Lint Audio Procedures for Kits

Tools required for kits

Soldering iron or solder station

True RMS multimeter

Laptop, cables and printer

Marker pens ruler

PCB cleaning fluid and small tooth brush

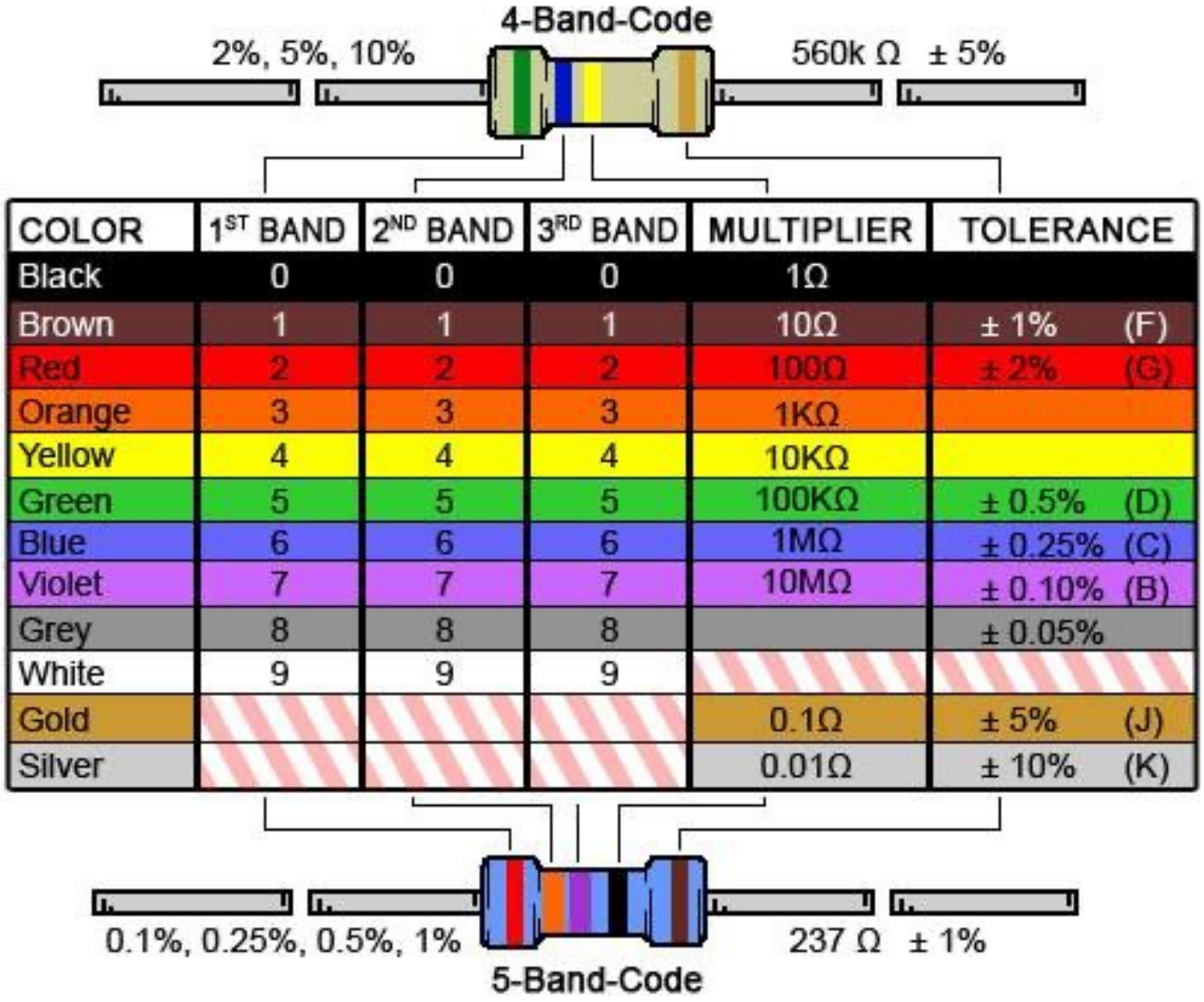
Solder and holder, solder sucker, long nose pliers, side cutters, allen keys

Small assembly vice or a helping hands

Depending on eye sight a overhead lamp is a good investment ideally a non LED but hard to find..

Clean undisturbed work area that materials can be left out.

