

**SCHEDULE OF QUANTITIES
FOR SOUND REINFORCEMENT SYSTEM &
MULTIMEDIA PRESENTATION SYSTEM
FOR THE AUDITORIUM OF
MATA VAISHNO DEVI SHRINE TRUST
KATRA , JAMMU.**

**SOUND REINFORCEMENT SYSTEM &
MULTIMEDIA PRESENTATION SYSTEM**

ARCHITECTS

**STRUCTURE & FOUNDATION PVT LTD
N-3, GF, KALKAJI**

ACOUSTICS ,AUDIO-VIDEO CONSULTANTS

KLM DESIGNS INDIA
C-79,MALVIYA NAGAR,
New Delhi-110 017
Tel: +91 (11) 41831089-99
Email: klm@ndb.vsnl.net.in

1.0 NAME OF WORK

Providing & fixing of Sound reinforcement & Multi media presentation system of the Auditorium at Mata Vaishno Devi Shrine trust, Katra Jammu.

The work of Sound reinforcement & Multi media presentation system is to be carried out with utmost precision. Therefore only those tenderer who are specialized and have qualifications shall only be eligible to tender.

1.2 QUALIFICATION FOR ELIGIBILITY TO TENDER:-

The tenderer should be specialist in the field of Sound reinforcement & Multi media presentation system and should have successfully completed at least two similar types of works for Cinemas, Auditoriums, Studios during last Three years of not less then 15 lacs(Fifteen Lacs) value. For which the tenderer shall have to produce supporting documents giving date of award, date of commencement etc from the concerned competent authority in proof there of.

2.0 PROCEDURE OF TENDERING

The procedure for submission of tender document is as follows which should be strictly followed and no deviation in the procedure will be accepted.

- a) Submission of technical bid & financial bid.
- b) Conferencing with the bidders for technical discussions.

3.0 SUBMISSION OF TECHNICAL BID: -

The following documents should be submitted in two sealed envelope super scribed as "Technical bid " & " Financial bid" in separate cover which should reach this office on or before ----- at -----.

- a) Both these sealed envelopes should be kept in a third envelope and sealed and super scribed as "Technical bid with EMD".
- b) List of similar type of jobs executed in the past and certificate with date of having successfully completed from concerned competent authority in proof there of.
- c) Technical leaflets of all equipment proposed to be used.
- d) Deviations from the commercial technical specifications to be spelled out separately giving reasons for such deviations. However , acceptance of these by the competent authority depend on the Consultants decision.
- e) The contractors will be called for conferencing & after satisfaction of authorities for competence of firm & technical specifications being met to execute the job. The financial bid of such successful firms will only be opened.

4.0 FINANCIAL BID :-

The documents to be submitted with financial bid are as follows :

- a) The contractor should give his Rates both in figures and in words duly filled in the bill of quantities in a separate sealed envelope super scribed as "FINANCIAL BID".
- b) All entries (individual rates, sub-totals & grand totals) should be filled in English alphabets and Arabic numerals only either typed or clearly hand written by ballpoint pen. All correction if any made by the bidder should be initialed as many times as corrected.
- f) On tender scrutiny, if difference is found in rates given by the bidder in words and figures in individual rates or in sub-totals or in grand totals the procedures for deriving the final value shall be as follows.
- d) The item rates quoted by bidder shall be taken as correct in cases where amount worked out of any item does not correspond to the rates written in figures or words.
- e) For items where the bidder has not written item rates the highest rates quoted shall be taken as correct for such items for loading purposes and lowest rates for execution purposes.
- f) Bids can be sent by registered post at the risk and responsibility of the bidder. Any bids received after the time and date of submission of bids shall not be entertained.
- g) Before submission of the bids, the bidders are advised to visit site and get acquainted with site conditions, availability of materials/labour. All clarifications must be sought by the bidders well in time and no extension of time shall be given on this account.
- h) The bidders are advised to account for any fluctuations in market rates of material/equipment cost/labour rates. Any claims on these accounts shall not be entertained after the award of work unless specifically agreed to.
- i) Bids not submitted on prescribed form is liable to be rejected. Bidders are advised to quote original offer as per bill of quantities.
- j) In case drawings and details are not enclosed with tender documents, these can be seen in the office, not availing this shall not relieve the bidder of his responsibility of correct interpretation of work involved. Bidders who resort to canvassing in any form shall be liable for rejection.
- k) Bidder also has to submit shop drawings & as built drawings for approval of the consultant.

5.0 PRINTED CONDITIONS OF CONTRACT:-

Any printed conditions and conditions contrary to these conditions of contract in contractors offer shall be excluded from the contract and shall not be applicable to this contract.

6.0 VALIDITY: -

The tender shall be valid for acceptance for a period of 60 days from the date of submission of the tender.

7.0 GUARANTEE:-

The bidder should offer full guarantee of one year for complete work from the date of satisfactory handing over of the site as certified by the consultants for faulty/bad workmanship, manufacturing defects in equipments. The tenderer shall guarantee the works to maintain quality on the basis of design/scheme. They shall also guarantee that the performance of the work executed shall meet the requirement as specified in work specifications.

8.0 REPAIRS/REPLACEMENTS OF WORK DURING GUARANTEE :-

Any defects or other faults which may appear within defect liability/guarantee period of one year satisfactory working conditions, arising in the system due to material or workmanship should be corrected and replaced with parts of original specifications and makes by the contractor at his own cost.

9.0 FORCE MAJEURE

Any delay in or failure of performance of either party hereto shall not constitute default hereunder or give to any claims for damages if and to the extent such delays or failure of performance is caused by occurrence such as Acts of God or the Public enemy; expropriation or confiscation of facilities by Government authorities, compliance with any order or request of any Governmental authority, acts of war, rebellion or sabotage or damage resulting therefrom, fires, floods, explosion, riots or illegal strikes. The Contractor shall keep record of the circumstances referred to above which are responsible for causing delays in the completion of work and bring these to the notice of the Engineer-in-Charge.

10.0 Shop Drawings/ details

The contractor to supply all shop drawings, wiring & cabling drawing as per site conditions for mounting of said systems within one week of receipt of the order & further get them approved before starting up the work.

11.0 Descriptive Literature :-

The tenderer shall supply a complete list with quantities of major items of equipments together with detailed descriptive literature including photographs and performance characteristics pertaining to the equipments offered. Manuals and instructions for operation and maintenance of all equipment and systems shall be supplied along with the equipment.

12. Training :-

The contractor shall train the operational staff so as to enable them to Operate/maintain the Sound- Projection-Automation equipment in an Efficient /satisfactory manner. However the sole responsibility of the equipment & subsequent handing over of the system to maintenance / operational staff in a fully functional condition within the stipulated period will rest with the contractor.

13.0 Acceptance tests:-

After installation ,testing & commissioning of the equipment performance measurement tests will be conducted to confirm that all the equipments meet the relevant technical specifications. The following tests will be done as a part of acceptance test by the Architects/Consultants or their authorised representative to take over the equipment :-

- a) Functional tests.
- b) Performance measurements of various parameters.
- c) 24 hrs. Endurance tests.

PART 1

PART A AUDITORIUM **SOUND REINFORCEMENT SYSTEM**

KLM DESIGNS INDIA

Recommended Make for Sound Reinforcement equipments.

SPEAKERS

Eminence(USA) / E.V(USA) / Martin Audio(UK)/ VAL Pro(USA) /J.B.L. (USA)

MICROPHONES

CROWN(USA / A.K.G(USA / SHENEIZER(GERMANY) / BRAHLER(GERMANY)

CONTROLLER

B.S.S (USA)/ D.B.X(USA)/ / E.V(USA)

AMPLIFIER

Q.S.C (USA) / CROWN(USA) / AUDIOCENTRE(GERMANY) / E.V(USA)

MIXER

SOUNDCRAFT(USA) / MIDAS (USA)/ ALLEN & HEATH(USA)

CASSETTE DECK

TASCAM (USA)/ DENON(GERMANY)

D.V.D PLAYER

PHILIPS / LG/ SAMSUNG

TECHNICAL SPECIFICATIONS OF EQUIPMENT

AUDITORIUM SOUND REINFORCEMENT SYSTEM

(1) Microphone

a. UHF Range Cordless Handheld Microphone

Receiver:

Carrier Frequency Range	660 to 865 MHz
Modulation	FM
Audio Bandwidth	35-20,000 Hz
THD:	<0.8% typ.
Signal / Noise ratio :type	110dB (A) typ.

Handheld Transmitter:

Carrier Frequency Range	660 to 865 Mhz
Modulation	FM
Audio Bandwidth	65-20,000 Hz
T.H.D.	<0.8% typ.
Signal / Noise ratio	110dB (A) typ.

b. UHF Range Cordless Coller Microphone

Receiver:

Carrier Frequency Range	660 to 865 MHz
Modulation	FM
Audio Bandwidth	35-20,000 Hz
THD:	<0.8% typ.
Signal / Noise ratio :type	110dB (A) typ.

