

**TECHNICAL SPECIFICATION OF SOUND SYSTEM WITH ACCESSORIES - SOLAM**

1.	<b><u>Name of Equipment</u></b>	:	Sound System With Accessories
2.	<b><u>Purpose</u></b>	:	To Improve Functionality of Central Lecture Hall
3.	<b><u>Brand</u></b>	:	To be mentioned
4.	<b><u>Model</u></b>	:	To be mentioned
5.	<b><u>Country of Origin</u></b>	:	UK/USA/Germany/Japan/Norway/Malaysia/Indonesia
6.	<b><u>Country of Manufacturer</u></b>	:	UK/USA/Germany/Japan/Norway/Malaysia/Indonesia/China
7.	<b><u>Supplier</u></b>	:	To be mentioned
8.	<b><u>Local Agent</u></b>	:	To be mentioned
9.	<b><u>Year of Manufacturing</u></b>	:	2023 or later
10.	<b><u>Quantity</u></b>	:	01 (One) Set

**11. Environmental Condition:**

- a. Operating Temperature : 0°C to 40°C (32°F to 104°F)  
b. Relative Humidity : 35% to 80%RH (no condensation)

**12. Scope of Supply:**

- a. 01 Set X Sound system with accessories.  
b. Installation and test/ trial.  
c. Repair/ Maintenance.  
d. Required spares.  
e. Required operation and maintenance training.  
f. Documentation.

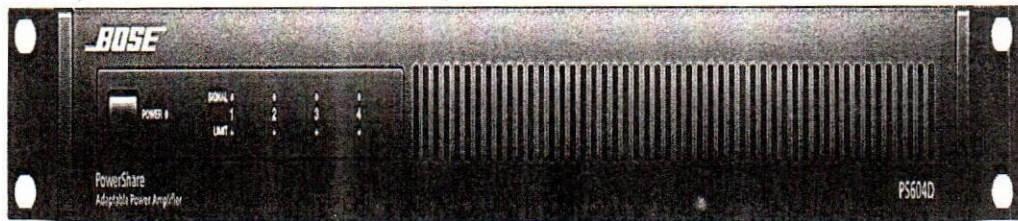
**13. System Configuration : It will include but not limited to following hardware, software and standard accessories:****a. Sound System With Accessories:**

S. No	Description	Unit	Qty
1.	Amplifier, Professional 600W	No	01
2.	Mixing Console 16 Channel with hard case	No	01
3.	Surface Mount Speaker, Professional- 16W	No	20
4.	Microphone, Dynamic handheld vocal	No	02
5.	Microphone Cordless with Receiver	Set	03
6.	Microphone Gooseneck Conference	No	02
7.	Connector XLR Male (Nuetrik)	No	20
8.	Connector XLR Female (Nuetrik)	No	20
9.	Connector Mono (Nuetrik)	No	20
10.	Cable Audio/ Microphone (Gotham)	Feet	225
11.	Cable Microphone (Gotham)	Mtr	100
12.	Cable Speaker (Gotham)	Mtr	100
13.	Stand Microphone, Floor type (Hercules)	No	02
14.	Stand Microphone, Table type, Foldable Tripod (Hercules)	No	04
15.	Multiplug 5 port (Energypac)	No	04
16.	Voltage Stabilizer, 3000VA	No	01



