

Total solder points: 44

Skill level :

Beginner 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5 ☐ Advanced

HIGH-Q  
**velleman-kit**



# K2637

## SUPER MINI 2.5W AUDIO POWER AMPLIFIER

### Manual

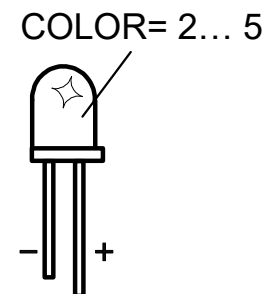
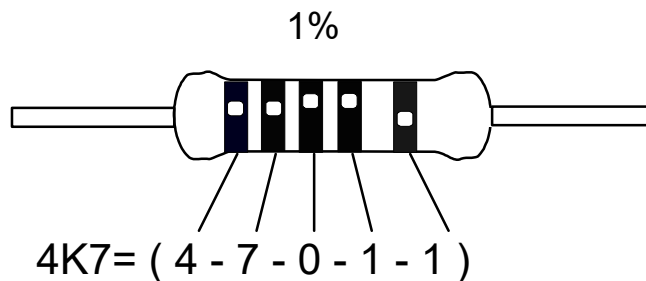
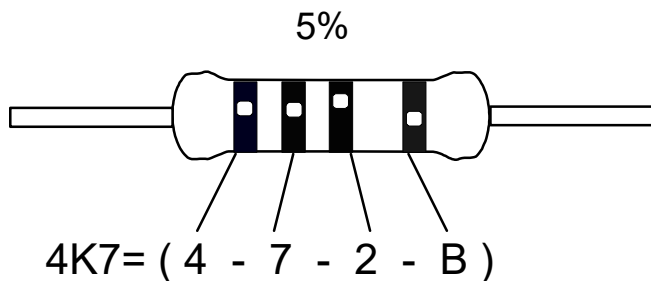
#### Specifications :

- ☒ Max. output power : 2.5W (4 $\Omega$  /12V)
- ☒ Frequency response : 60Hz - 15KHz
- ☒ Input sensitivity : 20-150mV selectable
- ☒ Thermal and short circuit protection
- ☒ Power supply : 4.5 - 15VDC /400mA
- ☒ Quiescent current : 12mA
- ☒ Dimensions : 42x32mm (1.65"x1.25")

modifications reserved

#### Applications :

- ☒ Small but powerful multi-purpose amplifier
- ☒ For use with portable audio equipment
- ☒ Power amplifier for audio projects
- ☒ In-car use
- ☒ Your own unique application

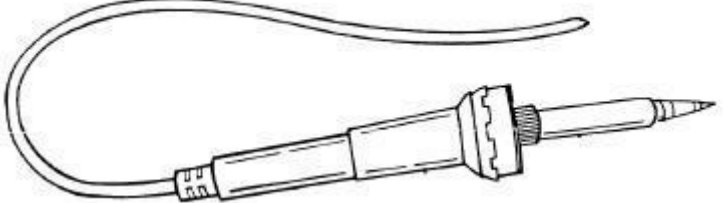
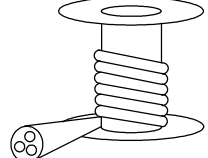
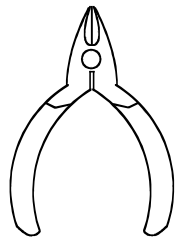
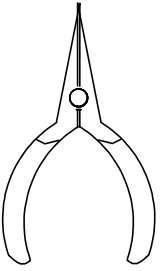


