

# ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA

(A GOVERNMENT OF INDIA UNDERTAKING MINIRATNA COMPANY)  
(UNDER MINISTRY OF SOCIAL JUSTICE & EMPOWERMENT)

(An ISO 9001: 2015 Company)

**G.T. Road, Naramau Kanpur-209217**

Visit us: [www.alimco.in](http://www.alimco.in)

Email: [mm\\_office@alimco.in](mailto:mm_office@alimco.in), [alimco\\_hq@vsnl.net](mailto:alimco_hq@vsnl.net),

Tele Fax 0512-2770137, Ph. 2770174

**TOLL FREE NO. 18001805129**



ISO 9001:2008



## NOTICE

The Corporation has firmed up the Technical Specification regarding supply of Kit Consisting of Components for Behind the Ear (BTE) Hearing Aid – Digital Category- II & III alongwith Batteries & Ear Tips. The Techno Commercial Specification/Tender Document Firmed up by Corporation are appended herewith to this notice.

Suggestions/Comments/Objections regarding Technical Specification firmed up by the Corporation, if any, are invited from all the concerned till 28.05.2018 at 1200 Hrs. of this Notice on our website for consideration by Corporation.

The Suggestions/Comments/Objections, if any, may be sent to e-mail : [manager1\\_mm@alimco.in](mailto:manager1_mm@alimco.in), [dgm\\_mm@alimco.in](mailto:dgm_mm@alimco.in) latest by 28.05.2018 up to 1200 Hrs.

Dy. General Manager (Materials)

PRODUCT No.	B.O.No.	NOMENCLATURE	QTY.
TD 0 E 16 0 00	LH 71	COMPONENTS FOR BEHIND THE EAR (BTE) HEARING AID-DIGITAL, CATEGORY-II	01

**SPECIFICATIONS :- COMPONENTS FOR BEHIND THE EAR (BTE) HEARING AID-DIGITAL, CATEGORY-II**  
**CONSISTING OF FOLLOWINGS:-**

**(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  $\pm 5$  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 with or without 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 OR Microphone with flat strip connector to be soldered to Microphone points for assembly with amplifier assembly. Masking/Insulation shall be coated on soldering points & Litz wires/flat strip connector of Microphone assembly. Other ends of Litz wires/flat strip connector 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" & "ISI" Mark 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.

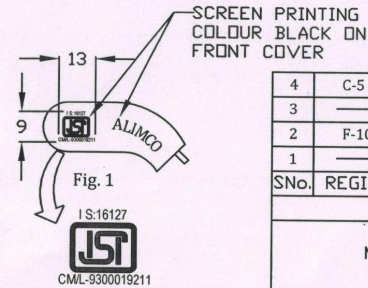
Mass : The mass of the kit of all the 4-components mentioned above taken together excluding the battery, ear Insert & adaptor shall not exceed 10gm excluding the ear Tip/mould

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

**(v) Shelf Life of Kit : 24 Months**

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

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



**NOTE:-**

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

4	C-5	ISI MARK WITH CM/L No. ADDED	16.01.17
3		NOMENCLATURE MODIFIED	09.07.16
2	F-10	Specification of Amplifier Assy Modified	10.8.15
1		PRODUCT No. TD 0E 16 0 00 ADDED	15.5.15
SNo.	REGION	REVISION	DATE SIGN

REVISIONS			
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR			

DGN		NOM	COMPONENTS FOR BEHIND THE EAR (BTE) HEARING AID-DIGITAL, CATEGORY-II	
DRN		MTL		
CHD		TOL		
DIM	IN mm	INTEGER ONLY	$\pm 0.500$ mm	UNLESS SPECIFIED
		ONE PLACE DECIMAL	$\pm 0.250$ mm	
		TWO PLACE DECIMAL	$\pm 0.125$ mm	
SCALE	NTS	FIN		
APP				
DATE	18.02.2015	B.O. No. DRG No.:-	LH 71	SHEET 1 OF 1
		PRODUCT No.	TD 0 E 16 0 00	

PRODUCT No.	B.O.No.	NOMENCLATURE	QTY.
TD 0 E 17 0 00	LH 72	COMPONENTS FOR BEHIND THE EAR (BTE) HEARING AID-DIGITAL, CATEGORY-III	01

**SPECIFICATIONS :- COMPONENTS FOR BEHIND THE EAR (BTE) HEARING AID-DIGITAL, CATEGORY-III**  
**CONSISTING OF FOLLOWINGS:-**

**(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 :  $\leq 15$  mA
- (g) equivalent input Noise Level :  $\leq 30$  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  $\pm 5$  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 with or without 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 OR Microphone with flat strip connector to be soldered to Microphone points for assembly with amplifier assembly. Masking/Insulation shall be coated on soldering points & Litz wires/flat strip connector of Microphone assembly. Other ends of Litz wires/flat strip connector 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:-**

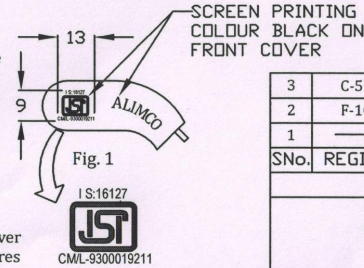
Housing Pair with "ALIMCO" & "ISI" Mark printing as per fig.1 shown below. Trimmer door, Trimmer Label shall be printed as N-H & MPO and suitable indication of Trimmer position, Battery Door, Suitable Ear Hook For Housing pair assembly, plated with corrosion resistant material cross pan head tapping 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 : May provide the Hearing Aid Analyser test report for the sample quoted.
- (vii) Packing Requirement : Items/Components shall be packed so as to avoid damage during transportation & handling.

