

**RAM**

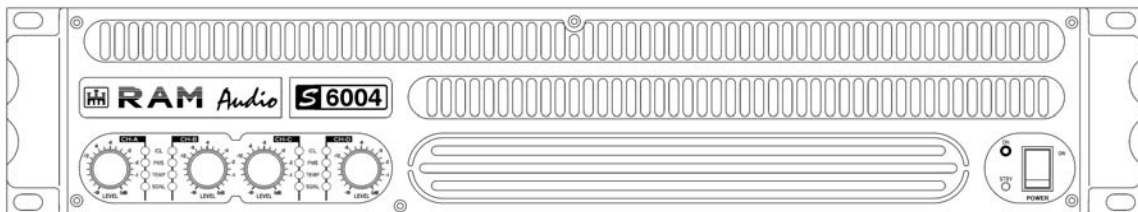
*Audio*®

## Professional Power Amplifiers

**1500-2000-3000-4000-6000**

**3004-4004-4044-6004-6044**

**S Series**



## SERVICE MANUAL



## SAFETY PRECAUTIONS

### WARNING:



The exclamation point inside an equilateral triangle indicates the existence of internal components whose substitution may affect safety.



The lightning and arrowhead symbol warns about the presence of uninsulated dangerous voltage.

### CAUTION

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

To avoid fire or electrocution risk do not expose the unit to rain or moisture.

To avoid electric shock, do not open the unit. No user serviceable parts inside. In the case of disfunction, have the unit checked by qualified agents.

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## GENERAL DESCRIPTION

The S series is a hi power amplifier composed by 2 or 4 channel class H technology fed by a switching power supply. It has twin male-female XLR back panel input connectors per channel with the possibility to work in stereo, parallel or bridge modes. Has too a gain selection switch which permits work at 26, 32 or 38 dB, and a selectable subsonic filter. It has four front panel indicators per channel to inform the amplifier operative status and a potentiometer attenuator per channel to adjust the output level.

At the back panel there are the output Speakon audio connectors. It has too a three wire power mains cord to connect the amplifier to a properly voltage and current rated mains network with earth connection.

### Audio circuit description

The circuit input has a balanced (differential) amplifier to reject the common mode noise added to the audio signal. Then the signal passes through the gain amplifier, subsonic filter and the clip limiter gain control that is inactive unless the amplifier will be in clipping situation due to excessive input signal.

Following this, the signal arrives to the properly named power amplifier. This circuit is comprised by an opamp that provides the error signal to a class A voltage amplifier that feeds the common emitter power amplifier. The feedback signal from the output is returned to the opamp that performs the corrections necessary to replicate at the output the amplified input signal.

Inside the class A voltage amplifier is inserted a bias control circuit that provides a operating point to the following power stage and compensates the thermal derating of silicon PN junctions avoiding the thermal runaway problem.

Inside the power stage is implemented a current limiting circuit that avoid to excessive power transistors disipation in case of shortcircuit or very low impedance loads. The actuation of this circuit limits the output to secure levels.

Following the power amplifier circuit there are a zoobel network and a coil in series that provides correct amplifier performing and unconditional stability in case of excessive inductive or capacitive loads.

The power supply simetrical rails come from the class H conmutation matrix. This matrix is composed by mosfet transistors and diodes and selects the most suitable voltage level to feed the amplifier depending of the output signal level. This operating method leads to a very low power disipation in the power transistors. The mosfets in the conmutation matrix are commanded by a voltage comparator which output depends of the output signal and the supply rails voltage.

There is an on board fan control to regulate the fan speed depending of temperature that is sensed via a ntc thermistor attached to the heatsink.

Regarding to the protection systems there are several blocks which comprise:

- DC protection, via a low pass filter that detects DC or very low frequency signal at the output.
- Shortcircuit protection.
- High temperature protection, via the ntc thermistor and a comparator with a fixed absolute reference.
- Power on delay, via a timer that sets the time between power on and full operative status.
- Clip limiter

Regarding the front panel indicators, all of them are commanded from the audio power section, providing visual information for fault, ok status, high temperature, clipping and input signal existence.

## GENERAL DESCRIPTION

### Power supply description

The amplifier has a switching power supply fully independent and self commanded and protected, to feed the DC voltage to the audio power section.

The mains voltage passes through an interference filter to filter out both the switching noise to go out and the mains interference to come in. Then is located the main fuse and power on switch that when closed permits the charging of primary capacitors via the soft start circuit and the diode bridge. After a few seconds the soft start circuit is bypassed and full mains voltage is applied to the primary side. From the capacitors DC voltage an inverter implemented by two power transistors creates a high frequency square wave that feeds the high frequency transformer primary winding. From the multiple secondary windings several dc voltages are built via the corresponding rectifiers, inductances and capacitors too feed the audio power section.

The control of the entire power supply is done from a separate board with contains all the necessary circuitry. This circuitry is fed via its own power supply, fully independent, located in the same board. Inside the board are located the power transistor drivers and clock generator for the high frequency signal. Beside, are located too the soft start control and the power supply protections, that are:

- Power off or mains voltage absence detector
- Low/high mains voltage detector
- Excessive peak or average primary current detector via a current sensor.
- DC output shutdown

All these protections act stopping the high frequency oscillation and restarting the system configuring a very fast acting way to protect the power supply. The current detector circuit try first to lower the amplifier gain to reduce the current consumption, stopping the oscillation as a secondary action. Also, the audio section can send information to the power supply to stop the oscillation, if you have DC output.

# TECHNICAL SPECIFICATIONS

## Technical Specifications

	S-1500	S-2000	S-3000	S-4000	S-6000	S-3004	S-4004	S-4044	S-6004	S-6044
<b>Output Power</b>										
<i>1kHz, 1.0% THD+N</i>										
@ 2Ω	2x 880 W	2x 1190 W	2x 1570 W	2x 1950 W	2x 2950 W	4x 700 W	4x 980 W	-	4x 1440 W	-
@ 4Ω	2x 575 W	2x 790 W	2x 1100 W	2x 1380 W	2x 2025 W	4x 500 W	4x 670 W	4x 975 W	4x 1000 W	4x 1480 W
@ 8Ω	2x 325 W	2x 460 W	2x 630 W	2x 810 W	2x 1250 W	4x 300 W	4x 430 W	4x 690 W	4x 620 W	4x 1015 W
Bridge @ 4Ω	1760 W	2380 W	3140 W	3900 W	5900 W	2x 1400 W	2x 1960 W	-	2x 2880 W	-
Bridge @ 8Ω	1150 W	1580 W	2200 W	2760 W	4050 W	2x 1000 W	2x 1340 W	2x 1950 W	2x 2000 W	2x 2960 W
<i>Pink Noise 12dB C.F.</i>										
@ 2Ω	2x 975 W	2x 1360 W	2x 2060 W	2x 2460 W	2x 4225 W	4x 890 W	4x 1170 W	-	4x 2080 W	-
@ 4Ω	2x 610 W	2x 880 W	2x 1240 W	2x 1600 W	2x 2600 W	4x 580 W	4x 820 W	4x 1230 W	4x 1280 W	4x 2110 W
<b>Frequency Response</b>										
Power Bandwidth ±0.25dB	20Hz-20kHz									
<b>Phase Response</b>										
@ 1 watt 20Hz-20kHz	±15 deg									
<b>Total Harmonic Distortion</b>										
20Hz-20kHz	<0.05%									
<b>Intermodulation Distortion</b>										
SMPTE	<0.05%									
<b>Damping Factor</b>										
20-500Hz @8Ω	>500									
<b>Crosstalk</b>										
20Hz-20kHz	>75 dB									
<b>Voltage Gain</b>										
	26/32/38 dB									
<b>Sensitivity</b>										
Rated Power @ 8Ω (V)	2.6/1.3/0.6	3.0/1.5/0.8	3.6/1.8/0.9	4.0/2.0/1.0	5.0/2.5/1.3	2.6/1.3/0.6	3.0/1.5/0.8	3.7/1.9/0.9	3.5/1.8/0.9	5.0/2.5/1.3
<b>Signal-to-Noise Ratio</b>										
20Hz-20kHz	112 dB	113 dB	115 dB	116 dB	118dB	112dB	113dB	116dB	116dB	118dB
<b>Required AC Mains</b>										
230 V - 50 Hz (idle)	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A
@ 4Ω (1/8 rated power)	4 A	4.8 A	6.2 A	7.5 A	10.5A	6 A	7.5 A	11A	10.5A	15A
<b>Dimensions</b>										
W x H x D (mm)	483x89x310									
W x H x D (inches)	19x3.5x12.2									
<b>Weight</b>										
Net (Kg- Lbs)	8-17.6	8-17.6	8.5-18.7	8.5-18.7	8.6-18.9	8.5-18.7	8.5-18.7	8.5-18.7	8.6-18.9	8.6-18.9
<b>Protections</b>										
Soft-start, Turn-on Turn-off transients, Muting at turn-on, Over-heating, DC, RF, Short-circuit, Open or mismatched loads, Overloaded power supply, ICL™, PMS™, SSP™										

# QUICK REPAIR PROCEDURE

## MAINS CURRENT LIMITER:

To test the power amplifier it is advisable to implement a mains current limiter to avoid any shortcircuit, in case the unit has damaged parts that have not been fixed. The most effective and easy solution is to use a pair of 100W light bulbs arranged in parallel, and placed in series with the mains supply. If everything is OK, when you switch on the power supply the bulbs will light until the primary capacitors are fully charged and then they will bright softly enabling enough current to pass through to reach a normal start up of the supply.

## POWER SUPPLY:

When the switching power supply breaks, the usual consequences are that both IGBT transistors (Q2 & Q3) explode and that the IR2110S ic (U12) from the control board (the IGBT driver) gets damaged. It may be possible that more ic's from the control board get damaged too (U15 SG3525 or U9 NE555), but this is not usual. Once an IGBT breaks, it is absolutely necessary to change the IR2110S ic too, even if it seems to be OK. If the IR2110S ic is not replaced, the IGBTs will damage again. If you have not the required SMT tools to change any SMD component, the best option is to change the complete control board.

To change the IGBTs follow the next steps: take out the power supply unit from the amplifier by removing the screws at the PCB. Put the power supply PCB upside down and unscrew the 4 screws that are on the IGBT heatsink, remove both switching transistors by cutting their legs and clean the pad holes of solder. Screw another pair of transistors to the heatsink with their corresponding mica insulators, and place the heatsink again into its location by fastening the other two screws and soldering the transistors legs to the PCB. Above manipulations must be done with utmost care in order to have a successful repair. Check that the transistor collector is insulated from the heatsink and that this heatsink is located parallel to the other one. Change the control PCB and do a visual test of the rest of the components.

Test too the integrity of secondary rectifiers using a multimeter in "diode mode". Test also they are insulated from the heatsink. (D9, D10, D11, D12, D13, D14, D15 and D16).

To test the power supply it is advisable to implement a little bench to avoid any risk because of lack of insulation from direct ac mains voltage in most of the circuit. We recommend to use a transformer with turns ratio 1:1 to isolate the mains from the power supply (remember that the 230 V ac is still present) but now you are isolated from earth. Connect the power supply through the current limiter (bulbs in series with the mains) and you must look at the control board green led to check that the 15Vdc control board supply is operating and that there is not any shorted ic. You can measure then the voltages at the output connector, they will be lower than expected because the voltage drops at the bulbs. The voltages are the following:

S 1500:  $\pm 49V$  /  $\pm 81V$   
S 2000:  $\pm 49V$  /  $\pm 98V$   
S 3000:  $\pm 65V$  /  $\pm 114V$   
S 4000:  $\pm 65V$  /  $\pm 130V$   
S 6000:  $\pm 54V$  /  $\pm 108V$  /  $\pm 162V$   
S 3004:  $\pm 49V$  /  $\pm 81V$   
S 4004:  $\pm 49V$  /  $\pm 98V$   
S 4044:  $\pm 65V$  /  $\pm 130V$   
S 6004:  $\pm 38V$  /  $\pm 76V$  /  $\pm 115V$   
S 6044:  $\pm 54V$  /  $\pm 108V$  /  $\pm 162V$

When you are sure that the unit is OK, you can short the light bulbs with the aid of a switch and measure the correct voltages.

Bear in mind that it is possible that one of the audio power section may be damaged. Test there is no short at the power transistors. Verify also there is not any ground track opened. When switching the amplifier on, measure that the voltage at the power audio section emitter resistors correspond to the first class H level. Check with an oscilloscope, with the probe attached to the emitter resistors, that when applying signal the power supply will change in steps as expected. Test both polarities.

It is highly recommended to test the entire amplifier with the light bulbs in series with the mains supply to avoid further power supply breakings. If the amplifier start up correctly then you may short the light bulbs and apply signal to obtain power from the amp.

# QUICK REPAIR PROCEDURE

## POWER AUDIO SECTION:

When the audio section breaks, the usual consequences are that some final transistor or/and driver transistor gets shortcircuited. It is possible to get also some class h conmutation mosfet transistor or diode shortcircuited. To check it you have to use a multimeter in diode mode or resistance measure. If the final transistors are OK you can measure around 10ohms between the base and the emitter and very high resistance between collector and emitter. In the driver transistor you have to measure around 230ohms between base and emitter.

If you have a final transistor shortcircuited, you can measure a very low resistance between collector and emitter of all final transistors, but the lower resistance indicates what is exactly the transistor shortcircuited, because this has a direct shortcircuit and the other paralleled transistors have arround 0.66ohms (two serie emittter resistor). Cut the leads of this shortcircuited transistors and continue testing if you have some more transistor broken.

Also, you may have only the driver transistor shorcircuited, then you can measure this direct shorcircuit between collector and emitter of this transistor, and arround 10ohms between the collector and emiter of the all final transistors. Also it is possible to have the driver and some final transistor broken. Cut the leads of any device broken and continue testing until you are sure you have not any more device shorcircuited.

You have to check also the mosfet transistor and diode from the class H switch. They are placed on the same heatsink nearest to the fan. Check you have not a shortcircuit between the drain and the source of the mosfet and check the diode works correctly.

To change any device broken you have remove the heat sinks needed to reach it. Now remove his screw and place the new one with thermal silicone. Clean the surface if needed. Tight the screw using a screwdriver with a torque arround 1.3N/m.

Its is possible you have to change some burn resistor. Check visually specially the 0.33ohms emitter resistor and the 10ohms/1W driver emitter resistor, and if you have some dark resistor measure it and change if needed.

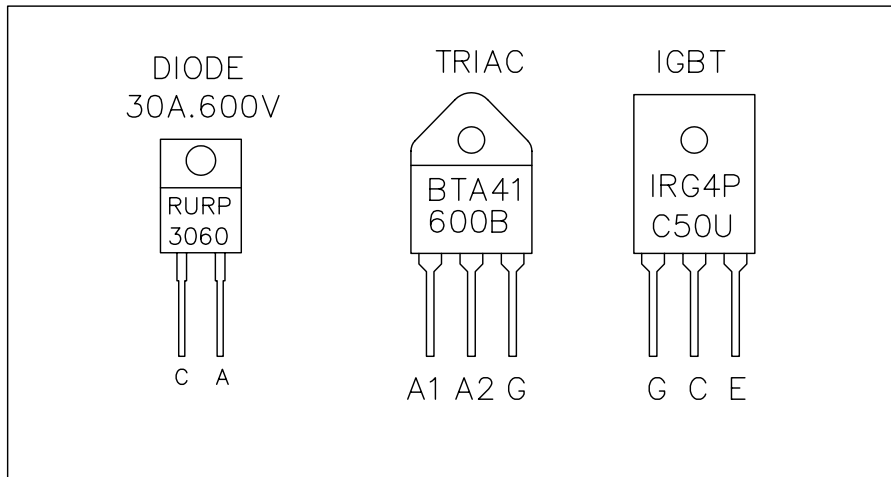
After change all broken devices, check you have not any shorcircuit between the outputs (heat sink), rails and ground. It is highly recommended to test the entire amplifier with the light bulbs in series with the mains supply to avoid further power module breakings. If the amplifier start up correctly then you may short the light bulbs and apply signal to obtain power from the amp. Use 1kHz sinusoidal signal and 4 ohms dummy load to test all works perfectly. Check specially the switch rail works correctly, and you have not any instability when you clip the output.

If the signal input clips before as expected, perhaps you can have some problem with the SOA limit circuit. Some small SMD transistor can be broken. Check if you have problems with the positive or negative semicycle and test the SOA limit components, placed in front of the heat sink. This circuit controls the maximun transistor current and you can test it working with a very low impedance load (1ohm for example) and a small input signal. you can see this system limits the output to a secure value.

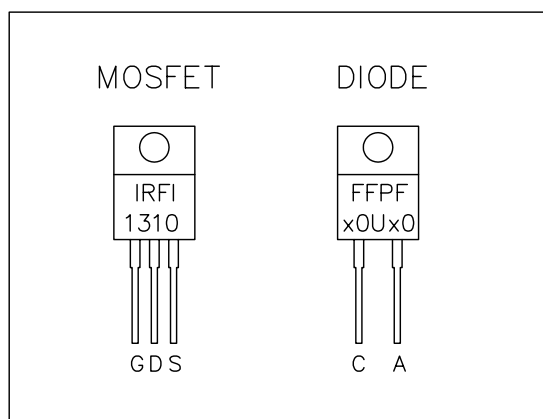
**Bias adjusting:** you may adjust the Bias point only if requiered. To do it, connect the output to a 4ohms dummy load. Place a 10kHz sinusoidal signal in the input, and setting the oscilloscope at 1V/div scale, adjust the level to have 4Vp output. You have to adjust the PT1 trimer to remove the cross distortion. Take in account you have to adjust to have the minimun current needed to remove the crossover distortion, because if you adjust it with excesive bias current the power amplifier will work very hot or also can become hot without signal.

# T0220–T0247 Package devices

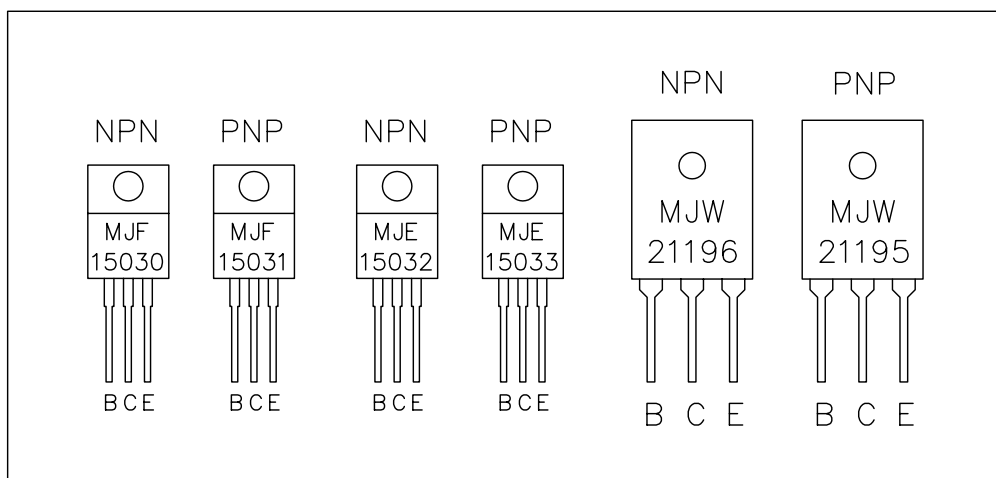
## Lead assignments



Power  
Supply

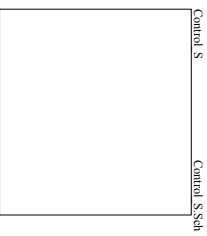
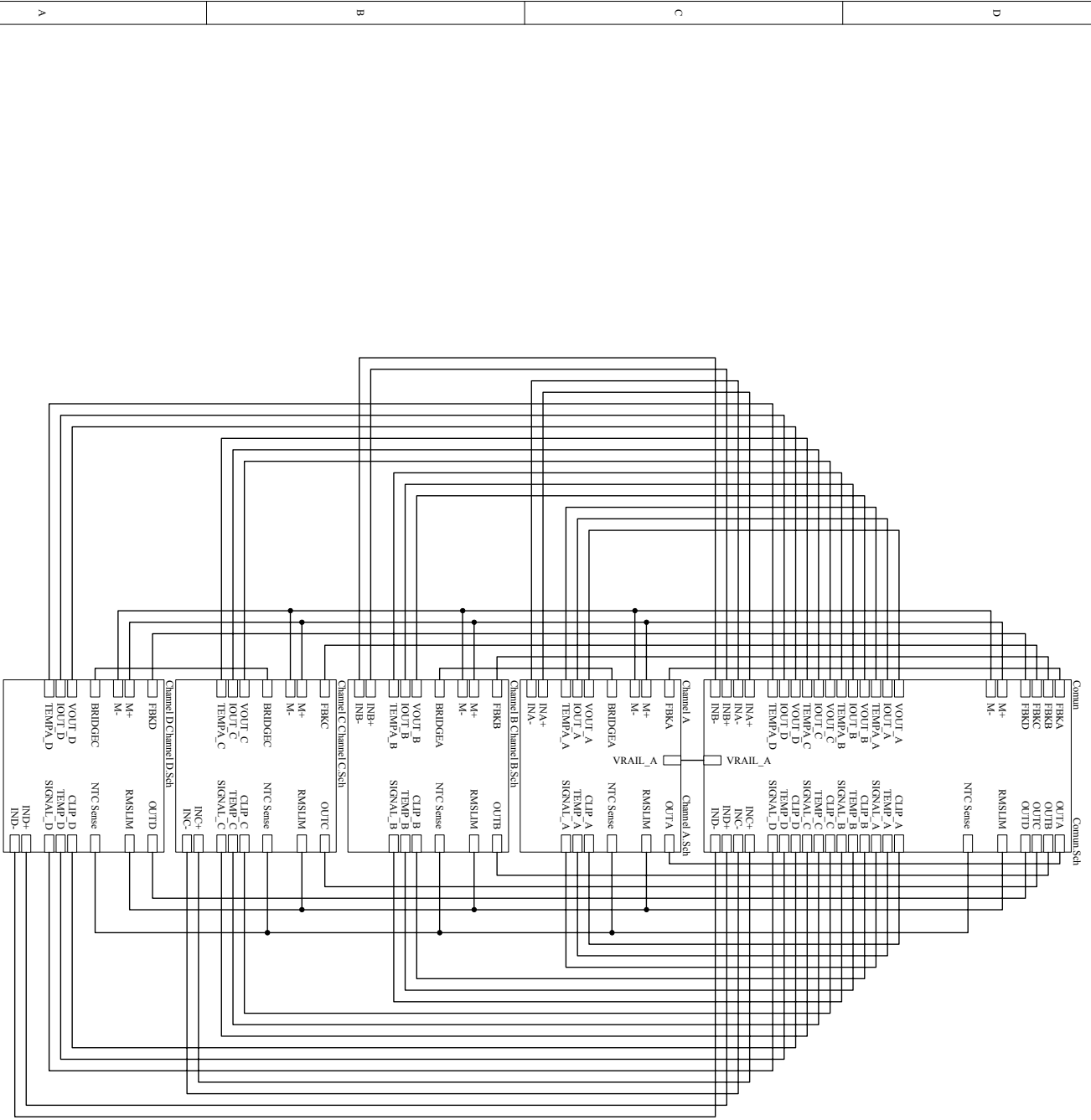


