Checklist after service of PLM

PLM 20000Q

TS20000DP

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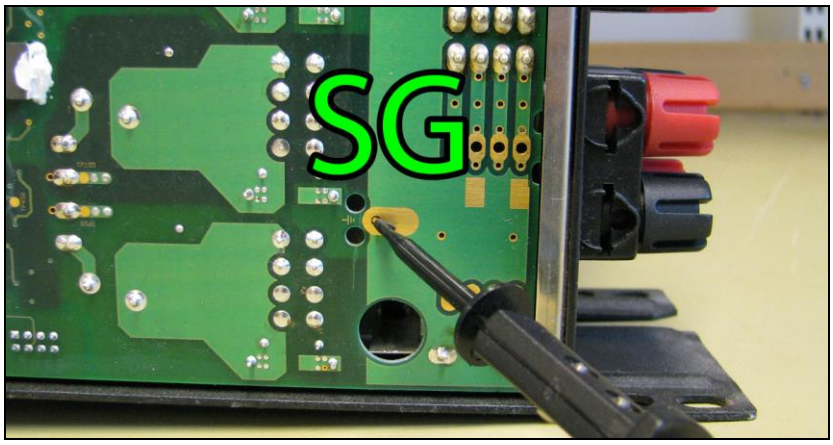
1 Introduction

This checklist shall be used to make sure the amplifier is always checked in a proper way after service has been done. It is important to follow the steps in this check list and check all points so that the set up of parameters in the amplifier is correct adjusted. When have done all checks and adjusted the parameters the amplifier will work properly and will have the output power that it is designed for.

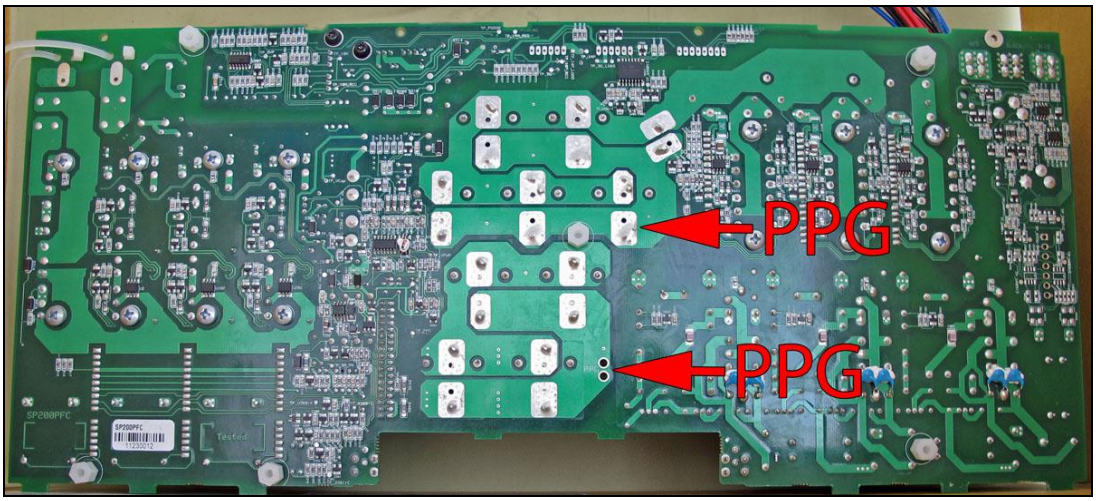
2 Check list PLM-series

Always clean the amplifier by blowing with compressed air through coolers and fans. Be careful when blowing where big electrolytic capacitors are placed so that the capacitor doesn't get damaged.

