. The bid securities/earnest money of the unsuccessful bidders will be returned upon award of contract to the successful bidder or on expiry of validity of bid security whichever is earlier. The bid securities of bidders, can be returned earlier if supported by a formal request on the bid letterhead with signed.
- E. The bid security of the successful bidder will be returned only when the bidder furnishes the required 10% Performance guarantee and upon supply/installation of required system.
- F. The bid security/earnest money may be forfeited/confiscated:
 - a. If a bidder withdraws his bid during the period of bid validity.
 - b. If the bid has overwriting, errors or mistakes in the bid price.
 - c. In the case of a successful bidder, if he fails to furnish the required performance security or fails to supply/install/test/successful operation the required Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan as per technical specifications.
 - d. If the bidder fails to meet the requirements in the scope of work and Annex-A of the Tender document
 - e. If the bidder fails to fulfill the mandatory requirements upon which he has given certificates/affidavits etc.
 - f. If there is any falsification in the documents/certificates/any part of the bid submitted by the bidder.

2.10. VALIDITY OF BIDS

All bids shall remain valid for (06 x months) from the date of opening of bids/financial proposals.

2.11. CLARIFICATIONS / CORRECTIONS OF BID

- A. To assist in the examination, evaluation and comparison of the bids the committee at its discretion may ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.
- B. Arithmetical errors will be rectified on the following basis:
 - a. If there is a discrepancy between unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and total price shall be corrected. If there is a discrepancy between the words and figures the amount in words shall prevail. If there is a mistake in addition/totaling that can be corrected.
 - b. If the bidder does not accept the corrected amount of bid, his bid will be rejected and his bid security will be forfeited.

2.12. RESPONSIVENESS OF BIDS

- A. A bid shall be responsive if it is submitted for a complete list of items in either one or multiple LOTS as specified in the Annex-A
- B. A bid shall be non-responsive and shall not be considered for technical evaluation if the bid is submitted for partial items in a lot
- C. The valid bid security / earnest is submitted.
- D. The bid is valid till the required period.
- E. The bid prices are firm during its validity and inclusive of all taxes, duties etc.
- F. Compliance to all important terms and conditions of this tender document on specified formats.
- G. Compliance to the specification listed in the Annex-A of the tender document. Non-compliance shall make the bids non-responsive.
- H. The bidder is eligible for tendering and possesses the requisite experience.
- I. The bid does not deviate from basic requirements.
- J. The bidder must attach valid bank statements of 06 x months showing financial stability of the firm along with Banker's Certificate for maintenance of the account.
- K. Verifiable Authorization of the principal / manufacturer letter from the manufacturer of each quoted item(Valid letters attached).
- L. The bidder submitted all mandatory/requisite documents as mentioned in the tender document.
- M. The bidder proposal complies with all the terms listed in the Annexure-C of the tender document.
- N. The bid is generally in order etc.

2.13. DEADLINE FOR SUBMISSION OF BID DOCUMENTS

- A. The bids shall be delivered in person or sent by Registered mail / Courier service, which should reach the office of Deputy Secretary (Admin), National Assembly Secretariat, Islamabad, on or before 11:00 am on 20th of January 2022 or as specified in the advertisement / web sites of PPRA / Procuring Agency.
- B. Bidding shall be conducted under Rule 36 (b) of PPRA Rules 2004 "Single stage – two envelope procedure" The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal. The envelopes shall be marked as "FINANCIAL

PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion.

- C. Bids should be submitted in sealed envelopes containing necessary information regarding tender notice and warning message “DO NOT OPEN BEFORE 1130 hours on 20th of January, 2022”.
- D. Opened, e-mailed or faxed bids will not be accepted.
- E. Any bid received by the Procuring Agency after the date and time of tender opening will be returned as unopened to the sender / bidder.

2.14. OPENING OF BID

- A. The Procuring Agency’s relevant committee will open all bids at 1130 hrs, on Friday, the 20th January, 2022 in the presence of bidder’s representatives who choose to be present at the National Assembly Secretariat.
- B. The relevant committee will resolve any issue raised by the bidders, on the spot. Any issue related to the proceeding after the same have concluded, shall not be entertained verbally or in writing.
- C. The Procuring Agency reserves the right to reject any one or all bids/proposals as per PPRA rules.

3. EVALUATION OF BIDS

- A. A bid determined as non-responsive will be rejected and will not subsequently be made responsive by the bidder by correction of the non-conformity.
- B. A bid shall only be eligible for technical evaluation if all the mandatory requirements laid down in the tender document have been provided
- C. The Procurement Committee of the Procuring Agency will evaluate the submitted bids.
- D. The Submitted bids and proposals will be examined in detail whether the bidder complies with the technical specifications as provided in this tender document and meets the requirements. For this purpose, the bidder's data will be compared with the tender document eligibility and evaluation criteria along with visits to bidder facilities/offices for physical inspection.
- E. It will be examined in detail whether the documents comply with the conditions of the tender document. Non-compliance to the specification shall result in disqualification of the bid submitted by a bidder.
- F. Any minor informality or non-conformity or irregularity in the documents, which does not constitute a material deviation, may be waived by Procuring Agency, provided such waiver does not prejudice or affect the relative ranking of any other bidder.

G. Evaluation of Technical Proposals:

The Procurement committee of the Procuring Agency shall evaluate the Technical Proposals on the basis of their responsiveness to the technical evaluation criteria and points system specified in the Clause 4 of this tender document. Each responsive Proposal will be given a technical score as per the evaluation criteria specified. A Proposal shall be rejected at this stage if it fails to achieve the minimum qualifying technical score of Seventy (70).

H. Evaluation of Financial Proposals:

A bid shall only be eligible for technical evaluation if all the mandatory requirements laid down in the tender document have been provided

In accordance with PPRA Rules to qualify for financial evaluation, the bidders must secure 70% points in Technical Evaluation.

A qualified bidder after scoring 70% points in the Technical Evaluation and who offers the lowest financial bid will be qualified for award of the contract.

According to the Clause 30, sub-clause (2) of PPRA Rules, 2004, the following shall be observed while evaluating the financial bids:

“For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate, prevailing on the date of opening of bids specified in the bidding documents, as notified by the State Bank of Pakistan on that day.”

I. Award of Contract:

01. The contract will be awarded to the most advantageous bidder in pursuance of Clause 2 (h) (i) & (ii) of PPRA Rules 2004(as amended 2020) provided that; such bidders have been determined to be eligible as per the mandatory requirement and score 70% or higher in the technical evaluation and provide lowest financial cost.
02. The selected bidder will have to furnish a performance security @ 10% of total bid price valid for the period (i.e, 36 x months).
03. The Procuring Agency reserves the right to accept or reject any submitted bid, as per PPRA rules and to annul the tendering process and reject all bids, at any time prior to award of order, without thereby incurring any liability to the affected bidders or any obligation to inform the affected bidders of the grounds for the Procuring Agency's action.

4. TECHNICAL EVALUATION CRITERIA

All responsive and eligible Bids/Proposals submitted by bidders/firms fulfilling all the mandatory criteria laid down in the tender document shall be considered for Technical Evaluation. The Technical Evaluation of responsive and eligible bids/proposals shall be carried out using the following criteria:

S. No.	Item	Score	Criteria	Proof	Response of Bidder	
					YES	NO
1	Firms must have valid experience of providing and installing the specified items in either of the given lots as specified in Annex-A of the tender document to at least ten (10) public / private sector organizations.	20	Full Score if available. Zero score otherwise	Documentary Evidence		
2	Copy of Valid Registration with FBR with valid Registration of General Sales Tax (GST) & National Tax Number (NTN)	10	Full Score if available. Zero score otherwise			
3	Office details at Islamabad / Rawalpindi, and other cities (if applicable) with Phone Numbers / Addresses.	10	Full Score if available. Zero score otherwise			
4	Firms must attach valid 3 x months bank statements along with Certificates from its Banker regarding maintenance of the account of the firm.	10	Full Score if available. Zero score otherwise			
5	Authorization of the principal / manufacturer letter for every quoted item in any of the lot	20	Full Score if available. Zero score otherwise			
6	Technical Brochures / Literature	10	Full Score if available. Zero score otherwise			
7	Details of Warranty and After-Sale Service	10	Full Score if			

			available. Zero score otherwise			
8	Annual turnover of last five years	10	Full Score if available. Zero score otherwise			
TOTAL		100				

TOTAL TECHNICAL SCORE= 100

MINIMUM SCORE FOR TECHNICAL QUALIFICATION is 70% of the TOTAL TECHNICAL SCORE

MINIMUM SCORE FOR TECHNICAL QUALIFICATION=70% of 100=70

Notes :

- A. Bidder's response to an evaluation with YES, represented with 'Y' will receive full specified score against an evaluation point as specified in the evaluation criteria table above
- B. Bidder's response to an evaluation with NO, represented with 'N' will receive ZERO score against an evaluation point as specified in the evaluation criteria table above
- C. Bidder is wholly responsible to install / configure the complete list of required items as listed in the tender document at the National Assembly Secretariat and the cost will be borne by the bidder.
- D. Minimum passing marks for technical qualification is 70 besides compliance of all mandatory clauses.

The Technical Evaluation of responsive bids shall be carried out as per the Clause-3 of this tender document.

5. PROCESS TO BE CONFIDENTIAL

- A. No bidder shall contact the Procuring Agency on any matter relating to its tendering process from the time of opening to the time of tendering announcement.
- B. Any effort by a bidder to influence the Procuring Agency in the evaluation, comparison or selection decision may result in the rejection of its bid.

6. AWARD CRITERIA PROCURING AGENCY'S RIGHT

- A. The contract will be awarded to the most advantageous bidder in pursuance of Clause 2 (h) (i) & (ii) of PPRA Rules 2004(as amended 2020) provided that; such bidders have been determined to be technically qualified to satisfactorily perform the contract. The selected bidder will have to furnish a performance security @ 10% of total bid price valid for the warranty period (i.e, 36 x months).

- B. The Procuring Agency reserves the right to accept or reject any submitted bid, as per PPRA rules and to annul the tendering process and reject all bids, at any time prior to award of order, without thereby incurring any liability to the affected bidders or any obligation to inform the affected bidders of the grounds for the Procuring Agency's action.

7. REQUIREMENT / FORMAT OF BID

All bidders shall quote their rates along with 2% Bid Security / Earnest Money of the total bid price for One Year (12 months) starting from the date of Bid Opening in the form of a Pay Order / Demand Draft as per this Tender Document requirement / obligations.

8. FIRM'S RESPONSIBILITIES

- A. The successful bidder shall supply/install/deploy the Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan in accordance with the supply / work order at the National Assembly Secretariat Islamabad.
- B. The firm shall not subcontract the supply / work order.
- C. The firm shall fulfill the scope of work specified in the tender document within the specified time period
- D. The firm shall fulfil the requirements and comply with all instructions given in the tender document and its annexures.

9. TIME FOR COMPLETION

- A. The bidder shall deliver / install and configure the required Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan as per demand within 04 x Months time from the date of issuance of supply / work order, and submit Bill along with all relevant documents.
- B. Late delivery / delay in Completion of Work:
If the successful bidder fails to supply / install the requisite system within the time for completion, the successful bidder's liability to the Procuring Agency for such failure shall be to pay @ 0.5% per week subject to a maximum of 10% of the total bid value for which he fails to complete the works.

10. SUPPORT/ REPLACEMENT WARRANTY

The successful bidder shall be required to provide support as per the technical requirements and scope of work and updates to the Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan shall be made available to the Procuring Agency without incurring any additional cost. The Support and replacement warranty shall be for a period of 03 years from the date of commissioning the required equipment.

11. TERMS OF PAYMENT

- A. Relevant payment of the supply / work order shall only be payable to the firm upon successful delivery / installation / testing / commissioning of the System as per supply / work order duly supported by the final Acceptance Certificate(s) from Procuring Agency.
- B. All the payment shall be made through a crossed cheque in the Pak Rupees
- C. Taxes will be deducted as per government rules at the time of payment

- D. Payments shall be made according to the payment schedule for each Lot specified in the tender document
- E. The Payments shall be done according to the following payment Schedule:

Payment No	Deliverables	Percentage of Total Payment
LOT-1		
1.A	Inception Report	15%
1.B	Supply, installation, configuration, testing and demonstration of items listed under Lot-1 in the Annex-A, under the section entitled 'Required Items, specification and bill of quantity'	75%
1.C	Training of Users specified by the Procuring Agency	10%
LOT-2		
2.A	Inception Report	15%
2.B	Supply, installation, configuration, testing and demonstration of items listed under Lot-2 in the Annex-A, under the section entitled 'Required Items, specification and bill of quantity'	75%
2.C	Training of Users specified by the Procuring Agency	10%
LOT-3		
3.A	Inception Report	15%
3.B	Supply, installation, configuration, testing and demonstration of items listed under Lot-3 in the Annex-A, under the section entitled 'Required Items, specification and bill of quantity'	75%
3.C	Training of Users specified by the Procuring Agency	10%
Total		100%

12. DEFAULT BY THE FIRM/SUCCESSFUL BIDDER

- A. If the firm fails to supply / install the required system / refuses or fails to comply with a valid instruction of the Procuring Agency, the Procuring Agency may give notice and stating the DEFAULT.
- B. If the firm has not taken all practicable steps to remedy the default within 07 working days (gazetted holidays or circumstances under this tender documents are excluded) after receipt of Procuring Agency notice, Procuring Agency may cancel the order within next 07 x days (gazetted holidays or circumstances under this tender documents are excluded).

- C. If the firm, even thereafter, does not comply with the valid instructions of the Procuring Agency, the performance security / earnest money will be confiscated, leading further towards Blacklisting of the Firm.

13. FORCE MAJEURE

- A. Force majeure shall mean any event, act or other circumstances not being an event, act or circumstance under the control of the Procuring Agency or of the Firm i.e, Earthquake, Flood, or any other Severe Climatic circumstances. Non availability of *Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan* or any other event leads towards clear negligence of the Firm shall not constitute Force majeure.
- B. If by reasons of Force Majeure, the required system cannot be delivered, installed / configured by the due delivery date, then the delivery date may be extended appropriately by the Procuring Agency keeping in view all the circumstances and requirements.
- C. The firm shall not be liable for liquidated damages, forfeiture of its Performance Security, blacklisting for future tenders, termination for default, if and to the extent of his failure / delay in performance /discharge of obligations is the result of an event of Force Majeure.
- D. If a Force Majeure situation arises, the Firm shall, by written notice served on the Procuring Agency, indicate such condition and the cause thereof. Unless otherwise directed by the Procuring Agency in writing, the firm shall continue to perform under the supply / work order as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

14. WARRANTY/CONTINUITY OF SERVICE

- A. The successful bidder shall ensure the continuity of services to all the specified users by the Procuring Agency throughout the duration of contract.

15. MAINTENANCE

- A. The successful bidder will provide effective guidance with respect to the maintenance use of the *Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan*, its allied modules as may reasonably be requested by the Procuring Agency to relevant technical staff for the complete operation of the *Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan*, and its related modules etc. at Procuring Agency premises.
- B. The successful bidder firm shall deliver a detailed user's manual with instructions both in Urdu and English about the use of major features of the *Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan*,
- C. The successful bidder firm will provide any support services necessary to ensure the Procuring Agency's continued use of the *Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan*,

16. Corrupt and Fraudulent Practices

Corrupt and fraudulent practices” in respect of procurement process, shall be either one or any combination of the practices including,-

- I. “coercive practices” which means any impairing or harming or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;
- II. “collusive practices” which means any arrangement between two or more parties to the procurement process designed to stifle open competition for any wrongful gain, and to establish prices at artificial, non-competitive levels;
- III. “corrupt practices” which means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
- IV. “fraudulent practices” which means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation; and
- V. “obstructive practices” which means harming or threatening to harm, directly or indirectly, persons to influence their participation in a procurement process, or affect the execution of a contract;”

A. Blacklisting & Debarment:

Meaning of Blacklisted” means a bidder that is declared by the Authority untrustworthy after establishing the fact that the bidder was found involved in any corrupt and fraudulent practice or practices; or if the bidder is declared incapable by the Authority due to its established performance failure during the execution of the contract; or if the bidder deviates from its prior commitment or declaration made regarding the bid or proposal submitted by the bidder.”

B. Substantial Requirements & Procedure for Blacklisting & Debarment:

(1) The procuring agency shall devise a comprehensive mechanism for blacklisting and debarment of bidders for a specified time in accordance with regulations made by the Authority, and the bidder or the bidders shall be declared as-

- (a) blacklisted and henceforth cross debarred for participation in any public procurement or disposal proceedings for the period of not more than ten years, if corrupt and fraudulent

practice as defined in these rules is established against the bidder or the bidders in pursuance of blacklisting proceedings;

- (b) blacklisted and henceforth cross debarred for participation in respective category of public procurement or disposal proceedings for a period of not more than three years, if the bidder fails to perform his contractual obligations during the execution of contract or breaches the contract due to his capacity and capability to perform or otherwise. However, procuring agency shall initiate such blacklisting or debarment proceedings after exhausting the forum of arbitration, provided that such provision exists in the conditions of contract, and if such failure or breach is covered in the respective dispute settlement clauses of the contract, and
- (c) blacklisted and henceforth cross debarred for participation in respective category of public procurement or disposal proceedings for a period of not more than six months, if the bidder fails to abide with a bid securing declaration, however without being indulged in any corrupt and fraudulent practice.

(2) Such blacklisting or barring action shall be communicated by the procuring agency to the Authority and respective bidder or bidders in the form of decision containing the grounds for such action. The same shall be publicized by the Authority after examining the record whether the procedure defined in blacklisting and debarment mechanism has been adhered to by the procuring agency.

(3) The bidder may file the review petition before the Authority within thirty days of communication of such blacklisting or barring action after depositing the prescribed fee and in accordance with procedure issued by the Authority, and the Authority shall evaluate the case and decide within ninety days of filing of review petition. The decision of the Authority shall be considered as final.

(4) A bidder who has been declared blacklisted or debarred by a foreign country, international organization or other foreign institutions shall be treated as blacklisted and debarred from participating in any public procurement proceedings

or entering into any public contract for such period as declared by that foreign country, international organizations or other foreign institutions:

Provided that in the case of public sector entities, the Board shall have the power to review and examine the case on the basis of evaluations made by the Authority, and decide the case accordingly.

(5) Notwithstanding anything contained in this rule, the blacklisted or debarred bidder shall be bound to perform its contractual obligations in such on-going public contract or contracts in which such bidder is already engaged. This shall however be at the option of the respective procuring agency.

17. General Conditions of Contract

A. General Provisions

1. **Definitions** 1.1 Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:
- (a) **“Applicable Law”** means the laws and any other instruments having the force of law in Pakistan, as they may be issued and in force from time to time,
 - (b) **“Procuring Agency”** means National Assembly Secretariat, Pakistan.
 - (c) **“Procuring Agency’s Personnel”** refers to the staff, labor and other employees (if any) of the Procuring Agency engaged in fulfilling the Procuring Agency’s obligations under the Contract; and any other personnel identified as Procuring Agency’s Personnel, by a notice from the Procuring Agency to the Consultant.
 - (d) **“Consultant”** means a consulting firm as the case may be;
 - (e) **“Contract”** means an agreement enforceable by law;
 - (f) **“Contractor”** means a person, consultant, firm, company or an organization who undertake to supply goods, services or works;
 - (g) **“Contractor’s Personnel”** means personnel whom the Contractor utilizes in the execution of its contract, including the staff, labor and other employees of the Contractor and each subcontractor; and any other personnel assisting the Contractor in the execution of the contract to be supervised by the Consultant (if applicable).
 - (h) **“Day”** means calendar day unless indicated otherwise.

- (i) **“Effective Date”** means the date on which this Contract comes into force and effect pursuant to signed contract.
- (j) **“Experts”** means, collectively, Key Experts, Non-Key Experts, or any other personnel of the Consultant, Sub-consultant or JV member(s) assigned by the Consultant to perform the Services or any part thereof under the Contract.
- (k) **“Foreign Currency”** means any currency other than the Pakistani Rupees.
- (l) **“GCC”** means these General Conditions of Contract.
- (m) **“Government”** means the Government of Pakistan.
- (n) **“Joint Venture (JV)”** means an association with or without a legal personality distinct from that of its members, of more than one entity where one member has the authority to conduct all businesses for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Procuring Agency for the performance of the Contract.
- (o) **“Key Expert(s)”** means an individual professional whose skills, qualifications, knowledge and experience are critical to the performance of the Services under the Contract and whose Curricula Vitae (CV) was taken into account in the technical evaluation of the Consultant’s proposal.
- (p) **“Local Currency”** means the currency of Pakistan
- (q) **“Non-Key Expert(s)”** means an individual professional provided by the Consultant or its Sub-consultant to perform the Services or any part thereof under the Contract.
- (r) **“Party”** means the Procuring Agency or the Consultant, as the case may be, and “Parties” means both of them.
- (s) **“SCC”** means the Special Conditions of Contract by which the GCC may be amended or supplemented but not over-written.
- (t) **“Services”** means any object of procurement other than goods or works; the work to be performed by the Consultant pursuant to this Contract, as described in Annex- A hereto.
- (u) **“Site”** (if applicable) means the land and other places where Works are to be executed or facilities to be installed, and such other land or places as may be specified in the Contractor’s Contract as forming part of the Site.
- (v) **“Sub-consultants”** means an entity to whom/which the Consultant subcontracts any part of the Services while remaining solely liable for the execution of the Contract.
- (w) **“Third Party”** means any person or entity other than the Government, the Procuring Agency, the Consultant or a Sub-consultant.

2. **Relationship between the Parties** 2.1. Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between the Procuring Agency and the Consultant. The Consultant, subject to this Contract, has complete charge of the Experts and Sub-consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.
3. **Law Governing Contract** 3.1. The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in **SCC**.
4. **Language** 4.1. The Contract as well as all correspondence and documents relating to the Contract exchanged between the Consultant and the Procuring Agency, shall be written in the English language unless otherwise stated in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.
5. **Headings** The Consultant shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.
5.1. Reports to be submitted by the Consultants as part of the assignment shall be in the English language.
6. **Communications** 6.1. Communications between Parties (notice, request or consent required or permitted to be given or made by one party to the other) pursuant to the Contract shall be in writing or in electronic forms that provide record of the content of the communication to the address specified in the **SCC**..
6.2. A notice, request or consent shall be effective when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent to such Party at the address specified in the **SCC**.
7. **Location/Site** 7.1. The Services shall be performed at such locations as are specified in **Annex- A** hereto and, where the location of a particular task is not so specified, at such locations, whether in the Government's country or elsewhere, as the Procuring Agency may approve.
8. **Authority of Member in Charge** 8.1. In case the Consultant is a Joint Venture, the members hereby authorize the member specified in the **SCC** to act on their behalf in exercising all the Consultant's rights and obligations towards the Procuring Agency under this Contract, including without limitation the receiving of instructions and payments from the Procuring Agency.
9. **Authorized Representatives** 9.1. Any action required or permitted to be taken, and any document required or permitted to be executed under this Contract by the Procuring Agency or the Consultant may be taken or executed by the officials specified in the **SCC**.

10. Fraud and Corruption

10.1 Public Procurement Regulatory Authority requires that Procuring Agencies (including beneficiaries of Government funded projects) as well as Applicants/Bidders/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts.

10.2 The Consultant/Applicant/ Bidders shall permit and shall cause their agents (whether declared or not), sub-contractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Agency to inspect all accounts, records and other documents relating to any, Bid submission, Primary Procurement process, Framework Agreement performance, Secondary Procurement process, and/or Call-off Contract performance (in the case of award of a Call-off Contract), and to have them audited by auditors appointed by the Procuring Agency.

10.3 Any communications between the Bidder and the Procuring Agency related to matters of alleged corrupt and fraudulent practices must be made in writing or in electronic forms that provide record of the content of communication.

10.4 Procuring Agency will reject proposal, if it is established that the Bidder was engaged in corrupt and fraudulent practices in competing for the contract.

10.5 Procuring Agency will also declare the bidder/Firm as blacklisted in accordance with the regulatory provisions PP Rule 19 and predefined standard mechanism.

a. Commissions and Fees

The Procuring Agency requires the Consultant to disclose any commissions, gratuities or fees that may have been paid or are to be paid to agents or any other party with respect to the selection process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee. Failure to disclose such commissions, gratuities or fees may result in termination of the Contract.

B. COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT -

1. **Effectiveness of Contract** 11.1. This Contract shall come into force and effect on the date (the "Effective Date") of the Procuring Agency's notice to the Consultant instructing the Consultant to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SCC have been met.
2. **Termination of Contract for Failure to Become Effective** 12.1. If this Contract has not become effective within such time period after the date of Contract signature as specified in the SCC, either Party may, by not less than twenty two (22) days written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.
3. **Commencement of Services** 13.1. The Consultant shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.
4. **Expiration of Contract** 14.1. Unless terminated earlier pursuant to Clause GCC 19 hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.
5. **Entire Agreement** 15.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.
6. **Modifications or Variations** 16.1. Any modification or variation of the terms and conditions of this Contract, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any proposals for modification or variation made by the other Party.

16.2. In cases of any modifications or variations, the prior written consent of the Procuring agency is required.
7. **Force Majeure**
 - a. **Definition** 17.1. For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, is not foreseeable, is unavoidable, and makes a Party's performance of

its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action by Government agencies.

17.2. Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Experts, Sub-consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both take into account at the time of the conclusion of this Contract, and avoid or overcome in the carrying out of its obligations hereunder.

17.3. Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

b. No Breach of Contract

17.4. The failure of a Party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

c. Measures to be Taken

17.5. A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

17.6. A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any case not later than fourteen (14) calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.

17.7. Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

17.8. During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultant, upon instructions by the Procuring Agency, shall either:

- (a) demobilize, in which case the Consultant shall be reimbursed for additional costs they reasonably and necessarily incurred, and, if required by the Procuring Agency, in reactivating the Services; or
- (b) continue with the Services to the extent reasonably possible, in which case the Consultant shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.

17.9. In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to Clauses GCC 45 & 46.

8. Suspension

18.1. The Procuring Agency may, by written notice of suspension to the Consultant, suspend all payments to the Consultant hereunder if the Consultant fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultant to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Consultant of such notice of suspension.

9. Termination

19.1. This Contract may be terminated by either Party as per provisions set up below:

a. By the Procuring Agency

19.1.1. The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (f) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Consultant in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in

case of the event referred to in (e); and at least five (5) calendar days' written notice in case of the event referred to in (f):

- (a) If the Consultant fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to Clause GCC 18;
- (b) If the Consultant becomes (or, if the Consultant consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- (c) If the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause GCC 45.1;
- (d) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;
- (e) If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;
- (f) If the Consultant fails to confirm availability of Key Experts as required in Clause GCC 13.

19.1.2. Furthermore, if the Consultant, in the judgment of the Procuring Agency has engaged in Fraud and Corruption, as defined in paragraph 1.23 of Attachment 1 to the GCC, in competing for or in executing the Contract, then the Procuring Agency may, after giving fourteen (14) calendar days written notice to the Consultant, terminate the Consultant's employment under the Contract.

b. By the Consultant

19.1.3. The Consultant may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency,

in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- (a) If the Procuring Agency fails to pay any money due to the Consultant pursuant to this Contract and not subject to dispute pursuant to Clause GCC 45.1 within forty-five (45) calendar days after receiving written notice from the Consultant that such payment is overdue.
- (b) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.
- (c) If the Procuring Agency fails to comply with any final decision reached as a result of arbitration pursuant to Clause GCC 46.1.
- (d) If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultant may have subsequently approved in writing) following the receipt by the Procuring Agency of the Consultant's notice specifying such breach.

c. Cessation of Rights and Obligations

19.1.4. Upon termination of this Contract pursuant to Clauses GCC 12 or GCC 19 hereof, or upon expiration of this Contract pursuant to Clause GCC 14, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in Clause GCC 22, (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause GCC 25 and to cooperate and assist in any inspection or investigation and (iv) any right which a Party may have under the Law.

d. Cessation of Services

19.1.5. Upon termination of this Contract by notice of either Party to the other pursuant to Clauses GCC 19a or GCC 19b, the

Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment and materials furnished by the Procuring Agency, the Consultant shall proceed as provided, respectively, by Clauses GCC 27 or GCC 28.

e. Payment upon Termination

19.1.6. Upon termination of this Contract, the Procuring Agency shall make the following payments to the Consultant:

- (a) payment for Services satisfactorily performed prior to the effective date of termination; and
- (b) in the case of termination pursuant to paragraphs (d) and (e) of Clause GCC 19.1.1, reimbursement of any reasonable cost incidental to the prompt and orderly termination of this Contract, including the cost of the return travel of the Experts.

C. Obligations of the Consultant

10. General

a. Standard of Performance

20.1 The Consultant shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Consultant shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties.

20.2. The Consultant shall employ and provide such qualified and experienced Experts and Sub-consultants as are required to carry out the Services.

20.3. The Consultant may subcontract part of the Services to an extent and with such Key Experts and Sub-consultants as may be approved in advance by the Procuring Agency.

B. Law Applicable to Services

20.4. The Consultant shall perform the Services in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-consultants, comply with the Applicable Law.

11. Conflict of Interests

21.1. The Consultant shall hold the Procuring Agency's interests paramount, without any consideration for future work, and strictly avoid conflict with other assignments or their own corporate interests.

a. Consultant Not to Benefit from Commissions, Discounts, etc.

21.1.1 The payment of the Consultant pursuant to GCC F (Clauses GCC 39 through 43) shall constitute the Consultant's only payment in connection with this Contract and, subject to Clause GCC 21.1.3, the Consultant shall not accept for its own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or in the discharge of its obligations hereunder, and the Consultant shall use its best efforts to ensure that any Sub-consultants, as well as the Experts and agents of either of them, similarly shall not receive any such additional payment.

21.1.2 Furthermore, if the Consultant, as part of the Services, has the responsibility of advising the Procuring Agency on the procurement of goods, works or services. Any discounts or commissions obtained by the Consultant in the exercise of such procurement responsibility shall be for the account of the Procuring Agency.

b. Consultant and Affiliates Not to Engage in Certain Activities

21.1.3 The Consultant agrees that, during the term of this Contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-consultants and any entity affiliated with such Sub-consultants, shall be disqualified from providing goods, works or non-consulting services resulting

from or directly related to the Consultant's Services for the preparation or implementation of the project, unless otherwise indicated in the **SCC**.

c. Prohibition of Conflicting Activities

21.1.4 The Consultant shall not engage, and shall cause its Experts as well as its Sub-consultants not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this Contract.

d. Strict Duty to Disclose Conflicting Activities

21.1.5 The Consultant has an obligation and shall ensure that its Experts and Sub-consultants shall have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Procuring Agency, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of its Contract.

12. Confidentiality

22.1 Except with the prior written consent of the Procuring Agency, the Consultant and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the Services, nor shall the Consultant and the Experts make public the recommendations formulated in the course of, or as a result of, the Services.

13. Liability of the Consultant

23.1 Subject to additional provisions, if any, set forth in the **SCC**, the Consultant's liability under this Contract shall be provided by the Applicable Law.

