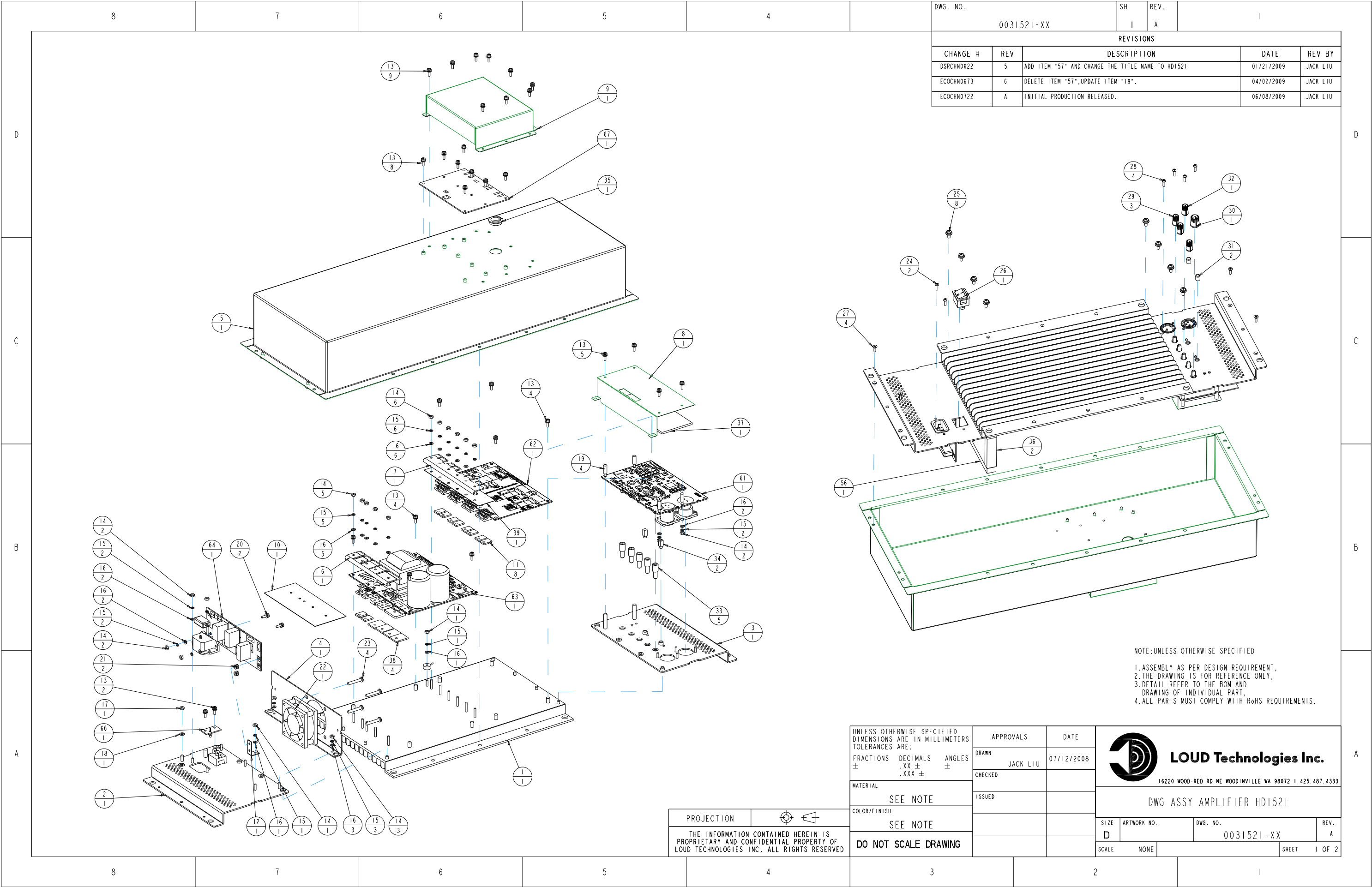
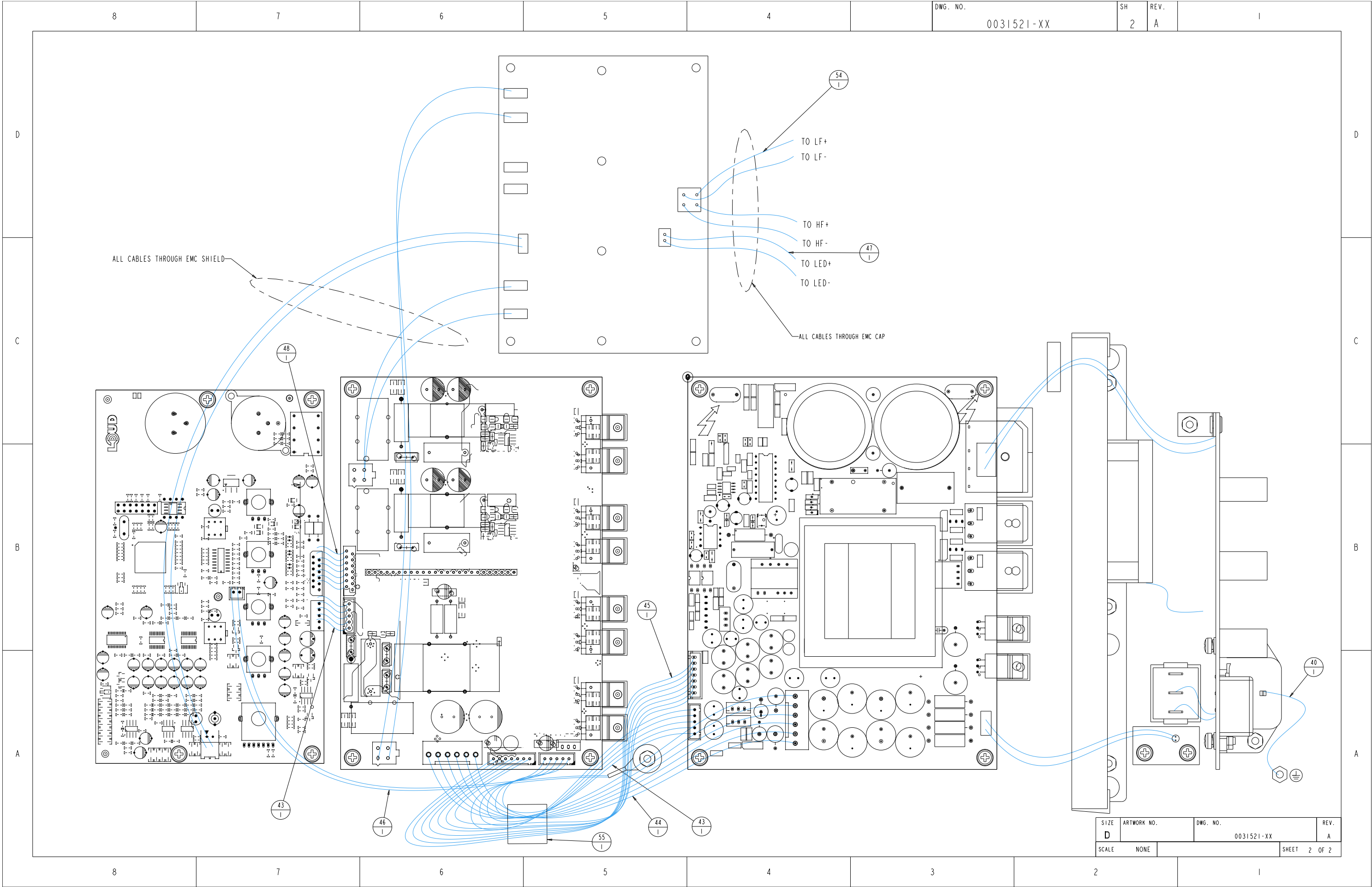




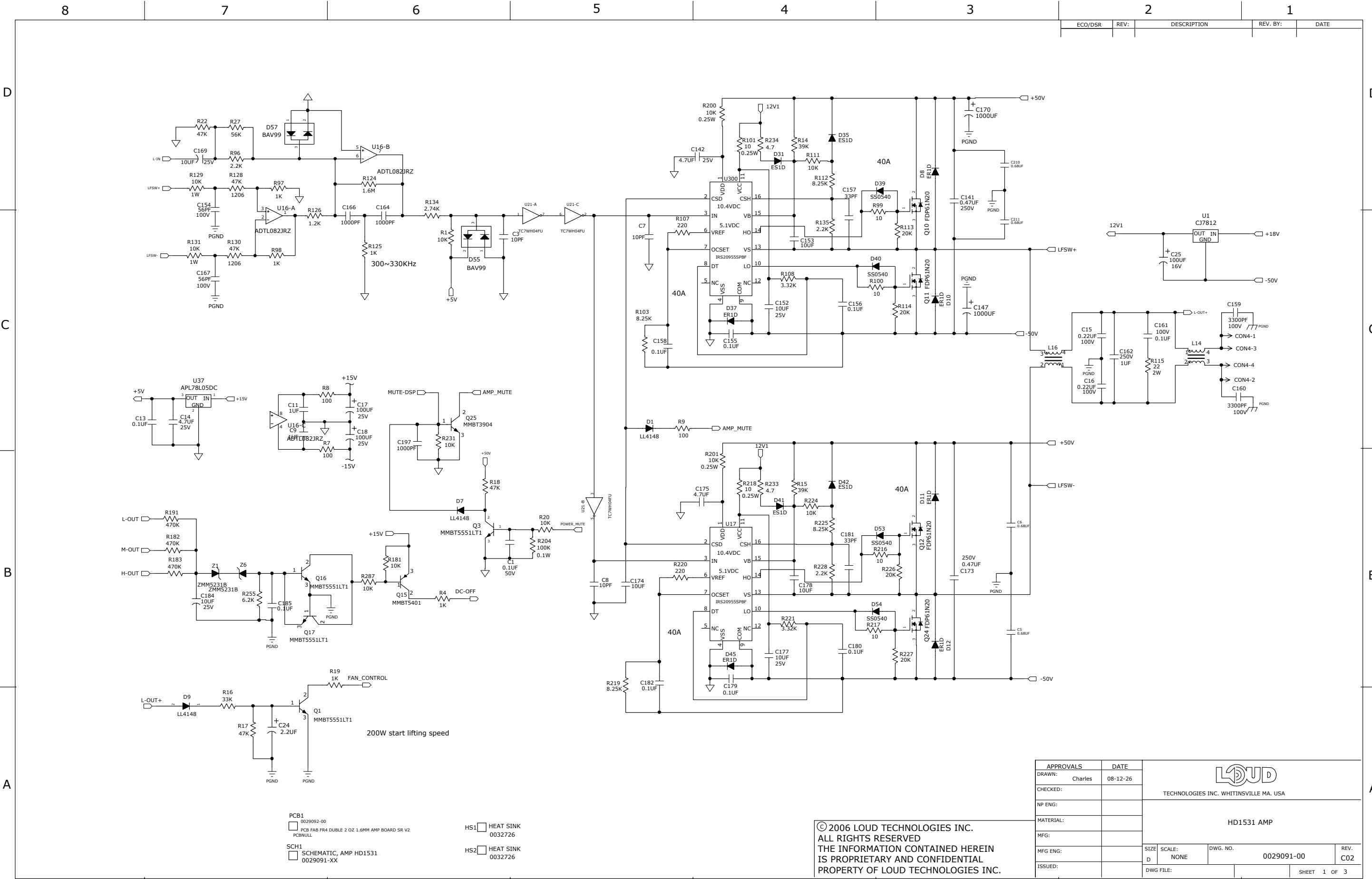
DWG. NO.		SH	REV.	I	
0031521-XX		I	A		
REVISIONS					
CHANGE #	REV	DESCRIPTION		DATE	REV BY
DSRCHN0622	5	ADD ITEM "57" AND CHANGE THE TITLE NAME TO HD1521		01/21/2009	JACK LIU
ECOCHN0673	6	DELETE ITEM "57",UPDATE ITEM "19".		04/02/2009	JACK LIU
ECOCHN0722	A	INITIAL PRODUCTION RELEASED.		06/08/2009	JACK LIU

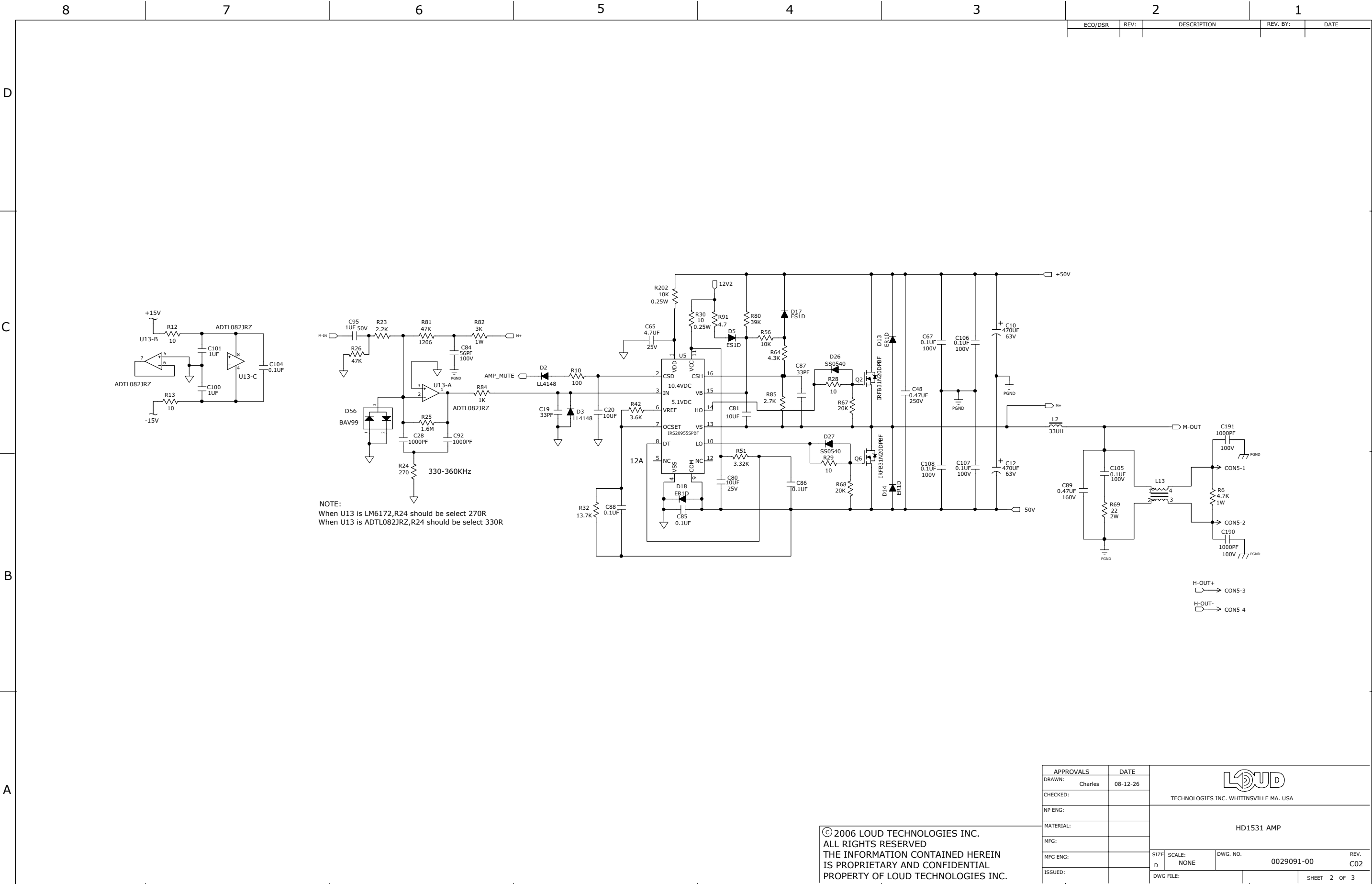
NOTE:UNLESS OTHERWISE SPECIFIED
1.ASSEMBLY AS PER DESIGN REQUIREMENT,
2.THE DRAWING IS FOR REFERENCE ONLY,
3.DETAIL REFER TO THE BOM AND
DRAWING OF INDIVIDUAL PART,
4.ALL PARTS MUST COMPLY WITH RoHS REQUIREMENTS.

