

Total solder points: 186
Difficulty level:
Beginner 1 2 3 4 5 Advanced



K4305

2 x 10 LED STEREO VU METER

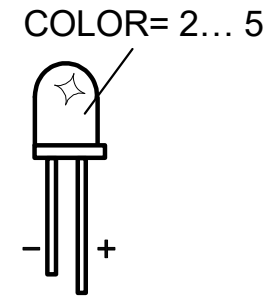
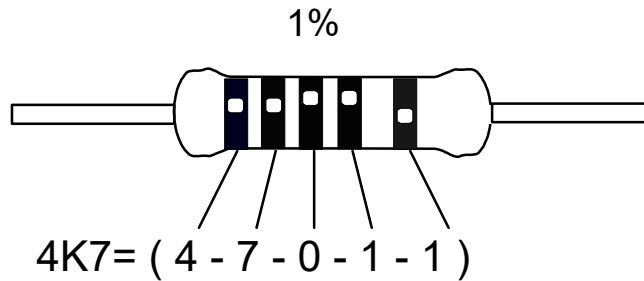
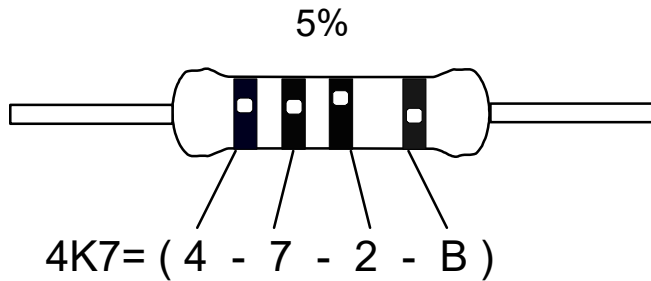
- For instant visualization of audio signal levels.
- Easy hook up to a LINE level (LOW input) signal source.
- For use with mixing panels, amplifiers, CD players, radio's, ...
- A special input (HIGH INPUT) is provided, which allows direct connection to a SPEAKER* output .
- DOT or BAR display mode 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

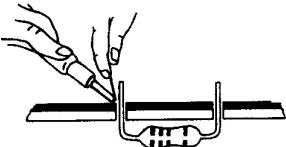

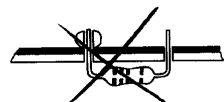
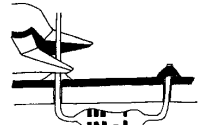
ASSEMBLY STEPS

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

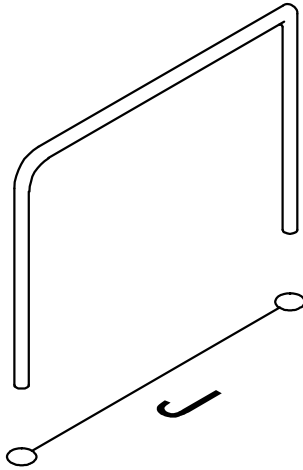
- Careless assembly will certainly lead to troubles.
- Insert the part, oriented correctly, into its correct holes on the PCB.
- Mount the components in the correct order as stated in this manual.
- The component values in the diagram are for reference only. The values in this partlist are correct and 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)

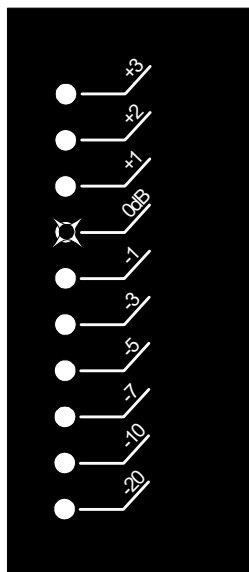
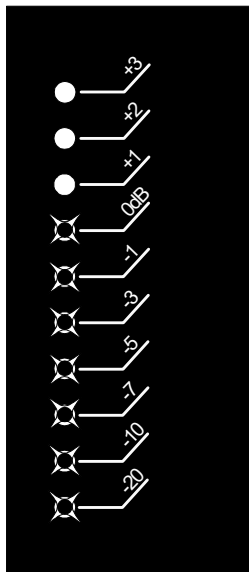
1. JUMPERS



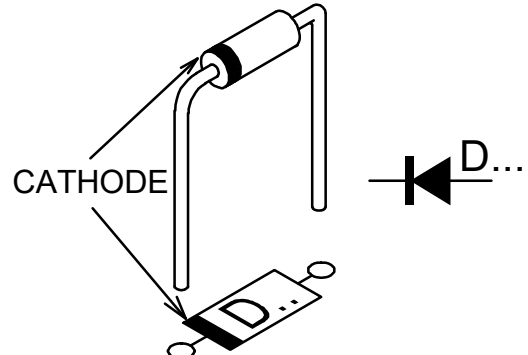
- J1
- J2, mount for BAR mode, do not mount for DOT mode.