14. Insurance to be Taken out by the Consultant

24.1 The Consultant (i) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at its (or the Sub-consultants', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, and for the coverage specified in the **SCC**, and (ii) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums therefore have been paid. The Consultant

shall ensure that such insurance is in place prior to commencing the Services as stated in Clause GCC 13.

15. Accounting, Inspection and Auditing

25.1 The Consultant shall keep, and shall make all reasonable efforts to cause its Sub-consultants to keep, accurate and systematic accounts and records in respect of the Services and in such form and detail as will clearly identify relevant time changes and costs.

25.2 Pursuant to paragraph 1.23 (e) of Attachment 1 to the General Conditions, the Consultant shall permit and shall cause its agents (where declared or not), subcontractors, sub-consultants, service providers, suppliers, and personnel, to permit, the procuring agency to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Procuring Agency. The Consultant's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 10.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Procuring Agency's inspection and audit rights constitute a prohibited practice subject to contract termination.

16. Reporting Obligations

26.1 The Consultant shall submit to the Procuring Agency the reports and documents specified in **Annex- A**, in the form, in the numbers and within the time periods set forth in the said Appendix.

D. Proprietary Rights of the Procuring Agency in Reports and Records

27.1 Unless otherwise indicated in the **SCC**, all reports and relevant data and information such as maps, diagrams, plans, databases, other documents and software, supporting records or material compiled or prepared by the Consultant for the Procuring Agency in the course of the Services shall be confidential and become

and remain the absolute property of the Procuring Agency. The Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Procuring Agency, together with a detailed inventory thereof. The Consultant may retain a copy of such documents, data and/or software but shall not use the same for purposes unrelated to this Contract without prior written approval of the Procuring Agency.

27.2 If license agreements are necessary or appropriate between the Consultant and third parties for purposes of development of the plans, drawings, specifications, designs, databases, other documents and software, the Consultant shall obtain the Procuring Agency's prior written approval to such agreements, and the Procuring Agency shall be entitled at its discretion to require recovering the expenses related to the development of the program(s) concerned. Other restrictions about the future use of these documents and software, if any, shall be specified in the **SCC**.

E. Equipment, Vehicles and Materials

28.1 Equipment, vehicles and materials made available to the Consultant by the Procuring Agency, or purchased by the Consultant wholly or partly with funds provided by the Procuring Agency, shall be the property of the Procuring Agency and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make available to the

Procuring Agency an inventory of such equipment, vehicles and materials and shall dispose of such equipment, vehicles and materials in accordance with the Procuring Agency's instructions. While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by the Procuring Agency in writing, shall insure them at the expense of the Procuring Agency in an amount equal to their full replacement value.

28.2 Any equipment or materials brought by the Consultant or its Experts into the Procuring Agency's country for the use either for the project or personal use shall remain the property of the Consultant or the Experts concerned, as applicable.

F. Code of Conduct

29.1 The Procuring Agencies and the Consultant are bound to follow the Code of Ethics issued by the Authority.

18. ANNEX-A

Background, Objectives, Scope of Work and Technical Details of Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan

A. Background and Introduction of the Procuring Agency

The National Assembly of Pakistan, the Procuring Agency, is the country's sovereign legislative body. It embodies the will of the people to let themselves be governed under the democratic, multi-party Federal Parliamentary System. The National Assembly makes laws for the Federation in respect of the powers enumerated in the Federal Legislative list. Through its debates, adjournment motion, question hour and Standing Committees, the National Assembly keeps a check over the Executive and ensures that the government functions within the parameters set out in the Constitution and does not violate the fundamental rights of citizens. Only the National Assembly, through its Public Accounts Committee, scrutinizes public spending and exercises control of expenditure incurred by the government.

The Islamic Republic of Pakistan is a Federal State comprising four provinces of Balochistan, Khyber Pakhtunkhwa, Punjab and Sindh; Islamabad is the Federal Capital with Federally Administered Tribal Areas (FATA). These federating units offer a lot of diversity and variety in terms of languages, levels of social and economic development, population density and climatic conditions.

The Members of the National Assembly are to be elected by direct and free vote in accordance with law.

a) CONSTITUTIONAL ROLE

Article 50 of the Constitution provides that the Parliament of Pakistan shall consist of the President and the two Houses known as the National Assembly and the Senate. The National Assembly has an edge over the Senate by legislating exclusively on money matters. With exception to money Bills, however, both the Houses work together to carry out the basic work of the Parliament, i.e. law making.

b) LEGISLATIVE PROCEDURE

The Bill relating to the Federal Legislative List can be originated in either House. If the House passed the Bill through majority vote, it shall be transmitted to the other House. If the other House passes it without amendment, it shall be presented to the President for assent.

If the Bill, transmitted to the other House, is not passed within ninety days or rejected, it shall be considered in a joint sitting to be summoned by the President on the request of the House in which the Bill originated. If the Bill is passed in the joint sitting, with or without amendments, by the votes of majority of the members of the two Houses, it shall be presented to the President for assent.

If the Bill is presented to the President for assent, he shall assent to the Bill in not later than ten days. If it is not a Money Bill, the President may return the Bill to the Majlis-e-Shoora with a message requesting that the Bill be reconsidered and that an amendment specified in the message be considered. The Majlis-e-Shoora shall reconsider the Bill in a joint sitting. If the Bill is passed again, with or without amendment, by vote of the majority of the members present and voting, it shall be presented to the President and the President shall give his assent within ten days; failing which such assent shall be deemed to have been given.

Under the Constitution, the Parliament may also legislate for two or more Provinces by consent and request made by those Provinces. If the Federal Government proclaims a State of Emergency in any province, the power to legislate about that province is vested in the Parliament. But the Bills passed by the Parliament during the State of Emergency, shall cease to be in force after the expiration of six months from the date Emergency is lifted. Nevertheless, the steps already taken under these Acts shall remain valid.

In exercises of its constitutional role, the Parliament also has other very important duties to perform. The President, who is at the apex, is elected by members of both Houses of the Parliament and the Provincial Assemblies. The Prime Minister, who heads the Cabinet and is meant to aid and advise the President in his functions, belongs to the National Assembly. He enjoys the confidence of the majority of the members of the National Assembly. Members of the Cabinet are appointed by the President on the advice of the Prime Minister.

In the formation of the Cabinet the major portion (75%), goes to the National Assembly while the rest (25%) are taken from the Senate.

There is a democratic procedure to remove the Prime Minister from his office if he loses the confidence of the majority of the members of the National Assembly. In this respect a resolution for a vote of no-confidence is moved by not less than 20% of the total membership of the National Assembly. If the resolution is passed by majority of the total membership of the National Assembly, the Prime Minister immediately relinquishes powers.

Similarly, for the removal or impeachment of the President, not less than one-half of the total membership of either House may give in writing its intention to do so, to the Speaker National Assembly, or, as the case may be, to the Chairman Senate, for moving a resolution for the purpose. In a joint sitting of the two Houses, convened for the purpose, and after the deliberations, if the resolution is passed by the votes of not less than two thirds of the total membership of the Parliament, the President shall cease to hold office immediately on the passing of the resolution.

In case an emergency is proclaimed, the Parliament holds the authority to extend the term of the National Assembly. Under the Constitution, the Parliament may also, on

the request of the Federal Government, by law, confer functions upon officers or authorities subordinate to the Federal Government.

c) National Assembly Strategic Plan 2019-23

General Elections 2018 witnessed the second constitutional transition of power from one democratically elected government to another. The 15th National Assembly of Pakistan was successfully constituted on 13 August 2018. Immediately after assuming office of the Speaker, Mr. Asad Qaiser initiated reforms within the House. These reforms were aimed at adopting a comprehensive approach to ensure that the entire House benefits by undertaking capacity and resource development during the inception phase of NASP 2019-23 development.

d) Digital Transformation of the National Assembly Secretariat

The National Assembly Pakistan has a long standing record of fulfilling democratic aspirations. To discover new ways of transforming the National Assembly, a thorough assessment was carried out and a National Assembly Strategic Plan 2019-2023 was approved. In the strategic plan several goals were set for achievement before 2023. The underlying foundation for achieving the goals in the National Assembly strategic plan is the digital enablement of core functions and services.

Digital Transformation will enable fast-track implementation of the following eight (08) goals of the National Assembly Strategic plan:

- I. Goal-1: Committee systems and structures enhanced by making systems and processes more efficient
- II. Goal-2: Infrastructure development
- III. Goal-3: Research and Library provide Parliamentarians and Secretariat access to evidence-based decision making.
- IV. Goal-4: CT tools optimised to strengthen Parliamentary efficiency. All sub-goals:
 - A. 4.1. Digitalisation for House operations
 - B. 4.2. Digital Legislative Database
 - C. 4.3. Digitalising Committee processes
 - D. 4.4. ICT for Research Optimisation
 - E. 4.5. Enhance Connectivity
 - F. 4.6. ICT based citizens engagement
- V. Goal-5: Institutionalise PMU for implementation and review of NA Strategic Plan and strengthen it to perform effectively in developing partnerships
- VI. Goal-6: Enhance SDGs capacity and linkages with Ministries and international partners to make it effective in achieving desired results
- VII. Goal-7: Support increasing engagement of Women Parliamentary Caucus with various stakeholders
- VIII. Goal-8: Enhance and encourage citizen participation from: Academia, youth and women, and vulnerable population segments

B) Objective(s) of the Assignment

To improve the business continuity, outreach and engagement of Committees of the National Assembly and enable remote-work and participation through improved audio and video conferencing at the Committee rooms/offices of the National Assembly of Pakistan.

C) Required Items, Specifications and Bill of Quantity

The following items along with equivalent or better specification and number shall be supplied by the bidders. Please note that none of the items quoted and supplied shall have the date of manufacturing not earlier than the year 2021 - essentially all quoted items shall be manufactured during the year 2021 or later.

LOT-1: Audio, Video Conferencing solution

S.No	Item Description	Required Specifications (Equivalent or Better)	Quantity
1	Video Conferencing Codec	CODEC APPLIANCE Video Communication Protocols: H.323 / SIP ITU Standards, Video inputs: 2x HDMI (SIP/H.323, Skype for Business/ MS Team), 2x USB, Video outputs: 1x HDMI, 1x Display port, Audio inputs: Balanced audio, USB, Line in, Audio outputs: Balanced audio, Line out, HDMI, CHARACTERISTICS, 3 rd party integration codec i.e. Pexip, Resolution up to 1080p @ 60 fps, H.261, H.263, H.263+/++, H.264/AVC High Profile - 64Kbps up to 6Mbps, H.264/SVC (Skype for Business / MS Team) AUDIO STANDARDS, 20KHz: AAC-LD, 14KHz: G.722.1 Annex C, 7KHz: G.722, G.722.1, 3.4KHz: G.711, G.723.1, G.728, G.729. AMR (3G) DATA CHARACTERISTICS, H.239 support for data sharing, Resolution up to 1080p, Data inputs via HDMI, Wireless, USB, Audio Features Full duplex echo cancellation, Automatic Noise suppression (ANS), Automatic gain control (AGC), Voice Activity Detention (VAD), Embedded MCU Quoted Product must be built in with 4-way (1+3) multi party License from day one. Should support 9-way (1+8) MCU, Microphone Array Support up to two daisy chainable microphone array each consisting of three mic elements, guaranteeing 360-degree coverage. It should support Noise Cancellation & Echo cancellation & provide crystal-clear audio clarity, 1 Mic array shall be supplied with the equipment, Room Integration Ability to Integrate with external Audio DSP System through LINE IN / LINE OUT and/or Digital USB Connections, Encryption: H.235 AES and NAT, Firewall Traversal: H.460.18; H.46019 ITU Standards support, wireless / Wired presentation, interactive whiteboard, recording and streaming. Control(included) RF Remote, Embedded Web based management Telnet API for external control system, Recording Shall have built - in storage and ability to connect external hard drive Record	01

		<p>the Audio/ Video and Presentation Content during Video Conference Record the Local Audio/Video even without in a call for Local Interview / Training Sessions for later view, Streaming Must support Unicast and Multicast to Standard WMV/VLC Clients of 20 users minimum, Cloud License: Shall have built in Cloud License to support Virtual Meeting Room supporting upto 50 Participants (25 Video+ 25 Audio) Connectivity. Shall be able to connect via PC/Mac/iOS/Android Devices. Cloud license should allow outside organization user to connect via laptop/mobile or even traditional H.323/SIP video conference machines, Interactivity: Codec should be able to connect to interactive display for collaboration Cables Associated Cable for Connecting camera, Power and Microphone included</p>	
2	Full HD PTZ Camera	<p>Professional-grade PTZ camera 20x optical zoom lens plus a 16x digital zoom for extra distance, Full HD 1080p60 quality at 60 fps with full pan and tilt, suited for use in large spaces where close-up high-resolution video capture is desired, HD video capture, making even the largest meeting spaces perfect for remote group collaboration or webinar recording, advanced focusing algorithms enables the lens to focus quickly, accurately, and steadily, includes local storage to directly record without the need for external NVR, Control the camera's functions via USB network, RS485 and RS232 interfaces to control the camera, H.264/H.265 streaming and line-in interface to stream audio and video over IP, High SNR of CMOS sensor combined with, 2D and 3D noise reduction algorithm, effectively reduces the noise, even under low illumination conditions. Image can keep clean and clear, Supports USB 3.0 and 2.0 interfaces, USB interface supports YUY2, MJPEG and H.264 video formats, Compatible with popular applications such as Microsoft Teams, zoom, GoToMeeting, WebEx, Google Meet, any Collaborate app and more, Application Web Conferencing, Unified Communications, Video System: HD: 1080p60, 1080p50, 1080i60, 1080i50, 1080p30, 1080p25, 720p60, 720p50, 720p30, 720p25, SENSOR: 1/2.8 inch, CMOS, Effective Pixel: 2.07M, Scanning Mode: Progressive, Lens: 20x, f4.4mm – 88.5mm, f1.8 – f2.8, Optical Zoom: 20x, Digital Zoom: 16x, Focus Mode: Auto Focus, Minimal Illumination: 0.5 lux @ (f1.8, AGC ON), Shutter: 1/30s – 1/10000s, White Balance: Auto, Indoor, Outdoor, One Push, Manual, Backlight Compensation: Supported, Digital Noise Reduction: 2D & 3D Digital Noise Reduction, Video S/N: ≥ 55dB, Horizontal Angle of View: 60.7° – 3.36°, Vertical Angle of View: 34.1° – 1.89°, Horizontal Rotation Range: $\pm 170^\circ$, Vertical Rotation Range: -30° – +90°, Pan Speed Range: 1.7° – 100°/S, Tilt Speed Range: 1.7° – 69.9°/S, H & V FLIP: Supported, Image Freezing: Supported, Local Storage:</p>	03