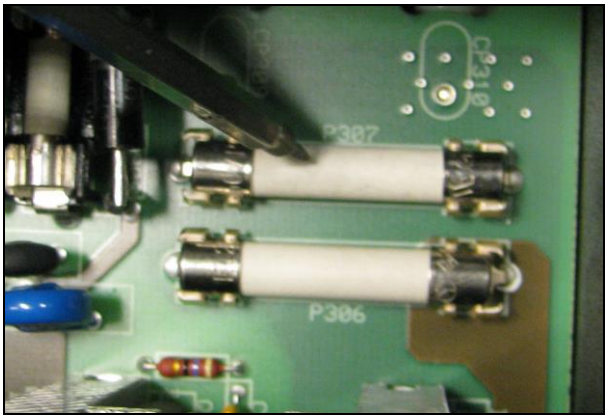
1.	SECONDARY GROUND. SG	



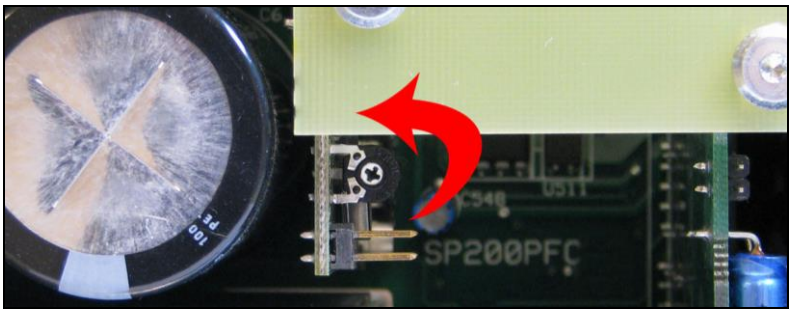
2.	PRIMARY POWER GROUND. PPG	



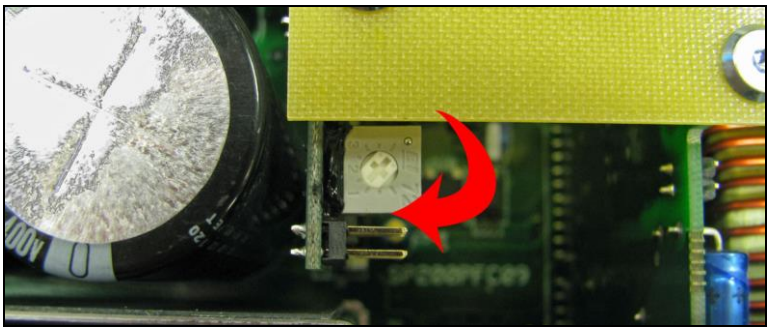
3.	Ensure fuses are mounted and working.	20A250V



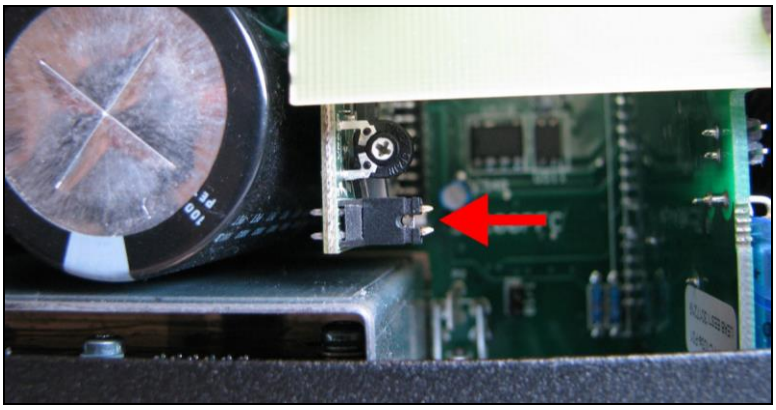
4.	Ensure that potentiometer PSMCU is in min-position.



