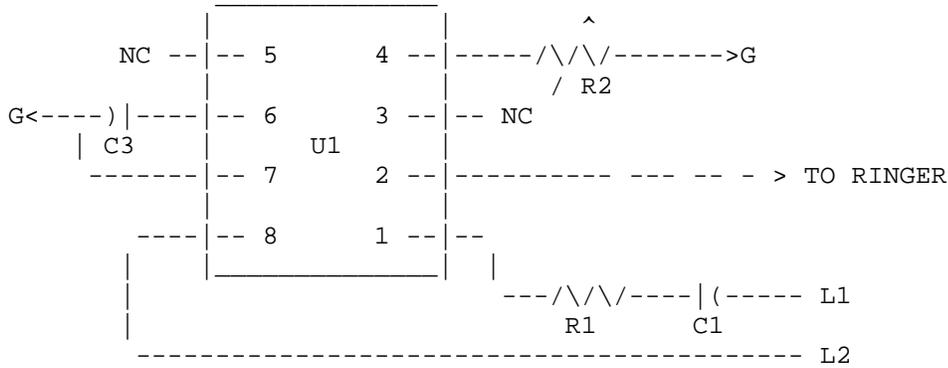


This is a relatively new box, and all it basically does is serve as a phone ringer. You have two choices for ringers, a piezoelectric transducer (ringer), or a standard 8 ohm speaker. The speaker has a more pleasant tone to it, but either will do fine. This circuit can also be used in conjunction with a rust box to control an external something or other when the phone rings. Just connect the 8 ohm speaker output to the inputs on the rust box, and control the pot to tune it to light the light (which can be replaced by a relay for external controlling) when the phone rings.



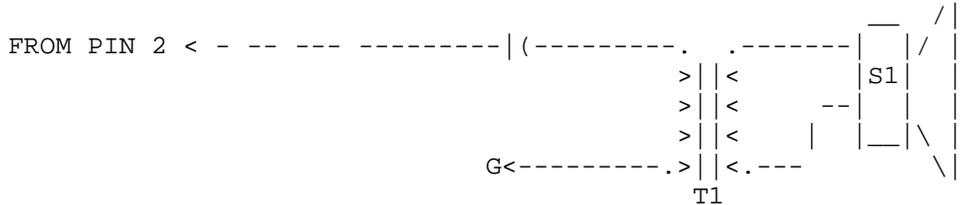
a. Main ringer TTL circuit

(>:::<)



b. Peizoelectric transducer

(>:::<)



c. Elctro magnetic transducer

Parts List

- U1 - Texas Instruments TCM1506
- T1 - 4000:8 ohm audio transfomer
- S1 - 8 ohm speaker
- R1 - 2.2k resistor
- R2 - External variable resistor; adjusts timing frequency
- C1 - .47uF capacitor
- C2 - .1uF capacitor
- C3 - 10uF capacitor
- L1 - Tip

L2 - Ring
L1 and L2 are the phone line.

Shift Rate:

This is the formula for determining the shift rate:

$$SR = \frac{1}{(DSR(1/f1)+DSR(1/f2))} = \frac{1}{\frac{128}{1714} + \frac{128}{1500}} = 6.25 \text{ Hz}$$

DSR = Shift Divider Rate ratio = 128
f1 = High Output Frequency = 1714
f2 = Low Output Frequency = 1500

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