Body pack Transmitter:

Carrier Frequency Range	665 to 865 Mhz
Modulation	FM
Audio Bandwidth	35-20,000 Hz
T.H.D.	<0.8% typ.
Signal / Noise ratio	110dB (A) typ.

Module:

Polar Pattern	cardioid
Frequency Range	80 Hz ~ 14kHz
Sensitivity	0.25mv/ PA (-72 dBV)
Signal / Noise ratio	(A-Weighted) 60dB
Recommended load Impedance	$\geq 1000\Omega$
Supply Voltage	1.5-10V
Output Connector	3- Pin mini XLR

c)Gooseneck Microphone

Polar Pattern	Cardioid
Frequency Range	70 Hz ~ 18,000 Hz
Sensitivity	18mv/ PA=-35dBV
Polar Pattern	Cardioid
Signal / Noise ratio	(A-Weighted) 73dB
Recommended load Impedance	$\geq 2000\Omega$
Operating Voltage	Phantom Power: 9V ~ 52V D.C
Current Drain	Less ≤ 3 mA
Output Connector	3- Pin XLR (Male)

d. Wired Vocal Microphone

Polar Pattern	Cardioid
Impedance	≤600 ohms
Frequency Range	70 Hz – 20 kHz at 1 cm: 20Hz – 20 kHz
Sensitivity	2.5mV/Pa (-53 dBV)
Max SPL for 1% / 3% THD	147 / 156 dB
Equivalent Noise Level	19 dB-A
Connector	3-pin XLR

e. Wired Instrument Microphone

Polar Pattern	Cardioid
Impedance	≤600 ohms
Frequency Range	60 Hz – 20 kHz at 1 cm: 20Hz – 20 kHz
Sensitivity	2.5mV/Pa (-52 dBV)
Max SPL for 1% / 3% THD	147 / 156 dB
Equivalent Noise Level	22 dB-A
Connector	3-pin XLR

(2) Speaker:-

a. Main Speaker

Frequency range (-10dB)	57 Hz – 20 kHz
Frequency Response (± 3dB)	75 Hz – 20 kHz
Sensitivity (SPL 1 W/1 m)	97 dB
Max. SPL @ 1 m ²	130 dB peak

KLM DESIGN INDIA
ACOUSTIC, AUDIO-VIDEO CONSULTANTS

Long – term power handling	500 W
Short – term power handling	2000W
Coverage (H° x V°)	75° x 75°
LF driver	1 x 15”
HF driver	1 x 2 “ minimum
Nominal impedance	8Ω
Input connections	2 x Neutrik Speakon NL-4, parallel

b. Stage monitor

Frequency range (-10dB)	60 Hz – 20 kHz
Frequency Response (± 3dB)	90 Hz – 20 kHz
Sensitivity (SPL 1 W/1 m)	97 dB
Max. SPL @ 1 m ²	129 dB
Long – term power handling	500 W
Short – term power handling	2000W
Coverage (H° x V°)	70° x 70°
LF driver	1x 12”
HF driver	1 x 2 “
Nominal impedance	8Ω
Input connections	2 x Neutrik Speakon NL-4, parallel

c. Subwoofer

Frequency range	40 Hz – 100 Hz
Sensitivity (SPL 1 W/1 m)	98 dB
Max. SPL @ 1 m ²	138 dB
Long – term power handling	1800 W
Short – term power handling	7200W
LF driver	2 x 18”

Nominal impedance	4Ω
Input connections	2 x Neutrik Speakon NL-4, parallel

d. Foyer Area Speaker Ceiling speaker

Frequency range (-10dB)	80 Hz – 20 kHz
Max. SPL @ 1 m ²	129 dB
power handling Program	80 W
Pink power	40
Coverage (H° x V°)	130°
LF driver	1 x 6”
HF driver	1 x 0.75 “

e. Green room/control room Monitor.

