



Government of Pakistan
Ministry of Information Technology & Telecommunication
NATIONAL INFORMATION TECHNOLOGY BOARD (NITB)



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NATIONAL INFORMATION TECHNOLOGY BOARD
(NITB)

Ministry of Information Technology & Telecommunications

Request for Proposal

Supply, Installation, Commissioning, Configuration, Integration & testing
of
Broadcast Camera, Master control Room, video Conferencing System, Microphone
Conference System & SIS System for Parliament

March, 2022

www.nitb.gov.pk



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Data Sheet

Bid Selection Method	Two Stage - Two Envelope: The method of selection is: Quality and Cost Based Selection (QCBS). RFP is available under Tender link of NITB website https://nitb.gov.pk and https://www.ppra.org.pk
Bid Security	2% bid security of the total quoted price
Deliverables	<ul style="list-style-type: none">▪ For Supply, Installation, Commissioning, Configuration, Integration & testing of Broadcast Camera System, Master control Rooms, for National Assembly & Senate Hall.▪ For Supply, Installation, Commissioning, Configuration, Integration & testing of microphone conference and SIS system for National assembly and Senate Hall.▪ For Supply, Installation, Commissioning, Configuration, Integration & testing of microphone conference and SIS system for committee rooms▪ For Supply, Installation, Commissioning, Configuration, Integration & testing of video conference system▪ Inception Report▪ Dismantling of existing equipment▪ Technology Transfer▪ Weekly Progress Reports▪ Design/workflow Diagrams▪ Training materials▪ All other documents/material/mentioned in this RFP▪ Three Year Warranty▪ One year on site support
Contact Person	Project Director, Email: picep@nitb.gov.pk Phone: 051-9257246
Language	Proposals should be submitted in English language
Currency	All prices should be quoted in Pak Rupees
Estimated Time	12 Months
Taxes	The price should include all applicable taxes
Proposal Validity	Proposals must remain valid for 180 days after the submission date
Bidder must submit	Two (02) copies of both technical and financial proposals (One original and one photocopy) A printable and searchable copy in a USB flash drive of technical proposal



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Proposal Submission
Address

Plot # 24, B, Street No 06, Sector H-9/1, Islamabad

Submission Date & Time

Both Technical proposal & Financial bid must be submitted in two different sealed envelopes on or before 4th April 2022 at 1100 hrs. Bid shall be open on the same date at 1130 hrs.

Pre-Bid Meeting on 15th & 31st March 2022 at 1100 hrs.



Executive Summary

Islamic Republic of Pakistan has bicameral Parliamentary System consisting of President, Upper House (Senate), and Lower House (National Assembly). Ministry of Parliamentary Affairs (MoPA), as a part of the Executive, plays its role in bridging the gap between Legislature and the Executive. All these organs of the Parliament perform their respective functions to meet the basic objectives of the Parliamentary System i.e. performing Legislation, oversight of the Executive, control over the Parliamentary Functions, and representation of public through elected representatives.

The major objectives of ‘President Initiative for Cyber Efficient Parliament (PICEP)’ Project are to enhance the institutional capacities of Parliamentary System including MoPA, Senate and National Assembly (NA) to perform their functions. This shall be done through the use of Information & Communication Technology (ICT) with the help of latest tools and technologies. This will also help Parliament to evolve towards a paperless & efficient environment with reduced carbon footprints. In short, the PICEP Project has following basic objectives:

1. To bring efficiency in performing Legislation
2. To provide robust control over the Parliamentary Functions
3. Perform keen oversight of the Executive
4. Make the effective representation of general public possible

Project Description

“President Initiative for Cyber Efficient Parliament (PICEP)” envisions a modern and progressive Parliament, where the systems and processes involved in the working of Ministry of Parliamentary Affairs, Senate and National Assembly, shall be digitized using latest, state of the art hardware and software, as being practiced in the Parliaments of the developed countries, in accordance with the Rules of Procedures and Conduct of Business in the Parliament. This project involves seamless integration of all branches of the respective Secretariat and among all the organs of the Parliament, ensuring global standards in terms of accessibility and without compromising information security.

The primary aim is to enable and facilitate elected representatives to perform their duties of public service and legislation efficiently from inside and outside the premises of the Parliament. With the changing culture and practices of workplace and post COVID-19 situation in the hindsight, it is need of the hour to transform this prestigious institution with the help of modern computerization to attain flexibility without compromising any of its operations.

Parliament, the most prestigious institution of the State is currently functioning in a very conventional, paper-intensive environment, where the competence and productivity is capped by the sheer lack of technological resources. This project provides an opportunity to re-evaluate, re-organize and revamp the organization from the grassroots level. The impact will not only be on the efficiency of legislation process but the organizational culture that will in turn trickle down to the performance of the Executive.



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Digitalization of the Parliament may appear to be a huge leap forward in terms of technology as well as CAPEX, but the project is expected to reduce the OPEX through efficient management of resources and time, both for public representatives and staff. The automation will overtime right-size the institution, enhancing productivity and optimizing resource utilization.

Since all the organs of the Parliament generally and all the entities within the Secretariats especially, are dependent on one another, to perform designated tasks, it creates bottlenecks and functional limitations in case of cross-functioning. An environment with all the departments, branches, and sections integrated through digital systems, will reduce delays due to interdependencies and streamline the communication channels, enable a swift flow of information across the Parliament. This will greatly improve the efficiency of the Legislation Process and will cast a great impact on the lives of the citizens of Pakistan.

In the current scenario, all departments/ branches of the Secretariat perform its function at their own pace, without adherence to any key performance indicators. The reason is loose administrative control mainly due to lack of capacity in the existing system. Management reporting is mainly dependent on concerned individual's own discretion. This results in unnecessary delays in task execution. Introduction of a digital infrastructure working as backbone of the current Parliamentary System will ensure smooth workflows, task management, and management reporting and policy implementation, thereby improving the overall efficiency of the Parliamentary Business.

Financial Scrutiny of the Executive, by examining the accounts showing the appropriation of sums granted by the Parliament for the expenditure of the Government, is one of the top priority functions of the Parliament. PICEP Project will provide the prompt access and better control over the financial oversight of the Executive and will ultimately improve its financial performance. Presently, there are various impediments hindering the process of smart and efficient financial scrutiny. Loopholes in manual system, huge backlog of workload, and extensive dependency on the Executive for the availability of information, and loosely coupled interactions are some of the obstacles. Due to which the vigilance of the competent authority for financial expenditures is largely compromised. However, with the introduction of an IT based Executive Scrutiny and Oversight System can keep a keen eye on use of public accounts and will enhance the financial competency of various Principal Accounting Officers many folds.

The Parliamentary Database in the form of Debates, Audio Clips and Video Snippets, Rulings, Resolutions, Motions, Questions, Bills are a valuable asset which provide the basis of future legislation and other Parliamentary Functions. The preservation of this valuable asset in the form of tremendous islands of Parliamentary information can greatly improve the legislature working. There is a great need not only to preserve the legacy Parliamentary Database but also to reshape the current Proceedings in the format which will support the existing standards but will also be preserved for future references.

In order to save the time and efforts of the Parliamentarians, a central one window facility will be designed and setup under this Project which will provide a single interface to Parliamentarians for their various tasks related to Secretariats. This facility can be a single source of interaction between Parliamentarians and their respective House. In Addition to that the Members can also use the system to get certain information, submit different applications and update their profile on logging in to their account in the system. For that purpose, they do not even need to go to one window facility. It will not only save the time of the Parliamentarians but also the working of relevant branches of the Parliament and improve the efficiency of the Parliamentary Working.



Objectives

After completion of proposed solution project, the Senate and the National Assembly of Pakistan intends to achieve the following objectives:

- a. Improved working of the House and all Committees
- b. Transparency in the House and Committees working
- c. Improved Participation of Members in Law Making
- d. IT Support in carrying out the Legislative Process
- e. Enhance the Oversight function of the National Assembly/Senate
- f. Timely availability of information to the Members and public
- g. Reduce Printing Cost
- h. Enhance Electronic attendance mechanism for Members
- i. Providing robust information to the Members in time electronically
- j. Improved Audio Video Quality from SD to HD/UHD.



Technical Parameters

A highly secure, available, reliable, efficient, easy to use SIS, Broadcast and Video Conferencing System:

- Effective Legislation through state-of-the-art E-Parliamentary System where Parliamentarian can access complete Order of the Day along with all requisite documents through the automated system
- A digital conference system shall be installed at Assembly Hall for Assembly proceedings. This system shall also support the Simultaneous Interpretation System (SIS) for translation of source language of the member in to Eight different languages
- This system shall have a capacity to support up to one thousand (1000) delegate units. All the installed units shall be flush/Table Top mounted.
- This system shall have a capacity to support up to one thousand (1000) delegate units. All the installed units shall be flush mounted.
- Preferably, the sound system may be integrated with video cameras for automatically focusing the person whose microphone is switched ON.
- Simultaneous Interpretation System (SIS) shall also be a part of this conference system which shall be installed to interpret a spoken language into Eight other languages. The channel selector installed in all delegate units, chairman unit and the units installed in the galleries shall facilitate the user to select any available language. The interpreter shall translate the member's speech in the target language as quickly as he can translate it from the source language. The interpreter shall speak into a microphone while hearing the source language speaker via head phones.
- Provide basis of Strategic Planning and high-level decision making through the use of role wise Executive Dashboards
- Comprehensive Parliamentary Database, its storage and archival System for Audio, Video, Textual Material and Photographic Images. Also 8-year-old Data should be transferred to Archive system.
- Advance ways of capturing, processing, storing the Proceedings of the House as well as Committees with advance telecasting system, improved audio transmission and quick ways for reporting, editing and proof-reading
- Efficient way of interaction between Parliament and organs of the Executives through SO Councils
- An advanced contemporary audio conferencing and transmission system along with audio editing software
- Over all Broadcast setup will record on HD and upgradable with UHD.
- Provision shall be made for live telecast of proceedings by 100 TV channels
- Equipment of playback, recording and storing the proceedings shall be provided. Integration of video with sound, automatic linking/tagging with the speeches with delegates, facility to view and to listen the speeches by the name of the delegate shall be provided.
- A modern state-of-the-art live coverage and video telecasting system with integration of audio feed along with post- production editing facilities
- Latest audio/video coverage system shall be provided for the coverage of Proceedings. The coverage shall be of broadcast quality and it will be subsequently provided to interested TV channels for airing the information to general public. In addition, display of the proceedings inside the National Assembly and Senate and audio/video streaming for Internet users shall also be done for which separate systems shall be deployed. The audio/video proceedings shall be provided through the same cable which shall be used for cable TV.
- The complete system shall be UPS protected and cabling shall be done to provide redundancy and protection against rodents. Imported cables shall be used and the power and video signal cables shall be separately laid to avoid interference.



1. Invitation to Bids

The National Information Technology Board, hereinafter called “NITB” or the ‘Purchaser’, intends to invite bids for the Broadcast audio video, Master Control Room, Microphone and SIS system & Video Conferencing (National Assembly, Senate)”, from eligible Bidders.

1.1 PPRA Rules to be followed

Public Procurement Regulatory Authority (PPRA) Rules (Public Procurement Rules, 2004), will be strictly followed. These may be obtained from PPRA’s website.

In this document, unless otherwise mentioned to the contrary, "Rule" means a Rule under the Public Procurement Regulatory Authority Rules, 2004.

1.2 Mode of Advertisement(s)

As per Rule 12, this RFP is being placed online at PPRA's and NITB websites, as well as being advertised in print media.

Bidding document containing detailed instructions, terms and conditions and this advertisement can be downloaded for review from NITB and PPRA websites.

1.3 Type of Open Competitive Bidding

- As per PPRA rule 36 (d), Two-Stage - Two Envelope Procedure shall be followed. This is as follows:
- The bid shall comprise of a single sealed package containing two separate sealed 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;
- Initially, only the envelope marked “TECHNICAL PROPOSAL” shall be opened;
- The envelope marked as “FINANCIAL PROPOSAL” shall be retained in the custody of the procuring agency without being opened.
- Financial Proposal shall contain separate envelop of 2 % Bid Security
- The technical proposal will be discussed/evaluate at stage-I with the vendors and vendors shall be allowed to re-submit the technical bids with supplementary Financial (if required) based on the additional/revised requirement (if any). The bids shall be evaluated in a manner as per the clauses mentioned in this document; and proposals, which do not conform, to the specified requirements as listed in said document will be rejected.
- The Bidders will be first checked for the eligibility, as per the requirements in eligibility criteria. Thereafter, all eligible bidders shall be shortlisted against the technical requirements.
- The shortlisted Bidders will be technically evaluated and those securing a minimum of 70% marks in the technical evaluation will be qualified for Financial Evaluation;
- In case of only one bidder secures equals to or greater than 70% score in technical evaluation, NITB may decide to lower the cut-off score for technical qualification but not beyond 60%.
- During the technical evaluation no amendments by the bidder in the technical proposal shall be permitted;
- After the evaluation and approval of the technical proposals, the procuring agency shall open the financial proposals of the technically accepted bids, publicly at the time, date and venue announced and communicated to the bidders in advance, within the bid validity period;



- The financial proposal of bids found technically non-responsive shall be returned un-opened to the respective bidders;
- The contract may be awarded to bidder(s) securing highest combined score of Technical plus Financials Bids. The overall bid score has been divided as follows:
 - Technical Proposal Evaluation carries 70% weightage; whereas
 - Financials Proposal Evaluation carries 30% weightage.
- The procuring agency may reject all bids or proposals at any time prior to the acceptance of a bid or proposal. The procuring agency shall upon request communicate to any Bidder who submitted a bid or proposal, the grounds for its rejection of all bids or proposals, but is not required to justify those grounds.
- The procuring agency shall incur no liability, solely by virtue of its invoking sub-rule (1) towards Bidder who have submitted bids or proposals.

Notice of the rejection of all bids or proposals shall be given promptly to all Bidders that submitted the proposals.

2. Instructions to Bidders

2.1 Language

The Bid and all documents relating to the Bid, exchanged between the Bidder and the Purchaser, shall be in English. Any printed literature furnished by the Bidder in another language shall be accompanied by an English translation which shall govern for purposes of interpretation of the Bid.

2.2 Bid Document

The bid document can be downloaded from the NITB or PPRA websites.

2.3 RFP Clarifications and Questions

To ensure fair consideration for all Bidders, NITB prohibits communication to or with any department, officer or employee during the submission process except emailing at picep@nitb.gov.pk . If the Bidder should be in doubt as to the meaning of any of the Proposal documents, or is of the opinion that the plans and/or specifications contain errors, contradictions or reflect omissions, Proposers shall email on above given email address for interpretations or clarification.

Any interpretation will be made only by an addendum. No oral explanation or instruction of any kind or nature whatsoever given before the award of a contract to a bidder shall be binding.

2.4 Pre-Bid Meeting

A pre-bid meeting may be scheduled according to '[Annexure A](#)' at the NITB premises to respond to queries of interested bidders.

Queries from the Bidders (if any) for seeking clarifications regarding the specifications of the services must be received in writing to the NITB. Only written queries will be responded in the pre-bid meeting. NITB reserve the right not to address any verbal query during meeting (pre-bid meeting), Phone calls or any other verbal medium.

Bidders should note that during the period from the advertisement of the Bid till the receipt of the bid, all queries should be communicated to contact person(s), mentioned in this document, in writing via e-mail or post only.

Please include the following reference as the subject of your email/letter:



“For Supply, Installation, Commissioning, Configuration, Integration & testing of Broadcast Camera, Master control Room, video Conferencing System, Microphone Conference System & SIS System for Parliament”. Response to any Participant's inquiries will be made in writing by NITB in a timely manner to all prospective Participants. Any oral interpretations or clarifications of this RFP shall not be relied upon.

Bidders are also required to state, in their proposals, the name, title, fax number and e-mail address of the bidder's authorized representative through whom all communications shall be directed until the process has been completed or terminated.

Any changes or clarification resulting from the pre-bid meeting will be shared in writing by NITB. NITB will not be responsible for any costs or expenses incurred by bidders in connection with the preparation or delivery of bids.

2.5 RFP / Bid Price

The quoted price shall be:

- Lot wise;
 - In Pak Rupees;
 - Inclusive of all taxes, duties, levies, insurance, freight, etc.
 - Best / final / fixed and valid until completion of all obligations under the Contract i.e. not subject to variation / escalation;
 - Including all charges up to the delivery point / closeout;
 - If not specifically mentioned in the Bid, it shall be presumed that the quoted price is as per the requirements given in this document;
- Where no prices are entered against any Lots(s), the price of that Lot shall be deemed to be free of charge, and no separate payment shall be made for that Lot(s);
- Withholding Tax, Sales Tax and Other Taxes: The Bidder is hereby informed that the NITB will deduct tax at the rate prescribed under the Tax Laws of Pakistan, from all payments for products and services rendered by any Bidder who signs a contract with NITB;

2.6 RFP Schedule

Critical dates and milestones in connection with this RFP.

2.6.1 Timeline of the project:

Total duration of the project (All Deliverables) is 12 months.

2.6.2 Ownership of the project:

All the Equipment and related software in the project shall be the property of Government of Pakistan with, packages, and patent.



2.6.3 Technology Transfer

The vendor will be bound to deliver complete technology and to provide running development environment. The Vendor shall be bound to provide three(03) years warranty and support & Maintenance services for one(01) year after the Final Acceptance Certificate.

3. Drawing & Design Architecture

The Proposed Drawing and Design architecture High Level and low-level diagrams in-line with the needs of the National Assembly and Senate, along with asset tagging to be provided in hard copy & soft copy

3.1 Confidentiality

The Bidder (whether or not he submits a Proposal to the RFP) shall treat this RFP document and its details as confidential. No information pertaining to this RFP or the examination, clarification, evaluation, comparison and award of this RFP shall be disclosed to other Bidders or any other persons not officially connected with the RFP process, including, but not limited to, the Bidder's own affiliate companies and subsidiaries. The Bidder is not permitted to make any public announcement or release any information regarding this RFP without NITB's prior written approval.

NITB reserves the right to share the Bidder's response to this RFP with its advisors and affiliates.

In the event the Bidder commits a breach of confidentiality, NITB reserves the right to disqualify the Bidder from this RFP process and furthermore not include the Bidder in any future similar exercises.

NITB is not responsible for declaration of the short-listed Bidder(s).

The Bidder shall state clearly those elements of its response that it considers confidential and/or proprietary. Failure to properly identify and mark confidential or proprietary information may result in all information received being deemed non-confidential, non-proprietary, and in the public domain.

Separate Non-Disclosure Agreement shall be signed with the successful Bidder(s) upon award of contract.

3.2 Notices

In this document, unless otherwise specified, wherever provision is made for exchanging notice, certificate, order, consent, approval or instructions amongst the Parties, the same shall be:

In writing;

- Issued within 05 working days;
- Served by sending the same by courier or registered post to their principal office as they shall notify for the purpose; and
- The words "notify", "certify", "order", "consent", "approve", "instruct", shall be construed accordingly.

