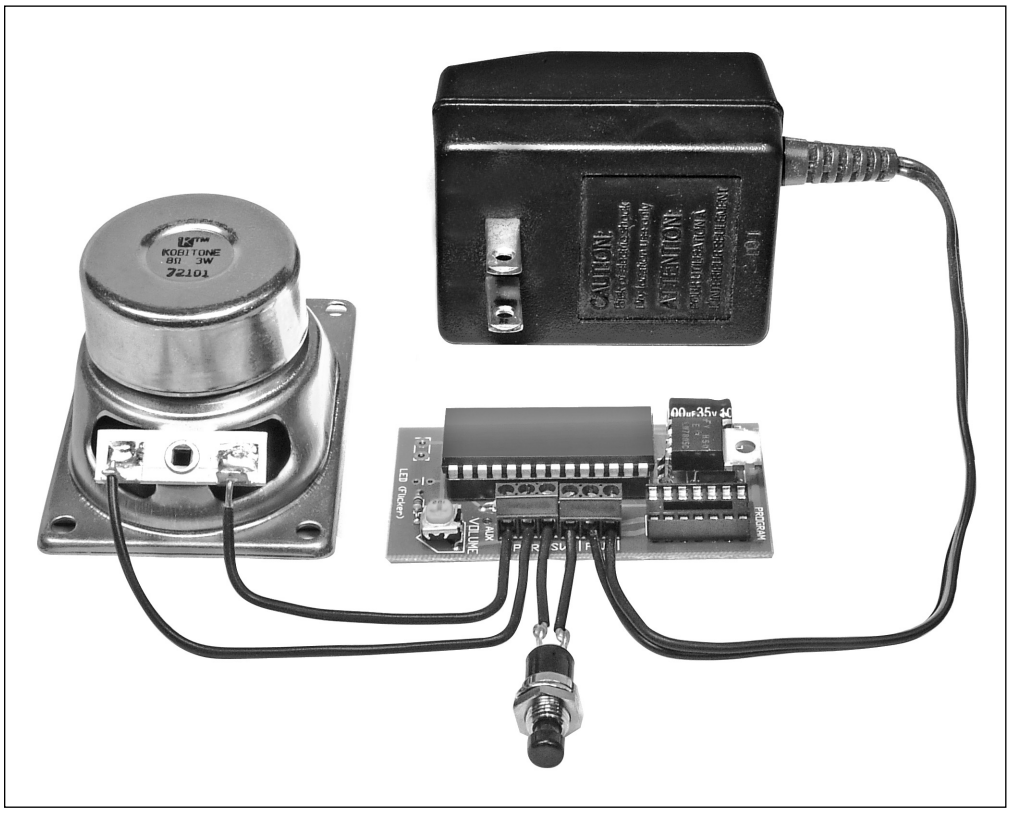
Micro-Mark®
340 Snyder Avenue, Berkeley Heights, NJ 07922
Tech Support: 908-464-1094, 1 pm – 5 pm ET
www.micromark.com

SOUND CARD INSTRUCTIONS

Handling and Mounting

Please handle these sound cards with care. They are sensitive to static shock, so be sure to discharge any built-up static in your body before touching the card; otherwise, damage to the electronic components may occur.

When mounting the card as part of the installation, be sure that the various metal contact points do not touch any other metal surface and cause electrical shorts; otherwise, damage to the electronic components may occur.



Electrical Hook-Up

There are six terminals on the sound card that are used for electrical hook-up and operation:

- One pair of terminals marked **PWR** that connect to the power supply.
- One pair of terminals marked **SW** that are connected to a switch that turns the sound on and off...either for continuous looping of the sound or to play only one cycle of the sound, depending on the type of switch used.
- One pair of terminals marked **SPKR** that are connected to the speaker.

If the terminals are marked with different abbreviations than indicated above, please make a determination which one is for the speaker, the power supply and the switch from the markings given. Do not make connections to any other locations on the card; they are used only for programming and recording the sound, and require special circuitry and other equipment to do so.

Make your connections with wire small enough (we recommend using no. 24 through no. 28 gauge wire, stranded or solid) to enter the hole on the side of the terminal blocks without force (of course, you must strip off the insulation before inserting the wire). Then, using a small screwdriver, gently tighten the screw until the wire is secure. Do not overtighten, or you will damage the terminal strip. Do not allow bare wires to touch each other, or electrical malfunction and damage may occur.

The Connections to Make

Note: You may have to use a small soldering iron to attach the wires to the switches, power supply and/or speaker.

Speaker

Connect the two wires from the speaker to the pair of terminals on the card marked SPKR. Note: Speakers have various ratings, and the type to connect to the speaker terminals of our card is one with a value of 8 ohms (sometimes shown as the Greek letter omega). Use of other ratings may overload the sound card or the sound volume may be inaudible. The larger the speaker (generally more power, or watts, W), the better the sound. Install the speaker in some kind of enclosure. You can mount it inside a coffee cup, or through the side of a cardboard box. Be sure there is a way for the sound to exit the enclosure. Also, be sure nothing rattles when the speaker is in use. Experiment a bit with various types of enclosures to find the one that gives you the best sound. Do not touch the paper or plastic cone of the speaker or damage may occur.

Power Supply

The electronics need low voltage electrical energy in order to work, and our sound cards perform well on either AC or DC power. For AC, the acceptable range is 4 to 18 volts; for DC, the range is 9 to 18 volts. If you do not supply sufficient voltage, the sound will not play. If you supply too much voltage, the sound card may “fry.” So, be sure your power supply (which could be a simple as a small wall transformer or a battery) has the correct ratings before connecting to the terminals marked PWR. Note: Make sure the power supply is turned off or disconnected from line power before making the connections. **WARNING!** DO NOT APPLY LINE VOLTAGE TO THE SOUND CARD!

Switch

Connecting the two terminals marked SW together starts the sound. If the connection is momentary, like that caused by a push button, then the sound will play for one “cycle.” If the connection is left on, like that caused by a standard toggle switch, then the sound will loop continuously until you turn off the switch; it will complete the currently-running cycle and then stop. To connect the SW terminals together, you may also use relay contacts or the contacts of a switch machine, trackside switch, motion sensor, infrared detector, magnetic reed switch, transistor...anything that makes a connection between the two switch terminals. The choice is yours, based on your application.

Note: If you leave the SW terminals permanently connected together, you may then use the power supply as a means of starting and stopping the sound as follows: Sound will start to play when the terminals marked PWR reach either 4 volts AC or 9 volts DC. The sound will turn off when the voltage falls below these values. For example, if the power supply is plugged into a switchable outlet, then the sound will play whenever the switch is turned to the ON position.

Volume

Use a small plastic screwdriver to adjust the volume of the sound. Just rotate the small knob on the sound card marked VOLUME to the desired level. A small metal screwdriver may also be used; you may hear a bit of “buzzing” from the speaker while doing so.