

Service *Manual*

MODEL: L-12/16/20



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Version 2.0

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1. Introduction

ALTO L12,L16,L20 FEATURES

CHANNEL STRIPS.

- AUX send 1/2 switch-able to PRE/POST fader
- 60 mm high precision faders
- Each input channel with Mute, SOLO function, low cut filters-75Hz, 18 dB/OCT and Overload & signal present LEDs.
- Group “SUB” 1-2”, “SUB3-4”, or “main L-R” mix send switch-able
- 4 AUX sends with master control and SOLO function per channel: 2 × PRE/POST fader switch-able for monitoring/digital EFX application, 2 × post fader(for internal digital EFX or as external send)
- 4-band fixed EQ on stereo line channels
- 3-band EQ with Swept mid on microphone channels
- Channel inserts and direct output on each mono channel plus main mix inserts for flexible connection of outboard equipment.

MASTER SECTION

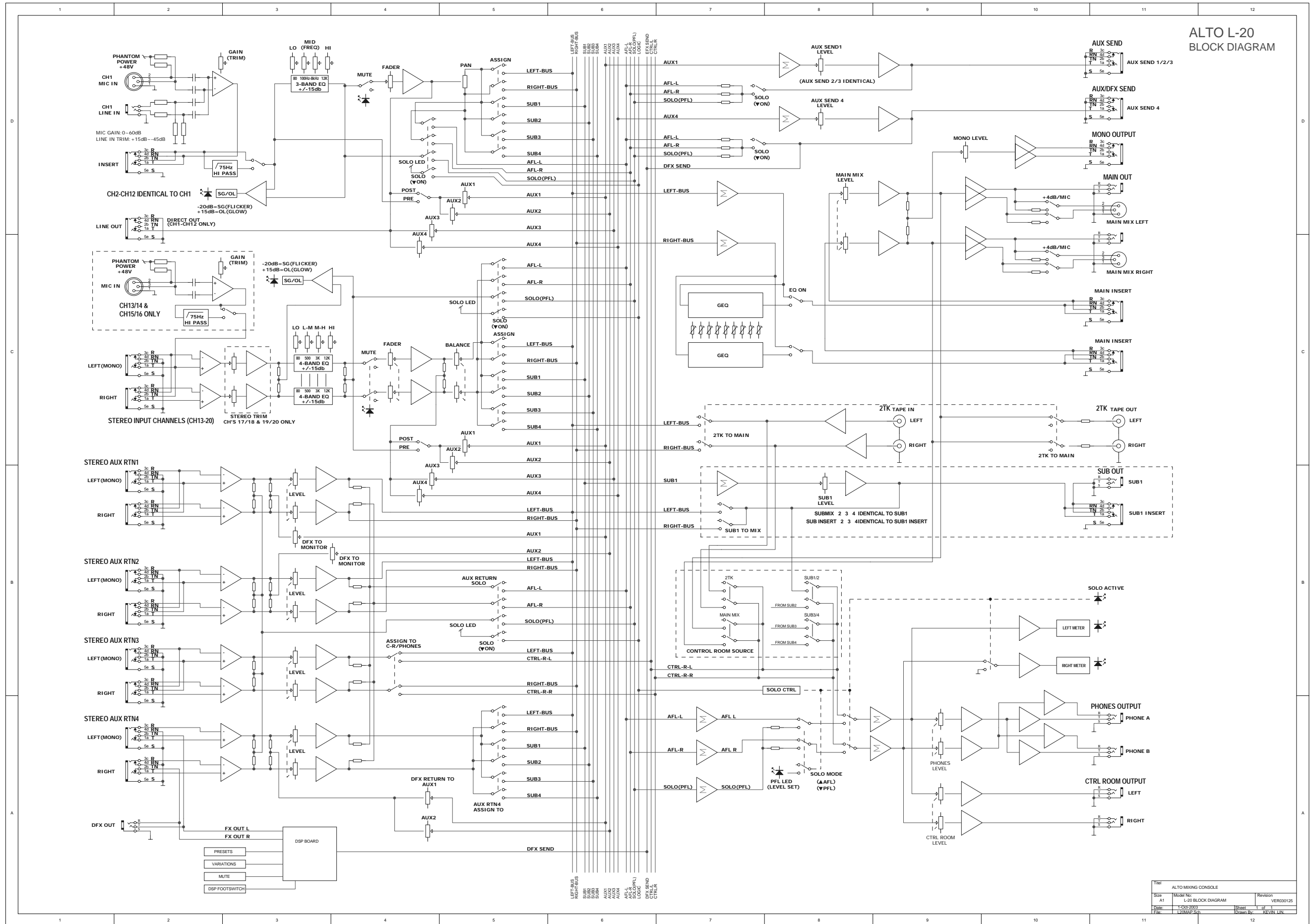
- 24-bit DSP effect built in
- True stereo 9-band graphic EQ
- Adjustable mono main output by control level
- BNC socket for connecting gooseneck lamps.
- Separate outputs for 4 submaster control to enable more flexible routing
- Separate subwoofer crossover and output
- Special XLR Subwoofer out with 75Hz low pass
- Control room/phone matrix
- 2 headphone outputs

2. Specification (L-12/16/20)

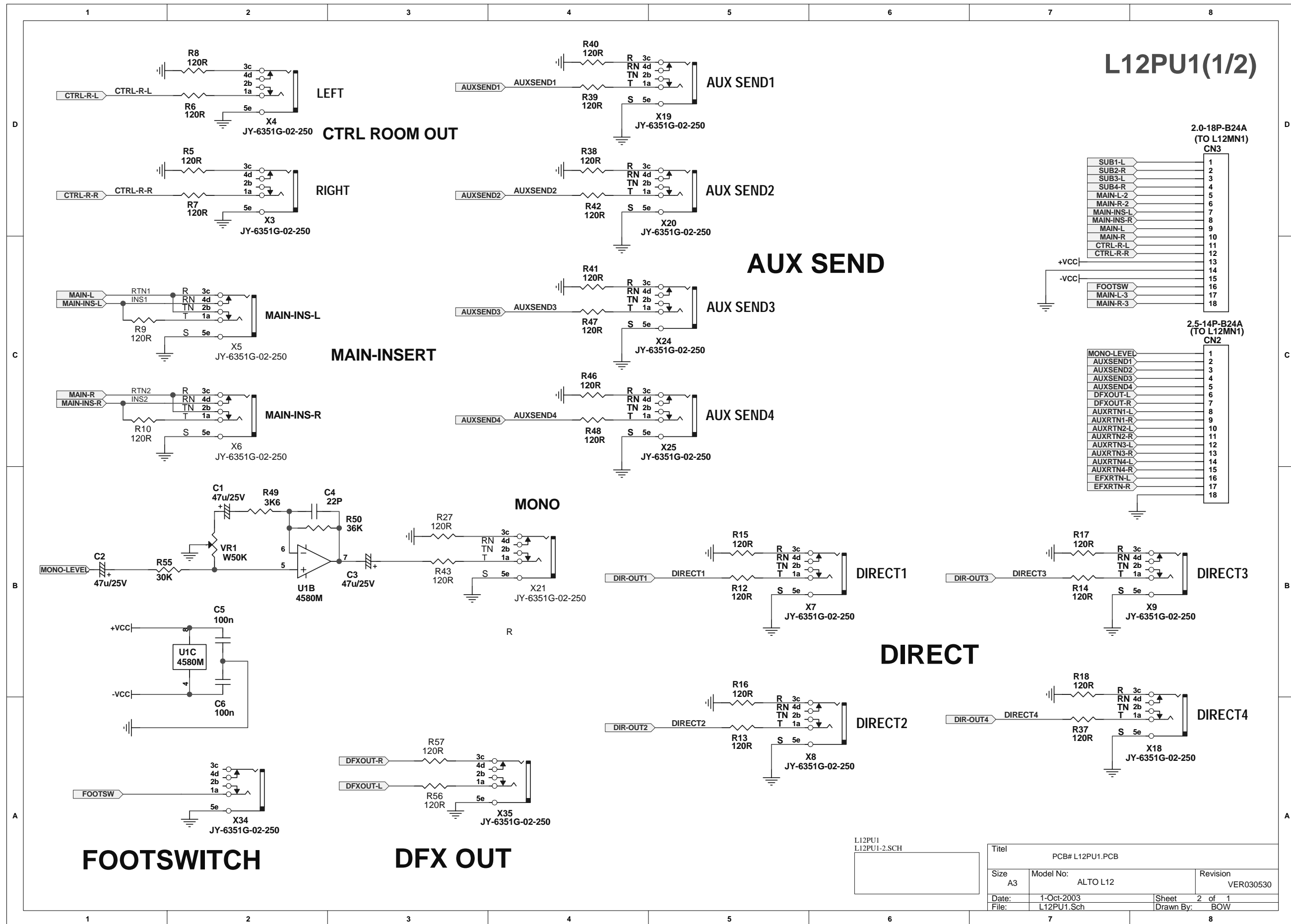
Mono input channels		
	Microphone input	electronically balanced, discrete input configuration
	Frequency response	10Hz to 55kHz, +/- 3dB
	Distortion (THD & N)	0.005% at +4dBu, 1kHz
	Gain range	0dB to 60dB (MIC)
	SNR (Signal to Noise Ratio)	115dB
	Line input	electronically balanced
	Frequency response	10Hz to 55kHz, +/- 3dB
	Distortion (THD & N)	0.005% at +4dBu, 1kHz
	Sensitivity range	+15dBu to - 45dBu
Stereo input channels		
	Line input	Balanced/unbalanced
	Frequency response	10Hz to 55kHz, +/- 3dB
	Distortion (THD & N)	0.005% at +4dBu, 1kHz
Impedances		
	Microphone input	1.4kOhm
	Channel Insert return	2.5kOhm
	All other inputs	10kOhm or greater
	Tape out	1kOhm
	All other output	120Ohm
Equalization		
	Hi shelving	+/- 15dB @12kHz
	Mid bell (mono)	+/- 15dB @100Hz to 8kHz
	Hi Mid (stereo)	+/- 15dB @ 3kHz
	Mid low (stereo)	+/- 15dB @500Hz
	Low shelving	+/- 15dB @80Hz
	Low Cut filter	75Hz, 18dB/oct.
DSP Section		
	A/D and D/A converters	24 bit
	DSP resolution	24 bit
	Type of effects	Hall, Room, Vocal & Plate REVERBS Mono & Stereo DELAY (max DELAY TIME 650ms) Chorus, Flanger & Reverb MODULATIONS REVERB+DELAY, REVERB+CHORUS, REVERB+FLANGER combinations
	Presets	256
	Controls	16-position PRESET Selector 16-position VARIATION selector
		PEAK LED MUTE SWITCH with LED indicator
Main Mix Section		
	Noise (Bus noise)	Fader 0 dB, channels muted: - 100dBr (ref.:+4dBu) Fader 0dB, all input channels assigned and set to UNITY gain: - 90dBr (ref.:+4dBu)
	Max output	+22dBu balanced XLR, +22dBu unbalanced, 1/4" jacks
	AUX Returns gain range	-∞ to +15dB
	AUX Sends max out	+22dBu

Power supply		
	Main voltage	USA/Canada 100 - 120V~, 60Hz
		Europe 210 - 240V~, 50Hz
		U.K./Australia 240V~, 50Hz
	Power Consumption	70 watts
	Fuse	100 - 120V~ : T800mAL
		210 - 240V~ : T500mAL
	Main connection	Standard IEC receptacle

3. Block Diagram



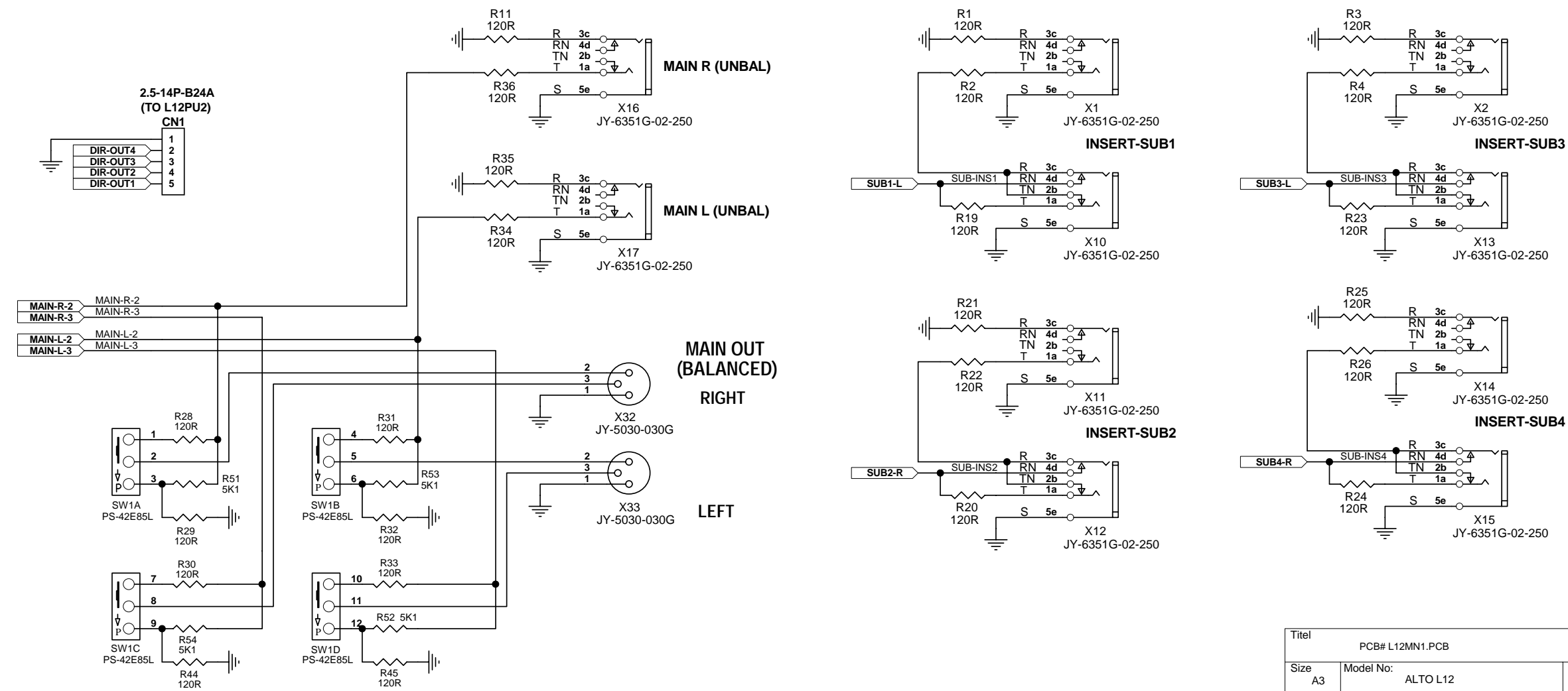
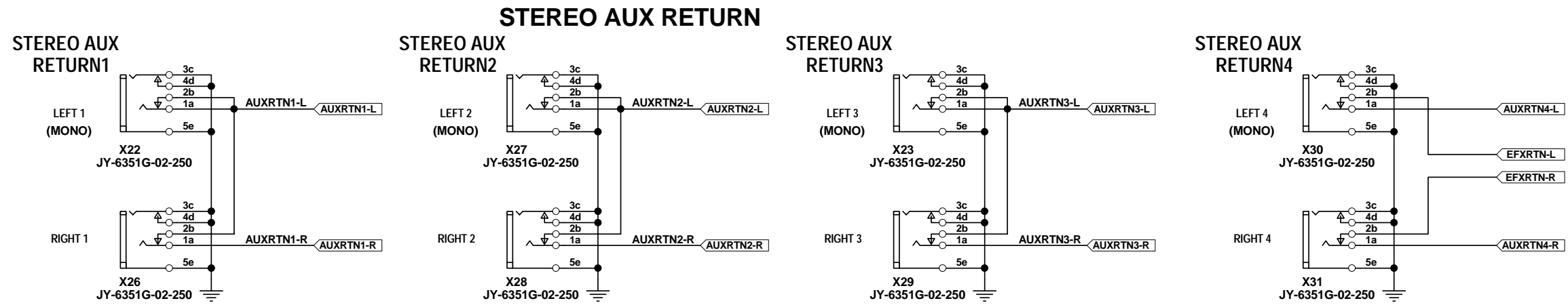
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L12PU1
L12PU1-2.SCH

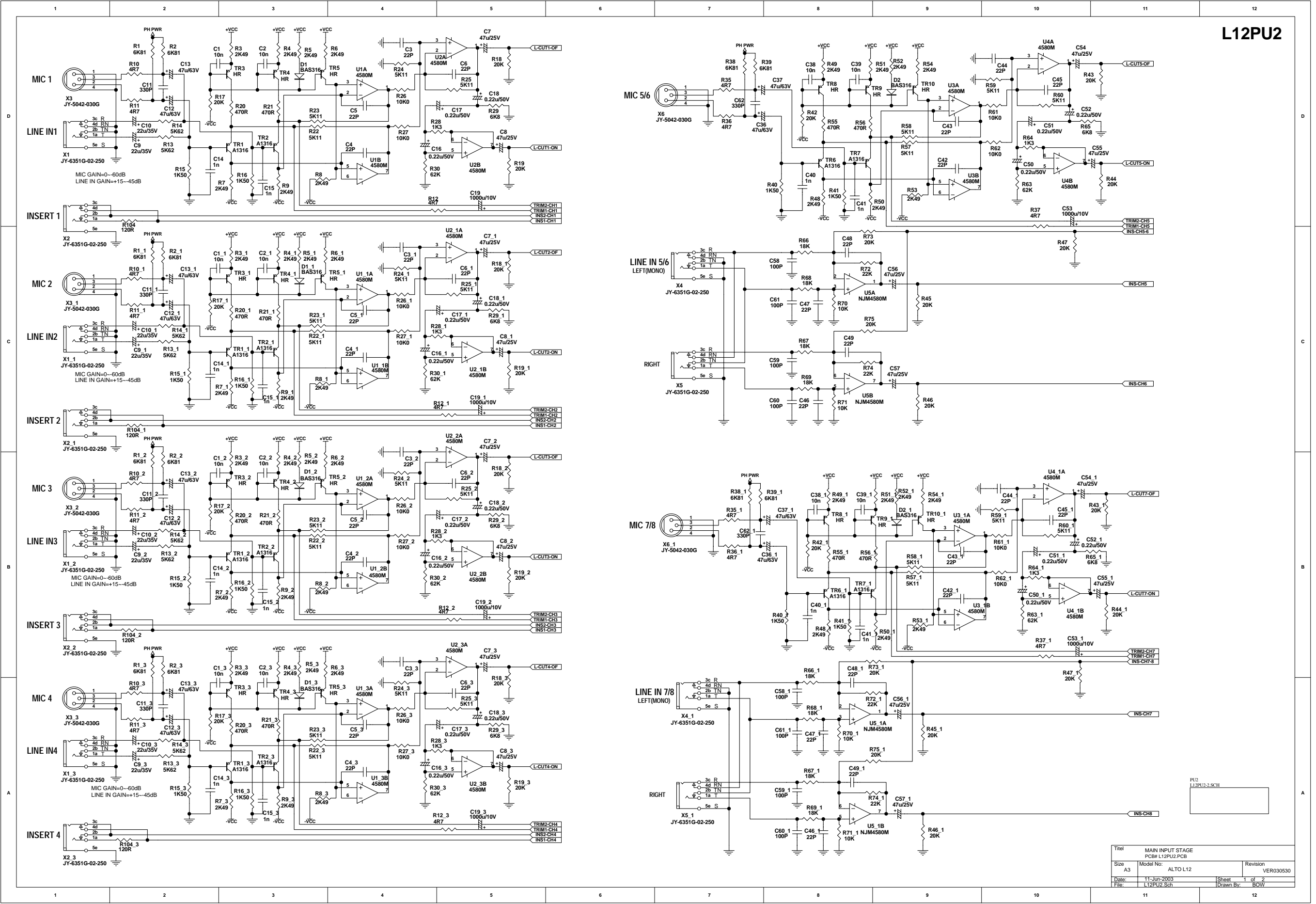
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L12PU1-2(2/2)



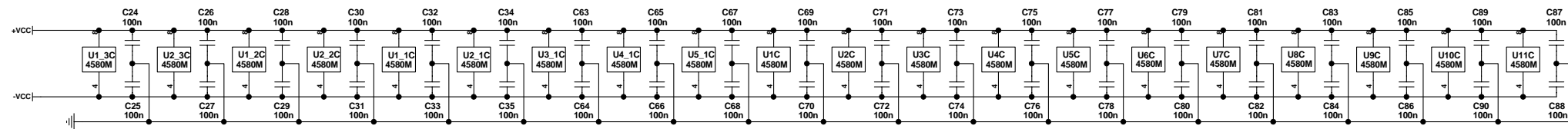
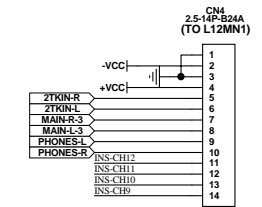
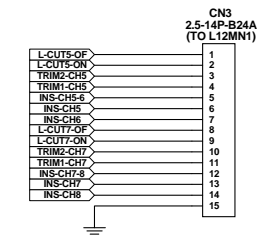
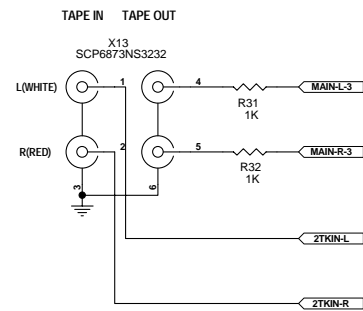
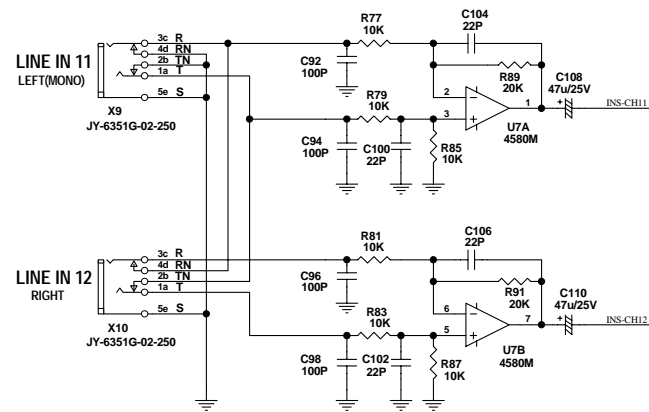
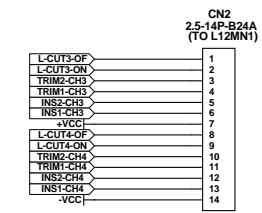
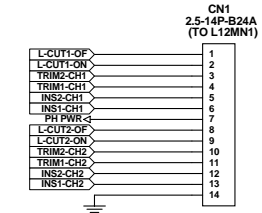
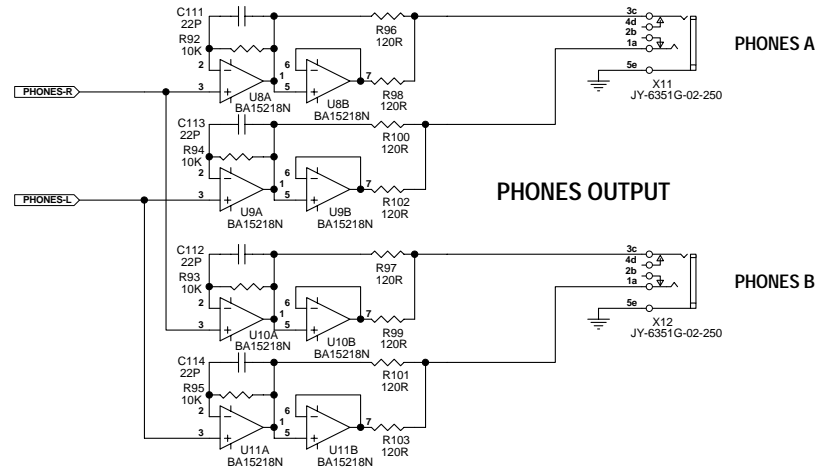
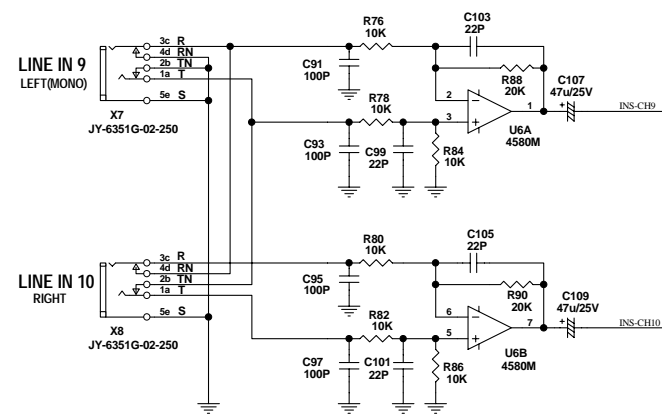
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L12PU2



