

## Headset Specification

Status: In progress

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### Review committee

ADP/LDL

### Change history:

Version	Date	Editor	Change history
0.1		EDE	Creation
0.2		MCA	Update
0.3	19/12/07	LDE	Update
1	07/08/08	LDE	Update
2	04/05/08	LDE	Update wire length
3	06/06/08	ADP	Remove appendixes
4	6/8/2008	ADP	Add pictures

Table 1: Change history

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## 1 Overview

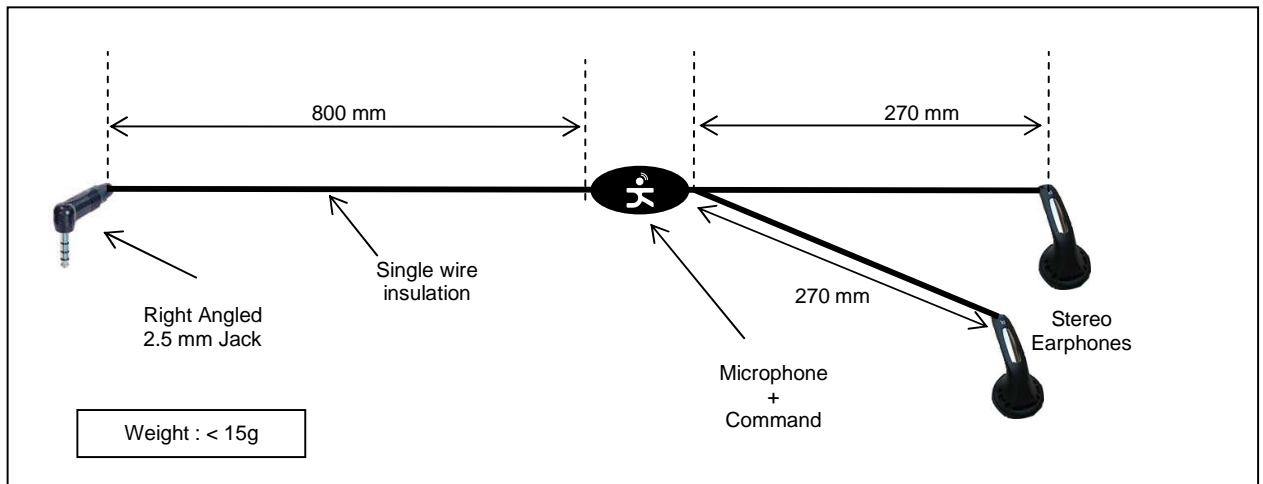
The aim of this document is to describe the specification of the Kapnav audio Headset. Because this product is dedicated to high end features (MP3 player, Speech recognition), the quality has to be particularly well-developed.

Pieces that make up this headset are:

- Connector
- Stereo Earphones
- Microphone
- Command button
- Wires
- Packaging

## 2 Mechanical overview

The following drawing describes all components positioning and overall product size.



## 3 Cosmetics requirements

### 3.1 Design

Earphones have to be earbud – no in-earphones is preferred anymore.

Small microphone.

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## 3.2 Colours

The product will be available in 1 colour (Jack, microphone casing earphones casing and wires has to have similar colour aspect)

- White
- Marking in GREY PANTONE: 877C

## 3.3 Ergonomic

The earphone will be used on outdoor environment (Urban, motorcycle, bicycle) in normal and extreme condition (ie. Mountain bike). The ergonomic of the Earphones will be designed to be reliable and easy to use.

# 4 Earphones requirements

## 4.1 Electrical characteristics

Earphones will fulfil the following specification:

- Impedance : 32  $\Omega$
- Frequency response : 18 Hz to 20 000 Hz
- Distortion : < 1%
- Nominal Power : 5 mW
- Sound Pressure level (SPL) : 110 dB max.
- Frequency response :  $\pm 20$ dB from 30Hz to 20KHz
- 

# 5 Microphone and switch button requirement

## 5.1 General

The headset will be equipped with a common casing for microphone and a switch button.

## 5.2 Microphone electrical requirements

Earphones will fulfil the following specification:

- Type : Omni directional
- Bandwidth at  $\pm 3$  dB : 250 Hz to 7000 Hz
- Sensibility at  $\pm 3$  dB : -42 dB
- Output impedance : 2.2 K  $\Omega$
- Filter : 10 pF & 33 pF (to avoid RF inter-modulation)
- Standard operating voltage : 2V
- Signal noise ration (Min) : 54dB

