

**ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA**



ISO 9001:2008

**(A Govt. of India undertaking)**  
**G.T.Road, Naramau Kanpur-209217**  
**(An ISO 9001: 2008 Company)**

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**OPEN TENDER NOTICE NO. MM/OT/ 32 /AT**

Offers in two parts (Technical & Price Bid) are invited from reputed manufacturer/Suppliers for supply of appx. **1,00,000 Kits** (Subject to upward / downward variations) of Components for Behind the Ear (Digital) Hearing Aid consisting of **“Amplifier Assembly, Receiver Assembly, Microphone Assembly and Housing Pair Assembly”** etc. as per our specifications / Drawings.

Interested Tenderers may send their request for issue of Tender Documents specifying the Tender No. as above to the undersigned alongwith non-refundable DD for Rs. 500/- per Tender in favour of ALIMCO payable at Kanpur towards it's cost to reach us latest by **14 September 2015**.

ALIMCO reserves the right to reject any or all requests/Offer without assigning any reason.

**For ALIMCO- DGM (Materials)**

PRODUCT No.	B.O.No.	NOMENCLATURE	QTY.
TD 0 E 16 0 00	LH 71	KIT FOR BTE HEARING AID-DIGITAL, CATEGORY-II	01

**SPECIFICATIONS :-Kit For Behind The Ear(BTE) Hearing Aid - Digital Category - II**

**(i) Amplifier Assembly:-**

Complete digital Amplifier assembled with SMD components. Tone control (N-H) & MPO Controls shall be provided either through trimmer or push button. Positive (+) & Negative (-) Battery Contacts plated with corrosion resistant material, Switch for microphone & Tele-Coil mode change, Automatic Gain Control Facility (AGC), masking/Insulation on both side of Amplifier assembly. Cleaned/unmasked soldering points for Receiver Assembly & Microphone Assembly.

**Volume Control:-** By switch or Rotary type potentiometer with min.4 stage numbering like 1,2,3 & 4 etc.

**ON-OFF :-** On- Off switch to apply power either through switch or the battery compartment cover/door.

The Amplifier Assembly shall operate on nominal 1.3V Zinc - Air Battery/NiMH rechargeable battery.

**Electro - acoustic Characteristics :-**

- (a) Max. OSPL 90 : 125dB
- (b) HF Average OSPL 90 : 115dB to 124dB
- (c) HF Average Full on gain (At 50/60db Input) : 50dB (min.)
- (d) Frequency Range : At least between 200Hz to 4000Hz
- (e) Total Harmonic Distortion : Should not exceed 7% at 1.3V Nominal Battery voltage measured at frequency 500,800 & 1600Hz at RTG position
- (f) Battery Current :  $\leq 10$  mA
- (g) equivalent Input Noise Level :  $\leq 30$  dB SPL
- (h) Induction Coil Sensitivity (At 10 mA/m) : 85 dB (min.)
- (i) AGC Characteristics :
  - (i) Steady state input/output characteristics : With the measured and specified curves matched at the point corresponding to 70 dB input SPL, the measured curve at 50 & 90 dB input SPL from the curves specified by the manufacturer for the model by more than +5 dB.
  - (ii) Dynamic output characteristics : The attack & release times shall be within  $\pm 5$  milliseconds or  $\pm 50\%$  whichever is larger, of the values specified by the manufacturer for the model.

**(ii) Receiver Assembly:-**

Receiver suitable for the BTE Hearing Aid - Digital, Receiver completely assembled with cushion & coupler, suitable length of Litz wires to be soldered to receiver points with colour coding for assembly with Amplifier Assembly. Receiver Acoustic Connection & Receiver Shield shall be suitable for assembly of receiver in Housing pair assembly of BTE Hearing Aid. Masking /Insulation shall be coated on soldering points & litz wires of Receiver Assembly. Other ends of Litz wires shall be unmasked/not insulated suitable to soldering on Amplifier Assembly. Receiver shall be able to work on nominal battery voltage 1.3 V.

**(iii) Microphone Assembly:-**

Microphone suitable for BTE Hearing Aid - Digital Microphone completely assembled with Boot & nozzle. Suitable length of Litz wires to be soldered to Microphone points with colour coding for assembly with amplifier assembly. Masking/Insulation shall be coated on soldering points & Litz wires of Microphone assembly. Other ends of Litz wires shall be unmasked/not insulated suitable to soldering on Amplifier Assembly. Microphone shall be able to work on nominal battery voltage 1.3 V.

