

ROBotic Open-architecture Technology for Cognition,
Understanding and Behavior



Project no. 004370

RobotCub

Development of a cognitive humanoid cub

Instrument: Integrated Project
Thematic Priority: IST – Cognitive Systems

RC_IST_103_D_000_03_MIC_SPEC

Microphone and pre-amplifier specification

Internal Report

Due Date:
Submission date: 8/3/2006

Start date of project: 01/09/2004

Duration:
60 months

Organisation name of lead contractor for this deliverable: IST

Responsible Person: José Santos-Victor, Instituto Superior Técnico (IST).

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Revision: **rev.no. 02**

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Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Service)	
RE	Restricted to a group specified by the consortium (including the Commission Service)	
CO	Confidential, only for members of the consortium (including the Commission Service)	CO

Introduction

This document specifies the microphones and pre-amplifiers to be used in the iCub.

Microphone

We decided to use omni-directional microphones from Projects Unlimited, part number POM-2746L, see appendix A. These have a flat frequency response and are easy to integrate in the iCub platform using the preamplifier specified below. The microphones can be bought from Farnell-in-one www.farnellinone.com (order code 500-3489).

Pre-amplifier

To connect a microphone to the line-in on the computer's sound card a preamplifier has to be used. We used the wiring scheme in Figure 1. One amplifier for each microphone has to be built. The OUT from the left microphone is then connected to the Tip of a 3.5 mm stereo plug (Figure 2), the OUT from the right microphone is connected to the ring, and the shell should be connected to ground.

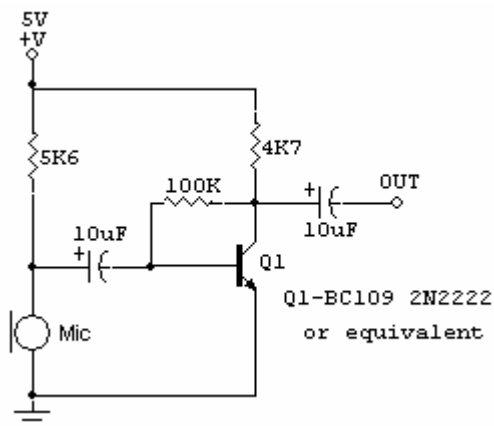


Figure 1, Wiring scheme for preamplifier

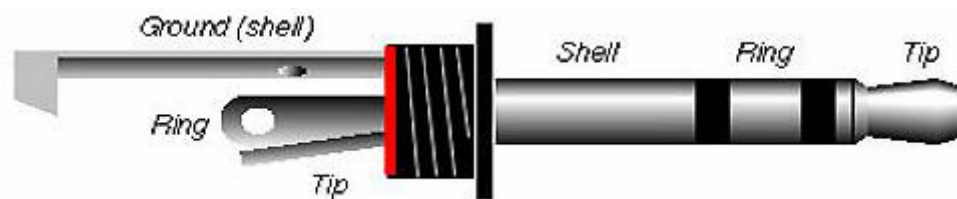


Figure 2, Mini plug (3.5 mm stereo plug)

Appendix I



3680 Wyse Road
Dayton Ohio 45414-5802
Phone: 937-918-2200
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Audio@ProjectsUnlimited.com

Part Number: POM-2746L



Features

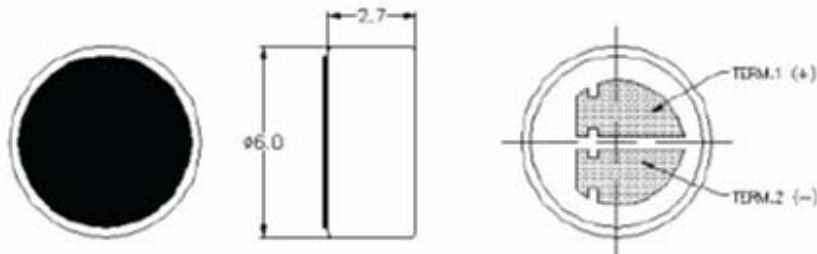
- Omni directional
- Super clarity, distortion-free response
- Available with lead wire type mounting

Electrical Specifications

Directivity	Omni-Directional
Impedance	2.20 kOhm
Operating Voltage	2.0 Vdc
Package Size	6 x 2.7 mm
Sensitivity	-46 +/- 3 dB

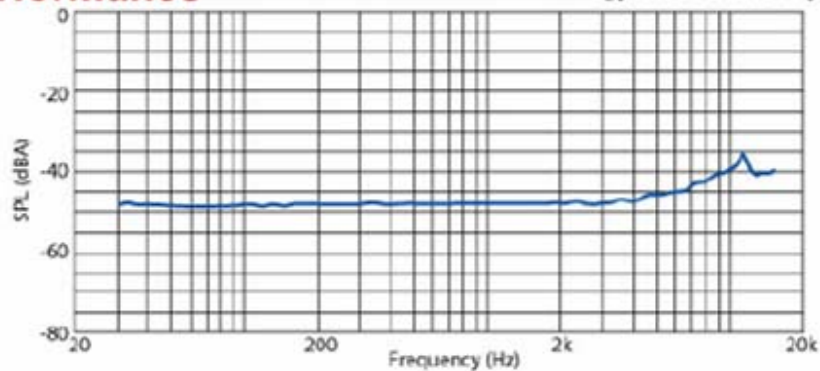
Mechanical

Dimensions are in millimeters, tolerance is ± 0.5 unless otherwise specified.



Performance

Typical SPL vs. Frequency



For application notes and detail drawing specifications, please consult www.projectsunlimited.com.

Specifications subject to change without notice.

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