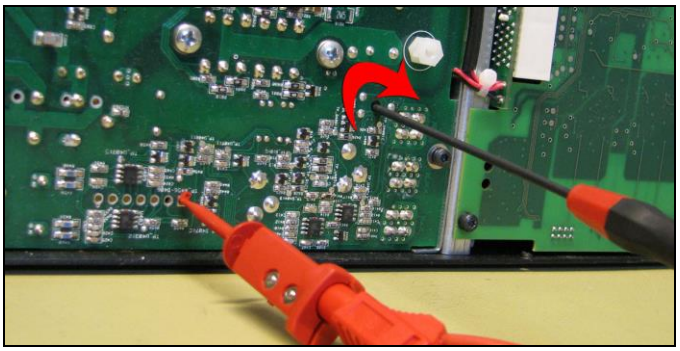
Alternative potentiometer



5.	Mount safe-mode jumper.

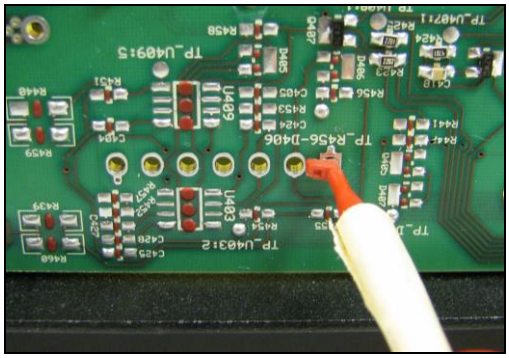


6.	Ensure that Trimmer Resistor RAIL is in min-position (clockwise from solder side).

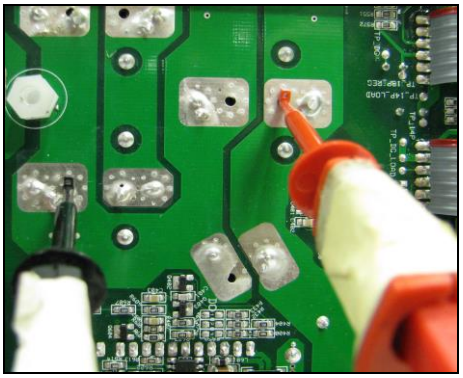


7.	Attach multimeter for RAIL and use SG for reference (**Pic 1**). Attach multimeter to PFC-voltage and use PPG (**Pic 2**). Attach 1:100probe and earth clip for oscilloscope in PPG **Note! Use an isolation transformer for the oscilloscope** (**Pic3**).

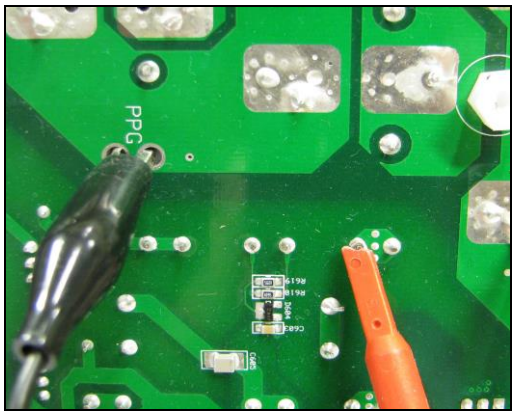
Pic 1



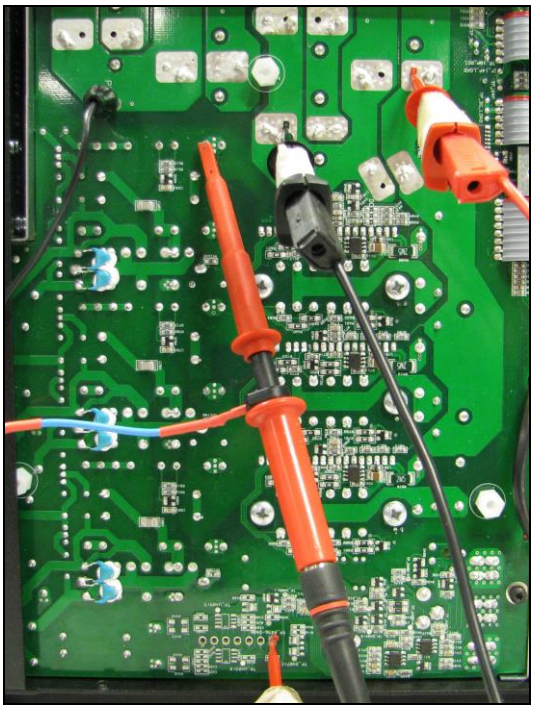
Pic 2



Pic 3



OVERVIEW



8.	Plug in power cord, signal cables.

9.	Ramp up variable voltage transformer to 110VAC. Start the amplifier on the power button. Multimeter RAIL ~ 1-5VDC Multimeter PFC ~22-26VDC

