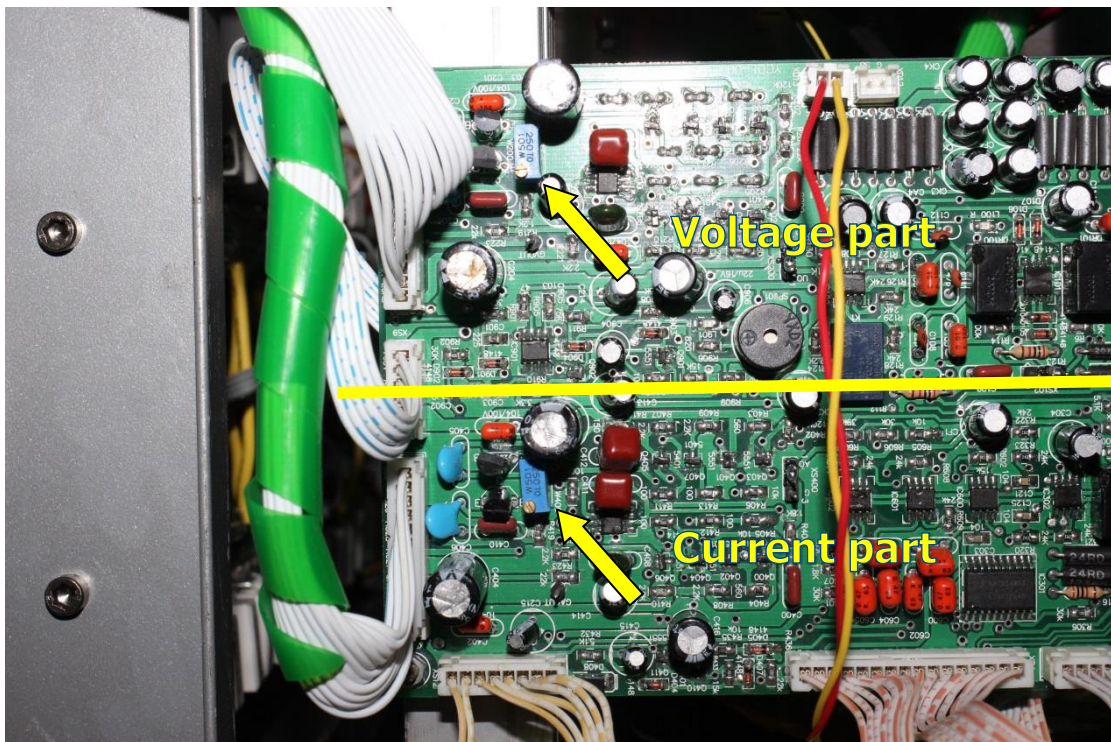


Quiescent Point Adjustment

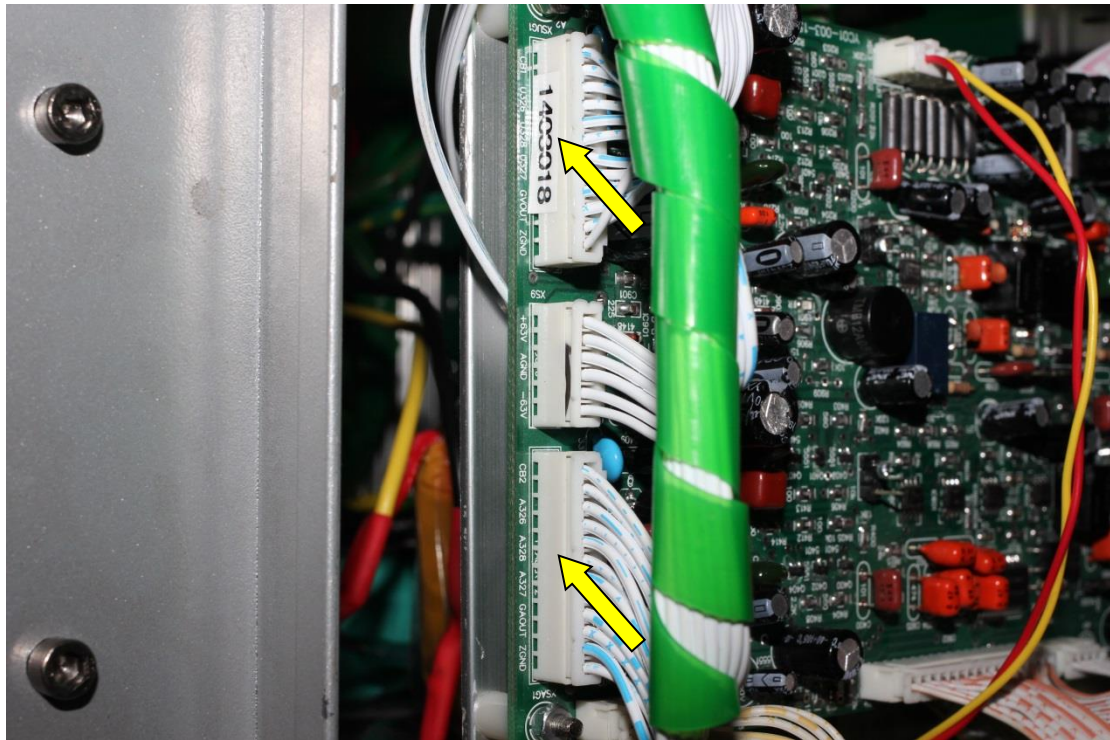
Introduction:

After changing mainboard, resetting the quiescent point is required. It is achieved by adjusting the two blue resistors in the 158 PCB. The two resistors have their own function, one for voltage quiescent point while the other is for current quiescent point. By measuring the DC voltage between the base of transistor and JD11/JD12 in the 158 PCB, you can have the reading of quiescent point.