BAR

DOT

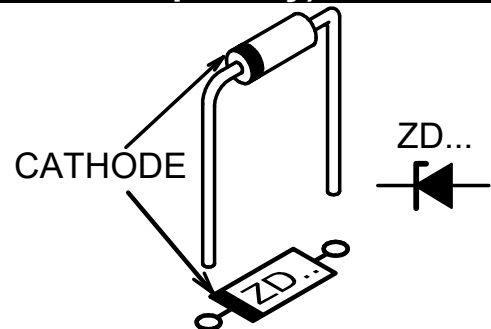


2. DIODES (Check the polarity)



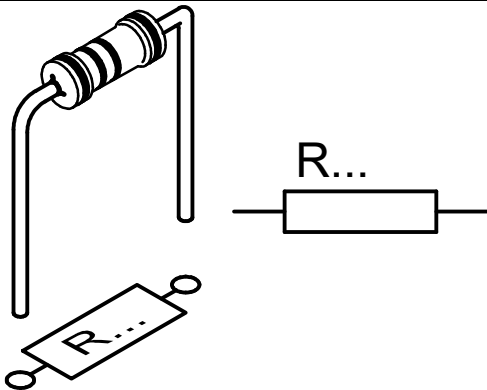
- D1: 1N4148
- D2: 1N4148
- D3: 1N4000... 1N4007

3. ZENER DIODES (Check the polarity)



- ZD1: 6,2V (6V2)

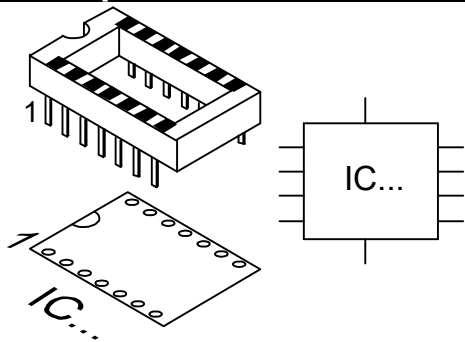
4. 1/4W RESISTORS



- 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)

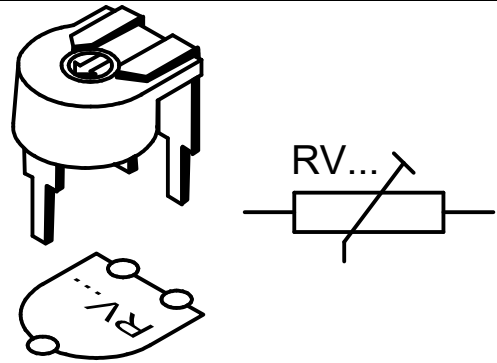
5. IC SOCKETS

(Check the position of the notch)



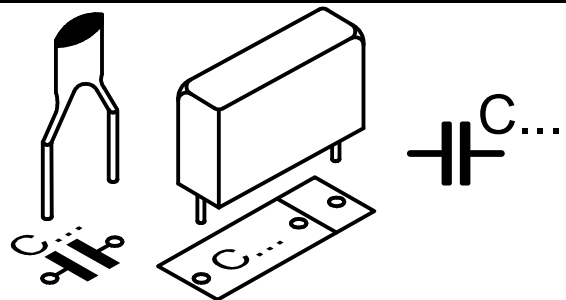
- IC1: 8P
- IC2: 18P

6. RESISTOR TRIMMERS



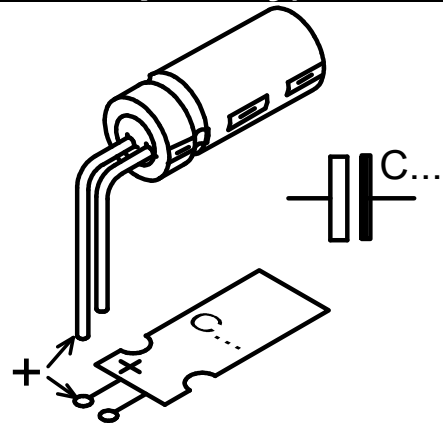
- RV1: 220K (250K)