Class H  
Switch

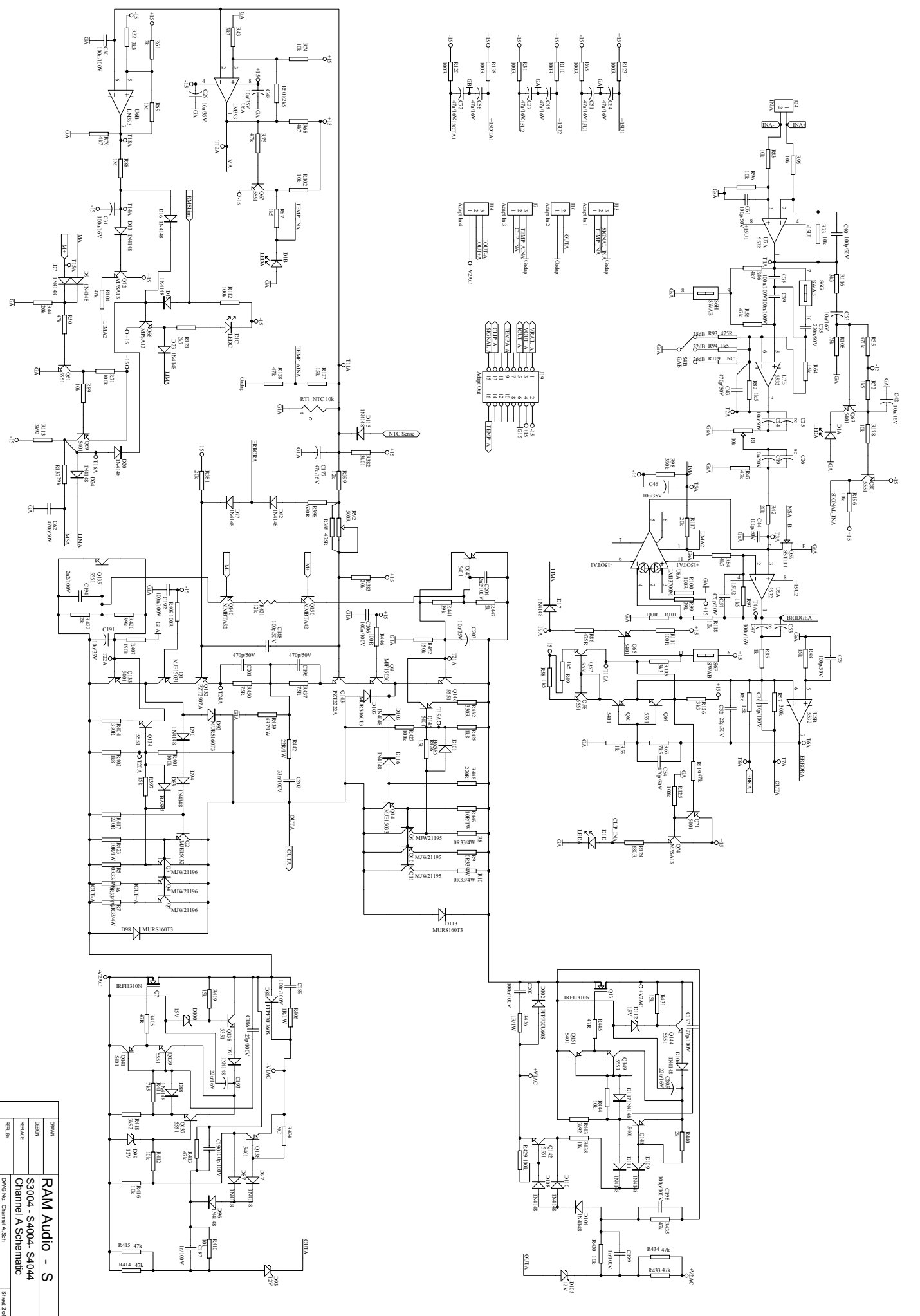


Power  
Audio

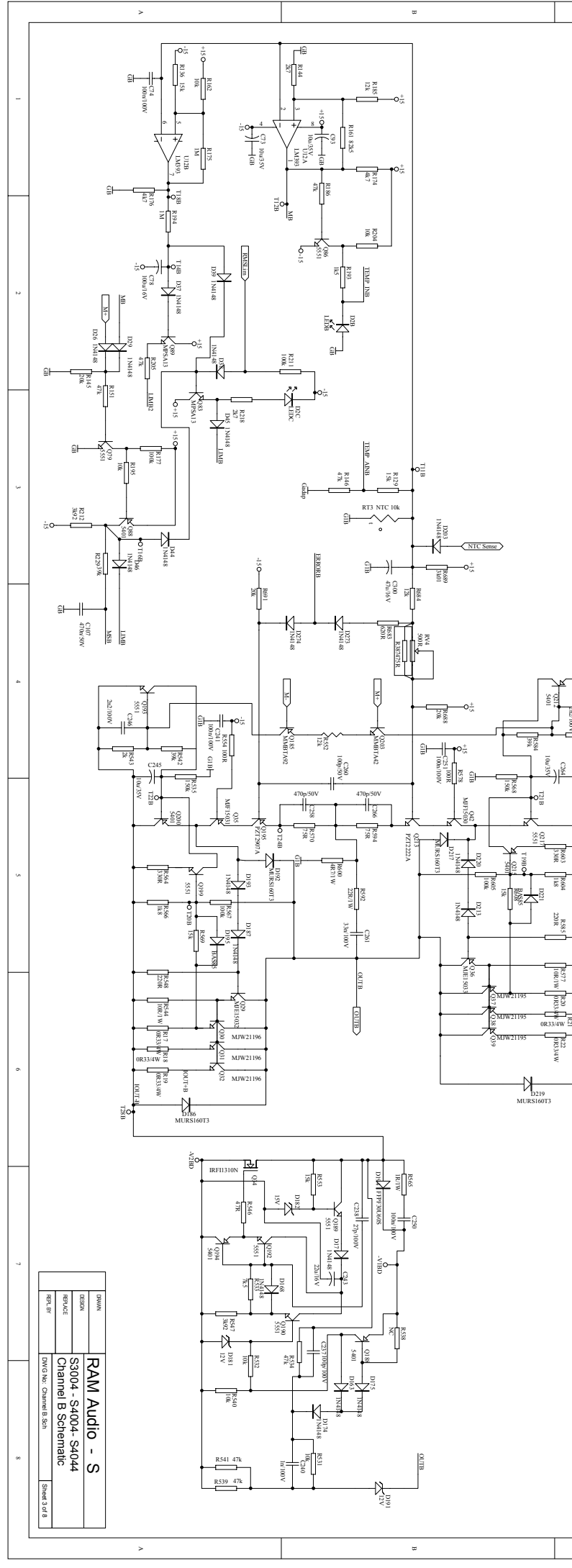
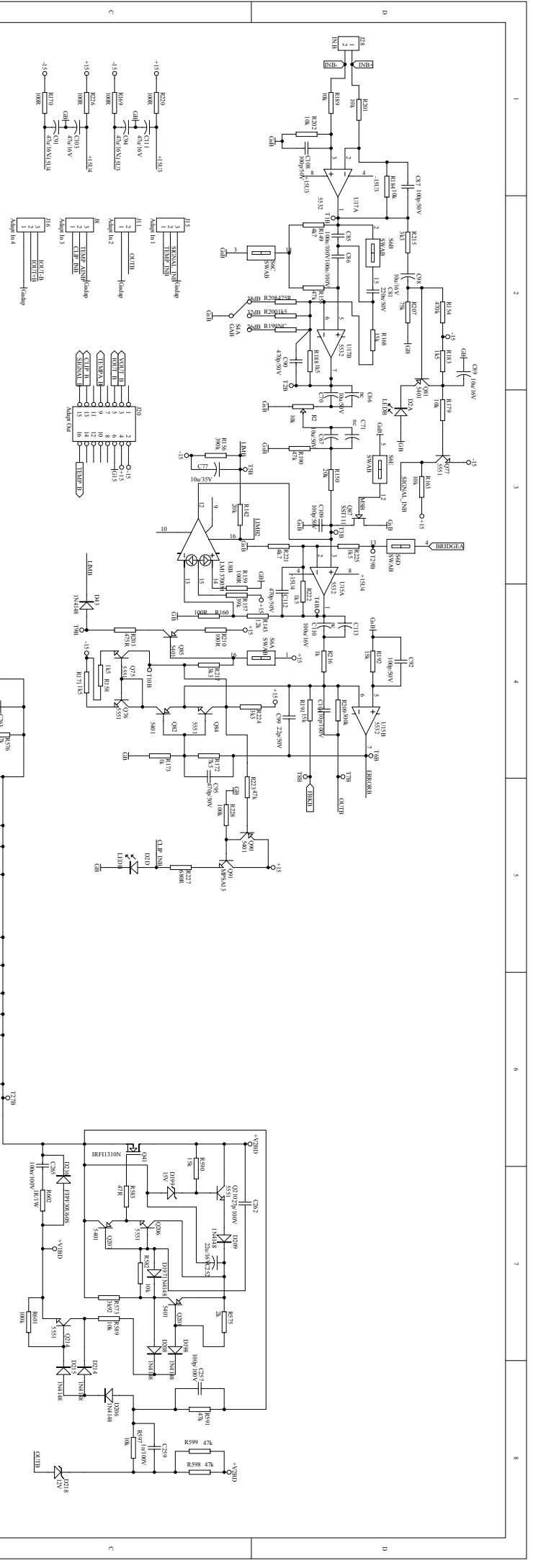




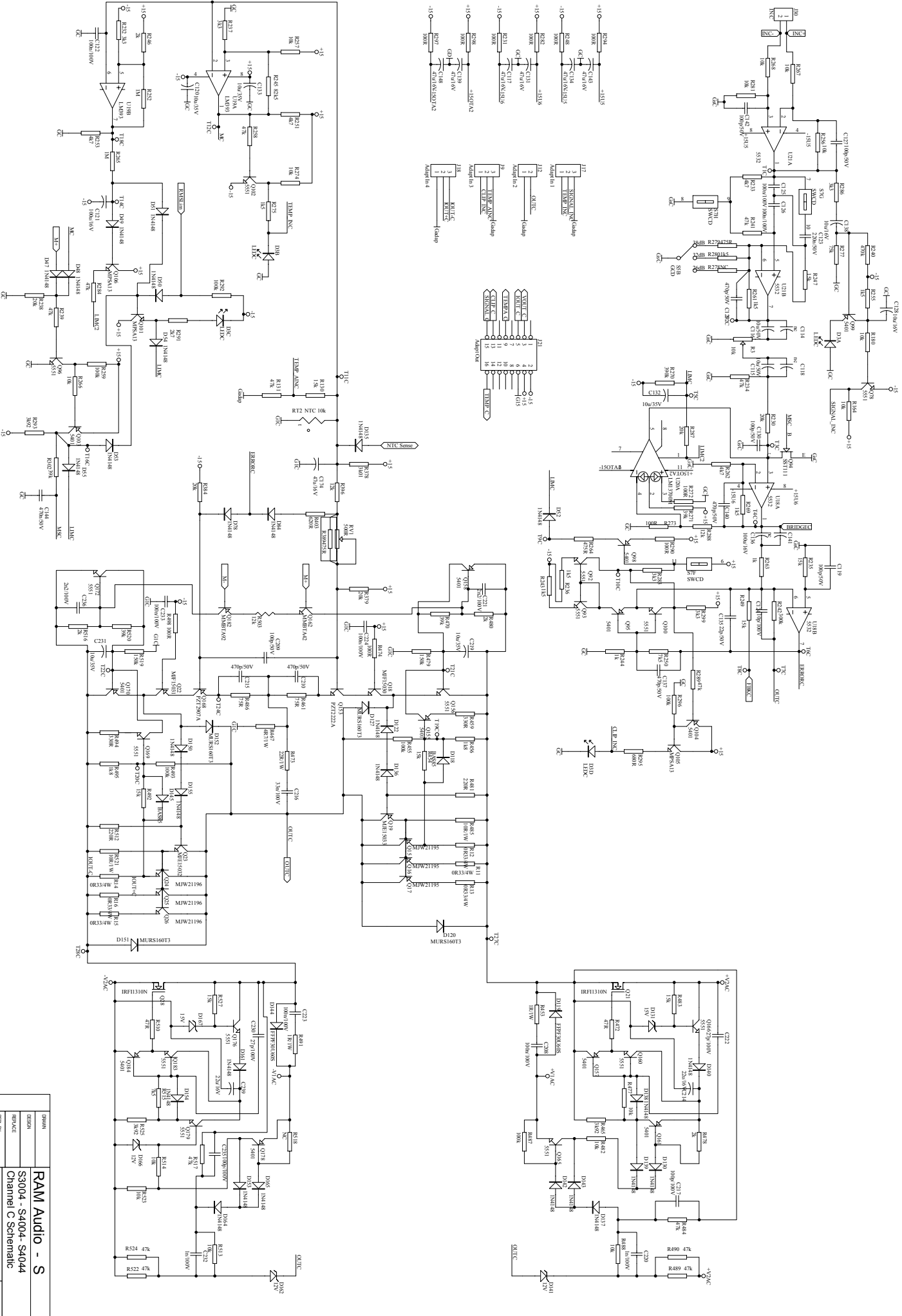
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REPLACE	
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DWG No.	Sheet 1 of 8



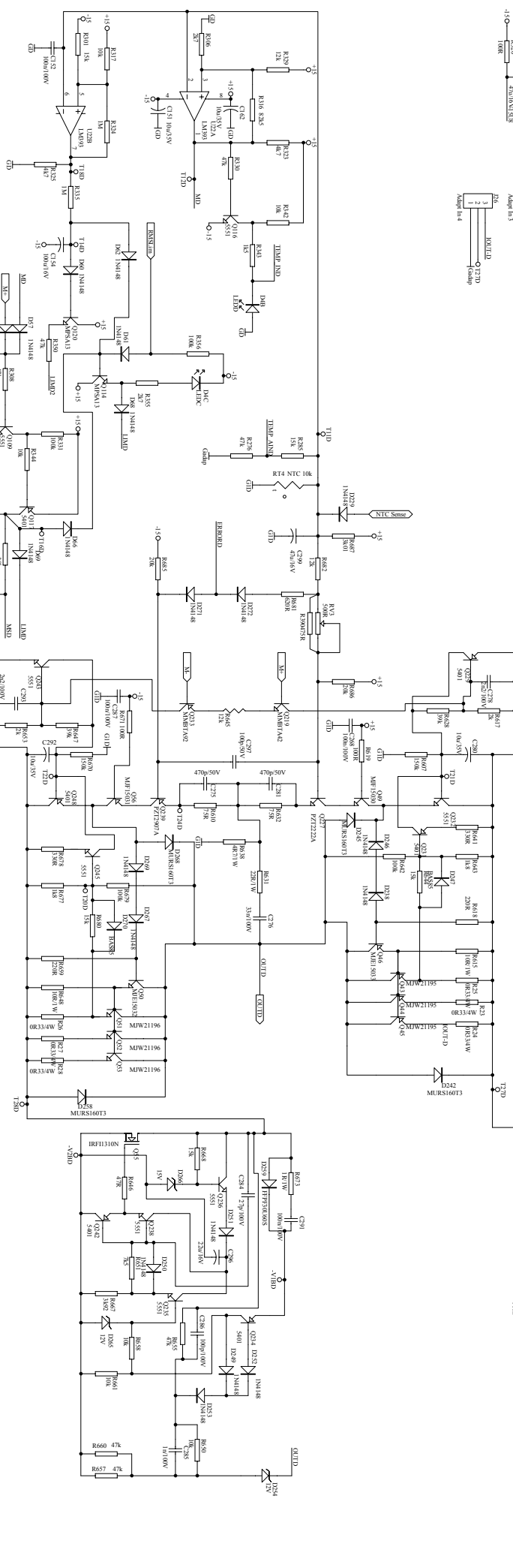
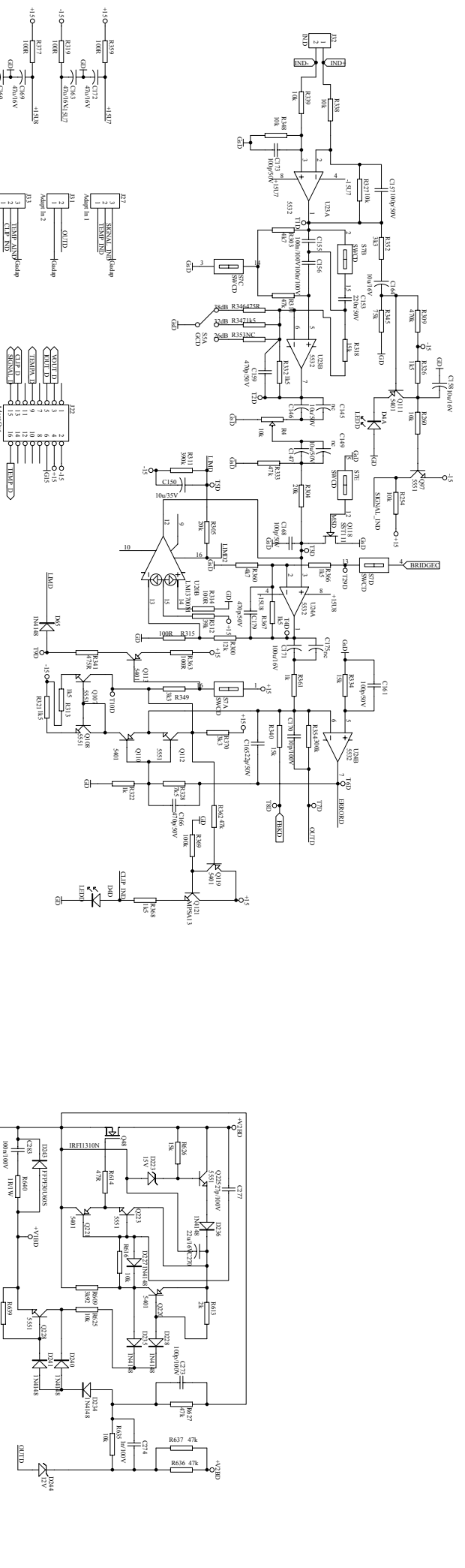
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**S3004 - S4004 - S4004**  
**Channel A Schematic**  
 DWG No. Channel A.Sch  
 Sheet 2 of 8



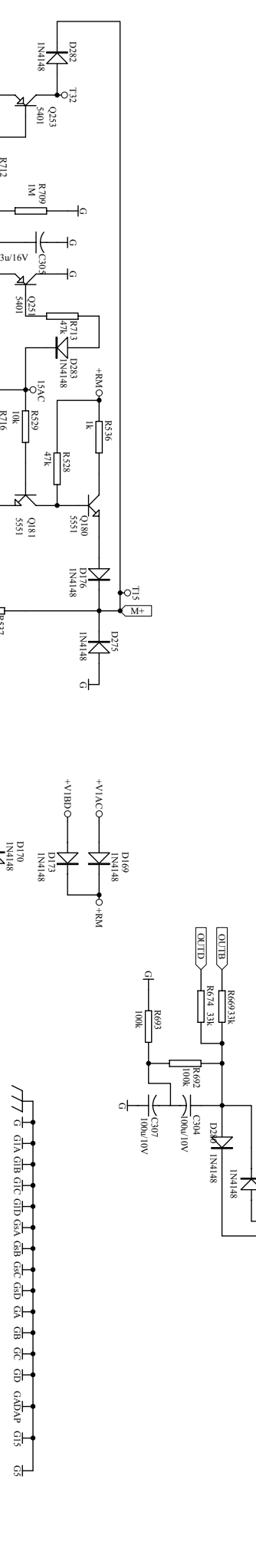
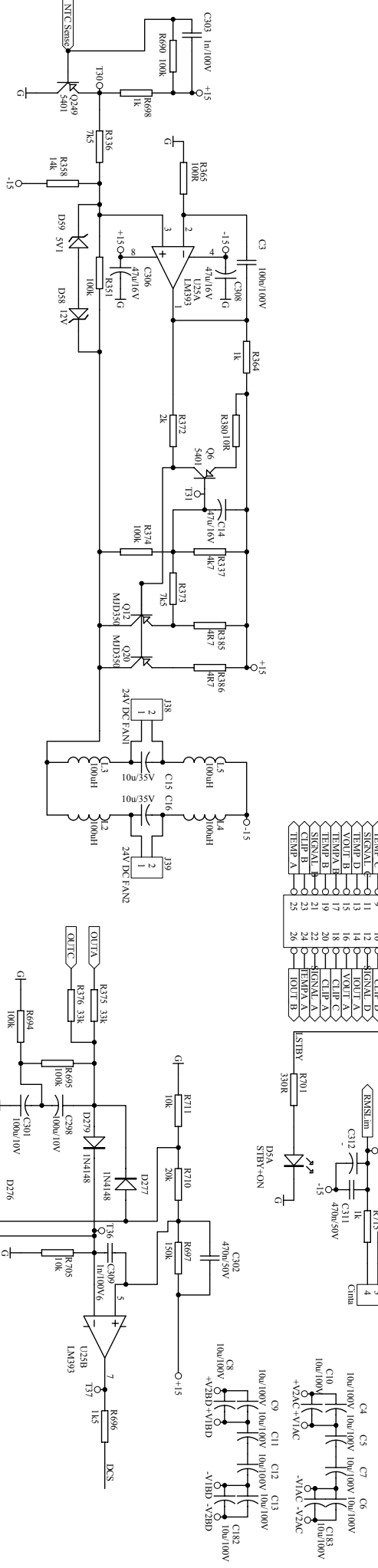
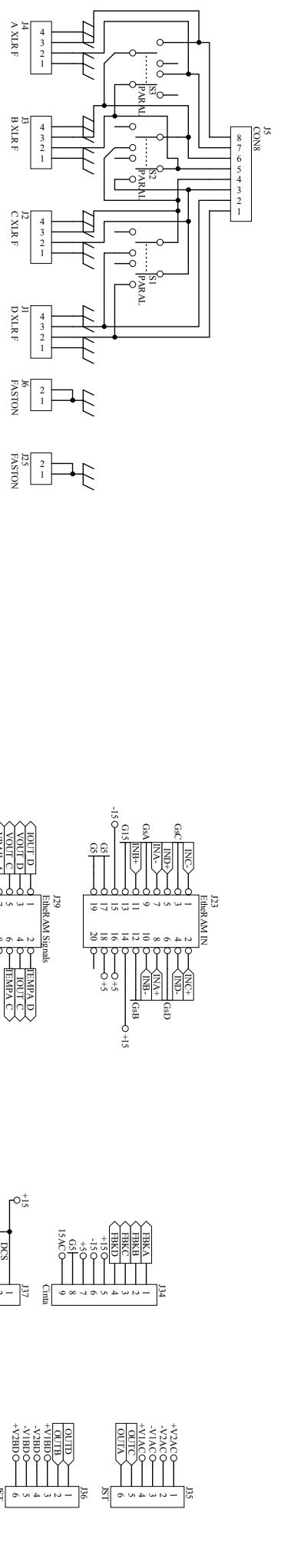
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ES00N	<b>S3004 - S4004 - S4044</b>
9904ZC	<b>Channel B Schematic</b>
REV. B7	DWG. No. Channel B_S01



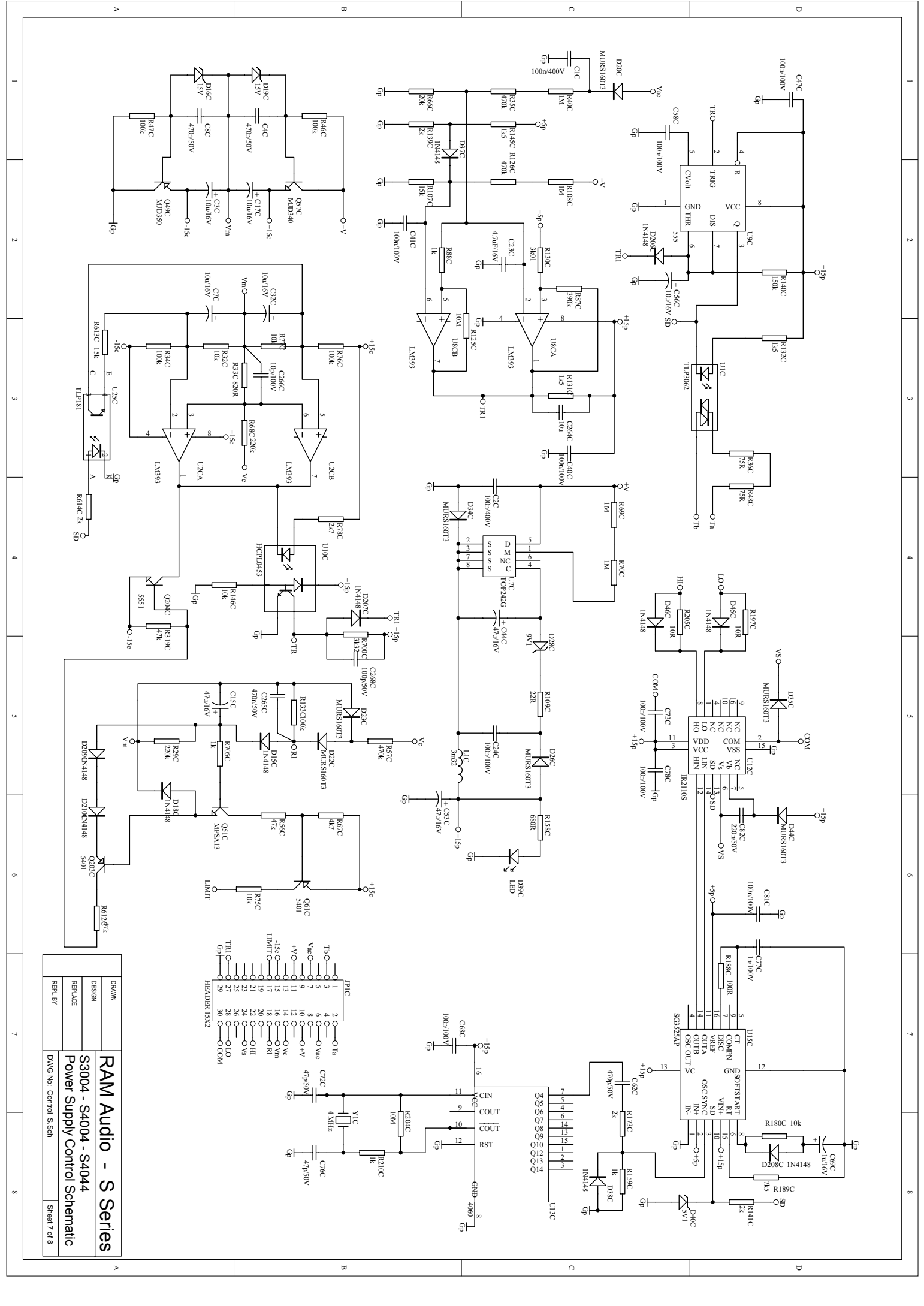
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**S3004 - S4004 - S4004**  
**Channel C Schematic**  
 DWG No. Channel C.S20  
 Sheet 4 of 8



