

## 2 Meltdown alarm

Each year, millions of dollars worth of frozen food is ruined by freezers using refrigeration because of power failures or mechanical breakdown. In many cases, the freezer owner isn't aware his food is slowly going bad. By the time he discovers the problem, it's too late to save the food.

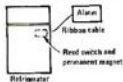
Here's an inexpensive, easy-to-build *meltdown alarm* that can save you hundreds of dollars the first time it operates. The circuit consists of a reed-switch actuated audio oscillator and amplifier. Only the reed switch is located inside the freezer. The rest of the circuit can be placed in any remote location where the alarm will best be heard.

Connections between the switch and the alarm circuit are made by

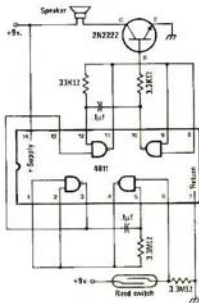
two thin wires. To maintain the door seal, a pair of 28-gauge magnet wires can be used to connect the reed switch to a terminal outside the freezer. Heavier wire can be used to connect the alarm to the terminal.

Current drain in the standby mode is very low. A single nine-volt battery should last a year or so.

The meltdown detector is nothing more than a permanent magnet at-



tached to a small stand by ice. The reed switch is positioned below the magnet. When the ice melts, the magnet will fall onto the reed switch, closing it and completing the alarm circuit. The stand should be constructed to guide the magnet into the reed switch and hold it there—the alarm will only sound while the magnet is resting on the reed switch tube.



The temperature at which the ice "glue" holding the magnet melts can be set by mixing the right percentage of anti-freeze and water. Check the temperature chart on your anti-freeze container.

