

Before we jump right into it, I want to turn towards the basics one more time. If you are already experienced and already know how to measure etc. you can skip this page and go straight to the next one. If you are new to DIY, this can hopefully help you to get going:

## TOOLS

Obviously some tools are needed in order to build your own studio gear. Some of them are absolutely essential while others are nice to have. Here's my recommendation:

### Essentials:



- **soldering iron**, adjustable temp. recommended
- **solder**: for most tasks I'd recommend a 1.0mm "Sn60 Pb40" or a "Sn60 Pb38 Cu2"
- **wire clipper** and **electronic pliers**
- **digital multimeter (DMM)**
- **screwdriver** and **spanners** to mount the hardware

### Nice To Have:

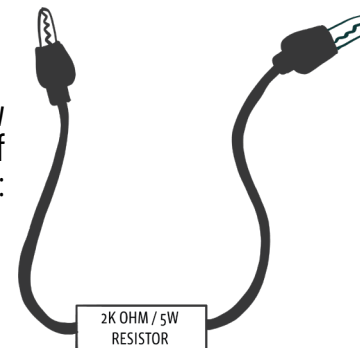


- **strip-off pliers**
- **desoldering pump**
- **more electronic pliers**
- **alligator clip wires** (+ alligator clips for your DMM)

### Good To Do:

Follow this link to learn how you can easily build yourself a capacitor discharging tool:

[CAP DISCHARGER DIY >](#)



## HOW TO:

### Measure the voltage in your project:

Set your Multimeter to read AC or DC voltage. Connect the black probe to ground (use one with alligator clip here, so you don't have to focus on two probes at the same time).

Measure with the red probe. **Focus** - slipping off and causing a short can damage your gear!

- **PSU before the rectifiers: AC**
- **Tube heater supply (H+) and audio signal: AC**
- **B+ voltage after the rectifiers: DC**

### Solder and start with electronics:

[GREAT TUTORIAL ON SOLDERING AND BASICS >](#)

### Discharge a capacitor:

Either connect your DMM across both legs of the cap to be measured or connect the black probe to ground and the other one to the positive side of the cap. Connect your cap discharger across both legs of the capacitor until the voltage is down. Again - alligator clips come in handy here.