

tone control (mono)
CODE 625

LEVEL 3

This tone control (mono) circuit is a multi-functional tone controller that can be applied with normal power amplifier.

Specification:

- Supply voltage : 6-15 VDC / 10 mA.max
- Maximum output : 3Vrms @ 12VDC supply
- Maximum input : 3Vrms @ 12VDC supply
- Gain (loss) : -2 dB
- Input impedance : 47kΩ
- Frequency respond : 20 Hz to 50kHz @ -3dB
- THD @ 1kHz : 0.1% @ 1V output
- S/N ratio : 85 dB re. 1Vrms
- Bass boost/cut : 12 dB @ 50 Hz
- Treble boost/cut : 12 dB @ 15 kHz
- Dimension : 3.40 x 1.29 inches.

How it works:

Signal from IN will pass C1, R2 to TR1. TR1 acts as amplifying buffer combining signal to be only one. Signal will pass to the collector of TR1 and C2 to the controller. Bass signal will pass to R5 to center by pin of VR1 and R6 toward pin 2 of IC. Treble signal will pass C5 to center by pin of VR3 and R12 toward pin 2 of IC too. Both adjusted signal will be amplified by IC resulting onlt one signal to pin 6, pass R10, C8 to VR3 acts for volume adjustment in order to send the signal to OUT. Pin 6 of IC will send the signal feedback to R1 and VR1 and C6 to VR2 to boost and cut the signal.

PCB assembly:

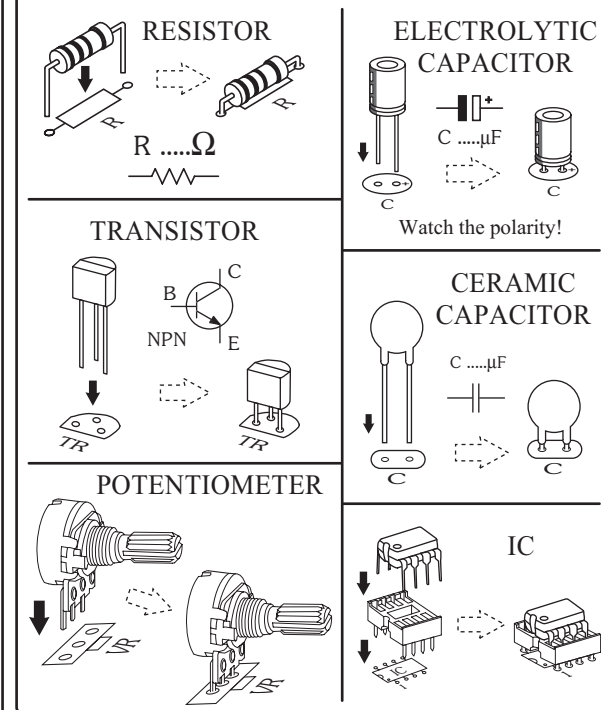
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the

correct way around. Now check that you really did mount them all the right way round!

Testing:

Giving the supply to the completed circuit. Connecting signal with IN. OUT will take the signal to amplifier input. Testing by increases and decreases bass and treble. If there is "hummm..." sound means unsmooth voltage. In this case, changing 120 ohms, R to 560 ohms and then connect 9.1 volts zener across C4 or using 6, 9, 12 volts power supply instead.

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.

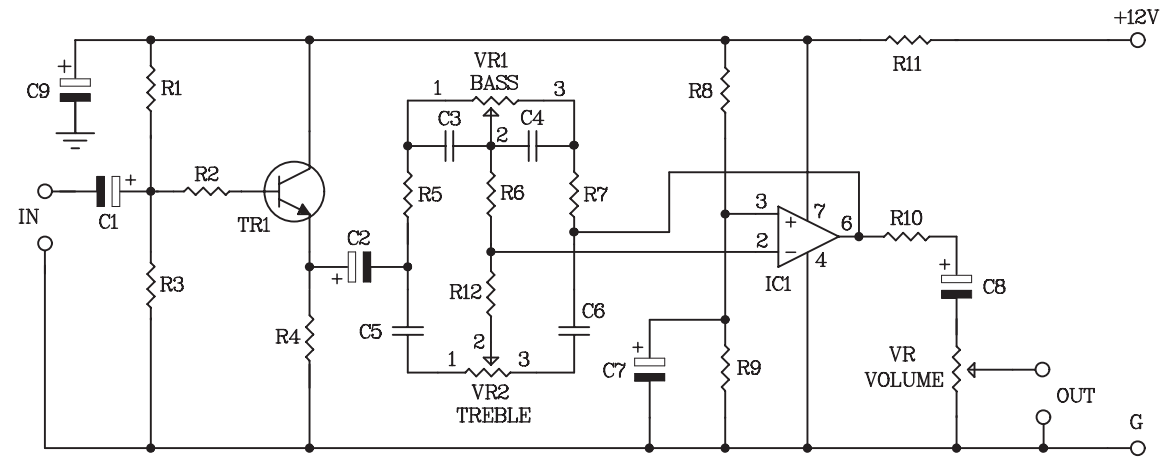


Figure 2. The tone control (mono) circuit

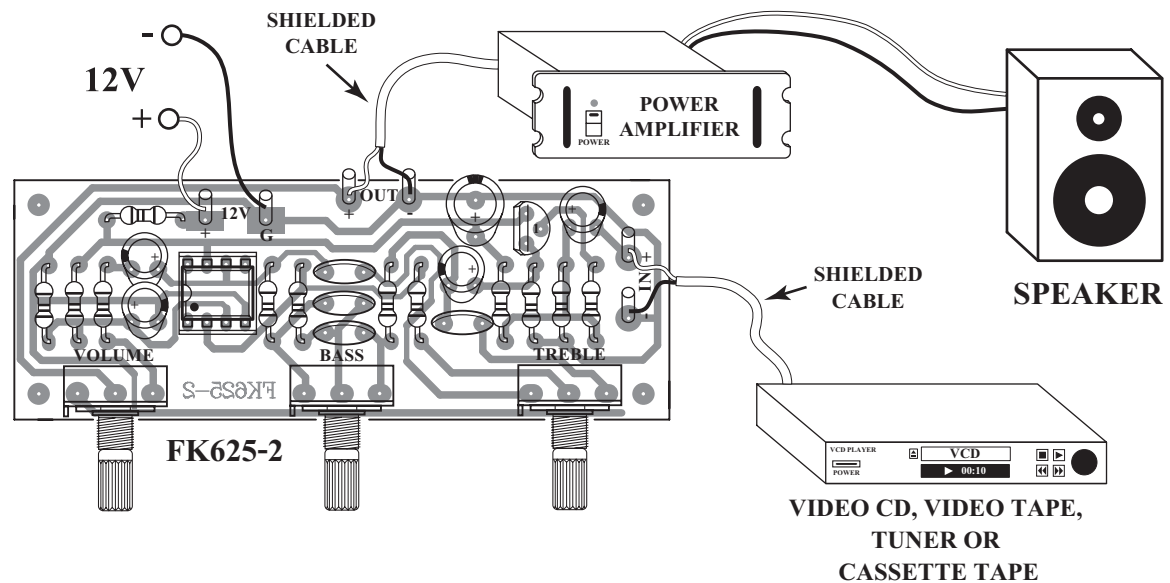


Figure 3. Connections

NEW KIT SET

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.