



PRIMARE



**SPA 21 Surround Processing Amplifier
Service Manual**

1. Circuit Diagrams
2. Bias Adjustment
3. Technical Specifications

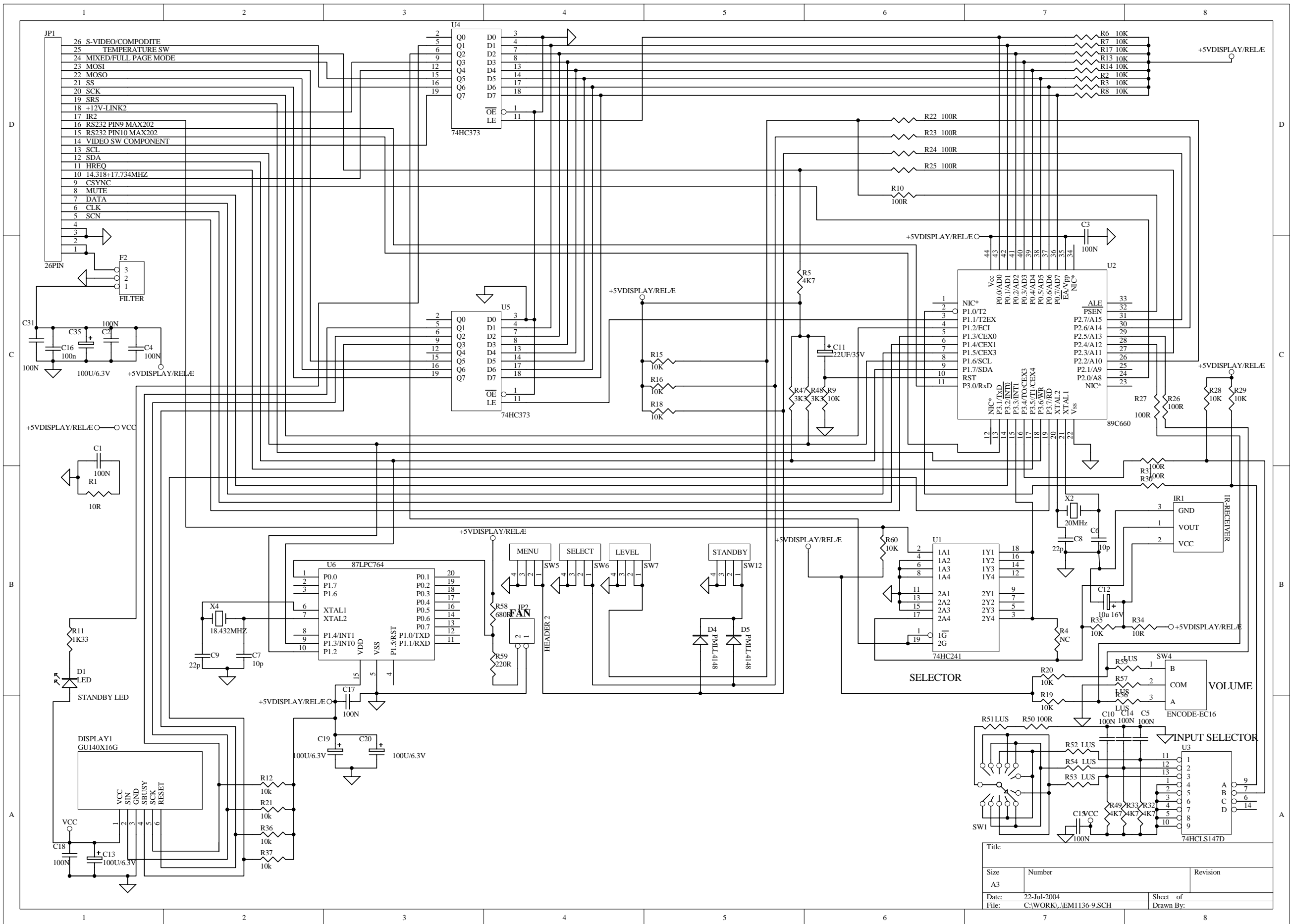
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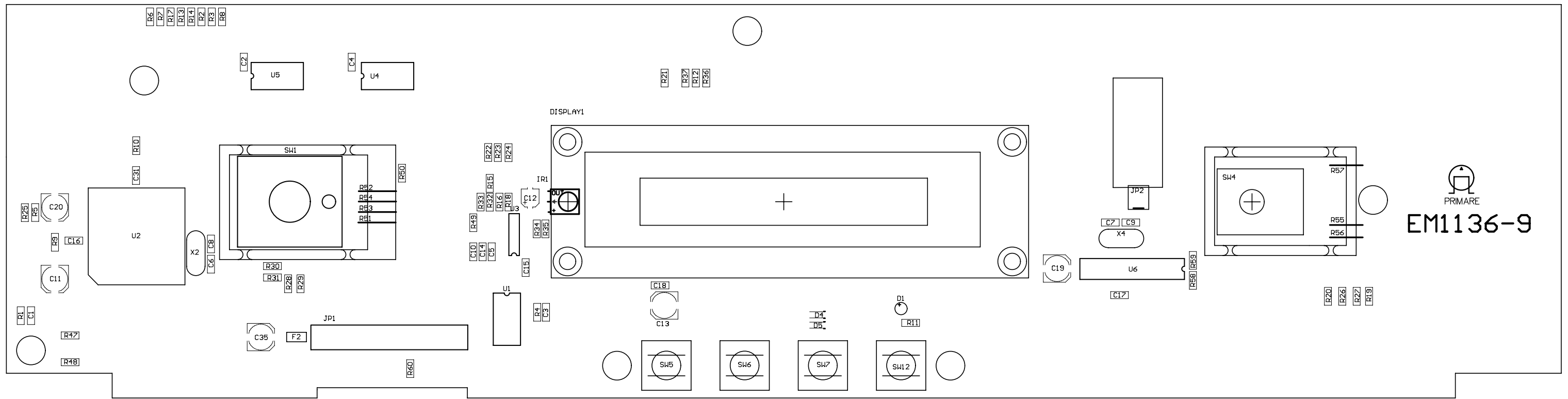
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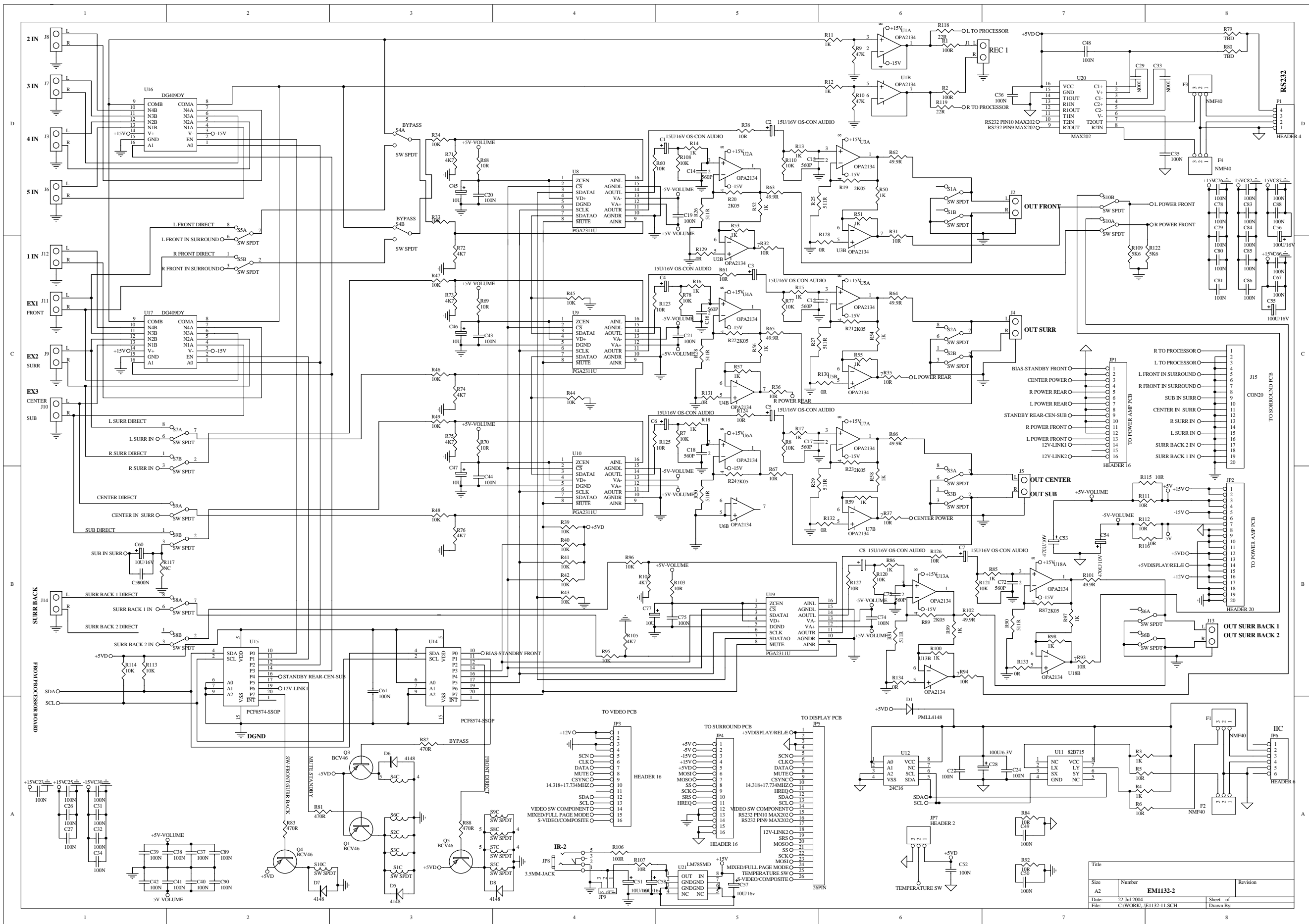
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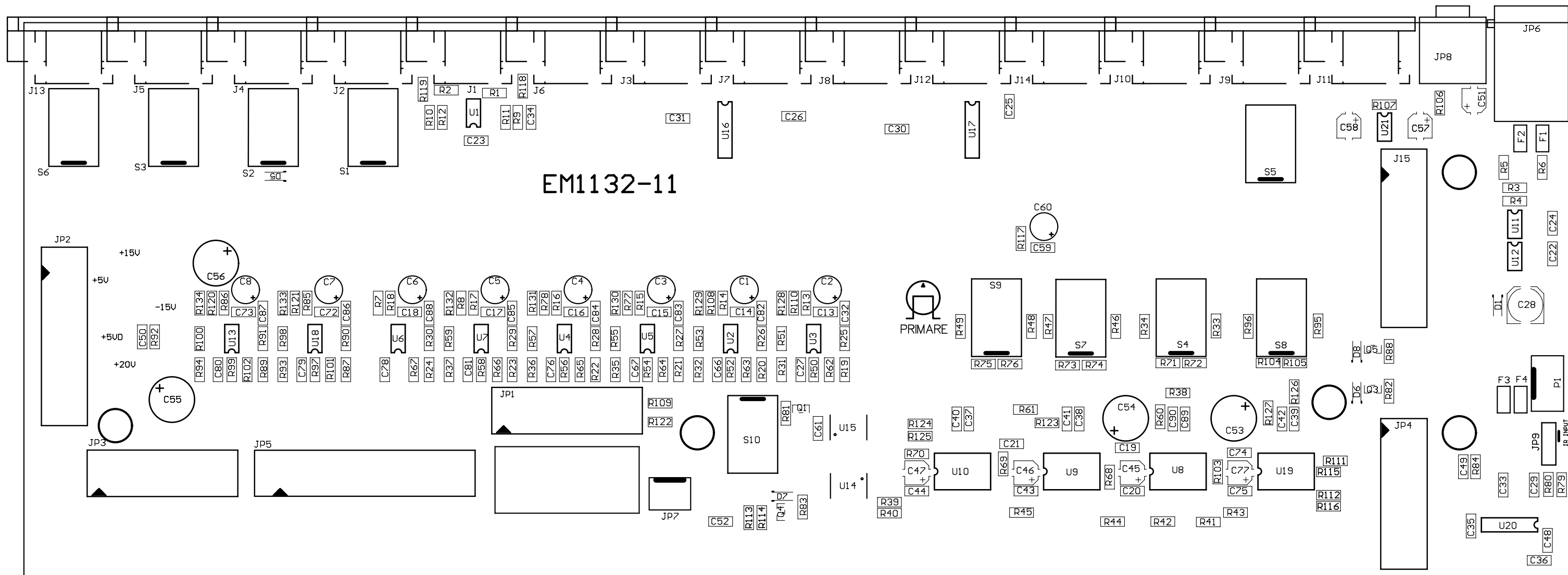
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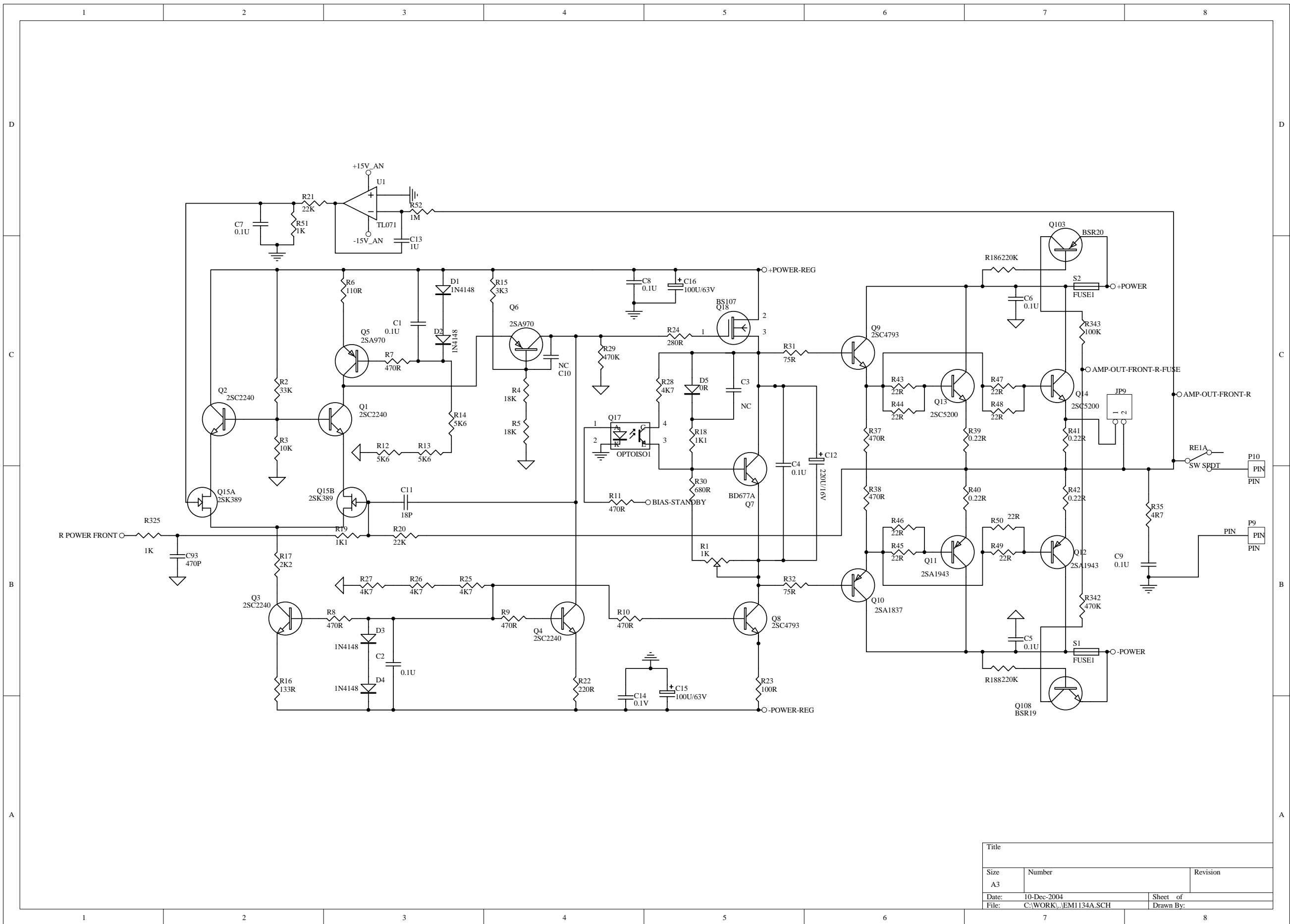