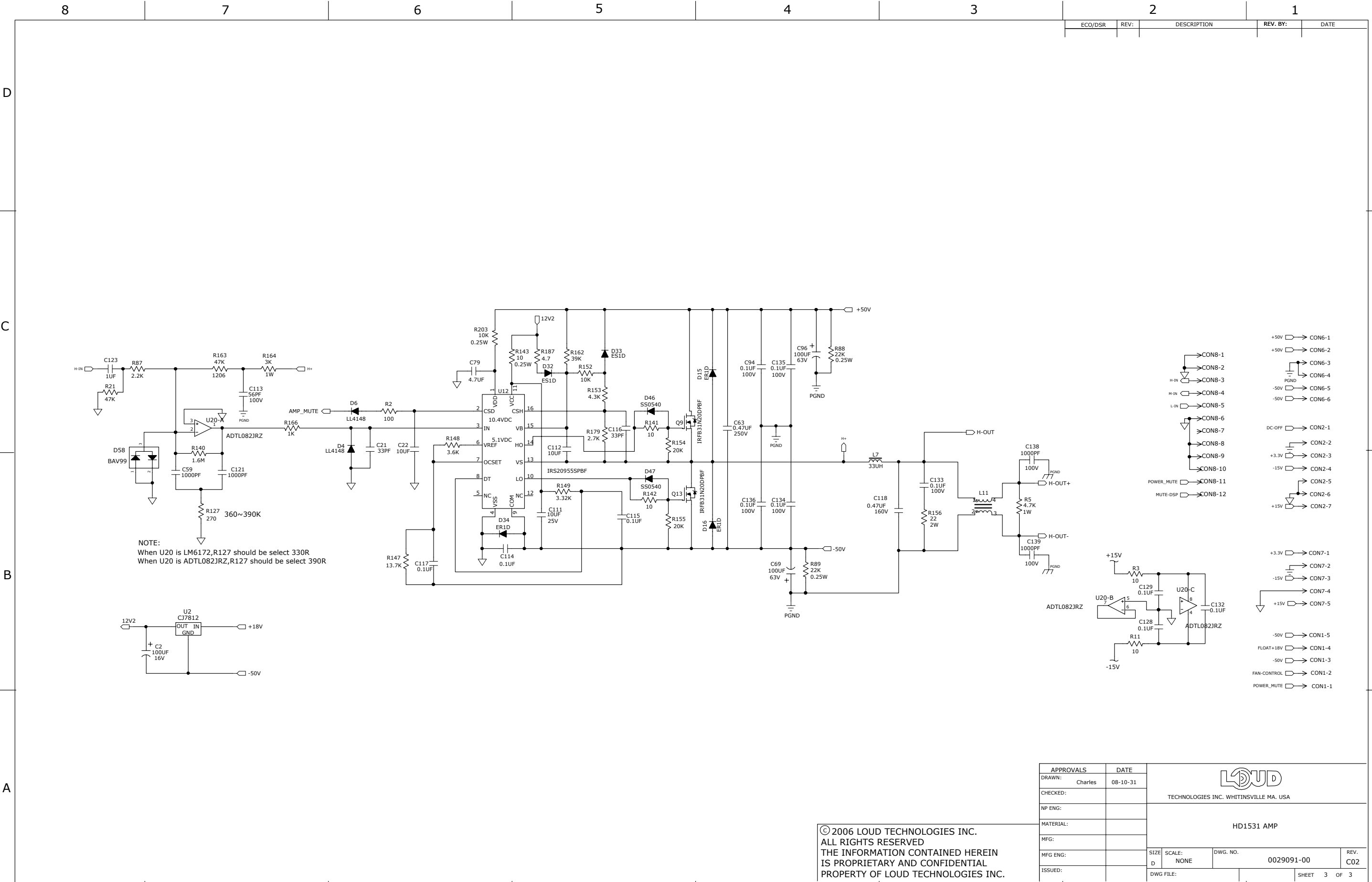
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± .XXX ±		APPROVALS	DATE	 LOUD Technologies Inc. 16220 WOOD-RED RD NE WOODINVILLE WA 98072 I.425.487.4333	
MATERIAL		DRAWN	JACK LIU		
COLOR/FINISH		CHECKED			
DO NOT SCALE DRAWING		ISSUED			
				DWG ASSY AMPLIFIER HD1521	
		SIZE	ARTWORK NO.	DWG. NO.	REV.
		D		0031521-XX	A
		SCALE	NONE	SHEET 1 OF 2	



HD SERIES AMP BOARD
HD1531 PCB ASSY:0029091-00 REV:C
HD1521 PCB ASSY:0029091-01 REV:C
Mor 30,2009

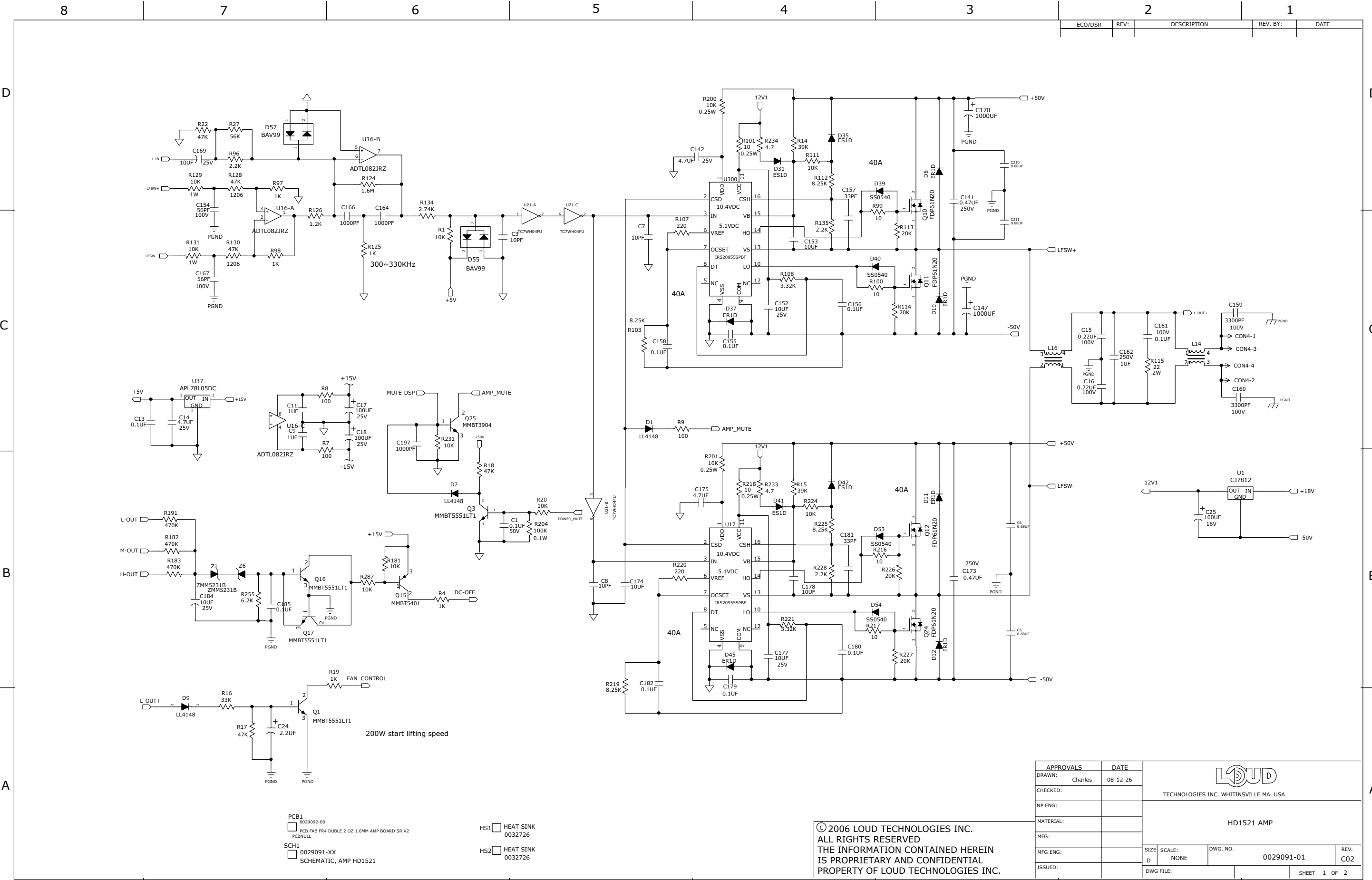


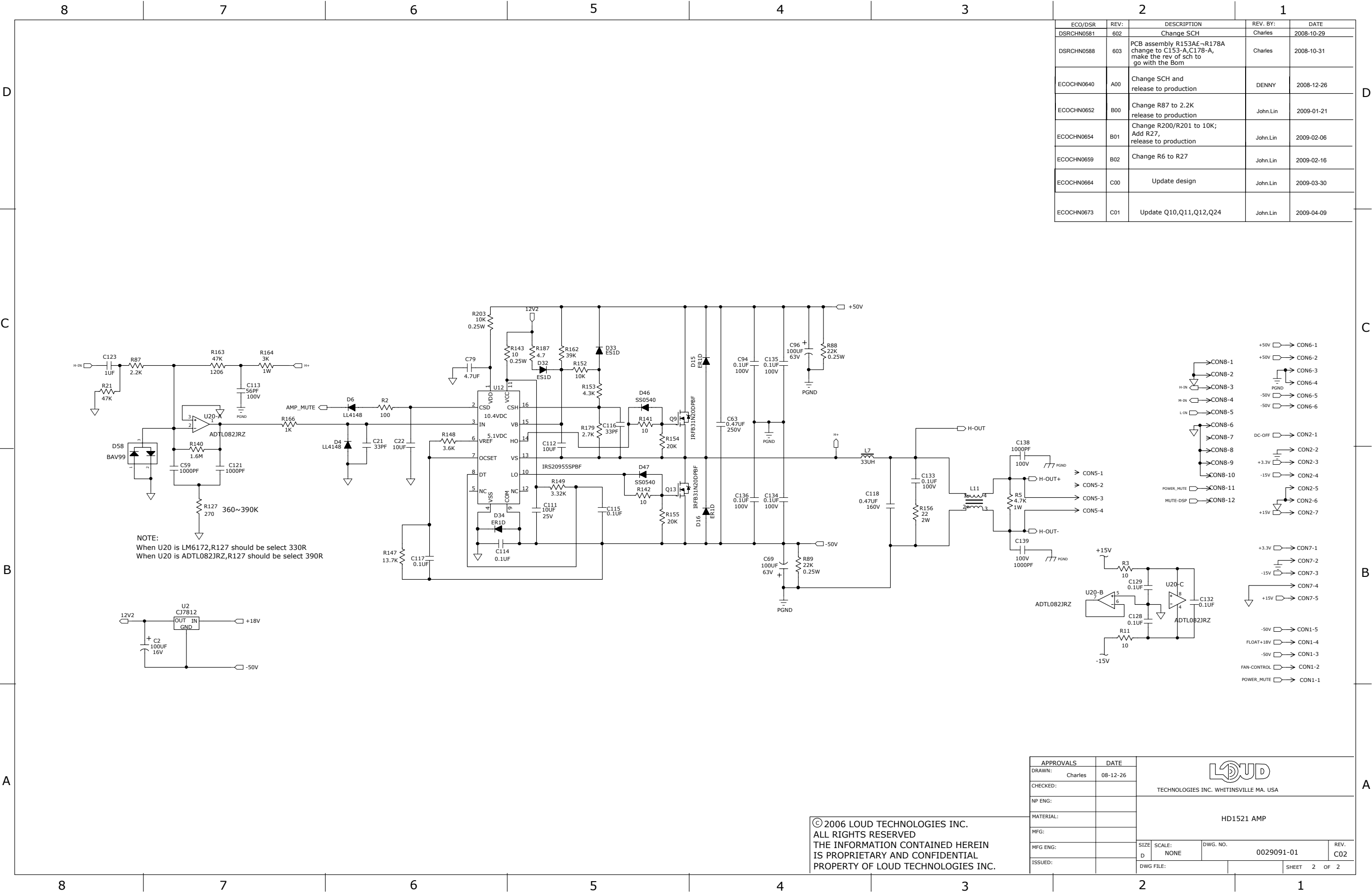




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APPROVALS		DATE	LOUD TECHNOLOGIES INC. WHITINSVILLE MA, USA			
DRAWN:	Charles	08-10-31				
CHECKED:			HD1531 AMP			
NP ENG:						
MATERIAL:						
MFG:						
MFG ENG:			SIZE D	SCALE: NONE	DWG. NO. 0029091-00	REV. C02
ISSUED:			DWG FILE:		SHEET 3 OF 3	

