# FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

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## POWER AMP BTL 15 WATT MONO

CODE 607 LEVEL 1

This power amplifier BTL 15 watts circuit is designed for using with cassette tape, tuner and car radio amplifying. This circuit designed for using with in the car or home too.

Technical specifications:

- power supply : 12VDC. / more than 1A.
- music power output : 15W. / 4Ω
- signal/noise ratio : 80 dBA.
- input sensitivity : 150mV / 200kΩ
- frequency response : 20Hz to 20kHz (-3dB)
- gain : 30dB. max.
- overload and short-circuit protected
- PCB dimensions : 2.40 x 2.05 inches.

How to works:

This booster amplifier use IC power with amplifier with 2 amplifying sets. Each set can give 8 watts amplifying power. It could amplify 15-16 watts if connecting Bridge type. Input signal will pass R1. VR1 adjusts the signal to suit with input. C1 eliminates distortion while C5 couplings signal to pin 1 of IC which is the 1st amplifying circuit of non-inverting amplifying type. 2nd circuit is connected by inverting amplifying type by connecting non-inverting pin to C8 to ground. C6 and R2 are receive from 1st circuit. 1st output will pass to pin 10, 2nd output at pin 8. Both pins are connected further wih speakers. This circuit is connected by bridge type so should not connect speaker with ground.

PCB assembly:

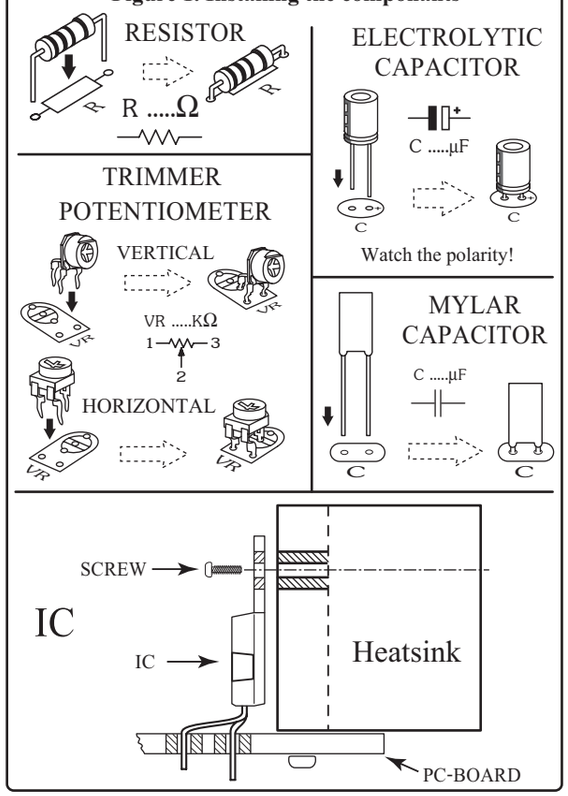
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, 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:

Connecting the signal from cassette or tuner to INPUT and speaker at SP. Adjusting VR1 to the center. Decreasing tape volume to zero and give 12 volts supply to the circuit. Increasing the volume respectively. If sound is too loud, decreasing VR10K. Putting the circuit into the box after finishing. Using over 1A. supply to get the qualify sound. This circuit is using MONO tone controlling FK625.

REMARK: Screwing IC prior printing and soldring respectively.