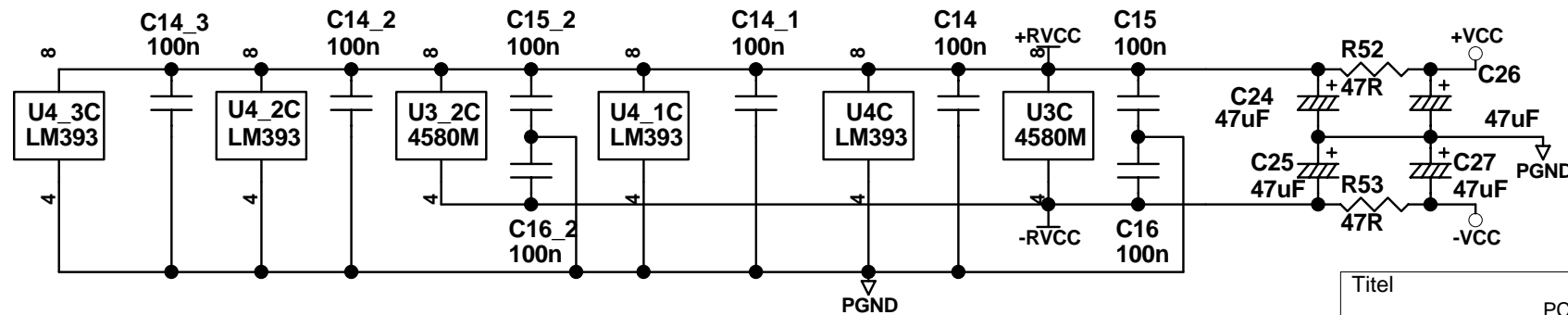
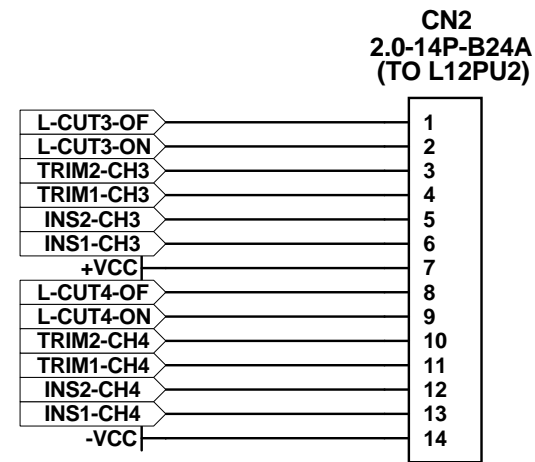
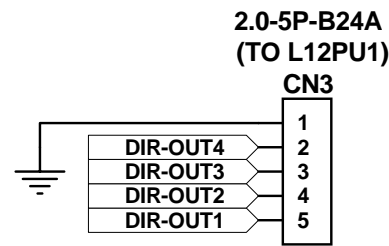
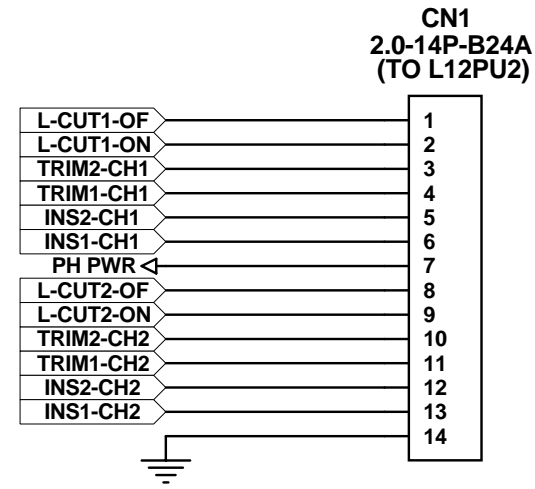
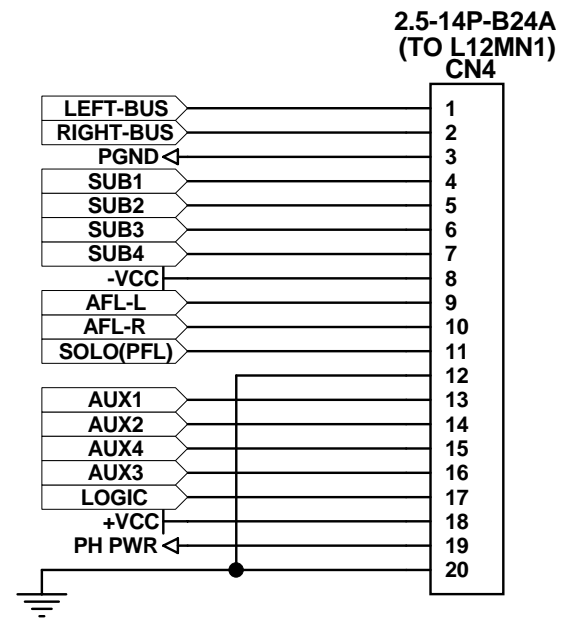
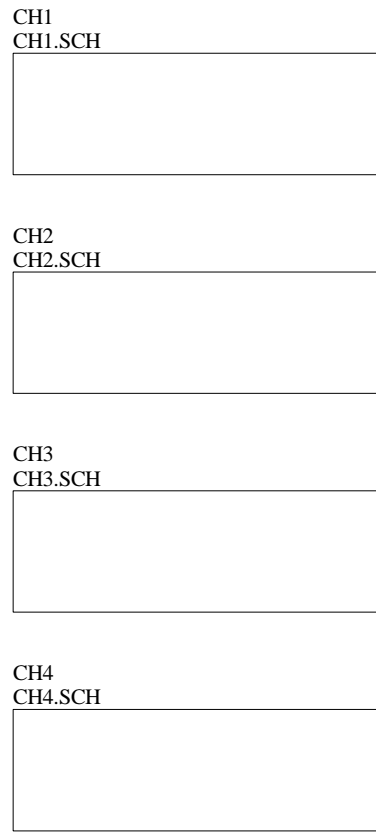
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Drawn By:	BOW		

L12PU2-2



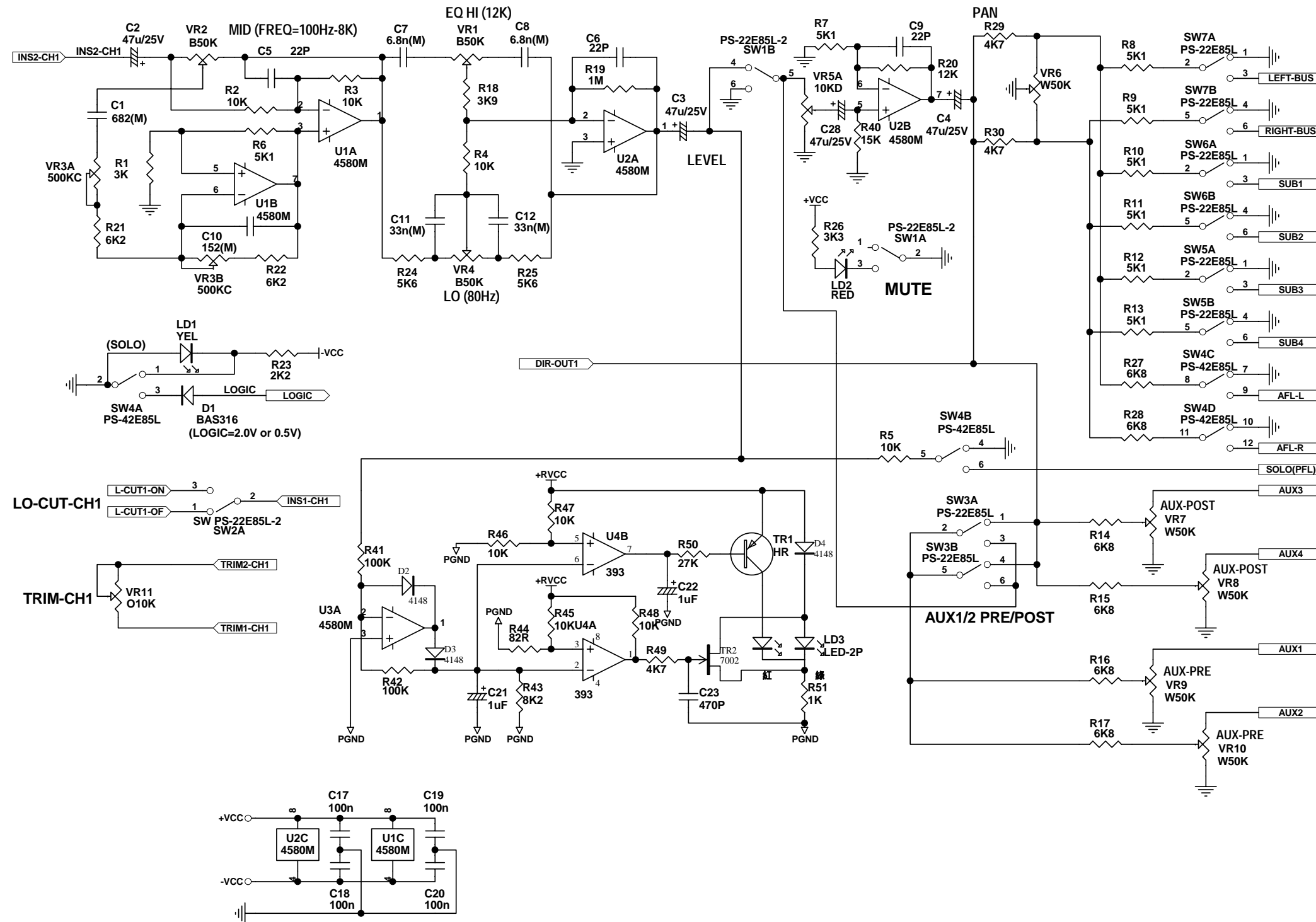
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L12MN2(1/5)



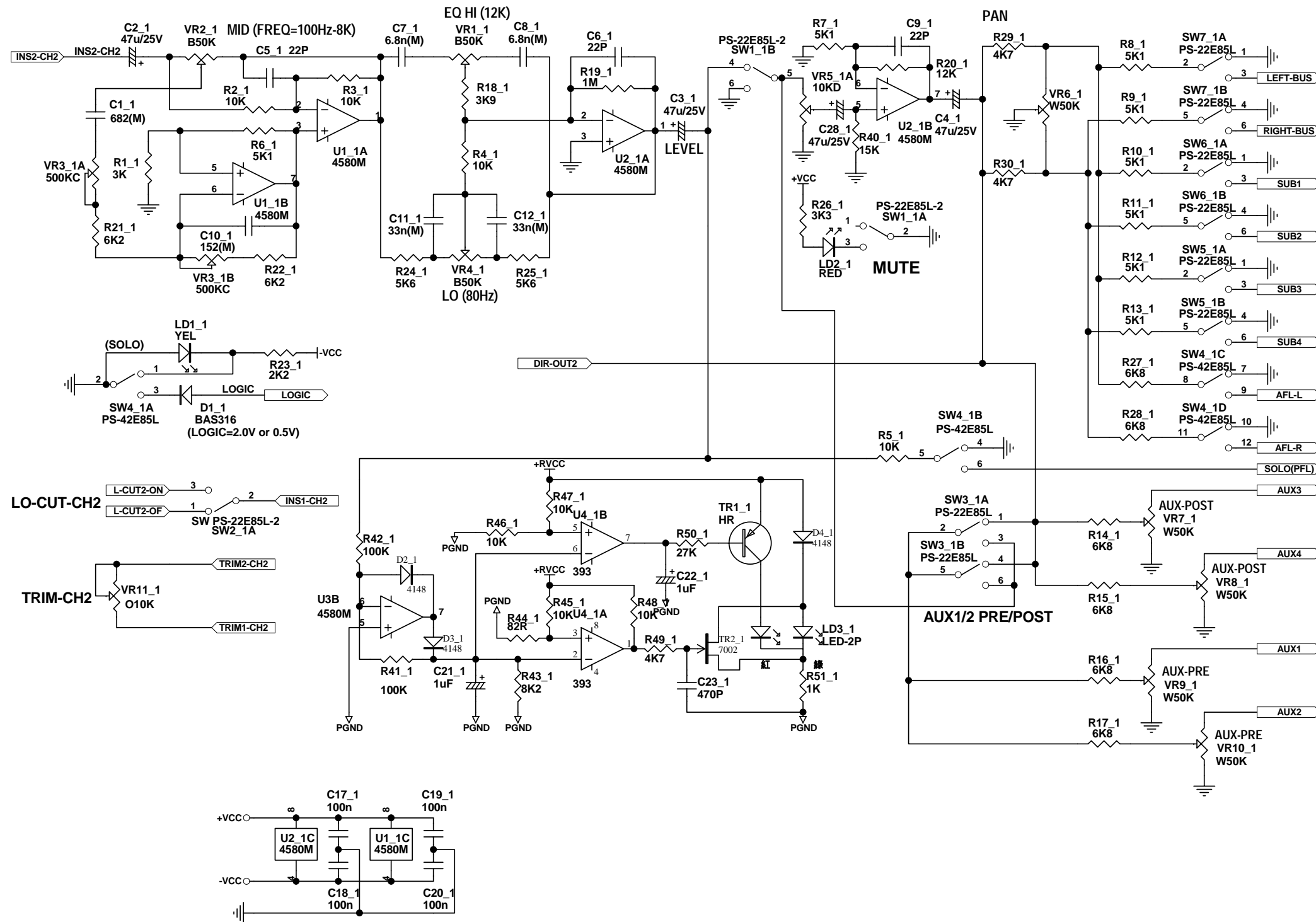
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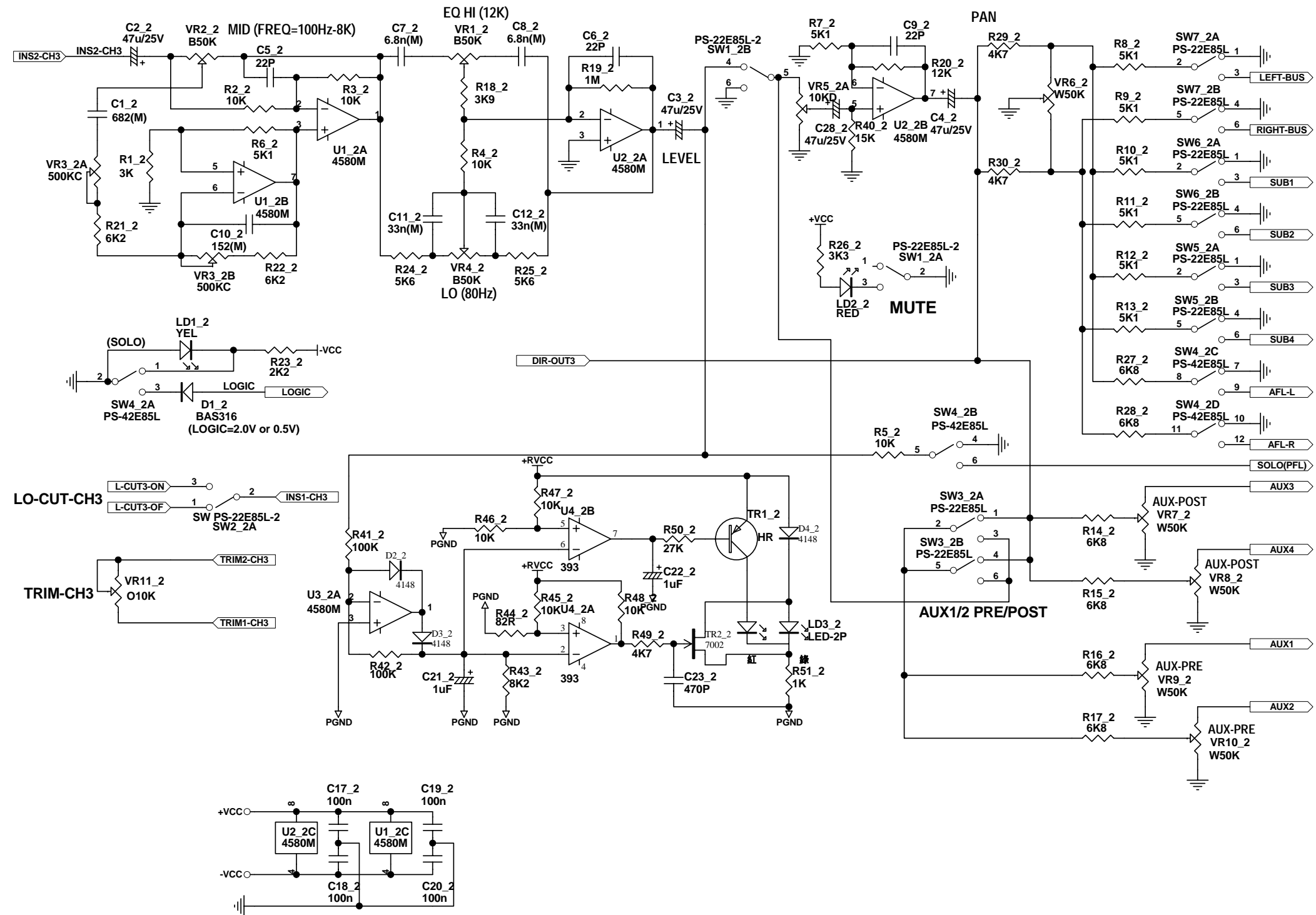


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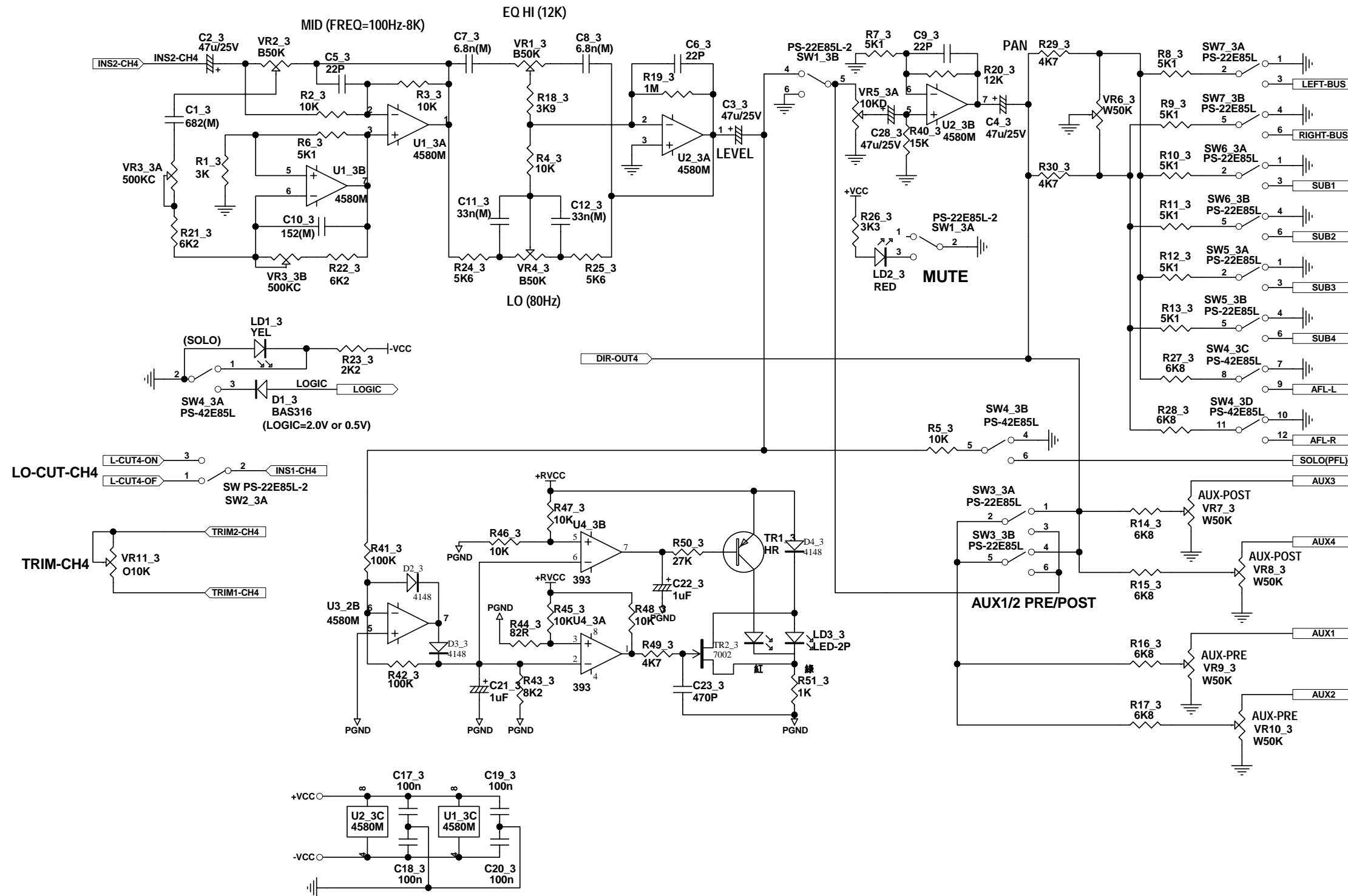


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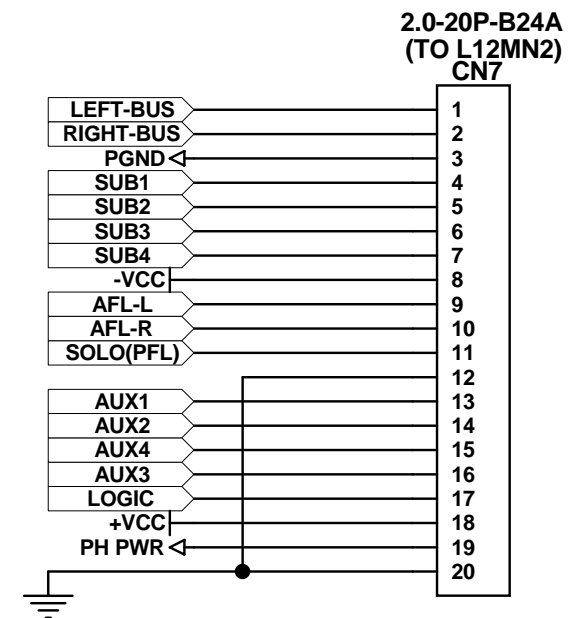
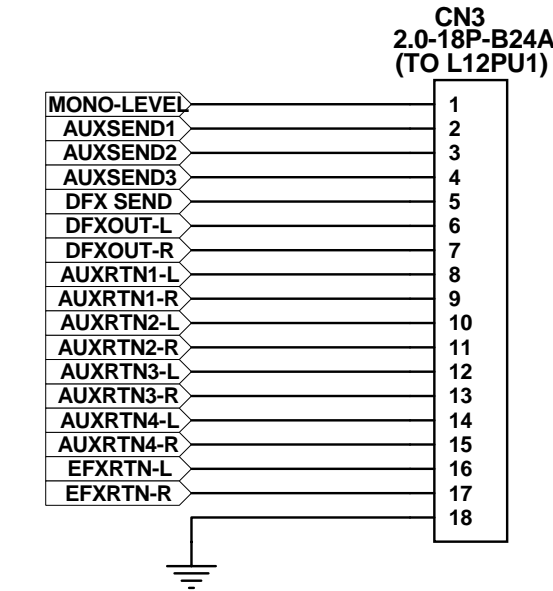
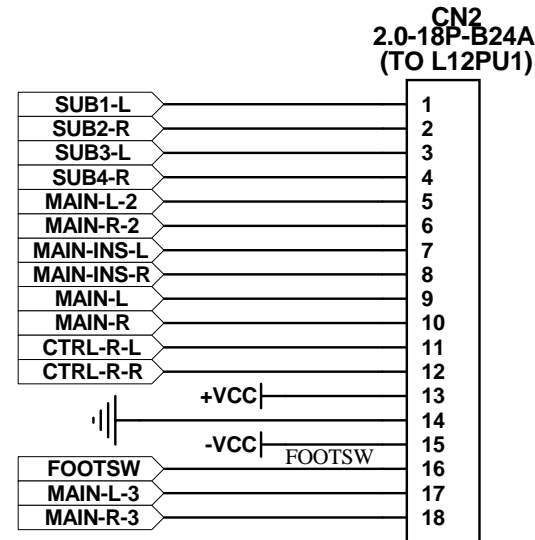
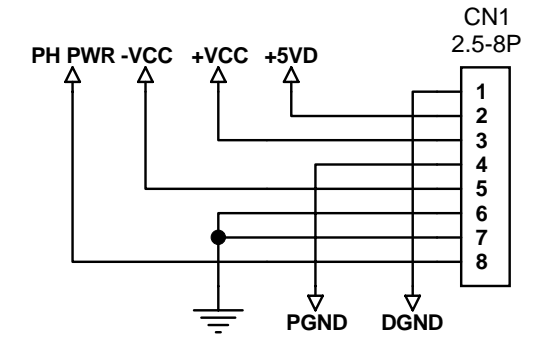
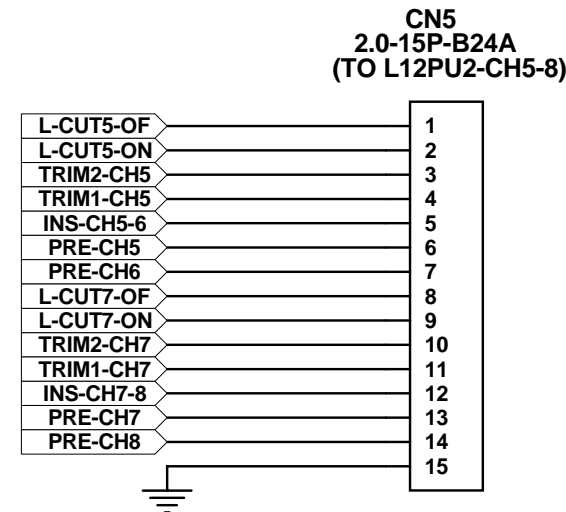
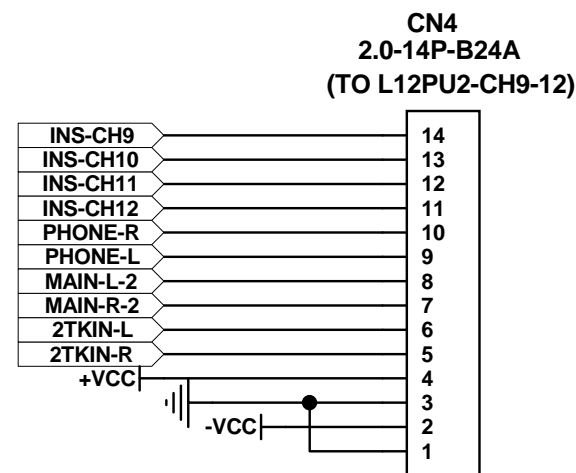
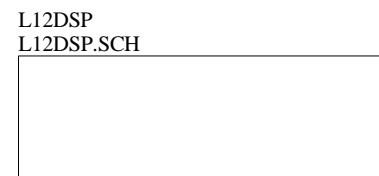
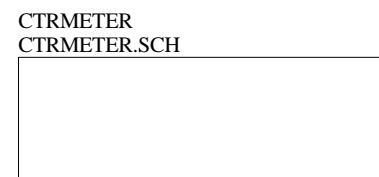
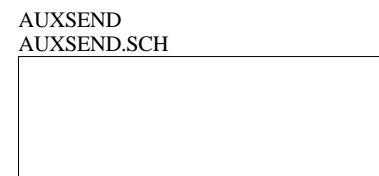
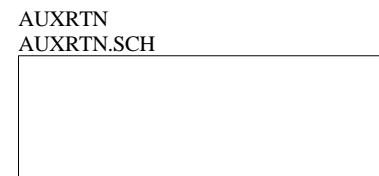
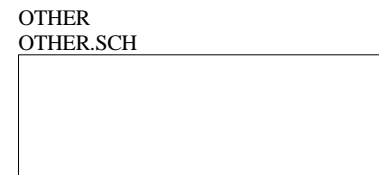
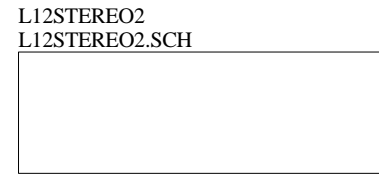
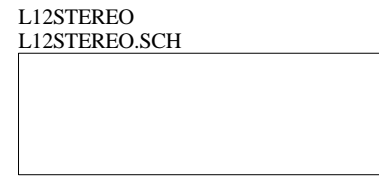
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L12MN2CH4(5/5)



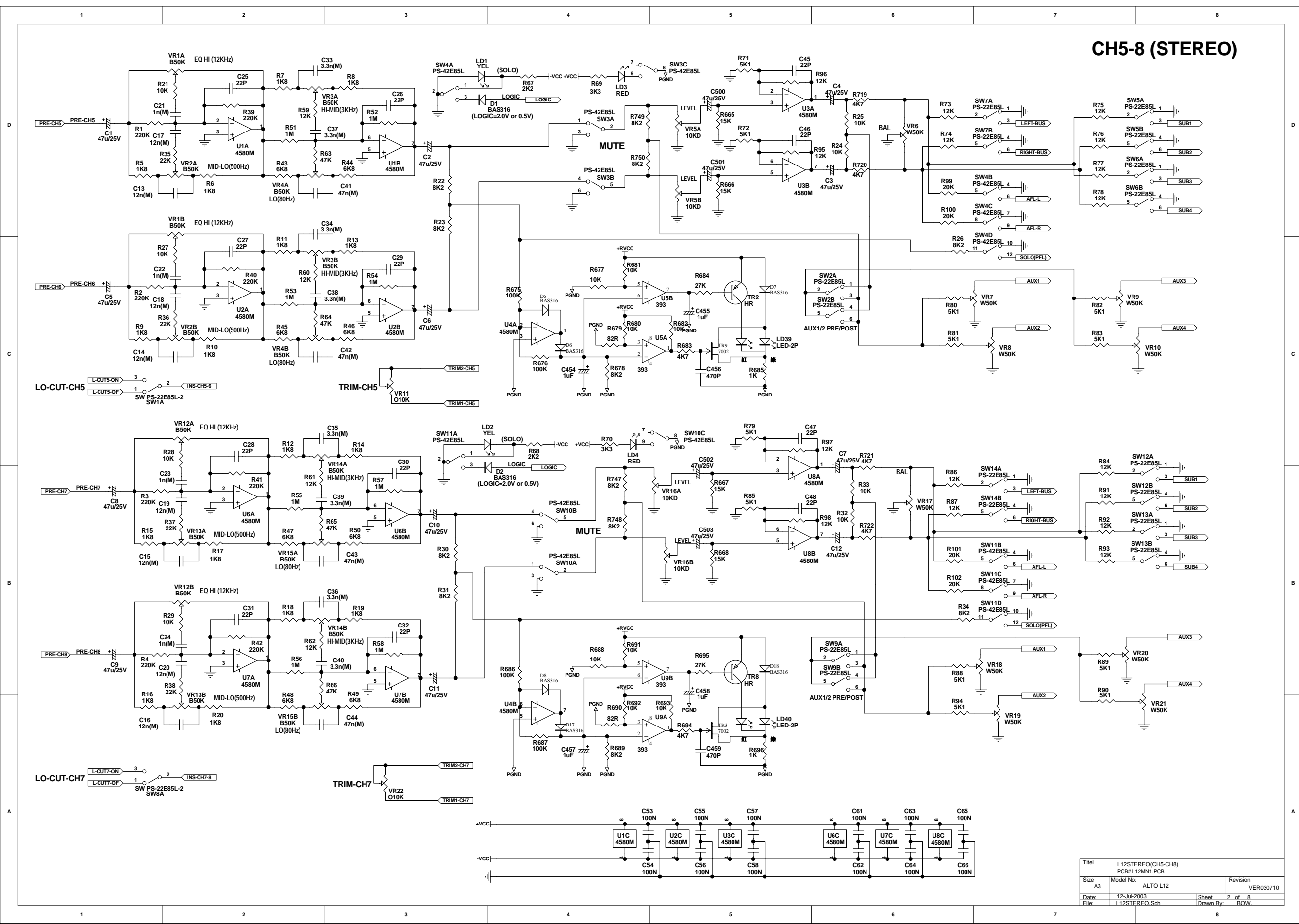
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L12MN1



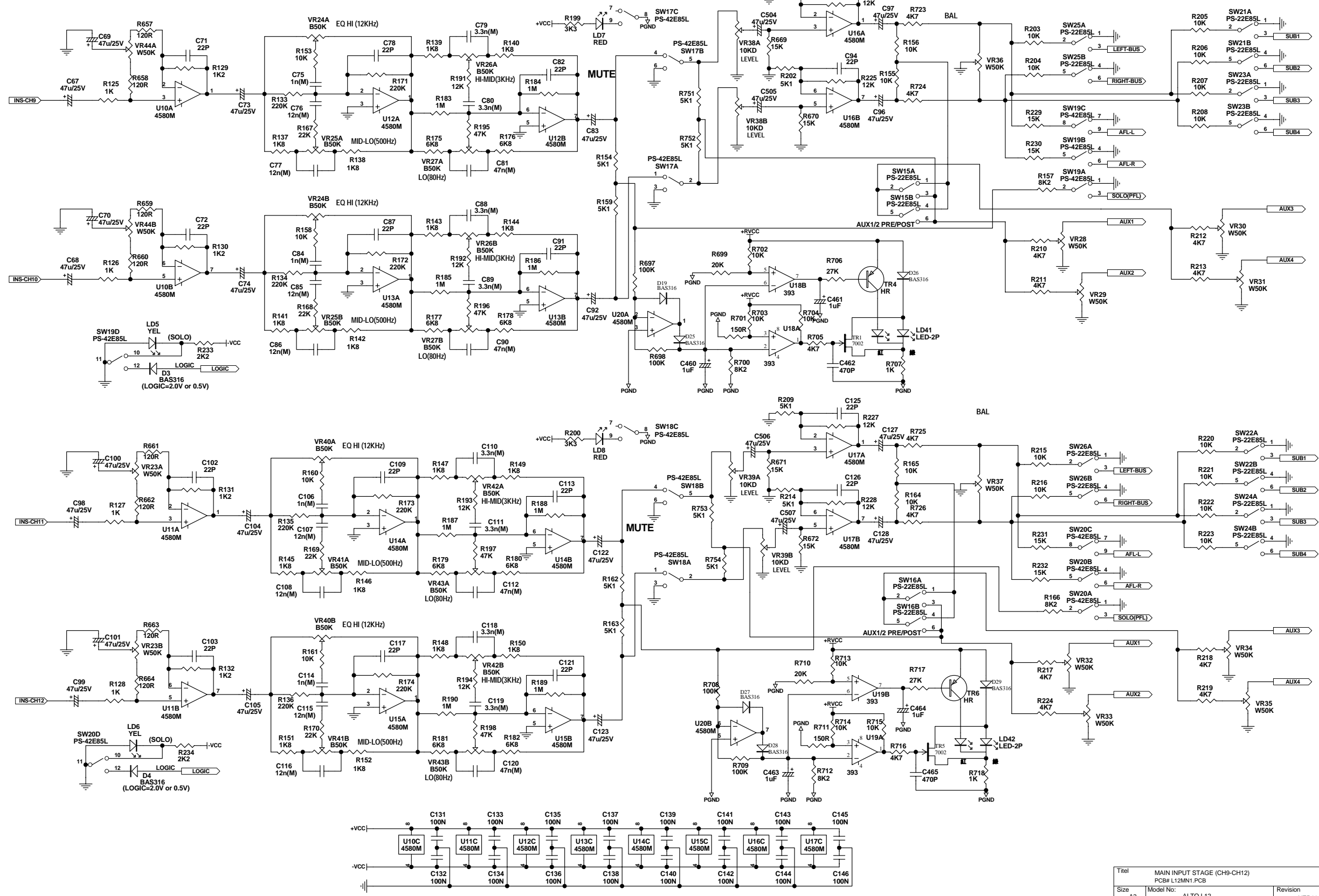
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CH5-8 (STEREO)

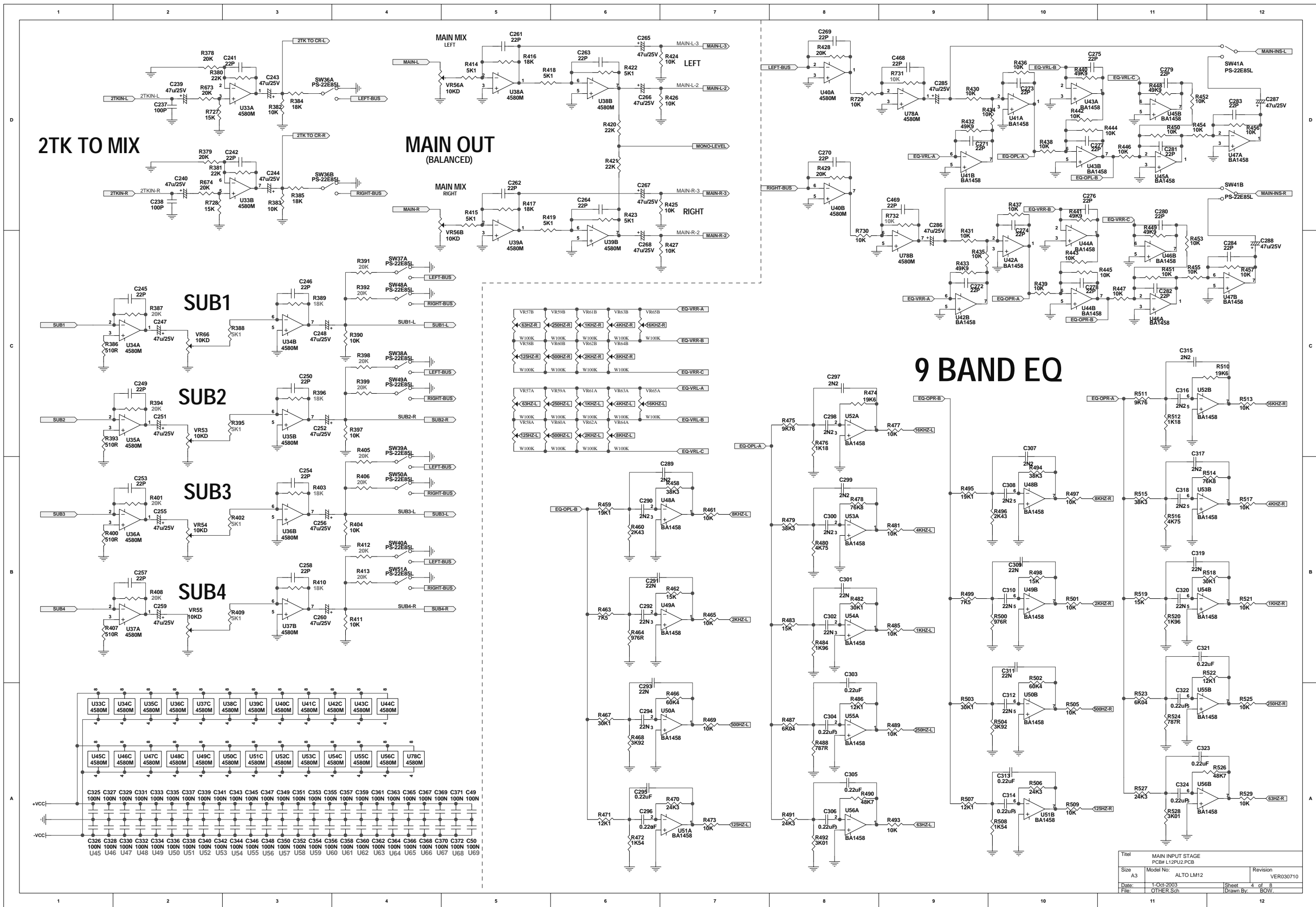


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CH9-12 (STEREO)

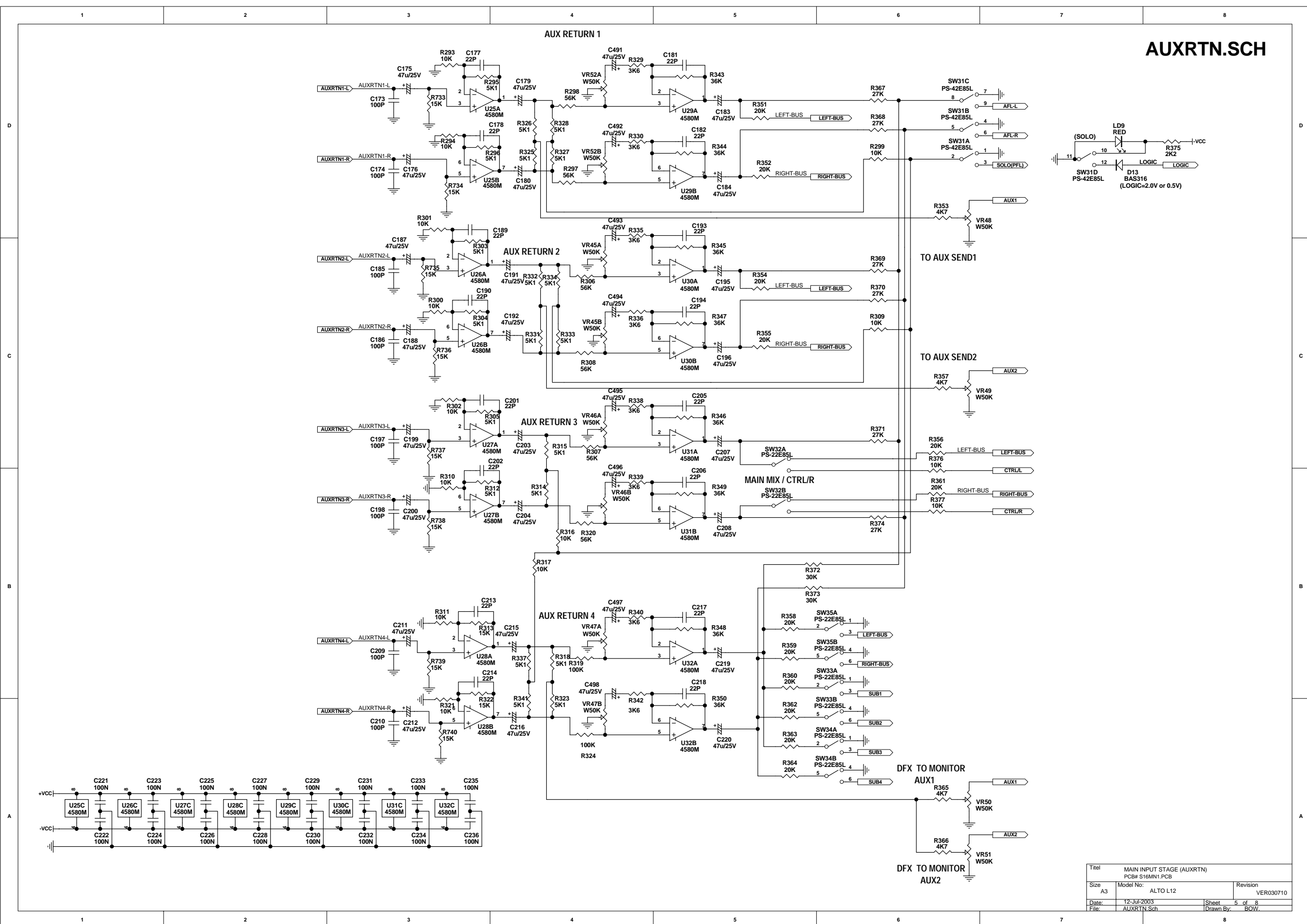


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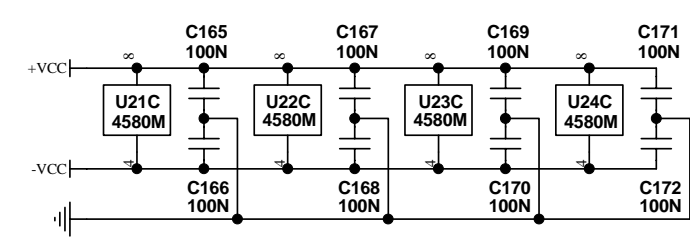
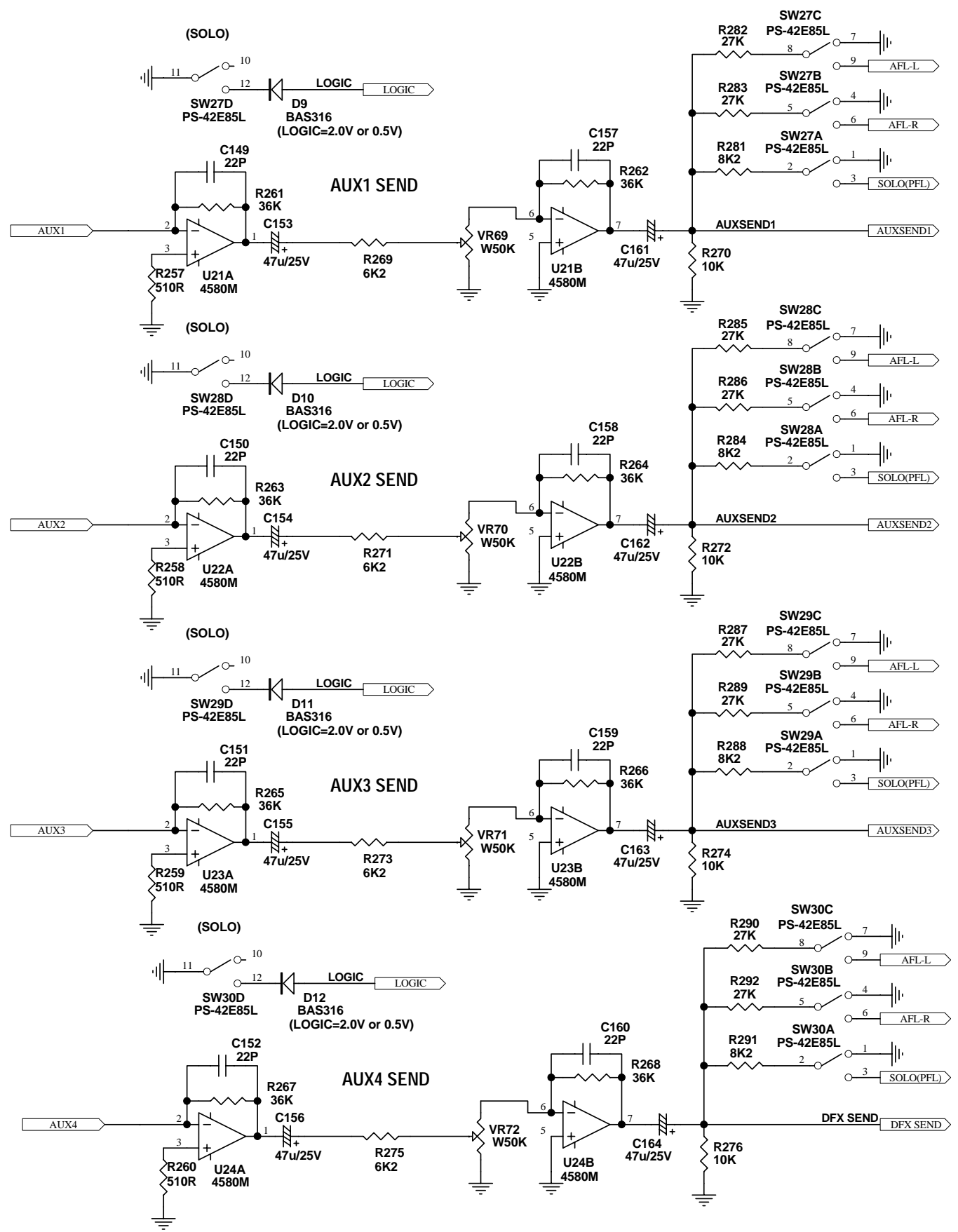
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AUXRTN.SCH