## 14. Technical Specifications

### a. Amplifier, Professional 600W



FRONT



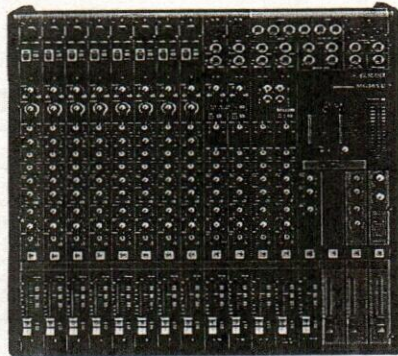
REAR

(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	<b>Power Rating</b>		
	Amplifier Power	:	4 x 150 W= 600W (THD+N < 0.04%, 1 kHz, 4-8 Ω, 70/100V)
	Maximum Power per Channel	:	600 W @ 4-8 Ω, 70/100V
	Gain (Low-Z mode)	:	32.0 dB
	Gain (70V mode)	:	35.0 dB
	Gain (100V mode)	:	38.0 dB
(6)	<b>Audio Performance</b>		
	Frequency Response	:	4-8 Ω: 20 Hz – 20 kHz (+/- 0.5 dB @ 1 W); 70/100V: Same as 4-8 Ω with 50 Hz high-pass filter
	Channel Separation (Crosstalk)	:	> 85 dB @ 1 kHz, > 65 dB @ 20 kHz
	Signal to Noise Ratio	:	100 dB (at rated power, A-weighted)
	Audio Inputs	:	<b>Analog</b> <b>Dante</b>
	Input Channels	:	4 balanced                      : 4 digital
	Connectors	:	12-pin Euroblock                      : RJ-45 (primary)
	Input Impedance	:	20 kΩ
	Maximum Input Level	:	20 dBu (at 12 dBu sensitivity setting)
	Sensitivity	:	4 / 12 dBu (low / high sensitivity)
	Audio Outputs	:	Analog
	Outputs	:	4
	Connectors	:	8-pin inverted Euroblock
(7)	<b>Integrated DSP</b>		
	A/D and D/A Converters	:	24-bit / 48 kHz
	Processing Functions	:	Matrix mixer, loudspeaker EQ, real-time 9-band PEQ, Vpeak/ Vrms limiters, delay, band pass, mute/output polarity inversion
	Audio Latency	:	< 1 ms (Analog input to analog loudspeaker output)

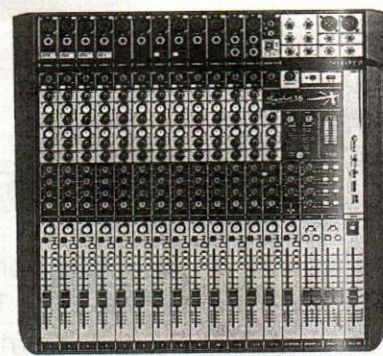


(8)	<b>Indicators &amp; Controls</b>	
	Power LED	: Solid green: Power is on. Blinking green: Unit is in standby mode. Solid amber: Thermal fault. Solid red: Supply fault.
	Input Signal LED	: Green: Signal present. Amber: Input is near clipping. Red: Input is clipping. Solid red: Indicates a fault.
	Output Limit LED	: Amber: Amplifier limiting an output. Blinking red: Amplifier muted. Solid red: Indicates a fault.
	Controls, Front Panel	: Power On/Off
	Controls, Rear Panel	: Output attenuators
(9)	<b>Electrical</b>	
	Mains Voltage	: 100 VAC to 240 VAC ( $\pm 10\%$ , 50/60 Hz)
	AC Power Consumption	: 120 VAC: 14 W (Standby), 700 W (Max) 230 VAC: 14 W (Standby), 700 W (Max)
	Mains Connector	: Standard IEC (C14)
	Maximum Inrush Current	: 14.14 A (230 VAC / 50 Hz), 8.04 A (120 VAC / 60 Hz)
	Protections	: High temperature, output short, extra high frequency (EHF), excessively low or high AC line voltage
	<b>Physical</b>	
	Dimensions (H x W x D)	: 44 mm x 483 mm x 414 mm (1.7 in x 19.0 in x 16.3 in)
	Net Weight	: 6.4 kg (14.1 lb)
	Cooling System	: Microprocessor controlled, variable speed fans, left to right air flow
(10)	Qty	: 01

b. **Mixing Console, 16 Channel with hard case**



OR



(1)	Brand	: To be mentioned
(2)	Model	: To be mentioned
(3)	Country of Origin	: To be mentioned
(4)	Country of Manufacturer	: To be mentioned
(5)	Type	: Mixing Console
(6)	Channel	: 16
(7)	Frequency	: 20Hz-20KHz
(8)	Connectivity mode	: Wired
(9)	Phantom power	: +48V
(10)	USB Interface	: Yes (2-In 2-Out)
(11)	Subgroups	: 4 mono/ 2 stereo
(12)	Power Supply	: AC 100 - 240 V, 50 / 60 Hz
(13)	Faders	: 100mm (Smooth Premium Quality)
(14)	AC Input Power	: AC 100 - 240 V
(15)	Approx. Power Consumption	: 30W
(16)	Console hard case	: Yes
(17)	Qty	: 01



