



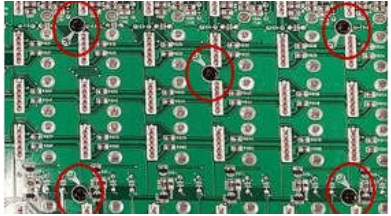
Signature Series Technical Manual

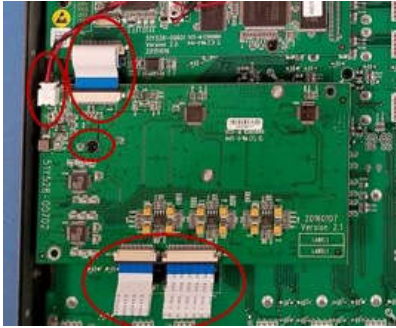
v 1.1 — 2018-03



Soundcraft®
by HARMAN

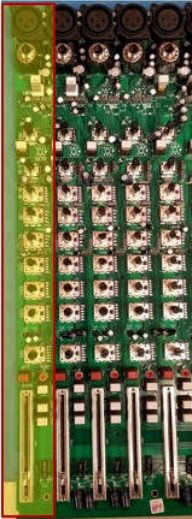
Troubleshooting Common Issues

Step #	Troubleshooting Checklist	Notes	
1	Initial Disassembly of the Signature can be found in the first three Steps in TB0080. Once the Unit is unfolded at the end of TB0080, please follow the steps below to reach the top of layer of Main PCB:		
1a	Once step 3 in TB0080 is completed, flip the top layer over to have the Pots and Faders facing up, as pictured to the right. Begin removing Knobs, Screws and Nuts	Use a #1 Phillips to remove XLR screws and a #11 Nut Driver to remove the 1/4" Jack Nuts.	
1b	After all the Knobs, Screws and Nuts are removed, flip the Unit over to see the Main PCB		
2	To begin removing the Main PCB from the Chassis, start by removing the Stereo USB/ DSP PCB.	First disconnect the top Cable Connector. Second, remove the Ribbon Cable. Lastly, remove the two screws.	
2a	Then disconnect two Cable Connectors from Main PCB.	These wires connect to the Display PCB and can be left in place.	
2b	Then begin removing the screws that hold the Main PCB to chassis. Example of what they look like to the right.		
2c	Remove Main PCB from Chassis and place it with the Potentiometers and Faders facing up.		

<p>3 It should be noted that the Signature MTK Units have an extra PCB to be removed during disassembly, along with the STEREO/DSP PCB. It can be seen pictured to the right.</p>	<p>First, remove the three Ribbon Cables. Second, the Cable Connector. Lastly the one screw.</p>	
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Inspection and testing for Signature and analog consoles

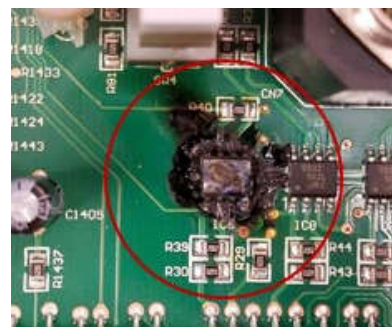
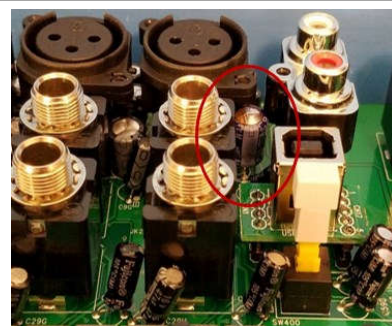
This section shows how to inspect and test Signature consoles, but these practices can also be used on other SC Analog Console.

Step #	Troubleshooting Checklist	Notes	
1	Visual Inspection of the Main PCB:	<p>Inspecting over the Main PCB, a few things to look for are:</p> <ol style="list-style-type: none"> 1. Look for any loose or broken components; primarily Faders and Potentiometers. 2. Damaged/Blown Electrolytic Capacitors. Photos of what these might look like are pictured further below in the Found problem section. 3. IC/OP-AMPs that may be burnt due to overheating. 	
2	Input Channel Troubleshooting:	This will assist in finding issues if one Input Channel does not function and/or is creating noise.	
2a	As you follow in the circuit schematic, it can be seen how the signal is isolated to each Channel.	The Schematic can be seen in the below labeled Input Channel Schematic	
2b	Each individual Channel begins at the Input Connector and ends at the Fader.	<p>Seen in the picture to the left, it is highlighted to show the normal direction of the signal. This is represented in the signal direction shown in the schematic, as well.</p>	
2c	To measure the signal, the Unit must be powered on. The Main PCB alone can be tested without the other PCBs attached, especially for just measuring the Input signal.	Only the PSU needs to be reattached for power.	
2d	Once the Unit is powered back on, apply a 4dB 1 KHz sine wave to the Mic Input Connector, with the Unit powered on, and begin following the signal.	Find where the signal is no longer present or where noise in the signal begins to help find trouble areas. Each Channel ends at MIX L/MIX R, where the signal continues on to the Output circuit.	

3	Main Output Channel Troubleshooting:	
3a	All Input Channel signals end up at the MIX L/MIX R portion of the Output Circuit. This can be seen in the Tab below labeled Output Circuit Schematic.	Output Schematic 1 has MIX L/MIX R highlighted. Follow signal to labels LEFT/RIGHT.
3b	LEFT/RIGHT continues the signal to the Main XLR Outputs	Output Schematic 2 has LEFT/RIGHT highlighted. Follow signal to Main L/ R Output XLRs

