Supply, Installation, Testing and Commissioning of PA system for Conference Room

Scope of Work:

1. Supply, Installation, Testing and Commissioning of PA system for conference room at training center.
2. Supply of additional items, accessories such as connectors, converter (such as 1/4" TRS to 3.5mm connector, if required) etc. for proper noise free PA system is in the scope of supplier. Bidder is to offer latest model of all items.
3. Supplier must provide all signal and power cable, stand for wired & wireless microphone, mounting brackets for sound box and subwoofer, cabinet for amplifier and wireless receiver. To ensure noise free system, proper channeling of signal and power cable is in the scope of supplier.
4. Supply of rechargeable battery for wireless microphone with charger is in the scope of supplier.

Technical Specification:

A. 4 Channel Power Amplifier — **Quantity: 01**

01. RMS Power Handling (minimum)	: 4 x 350 W @ 4 Ω stereo
02. Frequency Response	: 20Hz ~ 20 kHz (± 3 dB) or wider
03. Signal to Noise	: ≥95 dB
04. Amplifier Class	: Class-D
05. Processor	: Advanced DSP and loudspeaker management
06. Equalizer Band (minimum)	: 7 Band equalizer
07. Filtering	: Low / High & Band Pass
08. Inputs	
a. Sensitivity	: Minimum -19.5 dB ~ 27 dB
b. Impedance	: 10 kΩ balanced or better
c. connection	: Compatible to supplied microphone, receiver and audio from laptop.
09. Outputs Connection	: Compatible to supplied speaker, subwoofer.

B. Pre-Amplifier — **Quantity: 01**

01. Zone	: ≥04
02. Channel	: ≥10
03. Input	
a. Microphone (XLR)	: ≥8 Balanced microphone
b. Line Input	: ≥2
04. Output	: 2 Balanced Stereo outputs
Phantom Power	: +48 V
05. Signal to Noise	: ≥100 dB
06. System	
a. Total Harmonic Distortion	: ≤ 0.05% @ 1kHz
b. Frequency Response	: 20Hz-20kHz (± 3dB) or wider

C. Cabinet Speaker — **Quantity: 04**

01. Size	: ≥8″
02. Type	: 2-way
03. Impedance	: 8 Ω
04. Coverage Horn	: Min^{m}90° x 80°
05. RMS Power	: Min^{m}175 W
06. Connectors	: Speakon compatible input & link output connection
07. Frequency Response	: 70Hz-19kHz(± 3dB) or wider
08. Sensitivity (1W/1m)	: ≥90 dB
09. LF Transducer	: 8″
10. HF Transducer	: 1″

D. Subwoofer — **Quantity: 01**

01. Size	: ≥10″
02. Impedance	: 8 Ω
03. RMS Power	: Min^{m}200 W
04. Connectors	: Speakon compatible
05. Frequency Response	: 60Hz-1.2kHz(± 3dB) or wider
06. Sensitivity (1W/1m)	: ≥90 dB
07. Bass reflex tuning frequency	: 50 Hz or better

E. Wired Microphone — **Quantity: 02**

01. Type	: Condenser Type
02. Microphone on/ off Switch	: Yes
03. Polar Pattern	: Cardioid
04. Frequency Response	: 50 Hz - 18 kHz
05. Sensitivity (1W/1m)	: -45 dB ± 3 dB or better

06. Signal to Noise Ration : ≥70 dB
07. Connector and Cable : XLR
08. Cable Length : ≥5 meter
09. Impedance : 200 Ω or better
10. Voltage : +48V phantom powered
11. *Mounting* : *With base mounted above dice*

F. Lavalier Wireless Microphone **Quantity: 02**

01 System
- a. Type of System : UHF Condenser type Lavalier microphone
- b. Dynamic Range : ≥95 dB
- c. Operating Range : Minimum 300 ft
- d. Distortion : ≤1% THD @ 1 kHz tone
- e. Frequency Response : 50 Hz to 15 kHz or wider
- f. Maximum SPL : ≥100dB
- g. Battery backup : Minimum 10 hours

02 Receiver
- a. Diversity Circuitry : True Antenna
- b. Display : Backlit LCD

03 Transmitter
- a. Type of Transmitter : Bodypack Transmitter
- b. Polar Pattern : Cardioid
- c. Connection to Pre-amplifier : XLR

G. Handheld Wireless Microphone **Quantity: 02**

01 System
- a. Type of System : UHF Condenser type Handheld microphone
- b. Dynamic Range : 80 dB or better
- c. Operating Range : Minimum 300 ft
- d. Distortion : ≤1% THD @ 1 kHz tone
- e. Frequency Response : 50 Hz to 15 kHz or wider
- f. Maximum SPL : ≥100dB
- g. Battery backup : Minimum 10 hours

02 Receiver
- a. Diversity Circuitry : True Antenna
- b. Display : Backlit LCD

03 Transmitter
- a. Type of Transmitter : Handheld Transmitter
- b. Polar Pattern : Cardioid
- c. Connection to Pre-amplifier : XLR

H. Available Power Supply at ERL Side : 220 V AC, 50 Hz

I. Signal Cable **Quantity: As required**

01. Inner conductor Material : CCA 30 x 0.25 mm
02. Inner conductor Section : 1.5 mm²
03. Inner conductor American Wire Gauge : 16 AWG
04. Inner Conductor compositions : 75 % Al - 25 % Cu
05. No bared joint is allowed. Splitter such as Speakon Splitter Box can be used. Cable end shall be XLR male/ female.

J. Manufacturing Country(for all items) : USA/ UK/ EU/ Japan

K. Documentation

01. Supporting Catalogue/ datasheet, brochure (in English) should be submitted with the technical offer.
02. Certificate from manufacturing country to be submitted with the technical offer.
03. User manual, operational/ maintenance manual (in English) should be supplied at the time of product delivery.
04. The bidder is to supply items manufactured not before 2020.

K. Qualification Criteria

01. Minimum period of general experience of the Bidder in Supply, Installation and Commissioning of PA system shall be 03 (Three) years.Proper Completion Certificate, documentary record of such experience and record of such supplies, installation & commissioning works should be provided with the tender document.

02. A satisfactory completion of at least 01 (One) similar jobs in auditorium or convention centre of reputed organization over the period of last 05 (Five) years shall be required. All relevant documents (Proper completion certificate, organization detail etc.) should be submitted with the tender document.

03. Bidder should provide manufacturer authorization certificate and country of origin with the tender document.