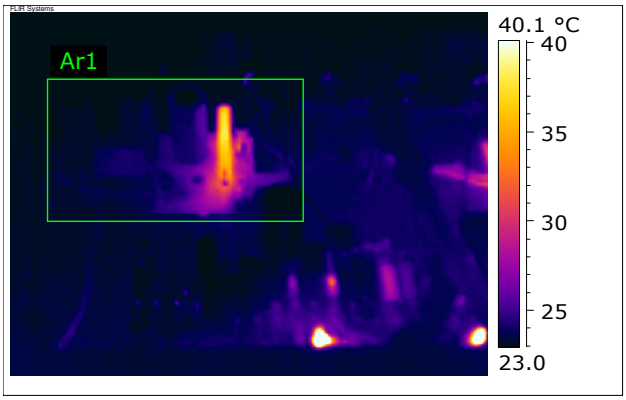
# BULETIN TERMOGRAFIC

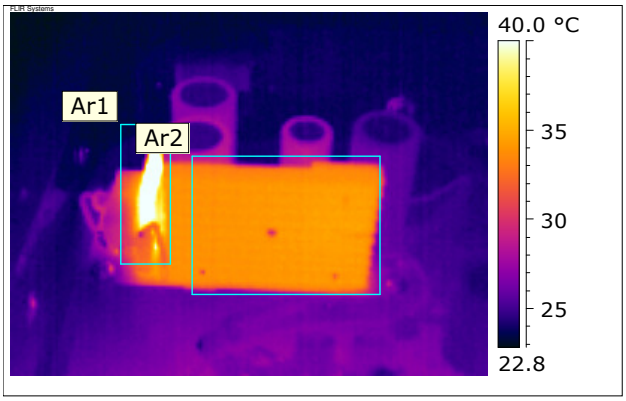
## T01 – 01 – CJ 01

low voltage power filter – the warm part is the full bridge rectifier




| Label | Value |
|---|---|
| IR: File Name | IR_6300.jpg |
| Ar1: Max | 38.1 °C |

That pcb was replaced with a capacitor multiplier filter that also provides a tiny voltage drop that provides a much closer voltage to the ideal one needed by the valve heaters. Also the ripple was reduced from 400mV pk-pk to non-measurable levels.

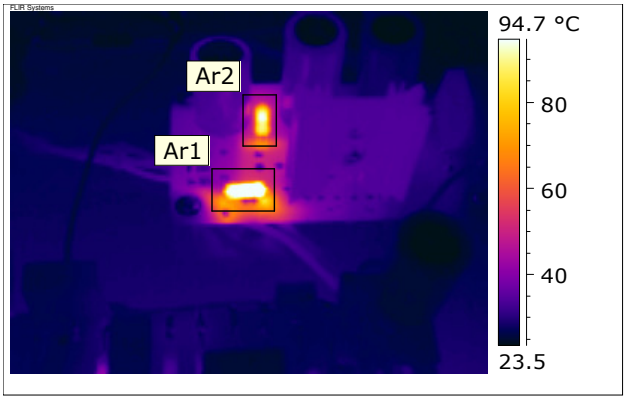



| Label | Value |
|---|---|
| IR: File Name | IR_6320.jpg |
| IR: Max | 42.2 °C |
| Ar1: Max | 42.2 °C |
| Ar2: Max | 34.8 °C |

The hottest part is still the full bridge rectifier (Ar1 above), followed closely by the radiator (Ar2). The voltage drop of the circuit is about 1.6V.