Known/Found problems on the Signature Series

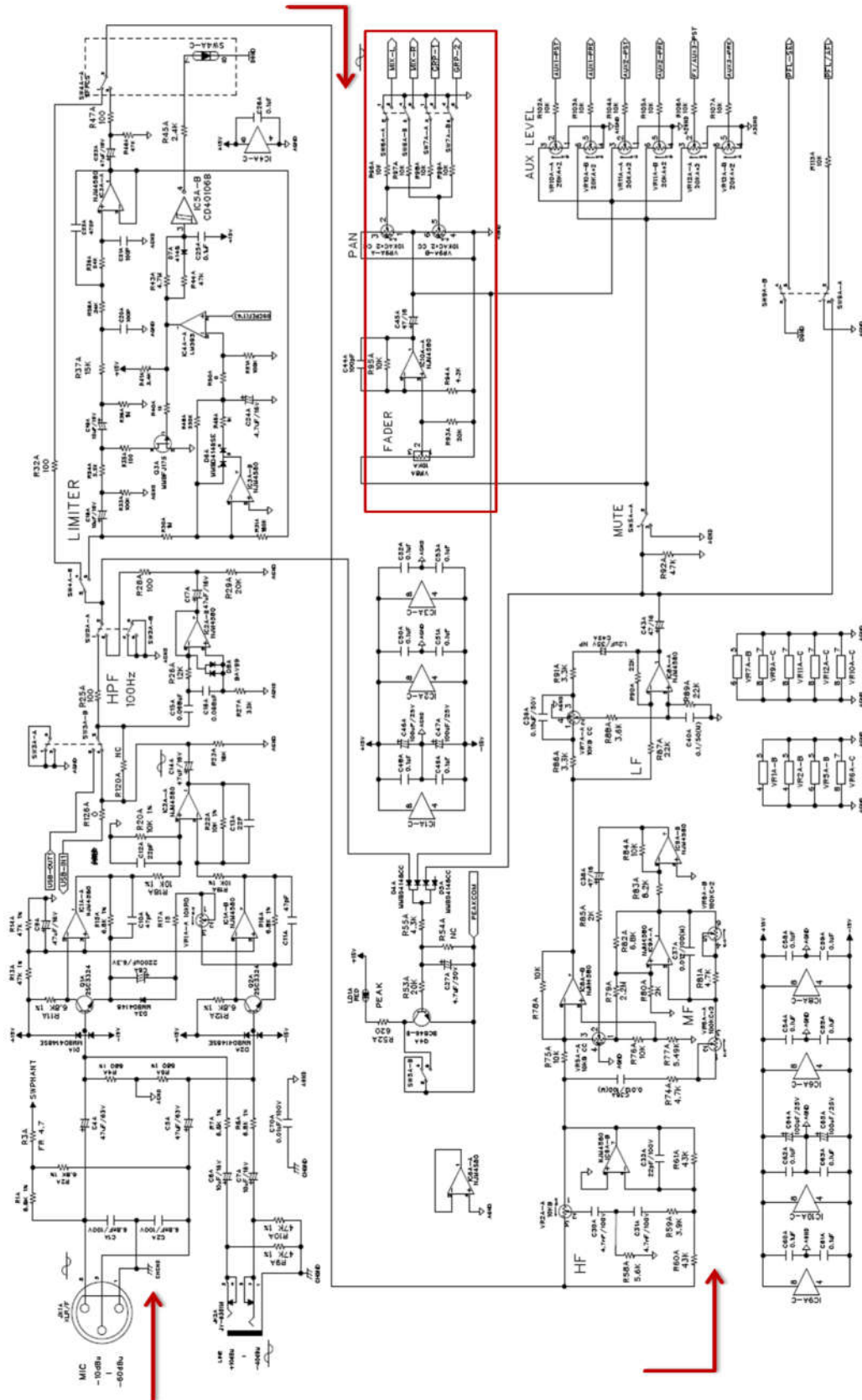
Step #	Troubleshooting Checklist	Notes
1	Unit is not powering on.	An SMPS issue has been found. More information on the topic and its resolution can be found in TB0080.
2	One Channel is scratchy/noisy when the Fader is touched or moved.	This is due to a faulty Fader. Replace Fader to rectify problem.
3	One Channel has little to no output, and may have noise.	This particular problem was due to a blown Cap, which can be seen in the picture. This is a standard blown Cap failure and what to look for during visual inspection
4	One or both Main Output XLRs has no little or no output. May also have high frequency beeps/squeaks.	This problem is due to two blown Caps (C508,509) on the Main XLR Output circuit. The can be seen in the picture to the left and are circled in Output Schematic 2.
5	No output signal caused by a burnt IC.	This may also be attributed to a failed PSU.



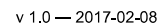
Troubleshooting skills for other Soundcraft analog consoles

The practice of troubleshooting an Input Channel circuit and Output circuit, and other skills brought up in this document can carry over to other Analog Console troubleshooting practices. While layouts and schematics might have subtle variances, the foundation of the Analog consoles functionality is built upon the same practice. These troubleshooting practices can carry over to other SC Analog consoles, such as the EMP, EFX, FX16ii, LX7ii, MFX, etc..

Input Channel Schematic



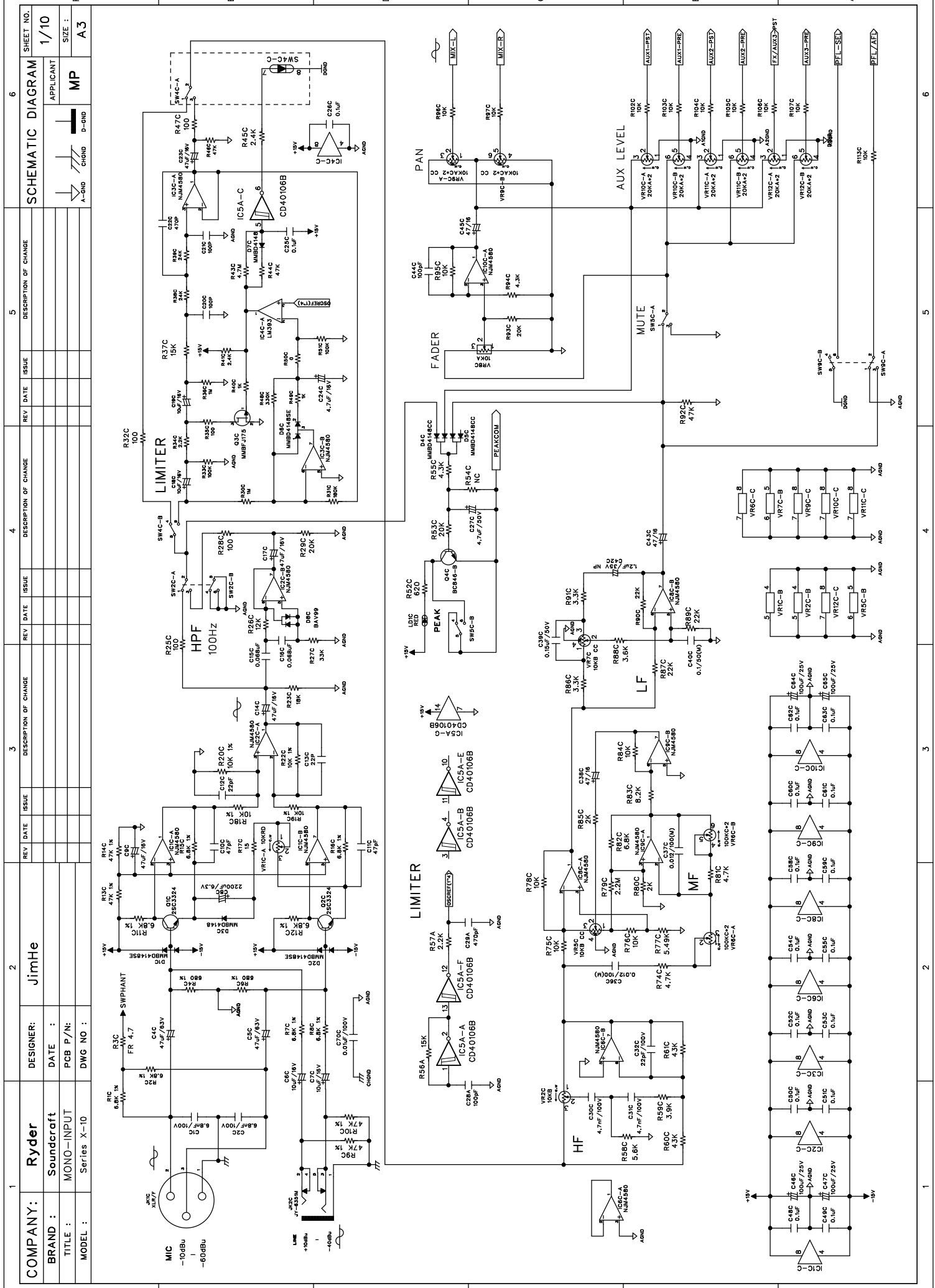
TO Multi-track AD/DA PCB TO Multi-track AD/DA PCB























































































































































