velleman WSHA8086 Telephone Ring Detector with Relay Output Instructions

TELEPHONE RING DETECTOR WITH RELAY OUTPUT
ILLUSTRATED ASSEMBLY MANUAL

Contents

WSHA8086 Telephone Ring Detector with Relay Output

Total solder points: 61
Difficulty level: beginner 1　2 ☑ 3　4　5　advanced
K8086
Simply connect in parallel with phone line.
Accepts standard adaptor & telephone plug.
H8086IP-1
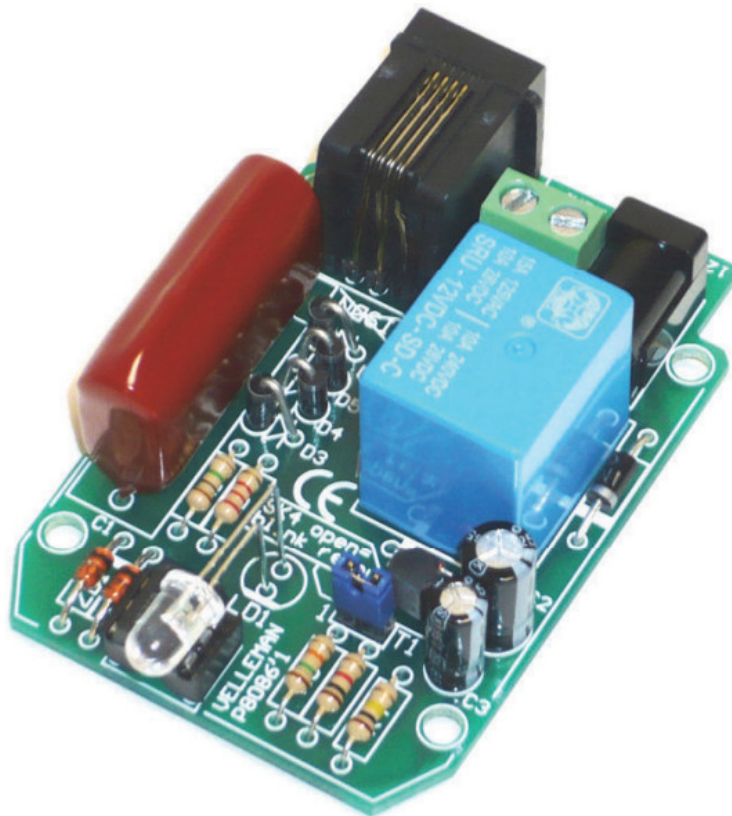
Features & Specifications

Features:
☑ simply connect in parallel with phone line
☑powerful led flashes when phone rings
☑ the unit will feature a relay output if connected to a 12VDC power supply
☑ relay output: continuous or on/off to the rhythm of ringing of the telephone
☑ complete with enclosure
☑ great for noisy environments, for the hearing impaired, as addional ringer, to replace existing ringer, …
☑ accepts standard adaptor & telephone plug

Specifications:

- 10.000 mcd led !
- connects to PSTN line
- RJ11 connector
- supply: 12VDC/100mA adapter (Ex. PS1203)
- output Contact (NO): 1A max.
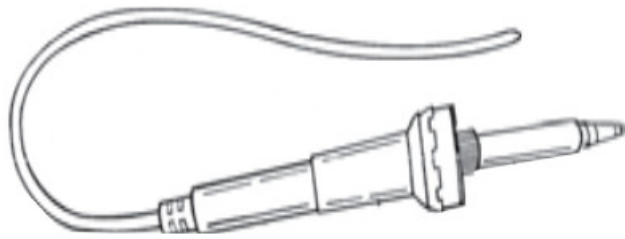- dimensions: 80x55x35mm / 3,15 x 2,16 x 1,37″

Includes:

- attractive enclosure
- adhesive strips for easy fixing

**1. Assembly (Skipping this can lead to troubles !)**
Ok, so we have your attention. These hints will help you to make this project successful. Read them carefully.
**1.1 Make sure you have the right tools:**

- A good quality soldering iron (25-40W) with a small tip.

