

## JUMA PA1000 PA Voltage Control Modification 2016-09-07

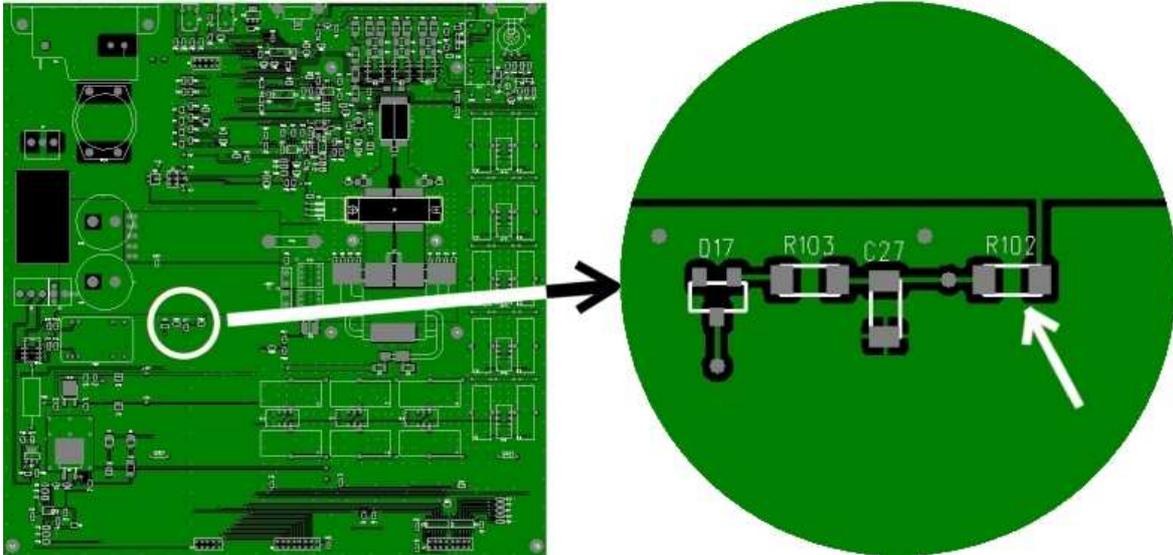
JUMA PA1000 firmware versions from V1.13 support PA voltage control. The purpose is to optimize the efficiency. The options are High and Low. You can select Low PA voltage for CW operation and for reduced power operation on all modes below 700W. **This is an optional modification for heavy use and it is already factory implemented starting from serial number S/N 2016025.**

PA voltage control is not supported in the hardware of serial number S/N 2016024 and before. The serial number can be found in the rear panel. The circuit was previously used for PSU noise shift with a smaller voltage change. That circuit is now used for bigger voltage change. The hardware can be modified for the PA voltage control.

Before making this modification check or update the firmware to V1.13 or newer. The firmware version can be seen in the LCD during start up. Check if your PA1000 supports PA voltage control. If the voltage change is abt 6 volts this modification is not needed.

### Modification instruction

1. Switch OFF the amplifier and disconnect the mains cable and wait at least one minute!
2. Remove top cover
  - a. Loosen the two handle screws but do not fully remove these screws (use bigger screw driver)
  - b. Remove four top cover screws located on the sides
  - c. Take off top cover
3. Change SMD size 1206 resistor R102 from 2M2 => 390k in serial number S/N 2015009 and later. In earlier models change resistor to 820k. In case you need to fine tune the voltage change, lower resistor value provides bigger voltage change. Use two soldering irons or quickly heat up both ends of the resistor to remove it. Remove residual solder with solder wick and solder a new resistor.



Location of the resistor R102 on the main board

4. Switch ON the amplifier and test the voltage control with the buttons and LCD reading. The voltage should drop abt 6 volts when Low PA voltage is selected. Do not operate with the cover open, test only!
5. Switch OFF the amplifier, remove the mains cable and wait at least one minute.
6. Replace top cover
  - a. Insert top cover
  - b. Pre-tighten top cover screws. Align top to the bottom cover and tighten the screws strictly
  - c. Align the handle and tighten the two screws very strictly (use bigger screw driver)
7. Modification completed

See more in user manual [jumaradio.com/juma-pa1000](http://jumaradio.com/juma-pa1000)