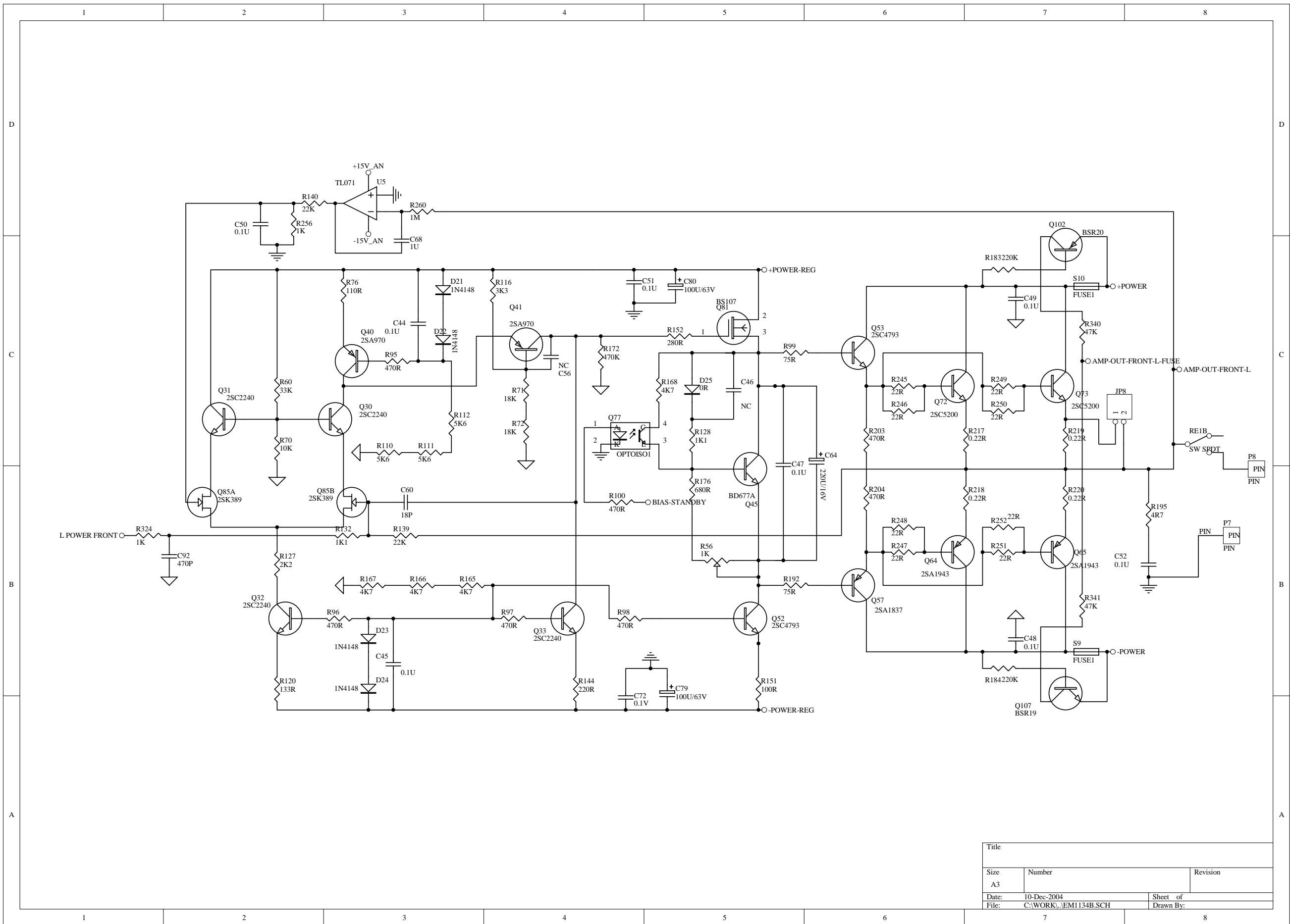
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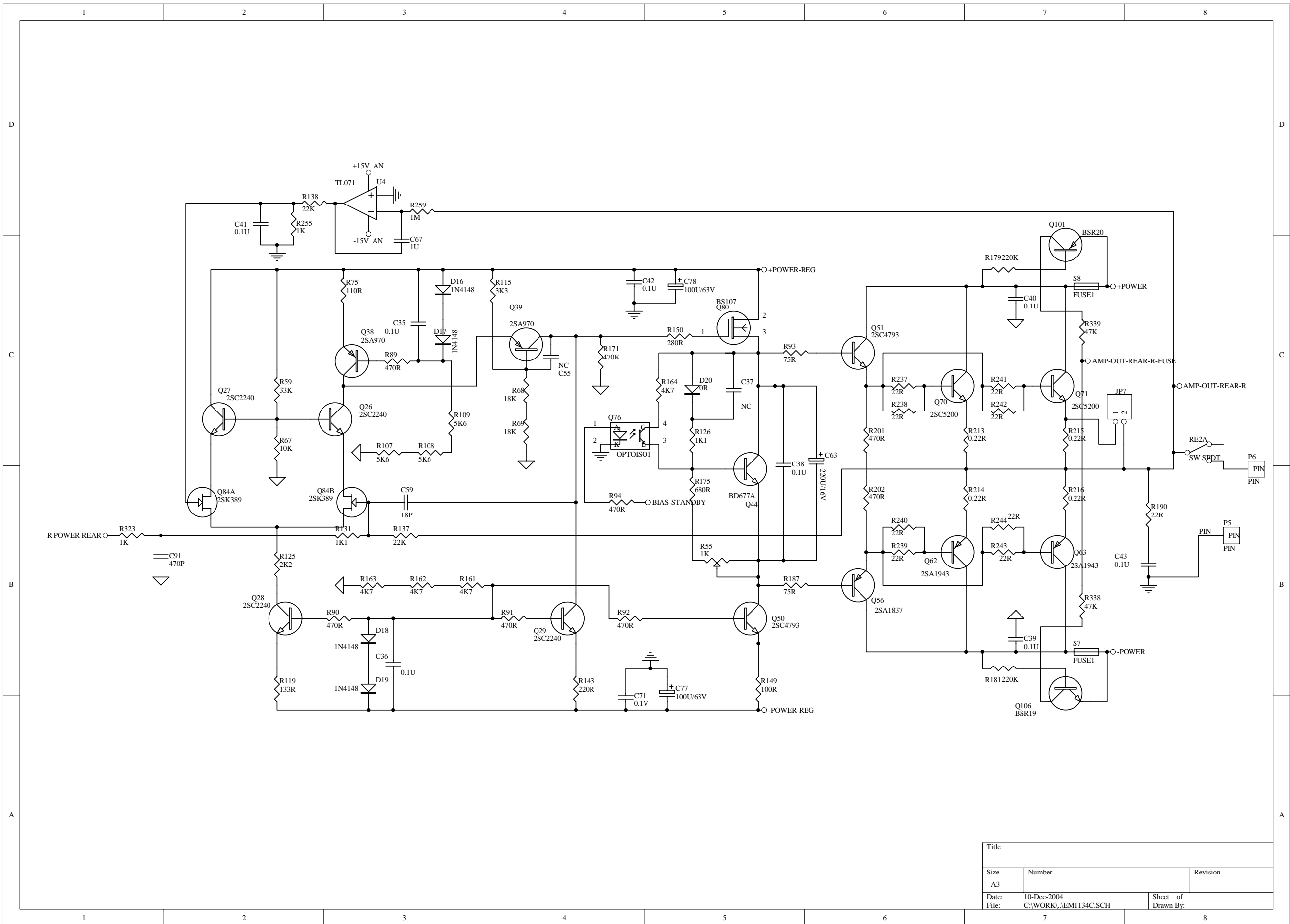