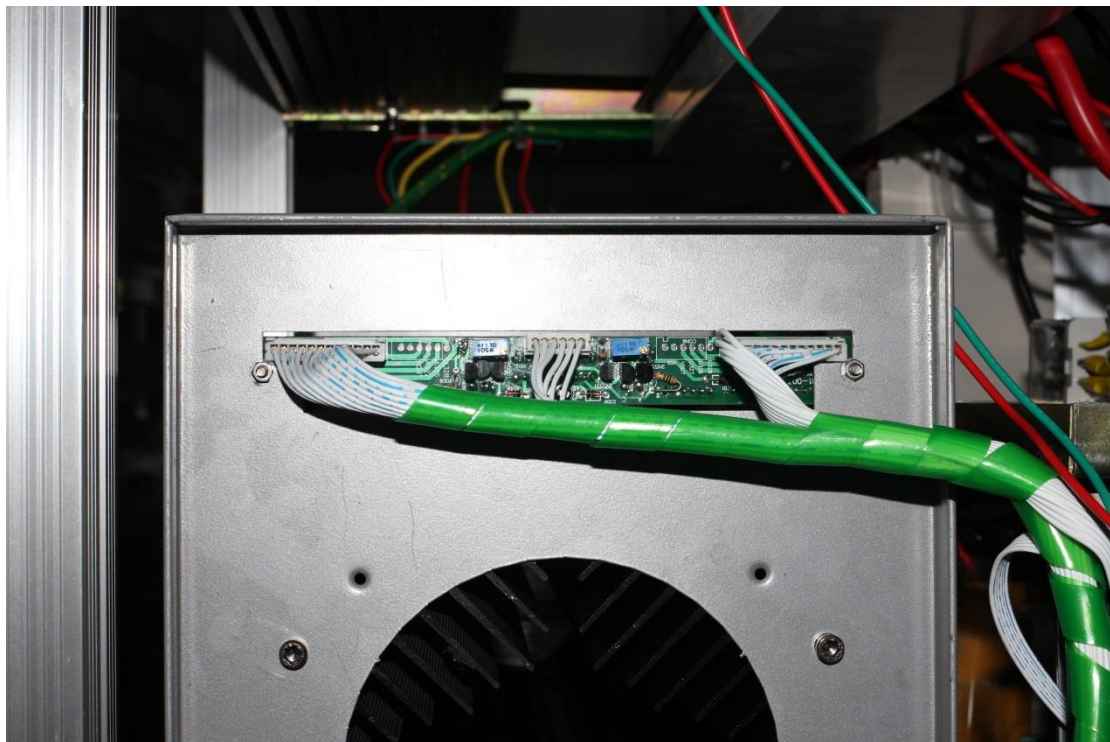
The six pictures are helping users to identify the voltage part and current part component.



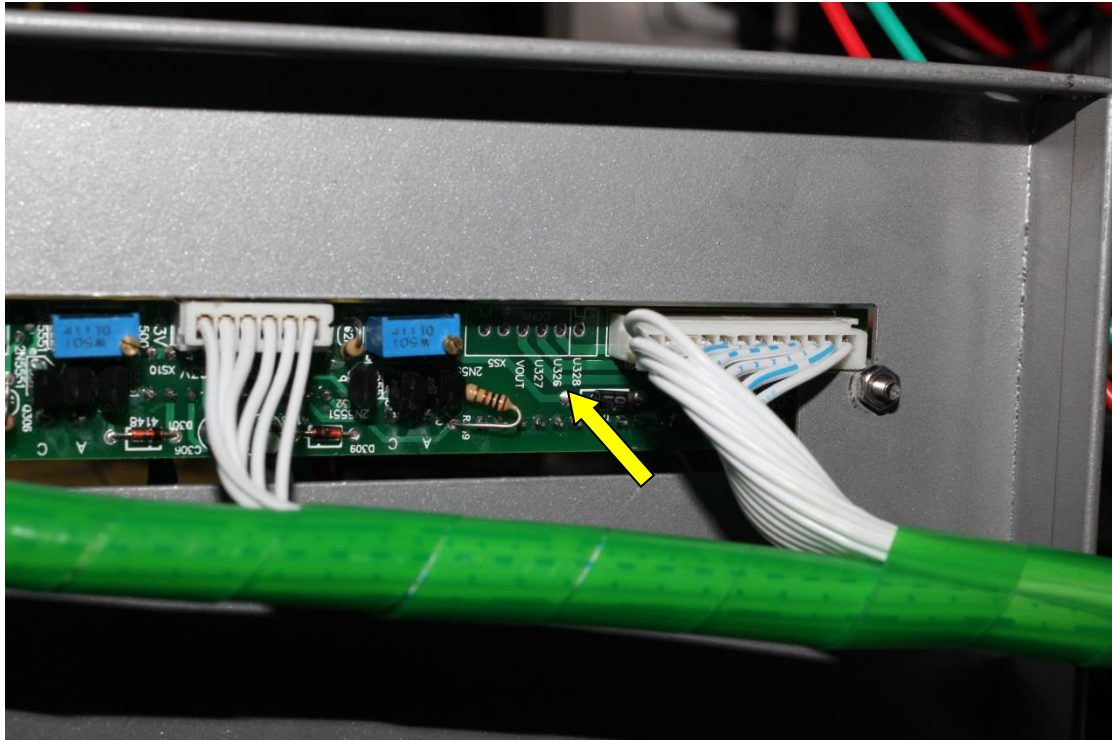
Picture 1 is showing the two adjustable resistors in the 158 PCB indicated by the arrows. Dividing by the yellow line, the upper side is the voltage part and the lower side is the current part. This is according to the marks on the 158 PCB which will show in the next picture.