3.3 Option to Bid

The bidders must Bid for all of the required systems, however in that case, it is preferred that the Bidders form joint venture in case they do not offer all required systems. Further in such cases, where NITB opts to select best solution from respective different Bidders for each solution, then each Bidder must provide complete integration support amongst the systems.



3.4 Joint Venture

Bids submitted by a joint venture of two or more companies or partners shall comply with the following requirements:

- a) The Bid, and in case of successful Bid, the Contract form, shall be signed by all so as to be legally binding on all the partners;
- b) Joint venture (JV) arrangement maybe to pool their resources (Technical and HR only), however, all the JV companies must be in relevant Business.
- c) The Financial strength will be considered only of the Lead Bidder.
- d) One of the partners shall be authorized to be in charge who MUST be registered in SECP at-least for the last 05 years and this authority shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- e) The partner in charge shall be authorized to incur liabilities, receive payments and receive instructions for and on behalf of any or all partners of the joint venture.
- f) All partners of the joint venture shall be liable jointly and severally for the executing of the Contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorization as well as in the Bid Forms and the Form of Agreement (in case of a successful Bid); and
- g) A copy of the agreement entered into by the joint venture partners shall be submitted with the Bid.

3.5 Corrupt Practices

NITB requires that bidders / contractors, observe the highest standard of ethics during the procurement and execution of contract and refrain from undertaking or participating in any corrupt or fraudulent practices.

NITB will reject a proposal for award, if it determines that the bidder recommended for award was engaged in any corrupt or has been blacklisted.

Any false information or misstatement on the part of the bidder will lead to disqualification/ blacklisting/ legal proceeding regardless of the price or quality of the product.

3.6 Penalty

- a) If the bidder fails to complete the Assignment within the given timeline as defined in of the ToRs and agreement, Penalty of 1% of the total contract value (total bid amount) per week (minimum four or more days will be considered as one week) will be charged up to maximum of 20% of the agreement/contract value. Thereafter, work order will be cancelled, the agreement will be terminated and in addition to penalty the Performance Guarantee will be forfeited.
- b) In case of non-satisfactory maintenance and support services by the bidder during the contract term and as determined by the NITB, the Penalty at rate of 0.1 percent per day of the contract value will be applicable on the bidder until the performance is improved up to the satisfaction of NITB.

3.7 Warranty / Maintenance & Support Services

The Contractor shall provide comprehensive three(03)years warranty & one(01) year onsite maintenance and managed services of all active equipment. During this period, it will be the responsibility of the Contractor to rectify any defects and provide services such as preventive maintenance, configuration of equipment, problem rectification within the permissible downtime and backup equipment inventory. The necessary patches,



upgrades and updates as and when released by the OEM shall also be provided during the warranty period so as to ensure that the system is functioning to provide the best performance.

3.8 Provisional Acceptance and Final Acceptance Certificates

Acceptances and payments will be done as per the schedule ([Payment Terms / Schedule](#))

3.9 Security Audit of Hardware and allied software Components

After deployment of the final & tested Installed Equipment of Broadcast audio video, Master Control Room, Microphone conference & SIS system and video Conference system along with detailed operations will be audited by third party Managed by vendor

4. Requirements relating to the Technological Platform

The technology platform is composed of all software and hardware components needed to provide an operational environment in which proposed solution will operate. The Bidder is bound to provide the complete Architecture including Hardware (compute power and storage) in the bid document.

The technology platform includes:

- Design document
- User manuals of the installed equipment
- Software bundles for broadcast audio video, Master Control Room, Microphone conference & SIS system and video Conference system.

5. Indemnification

By Bidder: Bidder will, at its own expense, indemnify and hold harmless NITB, and their respective officers, directors, employees, representatives, licensees and agents from and against and in respect of any and all claims, liabilities, allegations, suits, actions, investigations, judgments, deficiencies, settlements, inquiries, demands or other proceedings of whatever nature or kind, whether formal or informal, brought against NITB or any of their respective officers, directors, employees, representatives, licensees or agents, by any third parties against and in respect of any and all damages, liabilities, losses, costs, charges, fees and expenses, including without limitation reasonable legal fees and expenses, as and when incurred, relating to, based upon, incident to, arising from, or in connection with any claim or allegation with regard to any misrepresentation by the bidder, breach of any provision of this document by the bidder, negligence or willful misconduct of the contractor, infringing in any manner any copyright, trademark, intellectual property, trade secret or patent of any third party. The foregoing obligation is subject to NITB giving bidder a prompt written notice of any claim and giving the bidder sole control of the defense of such claim. Bidder agrees that it may not, without NITB's prior written consent, as the case may be, enter into any settlement or compromise of any claim that results in any admission of liability or wrongdoing on the part of NITB, as the case may be.

To the fullest extent permitted by law, the bidder shall indemnify and hold harmless NITB and their respective officers, directors, employees, representatives, licensees and agents from and against claims, damages, losses and expenses, including but not limited to legal fees, arising out of or resulting from performance of the work under this document in relation to any claim, damage, loss or expense attributable



to bodily injury, sickness, disease or death to the bidder's personnel or any third party hired by the bidder or to injury to or destruction of tangible property.

6. Preparation of Bid

6.1 Cost of Bidding

The issuance of this RFP and the receipt of information in response to this RFP shall not in any way cause NITB to incur any liability or obligation to the bidder (and /or any proposed Subcontractor(s), if any), financial or otherwise. NITB assumes no obligation to reimburse or in any way compensate the bidder for costs and/or expenses incurred in connection with the bidder's Proposal in response to this RFP. All costs and expenses incurred by the bidder (and/or any proposed subcontractor(s), if any) pertaining to all activities in the preparation, submission, review, selection and negotiation of the bidder's proposal in response to this RFP shall be borne by the bidder (and/or any proposed subcontractor(s), if any) ("costs and expenses").

6.2 Bid Security / Earnest Money Deposit (EMD)

In accordance with PPRA Rules 2004, Rule 25, the Bidder will submit a bid security of 2% of total amount in shape of Bank Draft/Bank Guarantee in favor of National Information Technology Board;

- The Bid Security issued by any scheduled bank of Pakistan will be acceptable. Cheques will not be acceptable in any case. Bid security of the successful bidder will be returned once the Performance Guarantee is submitted to NITB;
- The bid security shall be part of financial bid envelope, failing to do so will cause rejection of the bid;
- The Bid Security shall be forfeited by the Purchaser, on the occurrence of any / all of the following conditions:
 - If the Bidder withdraws the Bid during the period of the Bid validity specified by the Purchaser; or
 - If the Bidder, having been notified of the acceptance of the Bid by the Purchaser during the period of the Bid validity, fails or refuses to furnish the Performance Security, in accordance with the Bid Document.
- The Bid security shall be returned to the technically unsuccessful Bidder with unopened/sealed financial bid.
- While the unsuccessful bidders of financial bid opening procedure will be returned the Bid Security only within one month period.
- Validity of the Bid Security should be 180 days minimum.

6.3 Technical Proposal

Bidders are required to submit the technical proposal stating a brief description of the bidder's organization outlining their recent experience, the names of professional staff / sub-supplier(if applicable) who participates during the assignment, solution offered with feature set, the technical approach, sample templates/prototypes of deliverables, methodology, detailed work plan / work breakdown structure, organization and staffing, workable suggestions that could improve the quality and effectiveness of the assignment. Submittal requirements for information can be found in subsequent section.



Note: the bidder shall also provide recommended specification of hardware (hardware sizing) along with performance benchmarks for the proposed system. Refer [Annexure B](#) – Submittal Requirements for Technical Proposal.

Any other technical and/or sales and marketing materials provided separately by the bidder shall not be considered as part of the proposal. Such additional materials may be provided as a part of annexures.

6.4 Financial Proposal

The Financial proposal shall be prepared using the standard form attached, duly signed by the authorized representative of the bidder.

The bidder shall provide its list of costs with all items described in the technical proposal priced separately. Refer [Annexure C](#) – Submittal Requirements for Financial Proposal. Note, pricing shall be provided in an itemized way. Any function with specifications responded as ‘Can be developed’ must be made available during implementation or before Go-live without any extra cost.



6.5 Payment Terms / Schedule

Payments will be made by NITB against the invoice/s raised by the bidder by following the procedure in vogue against each milestone on production of following documents:

Sales tax invoice duly signed and stamped by the organization.

NITB shall issue the Provisional Acceptance Certificate (PAC) after sign-off from the nominated person(s) from the National Assembly, Senate and Ministry of Parliamentary Affairs, on each Lot. Vendor shall be responsible to get the sign-off from the above nominated persons. There will be no Advance payment / mobilization.

Following is the payment schedule based on defined milestones:

Sr No.	Milestones	Payment %	Remarks
1	Provisional Acceptance Certificate (PAC)*	70 %	For particular LOT
2	End User Training **	20 %	
3	Final Acceptance Certificate (FAC) ***	10 %	10 % of the total project cost.

**Provisional Acceptance Certificate (PAC) includes the sign-off from the nominated person(s) from the National Assembly, Senate, for following (Lot-wise):*

- *Drawing & Design Document*
- *Supply Of Equipment*
- *Installation & commissioning*
- *Configuration & Integration*
- *Testing of Hard ware & software*
- *Operational Demonstration of Installed Equipment*
- *Technical Documentation (High-level and low-level diagrams, work flow diagrams, design diagram) License Bundles.*

*** End-User Training includes:*

- *End-user Training (Hand holding)*
- *User Manuals (Videos, Computer-Based Trainings and Handouts)*
- *Third party audit Report*

**** Final Acceptance Certificate (FAC) includes:*

- *Work Completion Certificate by vendor*
- *After the completion of one year maintenance support*
- *Maintenance support will commence from the day of signing-of PAC*



6.6 Bid Currencies

Bids are to be quoted in PKR. Bids received in any currency other than PKR shall not be accepted.

6.7 Advice of Omission or Misstatement

In the event it is evident to a bidder responding to this RFP that NITB has omitted or misstated a material requirement to this RFP and/or the services required by this RFP, the responding bidder shall advise the contact identified in the RFP Clarifications and Questions section above of such omission or misstatement.

6.8 Bid Validity Period

The bid shall have a minimum validity period of One Hundred and Eighty (180) days from the last date for submission of the Bid. The Procuring Agency may solicit the Bidder's consent to an extension of the validity period of the bid. The request and the response thereto shall be made in writing.

Bid Security shall also be suitably extended. The Bidder may refuse extension of validity period of the Bid, without forfeiting the Bid security.

6.9 Additional Charges

No additional charges, other than those listed in the financial proposal, shall be made. Prices quoted will include verification/coordination of order, all costs for shipping, delivery to the site, setup, installation, training etc.

6.10 Right to Request Additional Information

NITB reserves the right to request any additional information that might be deemed necessary during the evaluation process.

6.11 Right of Refusal

The procuring agency may reject all bids or proposals at any time prior to the acceptance of a bid or proposal. The procuring agency shall upon request communicate to any Bidder who submitted a bid or proposal, the grounds for its rejection of all bids or proposals, but is not required to justify those grounds.

The procuring agency shall incur no liability, solely by virtue of its invoking sub-rule (1) towards Bidder who have submitted bids or proposals.

Notice of the rejection of all bids or proposals shall be given promptly to all Bidders that submitted the proposals.



7. Submission of Bids

7.1 Sealing and Marking of Bids

Bid shall comprise a single sealed package containing two separate sealed envelopes. Each envelope shall contain separately the financial proposal and the technical proposal. Envelope shall be marked as “FINANCIAL PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion.

The bids along with the bid security, must be dropped at: National Information Technology Board.

All submissions are due to the attention of the authorized person, no later than the date and time specified in Annexure A. Any proposal received after the due date and time will not be accepted by NITB.

Proposal Identification

Proposal submissions must be organized according to the instructions provided in this and separately packaged, sealed and identified as follows:

- Identify as Technical or Financial Proposal
- Bid Number:
- Title: Application Software Solutions ()
- NITB, Plot No 24B, H-9, Islamabad, Pakistan.

Proposal submissions must include the following copies:

- One (1) original version of the entire Technical Proposal with original signatures;
- One (1) photocopied version of the entire Technical Proposal;
- One (1) softcopy containing the entire Technical Proposal;
- One (1) original version of the Financial Proposal with original signatures;
- One (1) photocopied version of the entire Financial Proposal;
- One (1) softcopy containing the entire Financial Proposal.

Softcopies of Technical as well as financial proposal are required to be submitted in the form of USB in the respective sealed envelopes. The files must be unprotected, editable, electronic documents and must be clear of any viruses, imbedded documents, or executable links.

7.2 Extension of Time Period for Submission of Bids

NITB may extend the deadline for submission of bids, if the following condition exists;

- If Purchase Committee is convinced that such extraordinary circumstances have arisen owing to law-and-order situation or a natural calamity that the deadline should be extended;
- If Purchase Committee decides to extend the deadline due to any administrative reason.

7.3 Late Bids

Late bids shall not be considered. Therefore, it is suggested that the response be sent in a manner that ensures it arrives on time, for example: through verifiable courier, Registered Mail or in person. Responses through Fax, email, and non-registered delivery through Pakistan Post Mail will not be considered.



7.4 Presentation by Bidders

Bidders may be asked to present their proposal as per the terms and conditions listed along with the announcement of this RFP. The Bidder will be required to provide and present a detailed and comprehensive project management plan that will become the sole source for determining implementation tasks and completion time of each task. The bidders are expected to present the technical proposal and the various components fitment within the overall proposal. The bidder must be able to answer all queries and question of the evaluation committee within the presentation.

7.5 Modification or Withdrawal of Proposals

Proposal modification and withdrawal terms and conditions are governed by the NITB procurement rules / PPRA Bid rules and Regulations. Such laws and regulations shall always prevail at all times. Under no circumstances shall a bidder be allowed to modify or withdraw his proposal if such actions are prohibited by the relevant Bid laws.

7.6 Submittal Requirements

- For Technical Proposal, please ensure that the listed requirements in “Annexure B” are provided.
- For Financial Proposal, please ensure that the listed requirements in “Annexure C” are provided.

8. Opening and Evaluation of Bids

8.1 Opening of Bids by NITB

Initially only the envelope marked “TECHNICAL PROPOSAL” shall be opened and envelope marked as “FINANCIAL PROPOSAL” shall be retained in the custody of the NITB without being opened. NITB shall evaluate the technical proposal and without reference to the price and may reject any proposal which does not confirm to the specified requirements.

8.2 Modification of Bids

No bidder shall be allowed to alter or modify its bids after the expiry of deadline for the receipt of the bids unless, NITB may, at its discretion, ask a bidder for a clarification of bid for evaluation purposes. The request for clarification and the response shall be in writing and no change in the prices or substance of bid shall be sought, offered or permitted.

8.3 Missing Information

Information requested in this document is aimed to evaluate the bidder and their system in a best possible way, therefore NITB encourage bidder to furnish the information as requested in this document. Any missing information shall be considered as not available.



8.4 Addendum or Supplement to Request for Proposal

At any time prior to the deadline for submission of the Bid, NITB may, for any reason, whether on its own initiative or in response to a clarification request by prospective bidder, modify the RFP by issuing addenda. A summary of all questions and responses as well as any adjustments regarding the scope of this Bid - if any, will be prepared and distributed to all potential bidders that submitted their intent to bid. It is the responsibility of Bidder, prior to bid date, to inquire as to addenda issued and to ensure their bid reflects any and all changes. NITB will maintain a register of holders of this RFP. All addenda must be acknowledged on the Form of Proposal page and copies of the signed addenda must be included in the Bidder's proposal.

8.5 Request for Demo Sessions

Shortlisted bidders shall be contacted within 2 weeks after the date of opening of technical proposals. For detailed demo/POC sessions, each bidder shall be able to demonstrate their capabilities on technical and functional requirements stipulated in this document.

Shortlisting will purely be based on the information provided in the submitted proposal and related documents, where the eligible bidder would acquire at least 70% score in the given technical evaluation criteria. Note, the shortlisted bidder's evaluation score shall be recalculated based on the results of the demonstrations and detailed analysis of the proposed solution(s).

For this session, Bidders shall be required to setup the environment for demonstration of the solution and the select processes in NITB premises.

8.6 Current References

The Bidder must provide in the proposal the names and complete contact information of at least three (3) client references in prescribed format under [Annexure-D](#) who:

Are able to discuss Bidder's performance in providing solutions similar to those contemplated in this RFP,
and

Have agreed to be contacted by NITB representatives. NITB expects the bidder to contact their client references to confirm their availability to speak with NITB during this time.

8.7 Bidder Evaluation

Contract(s) shall be awarded at the sole discretion of NITB after evaluation of the bidder's proposal, reference discussions, negotiations, determination of competitive advantage and cost. Bidder must have a satisfactory record of contract performance, integrity, business ethics, adequate financial resources (in the opinion of NITB) and vision to meet the contractual requirements contemplated in this RFP. By submitting a proposal, the Bidder warrants that:

- a) It is legally authorized to provide the subject solution(s) globally or locally,
- b) It is in compliance with all applicable laws and regulations,
- c) It is not prohibited from doing business with NITB by law, order, regulation or otherwise,
and
- d) The person submitting the proposal on behalf of the Bidder is authorized to bind it to the terms of the proposal.



An evaluation committee (“Technical Evaluation Committee”) specifically formed for this RFP process will evaluate all submitted proposals. Proposals may be evaluated and eliminated without further discussions and at the sole discretion of NITB. NITB will be the sole initiator of discussions to clarify or negotiate the proposal offerings. The NITB evaluation committee will evaluate each proposal based upon their understanding of the proposals. The NITB evaluation committee will conduct a fair, impartial and comprehensive evaluation of all proposals. If applicable, a contract shall be awarded, taking into consideration the best interests of NITB. The selection criteria is defined in subsequent section and may include:

- a) Experience of the bidder with similar projects, size and scope
- b) Management and staff profiles
- c) Solution differentiation and implementation approach
- d) Details of Scalability, Performance, Integration, Configurability, Parameterization
- e) Cost/Value/Favorable contract terms & conditions

NITB reserves the right to award a contract without any further discussion with the bidder(s) who have submitted proposals in response to this RFP. Therefore, proposals should be submitted initially on the most favorable terms available to NITB from a price, contractual terms and conditions, and technical standpoint. However, NITB reserves the right to conduct discussions with Bidders who submit proposals that pass the initial screening process for the feasibility of the solution(s).

NITB is not under any obligation to reveal, to a bidder, how a proposal was assessed or to provide information relative to the decision-making process.

NITB shall evaluate a bidder's "confidence in its own ability to perform" based on a bidder's willingness to provide NITB with meaningful contractual assurances and remedies NITB may exercise in the event of that Bidder's non-performance.