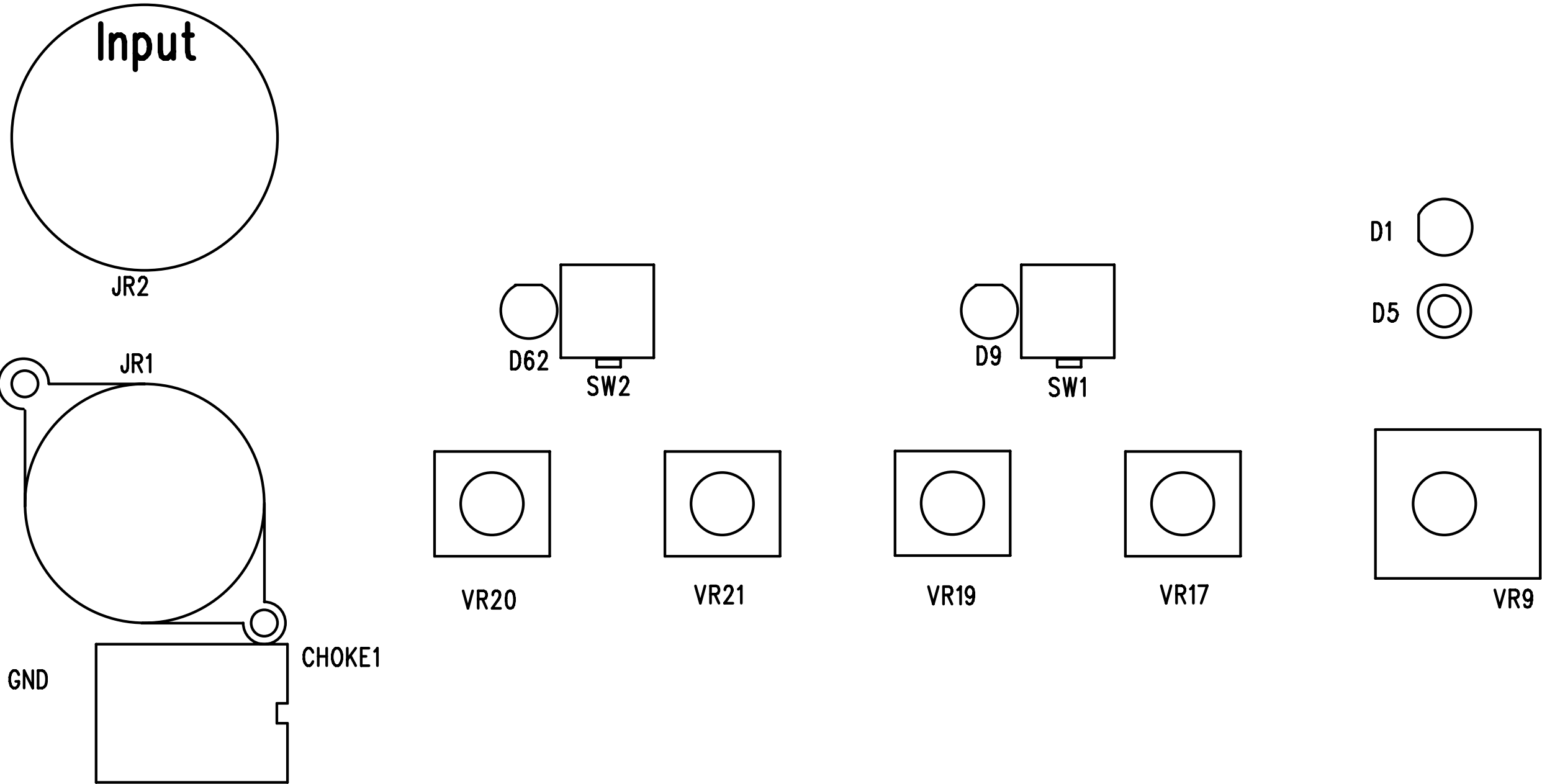


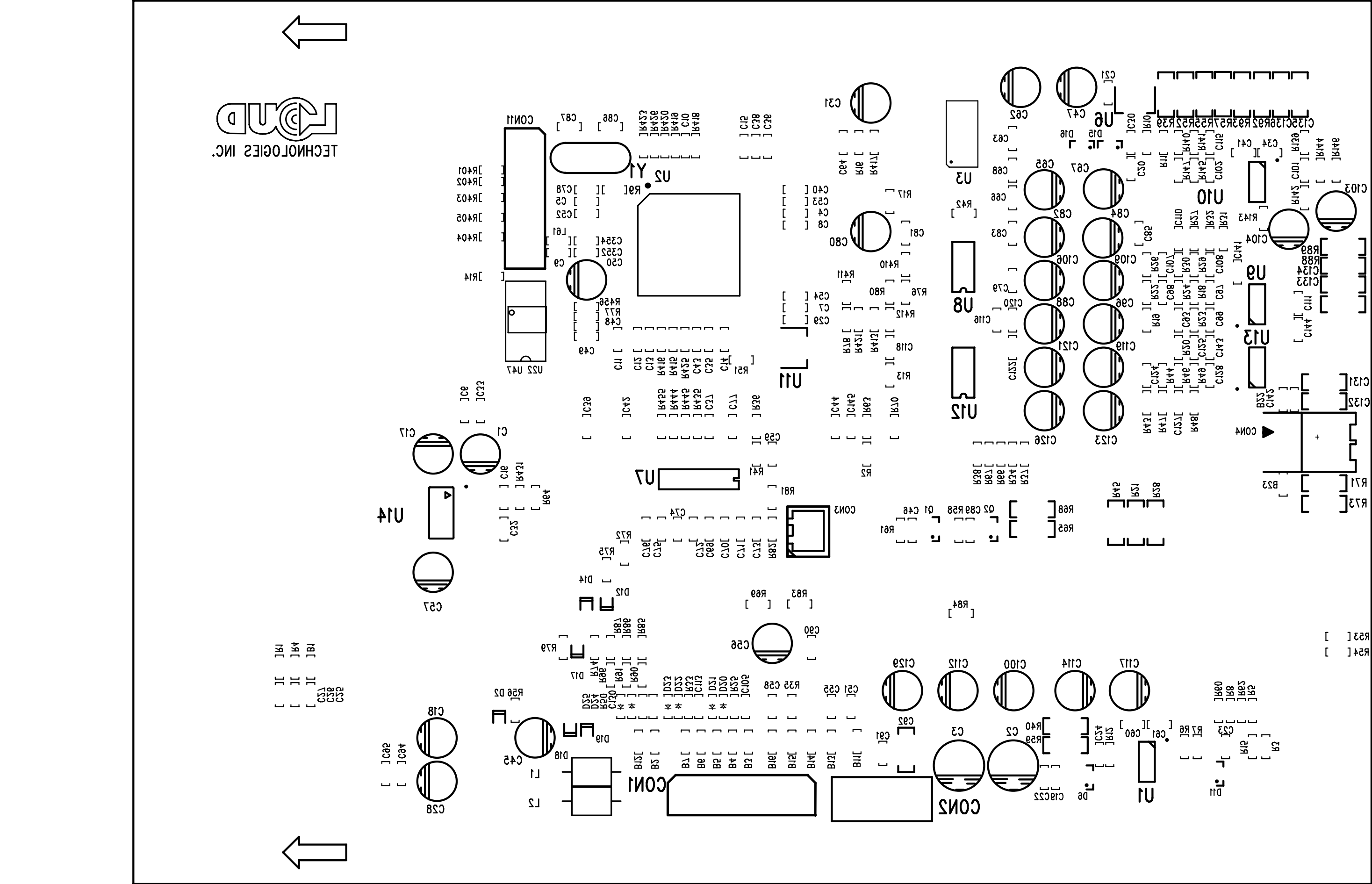


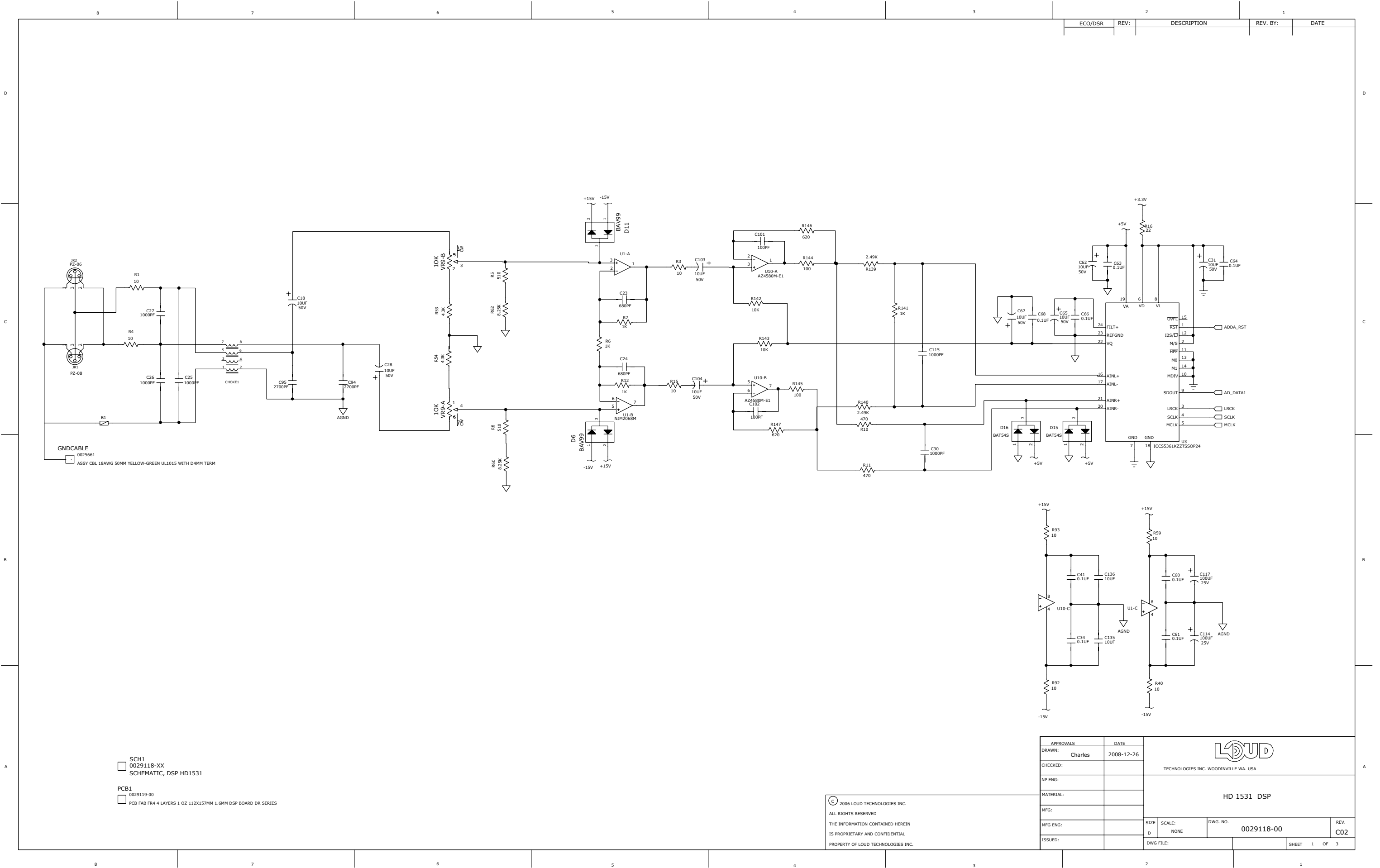
Mar 31,2009

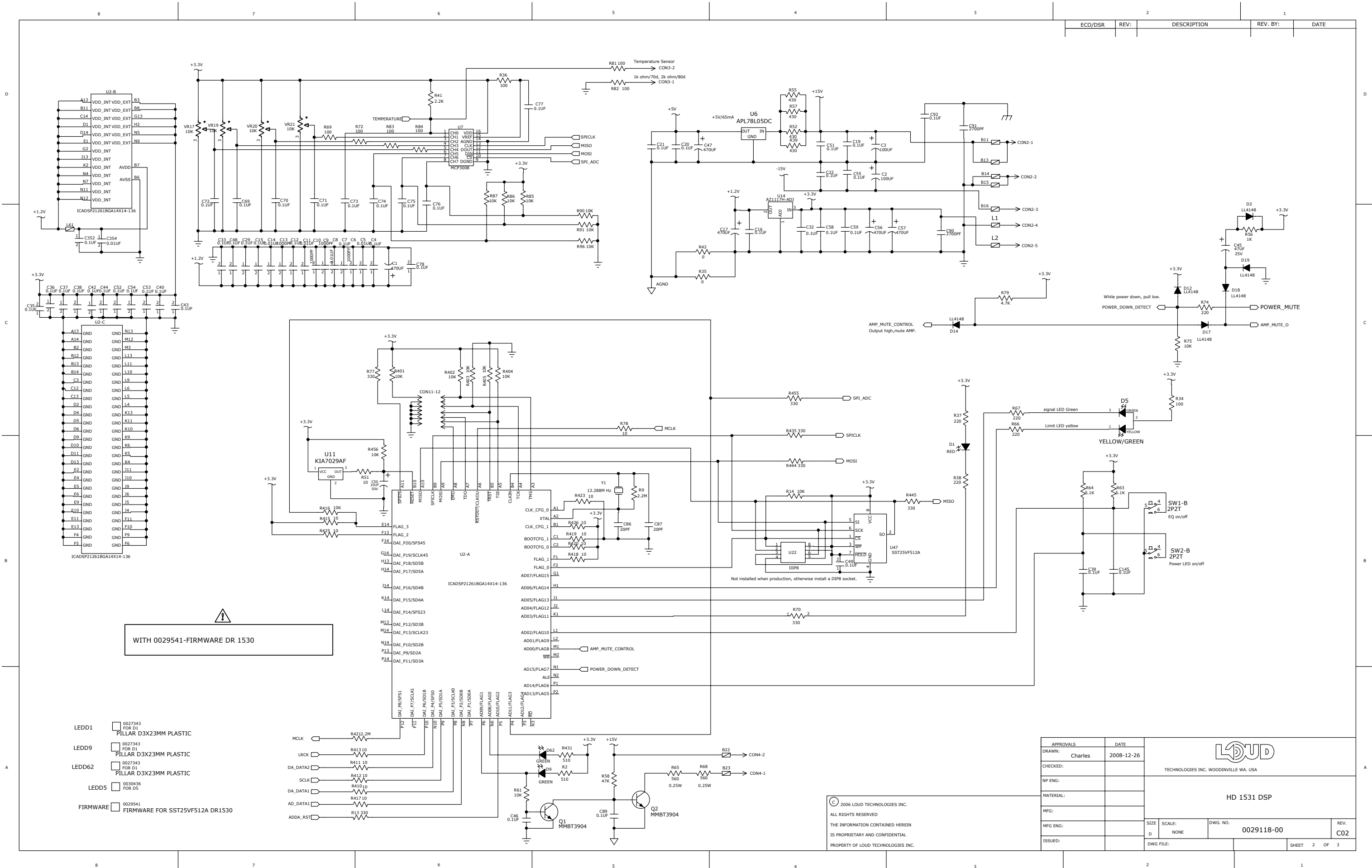
LOUD TECHNOLOGIES INC.(TM)
(C)2008 HD1531 /HD1521 DSP