Board Layouts and Schematics

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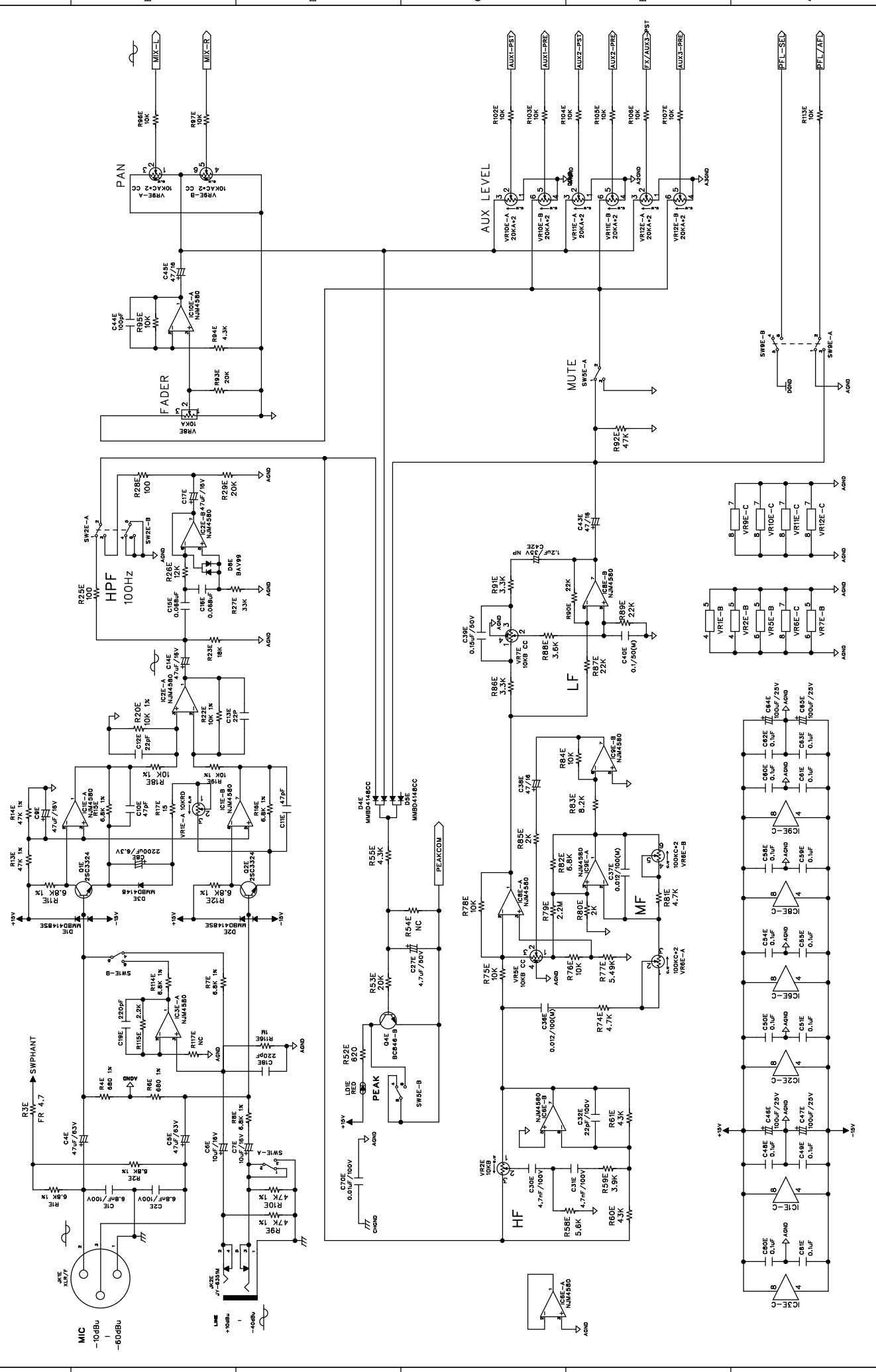
PCB,SCHEM,SIGNATURE-10

