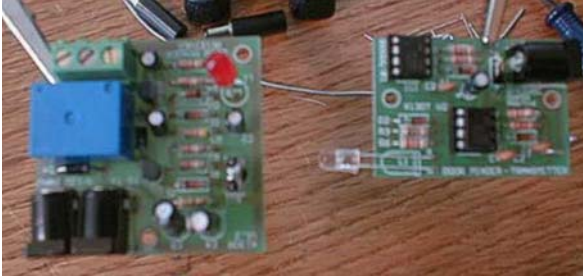


GhostYard.com

<http://mywebpages.comcast.net/msargent26/ghostyard/kit130.htm>

Door Minder

What is it?



This Kit uses an infrared beam to monitor door & passageways or any other area. When the beam is broken a relay is tripped which can be used to sound a bell trip an effect or cut off one. Suitable for detecting customers/victims, cars ect.

The IR beam is very strong. Distances over 25 yards can be monitored with this kit. A single 12VDC wall adaptor is fine. Provision has been made so that only one power supply is needed to run both units.

Assembly Instructions

Materials Needed:

- Kit 130
- Soldering Iron
- Solder
- Wire Cutters

Instructions:

The Kit 130 uses some very nice quality components, and ships with a printed circuit board. This makes them very easy to put together and less likely to fail while in operation.

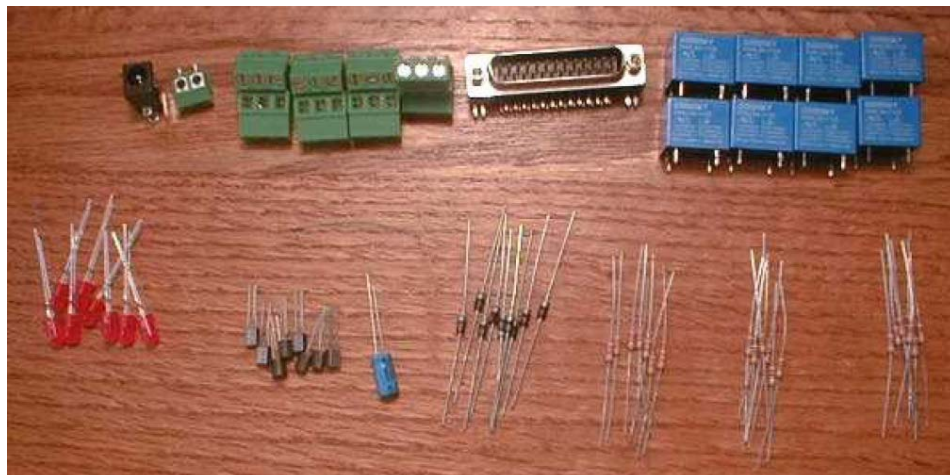
Skill Level

Please do not be afraid to attempt to assemble this kit! It is very easy to do, even if you are an electronics novice! Work in a well lit area, and make sure you have plenty of time to complete the project.

Obtained from
Omarshantedtrail.com

Sort out, Identify and verify parts

PARTS LIST – K130					
Transmitter board			Receiver Board		
Description	Location	Qty	Description	Location	Qty
Resistors (0.25W 5%, carbon)			Resistors (0.25W 5%, carbon)		
220R	R6	1	470R	R3,6	2
1K	R3	1	6K8	R1,2,4	3
2K2	R4,5	2	47K	R5	1
2K7	R1,2	2	10uF 25V electrolytic	C1,2,3	3
Capacitors			100uF 16V electrolytic		
10nF ceramic	C2,3,4	3	1N4148 signal diode	D1,2	2
1uF electrolytic mini	C1	1	1N4004 power diode	D3,4	2
1N4148 signal diode	D1,2,3	3	5.6V 400mW zener diode	Z1	1
1N4004 power diode	D4	1	BC547 transistor, NPN	Q2	1
LM/NE555 Timer IC	IC 1,2	2	BC557 transistor, PNP	Q3	1
IR LED	L1	1	LED, 5mm red	L1	1
2.5mm DC jack	X1	1	IR receiver module	RX1	1
IC sockets, 8 pin	IC 1,2	2	2.5mm DC jack	X1,2	2
Tubing, BLACK, 5mm x 25mm long	over L1	1	Terminal block, 3-way	X3	1
PCB, K130TV2		1	Relay, 12V SPDT	RL1	1
			PCB, K130R		1