- Wipe it often on a wet sponge or cloth, to keep it clean; then apply solder to the tip, to give it a wet look. This is called 'thinning' and will protect the tip, and enables you to make good connections. When solder rolls off the tip, it needs cleaning.
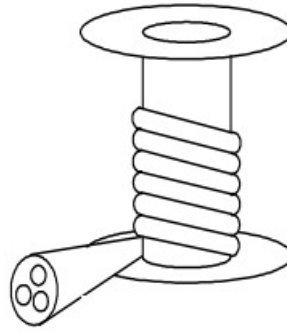
- Thin raisin-core solder. Do not use any flux or grease.
- A diagonal cutter to trim excess wires. To avoid injury when cutting excess leads, hold the lead so they cannot fly towards the eyes.
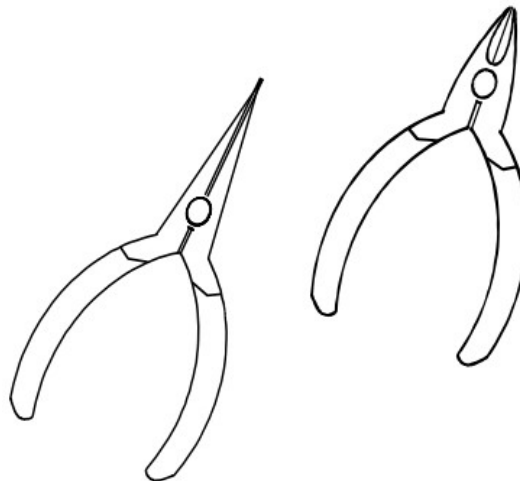
- Needle nose pliers, for bending leads, or to hold components in place.
- Small blade and Phillips screwdrivers. A basic range is fine.

For some projects, a basic multi-meter is required, or might be handy
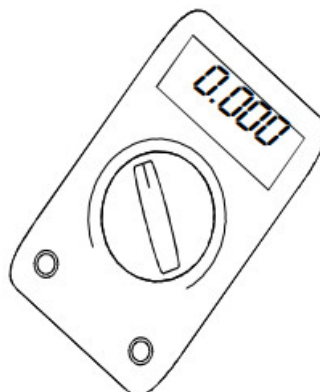
1.2 Assembly Hints :

- Make sure the skill level matches your experience, to avoid disappointments.

- Follow the instructions carefully. Read and understand the entire step before you perform each operation.
- Perform the assembly in the correct order as stated in this manual
- Position all parts on the PCB (Printed Circuit Board) as shown on the drawings.
- Values on the circuit diagram are subject to changes, the values in this assembly guide are correct*
- Use the check-boxes to mark your progress.
- Please read the included information on safety and customer service

* Typographical inaccuracies excluded. Always look for possible last minute manual updates, indicated as 'NOTE' on a separate leaflet.

1.3 Soldering Hints :

1. – Mount the component against the PCB surface and carefully solder the leads
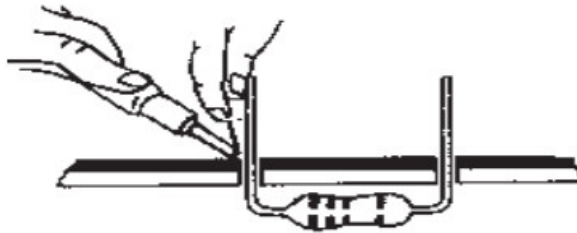
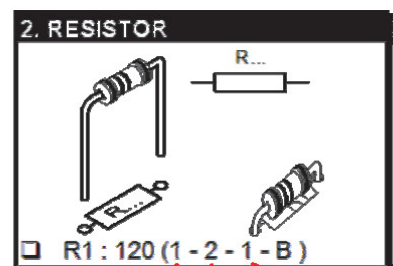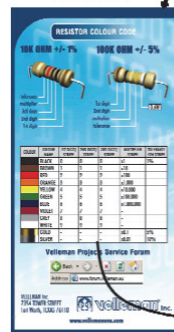2. – Make sure the solder joints are cone-shaped and shiny

3. – Trim excess leads as close as possible to the solder joint

REMOVE THEM FROM THE TAPE ONE AT A TIME !

Included in this kit

2. RESISTOR

R...