8.8 Proposal Acceptance

A proposal submitted in response to this RFP shall constitute a binding offer. Acknowledgment of this condition shall be indicated by the signature of the Participant bidder or an officer of the Participant bidder legally authorized to execute contractual obligations. A submission in response to this RFP acknowledges acceptance by the Participant of all terms and conditions including compensation, as set forth herein. A Participant shall identify clearly and thoroughly any variations between its proposal and the NITB's RFP. Bidder shall ensure that every page of their proposal is signed and stamped.

8.9 Discussions Prior to Evaluation

If required, prior to evaluation of the technical proposal and financial proposal, NITB may, within 6-7 days of receipt of the technical and financial proposals, call upon any of the Bidders to discuss or to ask for clarification about anything contained in the technical proposal submitted by the Bidder or may seek clarification in writing through email.



8.10 Availability of Professional Staff / Experts

Having selected the bidder on the basis of, among other things, an evaluation of proposed professional staff, the NITB expects to get the contract executed by the professional staff named in the proposal. Before contract negotiations, the NITB shall require assurances that the professional staff shall be actually available. NITB shall not consider substitutions during contract negotiations unless both parties agree that undue delay in the selection process makes such substitution unavoidable or for reasons such as death or medical incapacity. If this is not the case and if it is established that professional staff were offered in the proposal without confirming their availability, the Bidder may be disqualified. Any proposed substitute shall have equivalent or better qualifications and experience than the original candidate and his name be submitted by the Bidder within the period of time specified in the letter of invitation to negotiate.

8.11 Alternative Provisions

Alternative proposals are not allowed.

8.12 Redressal of Grievances by the Procuring Agency

The Purchaser will constitute a committee comprising of odd number of persons, with proper powers and authorizations, to address the complaints of bidders that may occur prior to the entry into force of the procurement contract.

- Any bidder feeling aggrieved by any act of the Purchaser after the submission of his bid may lodge a written complaint concerning his grievances not later than ten days after the announcement of the bid evaluation report.
- The committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint.
- Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.
- Any bidder not satisfied with the decision of the committee of the Purchaser may lodge an appeal in the relevant court of jurisdiction.

9. Award of Contract

9.1 Award Criteria

NITB shall award the contract to the successful bidder, whose bid has been determined to be substantially responsive in the view of our requirements & expectations and has provided the most competitive bid, provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

9.2 NITB's Right to Accept Any Bid and to Reject Any or All Bids

NITB reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the bidder(s).



9.3 Notification of Award

Prior to the expiration of the period of bid validity, NITB will notify the successful bidder in writing by letter or by facsimile, to be confirmed in writing by letter, that his/her bid has been accepted. The notification of award will constitute the formation of the contract. Upon the successful bidder's furnishing of the performance security pursuant to section, NITB will promptly notify each unsuccessful bidder.

9.4 Signing of Contract

Within fourteen (14) days from the date of notification of the award the successful bidder shall furnish to NITB particulars of the person who would sign the contract on behalf of the successful bidder along with an original power of attorney executed in favor of such person. Draft contract will be shared with the successful bidder only.

9.5 Performance Security

Within (15) days of the receipt of notification of award from the Procuring Agency, the successful Bidder will furnish the Performance Security and sign the Contract. The value of Performance Security shall be 10% of the bid value to be issued by any scheduled bank of Pakistan having "A" rating. The Performance Security will remain valid for contract period, after the successful delivery till the closure phase of the project. Whereas, the support period shall commence upon successful closure of the project. There will be separate performance security submission to claim the mobilization advance as mentioned in the payment terms.

9.6 RFP Response Ownership

All information, materials and ideas submitted become the property of NITB upon submission. NITB reserves the right to modify, reject or use without limitation any or all of the ideas from submitted information. All information, materials and ideas contained in the Bidder's proposal can be used by NITB without any restriction, provided that NITB will not disclose any financial and pricing information the Bidder designates as confidential with any other potential Bidder. NITB reserves the right to share, disclose or discuss to any of its consultants any proposal in response to this RFP in order to secure expert opinion. Please submit the softcopies of technical and financial proposals in USB / CD / DVD, along with the respective proposal in sealed envelopes.

9.7 Integrity Pact

The successful bidder(s) shall upon the award of the contract execute an Integrity Pact with NITB. [Specimen is attached in [Annexure-G](#)]



9.8 Non-Disclosure Agreement

The successful bidder(s) shall upon the award of the contract execute a Non-Disclosure Agreement with NITB. [Specimen is attached in “[Annexure H](#)”]

9.9 Contract Terms and Conditions

The successful bidder(s) shall upon the award of the contract, agree and sign a formal contract with NITB, which shall be based on the terms and conditions in this document, PPRA contractual guidelines and NITB's contractual requirements.

Where ever in conflict with the RFP and the contract or no safeguard of NITB is mentioned, the stipulation of PPRA 2004 as internally adopted by NITB shall prevail.

9.10 Mandatory support and Maintenance period

The vendor shall be bound to provide mandatory support and maintenance after the final deliverable of the project without any additional cost.

10. Scope of Work

10.1 Broadcast Camera System & Master Control Rooms

The work under this section consists of Installation, Commissioning, Configuration, Integration & testing of Broadcast Camera, Master control Room, video Conferencing System, Microphone Conference System & SIS System for Parliament. Video distribution & Coverage system for (at least 100 ports output or higher for National Assembly and Senate). These shall be completed in all respect as described in technical specifications. The Contractor shall discuss Placement of equipment with the Engineer In charge and coordinator at site for exact locations.

10.2 Microphone Conference and SIS System

The work under this section consists of designing, supplying, installation, testing and commissioning of Conference System & SIS System for National Assembly, Senate Hall & Committee rooms. The aforementioned system shall be completed in all respect as described in the technical specifications. Equipment specifications should be as per Technical Specification or higher. The Contractor shall discuss Placement of equipment with the Engineer In charge and coordinator at site for exact locations.

10.3 Video Conference system

The work under this section consists of designing, supplying, installation, testing and commissioning of Video Conference System for National Assembly & Senate. The aforementioned system shall be completed in all respect as described in the technical specifications. Equipment specifications should be as per Technical Specification or



higher. The Contractor shall discuss Placement of equipment with the Engineer In charge and coordinator at site for exact locations and positions for this system.

NOTE: Dismantling of existing equipment must be the responsibility of the bidder without disruption of National Assembly/SENATE/Committee room sessions

11. Data Migration & Digitalization

Successful bidder will be required to migrate the historical data from existing System and associated data to the proposed solution. The objective of this exercise is to ensure availability of data in the proposed System so that all historical data can be (Copied in new archive system) viewed from the new Solution.

12. Trainings

The bidder will be responsible for the training of the employees in the areas of implementation, operations, management, error handling, and system administration of in-scope solutions as per following.

- Broadcast Camera & Master Control room Operations
- Microphone Conference & SIS System Operations
- Video Conference System
- Training material, written and video for all users should be provided as part of Training.
- Trainings of personnel. Approx. 800

13. Project Documentation

Bidders are required to provide comprehensive documentation related to the project such as user manuals, training material, configurationally and administration manuals,

Further, the bidder shall provide editable copies of all documents/manuals for NITB's internal purposes without any additional fee.



14. Evaluation Process

14.1 Eligibility

Below is the criterion for the eligibility of the interested Bidders. These are all mandatory requirements and failing to comply will result in ineligibility for further technical evaluation. Please ensure complete and valid documentary evidences are provided against each item. NITB reserves the right to check the authenticity of any submitted document.

Criteria	Compliance (Yes/No)
Lead Bidder is a registered/incorporated company in Pakistan with SECP at least for the last 05 years	
Bidder has a valid Registration Certificate for Income Tax, Sales Tax and/or other allied agencies / organizations / regulatory authorities	
Bidder is an Active Taxpayers as per Federal Board of Revenue (FBR)'s database i.e. Active Taxpayer List (ATL)	
Provisioning of audited financial statement to demonstrate the bidder had minimum an average annual turnover over PKR 500 million past consecutive (03) financial years.	
The bidder must be a lead/Gold/Premium/Tier-1 partner of principle/manufacturers/OEM, with a valid certificate from Manufactures/OEM.	
Affidavit on Judicial / Stamp Paper of Rs. 100/- or above duly attested by Notary Public which certifies to provide three-year warranty/guarantee after installation.	
Affidavit on Judicial / Stamp Paper of Rs. 100/- or above duly attested by Notary Public that the company is not black listed by any government / semi government Department.	
Affidavit on Judicial / Stamp Paper of Rs. 100/- or above duly attested by Notary Public that bidder is 100% compliant to the RFP requirements.	

Note: Verifiable documentary proof is required for all above mandatory requirements.



15. Technical Evaluation Criteria and Bidder's Response

Bidder(s) are required to provide their responses on the following sheet:
Successful bidder must induct a dedicated Project Director and two dedicated Project managers.

SR. NO	EVALUATION CRITERIA	MAX MARKS																																																																																																																																												
1.	<p>Technical Qualification: Dedicated resources with relevant experience to work on the tasks and relevant technology. Companies to provide resource profiles/CVs along with proof of their employment with the company. CVs having less than three-year experience will not be considered. Calculation Categories:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7" style="text-align: center;">LOT#1 Broadcast Camera System, Master Control Room for National Assembly & Senate</th> </tr> <tr> <th style="text-align: center;">Resource Type</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Marks</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Marks</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Marks</th> </tr> </thead> <tbody> <tr> <td>Broadcast Engineer</td> <td style="text-align: center;">2-3</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5+</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Broadcast Technician</td> <td style="text-align: center;">4-6</td> <td style="text-align: center;">1</td> <td style="text-align: center;">7-10</td> <td style="text-align: center;">2</td> <td style="text-align: center;">10+</td> <td style="text-align: center;">3</td> </tr> <tr> <td>System Analyst</td> <td style="text-align: center;">2-3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">4-6</td> <td style="text-align: center;">4</td> <td style="text-align: center;">6+</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Power supply Expert</td> <td style="text-align: center;">2-3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5+</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Power Distribution Technician</td> <td style="text-align: center;">4-6</td> <td style="text-align: center;">1</td> <td style="text-align: center;">7-10</td> <td style="text-align: center;">2</td> <td style="text-align: center;">10+</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Audio Engineer</td> <td style="text-align: center;">2-3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">4-6</td> <td style="text-align: center;">4</td> <td style="text-align: center;">6+</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Audio Technician</td> <td style="text-align: center;">4-6</td> <td style="text-align: center;">1</td> <td style="text-align: center;">7-10</td> <td style="text-align: center;">2</td> <td style="text-align: center;">10+</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Marks</td> <td></td> <td style="text-align: center;">12</td> <td></td> <td style="text-align: center;">23</td> <td></td> <td style="text-align: center;">30</td> </tr> </tbody> </table> <table border="1" style="width: 100%; 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LOT# 3 Microphone Conferencing System for Committee Rooms of National Assembly & Senate								
Resource Type	No.	Marks	No.	Marks	No.	Marks		
Conference System Design Engineer	2-3	3	4-5	5	5+	6		
Conference System Technician	4-6	1	7-10	2	10+	3		
Software Engineer/ System Analyst	2-3	2	4-6	4	6+	5		
Power supply Expert	2-3	2	4-5	4	5+	5		
Power Distribution Technician	4-6	1	7-10	2	10+	3		
Audio Engineer	2-3	2	4-6	4	6+	5		
Audio Technician	4-6	1	7-10	2	10+	3		
Marks		12		23		30		
2. <u>Presentation:</u>	Detailed Proposal with Complete Drawings, Explanations, Installations, Configurations, A/V Commissioning, Equipment demo, Protocols/Standards, Troubleshooting and Training sessions						30	
3. <u>Financial Capability:</u>	Financial strength of the lead Bidder in last six (06) years – Annual Turnover (PKR) Bidder MUST provide Audit report and relevant proof of financial strength Calculation Criteria: From 501 million to 800 million per year – 10 marks 801 million to 1000 million per year -15 marks 1001+ million- 20 marks						20	
4. <u>General Work Experience:</u>	Bidder MUST provide evidence in the form work order/ purchase order/ acceptance certificate or completion certificate, only project from last 10 years and of similar nature will be considered Calculation Criteria: 1-3 Projects – 05 marks 4-6 Projects – 10 marks 7+ Projects – 15 marks						15	
5. <u>Certification:</u>	Any International Relevant Certification						05	
TOTAL MARKS							100	
NOTE:								
i. Total Technical Marks = 100 Marks								
ii. Minimum Technical Qualifying Marks = 60 Marks								
iii. Financial Marks 100 Marks								
iv. Weightage of Technical Marks is 70%								
v. Weightage of Financial Marks is 30%								



16. Technical Proposals Evaluation Summary

- The Bidders shall be first checked for the eligibility, as per the requirements in eligibility criteria. Thereafter, all eligible bidders shall be shortlisted against the technical requirements.
- The shortlisted Bidders shall be technically evaluated and those securing a minimum of 60 marks in the technical evaluation will be qualified for Financial Evaluation;
- In case of only one bidder secures equal to or greater than 60 score in technical evaluation, Procurement Committee may decide to lower the cut-off score for health competition but not beyond 50marks in technical qualification.
- During the technical evaluation no amendments by the bidder in the technical proposal shall be permitted;
- After the evaluation and approval of the technical proposals, the procuring agency shall open the financial proposals of the technically accepted bids, publicly at the time, date and venue announced and communicated to the bidders in advance, within the bid validity period;
- The financial proposal of bids found technically non-responsive shall be returned un-opened to the respective bidders;
- The contract may be awarded to bidder(s) securing highest combined score of technical plus Financials Bids. The overall bid score has been divided as follows:
 - Technical Proposal Evaluation carries 70% weightage; whereas
 - Financials Proposal Evaluation carries 30% weightage.

Please see below the formula for calculating the weightage:

- a) Technical score calculation: Bidder's Score= (Points Obtained in Technical Domain/Total points of Technical Domain) x 100
- b) Financial score calculation: Bidder's Score= (Min Bid Value / Bid in Consideration) x 100
- c) Total score = (Technical Score x 70%) + (Financial Score x 30%)



17. Annexures

Annexure A – RFP Schedule

Event No	Event Description	Timelines
1	Circulation / Advertisement of RFP	11 th March, 2022
2	Site Visits*	11 th March to 14 th March
3	Initial Pre-Bid Meeting	15 th March, 2022
4	Site Visits*	28 th to 30 th March
5	Final Pre-Bid Meeting	31 st March
6	RFP Submission Date and Opening of Technical Proposal	4 th April, 2022
7	Shortlisted Bidders to be intimated for Demo Sessions	After Technical Review of the Bids
8	Technical Evaluation Result and Opening of Financial Proposal	Shall be intimated in due course of time
9	Announcement for Award of Contract	

*For site Visit Please Contact on picep@nitb.gov.pk (preferably)

*Contact # 051-9265064

*For Site Visit Please fill the form attached as [Annexure-I](#), Form has to reach NITB 24 hour before the site visit.



Annexure B – Submittal Requirements for Technical Proposal

S. No.	Description
1.	Cover Letter (on Bidder's Letter Head)
2.	Eligibility Requirements (Mandatory Requirements as mentioned in eligibility criteria)
3.	Responses to Sections 12 (Technical Evaluation Criteria & Bidder's Response) of this document.
4.	Executive Summary
5.	Company Profile (Profile, History, Addresses, Product / Solution Offerings, Contact Information, number of full-time employees, Largest Customer in Pakistan etc.)
6.	For joint submissions, provide the alliance agreement while identifying the lead as well as the respective roles/ responsibilities.
7.	Detailed Project Execution Plan / Work Breakdown Structure
8.	Implementation Methodology, Approach and Tools: <ul style="list-style-type: none">• The Bidder(s) must provide a sample high-level execution plan and work breakdown structure based on their experience of a project with similar scope. This should be in the form of a summary plan and should contain only sufficient details as would be required to assess the Interested Party's competency.• The Methodology must include tasks for implementation of until the Complete Changeover. Bidder must clearly list the following for each task/step (but not limited to):<ul style="list-style-type: none">- Purpose of the task;- Prerequisites for initiation of the task;- Bidder's team allocation for the task;- Required coordination from NITB;- Time allocated for the task;- Work product/results of the task.
9.	Solution Deployment Architecture
10.	If applicable, details of alternative provisions where the bidder is proposing to deliver solution in a different manner than that specified in RFP.
11.	Training Methodology including Schedule & Plan
12.	Project Organization and Team Profiling (Annexure-E)
13.	Update and Version Upgrade Plan on the Proposed Solution
14.	System Service Support Plan
15.	Solution Value Added Features along with Technical Product Information pertaining to every product included in proposed solution
16.	Any other software necessary to run the system for integration purpose
17.	Hardware Sizing for Proposed Solution
18.	Phase-wise Deliverables
19.	Customer References and Relevancy
20.	Change Control Lifecycle
21.	Contact Details

Note. Include at least three (3) commercial customers using the same application, NITB reserve the rights to contact the referees mentioned by Bidder. NITB may ask the bidder to arrange a reference visit.



Annexure D – Client References:

Reference One (1)	Response
Company name	
Contact name and title	
Company address/phone	
Industry	
Installed Solutions	
Dates and releases installed	
Modifications made	
Comments	
Reference Two (2)	Response
Company name	
Contact name and title	
Company address/phone	
Industry	
Installed Solutions	
Dates and releases installed	
Modifications made	
Comments	
Reference Three (3)	Response
Company name	
Contact name and title	
Company address/phone	
Industry	
Installed Solutions	
Dates and releases installed	
Modifications made	
Comments	



Annexure E – Management Group and Staff Profiling

Management Group				
Name of Staff	Areas of Expertise	Position Assigned	Full Time / Project based	Level of Involvement (%)

Proposed Staff				
Sr. #	Name of Staff	Areas of Expertise	Position Assigned	Level of Involvement (%)



Annexure F– Staff Resume

Proposed Position:	
Name of Staff:	CNIC #:
Date of Birth:	Age:
Nationality/Origin:	Number of Years with Bidder Company:
Educational Qualification:	
Relevant Work Experiences:	
Certifications:	
I am willing to work on the project as indicated in the deployment schedule and as required during the assignment period. I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me my qualification and my experience.	
Signature of Candidate	Signature of the Authorized Representative of the Company
Date:	
Email and Contact Number:	



Annexure G – Integrity Pact

__ [the Bidder] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing, [the Bidder] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[The Bidder] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty. [The Bidder] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [the Bidder] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [the Bidder] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

For and On Behalf Of

Signature: _____

Name: _____

NIC No: _____



Annexure H – Non-Disclosure Agreement

This Mutual Non-Disclosure Agreement (“Agreement”) is made and entered into between National Information Technology Board (NITB), and [Bidder Name], individually referred to as a ‘Party’ and collectively referred to as the ‘Parties’. The Parties wish to exchange Confidential Information (as defined below in Section 2) for the following purpose(s):

- a) to evaluate whether to enter into a contemplated business transaction; and
- b) if the Parties enter into an agreement related to such business transaction, to fulfil each Party’s confidentiality obligations to the extent the terms set forth below are incorporated therein (the “Purpose”).