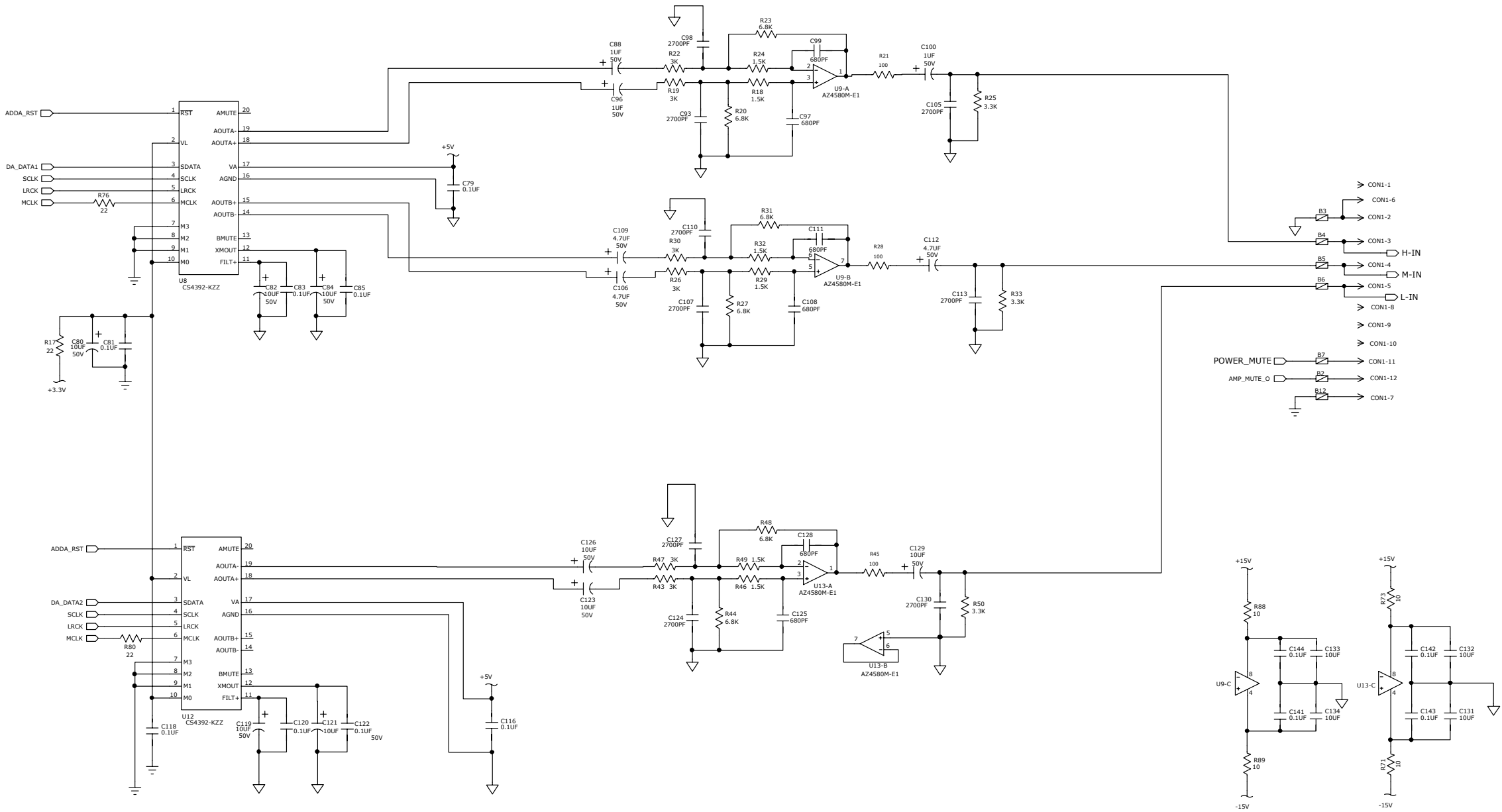
HD1531 DSP PCB ASSY: 0029118-00 REV:C__
HD1521 DSP PCB ASSY: 0029118-01 REV:C__









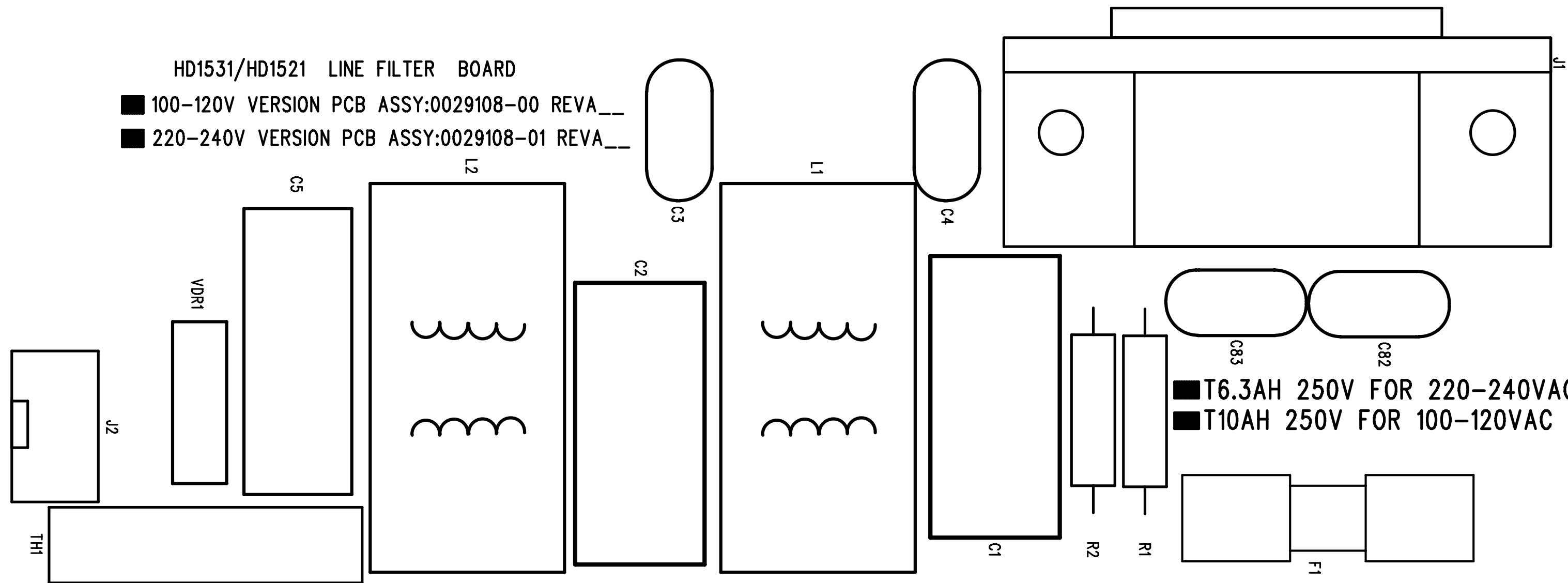


APPROVALS		DATE		LOUD TECHNOLOGIES INC. WOODINVILLE WA. USA					
DRAWN: Charles		2008-12-26							
CHECKED:									
NP ENG:									
MATERIAL:				HD 1531 DSP					
MFG:									
MFG ENG:				SIZE DSCALE: NONE					
ISSUED:									
		DWG FILE:				DWG. NO. 0029118-00		REV. C02	
						SHEET 3		OF 3	

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HD1531/HD1521 LINE FILTER BOARD

- 100-120V VERSION PCB ASSY:0029108-00 REVA__
- 220-240V VERSION PCB ASSY:0029108-01 REVA__



- T6.3AH 250V FOR 220-240VAC
- T10AH 250V FOR 100-120VAC



TECHNOLOGIES INC.

M8

BLACK(HF-)

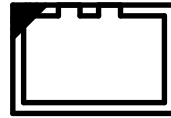
RED(HF+)

GRAY(LF-)

BLUE(LF+)

M7

LED+



J3

J5

HD1521 OUTPUT EMC BOARD

HD1521 PCB ASSY:0030121-01 REVB__

2009-03-30

T5

T2

M1



C18



C17



C16



C15



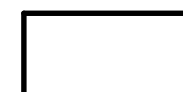
C14



C13

M3

M4



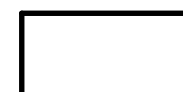
C3



C4



C5



C2



C1



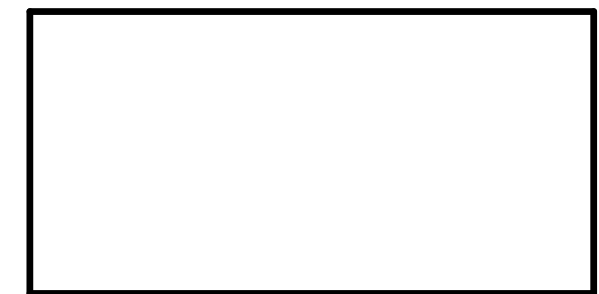
C6

M5

T6



M9



T1

M2



J1-2



J1-1

BLACK(HF-)

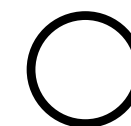
RED(HF+)

LED+

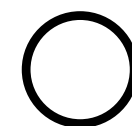
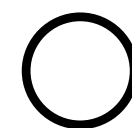


J4

BLUE(LF+)



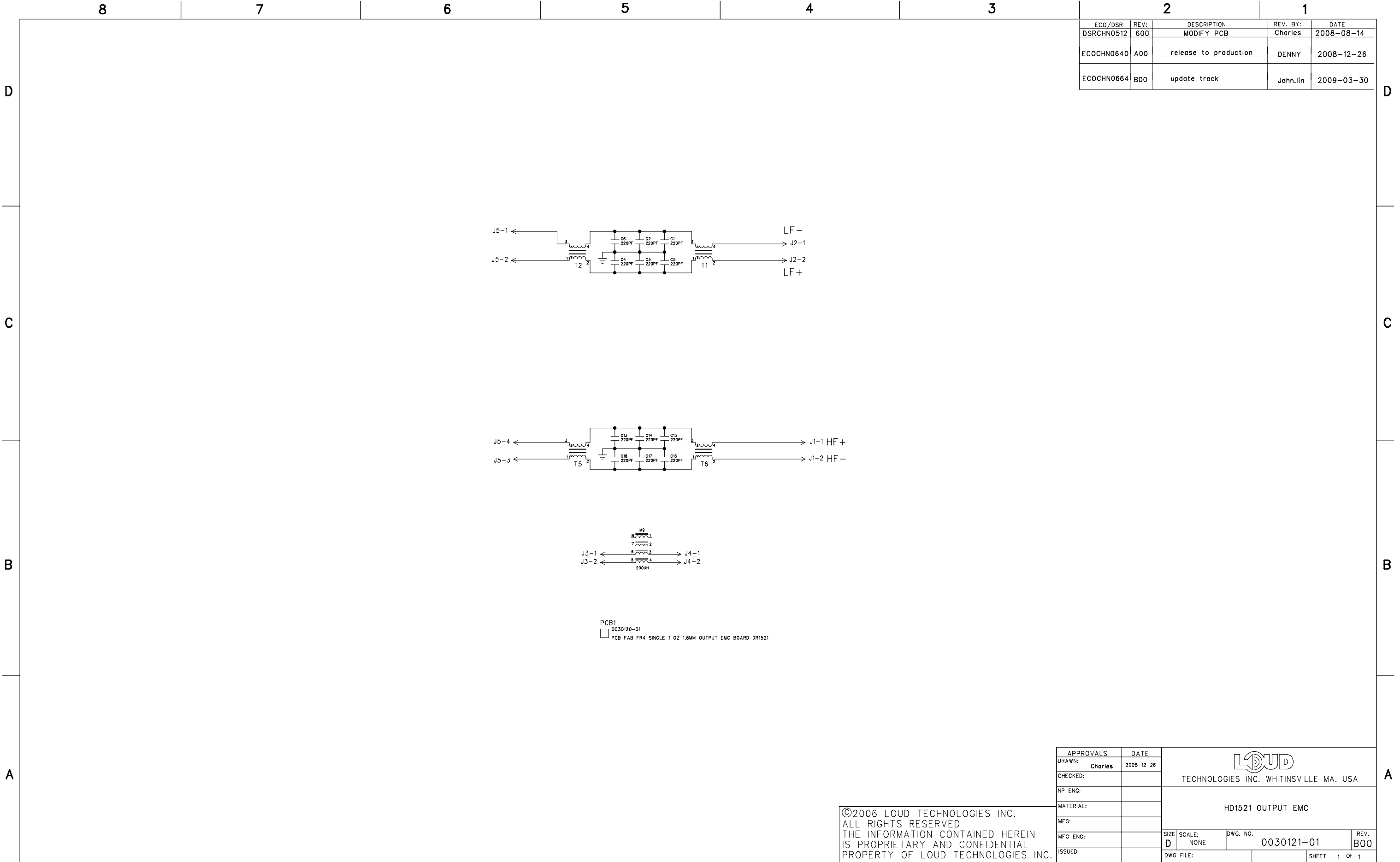
J2-2



J2-1

GRAY(LF-)