7. CAPACITORS



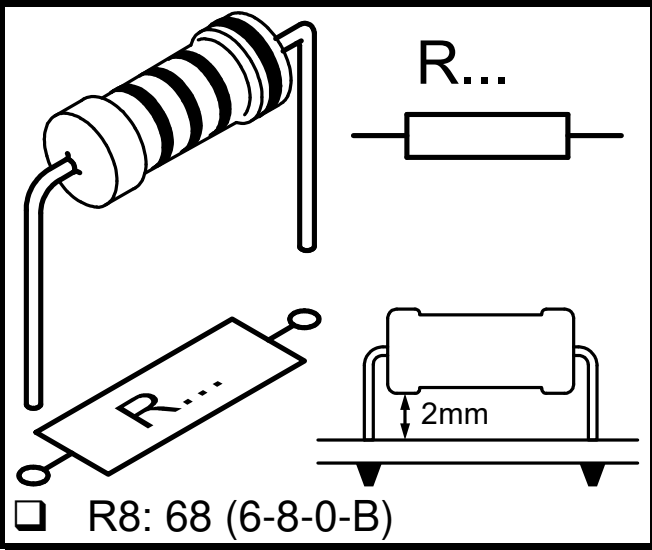
- C1: 220nF (0.22 μ F, 224)
- C2: 220nF (0.22 μ F, 224)

8. ELECTROLYTIC CAPACITOR (Check the polarity)

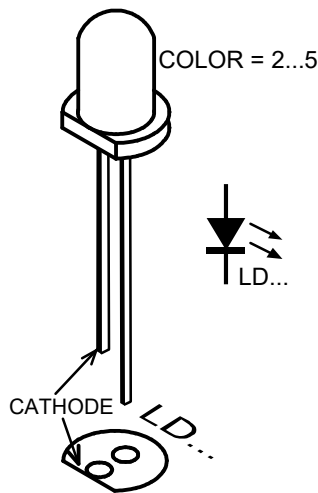
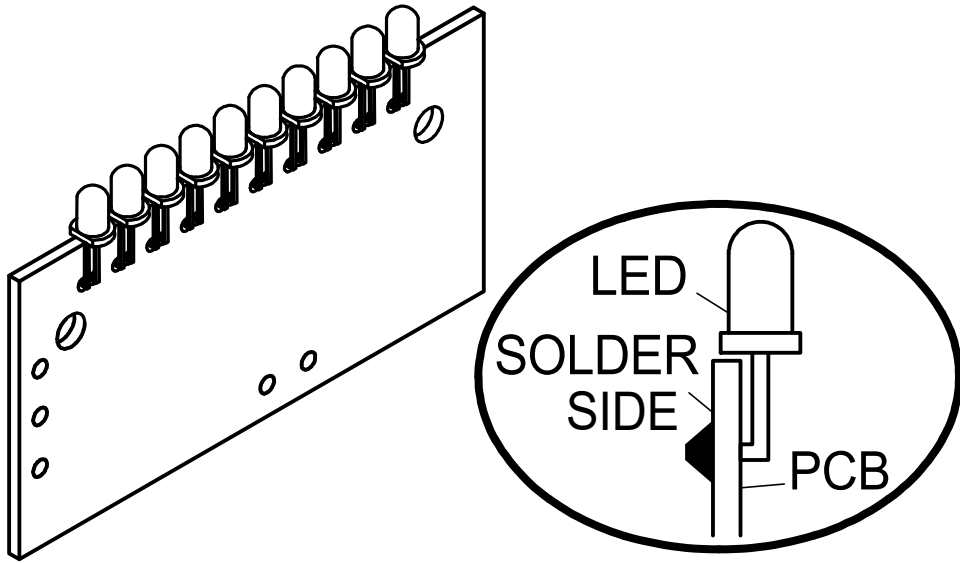


- C3: 47 μ F
- C4: 47 μ F
- C5: 47 μ F

9. 1W RESISTORS

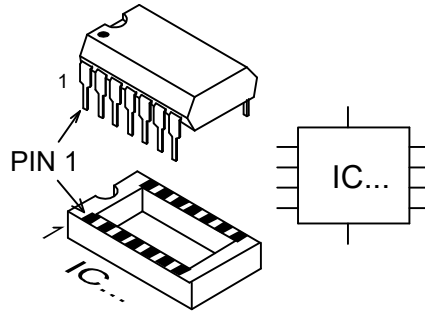


10. MOUNT THE LEDs, BEND THE LEADS CAREFULLY (Check the polarity)



- 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)