		Supported, Number of Presets: 255, Preset Accuracy: 0.1°, Flexible Installation: Stand mount, Upside-down Mount, INPUT/OUTPUT INTERFACE: HD Output: 1 x HDMI: Version 1.3, Network Interface: 1 x RJ45: 10M/100M Ethernet, Interface, Audio Interface: 1-Ch 3.5mm Audio Interface, Line In 1-Ch 3.5mm Audio Interface, Mic In, 1-Ch 3.5mm Audio Interface, Line Out, USB: 1 x USB 3.0: type B female jack, 1 x USB 2.0: type A female jack, Communication: 1 x RS232 In: 8-Pin Min din, Max distance: 30M, Protocols: VISCA/Pelco-D/Pelco-P 1 x RS232 Out: 8-Pin Min din, Max distance: 30M, Protocols: VISCA network use Only, 1 x RS485: Share with RS232 Out, Max distance: 1200M, Protocols: VISCA/Pelco-D/Pelco-P, USB FEATURES: Operating Systems: Windows 7, Windows 8, Windows 10, MacOS X, Linux, Color System: YUY2/MJPEG/H.264 Video Formats: USB 3.0: 1080p60, 1080p50, 1080p30, 1080p25, 720p60, 720p50, 720p30,720p25, USB 2.0: 960x540p/30, 960x540p/25, 640x360p/60, 640x360p/50 USB Video Communication: UVC 1.1, UVC PTZ: Supported, IPC FEATURES Video Compression: H.265/H.264/MJPEG, Video Stream: Main Stream, Sub Stream, Main Stream Resolution: 1920x1080, 1280x720, 1024x576, Sub Stream Resolution: 720x576, 720x480, 320x240, Video Bit Rate: 128Kbps - 8192Kbps, Bit Rate Type: Variable Rate, Fixed Rate, Frame Rate: 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps, Audio Compression: AAC, Audio Bit Rate: 96Kbps, 128Kbps, 256Kbps, Support Protocols: TCP/IP, HTTP, RTSP, RTMP, Onvif, DHCP, Multicast, etc. GENERIC SPECIFICATIONS Power Jack: JEITA type (DC In 12V), Input Voltage: DC 12V, Current Consumption: 1.0A (Max), Power Consumption: 12W (Max), Operating Temperature: -10°C - 40°C (14°F - 104°F), Storage Temperature: -40°C - 60°C (-40°F - 140°F), Dimension: 240mm x 144mm x 160mm, Weight: 1.65 kgs (3.6 lb)	
3	3.0 USB Cable	100 feet (~30 meters) long USB 3.0 Cable, to connect a Laptop & DSP, exceptional quality, upright compatibility, and reliability use Data Transfer Cable, With USB port, enjoy the plug-and-play facility, fully compatible with audio mixers	02
4	USB Hub	Single-USB connections in various workspaces for simple, ergonomic connection of peripheral devices to PC or laptops, Ports: - 1x USB 3.0 (Type-B) for laptop (Requires Display Link driver on laptop), 2x USB 3.0 (Type-A) for camera & Speakerphone, 4x USB 2.0 ports, 1x HDMI out, 1x DVI out, Button: NIL, LED: Blue, Chipset: DL3900, VL82B2, FE 1.1S, Flash: 8 MB, SDRAM: DDR3 1 GB	03
5	HDMI Adapter	HDMI Adapter for data sharing via external laptop or PC (DVI-I or HDMI to USB adapter connect external PC to appliance bridges USB and HDMI, to connect a laptop and	01

		COLLABORATE Pro for data sharing with resolution up to 1080p30.	
6	Matrix QuadView Switcher	Matrix 4x4 incl. QuadView, Videowall, Seamless Switching, Matrix switching of 4 HDMI signals to 4 HDMI outputs, supports resolutions up to FullHD and WUXGA (1920x1200), 6 video modes: Matrix, Quad View, Video Wall, Window, PIP, PAP, Scaler for display format adaptation, seamless switching, Control via front panel, RS232, USB HID and IR, Digital audio formats TBA, Mouse Control Features Zoom In & Out, Drag & Drop, Crop & Display, digital video resolutions up to FullHD (1080p) or WUXGA (1920 x 1200) with 4 screens, a total of 4K / Ultra HD video resolution is possible Supports locking HDMI cables, Sturdy metal rack-mountable casing designed for 1U application, zoom in / out and picture-crop functions, Advanced RS232 commands, Drag and Drop feature to easily arrange all windows with standard accessories	01
7	Matrix QuadView Switcher	Professional 8x8 HDMI 2.0 matrix switcher with an included audio matrix for switching 8 HDMI inputs to 8 HDMI outputs, designed for HDMI2.0 and HDCP2.3 compliant signals, HDMI 2.0 Matrix Switcher with 8 HDMI inputs to 8 HDMI outputs, Supports resolutions up to Ultra HD 4K 60Hz (4:4:4) incl. HDR, HDCP2.3 compliant, Audio matrix - audio out can de-embedded from arbitrary input or output, Individual volume adjustment on each analog output, Supports 4K to 1080p down-scaling on up to 4 HDMI outputs, AOC ready: HDMI provides 2.5W / 5V to power Active Optical Cables (AOC), HDMI output supports up to 5V / 500mA for AOC cables, Controllable via front panel, IR, RS232 and TCP/IP with standard accessories	01
8	HD BaseT Extender Set	HDBaseT Extender Set - 4K HDMI (60Hz 4:2:0) with Bidirectional PoC Transmission of HDMI via HDBaseT up to 40m (4K), 70m (1080p) Supports 10.2Gbps for resolutions up to 4K UltraHD 30Hz Bidirectional pass-through for IR and RS232, DIP switch for RS232 mode Bidirectional PoC, CEC support, Robust enclosure with mounting brackets, ideal for professional installations, 4K HDMI via HDBaseT extender set consists of transmitter (Tx) and receiver (Rx) and transmits incoming HDMI signals via HDBaseT. Both devices connected with a conventional Cat. Cable (Cat.5e / Cat.6a) over distances up to 40 meters for 4K resolutions with max. 60Hz at 4:2:0 color subsampling or up to 70 meters for FullHD / 1080p resolutions, Digital Video Formats Up to 4K@60Hz (4:2:0), 1080p@60Hz, TX Input 1x HDMI 1x FW (microUSB) 1x RS232 (3 pin Phoenix OUTPUT 1x HDBaseT (RJ45) 1x USB-B, RX Input 1x HDBaseT (RJ45) 1x FW (microUSB) 3x USB-A, 1x RS232 (3 PIN Phoenix) OUTPUT 1 x HDMI	11
9	Streaming Media	Process two high resolution AV sources from up to five available input signals, Record and stream simultaneously,	01

	<p>Processor Recorder</p>	<p>High quality scaling with flexible two-window management, Produce MP4 media or M4A audio files that are compatible with virtually any media player, Stream concurrently at two resolutions and bit rates from the same source, LinkLicense® for dual channel recording and streaming, Signal type 3 HDMI digital video (HDCP compliant), 1 component video (Y, R-Y, B-Y; interlaced, progressive, HD), or composite video Optional: 1 SDI, HD-SDI, or 3G-SDI digital component video, Connectors 4 female HDMI type A, 3 inputs and 1 loop-through, 3 female BNC; component video, composite video, Optional: 1 female BNC: 3G-SDI, HD-SDI, SDI, Nominal level 1 Vp-p for Y of component video and for composite video 0.7 Vp-p for RGB and for R-Y and B-Y of component video 0.8 Vp-p for 3G-SD, Support virtual inputs including IP cameras and other encoded sources, enabling the ability to ingest up to two additional RTP/RTSP push/pull streams and record each stream into a separate file for up to 3 recording, Internal Solid State Storage Save recorded data to reliable, internal storage, before transferring it to external destinations. Capacity of 128 GB (110 GB for recording files) or 480 GB (440 GB for recording files). Up to 40 hours of material can be saved to the 128 GB version, or 150 hours to the optional 480 GB version, Network Storage, encoded at 10 Mbps, USB storage device, or a defined network storage directory. USB storage devices connect easily with device, recording schedules can be automatically updated by configuring the device hardware to integrate with Microsoft Exchange or periodically upload a centrally managed iCalendar file. Simple Network Management Protocol, Content Management and Publishing Options, Quality Multi-Source Audio Processing, Presentation Streaming: Stream presentations to remote viewers Corporate Training Systems: Record training events and publish them for on-demand access Lecture Capture: Record course lectures and upload them to Learning Management Systems, Meeting and Conference Recording: Record meetings and videoconferences to document important decisions and agreements Visual Data Recording: Document technical systems that use AV sources as reference data, Rehearsal Systems: Practice and evaluate rehearsals and presentations, Produce MP4 media or M4A audio files that are compatible with virtually any media player, Audio mixing and advanced DSP functionality, RTMP and RTMPS streaming protocols support popular third party hosting services, Flexible I/O ports for advanced AV system management, RS-232, Ethernet, and digital I/O control ports, Web interface, USB port for Mouse & Keyboard, monitoring & Control with standard accessories</p>	
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Audio Conferencing Solution			
10	Microphone	<p>Long Gooseneck Microphone + Flush Mount Base W/On/Off & Mute Switch</p> <p>Gooseneck microphones hyper cardioid condenser element with double layer pop filter, a remote-controlled LED ring, 3-pin XLRM-type connector with rubber cap to prevent mechanical vibration, Unique 3-pin balanced microphone remote controlled LED ring. Patent-pending design isolates the microphone connector and discussion unit, Double-layer pop filter, RFI shielding technology rejection of RF interference, 580mm Double-gooseneck positioning flexibility Element: Fixed-charge back plate, permanently polarized condenser Polar Pattern: Hyper cardioid Frequency Response: 100~15,000Hz Open Circuit Sensitivity: -40dB (10.0 mV) re 1V at 1 Pa Max. Input Sound Level: 134 dB SPL, 1 kHz at 1% T.H.D. Signal-to-Noise Ratio: 64 dB, 1 kHz at 1 Pa Impedance: 250 ohms Output Connector: XLR-M LED Colour: Red Body Type: Dual Gooseneck, Microphone Mounting Base output connector 5 x 3pins Euroblock connector, Switch function: touch on/off Control: All-mute, Active high (+5 V DC) TTL compatible, microphones mounted on lecterns, pulpits, conference tables and other surfaces, Low-profile design with low-reflectance black finish for minimum visibility, Ultra-quiet electronic switch can be used to control microphone via unit, LED mic-status indicator on the switch can be control, Two-state RGB LED indicator displays on/off status of microphone, XLRF-type connector to fit any gooseneck microphone with an XLRM-type output with standard accessories</p>	45
11	Integration Unit	<p>Integration Unit with Dynamic Range 106dB A-Weighted, Frequency response +1dB/ -2dB 20Hz - 20kHz, +4dBu input @ 1kHz, Sampling Frequency 24bit / 48kHz, Signal-to-Noise Ratio 86dB A-Weighted, Connection 2x RJ45, 39 pin on Euroblock, Headroom 20dB, Phantom Power DC + 48V with standard accessories</p>	01
12	Voting System	<p>Voting Unit with NFC, expansion terminal (RJ11 modular terminal), All buttons / LEDs shall be controlled, and function assigned by IP control, equipped with NFC card reading function, ID number can be transmitted to an external control PC via IP Control.</p> <p>Power supply DC + 5V, power consumption, Maximum 240mA Compatible NFC</p> <p>MIFARE, guaranteed operating temperature 0-40 °C, Guaranteed operation Humidity 25-85%, External</p>	45

		dimensions H20 × W150 × D67mm, cable length 420mm mass105g (including cable) with standard accessories	
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13	Audio DSP Mixer	<p>Advance DSP Mixer with 12 Mic/Line AEC Inputs, 8 Mic/Line Outputs, USB Audio, VoIP, Telephone Interface advanced professional audio DSP platform for conferencing and sound reinforcement applications, Supports SIP, 12 configurable mic/line audio inputs, 8 configurable mic/line audio outputs, built-in USB audio, and a Telco interface for POTS calls, 12 Mic/Line inputs and 8 mic/line outputs, Support for SIP-based conferencing up to 5 lines and 5 calls based online configuration, Analog Telco interface, Built-in USB audio, Built-in Dynamic Automatic Resonance Eliminator algorithm for dynamic feedback elimination, C-Link and P-Link enable easy addition of DSPs and peripherals, Configure an entire system of C-linked DSPs with software, Flexible control options include Conference Controller, BYOD dialer apps or 3rd party control modules ext-gen Acoustic Echo Cancellation processing, Reduced footprint and power consumption, easy integration Daisy-chain, Wireless Microphone System, and other peripheral devices through P-Link, Inputs: Balanced audio inputs, 3.81mm Phoenix/Euroblock type male header, Push-on mini terminal block, Outputs: Balanced audio outputs, 3.81mm Black color Phoenix /Euroblock type male header, Push-on mini terminal block, Frequency Response: 20 Hz – 22 kHz @ +4 dBu, +/- 0.5 dBu, EIN (Equivalent Input Noise): 20 kHz BW, max gain, Rs = 150 Ω, -126 dBu, THD + N (Total Harmonic Distortion + Noise): -20 Hz – 22 kHz @ +4 dBu, line level, 0.006%, -20 Hz – 22 kHz @ -56 dBu, mic level, <0.04%, Dynamic Range: 20 Hz – 20 kHz @ 0 dB, > 105 dB, Crosstalk (Mic/ Line): Channel to Channel, stimulus at 20 dBu to receptor at -56 dBu, 1 kHz, < -98 dB Input Impedance: Balanced (line to ground), 2.2 kΩ, 1%, Nominal Input Level: Adjustable -56 dB to 0 dB, 7 dB step coarse gain, Maximum Input Level: -65 dBu to 20 dBu, Phantom Power: 48 V, Impedance 6.81 kΩ, Output Impedance: Balanced (line to ground), 95 Ω, 1%, Output Level: 0 dBu (Nominal), 20 dBu (Max), -40 dBu (Selectable), USB audio: Port Type: USB-B connector, Audio: Digital Audio, 2 x 2 bidirectional channels, Sample Rate: 48 kHz, Sample Bit Depth: 24-Bit, Compatible: USB 2.0, USB 3.0, Sensor Type: Capacitive Touch Button, VoIP: Port Type: RJ-45, 10/100 Mbps Ethernet Network, Auto, Negotiation, Audio: 5 Lines, Codec: G.711 uLaw, G.711 ALaw, G.722, Ethernet Port Type: RJ-45, 10/100 Mbps Ethernet Network, Auto Negotiation, IP address: IPv4 (IPv6 upgradeable through future s/w, f/w upgrade), Expansion Ports Type: RJ-45 (Cat5e or Cat6), C-Link In & Out: Proprietary Expansion Bus, Audio: 64</p>	01
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		<p>Expansion channels, Cable: Solid core, factory terminated Cat5e or 6 cable, Distance: Up to 150' (45M), P-LINK Peripheral Ports Type: RJ-45 (Cat5e or Cat6) P-Link In & Out: Proprietary Peripheral Bus, PoE In: - P-Link In Port, - PoE 802.3af Mode B, Midspan, - Power on "spare pairs" 4,5 and 7,8, - Input voltage range: 48 V to 56 V Audio: Up to 3 Beamforming Microphone Array 2 units + Up to 3 DIALOG 20 Wireless Receiver units + Up to 3 USB Expander units + Up to 3 GPIO Expander units, Cable: Solid core, factory terminated Cat5e or 6 cable Distance: Up to 200' (60 M), Long Distance P-Link: - Increases P-Link distance from 200 ft to 650 ft, 650 ft (200M) maximum cable distance between any two units, RS232 Port Type: DB9 Female, Settings: 9600/19200/38400 /57600/ 115200 Baud; Serial Echo; Flow Control Support: Serial commands, Telephone Port Type: RJ11 Frequency Response: - Mic/Line Input to Telephone Out: 250 Hz - 3.4 kHz, +/- 2 dB, 4 dBu - Telephone into Mic/Line Out: 250 Hz - 3.4 kHz, +/- 2dB, -15 dBu, THD + N: Mic/Line Input to Telephone Out: <0.1% @ 4 dBu - Telephone In to Mic/ Line Out: <0.3% @ -15 dBu, Dynamic Range:- Mic/Line Input to Telephone Out: > 67 dBu- Telephone In to Mic/Line Out: > 87 dBu, REN: Ringer Equivalent Number 0.2, Transhybrid Balance: 30 dB (1 kHz, all AC terminations) RU size: 1 RU Width x Depth x Height: -Without rack-ears: 17" W x 10.73" D x 1.72" H (43.2 cm W x 27.3 cm D x 4.4 cm H), -With rack-ears: 19" W x 10.73" D x 1.72" H (48.3 cm W 27.3 cm D x 4.4 cm H), Unit Weight: 9.3 lbs (4.2 kg)</p> <p>with standard accessories</p>	
14	Professional Audio DSP Mixer	<p>Professional DSP Mixer with 12 Mic/Line AEC Inputs, USB Audio advanced multi-channel microphone auto mixer with latest audio DSP algorithms. mixer increases the available mic/line inputs in an installation, professional audio DSP for conferencing and sound reinforcement applications, Powerful 12 Mic/Line inputs with AEC, Increased Mic/Line inputs for other devices, Inputs-only DSP mixer Built-in USB for PC-based conferencing, Reduced footprint, and power consumption Audio Signal Processing Next-gen Acoustic Echo Cancellation processing, Distributed Echo Cancellation® on every mic input, Noise Cancellation with Adaptive-Ambience, Acoustic Intelligence with faster merging, Dynamic Automatic Resonance Eliminator feedback elimination, Advanced microphone gating, Scalable Connectivity Standalone and daisy-chained system, Stack up units up to 144 Mic/Line inputs, Expansion bus "C-Link" with 64 channels, "P-Link" bus to connect peripheral devices, Dialer app for Windows, Mac, iOS, Android, Touch Panel Controller with tabletop and wall mount options, 3rd-party control modules Flexible Control Options Configuration & Management software Auto-discovery of devices, Matrix view for entire system, FlowView for visualized audio signal paths, Application, PC-based conferencing & Unified Communications, Video codec-based Video Conferencing, Sound Reinforcement applications, MIC/LINE INPUTS Balanced audio</p>	02