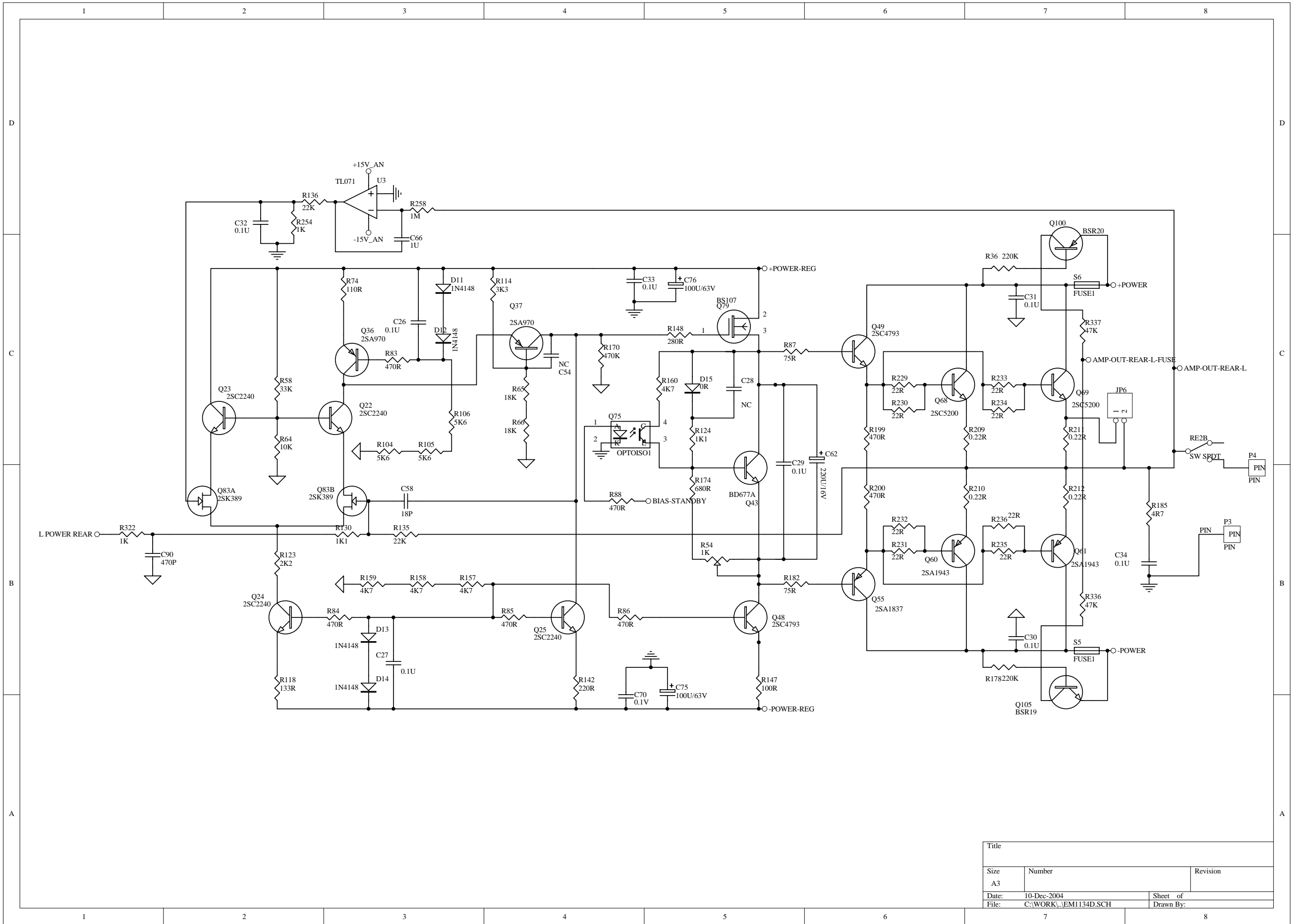
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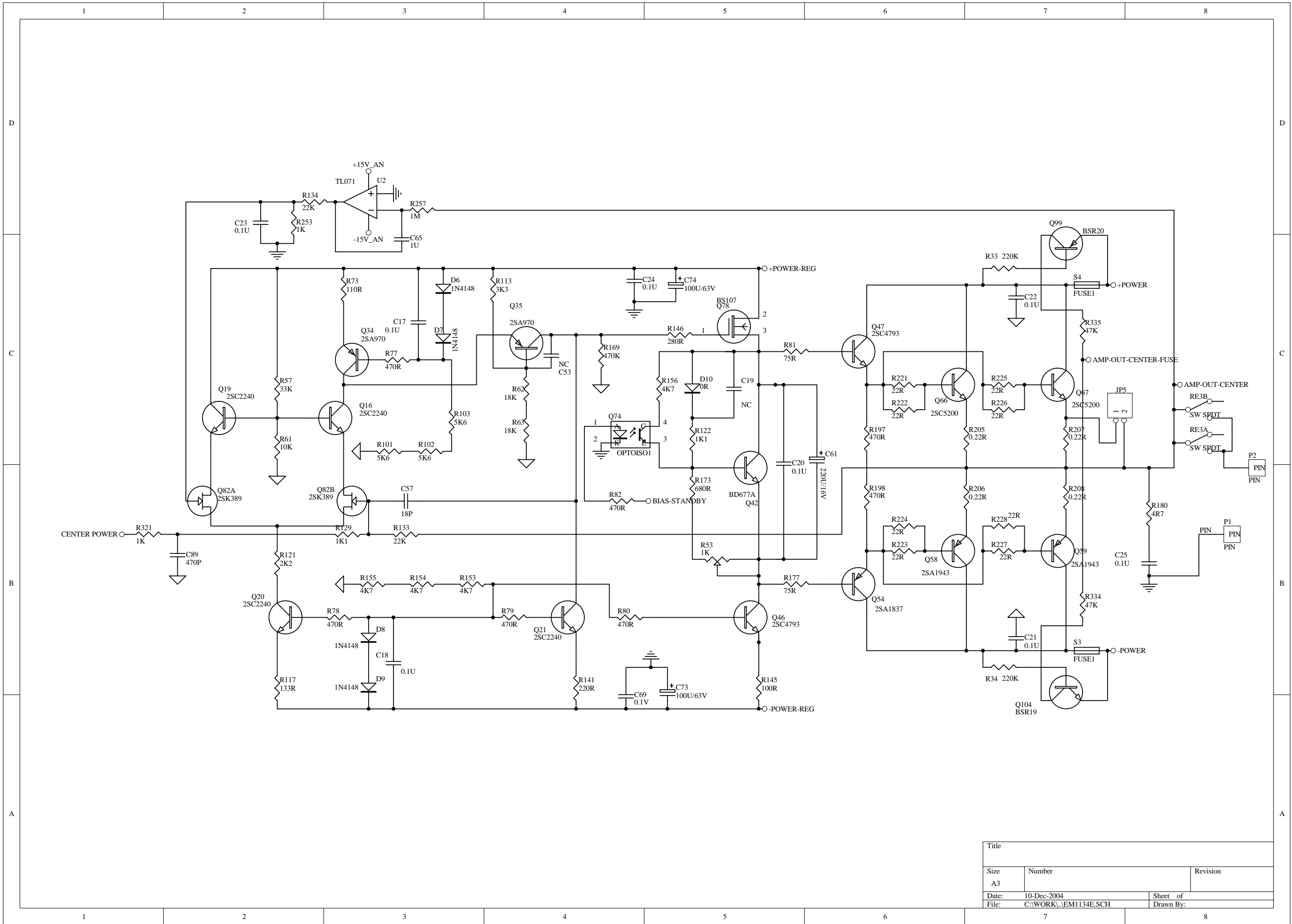
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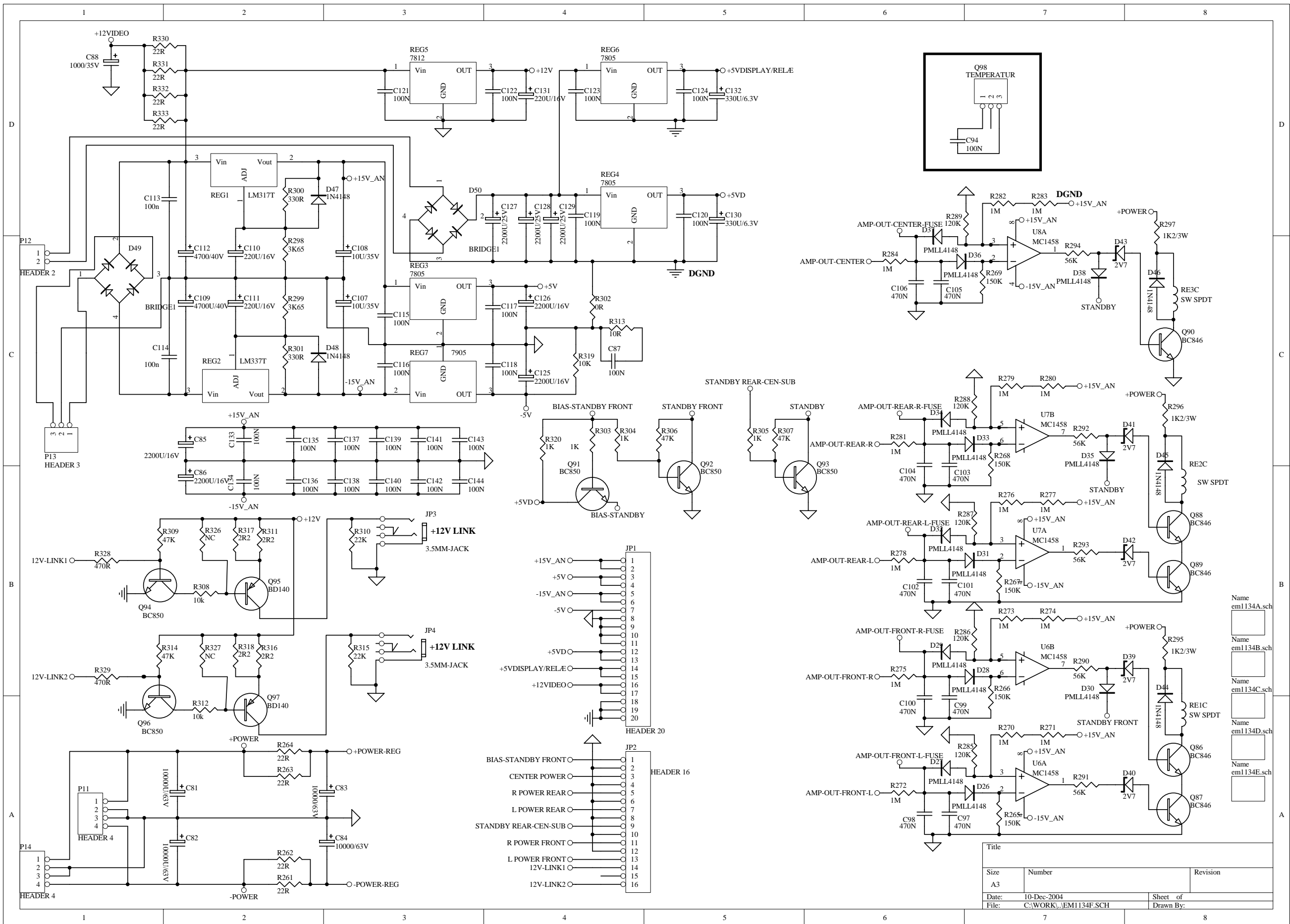
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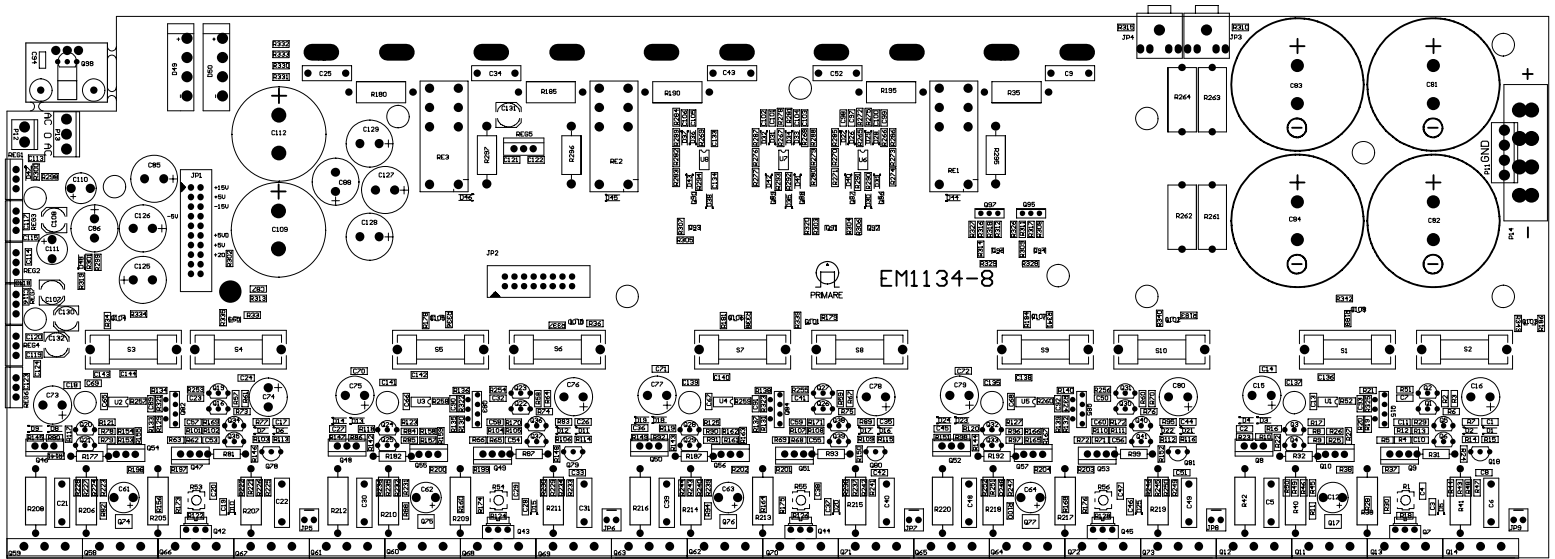