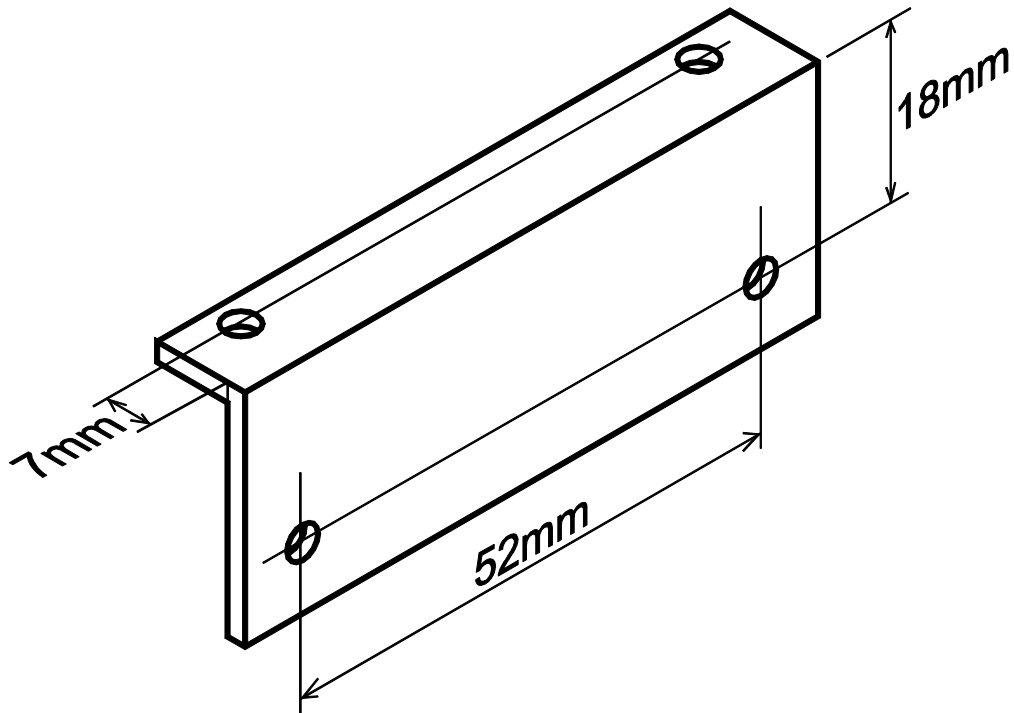


- IC1: 741
- IC2: LM3916

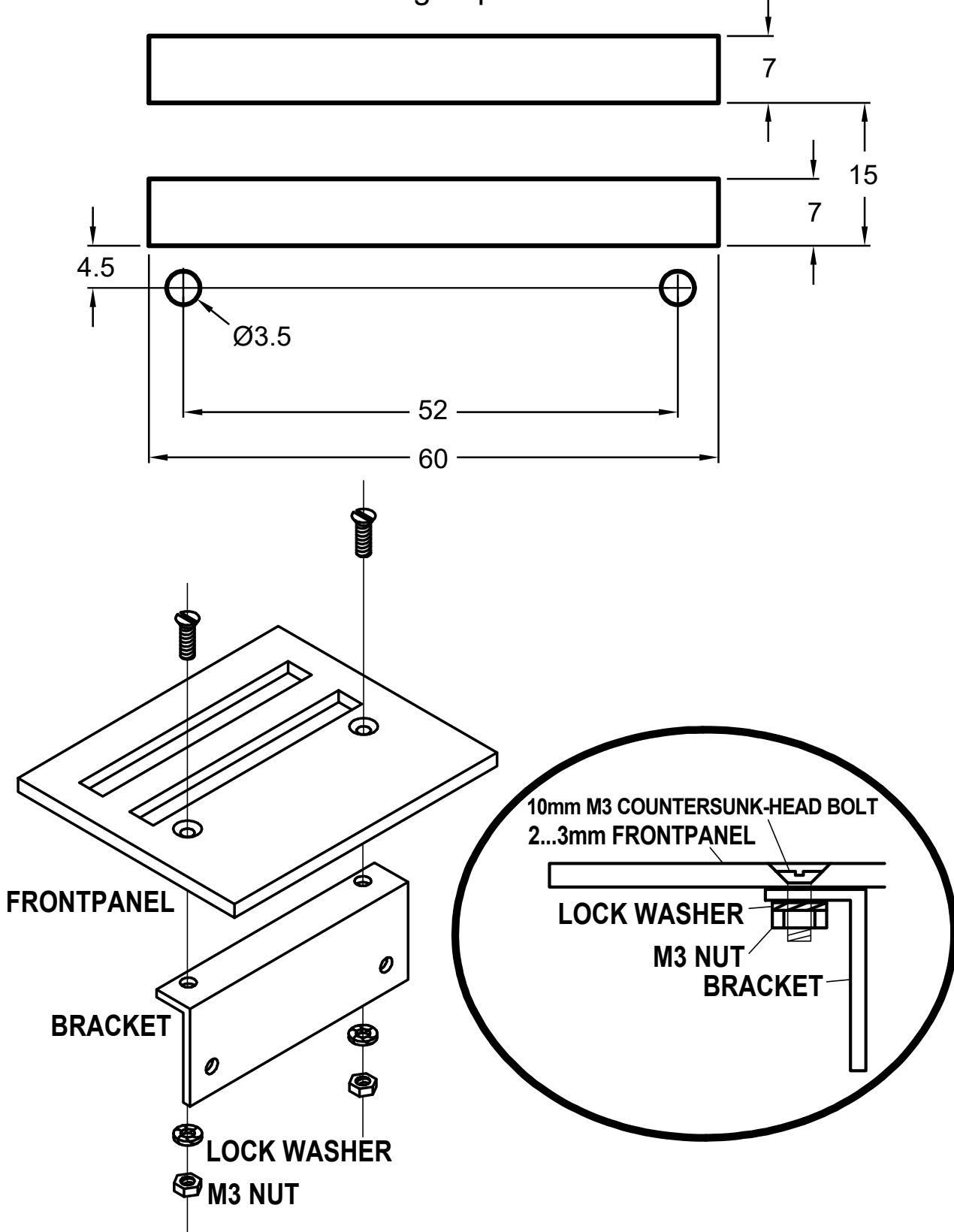
Mount the units in a suitable