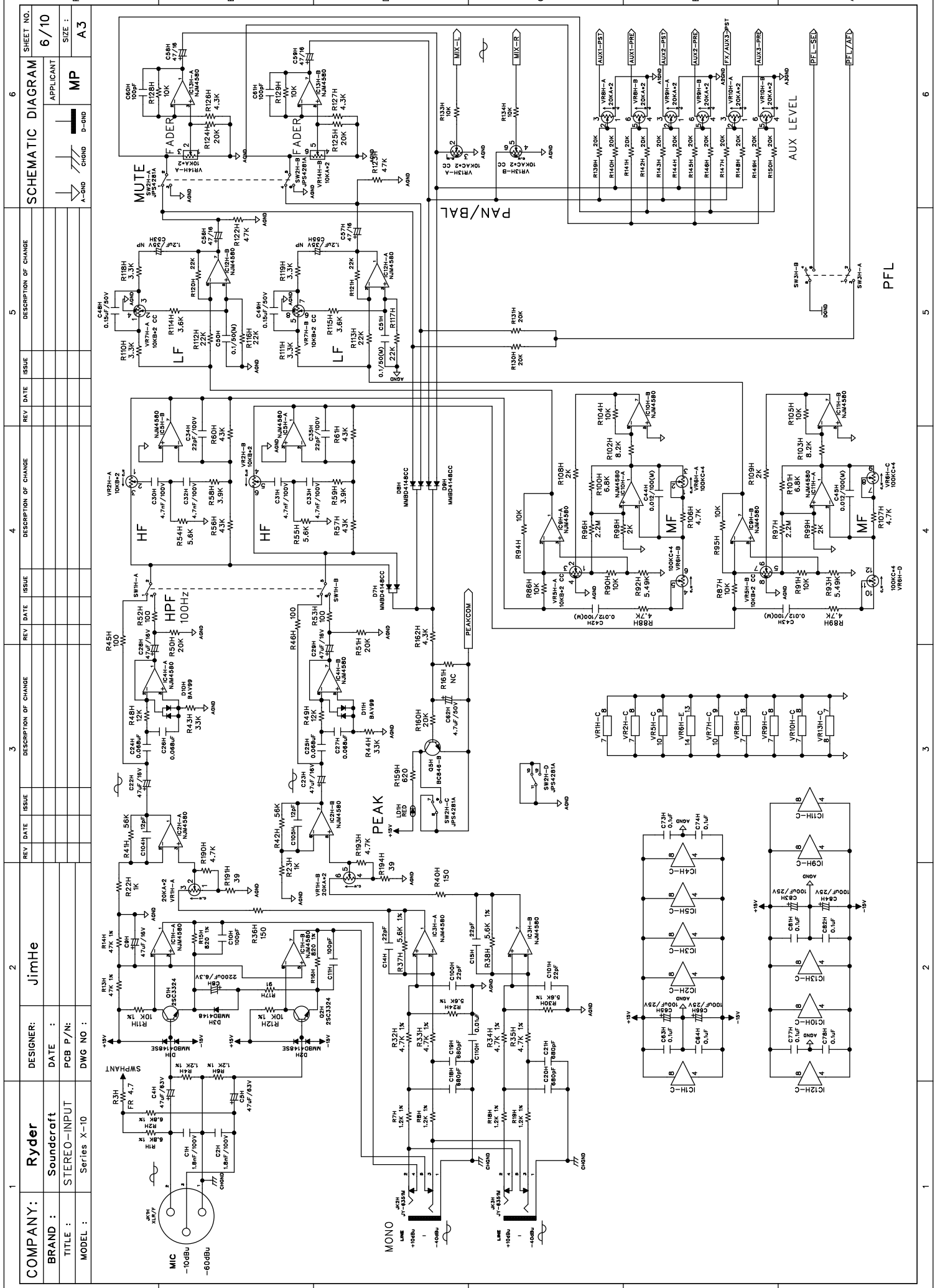


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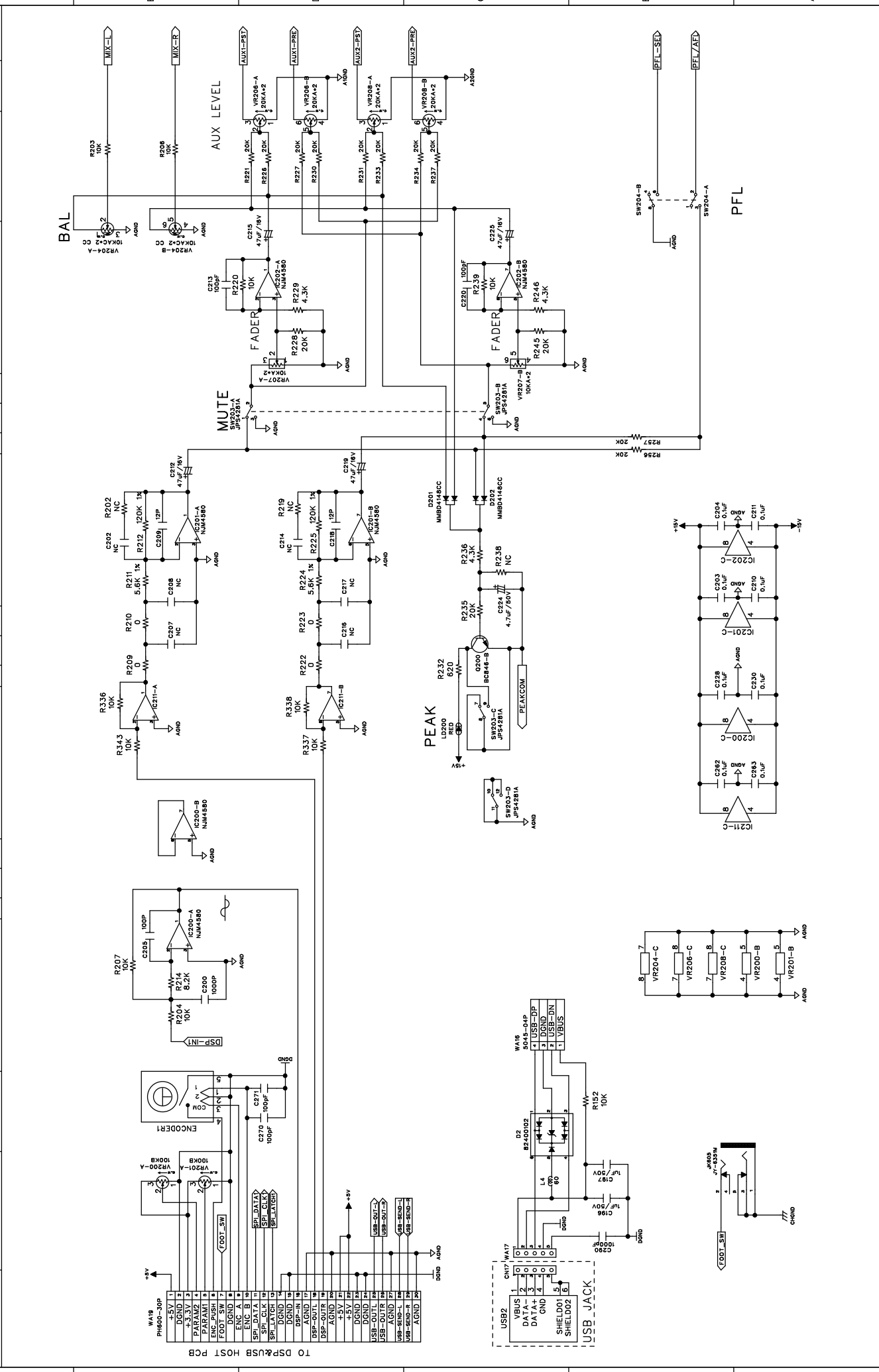
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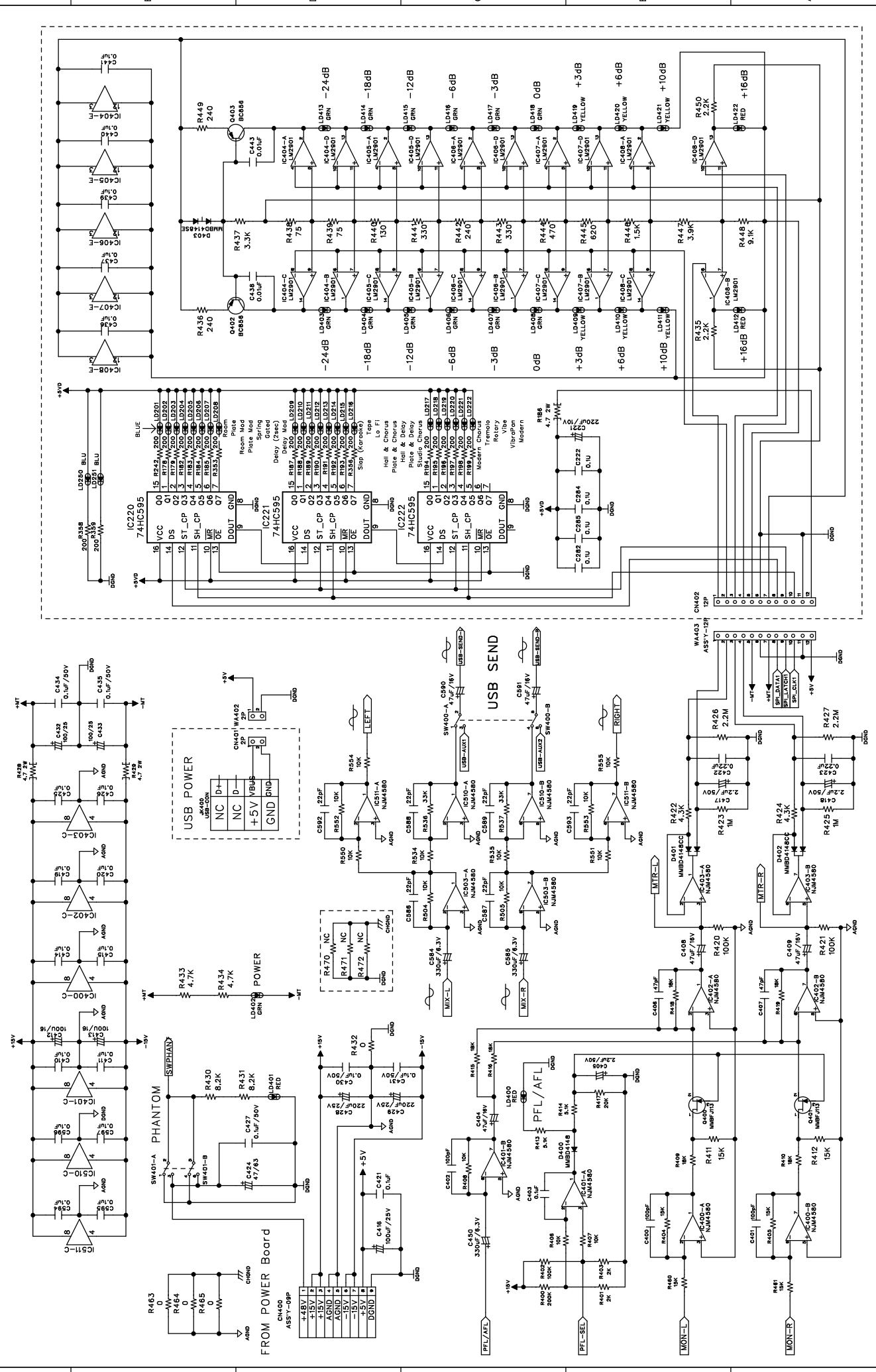