| C<br>O<br>D<br>E | I                        | P                              | E                                  | SF                    | S                      | DK                    | N                     | D                    | GB                     | F                                                    | NL                    | C<br>O<br>D<br>E |
|------------------|--------------------------|--------------------------------|------------------------------------|-----------------------|------------------------|-----------------------|-----------------------|----------------------|------------------------|------------------------------------------------------|-----------------------|------------------|
|                  | <i>CODICE<br/>COLORE</i> | <i>CODIGO<br/>DE<br/>CORES</i> | <i>CODIGO<br/>DE COL-<br/>ORES</i> | <i>VÄRI<br/>KOODI</i> | <i>FÄRG<br/>SCHEMA</i> | <i>FARVE<br/>KODE</i> | <i>FARGE<br/>KODE</i> | <i>FARB<br/>KODE</i> | <i>COLOUR<br/>CODE</i> | <i>CODIFI-<br/>CATION<br/>DES<br/>COU-<br/>LEURS</i> | <i>KLEUR<br/>KODE</i> |                  |
| 0                | Nero                     | Preto                          | Negro                              | Musta                 | Svart                  | Sort                  | Sort                  | Schwarz              | Black                  | Noir                                                 | Zwart                 | 0                |
| 1                | Marrone                  | Castanho                       | Marrón                             | Ruskea                | Brun                   | Brun                  | Brun                  | Braun                | Brown                  | Brun                                                 | Bruin                 | 1                |
| 2                | Rosso                    | Encarnado                      | Rojo                               | Punainen              | Röd                    | Rød                   | Rød                   | Rot                  | Red                    | Rouge                                                | Rood                  | 2                |
| 3                | Aranciato                | Laranja                        | Naranjado                          | Oranssi               | Orange                 | Orange                | Orange                | Orange               | Orange                 | Orange                                               | Oranje                | 3                |
| 4                | Giallo                   | Amarelo                        | Amarillo                           | Keltainen             | Gul                    | Gul                   | Gul                   | Gelb                 | Yellow                 | Jaune                                                | Geel                  | 4                |
| 5                | Verde                    | Verde                          | Verde                              | Vihreä                | Grön                   | Grøn                  | Grønn                 | Grün                 | Green                  | Vert                                                 | Groen                 | 5                |
| 6                | Blu                      | Azul                           | Azul                               | Sininen               | Blå                    | Blå                   | Blå                   | Blau                 | Blue                   | Blue                                                 | Blauw                 | 6                |
| 7                | Viola                    | Violeta                        | Morado                             | Purppura              | Lila                   | Violet                | Violet                | Violet               | Purple                 | Violet                                               | Paars                 | 7                |
| 8                | Grigio                   | Cinzeno                        | Gris                               | Harmaa                | Grå                    | Grå                   | Grå                   | Grau                 | Grey                   | Gris                                                 | Grijs                 | 8                |
| 9                | Bianco                   | Branco                         | Blanco                             | Valkoinen             | Vit                    | Hvid                  | Hvidt                 | Weiss                | White                  | Blanc                                                | Wit                   | 9                |
| A                | Argento                  | Prateado                       | Plata                              | Hopea                 | Silver                 | Sølv                  | Sølv                  | Silber               | Silver                 | Argent                                               | Zilver                | A                |
| B                | Oro                      | Dourado                        | Oro                                | Kulta                 | Guld                   | Guld                  | Guldl                 | Gold                 | Gold                   | Or                                                   | Goud                  | B                |

## 1. Assembly (Skipping this can lead to troubles !)

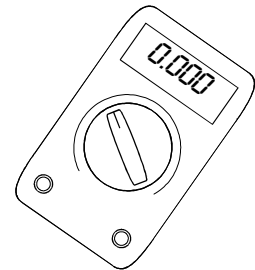
Ok, so we have your attention. These hints will help you to make this project successful. Read them carefully.

### 1.1 Make sure you have the right tools:

- A good quality soldering iron (25-40W) with a small tip. 
- Wipe it often on a wet sponge or cloth, to keep it clean; then apply solder to the tip, to give it a wet look. This is called 'thinning' and will protect the tip, and enables you to make good connections. When solder rolls off the tip, it needs cleaning.
- Thin raisin-core solder. Do not use any flux or grease. 
- A diagonal cutter to trim excess wires. To avoid injury when cutting excess leads, hold the lead so they cannot fly towards the eyes.
- Needle nose pliers, for bending leads, or to hold components in place.  
- Small blade and phillips screwdrivers. A basic range is fine. 



For some projects, a basic multi-meter is required, or might be handy

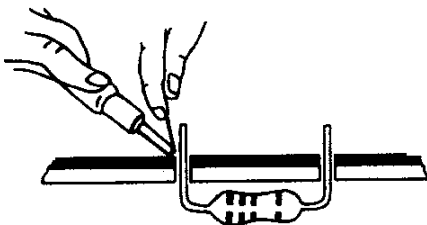


### 1.2 Assembly Hints :

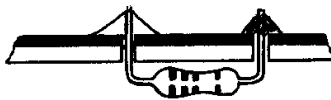
- ⇒ Make sure the skill level matches your experience, to avoid disappointments.
- ⇒ Follow the instructions carefully. Read and understand the entire step before you perform each operation.
- ⇒ Perform the assembly in the correct order as stated in this manual
- ⇒ Position all parts on the PCB (Printed Circuit Board) as shown on the drawings.
- ⇒ Values on the circuit diagram are subject to changes.
- ⇒ Values in this assembly guide are correct\*
- ⇒ Use the check-boxes to mark your progress.
- ⇒ Please read the included information on safety and customer service

\* Typographical inaccuracies excluded. Always look for possible last minute manual updates, indicated as 'NOTE' on a separate leaflet.