housing or on a suitable panel:

12. Mounting possibility:

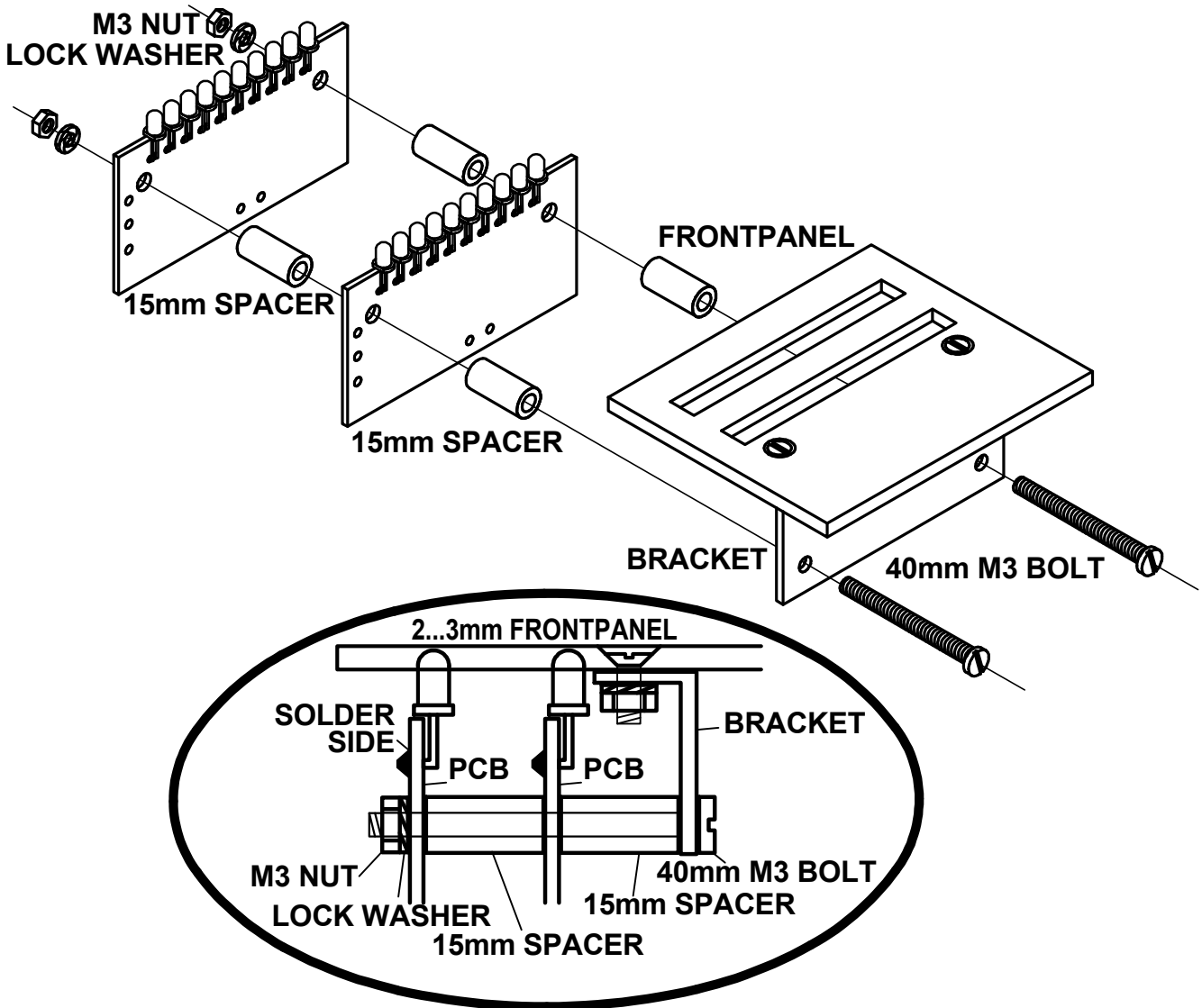
A. Make or search for suitable bracket:



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

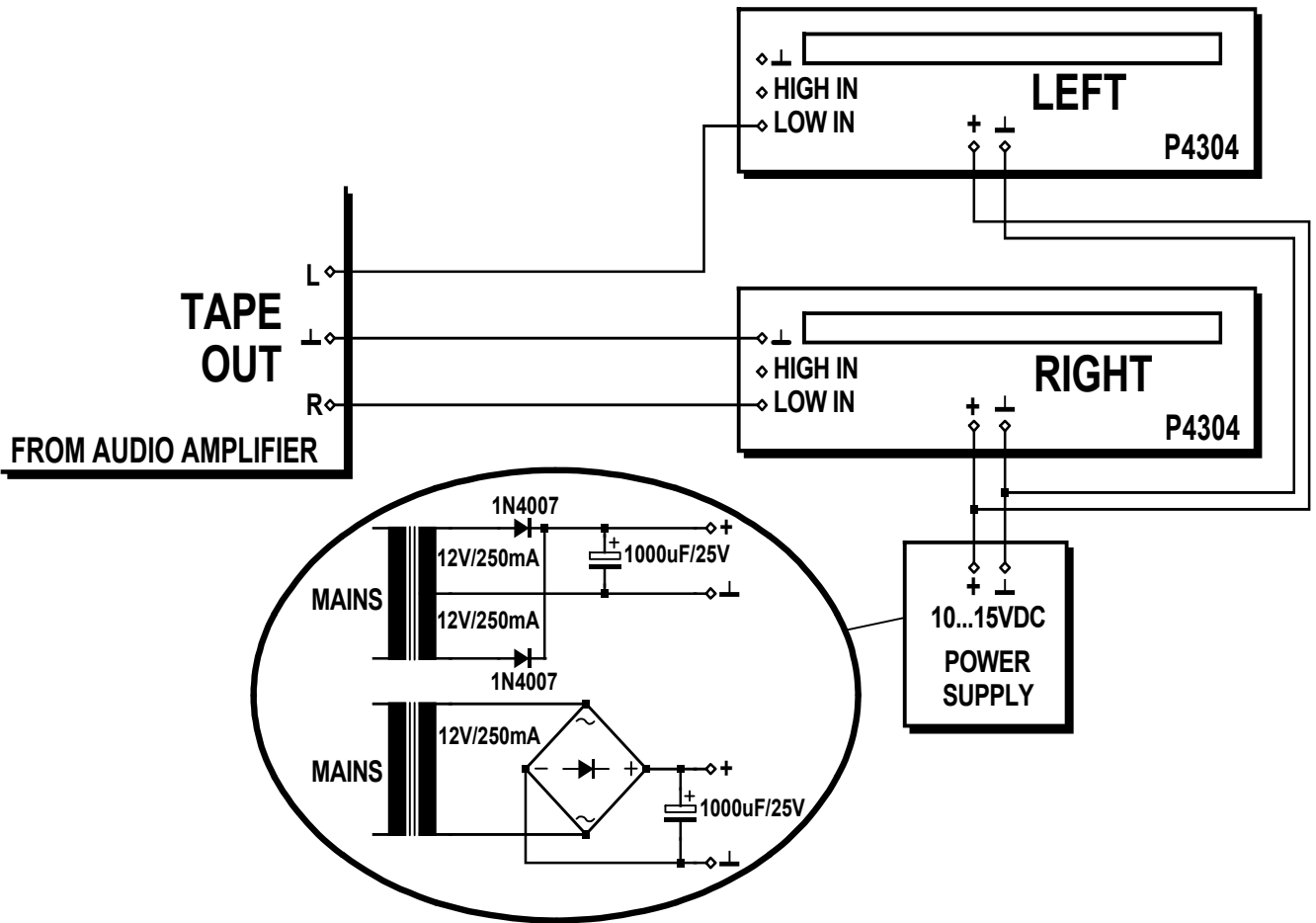


C. Mount the PCB's with spacers onto the bracket:



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