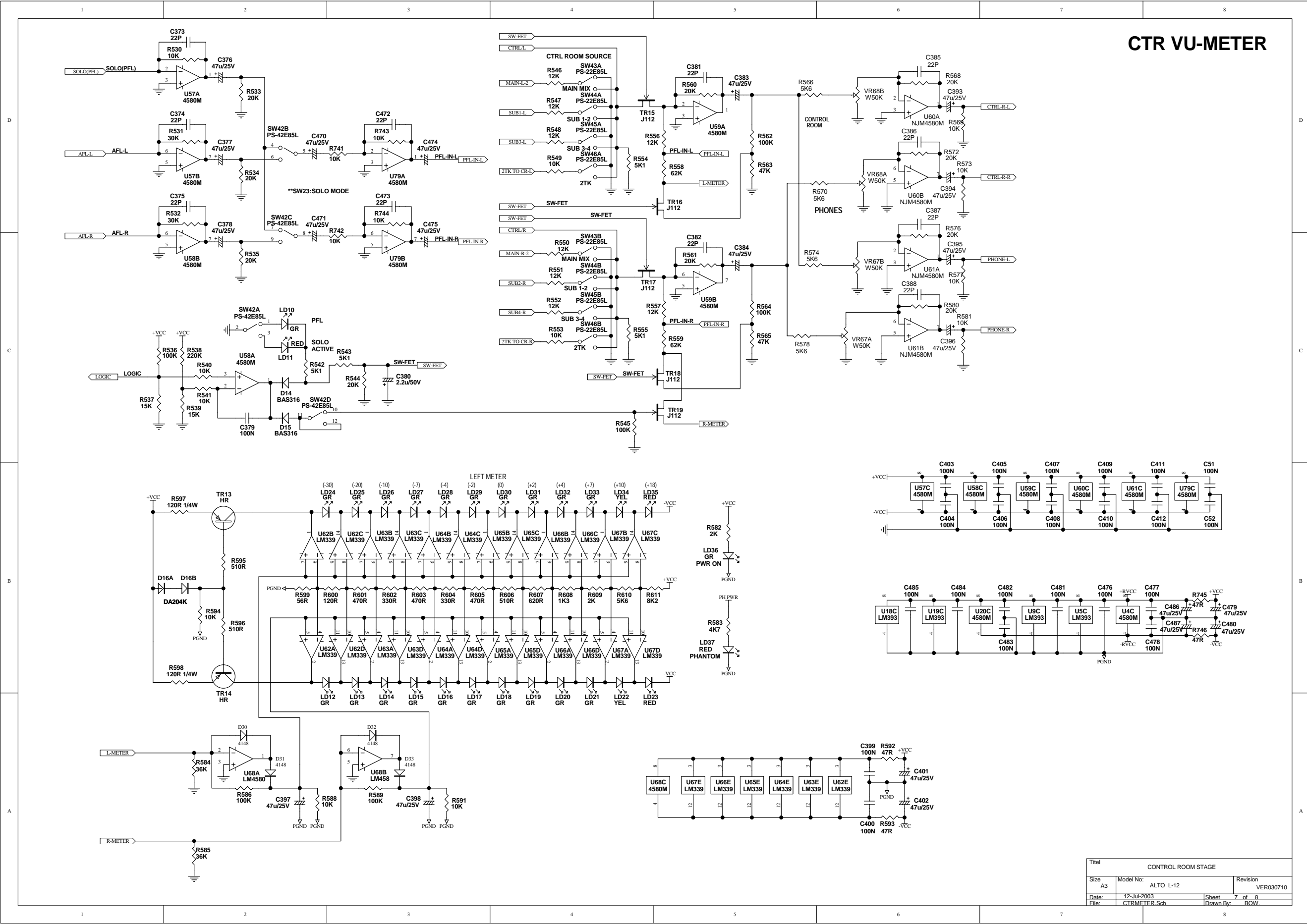
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AUXSEND

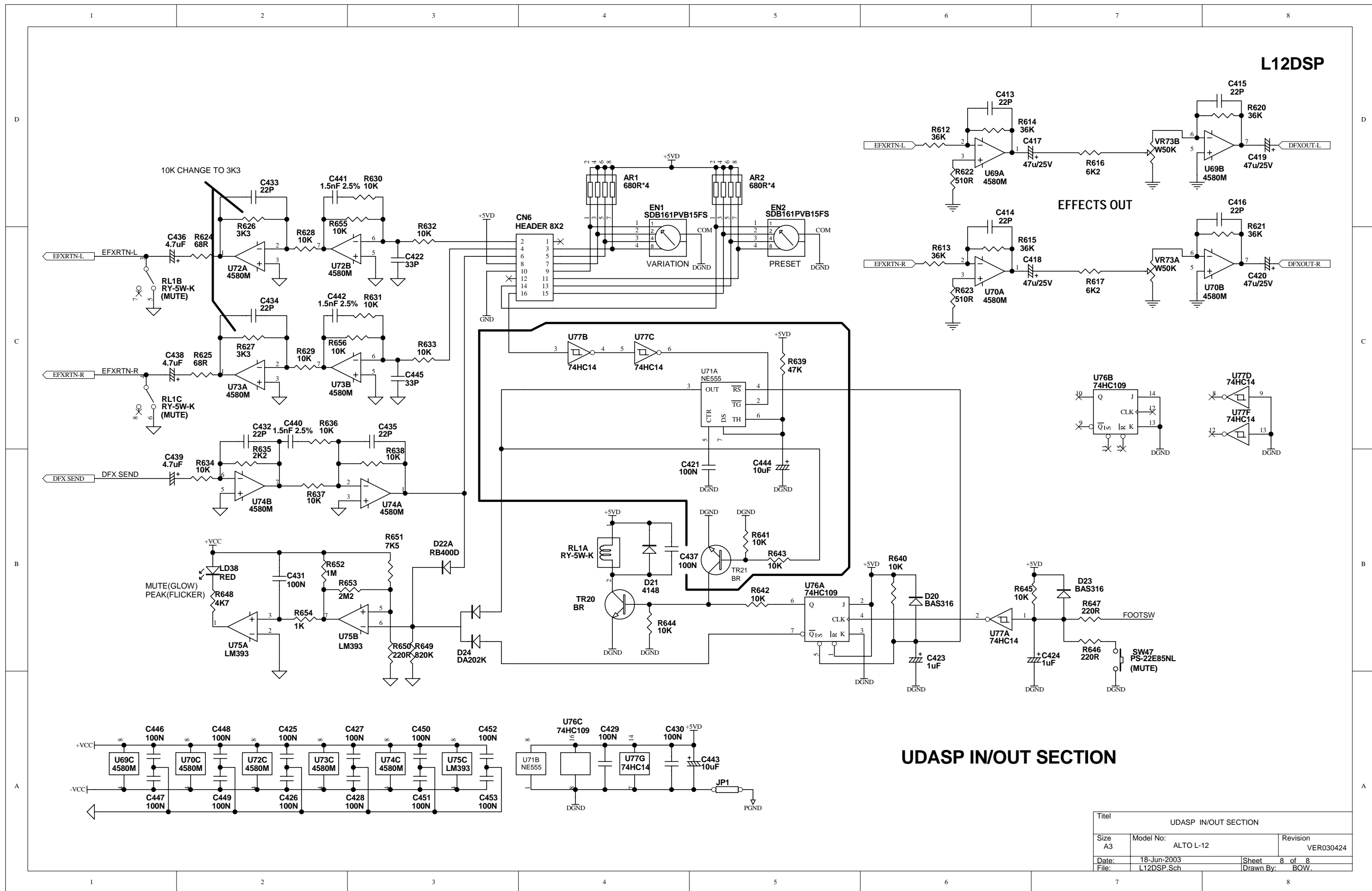


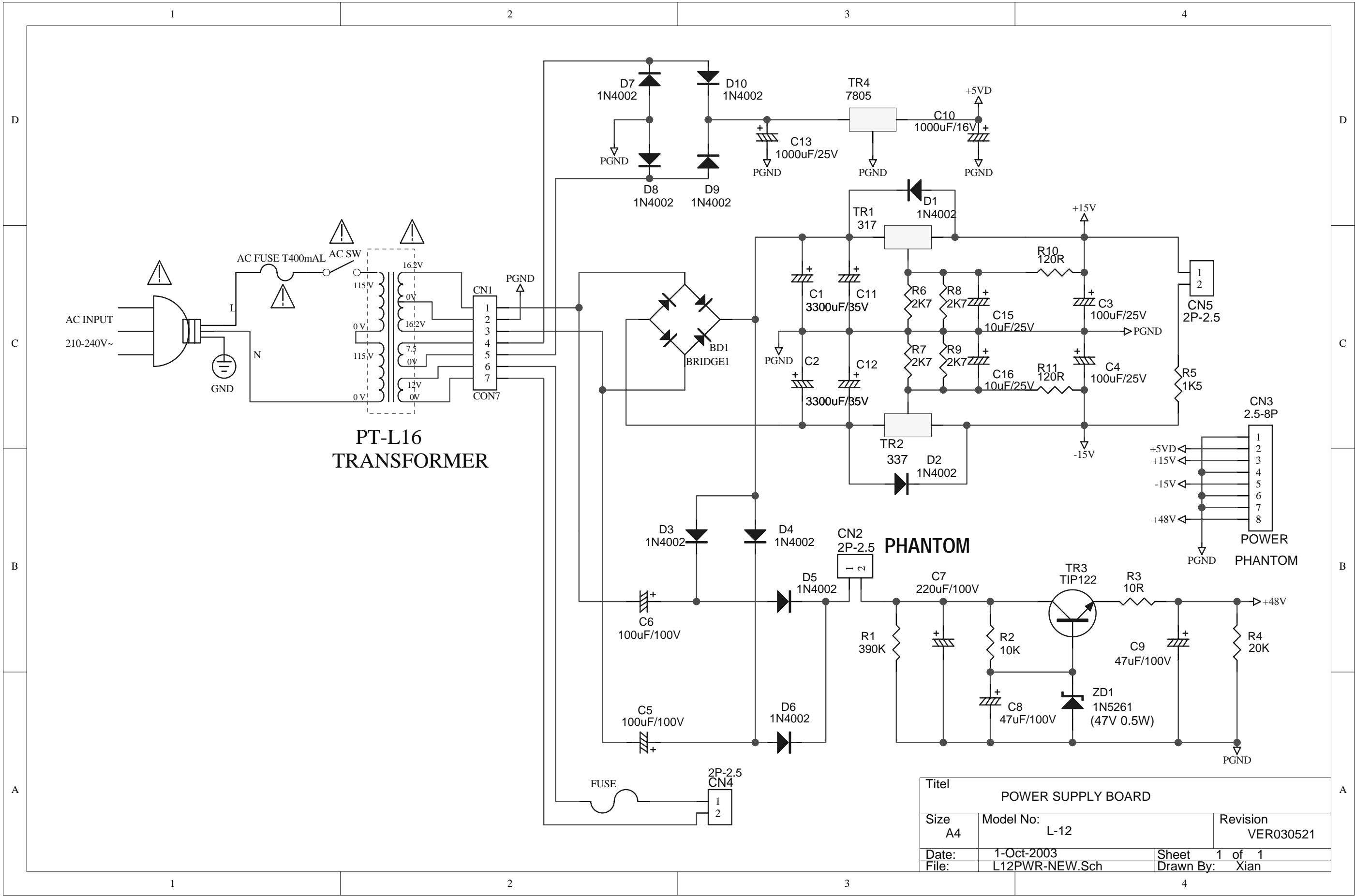
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CTR VU-METER

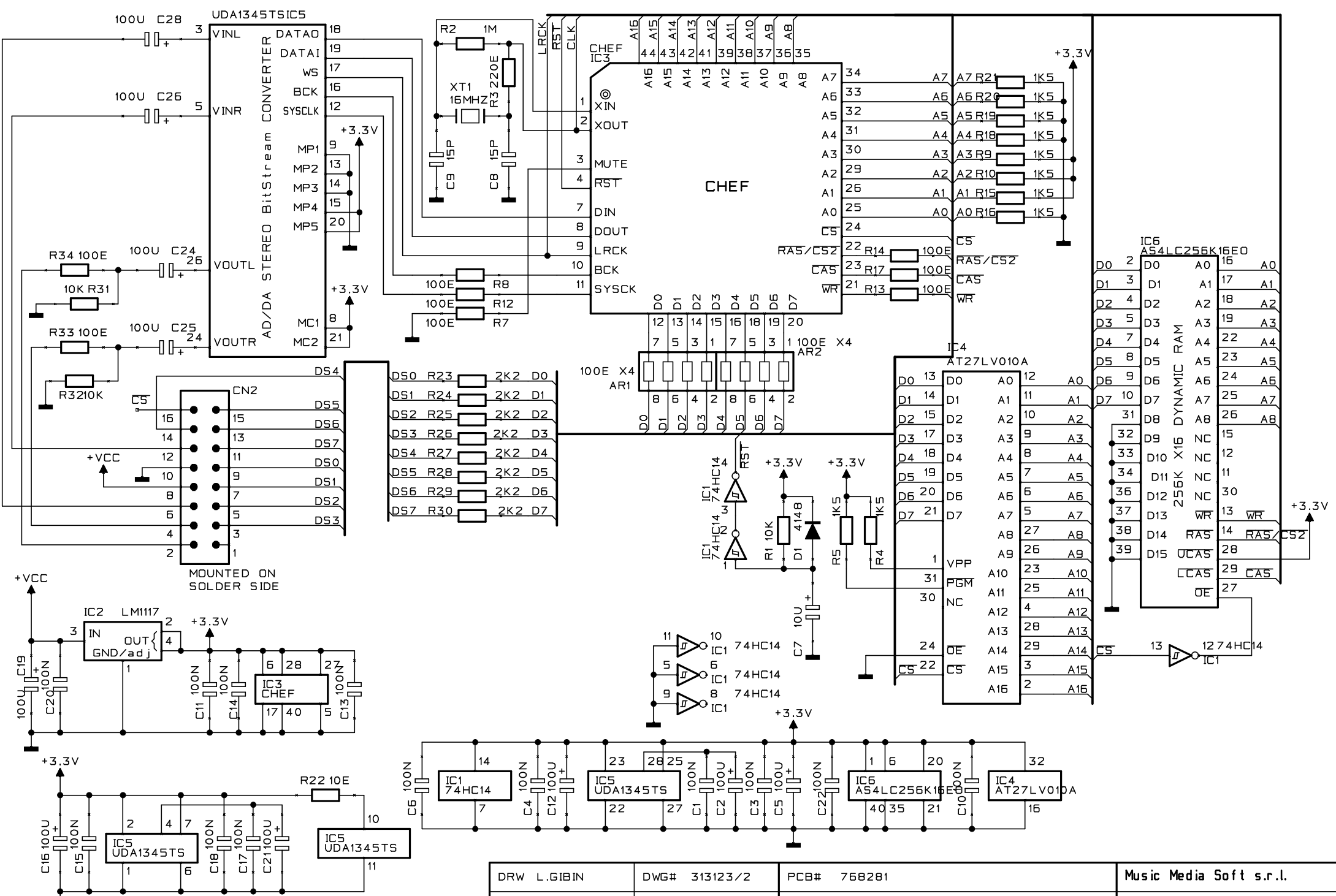


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Titel		
POWER SUPPLY BOARD		
Size	Model No:	Revision
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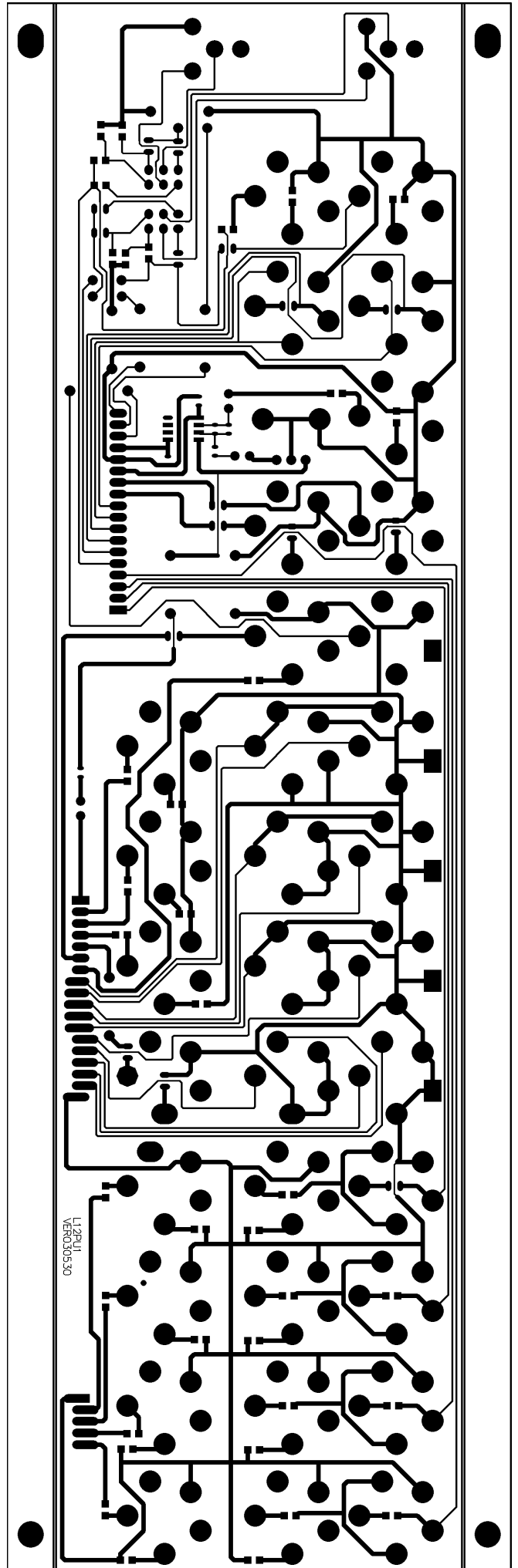
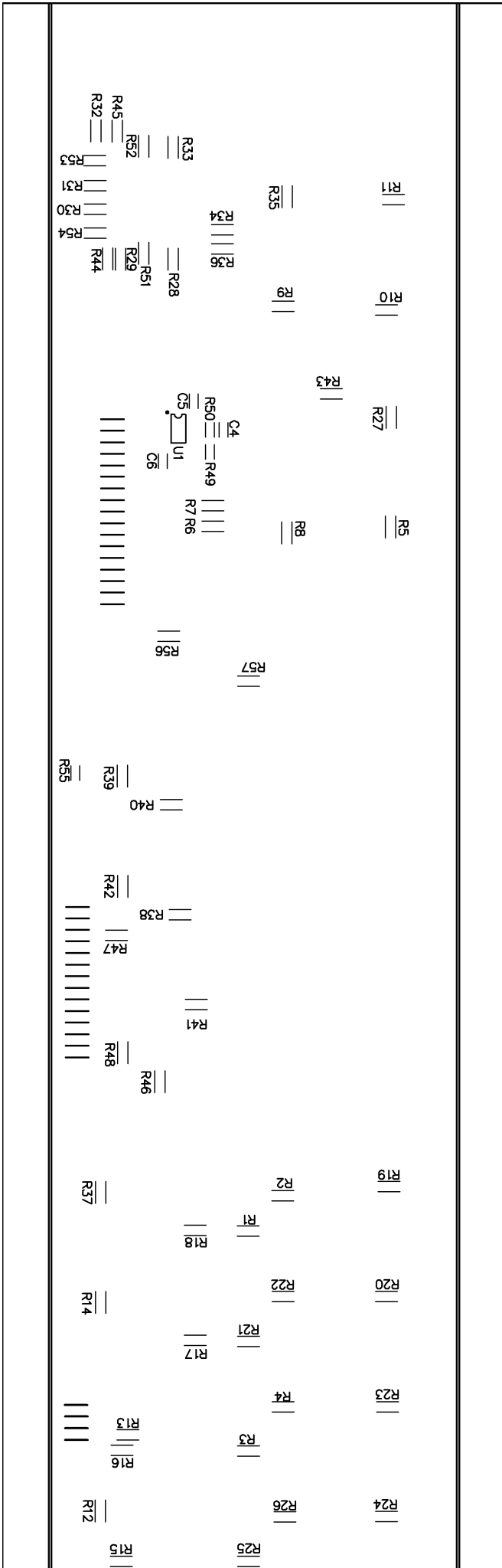


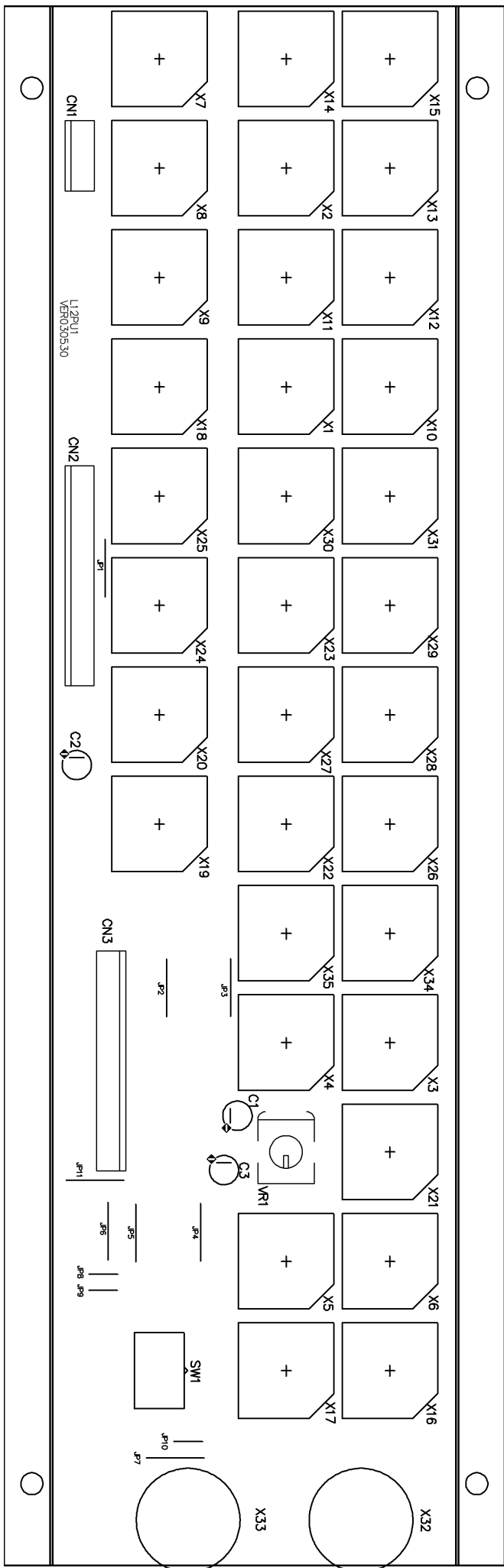
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CKD L.GIBIN	DATE 23/12/02	SCHEMATIC DIAGRAM CHEF EFX-E Digital Effect Board
APP.	REV. B	

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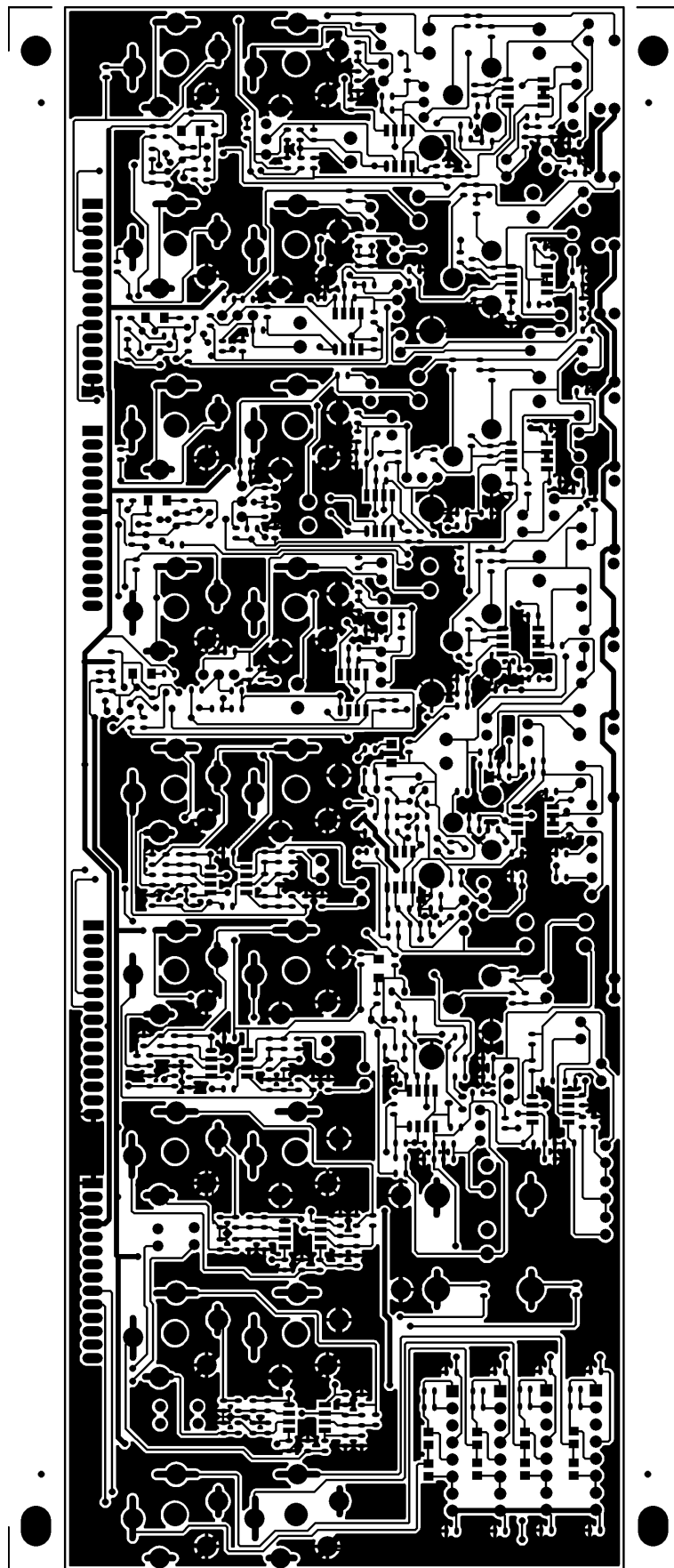
5. PCB Layout