		<p>inputs, 3.81mm Phoenix/Euroblock type male header, Push-on mini-terminal block, Frequency Response 20Hz - 22kHz @ +4dBu, +/- 0.5dBu EIN (Equivalent Input Noise): 20kHz BW, max gain, $R_s = 150\Omega$, -126dBu THD + N (Total Harmonic Distortion + Noise) 20Hz - 22kHz @ +4dBu, line level, 0.006%, 20Hz - 22kHz @ -56dBu, mic level, <0.04%, Dynamic Range 20Hz - 20kHz @ 0dB, >105dB, Crosstalk (Mic/Line) Channel to Channel, stimulus at 20dBu to receptor at -56dBu, 1kHz, <-98dB, Input Impedance Balanced (line to ground), 2.2kΩ, 1%, Nominal Input Level Adjustable -56dB to 0dB, 7dB step coarse gain, Maximum Input Level: -65dBu to 20dBu, Phantom Power: 48V, Impedance 6.81kΩ, USB AUDIO Port Type USB-B connector, Audio Digital Audio, 2 x 2 bidirectional channels, Sample Rate: 48kHz Sample Bit Depth: 24-Bit, Compatible USB 2.0, USB 3.0, ETHERNET Port Type RJ-45, 10/100Mbps Ethernet Network, Auto Negotiation, IP address IPv4 (IPv6 upgradeable through future s/w, f/w upgrade), C-LINK EXPANSION BUS Ports Type RJ-45 (Cat5e or Cat6) C-Link In & Out Proprietary Expansion Bus Audio 64 Expansion channels, Cable Solid core, factory terminated Cat 5e or 6 cable, Distance Up to 150' (45M), P-LINK PERIPHERAL BUS Ports Type RJ-45 (Cat5e or Cat6), P-Link In & Out: Proprietary Peripheral Bus, PoE In P-Link In Port PoE 802.3af Mode B, Midspan Power on "spare pairs" 4,5 and 7,8, Input voltage range: 48V to 56V, Audio Up to 3 Beamforming Microphone Array 2 units + up to 3 DIALOG 20 Wireless Receiver units + Up to 3 USB Expander units + Up to 3 GPIO Expander units, Cable Solid core, factory terminated Cat 5e or 6 cable, Distance Up to 200' (60M), Long Distance P-Link Increases P-Link distance from 200 Ft to 650 Ft, 650 Ft (200M) maximum cable distance between any two devices, Cat6, 550 MHz, 23 AWG, solid conductor cable 48V PoE Midspan Mode B power injector for device, 56V PoE Midspan Mode B power injector for device, RS232 Port Type DB9 Female, Settings 9600/19200/ 38400/57600/115200 Baud; Serial Echo; Flow Control, Support Serial commands GPIO Port Type 5.08mm Green color Phoenix/Euroblock type male header, Support Control, Status, Variable Voltage Control, Power Pin 5V DC @ 350mA Power Source Pin 1 to 4, Open Collector Outputs: 40VDC @ 250mA, Active Outputs (Source/Sink): 5VDC @25mA, Logic Inputs: 40.2kΩ pull up, Variable Voltage Control Inputs: 5VDC max, Ground Pin GND, USB CONTROL Port Type USB-B connector Location Front Panel, Compatible USB 2.0, USB 3.0, Status LED Off Unit still initializing, Blue - Fast Blinking: Stack Syncing in progress, Blue - Slow Blinking: Unit not configured, Blue - Solid: Configured unit, Red - Fast Blinking: Stack Sync error, TOUCH SENSOR Sensor Type Capacitive Touch Button, POWER Port Type: AC Inlet, Mains Voltage: 100-240V AC, 50/60Hz, Power Consumption: 50 Watts Typical, Thermal: 170 BTU/Hr Typical, Operating Temperature 14°F (-10°C) to 104°F (40°C) Ambient Temperature RU size 1 RU, Width x Depth x Height Without rack-ears 17"W x 10.73"D x 1.72"H (43.2cmW x</p>	
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		27.3cmD x 4.4cmH), With rack-ears 19"W x 10.73"D x 1.72"H (48.3cmW x 27.3cmD x 4.4cmH), Unit Weight: 9.3 lbs (4.2 kg) (Approximately) with standard accessories	
15	Professional Audio Power Amplifier	4 Channel x 60 Watts, high-efficiency Class-D power audio amplifier for reliable amplification with professional sound quality for Conferencing, Sound reinforcement, Streamed audio, Presentation audio, Background music, Sound masking, Zone amplification and distribution applications along with mounting accessories. Should work with any third-party mixer, 4/8W speaker output, 70V/100V Constant Voltage output*, 4 x 60W output in Normal mode, 2 x 120W output in Bridged Mode, Compact form-factor, half-rack size, fan-less unit, Efficient power consumption with auto-standby mode, Ease of installation with software-free, plug-and-play configuration, Control and protection options with LED indicators, Inputs & Outputs Inputs, 4 Channel, Balanced audio input, 3.81mm Green Phoenix/Euroblock type male header, Push-on mini-terminal block, Outputs 4 Channel, Balanced audio output, 5.08mm Black Phoenix/Euroblock type male header, Push-on mini-terminal block Input Sensitivity 20Hz - 22kHz @ 0dBu Output Modes 4/8W and 70.7V/100V Max Rated Output: 4 x 60W @ sensitivity, in 4/8Ω Max Rated Output, Bridged: 2 x 120W @ sensitivity, in 4/8Ω mode Max Rated Output, Bridged: 2 x 120W @ sensitivity, in 70.7V/100V mode Frequency Response: 20Hz - 22KHz (+/- 1dB) THD+N: 20Hz - 22kHz @ rated power, 4/8W, <0.08% Dynamic Range: 20Hz - 20kHz @ 0dB, >100dB, 8W, unweighted Control Slide Switches Single End, Bridged mode 70.7V mode 100V mode HPF mode @ 80Hz Potentiometer Adjustable: 0 to max @ rated power Front Panel LED Indicators POWER Power status indicator Blue light indicates power on CLIP Clip status indicator Red light indicates clip status due to Input is too high, signal clip Output peak detected SIGNAL PRESENT Signal indicator Blue light indicates signal is present or passing out Standby, Standby mode status indicator Yellow light indicates Standby mode Standby mode enables when no audio is present. The amplifier first enters Mute mode at 2 minutes, then into Standby mode at 10 minutes, LIMIT: Limit indicator Red light indicates gain reduction activation PROTECT/DISABLE Protection or Disable status indicators Red light indicates Disabled/Mute/Protection mode Mute mode enables when no audio is present for 2 minutes Protection mode enables when temperature exceeds 185°F (85°C) Power & Thermal Power Consumption: 42W Typical, Pink Noise @ 0 dBu, 8Ω Power Supply: AC input 100-240VAC, 50Hz/60Hz Thermal: 143 BTU/Hr Typical Temperature 14°F to 104°F* (-10°C to 40°C*) (Ambient temperature), Mounting Size 1 RU for up to two units with Rack Mounting Kit with standard accessories	02
16	Ceiling Speaker	2 X 6Inch Ceiling Taps & Tile Bridge Speaker Type 2-way, ceiling speaker with metal back can, Frequency Range: 65 Hz to 20 kHz Power Handling: 60 Watts RMS, 120 Watts Peak Nominal Sensitivity: 88 dB, 1W @ 1m Nominal Impedance, 8 Ohms	06

		Transformer Taps 70V – 30W, 15W, 7.5W, 3.8W, 1.9W 100V – Null, 30W, 15W, 7.5W, 3.8W Woofer 6.5” (165mm) poly-propylene cone with moisture resistant coating Tweeter ¾” (19mm) silk dome Overload Protection Full range power limiter with the 8-ohm direct input only, protecting the tweeter, woofer and crossover with standard accessories	
17	USB Expander	<p>USB Expander expands the USB Audio capability to connect mixer by providing an additional USB audio interface with 2x2 channels, device enables users in different rooms to run UC applications in laptops for a professional quality audio experience using a simple, flexible USB connection, USB expander can be daisy-chained with other P-Link peripheral devices, USB Audio + 2 x 2 channels: Tx X Rx, with left & right channels + Professional quality digital audio: 48 kHz, 24 bit + USB 3.0 and USB 2.0 ports compatible + Windows/Mac compatible Applications + Unified Communication (UC) + Video Conferencing (VC) + Audio Playback + Audio Recording, Direct connection to DSP, Microphone Array 2, and Wireless Receiver + P-Link for power, audio, control from DSP + PoE Injector for power + RS-232 connection for control interface + USB connection for audio Form Factor & Mounting, USB AUDIO Port Type: USB-B Connector Audio: Digital audio, 2 x 2 bidirectional channels Sample Rate: 48 kHz Sample Bit Depth: 24 Bit Compatible: USB 2.0, USB 3.0 USB Cable Distance: 16 feet (5 meters) Compatible: Windows & Mac OS devices P-LINK PERIPHERAL BUS Ports Type: RJ-45 (Cat5e or Cat6) P-Link In & Out: Proprietary Peripheral Bus PoE In: P-Link In Port, PoE 802.3af Mode B, Midspan, Power on “spare pairs” 4,5 and 7,8, Input voltage range: 48V to 56V Audio: Up to 3 USB Expander units + Beamforming Microphone Array 2 units + up to 3 Wireless Receiver units Cable: Solid core 24AWG, factory terminated Cat 5e or Cat 6 cable Distance: Up to 200 feet (60 meters) Daisy-chain: Up to 3 USB Expanders with each DSP unit, Up to 3 Microphone Array 2 units and up to 3 Wireless Receiver units along with up to 3 USB expander units with each supported DSP unit in the same chain Up to 6 USB Expander units in the same chain with 2 supported DSP units connected through C-Link RS232 Type: 3 Position (Tx, Rx, Gnd) 3.81mm Grey Header, Male, Phoenix type Euroblock connectors Support: Serial commands Connection: Connect with Touch Panel Controller, third-party control devices POWER SELECTION SWITCH Sensor Type: Slide Switch Toggle toward P-Link to power device by P-Link Toggle toward PoE to power device by PoE Injector PoE In PORT: Port Type: RJ-45 port PoE: 802.3af or 802.3at PoE/PoE+ injector input Configuration & Administration Software</p>	01
18	PoE Power Supply Kit	36W PoE+ power supply kit - Includes 1 x 36 Watt PoE+ Injector, 2 x 25 ft CAT6 cables for connect upto 3 peripheral devices	01

19	Control Processor System	<p>Control Engine , preemptive multi-threaded / multitasking kernel; supports up to 10 simultaneously running programs</p> <p>Communications Ethernet 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, SNMP, SSH, SFTP (SSH File Transfer Protocol), FIPS 140-2 compliant encryption, IEEE 802.1xX, SNMP, BACnet and IP1, IPv4 or IPv6, Active Directory service authentication, HTTPS web server, HTTPS web browser setup and Cloud client*, SMTP email client, Control Subnet 100/1000 Mbps Ethernet, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP server, DNS server, port forwarding, isolation mode, IEEE 802.3at Type 1 compliant PoE PSE, USB Supports USB mass storage class devices via the rear panel USB 2.0 host port, supports computer console via the front panel USB 2.0 device port, RS-232/422/485 For 2-way device control and monitoring, COM port supports RS-232 up to 115.2k baud with software handshaking, one port also supports RS-422 or RS-485 and hardware handshaking, IR/Serial Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS- 232 (0-5V) up to 115.2k baud, Memory SDRAM 2 GB, Flash 8 GB, Memory Card Supports SD and SDHC cards up to 32 GB, External Storage Supports USB storage devices up to 1 TB, I/O 1-8 (1) 9-pin 3.5 mm detachable terminal block Comprises (8) Versiport digital input/output or analog input ports (referenced to GND); Digital Input: Rated for 0-24VDC, input impedance 20k Ω, logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250 mA sink from maximum 24VDC, catch diodes for use with real world loads; Analog Input: Rated for 0-10VDC, protected to 24VDC maximum, input impedance 21k Ω with pull-up resistor disabled; Programmable 5V, 2k Ω pull-up resistor per pin, NET (1) 4-pin 3.5 mm detachable terminal block; C master port; Outputs power to C devices; Alternately functions as a C power input to power the unit from a C power supply; See "Power" section below for additional details, IR - SERIAL OUTPUT 1-8 (2) 8-pin 3.5 mm detachable terminal blocks; Comprises (8) IR output ports; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0-5V) up to 115.2k baud; IRP2 IR emitters sold separately RELAY OUTPUT 1-8 (2) 8-pin 3.5 mm detachable terminal blocks; Comprises (8) normally open, isolated relays; Rated 1 A, 30VAC/VDC; MOV arc suppression across contacts PoE+ INPUT POWER (1) Combo D-Sub 7w2 connector, male; 54VDC power input for PoE+ power supply; Enables PoE+ power sourcing on the CONTROL SUBNET ports CONTROL SUBNET (4) 8-pin RJ-45 connectors, female; 100BASE-TX/1000BASE-T Ethernet port; PoE+ PSE (Power Sourcing Equipment) port; Provides a dedicated local network for devices LAN (1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port; USB (1) USB Type A</p>	03
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		connector, female; USB 2.0 port for storage devices MEMORY (1) SD memory card slot; Accepts one SD or SDHC card up to 32 GB for storage of log files, Slot 1-3, Modular Programming & Management Architecture, Enterprise-Grade Security, Monitoring and Scheduling, Integration 3 rd party , Main Power 2.4A @ 100-240VAC, 50/60Hz Power 75W (3.125A @ 24VDC) Power over Ethernet Plus (PoE+) IEEE 802.3at compliant PoE+ PSE (Power Sourcing Equipment); 120W total power; Each CONTROL SUBNET port supplies up to 30W to power one PoE+ (Class 4) PD (Powered Device) with standard accessories	
20	Control Cards	Control card that provides three COM ports, Each COM port supports bidirectional RS-232, RS-422, or RS-485, card is designed to install in a control card expansion slot, RS-232/422/485: For 2-way device control and monitoring, COM 1 - 3: (3) 5-pin 3.5mm detachable terminal blocks, Bidirectional RS-232/422/485 ports [2]; Up to 115.2k baud; hardware and software handshaking support, Temperature: 41° to 113°F (5° to 45°C) Humidity: 10% to 90% RH (non-condensing) Heat Dissipation: 4 BTU/Hr	01
21	Expansion Cards	Control card that provides sixteen I/O ports. Each I/O port can function as a 0-10V analog input, a digital logic sensing input, or a digital logic output. The card is designed to install in a control card expansion slot of Control System (2) 9-pin 3.5mm detachable terminal blocks comprising (16) "Versiport" digital input/output or analog input ports (referenced to GND); Digital Input: Rated for 0-24 Volts DC, input impedance 20k Ohms, logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250mA sink from maximum 24 Volts DC, catch diodes for use with "real world" loads; Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 21k Ohms with pull-up resistor disabled; Programmable 5 Volts, 2k Ohms pull-up resistor per pin	08
22	Control Processor Card Interface	Accepts up to three 3-Series® Control Cards Provides control port expansion for any Control System, External power pack included Single-space 19-inch rack-mountable can be installed with the control system at the central equipment cabinet or located remotely near the device(s) under control. It can be placed on a shelf or rack-mounted using the rack ears included. It interfaces with the control system via Ethernet. support bidirectional RS-232, 422, or 485; IR or 1-way serial; 0-10V analog inputs; digital logic inputs or outputs; and low-voltage relay outputs. ^[1]	02
23	Expansion Slot Cage	Control Card Expansion Cage for AV4	01
24	PoE Injector	802.3af compliant Power over Ethernet (PoE) power source designed to support PoE powered devices Wireless Access Point, Standards-based Power over Ethernet affords a one-wire solution for connecting Ethernet devices, delivering power and data over a single CAT5/6 network cable, no need to install a separate power supply at the device location, can simply be mounted at any convenient location up to 100 meters (328 feet)	02

