FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

MUSCLE MASSAGE EQUIPMENT 9 VOLT

CODE 927 LEVEL 1

Muscle massage equipment circuit is an electronic circuit that help relaxing tight muscle and relieving pain. It is suitable for those who has to stand or using hand during working all day. There are 2 potentiometers in the circuit for adjusting frequency and intensity of electricity wave.

Technical specifications:

- power supply : 9VDC.
- consumption : 4mA max.
- PCB dimensions : 2.31 x 1.43 inches.

How to works:

According to the figure, connecting TR1, R1, R2, C1, C2, L1, L2, as a frequency generator, VR2 as frequency adjuster and LED1 shows frequency result. The frequency will be stepped up to L3 which is plus volt with 50 volts. This transferred plus is narrow and low voltage, so it is not dangerous to user. This current will transfer through VR2 for adjustment intensity of electricity wave prior sent to at CUT.

PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, use a small drill to slightly enlarge the opening. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. Some components are particularly sensitive to heat (ie: Transistors, IC's, diodes etc.) extra care must be taken to only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help conduct heat away. Trim components leads with wire cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

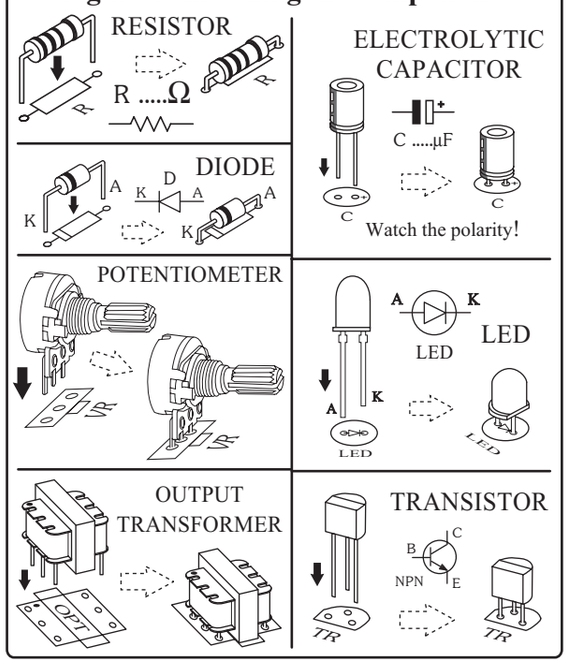
Testing:

Giving 9 volts from battery or adapter to the circuit. Connection +9V at positive pole and G at negative pole. LED will suddenly display. Testing by tuning VR500K, LED will suddenly according to turning speed. If the circuit does not work according to the above, checking the placement and soldering points.

Application:

Connecting electrical wire from OUT, peeling electrical wire off and putting on 2 pieces of 5x5 inches clothes. Then fold up the cloth and make it wet putting the wet cloth on hand or leg and bundling. Turning VR2 to the left of VR10K. Giving the current to the circuit and turning volume to the right. You could feel yes muscle jerked according to the turning intensity. Turning potentiometer 50K to adjust the frequency. It is suggested to connect OUT with metal or aluminum sheet prior to be fold up with cloth in order to have better result.

Figure 1. Installing the componants



Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.

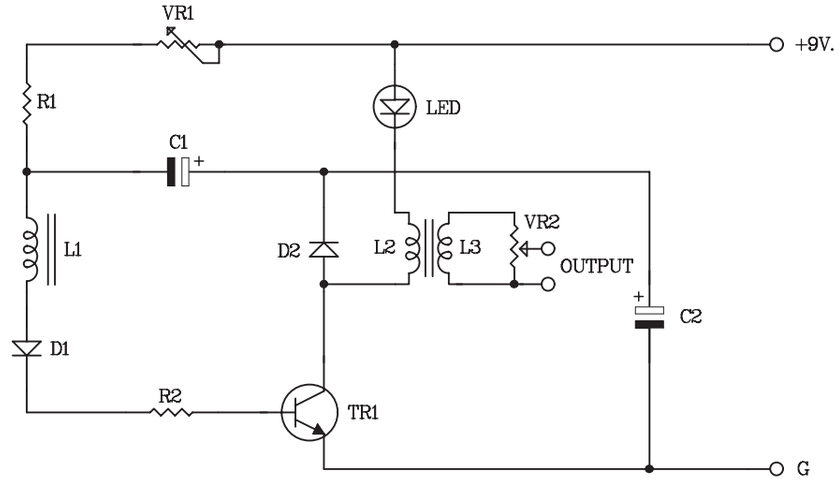
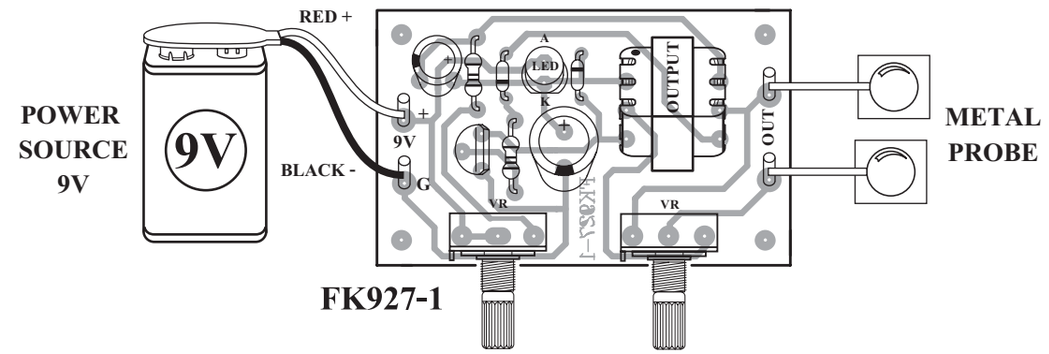
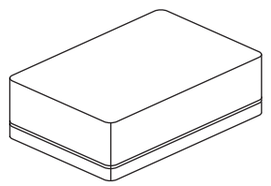


Figure 2. The muscle massage equipment circuit

Figure 3. Connections





NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET NEW

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC.
169	DANCING ROBOT FLASHER 33 LED	9-12VDC.
170	DANGER FLASHER 42 LED	9-12VDC.
171	TWO LAMP FLASHER	3VDC.
172	THREE STEP FLASHER 19 LED	9-12VDC.
173	HALLOWEEN PUMPKIN FLASHER 23 LED	9-12VDC.
174	5x7 ANIMATED LED SIGNBOARD	3-5VDC.
816	VARIABLE REGULATOR 0-50V. 3A.	50VDC.
817	TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA	220-240VAC.