The Parties have entered into this Agreement to protect the confidentiality of information in accordance with the following terms:

1. The Effective Date of this Agreement is _____ 2022.

2. In connection with the Purpose, a Party may disclose certain information it considers confidential and/or proprietary (“Confidential Information”) to the other Party including, but not limited to, tangible, intangible, visual, electronic, present, or future information such as:

- Business secrets;
- Financial information, including pricing;
- Technical information, including research, development, procedures, algorithms, data, designs, and know-how;
- Business information, including operations, planning, marketing interests, and products;
- The terms of any agreement entered into between the Parties and the discussions, negotiations and proposals related thereto; and
- Information acquired during any facilities tours.

3. The Party receiving Confidential Information (a “Recipient”) will only have a duty to protect Confidential Information disclosed to it by the other Party (“Discloser”):

- If it is clearly and conspicuously marked as “confidential” or with a similar designation;
- If it is identified by the Discloser as confidential and/or proprietary before, during, or promptly after presentation or communication; or
- If it is disclosed in a manner in which the Discloser reasonably communicated, or the Recipient should reasonably have understood under the circumstances, including without limitation those described in Section 2 above, that the disclosure should be treated as confidential, whether or not the specific designation "confidential" or any similar designation is used.

4. A Recipient will use the Confidential Information only for the Purpose described above. A Recipient will use the same degree of care, but no less than a reasonable degree of care, as the Recipient uses with respect to its own information of a similar nature to protect the Confidential Information and to prevent:

- Any use of Confidential Information in violation of this agreement; and/or
- Communication of Confidential Information to any unauthorized third parties. Confidential Information may only be disseminated to employees, directors, agents or third-party contractors of Recipient with a need to know and who have first signed an agreement with either of the Parties containing confidentiality provisions substantially similar to those set forth herein.

5. Each Party agrees that it shall not do the following, except with the advanced review and written approval of the other Party:

- Issue or release any articles, advertising, publicity or other matter relating to this Agreement (including the fact that a meeting or discussion has taken place between the Parties) or mentioning or implying the name of the other Party; or
- Make copies of documents containing Confidential Information.



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6. This Agreement imposes no obligation upon a Recipient with respect to Confidential Information that:
- Was known to the Recipient before receipt from the Discloser;
 - Is or becomes publicly available through no fault of the Recipient;
 - Is independently developed by the Recipient without a breach of this Agreement;
 - Is disclosed by the Recipient with the Discloser’s prior written approval; or
 - Is required to be disclosed by operation of law, court order or other governmental demand (“Process”); provided that (i) the Recipient shall immediately notify the Discloser of such Process; and (ii) the Recipient shall not produce or disclose Confidential Information in response to the Process unless the Discloser has: (a) requested protection from the legal or governmental authority requiring the Process and such request has been denied, (b) consented in writing to the production or disclosure of the Confidential Information in response to the Process, or (c) taken no action to protect its interest in the Confidential Information within 14 business days after receipt of notice from the Recipient of its obligation to produce or disclose Confidential Information in response to the Process.
7. EACH DISCLOSER WARRANTS THAT IT HAS THE RIGHT TO DISCLOSE ITS CONFIDENTIAL INFORMATION. NO OTHER WARRANTIES ARE MADE. ALL CONFIDENTIAL INFORMATION DISCLOSED HEREUNDER IS PROVIDED “AS IS”.
8. Unless the Parties otherwise agree in writing, a Recipient’s duty to protect Confidential Information expires [YEARS] from the date of disclosure. A Recipient, upon Discloser’s written request, will promptly return all Confidential Information received from the Discloser, together with all copies, or certify in writing that all such Confidential Information and copies thereof have been destroyed. Regardless of whether the Confidential Information is returned or destroyed, the Recipient may retain an archival copy of the Discloser’s Confidential Information in the possession of outside counsel of its own choosing for use solely in the event a dispute arises hereunder and only in connection with such dispute.
9. This Agreement imposes no obligation on a Party to exchange Confidential Information, proceed with any business opportunity, or purchase, sell, license and transfer or otherwise make use of any technology, services or products.
10. Each Party acknowledges that damages for improper disclosure of Confidential Information may be irreparable; therefore, the injured Party is entitled to seek equitable relief, including injunction and preliminary injunction, in addition to all other remedies available to it.
11. This Agreement does not create any agency or partnership relationship. This Agreement will not be assignable or transferable by Participant without the prior written consent of the other party.
12. This Agreement may be executed in two or more identical counterparts, each of which shall be deemed to be an original including original signature versions and any version transmitted via facsimile and all of which taken together shall be deemed to constitute the agreement when a duly authorized representative of each party has signed the counterpart.
13. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof, and supersedes any prior oral or written agreements, and all contemporaneous oral communications. All additions or modifications to this Agreement must be made in writing and must be signed by the Parties. Any failure to enforce a provision of this Agreement shall not constitute a waiver thereof or of any other provision.

NITB	Company Name:
Address:	Address:
Name:	Name:
Signature:	Signature:
Title:	Title:
Date:	Date:



Annexure I – Performa for site Survey

Name:	CNIC #:
	Mobile #:
Company Name:	
Visit date:	
Description:	
Signature:	Signature & stamp of the Authorized Representative of the Company
Email:	

Note: Copy of CNIC/Employee ID Card is mandatory



13. Technical Specifications

Detailed specifications for Lot# 01, Lot# 02 & Lot# 03 [Annexure-J](#)

National Assembly & Senate (Hall)						
a. Broadcast Camera System						
b. Master Control Room for Broadcast						
Lot	Sr No	Items	Qty-National Assembly	Qty-Senate	Total Qty	
(Lot-1) Broadcast Camera System, Master Control Room for National Assembly & Senate Hall		a. Broadcast Camera System				
	1	PTZ Camera with HD/UHD	7	6	13	
	2	Switcher + Audio Mixer + Profanity protection	1	1	2	
	3	Recorder	2	2	4	
	4	Recording for Individual Camera	7	6	13	
	5	Signal Conversion	1	1	2	
	6	Router	1	1	2	
	7	Distribution	1	1	2	
	8	Editing	2	2	4	
	9	Archiving	1	1	2	
	10	Streaming	1	1	2	
	11	Installation Material & glue equipment	1 Job	1 Job	2 Job	
	12	Video Wall 4x4 Matrix with 55-inch Screen	2	2	4	
			b. Master Control Room for Broadcast			
	13	Switcher + Audio Mixer	1	1	2	
14	Allied Equipment	1	1	2		
15	Editing / Playout	2	2	4		

Note: The proposed Professional equipment must be manufactured in 2021-22. Quantities may increase or decrease



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National Assembly & Senate (Hall)					
a. Microphone Conference System & SIS System					
Lot	Sr No	Items	Qty-National Assembly	Qty-Senate	Total Qty
(Lot-2) Microphone Conference System & SIS System for National Assembly & Senate Hall		Microphone Conference System & SIS System			
	1	Central Control Unit	2	2	4
	2	Extension Power Supply	17	6	23
	3	Flush Mount Chairman Unit with Connectors	1	1	2
	4	Stereo Headphone for Chairman Unit	1	1	2
	5	Flush Delegate Discussion Unit with Loud Speaker and Connectors	410	132	542
	6	Stereo Headphone for Delegate Discussion Unit	410	132	542
	7	Channel Selector for Galleries	930	332	1262
	8	Stereo Headphone for Channel Selector Units for Gallery	930	332	1262
	9	Interpreter Console with Head Phone	5	5	10
	10	Touch Screen for Interpreters, sound Operator and chairman	7	7	14
	11	PTZ Camera	-	3	3
	12	PTZ Key Board	-	1	1
	13	Video Switcher	-	1	1
	14	Recording System for Reporters	1	1	2
	15	Radiator Transmitter	-	3	3
	16	Pocket Receiver	-	15	15
	17	Controller Computer	2	1	3
	18	Operator PC	1	1	2
	19	MIFARE Card	10	3	13
	20	Meeting Recorder	1	1	2
	21	Software Licenses	1Bundle	1 Bundle	2 Bundles
	22	UPS 10 KVA	1	1	2
	23	System Network Cable	1 Job	1 Job	2 Job
24	Storage SD Cards	20	20	40	

Note: The proposed Professional equipment must be manufactured in 2021-22. Quantities may increase or decrease



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National Assembly & Senate (Committee Rooms)						
a. Microphone Conferencing System for Committee Rooms						
b. Video Conferencing System						
Lot	Sr No	Items	Qty-National Assembly	Qty-Senate	Total Qty	
		a. Microphone Conferencing System for Committee Rooms				
(Lot-3) Microphone Conferencing System for Committee Rooms of National Assembly & Senate	1	Central Control Unit	3	3	6	
	2	Flush Mount Delegate Unit	113	90	203	
	3	Flush Mount Chairman Unit	3	3	6	
	4	Meeting Recorder	3	3	6	
	5	Interpreter Console with Head Phone	18	15	33	
	6	Encoder	3	3	6	
	7	PTZ Camera Full HD	9	6	15	
	8	PTZ Keyboard	3	3	6	
	9	Recorder	3	3	6	
	10	4-input camera Switcher	3	3	6	
	11	Head Phones	140	90	230	
	12	Wireless Handheld MIC	3	3	6	
	13	Network Cable for connecting all Units	1 Job	3	4	
	14	12 Port Manageable Network Switch	3	3	6	
	15	12 U Data Cabinet	3	3	6	
	16	Controller Computer	3	3	6	
	17	Operator PC	3	3	6	
	18	Software Licenses	1 Bundle	1 Bundle	2 Bundles	
	19	UPS 3 KVA	3	3	6	
			Video Conferencing System			
	20		Video Conferencing Equipment with Conference Recorder & 22" LED Screen for Chair	3	6	9
	21		55" LED Screen for Display	6	9	16
	22		75" LED Screen for Display	3	3	6
	23		UPS 3 KVA	-	3	3
24		UPS 5 KVA	3	3	6	

Note: The proposed Professional equipment must be manufactured in 2021-22. Quantities may increase or decrease



Annexure J – Detailed Technical Specifications of Lot# 01, Lot# 02 & Lot# 03

National Assembly & Senate (Hall)					
a. Broadcast Camera System					
b. Master Control Room for Broadcast					
Lot#	Sr. No	Equipment	Specifications	Qty-National Assembly	Qty-Senate
a. Broadcast Camera System					
(Lot-1) Broadcast Camera System / Master Control Room/ National Assembly/Senate	1	PTZ Camera with HD/UHD	<p>4K Professional Camera with Fiber Connection (Qty-7 for NA) (Qty-6 for Senate)</p> <p>3-chip, 2/3-inch 4K CMOS sensor with global shutter technology.2000 TVL, low noise (-62 dB), impressive sensitivity (F10 at 1080/59.94p or F11 at 1080/50p) and high dynamic range, while achieving the ITU-R BT.2020 broadcast standard wide color space, LSI Digital Signal Processor that fully realizes the extraordinary imaging power of this new sensor. Mounting plate on PTZ head is required.</p> <p>Camera Control Unit (Qty-7 for NA) (Qty-6 for Senate) The Camera Control Unit for operation with the 4K/HD system cameras provides interfaces to external equipment and power supply to the camera in a compact, portable half rack width 3U form facto. A 12G-SDI and 4K output available. The CCU also provides a pathway</p>	7	6



			<p>for IP operation with optical fiber studio cameras. IP Tally support (TSL UMD v5.0) as standard, while CCU menu settings can be conveniently adjusted remotely via a network.</p> <p>Remote Camera Controller (Qty-7 for NA) (Qty-6 for Senate) Remote control panel incorporates a brighter LCD display with direct operation switches and a touch panel, visibility improved by higher resolution and brighter LCD device which makes it a remote-control panel that offers both ease of operation and multi-functionality that compares favorably with the MSU. The iris and master black adjustment block employs joystick type control. Up to four units can be mounted in a 19-inch EIA rack</p> <p>Master setup unit (Qty-1 for NA) (Qty-1 For Senate) The master setup unit allows intuitive control and maintenance for the connected system cameras fits a 9.5-inch EIA rack (half rack mount size). It can control multiple camera systems via either 1000Base-T LAN, or a single camera by direct peer-to-peer connection via multipin cable. Operability via touch panel plus additional LED indicators and assignable keys. The menu page should give direct access to camera, CCU and BPU functions for</p>		
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			<p>greater usability and expandability.</p> <p>Hybrid Fiber Cable (As per drawing/design) SMPTE Hybrid Fiber Camera Cable compatible with suggested camera with various length according to distance of camera from CCU.</p> <p>Lens:1 (Qty 04 for NA) (05 for senate) Broadcast quality 22x7.6 remote control B mount lens. Focal length is covered from 7.6 to 167mm for use in Teleconferencing, Tower Cam and other applications requiring full analog remote control of zoom, focus and iris. Maximum Relative Aperture (F-No.) 1 : 1.8 (7.6–120mm) 1 : 2.5 (167mm) Angular field of view 16 : 9 Aspect ratio [1x] 7.6mm 64.5° x 39° 167mm 3.3° x 1.8° Remote control via lens standard controllers, Pan / Tilt units or third-party controllers.</p> <p>Lens:2 (Qty-2 for NA) Broadcast quality 12x4.5 remote control B mount wide angle lens. Focal length is covered from 4.5 to 54mm, requiring full remote control of zoom, focus and iris. Maximum Relative Aperture (F-No.) 1 : 1.8 (4.5–41mm) 1 : 2.4 (54mm)</p>		
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			<p>Angular field of view 16 : 9 Aspect ratio [1x] 4.5mm 93.6° x 61.8° 54mm 10.1° x 5.7° Remote control via lens standard controllers, Pan / Tilt units or third-party controllers.</p> <p>Lens 3: (Qty 01 for NA) (01 for senate) Broadcast quality 12x4.5 remote control B mount wide angle lens. Focal length is covered from 4.5 to 54mm, requiring full remote control of zoom, focus and iris. Maximum Relative Aperture (F-No.) 1 : 1.8 (4.5–41mm) 1 : 2.4 (54mm) Angular field of view 16 : 9 Aspect ratio [1x] 4.5mm 93.6° x 61.8° 54mm 10.1° x 5.7° Remote control via lens standard controllers, Pan / Tilt units or third party controllers.</p> <p>Robotic Pan Tilt System (Qty-7 for NA) (Qty-6 for Senate)</p> <p>FULL INTEGRATED SERVO THAT SUPPORTS KEY-FRAME MOTION AND ON-THE-FLY MOTION TIME CHANGES Hydraulic Mount for Camera system Robotic Pan/Tilt head robotically Control system camera series. The Camera Head for daily use in studio applications support of mid- to-heavy payloads of up to 40 pounds provides smooth</p>	
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			<p>motion and quiet on-air operation. It may also include Compatible professional setup for Camera robotic arm according to hall design with complete installation and commissioning</p> <p>Robotic Camera Control Panel (Qty-7 for NA) (Qty-6 for NA)</p> <p>Robotic Camera Control Panel with fully integrated software for auto-track and a large touchscreen display to provide the premiere controller for robotic camera operations in television broadcast and production facilities, entertainment venues, corporate facilities, and educational institutions. Built-in Automatic Shot Framing and Tracking technology for perfectly framed and automatically correct when talent has unexpectedly shifted.</p> <p>compactable Professional Hydraulic setup for camera according hall design with complete installation and commissioning</p>		
	2	Switcher + Audio Mixer + Profanity protection	<p>Video Switcher Mainframe Terminal (Qty-1 for NA) (Qty-1 for Senate)</p> <p>4K or higher Video switcher with minimum 24, 4K/UHD/3G/HD-SDI inputs with frame sync on each input, built-in media players, Multiviewers, minimum 8 AUX outputs, redundant power supplies, all inputs</p>	1	1



			<p>outputs should be 12G with complete installation & testing</p> <p>Control Panel (Qty-1 for NA) (Qty-1 for Senate)</p> <p>2ME broadcast panel for live switching with tri-color led cross points buttons, minimum 16 Direct cross points. Compatible with Mainframe Terminal with complete installation & testing And as approved by, along with soft switching optional hardware</p> <p>Audio Mixer (Qty-1 for NA) (Qty-1 for Senate)</p> <p>16 channel MIC/LINE audio mixer with Mic Pre-amplifier up to 60 db, 3-band EQ with on/off hard-bypass switch on all channels 100 Hz low-cut filter and 48V phantom power on all mic channels Stereo line inputs Aux/Monitor outputs with dedicated per-channel send control Dedicated Control Room outputs Headphone output with dedicated level control L/R Assign switch per channel 12-segment stereo meters Overload indicators on all channels PFL/AFL channel solo Built-in effect generator</p>		
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			<p>Audio Monitor (Qty-3 for NA) (Qty-03 for Senate)</p> <p>2-way active studio audio monitor features a 90W amp, 90W LF amplifier, 90W HF amplifier driving a 6.5" woofer and a 90W amp pushing a 3/4" metal-dome tweeter, producing a frequency response of 45 Hz to 21 kHz.</p> <p>The aluminum enclosure, supports a balanced input via an XLR 3-pin connector. Room compensation options include high- and low-frequency adjustments. There is a selectable power-saving mode that enables automatic power up/down via a signal-sensing circuit.</p> <p>6.5" woofer and 3/4" metal-dome tweeter 45 Hz to 21 kHz frequency response (-3 dB), 48 Hz to 20 kHz frequency response (± 2 dB)</p> <p>Proprietary waveguide utilizes DCW (Directivity Control Waveguide) technology for improved imaging and a wider listening area</p> <p>ISS (Intelligent Signal Sensing) automatic power-saving mode</p> <p>Multiple mounting options</p> <p>Includes Iso-Pod isolation stand for vibration decoupling</p> <p>Headphone: Pro Circumaural Closed-Back Monitor Headphones (Qty-3 for NA) Qty-03 for Senate)</p>		
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			<p>Circumaural Closed-Back Monitor Headphones feature a collapsible design with swivelling earcups and extended low end reproduction with a frequency response of 8 Hz to 25 kHz. Rejection of outside noise is high, rated up to -32 dB.</p> <p>Single-sided, coiled cable with 3.5 mm mini jack with locking 1/4" adapter Comfortable for long mix sessions</p> <p>SDI Audio Monitor (Qty-2 for NA) (Qty-02 for Senate) The audio monitor features a 12G-SDI input, a balanced XLR analogue audio input, a balanced AES/EBU digital input audio, HiFi audio inputs with rackmount kit.</p> <p>Profanity Delay (Qty-1 for NA) (Qty-1 for Senate)</p> <p>12G/3G/HD-SDI profanity delay which can provide 30 seconds of delay with Use robust Xkeys panels for configurable panic button panels, Built-in multi-viewer to show incoming program and safe feeds, outgoing clean and dirty feeds. Video Protection Options</p> <ul style="list-style-type: none">• Switch to alternative safe feed• Blur or defocus video content• Insert video black, static/animated graphic or safe content/clip		
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			<p>Audio Protection Options</p> <ul style="list-style-type: none"> • Switch to alternative safe feed • Mute, shuffle or swap audio channels • Insert safe audio content or beep 		
	3	Recorder	<p>Dock (Qty-02) Dock should transfer the video data from an SSD to a computer. The SSD inserts into the Dock and the Dock outputs to a computer via latest Thunderbolt connection. SSDs for high-capacity drives for recording 4K, 2K and HD video on recorder.</p> <p>Non-Linear Editing System: macOS 12.0 Monterey or Higher (Qty-01) 3.2GHz 16 core Intel Xeon W processor, Turbo Boost up to 4.4GHz 48GB (6x8GB) of DDR4 ECC memory Radeon Pro 580X with 8GB of GDDR5 memory 8TB SSD storage Stainless steel frame with feet Magic Mouse + Magic Trackpad Magic Keyboard with Numeric Keypad - US English With compatible Video Editing Software Logic Pro1</p> <p>Monitor (Qty-01) 3840-by-2160 resolution, the 23.7-inch UltraFine 4K Display (or Higher) Two Thunderbolt 3 (USB-C) ports, three downstream USB-C ports (5 Gb/s) offer</p>	2	2