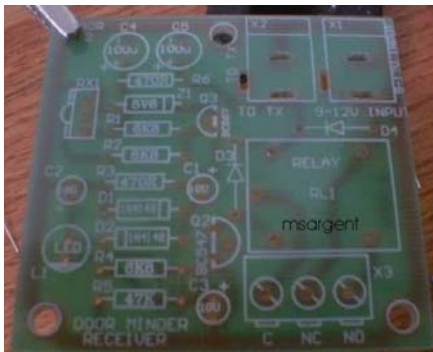
Obtained from
Omarshantedtrail.com

Prepare



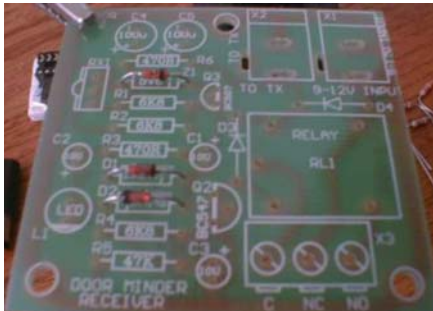
Bend the resistors and diodes in a U shape now to save time.

Start Receiver Board



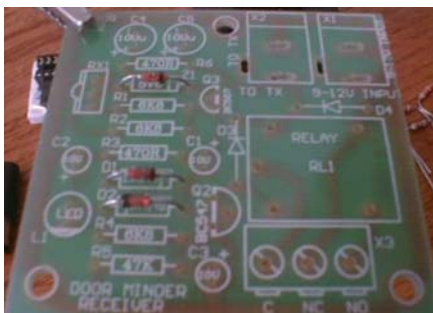
I use a pair of helping hands available at Radio Shack. It makes the soldering process a lot easier.

Install Z1



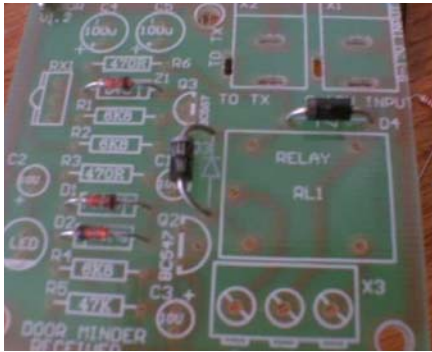
Z1 is 5V6 Diode. The writing is very small and a magnifying glass may be needed. Most of the time it is the one packaged together with the IR Receiver. Make sure you put the stripe on the same side the stripe is on the board.

Install D1 & D2



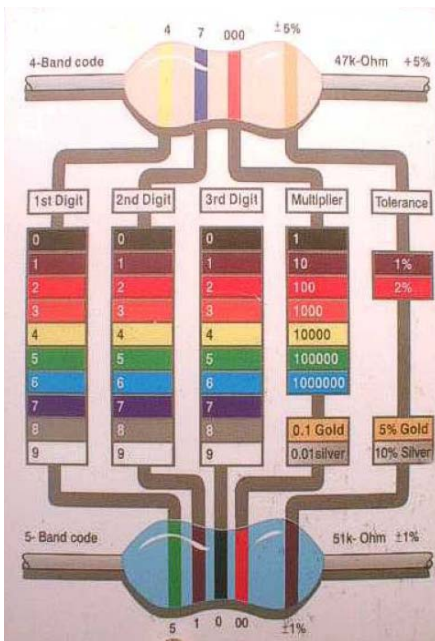
D1 & D2 is 1N4148. Again the writing is small. Look carefully and match up the stripes.