☐ R1 : 120 (1 - 2 - 1 - B)

COLOUR	COLOUR NAME	1ST DIGIT/ STRIPE	2ND DIGIT/ STRIPE	3RD DIGIT/ STRIPE	MULTIPLIER STRIPE	TOLE
	BLACK	0	0	0	x1	
	BROWN	1	1	1	x10	
	RED	2	2	2	x100	
	ORANGE	3	3	3	x1 000	
	YELLOW	4	4	4	x10 000	
	GREEN	5	5	5	x100 000	
	BLUE	6	6	6	x1 000 000	
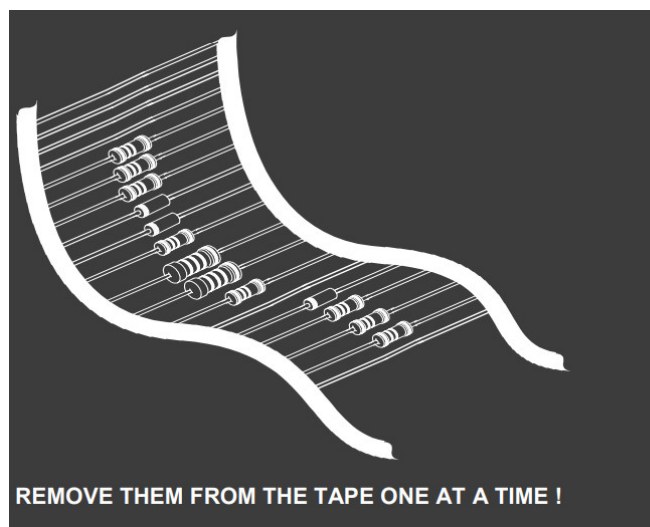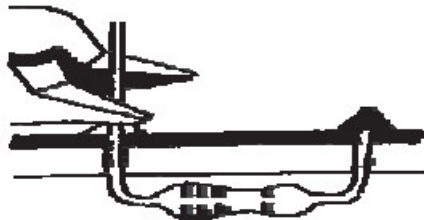
DO NOT BLINDLY FOLLOW THE ORDER OF THE COMPONENTS ONTO THE TAPE.
ALWAYS CHECK THEIR VALUE ON THE PARTS LIST!

1. **Diodes. Watch the polarity!**

❏ D1 : **1N4148**
❏ D2 : 1N4007

CATHODE

D...
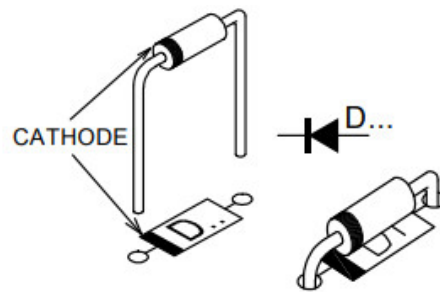
2. **Zener diodes. Watch the polarity!**

❏ ZD1 :20V0
❏ ZD2 :20V0

CATHODE

ZD...

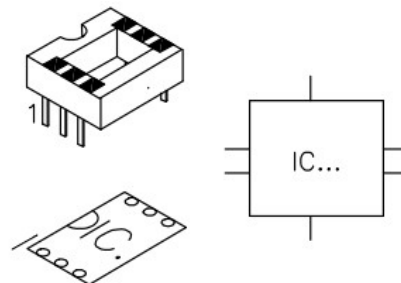## 3. **Resistors**

R...
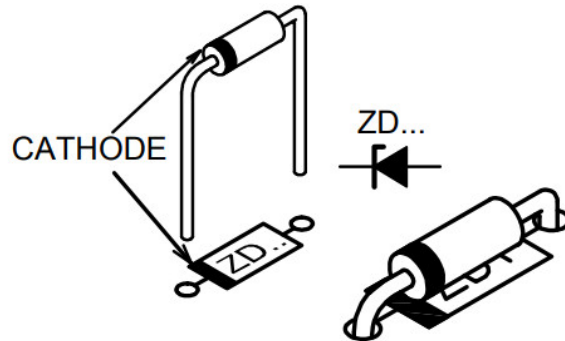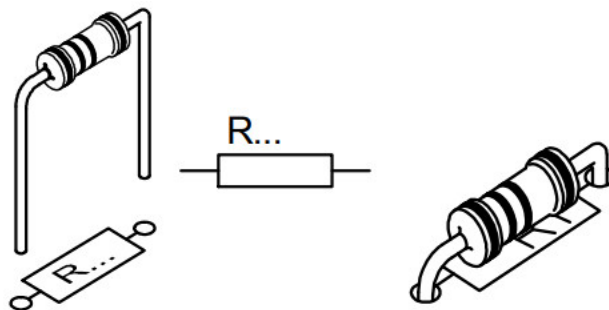
❏ R1 : 1M   (1 - 0 - 5 - B)
❏ R2 : 2K2   (2 - 2 - 2 - B)
❏ R3 : 15K   (1 - 5 - 3 - B)
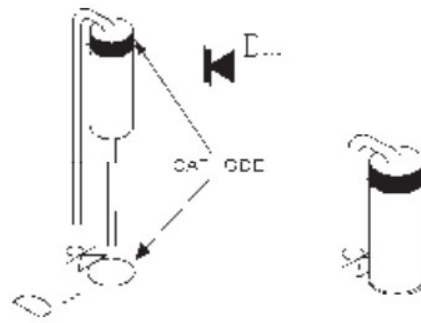❏ R4 : 100K (1 - 0 - 4 - B)
❏ R5 : 1K   (1 - 0 - 2 - B)

