

Total solder points: 186

Difficulty level:

Beginner 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5 ☐ Advanced



K4305

2 x 10 LED STEREO VU METER

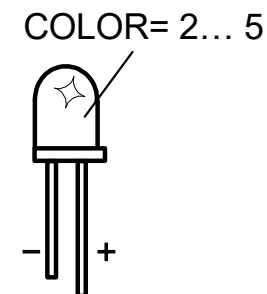
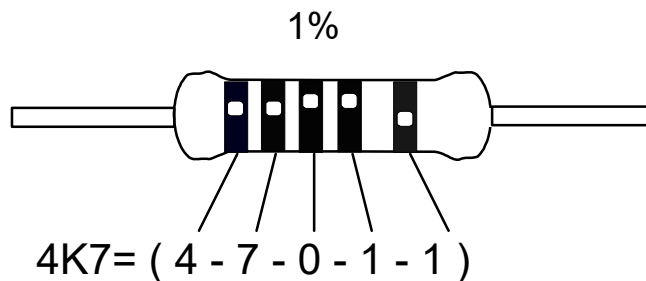
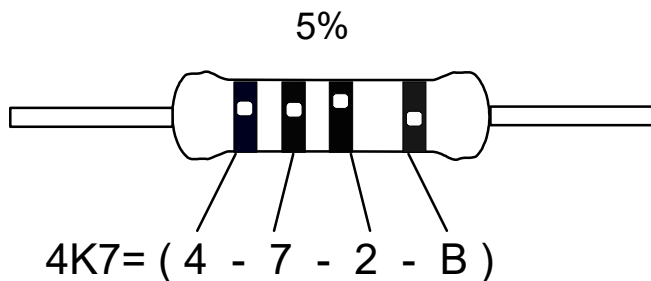
- For instant visualization of audio signal levels.
- Easy hook up to a LINE level (LOW input) signal source.
- For use with mixing panels, amplifiers, CD players, radio's, ...
- A special input (HIGH INPUT) is provided, which allows direct connection to a SPEAKER* output .
- DOT or BAR display mode selectable to suit your application.
- Attractive display window supplied, which can be used both horizontal as vertical.
- If wanted, the unit can be calibrated by means of a trim potentiometer.

***NOT SUITED FOR CONNECTION TO HIGH POWER CAR STEREO SYSTEM**

Specifications:

- 2 X 10 LED's
- BAR OR DOT MODE
- INDICATION RANGE: 0dB = 0.775mVrms.
-20dB, -10dB, -7dB, -5dB, -3dB, -1dB, 0dB, +1dB, +2dB, +3dB
- FREQUENCY RANGE: 20Hz tot 30KHz
- LOW INPUT FOR 0dB: 150mV to 6Vrms (47K)
- HIGH INPUT FOR 0dB: 1.5V to 60Vrms (470K).
- POWER SUPPLY: 10 to 15VDC / 250mA max.
- PCB DIMENSIONS 2X: 68X37mm

modifications reserved



C O D E	I	P	E	SF	S	DK	N	D	GB	F	NL	C O D E
	<i>CODICE COLORE</i>	<i>CODIGO DE CORES</i>	<i>CODIGO DE COLORES</i>	<i>VÄRI KOODI</i>	<i>FÄRG SCHEMA</i>	<i>FARVE KODE</i>	<i>FARGE KODE</i>	<i>FARB KODE</i>	<i>COLOUR CODE</i>	<i>CODIFI- CATION DES COU- LEURS</i>	<i>KLEUR 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

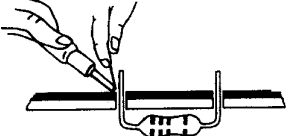
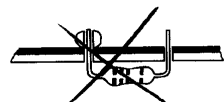
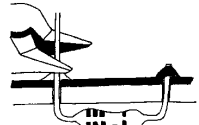
ASSEMBLY STEPS

Required tools to assemble the kit:

A small soldering iron of max. 40W.

Thin (1mm) solder, do not use any flux.

A small cutter to trim the excess wires.

- | | | | |
|---|---|--|--|
|  <p>1.
Mount the components against the PCB surface and carefully solder the leads.</p> |  <p>2.
Obtain cone-shaped, shiny soldered joints by heating the component leads sufficiently.</p> |  <p>3.
This solder joint results in a bad connection.</p> |  <p>4.
Trim the excess wires up to the level of the solder</p> |
|---|---|--|--|

- Careless assembly will certainly lead to troubles.
- Insert the part, oriented correctly, into its correct holes on the PCB.
- Mount the components in the correct order as stated in this manual.
- The component values in the diagram are for reference only. The values in this partlist are correct and must be followed.
- Use the boxes ☐ to tick off your progress.