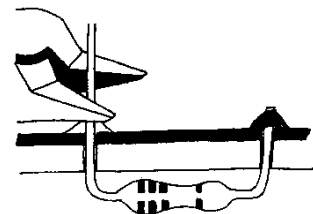
### 1.3 Soldering Hints :



Mount the component against the PCB surface and carefully solder the leads

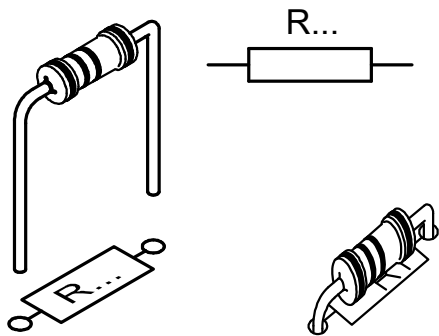


Make sure the solder joints are cone-shaped and shiny



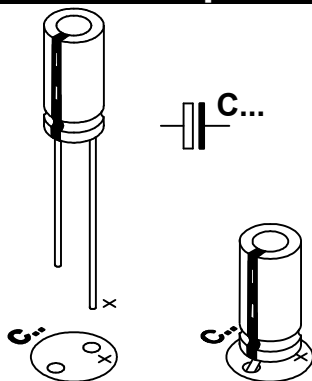
Trim excess leads as close as possible to the solder joint

## 1. RESISTORS



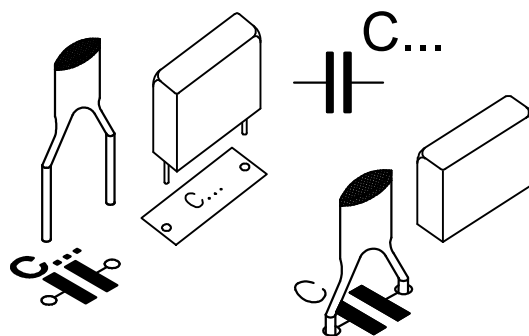
- ☐ R1 : 330K (3 - 3 - 4 - B)
- ☐ R2 : 5K6 (5 - 6 - 2 - B)
- ☐ R3 : 4E7 (4 - 7 - B - B)

## 2. ELECTROLYTIC CAPACITORS (Check the polarity)



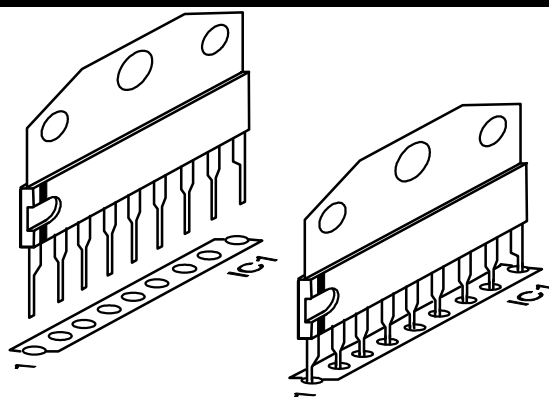
- ☐ C1 : 1 $\mu$ F
- ☐ C2 : 1 $\mu$ F
- ☐ C7 : 100 $\mu$ F
- ☐ C9 : 10 $\mu$ F
- ☐ C10 : 1000 $\mu$ F

## 3. CAPACITORS



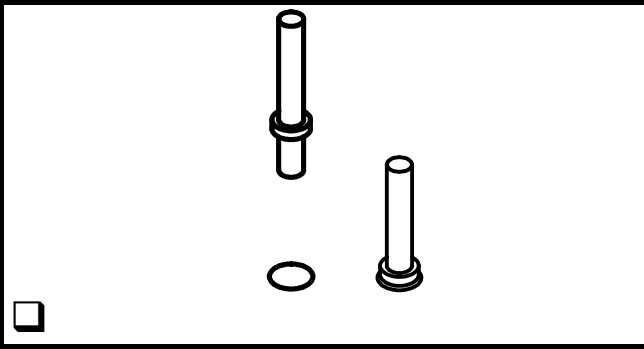
- ☐ C3 : 100pF (101)
- ☐ C4 : 100nF (0.1 $\mu$ F;  $\mu$ 1; 104)
- ☐ C5 : 1.8nF (182; 1800)
- ☐ C6 : 220nF (224; 0.22 $\mu$ ;  $\mu$ 22)
- ☐ C8 : 100nF (0.1 $\mu$ F;  $\mu$ 1; 104)