99000	RAW Audio - S
ES3004	S3004 - S4004 - S4004
990000	Channel D Schematic
REV: 01	DWG No: Channel D S20



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<b>RAM Audio - S Series</b>	
<b>S3004 - S4004 - S4044</b>	
<b>Inputs, protections &amp; fans</b>	
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Sheet 6 of 8	

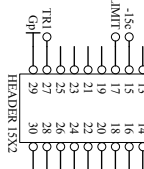


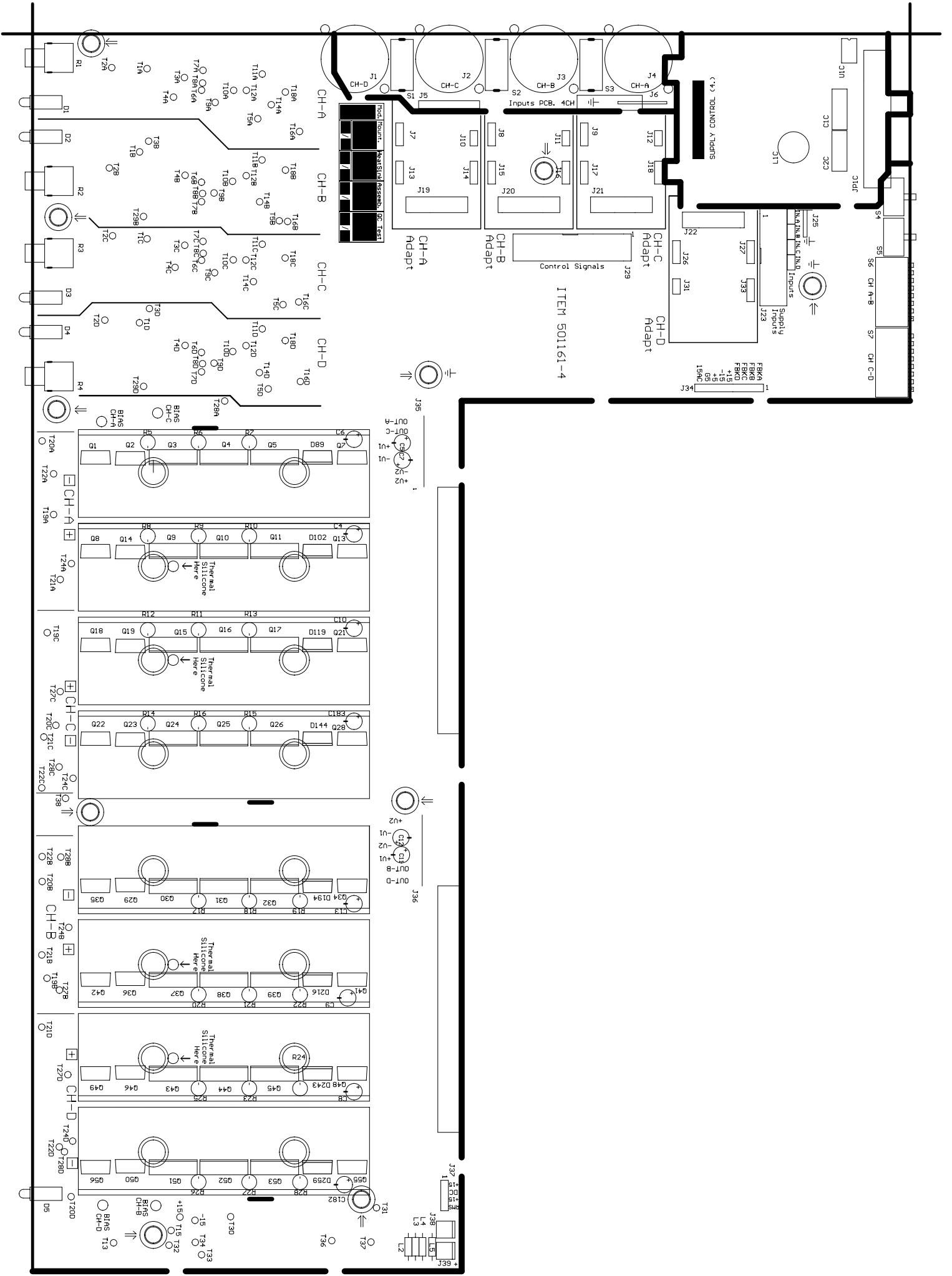
**RAM Audio - S Series**

**S3004 - S4004 - S4044**

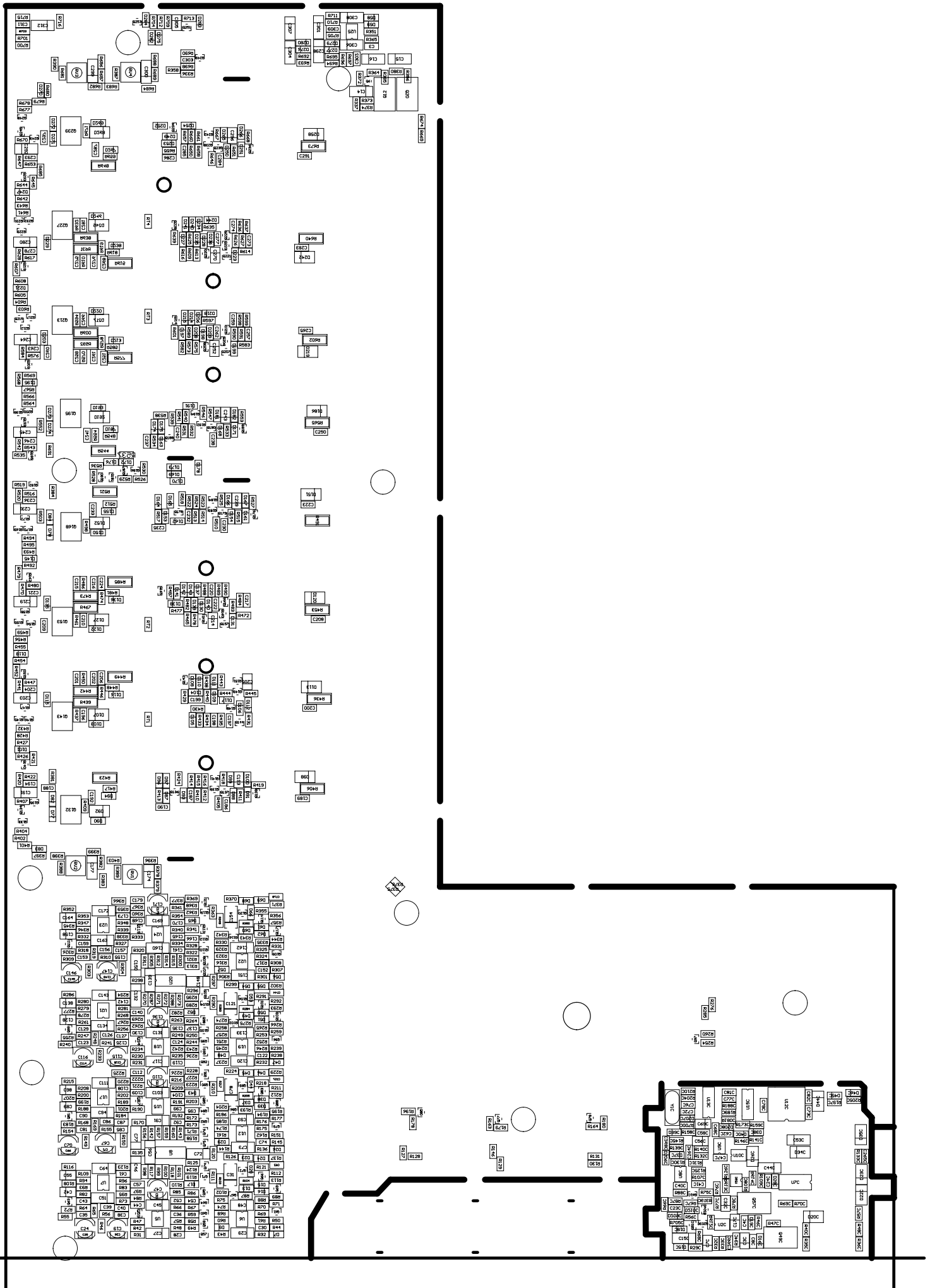
**Power Supply Control Schematic**

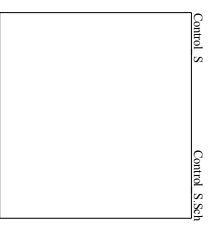
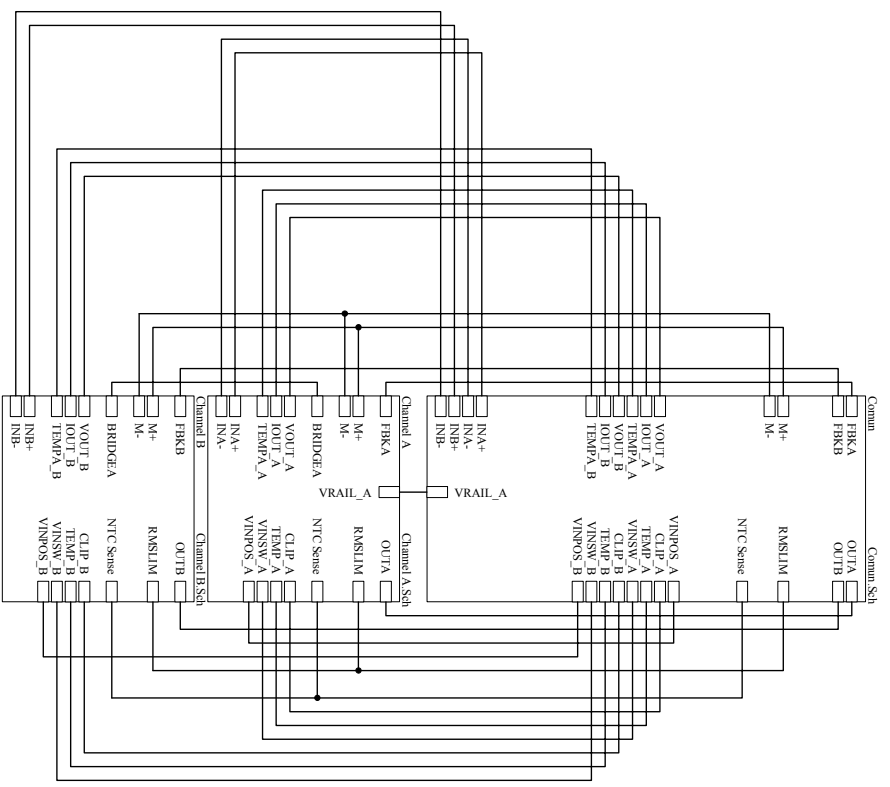
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Sheet	7 of 8



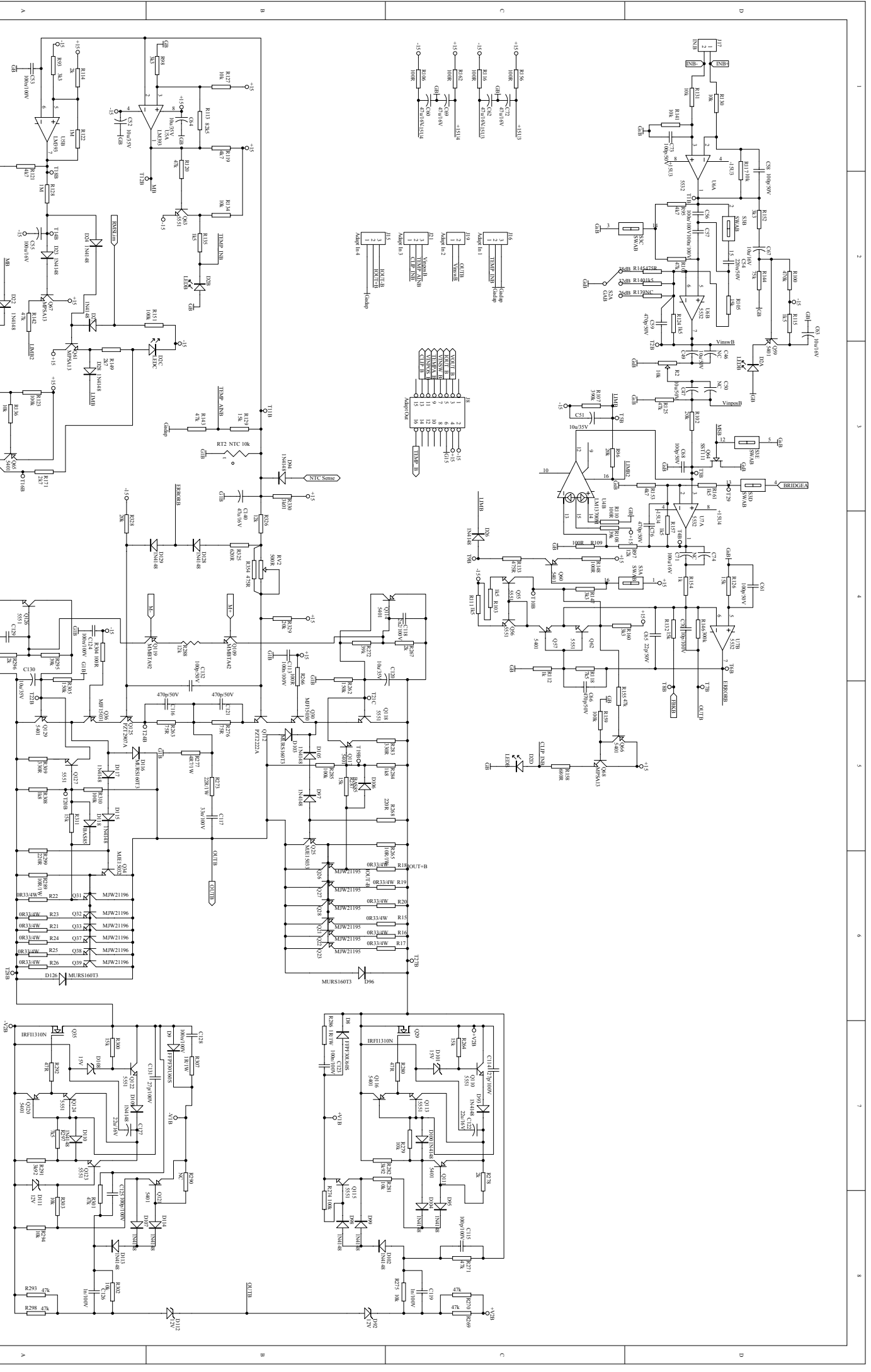




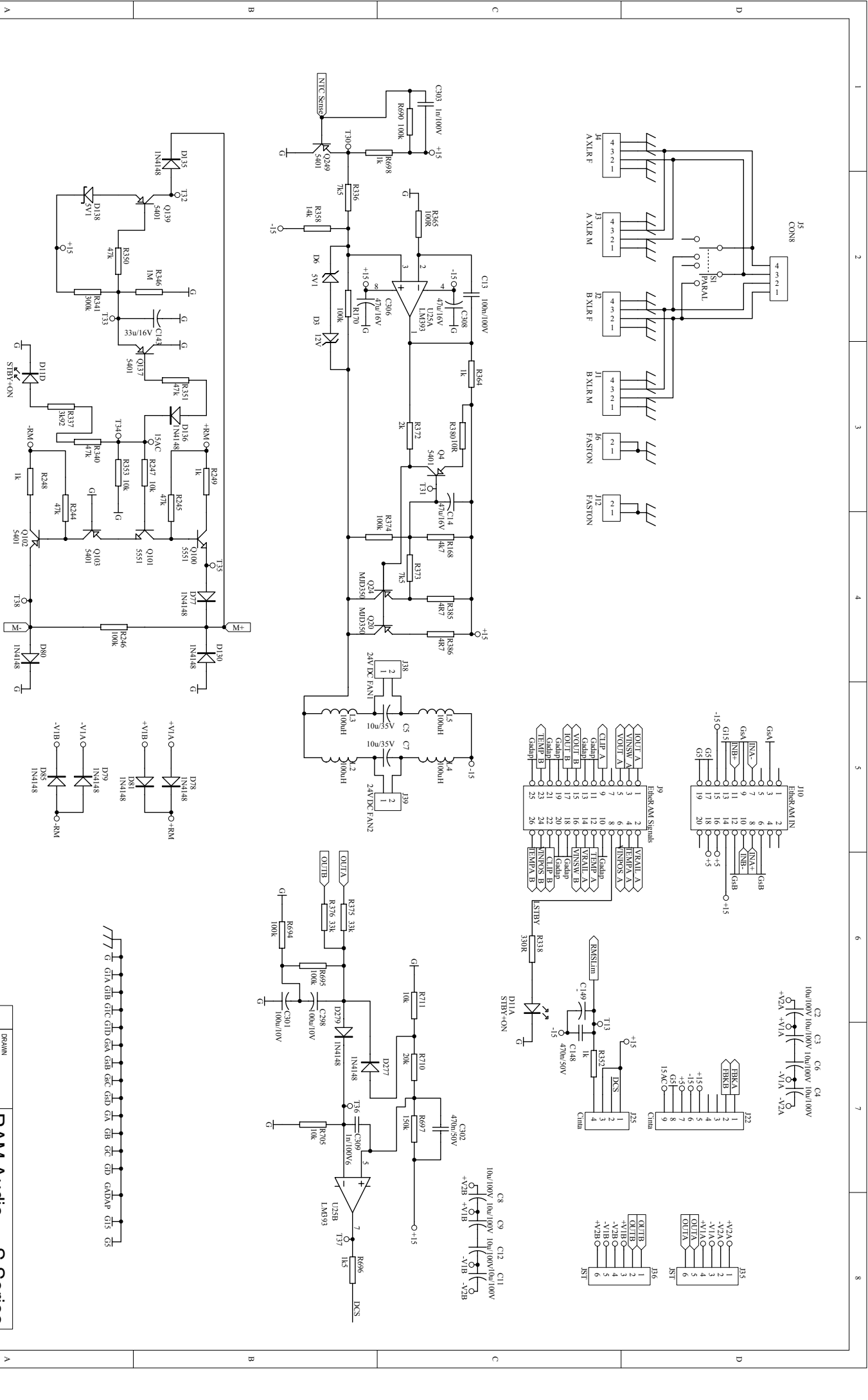




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S1500 - S2000 - S3000 - S4000	
Signals Block Diagram	
	Sheet 1 of 5

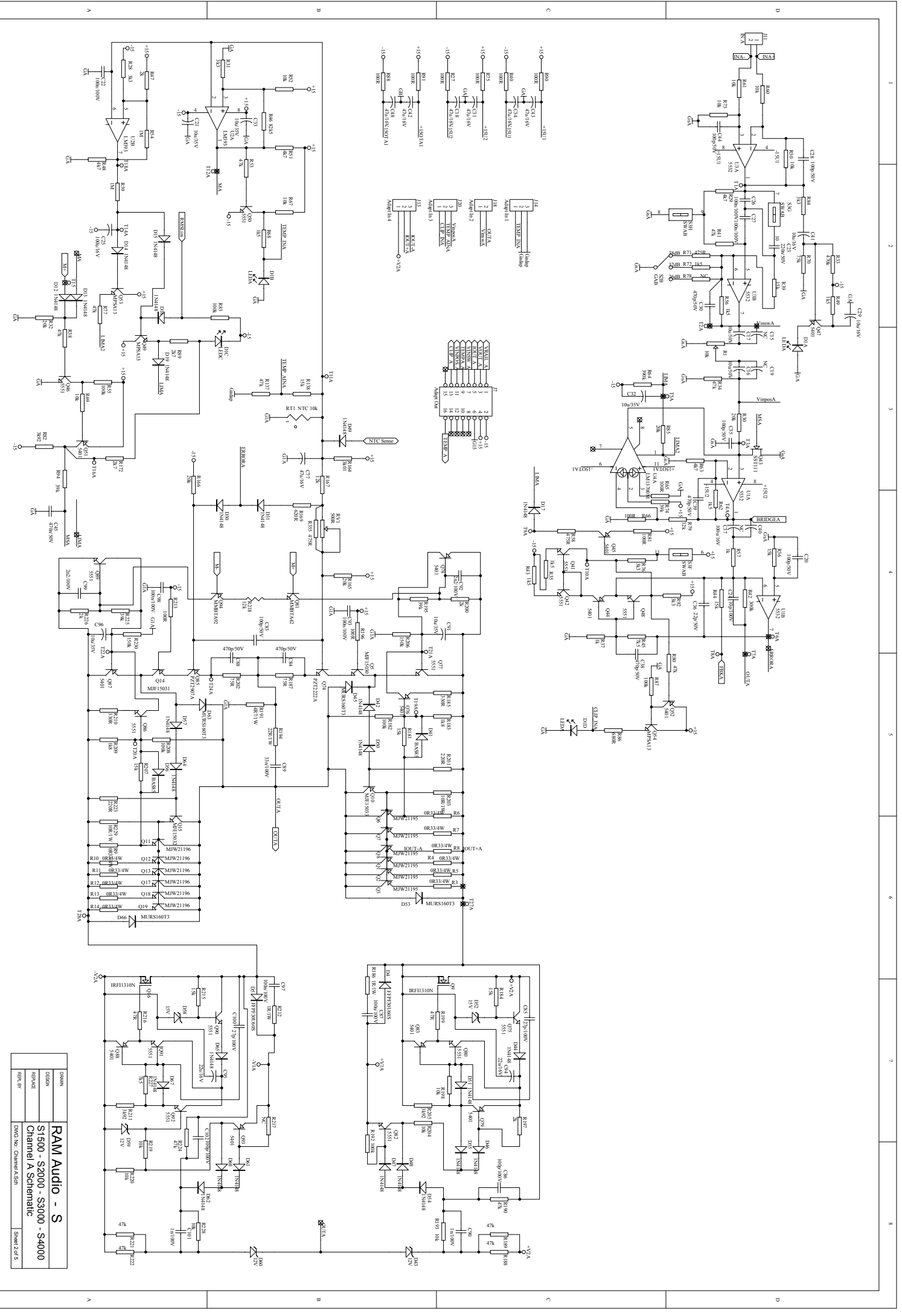
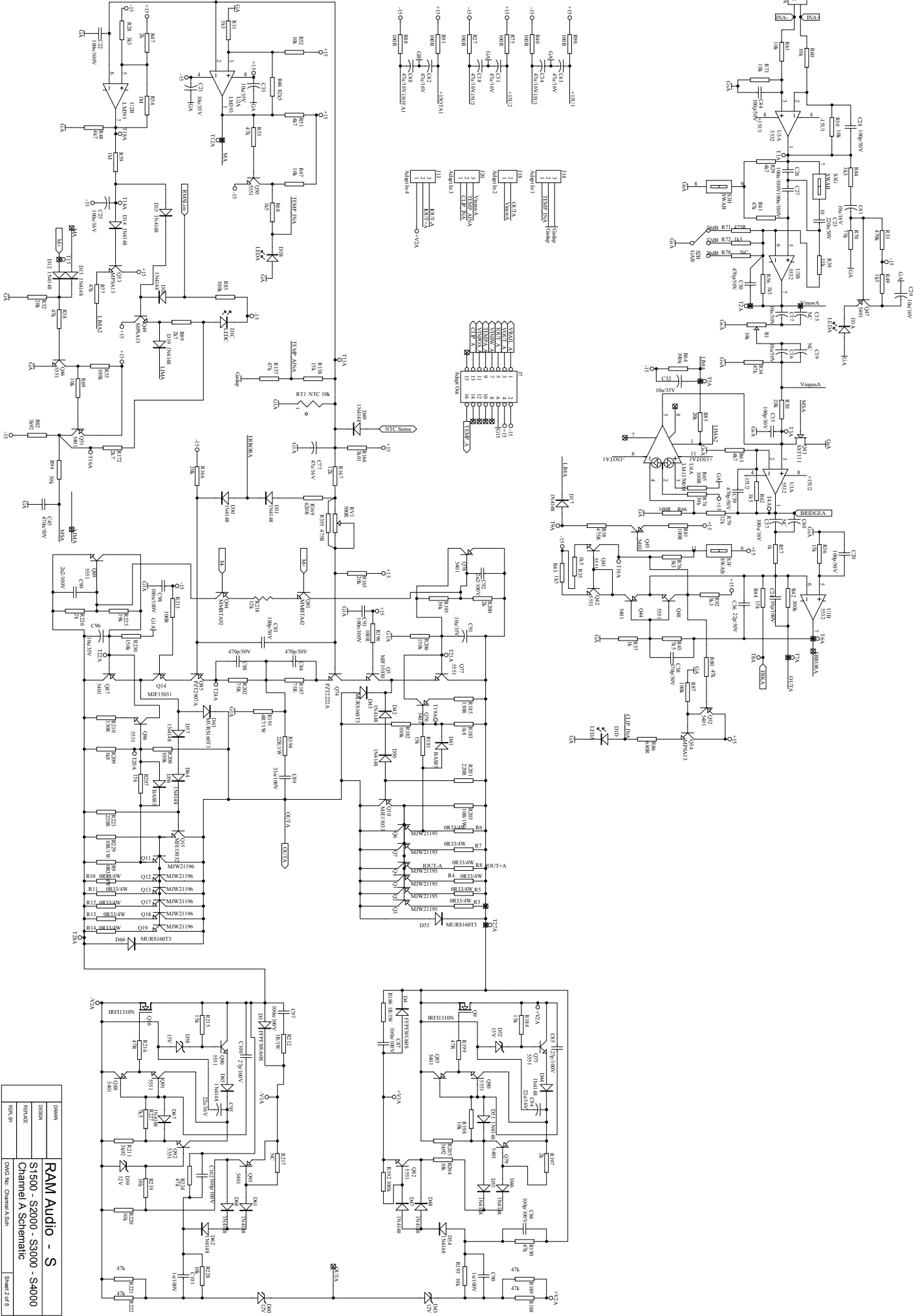