			<p>additional connectivity and power to compatible devices and accessories.</p> <p>Storage (Qty-01) 120TB of storage split over twelve hot-swappable 10TB 3.5" hard drives, each of which utilize one of the array's SATA drive bays, Each drive should be equipped with a minimum cache of 64MB and a rotational speed of 7200 rpm, Equipped with two 40 Gb/s Thunderbolt 3 ports and one 10 Gb/s USB 3.1 port, RAID 0, 1, 5, 6, 10.</p>		
	4	Recording for Individual Camera	<p>UHD SSD RECORDER/PLAYER (Qty-4 for NA) (Qty-3 for NA) Single Ultra 4K/UltraHD input or four 3G/HD-SDI input Recorder Player, Monitor, Supports Select Apple ProRes Codecs, Supports 4K SDI, UHD, HD Recording, VTR Deck-Style Front Panel Controls, Twin Slots for Rollover/Relay Recording, 4.8" 1280 x 720 LCD Screen, Two Independent Power Inputs, Optional Fiber In/Out, RS-422 and Ethernet Control with complete installation & testing SSD (Qty-12 NA) Qty-12 Senate) 1TB or higher capacity SSD for recording 4K, 2K, and HD video on suggested SSD recorder. The drive should be encased in a rugged protective housing designed to withstand repeated use in the field and or offloading</p>	7	6



			<p>recordings with complete installation, configuration & testing</p> <p>Dock (Qty-4 for NA) (Qty-4 for Senate)</p> <p>Dock should transfer the video data from an SSD to a computer. The SSD inserts into the Dock and the Dock outputs to a computer via latest Thunderbolt connection. SSDs for high-capacity drives for recording 4K, 2K and HD video on recorder with complete installation & testing</p> <p>4K HDMI and 12G-SDI Monitor & Recorder (Qty-02 For NA) (Qty-02 For Senate)</p> <p>1920 x 1200 Touch screen LCD</p> <p>Record up to DCI or UHD 4K HDR Video</p> <p>HDMI and 12G-SDI Video Inputs & Outputs</p> <p>10-Bit, 4:2:2 ProRes & DNxHD Encoding</p> <p>3D LUTs, 2500 cd/m² Brightness</p> <p>Stores to Dual SDHC/XC Memory Slots</p> <p>Two Balanced Mini-XLR Audio Inputs</p> <p>Histogram, Waveform, Vectorscope</p> <p>Dual L-Series Type Battery Slots</p> <p>Power Adapter and memory cards with max storage Included</p> <p>Non-Linear Editing System: MacOS 12.0 Monterey or Higher (Qty-1 for NA) (Qty-1 for Senate)</p>	
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			<p>3.2GHz 16 core Intel Xeon W processor, Turbo Boost up to 4.4GHz 48GB (6x8GB) of DDR4 ECC memory Radeon Pro 580X with 8GB of GDDR5 memory 8TB SSD storage Stainless steel frame with feet Magic Mouse + Magic Trackpad Magic Keyboard with Numeric Keypad - US English Final Cut Pro</p> <p>Logic ProMonitor (Qty-1 For NA) (Qty-1 for Senate)</p> <p>3840-by-2160 resolution, the 23.7-inch UltraFine 4K Display Two Thunderbolt 3 (USB-C) ports, three downstream USB-C ports (5 Gb/s) offer additional connectivity and power to compatible devices and accessories.</p> <p>Storage (Qty-1 for NA) (Qty-1 Senate)</p> <p>120TB of storage split over twelve hot-swappable 10TB 3.5" hard drives, each of which utilize one of the array's SATA drive bays, Each drive should be equipped with a minimum cache of 64MB and a rotational speed of 7200 rpm, Equipped with two 40 Gb/s Thunderbolt 3 ports and one 10 Gb/s USB 3.1 port, RAID 0, 1, 5, 6, 10 with complete installation & testing</p>		
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	5	Signal Conversion	<p>Frame for modular glue equipment (as per drawing/design) for NA & Senate 3RU modular frame with frame controller and redundant power supply for audio video distribution and glue equipment. The frame slots should be 15 or higher and installed cards in it can be configurable from the software too.</p> <p>12G/3G/HD-SDI distribution amplifier (as per drawing/design with backup) for NA & Senate Single IN and 6 or more 12G/3G/HD-SDI OUT video distribution card compatible with offered modular frame for installation of glue equipment.</p> <p>Fiber Optic for NA & Senate) transmitter/Receiver for 12G/3G/HD-SDI video (as per drawing/design with backup) Fiber Optic 12G/3G/HD-SDI video transmitter/Receiver card, Coaxial Distribution Amplifier including SFPs.</p> <p>12G/3G/HD/SD-SDI up/down/cross converter (as per drawing/design with backup) for NA & Senate</p> <p>12G/3G/HD/SD-SDI up/down/cross converter and Distribution Amplifier, Broadcast quality for NA & Senate up/down/cross conversion between common</p>	1	1
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			<p>12G/3G/HD/SD video signals, Integrated frame synchronizers (for NA & Senate) Dual path processing in a single modular form factor, Integrated frame synchronizers, Support for card reference connection, Support standard and user-defined aspect ratio conversions, Fully AFD-enabled with frame-accurate transitions between AFD modes, Broadcast quality color corrector.</p> <p>Balanced audio distributor (as per drawing/design with backup) for NA & Senate Balanced Analog Audio Distribution Amplifier Differential and single ended input (automatic single ended to differential conversion), Configurable for stereo (2-1x4) or mono (1x8), High impedance input, Low impedance outputs Wide gain adjustment range, High common mode range and common mode rejection ratio (CMRR), Very high SNR, very low THD+N Card Edge LEDs, Module status/Local fault.</p> <p>Analog Video Distributor (as per drawing/design with backup) for NA & Senate Analog Video Distribution Amplifier 75Ω or high impedance input (jumper selectable) High common mode range and common mode rejection ratio</p>		
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			<p>(CMRR) Gain control Jumper selectable AC or DC coupling Looping feature with external "T" connector Consistent input impedance if card power is lost.</p> <p>12G/3G/HD-SDI Audio Embedder (as per drawing/design with backup) for NA & Senate 12G/3G/HD-SDI and Analog or AES Audio Embedder Automatic detection of video input format Programmable audio delays (the lesser of 5 frames or 84 milliseconds) Selectable ancillary packet cleaning mode removes all audio before embedding Individual audio channel assignment for embedded audio group Audio mixer per audio channel to provide voice-over Upstream embedded Dolby E® compatible (passed through) Monitoring headphone jack for audio input and embedder group channels Comprehensive signal and card status monitoring via four-character card-edge display and LEDs.</p> <p>12G/3G/HD-SDI Audio De-Embedder (as per drawing/design with backup) for NA & Senate 12G/3G/HD-SDI Audio De-embedder with 4 analog or AES audio outputs, Automatic detection of video input format, Card edge</p>		
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			<p>LEDs indicating module status, video presence, selected audio group data is present, LED indication for the presence of each of the four audio groups within the input video, Audio group selection via card edge DIP switches, Independent volume controls for each of the audio channel outputs and support both HD and SD-SDI signals.</p> <p>12G/3G/HD-SDI Frame Synchronizer (as per drawing/design with backup) for NA & Senate 12G/3G/HD-SDI Frame Synchronizer with delay in embedded audio and metadata for sync.</p> <p>Analog to AES audio converter (as per drawing/design with backup) for NA & Senate 8 channel or above analogue audio to AES audio converter</p> <p>AES to Analogue audio converter (as per drawing/design with backup) for NA & Senate 8 channel or above AES digital audio to analogue audio converter</p>		
6	Router		<p>32x32 SD/HD/3G/12G router (Qty-1 for NA) (Qty-1 for Senate) It should be a routing solution for mission critical applications, Ability to route up to 32x32 signals in a compact 2RU frame, It should supports digital signals from 3Mb/s all the</p>	1	1



			<p>way up to 12Gb/s including SD-SDI, HD-SDI, 3G-SDI,12G. It should include an internal frame controller module which supports a single Q-Link, a single serial port and a single Ethernet port on the rear of the router, It should be remotely controlled via an external third party control device, such as an automation system, when connected to the serial port, The input and output stage of the router should be fixed in the coaxial version and expandable, The router should be fitted with an optional redundant internal power supply that is hot swappable, The router should offers a full 12Gb/s bandwidth to handle uncompressed UHD signals, Automatic bit rate detection on the input equalizer allows any mix of 12G, 3G, HD and SD signals in the same unit, All outputs are re-clocking and user configurable, Full modular design, All modules should be hot swappable, All components are front accessible, Redundant power supply, Output re-clocking (On/Off), SNMP, Ethernet, Serial RS-232/422, and Q-Link ports.</p> <p>Router Panel (Qty-06 for NA) (Qty-06 for Senate) Router Control Panel, Compact, rack mountable hardware controller, Web based configuration with a single user interface, Robust: Linux based operating</p>		
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			system, multi node cluster with automatic failover, Centralized Management: One interface to manage devices, names, and control panels, Seamless Reconfiguration: Targeted Configuration changes with minimal impact on the operation of the system.		
	7	Distribution	Flight case (Qty-1 for NA) (Qty-1 for Senate) 8 RU water proof, shock proof, EIA-19 wide flight case with front and rare cover and PDU Frame for modular glue equipment (As per drawing/design) for NA & Senate 3RU modular frame with frame controller and redundant power supply for audio video distribution and glue equipment. The frame slots should be 15 or higher and installed cards in it can be configurable from the software too. 12G/3G/HD-SDI distribution amplifier (As per drawing/design with backup) for NA & Senate Single IN and 6 or more 12G/3G/HD-SDI OUT video distribution card compatible with offered modular frame for installation of glue equipment.	1	1



			<p>Fiber Optic transmitter/Receiver for 12G/3G/HD-SDI video (As per drawing/design with backup) for NA & Senate) Fiber Optic 12G/3G/HD-SDI video transmitter/Receiver card, Coaxial Distribution Amplifier including SFPs.</p> <p>12G/3G/HD/SD-SDI up/down/cross converter (As per drawing/design with backup) for NA & Senate 12G/3G/HD/SD-SDI up/down/cross converter and Distribution Amplifier, Broadcast quality up/down/cross conversion between common 12G/3G/HD/SD video signals, Integrated frame synchronizers Dual path processing in a single modular form factor, Integrated frame synchronizers, Support for card reference connection, Support standard and user-defined aspect ratio conversions, Fully AFD-enabled with frame-accurate transitions between AFD modes, Broadcast quality color corrector.</p>		
	8	Editing	<p>Non-Linear Editing System: MacOS 12.0 Monterey or Higher (Qty-02 for NA)(Qty-02 for Senate) 3.2GHz 16 core Intel Xeon W processor, Turbo Boost up to 4.4GHz 48GB (6x8GB) of DDR4 ECC memory</p>	2	2



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			<p>Radeon Pro 580X with 8GB of GDDR5 memory 8TB SSD storage Stainless steel frame with feet Magic Mouse + Magic Trackpad Magic Keyboard with Numeric Keypad - US English With compatible Video Editing Software</p> <p>Logic Pro Monitor (Qty-02 for NA) (Qty-02 for Senate)</p> <p>3840-by-2160 resolution, the 23.7-inch UltraFine 4K Display (23 or Higher) Two Thunderbolt 3 (USB-C) ports, three downstream USB-C ports (5 Gb/s) offer additional connectivity and power to compatible devices and accessories.</p> <p>Storage (Qty-02 for NA) (Qty-02 for Senate) 120TB of storage split over twelve hot-swappable 10TB 3.5" hard drives, each of which utilize one of the array's SATA drive bays, Each drive should be equipped with a minimum cache of 64MB and a rotational speed of 7200 rpm, Equipped with two 40 Gb/s Thunderbolt 3 ports and one 10 Gb/s USB 3.1 port, RAID 0, 1, 5, 6, 10.</p>		
	9	Archiving	10GigE 48 port Network Switch (As per drawing/design) for NA & Senate	1	1



			<p>48 port layer-3 100/1G/10G network switch with 960Gbps or above back plane</p> <p>1GigE 48 port Network Switch (As per drawing/design) For NA & Senate</p> <p>48 port layer-3 10/100/1G network switch</p> <p>Central Storage (Qty-01 for NA) (Qty-01 for Senate)</p> <p>The storage system must support a minimum of 10 concurrent NLE users, with the option to expand up to 20 concurrent users. Each NLE user must be able to edit with 4 concurrent layers of ProRes 422 @ UHD. The storage system must include a User-Friendly MAM. The storage system must include a MAM client for the each of the NLE workstation. The storage system must include web-based access to proxy quality version of files stored in the storage system from the internal office network. The storage system must include built-in APIs to allow for integration to external systems. The storage system must be ready to integrate with compatible near line / backup storage systems. The storage system must have a minimum of 650TB of useable capacity after RAID configuration. The storage system must be configured with RAID-6 level data protection. The storage must support concurrent iSCSI,</p>	
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			<p>AFP, SMB, NFS, FTP, and SFTP protocols for file sharing or as SAN. The storage system must include a minimum of 8 x 10Gb Ethernet ports or better for connectivity to the network switch. The storage system shall be upgradable to increase storage capacity and/or bandwidth.</p> <p>The storage system shall use Enterprise SATA grade or better HDD The storage system must include a built-in transcoder with selectable compression profile to generate proxy files. The storage system must include unlimited licenses for MAM client.</p> <p>MAM - Database Management (Qty-01 for NA) (Qty-01 for Senate)</p> <p>The MAM client must have automatic project locking functionality for FCPX, Adobe Premiere Pro, and Digi design Pro Tools. The MAM client must be able to search for files even if the volume containing the files are not mounted. The MAM client must be able to manage the built-in transcoder for proxy generation. The storage system must include unlimited licenses for web client over the local network. The web client must include username and password permission access. The web client must be able to search across both free-form and pre-defined metadata. The web client must be able to</p>		
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			<p>preview the video clips in proxy resolution. The web client must be able to create multiple time- based markers using the proxy video and enter additional metadata based on the time-based marker. The web client must be able to integrate with Amazon AI services for automatic metadata generation. The web client must be able to create virtual bins to organize video content</p> <p>Digitization of video Tapes (SVHS, DV CAM etc) for NA & Senate VHS/SVHS estimated 3500 Hrs DVCAM estimated 3800 hrs</p>		
	10	Streaming	<p>I.P Streaming Encoder (Qty-1 for NA) (Qty-1 for Senate)</p> <p>Streaming, Recording, and Editing, 4 x 3G-SDI Input Ports, Baseband 3G-SDI Output, DVI-D and Dual HDMI Outputs Audio Mixing Chroma Key, Virtual Sets, and Graphics, 30 Built in Streaming Destinations GPU-Accelerated Compression, NewBlueTitler Live Complete, 2TB Internal Storage or Higher.</p>	1	1
	11	Installation Material & glue equipment	<p>Video Processor (Qty-1 for NA) (Qty-1 for Senate)</p> <p>12G/3G/HD-SDI Video processor with option of controlling Luminance, chrominance, frame sync, frame rate conversion, up/down/cross conversion, aspect ratio conversion with</p>	1 Job	1 Job