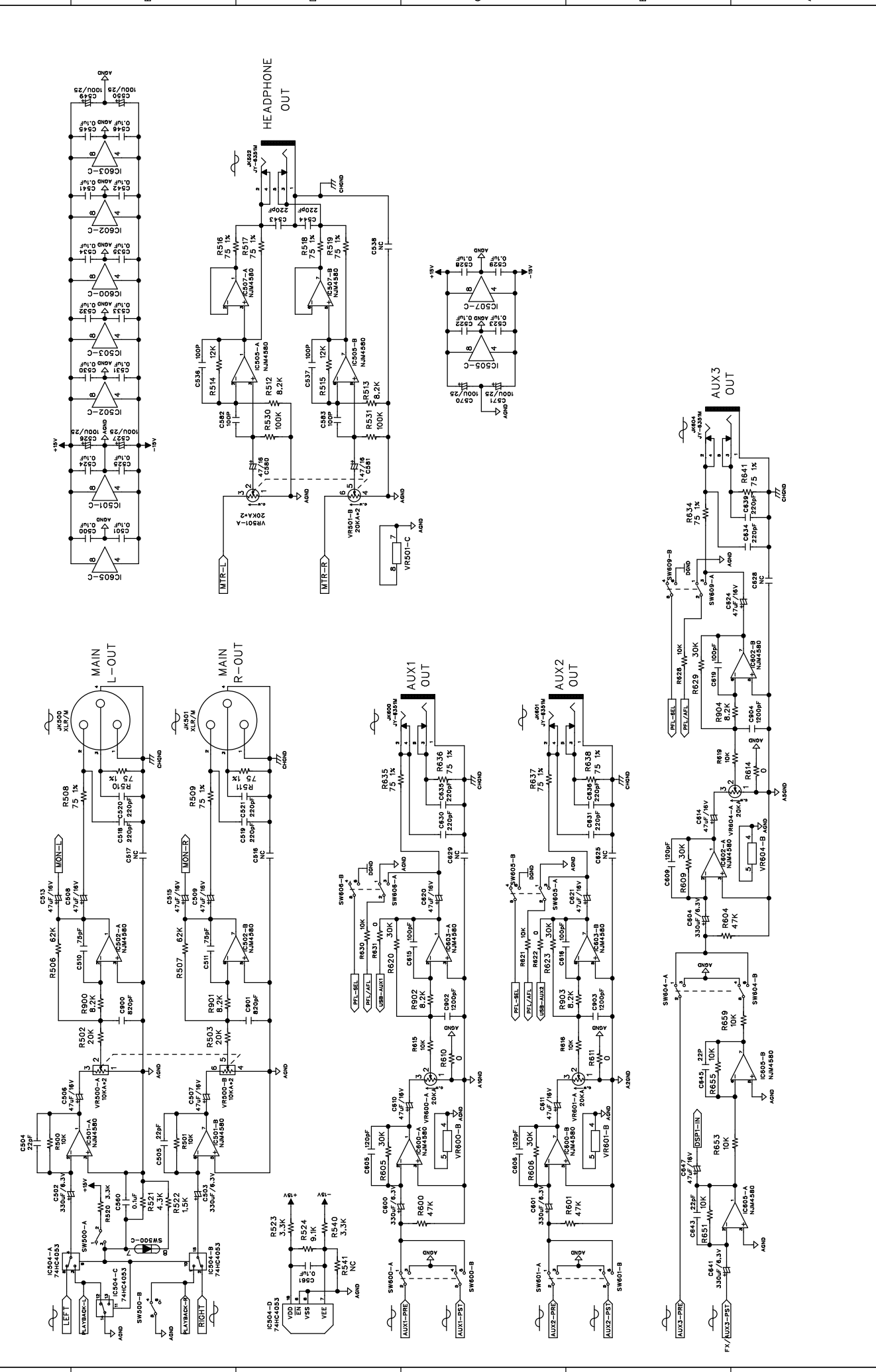
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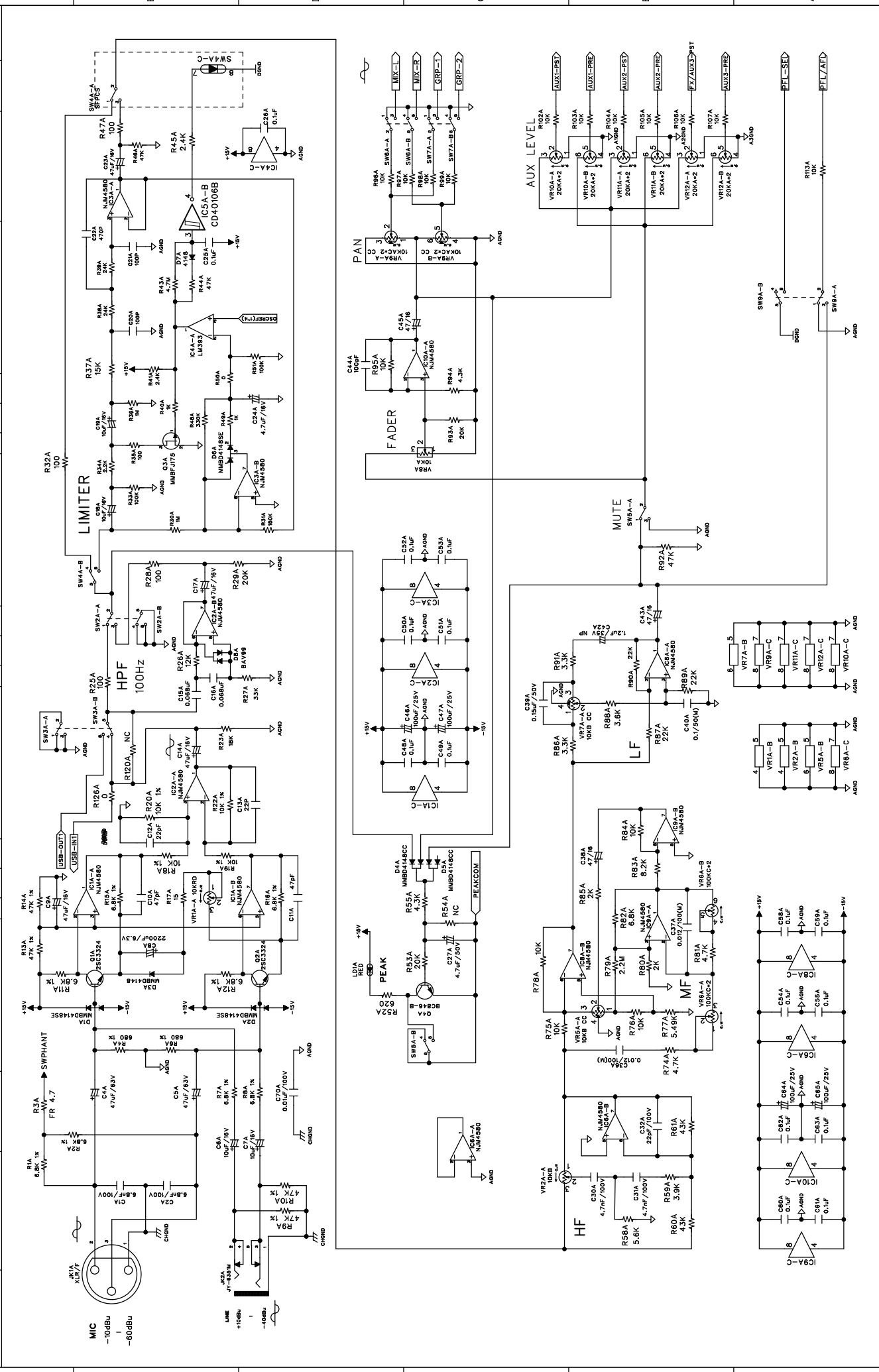