**(iv) Housing Pair Assembly:-**

Housing Pair with "AL/MCC" printing as per fig.1 shown below. Trimmer door, Trimmer Label shall be printed as N-H & MPO and suitable indication of Trimmer position, Battery Door. Suitable Ear Hook For Housing pair assembly, plated with corrosion resistant material cross pan head tapping screws suitable for Housing pair assembly. Housing Pair Assembly as per over all dimensions :-

- Length : 60mm Max.
- Width : 25mm Max.
- Thickness : 15mm Max.
- Material : ABS Gd.1
- Colour : Cinamon (Skin), Cream, Brown, Black
- Design : The housing should be so designed that the method of battery replacement does not require the use of tools, either to open/close the battery compartment or to replace the batteries.

Mass : The mass of the kit of all the 4-components mentioned above taken together excluding the battery, ear insert & adaptor shall not exceed 10gm excluding the ear Tip/mould

Serial Number to be printed on Battery Door /Housing as per ALIMCO advice.

(v) Shelf Life of Kit : 24 Months

(vi) Test Report : Provide the Hearing Aid Analyser test report for the sample quoted.

(vii) Packing Requirement : Kit items/Components shall be packed so as to avoid damage during transportation & handling.

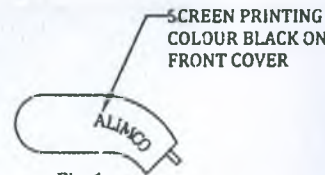


Fig. 1

**NOTE:-**

1. SAMPLE OF SCREEN PRINTING TO BE GOT APPROVED BEFORE SUPPLY.

2	F-10	Specification of Amplifier Assy Modified	10.8.15
1	---	PRODUCT No. TD 0 E 16 0 00 ADDED	15.5.15
SNo.	REGION	REVISION	DATE SIGN
REVISIONS			
<b>ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR</b>			
DGN	11	NOM	Kit For BTE Hearing Aid - Digital Category - II
JRN		MTL	
CHD		TOL	INTEGER ONLY $\pm 0.500$ mm ONE PLACE DECIMAL $\pm 0.250$ mm TWO PLACE DECIMAL $\pm 0.125$ mm <small>UNLESS SPECIFIED</small>
DIM	IN mm	FIN	
SCALE	HTS		
APP			B.O. LH 71
DATE	18.02.2015		DRG No. TD 0 E 16 0 00
			SHEET 10F1

PRODUCT No.	B.O.No.	NOMENCLATURE	QTY.
TD 0 E 17 0 0 0	LH 72	KIT FOR BTE HEARING AID-DIGITAL, CATEGORY-III	01

**SPECIFICATIONS :-Kit For Behind The Ear(BTE) Hearing Aid - Digital Category - III**

**(i) Amplifier Assembly:-**

Complete digital Amplifier assembled with SMD components, Tone control (N-H) & MPO Controls shall be provided either through trimmer or push button, Positive (+) & Negative(-) Battery Contacts plated with corrosion resistant material, Switch for microphone & Tele-Coil mode change, Automatic Gain Control Facility (AGC), masking/Insulation on both side of Amplifier assembly. Cleaned/unmasked soldering points for Receiver Assembly & Microphone Assembly.

**Volume Control:-** By switch or Rotary type potentiometer with min.4 stage numbering like 1,2,3 & 4 etc.

**ON-OFF :** on- Off switch to apply power either through switch or the battery compartment cover/door. The Amplifier Assembly shall operate on nominal 1.3V Zinc - Air Battery/NIMH rechargeable battery.

