



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 76 53 Email : skaruna@bheltry.co.in Web : www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2631600067	03.09.2016	30.09.2016

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

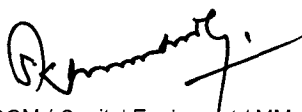
Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity
10	Public Addressing Audio System Consisting of Amplifier and Cordless Microphones as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	1 Set

Important points to be taken care during submission of offer

1. Compliance Form No: MM/ CE/ TRY/ IND/ 08 to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
2. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.
3. Delivery required: 3 months from the date of Purchase Order.

BHEL's General guidelines / instructions (refer MM/CE/GENL/001), compliance form and technical specification can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference "2631600067".

Tenders should reach us before 14:00 hours on the due date Tenders will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present	Yours faithfully, For BHARAT HEAVY ELECTRICALS LIMITED  DGM / Capital Equipment / MM
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S. KARUNANIDHY
Dy. General Manager
Capital Equipment / MM
BHEL, Tiruchirappalli - 620 014.

PART – A**SECTION- 1: Qualifying Criteria**

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
1.1	The BIDDER / VENDOR (OEM) shall have a good enough experience in supply of similar or identical amplifier and microphone specifications. Vendor shall indicate the actual number of years of experience in the field.	
1.4	BHEL reserves the right to verify the information provided by the Vendor for the referred amplifier and microphone at their referred customer's works. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	

SECTION - 2:

The BIDDER / VENDOR are requested to provide the following information:-

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
2.1	Specify details of amplifier and microphone set supplied to other units of BHEL, <u>if any</u>	
2.2	Details on SERVICE-AFTER-SALES Set-up in India including the Address of Agents / Service Centres in India.	

SECTION – 3:

The BIDDER to note:

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
3.1	The BIDDER / VENDOR shall submit the offer in TWO parts. 1. Technical Offer [with PART A & PART B] 2. Commercial Offer and Price bid.	
3.2	The Technical Offer shall contain complete details against all clauses of Technical Specifications given by BHEL.	
3.3	The Technical Offer shall be supported by copies of product Catalogues, Data Sheets and technical details of Bought- Out-Items.	
3.4	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	

PA AMPLIFIER specifications

Sl.No.	BHEL Specification - Requirement	Vendor Confirmation	Deviations, if any
1	SCOPE OF SUPPLY: One number of High power PA amplifier of rating 350 watts. - To be Designed for use in a wide variety of PA applications 350 watts mixer amplifier should have at least seven unbalanced independent mic inputs and two independents auxiliary inputs. - It should have a preamp output for recording the program, a line output for connecting to a booster amplifier and a line input for connecting to an external PA audio mixer. - Box speaker /driver unit selector switch to be provided for protecting the driver unit's diaphragm for unwanted low frequencies. - Circuit projector device to be provided with safeguards the amplifier against overload and short circuit. - Provision for automatic change over from AC to battery operation ensuring continuity of program to be provided. - Protection to be provided against the reverse polarity of battery connections.		
2	SPECIFICATIONS: The following is the detailed description of the parts that shall be inclusive of standard accessories and attachments to be supplied. (i) Power output: Power output of the amplifier should be maximum of 450W RMS , 350W RMS at 10% THD, 320W RMS at 5% THD and 300W RMS at 2% THD. (ii) Output regulation: The range of no load to full load output regulation at 1KHZ is less than or equal to 2db. (iii) Input channel: The number of input channels of amplifier is to be 7*mic. 0.8 millivolt/4.7Kilo ohm and its mic source impedance 50 ohm to 1kilo ohm. Then two number of auxiliary input range is 100MV/470 kilo ohm and 200MV/470 kilo ohm its line input is 1V/50 kilo ohm. (iv) Frequency response: The frequency response the model is to be in the range of 50-15000Hz and 3dB decibel. (v) S/N ratio: The range of signal to noise ratio should be equal to 60db.		

(vi) Tone control:

Tone Control is to consist of two positions.

a) Switch at box speaker position.

The level of Bass is to be plus (or) minus 10db at 100Hz and treble is plus (or) minus 10db at 10KHz.

b) Switch at driver unit position.

The level of Bass is to be -10db at 100Hz and treble is plus (or) minus 10db at 10KHz.

(vii) Pre-amp and line output:

The required pre amp output is 200mv/600 ohm and line output is 1V/1 kilo ohm.

(viii) Output tabs:

The output tabs for the model through direct connection to be at 4 & 8 ohm.

(ix) Speaker matching:

The speaker box matching at the voltage rating is 70 & 100V with direct LMT.

(x) Power supply:

For AC: the voltage range between 220-240V at 50/60Hz.

For DC: the DC voltage is 36V.

(xi) Production:

For AC: 6A fuse to be needed (T 6A L).

For DC: 15A fuse to be needed (with circuit breaker).

(xii) AC and DC power consumption:

For AC power is consumed should be 660VA.

For DC power is consumed should be 6A.

