

Electronic project kits

Order code	Manufacturer code	Description
13-0480	n/a	PARABOLIC MICROPHONE KIT

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

Parabolic-Microphone

This highly sensitive microphone is able to receive after being fitted in a half-ball-shaped reflector (eg. A divided play ball) noises and words from more than some hundred meters. Ideal for observing animals, for detectives etc. For headphone connection 8ohm. Operating voltage 9V.

Mounting Instructions + Setting into operations:

The microphone capsule may be connected with the board by using short wires (max. 10cm). The IC has to be fitted that way that the notch at the IC case coincides with the mark at the p.w. board. As parabolic mirror it may be used the half of a plastic ball, as great as possible, perhaps it is necessary to divide a play ball. The p.w. board has to be situated so that the sound opening of the microphone (black covered side) shows into the interior of the divided ball and therefore is able to absorb the reflected and concentrated sound waves. Through tests right mounting position can be found out. As headphone use, for the best result, a 8ohm headphone with rubber foam cups, like the one sold in any HiFi shops. (With a stereo headphone both earpieces have to be connected parallel.) Through the potentiometer volume may be regulated. In case of disturbances like bubbling humming etc., the p.w. board has to be placed in a metal case, connecting the case with earth (negative pole at the battery). For listening babies, animals etc. the p.w. board can be situated in the room which you want to monitor. The microphone is that sensitive that even weakest noises may be heard. The cable of the headphone and of the current supply can be extended to any length (max. 2 meters). The microphone should not be connected through a longer cable with the p.w. board.

Circuit description:

The acoustic waves bunched by the parabolic mirror (not attached) are recorded by a special high-sensitive capacitor microphone. The preamplifier stage amplifies the microphone signal and then transfers it via a volume control ("P") to the input of the final amplifier "IC". Here the signal will be amplified to such an extent that it will be carried to the connected earphone (not enclosed) at the output pin "6" of the IC via the catcher elca C2.

Intended use:

Listening to faint and distant sound sources like birds and other animals. Bugging of conversations is prohibited (data protection).

Technical data:

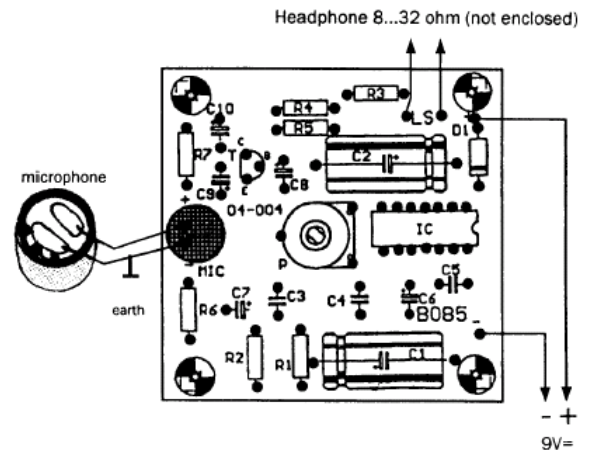
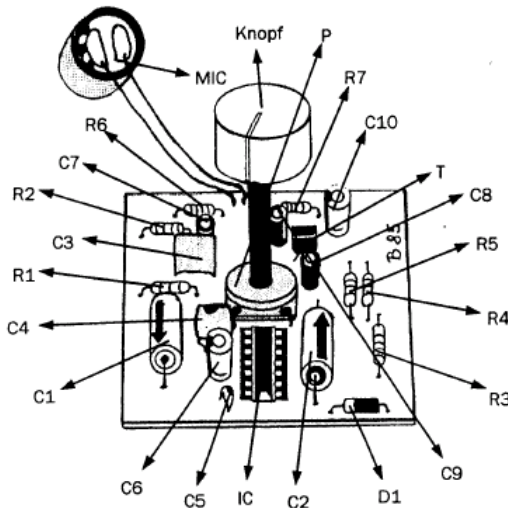
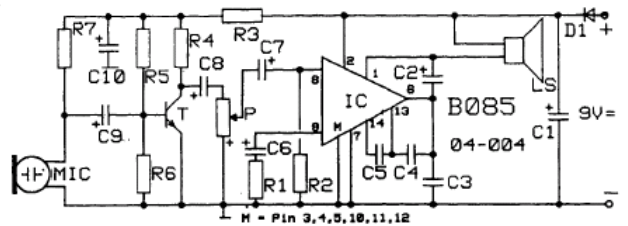
Acoustic sensor: high-sensitive FET capacitor microphone

Sensitivity: adjustable

Operating voltage: 9V=

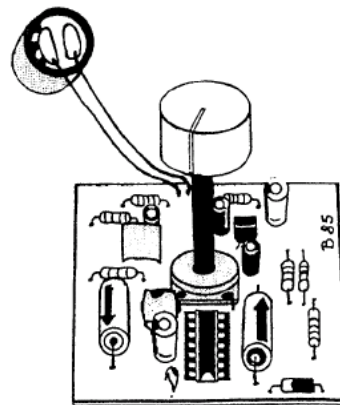
Power consumption: max. approx. 230mA

Size of board: approx. 55x55mm



PARTS LIST:

- IC : 1 IC A 211
- IC : 1 IC socket, 14 poles
- MIC : 1 electret microphone
- T : 1 transistor BC547B, BC237 or BC548
- D1 : 1 diode 1N4002 or 1N4001
- C1,C2 : 2 elcas 470µF 10V
- C3 : 1 capacitor 100nF (100N)
- C4 : 1 capacitor 150pF (150)
- C5 : 1 capacitor 56pF (56J)
- C6,C10 : 2 elcas 47µF > 10V
- C7,C8,C9 : 3 elcas 0,22µF 50V
- R1 : 1 resistor 22 ohm (red-red-black...)
- R2 : 1 resistor 43 k (yellow-orange-orange...)
- R3 : 1 resistor 619 ohm (blue-brown-white-black...)
- R4 : 1 resistor 3 k 9 (orange-white-red...)
- R5 : 1 resistor 820 k (grey-red-yellow...)
- R6 : 1 resistor 100 k (brown-black-yellow...)
- R7 : 1 resistor 15 k (brown-green-black-red...)
- P : 1 trimmer potentiometer 10 k log (10k+lg)
- 1 pot knob with axle
- 1 Printed matter no. M1003 „General Information for Kits“
- 1 gold-plated board, approx. 55 x 55 mm



Important: Please pay attention to the "General Information" in the printed matter no. M1003 attached in addition. This contains important information starting and the important safety instructions! This printed matter is part of the product description and must be read carefully before assembling!