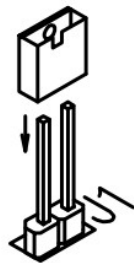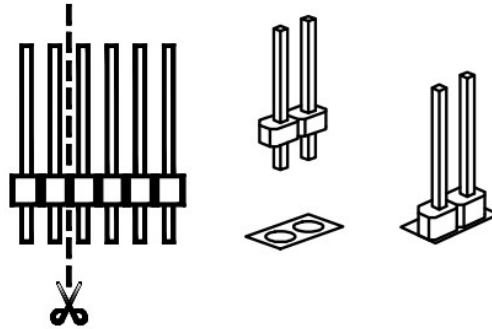## 4. **IC socket, Watch the position of the notch!**

❏ IC1 : 6P

IC...

5. **Vertical diodes. Watch the polarity!**

❏ D3 : 1N4007
❏ D4 : 1N4007
❏ D5 : 1N4007
❏ D6 : 1N4007

6. **Pinheader + shunt**

❏ SK4 : 2p

open = blink relay
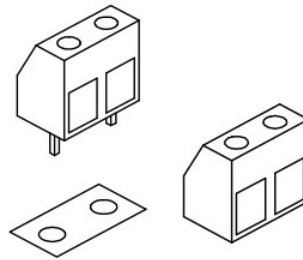closed = continuous relay

7. Transistor

❏ T1 : BC557B
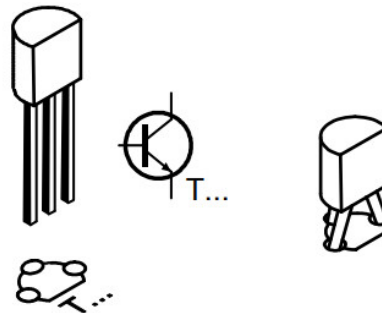
8. Electrolytic Capacitors. Watch the polarity!
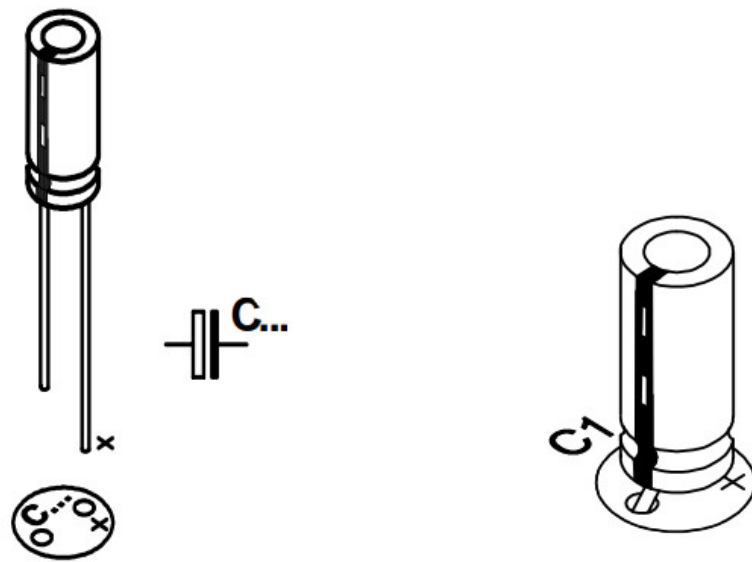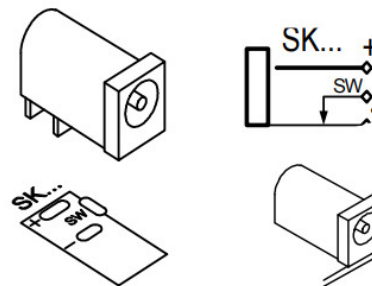
☐ C2 : 100µF / 25V
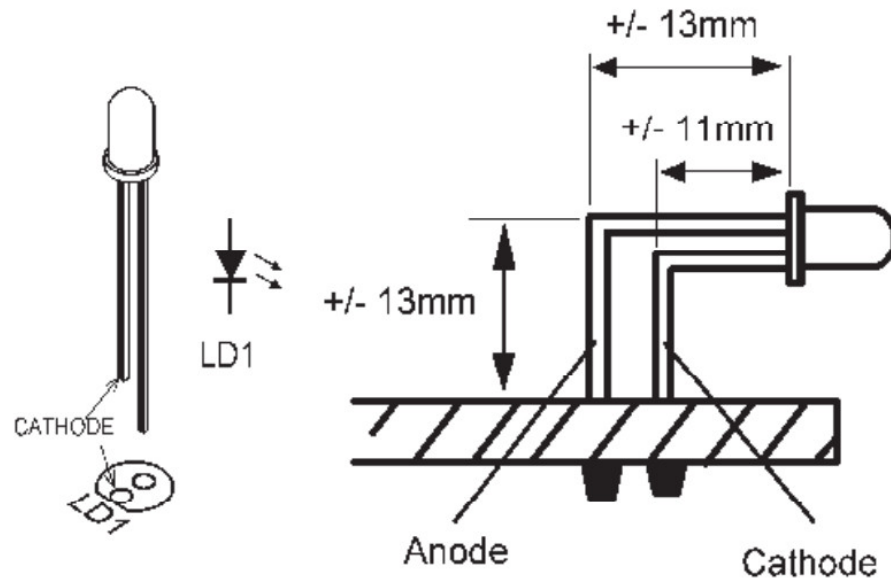☐ C3 : 47µF / 25V