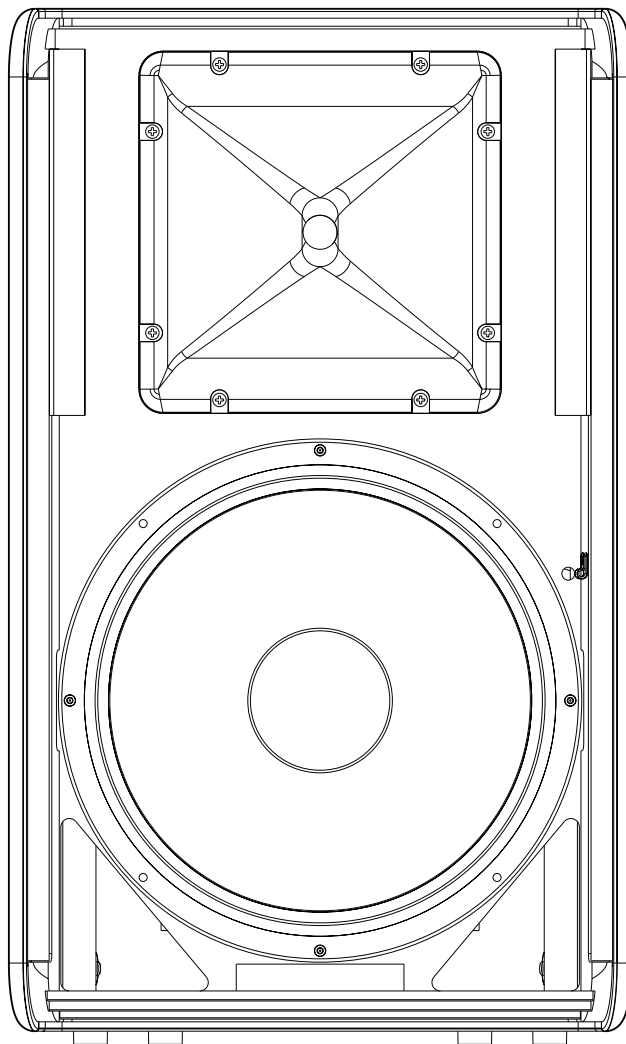
M6



HD1521 Parts List

July 2009

PART #	REV	DESCRIPTION	PAGE
0032628-00	A00	MACKIE HD1521 POWERED SPEAKER US	2
0031180-00	B00	FINAL ASSEMBLY 100V-120V	2
0031521-00	A01	AMPLIFIER ASSEMBLY 115V	3
0029118-01	C02	DSP PCB ASSEMBLY	4
0029091-01	C02	AMPLIFIER PCB ASSEMBLY	7
0029111-00	A01	POWER SUPPLY PCB ASSEMBLY 100-120V	10
0029108-00	A00	LINE FILTER PCB ASSEMBLY 100-120V	12
0031251-00	A00	POWER LED BOARD PCB ASSEMBLY	13
0030121-01	B00	OUTPUT EMC PCB ASSEMBLY	13



Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



0032628-00 REV A00 MACKIE HD1521 POWERED SPEAKER US

PART#	REV	DESCRIPTION	QTY	NOTES
0031180-00	B00	FINAL ASSEMBLY 100V-120V	1	SEE BELOW
 640-001-00	D	CORD IEC US 10A 125V 2.0M	1	LINE CORD

0031180-00 REV B00 FINAL ASSEMBLY 100V-120V

PART#	REV	DESCRIPTION	QTY	NOTES
0031174	A01	CABINET PAINTED BLACK	1	
0032489	A00	FOOT RUBBER TOP SOUND JD-3310	4	
0006433	A	SUBASSY CUP HANDLE-GASKET 024009 030013	2	
0009940	A	SCREW/M4.8 X 19 PH PHSMS BLACK [DIN7981C]	4	FEET
33920590	A	CAST HANDLE SPEAKER	2	
760-115-00	B00	SIDE HANDLE GRIP	2	ASSEMBLE TO HANDLES BEFORE ASSEMBLING TO CUPS
0009937	A00	SCREW/M4 X 10 PH PHMS BLACK [DIN7500C]	4	SIDE GRIPS TO CAST HANDLES
51150351	A	SCREW M4 X 30 PH PHMS BLACK	8	CAST HANDLES WITH GRIPS TO CAB
0032519	A00	GASKET TOP HAT 45MM X 110MM X 3MM [TOP SOUND]	1	
0032471	A00	TOP HAT 112MM TOP SOUND BLACK	1	
102122	A00	SCREW/M6 X 22 PH FHMS BLACK	4	TOP HAT TO CAB
0029680	A00	XDCR DRIVER CONE LN15/3002-4	1	WOOFER
33160390	A	GASKET/STRAIN RELIEF	1	
0027236	A00	CONN SKINTOP STRAIN RELIEF BLACK	1	
0010073	A	SCREW/M5X25 SHCS BLACK[DIN7984]	4	WOOFER TO BAFFLE
0031267	A00	GASKET HORN	4	
0031177	A00	SUBASSEMBLY HORN	1	
029012	A	M5X30 PH PHMS BLACK	8	HORN TO CAB
0031521-00	A01	AMPLIFIER ASSEMBLY 115V	1	SEE PAGES 3-4
0032263	A00	TRIM AMPLIFIER	2	
0009951	A	SCREW/M4.8 X 25 PH PHSMS BLACK [DIN7981C]	26	AMP TO CAB, AND HANDLE CUPS
0031068	A00	CLAMP CABLE NYLON 3/16 INCH DIA BLACK	1	HOLDS LED CABLE OFF WOOFER
0029033	A00	SCREW SELFTAP WOOD 3.5X15MM FLH PHILLIP STL BLACK ZN	1	
0031178	A00	SUBASSEMBLY GRILLE	1	
0010481	A00	SCREW/M3.5 X 19 PH PHSMS BLACK [DIN7981C]	18	GRILL TO CAB
0028431	A00	SCREW MACH M10X25 FLH SKT STL BLACK ZN	12	@ PI POINTS
0032895	A00	POLYESTER FILL 25MM THK	0.9	



0031521-00 REV A01 AMPLIFIER ASSEMBLY 115V

PART#	REV	DESCRIPTION	QTY	NOTES
⚠ 0027692	A00	HEATSINK HD SERIES	1	HEATSINK
0027693-01	A00	PANEL POWER MACKIE HD SERIES 100-120V	1	
0027694-01	A00	PANEL INPUT MACKIE HD1521	1	
0031227	A00	FAN BRACKET HD SERIES	1	
0027898	A00	COVER HD SERIES	1	
0027691	A00	FIT PART-2 HD SERIES	1	
0027689	A00	FIT PART-1 SR V2	1	
0031226	A00	SHIELD PART HD SERIES	1	
0030165	A00	EMC CAP HD SERIES	1	
0029079	A00	INSULATOR SILICON RUBBER HD SERIES	1	
0027081	A00	INSULATOR 19.4X14X2MM CER	8	
0027899	A00	FIT PART PCB HD SERIES	1	
0024357	A00	SCREW SEMS M3X8 PNH PHILLIP STL NICKEL	31	
0025352	A00	NUT HEX D3X5.5X2.5MM STL CLEAR ZN	22	
0025448	A00	WASHER SPRING D3.2X5.5X1.0 STL NICKEL	22	
0025447	A00	WASHER FLAT D3.2X5.5X0.5MM STL NICKEL	22	
0024378	A00	NUT HEX D4X7X3MM STL CLEAR ZN	1	
0024377	A00	WASHER LCK EXT-T D4.2X8.8X1.0MM STL NICKEL	1	
0033223	A00	STANDOFF COPPER M3X16 HD SERIES	4	
0025443	A00	SCREW MACH M3X10 PNH PHILLIP STL BLACK ZN	2	
0029433	A00	POP RIVET 2.7MM	2	
0031377	A00	FAN 12VDC 60X60X25MM 25.11CFM	1	
0032642	A00	SCREW SELFTAP PLASTIC M5X30 PNH PHILLIP STL NICKEL	4	
0029135	A00	SCREW MACH M3X12 PNH PHILLIP STL BLACK ZN	2	
0028824	A00	SCREW SEMS M4X12 PNH PHILLIP STL BLACK ZN	8	
⚠ 0033500	A00	SWITCH ROCKER DPST 6A 125VAC/250VAC 10A 125VAC 6(4)A 250VAC 5/80A 250VAC UL/VDE/CSA PNL	1	POWER SWITCH
0028319	A00	SCREW MACH M3X8 FLH PHILLIP STL BLACK ZN	4	
0025442	A00	SCREW SELFTAP PLASTIC M3X10 PNH PHILLIP STL BLACK ZN	4	
0001381-03	D00	KNOB ANALOG MILLENNIUM BLUE 320	3	
0008174-05	B00	KNOB LARGE ANALOG WHITE 100	1	
0012143-07	D00	ROUND BUTTON CAP (7MM) CONTROL GRAY TOP WHITE BOTTOM	2	
0001381-05	D00	KNOB ANALOG MILLENNIUM WHITE 100	1	
0007263-01	C00	POTENTIOMETER ADAPTER - EXTENDER	5	
0030088	A00	ADAPTER BUTTONCAPS FOR 24.8MM XLR AND JACKS	2	
0024391	A00	SNAP BUSHING NYLON BLACK	1	
0032739	A00	FOAM 1 EVA HD SERIES	2	
0033429	B00	SPONGE BUFFER HD SERIES	1	
0028827	A00	INSULATOR 23.3X18.9X2MM CER	4	
0032638	A00	INSULATOR 2 HD SERIES	1	
0025661	A00	ASSEMBLY CABLE 18AWG 50MM YELLOW-GREEN UL1015 WITH D4MM TERM	1	
0029279	A00	ASSEMBLY CABLE 26AWG 80MM WHITE UL1007 WITH 5P 2.54MM TERMS	2	
0030978	A00	ASSEMBLY CABLE 18AWG 200MM RED/RED/BLACK/BLACK/BLUE/BLUE UL1015 WITH 6P 3.96MM TERMS	1	

continued



Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



Amplifier Assembly (115V) continued

PART#	REV	DESCRIPTION	QTY	NOTES
0029278	A00	ASSEMBLY CABLE 26AWG 165MM WHITE UL1007 WITH 7P 2.54MM TERMS	1	
0030539	A00	THERM PTC 100 50C WITH 260MM CABLE	1	
0030537	A00	ASSEMBLY CABLE 26AWG 700MM WHITE/BLACK UL1007 WITH 2P 2.54MM TERMS	1	
0025226	A00	CABLE FFC 12P 1.25MM 110MM	1	
0031331	A00	ASSEMBLY CABLE 16AWG 800MM BLUE/GRAY 900MM RED/BLACK UL1007 WITH 2X2P 4.2X5.5MM TERM	1	
0031831	A00	MAG FERRITE EMC CLAMP D11X20MM	1	
0032740	A00	FOAM 2 EVA HD SERIES	1	
0029118-01	C02	PCB ASSEMBLY DSP	1	SEE PAGES 4 - 6
0029091-01	C02	PCB ASSEMBLY AMPLIFIER	1	SEE PAGES 7 - 9
0029111-00	A01	PCB ASSEMBLY POWER SUPPLY 100-120V	1	SEE PAGES 10 - 12
0029108-00	A00	PCB ASSEMBLY LINE FILTER 100-120V	1	SEE PAGE 12
0031251-00	A00	PCB ASSEMBLY POWER LED BOARD	1	SEE PAGE 13
0030121-01	B00	PCB ASSEMBLY OUTPUT EMC	1	SEE PAGE 13

0029118-01 REV C02 PCB ASSEMBLY DSP

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0029119-00	C00	PCB FAB FR4 FOUR LAYERS 1 OZ 1.6MM DSP BOARD HD1531/HD1521	1	PCB1
0028569	A00	MAG FERRITE BEAD 600 25% 0603	15	B1, B2, B3, B4, B6, B7, B11, B12, B13, B14, B15, B16, B22, B23, L61
0030384	A00	CAP 10UF 50V 20% 105C AL RADIAL (TAPING)	17	C18, C28, C31, C50, C62, C65, C67, C80, C82, C84, C103, C104, C119, C121, C123, C126, C129
0030383	A00	CAP 100UF 25V 20% 105C AL RADIAL (TAPING)	4	C2, C3, C114, C117
0026125	A00	CAP 0.1UF 50V 5% X7R 0603	64	C4, C7, C12, C15, C16, C19, C20, C21, C22, C29, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C46, C48, C49, C51, C52, C53, C54, C55, C58, C59, C60, C61, C63, C64, C66, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C81, C83, C85, C89, C116, C118, C120, C122, C141, C142, C143, C144, C145, C352
0026103	A00	CAP 0.01UF 50V 10% X7R 0603	5	C5, C8, C11, C14, C354
0026148	A00	CAP X7R 1000PF 10% 50V 0603	9	C6, C9, C10, C13, C25, C26, C27, C30, C115
0026230	A00	CAP 680PF 50V 10% X7R 0603	6	C23, C24, C97, C99, C125, C128
0026973	A00	CAP 47UF 25V 20% 105C AL RADIAL (TAPING)	1	C45
0026181	A00	CAP 20PF 25V 5% X7R 0603	2	C86, C87
0026177	A00	CAP 1UF 50V 20% 85C AL RADIAL	3	C88, C96, C100
0026197	A00	CAP 2700PF 50V 10% X7R 0603	10	C90, C91, C93, C94, C95, C98, C105, C124, C127, C130
0026115	A00	CAP 0.1UF 100V 10% X7R 1206	1	C92