## c. Surface mount speaker, professional- 16W



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Nominal Impedance	:	16 Ohms
(6)	Power	:	16W, 70/100V operation
(7)	Frequency Response	:	95 – 16,000 Hz
(8)	Wall Mount Bracket	:	Yes
(9)	Qty	:	20

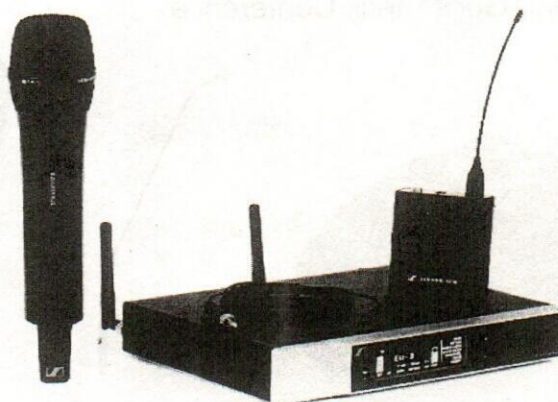
## d. Microphone, Dynamic handheld vocal



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Microphone Type	:	Dynamic
(6)	Polar Pattern	:	Supercardioid
(7)	Frequency Response	:	40Hz – 16KHz
(8)	Sensitivity (free field, no load) (1 kHz)	:	2,7 mV/Pa
(9)	Output Impedance	:	350-Ω
(10)	Connector	:	XLR
(11)	Switch	:	Silent On/Off Switch
(12)	Compatible Devices	:	Amplifier, Speaker
(13)	Material Type	:	Metal
(14)	Power Source	:	Corded electric
(15)	Product Dimensions	:	1.89 x 7.09 x 1.89 inches
(16)	Batteries	:	1 Lithium Ion batteries required.
(17)	Microphone Holder Clip	:	Yes
(18)	Microphone carrying Bag	:	Yes
(19)	Qty	:	02



## e. Microphone Cordless with Receiver



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	System Analog/Digital	:	Digital
(6)	System Frequency Range	:	470-526 MHz
(7)	System Operating Range	:	328 ft. Line-of-sight
(8)	System Frequency Response	:	20Hz-20kHz
(9)	System Microphone Included	:	Yes
(10)	System Channel Selection	:	Auto
(11)	Microphone Type	:	Handheld Dynamic, Lavalier Condenser
(12)	Microphone Polar Pattern	:	Handheld Cardioid, Lavalier Omnidirectional
(13)	Microphone Max SPL	:	130dB SPL (lav), 154dB SPL (handheld)
(14)	Microphone Size	:	10.6" x 2"
(15)	Microphone Color	:	Black
(16)	Microphone Frequency Response	:	50Hz-18kHz
(17)	Microphone Cable Length	:	5.2 ft.
(18)	Microphone Self Noise	:	32dB
(19)	Transmitter Form Factor	:	Handheld, Bodypack
(20)	Transmitter Dynamic Range	:	134dB
(21)	Transmitter Mute Feature	:	Yes
(22)	Transmitter Battery Type	:	2 x AA or Rechargeable Battery pack
(23)	Transmitter Battery Life	:	8 hours (AA), 12 hours (rechargeable)
(24)	Transmitter Dimensions	:	10.6" x 2" (handheld), 2.5" x 3.1" x 0.8" (bodypack)
(25)	Receiver Antenna Type	:	Detachable
(26)	Receiver Type	:	Rackmount (kit included), Table Top
(27)	Receiver Rackmountable	:	Yes
(28)	Receiver Front Panel Display	:	Yes
(29)	Receiver Displays	:	OLED
(30)	Receiver Outputs	:	1 x XLR, 1 x 1/4"
(31)	Receiver Dimensions	:	7.4" x 1.7" x 8.3"
(32)	Receiver Weights	:	2.2 lbs.
(33)	Manufacturer Part Number	:	508770
(34)	Qty	:	03 Sets