Install D3 & D4

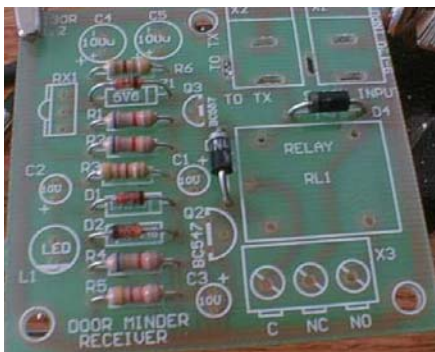


D3 & D4 are 1N4004 Power diodes. Strip must go towards the Direction the arrow is pointing.

Reference- Restore Cross Reference Chart



Install Restores



Direction dose not matter but I like putting the tolerance stripe on the right as a rule.

Install Capacitors



C4 & C5 are the larger ones and rated at 100uF

C1, C2 & C3 are rated at 10uF

All Five are Polarity sensitive and care must be taken not to put in backwards.

the strip side is Negative and the boards Positive hole is marked.

Install Q3 (Some times marked Q1)



Q3 is BC557

on the component itself it is sometimes marked like this though "C557B"

Make sure the flat sides on it and the board line up

Install Q2



Q2 is BC547

It too is marked "C547B" and Flat sides must line up

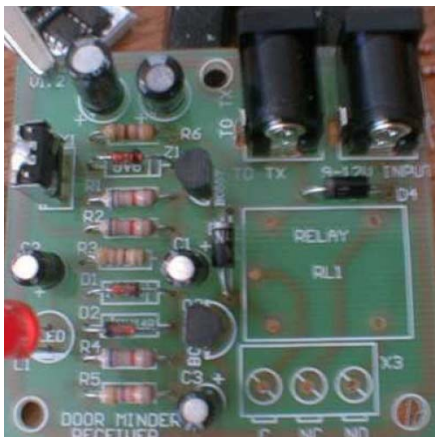
Install L1 &RX1



L1 is the red led & RX1 is the IR receiver. I raised the led up hi so it would poke out a box I am putting it into.

install L1 flat side towards the shaded side of the circle install RX1 with the collector facing outwards

Install X1 & X2



X1 and X2 Are the power plug connectors. and they only go in one way. :)

Install RL1



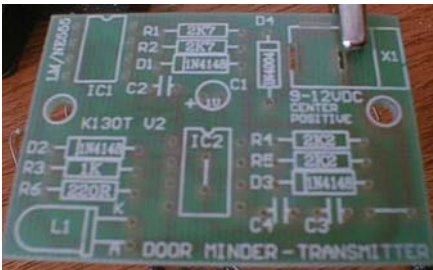
RL1 is the big blue relay. it to only goes in one way

Install X3

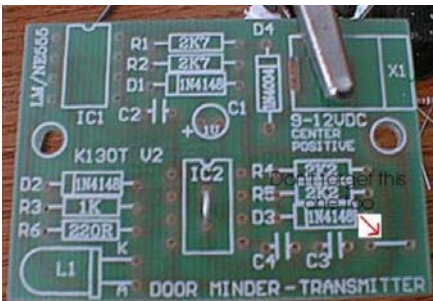


X3 is the terminal block.
be sure the holes are facing out. Believe me it can happen (don't ask).
Receiver Board is now DONE

Transmitter Board Start



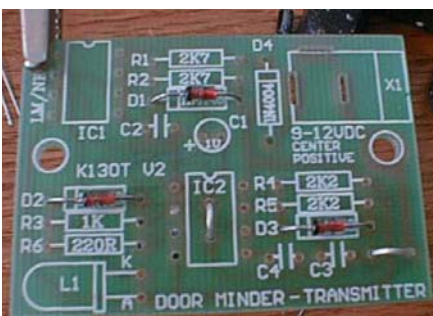
Install Jumpers



use some of the scrap pieces of wire you have cut off the restores.