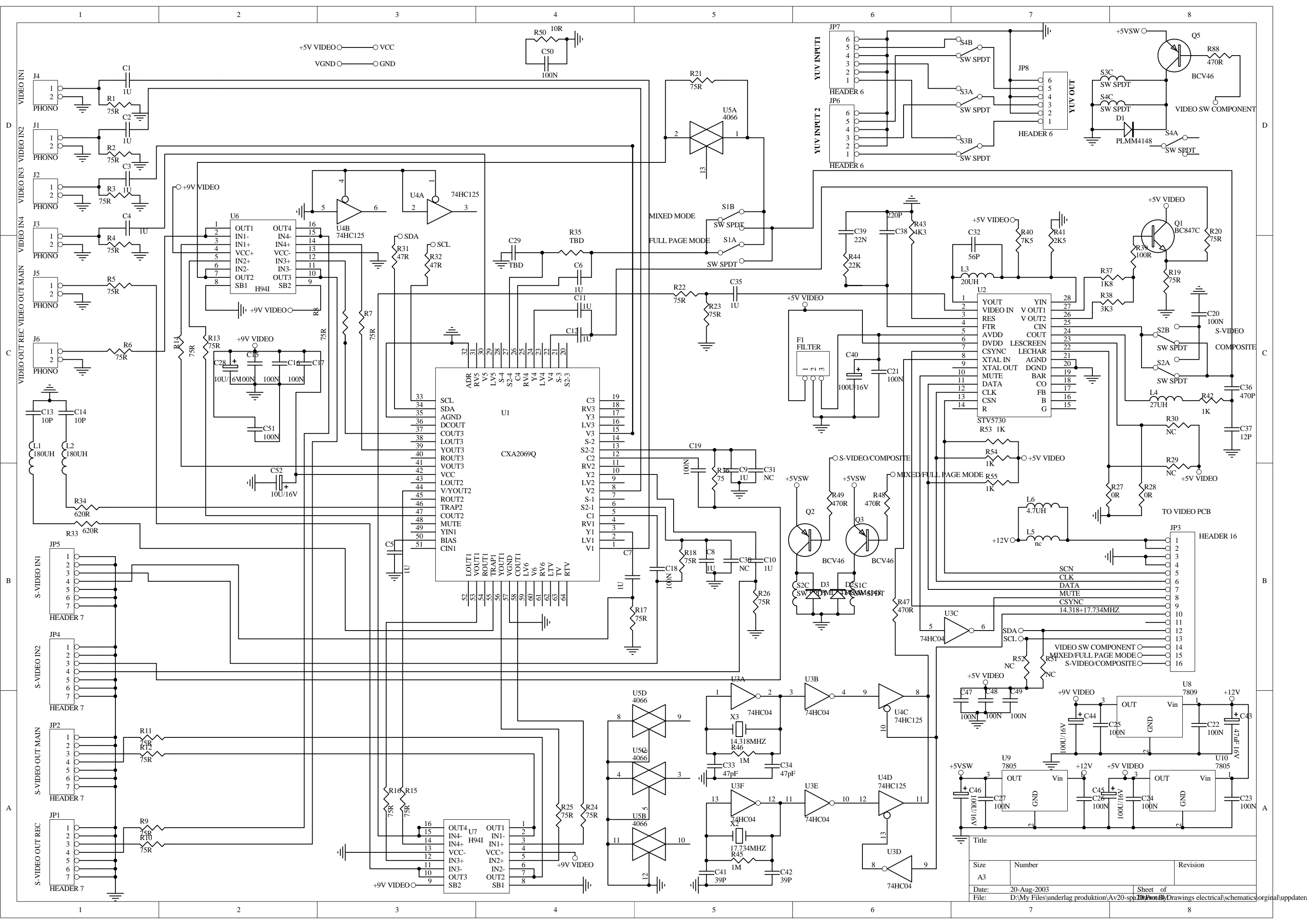
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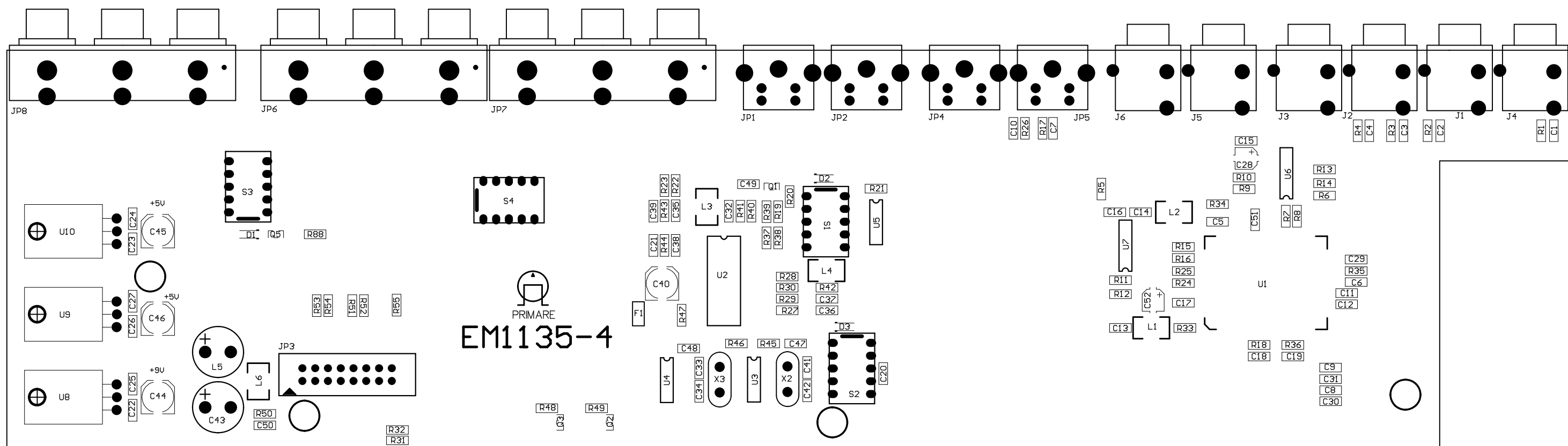
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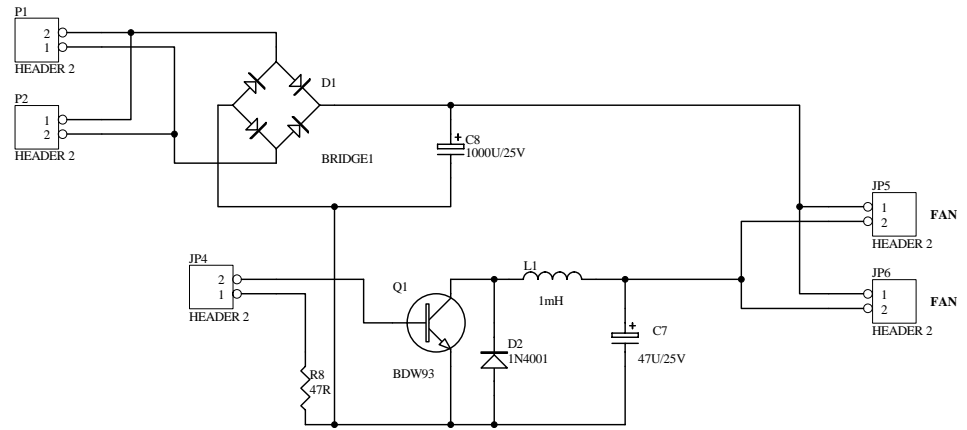
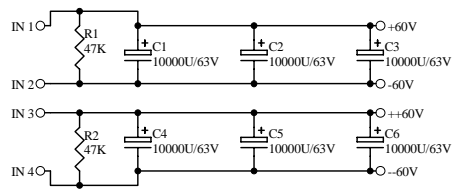
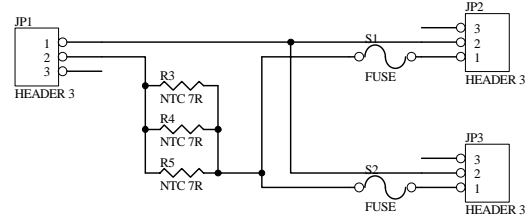




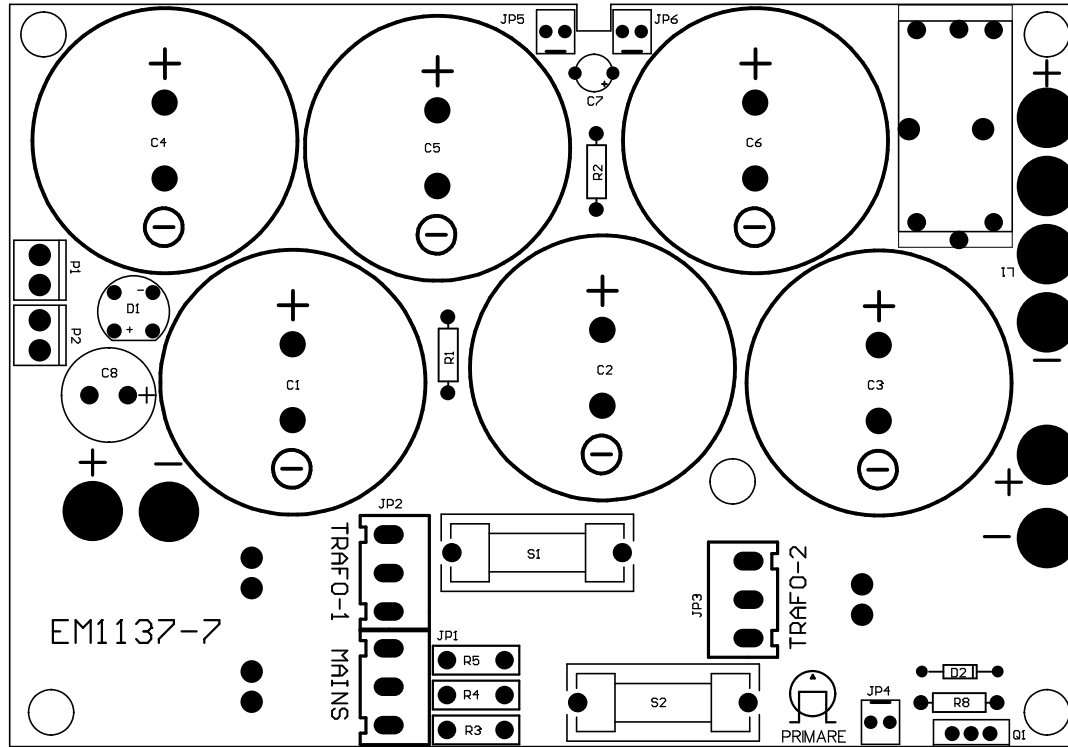
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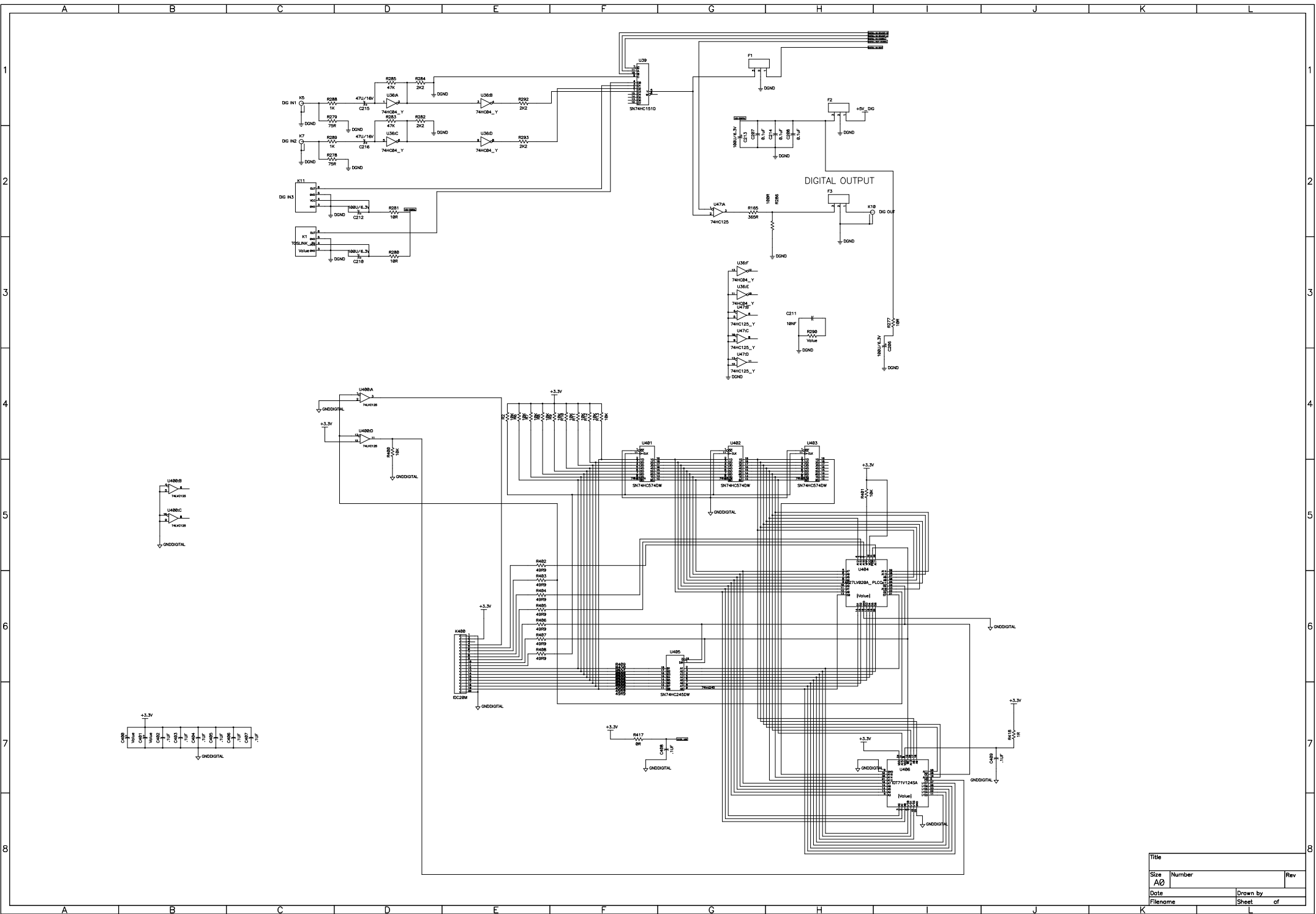


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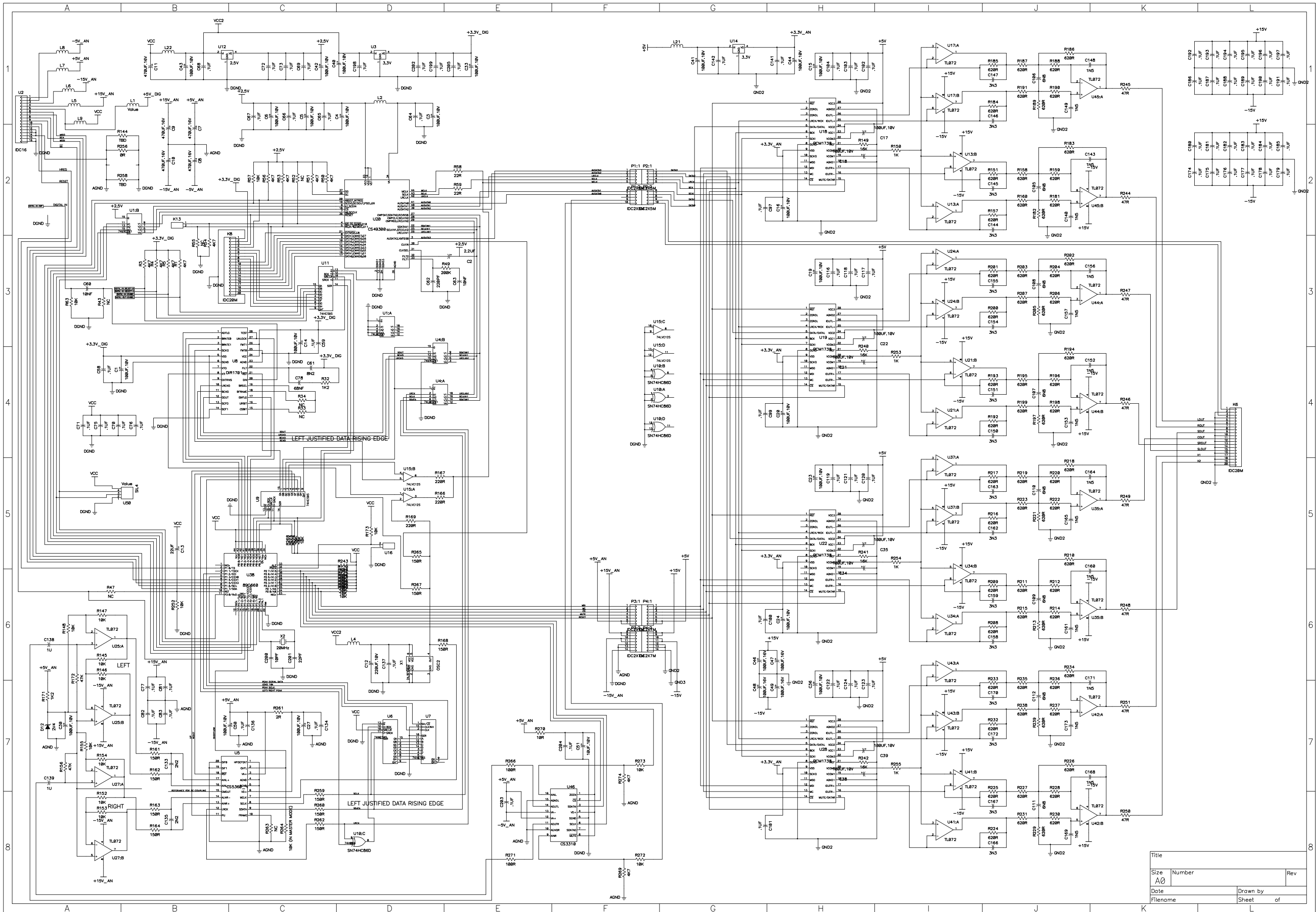