Resistor component codes



COLOR	1ST BAND	2ND BAND	3RD BAND	MULTIPLIER	TOLERANCE
Black	0	0	0	1Ω	
Brown	1	1	1	10Ω	± 1% (F)
Red	2	2	2	100Ω	± 2% (G)
Orange	3	3	3	1KΩ	
Yellow	4	4	4	10KΩ	
Green	5	5	5	100KΩ	± 0.5% (D)
Blue	6	6	6	1MΩ	± 0.25% (C)
Violet	7	7	7	10MΩ	± 0.10% (B)
Grey	8	8	8		± 0.05%
White	9	9	9		
Gold				0.1Ω	± 5% (J)
Silver				0.01Ω	± 10% (K)

If in doubt, always check values with a multimeter

Capacitor codes

VALUE		CODE
10 pF	=	100
100 pF	=	101
1000 pF	=	102
.001 µF	=	102
.01 µF	=	103
.1 µF	=	104

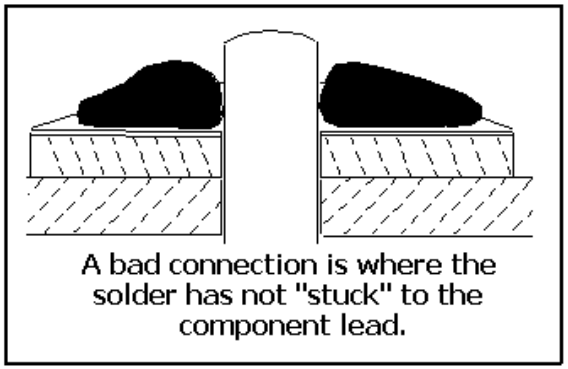
MULTILAYER (270 pF)

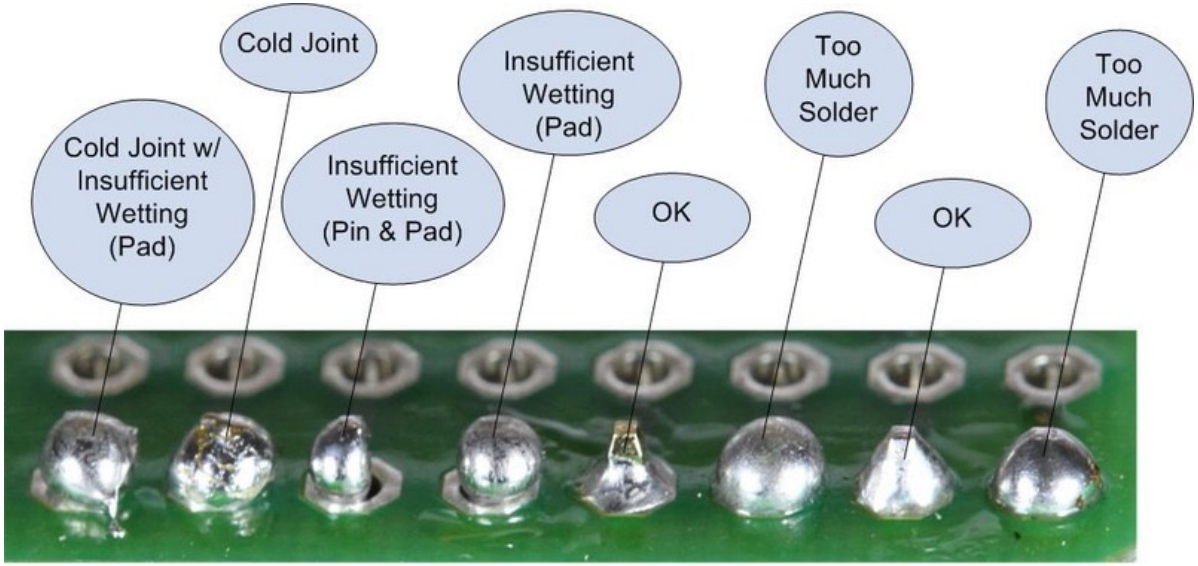
CERAMIC DISCS (.001 µF) (0.1 µF)