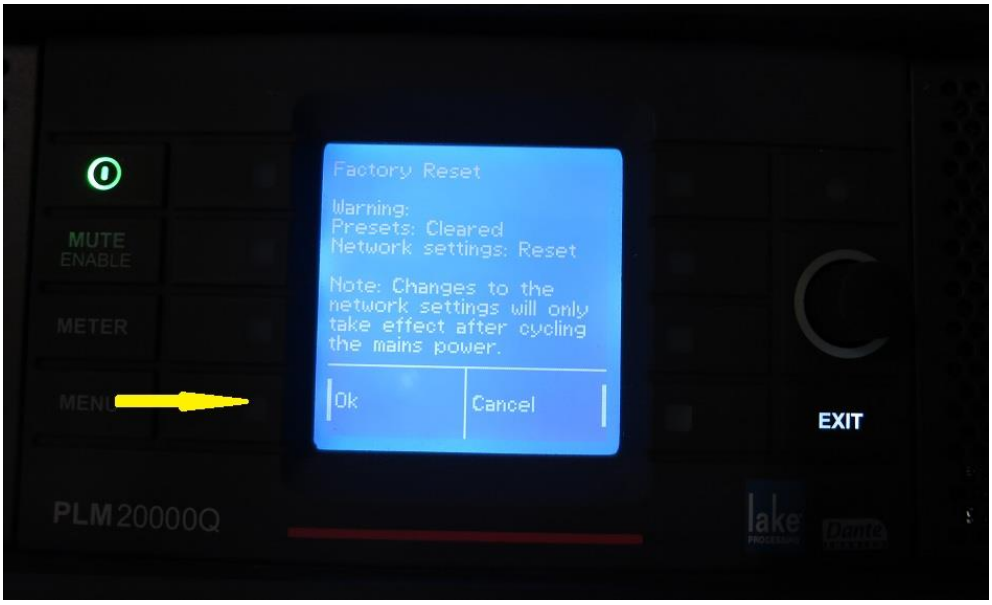
10.	**Make a factory reset. Start by pressing MENU**