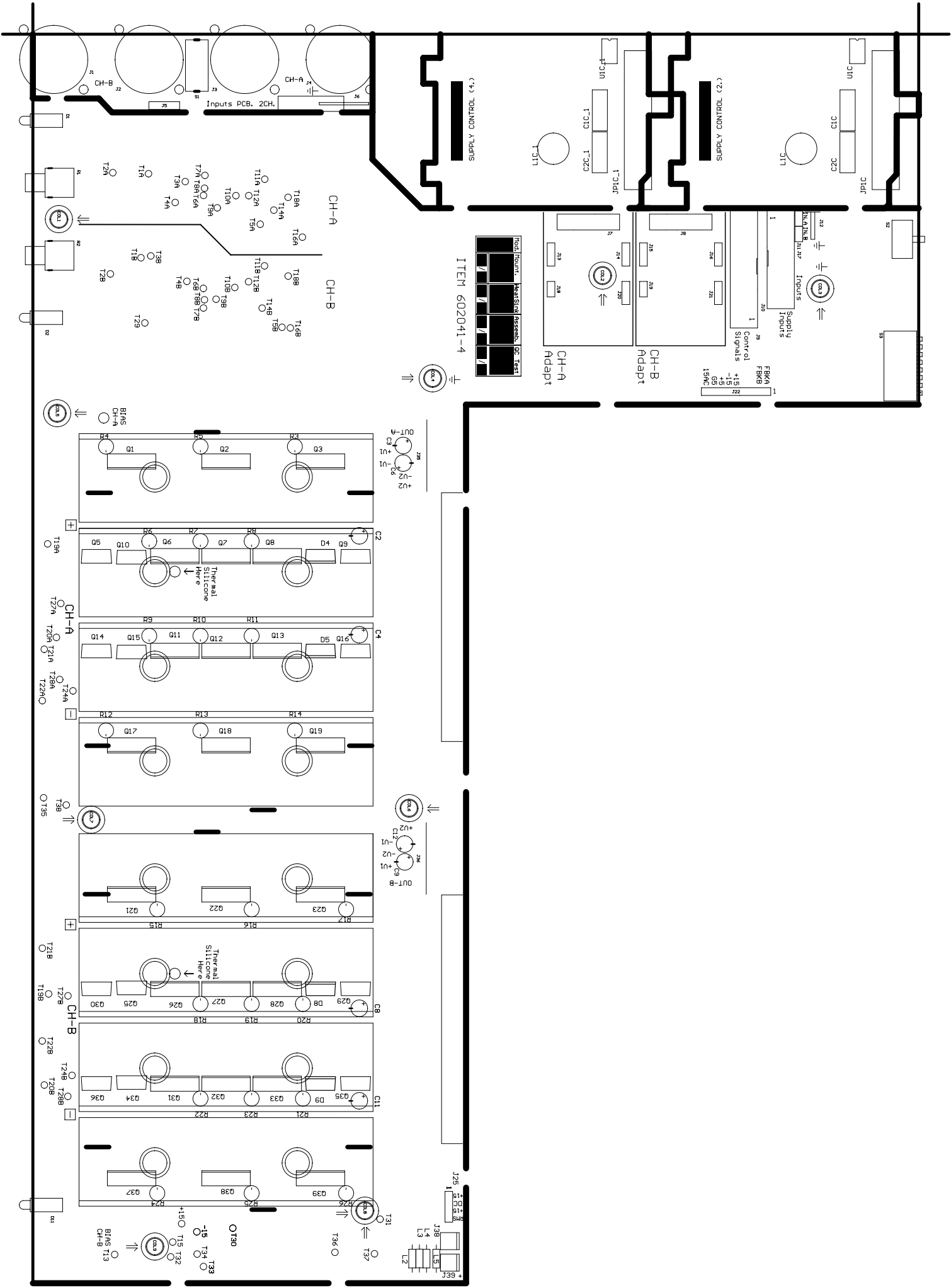
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REFERENCE	Channel B Schematic
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	Sheet 2 of 5



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Sheet 4 of 5	

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REVISED	Channel A Schematic		
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	Sheet 2 of 3		





ITEM 602041-4

(2) TOP CONTROL  
SUPPLY CONTROL

(4) TOP CONTROL  
SUPPLY

Fixed Mount. Thermal Silicon Assembly PCB Test

Inputs PCB, 2CH.

CH-A

CH-B

CH-A  
Adapt

CH-B  
Adapt

Control Signals  
+15V  
+5V  
-15V  
GND  
15VDC

FKK8  
FKK9

OUT-A  
+V<sub>CC</sub> +V<sub>EE</sub>  
-V<sub>CC</sub> -V<sub>EE</sub>

OUT-B  
+V<sub>CC</sub> +V<sub>EE</sub>  
-V<sub>CC</sub> -V<sub>EE</sub>

Thermal Silicon Here

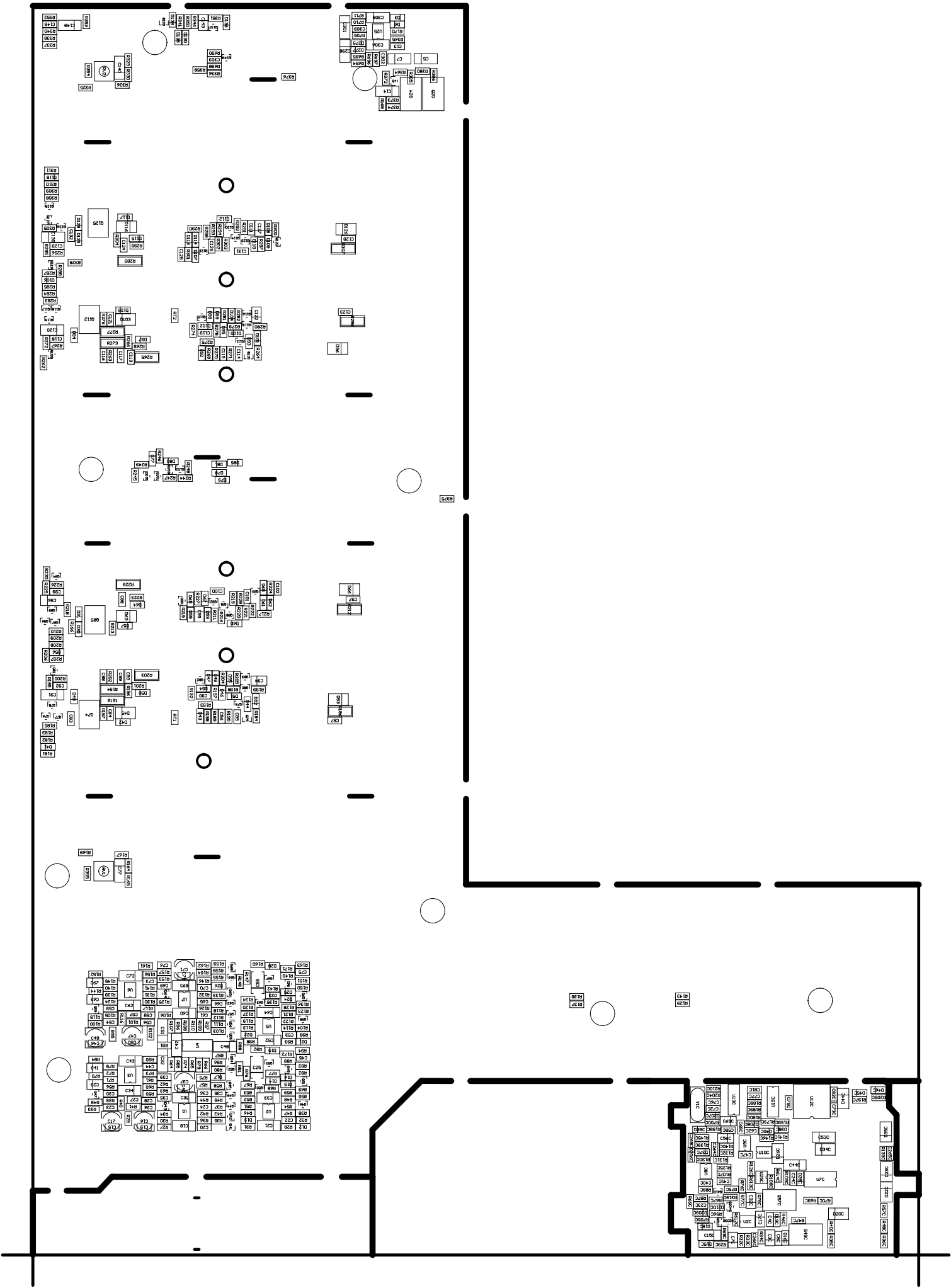
Thermal Silicon Here

Bias CH-A  
Bias CH-B

J25

15VDC  
+5V  
-15V  
L3  
L4  
L2

BEF



1101  
1102  
1103  
1104  
1105  
1106  
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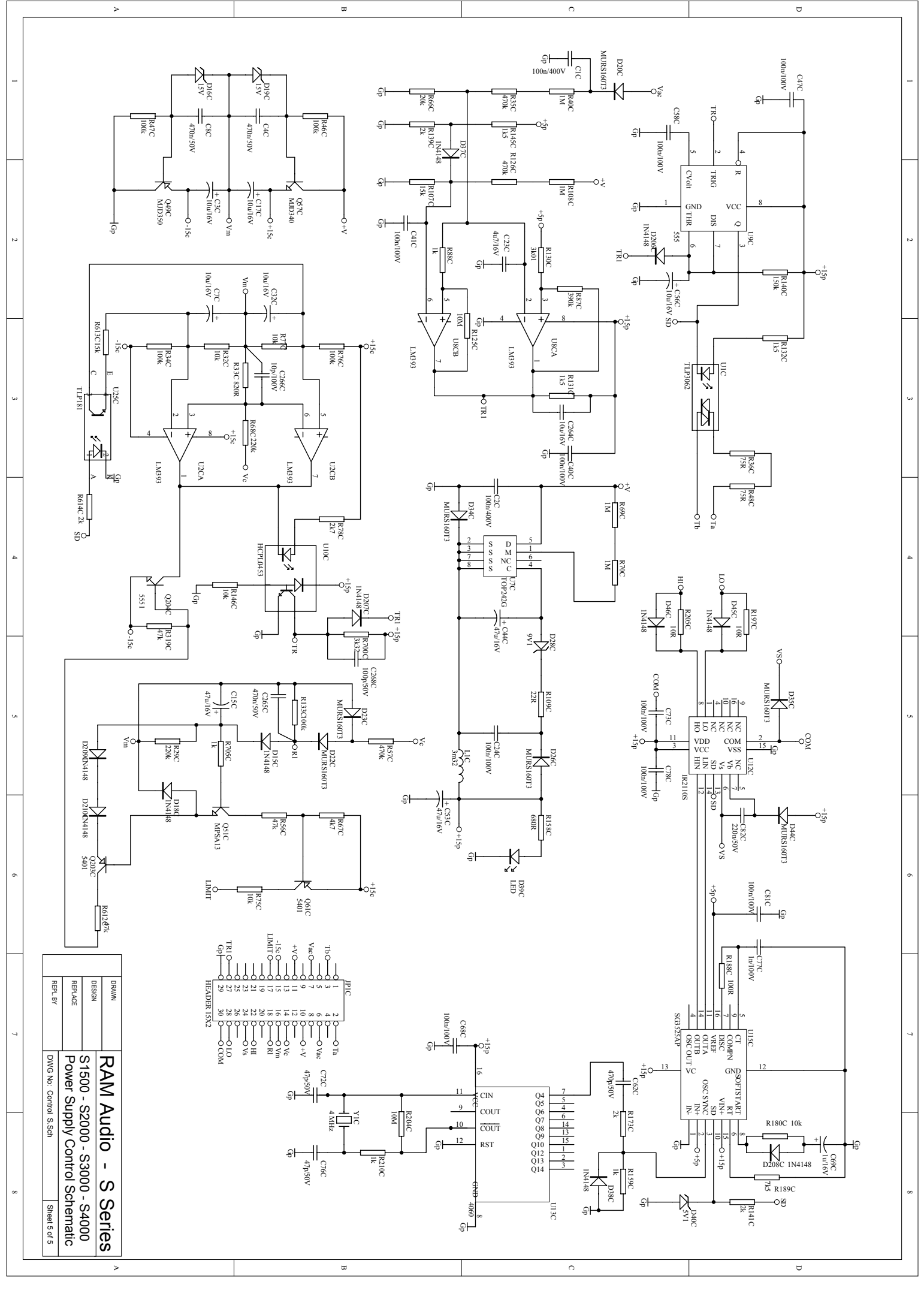
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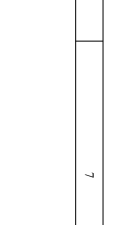
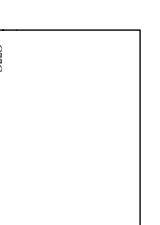
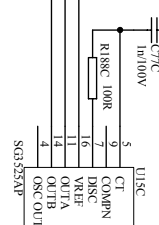
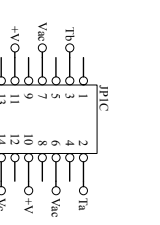
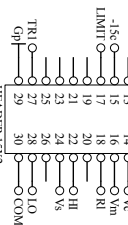
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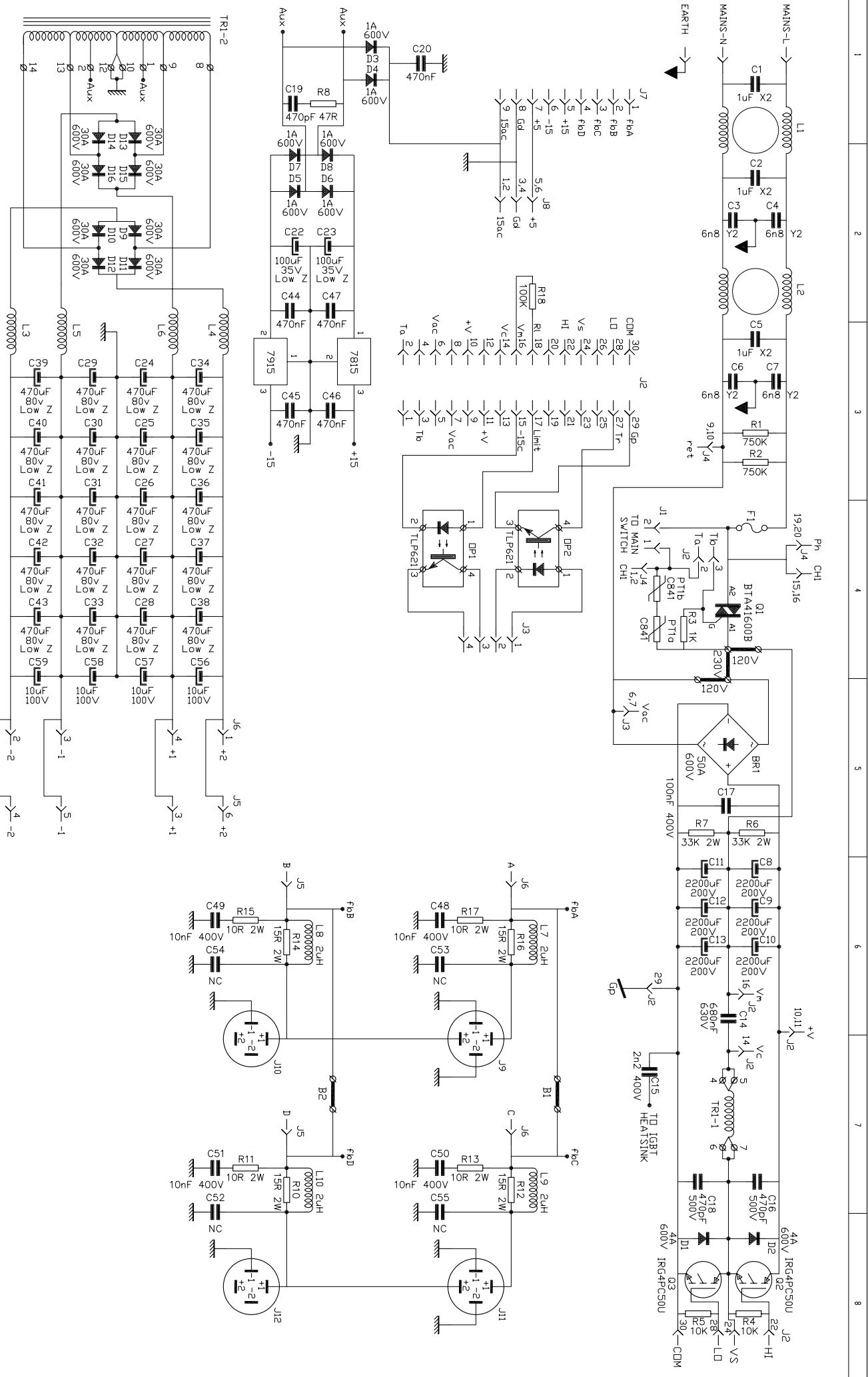
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DRWN	
DESIGN	
REVISION	
REEL BY	
<b>RAM Audio - S Series</b>	
<b>S1500 - S2000 - S3000 - S4000</b>	
<b>Power Supply Control Schematic</b>	
DWG No. Control S.Sch	
Sheet 5 of 5	





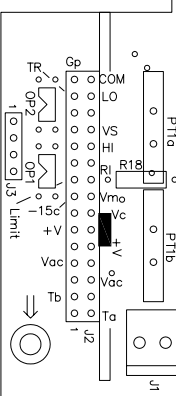
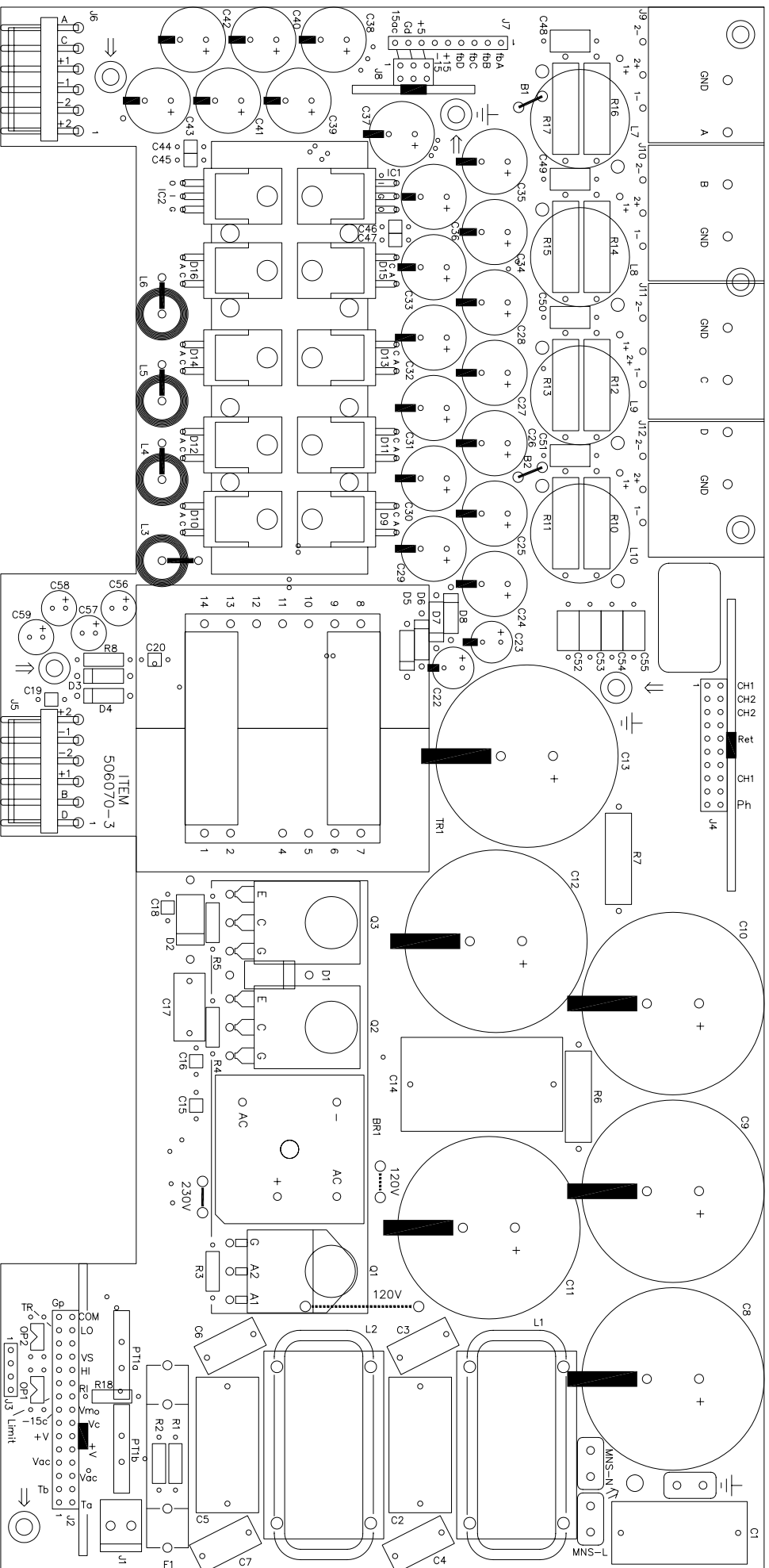


C8,C13	S1500	SE2000	S3000	S4000	S3004	S4004	S4044
B1,B2	No	No	Yes	Yes	Yes	Yes	Yes
R18	No	No	Yes	Yes	No	No	No
L9,L10	No	No	Yes	Yes	Yes	Yes	Yes
R10,R11,R12,R13	No	No	No	No	No	No	No
C30,C31	No	No	Yes	Yes	Yes	Yes	Yes
D11,D12	No	No	No	No	No	No	No
F1	No	10AT	10AT	15AT	15AT	15AT	15AT

NOTES

- All resistors 1/4W, 1% unless noted.
- All capacitors 50V unless noted.
- All diodes 1N4148 unless noted.

