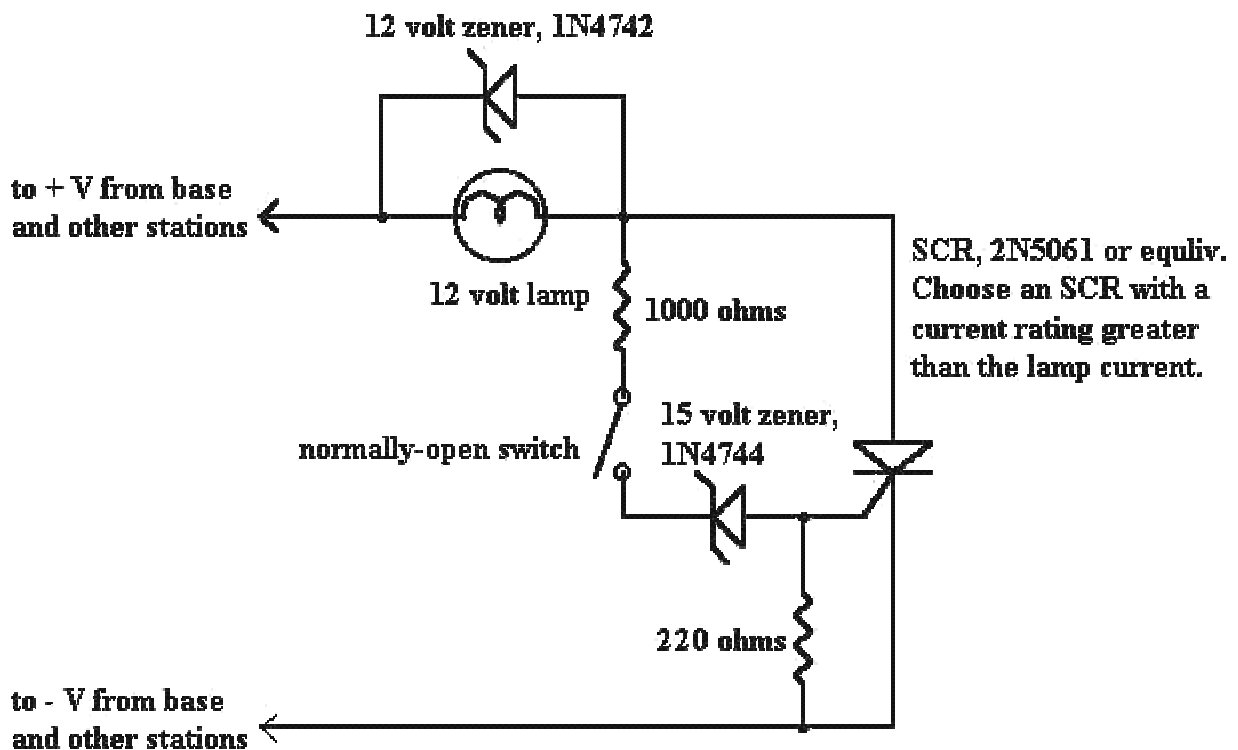


## Original Two-wire Game Show Timer

The game show timer determines which contestant presses their button first by lighting a lamp and ringing a bell and the slower contestants are locked out. The circuit is convenient in that only two wires are needed to interconnect the stations and the wires may all go back to the base unit or they may be "daisy-chained" between stations. There is no electronic limit on the number of stations. The circuit uses a 24 volt power source and 12 volt lamps when built as shown but the experienced experimenter may scale these voltages along with the zener voltages if desired. If the SCR triggers when the power is applied or when the reset button is pressed, add a 0.1uF capacitor from anode to cathode. (A sudden increase in voltage across some SCRs can trigger them, especially if the gate impedance is high.)



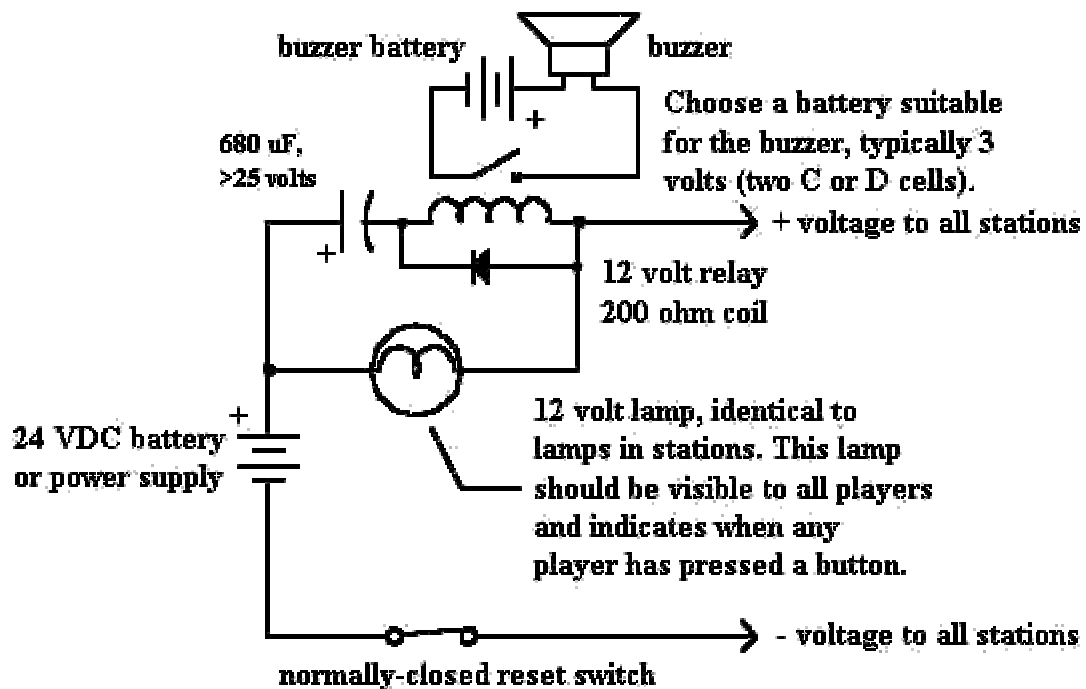
**Contestant's station: One circuit for each contestant is required.**