Figure 1. Installing the componants

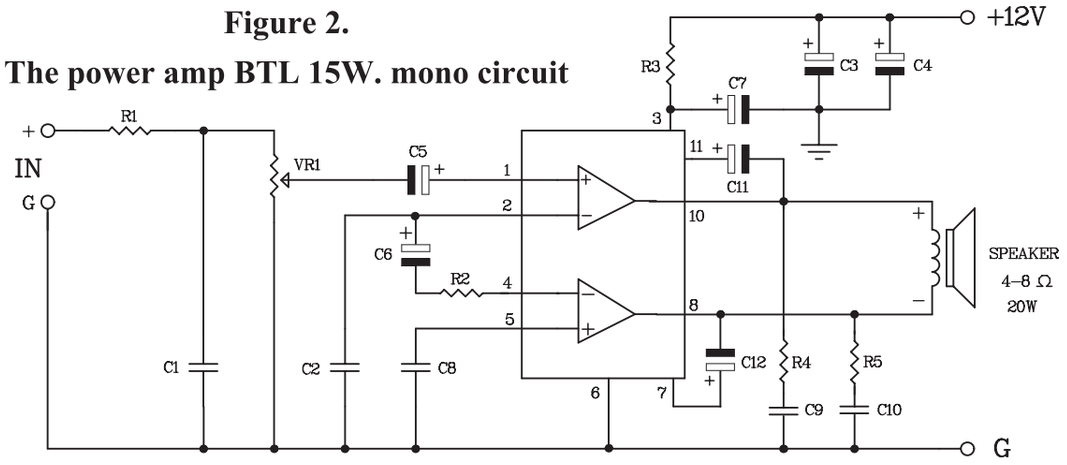



Troubleshooting:

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 power amp BTL 15W. mono circuit



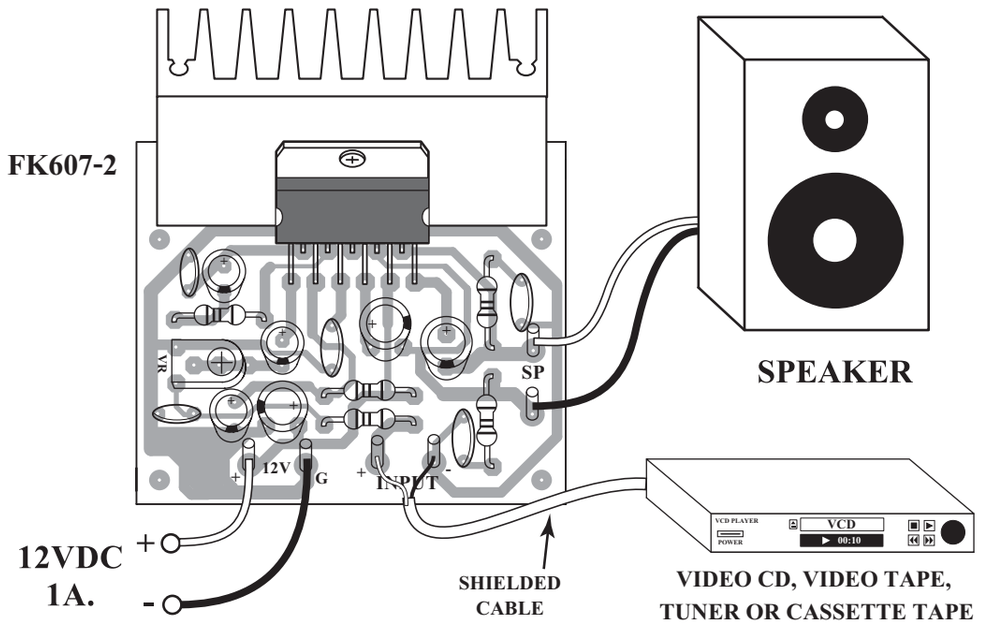




Figure 3. Connections

NEW KIT SET NEW

| CODE FK | DESCRIPTION | POWER |
|---|---|---|
| 167 | FIREFLY LIGHT (NIGHT ACTIVATE) | 3VDC |
| 275 | THREE TRAIN SOUNDS IC DIGITAL | 3VDC |
| 276 | OWL VOICE IC DIGITAL | 3VDC |
| 326 | DUAL STATION INTERCOM&DOOR BELL WITH 2 SPEAKER | 6-12VDC |
| 436 | UHF REMOTE CONTROL 1 CH. | TX. 9VDC RX. 12VDC |
| 673 | MINI POWER AMP 1+1W. STEREO | 3-12VDC |