11.	**Press Frame**

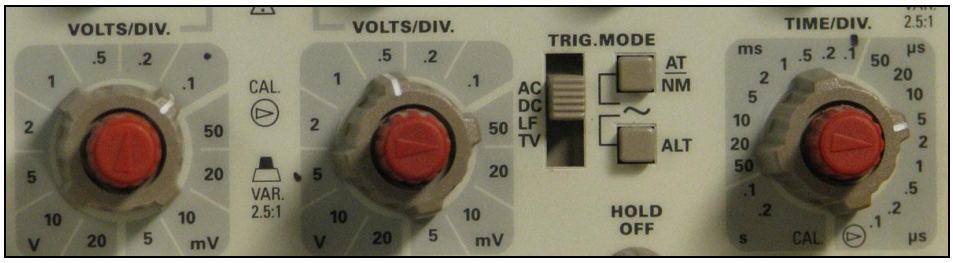
12.	**Press Frame Rst**

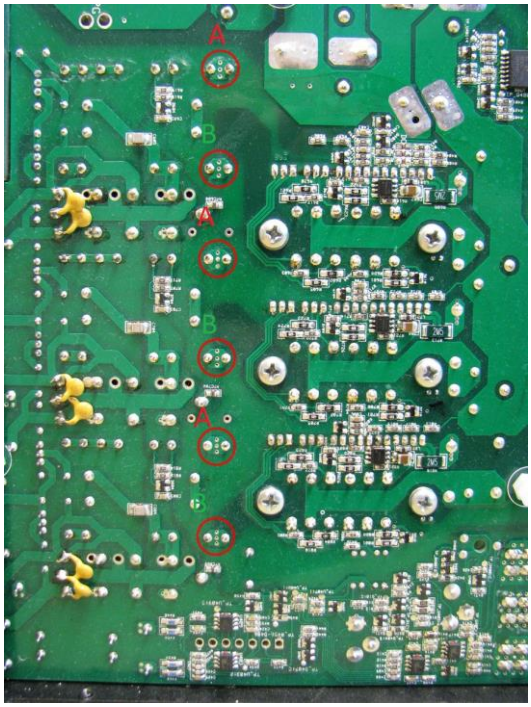
13.	**Press Fact. Reset**

14.	**Press Ok. DONE**

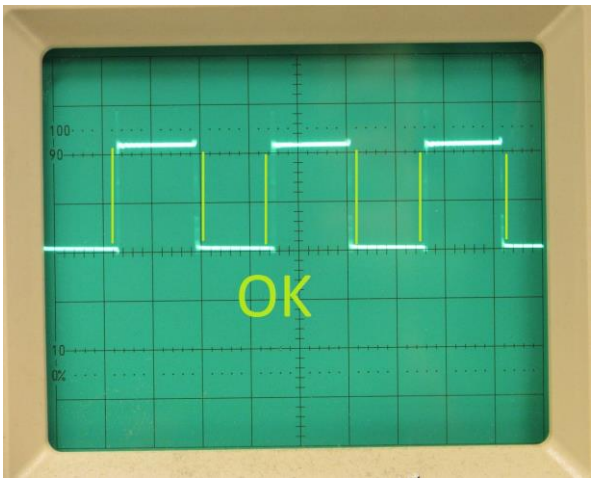


15.	Measure 6 switch nodes with 1:100-probe grounded in PPG. Important that the wave is symmetrical.

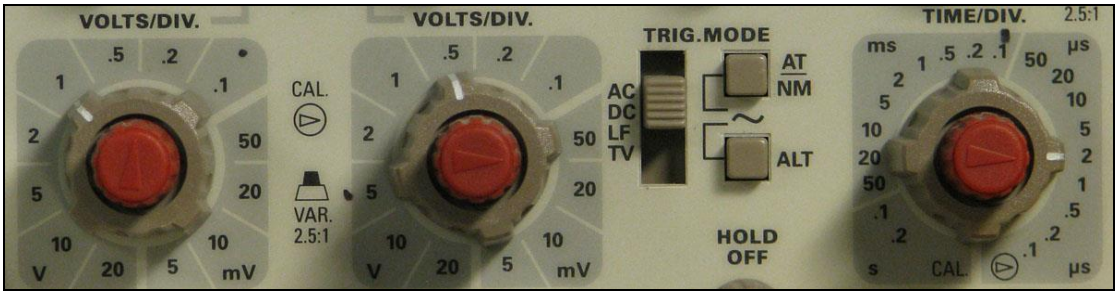




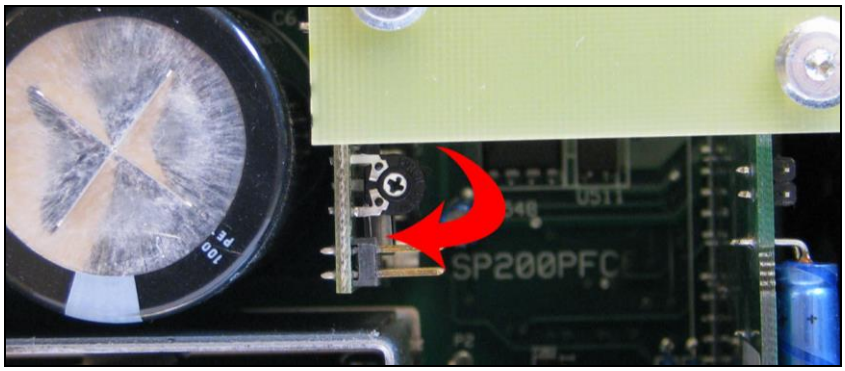
16.	Check The waveform they should be straight.



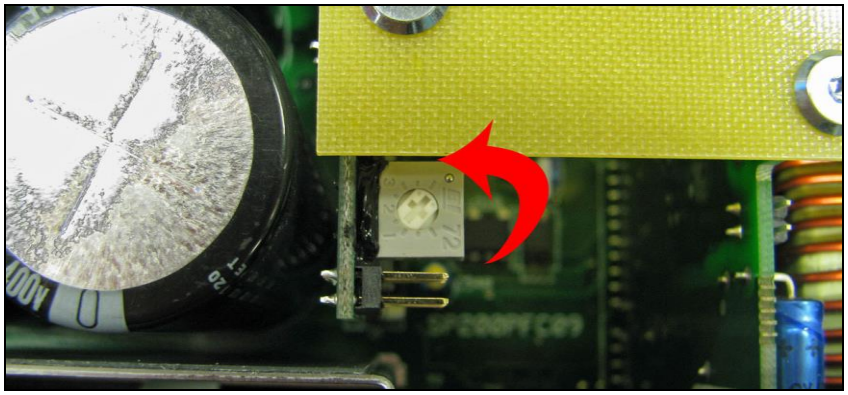
17.	New oscilloscope settings.