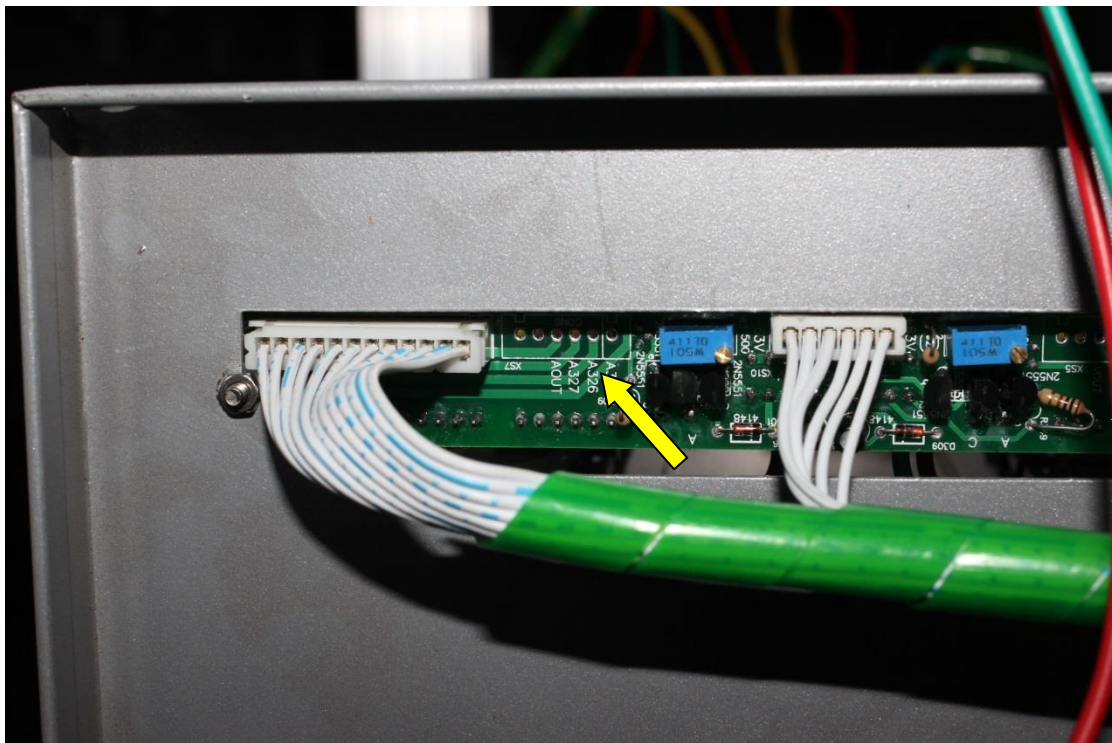
Picture 2 shows the marks, V is for voltage part and A is for current part.



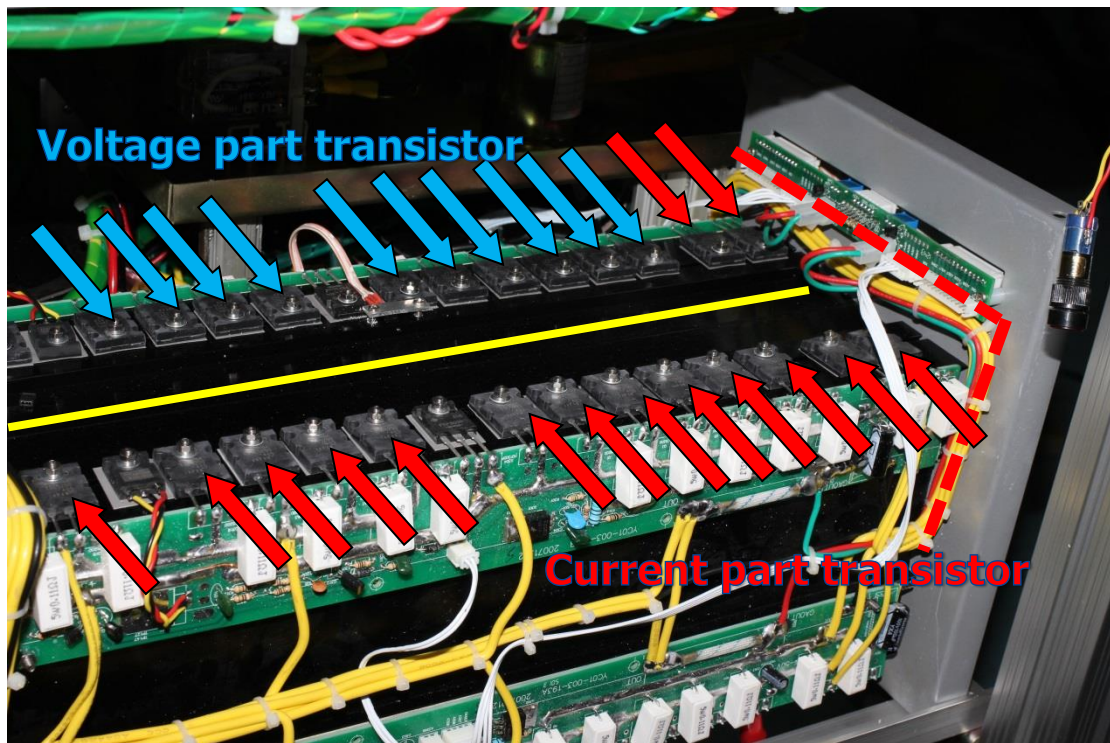
Picture 3 shows the 187 PCB on the radiator, also there are marks on the PCB to identify the function of the parts on the radiator. They are correlated to the transistor on the radiator.



Picture 4 is the mark on the 187 PCB to identify voltage part.



Picture 5 is the mark on the 187 PCB to identify current part.



Picture 6 shows the voltage (blue arrow) and current (red arrow) transistor, the upper side and lower side of the radiator are symmetric. Depending on the wiring method which high light by red dotted line, two pairs of current transistor are installed on the voltage side.

After the introduction, we can move to the adjusting processes. It includes four steps:

1. Raise the power to 22V, 1A in no-load condition
2. Find the JD11 and JD12 on the 158 PCB
3. Adjusting voltage quiescent point on the upper side and lower side of the radiator
4. Adjusting current quiescent point on the upper side and lower side of the radiator