### 5.3 Switch Button

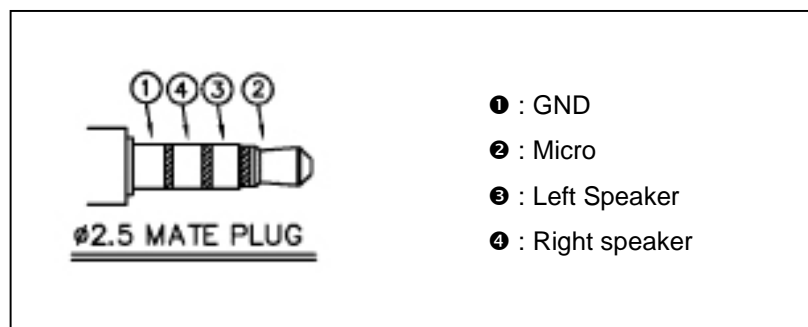
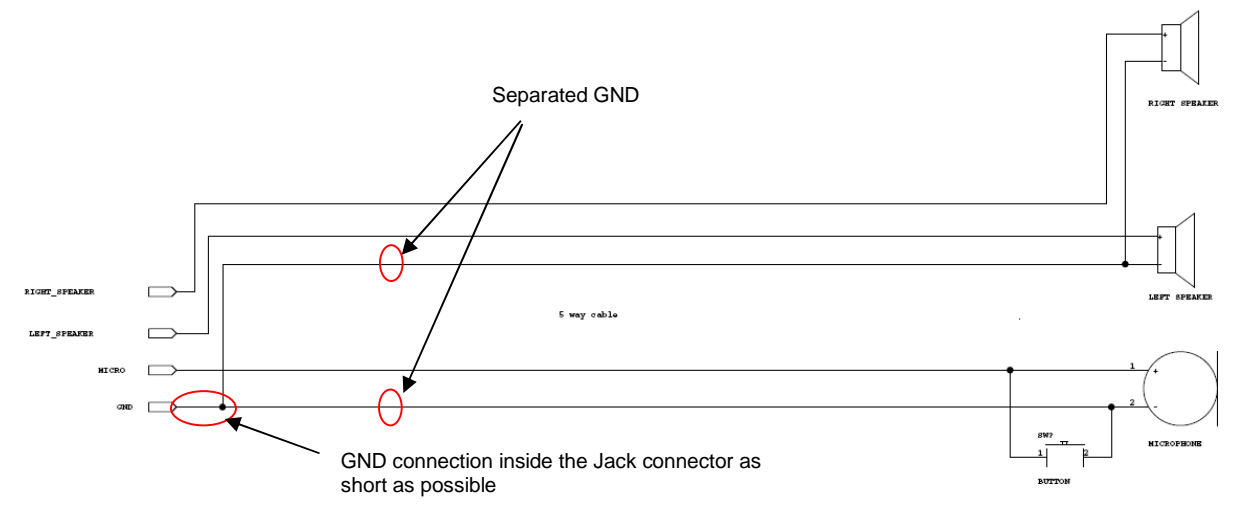
The switch button shall withstand to 500 000 pressures on the keys (8 to 10 N).

## 6 Connector

### 6.1 General requirements

- Type : Standard Jack Ø 2.5 mm – Right angled
- Number of pins : 4
- Termination finishing : Gold
- Maximum contact Resistance : 100 mΩ
- Isolation between adjacent pins : 500 V for 1 sec.
- Life type : 5000 cycles of insertion and withdrawal

## 7 Electrical schematic and Pins allocations



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## 8 Other requirements

### 8.1 Temperature withstand

- Operational : - 10°C / +55°C
- Storage : -20°C / +60°C

### 8.2 ESD withstand

- Metallic parts :  $\pm 4$  kV
- Plastic parts :  $\pm 10$  kV

### 8.3 Dust and Rain withstand

Microphone and earphone casing shall withstand IP64 standard at minimum.

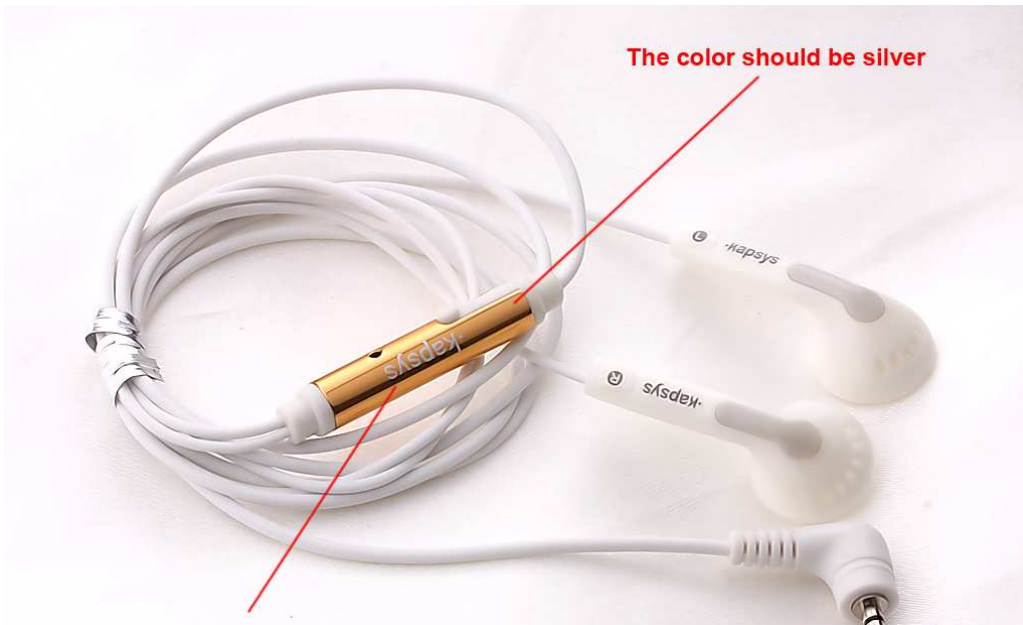
### 8.4 Warranty and certification

- Warranty : 1 year
- Flammability class : UL 94 V-0
- Certification : CE marking (for European market).- 93/68/CEE
- Rohs : Compliant
- Recyclable : Yes
- PPM target : < 100

## 9 Packaging

The headset is packaged in a plastic bag; the wire will be winded and strapped.

## PICTURES SAMPLES EXAMPLES



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