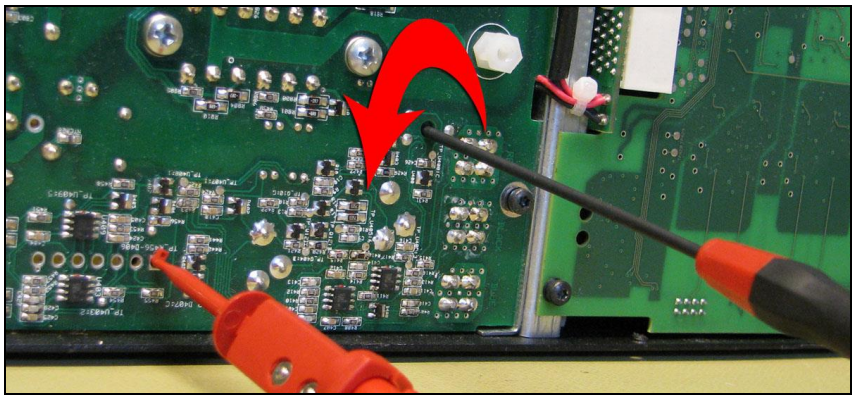
18.	Slowly ramp up PFC voltage with potentiometer on PSMCU to max (~220VDC)



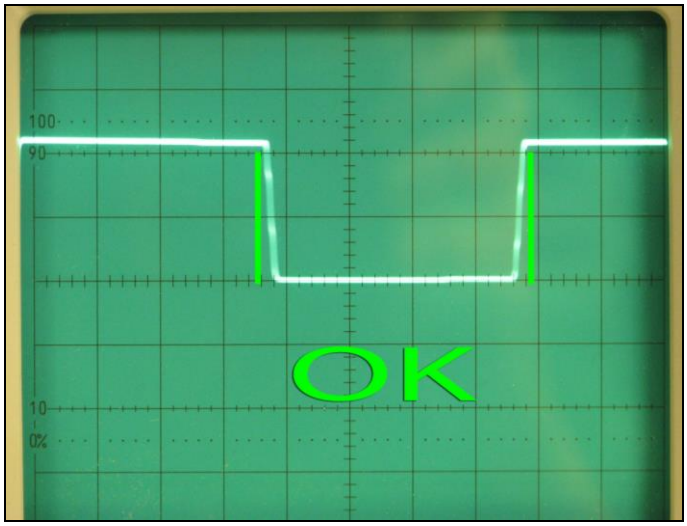
Alternative potentiometer

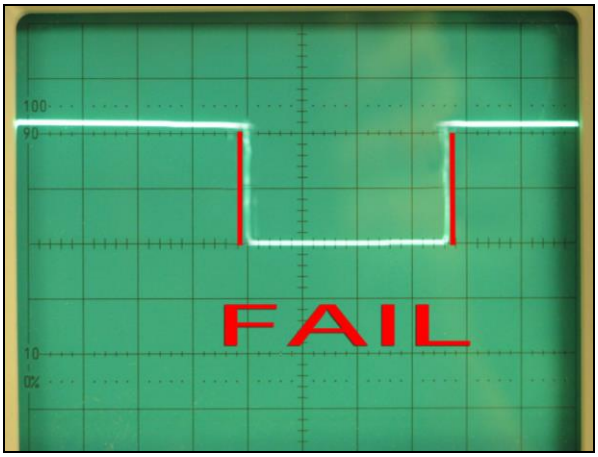


19.	Slowly ramp up RAIL voltage to 200VDC +/-0,5VDC. (counter clockwise)



20.	Now the wave should be slightly angled. Make sure that the HW-Mute is set in false position.



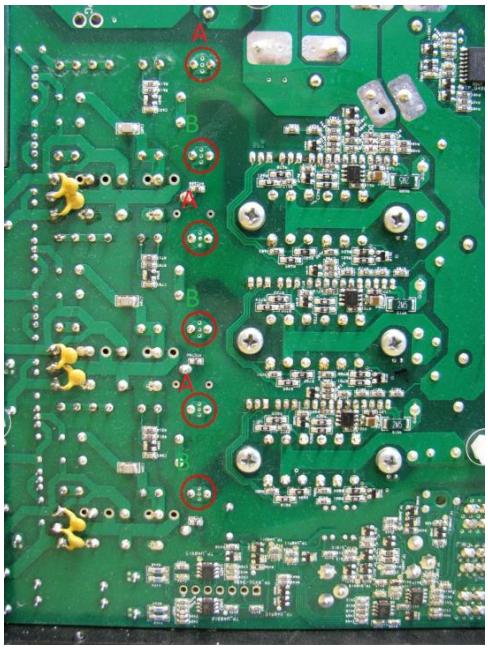


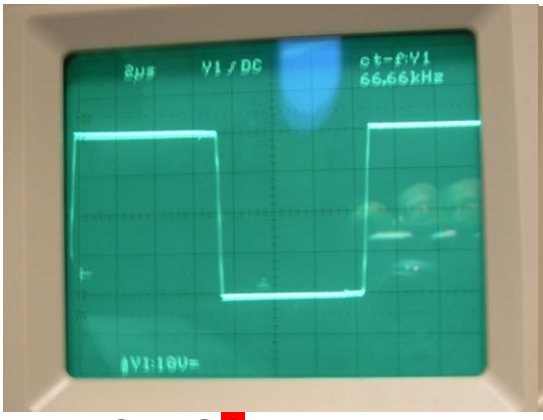
21.	If the performed tests have worked according to instruction, turn off the amplifier with the variable voltage transformer 0VAC. Remove the safe-mode jumper.

22.	Ramp up variable voltage transformer to anywhere between 110 and 230 VAC.

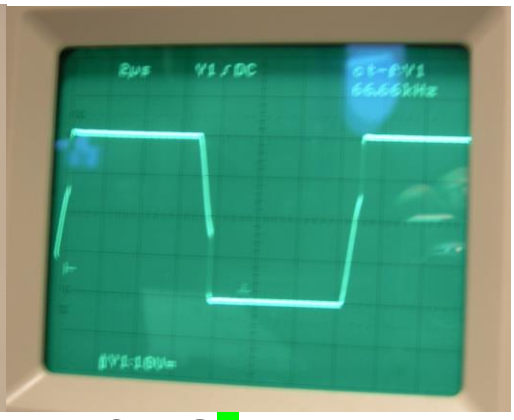
23.	RAIL-voltage 200VDC +/-0,5VDC. PFC-voltage ~380VDC

24.	Measure on the 6 switch nodes indicated in the picture below. Use a 1:100 probe grounded at primary power ground (PPG). Now the output modules are active and are loading the supply slightly. The transitions in “Pic A” should have a slight