			<p>analogue and digital audio and video INPUTs and OUTPUTs. Fiber I/O will be plus option</p> <p>Digital Intercom Matrix for talkback (Qty-1 for NA) (Qty-1 for Senate)</p> <p>16 port 4-wire Analogue I/O, IP based communication, IFB supported digital intercom matrix expandible till 128 ports. It should support copper and fiber based communication with panels. 1RU, 16 keys or above 4-wire Analogue I/O, IP based communication, IFB supported digital rackmount intercom panel(Qty-10) 16 keys or above 4-wire Analogue I/O, IP based communication, IFB supported digital desktop intercom panel(Qty-03) Single-sided headset with flexible dynamic boom mic with frequency response between 150 Hz to 8 KHz(Qty-05) Dual-sided headset with flexible dynamic boom mic with frequency response between 150 Hz to 8 KHz(Qty-10)</p> <p>Goose mic for intercom panel (Qty-05 for NA) (Qty-05 for Senate)</p> <p>Master SPG/Master Clock System (Qty-1 for NA) (Qty-1 for Senate)</p>		
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			<p>6 independently time able programmable reference outputs, Bilevel or Tri-level outputs selectable, 2 Independent LTC/IRIG-B Time Code outputs, SNTP option for time reference, 3.58/4.43/5MHz frequency reference output, Optional test generators are to be available to cater the following options: PTP, Composite Video, AES/DARS, Analog Audio Tones, SD SDI, HD SDI 3GB/s, Optional Network Time Protocol (NTP) server support, Rack mountable, Optional redundant hot swappable power supply, compatible with Dual GPS Data Fiber Receivers & Transmitters, Black Burst SMPTE ST 170 (NTSC-M), ITU-R BT.1700-1 (PAL-B), Bi-Level Slo-Pal 625i/48, 625i/47.95, 480p/59.94, HD Tri-Level SMPTE ST 274 (1080p/23.98, 1080p/24, 1080i/50, 1080i/59.94, 1080i/60, 1080p/23.98sF, 1080p/24sF, 1080p/25, 1080p/29.97, 1080p/30, 1080p/50, 1080p/59.94, 1080p/60) SMPTE ST 296 (720p/59.94, 720p/60, 720p/50, 720p/30, 720p/24), Time must be referenced to GPS, LTC, VITC or have been synchronized via modem with complete installation & testing</p> <p>Cable for GPS Receiver (As per drawing/design) for NA & Senate</p>		
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			<p>400' weatherproof cable for GPS receiver with complete installation & testing</p> <p>SPG Changeover (Qty-1 for NA) (Qty-1 for Senate)</p> <p>Redundancy unit/changeover unit of sync pulse generator</p> <p>Digital Clock Display (Qty-06 for NA) (Qty-06 for Senate)</p> <p>2RU Rack-mount Digital Display, Completely self-setting with SMPTE ST 12-1 LTC time code input or battery back-up, Built-in quartz time base oscillator with battery back-up May be operated as a time code reader for use with countdowns, Digital display is userselectable between HH:MM:SS, 12/24 hour, HH:MM:SS FF and date, IRIG reader read 1kHz IRIG-B format sine wave amplitude modulated code (format B122), GPS receiver May be configured as a time code generator to drive other clocks, LED brightness adjustable Run on 50/60Hz, 115/230V AC power line, User-programmable time offsets, Rack mountable, Programmable daylight savings time start & end times, NTP client with complete installation & testing</p> <p>(I) Waveform monitor (Qty-02 for NA) (Qty-02 for Senate)</p>		
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			<p>Brands: Tektronix (USA), Leader (France), Rohde & Schwarz (Germany) or Equivalent</p> <p>3RU height, Half-rack Width, Short-depth (5.5 in. or 14 cm) Instrument, 4-pin XLR DC Power Input with AC Power Adapter for both AC/DC Operation, Four SDI Inputs with Multi format, Multi standard Support, Auto-detection of UHD/3G/HD/SD-SDI and multiple Dual Link video formats, Multiple Input Mode allows monitoring of up to four SDI inputs simultaneously for multiple camera monitoring applications (Option CAM), Two-channel Simultaneous Monitoring (Option CAM), Upgradeable to include 12G-SDI (Level A and Level B) format support with the purchase of an upgrade key (Option 3G), 16-channel embedded AES/EBU audio simultaneous monitoring support with Multichannel Surround Sound1 display and flexible Lissajous display (Option AUD), Variety of Monitoring Displays, Waveform display of external reference (Black Burst or Tri-Level Sync), Black Picture and Frozen Picture Detection, Extensive alarms, status reporting, and error logging for 10,000 events simplifies error correction tasks, Voltage and Timing Cursor for precise measurement, User definable Safe Area Graticules and AFD Graticule</p>		
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			<p>facilitate editing and format conversion tasks, Unmatched Display Versatility, Front panel headphone port for easy monitoring of audio channels, High-brightness display with crisp, high-resolution LED backlight, ideal for indoor and outdoor usage, SNMP and Ethernet remote interface capabilities and GPI control facilitate centralized monitoring and control, DVI-I external display output for easy connection to digital or analogue XGA display with complete installation & testing</p> <p>(ii) Rack cabinet (As per drawing/design) For NA & Senate Rack Cabinet (Option NN) with complete installation & testing</p> <p>(v) Filler Panel (As per drawing/design) for NA & Senate Filler Panel with complete installation & testing</p> <p>BNC TERMINATION PANEL UHD, 1U, 1x16 BNC 75 (As per drawing/design) For NA & Senate BNC TERMINATION PANEL UHD, 1U, 1x16 BNC 75 with complete installation & testing</p> <p>Video Patch bay (As per drawing/design) For NA & Senate 12G/3G/HD PATCH PANEL 2U 2x24 MUSA ,black Rigid</p>		
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			<p>aluminum extrusion manufactured Panels, 75 ohms coaxial patching with complete installation & testing</p> <p>Video Patch Panel U-Link (As per drawing/design) For NA & Senate 12G/3G/HD 2U U-LINK, Black Ensure low insertion and reflection losses with complete installation & testing</p> <p>Video Patch Panel U-Link (As per drawing/design) 12G/3G/HD 2U U-LINK, Red with complete installation & testing</p> <p>12G/3G/HD PATCHCORD 300mm Black (As per drawing/design) For NA & Senate MUST be suitable for 12Gb/s, 3Gb/s 1080p HDTV, 1.5Gb/s 1080i HDTV, SDTV, 75ohm Flexible, low- loss digital video cable Connector body parts MUST be nickel-plated and center contacts MUST be gold plated giving a smooth mating action with complete installation & testing</p> <p>12G 3G HD ADAPTER MUSA 12G 3G HD F- BNC (As per drawing/design) For NA & Senate MUST be suitable for composite and component video Uncompressed SDI video up to 12Gb/s Connector body parts MUST be nickel-plated and center contacts MUST be gold</p>		
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			<p>plated giving a smooth mating action with complete installation & testing.</p> <p>Patch Panel (As per drawing/design) For NA & Senate 48 B-Gauge Patch Panel 2 x 24 long frame 1/4" TRS jacks according to BPO 316 / MIL-P-641/3 Wire O.D: 0.003 to 0.02 square inches (0.08 to 0.5 mm²) 28 to 20 AWG Robust and compact galvanized metal housing Channel identification through coloredsnap-on coding tabs Six programmable switching configurations with the aid of jumpers MUST Qualify for analog and digital signals according to the AES3 standard 48 kHz sampling frequency Durable, high-quality gold-plated jacks Flexible grounding system Spring-loaded push terminals Rear terminations include solderless terminal blocks with complete installation & testing</p> <p>Patch Cord (As per drawing/design) For NA & Senate 1/4" B-Gauge and MIL type plug One-piece tip conductor ensure secure conductivity Metal shell and chuck-type cable retention, with complete installation & testing</p>		
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			<p>Patch Cord (As per drawing/design) For NA & Senate 1/4" B-Gauge and MIL type plug, One-piece tip conductor ensure secure conductivity, Metal shell and chuck-type cable retention, Robust and dependable, 40 cm Length with complete installation & testing</p> <p>UHD/HDTV, SERIAL DIGITAL AND ANALOGUE VIDEO CABLE ROLL(As per drawing/design) For NA & Senate Low loss, Gas injected foam high density polyethylene, 5.5 mm OD, plain copper, 68dB or less per 6 GHz (Tested UHD Length)</p> <p>UHD/HDTV, SERIAL DIGITAL AND ANALOGUE VIDEO CABLE ROLL(As per drawing/design) For NA & Senate Low loss, Gas injected foam high density polyethylene, 11 mm OD, plain copper, 68dB or less per 6 GHz (Tested UHD Length)</p> <p>12G/3G/HD Coaxial cable Crimp Plug for 5.5 mm 12G coaxial cable</p> <p>12G/3G/HD Coaxial cable Crimp Plug for 11 mm 12G coaxial cable For NA & Senate</p> <p>BNC to RCA adaptors For NA & Senate</p>		
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			<p>BNC to BNC J-J For NA & Senate</p> <p>CAT-6A or CAT-7 Cable roll For NA & Senate</p> <p>CAT-6A or CAT-7 Cable roll for networking with 10G MacOS 12.0 Monterey or Highers and central storage which has 10G connectivity For NA & Senates</p> <p>10G Patch Panel for CAT- 6A or CAT-7 For NA & Senate</p> <p>CAT-6 Cable roll For NA & Senate</p> <p>CAT-6 cable roll for networking with 1Ge PCs and devices 1Ge Patch Panel for CAT- 6A or CAT-7 For NA & Senate</p> <p>AC MAINS POWER CORDSET (As per drawing/design) For NA & Senate Brands: Canford (UK), Canare (Japan), AVP (USA), GEPCO/BELDEN (USA) or Equivalent AC MAINS POWER CORDSET IEC-Lock female – IEC male, 2 meters, with complete installation & testing</p>		
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			<p>AC MAINS POWER CORDSET (As per drawing/design) For NA & Senate</p> <p>AC MAINS POWER CORDSET IEC-Lock female - IEC male, 3 meters, with complete installation & testing</p> <p>AC MAINS POWER CORDSET (As per drawing/design) For NA & Senate</p> <p>AC MAINS POWER CORDSET IEC-Lock female - IEC male, 4 metres, orange with complete installation & testing Die Set (Qty-02) For NA & Senate</p> <p>Hex 6.7 / Sq 1.1 with complete installation & testing</p> <p>CRIMPING TOOL (Qty- 02) For NA & Senate</p> <p>CRIMPING TOOL Hex 6.7 / Sq 1.1 with complete installation & testing</p> <p>Coaxial Cable Stripper (Qty-02) For NA & Senate</p> <p>Coaxial Coaxial Cable Stripper (5 in 1, Cable OD Adjustable , Handheld coaxial cable stripper, Rotary knob select from five different cable set-up, Three height-adjustable circular steel blades for clean, precise cuts “Side-slit” jacket blade,</p>		
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			<p>V-guide align the cable directly in the center of the chamber, Hexagonal wrench MUST be attached for quick blade adjustment with complete installation & testing</p> <p>Microphone cable (As per drawing/design) For NA & Senate</p> <p>Twisted Pair Microphone cable (200M), 2-Conductor Cable, Braided Copper Shield Should reject EMI & RFI, Flexible in extremely cold weather with complete installation & testing</p> <p>XLR Connector (As per drawing/design) For NA & Senate</p> <p>3PIN XLR connectors Male / Female, 3 pole male / female cable connector with Nickel housing and silver contacts, Male / Female connector with improved locking recess without "window", more stringent housing, Boot with polyurethane gland gives high protection to cable bending stresses, Rugged zinc die cast shell, long lasting and dependable with complete installation & testing</p> <p>XLR Termination panel (As per drawing/design) For NA & Senate</p> <p>XLR TERMINATION PANEL 1U 1x16 XLRM, Rigid aluminum extrusion</p>		
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			<p>manufacturing , Panel fitted with a cranked lacing-bar with complete installation & testing</p> <p>Connector (As per drawing/design) For NA & Senate</p> <p>¼” TRS Phone Plug, Brass with Nickel & Gold Plating, Provide Termination in Soldering Cables, Offer 360° Cable-Strain Relief with complete installation & testing</p> <p>BNC FITTING TOOL (Qty-02) For NA & Senate</p> <p>Special tools to enable standard BNC’s to be fitted in and removed from densely packed panels. 300mm length with complete installation & testing</p> <p>I/O Card (Qty-04) For NA & Senate</p> <p>4K I/O for Thunderbolt 2 or 3, Support 4K via HDMI & Quad Link SDI, Simultaneous SDI and HDMI Outputs, Dual Thunderbolt 2 Ports Real-Time 4K to HD Down-Conversion, 10-bit 4:2:2 and 4:4:4 Support, 16-Channel Embedded Audio on SDI, 8-Channel Embedded Audio on HDMI, DB-25 Analog Audio Output Connector RS-422 VTR Control, Reference, LTC Input Headphone Jack and Level Control with complete installation & testing</p>		
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			<p>UPS (Qty-01)</p> <p>30kva, 3-Phase online UPS with backup of 30 minutes</p> <p>(i) Raw Power Cabling & PDU/Technology Boxes Supply, installation, connecting up and commissioning of 2.5 mm²x 3 S/C PVC insulated copper wire circuit connected to respected UPS DB for all PDUs located (To be used for entire set up with complete installation & testing</p> <p>(ii) Supply, installation, connecting up and commissioning of 4mm²x 3 S/C PVC insulated copper wire circuit connected to UPS DBs for all Circuits required in the Racks and on the equipment Table.</p> <p>(iii) Supply, Installation and Termination of Technology Box fabricated with 16AWG MS Sheet powder coated having 13A Flat pin Socket Qty 02, 15A multi pin Socket Qty 01 and 01 Duplex Outlet for Data/Voice (only blank back box)completed in all respect. (To be used for A/V Control Room, NLE etc.)</p> <p>(iv) Supply, Installation connecting up and commissioning of 2.5 mm²x 3 Core pure copper, PVC insulated flexible wire circuits connected to all robotic camera's Powerful indoor pan-tilt head</p>		
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			<p>Cable would be laid in cable tray and comes out of the tray near Camera position by cutting a hole in the tray of 20MM Dia, inserting a corrugated conduit gland of appropriate size and then cable would be run in appropriate size conduit/channel up to the robotic camera.</p> <p>(v) Supply and Installation of Rack mount Power Distribution Unit 3 Pin Flat type 13/15 Outlets 16A each. (To be installed in Racks and Equipment Tables at A/V Control Room and Audio Interpreter Room)</p> <p>(i) Supply & Installation of Power Cable 600/1000 V- BS6346 annealed stranded Copper / PVC / SWA / PVC, 4 mm², 3 Cores (Pakistan /Pioneer/Fast Cable). For UPS Power to be laid between UPS Room to Media Distribution Box near main entrance.</p> <p>Cable Tray System For NA & Senate</p> <p>(a) Supply and Installation of 18 AWG, 125 MM X 70 MM curved, MS Powder Coated perforated cable tray (Low Voltage) with covers; installed in the ceiling and along the wall with steel "L" type resting brackets, nut bolts, washers and all other installation accessories completed in all respects. With cable tray tee ,riser, bend along with covers</p>		
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			<p>(To be installed along the curvature of the assembly Hall for Robotic cameras).</p> <p>(b) Supply and Installation of 18 AWG, 230 MM X 75 MM, MS Powder Coated perforated Low Voltage cable tray without covers. Installed under the raised flooring with nut bolts, washers and all other installation accessories completed in all respects. With cable tray tee, riser, bend along with covers.(To be installed in A/V & Interpretation Room)</p> <p>(c) Supply and Installation of 18 AWG, 150 MM X 75 MM, MS Powder Coated perforated Electrical cable tray with covers. Installed under the raised flooring and up to the Electrical DB with nut bolts, washers and all other installation accessories completed in all respects. With bends and rizer (To be installed in A/V & Interpretation Room)</p> <p>(i) Main Electrical Distribution Panel At Power Room For NA & Senate</p> <p>Supply, Installation and Commissioning of Main Electrical Distribution Panel to cater UPS Panel for 02 UPS of 30 KVA 3 In 3 OUT installed in Parallel Configuration. Merging the power of both the UPS together and having option of Sub-distribution to 05 numbers locations (UPS DBs at various locations). Steel Fabricated powder coated</p>		
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			<p>Floor standing, Cubical Design, suitable for 415V, 3 Phase, 4 wire, 50 Hz Electrical System. Incorporating following components.</p> <p>(ii) IN-COMING 01 Nos. MCCB TP 125 Amps, 25KA 01 Nos. Digital Ampere Meter 0-300Amps, EI Measure / LS 01 No. Ampere – Selector Switch 01 No. Digital Volt Meter 0-500V, EI Measure / LS 01 No. Volt – Selector Switch 03 No. Current Transformer 300/5 03 No. Indication Lights (R/Y/B) 03 No. Control Fuses</p> <p>(iii) OUT-GOING 04 Nos. MCCB TP 80 Amps, 15KA</p> <p>(iv) SUB-INCOMING 01 Nos. MCCB TP 125 Amps, 15KA</p> <p>(v) SUB-OUTGOING 04 Nos. MCCB TP 80 Amps, 15kA (For UPS Load) 01 Nos. MCB DP 100 Amps, 06kA (For UPS Load)</p> <p>(i) UPS DB For A/V Control Room For NA & Senate</p> <p>Supply, Installation and Commissioning of UPS Power Distribution Board for MCR and PCR. Designed to cater 20-25 KVA UPS Power load. Voltage monitoring system. Steel fabricated with MS</p>		
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			<p>Sheet powder coated wall mounted Flush Type, suitable for 415V, 3 Phase, 4 wire, 50 Hz Electrical System. Incorporating following components.</p> <p>(ii) In-coming 01 No. MCCB TP 80 Amps, 15kA 01 No. Digital Volt meter 0-500V, 01 No. Volt – S/S 03 Nos. Indication Lights (R/Y/B) 03 Nos. Control Fuses Glass Fuse</p> <p>(iii) Out-Going 06 Nos. MCB DP 20 Amps, 06kA (For UPS Cct Rack & Table) 02 Nos. MCB DP 16 Amps, 06kA (For UPS Cct LCD, Tech Box)</p> <p>(iv) Feeders & Sub Feeders Supply, Installation, Termination and Commissioning of 35 mm² 4core Cu/PVC/PVC Cable from Main Power Distribution Bus Bar to UPS Main DB located at Power Room for main connectivity of power. (Final Bill APA Consumption)</p> <p>(v) Supply, Installation, Termination and Commissioning of 25 mm² 4core Cu/PVC/PVC Cable from Main Distribution Panel to UPS DBs of complete setup. (Final Bill APA Consumption)</p> <p>(i) Earth Pit & Earth Bus Bars For NA & Senate</p>		
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			<p>Providing, installation, testing & commissioning of Chemical earth point for UPS power to achieve an earth resistance of less than one ohm, work includes making earth electrode with 1" dia 10 feet long pure copper earthing rod at a depth of water table, complete with construction of CC inspection chamber, 70 MMx2 bare copper rope connected between earth rod and Earth Bus Bars on the wall with all fitting accessories. Completed in all respects.</p> <p>(ii) Installation and connecting up of Earth Bus Bar 300x75x6 MM size of copper plate tin coated fitted on a MS 11 AWG Plated powder coated plate with insulator of 40MM Qty 02. Fixed on the wall with grounding bolt and nuts to connect incoming and outgoing earthing conductor completed in all respects.</p> <p>(iii) Supply and installation of 3" Dia 10AWG GI Pipe coated with anticorrosion wrapping tape to be buried in Road/Open area to cross over 70 MM ECC CU/PVC/PVC Earth cable. All type of digging/excavation/Plumber work is included.</p> <p>(iv) Supply, Installation, Termination and Commissioning of 70 MM² ECC S/C PVC Cable. (To be laid between Earth-point located at Ground and Duct area of Main Electrical Bus Bar at 4th Floor. Final Bill APA Consumption)</p>		
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	12	Video Wall 4x4 Matrix with 55- inch Screen	UHD High Brightness 55” or above For NA & Senate Professional Display (Qty- 03) Professional High-Brightness Display Capable of Displaying, Clear Images Even in Bright Places 55” HD/UHD or above for Production switcher, 24/7 Operation. 12G/3G/HD/SD-SDI to HDMI Bi-directional Converter (Qty-12) For NA & Senate Resolutions up to 4K/UHD, 12G/3G/HD-SDI Input, and HDMI Monitor Output. Advanced Series Plenum HDMI Cable (Qty-12) ProGrip Low Profile Connector, SureLength Cable Indicators, 3D and Ethernet Capable, 4K Resolution Support, 10.2 Gbps Ultra High Speed, 24 AWG, Triple Shielded, 1080p and Beyond Support, Deep Color and x.v. Color Technology, Dolby Support. Broadcast Video Monitors (Qty-08) For NA & Senate 18.4-inch 4K HDR high- grade picture monitor, that offers 1,000-cd/m ² luminance makes group monitoring easy for on-set, studio and OB van walls, and in 19-inch EIA racks. It include internal scope like	2	2
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			waveform and vectorscope for quality control.		
b. Master Control Room for Broadcast					
	13	Switcher + Audio Mixer	<p>Video Switcher Mainframe Terminal (Qty-01 for NA)(Qty-01 for Senate) 4K or higher Video switcher with minimum 24, 4K/UHD/3G/HD-SDI inputs with frame sync on each input, built-in media players, Multiviewers, minimum 8 AUX outputs, redundant power supplies, all inputs outputs should be 12G.</p> <p>Control Panel (Qty-01 for NA)(Qty-01 for Senate) 2ME broadcast panel for live switching with tri-color led cross points buttons, minimum 16 Direct cross points. Compatible with Mainframe Terminal. Audio Mixer Built in or External for embedding</p>	1	1
	14	Allied Equipment	<p>Broadcast Video Monitors (Qty-02 for NA)(Qty-02 for Senate) 18.4-inch 4K HDR high-grade picture monitor, that offers 1,000-cd/m2 luminance makes group monitoring for desktop and in 19-inch EIA racks. It includes internal scope like waveform and vector scope for quality control.</p> <p>SDI Audio Monitor The audio monitor features a 12G-SDI input, a balanced XLR analog audio input, a balanced AES/EBU digital input audio, HiFi audio inputs with rackmount kit.</p>	1	1