1. In no-load condition, rise the power to 22V 1A.

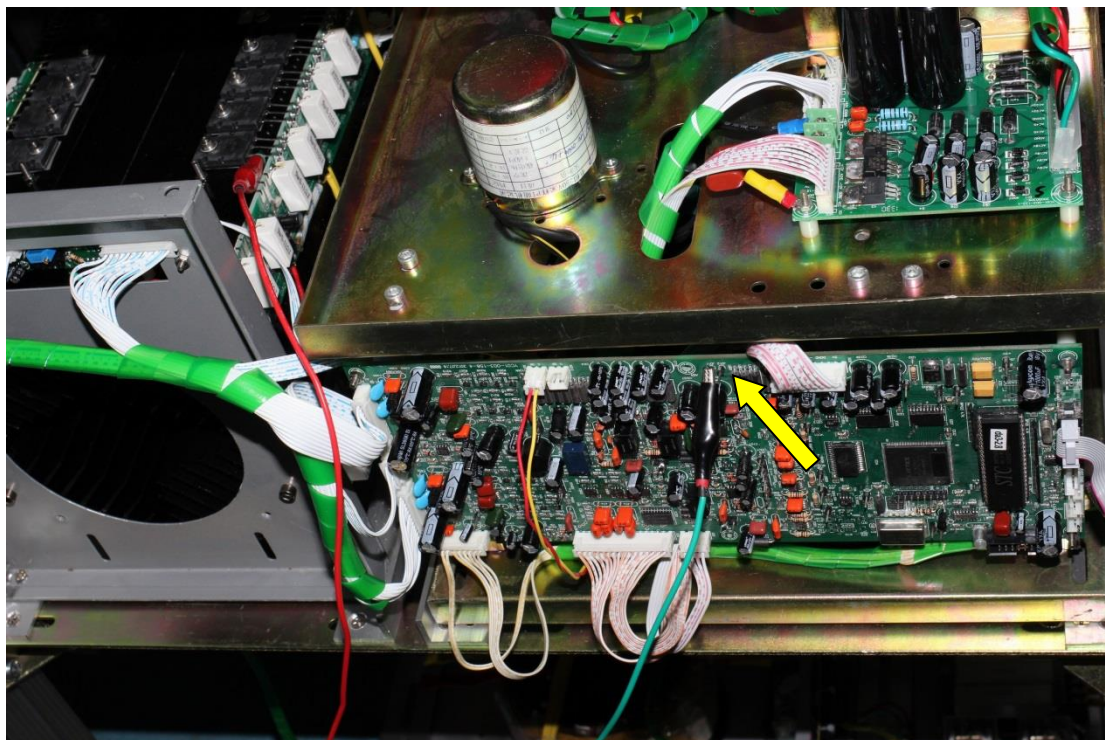
	U(V)	I(A)	P(W)	Q(var)
A:	22.03522	0.999236	22.01839	-0.01317
B:	22.14591	0.999695	22.13899	-0.08741
C:	22.06870	1.000531	22.08020	-0.09647

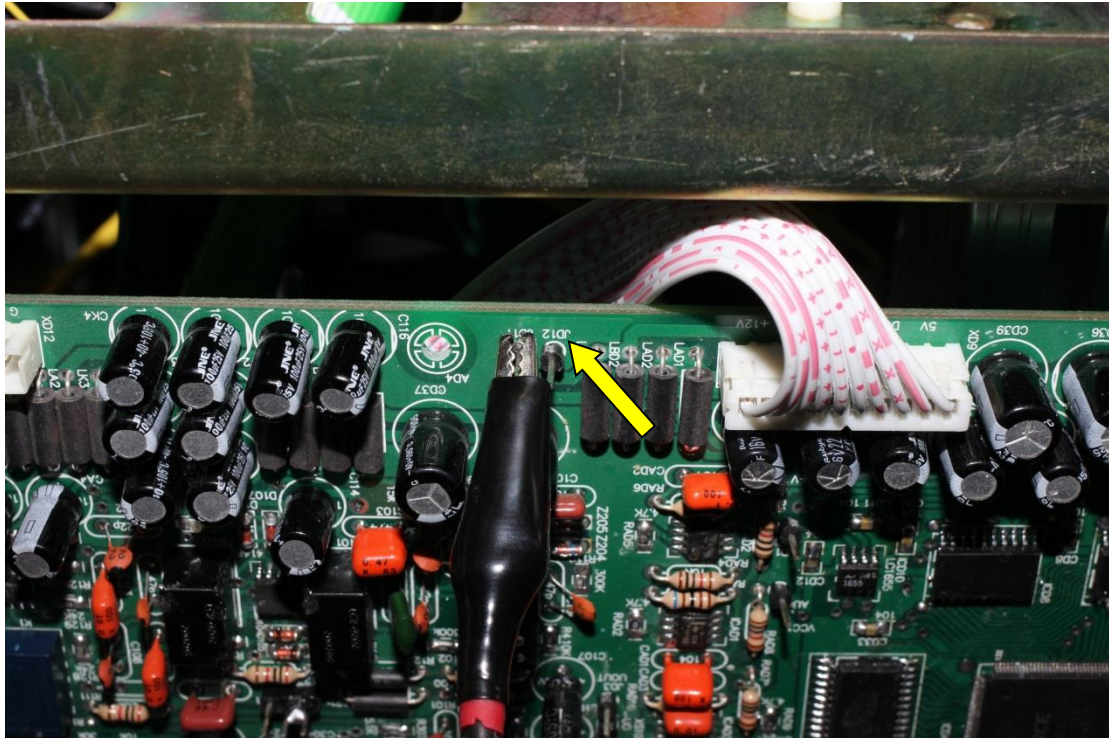
	DCI(mA)	COS	PHASE	UPHASE
A:	0.10234	1.00000	359.9657	0.0000
B:	0.10459	0.99999	359.7738	119.96
C:	0.11750	0.99999	359.7497	239.81