**Electro - acoustic Characteristics :-**

- (a) Max. OSPL 90 : 135dB
- (b) HF Average OSPL 90 : 125dB to 134dB
- (c) HF Average Full on gain (At 50dB input) : 60dB (min.)
- (d) Frequency Range : At least between 200Hz to 4000Hz
- (e) Total Harmonic Distortion : Should not exceed 7% at 1.3V Nominal Battery voltage measured at frequency 500,800 & 1600Hz at RTG position
- (f) Battery Current : ≤15 mA
- (g) equivalent input Noise Level : ≤30 dB SPL
- (h) Induction Coil Sensitivity (At 10 mA/m) : 95 dB (min.)
- (i) AGC Characteristics :
  - (i) Steady state input/output characteristics : With the measured and specified curves matched at the point corresponding to 70 dB input SPL, the measured curve at 50 & 90 dB input SPL from the curves specified by the manufacturer for the model by more than ±5 dB.
  - (ii) Dynamic output characteristics : The attack & release times shall be within ±5 milliseconds or ±50% whichever is larger, of the values specified by the manufacturer for the model

**(ii) Receiver Assembly:-**

Receiver suitable for the BTE Hearing Aid - Digital, Receiver completely assembled with cushion & coupler, suitable length of Litz wires to be soldered to receiver points with colour coding for assembly with Amplifier Assembly. Receiver Acoustic Connection & Receiver Shield shall be suitable for assembly of receiver in Housing pair assembly of BTE Hearing Aid. Masking /Insulation shall be coated on soldering points & litz wires of Receiver Assembly. Other ends of Litz wires shall be unmasked/not insulated suitable to soldering on Amplifier Assembly. Receiver shall be able to work on nominal battery voltage 1.3 V.

**(iii) Microphone Assembly :-**

Microphone suitable for BTE Hearing Aid - Digital. Microphone completely assembled with Boot & Nozzle. Suitable length of Litz wires to be soldered to Microphone points with colour coding for assembly with amplifier assembly. Masking/Insulation shall be coated on soldering points & Litz wires of Microphone assembly. Other ends of Litz wires shall be unmasked/not insulated suitable to soldering on Amplifier Assembly. Microphone shall be able to work on nominal battery voltage 1.3 V

**(iv) Housing Pair Assembly:-**

Housing Pair with "ALIMCO" printing as per fig.1 shown below. Trimmer door, Trimmer Label shall be printed as N-H & MPO and suitable indication of Trimmer position, Battery Door. Suitable Ear Hook For Housing pair assembly, plated with corrosion resistant material cross pan head tapping screws suitable for Housing pair assembly.

Housing Pair Assembly as per over all dimensions :-

- Length : 60mm Max
- Width : 25mm Max
- Thickness : 15mm Max
- Material : ADS Gd.1
- Colour : Cinamon (Skin), Cream, Brown, Black
- Design : The housing should be so designed that the method of battery replacement does not require the use of tools, either to open/close the battery compartment or to replace the batteries.

**Mass** : The mass of the kit of all the 4 components mentioned above taken together excluding the battery, ear Insert & adaptor shall not exceed 10gm excluding the ear Tip/mould

Serial Number to be printed on Battery Door /Housing as per ALIMCO advice

- (v) Shelf Life of Kit : 24 Months
- (vi) Test Report : provide the Hearing Aid Analyser test report for the sample quoted.
- (vii) Packing Requirement : Kit items/Components shall be packed so as to avoid damage during transportation & handling.

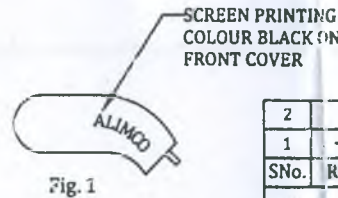


Fig. 1

**NOTE:-**

- 1. SAMPLE OF SCREEN PRINTING TO BE GOT APPROVED BEFORE SUPPLY.

2	F-10	Specification of Amplifier Assy Modified	10.0.15	<input checked="" type="checkbox"/>
1	---	PRODUCT No. TD 0 E 17 0 0 0 ADDED	15.5.15	<input checked="" type="checkbox"/>
SNo.	REGION	REVISION	DATE	SIGN
<b>REVISIONS</b>				
<b>ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR</b>				
DGN	<i>Chand</i>	NOM	Kit For BTE Hearing Aid - Digital Category - III	
DRN		MTL		
CHD	<i>Chand</i>	TOL	INTEGRAL ONLY ±0.500 mm ONE PLACE DECIMAL ±0.250 mm TWO PLACE DECIMAL ±0.126 mm	
DIM	IN mm	FIN	UNLESS SPECIFIED	
SCALE	NTS			
APP	<i>Chand</i>			
DATE	18.02.2015	DRG No. LH 72	SHEET 10/1	
		PRODUCT No. TD 0 E 17 0 0 0		