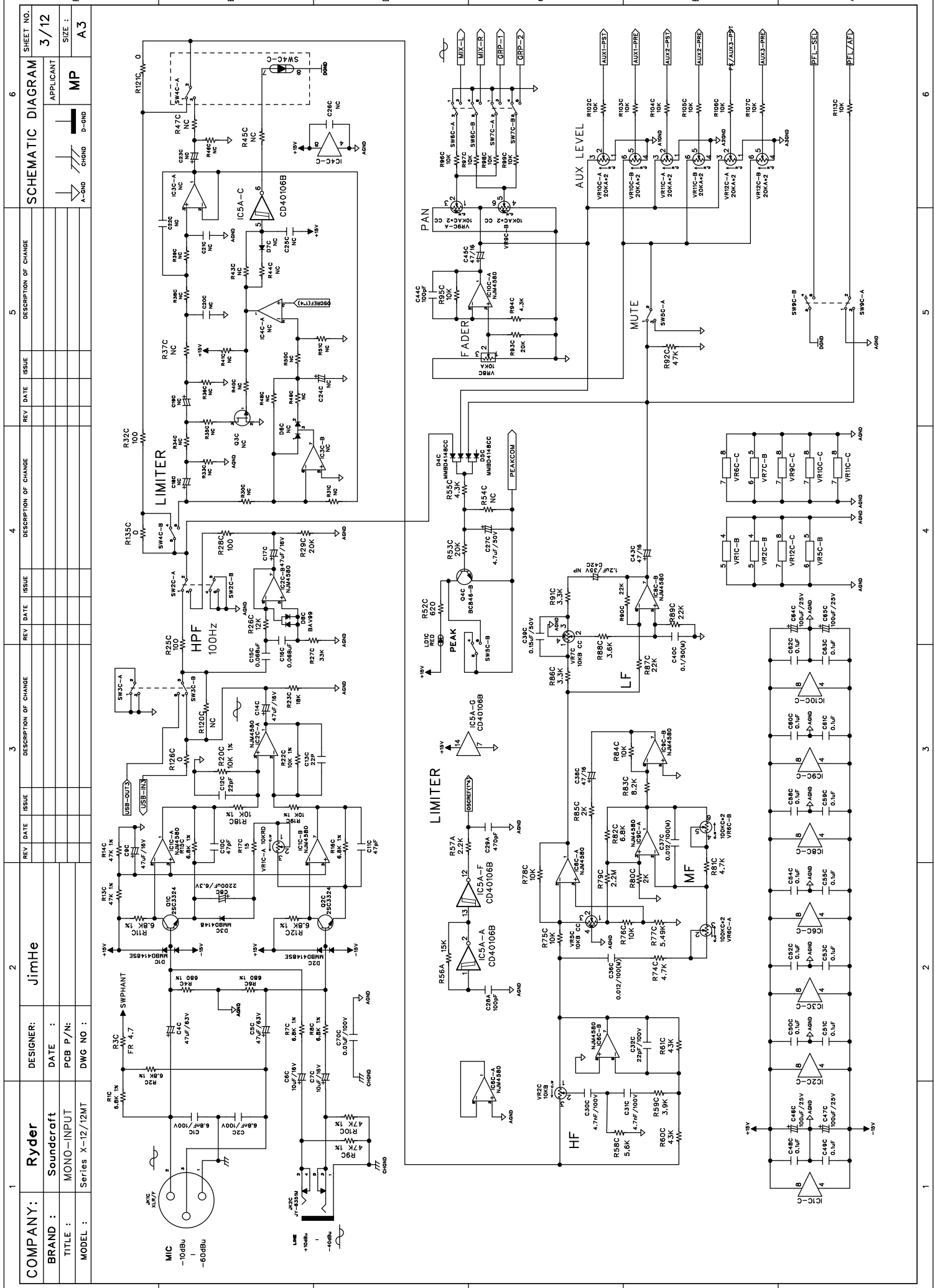
Board Layouts and Schematics

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PCB,SCHEM,SIGNATURE-12-12MT