			<p>UHD High Brightness 65” or above (Qty-01 for NA)(Qty-01 for Senate)</p> <p>Professional Display Professional High-Brightness Display Capable of Displaying, Clear Images Even in Bright Places 65" HD/UHD or above for Production switcher, 24/7 Operation with Dual HDMI input with complete installation & testing</p> <p>12G/3G/HD/SD-SDI to HDMI Bi-directional Converter (Qty-04 for NA)(Qty-01 for Senate)</p> <p>Resolutions up to 4K/UHD, 12G/3G/HD-SDI Input, and HDMI Monitor Output. With complete installation & testing</p> <p>Advanced Series Plenum HDMI Cable (Qty-04 for NA)(Qty-04 for Senate)</p> <p>ProGrip Low Profile Connector, SureLength Cable Indicators, 3D and Ethernet Capable, 4K Resolution Support, 10.2 Gbps Ultra High Speed, 24 AWG, Triple Shielded, 1080p and Beyond Support, Deep Color and x.v. Color Technology, Dolby Support with complete installation & testing</p> <p>Audio Monitor (Qty-02 for NA)(Qty-02 for Senate)</p> <p>2-way active studio audio monitor features a 90W amp,90W LF amplifier, 90W</p>		
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			<p>HF amplifier driving a 6.5” woofer and a 90W amp pushing a 3/4” metal-dome tweeter, producing a frequency response of 45 Hz to 21 kHz.</p> <p>The aluminum enclosure, supports a balanced input via an XLR 3-pin connector. Room compensation options include high- and low-frequency adjustments. There is a selectable power-saving mode that enables automatic power up/down via a signal-sensing circuit.</p> <p>6.5" woofer and 3/4" metal-dome tweeter</p> <p>45 Hz to 21 kHz frequency response (-3 dB), 48 Hz to 20 kHz frequency response (± 2 dB)</p> <p>Proprietary waveguide utilizes DCW (Directivity Control Waveguide) technology for improved imaging and a wider listening area</p> <p>ISS (Intelligent Signal Sensing) automatic power-saving mode</p> <p>Multiple mounting options Includes Iso-Pod isolation stand for vibration decoupling</p> <p>Headphone: Pro Circumaural Closed-Back Monitor Headphones (Qty-05 for NA)(Qty-05 for Senate)</p> <p>Circumaural Closed-Back Monitor Headphones feature a collapsible design with swiveling earcups and extended low end reproduction with a frequency response of 8 Hz to</p>		
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			<p>25 kHz. Rejection of outside noise is high, rated up to -32 dB.</p> <p>Single-sided, coiled cable with 3.5 mm mini jack with locking ¼” adapter</p> <p>Comfortable for long mix sessions</p> <p>Frame for modular glue equipment (As per drawing/design)</p> <p>3RU modular frame with frame controller and redundant power supply for audio video distribution and glue equipment. The frame slots should be 15 or higher and installed cards in it can be configurable from the software too.</p> <p>12G/3G/HD-SDI distribution amplifier (As per drawing/design) For NA & Senate</p> <p>Single IN and 6 or more 12G/3G/HD-SDI OUT video distribution card compatible with offered modular frame for installation of glue equipment.</p> <p>Fiber Optic transmitter/Receiver for 12G/3G/HD-SDI video (As per drawing/design) For NA & senate</p> <p>Fiber Optic 12G/3G/HD-SDI video transmitter/Receiver card , Coaxial Distribution Amplifier including SFPs and with complete installation & testing</p>		
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			<p>12G/3G/HD/SD-SDI up/down/cross converter (As per drawing/design) For NA & Senate</p> <p>12G/3G/HD/SD-SDI up/down/cross converter and Distribution Amplifier, Broadcast quality up/down/cross conversion between common</p> <p>12G/3G/HD/SD video signals, Integrated frame synchronizers For NA & Senate</p> <p>Dual path processing in a single modular form factor, Integrated frame synchronizers, Support for card reference connection, Support standard and user-defined aspect ratio conversions, Fully AFD-enabled with frame-accurate transitions between AFD modes, Broadcast quality color corrector and detail enhancement engines with complete installation & testing</p> <p>Balanced audio distributor (As per drawing/design) For NA & Senate</p> <p>Balanced Analog Audio Distribution Amplifier Differential and single ended input (automatic single ended to differential conversion), Configurable for stereo (2-1x4) or mono (1x8), High impedance input, Low impedance outputs Wide gain adjustment range, High common mode range and</p>		
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			<p>common mode rejection ratio (CMRR), Very high SNR, Very low THD+N Card Edge LEDs, Module status/Local fault with complete installation & testing</p> <p>Analog Video Distributor (As per drawing/design) For NA & Senate</p> <p>Analog Video Distribution Amplifier 75Ω or high impedance input (jumper selectable) High common mode range and common mode rejection ratio (CMRR) Gain control Jumper selectable AC or DC coupling Looping feature with external "T" connector Consistent input impedance if card power is lost with complete installation & testing</p> <p>.</p> <p>12G/3G/HD-SDI Audio Embedder (As per drawing/design) For NA & Senate</p> <p>12G/3G/HD-SDI and Analog or AES Audio Embedder Automatic detection of video input format Programmable audio delays (the lesser of 5 frames or 84 milliseconds) Selectable ancillary packet cleaning mode removes all audio before embedding Individual audio channel assignment for embedded audio group Audio mixer per audio channel to provide voice-over</p>		
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			<p>Upstream embedded Dolby E® compatible (passed through) Monitoring headphone jack for audio input and embedder group channels</p> <p>Comprehensive signal and card status monitoring via four-character card-edge display and LEDs with complete installation & testing</p> <p>12G/3G/HD-SDI Audio De-Embedder (As per drawing/design) For NA & Senate</p> <p>12G/3G/HD-SDI Audio De-embedder with 4 analog or AES audio outputs, Automatic detection of video input format, Card edge LEDs indicating module status, video presence, selected audio group data is present, LED indication for the presence of each of the four audio groups within the input video, Audio group selection via card edge DIP switches, Independent volume controls for each of the audio channel outputs and support both HD and SD-SDI signals with complete installation & testing</p> <p>12G/3G/HD-SDI Frame Synchroniser (As per drawing/design) For NA & Senate</p> <p>12G/3G/HD-SDI Frame Synchronizer with delay in embedded audio and metadata for sync.</p>		
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			<p>Analog to AES audio converter (As per drawing/design) 8 channel or above analogue audio to AES audio converter AES to Analogue audio converter 8 channel or above AES digital audio to analogue audio converter</p> <p>BNC TERMINATION PANEL UHD, 1U, 1x16 BNC 75 (As per drawing/design) For NA & Senate</p> <p>BNC TERMINATION PANEL UHD, 1U, 1x16 BNC 75 with complete installation & testing</p> <p>Video Patch bay (As per drawing/design) For NA & Senate</p> <p>12G/3G/HD PATCH PANEL 2U 2x24 MUSA ,black Rigid aluminum extrusion manufactured Panels, 75 ohms coaxial patching with complete installation & testing Video Patch Panel U-Link (As per drawing/design) 12G/3G/HD 2U U-LINK, Black Ensure low insertion and reflection losses with complete installation & testing</p> <p>Video Patch Panel U-Link (As per drawing/design) For NA & Senate</p>		
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			<p>12G/3G/HD 2U U-LINK, Red with complete installation & testing 12G/3G/HD PATCHCORD 300mm Black (As per drawing/design) MUST be suitable for 12Gb/s, 3Gb/s 1080p HDTV, 1.5Gb/s 1080i HDTV, SDTV, 75ohm Flexible, low- loss digital video cable Connector body parts MUST be nickel-plated and center contacts MUST be gold plated giving a smooth mating action with complete installation & testing</p> <p>12G 3G HD ADAPTER MUSA 12G 3G HD F- BNC (As per drawing/design) For NA & Senate</p> <p>MUST be suitable for composite and component video Uncompressed SDI video up to 12Gb/s Connector body parts MUST be nickel-plated and centre contacts MUST be gold plated giving a smooth mating action with complete installation & testing</p> <p>Patch Panel (As per drawing/design) For NA & Senate</p> <p>48 B-Gauge Patch Panel 2 x 24 long frame 1/4" TRS jacks according to BPO 316 / MIL-P- 641/3 Wire O.D: 0.003 to 0.02 square inches (0.08 to 0.5 mm²) 28 to 20 AWG Robust and compact galvanized metal</p>		
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			<p>housing Channel identification through colored snap-on coding tabs Six programmable switching configurations with the aid of jumpers MUST Qualify for analog and digital signals according to the AES3 standard 48 kHz sampling frequency Durable, high-quality gold-plated jacks Flexible grounding system Spring-loaded push terminals Rear terminations include solderless terminal blocks with complete installation & testing</p> <p>Patch Cord (As per drawing/design) For NA & Senate</p> <p>1/4" B-Gauge and MIL type plug One-piece tip conductor ensure secure conductivity Metal shell and chuck-type cable retention, with complete installation & testing</p> <p>Patch Cord (As per drawing/design) For NA & Senate)</p> <p>1/4" B-Gauge and MIL type plug, One-piece tip conductor ensure secure conductivity, Metal shell and chuck-type cable retention, Robust and dependable, 40 cm Length with complete installation & testing</p> <p>UHD/HDTV, SERIAL DIGITAL AND ANALOGUE VIDEO</p>	
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			<p>CABLE ROLL (As per drawing/design) For NA & Senate</p> <p>Low loss, Gas injected foam high density polyethylene, 5.5 mm OD, plain copper, 68dB or less per 6 GHz (Tested UHD Length)</p> <p>UHD/HDTV, SERIAL DIGITAL AND ANALOGUE VIDEO CABLE ROLL (As per drawing/design) For NA & Senate</p> <p>Low loss, Gas injected foam high density polyethylene, 11 mm OD, plain copper, 68dB or less per 6 GHz (Tested UHD Length)</p> <p>12G/3G/HD Coaxial cable Crimp Plug for 5.5 mm 12G coaxial cable</p> <p>12G/3G/HD Coaxial cable Crimp Plug for 11 mm 12G coaxial cable</p> <p>BNC to RCA adaptors BNC to BNC J-J</p> <p>CAT-6A or CAT-7 Cable roll</p> <p>CAT-6A or CAT-7 Cable roll for networking with 10G MacOS 12.0 Monterey or Highers and central storage which has 10G connectivity</p> <p>10G Patch Panel for CAT-6A or CAT-7</p> <p>CAT-6 Cable roll</p>		
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			<p>CAT-6 cable roll for networking with 1Ge PCs and devices</p> <p>1Ge Patch Panel for CAT-6A or CAT-7</p> <p>AC MAINS POWER CORDSET (As per drawing/design) For NA & Senate</p> <p>Brands: Canford (UK), Canare (Japan), AVP (USA), GEPCO/BELDEN (USA) or Equivalent</p> <p>AC MAINS POWER CORDSET IEC-Lock female - IEC male, 2 meters, with complete installation & testing</p> <p>AC MAINS POWER CORDSET (As per drawing/design) AC MAINS POWER CORDSET IEC-Lock female - IEC male, 3 meters, with complete installation & testing</p> <p>AC MAINS POWER CORDSET (Qty-02 for NA)(Qty-02 for Senate)</p> <p>AC MAINS POWER CORDSET IEC-Lock female - IEC male, 4 metres, orange with complete installation & testing</p> <p>Die Set (Qty-02 for NA)(Qty-02 for Senate)</p> <p>Hex 6.7 / Sq 1.1 with complete installation & testing</p>		
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			<p>CRIMPING TOOL (Qty-02 for NA)(Qty-02 for Senate)</p> <p>CRIMPING TOOL Hex 6.7 / Sq 1.1 with complete installation & testing</p> <p>Coaxial Cable Stripper (Qty-02 for NA)(Qty-02 for Senate)</p> <p>Coaxial Coaxial Cable Stripper (5 in 1, Cable OD Adjustable , Handheld coaxial cable stripper, Rotary knob select from five different cable set-up, Three height-adjustable circular steel blades for clean, precise cuts "Side-slit" jacket blade, V-guide align the cable directly in the center of the chamber, Hexagonal wrench MUST be attached for quick blade adjustment with complete installation & testing</p> <p>Microphone cable (As per drawing/design) For NA & Senate</p> <p>Twisted Pair Microphone cable (200M), 2-Conductor Cable, Braided Copper Shield Should reject EMI & RFI, Flexible in extremely cold weather with complete installation & testing</p> <p>XLR Connector (As per drawing/design) For NA & Senate</p> <p>3PIN XLR connectors Male / Female, 3 pole male / female</p>		
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			<p>cable connector with Nickel housing and silver contacts, Male / Female connector with improved locking recess without "window", more stringent housing , Boot with polyurethane gland gives high protection to cable bending stresses, Rugged zinc die cast shell, long lasting and dependable with complete installation & testing</p> <p>XLR Termination panel (As per drawing/design) For NA & Senate</p> <p>XLR TERMINATION PANEL 1U 1x16 XLRM, Rigid aluminum extrusion manufacturing , Panel fitted with a cranked lacing-bar with complete installation & testing</p> <p>Connector (As per drawing/design) For NA & Senate</p> <p>1/4" TRS Phone Plug, Brass with Nickel & Gold Plating, Provide Termination in Soldering Cables, Offer 360° Cable-Strain Relief with complete installation & testing</p> <p>BNC FITTING TOOL (Qty-02 for NA)(Qty-02 for Senate)</p> <p>Special tools to enable standard BNC's to be fitted in and removed from densely packed panels. 300mm length with complete installation & testing</p>		
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			<p>Broadcast Equipment Tables along with chairs (A/V Control Room)</p> <p>Supply and Installation of three Broadcast Standard Equipment High Density Fiber Tables along with chairs. Dimension of each table is 12' L X 4' W with 02 No 5 RU 19" standard Docks for mounting equipment. Engraved slot for Audio Mixer/ Video Switcher and built in cable runner for harnessing the cable. Metallic Legs with cables entry in the span. Special Vinyl/ Synthetic leather table top. (For MCR, PCR and COCR)</p> <p>(For NA & Senate) Broadcast Standard Rack Broadcast Standard Central Apparatus Rack, 42U, 19" standard free standing, 900MM (depth) 600MM (frontage) completed with removable solid side panels. With all accessories including frame, cable management, troughs, cable guide, Four exhaust fans. With caster wheel and Jacks. Imported Rack with complete installation & testing</p>		
	15	Editing / Playout	<p>Character Generator (Qty 01 for NA) (Qty-1 for Senate)</p> <p>2-Dimensional graphics character generator able to run static and dynamic graphics including ticker. 4K UHD/HD/SD SDI internal keying or Fill & Key output.</p>	2	2



			<p>Unlimited layering like Still text, Roll/Crawl; Logos, Animation image sequence; clocks; 2D objects, In/Out Transitions, Pictures & Banners; Video Objects Playback , all mixed and blended in real time. Ticker can take data from external DB, XML or from file. 8TB SSD or above internal storage for media Complete hardware and software with minimum 3 years warranty</p> <p>Video Playback Server (Qty 01 for NA)(Qty-01 for Senate)</p> <p>Simple playlist based video playout server. Live Input: UHD/3G/HD-SDI. IP stream option will be plus point Output: UHD/3G/HD-SDI. Playback of UHD clips in form of Apple ProRes, Sony XAVC Real-time Loudness leveler - protects the output from audio level issues Web-based Multiview with Black and Freeze alarms Web-based I/O configuration and resource monitor 8TB SSD or above internal storage for media Complete hardware and software with minimum 3 years warranty</p> <p>PC with Scan Converter (Qty 02) for NA & Senate</p> <p>Windows 10 Professional,</p>		
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			Core-i7 10th Gen or above, 16GB RAM, 8TB SSD, 4GB DDR-5 or above graphics card, 10Ge NIC computer with UHD supported scan- converter which has 12G/3G/HD-SDI output.		
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National Assembly & Senate (Hall) a. Microphone Conference System & SIS System					
Lot#	Sr. No	Equipment	Specifications	Qty-National Assembly	Qty-Senate
(Lot-2) Microphone Conference System & SIS System for National Assembly & Senate Hall	a. Microphone Conference System & SIS System				
	1	Central Control Unit	Four independently powered RJ-45 outlets to connect up to 100 delegate units on four chains also acting as backup in case of failure. Gigabit LAN, Line IN and balanced Audio outputs. Automatic, push to talk, Voice Activation, Request to speak, chairperson priority and VIP management. Build-in easy to use Audio matrix for audio Routing Dante™ Interface with configurable Ethernet switch for redundant Dante digital output, Dante Link Speed: 1 Gbps, Sample Rate: 48 kbps, Sample width: 24 bit Maximum number of input channels: 64 (32 languages fixed/ 16 Floor audio inputs fixed) Maximum number of output channels: 64 (32 languages+ 32 configurable channels)	2	2



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			<p>Digital Audio: 48 KHz Sample Rate & Frequency Response 20Hz-20,000Hz Option to fix the time limit for speeches of delegate units from chairman unit or central software, Built-in MIC IN audio input for wireless mic system, Centralized conference management, Speaking time limit can be pre-set for conference units, Standard 2U housing for 19" rack mounting, PC communication: Ethernet, Video camera communication: IP Based, Support Digital Voting System, Manage the queue of requests of delegates along with complete information, Support SIS system, centrally control (on/off) all delegate units, Controllable by Speaker of the House and/ or by operator, Playback provision, sufficient storage of recording for at least two terms (8 years) with complete installation, configuration & testing and one-year comprehensive warranty.</p>	
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			1b. Backup Control Unit- Auto Switching in case of Failure - In case of failure, the Central Control Unit shall be able to switch to backup control units instantly.		
	2	Extension Power Supply	As per Drawing & Design or	17	6
	3	Flush Mount Chairman Unit with Connectors	Flush Mount Chairman unit with touch screen should allow the delegate to talk, request to talk, Speaker automatically mutes when the microphone is turned on, Low susceptibility to mobile phone interference, Pluggable gooseneck microphone stem 360mm-500mm long, 4inch or higher touch screen to display Agendas, conference documents, film and photo material, delegate lists, contact information, current speaker and delegates in the request list. Built in Channel Selector for listening to Interpreted	1	1