PCB: L12 PU1

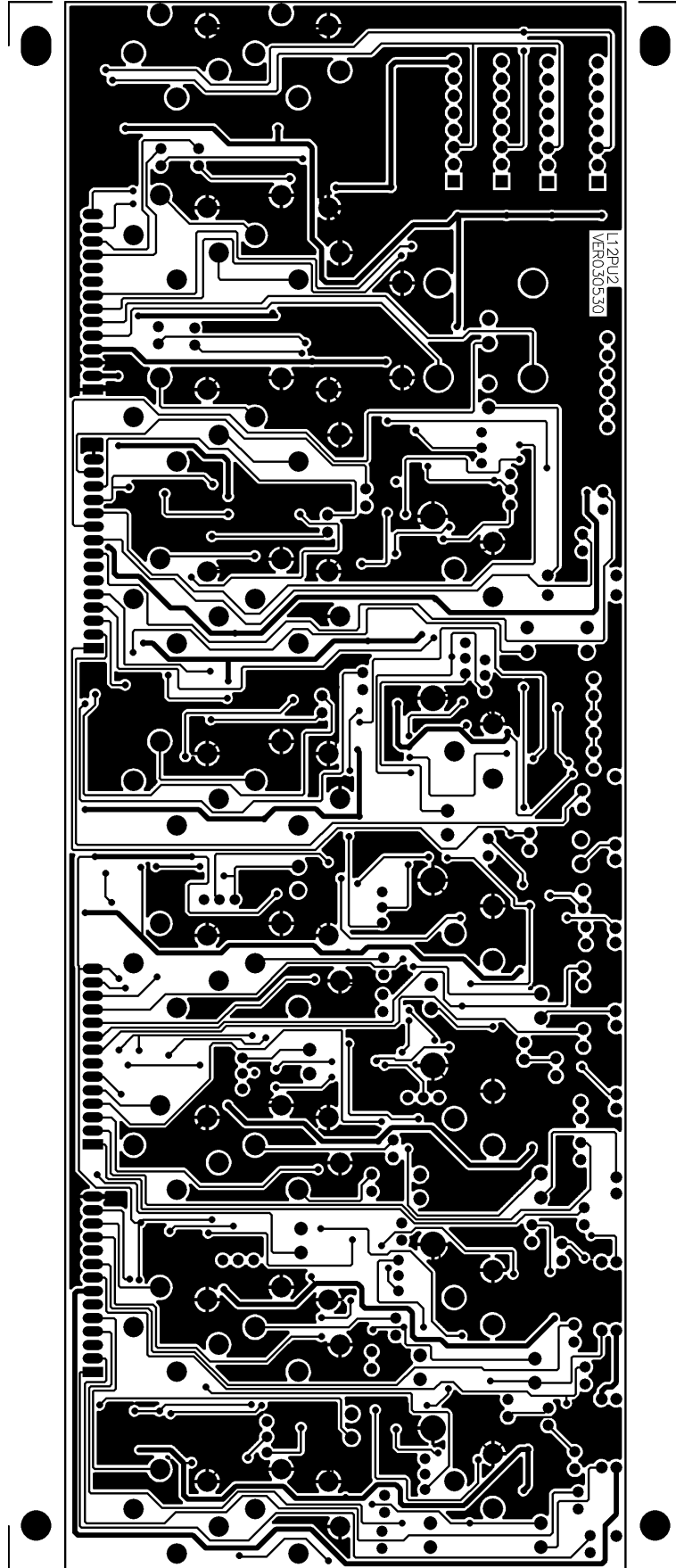




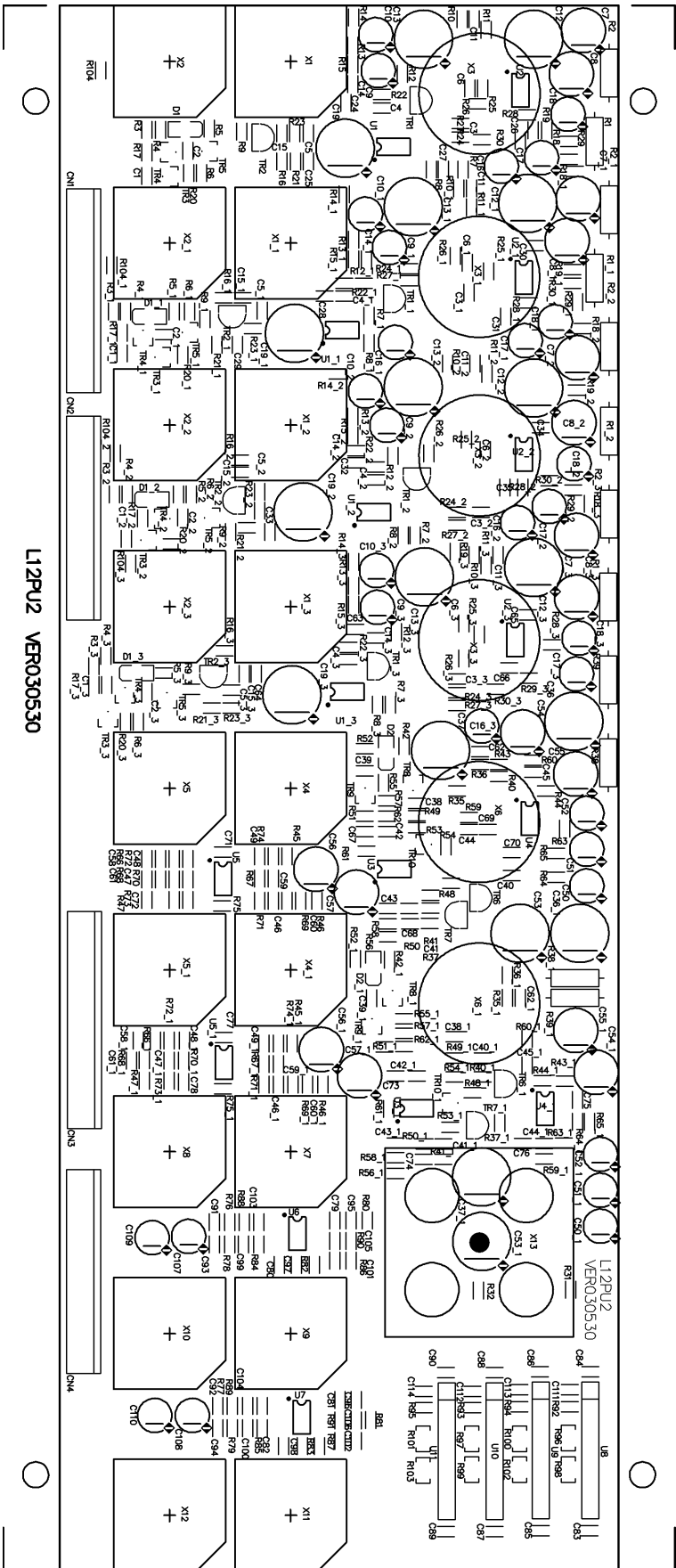
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Top layer



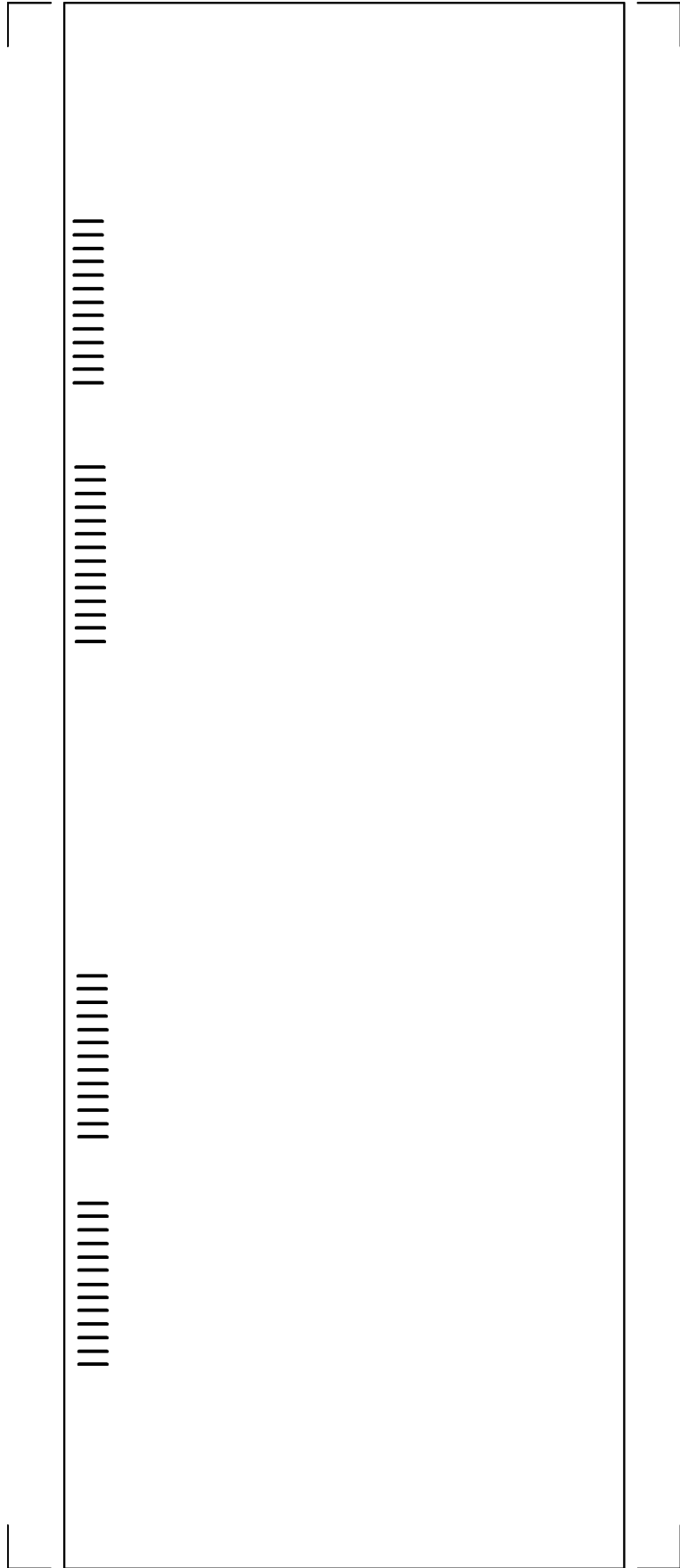
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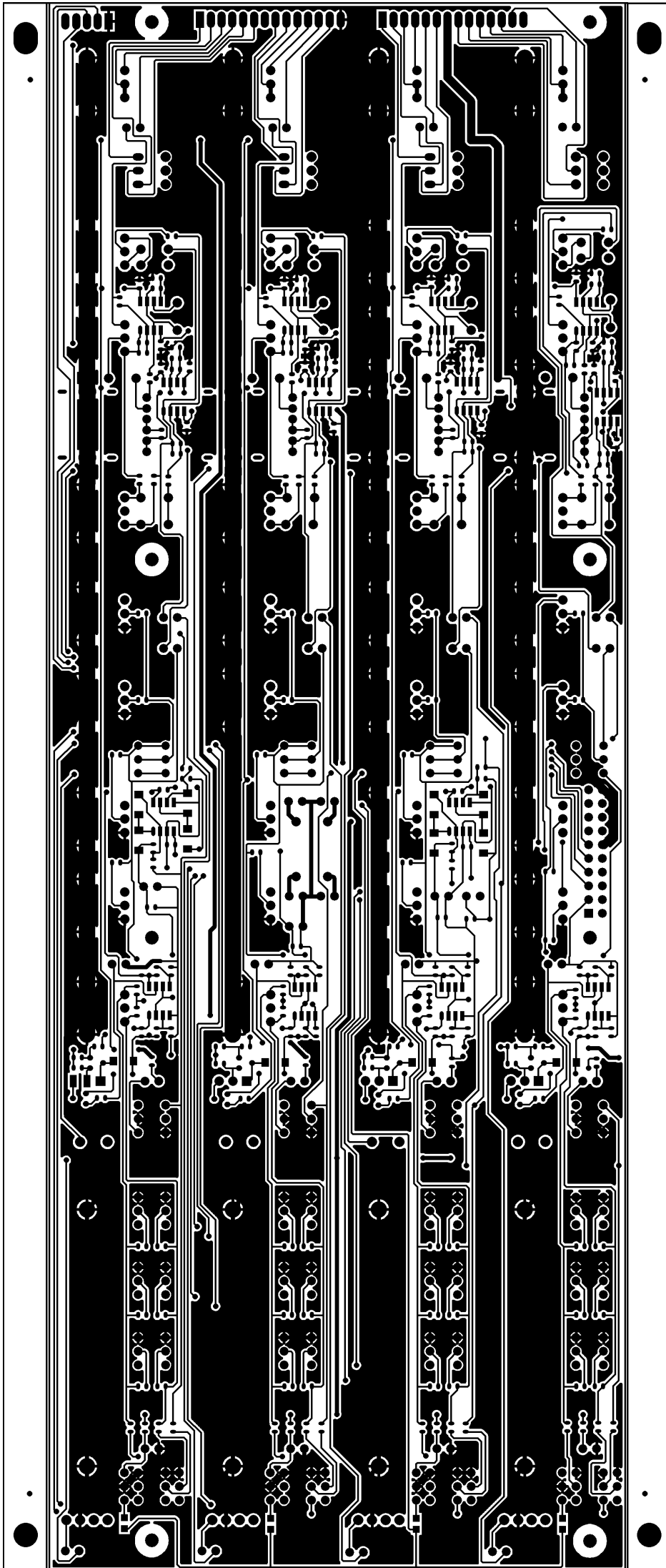
L12PU2 VER030530

