

TONE CONTROL (STEREO)
CODE 626 **LEVEL 3**

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

Specification:

- Supply voltage : 6-15 VDC / 25 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 : 4.74 x 1.39 inches.

How it works:

Here explanations is applied for both L and R sides due for both have the same function. Signal from IN will pass volume control increases or decreases signal to balance for selection right or left side, pass to C1 and R2 to the base of TR1. TR1 acts as amplifying buffer combining signal to be only one. Signal will pass to the emitter and C2 to the controller. Bass signal will pass to R5 toward middle pin of VR3, R6 and pin 2 of IC1. Treble signal will pass C5 to center by pin of VR4 and R12 for mixer bass signal toward pin 2 of IC1 too. Both adjusted signals will be amplified by IC1 resulting only one signal to pin 7, pass C8 and R11 to OUT. Pin 1 of IC1 will send the signal feedback to R7 and VR3 and C6 to VR4 for boost and cut the signal. The signal will pass through pin 2 toward pin 1 of IC1 of R.

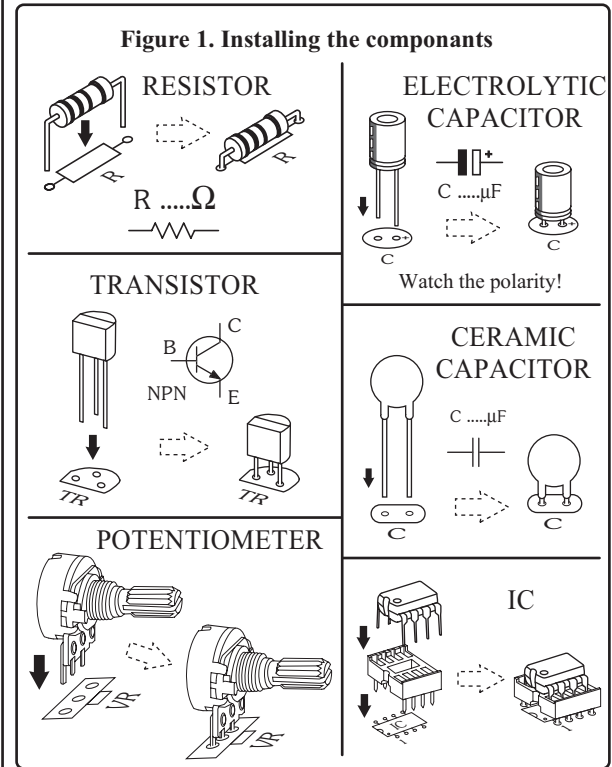
PCB assembly:

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:

Connecting signal for tape or radio with IN. OUT will take the signal to amplifier input. Giving the supply to the completed circuit. Positive pole connected at +12V, negative pole at G. Testing by increases and decrease bass, treble and balance. If there is "hummm..." sound means unsmooth voltage. In this case, changing R 120 ohms to 56 ohms and then connect 9.1V zener across C9 or using 6, 9, 12V power supply instead.



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.