angle, if the transitions are straight then something is wrong and the supply will go hot. The transition notch on the Pic B waveform could occur on slightly different levels but verify that they are there.





OK PIC A



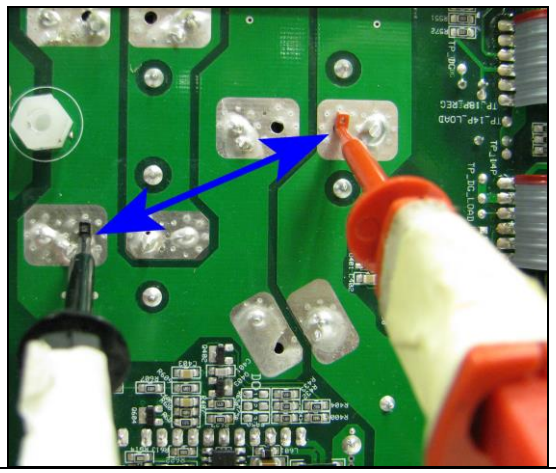
OK PIC B

25.	Check output signal from one channel at a time by muting the remaining channels and adding signal.

26.	Press MUTE ENABLED. The text flashes.

27.	Red diode indicates muted channel. Green diode indicates channel active.

28.	Check offset with no input (+/- 50mV). Increase input signal and check so that the voltage clip indicator is activated Check so that two bars on the display indicates output signal. Also check that the voltage clip indicator is active.		
29.	When all channels have been tested activate all outputs and inputs. Power down with power-button.		
30.	**Turn down the variable voltage transformer to 0VAC!**		
31.	**<u>Safety precaution!</u>** Use a 56Ω10w resistor to discharge the stored energy in the capacitors.		



32.	Check dust filters, change when needed.		

DONE