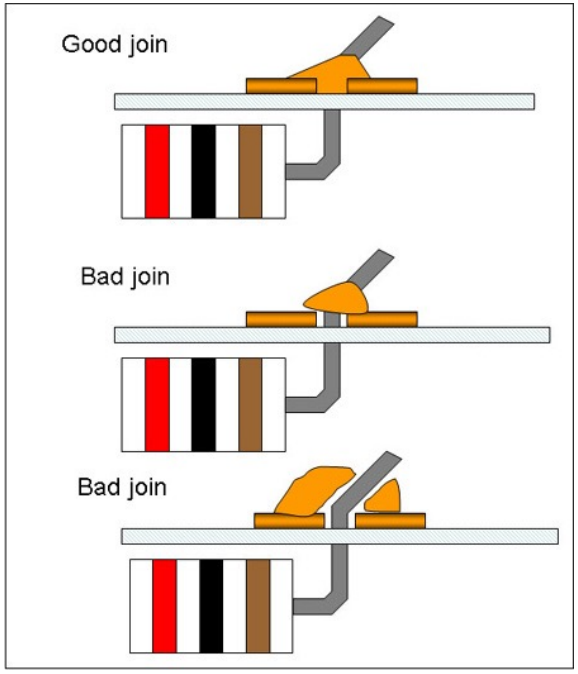
ELECTROLYTIC 1 µF

Power and output capacitors are polarised electrolytic, the device is marked and the long leg is always the positive

Soldering with examples of a dry solder joint





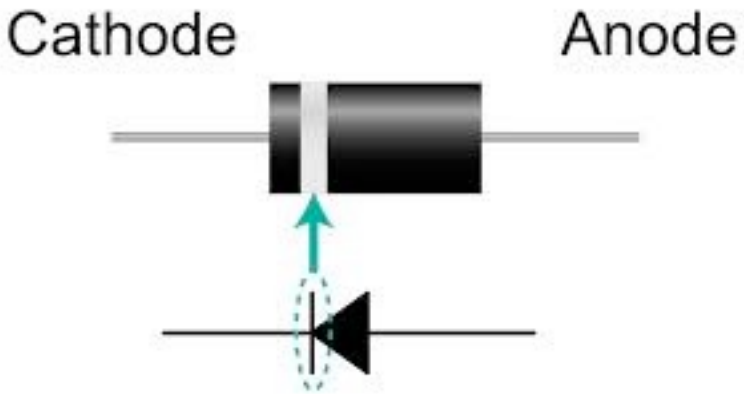


Always ensure that the joint is not moved whilst cooling, this will cause a matt finish. A shiny joint will be correct joint.

Please ensure that you use a fine tipped soldering iron

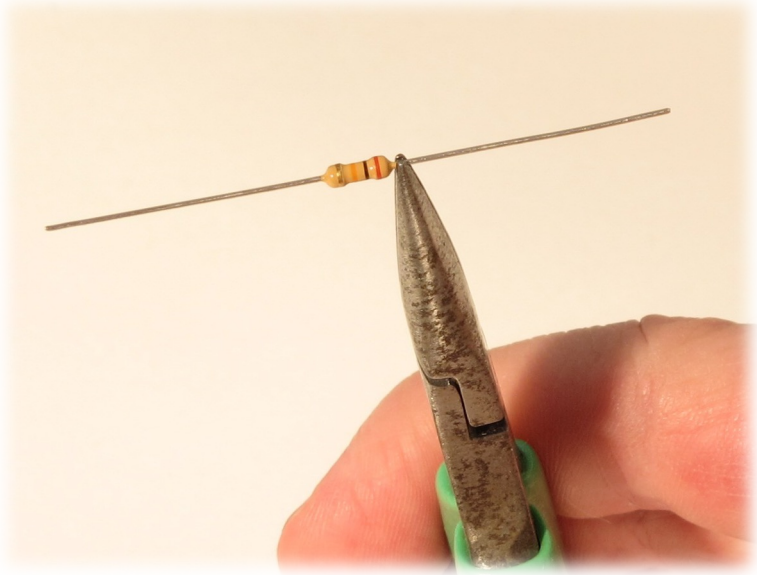
DO NOT OVERHEAT JOINTS WHEN SOLDERING

Diode mounting



Always ensure a diode is correctly Inserted to the PCB or the system will not work.