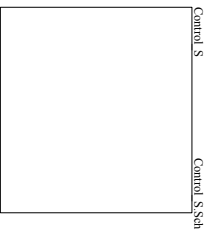
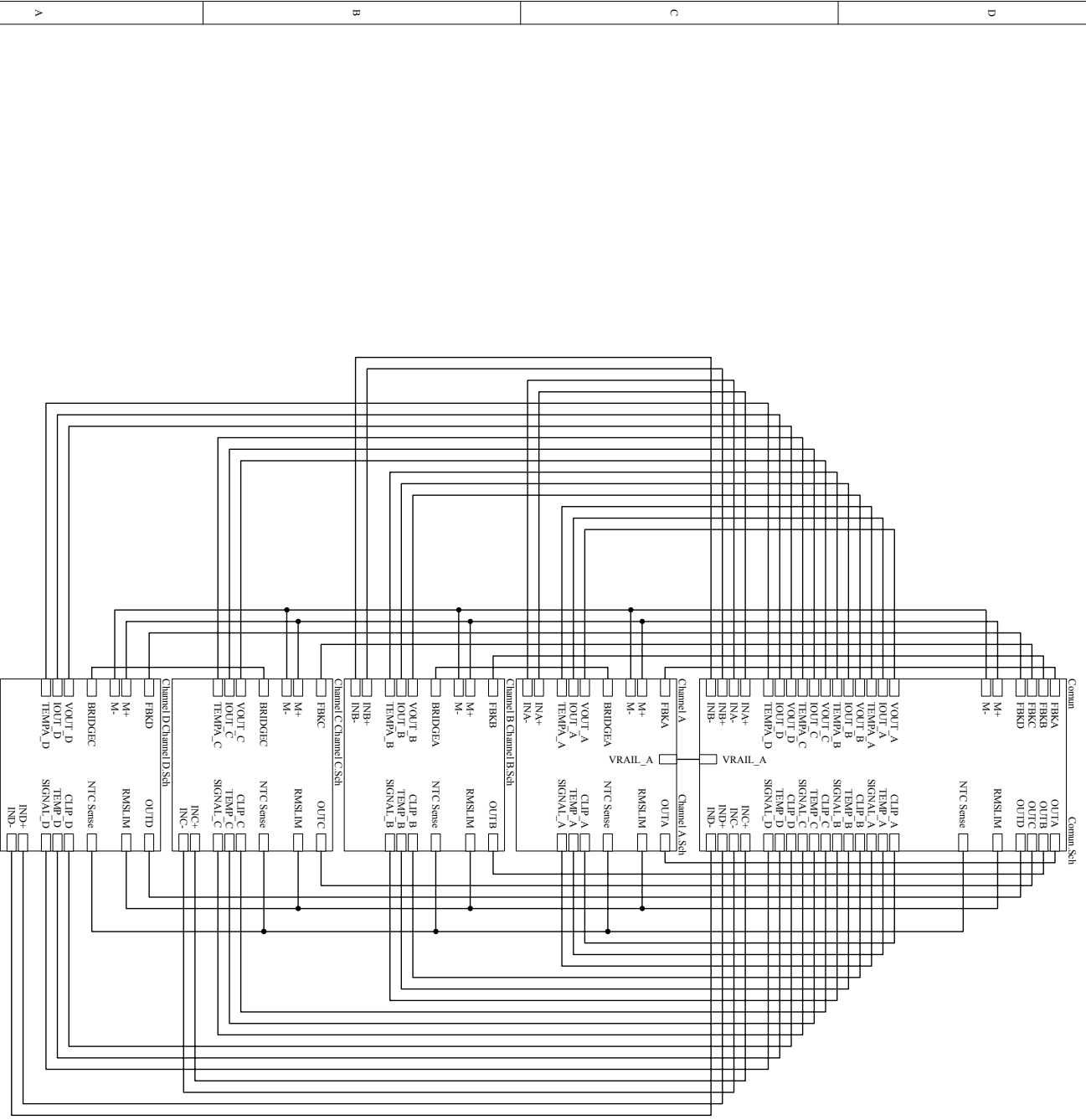
DRAWN	<b>RAM Audio - S Series</b> S3004 - S4004 - S4044 Power Supply Schematic
DESIGN	
REPLACE	
REPL BY	
DWG No:	Sheet 3 of 8



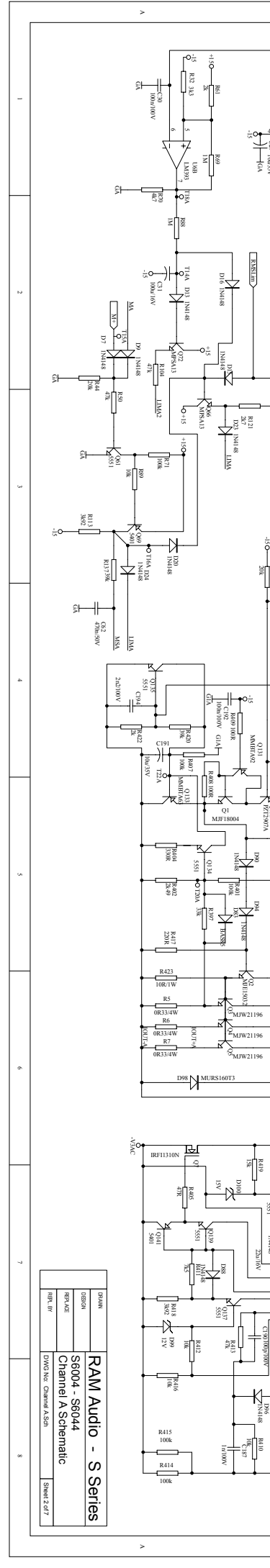
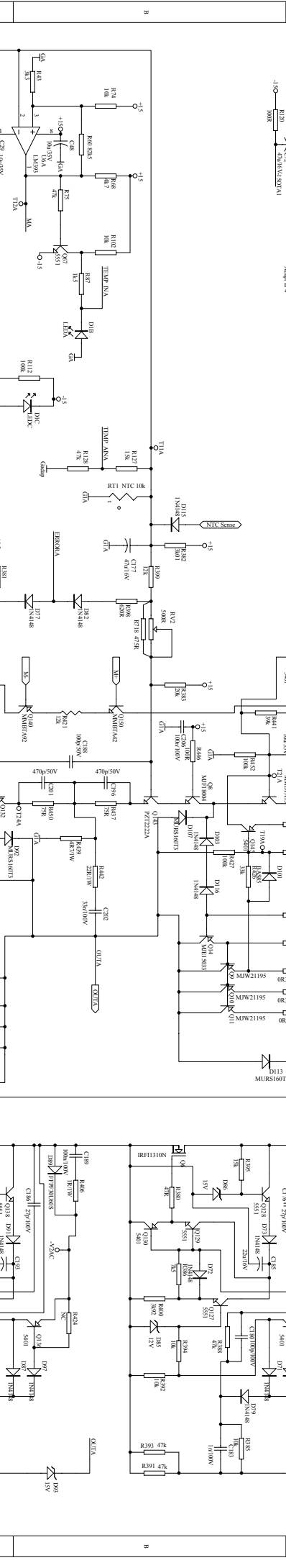
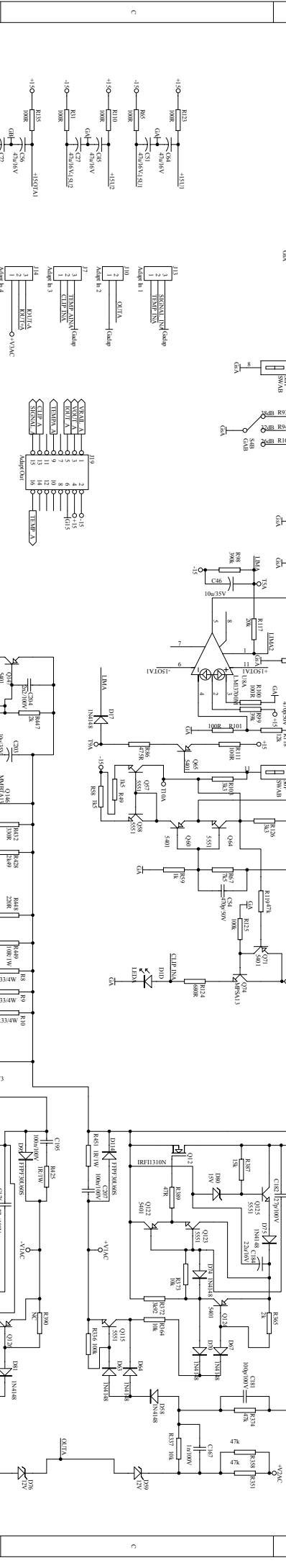
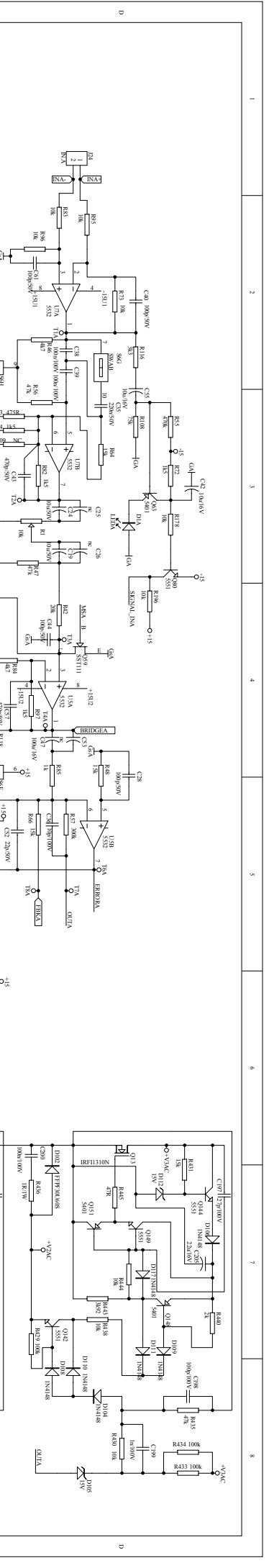
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DESIGN	J.Sonseca	15/01/06	REF.						
REPLACE			506070-3 PSU Silkscreen						
REPLACED BY		SIZE	A4	DWG NO.	mods2ch-3.dwg	SHEET	1	OF	1

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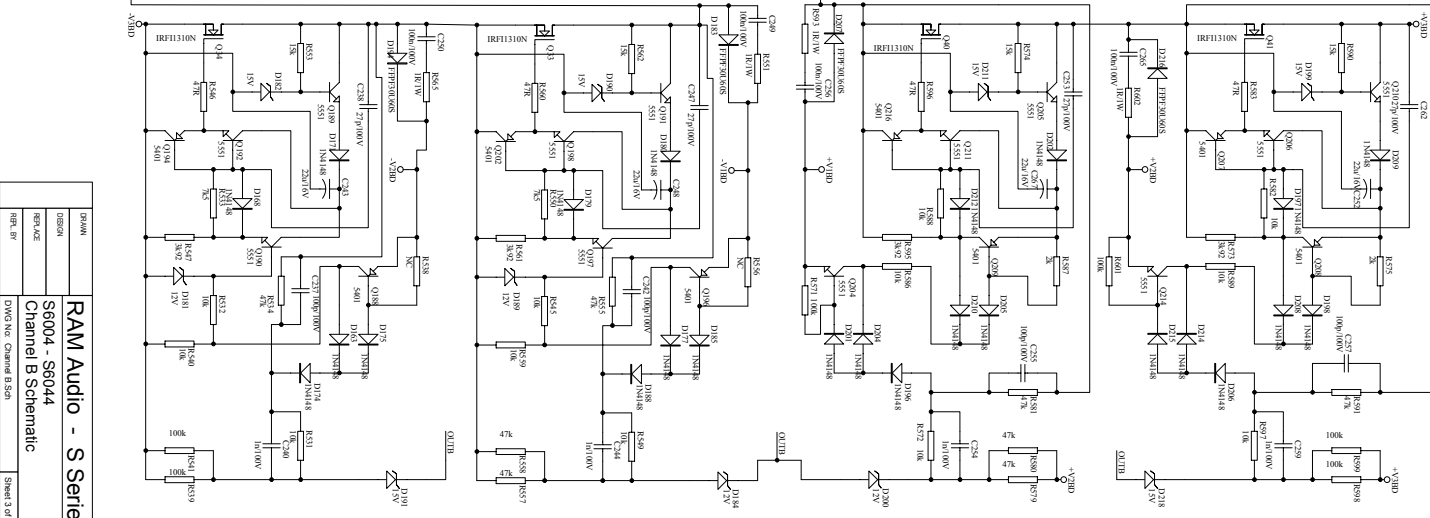
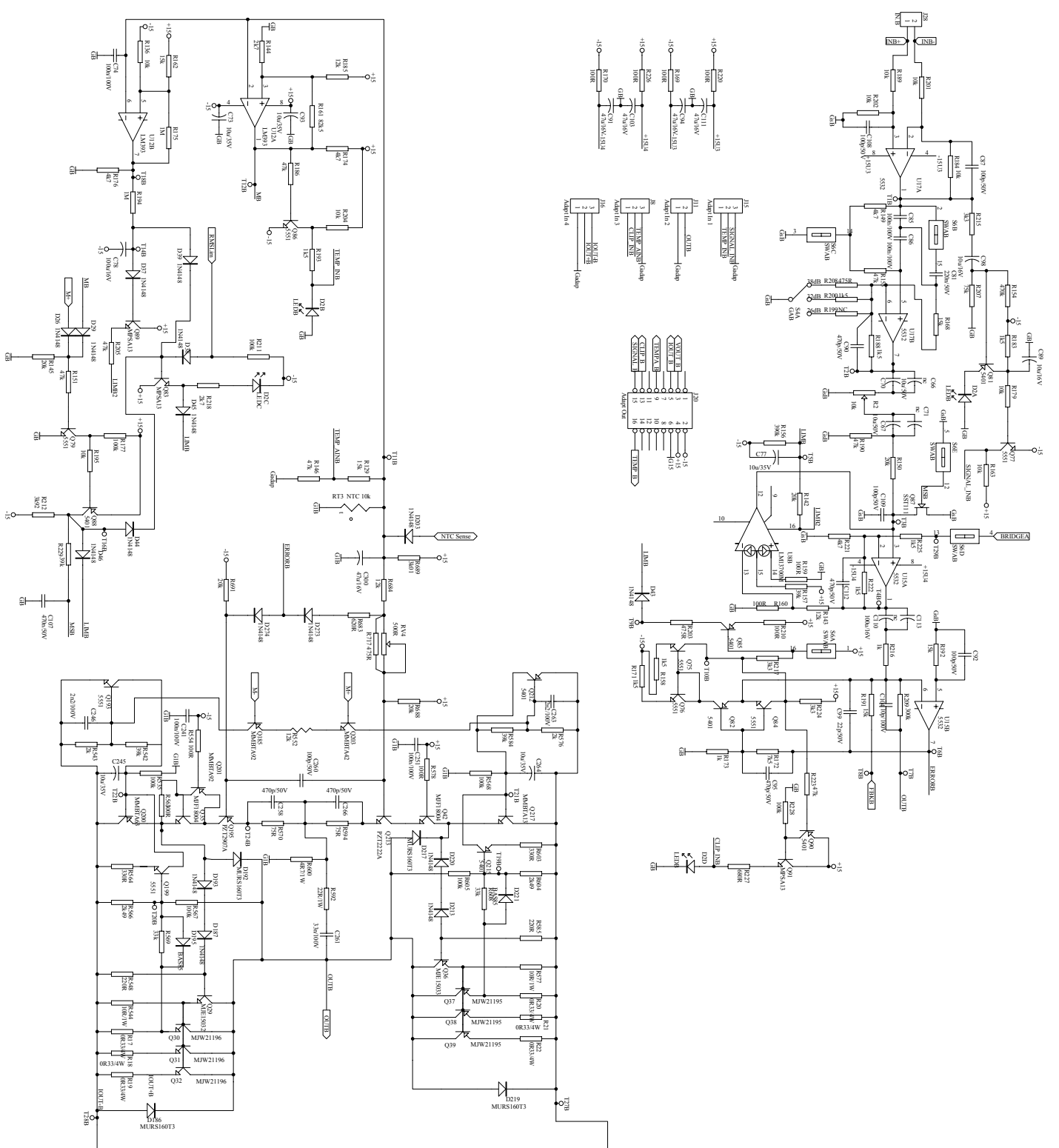
A B C D



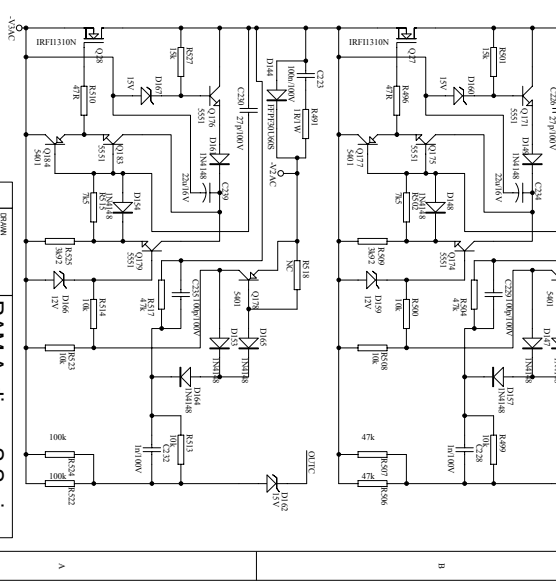
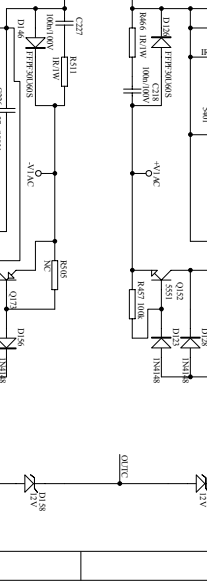
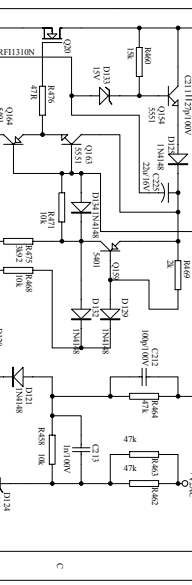
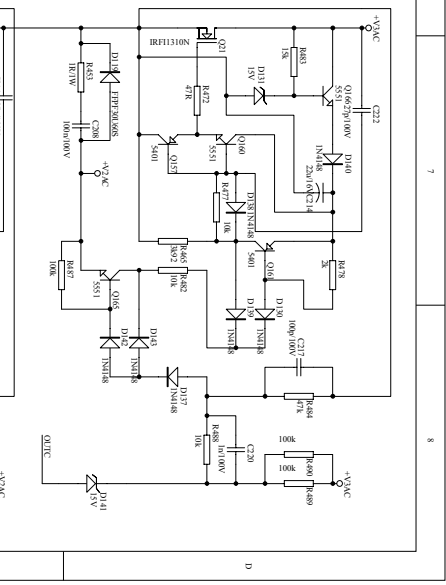
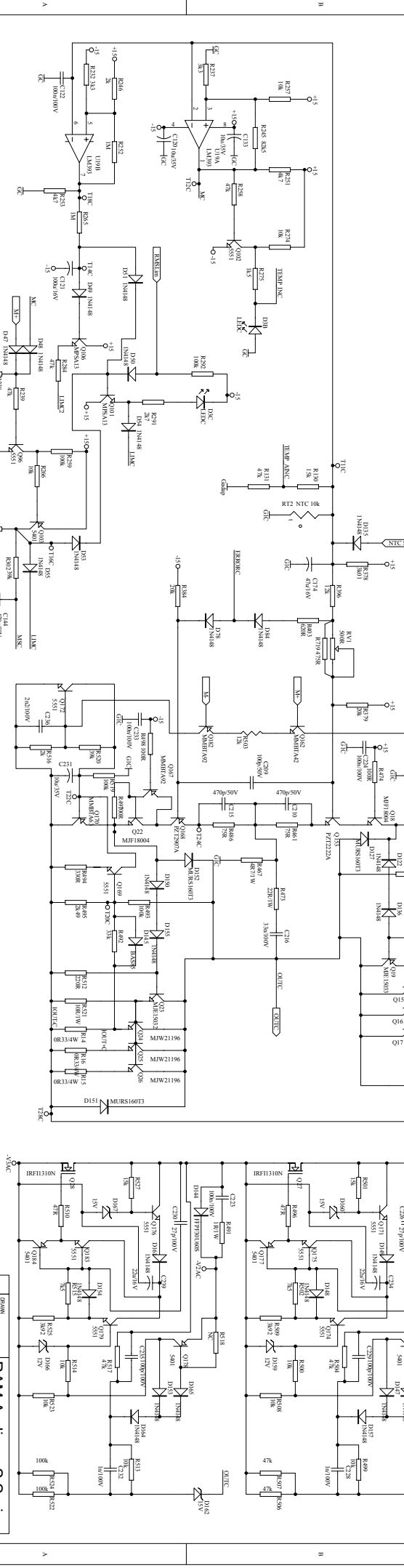
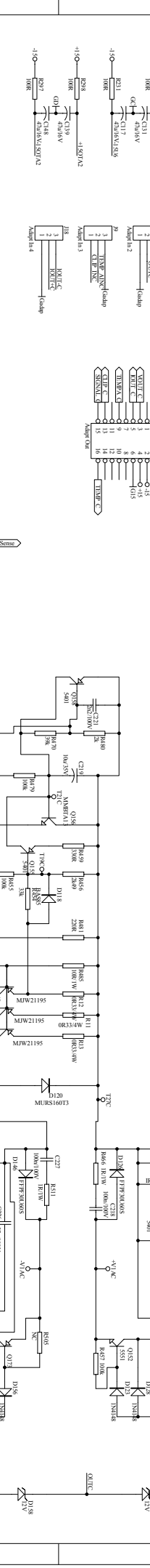
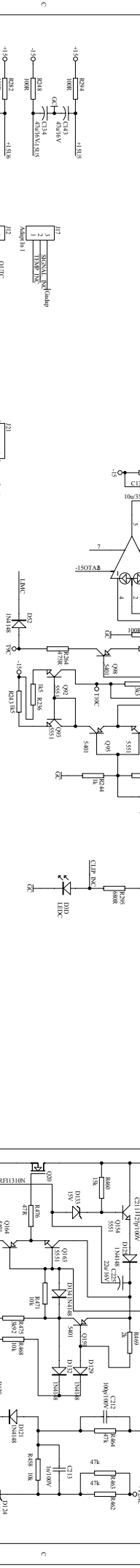
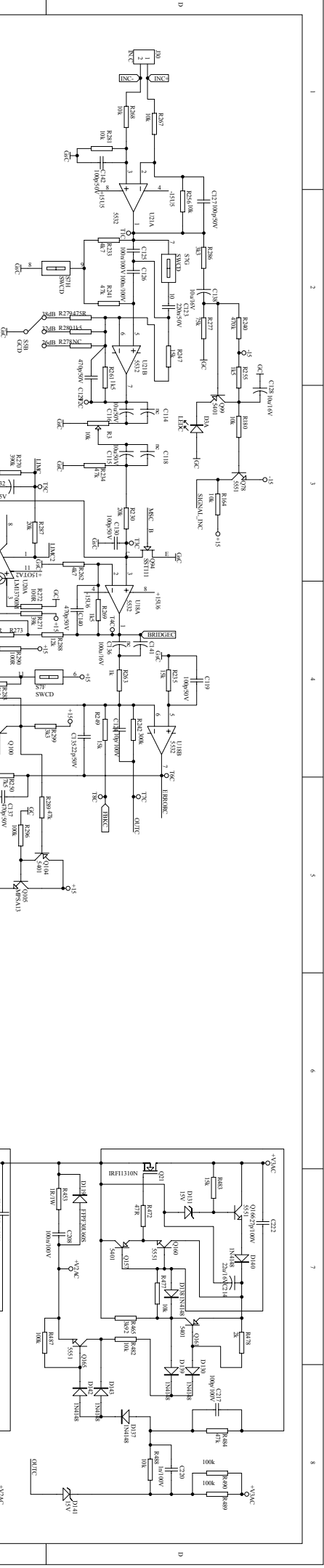
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DESIGN		
REPLACE		
REFL BY		
DWG No.		S6004 - S6044
		Signals Block Diagram
		Sheet 1 of 7