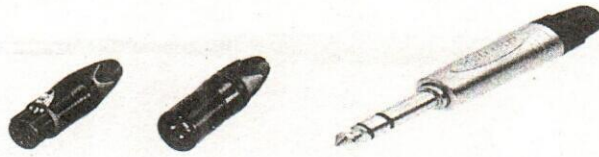
## f. Microphone Gooseneck Conference

Gooseneck Microphone Stand/ BaseGooseneck Microphone

(1)	Gooseneck Microphone Stand/ Base		
	Brand	:	To be mentioned
	Model	:	To be mentioned
	Country of Origin	:	To be mentioned
	Country of Manufacturer	:	To be mentioned
	Description	:	Desktop microphone base
	Type	:	Power supply adapter
	Colour	:	Black
	Suitable for	:	Gooseneck microphones
	Power supply	:	48V phantom power or 2 x 1.5 V batt. AA size (Supplied) 0.88 mA (operation), 0.62 mA (standby)
	Connections	:	XLR, bal. (in/out)
	Other features	:	20Hz-20,000 Hz, 600 $\Omega$
	Packing dimensions (W x H x L)	:	15 x 6 x 16 cm
	Gross weight	:	1.24 kg
	Net weight	:	1.1 kg
(2)	Gooseneck Microphone		
	Brand	:	To be mentioned
	Model	:	To be mentioned
	Country of Origin	:	To be mentioned
	Country of Manufacturer	:	To be mentioned
	Description	:	Gooseneck Microphone
	Transmission method	:	cable
	Colour	:	Black
	Polar pattern	:	Supercardioid
	System	:	Back electret
	Audio frequency range	:	80-18,000 Hz
	Nominal impedance	:	220 $\Omega$
	Sensitivity	:	16 mV/Pa
	Max. sound pressure	:	125 dB
	Power supply	:	DC 48 V phantom power
	Admiss. ambient temp.	:	0-40 $^{\circ}\text{C}$
	Dimensions	:	605 mm
	Weight	:	185 g
	Connection	:	XLR, bal.
	Packing dimensions (W x H x L)	:	0.09 x 0.04 x 0.66 m
	Gross weight	:	0.42 kg
	Net weight	:	0.185 kg
(3)	Qty	:	02

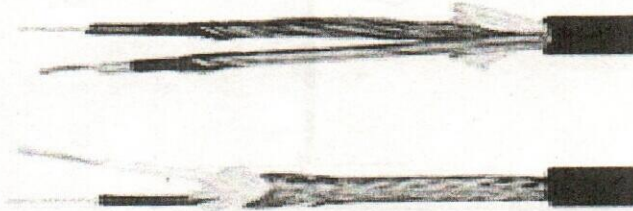


## g. Connectors XLR Male, Female and Mono (Nuetrik)



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Connector Type		XLR Male/ Female and Mono (Nuetrik)
(6)	Qty	:	01 Lot (XLR Male-20, XLR-Female-20 and Mono-20)

## h. Cable Audio/ Microphone (Gotham)



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Conductor Material	:	100% Copper Oxygen free
(6)	Gauge	:	16 AWG
(7)	Insulation Material	:	PVC
(8)	Number of Core	:	02 (Two) Shielded
(9)	Qty	:	225 Feet or 68.58 mtr

## j. Cable Microphone (Gotham)



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Conductor Material	:	100% Copper Oxygen free
(6)	Gauge	:	16 AWG
(7)	Insulation Material	:	PVC
(8)	Number of Core	:	02 (Two) Shielded
(9)	Qty	:	100 mtr



## k. Cable Speaker (Gotham)



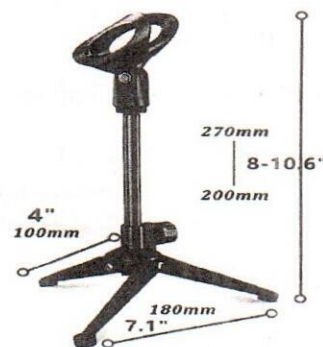
(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Conductor Material	:	100% Copper Oxygen free
(6)	Gauge	:	16 AWG
(7)	Insulation Material	:	PVC
(8)	Number of Core	:	02 (Two)
(9)	Qty	:	100 mtr

## l. Stand microphone, Floor type (Hercules)



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Type	:	Tripod Floor Stand (Hercules)
(6)	Microphone holder clip	:	Yes
(7)	Material	:	Metal
(8)	Qty	:	02

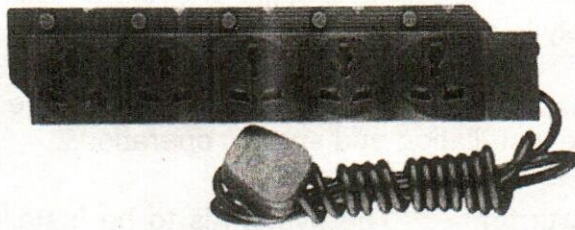
## m. Stand Microphone, Table type, Foldable tripod (Hercules)