L12PU2
VER030530

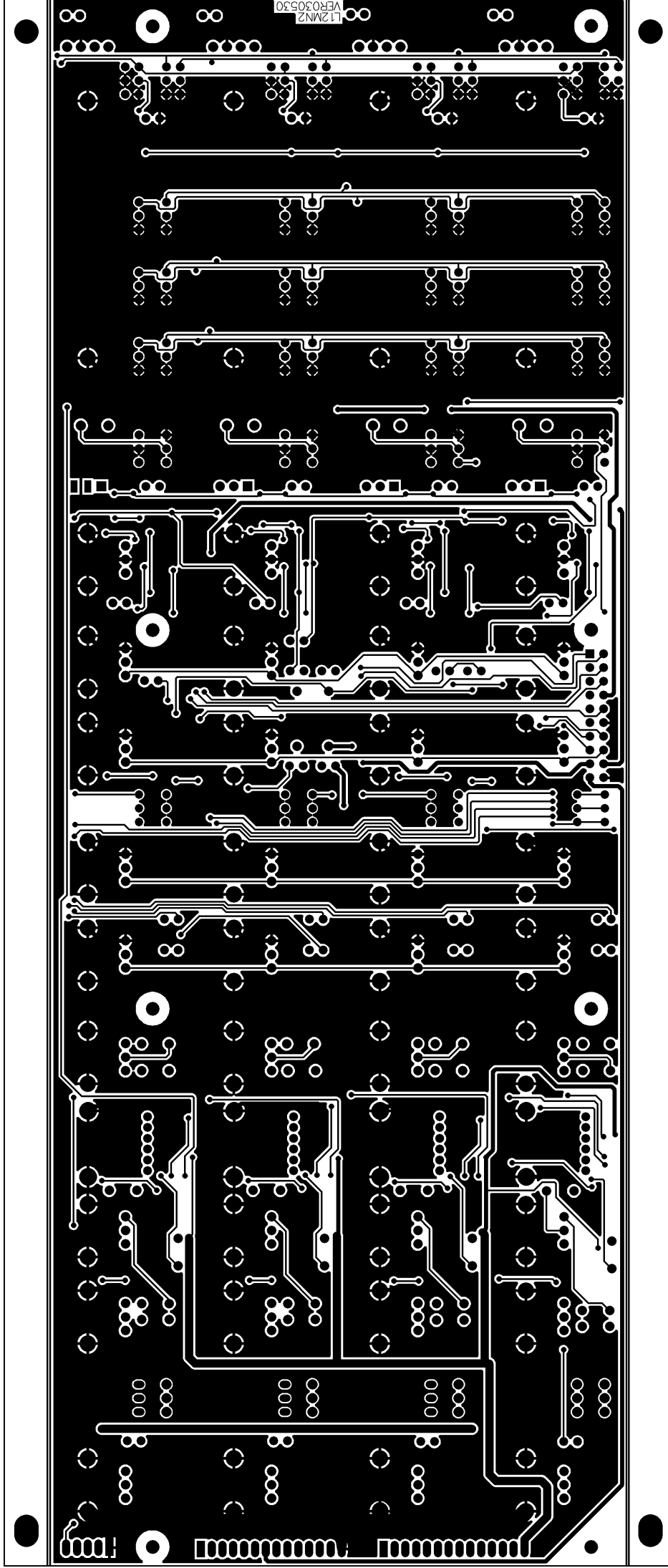
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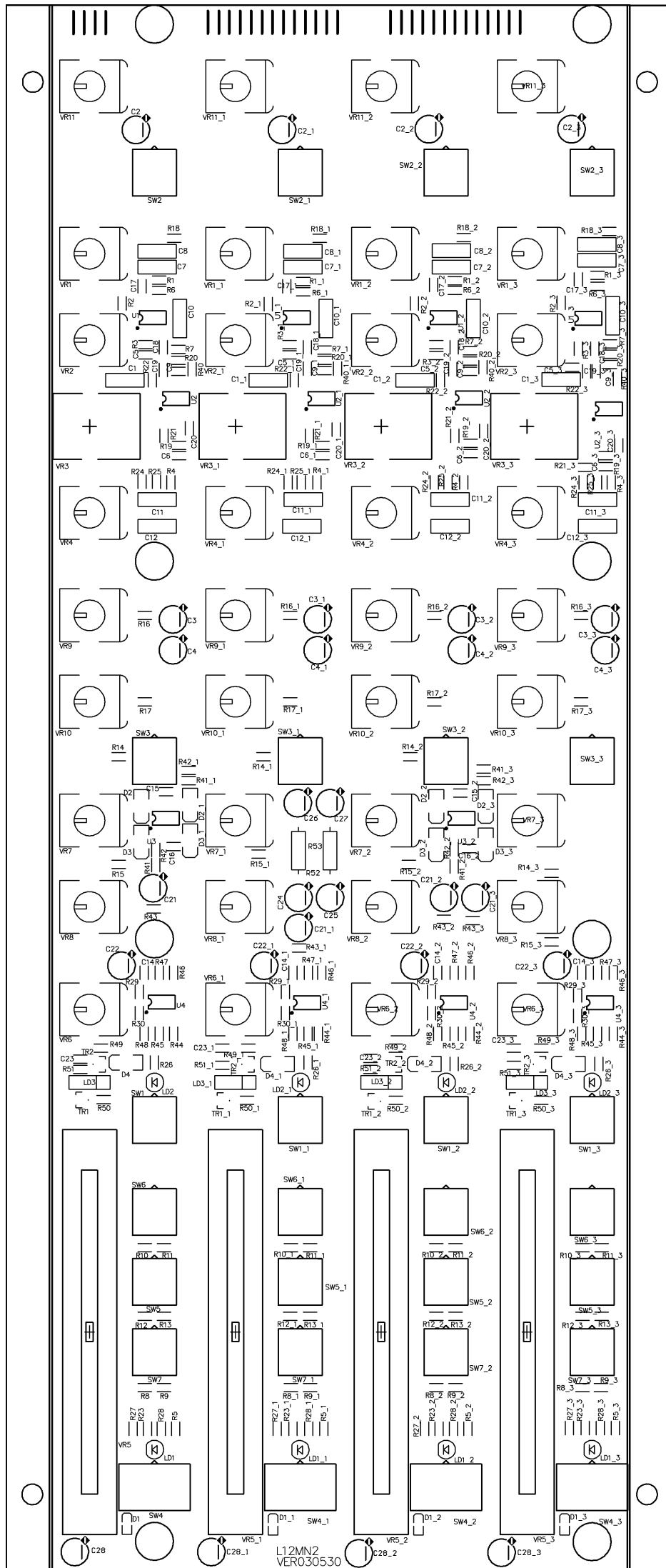
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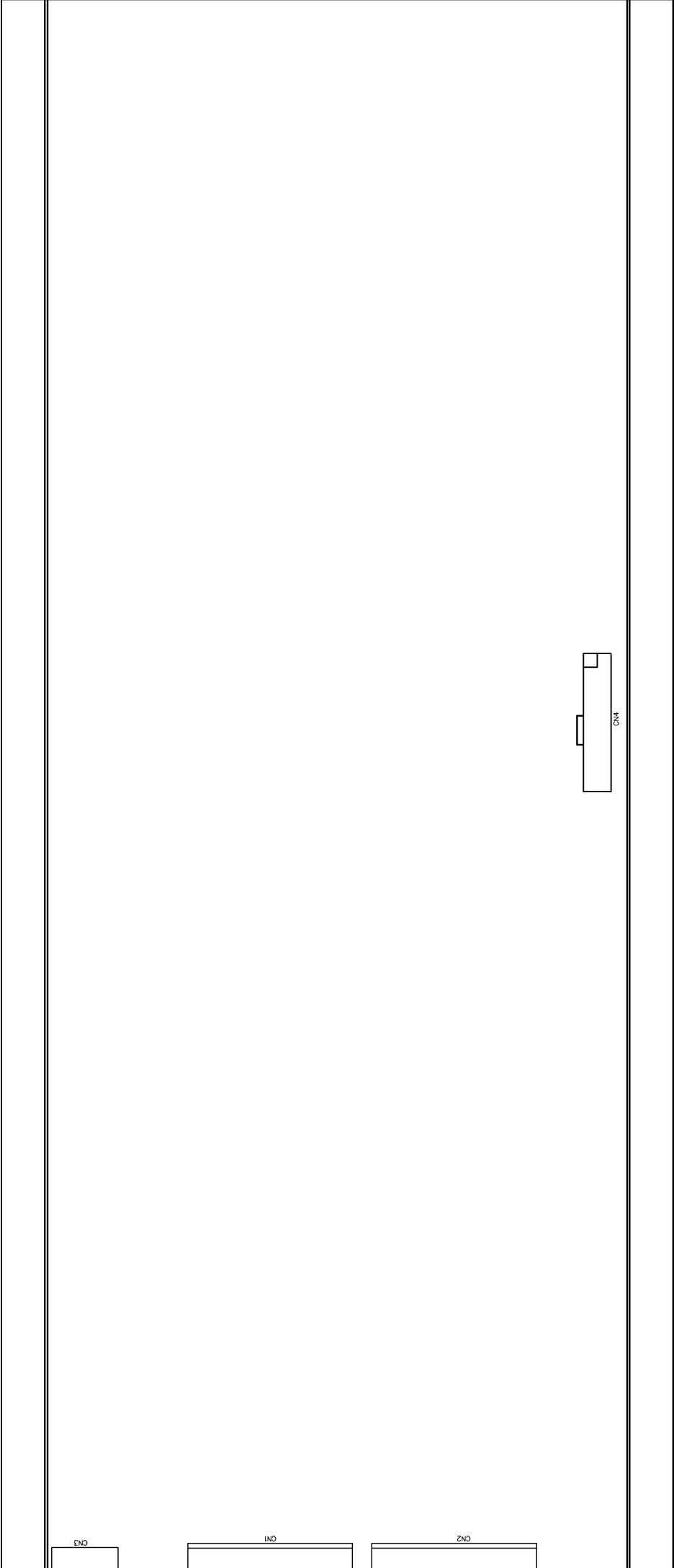
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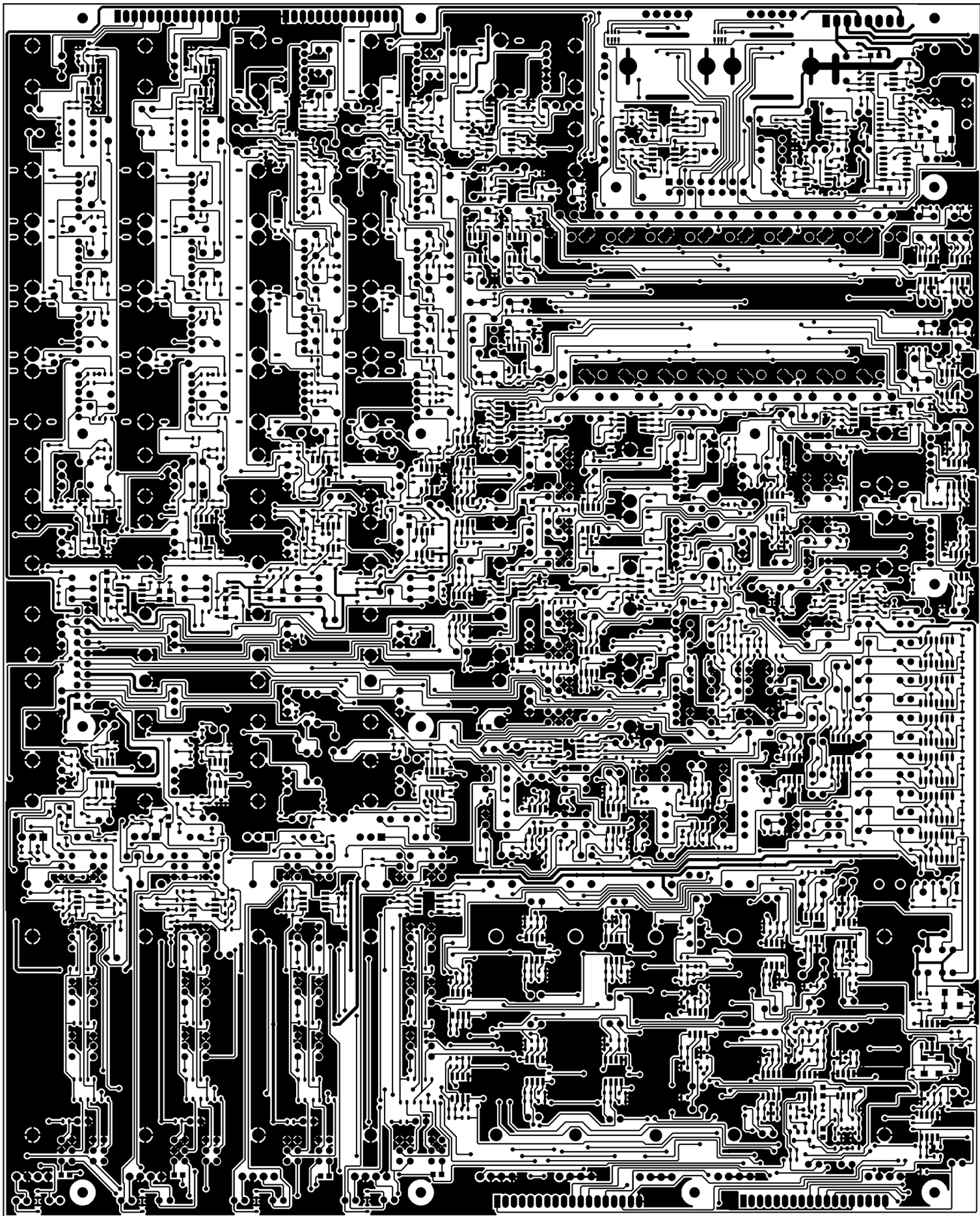
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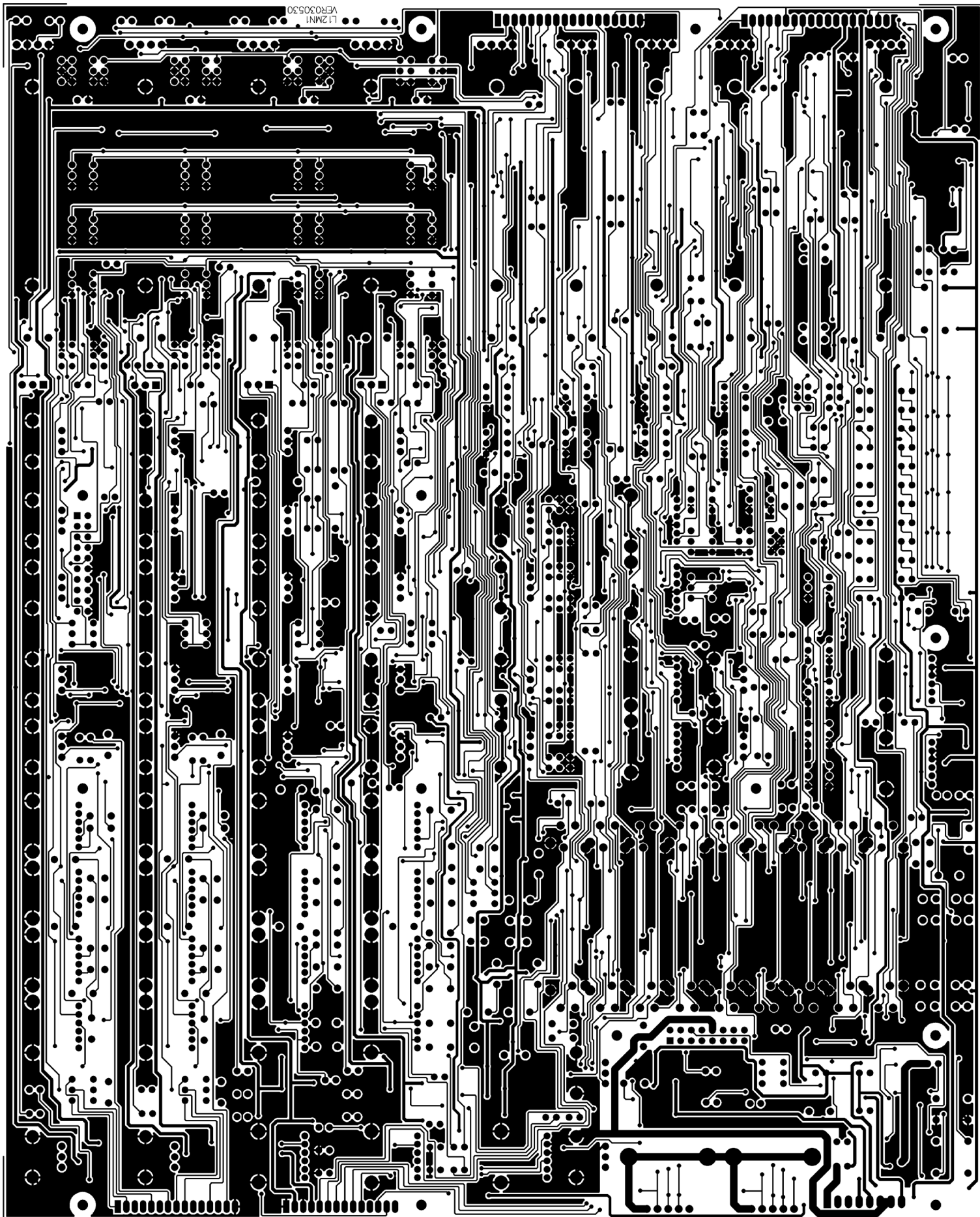
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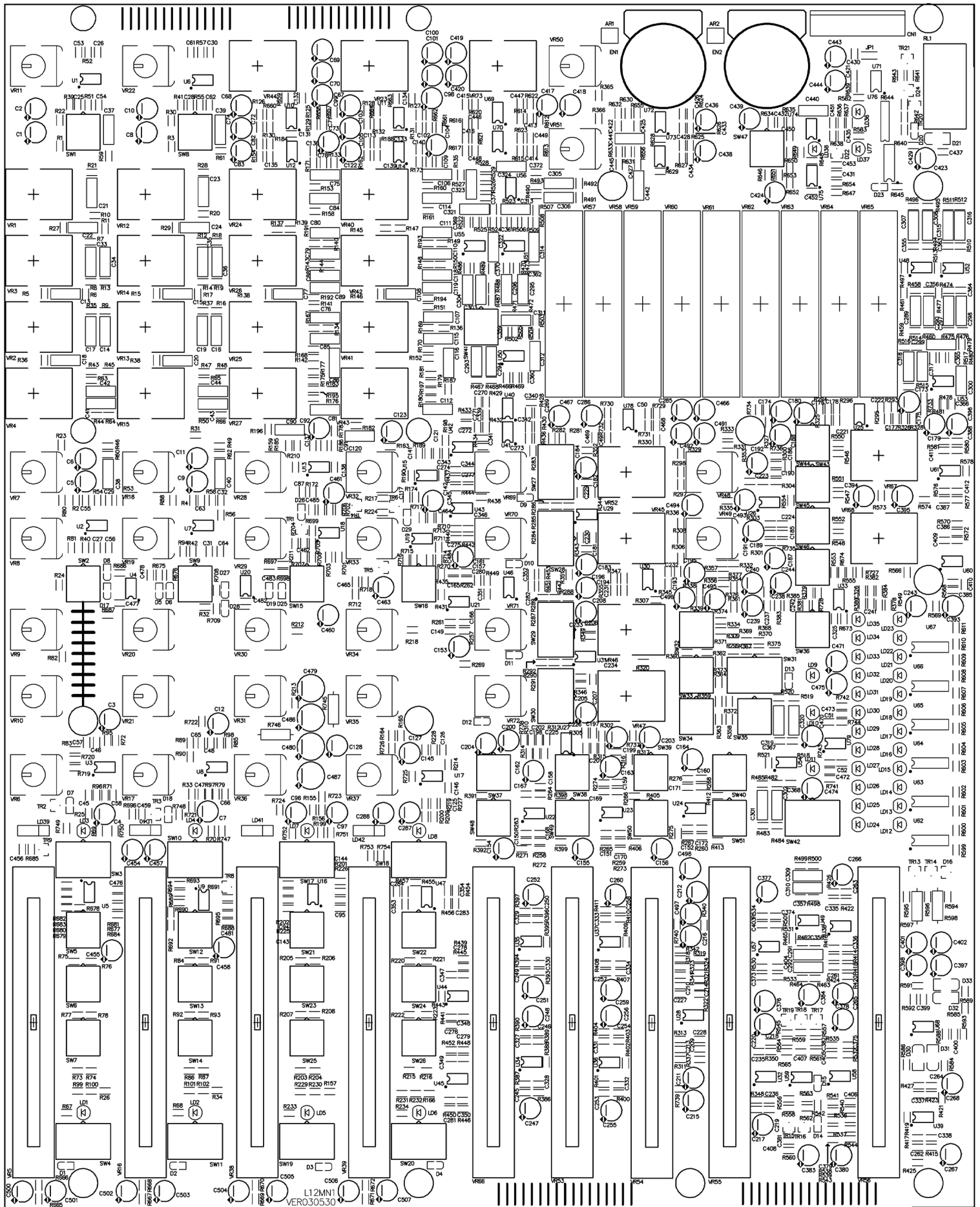
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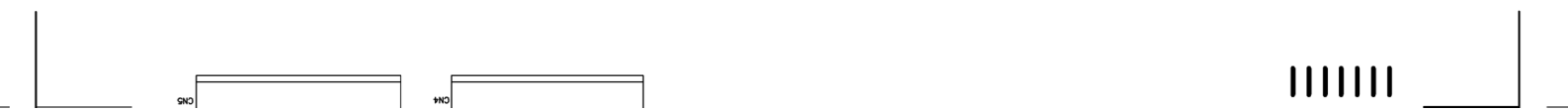
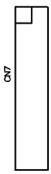
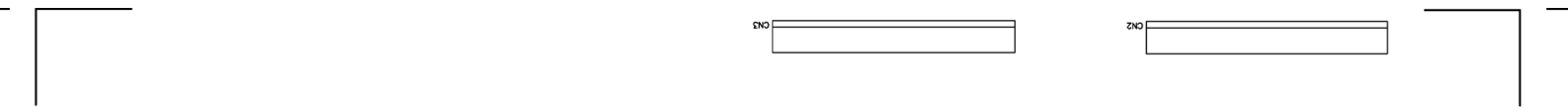
Top layer



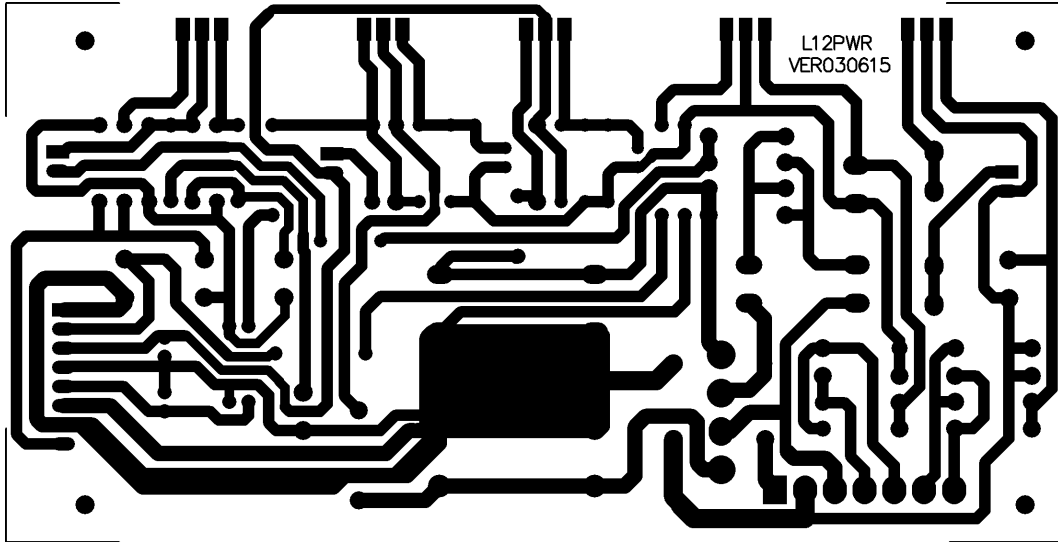
Bottom layer



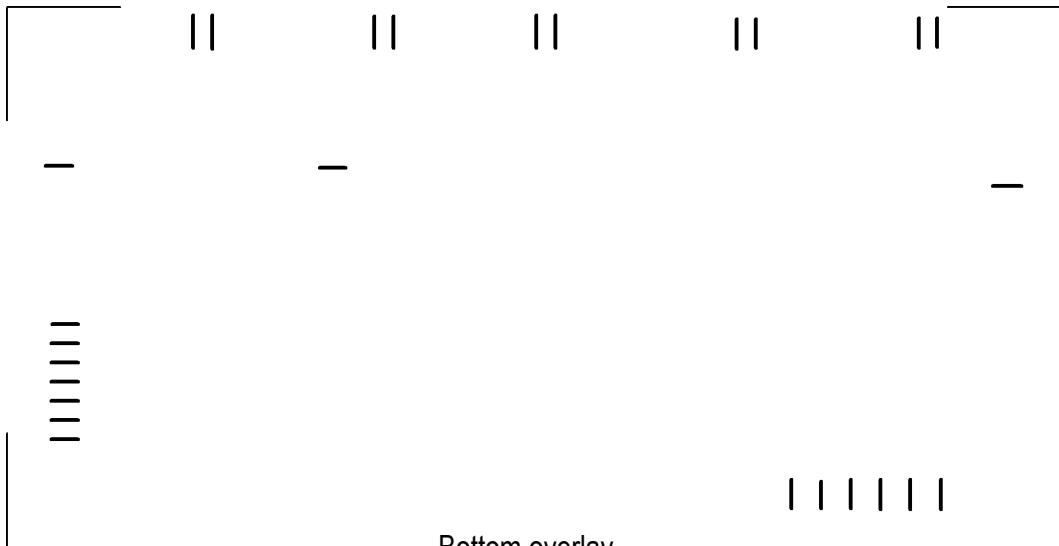
Top overlay



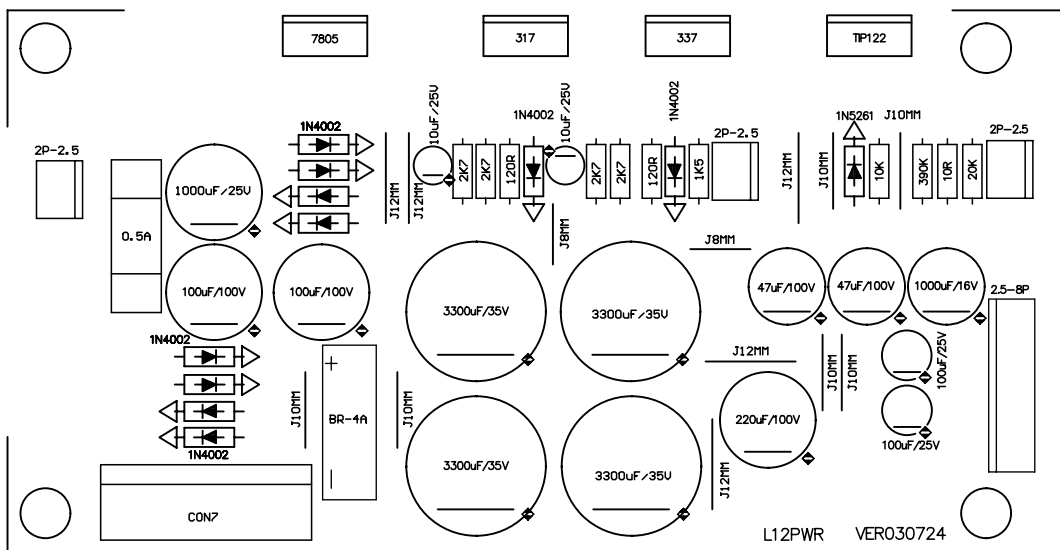
Bottom overlay



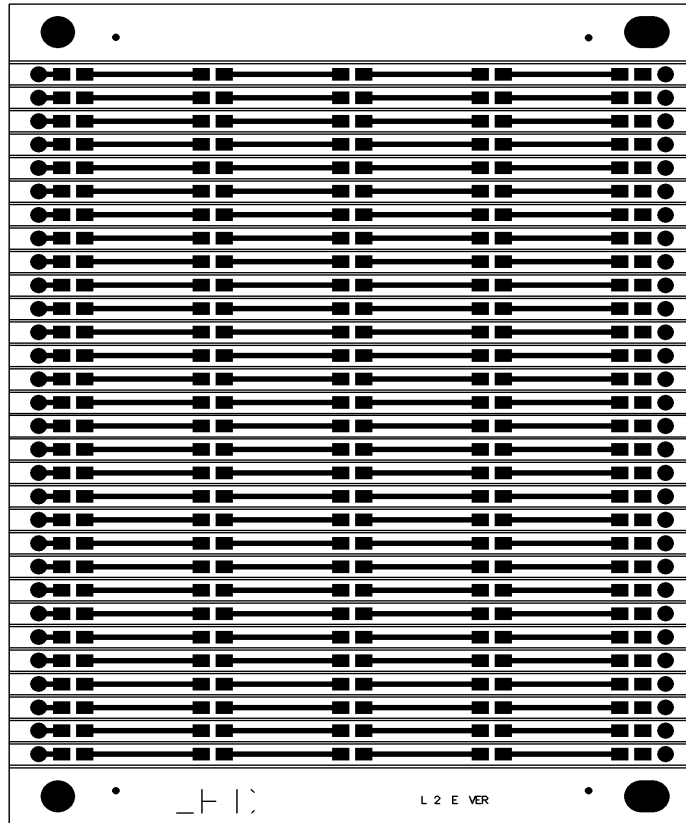
Bottom layer



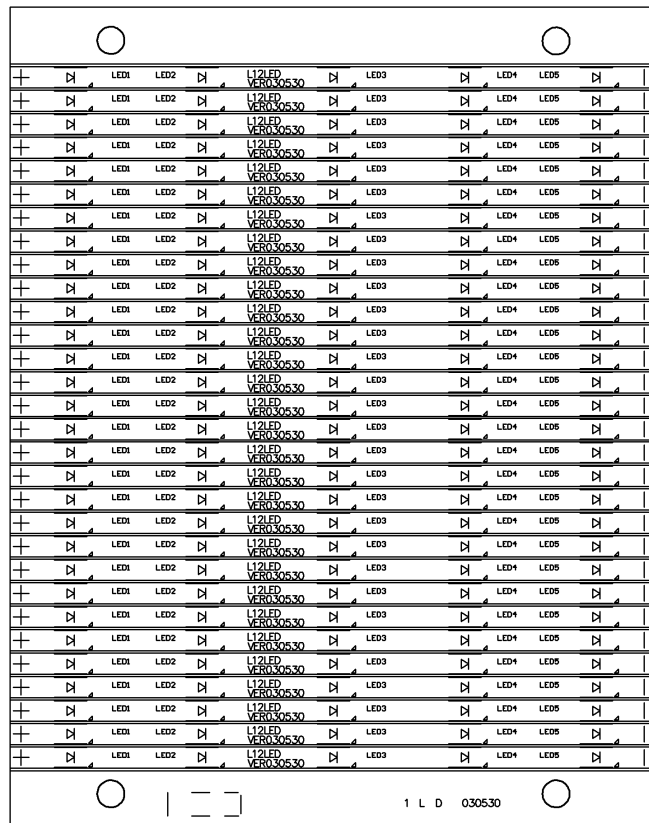
Bottom overlay



Top overlay

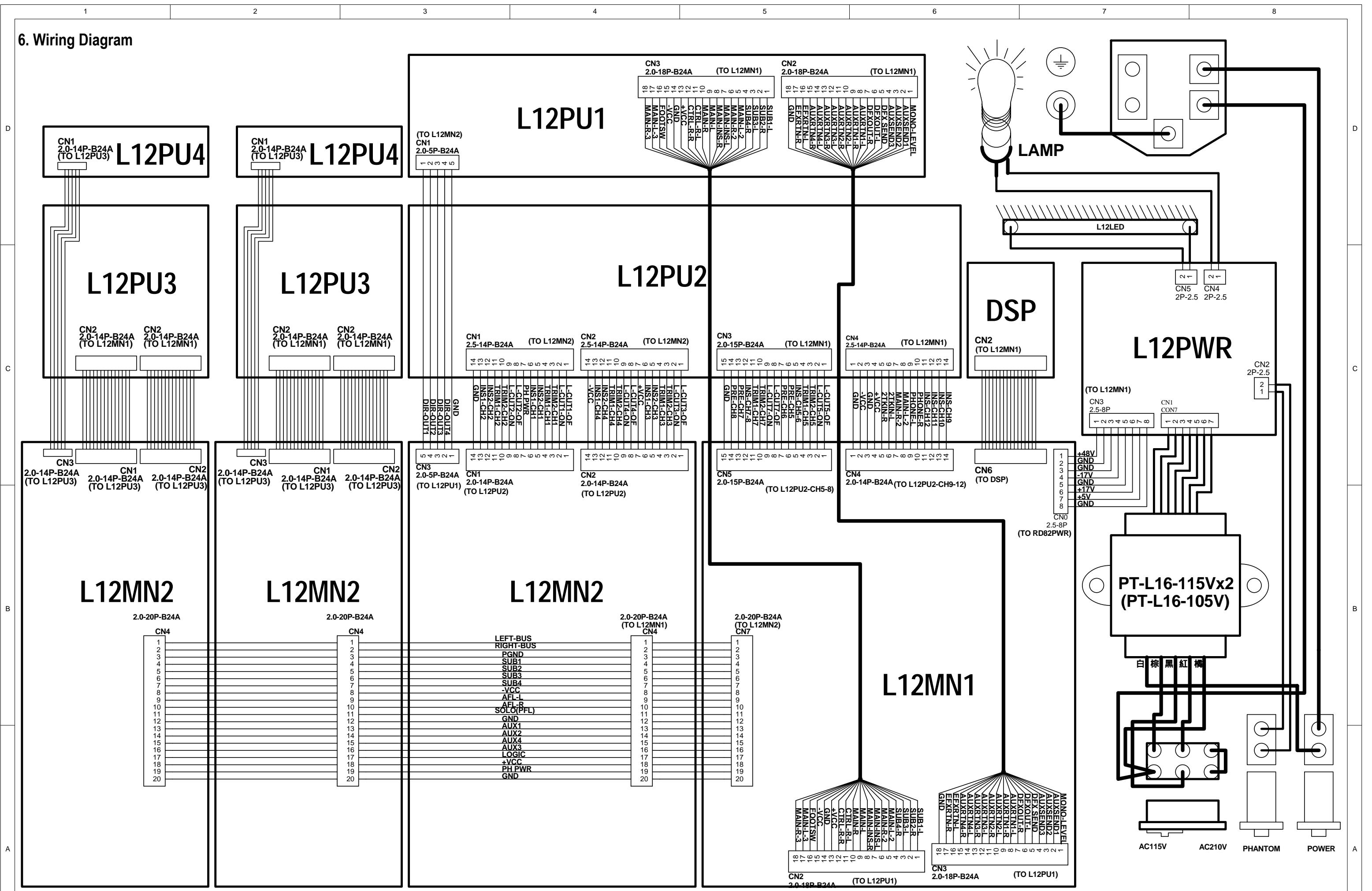


Top layer



Top overlay

6. Wiring Diagram



Title			ALTO MIXING CONSOLE		
Size	Model No:	Revision		VER030628	
A2(C)	L-8 WIRE CONFIGATION				
Date:	24-Aug-2004	Sheet	1 of 1		
File:	L20PIN.Sch	Drawn By:	SAMBOW		

7. Test Procedure

Finished product test procedure

1. Instruments

AP tester
Double trace oscilloscope
Voltmeter

2. Functions test

- a. Input the proper AC power supply, turn on the main power, POWER LED will be illuminated (green). Then switch on PHANTOM power, PHANTOM LED will be illuminated (red), use a voltmeter to test the first pin and second pin of each MIC (MIC 1, MIC 2), the volt of phantom power should be $46V(\pm 2V)$. then power off the switch.(Note: please turn off the switch when you are doing the steps of test procedure as follows)
- b. Set all TRIM, LEVEL, EQ, AUX knobs to the position of 0, set PAN to the position of LEFT. All buttons to the position of OFF.
- c. Input the signal from balanced sockets (MIC 1 & MIC 2), input the signal from unbalanced sockets (LINE IN 3/4&LINE5/6),
- d. Input the signal to the unbalanced AUX RETURN sockets separately, test the balanced output (LEFT & RIGHT) of MAIN MIX OUTPUT, which should be $5dBu(\pm 1dB)$ THD + N<0.003%.
- e. Insert the RCA plug to L& R of TAPE IN separately:

First, press 2TK TO MIX button, test the unbalanced outputs (LEFT&RIGHT) of MAIN MIX OUTPUT, CONTROL ROOM and PHONE (need stereo plug for testing) separately, which should be $0dBu(\pm 1dB)$ THD + N<0.006%.the output of TAPE OUT is $0dBu(\pm 1dB)$

Then release 2TK TO MIX button (OFF), no input from CONTROL ROOM, when press 2TK TO CONTROL ROOM, test the output, which is $0dBu(\pm 2dB)$ THD + N<0.002%.