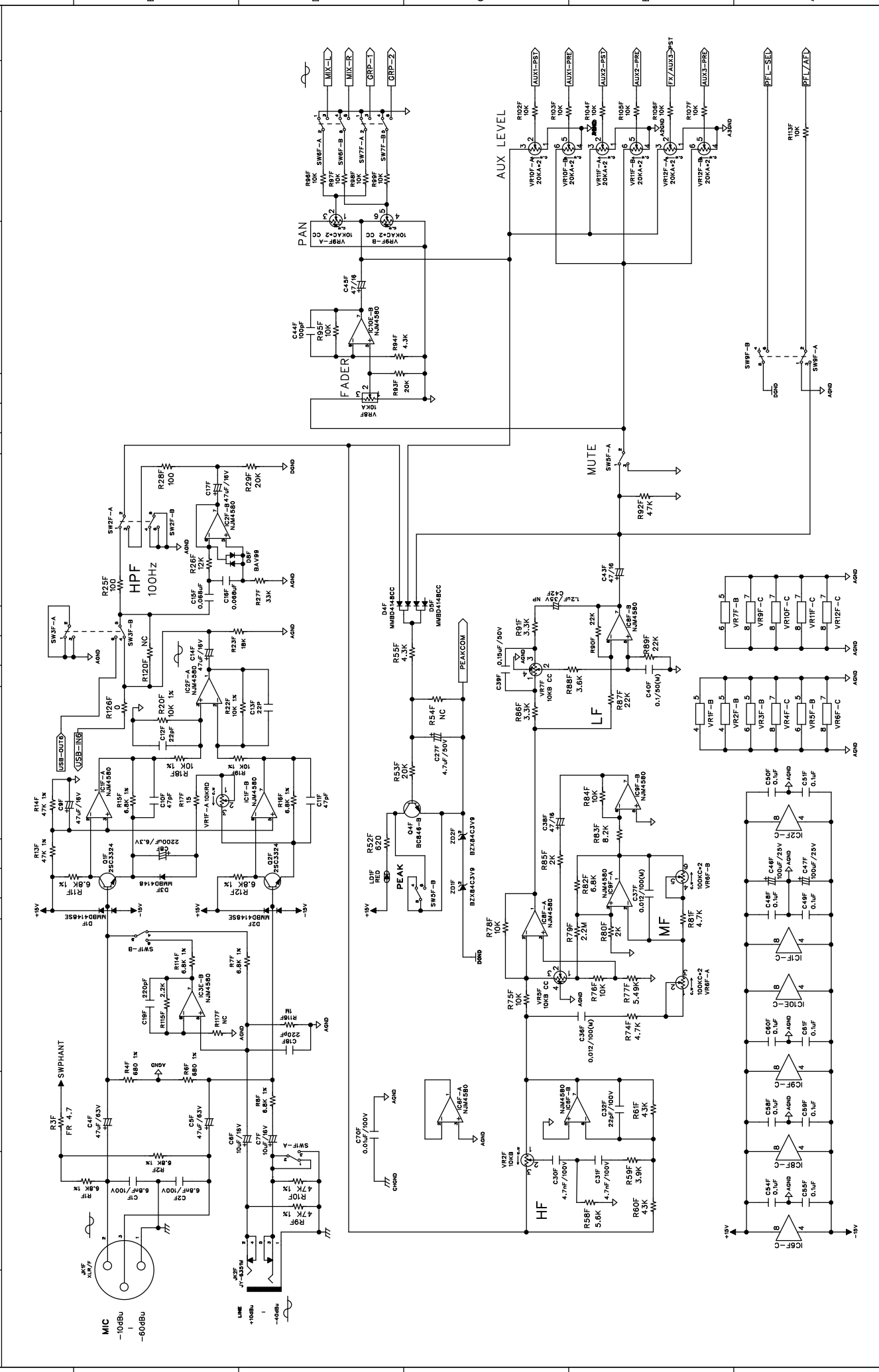
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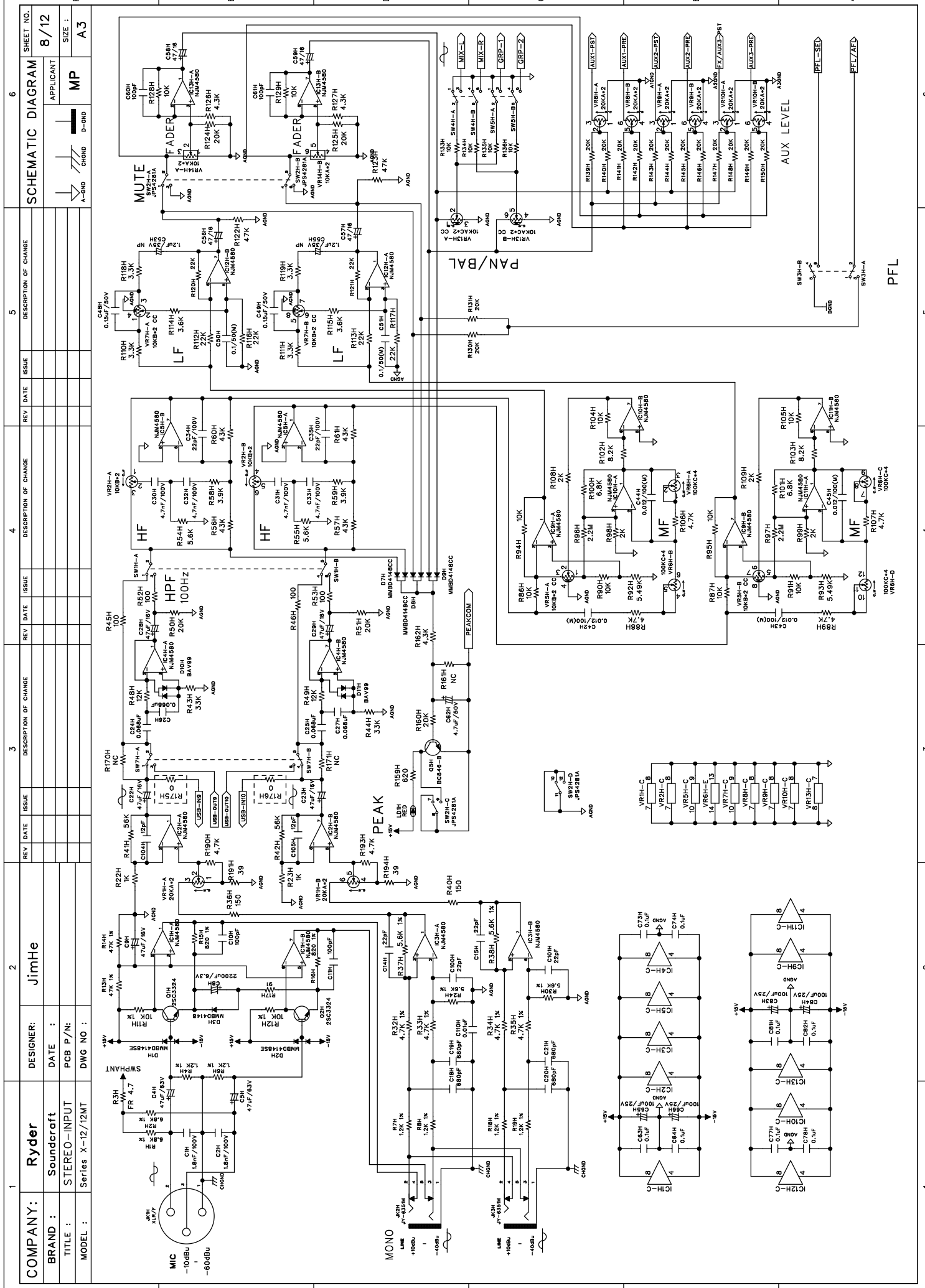