Frequency range (-10dB)	85 Hz – 22 kHz
Sensitivity (SPL 1 W/1 m)	86 dB
Long – term power handling	50 W
Coverage (H° x V°)	90° x 90°
LF driver	5.25”
HF driver	0.5”
Nominal Impedance	8Ω

(3) Mixer & Processor:-

a Audio Mixing Console

Frequency Response,	20-20,000 Hz (0+ 1/-3 dB)@4dBu
Total Harmonic Distortion	20Hz-20KHz, <0.006%(THD+N)@1khz
Noise mic input EIN	<-128 dBu (150 ohm source)
Group- mix Crosstalk	<-97dB
High pass Filters (mono input)	100Hz, 182dB/ Octave

Aux Output	8
Subgroups	8
Matrix out	11 x 4
Stereo Channels / Return	4
Input channels	24 + 4

b. Equalizer

Type	Electronically balanced / RF Filtered
Impedance	> 40k ohms
CMRR	>40dB
Connectors	XLR
Maximum Output Level	+21dBu
Signal to noise ratio	90dB
Frequency Response	10 Hz- 50Khz, +/-0.5dB

c Loudspeaker management Processor:

Feedback Elimination	
Compression and Limiting	
Graphic and Parametric EQ	
Auto- EQ Function	
Auto Gain Control	
Amplifier Tunings	
Security Lockout	
Number of Input	(2 (1) (RTA Mic Input)
Number of Output	6
Type	Electronically balanced / RF Filtered
Impedance	> 40k ohms
CMRR	>45dB

Connectors	XLR
Maximum Output Level	+22dBu
Type 4	IVTM conversion system
D / A Performance Dynamic range	112 dB(A- Weighted) 110 Db (unweighted)
Frequency Response	20 Hz- 20Khz, +/-0.5dB
Post EQ Number bands per output channel	3 (2)

d. DVD Player

Type	DVD / Recorder
Frequency Response	10Hz – 20 kHz
S/N Ratio	90dB
Input Line	87 Mv
Output Line	0.46V
Headphone	1 Mv/8 ohms
Dynamic Range	90dB

(4) Amplifier

a. Power amplifier 2000W :

Maximum Midband output power	2000W @4 ohms 1100W @ 8 ohms
Maximum Bridged Output Power	5400 W @ 4 ohms 3600 W @ 8 ohms
Input Sensitivity @ 8 ohms	1.25V (+4.1 dBu)
Distortion (SMPTE-IM)	Less than 0.02%
Input CMRR	60dB
Frequency Response	20Hz ... 20kHz (+/-1db)
Input Impedances	10K Ω unbalanced, 20 k Ω balanced

Damping Factor	Greater than 400
Signal to Noise Ratio (20Hz-20kHz @ 8 ohms)	95dB
Power Requirements	15.0 A

b. Power amplifier 1200 W:

Maximum Midband output power	1200W @4 ohms 900W @ 8 ohms
Maximum Bridged Output Power	2400 W @ 8 ohms
Input Sensitivity @ 8 ohms	1.25V
THD at rated output power	<0.5%
Frequency Response	22Hz ... 20kHz
Input Impedances	10K Ω unbalanced, 20 k Ω balanced
Damping Factor	10Hz -400 Hz: >200 @ 8 ohms
Signal to Noise Ratio (20Hz-20kHz @ 8 ohms)	<-100dB

c. Power amplifier:

Maximum Midband output power	300W @4 ohms 200W @ 8 ohms
Maximum Bridged Output Power	600 W @ 8 ohms
Input Sensitivity @ 8 ohms	1.25V
THD at rated output power	<0.5%
Frequency Response	22Hz ... 20kHz
Input Impedances	10K Ω unbalanced, 20 k Ω balanced
Damping Factor	10Hz -400 Hz: >200 @ 8 ohms
Signal to Noise Ratio (20Hz-20kHz @ 8 ohms)	<-100dB

SCHEDULE OF QUANTITIES OF AUDITORIUM
SOUND REINFORCEMENT SYSTEM

S.NO.	DESCRIPTION	Qty.		Rate	Amount
1	Microphones:				
a)	UHF Range Cordless Handheld Mic	2	Each		
b)	UHF Range Cordless Mic	2	Each		
c)	Gooseneck Microphone	1	Each		
d)	Wired Vocal Microphone	2	Each		
e)	Wired Instrumental Microphone	4	Each		
2	Speakers :				
a)	Compact High Power 2-Way (Main Loudspeaker) 500W with 15" woofer	4	Each		
b)	Compact High Power 2-Way (Stage Monitors Loudspeaker) 500W with 15" woofer	2	Each		
c)	Subwoofer 18", 600W RMS	2	Each		
d)	Ceiling ring speakers 80W, Foyer Area.	10	Each		
e)	Control Room / Green Room L/S two way 50W RMS	4	Each		
3	Sound Processing Equipment / Mixing Console				
a)	24-Channel Audio Mixing Console Equivalent 8 AUX / 8 Subgroup	1	Each		
b)	Dual channel 31 band graphic equalizer	2	Each		
c)	Digital Loudspeaker management system 2 in 6 out	1	Each		
d)	Professional grade DVD Player cum recorder with 160 GB HDD	1	Each		
4	Amplifier :				
a)	Power Amplifier 2000 Watts @ 4 ohms	1	Each		
b)	Power Amplifier 1200 Watts @ 4 ohms	3	Each		
c)	Power Amplifier 250 Watts @ 4 Ohms	2	Each		