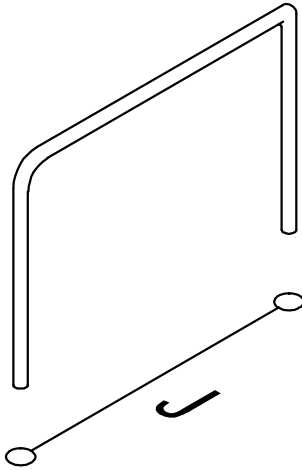


Before starting to build, also read the general guidelines

Assembly

Mount all components onto the PC boards (mount the two boards)

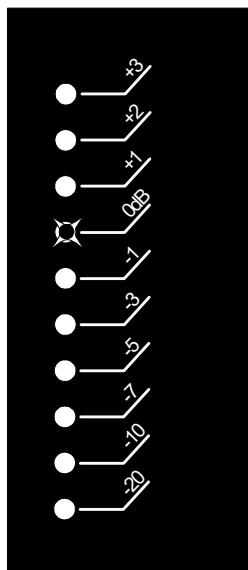
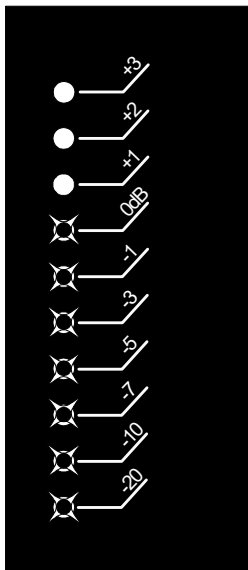
1. JUMPERS



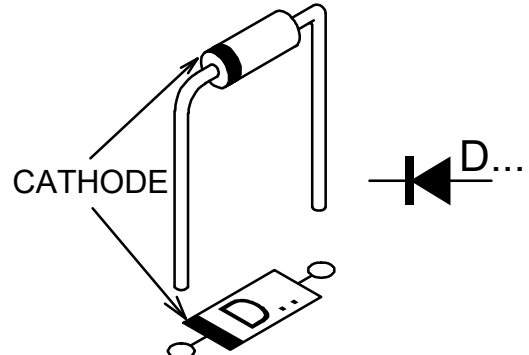
- ☐ J1
- ☐ J2, mount for BAR mode, do not mount for DOT mode.

BAR

DOT

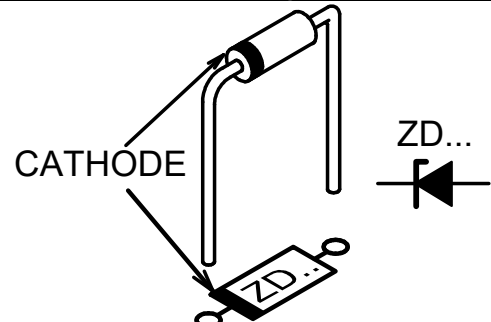


2. DIODES (Check the polarity)



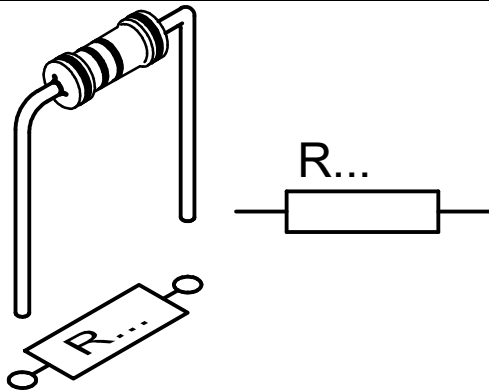
- ☐ D1: 1N4148
- ☐ D2: 1N4148
- ☐ D3: 1N4000... 1N4007

3. ZENER DIODES (Check the polarity)



- ☐ ZD1: 6,2V (6V2)

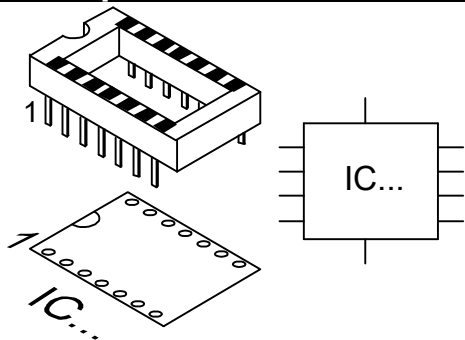
4. 1/4W RESISTORS



- ☐ R1: 47K (4-7-3-B)
- ☐ R2: 47K (4-7-3-B)
- ☐ R3: 330 (3-3-1-B)
- ☐ R4: 10K (1-0-3-B)
- ☐ R5: 10K (1-0-3-B)
- ☐ R6: 2K2 (2-2-2-B)
- ☐ R7: 470K (4-7-4-B)