## 4. IC

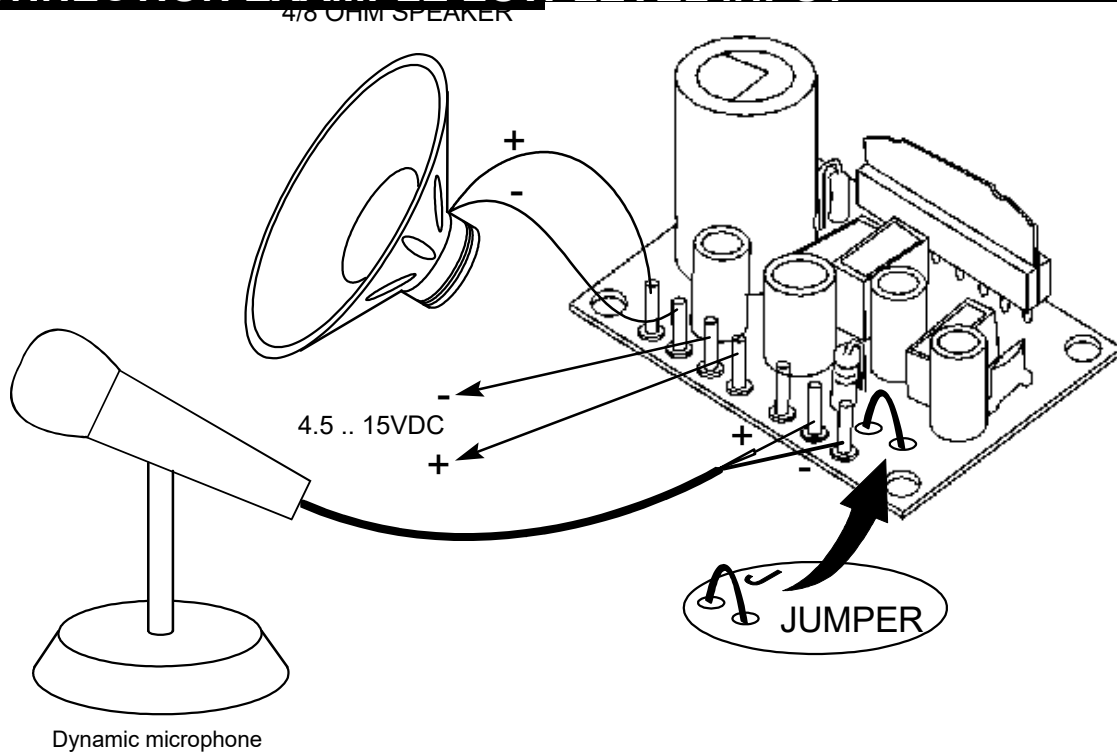


- ☐ IC1 : TDA1015

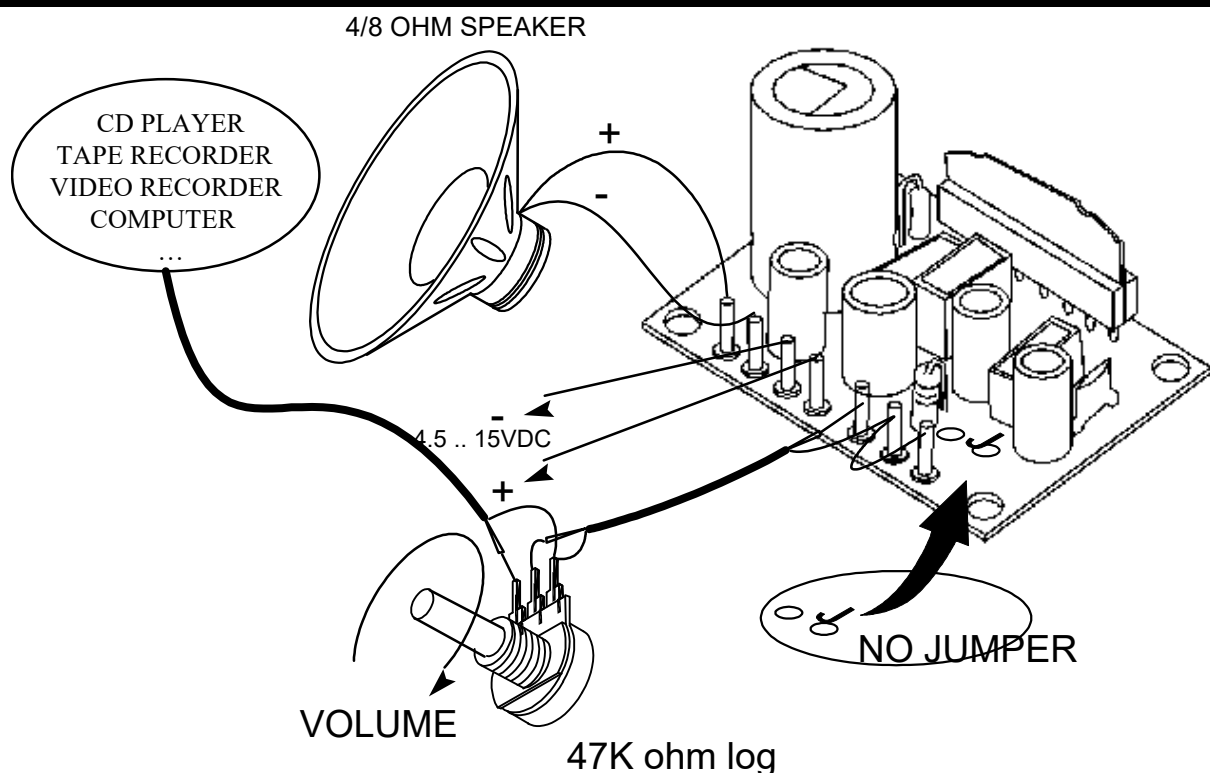
## 6. PCB TERMINALS