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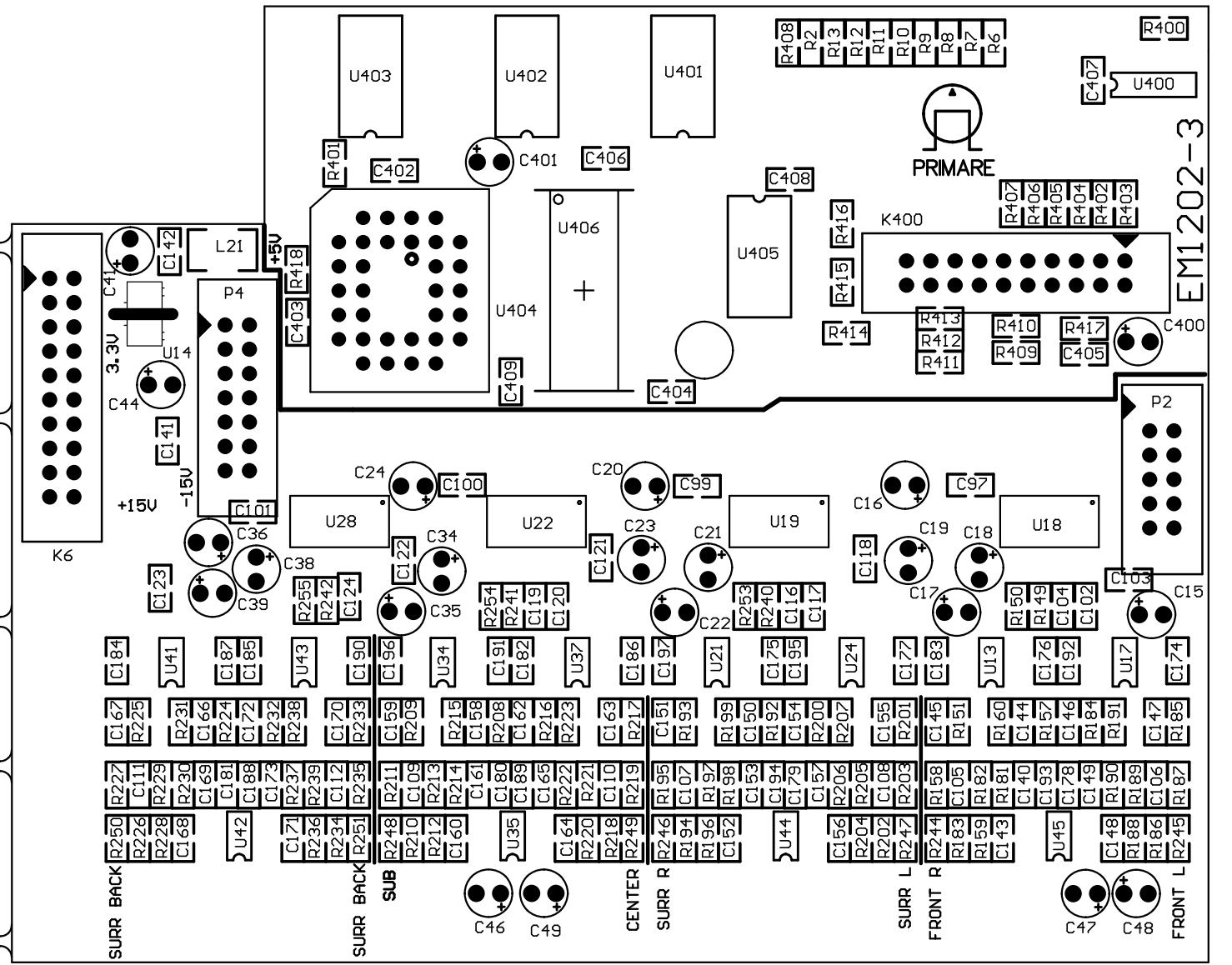
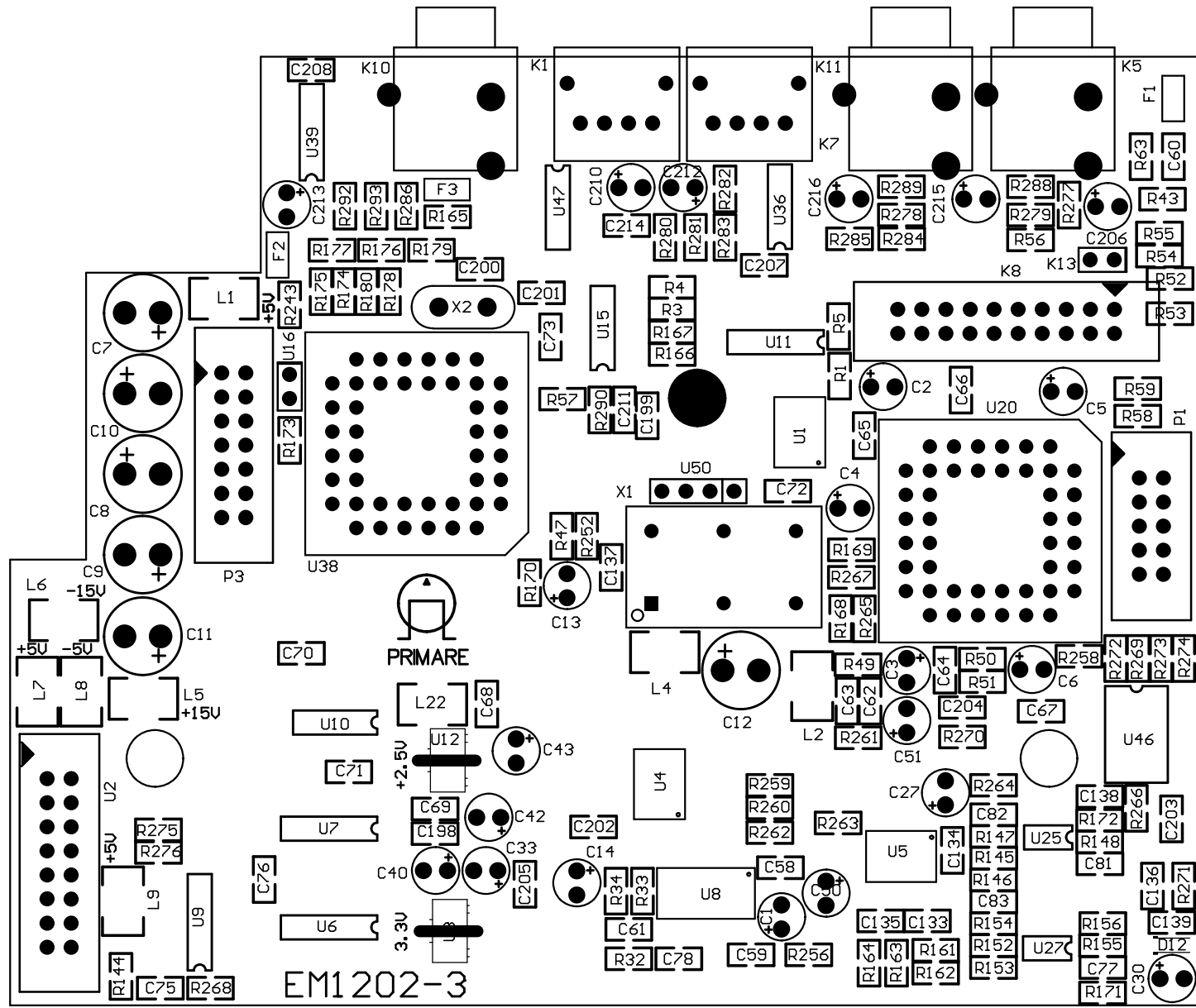
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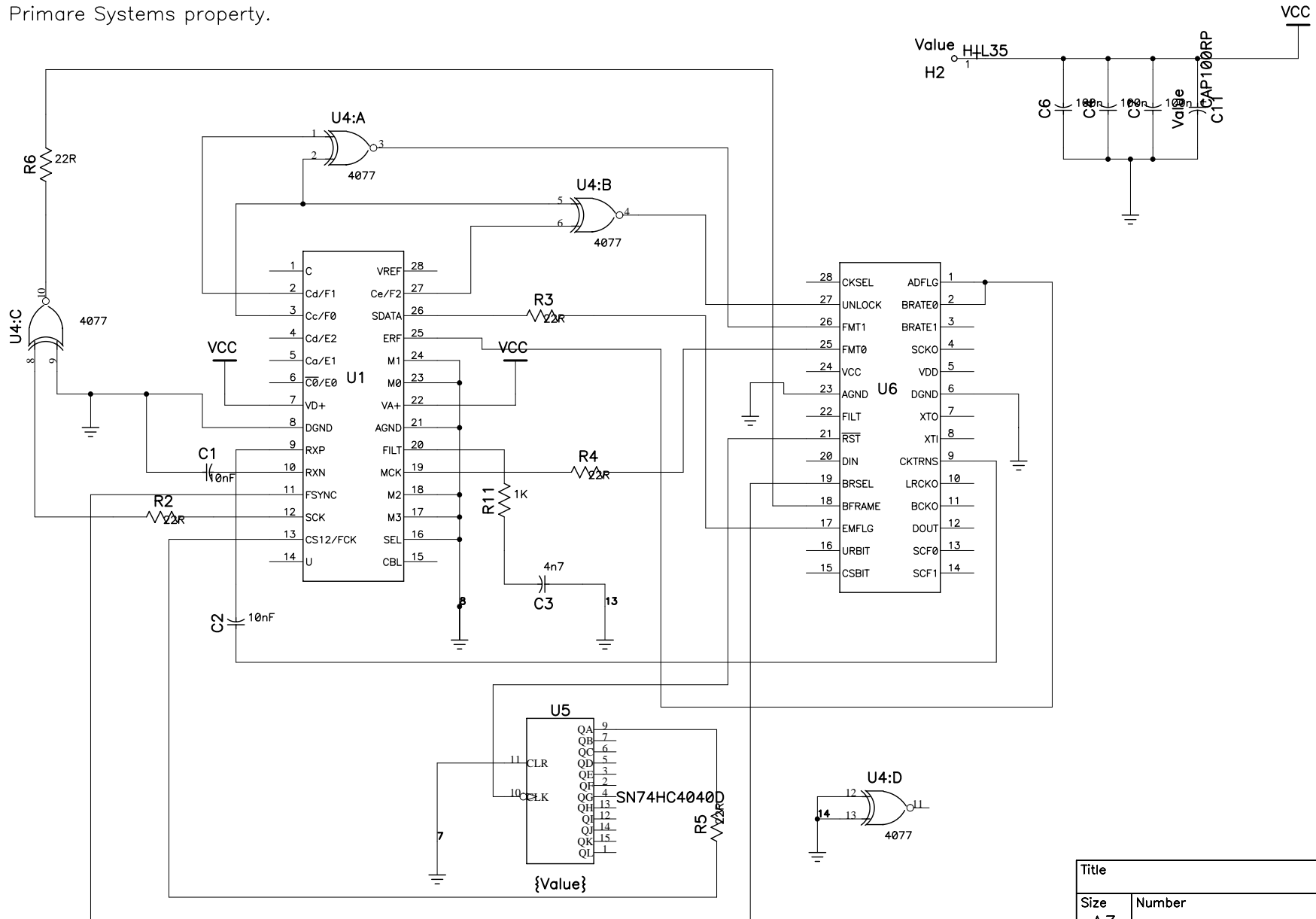
LEFT JUSTIFIED DATA RISING EDGE