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Type	:	Tripod Microphone Desk Adjustable Floor Stand (Hercules)
(6)	Microphone holder clip	:	Yes
(7)	Material	:	Metal
(8)	Qty	:	04

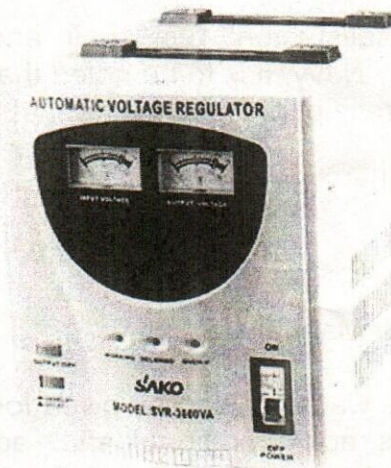


## n. Multiplug 5 port (Energypac)



(1)	Brand	:	To be mentioned
(2)	Model	:	To be mentioned
(3)	Country of Origin	:	To be mentioned
(4)	Country of Manufacturer	:	To be mentioned
(5)	Rated Voltage	:	250 Volt
(6)	Max Current	:	13A
(7)	Working Function	:	Continue
(8)	Power	:	3250VA
(9)	Voltage Resistance	:	2000V, 1Min
(10)	Temperature Rise	:	< 40°C
(11)	Moisture Insulation Resistance	:	>10M. ohm
(12)	Conductor Material	:	100% Copper
(13)	Qty	:	04

## p. Voltage Stabilizer, 3000VA



(1)	Input		
	Phase	:	Single Phase
	Voltage	:	AC 150V-250V/50V-130V
	Frequency	:	50/60Hz
(2)	Output		
	Voltage	:	AC 220V $\pm$ 3%, 110V $\pm$ 6%
	Capacity	:	3000VA
	Frequency (Inverter Mode)	:	50Hz/60Hz
	Under Volt	:	184V $\pm$ 4V
	Over Volt	:	26V $\pm$ 4V
(3)	Function		
	Control Type	:	Relay
	Over/Low Volt Protection	:	Yes
	Delaying	:	Yes
	Temperature Protection	:	Temperature Protection Option
	Qty	:	01



15. **Cables.** The supplier is to be providing microphone cables and speaker cables (Minimum more -100mtr) If required. Details of cable specification and unit price (per meter) are to be quoted separately to assess any additional requirement by the buyer.
16. **Connectors.** All types of connectors should be compatible with the supplied sound system for trouble free installation and system operation.
17. **Installation Material:** The system is to be installed by the supplier according to the demand by the Navy. All Installation materials are to be provided by the supplier without any additional charges.
18. **Optional Items:** Optional Items/ accessories if needed to be quoted separately with item wise price.
19. **Spares:** Spares recommended by original equipment manufacturer (OEM) for 02 years trouble free operation.
20. **Tools:** Provide 01 set Installation and repair tools with tools bag by supplier.
21. **Equipment Rack:** Provide 01 (One) Suitable/ Compatible Equipment Rack for housing the Sound System Equipment's by supplier. Details of rack specification and price to be quoted separately to assess any additional requirement by the buyer.
22. **Installation:** Test, Trial and Acceptance:
- Total Installation work will be done by the supplier.
  - The supplier's representative will ensure satisfactory tests, trial and functioning/ commissioning of the equipment at purchaser's premises.
  - On completion of satisfactory test/ trail and commissioning, an acceptance certificate will be provided by Navy. It is to be noted that test/ trail is to be completed within 03 months from the date of receipt of the equipment at Khulna.
23. **Manuals:** Following manuals (03 Copies) in English are required:
- Operational Manual
  - Technical Manual
  - Installation and Repair Manual
24. **Warranty:** 02 (Two) years warranty is to be given for all supplied items from the date of acceptance. If any item becomes non-operational after acceptance, warranty period of the concerned item will be extended for the same amount of time the item will remain out of service.
25. **Training:** Necessary operation & maintenance training are to be provided onboard after successful completion of installation and test/ trail.



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