

MUSICAL 'TOUCH' BELL

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Here is a musical call bell that can be operated by just bridging the gap between the touch-plates with one's fingertips. Thus there is no need for a mechanical 'on'/off switch because the touch-plates act as a switch. Other features include low cost and low power consumption. The bell can work on 1.5V or 3V, using one or two pencil cells, and can be used in homes and offices.

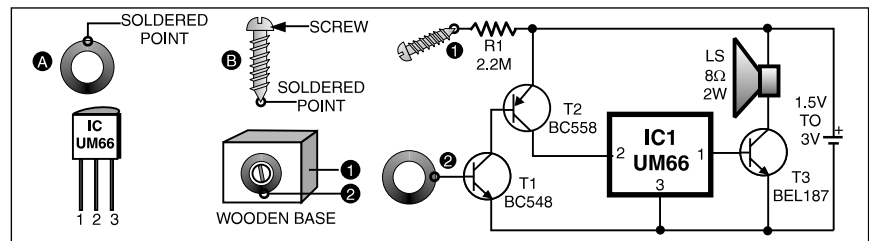
Two transistors are used for sensing the finger touch and switching on a melody IC. Transistor BC148 is npn type while transistor BC558 is pnp type.

The emitter of transistor BC148 is shorted to the ground, while that of transistor BC558 is connected to the positive terminal. The collector of transistor BC148 is connected to the base of BC558. The base of BC148 is connected to the washer (as shown in the figure).

The collector of BC558 is connected to pin 2 of musical IC UM66, and pin 3 of IC UM66 is shorted to the ground. The output from pin 1 is connected to a transistor amplifier comprising BEL187 for feeding the loudspeaker. One end of 2.2-mega-ohm resistor R1 is connected to the positive rail and the

ing. Simultaneously, the emitter-base junction of transistor BC558 also starts conducting. As a result, the collector of transistor BC558 is pulled towards the positive rail, which thus activates melody generator IC1 (UM66). The output of IC1 is amplified by transistor BEL187 and fed to the speaker. So we hear a musical note just by touching the touch points.

The washer's inner diameter should be 1 to 2 mm greater than that of the screwhead. The washer could be fixed in



other to a screw (as shown in the figure). The complete circuit is connected to a single pencil cell of 1.5V.

When the touch-plate gap is bridged with a finger, the emitter-collector junction of transistor BC148 starts conduct-

the position by using an adhesive, while the screw can be easily driven in a wooden piece used for mounting the touch-plate. The use of brass washer and screw is recommended for easy solderability. □