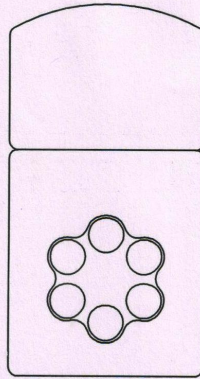
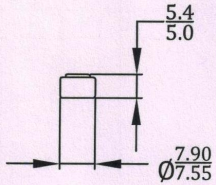


**NOTE:-**  
 1. SAMPLE OF SCREEN PRINTING TO BE GOT APPROVED BEFORE SUPPLY.

3	C-5	ISI MARK WITH CM/L.No. ADDED	09.07.16
2	F-10	Specification of Amplifier Assy Modified	10.8.15
1		PRODUCT No. TD 0E 17 0 00 ADDED	15.5.15
SNo.	REGION	REVISION	DATE SIGN

**REVISIONS**  
**ARTIFICIAL LIMBS**  
**MANUFACTURING CORPORATION**  
**OF INDIA**  
**KANPUR**

DGN	NOM	COMPONENTS FOR BEHIND THE EAR (BTE) HEARING AID-DIGITAL, CATEGORY-III	
DRN	MTL		
CHD			
DIM	IN mm	TOL	INTEGER ONLY $\pm 0.500$ mm ONE PLACE DECIMAL $\pm 0.250$ mm TWO PLACE DECIMAL $\pm 0.126$ mm UNLESS SPECIFIED
SCALE	NTS	FIN	
APP		B.O -	LH 72
DATE	18.02.2015	DRG No -	PRODUCT No. TD 0 E 17 0 00
			SHEET 1 OF 1



PACKING REQUIRMENT

MTL:- (EH 86)

13 ZINC AIR BATTERY

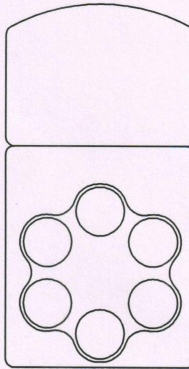
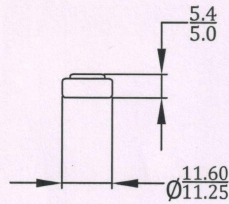
- NOMINAL VOLTAGE - 1.4V
- CAPACITY - 310mAh Approx
- BATTERY SIZE - 13 (PR 48)
- AVERAGE WEIGHT - 0.80gm Approx
- TERMINALS - FLAT
- SHELF LIFE - 03 YEARS MIN.

**NOTE:-**

1. ONE PACKET OF BATTERIES (A SEALED PACKET OF 6 NOS. BATTERIES) USED IN BTE DIGITAL TYPE HEARING AIDS.

2.	—	DRAWING REDESIGN & REDRAWN	08.07.16
SNo.	REGION	REVISION	DATE SIGN
R E V I S I O N S			
		ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR	
DGN		NOM	13 ZINC AIR BATTERY
DRN		MTL	INDICATED
CHD		TOL	INTEGER ONLY ±0.500 mm ONE PLACE DECIMAL ±0.250 mm TWO PLACE DECIMAL ±0.126 mm UNLESS SPECIFIED
DIM	IN mm	FIN	
SCALE	NTS		
APP		DRG No:-	TD 0 E 21 0 00
DATE	27.01.2010		SHEET 10F1

01	K	6	370
5		4	



PACKING REQUIRMENT

MTL:- (EH 87)

675 ZINC AIR BATTERY

- NOMINAL VOLTAGE - 1.4V
- CAPACITY - 600mAh Approx
- BATTERY SIZE - 675 (PR 44)
- AVERAGE WEIGHT - 1.70gm Approx
- TERMINALS - FLAT
- SHELF LIFE - 03 YEARS MIN.

NOTE:-

1. ONE PACKET OF BATTERIES (A SEALED PACKET OF 6 NOS. BATTERIES) USED IN BTE DIGITAL TYPE HEARING AIDS.

2.	—	DRAWING REDESIGN & REDRAWN	08.07.16
SNo.	REGION	REVISION	DATE SIGN

REVISIONS



ARTIFICIAL LIMBS  
MANUFACTURING CORPORATION  
OF INDIA  
KANPUR



DGN		NOM	675 ZINC AIR BATTERY	
DRN		MTL	INDICATED	
CHD		TOL	INTEGER ONLY ±0.500 mm	UNLESS SPECIFIED
			ONE PLACE DECIMAL ±0.250 mm	
			TWO PLACE DECIMAL ±0.126 mm	
SCALE	NTS	FIN		
APP				
DATE	21.04.2009		DRG No:- TD 0 E 11 0 00	
			SHEET 10F1	

01 K 6 368

5

4