- f. Input $+15dBu$ 1kHz sine wave (load out 600Ω , BNC-Unbalanced) through LINE 1, when turn MAIN MIX LEVEL counter-clockwise to the minimize, all

LEVEL LEDs will be turned off, when turn MAIN MIX LEVEL pot clockwise to the maximize, the LEVEL LEDs will be illuminated in sequence. test that whether the relating LED is illuminated when the level of output signal reaches the exactly value as LED shows . If so, test the maximize output level (before clipping) is 20dBu(± 1 dB) THD + N<0.1%.)

Adjust TRIM knob of CH 1 clockwise, PEAK LED will be illuminated (red). And test all PEAK LEDs from CH 1 to CH6

3. frequency response test

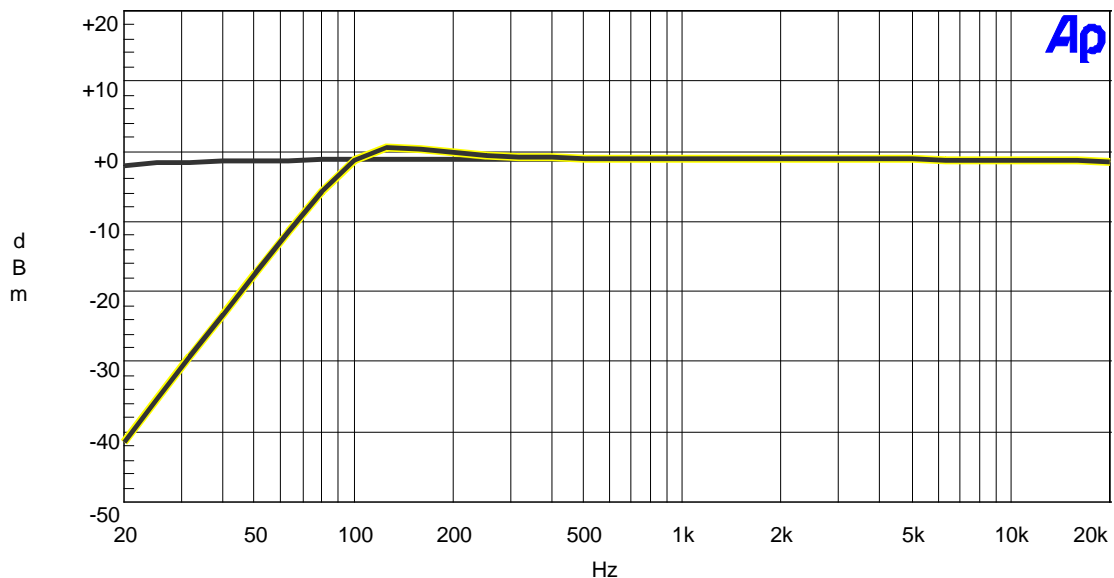
When Test the inputs of LINE 1, LINE 2, LINE 3, LINE 4, LINE 5, LINE 6 separately as follows, the frequency response curve of MAIN MIX OUTPUT (LEFT & RIGHT) (the preset of all knobs are the same as function test step 2.b)

- a. Open S8RESP1.atl test procedure, press and release the LOW CUT switch, test the frequency response curve of LINE 1, LINE 2 LINE 3, LINE 4 , please refer to the following figure.

(Remark: don't need to test L6 with this step)

Audio Precision

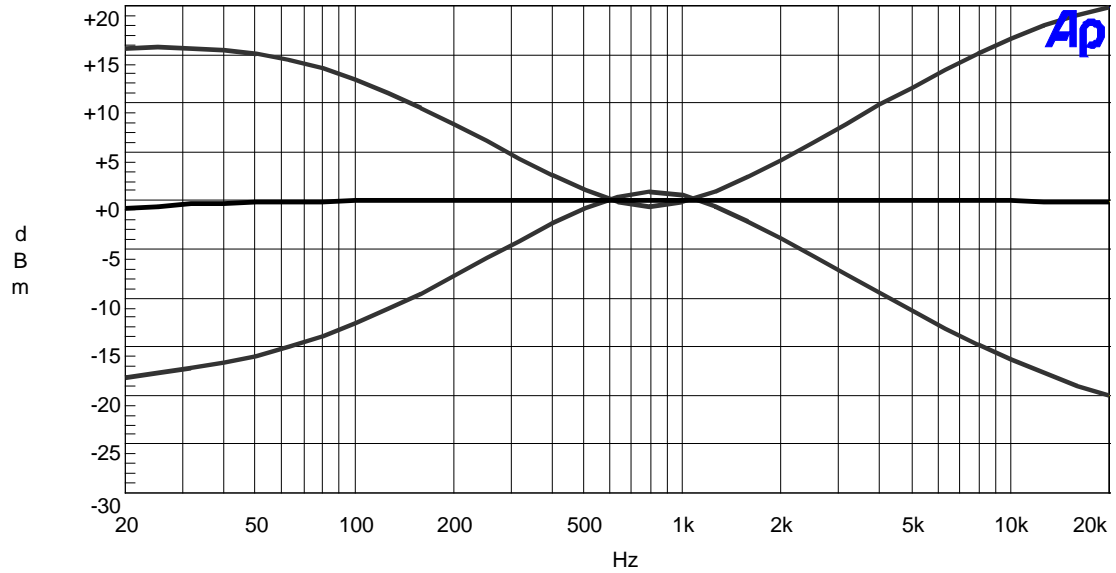
07/22/03 15:41:30



b. Turn EQ HI &LOW knob to the MAX and the MIN (EQ MID at the middle), test the frequency response, the frequency response curve is shown as follows, please refer to the following figure.

Audio Precision

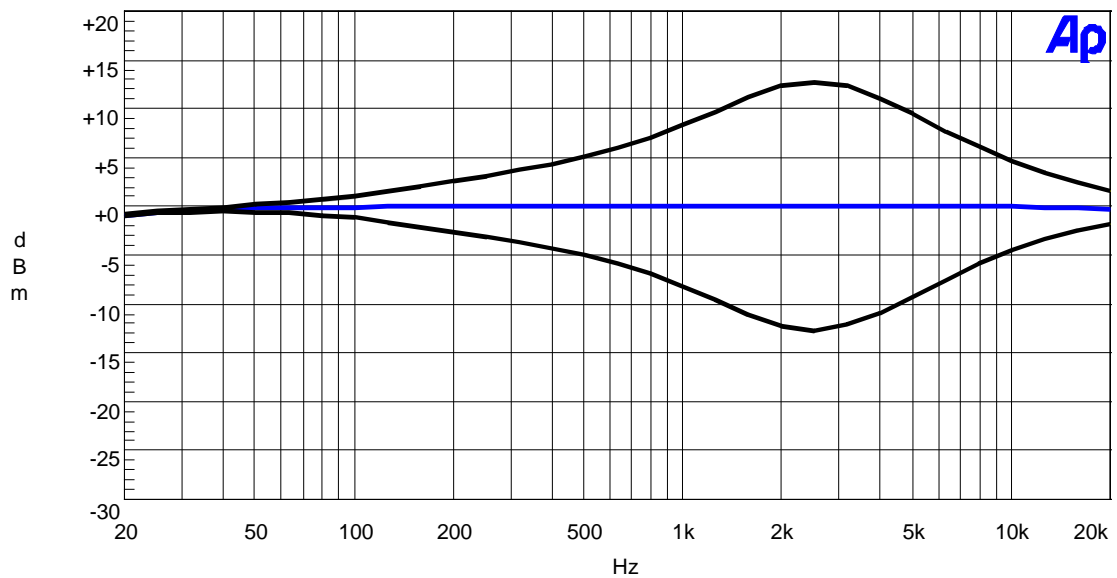
07/21/03 15:54:30



c. Turn EQ MID to the MAX and the MIN (EQ HI &LOW at the middle), test the frequency response, the frequency response curve is shown as follows, please refer to the following figure.

Audio Precision

07/21/03 15:52:05



Remarks: the frequency response test of normal instruments:

- a. Turn EQ LOW knob of the relating channel clockwise to the max (+15), the output is +15dBu(\pm 2dB), then turn EQ LOW knob of the relating channel counter-clockwise to the min. (-15), the output is -15dBu(\pm 2dB);
- b. Input the signal at 2.5kHz, Turn EQ MID knob of the relating channel clockwise to the max (+12), the output is +12dBu(\pm 2dB), then turn EQ MID knob of the relating channel counter-clockwise to the min. (-12), the output is -12dBu(\pm 2dB);
- c. Input the signal at 15kHz, Turn EQ HIGH knob of the relating channel clockwise to the max (+15), the output is +15dBu(\pm 3dB), then turn EQ HIGH knob of the relating channel counter-clockwise to the min. (-15), the output is -15dBu(\pm 3dB);

4. test DSP

- a. Input the signal from MIC1, output the signal from MAIN MIX OUTPUT, turn AUX RTN2(DFX) clockwise to the MAX, turn PRESETS and VARIATIONS knobs, the signal will be processed by DSP, if the level of the signal is over-high, PEAK LED will be illuminated to red, press DFX MUTE button, Bypass the signal, press the footswitch, which is connected to DFX FOOTSWITCH, the signal will get out of BYPASS.
- b. Input the signal from MIC 1 to MIC 4, output the signal from AUX SEND S1, turn AUX 2 /DFX TO AUX 1 counter-clockwise to the MAX., turn PRESET and VARIATIONS knobs, the signal will be processed by DSP. (do not need to test L6 with this step)

5. Sampling test

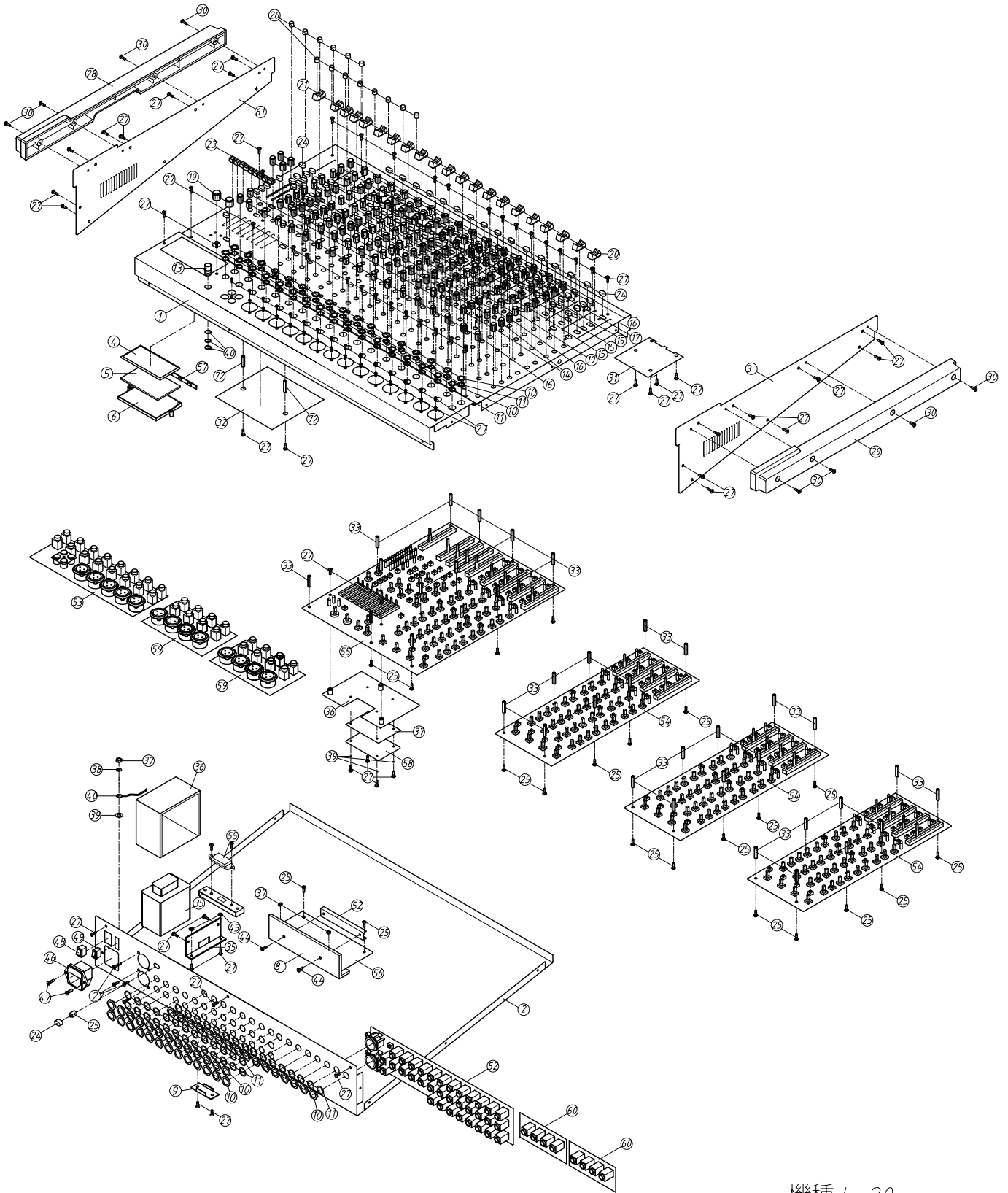
Connecting L 6 to a power amplifier and speakers, listening to the sound, no noise is OK.

Company preset: turn all volume knobs to the MIN. other control knobs to the middle, all switches to the position of OFF.

DONE

8. Exploded Views & Mechanical Parts List

SEKAKU



機種:L-20
圖號:L20-00
日期:2004/09/01

Sekaku Technical Group, Ltd
Jingheng Electron Industry Co., Ltd

Model : L-1620

Date: 2004/9/1

Sl. No	Part No.	Description	Specification	Qty	Material	Remarks	Sl. No	Part No.	Description	Specification	Qty	Material	Remarks
1	MA03900	ZC-panel	L-20	1			28	NI02548	Handle-ABS	401*31*25mm left black	1		
2	MB03632	ZC-chassis	L-20 ALTO 127V_V1.0	1			29	NI02547	Handle-ABS	401*31*25mm right black	1		
3	MJ01159	ZB-side board	L-20 right	1			30	MG00027	Black-plated screw	M3*12	8		
4	NI02638	ZC-Acrylic-transparent	L-12 (3t*97.5*49mm)	1			31	ND00244	Dust cover	0.35t*572*100mm black 2016B	1		
5	NI02640	ZC-Acrylic-transparent	L-12 (3t*91.5*56mm)	1			32	ND00247	Dust cover	0.35t*112.5*56.5mm black 2016B	1		
6	MJ01225	ZD-partition-L12-011	L-12 1.2t*100.5*74.5	1			33	MG00304	Copper pillar	M3*14*0.5PH flat	37		
7	NI02620	ZD-insulation board-L8-04	1*86.5*53 L-8	1			34	MG00020	Black-plated screw	M3*8	4		
8	MI00584	Heat sink-AL type	4*40*20*140 L-12	1			35	TC00229	Constant power transformer	PT-L16_127V	1		
9	MI01765	ZB-switch protection cover	L-12	1			36	MI00919	ZD-separation cover-L16-04	L-16 0.3t*70.6*66.6*58	1		
10	ME00060	MIC jack screw nut-HC00125 accessory	Hexagon JY-6351G-02-250	1			37	ME00016	Colour nut	4mm	6		
11	MF00061	T-MIC jack washer-HC00125	Circle JY-6351G-02-250	75			38	MF00038	Spring washer	4* 7*1t	6		
12	MG00061	Black-plated screw	M3*10	35			39	MF00018	Colour washer	4* 10*1t	6		
13	HC00206	BNC jack	WJ-7031(28*12.7)	1			40	MF00048	Washer	4* 8*0.5t	1		
14	NI02083	Plastic Knob	10.5*18mm double colour (outer grey 8C 072C inner blue)	52			41	NC00151	NC00151	0.2t*116*22 L-12	1		
15	NI02081	Plastic Knob	10.5*18mm double colour (outer grey 8C inner white)	58			42	MI01762	ZD-fixed bracket-L12-08	1.2t*112*12*5 L-12	1		
16	NI02082	Plastic Knob	10.5*18mm double colour (outer grey 8C inner black)	28			43	ME00015	Colour screw	3mm	2		
17	NI02633	Plastic Knob	10.5*18mm double colour (outer grey 8C 222C inner red)	21			44	MG00170	Zn-screw-pill	M3*14	2		
18	NI02084	Plastic Knob	10.5*18mm double colour (outer black, inner grey 8C)	17			45	HI00120	Slide SW	L21-22A solder wiring	1		
19	NI02386	Plastic Knob	14*13mm double colour(outer grey 8C 072C inner blue)	2			46	HC00008	AC inlet	3515 A TYPE(RF-2004-C-4.8)	1		
20	NI01166	Fader	6*7*8 COOL GREY 8U	9			47	MG00042	Black-plated screw	M3*10	4		
21	NI02309	Fader-ABS	24*11.5*11(outer grey 8C inner black)	16			48	HI00026	Power SW	Power SW	1		
22	NI02352	Fader-ABS	24*11.5*11(outer red 187C inner black)	1			49	HI00171	Power SW	R612KKAT0F1	1		
23	NI02353	Fader-ABS	24*11.5*11(outer blue 282C inner white)	4			50	HA00841	Power cord, America3P	LT-202+18A*3C(SVT) 6FT+LT-501	1		
24	NI01863	Button	5.5*W10*7.5 black	106			51	NI02519	Adhesive foot cushion	15.9*8.0mm(RF-006)	4		
25	NI01862	Button handle	5.5*5.5*14.5	1			52	HK03982	K-PCB	P-L12PU1-DIP	1		
26	NI02377	Button-ABS	5.5*7.5mm (inner 3.3*3.3mm) black	30			53	HK03984	K-PCB	P-L12PU2-DIP	1		
27	MG00041	Black-plated screw	M3*6	101			54	HK03991	K-PCB	P-L12MN2-DIP	3		

9. BOM

L-12

No.	Part No.	Description	Specification	Remark
1	MA03906	panel	L12	
2	MA03905	panel	L12	
3	MA03904	panel	L-12_V1.3	
4	MJ01186	hot gradual zinc	1.0t*2135*1220mm 20.45kg	
5	MB03650	rear board	L-12MKII ALTO_V1.0	
6	MB03529	rear board	L-12MK	
7	MB03530	rear board	L-12MK _V1.0	
8	MJ00058	single light board	1*2135*1220 20.45kg	
9	ME00099	screw pillar	M3*16*0.5PH	
10	ME00001	screw pillar	M4*10*0.7PH	
11	ME00040	iron pillar	hexagon6.35*M3*10.1	
12	ME00119	screw pillar	M4*9*0.7PH	
13	MJ01159	side cover board	L20 right	
14	MJ01158	side cover board	L-20 right 1.0t*400*115	
15	MJ00058	single light board	1*2135*1220 20.45kg	
16	NI02638	acrylic panel	L-12 (3t*97.5*49mm)	
17	NI02639	acrylic panel	L-12 (3t*97.5*49mm)	
18	NI02640	acrylic panel	L-12 (3t*91.5*56mm)	
19	NI02641	acrylic panel	L-12 (3t*91.5*56mm)	
20	MJ01225	barrier	L-12 1.2t*100.5*74.5	
21	MJ00063	iron board	1.2*2135*1220 24.54kg	
22	ME00041	iron pillar	hexagon6.35*M3*6	
23	NI02620	insulation board	1*86.5*53 L-8	
24	NC00010	insulation board	0.65M*60M*1t	
25	HK05685	PC board	P-RD204PWR	
26	HB01303	PCB	L SERIES PWR_VER040525	
27	CB00170	electrolytic capacitor	1000uF/100V 18*35.5mm	C4
28	CB00052	electrolytic capacitor	100uF/100V 13*21mm	C15
29	CB00047	electrolytic capacitor	100uF/25V 6*11mm	C11,C12
30	CB00142	electrolytic capacitor	4.7uF/63V 5*11mm	C14
31	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C13
32	CB00083	electrolytic capacitor	3300uF/35V 16*32mm	C1,C2,C3
33	CB00025	electrolytic capacitor	10uF/50V 6*7mm	C5,C6
34	CH00033	laminated capacitor	0.1uF/50V +80%-10% Y5V	C7,C8,C9,C10
35	RA00332	fixed resistor 1/8W	120 M type	R5,R6
36	RA00791	fixed resistor 1/8W	180 M type	R7
37	RA00364	fixed resistor 1/8W	2.2K M type	R1,R2
38	RA00371	fixed resistor 1/8W	3.3K M type	R3,R4
39	RA00249	fixed resistor 1/4W	18K M type	R8
40	RA00250	fixed resistor 1/4W	20K M type	R9
41	RA00135	fixed resistor 1/2W	1.5k M type	R10
42	RA00141	fixed resistor 1/2W	10K M type	R11
43	SA00094	rectifier diode	1N4002/100V	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12 ,D13,D14,D15,D16,D17