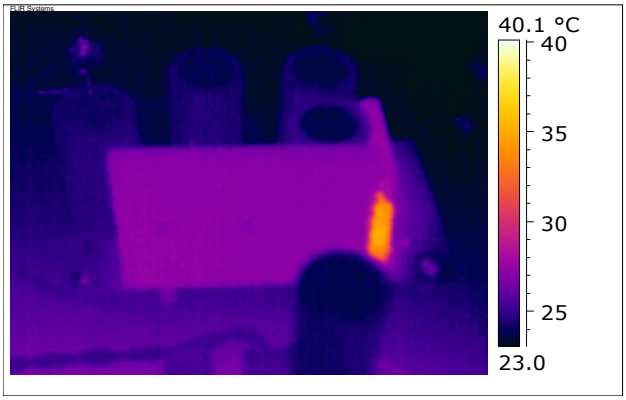
High voltage power source

The original PCB was a mosfet? based filter. Two of the resistors were found to be 70+ degrees above ambient:



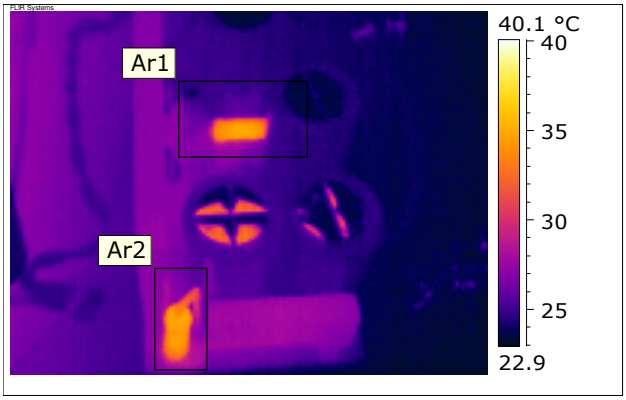

| Label | Value |
|---|---|
| IR: Date Of Creation | 2/9/2020 |
| IR: Time Of Creation | 12:17:34 PM |
| IR: File Name | IR_6309.jpg |
| IR: Max | 105.4 °C |
| Ar1: Max | *105.5 °C |
| Ar2: Max | 96.1 °C |

It got replaced by a capacitor multiplier circuit that provides about 344V DC under load with no measurable ripple. The voltage drop between the input and the output of this circuit is about 2V, making the radiator almost redundant.



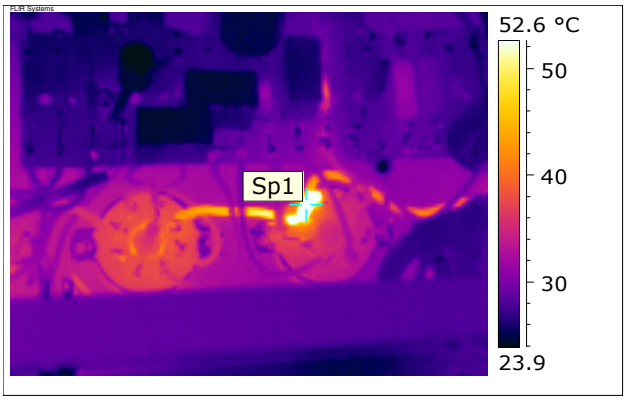

| Label | Value |
|---|---|
| IR: File Name | IR_6322.jpg |
| IR: Max | 35.2 °C |

the hottest parts (15 degrees above ambient) are two 1Meg bleeder resistors - one placed on the input and one on the output.

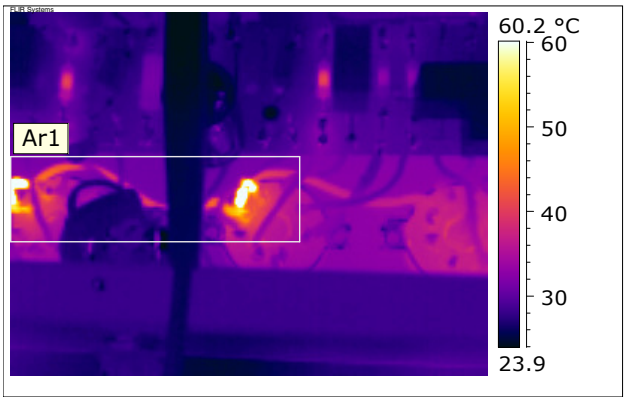



| Label | Value |
|---|---|
| IR: File Name | IR_6321.jpg |
| IR: Max | 35.1 °C |
| Ar1: Max | 35.1 °C |
| Ar2: Max | 34.9 °C |

