

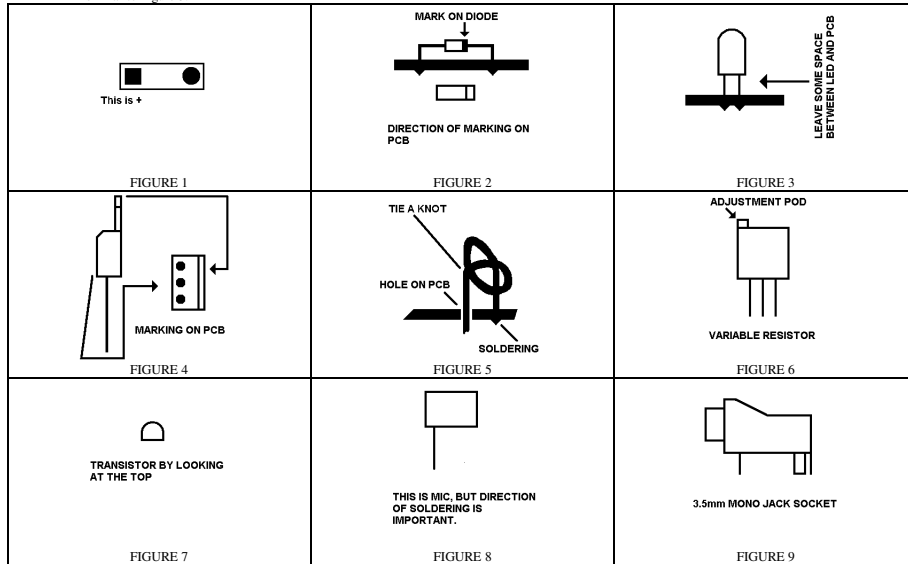
VU METER

PRODUCT CODE: M00270022

DESCRIPTION: This is a VU meter, the LED would light up according to the sound level of the speaker.

READ BEFORE INSTALLATION:

- Put the component on the side of screen printing and solder on the back of PCB without printing.
- Placing direction of component
- On component, longer leg is "+".
- On PCB marking, square pad as Figure 1 is always "+".
- For diode, please install as Figure 2.
- For Voltage Regulator, please place the component as Figure 4.
- Do not put the LED to very bottom, just install as Figure 3.
- For 9V Battery Adaptor, Red is B+ and Black is B-. Also, please tie a knot after the red and black wire has passed the neighbors hole before soldering. This is similar to Figure 5.



CIRCUIT EXPLANATION:

Please read the below together with the circuit diagram in Figure 10.

- The function of D1 is to prevent reverse power supply.
- Part 1 is the receiver. This contains a microphone to detect the amount of sound.
- Part 2 is an amplifying circuit, this amplify the sound coming from part 1.
- Part 3 is to collect the output from part 2. If the output of pin 1 of VR is higher, more current would flow R5, R6, R7 and R8.
- Part 4 is the visual output getting from part 3. The diode D2, D3 and D4 is to make each level of trigger having around 0.7V different. This means if the current of R5, R6, R7 and R8 are not high enough, only L1 and L2 would light up. If the current is high enough, all the LED L1 to L10 would light up.
- Part 5 is the voltage regulating circuit such that the whole circuit is working at 5V.

INSTALLATION:

Just install the component to the PCB M00260038 according to below table.

ITEM	SYMBOL ON PCB	DESCRIPTION	OUTLOOK	DIRECTION IS IMPORTANT?
1	R1	RESISTOR, 4.7K ohms	YELLOW, VIOLET, RED	NO
2	R2	RESISTOR, 100K ohms	BROWN, BLACK, YELLOW	NO
3	R3	RESISTOR, 100K ohms	BROWN, BLACK, YELLOW	NO
4	R4	RESISTOR, 1K ohms	BROWN, BLACK, RED	NO
5	R5	RESISTOR, 10K ohms	BROWN, BLACK, ORANGE	NO
6	R6	RESISTOR, 10K ohms	BROWN, BLACK, ORANGE	NO
7	R7	RESISTOR, 10K ohms	BROWN, BLACK, ORANGE	NO
8	R8	RESISTOR, 10K ohms	BROWN, BLACK, ORANGE	NO
9	R9	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
10	R10	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
11	R11	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO

12	R12	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
13	R13	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
14	R14	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
15	R15	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
16	R16	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
17	R17	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
18	R18	RESISTOR, 330 ohms	ORANGE, ORANGE BROWN	NO
19	D1	DIODE, IN4001	FIGURE 2 (MOSTLY BLACK)	FIGURE 2
20	D2	DIODE, IN4148	FIGURE 2 (MOSTLY TRANSPARENT RED)	FIGURE 2
21	D3	DIODE, IN4148	FIGURE 2 (MOSTLY TRANSPARENT RED)	FIGURE 2
22	D4	DIODE, IN4148	FIGURE 2 (MOSTLY TRANSPARENT RED)	FIGURE 2
23	Q1	TRANSISTOR, NPN	FIGURE 7	YES
24	Q2	TRANSISTOR, NPN	FIGURE 7	YES
25	Q3	TRANSISTOR, NPN	FIGURE 7	YES
26	Q4	TRANSISTOR, NPN	FIGURE 7	YES
27	Q5	TRANSISTOR, NPN	FIGURE 7	YES
28	Q6	TRANSISTOR, NPN	FIGURE 7	YES
29	L1	LED	RED	YES
30	L2	LED	RED	YES
31	L3	LED	RED	YES
32	L4	LED	RED	YES
33	L5	LED	RED	YES
34	L6	LED	RED	YES
35	L7	LED	TRANSPARENT	YES
36	L8	LED	TRANSPARENT	YES
37	L9	LED	TRANSPARENT	YES
38	L10	LED	TRANSPARENT	YES
39	C1	CAPACITOR, 1uF	MARK WITH 1uF OR SAME MEANING OF VALUE	YES
40	C2	CAPACITOR, 0.33uF	MARK WITH 0.33uF OR SAME MEANING OF VALUE	YES
41	C3	CAPACITOR, 10uF	MARK WITH 10uF OR SAME MEANING OF VALUE	YES
42	C4	CAPACITOR, 0.1uF	MARK WITH 0.1uF OR SAME MEANING OF VALUE	YES
43	C5	CAPACITOR, 10uF	MARK WITH 10uF OR SAME MEANING OF VALUE	YES
44	VRE	VOLTAGE REGULATOR, LM7805	FIGURE 4	FIGURE 4
45	MIC	MICROPHONE	TWO LEGS, FIGURE 8	YES
46	VR	VARIABLE RESISTOR, 1M ohms	FIGURE 6	NO
47	SWITCH	SLIDE SWITCH	SIX LEGS	NO
48	DCJACK	3.5mm MONO JACK SOCKET	FIGURE 9	YES
49	B+ B-	9V BATTERY ADAPTOR	RED WIRE, BLACK WIRE	YES

- Just turn item 46, VR, clockwise or anti-clockwise (Depend on which direction you install) until L1 and L2 light on little. Then turn back on opposite direction until this is just off. If you want the sensitivity become lower, turn back on opposite direction more.
- After installation, you can use external DC adaptor as power sources. You can use our product M00270013 or other similar adaptor.

CIRCUIT DIAGRAM:

