



Reference Series 5350a

5,3 CHANNEL POWER AMPLIFIER

SERVICE MANUAL



Infinity Systems, Inc.
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Woodbury, New York 11797

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Discontinued XXXX

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Reference 5350a Basic Specifications

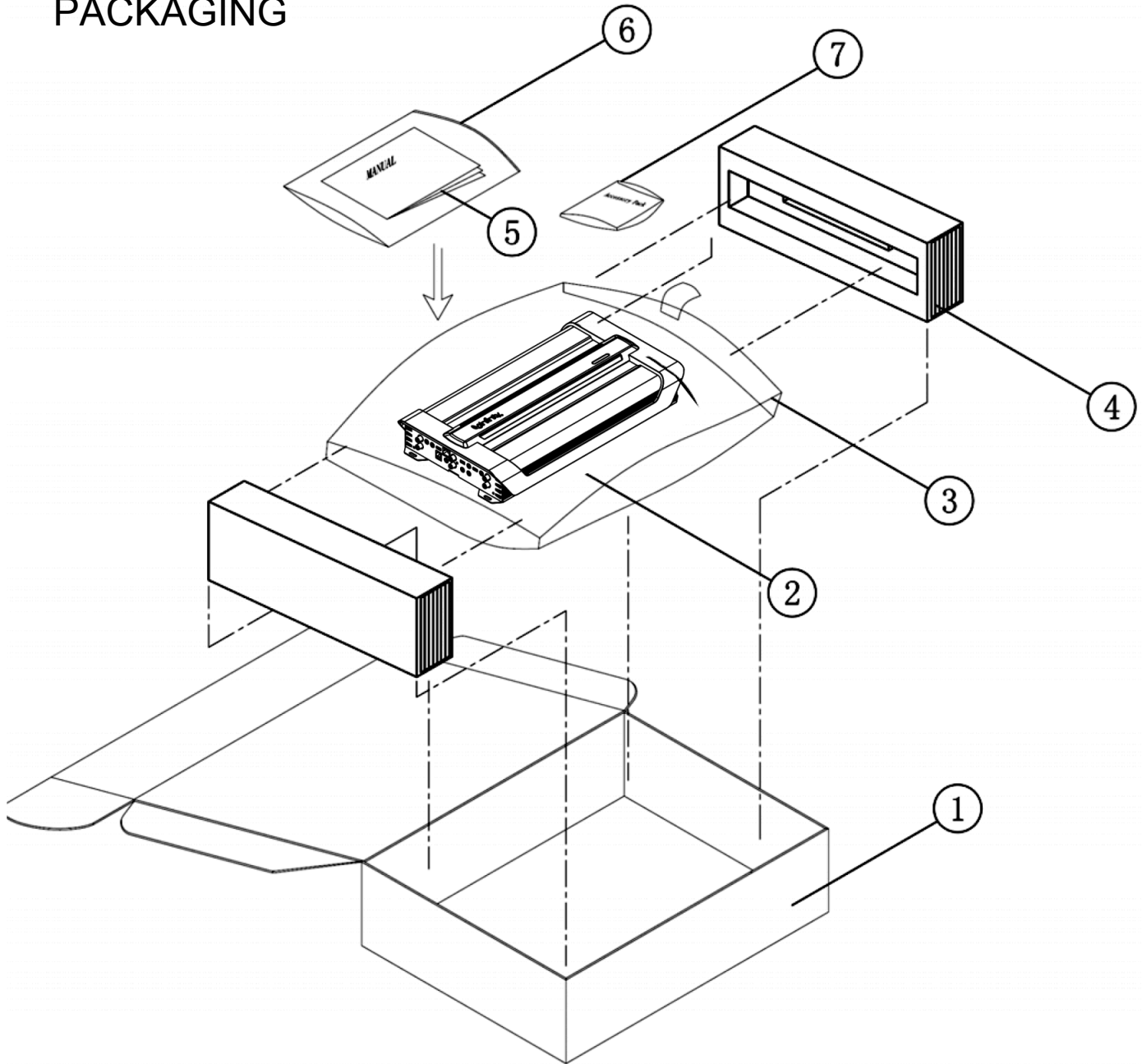
Output Power: (14.4 VDC)	50W RMS x 4 channels plus 150W RMS x 1 channel at 4 ohms ; $\leq 1\%$ THD 60W RMS x 4 channels plus 300W RMS x 1 channel at 2 ohms ; $\leq 1\%$ THD
Signal-to-noise ratio:	85dBA (reference 1W into 4 ohms)
Dynamic power:	89W x 4 and 332W x 1 at 2 ohms
Effective damping factor:	6.3 @ 4 ohms
Frequency response:	10Hz – 100kHz (-3dB)
Maximum input signal:	6.0V
Maximum sensitivity:	100mV
Output regulation:	0.12dB @ 4 ohms
Dimensions (L x W x D):	16-9/16" x 9" x 2-11/16" (421mm x 229mm x 69mm)
Fuse:	2 x 40A

Infinity continually strives to update and improve existing products, as well as create new ones. The specifications and details in this and related JBL publications are therefore subject to change without notice.

INFINITY REFERENCE 5350a AMPLIFIER SPECIFICATIONS

TEST VOLTAGE 14.4 +0.1V			
Specification	Rating	Unit	Remarks
Power Output 4ohm loads @ (stereo mode) for each ch @<1.0%THD (Unit:W)(LPF=22K)	≥50W x 4 + 150W x 1	Watts	
Power Output 2ohm loads @1kHz/50Hz (stereo mode) for each ch @<1.0%THD (Unit:W)(LPF=22K)	≥75W x 4 + 300W x 1	Watts	
Power Output Bridged (Stereo) Mode 4ohm loads 1kHz @<1.0%THD (Unit:W)(LPF=22K)	≥150W x 2	Watts	
THD Power 4 ohm loads and 1MD@Reference (Unit:%) LPF=22K	≤0.5% @1kHz/50Hz	%	
THD Power 2 ohm loads and 1MD@Reference (Unit:%) LPF=22K	≤0.5% @ 1kHz/50Hz	%	
THD Power 4 ohm loads Bridged (Stereo) Mode (Unit:%) LPF=22K	≤0.5% @1kHz	%	
Channel Separation @full rated power (+80KHZ) @1kHz	≥45dB		
Full rated power Distortion 1kHz/50Hz LPF=22KHz	≤0.1%	%	
Signal/Noise Ratio a: 1 watt into 4 ohms b: full rated power (dB)	>85 >100	dB	1V signal input
Input Sensitivity Low Level Input(v) @:full rated power	100mV-6V	Volts	±20%
Frequency response (Unit:-3dB)	10Hz~100kHz; 10Hz~200Hz	Hz	-3dB
High-Pass Crossover Frequency limits +20%	32Hz – 320Hz	Hz	
Low-Pass Crossover Frequency limits +20%	32Hz – 320Hz; 20Hz – 200Hz	Hz	
Bass Boost:(Unit:dB) @50Hz (±5Hz)	0~6dB	dB	±1dB
Idle Current (@ 4ohm)	1.9A	A	±0.15A
MAX current: rated power (All channel 2 ohm load)	≤75A	A	
DC Offset:	≤30mV	mV	
Damping Factor (4ohm):	> 200		
Effective damping factor (4ohm):	6.395		
Dynamic Power @ 2 ohms	850W	Watts	
Output Regulation @ 4 ohms	0.03dB	dB	
Remote Operating Voltages:	ON 5V OFF 4V	Volts	±1V
Turn on delay time	2 to 3	Sec	
Circuit Protection a. Temperature b. Speaker Short Circuit c. Operating Voltage Range	85 ±5 deg C Yes 8~16V		+0.5V
Dimensions (L x W x H):	16-9/16" x 9" x 2-11/16" (361mm x 229mm x69mm)	Inches mm	
Fuses	40A x 2	A	

PACKAGING



Item	Part Number	Description	Qty
1	CH5082901201	Outer Carton	1
2	REF5350a	REF5350a Amplifier	1
3		Plastic Bag	1
4	BZL279112001	Packing Foam	1
5	Visit Infinitysystems.com	Owner's manual	1
6		Plastic Bag	1
7		Accessory kit consisting of:	1
	LS1CJ0402507	Mounting Screws	4
	1601-403E-00	SPARE 40A FUSES	2
	REMOTE REF AMP	Remote Level Control	1
	2100-0009-04	(RJ11) control cable	1

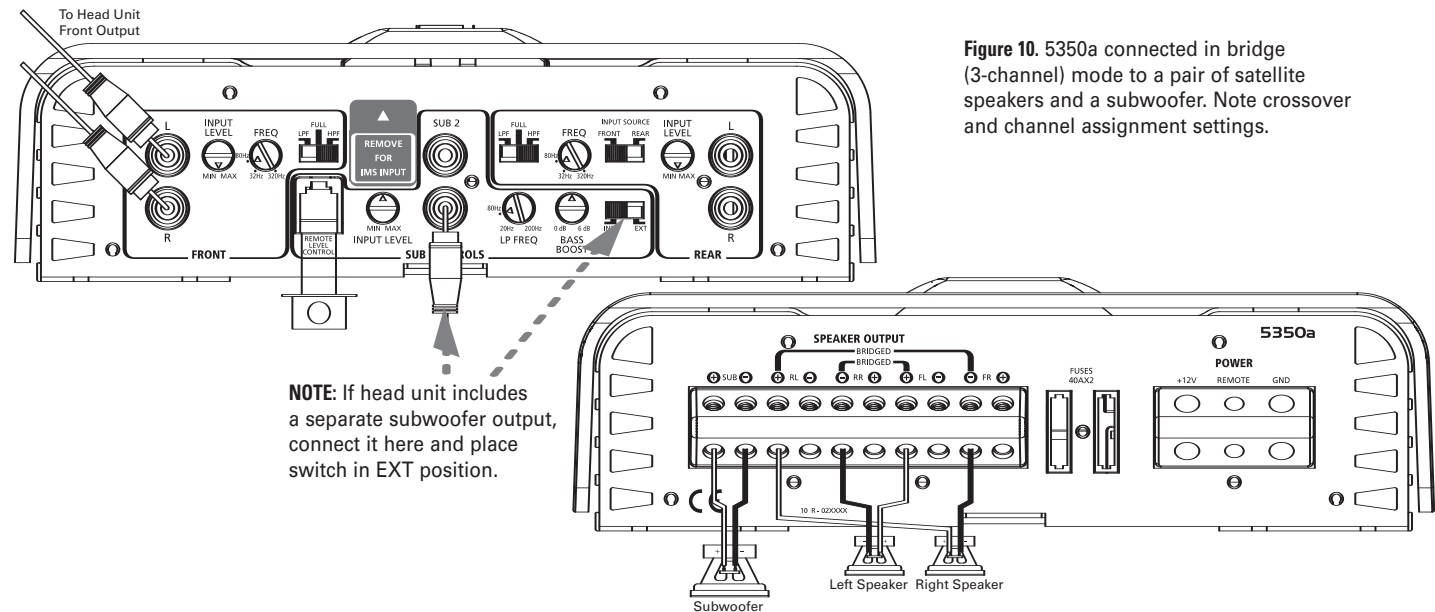
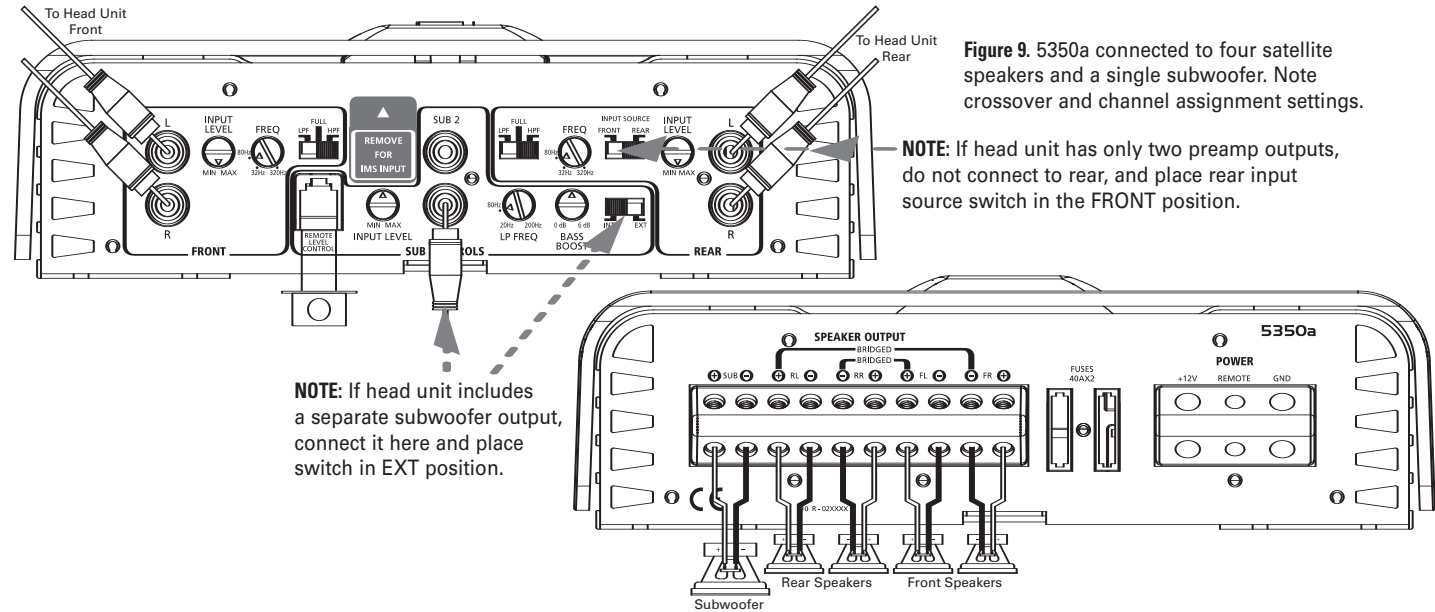
APPLICATIONS – 5350a

The 5350a can be configured for 5-channel or 3-channel operation, as shown in Figures 9 and 10.

INPUT MODE SWITCH:

- Use INT (internal mode) to send a signal from the front and rear inputs to the subwoofer.
- Use EXT (external mode) when sending a dedicated signal to the subwoofer inputs; e.g., if your source unit has a subwoofer output.

NOTE: Minimum speaker impedance for stereo operation is 2 ohms. Minimum speaker impedance for bridged operation is 4 ohms. Minimum impedance of any subwoofer or combination of subwoofers is 2 ohms.



INSTALLATION AND SETUP

Refer to the illustrations on the previous pages for control location.

Reconnect the (-) negative lead to the vehicle's battery. Apply power to the audio system and play a dynamic music track.

SETTING THE CROSSOVER(S)

Determine your system plans and set the crossover-mode switch accordingly. If your system design does not include a subwoofer, set the crossover mode to FULL and skip to "Setting Input Sensitivity."

If your system includes a subwoofer, set the crossover mode to HP (high-pass) for your full-range speakers. Adjust the crossover frequency to limit bass, and provide increased system volume with less distortion.

Mode Switch:

Full: Allows a full-range signal through to the speakers; can be used with larger full-range speakers such as 6" x 9"s.

HP: Allows a high-pass signal through to the speakers; should be used with most loudspeakers (can protect your full-range speakers from being overdriven with low frequencies, one cause of speaker damage).

LP: Allows only bass to pass through to the speakers; should be selected when powering subwoofers.

High-Pass Filters: Initially set the crossover-frequency control midway. While listening to music, adjust the crossover for the least perceived distortion from the speakers, allowing them to reproduce as much bass as possible.

Low-Pass Filters: For subwoofers, choose the highest frequency that removes vocal information from the sound of the subwoofer.

If using the 475a to drive a subwoofer(s), set the crossover mode to LP (low-pass) on the channels connected to the subwoofer.

NOTE: The 1300a, 1600a and the subwoofer output of the 5350a are low-pass only and do not have a crossover-mode switch.

SETTING INPUT SENSITIVITY

1. Initially turn the INPUT LEVEL control(s) to the minimum (counterclockwise) position.
2. On the source unit, increase the volume control to 3/4 volume. Slowly increase the INPUT LEVEL control(s) toward three o'clock until you hear slight distortion in the music. Then reduce the INPUT LEVEL slightly until distortion is no longer heard.

NOTE: After the source unit is on, blue LEDs (on the top panel) will light, indicating the amplifier is on. If not, check the wiring, especially the remote connection from the source unit. Also refer to "Troubleshooting."

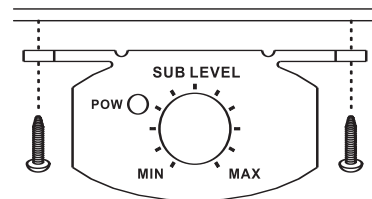
REMOTE LEVEL CONTROL

The 1300a, 1600a and 5350a include a remote level control. This will allow the subwoofer level to be adjusted from the listening position. Connect the remote level control using the RJ11 jack on the side of the amplifier. Install the control module in the front of the vehicle within easy reach of the driver. Both the underside of the dash and the center console are suitable locations.

UNDER-DASH MOUNTING

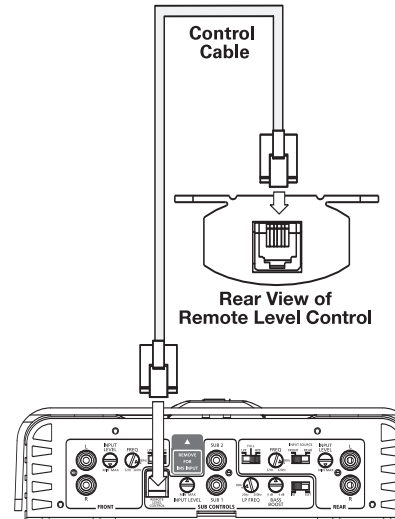
Select a mounting location that allows easy access to the control while driving. Using the REMOTE LEVEL control as a template, mark and drill holes in the mounting surface. Attach the REMOTE LEVEL control using the mounting screws provided (Figure 11).

Figure 11. Under-dash mounting of the REMOTE LEVEL control.



Route the cable behind the dash or other interior panels and under the carpet. Do not route the cable outside the vehicle. Connect the RJ11 cable between the RJ11 receptacle on the amp and the receptacle on the REMOTE LEVEL control (Figure 12).

Figure 12. REMOTE LEVEL control electrical connection.



SETTING THE BASS BOOST

The Bass Boost control will allow you to enhance the bass output of your system at 50Hz up to 6dB.

AUX OUTPUT

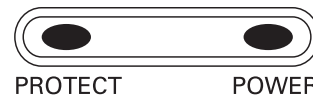
Reference amplifiers (except 5350a) are equipped with full-range outputs that can be used to connect additional amplifiers.

STATUS LEDs

Power: Indicates the amplifier is on.

Protection: Refer to "Troubleshooting" for specific indications.

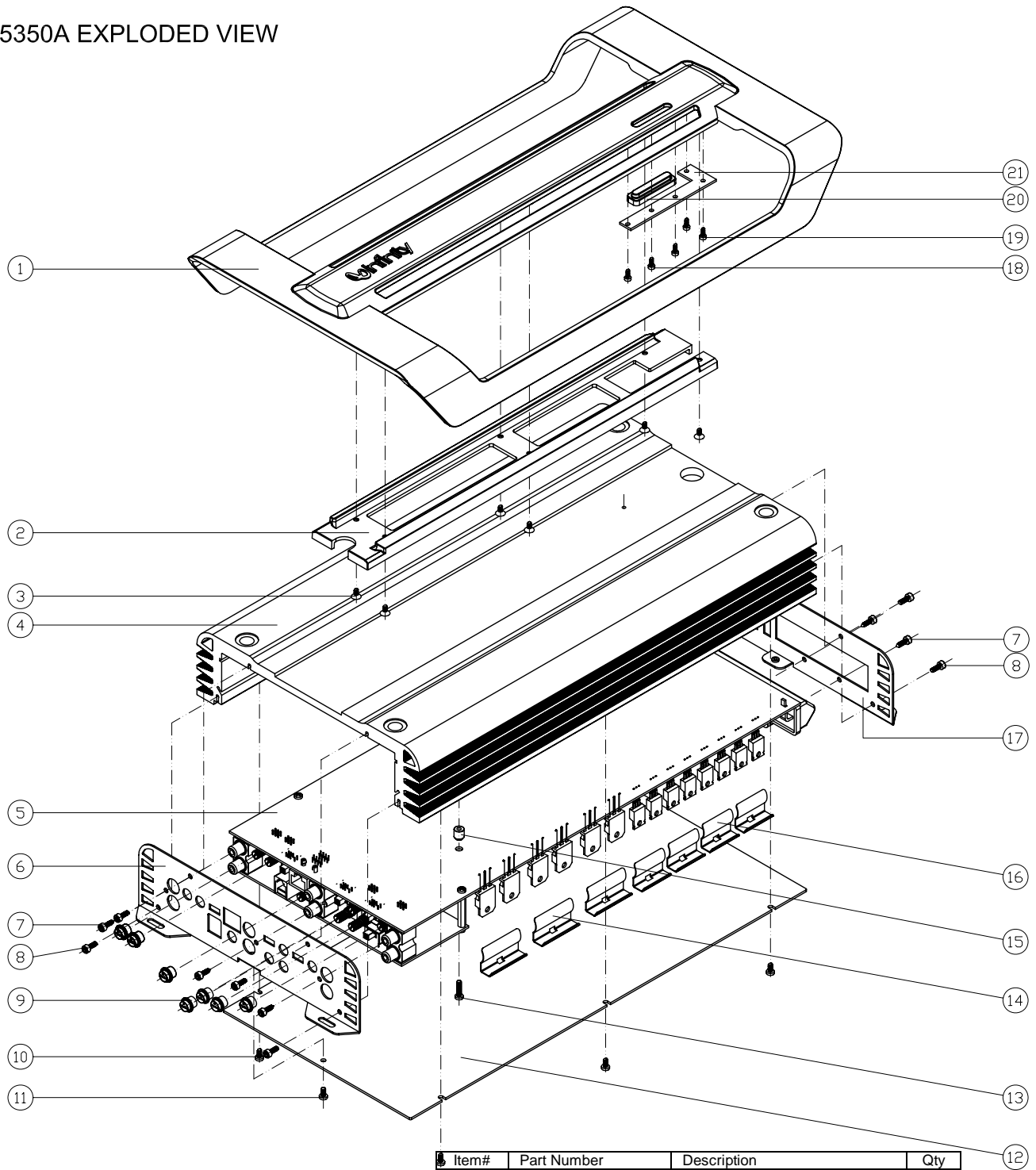
Figure 13. LED status.



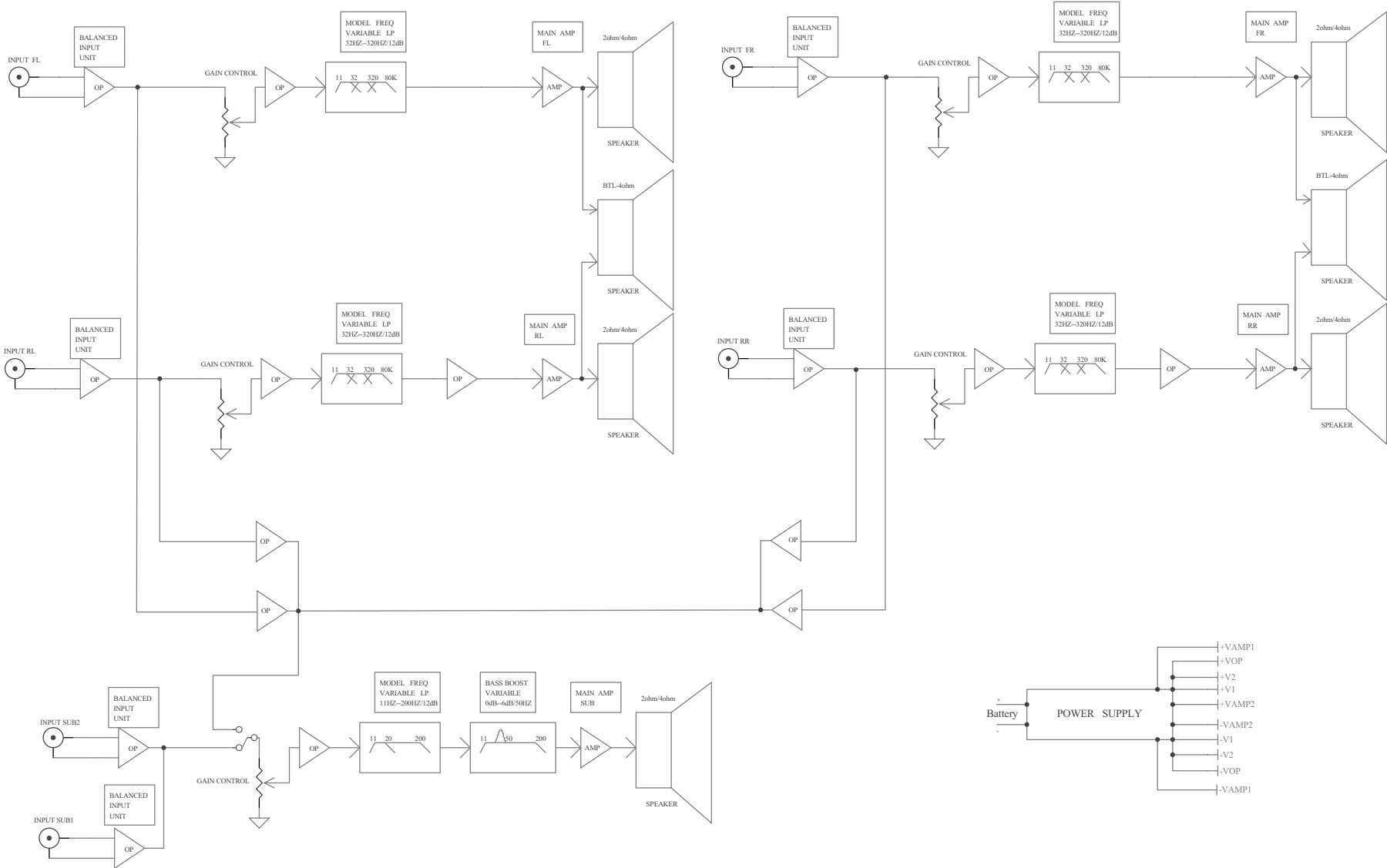
TROUBLESHOOTING

- PROBLEM:** No audio (POWER LED is off).
CAUSE and SOLUTION: No voltage at BATT+ and/or REM terminals, or bad or no ground connection. Check voltages at amplifier terminals with VOM.
- PROBLEM:** No audio (PROTECT LED glows red).
CAUSE and SOLUTION: DC voltage on amplifier output. Amplifier may need service; see enclosed warranty card for service information.
- PROBLEM:** No audio (PROTECT LED glows red).
CAUSE and SOLUTION: Amplifier is overheated. Make sure amplifier cooling is not blocked at mounting location; verify that speaker-system impedance is within specified limits.
- PROBLEM:** No audio (PROTECT LED glows red).
CAUSE and SOLUTION: Voltage less than 9V on BATT+ connection. Check vehicle charging system.
- PROBLEM:** No audio (PROTECT LED glows red).
CAUSE and SOLUTION: Voltage greater than 16V or less than 8.5V on BATT+ connection. Check vehicle charging system.
- PROBLEM:** Distorted audio.
CAUSE and SOLUTION: Input sensitivity is not set properly, or amplifier or source unit is defective. Check INPUT LEVEL setting, or check speaker wires for shorts or grounds.
- PROBLEM:** Distorted audio (PROTECT LED glows intermittently).
CAUSE and SOLUTION: Short circuit in speaker or wire. Remove speaker leads one at a time to locate shorted speaker or wire, then repair.
- PROBLEM:** Music lacks "punch."
CAUSE and SOLUTION: Speakers are not connected properly. Check speaker connections for proper polarity.

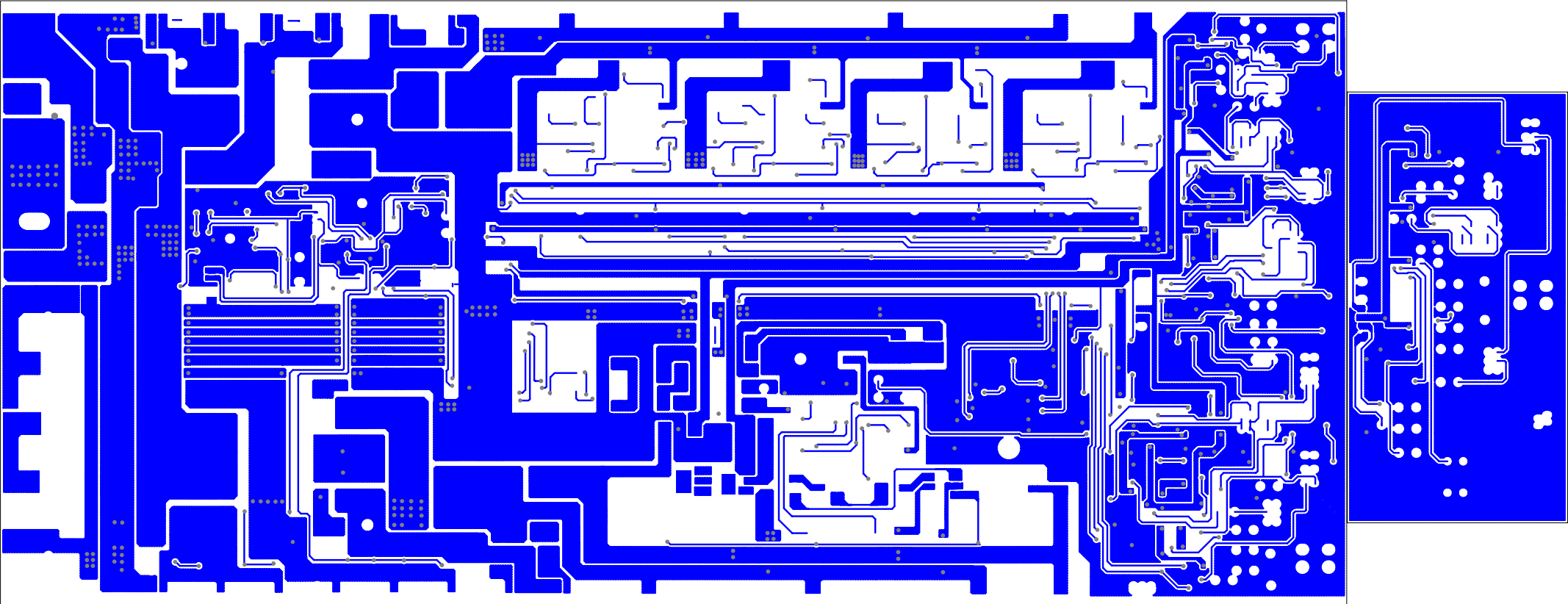
5350A EXPLODED VIEW

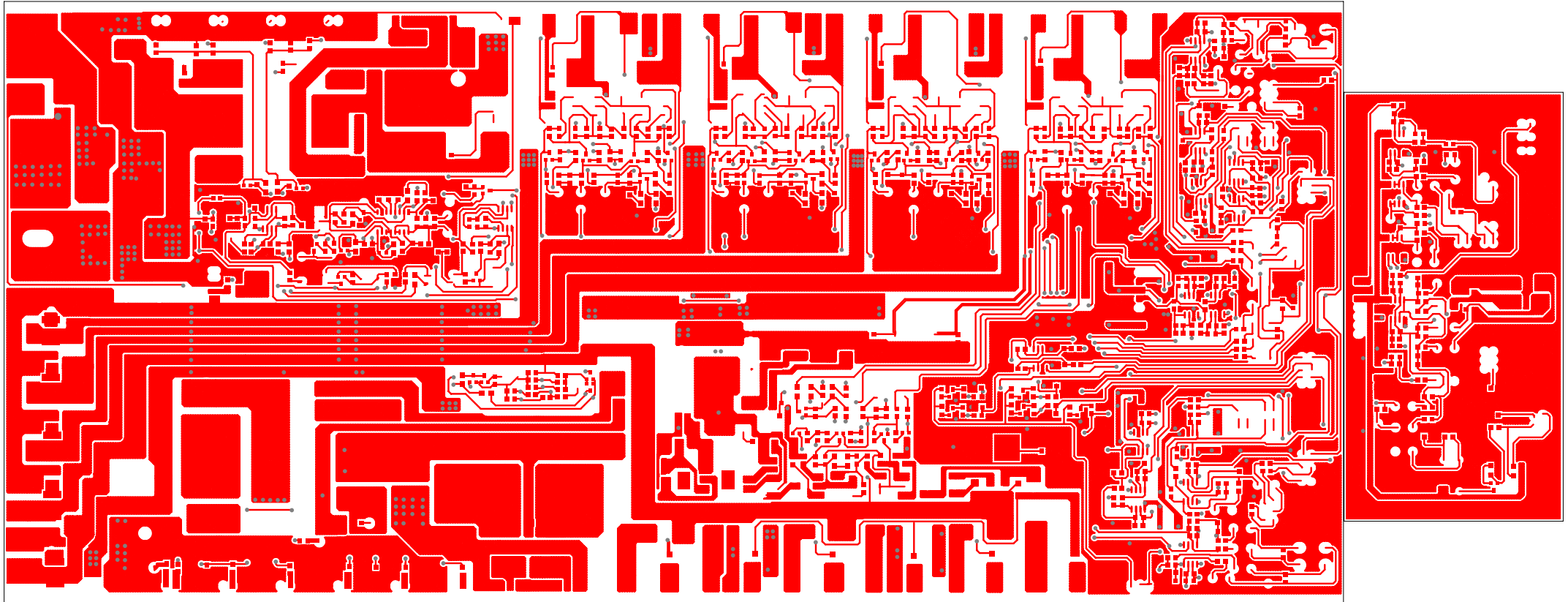


Item#	Part Number	Description	Qty
1	SG-0017-2601	Top cover	1
2	GD-600021400	Light panel	1
3	LSIFM0300011	Screw	6
4	SR-F555-0117	Main heat sink	1
5		Main PCB	1
6	MK-0006-2601	Front panel	1
7	LS5KJ0301007	Screw for terminal, RCA jacks	7
8	LS5KP0300807	Screw for F/RP	8
9	XN-10500-012	Knob	7
10	LSIAP0300607	Screw	6
11	LSIAM0300607	Screw	2
12	XG-0018-2601	Bottom plate	1
13	LSIAY0301201	Screw	2
14	PL-L0007-000	Transistor spring clip (2)	8
15	ZL-10037A-15	Space Pole	2
16	PL-L0006-000	Transistor spring clip (1)	6
17	HG-0007-2601	Rear panel	1
18	LSIAA0200501	Screw	1
19	LS1AM0250401	Screw	4
20	CP-B00011400	LED lens	1
21		LED PCB	1



ECN NO	DESCRIPTION	APPROVED	DATA			DWG GNO:
						PART NO:
				PART NAME: BLOCK DIAGRAM		SCALE: 1:1
				PRODUCT MODE: REF5350a		UNIT: MM
				SIZE: A4		DRAWN BY: JING HUI CHEN
				REV: 1.0		CHECKED BY:
				APPROVED BY:		DATE: 2007.1.25
						DATE:
						DATA:





REFERENCE 5350a Electrical Parts List			
Part Number	Description	Qty	Reference Designator
Main PCB			
<i>Resistors</i>			
0701-35R6-02	Resistor	SMD 5.6Ω 1/4W ±5% 1206	6 R152E R154E R153E R155E R166E R167E
0701-2220-02	Resistor	SMD 22Ω 1/8W ±5% 0805	20 R135A R135B R135C R135D R135E R136A R136B R136C R136D R136E R137A R137B R137C R137D R137E R138A R138B R138C R138D R138E
0701-2470-02	Resistor	SMD 47Ω 1/8W ±5% 0805	8 R152A R152B R152C R152D R154A R154B R154C R154D
0701-2680-02	Resistor	SMD 68Ω ±5% 0805	8 R150A R150B R150C R150D R151A R151B R151C R151D
0701-2750-02	Resistor	SMD 75Ω ±5% 0805	4 R101A R101B R101C R101D
0701-2101-02	Resistor	SMD 100Ω 1/8W ±5% 0805	22 R9 R13 R43 R44 R52 R52A R53 R53A R54A R56 R56A R57 R57A R58A R114 R214 R314 R414 R100A R110B R110C R110D
0701-3101-02	Resistor	SMD 100Ω 1/4W ±5% 1206	2 R170E R169E
0701-2331-02	Resistor	SMD 330Ω 1/8W ±5% 0805	1 R65
0701-2471-02	Resistor	SMD 470Ω 1/8W ±5% 0805	5 R46 R161A R161B R161C R161D
0701-2681-02	Resistor	SMD 680Ω 1/8W ±5% 0805	2 R150E R151E
0701-2751-02	Resistor	SMD R0805 750Ω 1/8W ±5% TR	1 R148E
0701-2102-02	Resistor	SMD 1KΩ 1/8W ±5% 0805	53 R114A R114B R114C R114D R139A R139B R139C R139D R139E R140A R140B R140C R140D R140E R210 R310 R410 R146A R146B R146C R146D R146E R149A R149B R149C R149D R149E R133A R133B R133C R133D R133E R115A R117A R116A R115C R116C R117C R143A R143B R143C R143D R143E
0701-2222-02	Resistor	SMD 2.2KΩ 1/8W ±5% 0805	4 R11A R12 R14 R15
0701-2272-02	Resistor	SMD 2.7KΩ 1/8W ±5% 0805	4 R102A R102B R102C R102D
0701-2302-02	Resistor	SMD 3KΩ 1/8W ±5% 0805	5 R112A R112B R112C R112D R132
0701-2332-02	Resistor	SMD 3.3KΩ 1/8W ±5% 0805	13 R18 R19 R20 R145 R145A R145B R145C R145D R145E R148A R148B R148C R148D
0701-2392-02	Resistor	SMD 3.9KΩ ±5% R0805 TR	10 R141A R141B R141C R141D R141E R142A R142B R142C R142D R142E
0701-2472-02	Resistor	SMD 4.7KΩ 1/8W ±5% 0805	3 R7 R32A R47
0701-2512-02	Resistor	SMD 5.1KΩ 1/8W ±5% 0805	3 R48 R49 R50
0701-2562-02	Resistor	SMD 5.6KΩ 1/8W ±5% 0805	1 R66
0701-2682-02	Resistor	SMD 6.8KΩ 1/8W ±5% 0805	10 R21 R22 R107A R107B R107C R107D R109A R109B R109C R109D
0701-2103-02	Resistor	SMD 10KΩ 1/8W ±5% 0805	50 R34 R35 R36 R37 R38 R39 R40 R102 R103 R104A R104B R104C R104D R105 R105A R105B R105C R105D R106 R106A R106B R106C R106D R108A R108B R108C R108D R113A R113B R113C R113D R133 R202 R203 R205 R206 R302 R303 R305 R306 R402 R403 R405 R406 R21A R134A R134B R134C R134D R134E
0701-2822-02	Resistor	SMD 8.2KΩ 1/8W ±5% 0805	5 R160A R160B R160C R160D R160E
0701-2123-02	Resistor	SMD 12KΩ 1/8W ±5% 0805	8 R20A R30A R202A R203A R302A R303A R402A R403A
0701-2133-02	Resistor	SMD 1/8W 13KΩ ±5% 0805	1 R41
0701-2153-02	Resistor	SMD 15KΩ 1/8W ±5% 0805	12 R27 R30 R163A R163B R163C R163D R163E R164A R164B R164D R164E R164C

Part Number	Description	Qty	Reference Designator
Main PCB			
0701-2223-02	Resistor	SMD 22KΩ 1/8W ±5% 0805	18 R10A R67 R101 R201 R201A R301 R301A R401A R401 R23A R24A R25A R26B R26C R111A R111B R111C R111D
0701-2393-02	Resistor	SMD 39KΩ 1/8W ±5% 0805	4 R109 R209 R309 R409
0701-2473-02	Resistor	SMD 47KΩ 1/8W ±5% 0805	4 R16 R17 R28 R2
0701-2563-02	Resistor	SMD 56KΩ 1/8W ±5% 0805	4 R23 R24 R25 R26
0701-2623-02	Resistor	SMD 62KΩ 1/8W ±5% 0805	5 R108 R208 R308 R408 R35A
0701-2182-02	Resistor	SMD 1.8KΩ 1/8W ±5% 0805	4 R103A R103B R103C R103D
0701-2104-02	Resistor	SMD 100KΩ 1/8W ±5% 0805	2 R8 R10
0701-2124-02	Resistor	SMD 120KΩ 1/8W ±5% 0805	1 R1
0701-2224-02	Resistor	SMD 220KΩ 1/8W ±5% 0805	1 R51
0701-2474-02	Resistor	SMD R0805 470KΩ 1/8W ±5% TR	1 R42
0701-2105-02	Resistor	SMD 1MΩ 1/8W ±5% 0805	1 R45
0701-54R7-02	Resistor	SMD 4.7Ω 1/2W ±5% 2512	5 R165A R165B R165C R165D R165E
0702-3220-02	Resistor	1/2W 22Ω ±5% TR 12.5MM	6 R60 R60A R61 R61A R62 R62A
0704-7101-02	Resistor	3W 100Ω ±5% TR	2 R63A R64A
0702-7471-02	Resistor	3W 470Ω ±5%	2 R63B R64B
0712-7221-02	Resistor	3W 220Ω ±5% 10MM	2 R63 R64
07051515X102	Resistor	5W 0.15Ω*2 ±5% 3PIN 26*5*18MM	7 R156A R156B R156C R156D R156E R157E R158E
1201-1021-03	Variable resistor	1k multi-loop 2.5 9.5*5*9.5mm	5 VR100A VR100B VR100C VR100D VR100E
1204-5031-18	Potentiometer	four joint A50K R0971G2B W=5 KQ L=15MM T=7.5MM M=1MM FREQ	2 VR102F VR102R
1204-5021-05	Potentiometer	B5K double joint KQ L=15mm ±5% LEVEL	2 VR101F VR101R
0701-2271-02	Resistor	SMD 270Ω 1/8W ±5% 0805	2 R161E R162E
Capacitors			
06D211054001	Capacitor	1UF/25V ±20% 5*11mm 105°C TR 5mm	1 C40
06D211056001	Capacitor	1UF/50V ±20% 5*11 105°C 5.0mm TR	6 C2 C113A C113B C113C C113D C113E
06D212256301	Capacitor	2.2UF/50V ±20% 5*11 105°C 5mm TR	1 C30
06D211064301	Capacitor	10UF/25V φ5*11mm ±20% 105°C TR 5mm	10 C108A C108B C108C C108D C108E C31 C101B C101C C101D C101A
06D112264302	Capacitor	22uF/25V ±10% 5*11 105°C	16 C10A C20A C102 C103 C202 C202A C203 C203A C302 C302A C303 C303A C402 C402A C403 C403A
06D211074100	Capacitor	100UF/25V±20% 6.3*11 105°C black 5.0mm TR	1 C41
06D211076100	Capacitor	100uF/50V ±20% 6.3*11 105°C Black 5MM TR	5 C114A C114B C114C C114D C114E
06D212264103	Capacitor	220uF/25V ±20% 8*12 105°C Black 5MM TR	6 C32 C39 C29 C42 C2A C29A
06D212274001	Capacitor	220UF/25V ±20% 8*12 105°C 5mm	4 C101 C201 C301 C401
06D212276001	Capacitor	220uF/50V ±20% 10*17 105°C 5MM	2 C42A C39A
06D214779100	Capacitor	470UF/63V ±20% 13*20 Black 5mm	2 C42B C39B
06D212285101	Capacitor	2200UF/35V φ16*26MM ±20% 105°C 7.5MM	4 C3 C4 C5 C6
06D214786101	Capacitor	4700UF/50V ±20% 25*30mm value < 0.04 105°C	2 C37 C38
06D214789100	Capacitor	4700UF/63V ±20% φ35*27mm	2 C37A C38A
06S321006000	Capacitor	SMD 10pF/50V 0805 NPO ±5%	4 C104 C204 C304 C404
06S121026000	Capacitor	SMD 1000pF/50V 0805 X7R ±10%	4 C102A C102B C102C C102D
06S322206000	Capacitor	SMD 22pF/50V 0805 NPO ±5%	16 C105 C106 C107 C205 C206 C207 C305 C306 C307 C405 C406 C407 C115A C115B C115C C115D
06S324706000	Capacitor	SMD 47PF/50V 0805 NPO ±5%	4 C103A C103B C103C C103D
06S121017000	Capacitor	SMD 100PF/100V 0805 X7R ±10%	10 C110A C110B C110C C110D C110E C111A C111B C111C C111D C111E
06S321026000	Capacitor	SMD 1000pF/50V 0805 NPO ±5%	4 C35 C35A C36 C3A

Part Number	Description	Qty	Reference Designator
Main PCB			
06S121036000	Capacitor	SMD 0.01uF/50V 0805 X7R ±10%	4 C33 C33A C34 C34A
06S121047000	Capacitor	SMD 104/100V 0805 X7R ±10%	32 C7 C8 C9 C10 C12 C13 C14 C15 C15A C16 C16A C16B C17 C17A C17B C19 C20 C21 C22 C23 C23A C24 C25 C26 C11 C8A C112A C112B C112C C112D C109E C112E
06S322216000	Capacitor	SMD 220pF/50V 0805 NPO ±5%	4 C109A C109B C109C C109D
06s128236001	Capacitor	SMD 823/50V ±10% X7R 0805	4 C105A C105B C105C C105D
06D3C2247701	Capacitor	224/100V ±5% Brown TR 5mm	5 C116A C116B C116C C116D C116E
06S124736000	Capacitor	SMD 0.047uF/50V 0805 X7R ±10%	5 C28 C104A C104B C104C C104D
Semiconductors			
04WY-39AV101	Diode	SMD 3.9V DO-213AA 0.5W	1 ZD2A
04WY-10BV101	Diode	SMD 10V DO-213AA 0.5W	1 ZD3
04WY-15BV101	Diode	SMD 15V DO-213AA 0.5W	3 ZD2 ZD4 ZD5
04WY-33BV104	Diode	33V DO-35 0.5W	2 2D9 2D8
04PT-4148-01	Diode	SMD 1N4148 DO-213AA	25 D2 D3 D4 D6 D6A D7 D7A D100A D100B D100C D100D D100E D101A D101B D101C D101D D101E D102A D102B D102C D102D D102E D101 D102 D2A
04GS-R204-00	Diode	FR204 2A 400V 52MM TR	4 D10A D10B D11A D11B
04GS-C6A4-00	Diode	MIC6A4	1 D1
03T1-Z48N-02	MOS Transistor	IRFZ48N TO-220	10 Q11 Q12 Q15 Q16 Q22 Q23 Q24 Q26 Q27 Q28
03P1-A940-02	Transistor	2SA940 PNP TO-220	3 Q20 Q103E Q104E
03P1-1015-04	Transistor	SMD 2SA1015 SOT-23 PNP	5 Q7 Q9 Q10 Q18 Q21
03P1-B647-01	Transistor	2SB647 1A 120V 0.9W PNP TO-92 TR	9 Q102A Q102B Q102C Q102D Q102E Q103A Q103B Q103C Q103D
03P1-B649-07	Transistor	2SB649A 1.5A 180V 20W PNP TO-126	1 Q3
03N1-1815-04	Transistor	SMD 2SC1815 SOT-23 NPN	18 Q1 Q1A Q1B Q1C Q1D Q1E Q2 Q4 Q5 Q11A Q12A Q111A Q111B Q111C Q111D Q111E Q4A Q5A
03N1-2073-02	Transistor	2SC2073 NPN TO-220	4 Q19 Q106E Q107E Q105E
03N1-667A-01	Transistor	2SD667AC 1A 120V 0.9W NPN TO-92 TR	9 Q106A Q106B Q106C Q106D Q108A Q108B Q108C Q108D Q108E
03P1-5401-04	Transistor	SMD MMBT5401LT1 PNP SOT-23	10 Q112E Q113E Q112A Q112B Q112C Q112D Q113A Q113B Q113C Q113D
03N1-5551-04	Transistor	SMD MMBT5551LT1 NPN SOT-23	10 Q100E Q101E Q100A Q100B Q100C Q100D Q101A Q101B Q101C Q101D
03N1-SA13-01	Transistor	MPSA13 0.5A 30V NPN TO-92 TR	4 Q105A Q105B Q105C Q105D
03P1-1695-13	Transistor	2SA1695 PNP TO-3P	3 Q114E Q115E Q117E
03N1-4468-13	Transistor	2SC4468 NPN TO-3P	3 Q109E Q116E Q110E
03N1-35CW-26	Transistor	TIP35CW NPN TO-247	4 Q109A Q109B Q109C Q109D
03P1-36CW-26	Transistor	TIP36CW PNP TO-247	4 Q114A Q114B Q114C Q114D
01JR-4558-08	Dual Op-Amp	SMD NJM4558 SOP-8	4 U102A U102B U102C U102D
01NS-393M-08	IC Comparator	SMD LM393M SOP-8	1 U2
01NE-5532-08	Dual Op-Amp	SMD N5532 SOP8 NEC	1 U3
2601-P817-00	Optocoupler	PC817 4	2 PC1 PC2
0100-M833-08	Dual Op-Amp	LM833 SOP-8	9 U101 U101A U101B U101C U101D U201 U302 U303 U301
01TI-L494-09	IC	SMD TL494C SO-16 PWM	1 U4
2202-1602-05	Rectifier	UF1602CT AKA 16/200V TO-220	2 D8 D8A
2202-1620-05	Rectifier	MUR1620CTA KAD 16A/200V TO-220	2 D9 D9A

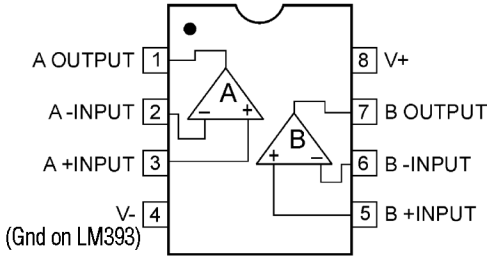
Part Number	Description	Qty	Reference Designator
Main PCB			
<i>Miscellaneous</i>			
1500-1000-00	Terminal	Clear Plating golden cross head screw	1 CON2
1502-0504-00	Jack	Pitch 2.0MM 5PIN Bend 90 degree	1 J2
1400-0012-06	Jack	double joint 2.54 6PIN	1 CON4
1400-0011-00	Jack	10P8C RJ45	1 RJ45
1500-0300-01	Terminal	Clear Plating golden cross head screw	1 J1
1333-0203-00	Switch	SSH-22H04-G9 2P2T length:9MM INPUT SOURCE	1 SW101F
1333-0204-00	Switch	SSH-23D04-2P3T Length:9MM LPF/FULL/HPF	2 SW103F SW103R
1003-1010-08	Inductor	SMD 100MH 100MHZ 4A	2 L7 L3
1004-3000-10	HF bead	30UH ϕ 12 ϕ 5 11.5mm	2 L5 L6
1601-403E-00	Fuse	40A	4 F1 (2PCS - in accessory bag)
1005-5R04-10	Inductor	5UH ϕ 23 ϕ 1.0*5	2 L1 L2
1380-0205-00	temperature switch	JUC-31F85°C \pm 5°C TO-220 2PIN	1 TH1
1380-0203-00	temperature switch	JUC-31F65°C \pm 5°C TO-220 2PIN	1 TH2
1401-0001-04	Fuse holder	BXS-03 double joint Black 4PIN	1 for F1
1404-0005-00	RCA	With 2 jack, up with red dow with white, plating golden	2 RCA1 RCA2
3000-5350-01	HF transformer	ϕ 47 4:13:18 L1=L2= ϕ 1.0*8 4TS S1=S2= ϕ 1.0*5 13TS S3=S4= ϕ 1.0*1 18TS	1 T2
3000-5350-02	HF transformer	ϕ 37 6:11 L1=L2= ϕ 0.8*8 6TS S1=S2= ϕ 1.0*5 11TS	1 T1
05RN-3031-02	Thermal resistor	30K ϕ 5MM	1 RH2
Input PCB			
<i>Resistors</i>			
0701-2102-02	Resistor	SMD 1K Ω 1/8W \pm 5% 0805	8 R110E R111E R124E R507 R607 R116E R134 R102E
0701-2680-02	Resistor	SMD 68 Ω 1/8W \pm 5% 0805	1 R101E
0701-2181-02	Resistor	SMD 180 Ω 1/8W \pm 5% 0805	1 R129E
0701-2472-02	Resistor	SMD 4.7K Ω 1/8W \pm 5% 0805	1 R123E
0701-2562-02	Resistor	SMD 5.6K Ω 1/8W \pm 5% 0805	2 R108E R109E
0701-2103-02	Resistor	SMD 10K Ω 1/8W \pm 5% 0805	2 R107E R122E
0701-2123-02	Resistor	SMD 12K Ω 1/8W \pm 5% 0805	2 R112E R113E
0701-2153-02	Resistor	SMD 15K Ω 1/8W \pm 5% 0805	1 R132E
0701-2203-02	Resistor	SMD R0805 20K Ω 1/8W \pm 5% TR	1 R118E
0701-2223-02	Resistor	SMD 22K Ω 1/8W \pm 5% 0805	5 R501 R601 R701 R119E R114E
0701-2303-02	Resistor	SMD 30K Ω 1/8W \pm 5% 0805	2 R702 R703
0701-2473-02	Resistor	SMD 47K Ω 1/8W \pm 5% 0805	12 R117E R115E R121E R502 R503 R505 R506 R602 R603 R605 R606 R106E
0701-2563-02	Resistor	SMD 56K Ω 1/8W \pm 5% 0805	1 R103E
0701-2104-02	Resistor	SMD 100K Ω 1/8W \pm 5% 0805	1 R128E
0701-2154-02	Resistor	SMD 150K Ω 1/8W \pm 5% 0805	1 R105E
0701-2205-02	Resistor	SMD 2M Ω 1/8W \pm 5% 0805	1 R131E
1204-5031-18	Potentiometer	Four joint A50K R0971G2B W=5 KQ L=15MM T=7.5MM M=1MM LP FREQ	1 VR503
1204-5021-05	Potentiometer	B5K double joint KQ L=15mm \pm 5% BASS LEVEL	1 VR101S
1204-5041-05	Potentiometer	9MM R0971G C500K KQ L=15MM T=7.5MM M=1MM \pm 10% double joint BASS BOOST	1 VR505

Part Number	Description	Qty	Reference Designator
Input PCB			
<i>Capacitors</i>			
06S321006000	Capacitor	SMD 10pF/50V 0805 NPO ±5%	4 C130E C504 C604 C704
06S121026000	Capacitor	SMD 1000pF/50V 0805 X7R ±10%	1 C102E
06S121046000	Capacitor	SMD 0.1uF/50V 0805 X7R ±10%	4 C131E C132E C18 C27
06D3C2247701	Capacitor	224/100V ±5% Brown TR 5mm	2 C103E C104E
06S322206000	Capacitor	SMD 22pF/50V 0805 NPO ±5%	4 C505 C506 C605 C606
06D346839001	Capacitor	683/63V ±5%TR 5mm	4 C105E C106E C107E C128E
06D211064301	Capacitor	10UF/25V φ5*11mm ±20% 105°C TR 5mm	3 C101E C133E C129E
06D212264102	Capacitor	22uF/25V ±20% 5*11 105°C Black 5MM TR	7 C502 C503 C602 C603 C701 C702 C703
06D212274001	Capacitor	220UF/25V ±20% 8*12 105°C 5mm	2 C501 C601
<i>Semiconductors</i>			
03N1-1815-04	Transistor	SMD 2SC1815 SOT-23 NPN	1 Q3E
0100-M833-08	Dual Op-Amp	LM833 SOP-8	1 U501
01JR-4558-08	Dual Op-Amp	SMD NJM4558 SOP-8	3 U101E U102E U103E
2601-0202-00	optocoupler	LCR-0202	1 LCR
<i>Miscellaneous</i>			
1413-0001-00	Phone jack	6P4C RJ11 Black	1 RJ11
1505-0609-00	Pin	2.54 6PIN 0.65*0.65 16mm	1 CON1
1333-0203-00	Switch	SSH-22H04-G9 2P2T Length:9MM INT/EXT	1 SW101E
1404-0003-00	RCA	With 2 jack, up with red dow with white, plating golden	1 SUB1
LED BOARD			
2004-0017-00	LED	3 White with blue light	8 LED1-8
2100-0035-05	FFC	5PIN 2.0 UL1007 28AWG L=100mm 2.0 105°C	1
2000-0017-00	LED	Red with red lighth Φ3MM 2P	1 LED300
2004-0014-00	LED	Φ3.0MM Blue with blue light	1 LED100
0701-6102-02	Resistor	SMD 1KΩ 1/2W ±5% 2010	2 R1 R2
2102-0155-02	FFC	2PIN UL1007 red black 28AWG L=400mm 5mm	1
2102-0154-02	FFC	2PIN UL1007 red black 28AWG L=40mm 5mm	1
06S121046000	Capacitor	SMD 0.1uF/50V 0805 X7R ±10%	2 C1 C2
1502-0504-00	Jack	Pitch 2.0MM 5PIN Bend 90 degree	1
MECHANICAL			
GD-600020003	Acylic board	334*48*4.0mm Clear Arylic	1
PL-B0007-000	astigmatic paper	334*48*0.25mm Astigmatic film+3M double glue+Alum. Foil	1
PL-B0006-000	Glisten paper	334*48*0.15mm Glisten film+3M double glue	1
JY218A13A01X	Mica	with hole 18*13*0.1MM	2
DQ6060030306	Insulated paper	White Φ3MM TW-1	2
SR-RA40-0100	Small Heatsink	25*15*11MM Alum. Extrusion	2
JY233A22A001	Mica	33*22*0.1mm	2
JY297A22A001	Mica	97*22*0.1mm	4
JY264A22A001	Mica	64*22*0.1mm	2
ZA-H00040100	Snap bottom	φ7.5 M3.5*4	4

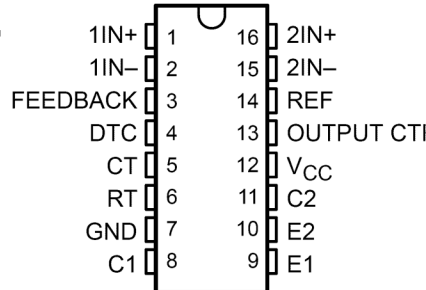
Part Number	Description		Qty	Reference Designator
MECHANICAL				
LS1AM0250401	Screw	Plating black Zinc 2.5*4	4	
LS1AA0301501	Screw	PA3*15 Plating black Zinc	2	
LS1FJ0200801	Screw	KA2*8 Black Zinc	2	
LS1CJ0402507	Screw	T4*25MM Plating Nickel	4	
XN-10500-011	Knob	ABS-757Black 11.7*Φ11MM with red arrow Black painting	1	
XN-10500-012	Knob	ABS-757Black Φ10.5*9MM with white arrow	7	
LS5KJ0301007	Screw	3*10MM (Plating Nickel)	7	
LS5KP0300807	Screw	3*8MM (Plating Nickel)	8	
LS1AP0300607	Screw	3*6MM (Plating Nickel)	6	
LS1AM0300607	Screw	PM3*6(Plating Nickel)	4	
KT-200012200	CAP	White PVC for RCA	3	
KT-200021300	CAP	Red PVC for RCA	3	
DQ8069032084	Washer	Φ6.9*Φ3.2*0.8MM	2	
LS1AY0301201	Screw	PM3*12MM Plating Black Zinc	2	
PL-L0007-000	Clipper	30*36*0.8mm flexibility	8	
PL-L0006-000	Clipper	30*28*0.8mm flexibility	7	
XG-0018-2601	Bottom plate	385*182*1.2mm, H1-144 silver painting	1	
HG-0007-2601	Rear plate	214*70*1.2mm H1-144 silver painting with silkscreen	1	
MK-0006-2601	Front plate	214*70*1.2mm H1-144 silver painting with silkscreen	1	
KG-100100500	Snap bottom	T07-003-01φ11*φ14*10.8 BlackABS	4	
LS1AA0200501	Screw	PA2*5(Black Zinc)	1	
LS1FM0300011	Screw	KM 3*6MMBlack Zinc	6	
CP-B00011400	Lens	40*10.8*5.7mm PC cold grey 10C	1	
GD-600021400	Reflector board	340*53.5*13mm Clear Blue PC	1	
SG-0017-2601	Top plate	420*227*62mm dia- casting aluminum alloy, H1-144 silver painting with silkscreen	1	
SR-F550-0117	Heatsink	385*216*61mm extrusion, Hair with painting	1	
JY436A10A10X	Insulated paper	Red;36*10*1.0mm one side with glue	1	
JY428A10A10X	Insulated paper	28*10*1.0mm Red one side with 3M glue	6	
ZL-A0001A-15	PC pole	φ7.5*φ3.0*6.4mm white LASK-5	2	
JD-A01970515	Round mat	Φ5.0*2.0 black EVA 60 one side with glue	7	

Semiconductor Pinouts

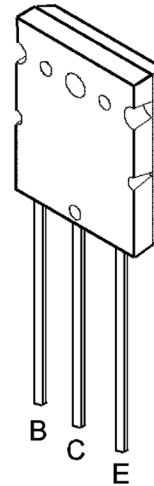
LM393M Comparator
 NE5532 Dual Op-amp
 NJM4458 Dual Op-amp
 LM833 Dual Op-amp
 U2,U3,U101,
 U101A-U101E,U102E,U103E,
 U102A-102D,U201,
 U301,U302,U303,U501



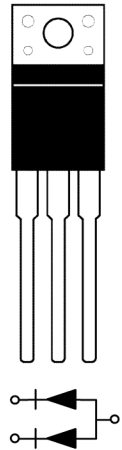
TL494 PWM
 U4



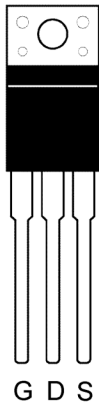
2SA1695
 2SC4468
 Q109E,Q110E,
 Q114E-Q117E



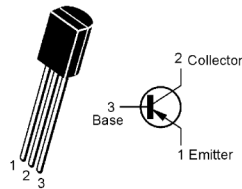
MUR1620CTR
 Rectifier
 D8,D8A



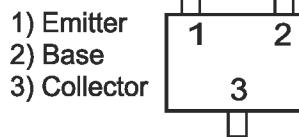
IRFZ48N MOSFET
 Q11,Q12,Q15,Q16
 Q22-Q24, Q26,Q27 Q28



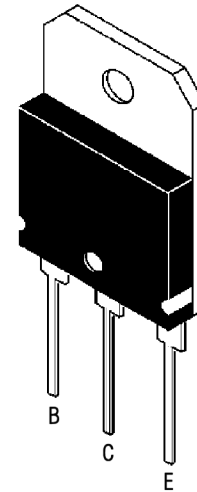
2SD667A
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 Q102A-102E,
 Q103A-103D,
 Q016A-106D,
 Q108A-108E



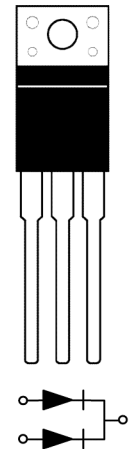
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 MMBT5401 SOT23,
 MMBT5551 SOT23,
 Q1,Q2,Q4,Q5, Q7,
 Q9,Q10,Q18,Q21,
 Q1A-Q1E,Q3E,
 Q4A,Q5A, Q11A,Q12A,
 Q111A-Q111E,
 Q112A-Q112E,
 Q113A-Q113E,
 Q100A-Q110E,
 Q101A-Q101E