		from the device, Specifications Output Rating 350 mA maximum @ 48 Volts DC nominal: Power Requirements 100-250 Volts AC, 50/60 Hz Connectors LAN: (1) 8-wire RJ45, female, 10BaseT/100BaseTX Ethernet port, LAN PoE: (1) 8-wire RJ45, female; Main Power Input: (1) IEC 320 C14 socket; LED Indicators POWER: (1) Tri-color LED; Amber indicates power is available, but no device is connected; Green indicates a PoE device is connected and drawing Power with standard accessories	
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25	Touch Screen	<p>10.1 in. Wall Mount Touch Screen, Black Smooth with Multisurface Mount Kit as required</p> <p>Next generation touch screen, 10.1 in. (257 mm) widescreen active-matrix color display and 1920 x 1200 WUXGA display resolution, Display Type TFT active-matrix color LCD Size 10.1 in. (257 mm) diagonal, Aspect Ratio 16:10 WUXGA Resolution 1920 x 1200 pixels, Brightness 400 nits (cd/m²) Contrast 1000:1 Color Depth 24 bit, 16.7M colors Illumination Edgelit LED with auto brightness control Viewing Angle $\pm 80^\circ$ horizontal, $\pm 80^\circ$ vertical, Touch Screen Projected capacitive, 5-point multitouch Capable, Virtual Buttons (6) Virtual buttons in collapsible universal tool bar, per-button show/hide, preconfigured with icons for Power, Home, Lights, Up, Down, and Microphone, optional custom programming via control system for additional functions, Reset (1) Pin hole on rear panel for hardware reset, Ethernet 100 Mbps, auto switching, auto negotiating, auto discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), IEEE 802.1X, NMP, IPv4 or IPv6, Active Directory® service authentication, HTTPS web browser setup, IEEE 802.3at compliant, USB 2.0 host for room scheduling Accessories, Wireless Communications Transceiver IEEE 802.11a/b/g/n/ac Wi-Fi (2.4 or 5 GHz 2-way RF), static IP or dynamic IP via DHCP Security 64 and 128-bit WEP, WPA and WPA2-PSK with TKIP and AES Range Up to 50 ft (15 m), subject to site-specific conditions Bluetooth® Hardware device Bluetooth beacon2,8, Streaming Decoder Video Formats H.265, H.264 (MPEG-4 part 10 AVC, MJPEG) Audio Formats AAC Stereo Bitrates Up to 25 Mbps (20 Mbps maximum recommended) Input Resolutions Up to 1920x 1080 @30fps Protocol RTSP Audio Features Built-in microphone and speakers, Rava® SIP Intercom, voice recognition1,2 Audio Feedback Formats MP3 Connectors LAN PoE (1) 8-pin RJ45 connector, female, with 2 LED indicators; 100BASE-TX Ethernet port; PoE+ PD port; Green and yellow LEDs indicate Ethernet port status USB (2) USB Type A</p>	02
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		connectors, female; USB 2.0 host ports; For optional room scheduling accessories ³ , Memory RAM 2 GB LPDDR3 Storage Firmware/Application: 16 GB eMMC pSLC Maximum Project Size 600 MB with Surface mounting Peel-and-stick adhesive mounting to glass or other flat, smooth surface, Capacitive touch screen display Custom-programmable virtual control buttons, Supports HTML5 and Smart Graphics® software custom user projects, Built-in Rava® SIP intercom, Built-in speakers and microphone, H.265, H.264, or MJPEG streaming video display Native apps for OS, sound control, Zoom Rooms™ conferencing control, Microsoft Teams® online meeting solution, and various room, scheduling services Built-in Bluetooth® communications beacon, Built-in web browsing, Single wire Ethernet connection with PoE or PoE+ power, Wi-Fi® network connectivity, Dual USB 2.0 ports for room availability accessories, Enterprise grade security and authentication, Web, cloud, or device-based configuration, capacitive touch screen display with custom-programmable control buttons and support for Smart Graphics® software and HTML5-based custom UI projects. PoE and Wi-Fi® network connectivity and a comprehensive assortment of mounting & Standard accessories	
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26	Multimedia Projector	<p>4K Laser Projector</p> <p>Display Display System 4K SXRD panel, projection system</p> <p>Display Resolution 720 x 576/50p, 720 x 480/60p, 1280 x 720/50p, 1280 x 720/60p, 1920 x 1080/50i, 1920 x 1080/60i, 1920 x 1080/24p, 1920 x 1080/50p, 1920 x 1080/60p, 3840 x 2160/24p, 3840 x 2160/25p, 3840 x 2160/30p, 3840 x 2160/50p, 3840 x 2160/60p, 4096 x 2160/24p, 4096 x 2160/25p, 4096 x 2160/30p, 4096 x 2160/50p, 4096 x 2160/60p</p> <p>Light source High-pressure mercury lamp, 225 W type</p> <p>Picture processor X1™ for projector</p> <p>General Features EFFECTIVE DISPLAY SIZE 0.74" x 3</p> <p>Effective pixels 26,542,080 (4096 x 2160 x 3) pixels</p> <p>Projection lens shift</p>	01
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		<p>Vertical: +85% -80% Horizontal: +/-31%</p> <p>Throw ratio 1.38 : 1 to 2.83 : 11</p> <p>Hardware Projection lens zoom / focus Powered (Approx. x2.06)</p> <p>Interface Input and Output Terminals HDMI (2 INPUTS)2 - Digital RGB/Y Pb/Cb Pr/Cr, IR IN - Minijack, LAN - RJ45, 10Base-T/100BASE-TX, REMOTE - RS-232C, D-sub 9-pin (male), TRIGGER - Minijack, DC 12 V Max. 100 mA, USB - DC 5 V, Max. 500 mA</p> <p>Operating Conditions Operating temperature / humidity 41 °F to 95 °F (5 °C to 35 °C)/35% to 85% (no condensation)</p> <p>Storage temperature / humidity -4°F to +140°F (-20°C to +60°C)/10% to 90% (no condensation)</p> <p>Power Acoustic noise 26 dB3</p> <p>Power Requirement AC100 V to 240 V, 4.0 A to 1.7 A, 50/60 Hz</p> <p>Power Consumption 390 W</p> <p>Video Features Light Output 1500 lm (Lamp mode: High)4</p> <p>Color Light Output 1500 lm (Lamp mode: High)4</p> <p>Eco and energy saving Power Consumption (Standby Mode) 0.4 W (When "Remote Start" is set to "Off")</p> <p>Power Consumption (Networked Standby Mode) 1.0 W (LAN) (When "Remote Start" is set to "On") When a LAN terminal is not connected, it becomes a low power consumption mode (0.5 W).</p> <p>ALONG WITH PROJECTION SCREEN, ALL CABLES, MOUNTING AND ALLIED ACCESSORIES.</p>	
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		<p style="text-align: center;">OR</p> <p>PROJECTION SYSTEM Display Type DLP Native Resolution 4K UHD (3840 x 2160)* Upscaling / Super Resolution Yes Resolution 4K Projection size (Screen Size) 40" ~ 300" Projection Image 150"@14.1 ~ 22.6ft, 100"@9.5 ~ 15ft, 40"@3.6 ~ 5.9ft Aspect Ratio 16:9/Original/Full Wide/4:3/Vertical Zoom Optical Zoom x 1.6 Iris Yes Adaptive Contrast Yes Lens Shift Vert ± 60% Horiz ± 24% Focus (Auto / Manual) Manual Throw Ratio 1.3 - 2.08 Projection Offset 0% (+110% ~ -110%) Brightness (ANSI Lumen) Up to 2700 ANSI Lumens** Contrast Ratio 2,000,000:1 Light Source Dual Laser (R LD, B LD + G Phosphor) Light Source Life Up to 20,000 Hrs Noise (Eco / Nrmal / High brightness) 26/27/28dB (A) HDCP HDCP2.2 (HDCP 2.3 Compatible) Trumotion Yes HDR HDR10, HLG Digital Keystone Correction Manual Keystone (Vertical)* 4K UHD resolution with 8.3 million discrete pixels projected by XPR (Expanded Pixel Resolution) video processing</p> <p>CONNECTIVITY/WIRELESS Bluetooth (with Speaker) Yes Screen Share / Screen Mirroring (with Miracast supporting device) Yes Wireless Contents Share (with DLNA supporting device) Yes Apple Airplay Yes AUDIO Bluetooth® Sound Out Yes Built-in Speakers 10W (5W+5W Stereo) Bluetooth AV Sync Adjustment Yes Dolby Atmos compatible Yes WiSA Ready (Dognle) Yes (Up to 5.1Ch) INPUTS/OUTPUTS Audio out S/PDIF 1 (Optical) HDMI™ 3 (HDMI2.1* : 1EA/HDMI2.0 : 2EA) USB Type A 2 (USB2.0) RS-232C Yes RJ45 112V Trigger Yes HID (Keyboard/Mouse/GamePad Connection Thru USB) Yes IP Control Yes</p> <p>POWER Power Supply (Voltage/Hz) 100V - 240 V @ 50~60 Hz (PSU Built-in) Power Consumption 300W</p>	
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		<p>Standby Mode <0.5W ACCESSORIES/MANUAL Remote Control 1 Magic Remote (Backlit, Battery included) Manual Simple Book Warranty Card Yes Adaptor (PSU built-in) Power Cord Yes</p> <p>ALONG WITH PROJECTION SCREEN, ALL CABLES, MOUNTING AND ALLIED ACCESSORIES.</p> <p>OR</p> <p>Projection System 3LCD Technology, RGB liquid crystal shutter LCD Panel 0.74 inch with C2 Fine Color Light Output 2,700 Lumen White Light Output 2,700 Lumen Resolution 4K PRO-UHD, 16:9 High Definition 4K enhancement Aspect Ratio 16:9 Contrast Ratio 2,500,000 : 1 Light source Laser Laser Light source 80 mW 20,000 hours Durability High, 20,000 hours Durability Medium, 20,000 hours Durability Eco Keystone Correction Manual vertical: $\pm 30^\circ$, Manual horizontal $\pm 30^\circ$ Colour Video Processing 10 Bits 2D/3D Frequency Image 384 Hz / 480 Hz 2D Vertical Refresh Rate 384 Hz - 480 Hz Colour Reproduction Upto 1.07 billion colours Throw Ratio 1.35 - 2.84:1 Zoom Motorized, Factor: 1 - 2.1 Lens Shift Motorized - Vertical $\pm 96.3\%$, horizontal $\pm 47.1\%$ Lens position memory 10 positions</p>	
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		<p>Screen Size 50 inches - 300 inches</p> <p>Projection Distance Wide/Tele 3 m - 6.4 m (100 inch screen)</p> <p>Projection Lens F Number 2 - 3</p> <p>Projection Lens Focal Length 22.5 mm - 46.7 mm</p> <p>Projection Lens Focus Motorized</p> <p>Interfaces USB 1.1 Type A (2x), USB 2.0 Type Mini-B, RS-232C, Wired Network, Trigger out, HDMI ARC, HDMI (HDCP 2.3) (2x)</p> <p>Security Kensington lock</p> <p>3D No</p> <p>2D Colour Modes Dynamic, Natural, Cinema, Bright Cinema</p> <p>Other features 4K enhancement, Digital zoom, Frame interpolation, Horizontal and vertical keystone correction, ISF certification, Instant on/off, Lens position memory, Long light source life, Quick Corner, Super resolution</p> <p>Video Color Modes Cinema, Dynamic, Natural, Bright Cinema</p> <p>Projector control via: Crestron Integrated Partner, AMX Device Discovery, Control4 Simple Device Discovery Protocol</p> <p>Power consumption 302 Watt, 198 Watt (economy), 0.4 Watt (standby)</p> <p>Heat Dissipation 1,026.8 BTU/hour (max)</p> <p>Supply Voltage AC 100 V - 240 V, 50 Hz - 60 Hz</p> <p>Noise Level Normal: 30 dB (A) - Economy: 22 dB (A)</p> <p>Supported Temperature Operation 5° C - 35° C, Storage -10° C - 60° C</p> <p>Supported Humidity Operation 20% - 80%, Storage 10% - 90%</p> <p>ALONG WITH PROJECTION SCREEN, ALL CABLES, MOUNTING AND ALLIED ACCESSORIES.</p>	
27	LED 65 inch	4K 65 inches smart LED screens with Wi-Fi, stands, mounts, fixtures, cables and wires.	04
28	Projection Screen	Electric Remote-Control Size 398 x 228 cm (180") (W 13'1" x H 7'6") 3D Metal, Aspect Ratio 16:9	01
29	UPS	Online double conversation 10KVA/10KW rack/ tower convertible backup time 15 minutes at full load efficiency up to 98% . brand USA ,EU, Japan	01

30	HDMI Cable	4K High Speed HDMI AOC Fiber Optic Cable, HDMI version 2.0b - 18 Gbps for resolutions up to 4K UltraHD 60Hz, Gold plated precision contacts, EMI resistance, low attenuation, HDMI-A male to HDMI-A male, full-metal housing Hybrid cable - Fiber for A/V; copper for power & data, Ø 4.5mm, AOC technology - no external power supply, Connector material Metal / Plastics, Contact material gold-plated, long-life design, Connector 1, 2 HDMI-A male (19pin), Electric Signals Integrated Hybrid Fiber AOC, Digital Video Format HDMI 4K / UltraHD / 2160p @60Hz, Digital Audio Format Digital audio support, formats device dependant, Type Round, HDMI AOC, Supported Colors 16/24 bit RGB/YUV, Deep Color, x.v.Color™, Supported Audio Standard Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio™, SD Audio, etc., Standard Fiber / Copper Hybrid AOC, 100% free of EMI	50
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31	Speaker Cables	Speaker Cable OFC 2x2.50mm ² , (0.10mm), 100mtr HiFi speaker cable (99.99% Oxygen Free Copper OFC), Premium speaker cable: cross section (2 x 2.5mm ²) - ultra-fine strand structure (0.10mm diameter) - the perfect combination for minimal loss and maximum sound quality, Quality Extremely flexible cable - thanks to ultra-fine strands and flexible cable sheathing, Ideal for your HiFi components - perfect for amplifiers / power amps / loudspeakers, Transparent sheathing and blue polarity marking - ideal for self-assembly, thanks to meter marking with Connectors	17
32	Testing, Installing & configurations	27U Rack for Control System, DSP, Amplifier & Accessories of hardware, HDMI Matrix device for multiple cameras view, USB expender for controlling devices connection, Control Cards, Resident Engineer services for 6 months, Imported Cables, Connectors of equipment's (VGA, HDMI, Audio Cables), Brackets, mountings, Ducting, Piping Complete in all respects Integrate with exciting interpatient system for entire solution	Job
33	Supported Video Systems	Centrally Register and manage Video Conferencing Room Systems & Endpoint as a service Works with video conferencing systems (SIP/H.323 devices) Connect all video conferencing technology with a single solution. Support tools like Microsoft Teams, Google Hangouts Meet, or Skype for Business in the same workflow as meeting room systems and mobile, desktop, or web users	As Per Design