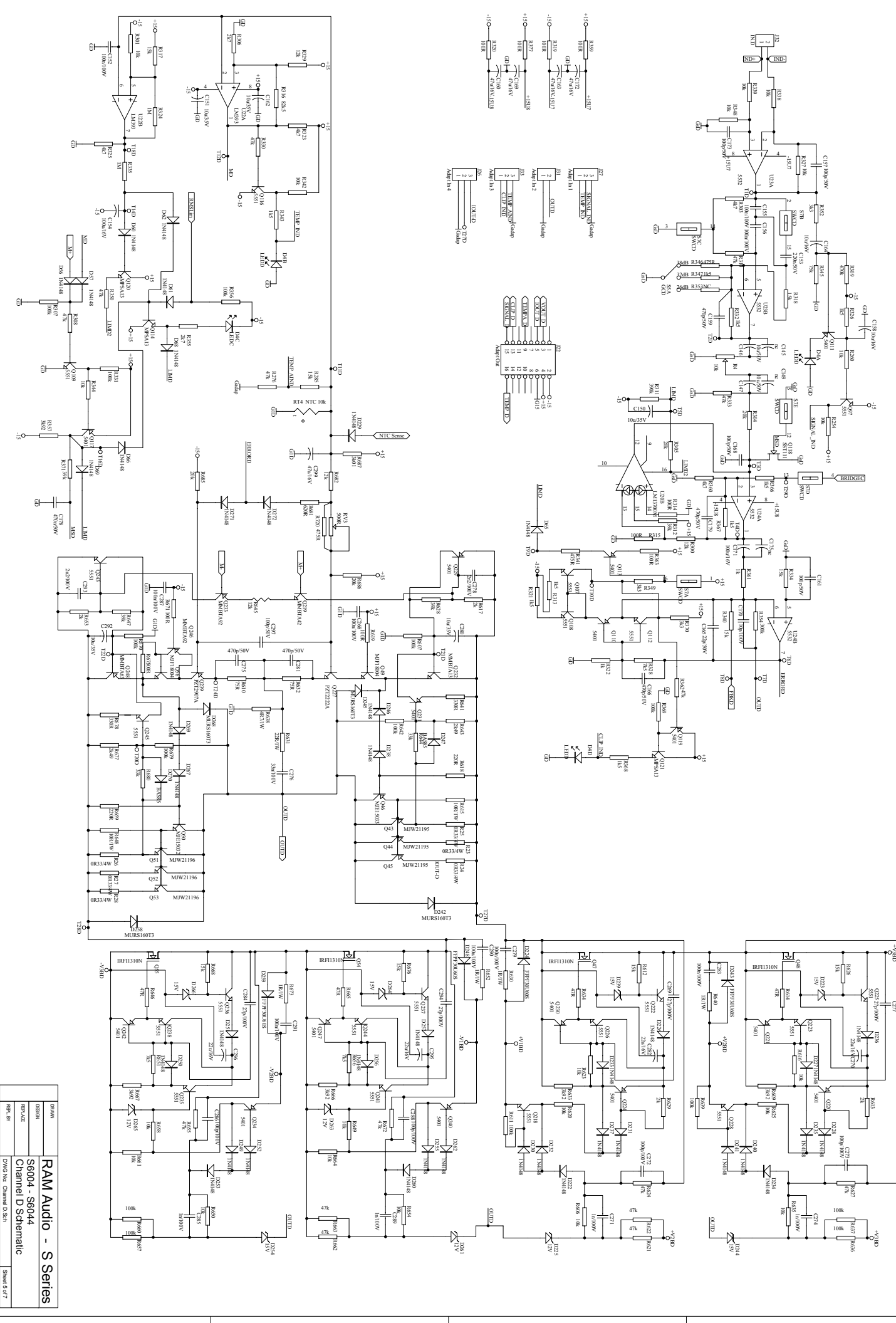
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DESIGN	SG004 - SG044
REVISION	Channel A Schematic
REV. 07	DWG No. Channel A.Sch



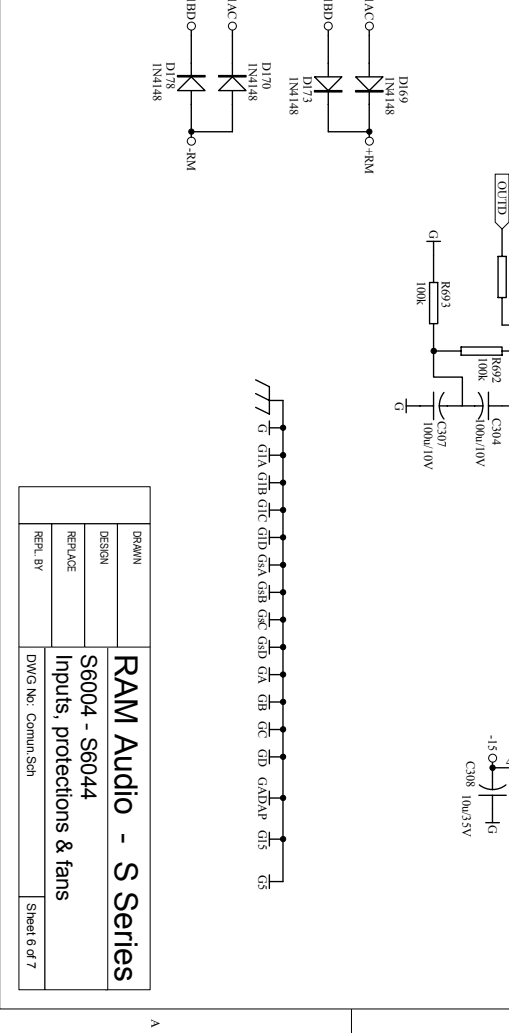
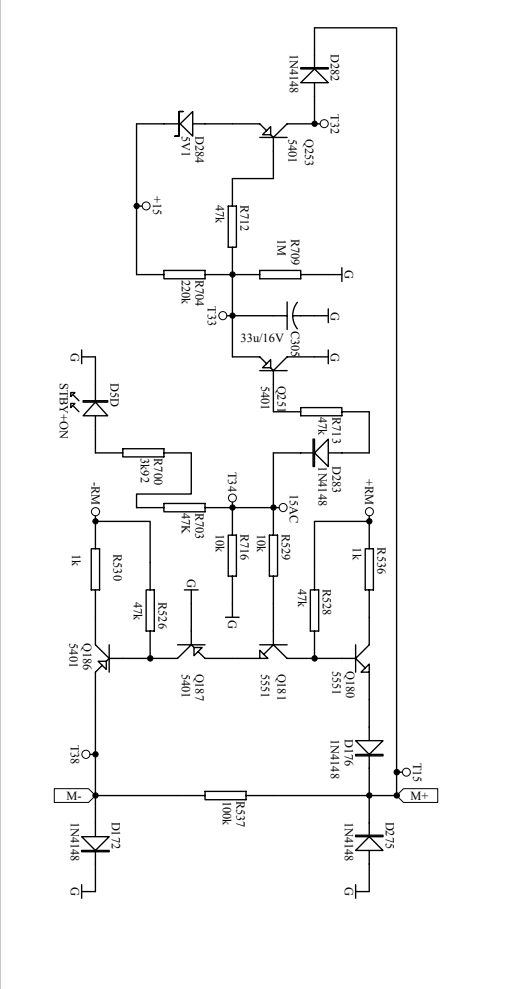
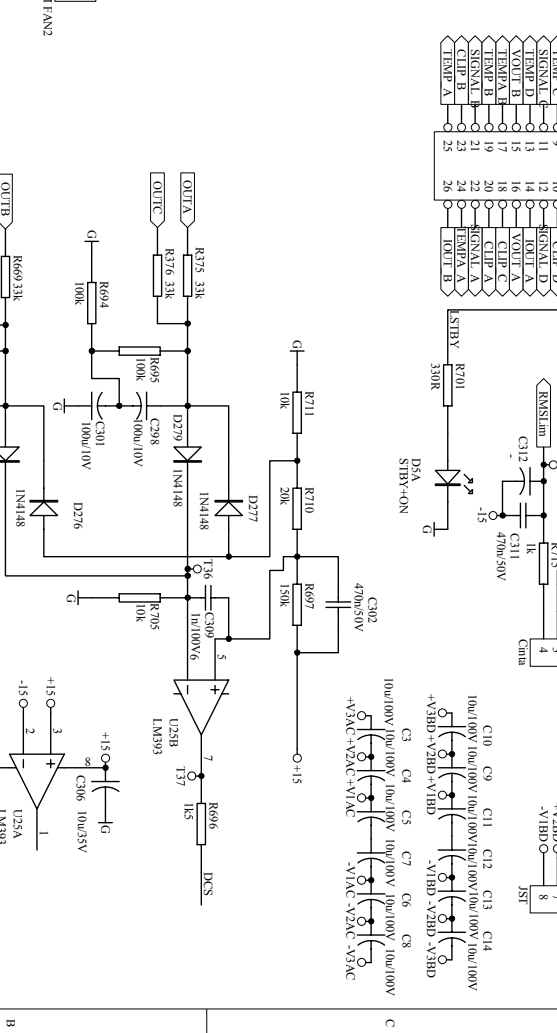
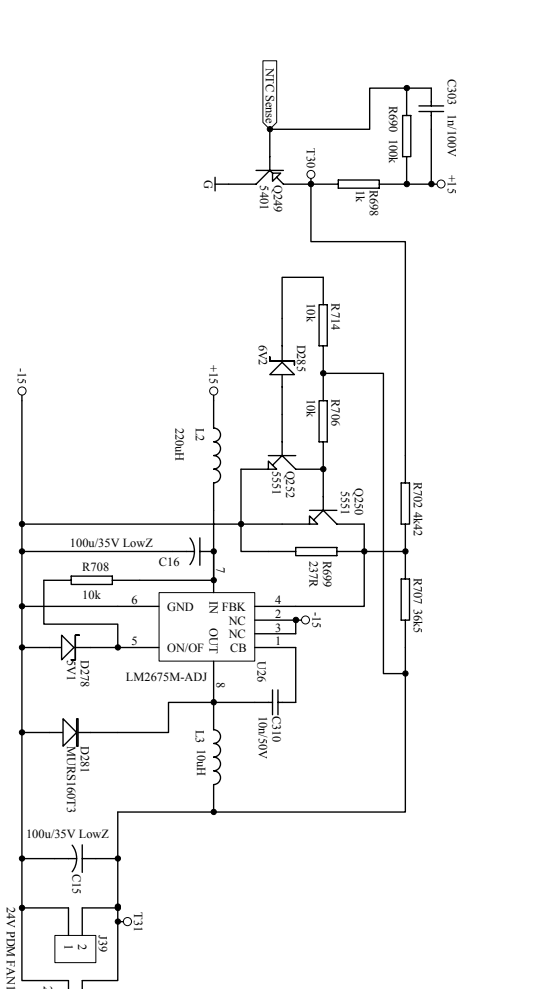
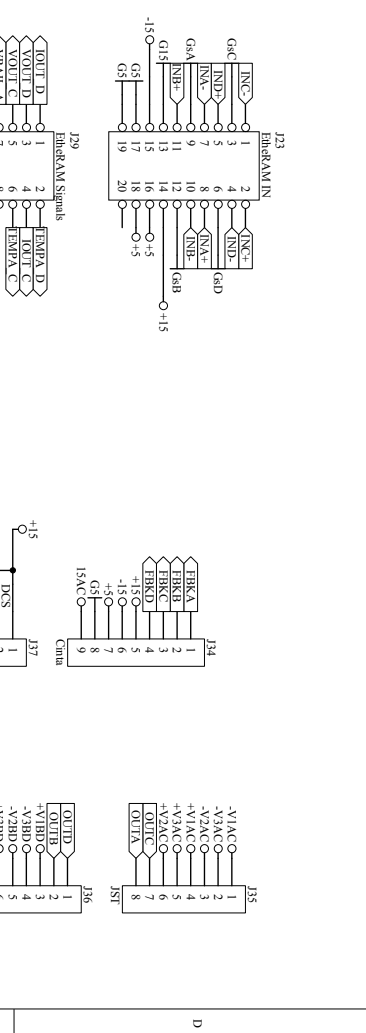
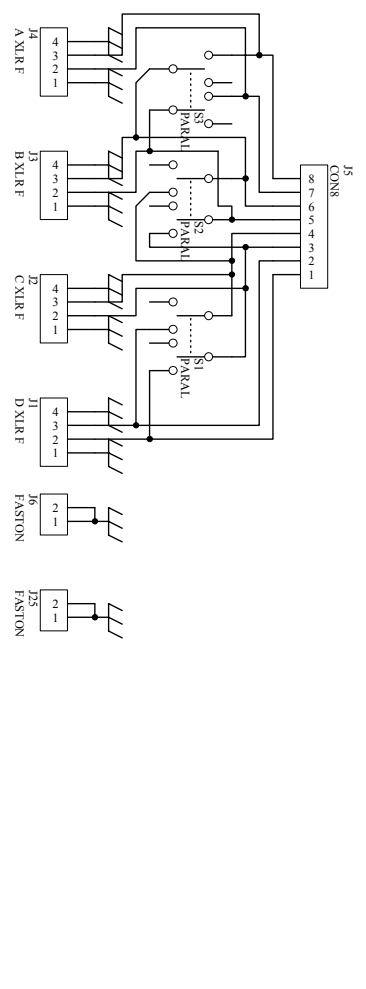
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1	Initial Release
2	Component Changes
3	PCB Layout Changes
4	Final Release



BRAND	RAW Audio - S Series
GEIGN	SG004 - SG044
REV.AZ	Channel C Schematic
PRC.BV	DWG No. Channel C Sch
Sheet 4 of 7	



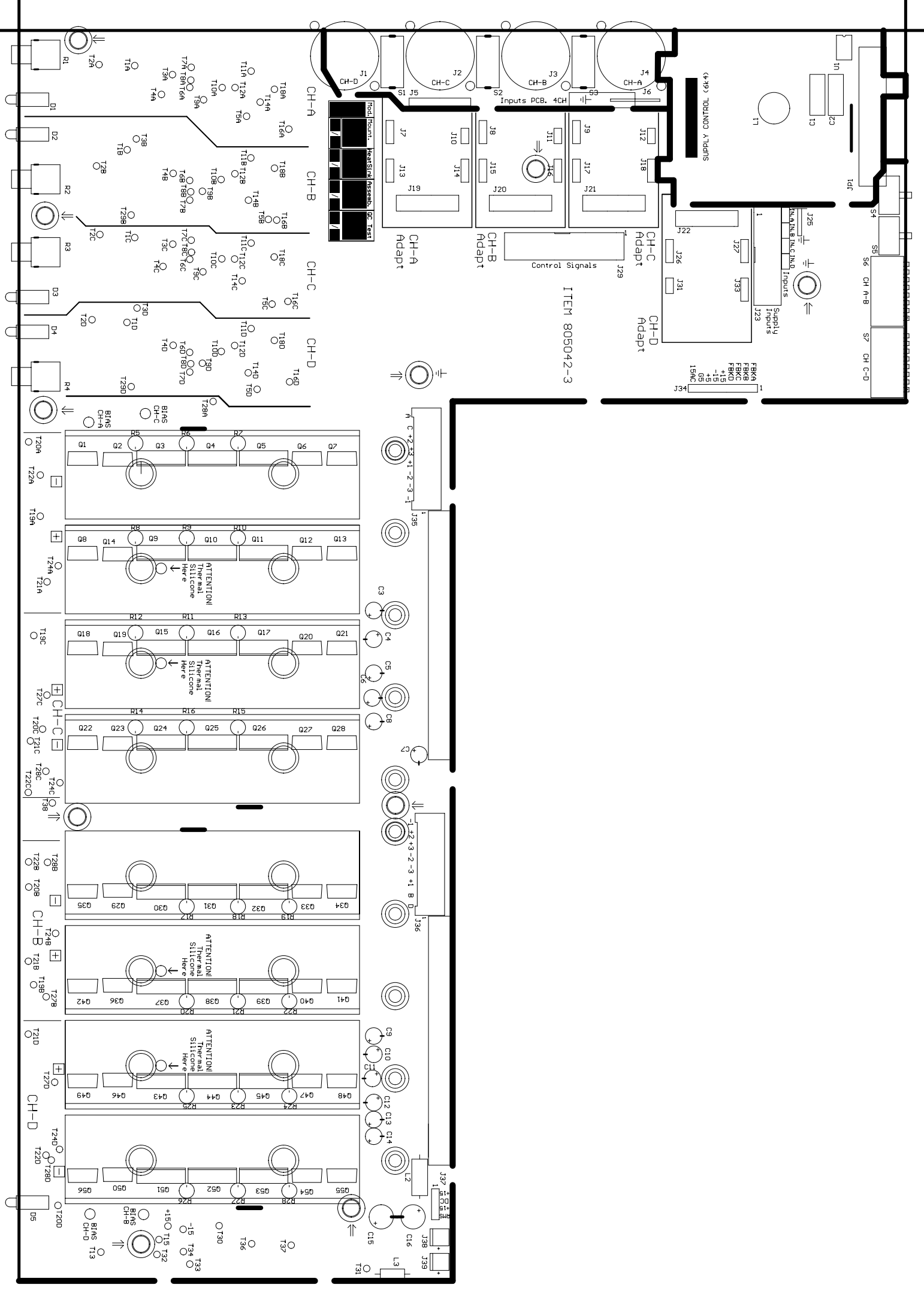
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MODEL	SR004 - SR044
REVISION	Channel D Schematic
DATE	
DWG No.	Channel D Sch
Sheet	6 of 7



<b>RAM Audio - S Series</b>	
DESIGN	S6004 - S6044
REPLACE	Inputs, protections & fans
REPL. BY	
DWG No. CommuniSsh	
Sheet 6 of 7	







(4-89) CONTROL SUPPLY

Inputs PCB, 4CH

CH-A Adapt

CH-B Adapt

CH-C Adapt

CH-D Adapt

Control Signals

Supply Input

Inputs A, B, C, D

CH A-B

CH C-D

FBKA  
FBKB  
FBKC  
FBKD  
FBKE  
FBKF  
FBKG  
FBKH  
FBKI  
FBKJ  
FBKK  
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FBKS  
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FBKW  
FBKX  
FBKY  
FBKZ  
15AC

ATTENTION!  
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Silicone  
Here

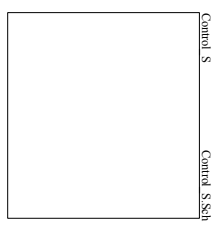
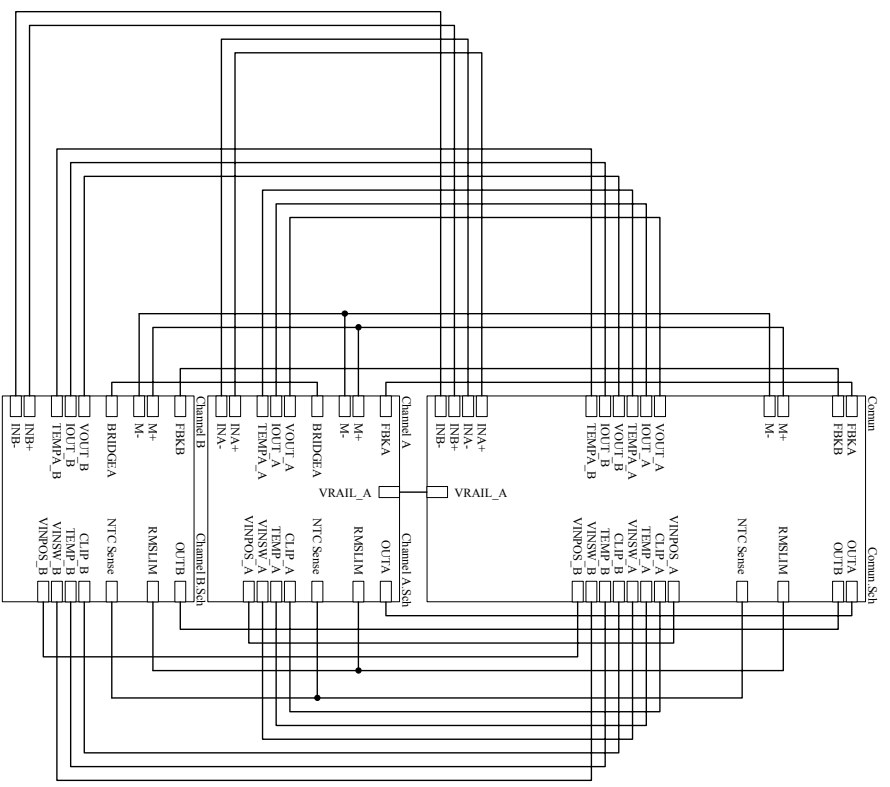
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ATTENTION!  
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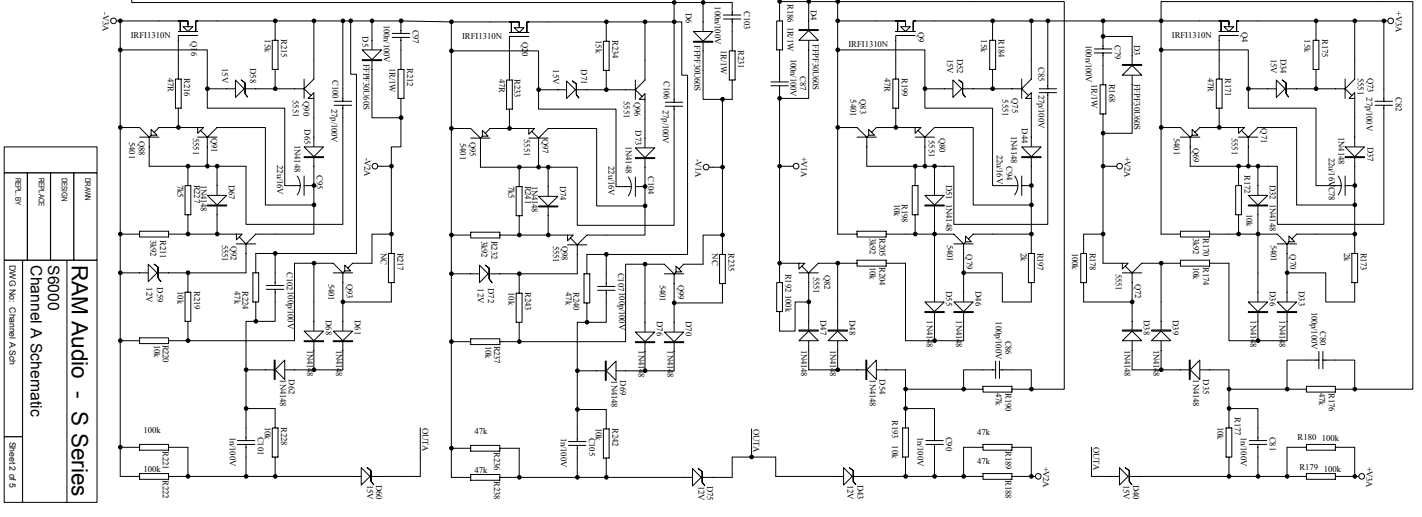
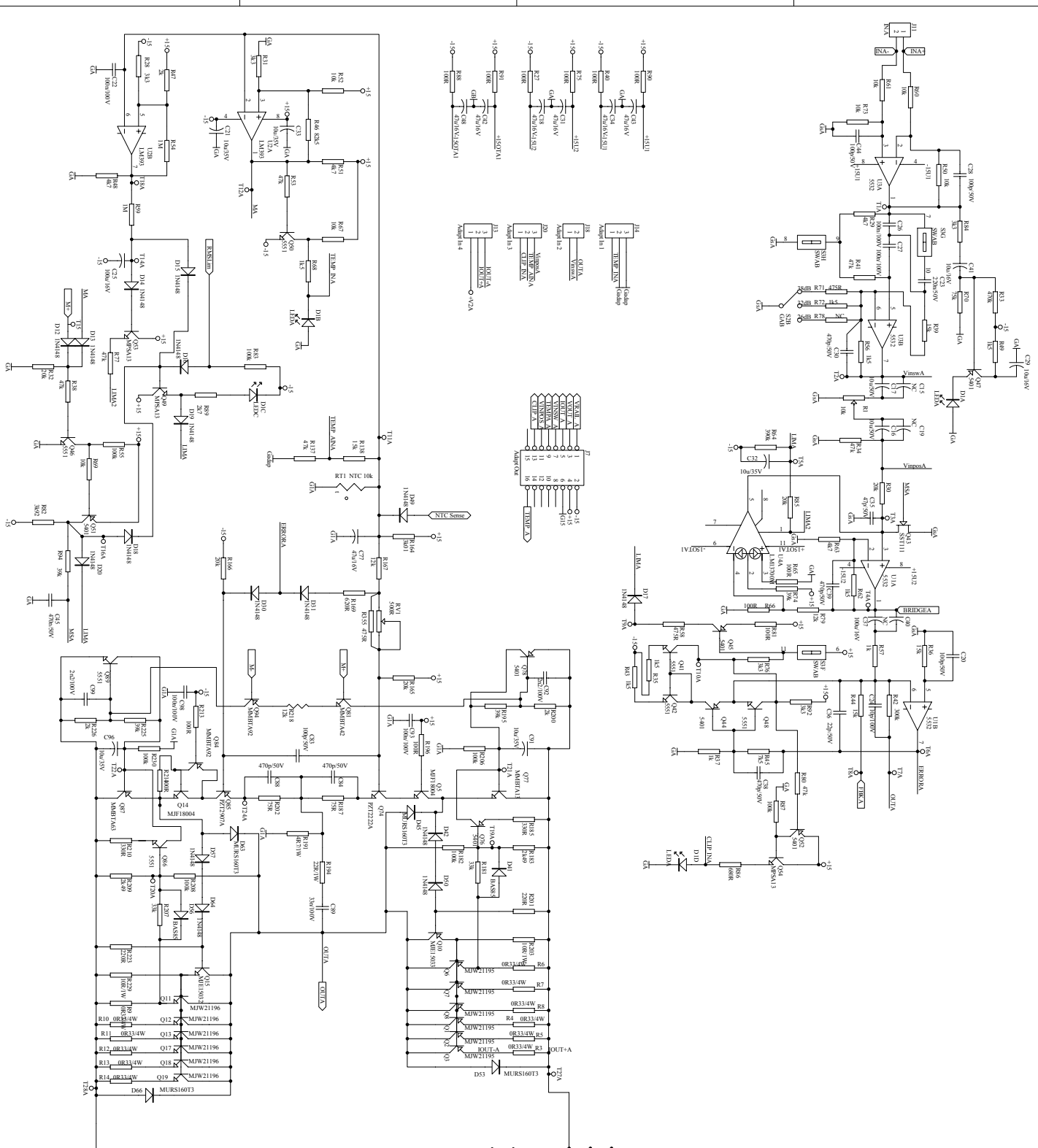
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Bias  
CH-B