### Circuit Operation

When the unit is first turned on, or after the reset button is pressed, all of the SCRs are in the off state. The full 24 volts is present on the two interconnecting

wires and when any station button is pressed, the voltage is sufficiently high to trigger the SCR in that station. When the SCR triggers, the contestant's lamp and the base station lamp light and the voltage on the two interconnecting wires drops to 12 volts. Other stations are locked out at this time since 12 volts is not sufficient to trigger the SCRs.

The buzzer is controlled by a relay and is electrically isolated from the rest of the circuit. When a contestant presses a button, the 680  $\mu\text{F}$  capacitor charges through the relay coil, holding the relay closed for about a second. The length of the buzz may be changed by changing the value of the 680  $\mu\text{F}$  capacitor. Use a capacitor with a voltage rating above 24 volts.

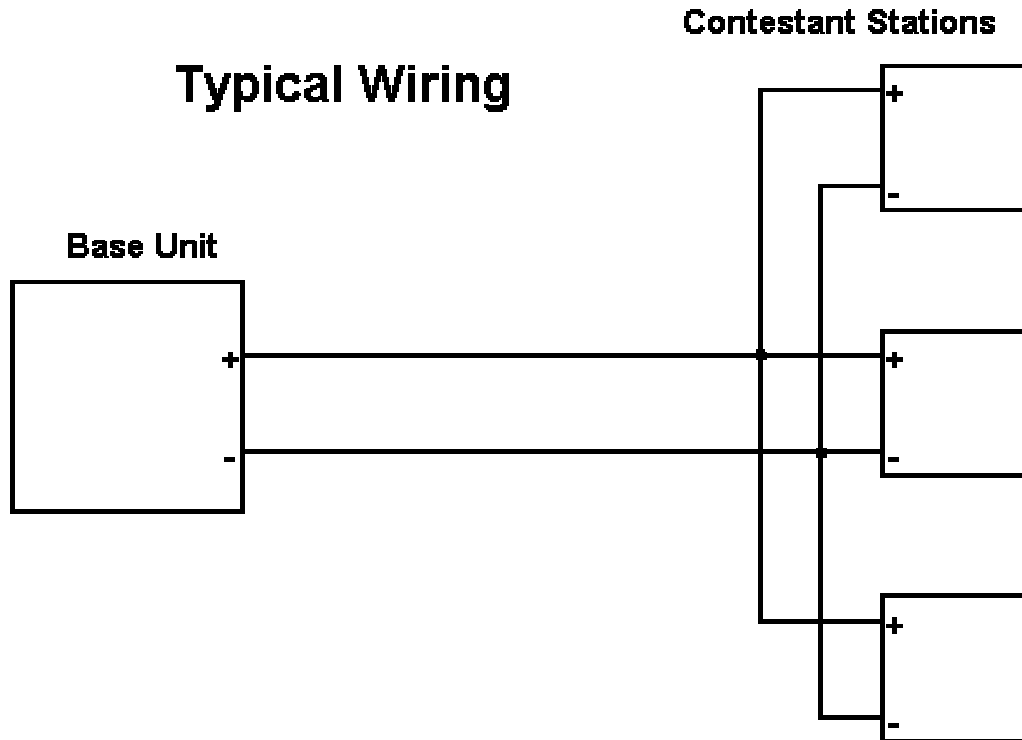


### Base unit and power source

**Note:** This circuit was modified to isolate the buzzer circuit for better performance by the addition of the relay. If your relay does not have a built-in diode then add a 1N4001 or other general-purpose rectifier across the coil as shown.



## Typical Wiring



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## The Scavenger Hunt Game

The game is started by selecting an item to find from a list or deck of cards and the first person to see the item on the TV wins the point. The game winner is the first contestant to reach 10 points. The list should include unambiguous items which are commonly seen on TV programs and the channel may be randomly changed if needed. A contestant that presses the button when the item is not visible on TV loses a point. A TIVO is great for verification!