PART B AUDIO VISUAL ROOM
SOUND REINFORCEMENT SYSTEM

KLM DESIGNS INDIA

Recommended Make for Sound Reinforcement equipments.

SPEAKERS

Eminence(USA) / E.V(USA) / Martin Audio(UK)/ VAL Pro(USA) /J.B.L. (USA)

MICROPHONES

CROWN(USA) / A.K.G(USA) / SHURE(USA) / Sennheiser(GERMANY) / BRAHNER(GERMANY)

CONTROLLER

B.S.S (USA)/ D.B.X(USA)/ / E.V(USA)

AMPLIFIER

Q.S.C (USA) / CROWN(USA) / AUDIOCENTRE(GERMANY) / E.V(USA)

MIXER

SOUNDCRAFT(USA) / MIDAS (USA)/ ALLEN & HEATH(USA)

CASSETTE DECK

TASCAM (USA)/ DENON(GERMANY)

D.V.D PLAYER

PHILIPS / LG/ SAMSUNG

TECHNICAL SPECIFICATIONS – AUDIO-VISUAL ROOM

AUDIO SYSTEM

(1) Speaker

1. Main Speaker

Frequency Response	72 Hz – 20 kHz
Sensitivity (SPL 1 W/1 m)	94 dB
Max. SPL @ 1 m ²	128 dB
Long – term power handling	300 W
Short – term power handling	2000W
Coverage (H° x V°)	75° x 75°
LF driver	1 x 10”
HF driver	1 x 2 “
Nominal impedance	8Ω
Input connections	2 x Neutrik Speakon NL-4, parallel

(2). Amplifier:-

A. Power amplifier for main speaker:

Maximum Midband output power	800W @4 ohms 500W @ 8 ohms
Maximum Bridged Output Power	1600 W @ 8 ohms
Input Sensitivity @ 8 ohms	1.25V
THD at rated output power	<0.5%

Frequency Response	22Hz ... 20kHz
Input Impedances	10K Ω unbalanced, 20 k Ω balanced
Damping Factor	10Hz -400 Hz: >200 @ 8 ohms
Signal to Noise Ratio (20Hz-20kHz @ 8 ohms)	<-100dB

(3) Mixer & Processor:-

A. 12 Channel Audio Mixing Console

Frequency Response,	20-20,000 Hz +/-0.5dB
Total Harmonic Distortion	20Hz-20KHz, <0.007%(THD+N)@1khz
Noise mic input EIN	<-128 dBu (150 ohm source)
Channel Mute	>96dB
High pass Filters (mono input) MF (swept)	140Hz, -3khz , +/- 15dB
Aux Output	2

(4) Microphone & CD Cassette deck

A. UHF Range Cordless Handheld Microphone

Receiver:

Carrier Frequency Range	660 to 865 MHz
Modulation	FM
Audio Bandwidth	35-20,000 Hz
THD:	<0.8% typ.
Signal / Noise ratio :type	110dB (A) typ.

Handheld Transmitter:

Carrier Frequency Range	660 to 865 Mhz
Modulation	FM
Audio Bandwidth	65-20,000 Hz
T.H.D.	<0.8% typ.
Signal / Noise ratio	110dB (A) typ.

B. UHF Range Cordless Coller Microphone

Receiver:

Carrier Frequency Range	660 to 865 MHz
Modulation	FM
Audio Bandwidth	35-20,000 Hz
THD:	<0.8% typ.
Signal / Noise ratio :type	110dB (A) typ.

Body pack Transmitter:

Carrier Frequency Range	665 to 865 Mhz
Modulation	FM
Audio Bandwidth	35-20,000 Hz
T.H.D.	<0.8% typ.
Signal / Noise ratio	110dB (A) typ.