Low wattage resistors in parallel with the triode's heater

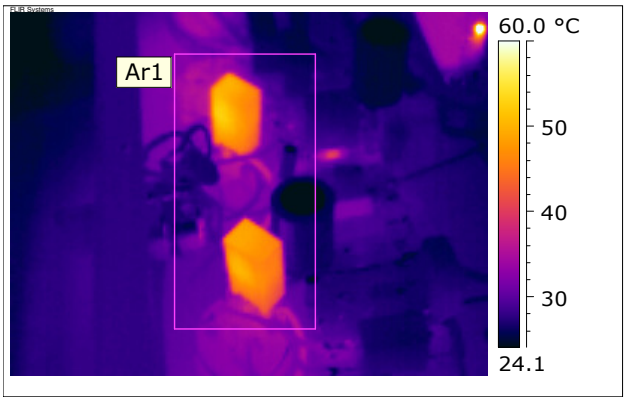



| **Label** | **Value** |
|---|---|
| IR: File Name | IR_6305.jpg |
| IR: Max | 104.9 °C |
| Sp1 | 103.2 °C |

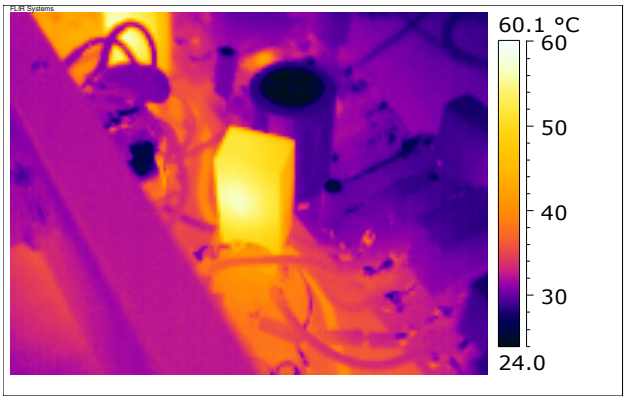



| **Label** | **Value** |
|---|---|
| IR: File Name | IR_6306.jpg |
| Ar1: Max | 97.3 °C |

The 0.25W carbon resistors have been replaced with 5W wirewound ones:

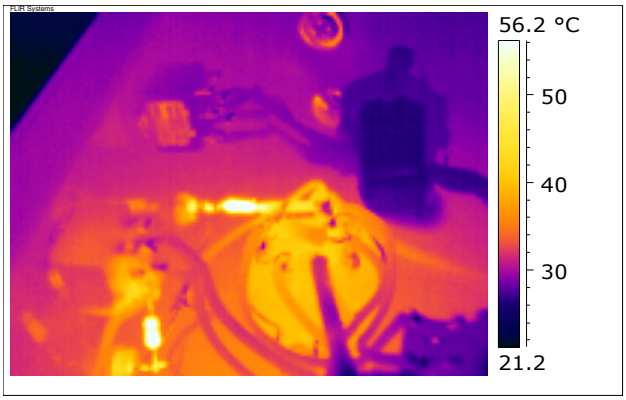



| **Label** | **Value** |
|---|---|
| IR: File Name | IR_6324.jpg |
| Ar1: Max | 52.8 °C |




| **Label** | **Value** |
|---|---|
| IR: File Name | IR_6328.jpg |
| IR: Max | 57.0 °C |

LED resistors




| **Label** | **Value** |
|---|---|
| IR: Date Of Creation | 2/9/2020 |
| IR: Time Of Creation | 12:19:49 PM |
| IR: File Name | IR_6313.jpg |
| IR: Max | 72.0 °C |

the 4K7 resistors were replaced with a 0.5W 47K one