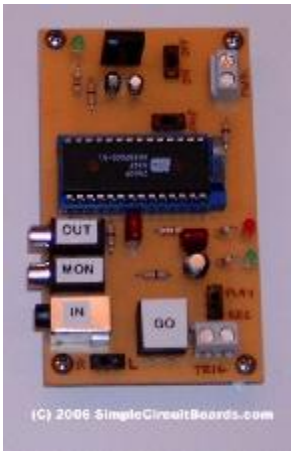
SimpleCircuitBoards.com

Digital Sound Recorder



Here is a nice little board that allows you to record up to 60 seconds of high quality sound that can be replayed at the touch of a button or triggered by any dry contact closure (PIR, mat, etc.). The board is based on the ISD sound chip and is replaceable with other versions that will give you more recording time. The source of the sound to be recorded can be from your computer or other non-amplified source. The recorded sound can then be played back through amplified speakers like the ones that are attached to your computer. There is also a switch that puts the board in loop playback. It operates on 7.5 to 24 VDC.

Details:

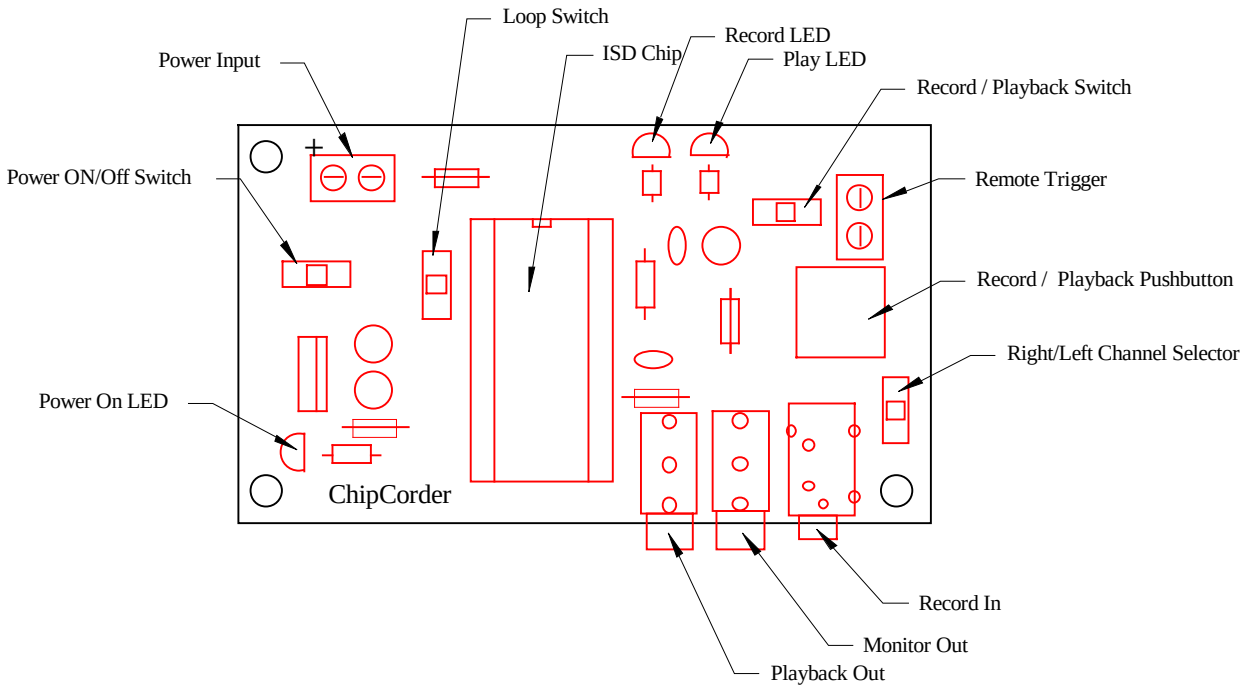
As mentioned above, this board uses the ISD 2560 chip that provides 60 seconds of high quality mono sound recording and playback. If you require more recording time, you can replace the ISD chip with other versions that will give you more time but the way they accomplish this is to cut down on the sampling rate so the sound quality may be slightly diminished. Inputs and outputs are through 3 on-board 3.5 MM (1/8") audio jacks. One jack is used for recording, one jack is used to monitor the sound as you are recording it (via amplified speakers or headphones) and the third jack is to output the recorded sound (again, via amplified speakers). There is a push-button on the board that is used for recording the sound and initiating playback. There is also a 2-position terminal strip that you can hook to any momentary-type dry-closure contact (like a relay, PIR, mat, etc.) so that the sound playback can be triggered remotely.

To record a sound, hook your sound source (e.g., the speaker output from the sound card on your computer) to the Input Jack on the sound board. If you are recording a stereo sound, you will need to get a stereo-to-mono adapter in order to capture both the left and right channels, otherwise, it will only record one side (left or right) of your sound. There is a small slide switch that will allow you to select which channel you want to record from. Plug your amplified speakers into the Monitor Jack so that you can hear the sound that you are recording as it is being recorded. Set the Record/Playback slide switch to record. The red Record LED will light. Start your sound and press and hold down the Record/Playback pushbutton on the board for the entire length of time you want to record. When the sound is over, release the button. To play back the sound, plug your amplified speakers into the Output Jack (not the Monitor Jack). Switch the Record/Playback slide switch Play (green LED will light) and then press the Record/Playback pushbutton momentarily (you do not need to hold it down) to hear what you recorded. For remote triggering, attach a dry contact source to the 2-position terminal block next to the Record/Playback pushbutton. When the dry contact closes, the sound will be triggered. If you want

the sound to play over both the left and right speaker, you will need to use a mono-to-stereo adapter, otherwise, the sound will come out over one speaker only. These adapters are available from Radio Shack. If you want the sound that you recorded to play over and over, turn off the power switch, put the Loop slide switch to the Loop position and then turn the power back on. The recording will immediately start to play and continue to repeat until the power is turned back off.

The board is small in size and has an on-board voltage regulator which would allow you to put the board right inside an amplified speaker and use the speaker's power source to power the board (7.5V or greater). This allows you to hide the speaker for great effects!

Board Layout:
Below is a diagram showing component placement.



Miscellaneous Information:
This board will not directly power non-amplified speakers.

Specifications:

- Input Power: 7.5 – 24 VDC
- Current Draw: Less than 30 mA
- Board Dimensions: 3.7 x 2.1 inches

Disclaimer:
These boards are designed for educational use only. In no circumstances should these circuit boards be used in critical situations where failure could mean injury or property damage.

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- TTL-Driven Latching Relay Board
- Voltage Amplifier Board
- Water Level Monitors
- Water Level Control Boards
- Motor Control Boards
- Programmable Relays
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