	Psum(W)	Qsum(var)	Ssum(VA)	COSsum
	66.23758	-0.19706	66.23788	0.99999

FEQ(Hz)	SZ-03A-K6			
49.9964	Multi-Function			
	Standard Meter			

2. Cathode of the multi-meter connected to the JD11 or JD12 of the PCB.

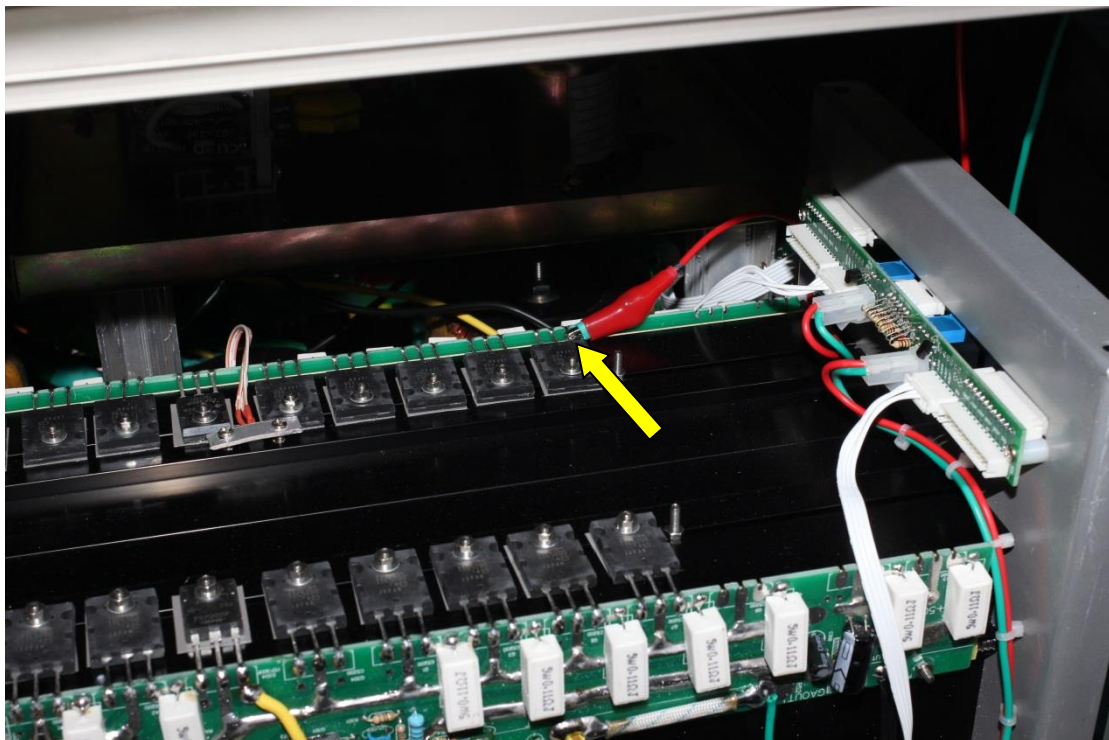


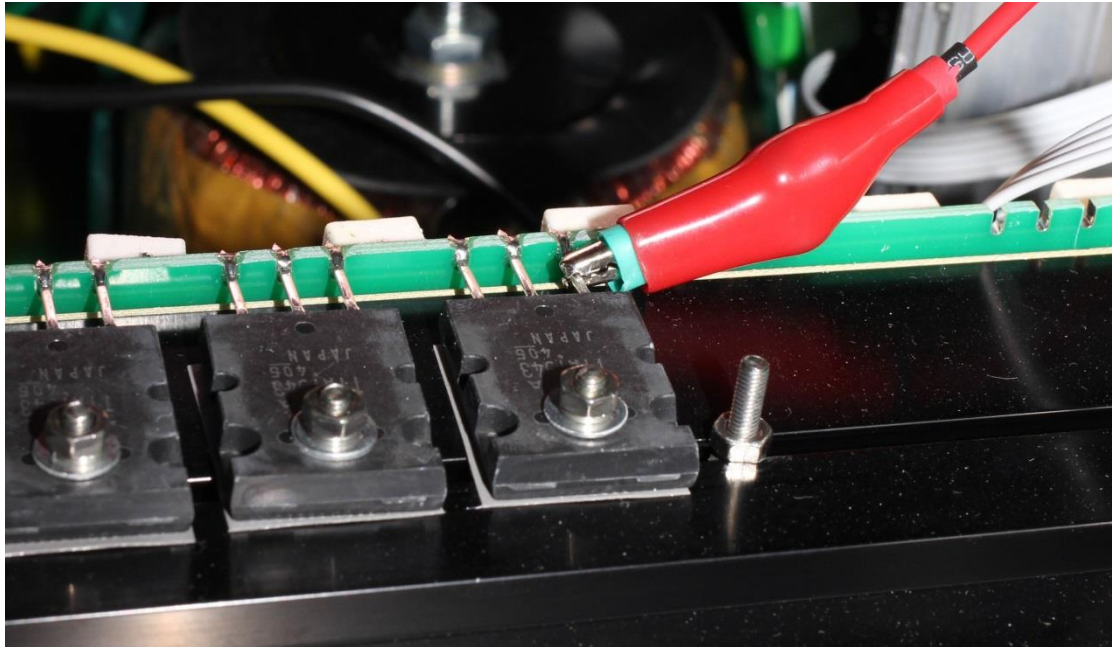


3. Adjusting the voltage quiescent point.

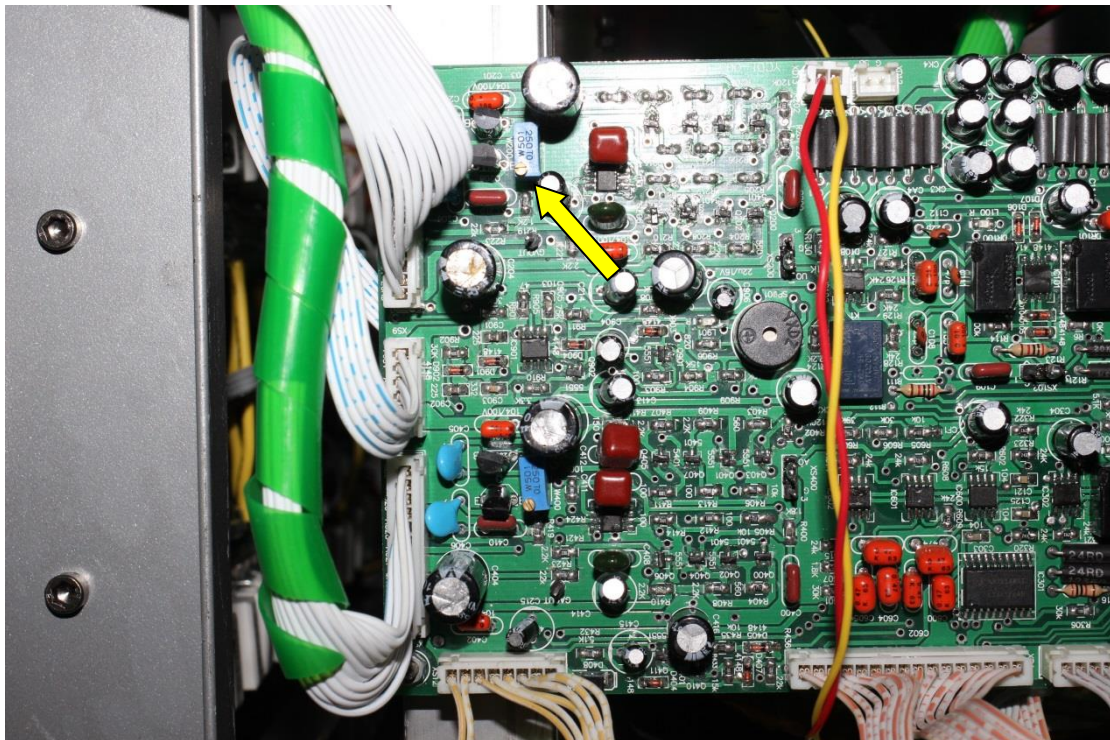
3.1 Upper side of the radiator

Anode of the multi-meter connected to the base of the voltage part transistor. In the picture, the radiator do not have current transistor installed on the voltage side.