Bending a component lead

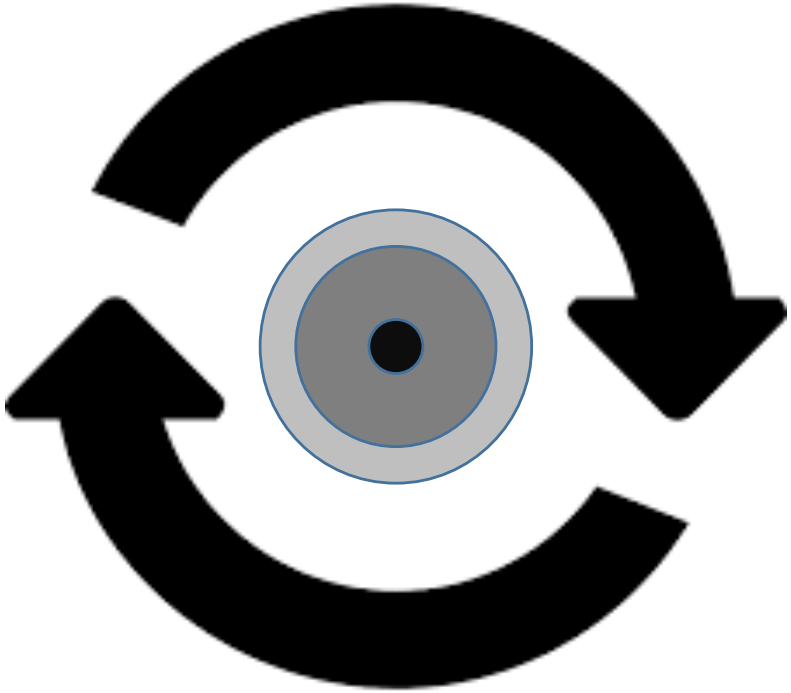


Take care when bending a component lead not to damage the “die” of the component.
Always use pliers to prevent undue strain on the die.

Inserting Vacuum tube (Valve)

The Lint Legend is supplied with either a NOS (new old stock) or new 12au7 Vacuum tube (valve) whilst the units have been fully tested at our works with a few hours usage. The design is PURE ANALOGUE and will not perform to expectations without a run in time.

After approximately 40 hrs expect that smooth rounded experience that only the valve technology will be able to provide.



The tubes should only go in one way, and this you can figure out by a missing pin

Push the tubes down with some force, ever so slightly rocking the tube back and forth, or in a slightly circular motion. This is where the name "tube rolling" came from.

You may think you are using too much force for a little glass tube, but the tubes will slide into their sockets before they break under your force.

Part 3

Kit assembly

Introduction

It is expected that the kit builder has some soldering experience. The kit is level 2.

Always use a fine tipped soldering iron. It is not advisable to use a heavy industrial unit. Use fine solder when assembling.
It is expected that the builder has a knowledge of basic electronic components, layouts and tools.

A smartphone will aid in determining left and right headphone connections when connecting. Download a "left and right" app from a app store as this makes it very simple to set the correct output when assembled.

Benzine and a small toothbrush will be required to clean the solder flux residue from the printed circuit board when complete.

The kit is supplied as a complete package, the assembled kit works and has been in service. It performs to expectations.

The power supply and valve are not supplied. Soft solder is not supplied.

When assembling, ensure that components are not overheated by poor assembly equipment.

Completed units are available on request.

When using soft solder, always wash hands before consuming foodstuffs, avoid contact with lead and other corrosive materials

Starting assembly

Firstly, we are humans at Lint Audio, so we can and often do make mistakes !

So start by reading both the drawing and overlay.

To identify the parts in the bags against the drawings. Let's make some tea, browse the packs (don't open them)

Then the cabinet assembly and its fastenings, if you want to paint, at this stage a great time to do it so its ready for final assembly.

Painting the chassis and its panels are discretionary and laser edges are provided to aid masking.

Notes on painting

Only clean the panels with soap and water

Always use a acrylic based paint or Painters touch "paint for plastic"

De burr the panels after painting as the burred edges prevent paint flow. Only use good masking tape and remove while still tacky. Use a sharp craft knife to remove the panel burrs. Hold the knife at right angles to the panel.

It is not a good idea to paint over laser etching.

With all materials laid out separate the key materials.

Resistors, capacitors and mounting hardware.

PCB assembly complete

Review your work and double check against the schematic, its hardwork to fix simple mistakes later

Next stage to prepare for the assembly jig. This allows the heat sinks to align properly as well as required to position the regulators and mosfets to the PCB correctly.

Now test the Input 3,5 mm and RCA input and outputs

Firstly lets confirm that the 3,5 mm input is playing music !
Plug a audio source to the RCA input and headphones. The headphones switch the output RCA sockets off.

If you are rocking the daisies, now to check your attenuation calculations.

To do this we need a variable frequency generator, no problems…

You can download a suitable on line frequency generator, this will give you a very nice feel for your work so far.