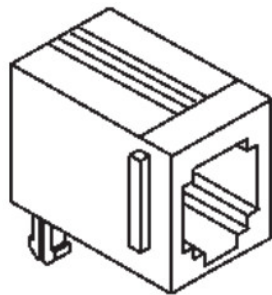9. **Terminal blocks**

☐ SK3 : 2p

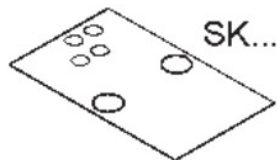10. **DC-jack**

☐ SK2 : 12VDC
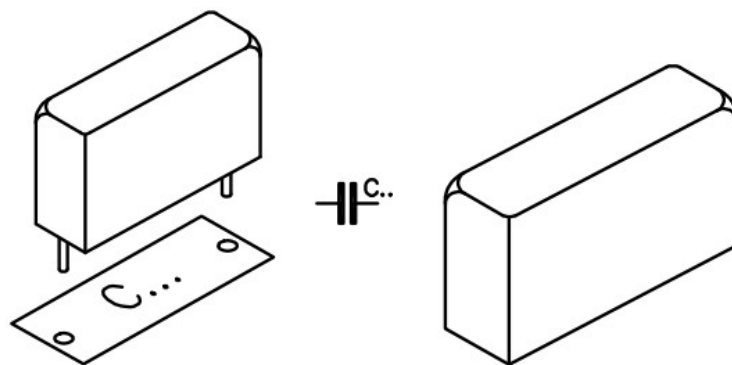
11. **LED. Watch the polarity!**

❑ LD1 : 5mm (super red)

+/- 13mm

+/- 11mm

+/- 13mm

LD1

CATHODE

LD1

Anode   Cathode

12. **Modular Jack**

❑ SK1 : 4p *(type RJ11)*

SK...

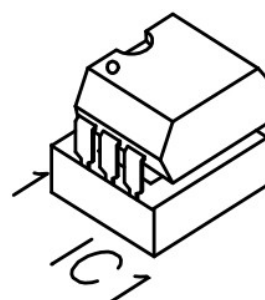13. **Capacitor**

C...

C...