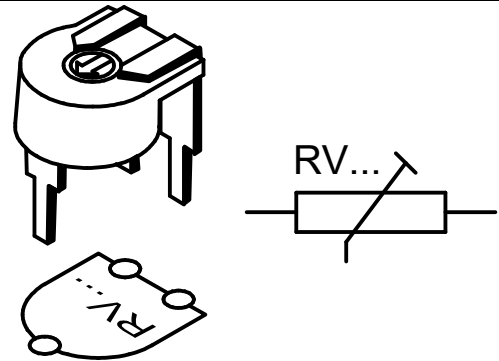
5. IC SOCKETS

(Check the position of the notch)



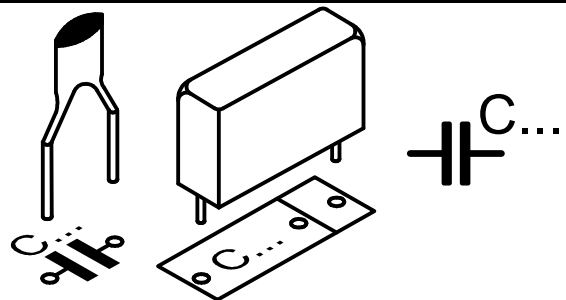
- ☐ IC1: 8P
- ☐ IC2: 18P

6. RESISTOR TRIMMERS



- ☐ RV1: 220K (250K)

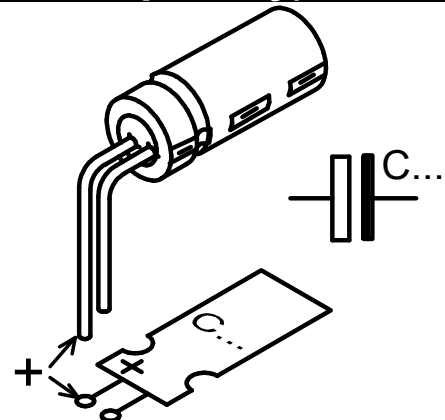
7. CAPACITORS



- ☐ C1: 220nF (0.22 μ F, 224)
- ☐ C2: 220nF (0.22 μ F, 224)

8. ELECTROLYTIC CAPACITOR

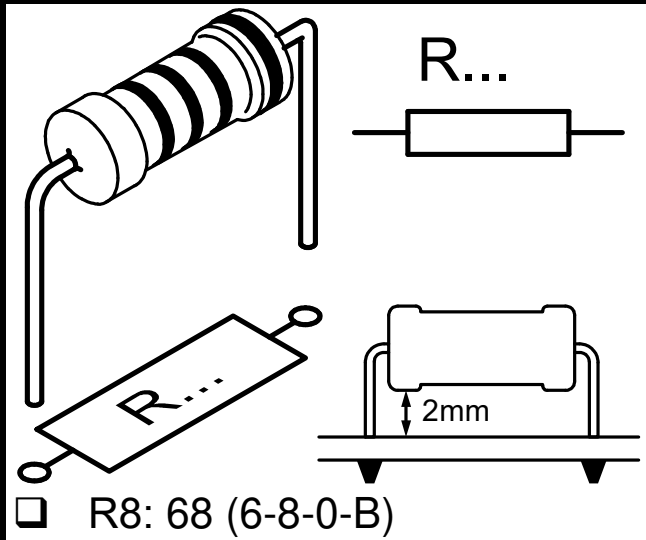
(Check the polarity)



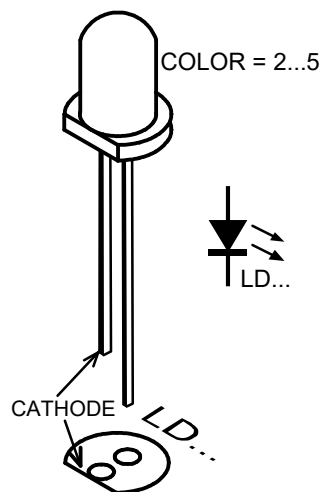
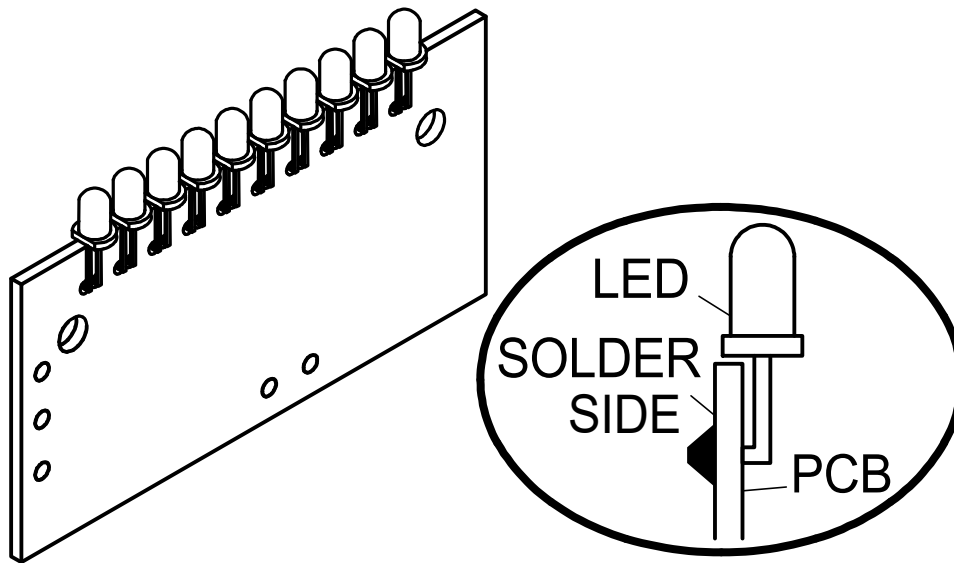
- ☐ C3: 47 μ F
- ☐ C4: 47 μ F
- ☐ C5: 47 μ F