Module:

Polar Pattern	cardioid
Frequency Range	80 Hz ~ 14kHz
Sensitivity	0.25mv/ PA (-72 dBV)
Signal / Noise ratio	(A-Weighted) 60dB
Recommended load Impedance	$\geq 1000\Omega$
Supply Voltage	1.5-10V
Output Connector	3- Pin mini XLR

C. Gooseneck Microphone

Polar Pattern	Cardioid
Frequency Range	70 Hz ~ 18,000 Hz
Sensitivity	18mv/ PA=-35dBV
Polar Pattern	Cardioid
Signal / Noise ratio	(A-Weighted) 73dB
Recommended load Impedance	$\geq 2000\Omega$
Operating Voltage	Phantom Power: 9V ~ 52V D.C
Current Drain	Less ≤ 3 mA
Output Connector	3- Pin XLR (Male)

D. Audio Processor:-

Feedback Elimination
Compression and Limiting
Graphic and Parametric EQ
Auto- EQ Function
Auto Gain Control

Amplifier Tunings	
Security Lockout	
Number of Input	(2 (1) (RTA Mic Input)
Number of Output	6
Type	Electronically balanced / RF Filtered
Impedance	> 40k ohms
CMRR	>45dB
Connectors	XLR
Maximum Output Level	+22dBu
Type 4	IVTM conversion system
D / A Performance Dynamic range	112 dB(A- Weighted) 110 Db (unweighted)
Frequency Response	20 Hz- 20Khz, +/-0.5dB
Post EQ Number bands per output channel	3 (2)

**SCHEDULE OF QUANTITIES OF AUDIO VISUAL ROOM SOUND
REINFORCEMENT SYSTEM**

S.NO.	DESCRIPTION	QTY	UNIT	AMOUNT
1	SPEAKERS			
a)	Compact High Power 2-Way Loudspeaker system 300W with 10" LF	2	Each	
2	Amplifier :			
a)	Power Amplifier 500+500 Watts @ 8 ohms	1	Each	
3	MIXER & PROCESSORS			
a)	12-Channel audio mixer	1	Each	
4	MICROPHONES			
a)	Cordless Handheld Microphone with UHF frequency	2	Each	
b)	Cordless Lavalier Microphone with UHF frequency, comprising of : Lapel mic, bodypack transmitter and receiver	2	Each	
c)	50cm gooseneck cardioid Microphone	2	Each	
d)	Digital Loudspeaker management system 2 in 6 out	1	Each	
5	B/F Rack :			
a)	Complete equipment rack to mount all equipment, with hinged rear door, front open, with power supply switch and power distribution with gland plate and terminal blocks. All external cables to be terminated on cable terminal blocks	1	Each	
6	ACCESSORIES & HARDWARE			
a)	Cabling and Conduiting			
i)	2 Core 80/0.2 ATC PVC insulated twin twisted PVC sheathed Cu cable	200	mtr	
ii)	2 Core 23/0.2 ATC PVC insulated twin core balanced 90% Cu sheathed PVC insulated cable	300	mtr	
b)	Mic socket box / Loudspeaker socket box with Nutrik XLR connector	6	Each	
7	Speaker Bracket	2	Each	
8	Installation, testing and commissioning charges	1	Each	
		Total		

PART C CONFERENCE ROOM
CONFERENCE SYSTEM

KLM DESIGNS INDIA

Recommended Make for Sound Reinforcement equipments.

SPEAKERS

Eminence(USA) / E.V(USA) / Martin Audio(UK)/ VAL Pro(USA) /J.B.L. (USA)

MICROPHONES

CROWN(USA) / A.K.G(USA) / SHURE(USA) / BRAHLER(GERMANY)

CONTROLLER

B.S.S (USA)/ D.B.X(USA)/ / E.V(USA)

AMPLIFIER

Q.S.C (USA) / CROWN(USA) / AUDIOCENTRE(GERMANY) / E.V(USA)

MIXER

SOUNDCRAFT(USA) / MIDAS (USA)/ ALLEN & HEATH(USA)

CASSETTE DECK

TASCAM (USA)/ DENON(GERMANY)

D.V.D PLAYER

PHILIPS / LG/ SAMSUNG

TECHNICAL SPECIFICATIONS - CONFERENCE ROOM

CONFERENCING SYSTEM

(1) Powered Speaker:-

A. Ceiling Mount Speaker

Frequency range (-10dB)	80 Hz – 20 kHz
Max. SPL @ 1 m ²	129 dB
power handling Program	80 W
Pink power	40 W
Coverage (H° x V°)	130°
LF driver	1 x 6”
HF driver	1 x 0.75 “