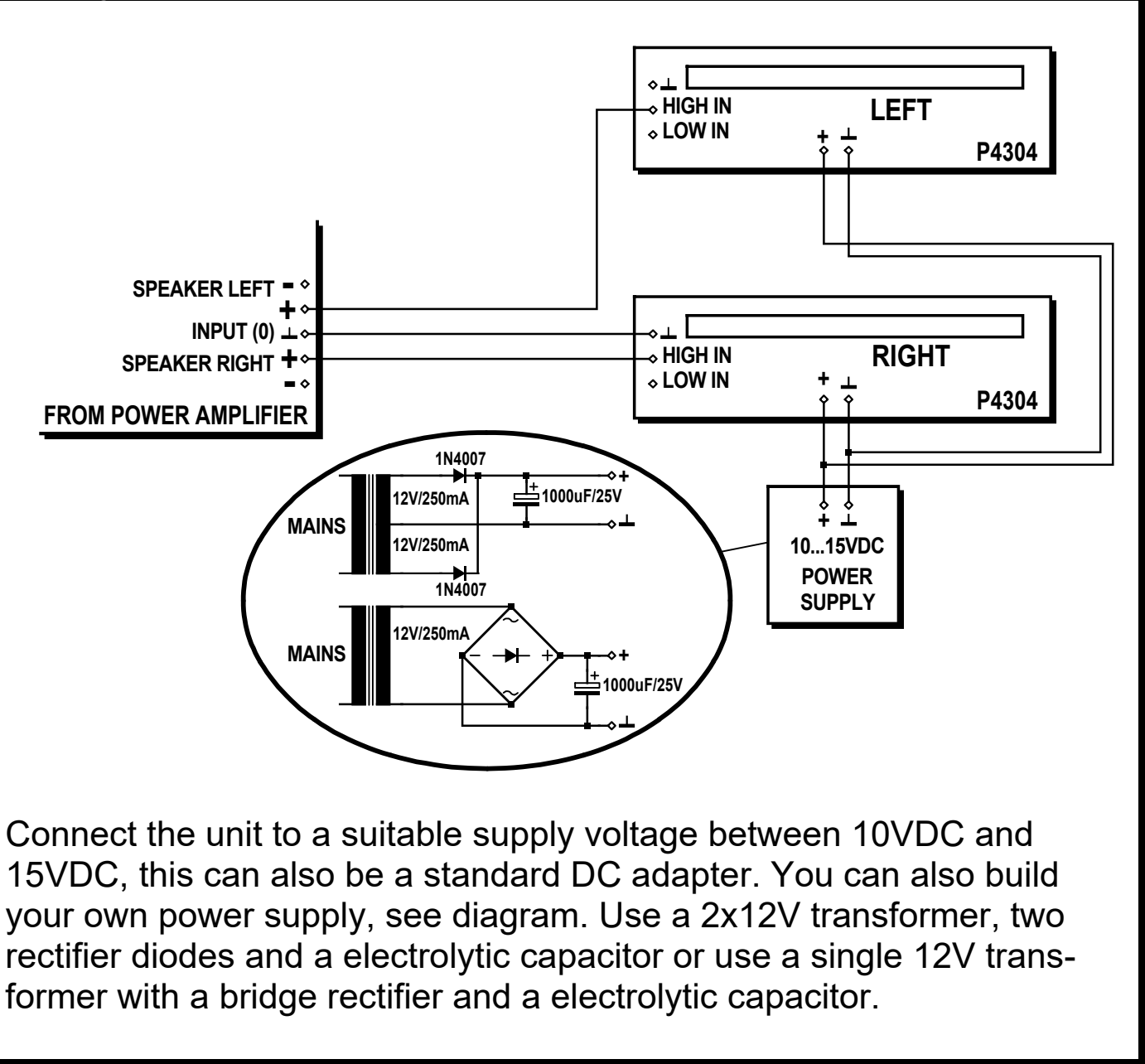
13. Connecting to a line level output (tuner, preamp, cd player...) and connecting a power supply from 10 to 15VDC / 250mA max..