LOT-2: Interactive WiFi enabled Smart Screen with Camera, Speakers for video conferencing and allied accessories including stand, mount etc

S. No	Specification (Equivalent or better required)	Quantity
34	<p>86 inches Interactive WiFi enabled Smart Screen with Camera, Speakers for video conferencing and allied accessories including stand, mount etc</p> <ol style="list-style-type: none"> 1. Stylus (pen) 02 with every unit 2. Wall-mounted bracket with every unit 3. Rolling stand 01 for every unit 4. Network and Power cables with every unit 5. Touch tablet with every unit 6. CPU Dual-chip 4-core@1.5 GHz + 4-core@1.8 GHz 7. RAM 12GB 8. Flash 64GB 9. AI computing power 4T FLOPS 10. Screen Size 86 inches 11. Screen Backlighting type D-LED 12. Screen Resolution 4K 13. Screen Refresh Rate 60Hz 14. Screen Precision +-1mm 15. Screen Multi-touch 20 points 16. Screen Anti-reflection and glare shall be available 17. Adaptive Screen brightness feature shall be available 18. Camera Resolution 4K 30 frames per second 19. Auto Voice Tracking feature shall be available in the camera 20. Auto-framing feature shall be available in the camera 21. Ultra-wide angle of 80 degrees shall be available in the camera 22. The camera shall have the features of Anti-fog, dustproof and anti-flicker 23. The camera shall have a minimum of 2x digital/optical zoom 24. Speakers frequency domain of 100 H - 20 kHB 25. Number of speakers shall be atleast 04 per unit 26. Speakers shall have stereo audio 27. Sound pickup distance of microphones shall be 08 meters 28. Sound pickup angle of speakers shall be 180 degrees forward 29. Number of microphones shall be atleast 12 per unit 30. microphones frequency domain of 100 H - 20 kHB 31. Echo cancellation, noise suppression, auto gain control, and external microphones shall be available 32. Video input ports: 1 x built-in camera, 1 x HDMI (4K 30 fps), 1 x HDMI (4K 30 fps, external cameras), 1 x optional OPS input (4K 30 fps) 33. Video output ports: 1 x embedded monitor, 1 x HDMI (1080p 60 fps) 34. Audio input ports: <ul style="list-style-type: none"> 1 x built-in microphone array 1 x 3.5 mm LINE IN 1 x HD-AI 1 x OPS input (optional) 	05

	<p>1 x HDMI (audio input, conflicted with OPS)</p> <p>35. Audio output ports: 1 x built-in speaker 1 x 3.5 mm LINE OUT 1 x HDMI (audio output)</p> <p>36. The following ports shall also be available: 2 x USB 3.0 Type-A 1 x USB 2.0 Type-B 1 x RJ45 (10/100/1000 Mbit/s LAN) 1 x RJ45 (for Touch)</p> <p>37. Shall be WiFi enabled</p> <p>38. Rated operating voltage 100V ~ 240V AC</p> <p>39. Operating frequency 50Hz ~ 60Hz</p> <p>40. Max power 450 W</p> <p>41. Regulatory compliance with: CCC, CE (RoHS, REACH, and WEEE), VCCI, Network Access License of MIIT, and Radio Type Approval Certification</p> <p>42. Multimedia framework protocols: ITU-T H.323 and IETF SIP</p> <p>43. Audio codec protocols: AAC-LD mono/stereo, G.711A, G.711U, G.722, G.722.1C, and OPUS</p> <p>44. Video codec protocols: H.265, H.264 SVC, H.264 HP, and H.264 BP</p> <p>45. Network transmission protocols: TCP/IP, RTP, RTCP, DHCP, DNS, SMTP, SNMP, SNTP, Telnet, SSH, HTTP, HTTPS, and TR-069</p> <p>46. Dual-stream protocols: ITU-T H.239 and BFCP</p> <p>47. Communications Protocols: H.225, H.235, H.241, H.245, H.281, H.460, RFC2833, LDAP, and LDAPS</p> <p>48. WiFi: IEEE 802.11 a/b/g/n/ac/w, IEEE 802.1x, WPA2, Wi-Fi AP, and station mode</p> <p>49. IP Protocols stacks supported: IPv4 and IPv6 dual stack</p> <p>50. Conferencing mode shall support native conferencing</p> <p>51. Shall support H.265 1080p hardware codec</p> <p>52. Video resolutions supported shall be: Min. H.264 bandwidth 1080p 30 fps Min. bandwidth: 512 Kbit/s 720p 60 fps Min. bandwidth: 768 Kbit/s 720p 30 fps Min. bandwidth: 384 Kbit/s Min. H.265 bandwidth 1080p 30 fps Min. bandwidth: 384 Kbit/s 720p 60 fps Min. bandwidth: 512 Kbit/s 720p 30 fps Min. bandwidth: 256 Kbit/s</p> <p>53. Content resolutions supported shall be: Input: 1920 × 1080 24/25/30/50/60 fps 1920 × 1200 60 fps 3840 × 2160 25/30/50/60 fps Output: 1920 × 1080</p>	
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	<p>3840 × 2160 Codec resolutions: 1080p (1920 x 1080) 1920 x 1200 4K (3840 x 2160)</p> <p>54. Dual-stream resolution shall be the following: Video conferencing: 1080p 30 fps + 1080p 30fps 1080p 30 fps + 4K 8 fps Data conferencing: 1080p 30 fps 4K 8 fps</p> <p>55. Artificial Intelligence driven support of the following: Speaker tracking, Acoustic baffle, and Auto-Framing</p> <p>56. Shall support the following security features: Embedded encryption chip that supports H.235, STARTTLS, TLS, SRTP encryption,</p> <p>57. Shall support screen projection from laptops, tablets, mobile phones etc and any allied accessories and softwares including lifetime licenses shall be included</p> <p>58. Installation, fixtures and transportation without any damage to the premises shall be the responsibility of the vendor - any damage shall be the sole liability of the vendor</p> <p>59. The quoted and supplied items shall have a verifiable date of manufacturing during the year 2021. Old manufactured models shall not be considered and such bids shall stand NOT ELIGIBLE.</p>	
35	<p>65 inches Interactive WiFi enabled Smart Screen with Camera, Speakers for video conferencing and allied accessories including stand, mount etc</p> <ol style="list-style-type: none"> 1. Stylus (pen) 02 with every unit 2. Wall-mounted bracket with every unit 3. Rolling stand 01 for every unit 4. Network and Power cables with every unit 5. Touch tablet with every unit 6. CPU Dual-chip 4-core@1.5 GHz + 4-core@1.8 GHz 7. RAM 12GB 8. Flash 64GB 9. AI computing power 4T FLOPS 10. Screen Size 65 inches 11. Screen Backlighting type D-LED 12. Screen Resolution 4K 13. Screen Refresh Rate 60Hz 14. Screen Precision +-1mm 15. Screen Multi-touch 20 points 16. Screen Anti-reflection and glare shall be available 17. Adaptive Screen brightness feature shall be available 18. Camera Resolution 4K 30 frames per second 19. Auto Voice Tracking feature shall be available in the camera 20. Auto-framing feature shall be available in the camera 	02

	<p>21. Ultra-wide angle of 80 degrees shall be available in the camera</p> <p>22. The camera shall have the features of Anti-fog, dustproof and anti-flicker</p> <p>23. The camera shall have a minimum of 2x digital/optical zoom</p> <p>24. Speakers frequency domain of 100 H - 20 kHB</p> <p>25. Number of speakers shall be atleast 04 per unit</p> <p>26. Speakers shall have stereo audio</p> <p>27. Sound pickup distance of microphones shall be 08 meters</p> <p>28. Sound pickup angle of speakers shall be 180 degrees forward</p> <p>29. Number of microphones shall be atleast 12 per unit</p> <p>30. microphones frequency domain of 100 H - 20 kHB</p> <p>31. Echo cancellation, noise suppression, auto gain control, and external microphones shall be available</p> <p>32. Video input ports: 1 x built-in camera, 1 x HDMI (4K 30 fps), 1 x HDMI (4K 30 fps, external cameras), 1 x optional OPS input (4K 30 fps)</p> <p>33. Video output ports: 1 x embedded monitor, 1 x HDMI (1080p 60 fps)</p> <p>34. Audio input ports:</p> <ul style="list-style-type: none"> 1 x built-in microphone array 1 x 3.5 mm LINE IN 1 x HD-AI 1 x OPS input (optional) 1 x HDMI (audio input, conflicted with OPS) <p>35. Audio output ports:</p> <ul style="list-style-type: none"> 1 x built-in speaker 1 x 3.5 mm LINE OUT 1 x HDMI (audio output) <p>36. The following ports shall also be available:</p> <ul style="list-style-type: none"> 2 x USB 3.0 Type-A 1 x USB 2.0 Type-B 1 x RJ45 (10/100/1000 Mbit/s LAN) 1 x RJ45 (for Touch) <p>37. Shall be WiFi enabled</p> <p>38. Rated operating voltage 100V ~ 240V AC</p> <p>39. Operating frequency 50Hz ~ 60Hz</p> <p>40. Max power 450 W</p> <p>41. Regulatory compliance with: CCC, CE (RoHS, REACH, and WEEE), VCCI, Network Access License of MIIT, and Radio Type Approval Certification</p> <p>42. Multimedia framework protocols: ITU-T H.323 and IETF SIP</p> <p>43. Audio codec protocols: AAC-LD mono/stereo, G.711A, G.711U, G.722, G.722.1C, and OPUS</p> <p>44. Video codec protocols: H.265, H.264 SVC, H.264 HP, and H.264 BP</p> <p>45. Network transmission protocols: TCP/IP, RTP, RTCP, DHCP, DNS, SMTP, SNMP, SNTTP, Telnet, SSH, HTTP, HTTPS, and TR-069</p> <p>46. Dual-stream protocols: ITU-T H.239 and BFCP</p> <p>47. Communications Protocols: H.225, H.235, H.241, H.245, H.281, H.460, RFC2833, LDAP, and LDAPS</p>	
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	<p>48. WiFi: IEEE 802.11 a/b/g/n/ac/w, IEEE 802.1x, WPA2, Wi-Fi AP, and station mode</p> <p>49. IP Protocols stacks supported: IPv4 and IPv6 dual stack</p> <p>50. Conferencing mode shall support native conferencing</p> <p>51. Shall support H.265 1080p hardware codec</p> <p>52. Video resolutions supported shall be: Min. H.264 bandwidth 1080p 30 fps Min. bandwidth: 512 Kbit/s 720p 60 fps Min. bandwidth: 768 Kbit/s 720p 30 fps Min. bandwidth: 384 Kbit/s Min. H.265 bandwidth 1080p 30 fps Min. bandwidth: 384 Kbit/s 720p 60 fps Min. bandwidth: 512 Kbit/s 720p 30 fps Min. bandwidth: 256 Kbit/s</p> <p>53. Content resolutions supported shall be: Input: 1920 × 1080 24/25/30/50/60 fps 1920 × 1200 60 fps 3840 × 2160 25/30/50/60 fps Output: 1920 × 1080 3840 × 2160 Codec resolutions: 1080p (1920 x 1080) 1920 x 1200 4K (3840 x 2160)</p> <p>54. Dual-stream resolution shall be the following: Video conferencing: 1080p 30 fps + 1080p 30fps 1080p 30 fps + 4K 8 fps Data conferencing: 1080p 30 fps 4K 8 fps</p> <p>55. Artificial Intelligence driven support of the following: Speaker tracking, Acoustic baffle, and Auto-Framing</p> <p>56. Shall support the following security features: Embedded encryption chip that supports H.235, STARTTLS, TLS, SRTP encryption,</p> <p>57. Shall support screen projection from laptops, tablets, mobile phones etc and any allied accessories and softwares including lifetime licences shall be included</p> <p>58. Installation, fixtures and transportation without any damage to the premises shall be the responsibility of the vendor - any damage shall be the sole liability of the vendor</p> <p>59. The quoted and supplied items shall have a verifiable date of manufacturing during the year 2021. Old manufactured models shall not be considered and such bids shall stand NOT ELIGIBLE.</p>	
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LOT-3: SMD Displays

36	<p>SMD Display with the following specification</p> <p>139.52 ft² 2.5 mm, Screen Size: 15.75 * 8.86 = 139.52ft², Screen Resolution: 1920 * 1080 wall mounted bracket 139.52 ft² Each LED display unit used in the screen can support 3840 * 1080 or 1920 * 2160 pixels Should be with LED Controller and the LED display and LED controller shall be from the same manufacturer/brand. The LED controller and quantity shall be according to the requirements of the Procuring Agency for the quantity of displays required LED front maintenance tool Area 0.2592 m² Cabinet Flatness 0.1 mm Cabinet Material Die-cast aluminum Dimensions (W × H × D) 480 mm x 540mm x 54 mm (18.90" × 21.26" × 2.12") Maintenance Method Front maintenance for all components Modules Component 2 x 2 Pixel Configuration SMD 3-in-1 LED Pixel Density 160000 dots/m² Pixel Pitch 2.5 mm Pixel Pitch Category P2.5 Protection Level Front protection level IP5X Resolution 192 x 216 Average Consumption < 200 W/m² Max Consumption ≤ 600 W/m² Power Supply 110~220 VAC ± 15% Display Brightness Uniformity ≥ 97 Color Temperature 3000 K to 10000 K adjustable Color Uniformity ≤ ± 0.003CxCy Contrast Ratio ≥ 5000:1 Viewing Angle Horizontal 160°, vertical 160° White Balance Brightness 800 cd/m² Processing Performance Display Color 281 trillion Driving Method Constant current driving Frame Frequency 60 Hz Grey Level 16 bit Refresh Rate 3840 Hz Lifespan Lamp 100,000 hours Working Environment Storage Humidity 10%~85%RH Storage Temperature -20~60 Working Humidity 10%~85%RH Working Temperature -10-40 LED Controller as compatible and required LED Controller interface:</p>	03
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<p>Interface</p> <p>Video & Audio Input 2 × HDMI, 1 × DP, 1 × DVI</p> <p>Video & Audio Output 1 × HDMI</p> <p>Network Interface 8</p> <p>Control Interface RJ45 × 1</p> <p>Processing Performance</p> <p>Max. Load Capacity 5 MP</p> <p>Frame Frequency 50/60 Hz</p> <p>Refresh Rate 3840 Hz</p> <p>Processing Depth 8 bit</p> <p>Grey Level 16 bit</p> <p>Display Color 281 trillion</p> <p>Brightness Control 1 to 10 levels adjustable (gradual white balance)</p> <p>Max. Resolution of Bar Display 5000 × 256 pixels</p> <p>Power</p> <p>Max. Consumption 40 W</p> <p>Average Consumption 13.3 W</p> <p>Input Voltage 100~240 VAC</p> <p>Working Environment</p> <p>Working Temperature 0 °C to 40 °C (32 °F to 104 °F)</p> <p>Working Humidity 10% to 80%</p> <p>Storage Temperature -10 °C to 60 °C (14 °F to 140 °F)</p> <p>Storage Humidity 10% to 80%</p> <p>Two compatible SDI distributors (04 output) connect video signals from the existing professional telecasting system with the SMDs inside the National Assembly.</p> <p>The quoted and supplied items shall have a verifiable date of manufacturing during the year 2021. Old manufactured models shall not be considered and such bids shall stand NOT ELIGIBLE.</p>	
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D) Installation, Configuration and Commissioning:

The bidder shall be responsible for timely supply of equipment, installation, configuration and commissioning of the equipment.