❑ C1   : 1µF / 275VAC
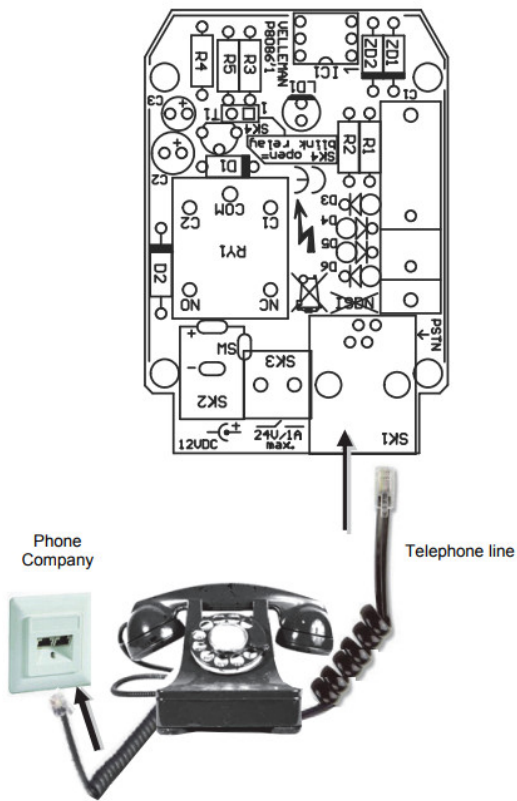
14. **Relay**
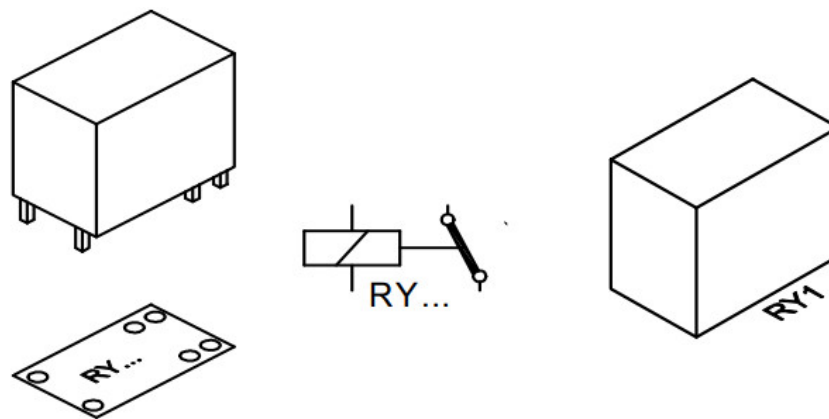
□ RY1 : VR15M121C