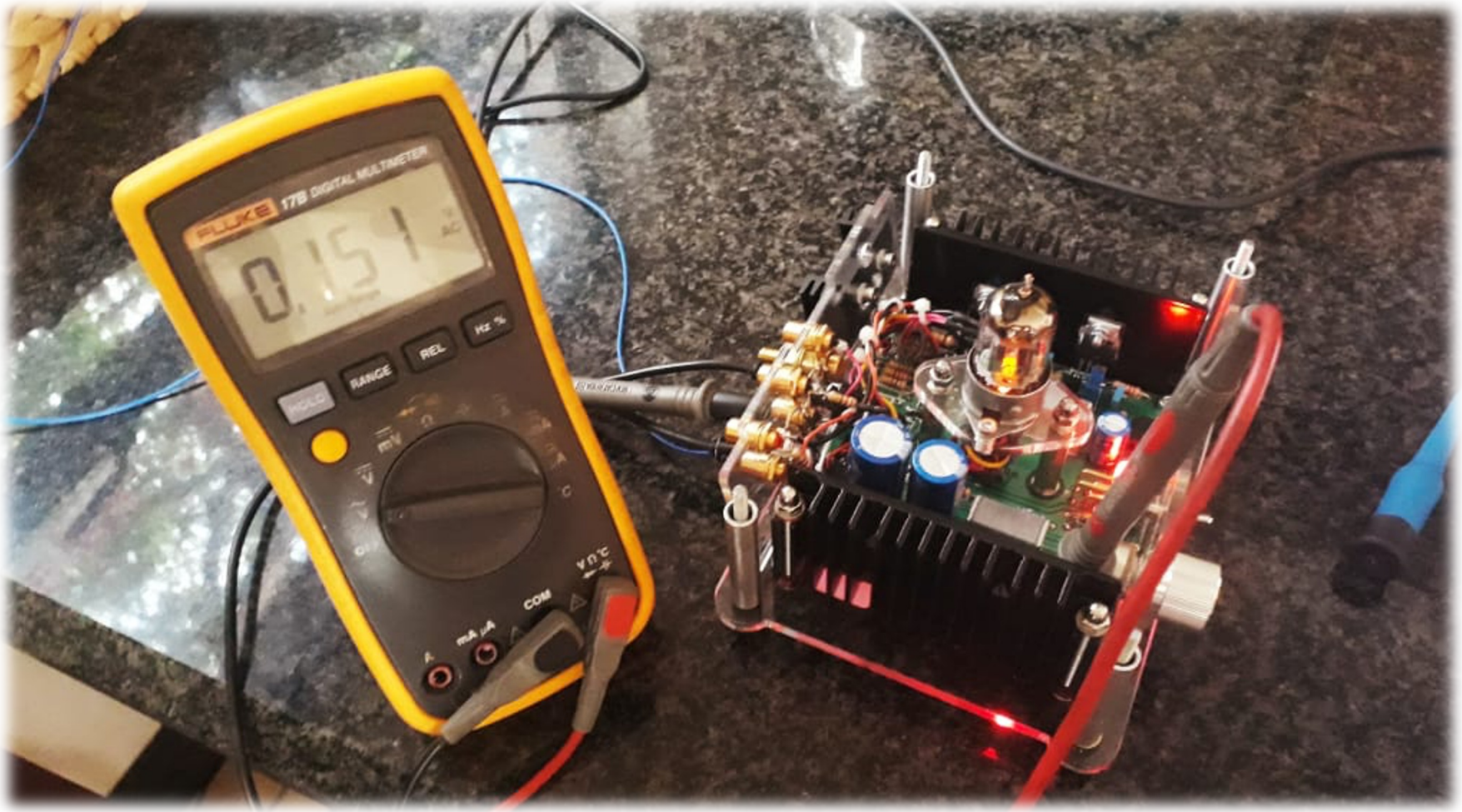
Load this site which will give you a nice system.

