Sound Sensor User Manual

1. Features

Audio power amplifier chip	LM386 (amplification factor of 200)
Operating voltage	3.3V-5.3V
Dimensions	39.0mm*21.0mm
Fixing hole size	2.0mm

Operating principle:

LM386 is an audio power amplifier with features of low power consumption, adjustable voltage gain, wide voltage power supply, less requirements on peripheral components and minimum total harmonic distortion. LM386 can be applied to the consumer products with low voltage requirement. To minimize the number of the peripheral components in used, the voltage gain should be set to 20. Connecting a resistant and a capacitor externally between the Pin1 and the Pin8, it is able to configure the voltage gain to any value within the range of 0-200.

2. Applications

This module can be applied for detecting sound and judging audio intensity.

3. Interfaces

Pin No.	Symbol	Descriptions
1	DOUT	Digital output
2	AOUT	Analog output
3	GND	Power ground
4	VCC	Positive power supply (3.3V-5.3V)

4. How to use

We will illustrate the usage of the module with an example of sound detection by connecting a development board.

① Download the relative codes to the development board.

② Connect the development board to a PC via a serial wire and the module to the development board. Then, power up the development board and start the serial debugging software. Here is the configuration of the connection between the module and the development board.

Port	STM32 MUC pin
DOUT	GPIOA.4
AOUT	GPIOA.6

GND	GND
VCC	3.3V

Port	Arduino pin
DOUT	D2
AOUT	A0
GND	GND
VCC	5V

Here is the configuration of the serial port

Baud rate	115200
Data bits	8
Stop bit	1
Parity bit	None

③ The detected result can be checked by a signal indicator on the module. The signal indicator will turn on, when the sensor is close to a sound source. And it will turn off, when the sensor is away from the magnet. Also, you can find that the serial output changes along with the distance from the sensor to the sound source.