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			languages. Option to fix the time limit for speeches of delegate Units from central control Unit, control the headphone volume via the touch screen, voting via touch screen, separate RJ-45 connections for Audio & Multimedia for redundancy with complete installation, configuration & testing and one-year comprehensive warranty.		
	4	Stereo Headphone for Chairman Unit	Dynamic Headphone High Impedance & Sound Pressure Level, Cable Length: 1.5mtr or more, Mono/Stereo jack 3.5mm	1	1
	5	Flush Mount Delegate Discussion Unit with Loud Speaker and Connector	Flush Mount delegate unit with touch screen should allow the delegate to talk, request to talk, Speaker automatically mutes when the microphone is turned on, Low susceptibility to mobile phone interference, Pluggable gooseneck microphone stem 360mm-500mm long 4 inch or higher HD touch screen to display Agendas, conference documents, film and photo material, delegate lists, contact	410	132



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			information, current speaker and delegates in the request list. Built in Channel Selector for listening to Interpreted languages. Option to fix the time limit for speeches of delegate Units from central control Unit, control the headphone volume via the touch screen, voting via touch screen, separate RJ-45 connections for Audio & Multimedia for redundancy with complete installation, configuration & testing and one-year comprehensive warranty. Red or green illuminator. Red indicates microphone is Active, green indicates request-to-speak accepted.		
	6	Stereo Headphone for Delegate Discussion Unit	Stereo/Mono Dynamic Headphone High Impedance & Sound Pressure Level, Cable Length: 1.5mtr or more, Mono/Stereo jack 3.5mm	410	132
	7	Stereo Headphone for Channel Selector Units for Gallery	Stereo/Mono Dynamic Headphone High Impedance & Sound Pressure Level, Cable Length: 1.5mtr or more, Mono/Stereo jack 3.5mm	930	332



	8	Channel Selector for Galleries	Flush Mount language selector unit with LCD and buttons for controlling Volume and selection of Interpreted Languages. Support for more than 10 languages with native character language indication. RJ-45 Connections and 3.5mm headphone jack for stereo or mono connections. Must have a sleek design to be installed in arm-rests of chairs. Channel selector control units: For powering Channel Selector units via Cat 5e/6 cabling. Cascadable units to create a large system accommodating several hundred units. Multiple channel selector power outputs.	930	332
	9	Interpreter Console with Head Phone	The single-user interpreter desk with microphone shall have clear positioning of the controls that shall allow intuitive operation without mistakes. Assignable buttons for quick access to supporting functions. 05 preset monitoring languages, Supports more than 8	5	5



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			languages. High contrast display. Supports language and system configuration from the interpreter desk configuration menu, headphone and microphone socket with complete installation, configuration & testing and one-year comprehensive warranty.		
10	Touch Screens for Interpreters, Sound Operator and Chairman		24 Inch Touch Screen with HDMI Input	7	7
11	PTZ Camera		LENS Motorized Optical 24x zoom, F1.8 to F4.0[f=4.12 mm (5/32 inches) to 98.9 mm (3 29/32 inches);35 mm (1 3/8 inches) equivalent: 25.0 mm (31/32 inches) to 600.0 mm (23 5/8 inches)] MINIMUM ILLUMINATION 3 lx (F1.8, 59.94p, 50IRE, 42 dB, without accumulation) Zoom • Optical zoom: 24x• i.Zoom UHD 28x, FHD 36x • Digital extender zoom: 1.4 x , 2 x Horizontal Resolution UHD: 1,500 Typ (Centerarea)FHD:	0	3



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			<p>1,000 Typ (Center area)</p> <p>Gain Selection Auto, 0 dB to 36 dB*3 (Super Gain function equipped : 37 dB to 42 dB)</p> <p>WHITE BALANCE</p> <ul style="list-style-type: none"> • ATW : 3200 K, 5600 K (ATW Speed 3-stage variables.) • AWB : AWB-A / AWB-B • VAR (selectable between 2000 K and 15000 K by designating a value) With 1x High Quality RG-6 Cable Roll 305 Meter With 1x CAT 6 Direct Burial Cable 305 Meter 		
	12	PTZ Key Board	<ul style="list-style-type: none"> • Control of up to 200 remote robotic network cameras • Intuitive joystick for smooth and responsive PTZ camera control • 3.5" LCD screen displays menu and key camera information such as iris, zoom and focus • Easy management of up to 100 PTZ camera presets Supports PoE power 	0	1
	13	Video Switcher	<p>Switcher with 4 inputs and 4 outputs Should Support Auto Switching</p> <ul style="list-style-type: none"> • Modular design (16 slots) 	0	1



			<ul style="list-style-type: none"> • Should Automatically switch to the active camera • Huge variety format support with 12+ modules types • Low latency format conversion • Ultra-fast and clean switching • Video monitoring preview available through optional monitoring output module • Integral Audio Routing • New Quad input modules provide 1080p inputs for greater density • Include Quad HDMI input module and Quad 3G-SDI module 		
	14	Recording System for Reporters	4k input/output Record on up to 25 SD Cards or as per drawing/design, RealTime H.265 Encoding, Scalable for Larger Projects, SDI and Optical Video I/O, Ethernet Control, Single File Recording, Simultaneous Card Formatting, With Cut, Copy, Paste, and Conversion System for Audio conversion, Dual central storage on SSD, Play back provision with complete installation, configuration & testing and one-year	1	1



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			comprehensive warranty.		
	15	Radiator Transmitter	Radiator Transmitter	0	3
	16	Pocket Receiver	Pocket Receiver	0	15
	17	Controller Computer	Control Server Intel Quad-Core 3.6 GHz or higher, 16 GB RAM, 500 GB RAID 1 SSD additional backup HDD 2 TB DVI, HDMI Monitor connection min. 2x LAN RJ45, Microsoft Windows Server 2016	2	1
	18	Operator PC	Secondary Control PC Intel Core i-7 11 th Gen, or Higher, Gigabyte Motherboard with 2x PCI Express, 16Gb DDR4 Ram, 500GB SSD, 2TB HDD, Graphics Card with Dual Monitor HDMI Output, Gigabit LAN, Professional Sound Card built-in, Cooling Fan, High Power 600Watt PSU & Full Tower ATX Casing	1	1
	19	MIFARE Card	Specs as per drawing and design 50 Pcs in each pack	10	3
	20	Meeting recorders	Recording of the Session with Audio & Video having following specs, SDI Video Inputs 1 SDI Video Outputs 2 SDI Monitor Outputs 1, SDI Rates	1	1



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			<p>270Mb, 1.5G, 3G, 6G. HDMI 2.0 Video Inputs 1 HDMI 2.0 Video Outputs 1 Built in Speaker: Mono Screen 1 x XLR In, 1 x XLR Out.</p> <p>-2 TB SSD Drives Quantity=2</p> <p>-Dedicated Audio Recorder System with Multi-Channel recording via Hardware or Software on PC based solution</p>		
	21	Software Licenses	<p>Meeting Preparation and Management: The Agenda and meeting details shall be shared. Participant Database, Microphone Management, Video Stream Module, Interpretation Management Module, and Identification at Seat: Members can logon to the devices using their cards. Camera Control Module: Video of the Active Speaker will be shown. Voting Module: Create Voting Poll, Display Results, Secret Voting/ Open Voting, Able to vote as FOR, Against, Abstain.</p>	01 bundle	01bundle



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			SIS: select language to listen in, allot channels to languages, routing of languages to outputs with complete installation, configuration & testing and one-year comprehensive warranty. FULL PACKAGE		
	22	UPS 10 KVA	Three Phase Line Interactive Technology Power Capacity: 10 KVA, Power Factor: 0.8 or higher, Line Interactive Technology, must provide at least 30 minutes or higher backup at 70% load, Maintenance free batteries, Serial or USB port for communication, Surge Protection, Maximum 8 hours recharge time with complete installation, configuration & testing and with minimum one-year comprehensive warranty or warranty provided by Principal Manufacturer whichever is on higher side	1	1



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	23	System Network Cable	(Specification for 1 Job) Cabling Should Include System Network Cables of 2 Meter (450 qty) with 250 Meter Cables (15 Qty) Along with 50 pair Connectors (15 Qty) (Specification for 1 Job) Cabling Should Include System Network Cables of 2 Meter (150 qty) with 250 Meter Cables (6 Qty) Along with 50 pair Connectors (6 Qty) or as per drawing and design	1 Job	1 Job
	24	Storage SD Cards	Must be configured and integrated with whole solution, and as per drawing with latest specs with more storage capacity. 32GB Storage Capacity, UHS-II / U3 / Class 10, Max. Read Speed: 300 MB/s, Max. Write Speed: 260 MB/s, Min Write Speed: 30 MB/s, Records Full HD, 3D, and 4K Video, Water / Shock / X-Ray Pro, dual central storage on SSD, play back provision, cut/copy/paste/conversion system for audio for official reporters, Built-in Write-Protect Switch with complete installation, configuration & testing and with standard manufacturer warranty.	20	20



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National Assembly & Senate (Committee Rooms)					
a. Microphone Conferencing System for Committee Rooms					
b. Video Conferencing System					
Lot#	Sr. No	Equipment	Specifications	Qty-National Assembly	Qty-Senate
a. Microphone Conferencing System for Committee Rooms					
(Lot-3)	1	Central Control Unit	<p>Four independently powered RJ-45 outlets to connect up to 100 delegate units on four chains also acting as backup in case of failure.</p> <p>Gigabit LAN, Line IN and balanced Audio outputs.</p> <p>Automatic, push to talk, Voice Activation, Request to speak, chairperson priority and VIP management.</p> <p>Build-in easy to use Audio matrix for audio Routing Dante™ Interface with configurable Ethernet switch for redundant Dante digital output,</p> <p>Dante Link Speed: 1 Gbps, Sample Rate: 48 kbps, Sample width: 24 bit</p> <p>Maximum number of input channels: 64 (32 languages fixed/ 16 Floor audio inputs fixed)</p> <p>Maximum number of output channels: 64 (32 languages+ 32 configurable channels)</p> <p>Digital Audio: 48 KHz Sample Rate & Frequency Response 20Hz-20,000Hz</p> <p>Option to fix the time limit for speeches of delegate units from chairman unit or central software, Built-in MIC IN audio input for wireless mic system, Centralized conference management, Speaking time</p>	3	3
Microphone Conferencing System for Committee Rooms of National Assembly/Senate					



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			limit can be pre-set for conference units, Standard 2U housing for 19" rack mounting, PC communication: Ethernet, Video camera communication: IP Based, Support Digital Voting System, Manage the queue of requests of delegates along with complete information, Support SIS system, centrally control (on/off) all delegate units, Controllable by Speaker of the House and/ or by operator, Playback provision, sufficient storage of recording for at least two terms (8 years) with complete installation, configuration & testing and one-year comprehensive warranty.		
	2	Flush Mount Delegate Unit	Flush Mount delegate unit with touch screen should allow the delegate to talk, request to talk, Speaker automatically mutes when the microphone is turned on, Low susceptibility to mobile phone interference, Pluggable gooseneck microphone stem 360mm-500mm long, 7 inch or higher HD touch screen to display Agendas, conference documents, film and photo material, delegate lists, contact information, current speaker and delegates in the request list, optional bio-metric and NFC management, Built in Channel Selector for listening to Interpreted languages. Option to fix the time limit for speeches of delegate Units from central control Unit, control the headphone volume via the touch screen, voting via touch screen, separate RJ-45 connections for Audio &	113	90



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			Multimedia for redundancy with complete installation, configuration & testing and one-year comprehensive warranty.		
	3	Flush Mount Chairman Unit	Flush Mount Chairman unit with touch screen should allow the delegate to talk, request to talk, Speaker automatically mutes when the microphone is turned on, Low susceptibility to mobile phone interference, Pluggable gooseneck microphone stem 360mm-500mm long, 7 inch or higher HD touch screen to display Agendas. conference documents, film and photo material, delegate lists, contact information, current speaker and delegates in the request list. Built in Channel Selector for listening to Interpreted languages. Optional bio-metric and NFC management, Option to fix the time limit for speeches of delegate Units from central control Unit, control the headphone volume via the touch screen, voting via touch screen, separate RJ-45 connections for Audio & Multimedia for redundancy with complete installation, configuration & testing and one-year comprehensive warranty.	3	3



	4	Meeting Recorder	Record on up to 25 SD Cards, RealTime H.265 Encoding, Scalable for Larger Projects, SDI and Optical Video I/O, Ethernet Control, Single File Recording, Simultaneous Card Formatting, With Cut, Copy, Paste, and Conversion System for Audio conversion, Dual central storage on SSD, Play back provision with complete installation, configuration & testing and one-year comprehensive warranty. As per drawing	3	3
	5	Interpreter Console with Head Phone	The single-user interpreter desk with microphone shall have clear positioning of the controls that shall allow intuitive operation without mistakes. Assignable buttons for quick access to supporting functions. 5 preset monitoring languages, Supports more than 8 languages. High contrast display. Supports language and system configuration from the interpreter desk configuration menu, headphone and microphone socket with complete installation, configuration & testing and one-year comprehensive warranty.	18	15
	6	Encoder	Send Video to participant Devices	3	3



	7	PTZ Cameras full HD	4K PTZ Camera with 20x or higher Zoom. Image Sensors 1/2.5-type 4K MOS or better Lens F1.8 to F4.0 [f=4.12 mm (5/32 inches) to 98.9 mm or better Zoom, Optical zoom: 20x or better, Digital extender zoom: 1.4x , 2x HDMI 4K Output at 2160/30p or better Angle of View Range Horizontal angle of view: 74.1° (wide) to 3.3° (tele) Vertical angle of view: 46.0° (wide) to 1.9° (tele) Diagonal angle of view: 81.8° (wide) to 3.8° (tele) RJ-45 Output for Video Stream & Control via Joystick/ Visca Protocol	9	6
	8	PTZ Keyboard	PTZ Joystick with 3.5-inch LCD (QHD: 960 x 540) or better Pan, Tilt, Zoom, Adjustable Zoom and PTZ Speed, Camera Selection Buttons, No. of Connectable Cameras: 10 or more Remote Camera Selection 5 (6 to 200 controlled from the LCD) No. of Memory Presets 100 or better POE Based RJ-45 LAN Port for Power & Control via IP	3	3



	9	Recorders	Recording of the Session with Audio & Video having following specs, SDI Video Inputs 1 SDI Video Outputs 2 SDI Monitor Outputs 1 SDI Rates 270Mb, 1.5G, 3G, 6G. HDMI 2.0 Video Inputs 1 HDMI 2.0 Video Outputs 1 Built in Speaker: Mono Screen 2.2 inch LCD. Timecode Connections 1 x XLR In, 1 x XLR Out. -2 TB SSD Drives -Dedicated Audio Recorder System with Multi-Channel recording via Hardware or Software on PC based solution	3	3
	10	4-input camera Switcher	Switcher with 8 inputs and 4 outputs Should Support Auto Switching • Modular design (16 slots) • Should Automatically switch to the active camera • Huge variety format support with 12+ modules types • Low latency format conversion • Ultra-fast and clean switching • Video monitoring preview available through optional monitoring output module • Integral Audio Routing • New Quad input modules provide 1080p inputs for greater density • Include Quad HDMI input module and Quad 3G-SDI module	3	3
	11	Headphones	Stereo/Mono Dynamic Headphone High Impedance & Sound Pressure Level, Cable Length: 1.5mtr or more, Mono/Stereo jack 3.5mm	140	90



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	12	Wireless Handheld MIC	<ul style="list-style-type: none">• Flexible wireless synchronization between transmitter and receiver via infrared• Fast frequency allocation for up to 12 receivers via new linking functionality• Up to 20 compatible channels• Up to 42 MHz bandwidth with 1680 selectable frequencies, fully tunable in a stable UHF range• Transmission Range: up to 100 meters / 300 feet• High RF output power (up to 30 mW) depending on country regulations• Signal-to-noise ratio: ≥ 110 dBA Audio output: 6.3 mm jack socket (unbalanced): +12 dBu XLR socket (balanced): +18 dBu	3	3
	13	Network Cable for connecting all units	Required as per drawing and must be branded and certified for committee Rooms	1 Job	3
	14	12 Port Manageable Network Switch	POE+12 or 24 Port POE Manageable Network Switch Or higher	3	3
	15	12 U Data Cabinet	As per drawing & Design	3	3



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	16	Controller Computer	Control Server Intel Quad-Core 3.6 GHz or higher, 16 GB RAM, 500 GB RAID 1 SSD additional backup HDD 2 TB DVI, HDMI Monitor connection min. 2x LAN RJ45, Microsoft Windows Server 2016	3	3
	17	Operator PC	Secondary Control PC Intel Core i-7 11 th Gen, or Higher, Windows 10 or 11 /Gigabyte Motherboard with 2x PCI Express, 16Gb DDR4 Ram, 500GB SSD, 2TB HDD, Graphics Card with Dual Monitor HDMI Output, Gigabit LAN, Professional Sound Card built-in, Cooling Fan, High Power 600Watt PSU & Full Tower ATX Casing	3	3
	18	Software Licenses	All the software must be licensed and as per drawing required	I Bundle	I Bundle



	19	UPS 3 KVA	Power Capacity: 3 KVA, Power Factor: 0.8 or higher, Line Interactive Technology, must provide at least 30 minutes' backup at 70% load, Maintenance free batteries etc.	3	3
	b. Video Conferencing System				
	20	Video Conferencing Equipment with Conference Recorder & 22" LED Screen for Chair	H.323, compliant system, IP,SIP options bandwidth support up to 6 Mbs, Support H.261, H.263, H.264 Video Standards, Support G.711 , G.722,G.728 Audio Standards, 1/2.33"camera having Auto Focus, Tilt Range : +20/- 30° (up/ down), Pan Range : +/- 100° (left /right), minimum 10X Optical Zoom, Camera Presents, Standard based far end camera control (FECC),Multipoint up to 6 sites, IPv4 and IPv6 support, Speed dial, Face-recognition and speaker tracking, table top microphone, Calendar and Conference scheduling, support, Stereo Speakers with stand or wall mount kit, Recorder For Video Conference Session with 1 TB HDD, 22 inch LED screen with HDMI Input with complete installation, configuration & testing SIP	3	6
	21	55" LED Screen for Display	55" LED Screen display, Full HD with 1920 x 1080 display resolution, Complete wall mount installation along with cabling and accessories with complete installation, configuration & testing	6	9
	22	75" LED Screen for Display	75" LED Screen display, Full HD with 3840 x 2160 display resolution, Complete wall mount installation along with	3	3



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			cabling and accessories with complete installation, configuration & testing		
23	UPS 3KVA	Power Capacity: 3 KVA, Power Factor: 0.8 or higher, Line Interactive Technology, must provide at least 10 minutes' backup at 70% load, Maintenance free batteries, Serial or USB port for communication, Surge Protection, Maximum 8 hours recharge time with complete installation, configuration & testing	0	3	
24	UPS 5KVA	UPS with power capacity 5000 VA complete with latest software & all accessories. Power Factor: 0.8, Input voltage: 220 VAC, Output voltage: 220 VAC, pure sine wave, Rack Mountable, online double conversion technology, Automatic Voltage Regulator (AVR), with standard backup at full load. 01Year Warranty	3	3	