continued



PCB Assembly DSP continued

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0029100	A00	CAP 100PF 50V 5% NPO 0603	2	C101, C102
0029137	A00	IND COM 4X200UH 100MA	1	CHOKE1
0026244	A00	CONN FFC 12P 1.25MM FEMALE CRMP TOP ENTRY PCB	1	CON1
0021442	A01	CONN HDR 5P 2.54MM MALE CRMP TOP ENTRY PCB	1	CON2
0021362	A01	CONN HDR 2P 2.54MM MALE CRMP TOP ENTRY PCB	1	CON3
0031830	A00	CONN HDR 2P 2.54MM MALE CRMP SIDE ENTRY PCB	1	CON4
0021323	A01	CONN HDR 2X7P 2.54MM MALE STR TOP ENTRY PCB	1	CON11
! 0026381	A00	LED RED 50MCD 620NM D3MM	1	D1
! 0029129	B00	LED YELLOW/GREEN 750MCD/50MCD 591NM/570.5NM D3MM	1	D5
0029101	A00	DIODE SUPERFAST DUAL BAV99 100V 0.15A SOT-23	2	D6, D11
! 0026378	A00	LED GREEN 50MCD 570NM D3MM	2	D9, D62
0026306	A00	DIODE SW LL4148 100V 0.15A MINI-MELF/LL-34	6	D2, D12, D14, D17, D18, D19
0028373	A00	DIODE SCHOTTKY DUAL BAT54S 30V 0.2A SOT-23	2	D15, D16
0031283	A00	FIRMWARE HD1521	1	FIRMWARE
0025661	A00	ASSEMBLY CABLE 18AWG 50MM YELLOW-GREEN UL1015 WITH D4MM TERM	1	GROUND CABLE
0027071	A00	CONN XLR MALE 3PIN 3-1.2MM PCB MOUNTED D16.5MM	1	JR1
0027072	A00	CONN XLR FEMALE 3PIN 3-1.1MM PCB MOUNTED	1	JR2
0027343	A00	PILLAR D3X23MM PLASTIC	3	LEDD1, LEDD9, LEDD62
0030436	A00	PILLAR D6.3X23MM PLASTIC	1	LEDD5
0026712	A00	XSTR GP MMBT3904 NPN 40V 0.2A SOT-23	2	Q1, Q2
0028669	A00	RES 10 1% 1/10W 0603	3	R1, R4, R51
0026538	A00	RES 510 5% 1/10W 0603	4	R2, R5, R8, R431
0026415	A00	RES 10 5% 1/10W 0603	15	R3, R15, R78, R410, R411, R412, R413, R415, R417, R418, R419, R420, R423, R425, R426
0026447	A00	RES 1K 1% 1/10W 0603	5	R6, R7, R12, R56, R141
0026456	A00	RES 2.2M 5% 1/10W 0603	2	R9, R421
0026521	A00	RES 470 1% 1/10W 0603	2	R10, R11
0026503	A00	RES 330 5% 1/10W 0603	7	R13, R70, R77, R435, R444, R445, R455
0026426	A00	RES 10K 5% 1/10W 0603	18	R14, R61, R75, R85, R86, R87, R90, R91, R96, R142, R143, R401, R402, R403, R404, R405, R416, R456
0026469	A00	RES 22 5% 1/10W 0603	4	R16, R17, R76, R80
0026411	A00	RES 1.5K 5% 1/10W 0603	4	R18, R24, R46, R49
0026512	A00	RES 3K 5% 1/10W 0603	4	R19, R22, R43, R47
0026544	A00	RES 6.8K 1% 1/10W 0603	4	R20, R23, R44, R48
0026492	A00	RES 3.3K 5% 1/10W 0603	2	R25, R50
0026419	A00	RES 100 5% 1/10W 0603	10	R34, R36, R69, R72, R81, R82, R83, R84, R144, R145
0021313	A00	RES 0 5% 1/10W 0603	4	C108, C111, R35, R42
0026472	A00	RES 220 5% 1/10W 0603	5	R37, R38, R66, R67, R74
0031630	A00	RES 430 5% 1/4W 1206	4	R39, R52, R55, R57

continued



Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



PCB Assembly DSP continued

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0032140	A00	RES 560 5% 1/4W 1206	2	R65, R68
0026453	A00	RES 2.2K 1% 1/10W 0603	1	R41
0026529	A00	RES 47K 5% 1/10W 0603	1	R58
0026532	A00	RES 5.1K 5% 1/10W 0603	2	R63, R64
0026517	A00	RES 4.7K 5% 1/10W 0603	1	R79
0026457	A00	RES 2.49K 1% 1/10W 0603	2	R139, R140
0026547	A00	RES 620 1% 1/10W 0603	2	R146, R147
0026680	A00	SWITCH PUSH DIP 6P DPDT VERTICAL PCB	2	SW1, SW2
320-006-00	A01	IC OP AMP NJM2068M DUAL SO8	1	U1
0022758	A00	IC DIGITAL, DSP, SHARC, ADSP-21261SKBCZ150, 150MHZ, CSPBGA136	1	U2
0022692	A00	IC A/D STEREO 114DB 192KHZ 24BIT CS5361	1	U3
0026345	A00	IC OP AMP NJM4565M/AZ4580M DUAL SO8	3	U9, U10, U13
0031612	A00	IC VOLTAGE DETECTOR KIA7029AF	1	U11
 0026361	A00	IC VREG FIXED 5V 0.1A SOT-89	1	U6
0021316	A01	IC ADC MCP3008 10BIT SOIC-16	1	U7
0029127	A00	IC DAC CS4392-KZZ 24-BIT 192KHZ 20L TSSOP	2	U8, U12
0026338	A00	IC LDO AZ1117H ADJ 1A SOT-223	1	U14
0029131	A00	IC FLASH SST25VF512A-33-4C-SAE 512K 33MHZ SO8	1	U47
0033272	A00	POT ROTARY 10K1B 25MM DUAL UNIT PLASTIC SHAFT WITH CENTER DETENT	1	VR9
0033271	A00	POT ROTARY 10K1B 25MM SINGLE UNIT PLASTIC SHAFT WITH CENTER DETENT	3	VR17, VR20, VR21
0033270	A00	POT ROTARY 10K1B 25MM SINGLE UNIT PLASTIC SHAFT	1	VR19
0021315	A00	OSC 12.288MHZ HC-49S	1	Y1
0032725	A00	CAP 10UF 25V 10% X7R 1206	6	C131, C132, C133, C134, C135, C136
0026418	A00	RES 100 1% 1/4W 1206	2	R21, R45
0021368	A01	RES 10 5% 1/4W 1206	8	R40, R59, R71, R73, R88, R89, R92, R93
0028576	A00	RES 4.3K 1% 1/10W 0603	2	R53, R54
0026554	A00	RES 8.25K 1% 1/10W 0603	2	R60, R62
0026385	A00	MAG FERRITE BEAD 0.8X3.5X4.7MM NI-ZN	2	L1, L2
0001616	A00	CAP LYT 470UF 20% 6.3V RAD LOW ESR	5	C1, C17, C47, C56, C57



0029091-01 REV C02 PCB ASSEMBLY AMPLIFIER

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0029092-00	C00	PCB FAB FR4 DOUBLE 2 OZ 1.6MM AMP BOARD HD SERIES	1	PCB1
0026165	A00	CAP 10PF 50V 5% NPO 0603	3	C3, C7, C8
0029761	A00	CAP 0.68UF 100V 20% X7R 1812	4	C5, C6, C210, C211
0026171	A00	CAP 1UF 16V +80-20% Y5V 0603	2	C9, C11
0030417	A00	CAP 100UF 63V 20% 105C AL LESR RADIAL (TAPING)	2	C69, C96
0026125	A00	CAP 0.1UF 50V 5% X7R 0603	12	C1, C13, C115, C117, C128, C129, C132, C156, C158, C180, C182, C185
0028589	A00	CAP 4.7UF 25V 20% Y5V 1206	4	C14, C79, C142, C175
0026131	A00	CAP 0.22UF 100V 10% METALLIZED POLYESTER FILM BOX RADIAL	2	C15, C16
0030383	A00	CAP 100UF 25V 20% 105C AL RADIAL (TAPING)	2	C17, C18
0026203	A00	CAP 33PF 50V 5% NPO 0603	4	C21, C116, C157, C181
0027312	A00	CAP 10UF 16V +80-20% Y5V 1206	2	C22, C174
0026179	A00	CAP 2.2UF 50V 20% 105C AL RADIAL	1	C24
0027311	A00	CAP 1000PF 50V 5% NPO 0603	5	C59, C121, C164, C166, C197
0026137	A00	CAP 0.47UF 250V 10% METALLIZED POLYPROPYLENE FILM RADIAL	3	C63, C141, C173
0026115	A00	CAP 0.1UF 100V 10% X7R 1206	7	C94, C114, C134, C135, C136, C155, C179
0026227	A00	CAP 56PF 100V 5% NPO 1206	3	C113, C154, C167
0029104	A00	CAP 0.47UF 160V 10% METALLIZED POLYPROPYLENE FILM RADIAL	1	C118
0026175	A00	CAP 1UF 50V 10% X7R 1206	1	C123
0026114	A00	CAP 0.1UF 100V 10% METALLIZED POLYESTER FILM RADIAL	2	C133, C161
0029105	A00	CAP 1UF 250V 10% METALLIZED POLYPROPYLENE FILM RADIAL	1	C162
0026146	A00	CAP 1000PF 100V 10% X7R 1206	2	C138, C139
0030381	A00	CAP 10UF 25V 20% 85C AL NP RADIAL (TAPING)	2	C169, C184
0031457	A00	CAP 1000UF 63V 20% 105C AL LESR RADIAL	2	C147, C170
0021442	A01	CONN HDR 5P 2.54MM MALE CRMP TOP ENTRY PCB	2	CON1, CON7
0026254	A00	CONN HDR 7P 2.54MM MALE CRMP TOP ENTRY PCB	1	CON2
0026250	A00	CONN HDR 2X2P 4.2MM MALE STR TOP ENTRY PCB	2	CON4, CON5
0028301	A00	CONN HDR 6P 3.96MM MALE STR TOP ENTRY PCB	1	CON6
0026244	A00	CONN FFC 12P 1.25MM FEMALE CRMP TOP ENTRY PCB	1	CON8
0026306	A00	DIODE SW LL4148 100V 0.15A MINI-MELF/LL-34	5	D1, D4, D6, D7, D9
0026291	A00	DIODE SUPERFAST ER1D 200V 1A 35NS SMB/DO-214AA	9	D8, D10, D11, D12, D15, D16, D34, D37, D45
0029101	A00	DIODE SUPERFAST DUAL BAV99 100V 0.15A SOT-23	3	D55, D57, D58
0027599	A00	IND SW 33UH 5A T106-2	1	L7
0028735	A00	IND COM 0.34MH MIN 8A	2	L11, L14
0028606	A00	IND COM 12UH MIN 14A T184-2	1	L16
0026717	A00	XSTR GP MMBT5551LT1 NPN 180V 0.6A SOT-23	4	Q1, Q3, Q16, Q17
0026704	A00	XSTR FET N-CH 200V 31A 0.082RDS TO-220AB	2	Q9, Q13
0031542	A00	XSTR MOSFET N-CH FDP61N20 TO-220	4	Q10, Q11, Q12, Q24

continued



Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



PCB Assembly Amplifier continued

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0026716	A00	XSTR GP MMBT5401 PNP 150V 0.6A SOT-23	1	Q15
0026712	A00	XSTR GP MMBT3904 NPN 40V 0.2A SOT-23	1	Q25
0026447	A00	RES 1K 1% 1/10W 0603	5	R4, R97, R98, R125, R166
0026419	A00	RES 100 5% 1/10W 0603	4	R2, R7, R8, R9
0026415	A00	RES 10 5% 1/10W 0603	2	R3, R11
0026598	A00	RES CAB 4.7K 5% 1W	1	R5
0028577	A00	RES 56K 1% 1/10W 0603	1	R27
0027536	A00	RES 33K 1% 1/4W 1206	1	R16
0026530	A00	RES 47K 5% 1/4W 1206	5	R17, R18, R128, R130, R163
0026450	A00	RES 1K 5% 1/4W 1206	1	R19
0021368	A01	RES 10 5% 1/4W 1206	9	R99, R100, R101, R141, R142, R143, R216, R217, R218
0026554	A00	RES 8.25K 1% 1/10W 0603	4	R103, R112, R219, R225
0029095	A00	RES 3.32K 1% 1/10W 0603	3	R108, R149, R221
0026424	A00	RES 10K 1% 1/10W 0603	7	R1, R111, R152, R181, R224, R231, R287
0029102	A00	RES MET-OX 22 5% 2W	2	R115, R156
0028579	A00	RES 1.6M 5% 1/10W 0603	2	R124, R140
0026410	A00	RES 1.2K 1% 1/10W 0603	1	R126
0026482	A00	RES 270 1% 1/10W 0603	1	R127
0026434	A00	RES 13.7K 1% 1/10W 0603	1	R147
0028641	A00	RES MET-OX 10K 5% 1W	2	R129, R131
0026458	A00	RES 2.74K 1% 1/10W 0603	1	R134
0029103	A00	RES MET-OX 3K 5% 1W	1	R164
0026525	A00	RES 470K 5% 1/10W 0603	3	R182, R183, R191
0028576	A00	RES 4.3K 1% 1/10W 0603	1	R153
0026542	A00	RES 6.2K 5% 1/10W 0603	1	R255
⚠ 0026357	A00	IC VREG FIXED 12V 1.5A TO-220	2	U1, U2
0028595	A00	IC DRIVER IRS20955SPBF DIGITAL AUDIO SOIC-16	3	U12, U17, U300
0030190	A00	IC OP AMP ADTL082JRZ-REEL7 DUAL SO8	2	U16, U20
0031203	A00	IC CMOS INVERTER TC7WH04FU SSOP8-P-0.65	1	U21
⚠ 0026361	A00	IC VREG FIXED 5V 0.1A SOT-89	1	U37
0027063	A00	DIODE ZENER ZMM5231B 5.1V MELF	2	Z1, Z6
0029099	A00	RES 22K 5% 1/4W 1206	2	R88, R89
0032730	A00	CAP 100UF 16V 20% 105C AL LESR RADIAL	2	C2, C25
0032725	A00	CAP 10UF 25V 10% X7R 1206	6	C111, C112, C152, C153, C177, C178
0029125	A00	CAP 3300F 100V 10% X7R 1206	2	C159, C160
0032731	A00	DIODE SUPERFAST ES1D 200V 1A 15NS SMA/DO-214AC	6	D31, D32, D33, D35, D41, D42
0026287	A00	DIODE SCHOTTKY SS0540 40V 0.5A SOD-123	6	D39, D40, D46, D47, D53, D54
0032726	A00	HEATSINK FOR IC HD SERIES	2	HS1, HS2
0032727	A00	RES 39K 5% 1/4W 1206	3	R14, R15, R162
0026426	A00	RES 10K 5% 1/10W 0603	1	R20
0026529	A00	RES 47K 5% 1/10W 0603	2	R21, R22
0032732	A00	RES 220 1% 1/10W 0603	2	R107, R220

continued



PCB Assembly Amplifier continued

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0026466	A00	RES 20K 5% 1/4W 1206	6	R113, R114, R154, R155, R226, R227
0032733	A00	RES 3.6K 1% 1/10W 0603	1	R148
0026453	A00	RES 2.2K 1% 1/10W 0603	4	R87, R96, R135, R228
0032734	A00	RES 2.7K 1% 1/10W 0603	1	R179
0032728	A00	RES 4.7 5% 1/4W 1206	3	R187, R233, R234
0026422	A00	RES 100K 5% 1/10W 0603	1	R204
0026425	A00	RES 10K 1% 1/4W 1206	3	R200, R201, R203



Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



0029111-00 REV A01 PCB ASSEMBLY POWER SUPPLY 100-120V

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0026963	A00	WIRE JUMPER 20AWG 10MM	1	J2
0026273	A00	DIODE BRIDGE KBJ2510 1000V 25A KBJ	1	BR1
0021343	A00	CAP 2200PF 1000V 10% CER DISC	1	C3
0026124	A00	CAP 0.1UF 50V 10% X7R 1206	1	C1
0026184	A00	CAP 2200UF 200V 20% 85C AL RADIAL	2	C7, C8
0026125	A00	CAP 0.1UF 50V 5% X7R 0603	5	C9, C29, C30, C31, C66
0029117	A00	CAP 470UF 10V 20% 105C AL LESR RADIAL	3	C10, C12, C25
0029768	A00	CAP 2200PF 250V 20% Y1 DISC	1	C11
0031234	A00	CAP 0.47UF 400V 5% METALLIZED POLYPROPYLENE FILM RADIAL	1	C13
0026115	A00	CAP 0.1UF 100V 10% X7R 1206	5	C16, C17, C19, C26, C71
0026167	A00	CAP 10UF 50V 20% 105C AL RADIAL	3	C18, C24, C33
0026146	A00	CAP 1000PF 100V 10% X7R 1206	2	C20, C35
0026197	A00	CAP 2700PF 50V 10% X7R 0603	1	C21
0026096	A00	CAP 3300PF 100V 10% METALLIZED POLYESTER FILM RADIAL	1	C22
0026214	A00	CAP 470PF 50V 2% NPO 0603	1	C27
0026121	A00	CAP 0.1UF 400V 10% METALLIZED POLYPROPYLENE FILM RADIAL	2	C32, C39
0026141	A00	CAP 0.47UF 50V 5% X7R 1206	1	C34
0027349	A00	CAP 47UF 50V 20% 105C AL LESR RADIAL	1	C36
0026191	A00	CAP 220UF 25V 20% 105C AL LESR RADIAL	3	C37, C49, C54
0026144	A00	CAP 1000PF 1000V 10% CER DISC	1	C38
0029172	A00	CAP 1000UF 25V 20% 105C AL LESR RADIAL	2	C40, C41
0026217	A00	CAP 470UF 25V 20% 105C AL LESR RADIAL	2	C42, C43
0031457	A00	CAP 1000UF 63V 20% 105C AL LESR RADIAL	4	C45, C46, C60, C61
0027540	A00	CAP 470UF 63V 20% 105C AL LESR RADIAL	4	C50, C51, C55, C56
0029769	A00	CAP 1000PF 250V 20% Y1 DISC	1	C70
0029115	A00	CAP 1500PF 100V 10% X7R 1206	1	C75
0026145	A00	CAP 1000PF 100V 10% CER DISC	2	C76, C77
0026219	A00	CAP 47UF 25V 20% 105C AL LESR RADIAL	1	C78
0021362	A01	CONN HDR 2P 2.54MM MALE CRMP TOP ENTRY PCB	2	CON1, CON5
0026254	A00	CONN HDR 7P 2.54MM MALE CRMP TOP ENTRY PCB	1	CON4
0028301	A00	CONN HDR 6P 3.96MM MALE STR TOP ENTRY PCB	1	CON6
0021442	A01	CONN HDR 5P 2.54MM MALE CRMP TOP ENTRY PCB	1	CON10
0026298	A00	DIODE SUPERFAST STPRA1620CT 200V 16A 30NS TO-220AB	1	D1
0027064	A00	DIODE SUPERFAST MUR1620CTR 200V 16A 35NS TO-220AB	1	D2
0026291	A00	DIODE SUPERFAST ER1D 200V 1A 35NS SMB/DO-214AA	7	D3, D7, D8, D10, D11, D12, D52
0026283	A00	DIODE GP GS1G 400V 1A SMA/DO-214AC	3	D4, D24, D25
0026306	A00	DIODE SW LL4148 100V 0.15A MINI-MELF/LL-34	1	D6
0026277	A00	DIODE FAST 1N4937 600V 1A 200NS DO-41	1	D9
0026293	A00	DIODE SUPERFAST ER502 200V 4A 35NS DO-201AD	4	D13, D14, D15, D16
0029735	A00	DIODE TVS 1.5KE200A 200V 5.7A DO-201AE	2	D18, D19
0026287	A00	DIODE SCHOTTKY SS0540 40V 0.5A SOD-123	4	D20, D21, D22, D23
0031679	A00	DIODE ZENER ZMM3V3 3.3V MELF	1	D26

continued



PCB Assembly Power Supply 100-120V continued

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0026322	A00	DIODE ZENER GLZ18C 18V MELF	1	DZ2
0028302	A00	CONN HDR 2P 7.92MM MALE STR TOP ENTRY PCB	1	J1
0026385	A00	MAG FERRITE BEAD 0.8X3.5X4.7MM NI-ZN	1	L1
0025400	A00	IND SW 1.5UH 1A R3X15	3	L3, L4, L5
0028736	A00	IND SW 2UH 8A TORI	1	L3-A
0026387	A00	MAG FERRITE BEAD 9.8X11.5X1.0MM D5A	2	L6, L10
0029112-00	A00	PCB FAB FR4 DOUBLE 2 OZ 1.6MM POWER SUPPLY BOARD HD1531/HD1521	1	PCB1
0028751	A00	XSTR FET N-CH IXTQ22N50P 500V 22A 0.27RDS TO-3P	2	Q1, Q5
0026723	A00	XSTR POWER 2SA1837 PNP 230V 1A TO-220AB	1	Q2
0021356	A01	XSTR GP SS8550D PNP 40V 1.5A TO-92	2	Q3, Q4
0026713	A00	XSTR GP MMBT3906 PNP 40V 0.2A SOT-23	1	Q8
0021336	A01	RES 100K 5% 1/4W 1206	4	R53, R55, R76, R77
0026640	A00	RES MET-OX 30K 5% 2W MINI	2	R2, R3
0026633	A00	RES MET-OX 15 5% 2W	1	R4
0021335	A01	RES 4.7K 5% 1/4W 1206	1	R6
0026470	A00	RES 22 5% 1/4W 1206	2	R7, R8
0026450	A00	RES 1K 5% 1/4W 1206	2	R9, R10
0026420	A00	RES 100 5% 1/4W 1206	3	R11, R62, R63
0029113	A00	RES 16K 1% 1/10W 0603	1	R12
0026419	A00	RES 100 5% 1/10W 0603	1	R13
0026953	A00	RES 10K 5% 1/4W 1206	4	R14, R18, R65, R66
0026429	A00	RES 12.7K 1% 1/4W 1206	1	R15
0026651	A00	RES MET-OX 56 5% 2W MINI	1	R16
0026493	A00	RES 3.3K 5% 1/4W 1206	2	R17, R57
0026422	A00	RES 100K 5% 1/10W 0603	2	R21, R22
0026455	A00	RES 2.2K 5% 1/4W 1206	3	R23, R24, R204
0029114	A00	RES 15K 5% 1/4W 1206	2	R26, R27
0026529	A00	RES 47K 5% 1/10W 0603	2	R31, R37
0026508	A00	RES 390K 5% 1/10W 0603	1	R33
0026510	A00	RES 39K 5% 1/10W 0603	1	R34
0026524	A00	RES 470K 1% 1/4W 1206	4	R35, R36, R39, R40
0026484	A00	RES 27K 1% 1/10W 0603	1	R38
0026449	A00	RES 1K 5% 1/10W 0603	3	R41, R46, R59
0026625	A00	RES MET-OX 1 5% 1W	1	R43
0021368	A01	RES 10 5% 1/4W 1206	1	R44
0026654	A00	RES MET-OX 68K 5% 2W	1	R45
0026426	A00	RES 10K 5% 1/10W 0603	1	R47
0026517	A00	RES 4.7K 5% 1/10W 0603	2	R48, R58
0026479	A00	RES 24.9K 1% 1/10W 0603	1	R49
0026518	A00	RES 4.99K 1% 1/10W 0603	1	R50
0026646	A00	RES MET-OX 5.1K 5% 2W	4	R19, R20, R60, R61
0026522	A00	RES 470 5% 1/10W 0603	1	R73
0026644	A00	RES MET-OX 470 5% 1W MINI	2	R74, R75

continued



Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



PCB Assembly Power Supply 100-120V continued

	PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
	0026692	A00	THYRISTOR MCR100-6 400V 0.8A TO-92	1	SCR1
⚠	0030962	A00	XFMR SW 110V/230V +/-50V 8.0A +/-50V 3.0A +13V 0.5A 800W	1	T1
⚠	0025948	B00	XFMR DRIVER 15V 15V/15V 0.1A 3W	1	T2
⚠	0030963	A00	XFMR SW 115/230V +/-15V 0.5A +5V 0.5A +15V 0.5A +15V 0.5A 25W	1	T3
	0021365	A00	IC LDO AZ1117T 3.3V 1A TO-220-3	1	U1
	0026348	A00	IC PWM KA3525A VOLTAGE-MODE CONTROLLER DIP-16	1	U2
	0026334	A00	IC COM AS339MTR-E1 QUAD SO-14	1	U3
	0026389	A00	OPTO 1 CHANNEL 70V 200-400 4-DIP	2	U4, U7
	0026347	A00	IC PWM ICE2A165 OFF-LINE CURRENT MODE DIP-8	1	U6
⚠	0026355	A00	IC VREG ADJ 2.5-36V 0.1A TO-92	1	U8
	0026352	A00	IC TIMER NE555D SO8	1	U31
	0026175	A00	CAP 1UF 50V 10% X7R 1206	1	C44
	0026134	A00	CAP 0.22UF 50V 10% X7R 1206	1	C196
	0032770	A00	RES CAB 2.2 5% 1W	1	R5
	0032291	A00	SHRINK TUBE 18X40MM	1	SHRINKTUBE

0029108-00 REV A00 PCB ASSEMBLY LINE FILTER 100-120V

	PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
	0026174	A00	CAP 1UF 275V 10% X2 RADIAL	2	C1,C2
	0029769	A00	CAP 1000PF 250V 20% Y1 DISC	4	C3,C4,C82,C83
	0026138	A00	CAP 0.47UF 275V 10% X2 RADIAL	1	C5
	0025343	A00	CLIP 5MM COPPER TIN PCB	2	CLIP-F1-1,CLIP-F1-2
⚠	0031689	A00	FUSE SB 10A/250V 5X20MM UL CSA VDE	1	F1
⚠	0031412	A00	FUSE COVER 6X20.0MM	1	FUSE COVER
⚠	0026256	A00	CONN POWER 250V 10A RECEPTACLE UL CSA VDE WITHOUT FUSE	1	J1
	0031614	A00	ASSEMBLY CABLE 18AWG 220MM BLUE/BROWN UL1672 WITH 3P 3.96MM TERM	1	J2
	0025945	A00	IND COM 4MH 10A	2	L1,L2
	0022473	A00	MAG FERRITE 22X14X8MM MN-ZN	1	MGFERRITE
	0029109-00	A00	PCB FAB FR4 DOUBLE 1 OZ 1.6MM LINE FILTER BOARD HD1531/HD1521	1	PCB1
	0029824	A00	RES MET-OX 680K 5% 1/2W	2	R1,R2
	0029280	A00	ASSEMBLY CABLE 16AWG 65MM BROWN UL1672 WITH PC187 TERM	2	S1,S2
	0026690	A00	THERM NTC INRUSH CURRENT LIMITER 5 12A D25MM	1	TH1
	0026388	A00	MOV 470VAC DISC 14MM	1	VDR1



0031251-00 REV A00 PCB ASSEMBLY POWER LED BOARD

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0030982	A00	ASSEMBLY CABLE 26AWG 120MM WHITE/BLACK UL1007 WITH 2P 2.54MM TERMS	1	CON2
 0026378	A00	LED GREEN 50MCD 570NM D3MM	1	LED1
0027080	A00	PILLAR D3X10.8MM PLASTIC	1	LED_BOSS
0031250-00	A00	PCB FAB FR4 DOUBLE 1 OZ 1.6MM POWER LED BOARD	1	PCB1

0030121-01 REV B00 PCB ASSEMBLY OUTPUT EMC

PART#	REV	DESCRIPTION	QTY	REF DESIGNATORS
0026186	A00	CAP 220PF 1000V 10% CER DISC	12	C1, C2, C3, C4, C5, C6, C13, C14, C15, C16, C17, C18
0031615	A00	ASSEMBLY CABLE 16AWG 250MM RED/BLACK UL1007 WITH 2X2P 4.2X5.5MM TERM	1	J1
0030511	A00	ASSEMBLY CABLE 16AWG 250MM BLUE/GRAY UL1007 WITH 2X2P 4.2X5.5MM TERM	1	J2
0021362	A01	CONN HDR 2P 2.54MM MALE CRMP TOP ENTRY PCB	1	J3
0030513	A00	ASSEMBLY CABLE 26AWG 250MM WHITE/BLACK UL1007 WITH 2P 2.54MM TERMS	1	J4
0026250	A00	CONN HDR 2X2P 4.2MM MALE STR TOP ENTRY PCB	1	J5
0029137	A00	IND COM 4X200UH 100MA	1	M9
0030120-01	B00	PCB FAB FR4 SINGLE 1 OZ 1.6MM OUTPUT EMC BOARD	1	PCB1
0028735	A00	IND COM 0.34MH MIN 8A	4	T1, T2, T5, T6