(2) Amplifier:-

A. Power amplifier

Stereo Mode Channel driven @ 4 ohm	280W @4 ohms
70v or 100v 50hz- 16 khz0.5% THD	300 W
Input Sensitivity @ 8 ohms	1.15V (+3.4 dBu)
Distortion (SMPTE-IM)	Less than 0.01%
Frequency Response	50Hz ... 16kHz
Input Impedances	10K Ω unbalanced, 20 k Ω balanced
Damping Factor	Greater than 200 @ 8 ohms
Signal to Noise Ratio (20Hz-20kHz @ 8 ohms)	<-100dB
Amplifier Protection	Full short circuit, open circuit, ultrasonic, and RF protection. Stable into reactive or mismatched loads

(3) Mixer & Processor:-

A. 8 Channel Automixer :

Frequency Response,	20-20,000 Hz (0+ 1/-3 dB)@4dBu
Total Harmonic Distortion	20Hz-20KHz, <0.007%(THD+N)@14dBu
Noise mic input EIN	<-128 dBu (150 ohm source)
Group- mix Crosstalk	<-85dB
High pass Filters (mono input)	12Hz, 15dB
Input Channels	8 mic / line
Adaptive Proportional Gain sharing	Yes
Adaptive Skewing	Yes

B. Feedback Suppressor

Frequency Response,	20-20,000 Hz (0+ 1/-3 dB)@0.05 dBu
Total Harmonic Distortion	20Hz-20KHz, <0.003%(THD+N)@4dBu
Interchannel Crosstalk	<-80dB @ 1kHz

(4) Microphone

A. Condenser Boundary Microphone

Element Type	Electret Condenser
Impedance	≤600 ohms
Frequency Range	50 Hz – 15 kHz at 1 cm: 20Hz – 20 kHz
Polar Pattern	Half Supercardioid
Sensitivity	22mV/Pa
Connector	3-pin XLR

ESTIMATED COST OF CONFERENCE ROOM CONFERENCING SYSTEM

S.NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT
1	SPEAKERS				
a)	Two-way Compact ceiling Speaker with Transformer for use on 70.7V and 100V Distributed Lines 30W, 15W and 7.5W	8	Each		
2	Amplifier				
a)	Power amplifier with 100v Line Output, 280W per channel power output	1	Each		
3	MIXER & PROCESSORS				
a)	8-Channel Automatic Mixer	3	Each		
b)	Advance Feedback Suppressor	1	Each		
4	MICROPHONES				
a)	Electret condenser Boundary Microphone, polar pattern half Supercardioid	24	Each		
5	B/F Rack :				
a)	20U Complete equipment rack to mount all equipment, with hinged rear door, front open, with power supply switch and power distribution with gland plate and terminal blocks. All external cables to be terminated on cable terminal blocks	1	Each		
6	ACCESSORIES & HARDWARE				
a)	Cabling and Conduiting				
i)	2 Core 80/0.2 ATC PVC insulated twin twisted PVC sheathed Cu cable	200	mtr		
ii)	2 Core 23/0.2 ATC PVC insulated twin core balanced 90% Cu sheathed PVC insulated cable	200	mtr		
b)	Mic socket box with Nutrik XLR connector with 4 no mics	6	Each		
8	Installation, testing and commissioning charges	1	Each		
		Total			

PART 2

MULTIMEDIA PRESENTATION SYSTEM

TECHNICAL SPECIFICATIONS FOR THE MULTIMEDIA SYSTEM

1 Projector

- DLP Technology
- Native Resolution 1400 X 1050 Pixels..
- Brightness 6000 ANSI Lumens .
- Contrast Ratio 800 : 1.
- Display of 4 images (2 data / 2 video) with resizing features through builtin or external processor.
- RS 232 serial interface.
- Scan Frequency Horizontal 15-110 Khz , Vertical 40-150 hz.
- Computer compatibility upto 1600 X 1200 pixels .

▪ **Approved Make: Barco , Panasonic , Christie or equivalent.**

2 Projection Lens

- Throw Ratio 3-4:1.
- Motorized Mechanism .

▪ **Approved Make: Barco , Panasonic , Christie or equivalent.**

3 Video-Data Switcher witch scaller.

- 4 Video / S-Video.
- 2 Data.
- 100 Mhz Video bandwidth.
- Audio inputs / outputs.