LEFT JUSTIFIED DATA RISING EDGE

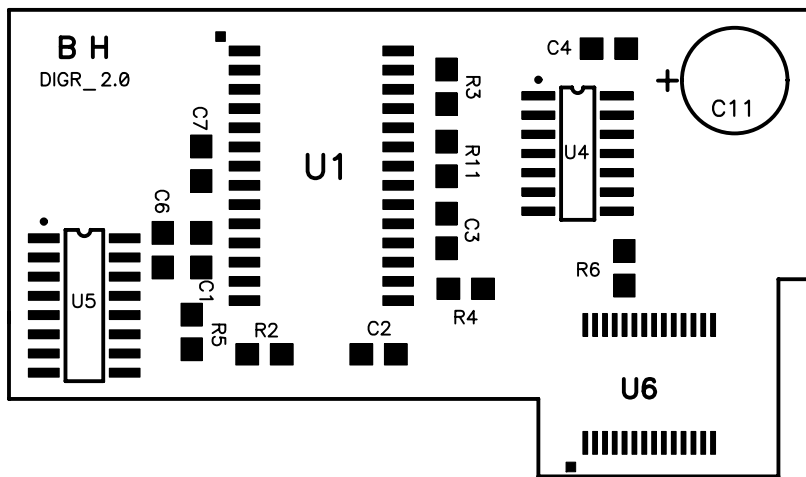
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Bias Adjustment SPA21

If anything in the output stage has been repaired, the bias needs to be readjusted.

Critical for the adjustment are that the mains voltage is 230V or 115V exactly.
The temperature in the facility must be constant during the adjustment procedure.

Use the following measuring points and potentiometers to adjust bias:

Channel	Measure	Adjust
Front R	JP9	R1
Front L	JP8	R56
Surr R	JP7	R55
Surr L	JP6	R54
Center	JP5	R53

These steps describe the procedure which is the same for all channels.

1. Switch the amplifier on or if it has been on burn-in, disconnect input signal and loads.
2. Let the amplifier run for 1h.
3. Adjust the bias to 9mV
4. Wait 1h
5. Measure the bias and if needed readjust to 9mV
6. Wait 1h
7. Measure the bias and if needed readjust to 9mV
8. Wait 1h
9. Measure the bias and if needed readjust to 9mV

Repeat step 5-9 until the bias are stabile.

Technical Specifications

Output power: 5x100 W/ 8R All channels driven

Analogue inputs: 9 RCA

Digital inputs: 2 RCA, 2 TOS-link

Video inputs: 4 Composite, 2 S-Video, 2 Component

Analogue outputs: Front (L&R), Center, Sub, Surr. (L&R), Surr. back (L&R)

Analogue Record Output: 1 RCA (L&R)

Digital Output: 1 RCA

Video Output: 2 Composite, 2 S-Video, 1 Component

Video: NTSC/PAL

Power consumption: Stand by < 42 W

Modes: Dolby ProLogic, Dolby ProLogic II, Dolby Digital 5.1, Dolby Digital Surround EX 6.1, Dolby Digital Matrix 6.1, DTS Neo:6, DTS 5.1, DTS ES 6.1, DTS ES 6.1 discrete, "Surround EX 7.1"

THD: < 0,07%, 20 Hz-20 kHz

Signal-to-noise: -100dB

Frequency response: < 10 Hz-100 kHz, -3 dB

Frequency response: < 20 Hz-20 kHz, -3 dB +/- 0,2 dB

Dimensions (WxDxH): 430x400x135 mm

Weight: 22,5 kg