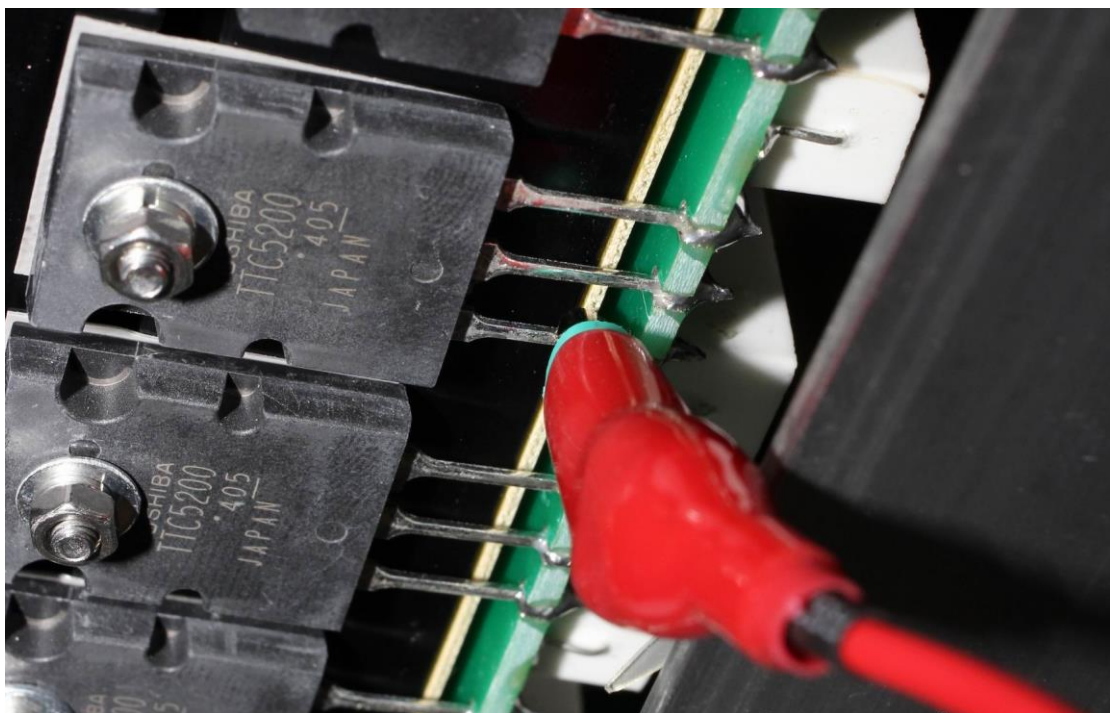
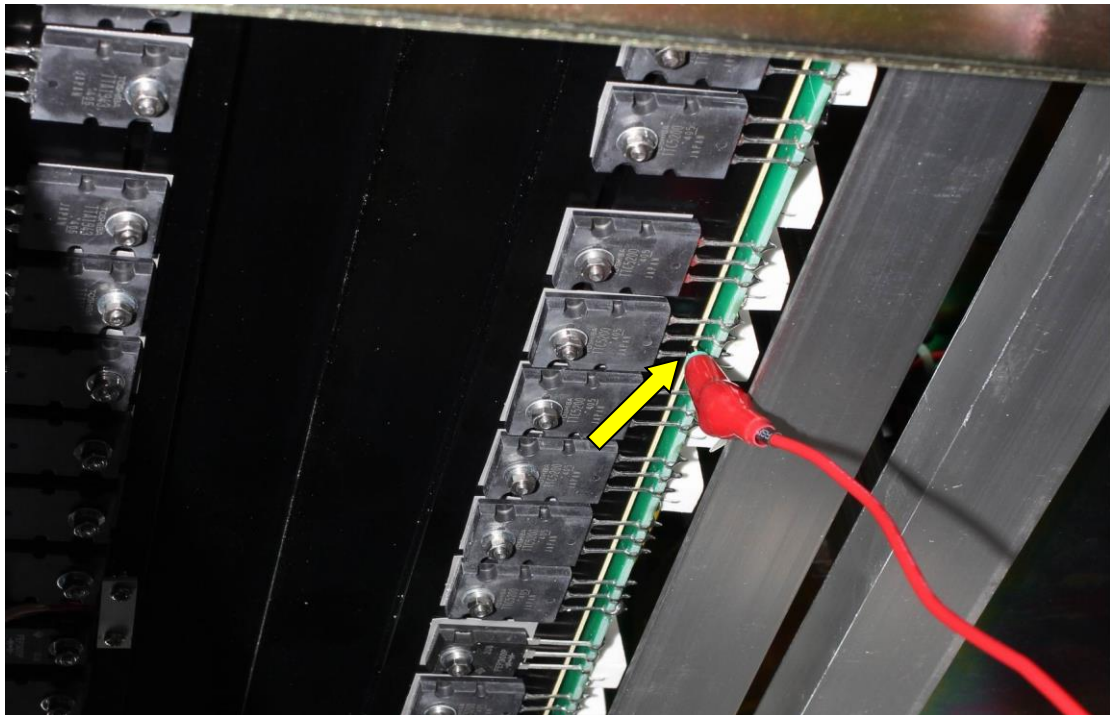


- 3.2 Adjusting the blue resistant in the picture, until the reading on the multi-meter close to $-0.47V$, do not surpass $-0.50V$.



