

MERKUR – V1

SE Tube Amplifier

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Description:

This is a circuit diagram of an SE amplifier, designed for an EML 300B XLS tube. The driver stage consists of a DC coupled 6H30 tube, the output tube is the 300BXLS, that is a larger, stronger version of the 300B triode. The larger design is compared with a 300B, allows continuous operation with a higher Anode Dissipation (AD). In the MERKUR-V1 circuit, this tube is operated with appr. 47 watts AD. The use of a normal 300B is not possible in this circuit. The operating point of the 300B-XLS is to provide a simple, auto bias and negative bias allows a precise and permanent working point.

Idle current setting:

The idle current of the output tube can be set comfortably, by adjusting the negative bias NGV. Before first use, this voltage NGV must be set to appr. -60V. NGV is measured with a voltmeter, with the output tube in operation. The Negative Voltage NGV is measured at test point TP1. After minimum 2 minutes of warming up the tube starts to become stable, and the idle current can be set to the desired value. The current can be read directly from the Yamamoto meter, or alternatively be calculated from: TP voltage divided by the resistor R-CAT

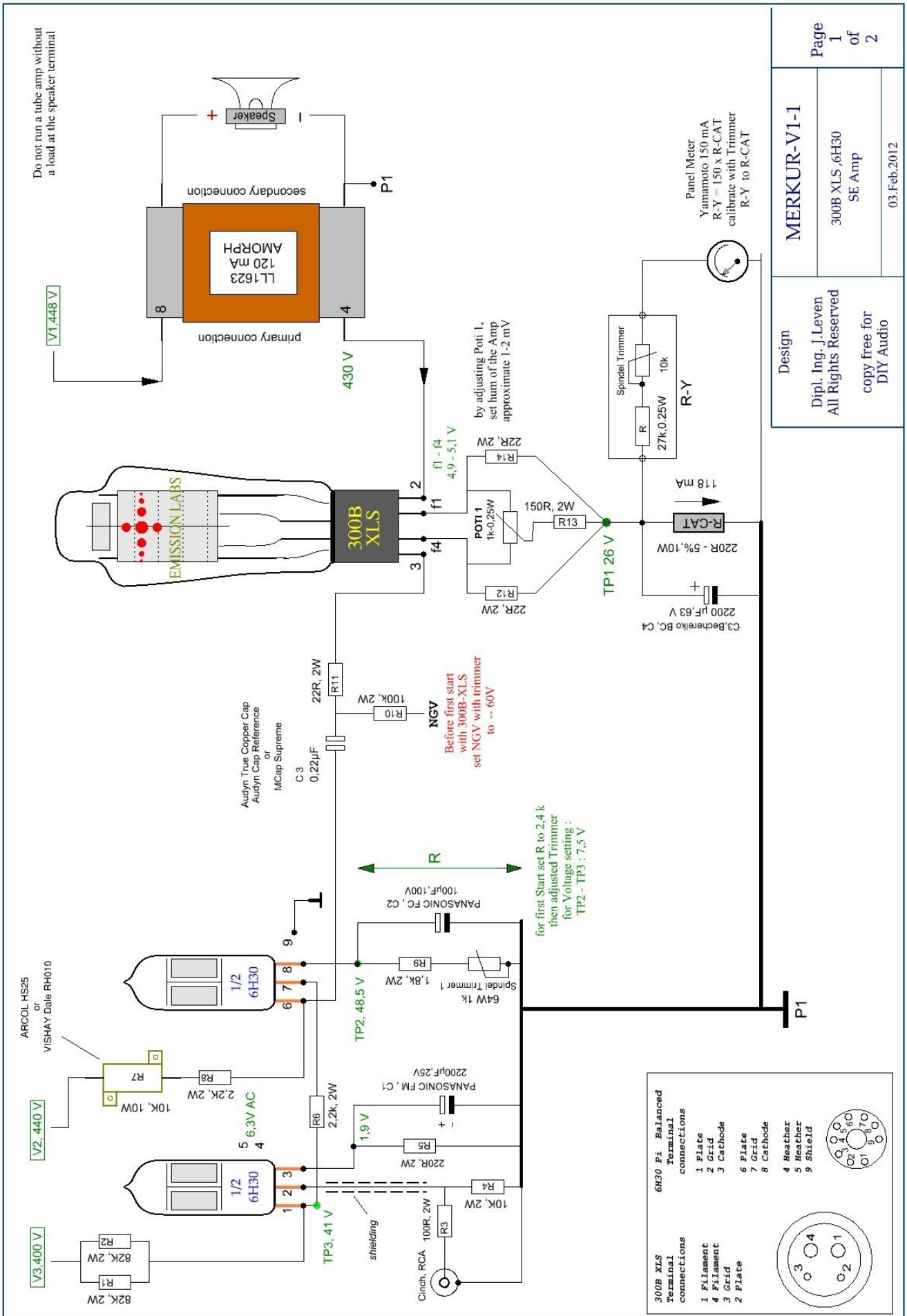
Specification:

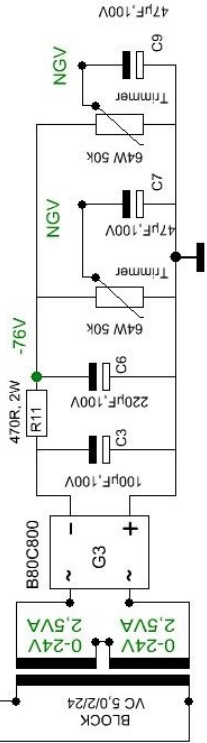
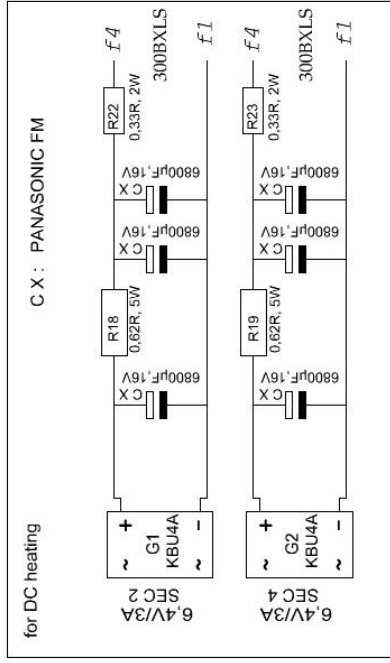
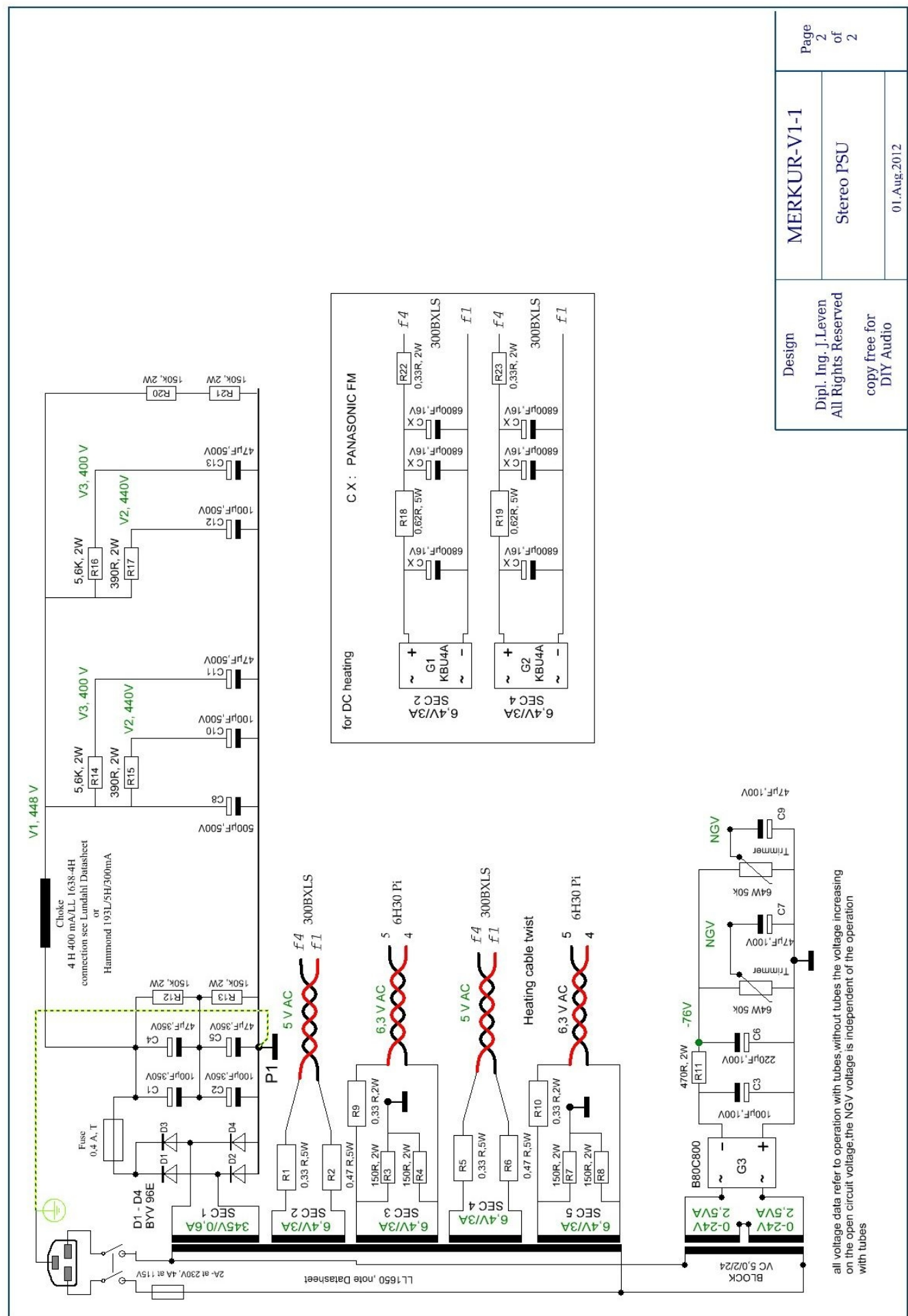
Tubes:	EML 300B XLS, 6H30
Class of Operation	Single Ended, Class A
Power output	14 Watt Sinus
Frequency Response	15 HZ - 48KHZ
Input Impedance	10 K
Voltage Gain	30
Input Sensitivity	0,3 V
Damping factor to 8 Ohm	3,4
Feedback	0 dB

Design & Features

1. high capacitance energy storage and choke filter
2. short signal paths
3. easy adjust of different working points from 6H30 and 300B XLS
4. star grounding
5. Lundahl LL1623 Amorphous Transformer
6. 6H30 DC Driver, 300B XLS tube
7. Panasonic FM, FC Capacitors, BC components, Audyn True Copper cap
8. enough Power to drive Speaker up to 86 dB
9. hearing at long meetings the layout was optimized, preamplifier Mark Levinson 380S, CD CEC TL 2x, hoer-wege DAC-UP-PCM1794 MK-II ,
Speaker 86 dB, 93 dB, a few good ears

Schematics





all voltage data refer to operation with tubes, without tubes the voltage increasing on the open circuit voltage, the NGV voltage is independent of the operation with tubes