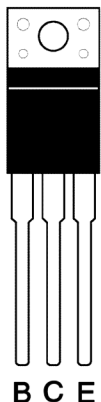
TIP35C
 TIP36C
 Q109A-109D,
 Q114A-114D



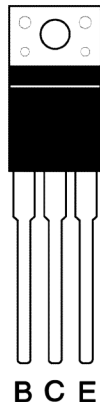
MUR1620CT
 Rectifier
 D9,D9A



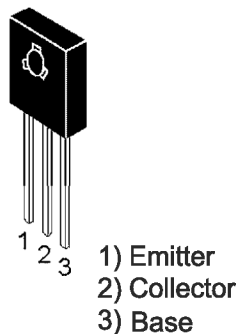
2SA940 PNP
 Q20,Q103E,Q104E



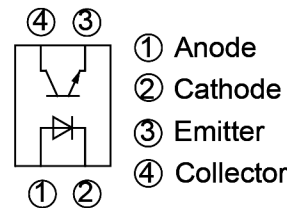
2SC2073 NPN
 Q19,Q105E
 Q106E,Q107E,



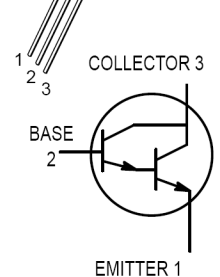
2SB649A
 Q3



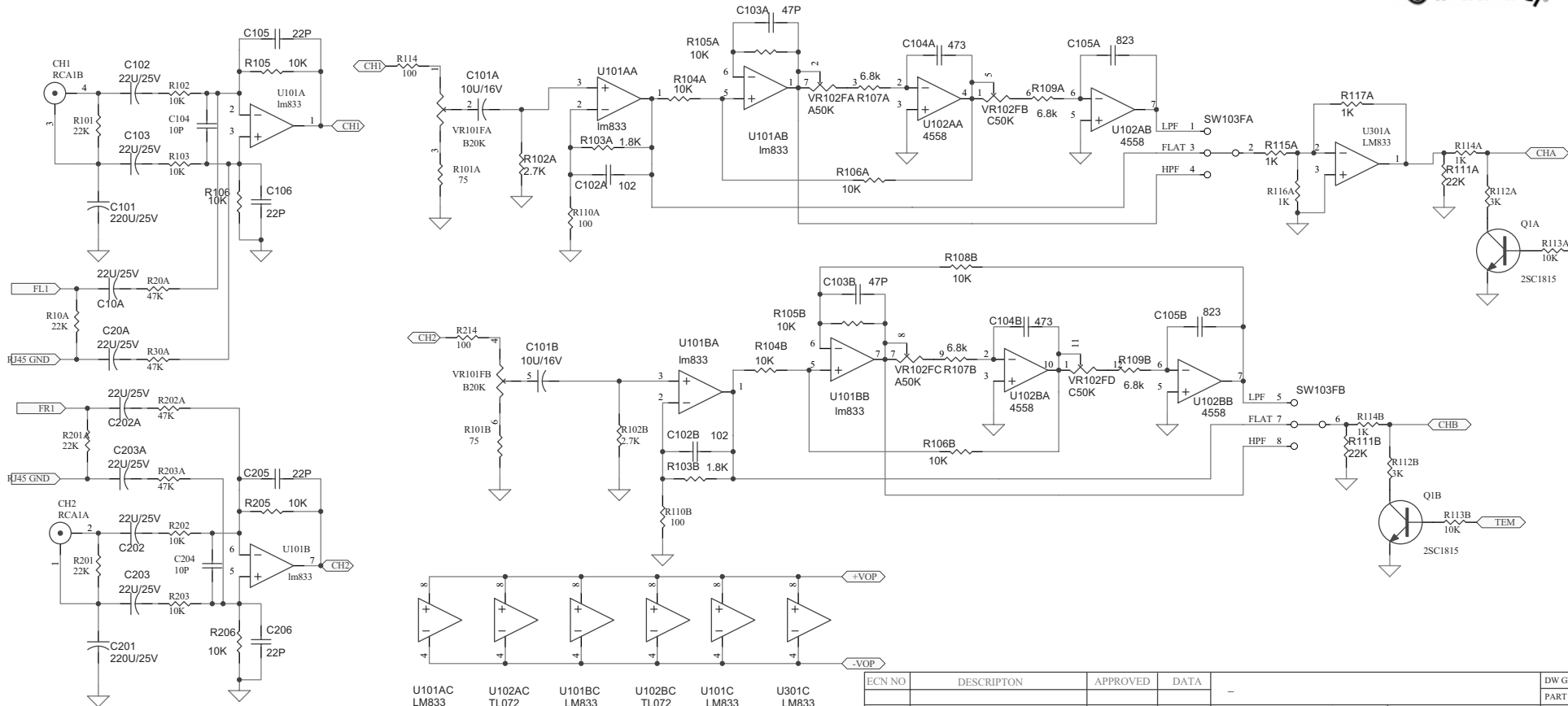
PC817
 LCR-0202
 PC1,PC2
 LCR



MPSA13
 Q105A-105D



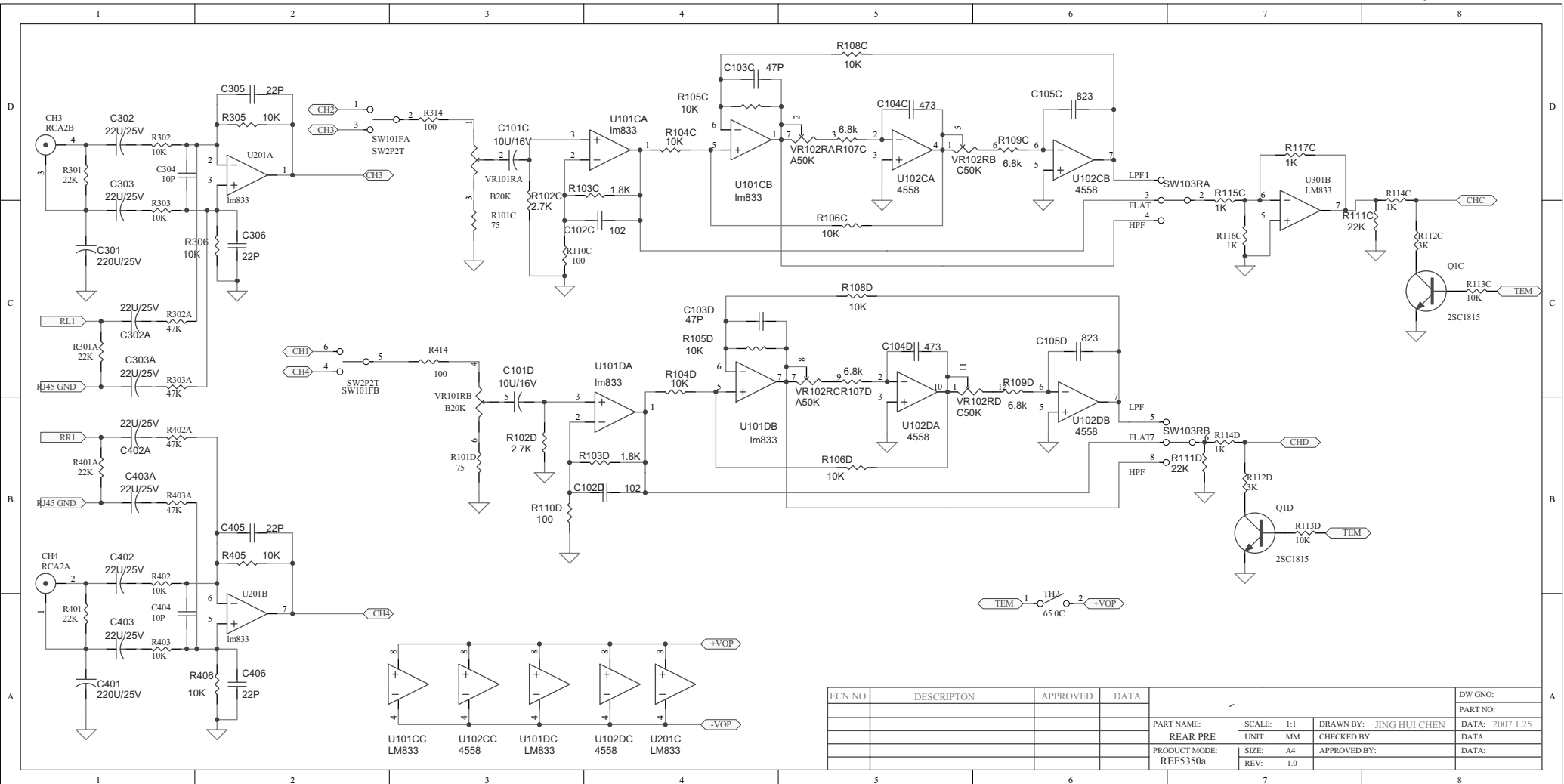
5350a Reference Series



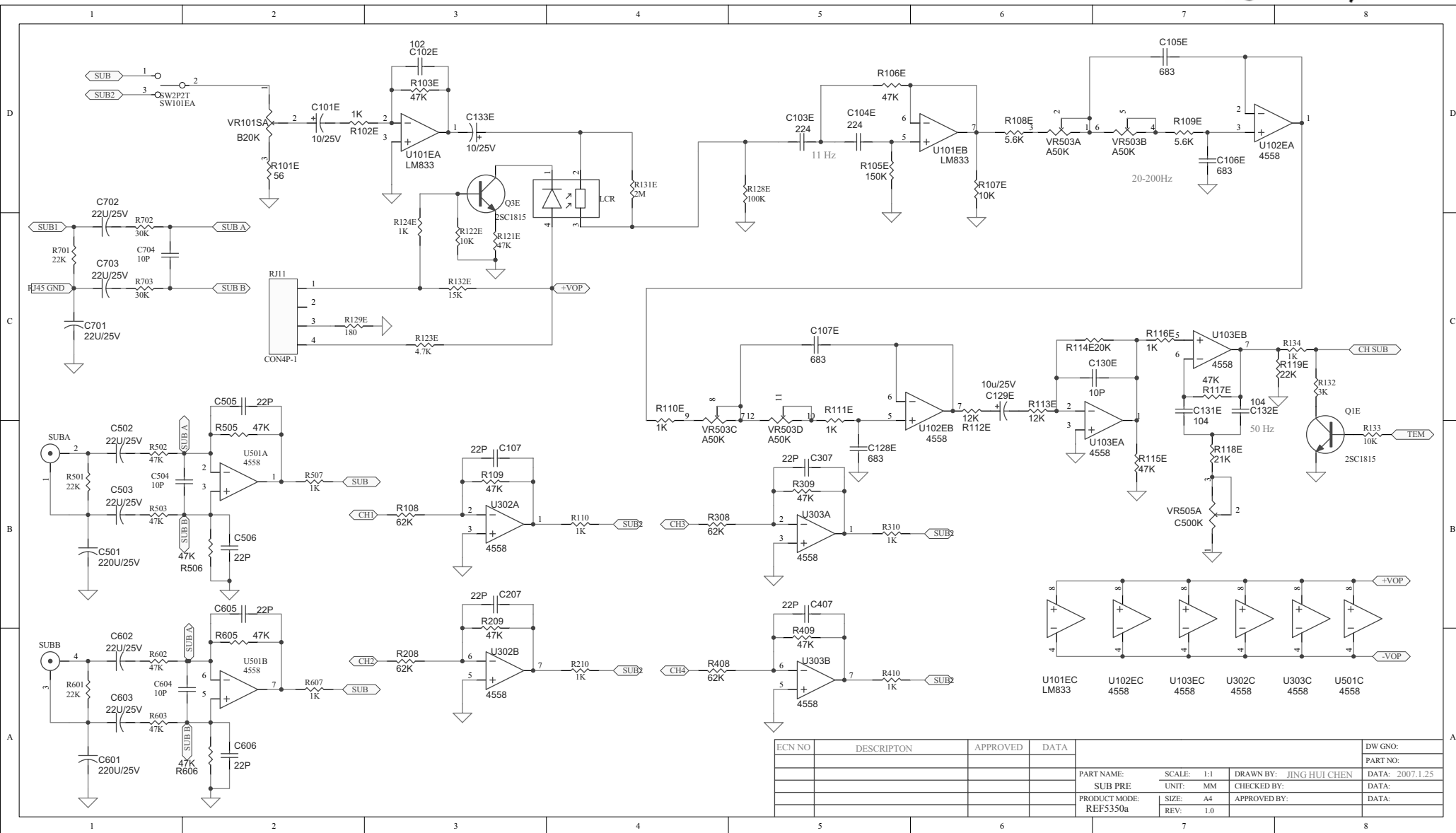
- U101AC
LM833
- U102AC
TL072
- U101BC
LM833
- U102BC
TL072
- U101C
LM833
- U301C
LM833

