

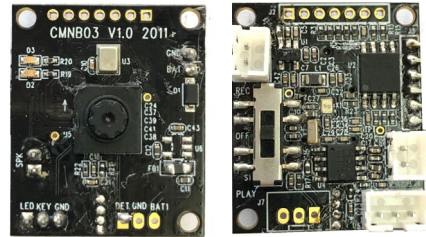
## AI Module with motion direction detect

### Description

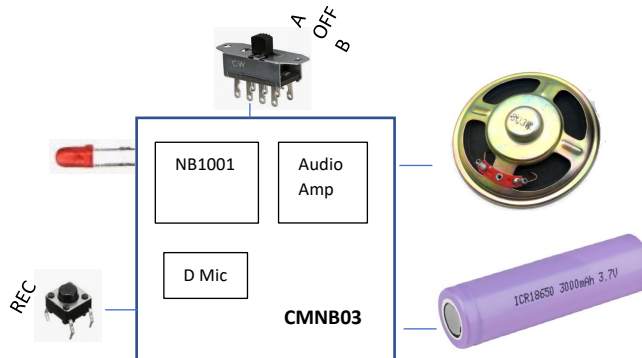
CMNB03-02 is a member of AI modules which is capable to detect motion direction, from left to right or from right to left. It has built in voice recording and play back function. It will playback a prerecorded message according to motion direction detected. It is good for interactive toys, gadgets and smart audio playback devices.

### Features:

- Small in size: 30x25mm, easy to install
- Built in digital microphone for message recording
- Built in audio amp for power speaker output
- Playback message when motion detect
- Message can be defined for different direction
- Battery operation



### Block diagram



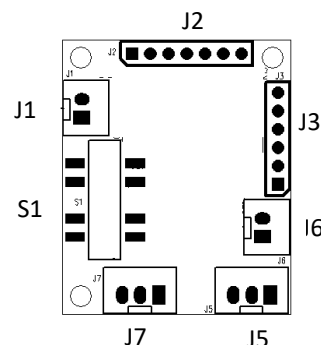
### Operation

1. There is a 3-position slide switch for mode select
2. At off position, it will turn off power supply to module.
3. At A position, play message A when movement from left to right, play message B when movement from right to left.
4. At B position, play message B when movement from left to right, play message A when movement from right to left.
5. To record a message "A", press REC button, slide switch to one end, release and press again the button, speak to the module. Release button when record finished. The same, press REC button and slide switch to the other end for record message "B". Duration of message has been set at 10sec. (length of recording can be set on OEM base)
6. LED to indicate power status as well as motion detect

### Board layout and connector

(All connectors are 2mm pitch)

J1	Power input
J2	NC (for internal test)
J3	NC (for internal test)
J5	KEY/LED/GND
J6	Speaker output
J7	DET/GND/BATT (Option)
S1	Slide switch A/OFF/B

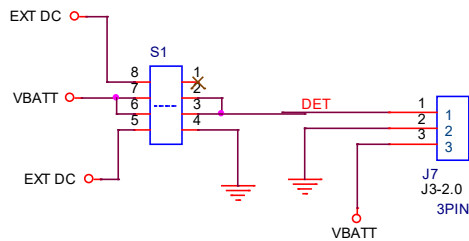


## Electrical characteristics

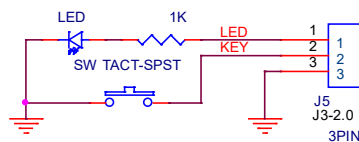
Parameter	Condition	Min	Max	Unit
Operation voltage		3.6	6.0	V
Operation current	Standby		90	mA
	Playing audio (8 Ohm spk)		300	mA

## Application Note

- This module has been designed for motion direction detect. Below are some hints for playing.
  - Detection distance is set at about 50cm to 100cm.
  - Strong too dark environment is not good for detection.
  - Always place module at the level of people's chest, no good for overhead detect.
  - Power can be lithium battery or alkaline AAx4. Suggest to use DC5V for long time operation
- Mode select can use on board slide switch or external switch by using J7. When use external switch, please use external DC power instead, no need power connected to J1.



- For audio recording, external key switch is needed. Refer to the schematic as below. LED is an option for external output. This LED is in parallel to D2 on the module, which is to indicate face detected.



## Board layout and dimension