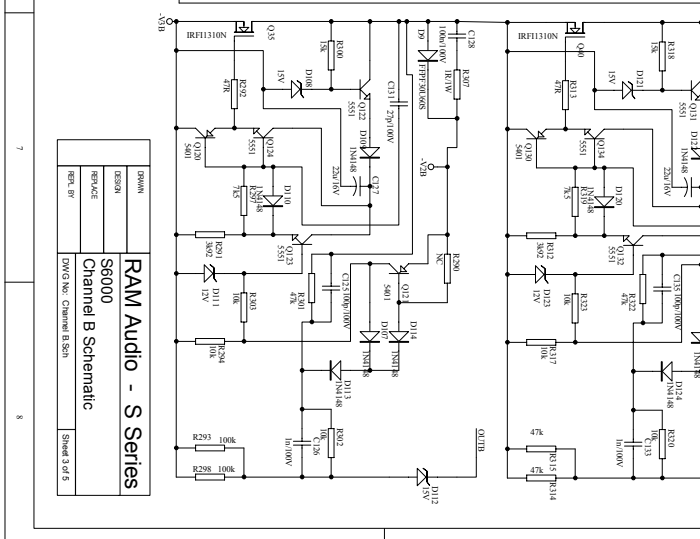
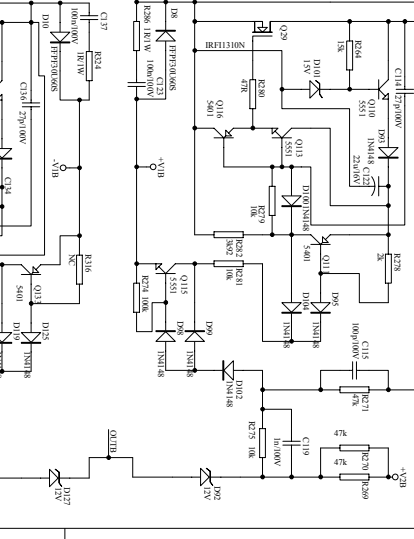
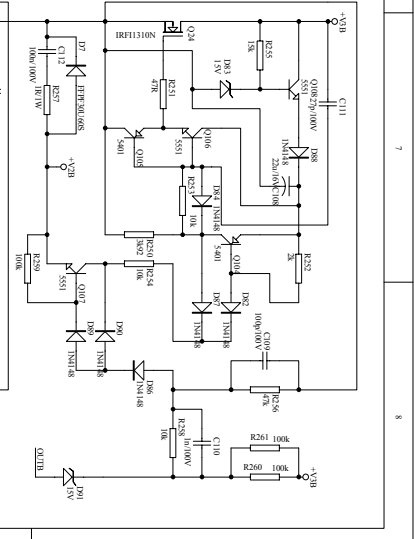
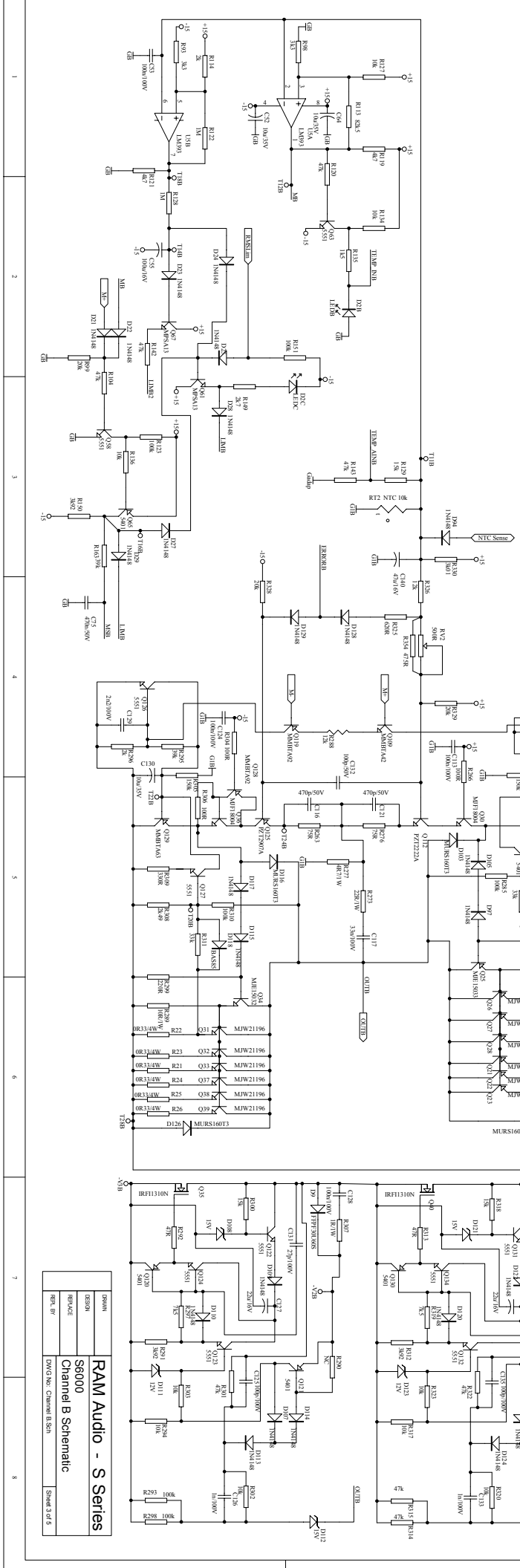
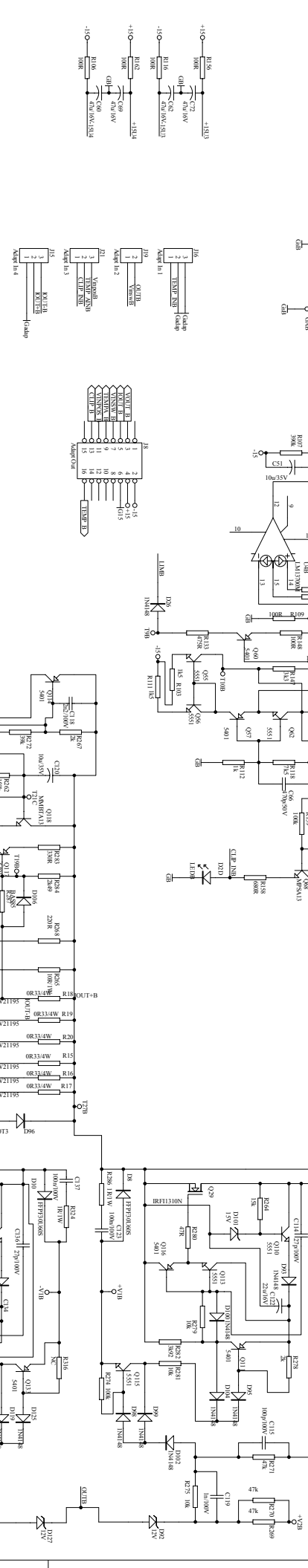
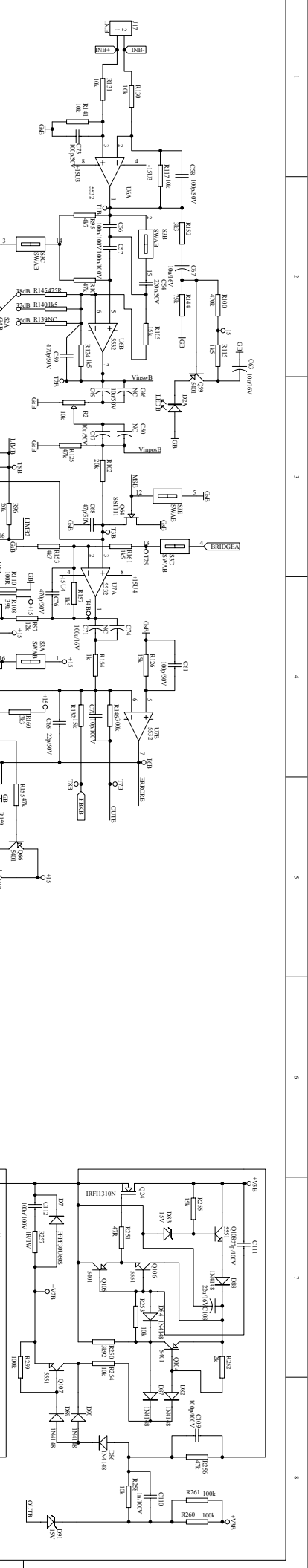
Bias  
CH-D



DRAWN	<b>RAM Audio - S Series</b> <b>S6000</b> <b>Signals Block Diagram</b>	DWG No.	Sheet 1 of 5
DESIGN			
REPLACE			
REFL BY			



**RAW Audio - S Series**  
**S6000**  
**Channel A Schematic**  
 DESIGNED BY: [Redacted]  
 REVISED BY: [Redacted]  
 DATE: [Redacted]  
 SHEET 2 OF 5

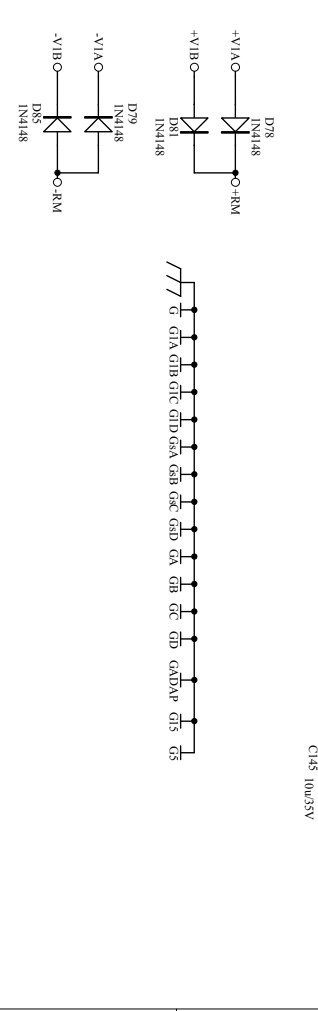
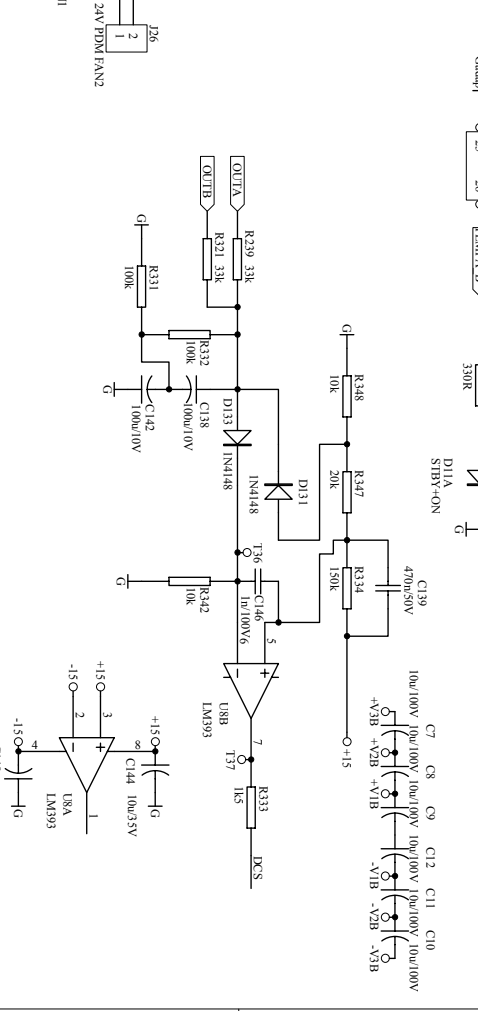
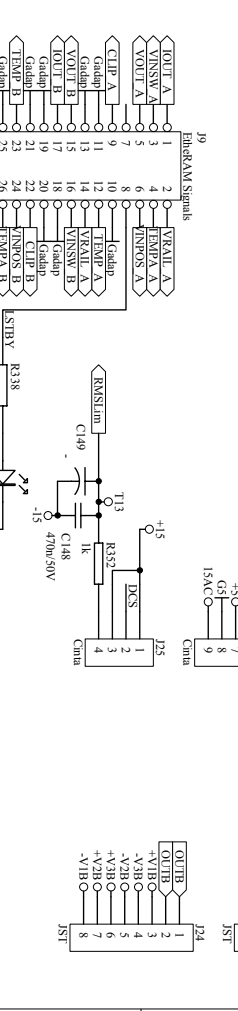
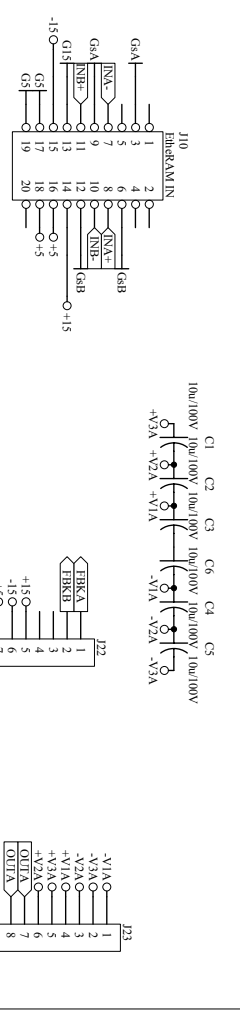
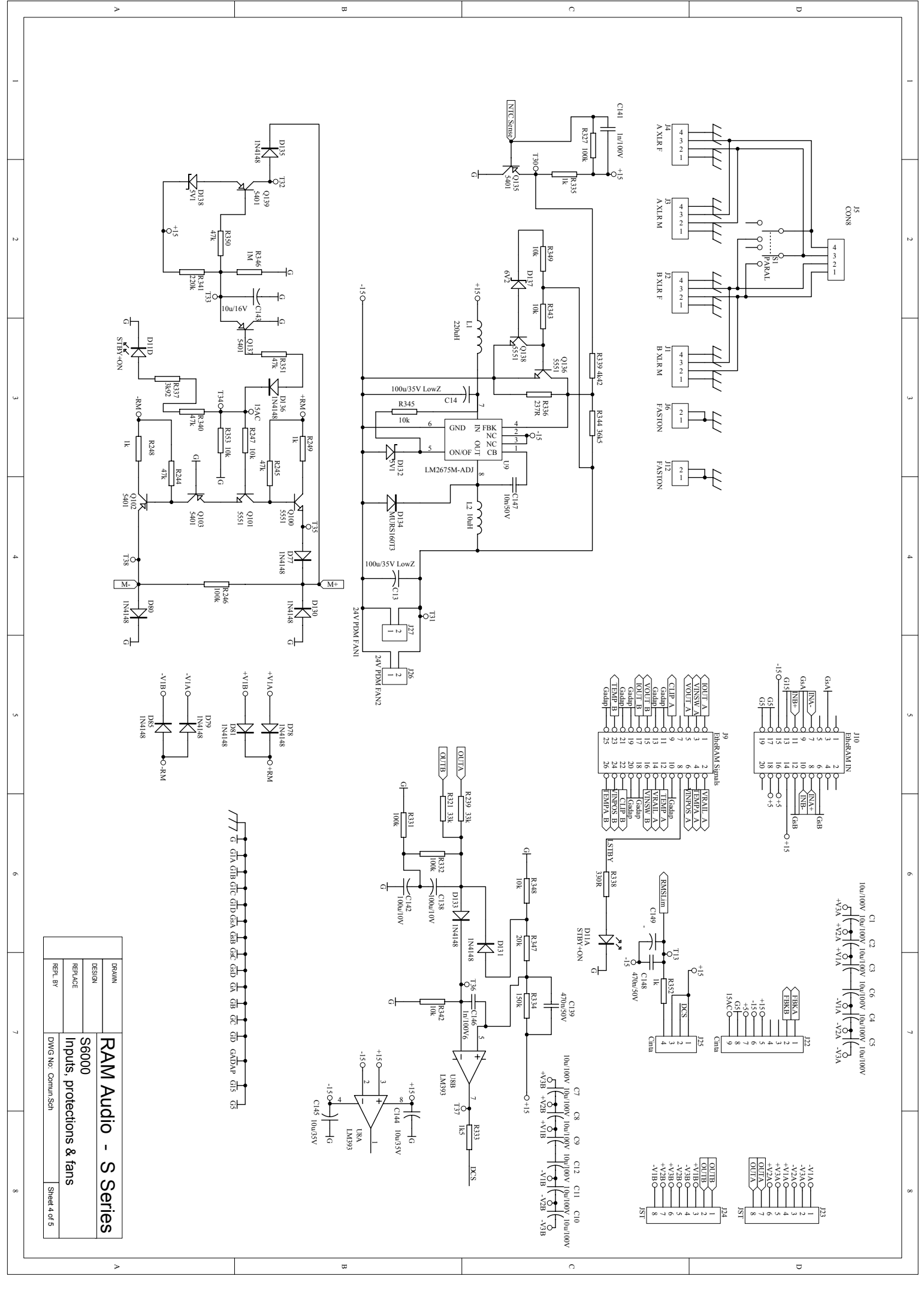


DRAWN		DESIGN	
S6000		Channel B Schematic	
REV: 01		DWG: CH-B Channel B Sch	
Sheet 3 of 3			

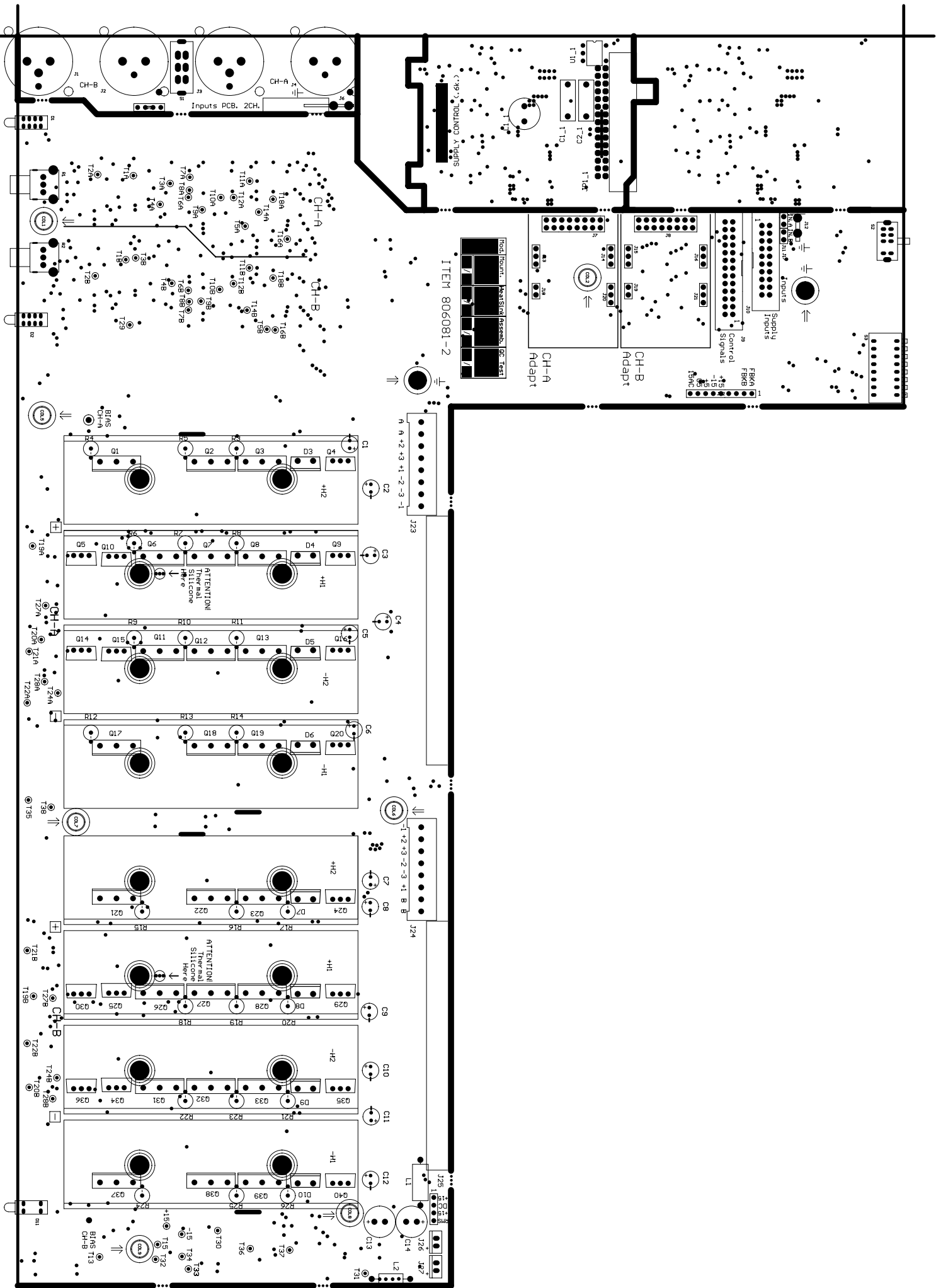
**RAM Audio - S Series**

Channel B Schematic

Sheet 3 of 3



DRAWN	<b>RAM Audio - S Series</b>
DESIGN	
REPLACE	
REFL. BY	
<b>S6000</b>	
<b>Inputs, protections &amp; fans</b>	
DWG. No.: Commu-Sch	
Sheet 4 of 5	



ITEM 806081-2

SUPPLY CONTROL

Inputs PCB, 2CH.