15. **IC, watch the position of the notch!**

□ IC1 : 4N27

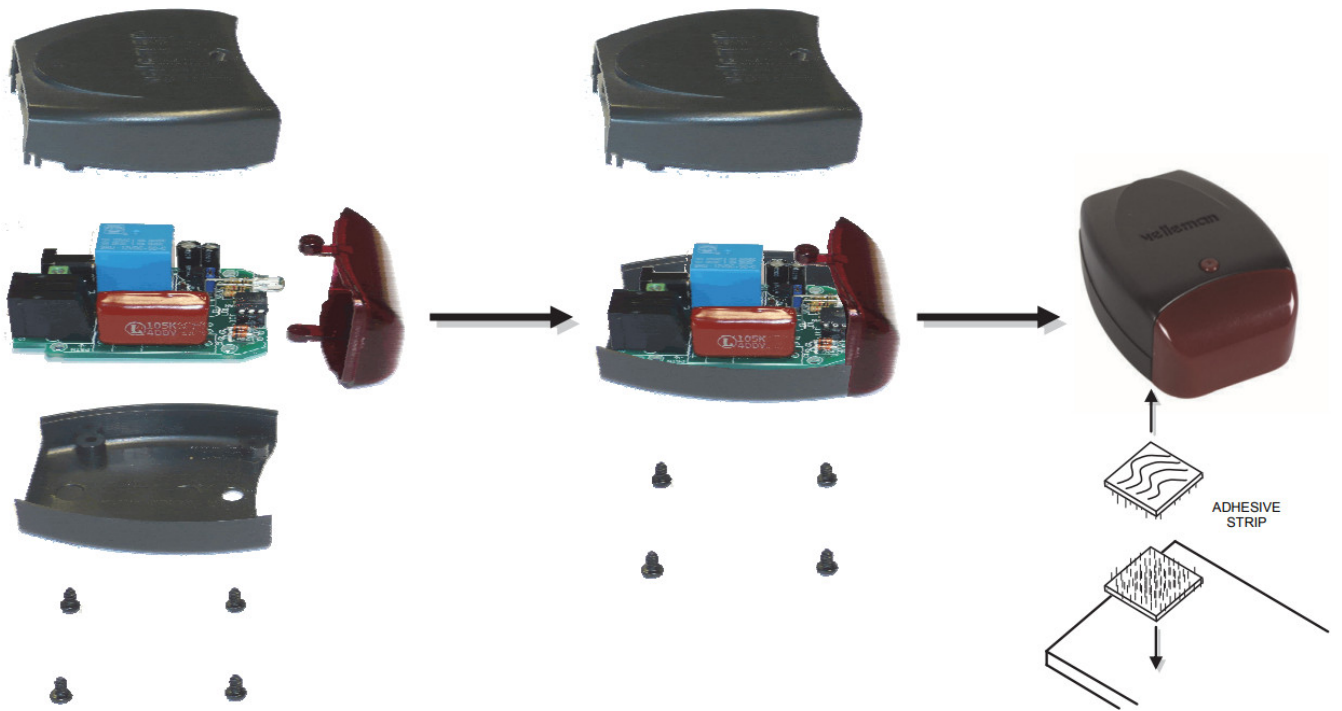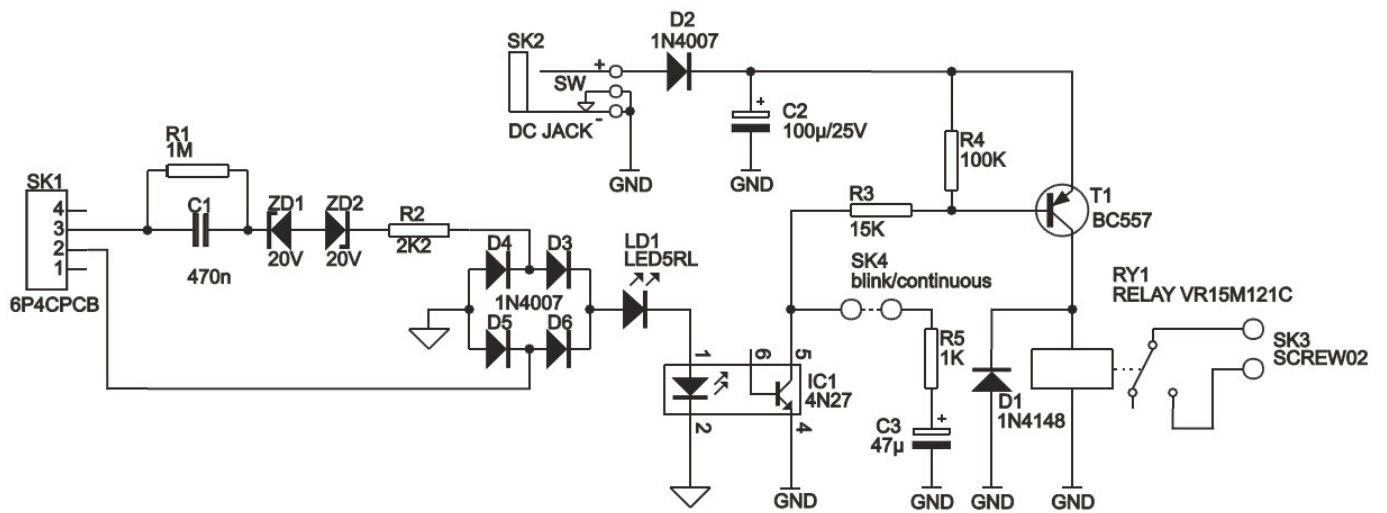16. **Connection examples**