▪ **Approved Make: Extron , Kramer , Barco or equivalent.**

4 DVD Player

- Compatibility for playback of DVD , Audio CD and Video CD formats etc.
- Progressive Scanning.
- Component Video / S-Video Output.
- Signal to noise ratio better than110dB
- Composite video and S video outputs 1 V p-p, 75 Ohms

▪ **Approved Make: Panasonic , Phillips , LG or equivalent.**

5 Visual Presenter .

- 850000 Pixels.
- 1024 X 768 resolution .
- Motorized head rotation.
- Minimum 32 frames memory.
- LED Upper light for better illumination..
- Software.

▪ **Approved Make: ELMO , Navitar , Hite or equivalent.**

SCHEDULE OF QUANTITIES FOR AUDITORIUM - MULTI MEDIA PRESENTATION SYSTEM

S. No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	Projector System with DLP Technology with resolution of 1400 X 1050 pixels , 6000 ANSI lumens , complete as per the specifications.	1	each		
2	Long Throw Projection Lens with a throw of 2.5-4.3:1 , complete as per the specifications..	1	each		
3	RGB Video-Data switcher with built scaler with minimum 7 inputs complete as per the specifications..	1	each		
4	DVD Player complete as per the specifications..	1	each		
5.	Ceiling mount hardware	1	Each		
6.	Cable connectors etc	1	Job		
7.	Installation testing & commissioning	1	Job		
	TOTAL				

TECHNICAL SPECIFICATIONS – AUDIO VISUAL ROOM

VIDEO SYSTEM

1 DLP Projection System

Projector

Technology	DLP
Lumens	Minimum 4000 ANSI
Resolution	1024 x 768 or higher
Data Compatibility	VGA, SVGA, XGA, SXGA
Contrast Ratio	1800/1
Video Inputs	Composite, S-VHS.
Computer Output	RGB
Brightness Uniformity	80%.
Remote Control	Full function.

2. Projection Screen

Size	7 x 9 feet.
Type	Fixed
Viewing Surface	Matt White (1.5 gain).
Outer Frame	MS Pipe

3. Video Data Switcher

Input	Minimum 8 Inputs (PC, Video, S-Video)
Audio Input	7 Inputs
Out Put	1 Output
Control	RS-232
Resolutuion	Upto 1400 x 1050.

**SCHEDULE OF QUANTITIES FOR AUDIO VISUAL ROOM- MULTI MEDIA
PRESENTATION SYSTEM**

S. No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	DLP Projection System with , Resolution 1024 X 768 , 1800:1 contrast ratio , 4000 ANSI Lumens , with dual lamp. Approved Make: Vivetek / Panasonic	1	each		
2	RGB Video Data Switcher, 7 inputs , 1 output. Approved Make : Extron / barco / Anologway	1	each		
3	7' x 9' Motorised Screen Approved Make : Draper / Dalite	1	each		
4	Installation including all required cables, connectors & mounting hardware for projector & screen	1	Job		
				G.TOTAL	

TECHNICAL SPECIFICATIONS – CONFERENCE ROOM

VIDEO SYSTEM

1 DLP Projection System

Projector

Technology	DLP
Lumens	Minimum 4000 ANSI
Resolution	1024 x 768 or higher
Data Compatibility	VGA, SVGA, XGA, SXGA
Contrast Ratio	1800/1
Video Inputs	Composite, S-VHS.
Computer Output	RGB
Brightness Uniformity	80%.
Remote Control	Full function.

2. Projection Screen

Size	7 x 9 feet.
Type	Fixed
Viewing Surface	Matt White (1.5 gain).
Outer Frame	MS Pipe

3. Video Data Switcher

Input	Minimum 8 Inputs (PC, Video, S-Video)
Audio Input	7 Inputs
Out Put	1 Output
Control	RS-232
Resolutuion	Upto 1400 x 1050.

**SCHEDULE OF QUANTITIES FOR CONFERENCE ROOM- MULTI MEDIA
 PRESENTATION SYSTEM**

S. No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	DLP Projection System with , Resolution 1024 X 768 , 1800:1 contrast ratio , 4000 ANSI Lumens , with dual lamp. Approved Make: Vivetek / Panasonic	1	each		
2	RGB Video Data Switcher, 7 inputs , 1 output. Approved Make : Extron / barco / Anologway	1	each		
3	7' x 9' Motorised Screen Approved Make : Draper / Dalite	1	each		
4	Installation including all required cables, connectors & mounting hardware for projector & screen	1	Job		
				G.TOTAL	