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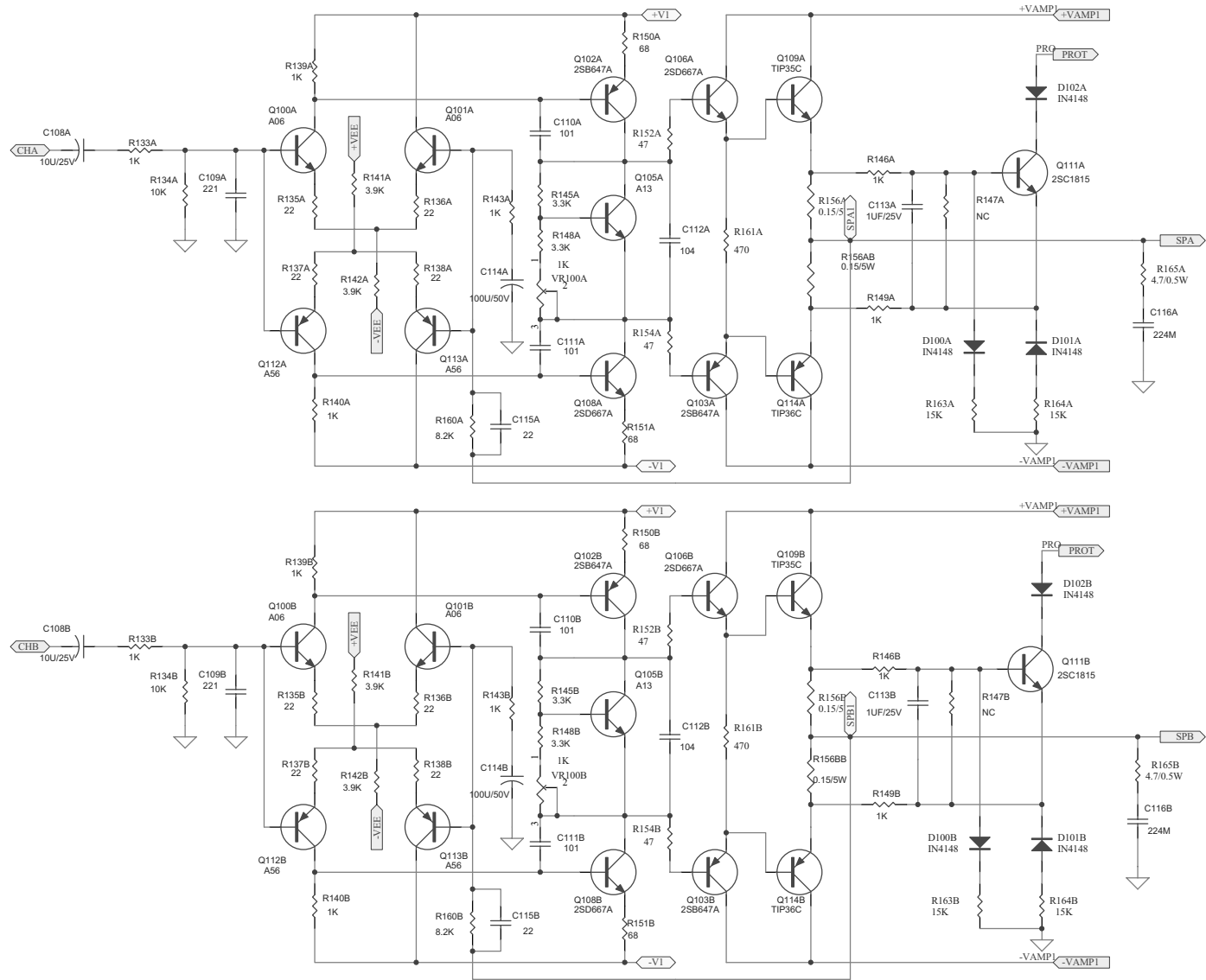
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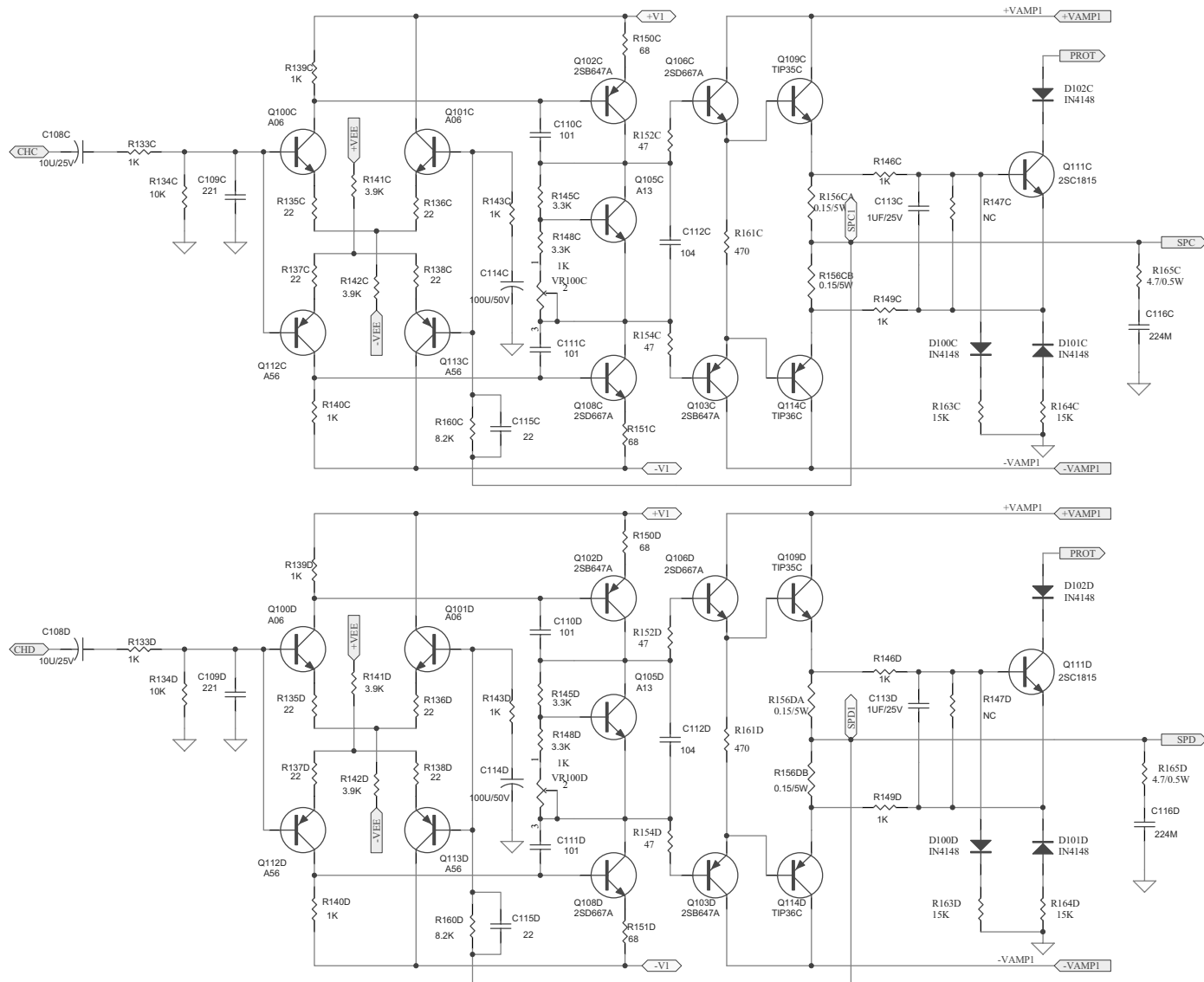
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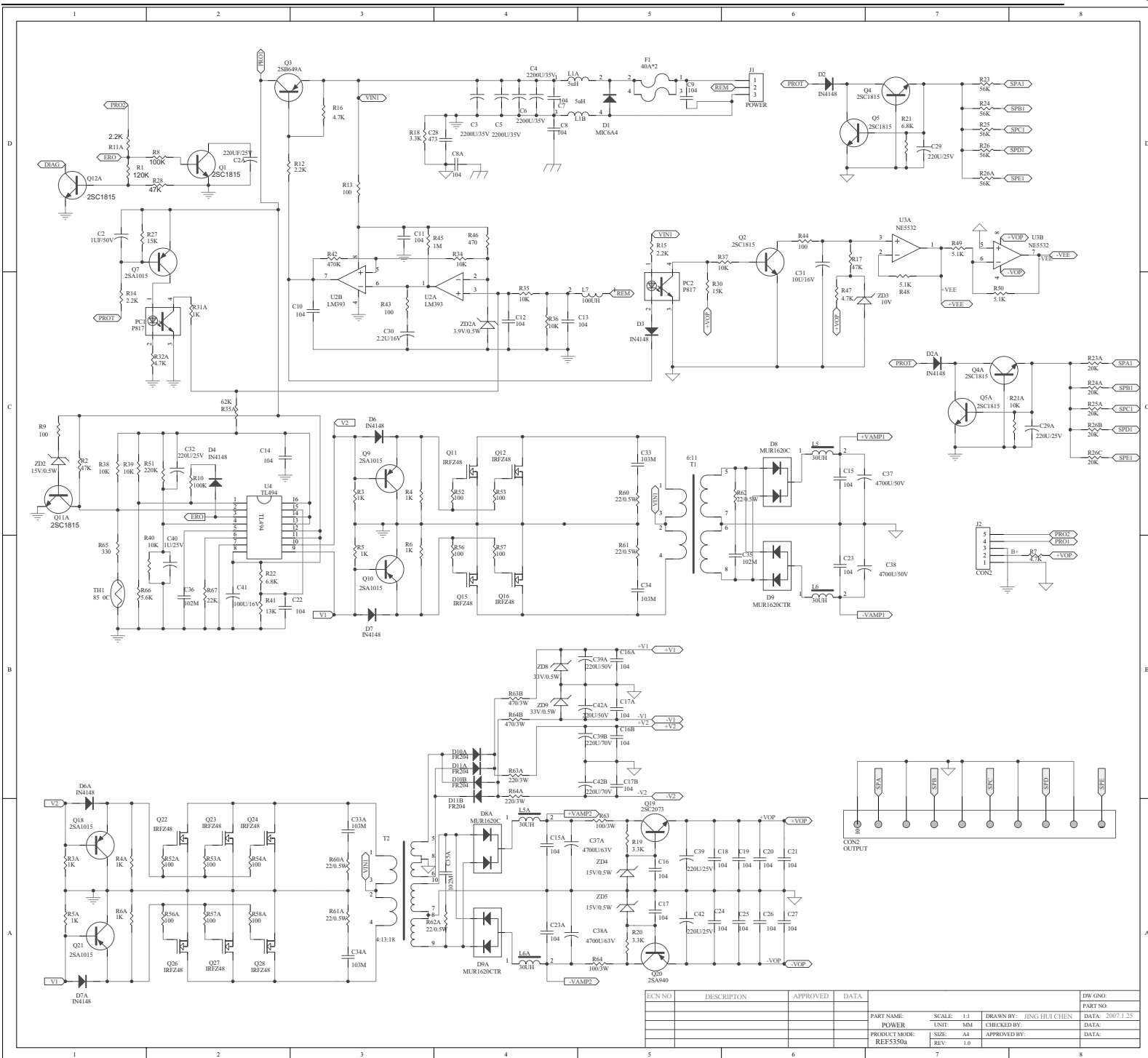
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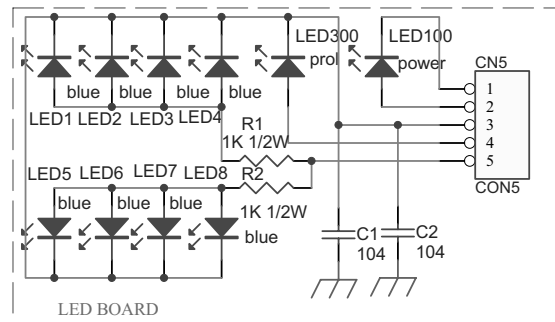
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ECN NO	DESCRIPTION	APPROVED	DATA				DW GNO:
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				DATA:



ECN NO	DESCRIPTON	APPROVED	DATA			DWG NO:
				-		PART NO:
				PART NAME:	SCALE: 1:1	DRAWN BY: JING HUI CHEN
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						DATA: 2007.1.25