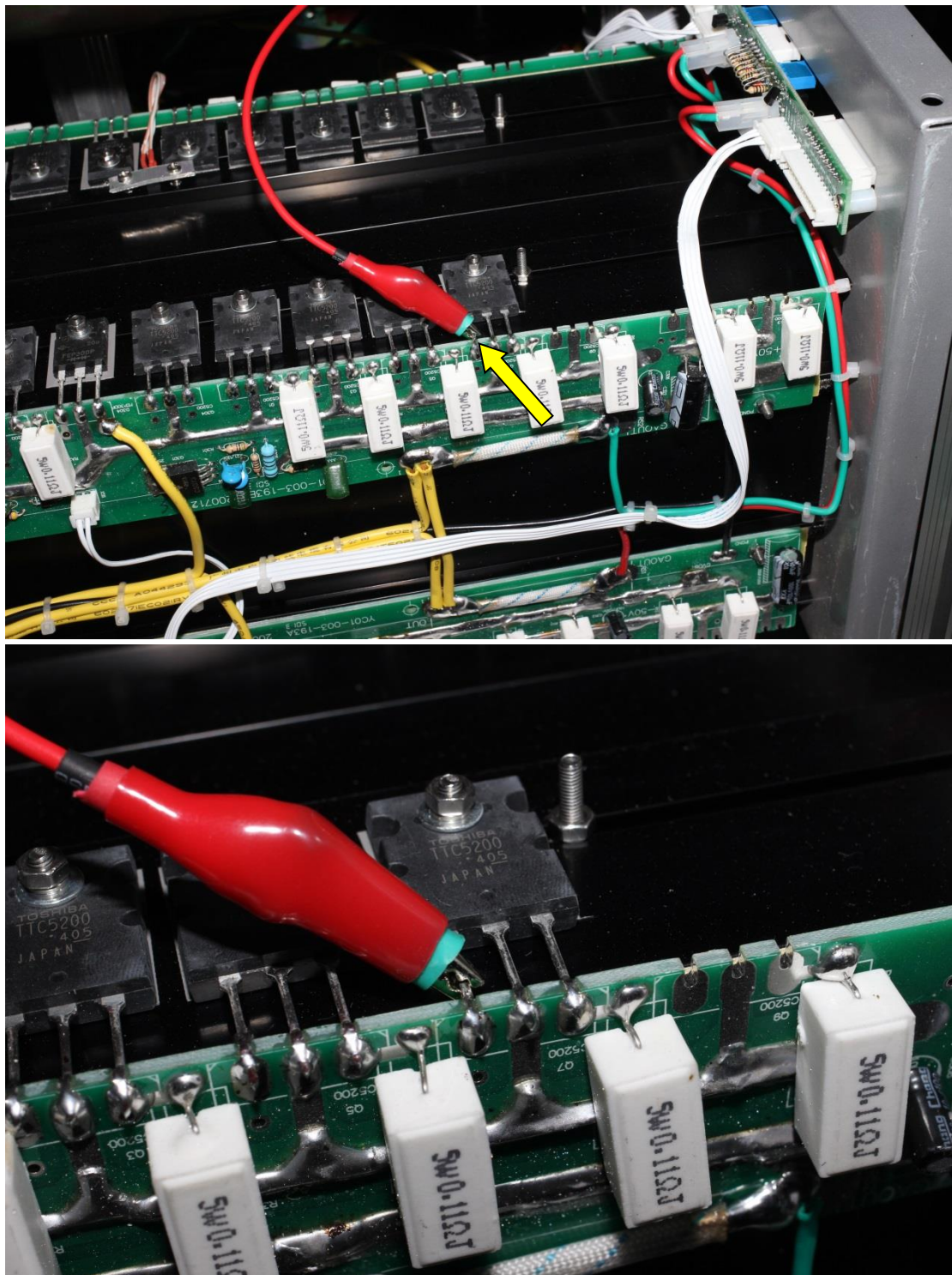
- 3.3 Lower side of the radiator

Anode of the multi-meter connected to the base of the voltage part transistor. Reading on the multi-meter should be close to $+0.47V$ and not surpass $+0.5V$. If surpassed, by adjusting the same resistant and make it close to $+0.47V$.

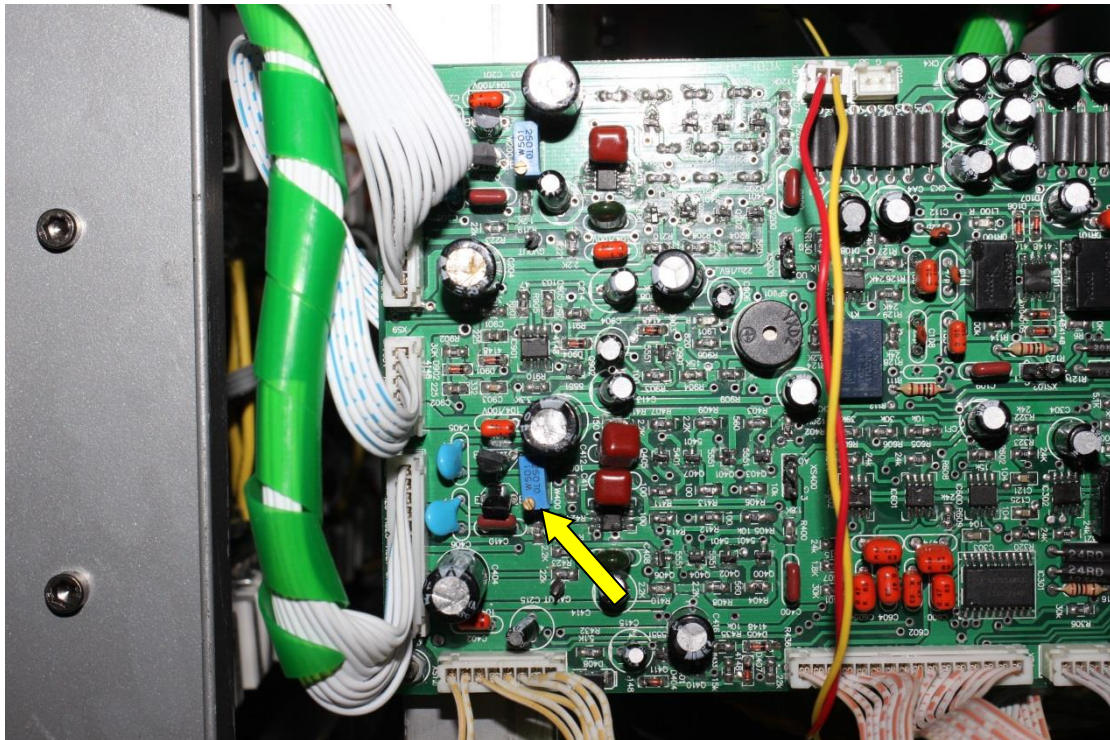


- 3.4 Double check the upper side of the radiator.
4. Adjusting the current quiescent point.
 - 4.1 Upper side of the radiator

Anode of the multi-meter connected to the base of the current part transistor.