E) Training:

The bidder shall be responsible for conducting training of staff as specified by the Procuring Agency. There shall be a session of 'Train the Trainers' where specific focus shall be on the hands-on training of specified staff of the Procuring Agency.

F) Repairs, Trouble-Shooting and Warranty replacement:

The bidder shall be responsible for repair and maintenance issues that may arise during the first two years after installation. Trouble-shooting of software components, hardware components shall be provided by the bidder with a turn-around time of less than 24 hours through a dedicated resource. The bidder shall be responsible for claiming warranty and replacing any items during its warranty period if there is any need for replacement as specified by the Procuring Agency.

19. ANNEX-B

FORM OF FINANCIAL BID (Amount in PKR)

According to the Clause 30, sub-clause (2) of PPRA Rules, 2004, the following shall be observed while submitting the financial bids:

S.No	Item Description	Quantity	Unit Price	Total Amount WITHOUT Tax	Admissible Tax as per law	Total Amount WITH Tax
LOT-1						
1	Video Conferencing Codec <i>As per specification in Annex-A of the tender document</i>	01				
2	Full HD PTZ Camera <i>As per specification in Annex-A of the tender document</i>	03				
3	3.0 USB Cable <i>As per specification in Annex-A of the tender document</i>	02				
4	USB Hub <i>As per specification in Annex-A of the tender document</i>	03				
5	HDMI Adapter <i>As per specification in Annex-A of the tender document</i>	01				
6	Matrix QuadView Switcher (4x4) <i>As per specification in Annex-A of the tender document</i>	01				

7	Matrix QuadView Switcher (8x8) <i>As per specification in Annex-A of the tender document</i>	01				
8	HD BaseT Extender Set <i>As per specification in Annex-A of the tender document</i>	11				
9	Streaming Media Processor Recorder <i>As per specification in Annex-A of the tender document</i>	01				
10	Microphone <i>As per specification in Annex-A of the tender document</i>	50				
11	Integration Unit <i>As per specification in Annex-A of the tender document</i>	01				
12	Voting System <i>As per specification in Annex-A of the tender document</i>	50				
13	Audio DSP Mixer <i>As per specification in Annex-A of the tender document</i>	02				
14	Professional Audio DSP Mixer <i>As per specification in Annex-A of the tender document</i>	02				
15	Professional Audio Power Amplifier <i>As per specification in Annex-A of the tender document</i>	02				
16	Ceiling Speaker <i>As per specification in Annex-A of the tender document</i>	06				
17	USB Expander <i>As per specification in Annex-A of the tender document</i>	01				

18	PoE Power Supply Kit <i>As per specification in Annex-A of the tender document</i>	01				
19	Control Processor System <i>As per specification in Annex-A of the tender document</i>	03				
20	Control Cards <i>As per specification in Annex-A of the tender document</i>	01				
21	Expansion Cards <i>As per specification in Annex-A of the tender document</i>	08				
22	Control Processor Card Interface <i>As per specification in Annex-A of the tender document</i>	02				
23	Expansion Slot Cage <i>As per specification in Annex-A of the tender document</i>	01				
24	PoE Injector <i>As per specification in Annex-A of the tender document</i>	02				
25	Touch Screen <i>As per specification in Annex-A of the tender document</i>	02				
26	Multimedia Projector <i>As per specification in Annex-A of the tender document</i>	01				
27	Projection Screen <i>As per specification in Annex-A of the tender document</i>	01				
28	65 inch LED Smart Screen TV <i>As per specification in Annex-A of the tender document</i>	06				
29	UPS	01				

	<i>As per specification in Annex-A of the tender document</i>					
30	HDMI Cable <i>As per specification in Annex-A of the tender document</i>	50				
31	Speaker Cables <i>As per specification in Annex-A of the tender document</i>	17				
32	Supported Video Systems <i>As per specification in Annex-A of the tender document</i>	As Per Design				
33	Testing, Installing & configurations <i>As per specification in Annex-A of the tender document</i>	Job				
LOT-2						
34	86 inches Interactive WiFi enabled Smart Screen with Camera, Speakers for video conferencing and allied accessories including stand, mount etc <i>As per specification in Annex-A of the tender document</i>	05				
35	65 inches Interactive WiFi enabled Smart Screen with Camera, Speakers for video conferencing and allied accessories including stand, mount etc <i>As per specification in Annex-A of the tender document</i>	02				
LOT-3						
36	SMD Display <i>As per specification in Annex-A of the tender document</i>	03				

Must be filled by the Bidder under authorized signatures and seal / stamp:

Name of Authorized Person: _____

Designation : _____

CNIC # _____

Contact Numbers : (Landline : _____ , Mobile : _____)

Address:_____

THE BIDDERS AGREE THAT THE EXACT FORMAT OF THE FINANCIAL BIT SHALL BE FOLLOWED AND ANY INFORMATION SUBMITTED BY THE BIDDERS SHALL BE FINAL AND THAT THE BIDDERS SHALL BE RESPONSIBLE FOR ANY ERRORS AND OMISSIONS ANYWHERE IN THE PROPOSAL AND SHALL HAVE NO RIGHT FOR SUBSEQUENT CORRECTION/JUSTIFICATION.

SIGNATURES _____ STAMP / SEAL _____

Annex-C

COMPLIANCE CERTIFICATE

The M/S _____ hereinafter referred to as bidder declares compliance of the following terms and declares that the following are included in the proposal submitted by the bidder:

1. General or special Conditions

- 1.1. Application letter of Intent for participation in the tendering process clearly stating that the firm intends to apply for the supply of _____ out of the total 03 lots and that no partial bids are submitted and if partial bids are submitted will result in the disqualification of the bids.
- 1.2. Firms must have valid experience of providing the equipment in the respective lots of the tender to atleast five (05) public / private sector organizations.
- 1.3. Firms must attach valid 3 x months bank statements along with Certificates from its Banker regarding maintenance of the account of the firm.
- 1.4. Copy of Income Tax / Sales Tax Registration.
- 1.5. Office details at Islamabad / Rawalpindi, and other cities (if applicable) with Phone Numbers / Addresses.
- 1.6. Affidavit on Judicial / Stamp Paper of Rs. 100/- or above duly attested by Notary Public that the firm is not black listed by any government / semi government Department as per Specimen at Annex-C.
- 1.7. has valid Registration of General Sales Tax (GST) & National Tax Number (NTN)
- 1.8. has submitted bid for complete Lot(s) and relevant bid security against each Lot separately
- 1.9. Authorization of the principal / manufacturer letter from manufacturer of each quoted item
- 1.10. Copy of the tender document is included in the proposal and every page signed and stamped by the bidder
- 1.11. Letter of Blacklisted by any Provincial or Federal Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan. (Submission of undertaking on legal stamp paper is mandatory), failing which will cause rejection of the bid.
- 1.12. Verifiable documentary proof for all above requirements is a mandatory requirement, noncompliance will lead to disqualification.
- 1.13. Undertaking and Evidence that the quoted Goods are genuine, brand new, non- refurbished, un-altered in any way, of the most recent / current model, imported through proper channel, and incorporate all recent improvements in design and materials
- 1.14. Undertaking and declaration as given in Annex-G of the tender document is duly accepted and signed and submitted as part of the proposal
- 1.15. Technical Brochures / Literature
- 1.16. Details of Warranty and After-Sale Service

- 1.17. List of firm's major international and national clientele
 - 1.18. Power of Attorney if an authorized representative is appointed
 - 1.19. Annual turnover of last five years
 - 1.20. Proposal shall clearly mention Delivery & installation period 8-12 weeks after issue of purchase order.
 - 1.21. All pages of proposal including annexures shall be signed and stamped by the bidders and shall be hard-bound.
-
2. The bidder accepts and agrees that the bidder shall be bound to make delivery/supply and install the item(s) as per specification at the National Assembly Secretariat mentioned at Annex-A and shall supply equivalent or better specification items and shall stand technically disqualified otherwise.
 3. Firms/bidders who supply reconditioned/sub-standard/used item(s) and having poor performance may not submit their bids. Mode of the payment based on credit and taxes will be applicable as per Government Policy amended to time and again. The firm should clearly show whether GST is included or excluded in the offered rates.
 4. Firms/bidders hereby acknowledge that bids submitted for partial items in any of the lots shall not be considered and shall be disqualified.
 5. The firm/bidder will be bound to supply, deliver and install the item(s) within specified time.
 6. The National Assembly Secretariat reserves the right to accept or reject any or all bids as per PPRA rules.

Terms and conditions must be signed and attached with the Tender document if agreed upon.

Name of Firm: **M/S**.....
Name of Owner.....
Mailing Address with Phone
Signature / Seal of the bidder.....

ANNEX-D

(Must be Printed on Rs. 100/- or Above Stamp Paper)

NON-BLACKLISTING DECLARATION

CERTIFIED THAT M/s _____ HAS NOT BEEN BLACK-LISTED BY ANY PUBLIC OR PRIVATE SECTOR ORGANIZATION IN PAKISTAN.

M/s _____,

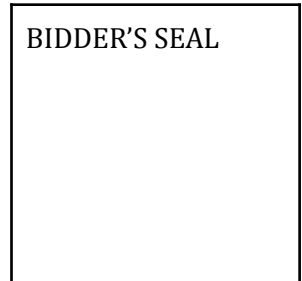
Contact Person: _____

Address: _____

Tel #: _____ Mobile #: _____

Fax #: _____ Email: _____

Signature : _____ Dated : _____



ATTESTED BY NOTARY PUBLIC

ANNEX-E

(Must be Printed on Rs. 100/- or Above Stamp Paper)

UNDERTAKING / CERTIFICATE

IF THE PROVIDED AUDIO, VIDEO CONFERENCING EQUIPMENT, INTERACTIVE WIFI ENABLED SMART SCREEN, SMDS AND ALLIED ACCESSORIES FOR THE NATIONAL ASSEMBLY OF PAKISTAN DO NOT FULFILL THE REQUIREMENTS LAID DOWN IN THE TENDER DOCUMENT AT ANY STAGE AFTER THE AWARD, THE SUPPLY / WORK ORDER OF THE FIRM WILL BE IMMEDIATELY TERMINATED WITHOUT ASSIGNING ANY REASON AND WILL NOT MAKE ANY REFUND / PAYMENT. FURTHER, THE PERFORMANCE / BID SECURITY GIVEN BY THE FIRM WILL ALSO BE CONFISCATED AND THE FIRM WILL BE DECLARED BLACK LISTED.

M/s _____

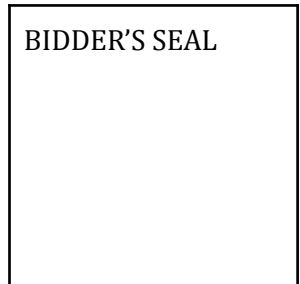
Authorized Person : _____

Address : _____

Tel #: _____ Mobile #: _____

Fax #: _____ Email : _____

Signature : _____ Dated : _____



ATTESTED BY NOTARY PUBLIC

ANNEX-F

FORM OF CONTRACT FOR PROCUREMENT OF AUDIO, VIDEO CONFERENCING EQUIPMENT, INTERACTIVE WIFI ENABLED SMART SCREEN, SMDS AND ALLIED ACCESSORIES FOR THE NATIONAL ASSEMBLY OF PAKISTAN

1. This CONTRACT AGREEMENT is made at Islamabad on theday ofof the year Two Thousand and Twenty Two (2022),a company registered under the Companies Ordinance 1984, with its Head Office....., hereinafter referred to as the “ _____ ” (the first party) which term shall mean and include its Heirs, Agents, Executors, Successors and Assigns

AND

THE NATIONAL ASSEMBLY SECRETARIAT located at, Islamabad through its Representative, hereinafter referred to as the Procuring Agency (the second party).

2. And whereas during the contract period M/s.....will provide repair / maintenance services to the Procuring Agency; by providing technical support to the Procuring Agency, at their own expenditure / risks.
3. NOW IT IS HEREBY AGREED AS FOLLOWS
- a. That repair / maintenance services provided by M/s.....to the Procuring Agency according to this contract agreement, must be rendered at the said premises, as per clauses mutually agreed by both the parties **Annex-A.**
 - b. This agreement shall take effect on and from and shall remain in force for a period of i.e.,2021 to
 - c. M/S..... shall be responsible for responding to the technical queries on the request of the Procuring Agency during the duration of the contract and carry out customization as may be required.
 - d. M/S..... shall be responsible for any delay in provision of the *Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDS And Allied Accessories For The National Assembly Of Pakistan* and as such be liable for penalties laid down in the contract document and reproduced as follows: “If the successful bidder fails to supply / install the requisite system within the time for completion, the successful bidder's liability to the Procuring Agency for such failure shall be to pay @ 0.5% per week subject to a maximum of 10% of the total bid value for which he fails to complete the works.”

- e. Technical staff of M/s.are bound to visit the National Assembly Secretariat once in a month or as and when required (on call basis) to ensure efficient working of the equipment supplied in response to the tender entitled *Procurement Of Audio, Video Conferencing Equipment, Interactive Wifi Enabled Smart Screen, SMDs And Allied Accessories For The National Assembly Of Pakistan* at their own expense.
- f. Both the parties agreed to do each and everything that is necessary to ensure that the terms of this agreement stands implemented.

4. In witness whereof the parties have here as under put their hands and signature under their seal in token of their having accepted the terms and conditions of this contract and executed the same in presence of the following witnesses.

Signed By

(.....) Deputy Secretary (Admin) National Assembly Secretariat, Islamabad	(.....) M/s..... CNIC #
WITNESSES	
1. (.....) CNIC # National Assembly Secretariat, Islamabad	1. (.....) CNIC#..... M/s.....
2. (.....) CNIC # National Assembly Secretariat, Islamabad	2. (.....) CNIC#..... M/s.....

ANNEX-G

[Must be printed on a judicial stamp paper of PKR 100 or above]

DECLARATION BY BIDDERS

CERTIFIED THAT M/s _____, hereinafter referred to as Bidder agrees that:

1. *None of the items quoted and supplied shall have the date of manufacturing not earlier than the year 2021. All the quoted items shall have the date of manufacturing during the year 2021 or later, and that*
2. *Failure to which at any time shall disqualify the contract, and that*
3. *Any tampering of dates shall result in disqualification of the bidder at any stage of the process before or after the award of the contract and that*
4. *The bidder understands and acknowledges that the Procuring Agency shall proceed for Blacklisting of such bidder*
5. *The bidder understands that bids for partial items in any of the lots shall result in disqualification of the bids*
6. *The bidders understand that a manufacturer authorization letter from the Principal shall be provided for items in each lot and that failure to meet this condition will result in disqualification of the bids.*

M/s _____,

Contact Person: _____

Address: _____

Tel #: _____ Mobile #: _____ Fax #: _____ Email : _____

Signature : _____ Dated : _____