https://onlinetonegenerator.com

You can set to 1000hz firstly and adjust the input to 150 mv using a multimeter

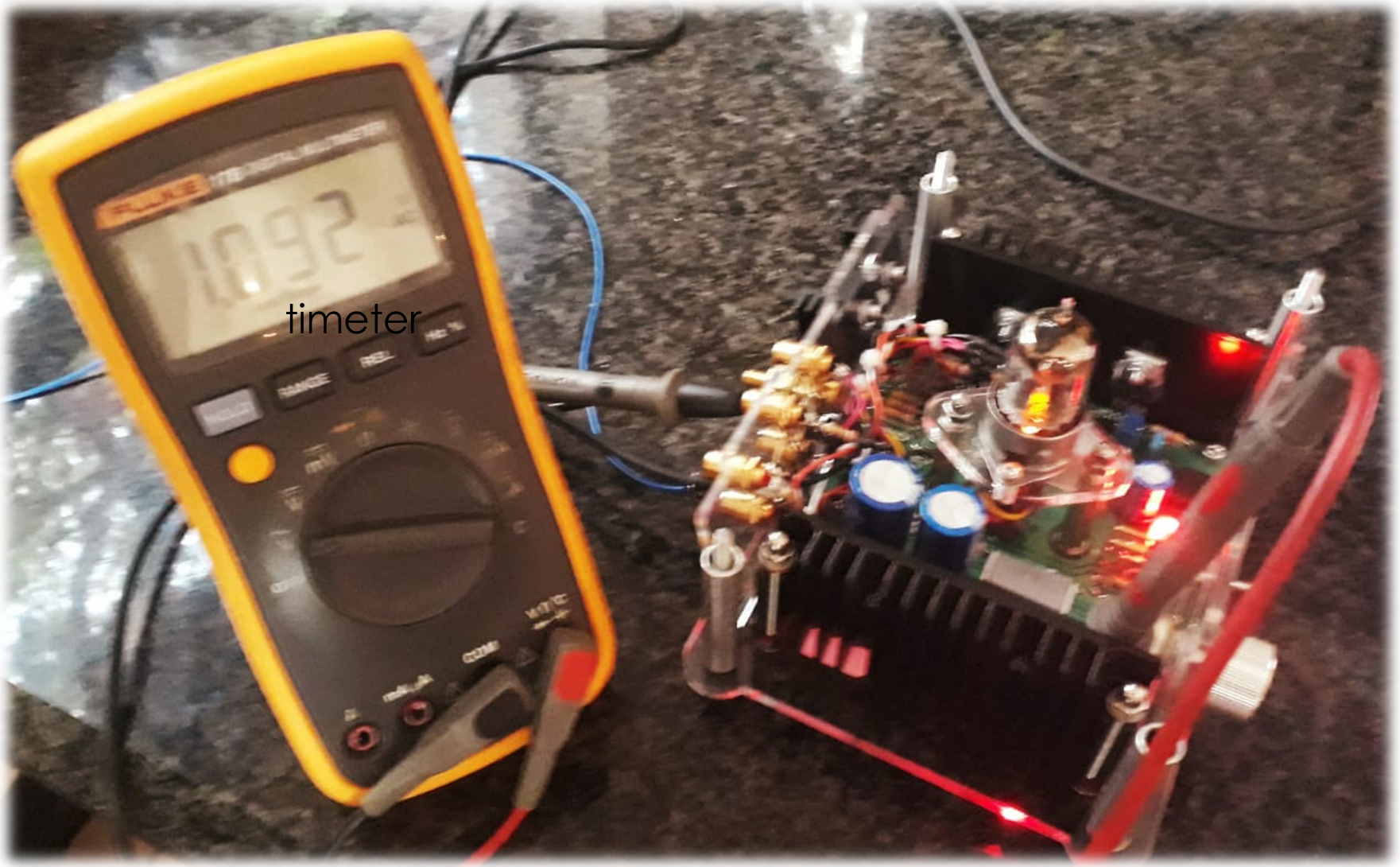
Plug the ground to PCB ground and then by using the 3,5 mm jack input Insert the probe in the RCA input to obtain 150 mv.

Check input to 150 Mv at 1000hz (each channel)



Check output level at max volume setting

Check both gain settings to confirm what is your requirement



For further information contact

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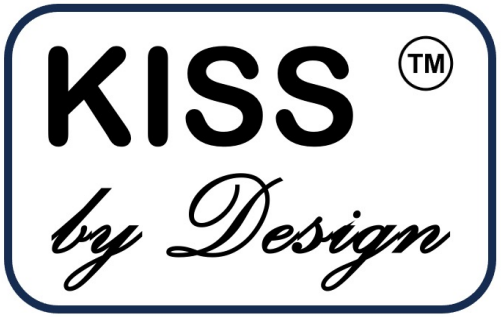

Lint audio also make valve monoblock amplifiers, phono stages. Bespoke materials are made in house, transformer bells, spun torroid covers, leather transformer boxes.

All cabinets are powder coated for durability.

All UK production use aluminum chassis.

Join us on Lint Audio UK kit builders