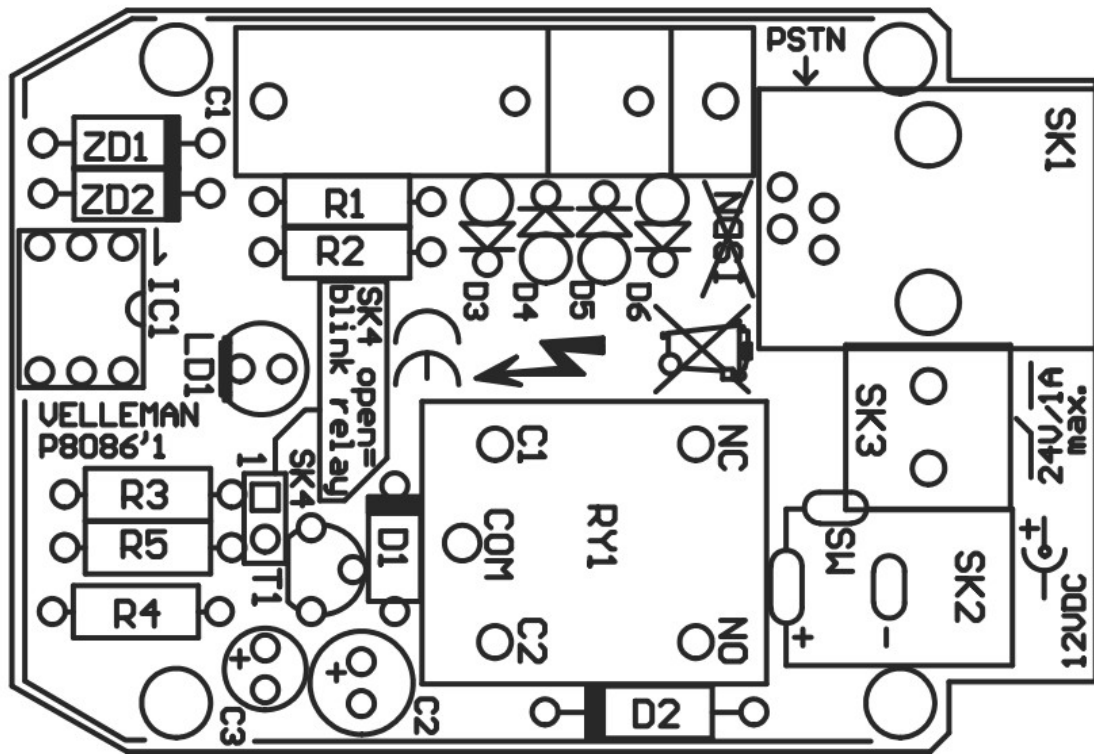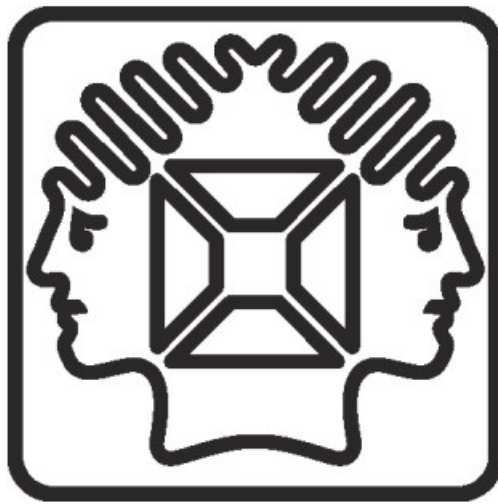| 1. LED flash	2. LED flash + relay ouput
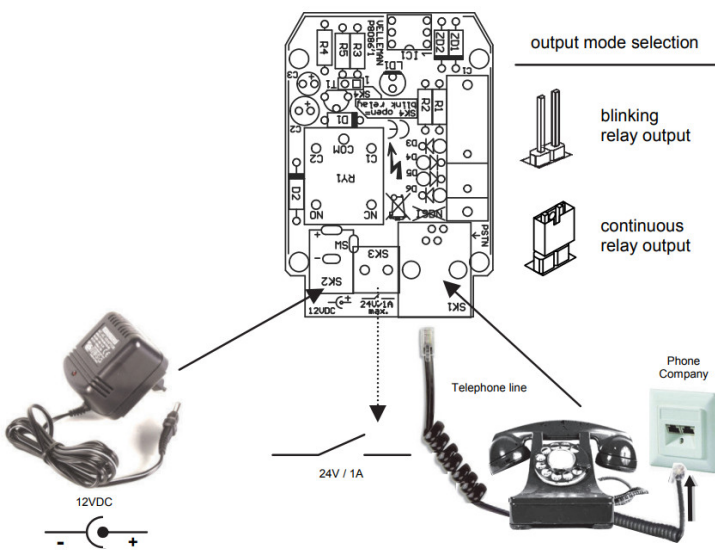
17. **Assembly**

Schematic diagram.

PCB

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Documents / Resources

	velleman WSHA8086 Telephone Ring Detector with Relay Output [pdf] Instructions WSHA8086, K8086, WSHA8086 Telephone Ring Detector with Relay Output, WSHA8086, Telephone Ring Detector with Relay Output, Telephone Ring Detector, Ring Detector, Detector

References

- 🌐 velleman-kit.com
- Ⓥ Velleman â€" Wholesaler and developer of electronics