9. 1W RESISTORS

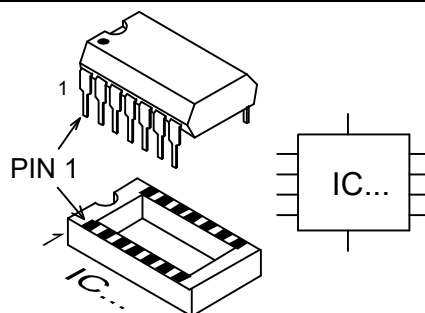


10. MOUNT THE LEDs, BEND THE LEADS CAREFULLY (Check the polarity)



- ☐ LD1: green (5)
- ☐ LD2: green (5)
- ☐ LD3: green (5)
- ☐ LD4: green (5)
- ☐ LD5: green (5)
- ☐ LD6: green (5)
- ☐ LD7: green (5)
- ☐ LD8: yellow (4)
- ☐ LD9: yellow (4)
- ☐ LD10: red (2)

11. Insert the IC's in the socket (Check the position of the notch)

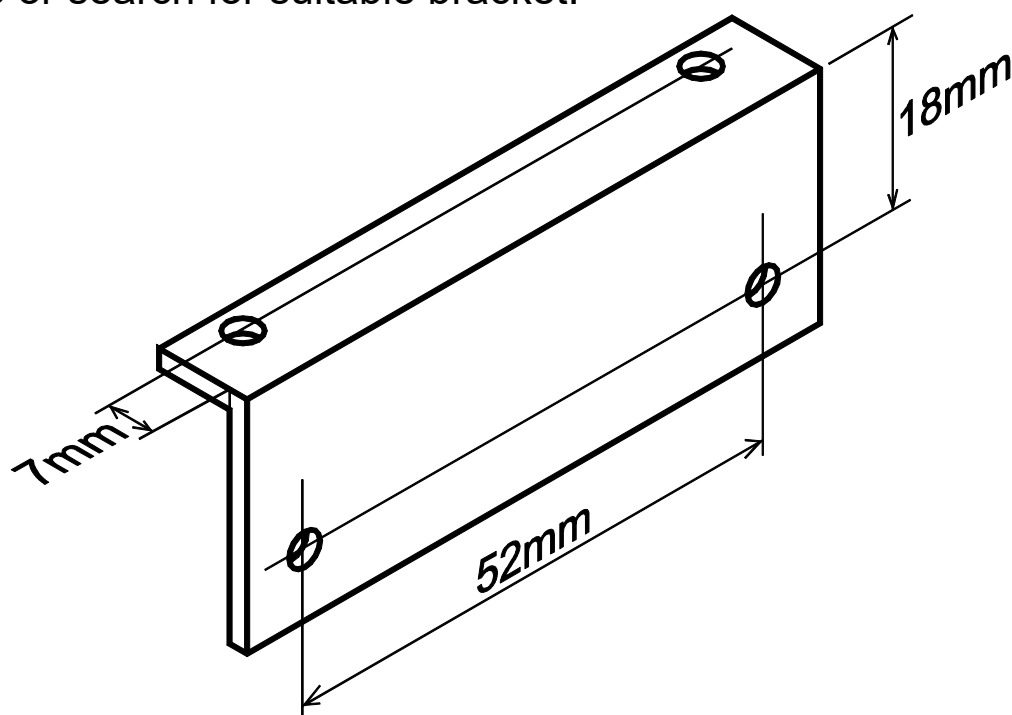


- ☐ IC1: 741
- ☐ IC2: LM3916

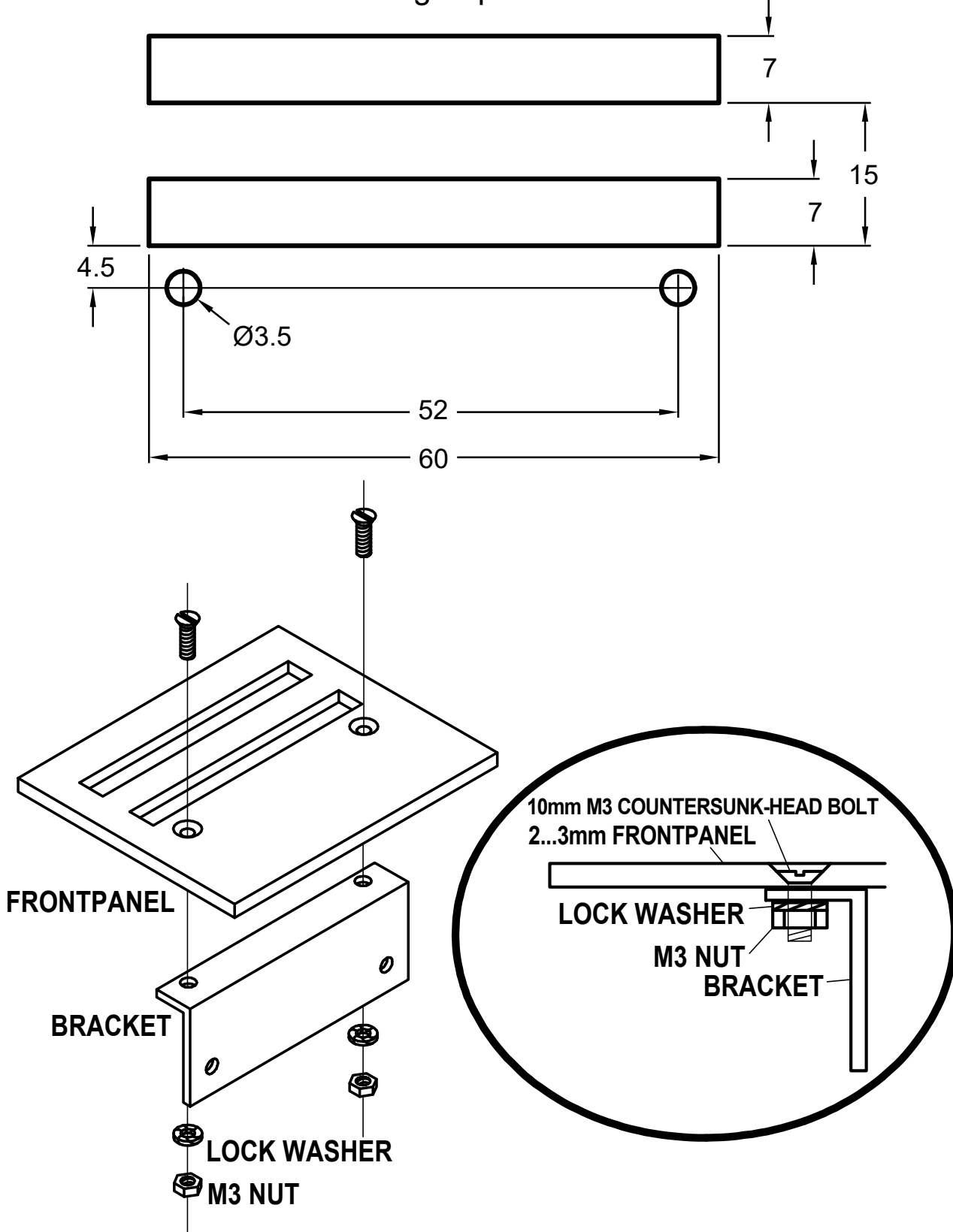
Mount the units in a suitable housing or on a suitable panel:

12. Mounting possibility:

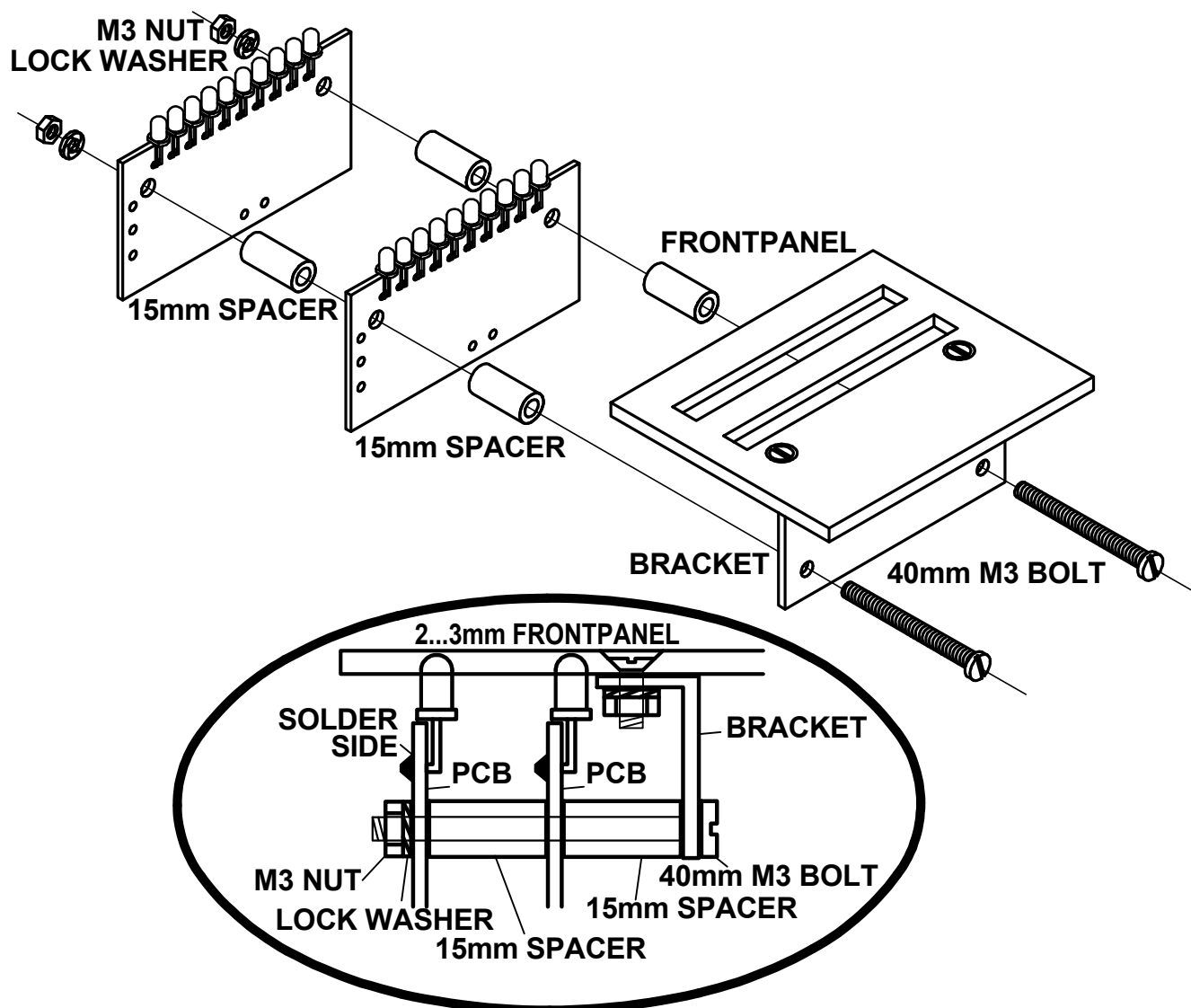
A. Make or search for suitable bracket:



B. Make the holes in the housing or panel and mount the bracket:

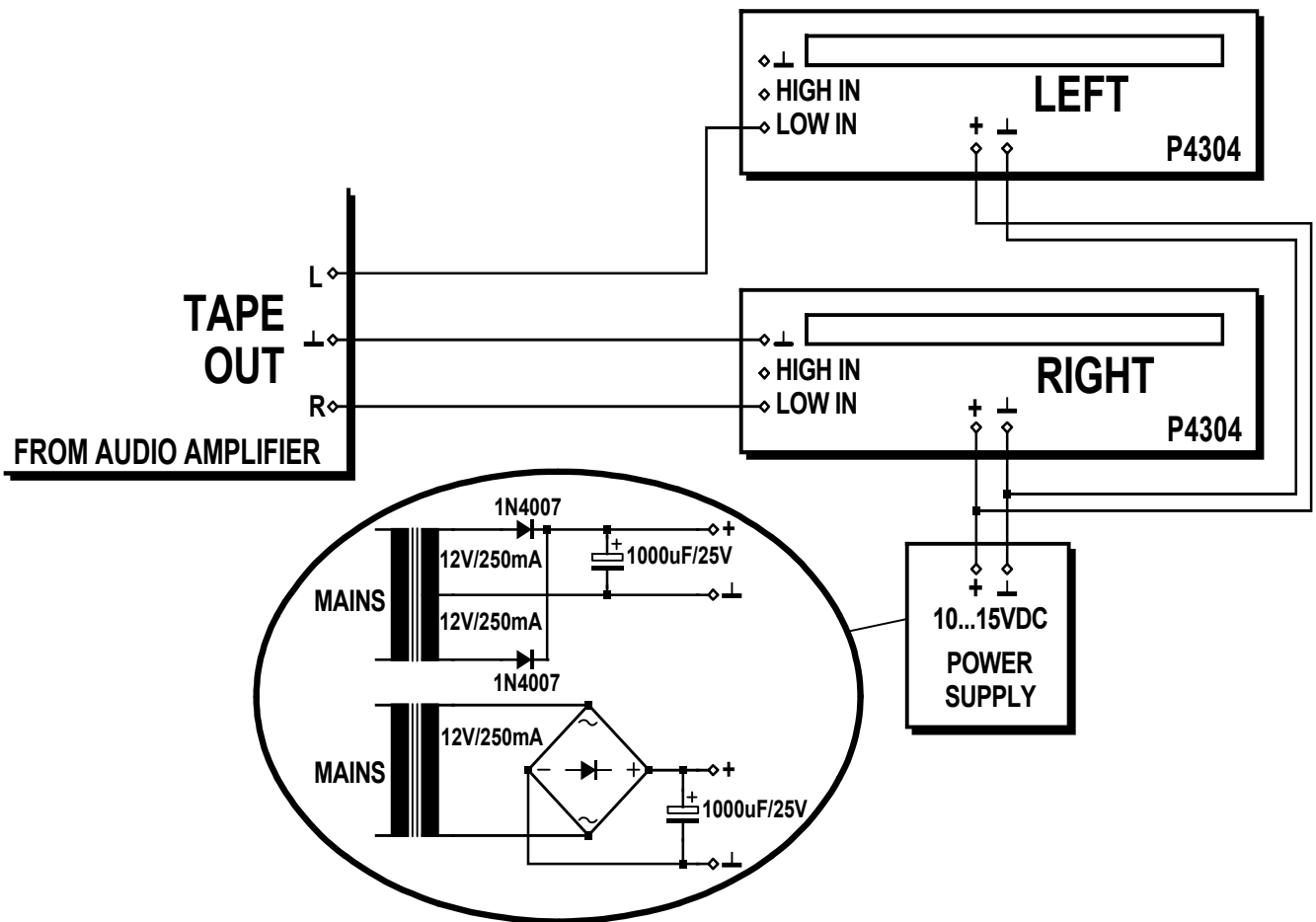


C. Mount the PCB's with spacers onto the bracket:



Connect the unit to a suitable signal, this