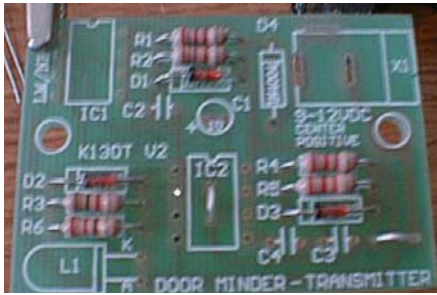
Make sure you get both of them unlike my hurry up job.
this is a good time to tell you slow down. Take your time. it will get done faster the first time if you do it right. :)

Install D1, D2 & D3



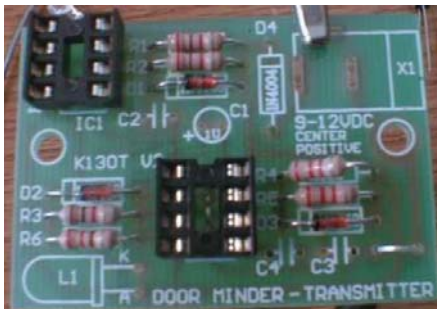
All three are the same diodes 1N4148.
Again stripe to stripe on the board.

Install Resistors



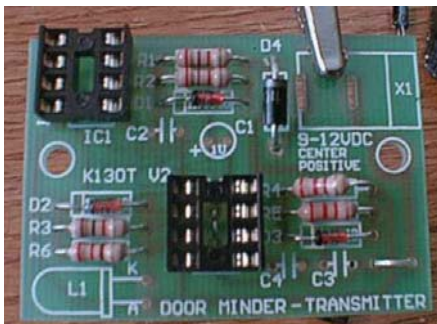
Refer to Page one for cross reference chart for resistors values.

Install IC 1 and 2



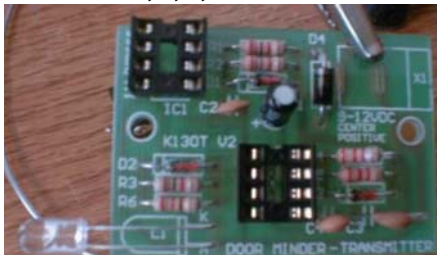
Be sure the notch in the middle of the socket is facing the same way as drawn on the board. This will be important when install the chips later.

Install D4



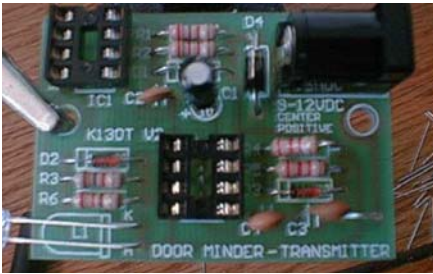
D4 is 1N4004
and install stripe to stripe on board

Install C1,2,3,4 & L1



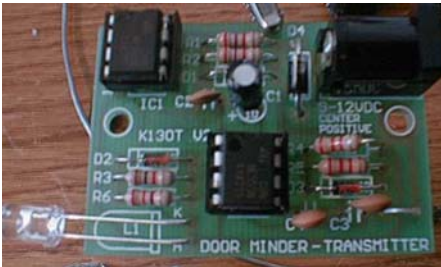
C1 is 1uF Capacitor. Pay attention to polarity
C2,3,4 are 10nF capacitors and direction does not mater
L1 is the IR LED. The flat side need to be toward the K on the board. You may install strait up or to the side to fit your project.

Install X1



X1 is the power connector.
Fits in only one way

Install IC1 & 2



The chips have a dot in the middle on one side be sure that you put the chips in with the dot towards the notch in the socket. you may need to bend the pins in just a little to allow them to slide into the socket.

CAUTION these chip will go bad if hit by static. Also be sure that you remove all the aluminum foil that came in the packaging or you may short out the chip.



You are done.

just add power. Caution be sure you only use a power supply that is rated between 9-12VDC and that the plug has a positive tip.