CH-A Adapt

CH-B Adapt

ATTENTION!  
Internal  
Silicone  
Here

ATTENTION!  
Internal  
Silicone  
Here

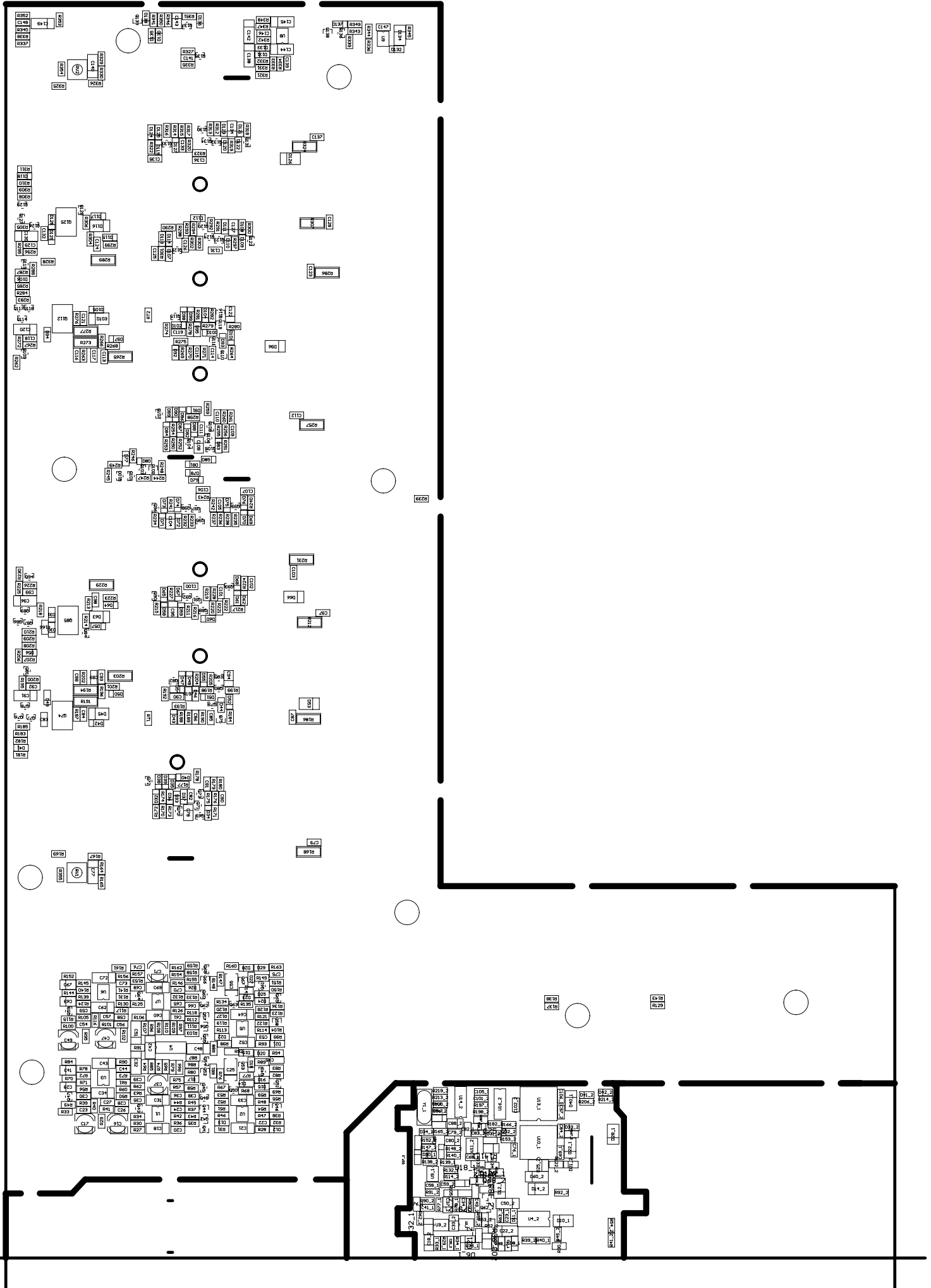
Bias  
CH-B

J23  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

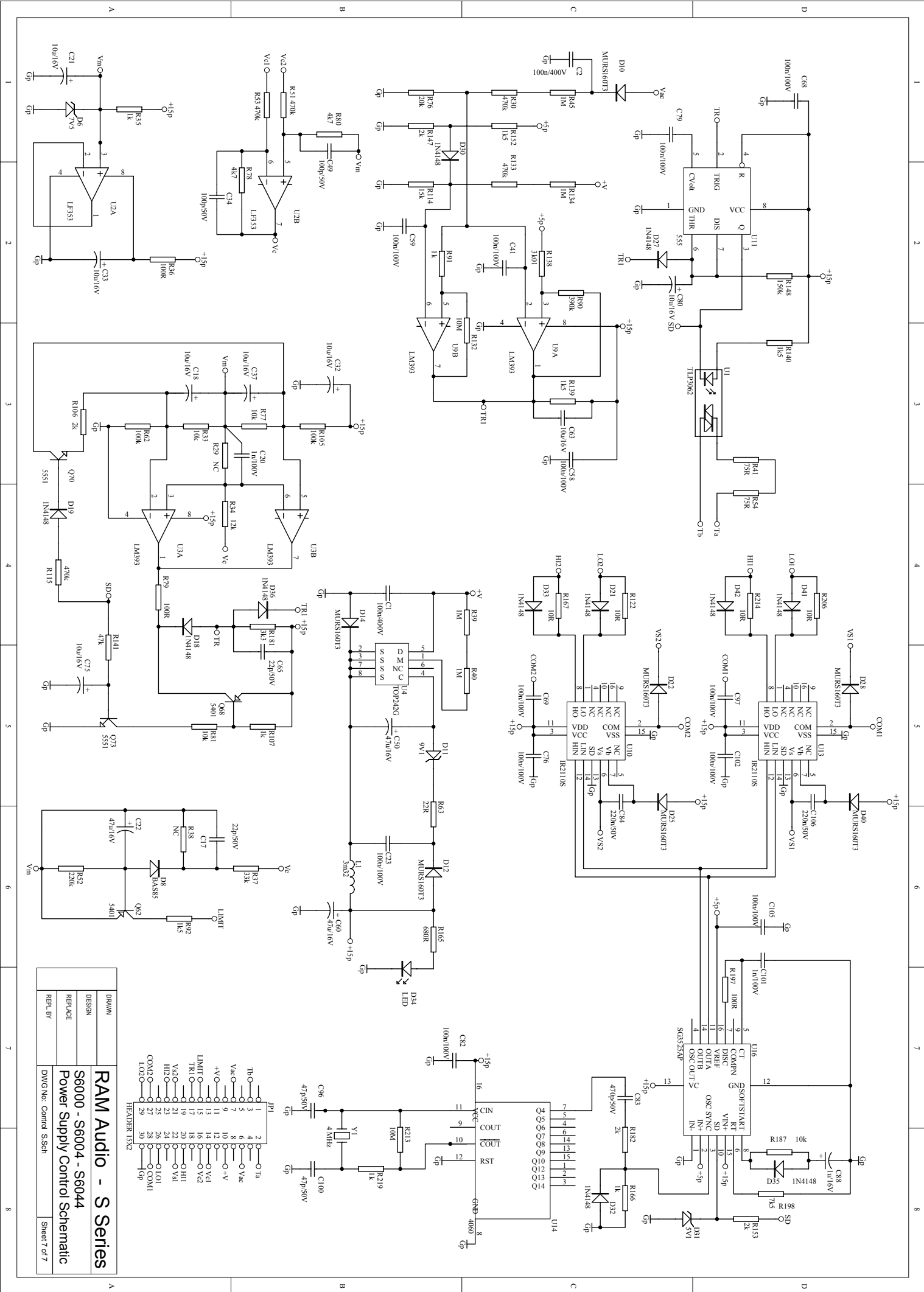
J24  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

J25  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

J26  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



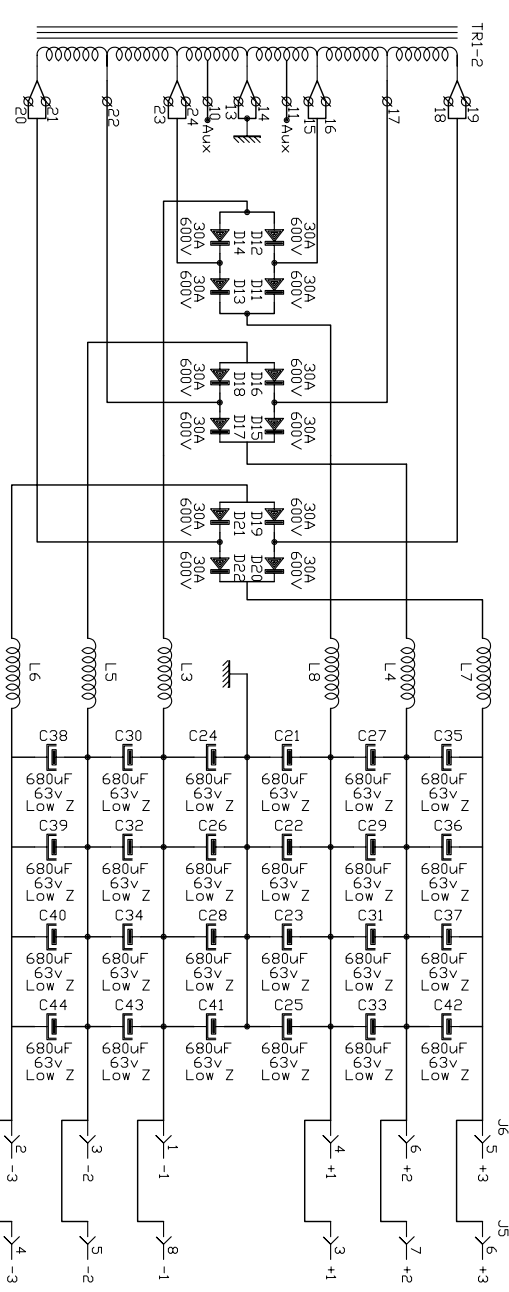
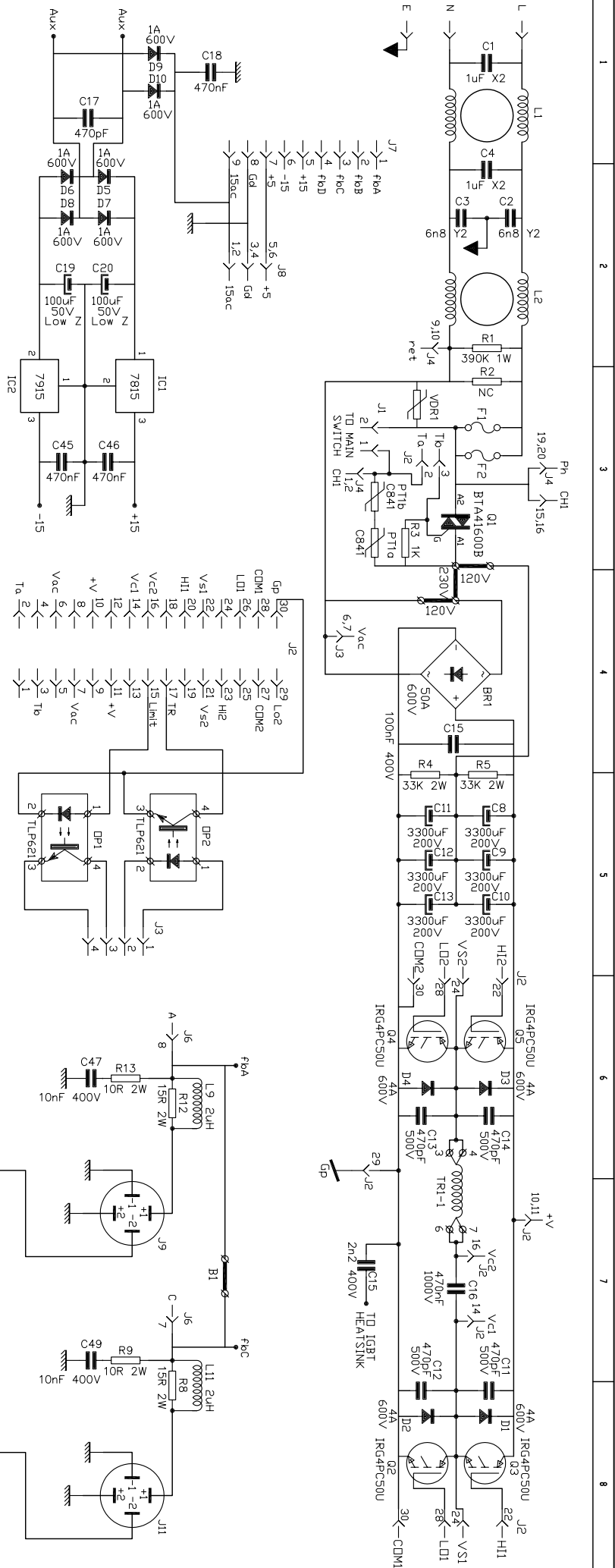




Pin	Signal
1	TH-O
2	TR
3	NC
4	NC
5	Vac
6	Vac
7	NC
8	NC
9	+V
10	+V
11	NC
12	NC
13	Vd
14	Vd
15	NC
16	NC
17	NC
18	NC
19	Vs
20	Vs
21	NC
22	NC
23	NC
24	NC
25	NC
26	NC
27	NC
28	NC
29	NC
30	COM1

HEXDER 15X2

DRAWN	
DESIGN	
REPLACE	
REFL BY	
<b>RAM Audio - S Series</b>	
<b>S6000 - S6004 - S6044</b>	
<b>Power Supply Control Schematic</b>	
DWG No: Control S Sch	
Sheet 7 of 7	

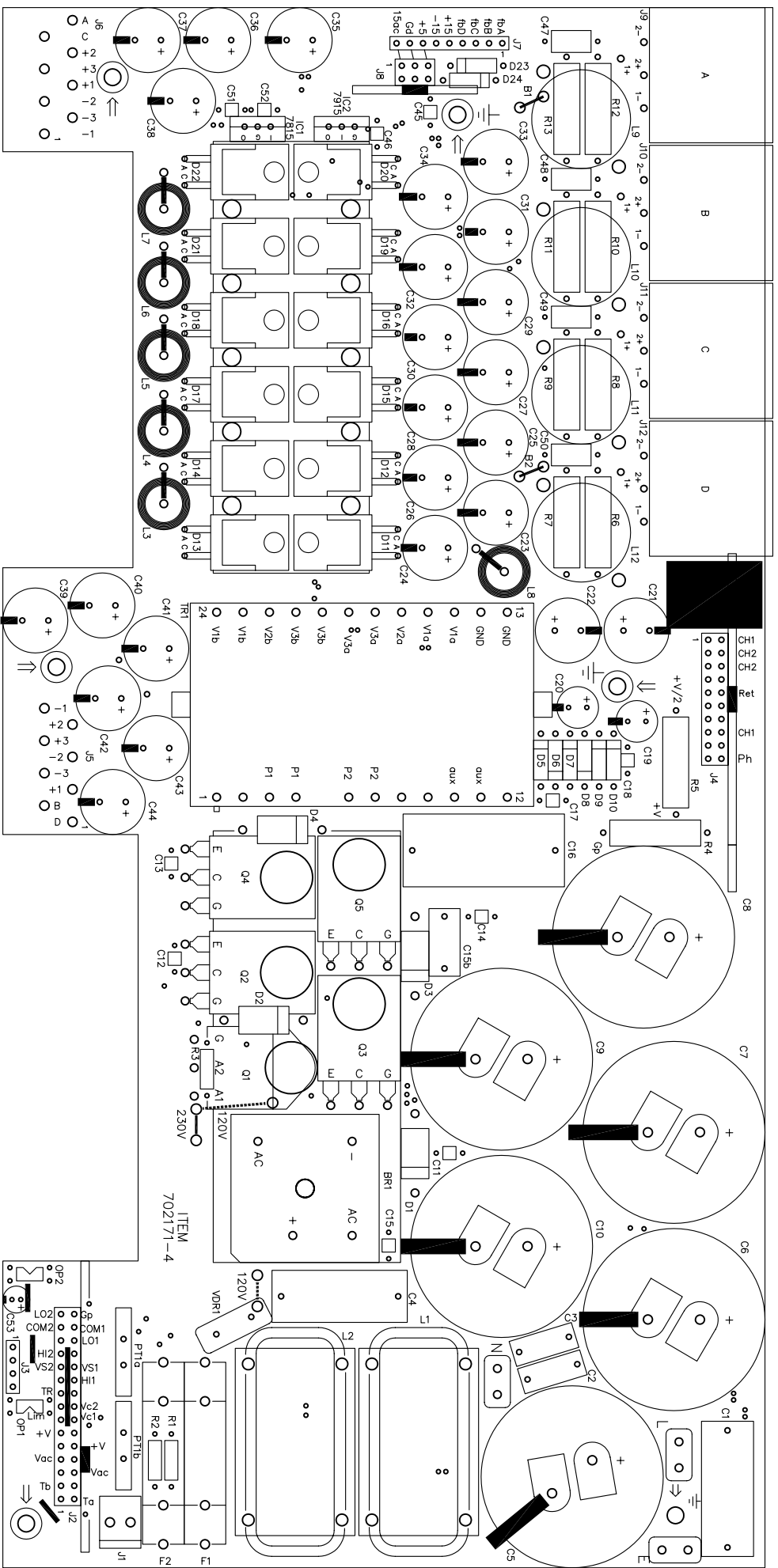


B1B2	Yes	No	Yes	No
J11J12	No	No	Yes	Yes
R6P7/R8P9	Yes	Yes	Yes	Yes
C49/C50	Yes	Yes	Yes	Yes
J11/J12	No	No	Yes	Yes
F1/F2	No	No	Yes	Yes

S6000	S6004	S6044
Yes	No	No
No	Yes	Yes
No	Yes	Yes
Yes	Yes	Yes
No	Yes	Yes
Yes	Yes	Yes
Yes	Yes	Yes
Yes	Yes	Yes
Yes	Yes	Yes

**RAM Audio - S Series**  
 S6000 - S6004 - S6044  
**Power Supply Control Schematic**  
 DWG/No. Suppl./Skizsch  
 Sheet 16 of 16

NOTES  
 1. All resistors 1/4W, 1% unless noted.  
 2. All capacitors 50V unless noted.

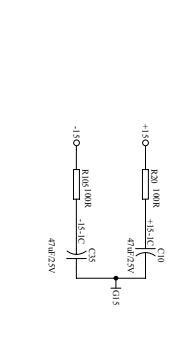
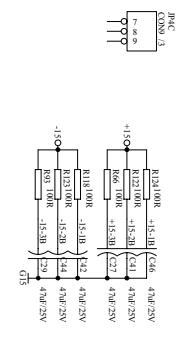
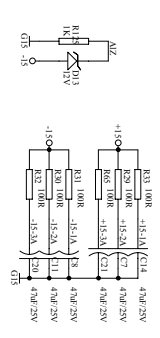
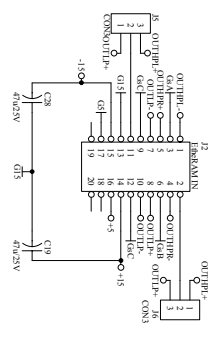
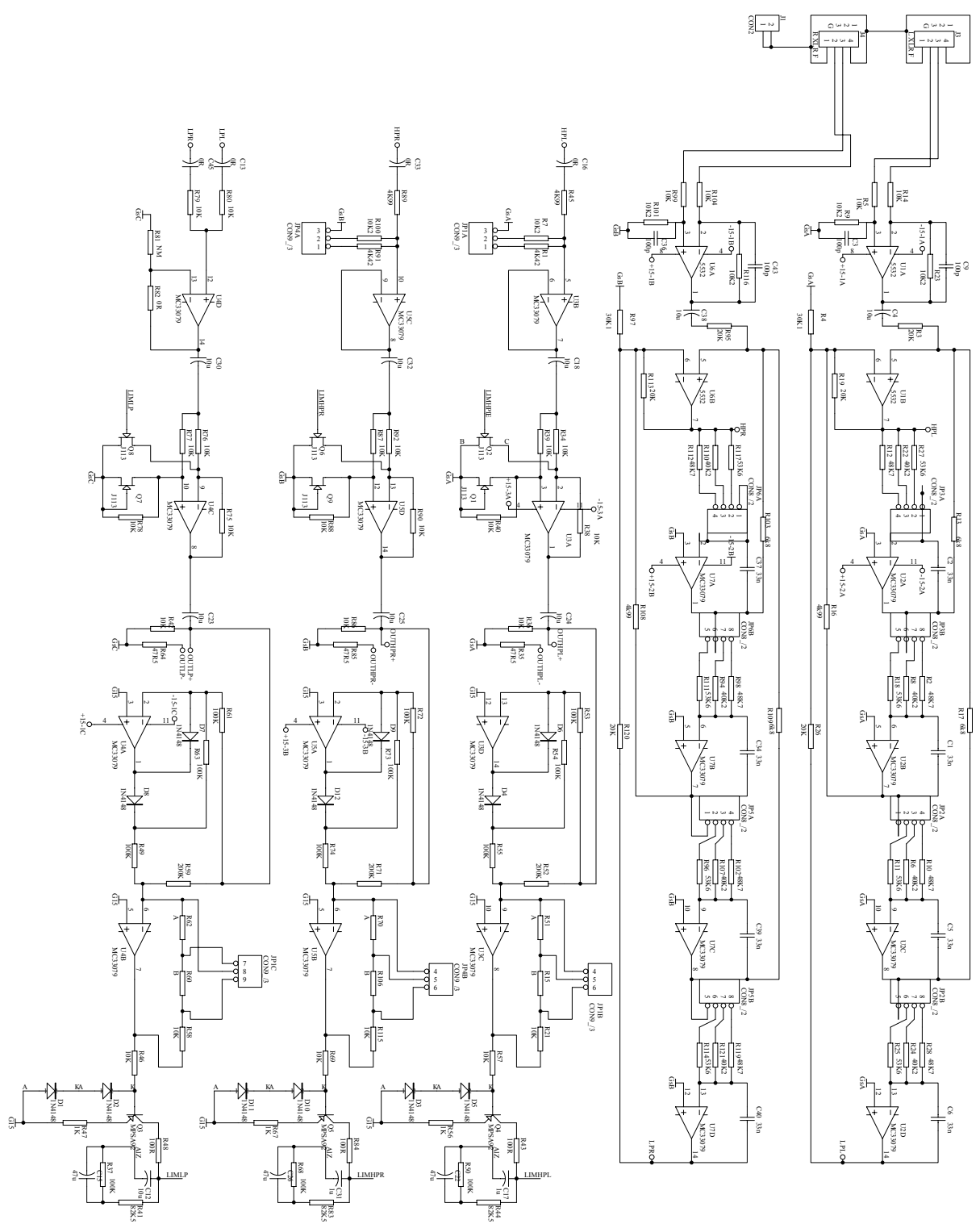


DRAWN	A. Royo	DATE	23/03/08
DESIGN	J.Sonseca	10/02/08	
REPLACE			
REPLACED BY			
SIZE	A4	REF.	702171-4 PSU Silkscreen
DWG NO.	mods2ch-3.dwg	SHEET	1 of 1

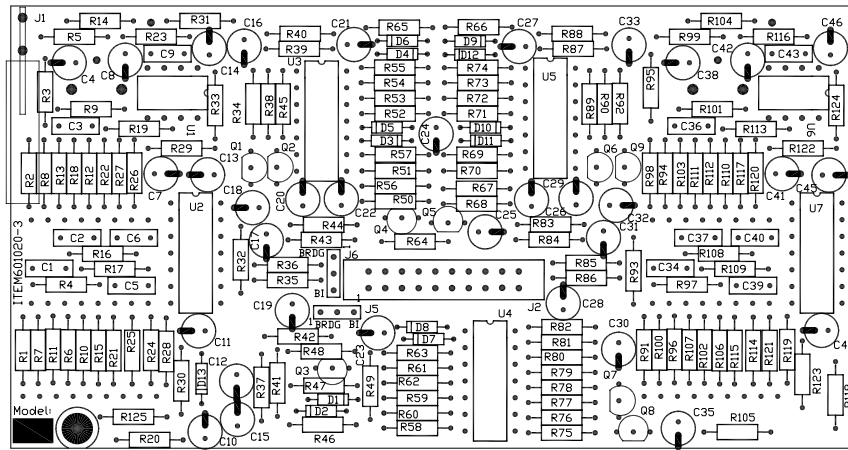



702171-4 PSU Silkscreen

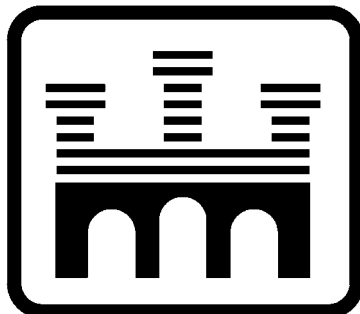
mods2ch-3.dwg SHEET 1 of 1



DESIGNER	RAM Audio - S Series
REVISION	Analog Processor Schematic
DATE	2023/01/15
DRAWN	Sheet 1 of 1



DRAWN A. Royo	DATE 13/10/06			
DESIGN A. Royo	REF. 601020-3 Processor Silkscreen			
REPLACE		SIZE A4	DWG NO. prcss4ch-3.dwg	SHEET 1 OF 1
REPLACED BY				



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