can be line level (LOW input) :

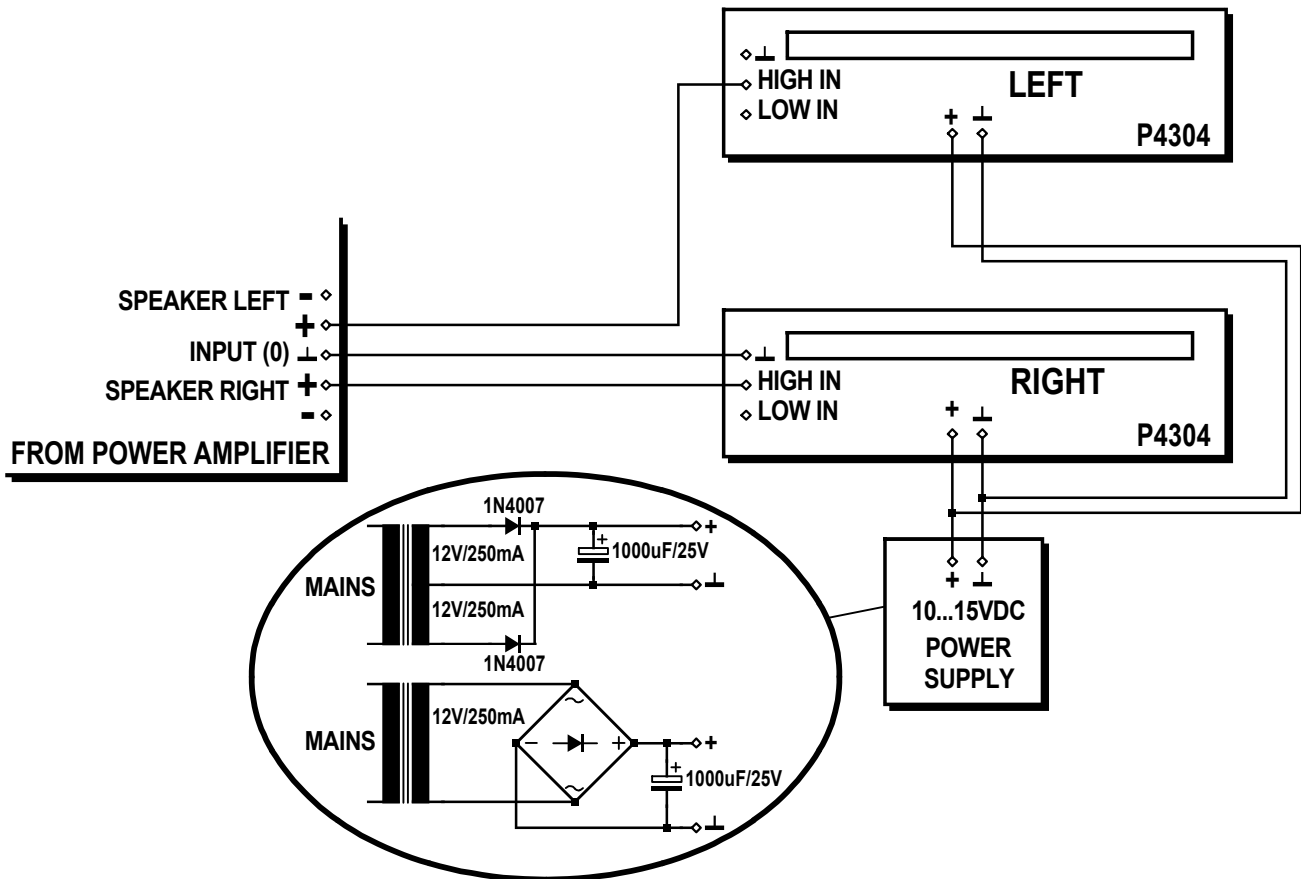
13. Connecting to a line level output (tuner, preamp, cd player...) and connecting a power supply from 10 to 15VDC / 250mA max..