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):

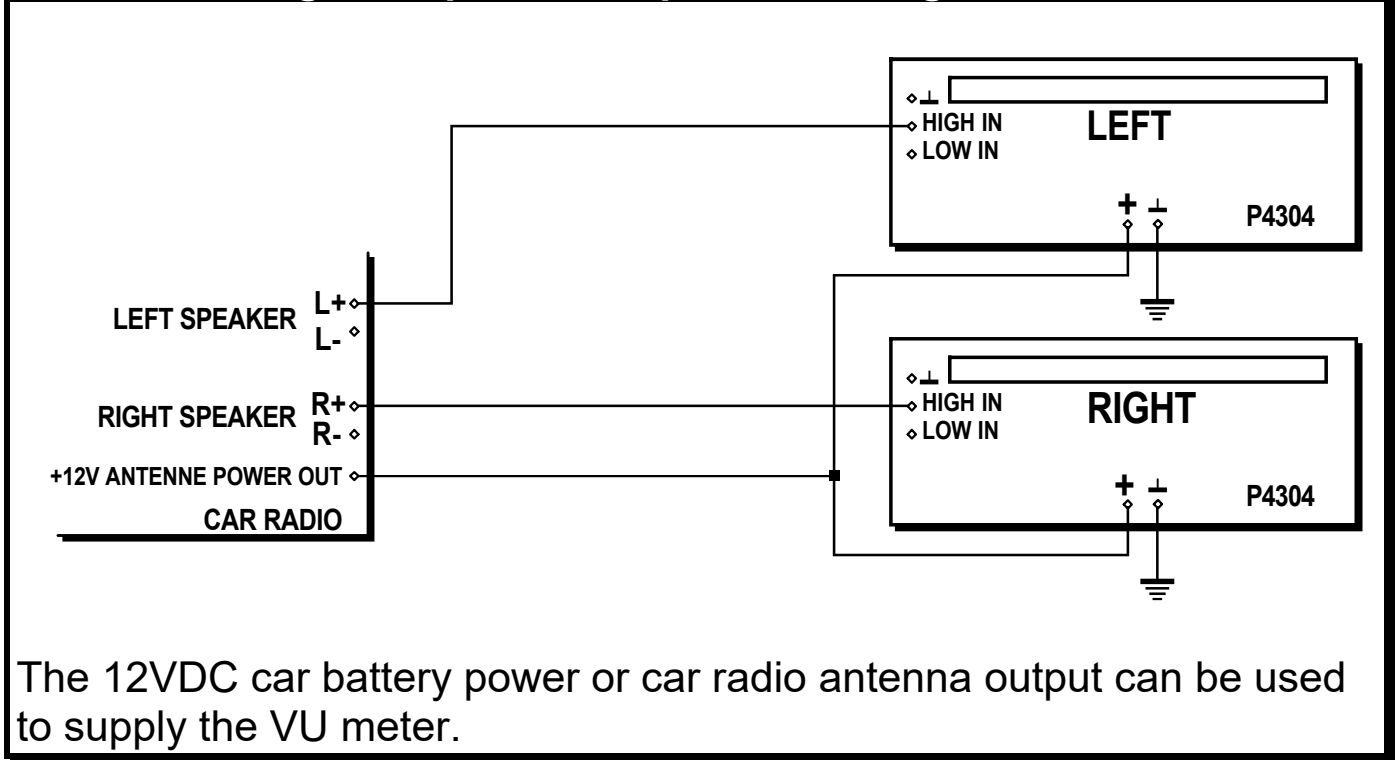
14. Connecting to a speaker level output and connecting a power supply from 10 to 15VDC / 250mA max..



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