PA AMPLIFIER specifications

Sl.No.	BHEL Specification - Requirement	Vendor Confirmation	Deviations, if any
1	SCOPE OF SUPPLY: To supply one number of 500 watts mixer amplifier with seven unbalanced independent mic inputs and two independents auxillary inputs. • It should have a preamp output for recording the program, a line output for connecting to a booster amplifier and a line input for connecting to an external PA audio mixer. • It is to have a 500 watts booster amplifier, which accepts input signals of both 200MV and 1V.it has an input sensitivity selector switch with the help of which its input sensitivity can be altered to accept preamp outputs or line outputs from other sources. • The amplifier should have two jacks. The input jack is used to feed an input signal into the amplifier. While the output jack could be used to connect another booster amplifier to it for a higher power requirement. • Box speaker /driver unit selector switch has been to be provided for protecting the driver unit's diaphragm for unwanted low frequencies. • Circuit projector device to be provided with safeguards the amplifier against overload and short circuit. • Provision for automatic change over from AC to battery operation ensuring continuity of program to be provided. • Protection provided against the reverse polarity of battery connections. • Ease of operation, combined with service accessibility has been optimized in the design.		
2	SPECIFICATIONS: The following is the detailed description of the parts that shall be inclusive of standard accessories and attachments to be supplied. (xiii) Power output: Power output of the amplifier should be maximum of 750W RMS , 500W RMS at 10% THD, 450W RMS at 5% THD and 415W RMS at 2% THD. (xiv) Output regulation: The range of no load to full load output regulation at 1KHZ is less than or equal to 2%		

(xv) Input channel:

The number of input channels of amplifier is 7*mic. 0.8 millivolt/4.7Kilo ohm and its mic source impedance 15 ohm to 1kilo ohm. The auxiliary input range is 100MV/470 kilo ohm and its line input is 1V/50 kilo ohm.

(xvi) Frequency response:

The frequency response for the amplifier is 50-1500Hz and also same as SPA- 5000EM.

(xvii) S/N ratio:

The range of signal to noise should be equal to 60db.

(xviii) Tone control:

Tone Control to consist of two positions.

a) Switch at box speaker position.

The level of Bass is plus (or) minus 10db at 100Hz and treble is plus (or) minus 10db at 10KHz.

b) Switch at driver unit position.

The level of Bass is -10db at 100Hz and treble is plus (or) minus 10db at 10KHz.

(xix) output:

The predefined output of the amplifier is to be 200MV/100Kilo ohm and 1KV/50 kilo ohm.

(xx) Pre-amp and line output:

The required free AMP output is 200mv/600 ohm and line output is 1V/1 kilo ohm.

(xxi) Output tabs:

The output tabs for SSA-5000EM model through direct connection at 4 & 8 ohm.

(xxii) Speaker matching:

The speaker box matching at the voltage rating is 70 & 100V with direct LMT.

(xxiii) Power supply:

For AC: the voltage range between 220-240V at 50/60Hz.

For DC: the DC voltage is 36V.

(xxiv) Production:

For AC: 8A fuse to be needed (T 8A L).

For DC: 20A fuse to be needed (with circuit breaker).

(xxv) AC and DC power consumption:

For AC power is consumed should be near 1000VA.

For DC power is consumed should be near 8A.

VHF Wireless PA Microphones specifications

Sl.No.	BHEL Specification - Requirement	Vendor Confirmation	Deviations, if any
1	SCOPE OF SUPPLY: Supply of single channel VHF Wireless Microphone with a dynamic microphone with a VHF high band transmitter and a sensitive noise squelch receiver. It should be fitting into the following description • Dynamic unidirectional microphone with a three position slide switch and Low Battery LED indicator. • Table-top receiver with a telescopic antenna & noise squelch circuitry. • Power ON/OFF switch and output volume control on the front panel. • 1/4" (6.3mm) phone jack for audio output on the rear panel. • Microphone operates with 1 no of 9V battery. • Receiver operates on 9V DC through an AC adaptor, supplied along with the microphone.		
2	SPECIFICATIONS: The following is the detailed description of the parts that shall be inclusive of standard accessories and attachments to be supplied. MICROPHONE: (xxvi) RF Power output: RF Power output of microphone should be maximum of 100mW. (xxvii) Frequency response: The frequency response of the model is to be 40-13KHz. (xxviii) Power required: The required power of microphone range is equal to 9V. RECEIVER: (xxix) Frequency stability: The stability of frequency level should be 0.005%. (xxx) Power required: The operating voltage range between 220-240V at 50Hz for AC adaptor (to be supplied along with).		

3.	Single channel wireless microphone system: It should have the following features: • VHF Band Frequency Quartz Lock Control. • Single Channel Receiver. • Special circuit design for removing microphone noise switch. • LED indicators (Power, RF, and AF) & Telescopic Antenna. • Ships along with a lightweight, durable & comfortable head worn microphone.		
4	SPECIFICATIONS: (i) Receiver type: Single Channel Non-Diversity receiver. (ii) output: The output is unbalanced ¼" jack. (iii) Frequency response: The frequency response of this model is 50-15KHz. (iv) Power required: The required power of ER 58/EL 58 is equal to 9V alkaline battery. Receiver: 240V AC 50Hz for AC Adaptor Supplied with the set. (v) Polar pattern(lapel mic): The type of polar pattern is cardioid.		