Connect the unit to a suitable supply voltage between 10VDC and 15VDC, this can also be a standard DC adapter. You can also build your own power supply, see diagram. Use a 2x12V transformer, two rectifier diodes and a electrolytic capacitor or use a single 12V transformer with a bridge rectifier and a electrolytic capacitor.

Connect the unit to a speaker output (HIGH input):

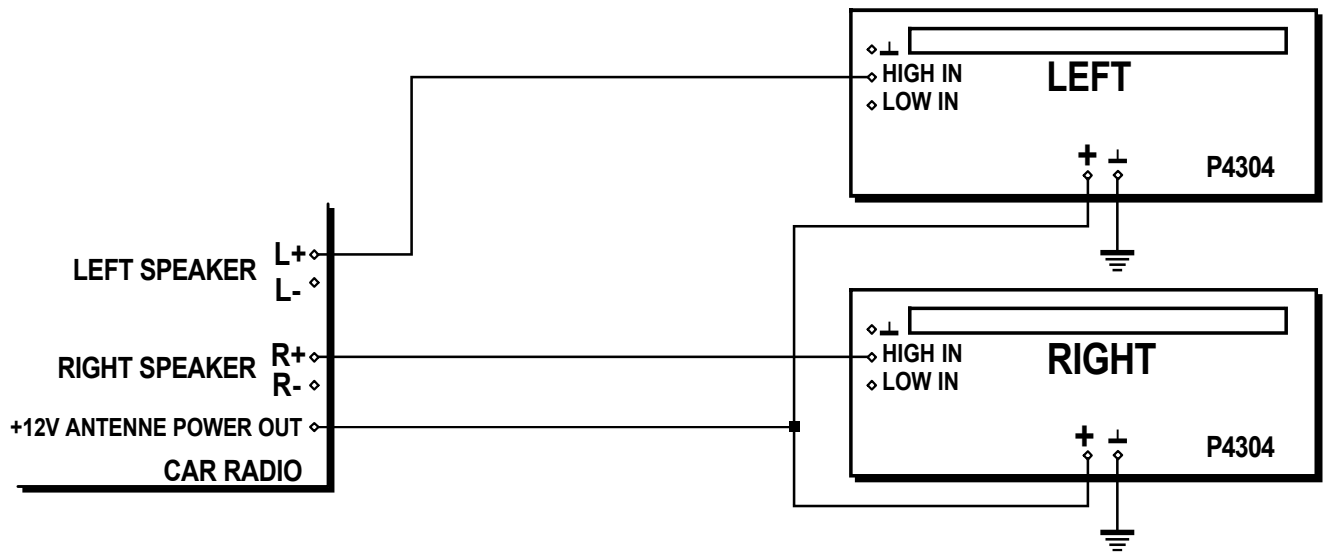
14. Connecting to a speaker level output and connecting a power supply from 10 to 15VDC / 250mA max..



Connect the unit to a suitable supply voltage between 10VDC and 15VDC, this can also be a standard DC adapter. You can also build your own power supply, see diagram. Use a 2x12V transformer, two rectifier diodes and a electrolytic capacitor or use a single 12V transformer with a bridge rectifier and a electrolytic capacitor.

Connect the unit to a car radio:

15. Connecting to a speaker output from a regular car radio.



The 12VDC car battery power or car radio antenna output can be used to supply the VU meter.

REMARK: Do not connect the unit to a high power car booster or car stereo, this equipment uses isolated ground connection. The connection to this kind of amplifier can cause permanent damage to the amplifier or car radio!

- Adjust the units sensitivity according to your preference by means of the trim potentiometer RV1