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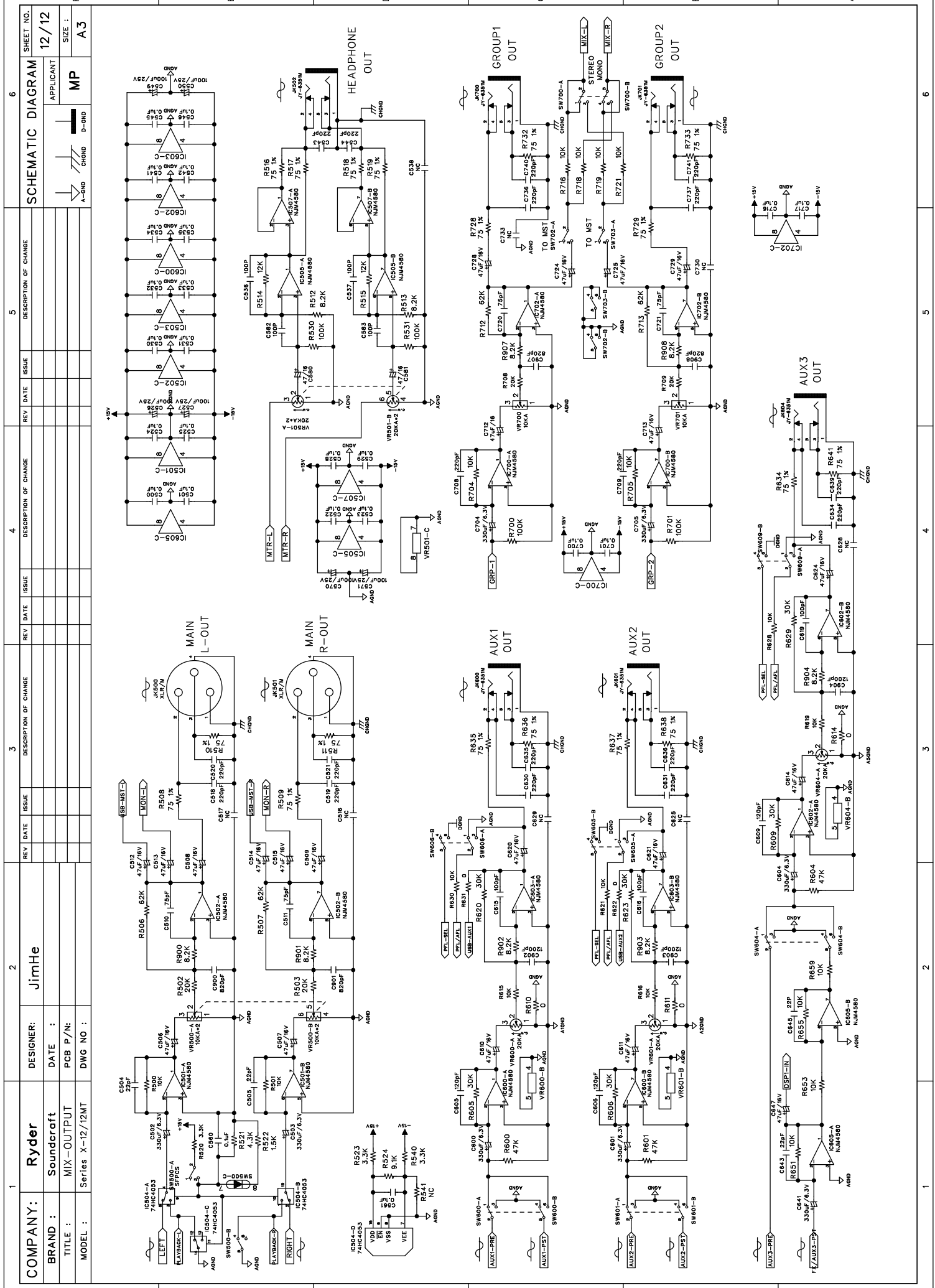
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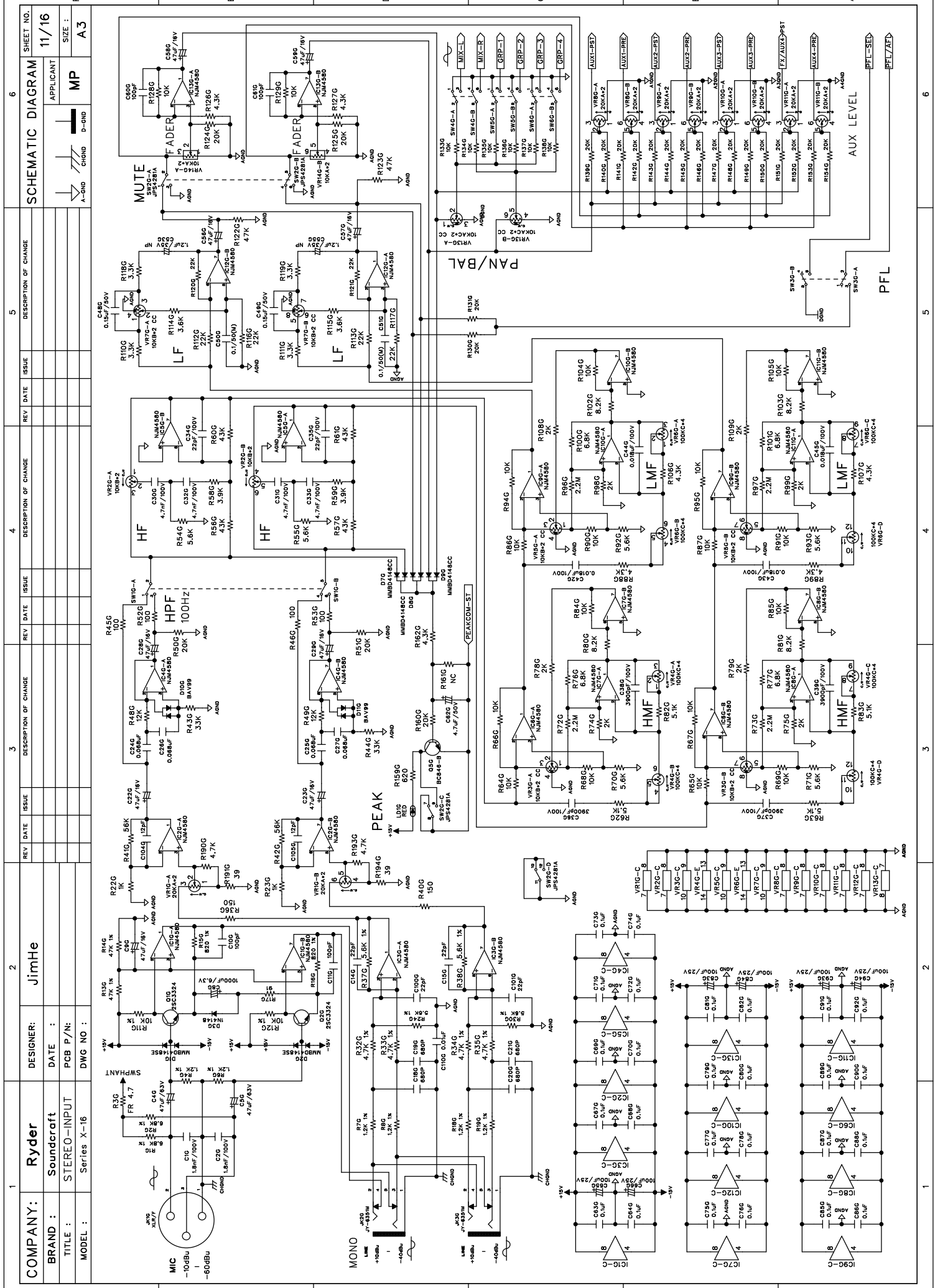
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Board Layouts and Schematics

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PCB,SCHEM,SIGNATURE-16, A.3



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DESIGNER: JimHe
BRAND : Soundcraft
TITLE : EFX
MODEL : Series X-16

DATE :
PCB P/N:
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REVISIONS:

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SCHEMATIC DIAGRAM
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APPLICANT MP
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TO DSP&USB HOST PCB

USB JACK

USB2

USB-A

USB-B

USB-C

USB-D

USB-E

USB-F

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Board Layouts and Schematics

5075203 PCB,SCHEM,SIGNATURE-STEREO-USB-DSP, A.3