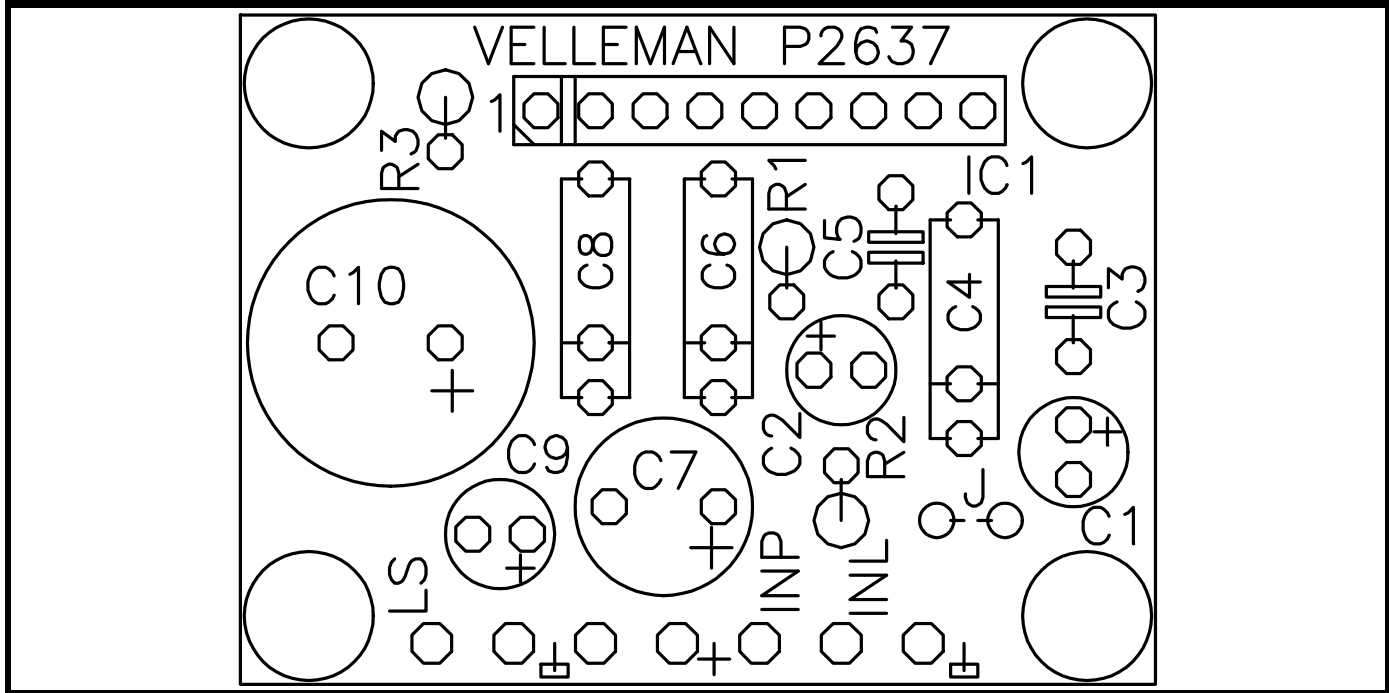
## 7. CONNECTION EXAMPLE LOW LEVEL INPUT



## 8. CONNECTION EXAMPLE HIGH LEVEL INPUT



## 9. PCB LAYOUT



## 10. DIAGRAM