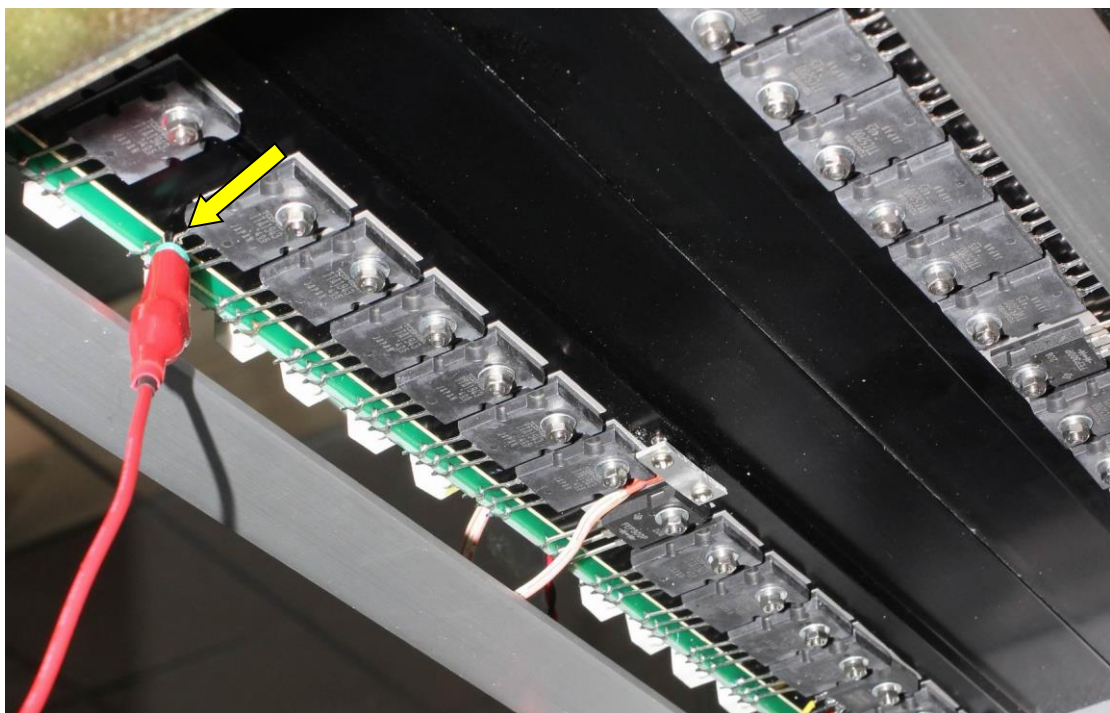


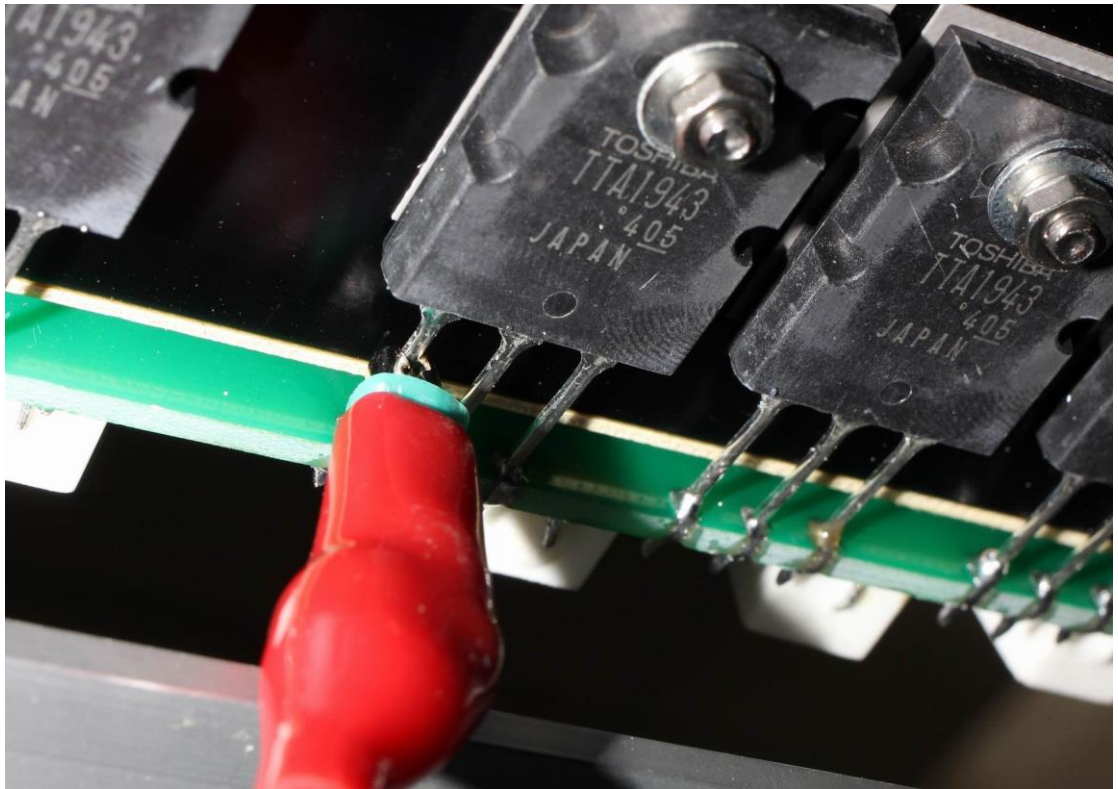
4.2 Adjusting the blue resistant in the picture, until the reading on the multi-meter close to +0.47V , do not surpass +0.50V.



4.3 Lower side of the radiator

Anode of the multi-meter connected to the base of the voltage part transistor. Reading on the multi-meter should be close to -0.47V and not surpass -0.5V . If surpassed, by adjusting the same resistant and make it close to -0.47V .





4.4 Double check the upper side of the radiator.

The end