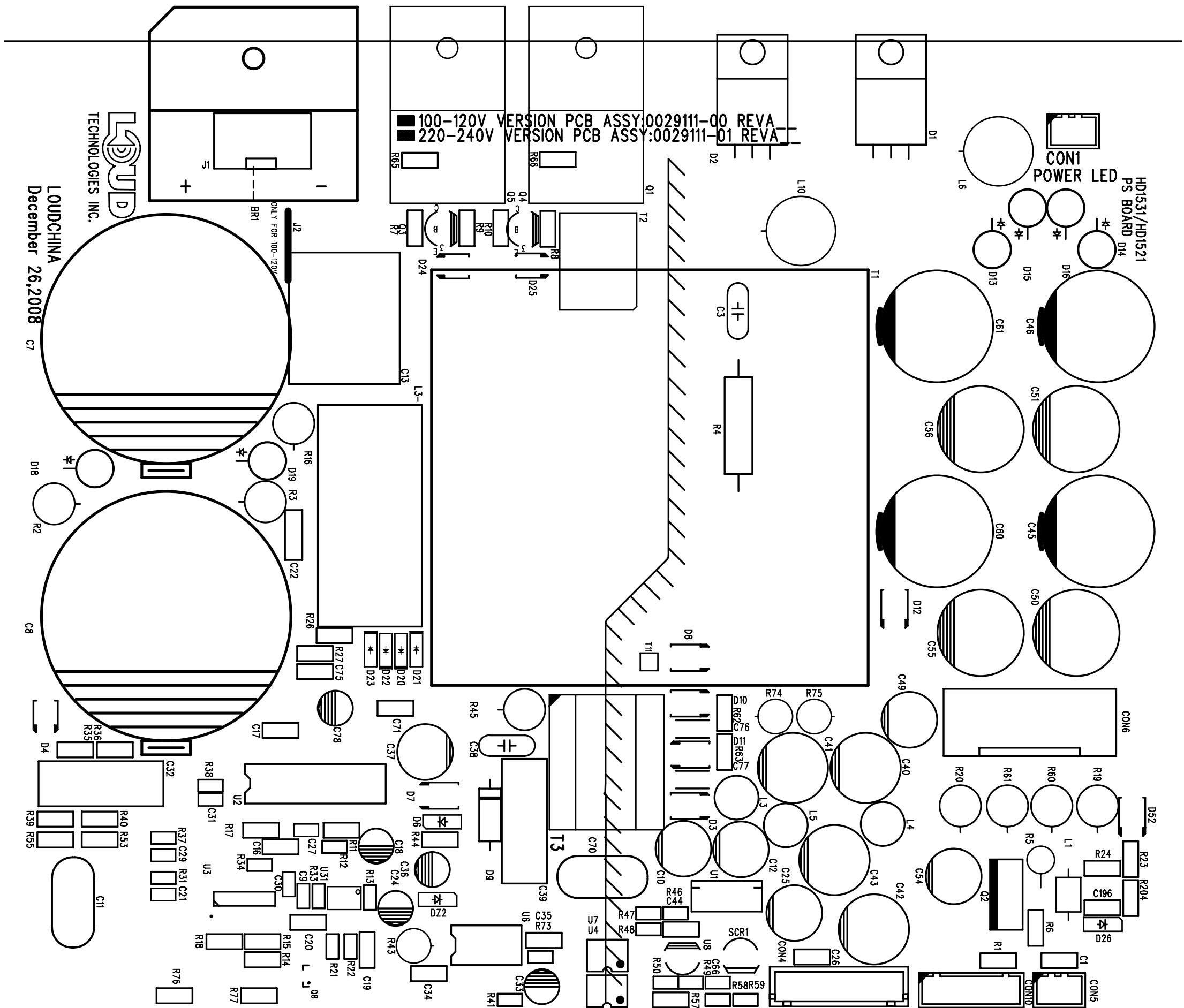


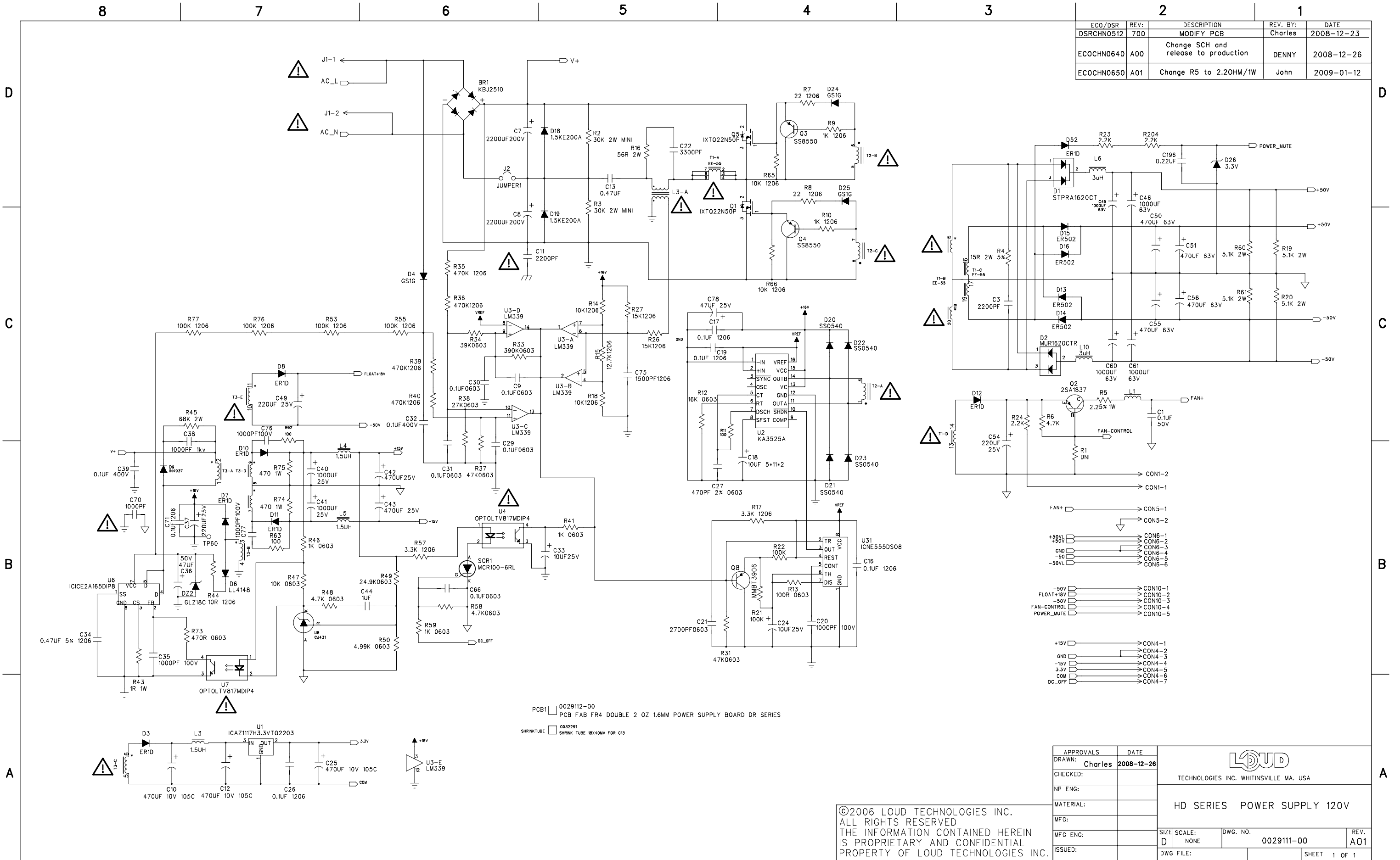
Components noted with this symbol shall be replaced only by the component specified. This is required to maintain product safety.



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Service Bulletin: Power Supply Fan Modification

Deviation Work Instructions

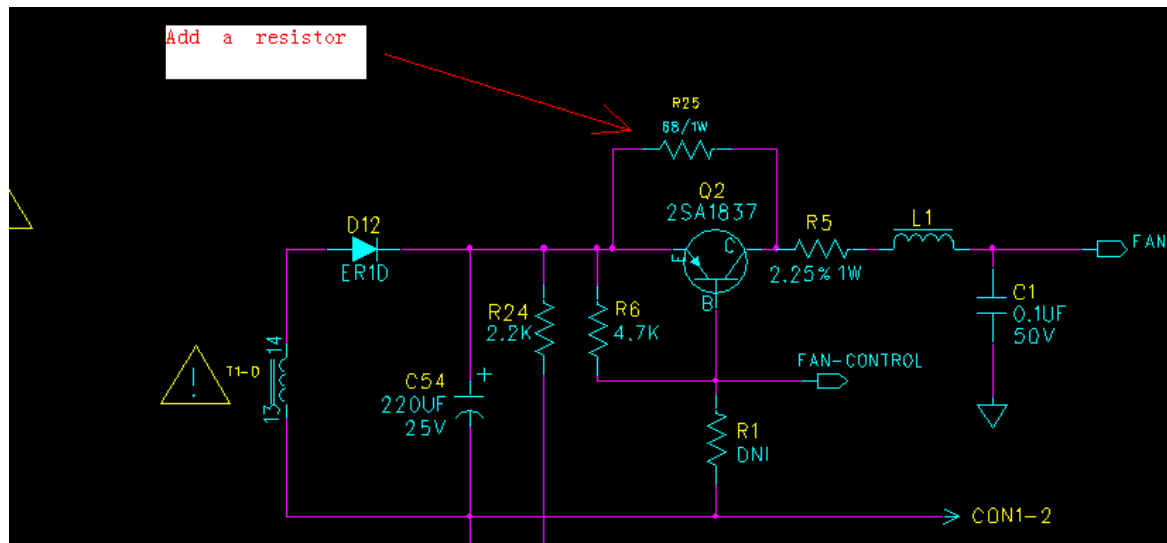
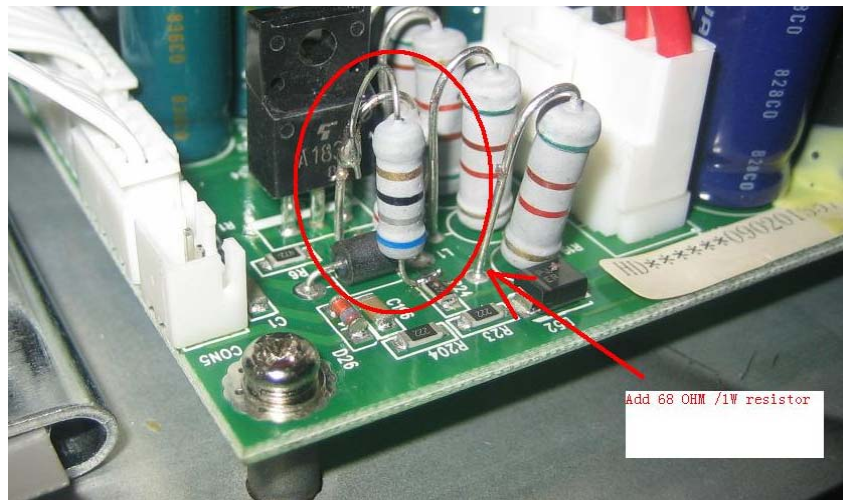
Number: **DEVWDN00136**

Deviation: DEVWDN00136
Quantity: All inventory until next pcb revision is released.
Effective dates: DEV shall continue until phase out of existing revision.

Affected Items:	Part Number	Description
	0029111-00-A01	PCB ASSY POWER SUPPLY HD1531/HD1521 100-120V
	0029111-01-A01	PCB ASSY POWER SUPPLY HD1531/HD1521 220-240V

Description and reason for DEV: Document ongoing fan modification which was not covered on an ECO.

On Power Supply PCB 0029112-A00: add a 1 watt 68 ohm resistor from lead of R5 to pad for R24.



Service Bulletin: Power Supply Fan Modification con't...

Deviation Work Instructions

Number: **DEVWDN00136**

BOM Changes:

The following BOM changes are required for this deviation:

1. Add p/n 0033395 RES MO 1W 5% 68 OHM AXIAL

See table below for BOM change summary.

LOUD Part Number	Description	Start Qty	End Qty	Ref Des or Find number(s)
0033395	RES MO 1W 5% 68 OHM AXIAL	0	1	R24 and R5

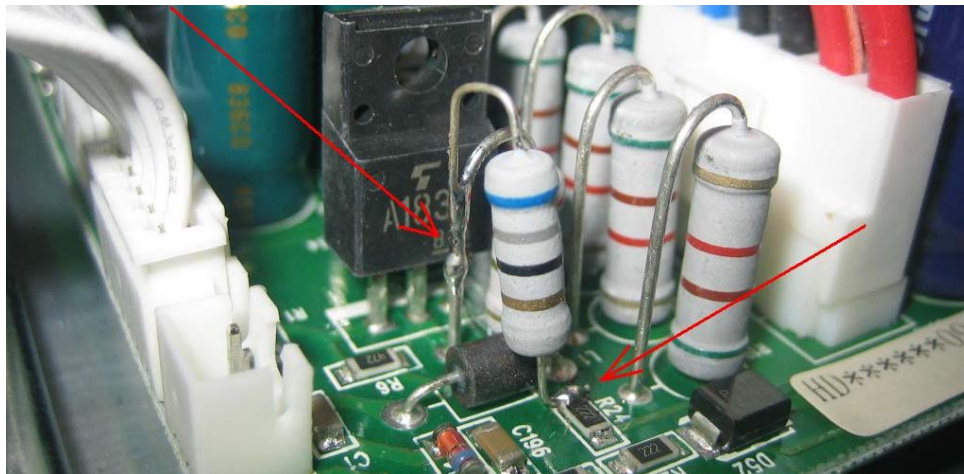
Instructions:

HD15XX rework instruction

1. Process resistor as below:



2. Solder the resistor between R24 and R5 on PSU board as below.



Service Bulletin: Power Supply Fan Modification con't...

Deviation Work Instructions

Number: **DEVWDN00136**

3. Then add some yellow glue on this resistor. (to prevent resistor shake)

