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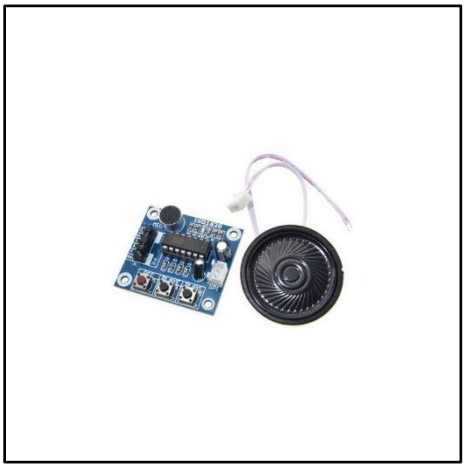
ISD1820 recording voice module and playback



Introduction

The Voice Record Module is based on the ISD1820 chip, a multiple-message record/playback device. It can offer true single-chip voice recording, non-volatile storage, and playback capability for 8 to 20 seconds. The sample rate is between 8.0 KHz to 3.2 KHz for the duration of 8 to 20 Seconds for the Recorder.

This module use is very easy to use, which you could direct control by the push button on board or by Microcontroller such as Arduino, STM32, ChipKit etc.

Features

- An easy to use 10 seconds of voice recording
- high-quality, natural voice restored
- can be used as propaganda module
- with looping, jog playback, single-pass play function
- available single-chip control
- this module can directly drive a small speaker 8 ohm 0.5W

Power supply: 3-5V, which can be accessed pin power;
Audio recording control mode: the key to control or microcontroller, IO has drawn the line of control;

Buttons control audio recording method of operation:

- REC button: record button, you can press and hold the recording, release the button to stop recording;
- PLAYE key: trigger mode playback, press will play this whole speech;
- PLAYL key: jog mode playback, press and hold until playback, release to stop playback;
- RPL Jumper: loop mode control, loop playback;
- FT Jumper: direct control, microphone voice through the speaker can playback

Components

- Arduino Uno
- ISD1820 recording voice module and playback
- Jumper wires

Objectives:

In this experiment, we will record sound, playback and use the mic function to test the sound from speaker by using a ISD1820 recording voice module and playback

Pinout:

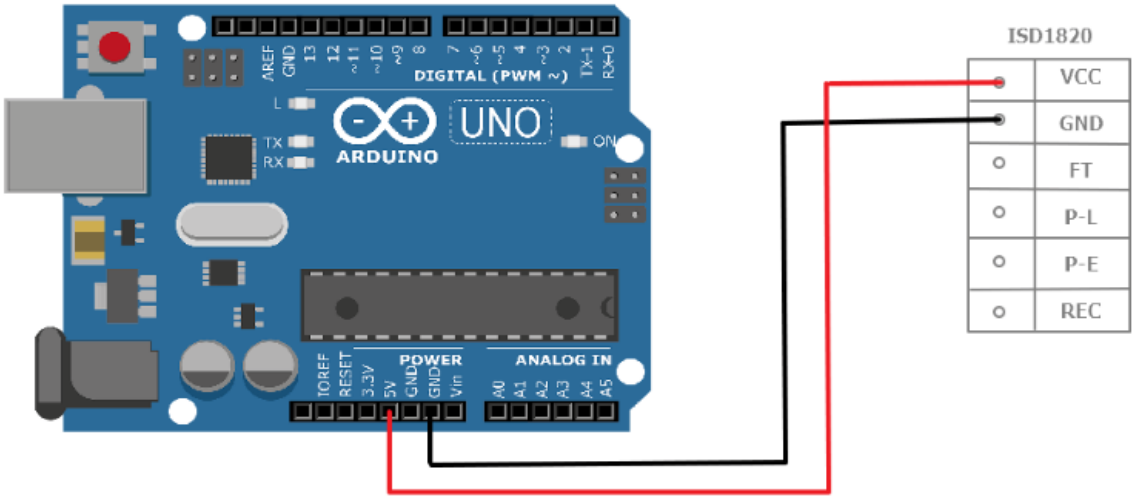
1. VCC– 3.3V power supply
2. GND– Power ground
3. REC – The REC input is an active-HIGH record signal. The module starts recording whenever REC is HIGH. This pin must remain HIGH for the duration of the recording.
4. REC takes precedence over either playback (PLAYL or PLAYE) signal.
5. PLAYE – Playback, Edge-activated: When a HIGH-going transition is detected on continues until an End-of-Message (EOM) marker is encountered or the end of the memory space is reached.
6. PLAYL – Playback, Level-activated, when this input pin level transits for LOW to HIGH, a playback cycle is initiated.
7. Speaker Outputs – The SP+ and SP- pins provide a direct drive for loudspeakers with impedances as low as 8Ω.
8. MIC – Microphone Input, the microphone input transfers its signals to the on-chip preamplifier.

9. FT – Feed Through: This mode enables the Microphone to drive the speaker directly.
10. P-E – Play the records endlessly.

You can control the Voice Recorder Module ISD1820 directly with onboard Buttons.

- Connect VCC from ISD1820 to any 3V power supply. In our case, we have connected to 3.3V on Arduino
- Connect GND to GND on Arduino.

Wiring Diagram



Procedure

1. Push **REC** button then the **RECLED** will light and keep push until record end.
2. Release the **REC** button
3. Select Playback mode:
    - **PLAYE**, just need push one time, and will playback all of the records and until the pre-record sound end.
    - **PLAYL**, you need always push this button until you want to stop playback record or end.
4. **P-E mode**, when short P-E jumper the record will playback repeatedly until jumper off or power down.
5. **FT** mode, when short FT jumper, that means all of you speak to MIC will direct playback to Speaker.