No.	Part No.	Description	Specification	Remark
44	SA00005	bridge rectifier	4A/400V RS405	BD1
45	SD00032	integrated circuit	LM317T	TR1,TR2
46	SD00033	integrated circuit	LM337SP(1.5A)(TO-220)	TR3
47	SD00074	integrated circuit	L7805CV(TO-220)(ST)	TR4
48	HC00063	FUSE holder	JEF-501 (5.2mm)	FUSE1,FUSE1
49	HD00012	glass tube fuse	500mA 250V 5.2*20mm CSA/S/UL/VDE	
50	HC00324	connect terminal	6.5m/m (PC250)	TP1,TP2
51	HC00076	connector(male)	2P 2.5mm 180°	CN2,CN4
52	HC00082	connector(male)	8P 2.5mm 180°	CN3
53	HC00181	connector(male)	7P 3.96mm 180°	CN1
54	MG00162	screw	M3*8	
55	MF00037	washer	3.2* 5.5*1t	
56	NC00005	silicone insulator	TO-220 square type	
57	NI02249	plastic washer	TW-1(TO-220)	
58	MI02762	heat sink	RD204 3t*106.5*170_V1.0	
59	MJ00057	AL plate-RS	3*2000*1000 16.32kg	
60	ME00060	MIC jack	JY-6351G-02-250	
61	MF00061	MIC jack	9.6* 13*0.5t	
62	MG00061	screw	M3*10	
63	HC00206	BNC jack	WJ-7031(28*12.7)	
64	HA01638	row-wire connector wiring	2P 280	
65	NI02642	fixed plate	L-12 (6.8*110*63.3 white)	
66	NI02083	knob	10.5*18mm	
67	NI02081	knob	10.5*18mm	
68	NI02082	knob	10.5*18mm	
69	NI02633	knob	10.5*18	
70	NI02084	knob	10.5*18mm	
71	NI02386	knob	14*13mm	
72	NI01166	slide key	6*7*8 COOL GRAY 8U	
73	NI02309	knob	24*11.5*11	
74	NI02352	knob	24*11.5*11	
75	NI02353	knob	24*11.5*11	
76	NI01863	key-RS	5.5*W10*7.5	
77	NI01862	key	5.5*5.5*12.8	
78	NI02377	knob	5.5*7.5mm(内3.3*3.3mm)	
79	MG00041	screw	M3*6	
80	NI02548	handle	401*31*25mm	
81	NI02547	handle	401*31*25mm	
82	MG00027	screw	M3*12	
83	ND00246	dustproof cloth	0.35t*360*100mm black	
84	ND00247	dustproof cloth	0.35t*100*50(2016B)_V1.1	
85	MG00304	copper pillar	M3*14*0.5PH	
86	MG00020	screw	M3*8	

No.	Part No.	Description	Specification	Remark
87	NI00863	plastic washer	TO220B	
88	TC00236	transformer	PT-L16_230V	
89	ME00016	color nut	4m/m	
90	MF00038	washer	4* 7*1t	
91	MF00019	washer	4* 12*1t_V1.0	
92	MF00106	washer	4* 12*1t_V1.0	
93	MJ00058	single light board	1*2135*1220 20.45kg	
94	MF00048	washer	4* 8*0.5t	
95	ME00015	color nut	3m/m	
96	HA02337	wire	16P-16P PH1.27 105mm	
97	HA01982	wire	60mm black	
98	HC00008	AC socket	3515 A TYPE(RF-2004-C-4.8)	
99	HD00061	glass tube fuse	400mA 5.2*20mm CSA/S/UL/VDE	
100	HA01835	P.V.C single wave wired UL1617	80 brown	
101	HA01174	wire CF:W146	80 green/yellow	
102	MG00042	screw	M3*10	
103	HI00026	power switch-RS	RA12KKATOF 2P	
104	HI00171	power switch-RS	R612KKATOF1	
105	HA01615	header wiring	2P 200	
106	NI00252	sleeve	4*20mm	
107	NI00248	sleeve	4*1000mm	
108	NI00268	sleeve	6*20mm	
109	NI00266	sleeve	6*1000mm	
110	HA02657	wire	8P-8P 360mm UL1007 20AWG	
111	HA00861	power cord Europe 3P	LT-312+LT-501	
112	NI00218	cable tie	ALT-102SB	
113	NI02519	self-adhere foot cushion	15.9*8.0mm(RF-006)	
114	NF00061	assurance card	ALTO	
115	NB02470	gift carton	L-12 ALTO	
116	NB02467	carton	L-12	
117	HJ00006	desiccant	30g	
118	NA00135	PE bag	0.05t*610*500mm	
119	NE05004	label	ALTO	
120	NH00334	cone paper	0.040*1m	
121	NE11466	label	L-12 ALTO	
122	NH00012	bond paper	0.04*1M	
123	NI00014	membrane	0.035*1M	
124	HK03982	PC board	P-L12PU1-DIP	
125	HC00125	MIC jack	JY-6351G-02-250	X1,X2,X3,X4,X5,X6,X7,X8,X9,X10,X11,X12, X13,X14,X15,X16,X17,X18,X19,X20,X21, X22,X23,X24,X25,X26,X27,X28,X29,X30, X31,X34,X35
126	HA01925	jump	10mm	JP1,JP2,JP3,JP4,JP5,JP6,JP7,JP11
127	HA02249	wire	0.6	
128	HC00525	connector(male)	18P 2.0mm 180°	CN2,CN3

No.	Part No.	Description	Specification	Remark
129	HC00256	connector(male)	5P 2.0mm 180°	CN1
130	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C1,C2,C3
131	HA01919	jump	5mm	JP8,JP9,JP10
132	HA02249	wire	0.6	
133	HC00392	balance MIC jack	JY-5030-030G 180°	X32,X33
134	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW1
135	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1);30F-C	VR1
136	HK03983	PC board	P-L12PU1-SMD	
137	HB00955	PCB	L12PU1_VER050316	
138	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C5,C6 R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20,R21,R22,R23,R24,R25,R26,R27,R28,R29,R30,R31,R32,R33,R34,R35,R36,R37,R38,R39,R40,R41,R42,R43,R44,R45,R46,R47,R48,R56,R57
139	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	
140	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C4
141	RD00107	SMD fixed resistor 1/10W	30K ±5% 0603	R55
142	RD00353	SMD fixed resistor 1/10W	36K ±5% 0603	R50
143	RD00352	SMD fixed resistor 1/10W	3.6K ±5% 0603	R49
144	SG00122	SMD integrated circuit	NJM4580M-TE3	U1
145	RD00440	SMD fixed resistor 1/8W	5.1K ±5% 0805	R51,R52,R53,R54
146	AE00221	tin soldering paste	SJ-617	
147	AC00002	solder wire	63/37%	
148	HK03984	PC board	P-L12PU2-DIP	
149	CB00003	electrolytic capacitor	0.22uF/50V 5*11mm	C16,C16-1,C16-2,C17,C17-1,C17-2,C17-3,C16-3,C18,C18-1,C18-2,C18-3,C50,C50-1,C51,C51-1,C52,C52-1
150	CB00074	electrolytic capacitor	1000uF/10V 8*11mm	C19,C19-1,C19-2,C19-3,C53,C53-1
151	HC00321	connector(male)	14P 2.0mm 180°	CN1,CN2,CN4
152	HC00524	connector(male)	15P 2.0mm 180°	CN3
153	CB00029	electrolytic capacitor	22uF/35V 5*11mm	C9,C9-1,C9-2,C9-3,C10-1,C10,C10-2,C10-3,C107,C108,C109,C110,C7,C7-1,C7-2,C7-3,C8,C8-1,C8-2,C8-3,C54,C54-1,C55,C55-1,C56,C56-1,C57,C57-1
154	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C12,C12-1,C12-2,C12-3,C13,C13-1,C13-2,C13-3,C36,C36-1,C37,C37-1
155	CB00042	electrolytic capacitor	47uF/63V 105 LZ 8*11mm	R1,R1-1,R1-2,R1-3,R2,R2-1,R2-2,R2-3,R38,R38-1,R39,R39-1
156	RA00505	precise resistor 1/4W	6.81K M type	TR1,TR1-1,TR1-2,TR1-3,TR2,TR2-1,TR2-2,TR2-3,TR6,TR6-1,TR7,TR7-1
157	SB00175	transistor	2SA970-BL(TE2;T)	X3,X3-1,X3-2,X3-3,X6,X6-1
158	HC00126	balance MIC jack	JY-5042-030G female plug 180°	X1,X1-1,X1-2,X1-3,X2,X2-1,X2-2,X2-3,X4,X4-1,X5,X5-1,X7,X8,X9,X10,X11,X12
159	HC00125	MIC jack	JY-6351G-02-250	
160	SD00007	integrated circuit	BA15218N (M5218L substitute)	U8,U9,U10,U11
161	HC00403	RCA jack	SCP6873NS3232T2 4P	X13
162	HK03985	PC board	P-L12PU2-SMD	
163	HB00956	PCB	L12PU2_VER030530	
164	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	C58,C58-1,C59,C59-1,C60,C60-1,C61,C61-1,C91,C92,C93,C94,C95,C96,C97,C98,C24,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35,C63,C64,C65,C66,C67,C68,C69,C70,C71,C72,C73,C74,C75,C76,C77,C78,C79,C80,C81,C82,C83,C84,C85,C86,C87,C89,C90,C88
165	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	

No.	Part No.	Description	Specification	Remark
166	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R70,R70-1,R71,R71-1,R76,R76,R77,R78, R79,R80,R81,R82,R83,R84,R85,R86,R87, R92,R93,R94,R95
167	RD00214	SMD precise resistor 1/10W	10.0K ±1% 0603	R26,R26-1,R26-2,R26-3,R27,R27-1,R27-2, R27-3,R61,R61-1,R62,R62-1
168	CI00071	SMD ceramic capacitor 0603	0.01uF/50V X7R ±10%	C1,C1-1,C1-2,C1-3,C2,C2-1,C2-2,C2-3, C38,C38-1,C39,C39-1
169	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R104,R104-1,R104-2,R104-3
170	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	R96,R97,R98,R99,R100,R101,R102,R103
171	RD00104	SMD fixed resistor 1/10W	18K ±5% 0603	R66,R66-1,R67,R67-1,R68,R68-1,R69, R69-1
172	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R31,R32
173	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R28,R28-1,R28-2,R28-3,R64,R64-1
174	RD00201	SMD precise resistor 1/10W	1.50K ±1% 0603	R15,R15-1,R15-2,R15-3,R16,R16-1,R16-2, R16-3,R40,R40-1,R41,R41-1
175	CI00065	SMD ceramic capacitor 0603	0.001uF/50V X7R ±10%	C14,C14-1,C14-2,C14-3,C15,C15-1,C15-2, C15-3,C40,C40-1,C41,C41-1
176	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	R17,R17-1,R17-2,R17-3,R18,R18-1,R18-2, R18-3,R19,R19-1,R19-2,R19-3,R42,R42-1, R43,R43-1,R44,R44-1,R45-1,R45,R46, R46-1,R47,R47-1,R73,R73-1,R75,R75-1, R88,R89,R90,R91
177	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C3,C3-1,C3-2,C3-3,C4,C4-1,C4-2,C4-3, C5,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3, C42,C42-1,C43,C43-1,C44,C44-1,C45, C45-1,C46,C46-1,C47,C47-1,C48,C48-1, C49,C49-1,C99,C100,C101,C102,C103, C104,C105,C106,C111,C112,C113,C114
178	RD00204	SMD precise resistor 1/10W	2.49K ±1% 0603	R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3, R5,R5-1,R5-2,R5-3,R6,R6-1,R6-2,R6-3, R7,R7-1,R7-2,R7-3,R8,R8-1,R8-2,R8-3, R9,R9-1,R9-2,R9-3,R48,R48-1,R49,R49-1, R50,R50-1,R51,R51-1,R52,R52-1,R53, R53-1,R54,R54-1
179	CI00062	SMD ceramic capacitor 0603	330PF/50V NPO ±5 %	C11,C11-1,C11-2,C11-3,C62,C62-1
180	RD00105	SMD fixed resistor 1/10W	22K ±5% 0603	R72,R72-1,R74,R74-1
181	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3, U3,U3-1,U4,U4-1,U5,U5-1,U6,U7
182	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R20,R20-1,R20-2,R20-3,R21,R21-1,R21-2, R21-3,R55,R55-1,R56,R56-1
183	RD00355	SMD fixed resistor 1/10W	4.7 ±5% 0603	R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2, R11-3,R12,R12-1,R12-2,R12-3,R35,R35-1, R36,R36-1,R37,37-1
184	RD00210	SMD precise resistor 1/10W	5.11K ±1% 0603	R22,R22-1,R22-2,R22-3,R23,R23-1,R23-2, R23-3,R24,R24-1,R24-2,R24-3,R25,R25-1, R25-2,R25-3,R57,R57-1,R58,R58-1,R59, R59-1,R60,R60-1
185	RD00365	SMD precise resistor 1/10W	5.62K ±1% 0603	R13,R13-1,R13-2,R13-3,R14,R14-1,R14-2, R14-3
186	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	R30,R30-1,R30-2,R30-3,R63,R63-1
187	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R29,R29-1,R29-2,R29-3,R65,R65-1
188	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3,D2,D2-1
189	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR8,TR8-1,TR9,TR9-1,TR10-1,TR3,TR3-1, TR3-2,TR3-3,TR4,TR4-1,TR4-2,TR4-3, TR5,TR5-1,TR5-2,TR5-3,TR10
190	AE00221	tin soldering paste	SJ-617	
191	AC00002	solder wire	63/37%	
192	HK03991	PC board	P-L12MN2-DIP	
193	RA00174	fixed resistor 1/4W	47 M type	R52,R53
194	CB00009	electrolytic capacitor	1uF/50V 4*7mm	C21,C21-1,C21-2,C21-3,C22,C22-1,C22-2, C22-3
195	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C2,C2-1,C2-2,C2-3,C3,C3-1,C3-2,C3-3, C4,C4-1,C4-2,C4-3,C28,C28-1,C28-2,C28-3, C24,C25,C26,C27

No.	Part No.	Description	Specification	Remark
196	CF00023	metal-film capacitor MSC	0.033uF/63V 5% CASE01	C11,C11-1,C11-2,C11-3,C12,C12-1,C12-2,C12-3
197	CF00003	metal-film capacitor MSC	0.0015uF/100V 5% CASE01	C10,C10-1,C10-2,C10-3
198	CF00012	metal-film capacitor MSC	0.0068uF/100V 5% CASE01	C7,C7-1,C7-2,C7-3,C8,C8-1,C8-2,C8-3,C1,C1-1,C1-2,C1-3
199	HI00236	push-button switch-RS	2-stage 6P PS-9226A(SELF-LOCK)	SW3,SW3-1,SW3-2,SW3-3,SW5,SW5-1,SW5-2,SW5-3,SW6,SW6-1,SW6-2,SW6-3,SW7,SW7-1,SW7-2,SW7-3,SW2,SW2-1,SW2-2,SW2-3,SW1,SW1-1,SW1-2,SW1-3
200	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW4,SW4-1,SW4-2,SW4-3
201	RC00284	slide potentiometer	D10K RF6011YP600F-10KD(SAS1)	VR5,VR5-1,VR5-2,VR5-3
202	RC00356	potentiometer	Z10K RD09F1130042-10KZ(SAS1);30F	VR11,VR11-1,VR11-2,VR11-3
203	RC00358	potentiometer	B50K -RD09F113A223-50K2BT(SAS1);30F-C	VR1,VR1-1,VR1-2,VR1-3,VR2,VR2-1,VR2-2,VR2-3,VR4,VR4-1,VR4-2,VR4-3
204	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1);30F-C	VR6,VR6-1,VR6-2,VR6-3,VR7,VR7-1,VR7-2,VR7-3,VR8,VR8-1,VR8-2,VR8-3,VR9,VR9-1,VR9-2,VR9-3,VR10,VR10-1,VR10-2,VR10-3
205	RC00366	potentiometer	C500K RD12L123A43D-500K15C*2(SAS1)30F-C	VR3,VR3-1,VR3-2,VR3-3
206	SA00054	L.E.D	3m/m round(yellow)long foot 26	LD1,LD1-1,LD1-2,LD1-3
207	SA00053	L.E.D	3 round(red)long foot 26mm	LD2,LD2-1,LD2-2,LD2-3
208	SA00051	L.E.D	3 orange, green BOG303b	LD3,LD3-1,LD3-2,LD3-3
209	NI01782	LED spacer support	LEDS-11 11mm	LD1,LD1-1,LD1-2,LD1-3,LD2,LD2-1,LD2-2,LD2-3
210	NI02588	LED spacer support	LED3*11 11mm	LD3,LD3-1,LD3-2,LD3-3
211	HA02446	wire	14P(male)-14P(female) 60mm UL1007 28AWG	CN1,CN2
212	HA01564	row-wire connector wiring	5P(male)-5P(female) 180	CN3
213	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN4
214	HK03999	PC board	P-L12MN2-SMD	
215	HB00959	PCB	L12MN2_VER030530	
216	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R51,R51-1,R51-2,R51-3
217	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R23,R23-1,R23-2,R23-3
218	RD00090	SMD fixed resistor 1/10W	3.0K ±5% 0603	R1,R1-1,R1-2,R1-3
219	RD00091	SMD fixed resistor 1/10W	3.3K ±5% 0603	R26,R26-1,R26-2,R26-3
220	RD00092	SMD fixed resistor 1/10W	3.9K ±5% 0603	R18,R18-1,R18-2,R18-3
221	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R29,R29-1,R29-2,R29-3,R30,R30-1,R30-2,R30-3,R49,R49-1,R49-2,R49-3
222	RD00094	SMD fixed resistor 1/10W	5.1K ±5% 0603	R6,R6-1,R6-2,R6-3,R7,R7-1,R7-2,R7-3,R8,R8-1,R8-2,R8-3,R9,R9-1,R9-2,R9-3,R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2,R11-3,R12,R12-1,R12-2,R12-3,R13,R13-1,R13-2,R13-3
223	RD00095	SMD fixed resistor 1/10W	5.6K ±5% 0603	R24,R24-1,R24-2,R25,R25-1,R25-2,R25-3,R24-3
224	RD00096	SMD fixed resistor 1/10W	6.2K ±5% 0603	R21,R21-1,R21-2,R21-3,R22,R22-1,R22-2,R22-3
225	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R14,R14-1,R14-3,R15,R15-3,R16,R16-3,R15-1,R16-1,R17,R17-1,R17-3,R27,R27-1,R27-3,R28,R28-1,R28-3,R14-2,R15-2,R16-2,R17-2,R27-2,R28-2
226	RD00099	SMD fixed resistor 1/10W	8.2K ±5% 0603	R43,R43-1,R43-2,R43-3
227	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R2,R2-1,R2-2,R2-3,R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3,R5,R5-1,R5-2,R5-3,R45,R45-1,R45-2,R45-3,R47,R47-1,R47-2,R47-3,R48,R48-1,R48-2,R48-3,R46,R46-1,R46-2,R46-3
228	RD00102	SMD fixed resistor 1/10W	12K ±5% 0603	R20,R20-1,R20-2,R20-3
229	RD00103	SMD fixed resistor 1/10W	15K ±5% 0603	R40,R40-1,R40-2,R40-3
230	RD00106	SMD fixed resistor 1/10W	27K ±5% 0603	R50,R50-1,R50-2,R50-3

No.	Part No.	Description	Specification	Remark
231	RD00116	SMD fixed resistor 1/10W	100K ±5% 0603	R42,R42-1,R42-2,R42-3,R41,R41-1,R41-2,R41-3
232	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R19,R19-1,R19-2,R19-3
233	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C5,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3,C9,C9-1,C9-3,C9-2
234	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C23,C23-1,C23-2,C23-3
235	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C14,C14-1,C14-2,C14-3,C15,C15-2,C16,C16-2,C17,C17-1,C17-2,C17-3,C18,C18-1,C18-2,C18-3,C19,C19-1,C19-2,C19-3,C20,C20-1,C20-2,C20-3
236	SG00306	SMD integrated circuit	LM393DR(TI)/(MEXICO)	U4,U4-1,U4-2,U4-3
237	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D2,D2-1,D2-2,D2-3,D3,D3-1,D3-2,D3-3,D4,D4-1,D4-2,D4-3
238	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3,U3,U3-2
239	SF00038	transistor	RK7002(ROHM)	TR2,TR2-1,TR2-2,TR2-3
240	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3
241	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR1,TR1-1,TR1-2,TR1-3
242	AE00221	tin soldering paste	SJ-617	
243	RD00074	SMD fixed resistor 1/10W	270 ±5% 0603	R44,R44-1,R44-2,R44-3
244	AC00002	solder wire	63/37%	
245	HK04012	PC board	P-L12MN1-DIP	
246	CF00003	metal-film capacitor MSC	0.0015uF/100V 5% CASE01	C440,C441,C442
247	RC00285	slide potentiometer-dual unit	D10K RF60112P600G-10KD*2(SAS1)	VR5,VR16,VR38,VR39,VR56
248	RC00284	slide potentiometer	D10K RF6011YP600F-10KD(SAS1)	VR53,VR54,VR55,VR66
249	CB00024	electrolytic capacitor	10uF/16V 4*7mm	C443,C444
250	RA00185	fixed resistor 1/4W	120 M type	R597,R598
251	CF00054	metal-film capacitor MSC	0.012uF/63V ±5% CASE01	C13,C14,C15,C16,C17,C18,C19,C20,C76,C77,C85,C86,C107,C108,C115,C116
252	CF00001	metal-film capacitor MSC	0.001uF/63V 5% CASE01	C21,C22,C23,C24,C75,C84,106,C114
253	CF00038	metal-film capacitor MSC	0.22uF/63V 5% CASE02	C295,C296,C303,C304,C305,C306,C313,C314,C321,C322,C323,C324
254	CB00009	electrolytic capacitor	1uF/50V 4*7mm	C423,C424,C454,C455,C458,C460,C461,C463,C464,C457
255	CB00011	electrolytic capacitor	2.2uF/50V 5*11mm	C380
256	CF00022	metal-film capacitor MSC	0.022uF/100V 5% CASE01	C291,C292,C293,C294,C301,C302,C309,C310,C311,C312,C319,C320
257	CF00005	metal-film capacitor MSC	0.0022uF/63V 5% CASE01	C289,C290,C297,C298,C299,C300,C307,C308,C315,C316,C317,C318
258	CF00006	metal-film capacitor MSC	0.0033uF/100V 5% CASE01	C33,C34,C35,C36,C37,C38,C39,C40,C79,C80,C88,C89,C110,C111,C118,C119
259	CB00018	electrolytic capacitor	4.7uF/25V 4*7mm	C436,C438,C439
260	RA00174	fixed resistor 1/4W	47 M type	R745,R746
261	CF00025	metal-film capacitor MSC	0.047uF/63V 5% CASE01	C41,C42,C43,C44,C81,C90,C112,C120
262	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C1,C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C67,C68,C69,C70,C73,C74,C83,C92,C96,C97,C98,C99,C100,C101,C104,C105,C122,C123,C127,C128,C153,C154,C155,C156,C161,C162,C164,C163,C176,C179,C180,C184,C187,C188,C191,C192,C195,C196,C199,C200,C203,C204,C207,C211,C212,C215,C216,C219,C220,C239,C240,C243,C244,C247,C248,C252,C255,C256,C259,C260,C265,C266,C267,C268,C285,C286,C376,C377,C378,C383,C393,C384,C395,C396,C401,C417,C418,C419,C466,C467,C470,C471,C474,C475,C491,C492,C493,C494,C495,C496,C497,C498,C500,C501,C502,C503,C504,C505,C506,C507,C479,C175,C287,C288,C480,C486,C487,C397,C398,C183,C208,C251,C394,C420,C402,C488,C489,C490,C499,C508,C510,C509

No.	Part No.	Description	Specification	Remark
263	RC00315	slide potentiometer	W100K RA3022-202-15DA-W100K-C	VR57,VR58,VR59,VR60,VR61,VR62,VR63,VR64,VR65 SW2,SW5,SW6,SW7,SW9,SW12,SW13,SW14,SW15,SW16,SW21,SW22,SW24,SW25,SW26,SW32,SW33,SW34,SW35,SW36,SW37,SW38,SW39,SW43,SW44,SW45,SW46,SW48,SW49,SW50,SW51,SW1,SW8,SW23,SW40,SW41
264	HI00236	push-button switch-RS	2-stage 6P PS-9226A(SELF-LOCK)	SW47
265	HI00238	push-button switch-RS	2 stage 6P PS-9226A(NON-LOCK)	SW4,SW11,SW19,SW20,SW27,SW28,SW29,SW30,SW31,SW42,SW3,SW10,SW17,SW18
266	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	RL1
267	HI00161	relay	RY-5W-K,5V	EN1,EN2
268	HI00195	rotary switch	SDB161PVB15.5F-1-4-16-16PC	VR1,VR2,VR3,VR4,VR12,VR13,VR14,VR15,VR24,VR25,VR26,VR27,VR41,VR42,VR43,VR40
269	RC00360	potentiometer	B50K RD12L12CA23A-50K3BT*2(SAS1);30F-C	VR6,VR7,VR8,VR9,VR10,VR17,VR18,VR19,VR20,VR21,VR28,VR29,VR31,VR32,VR33,VR34,VR35,VR36,VR37,VR48,VR49,VR50,VR51,VR71,VR72,VR30,VR69,VR70
270	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1);30F-C	VR23,VR44,VR45,VR46,VR47,VR52,VR67,VR68,VR73
271	RC00361	potentiometer	W50K RD12L12CA60B-50K4BT*2(SAS1);30F-C	VR11,VR22
272	RC00356	potentiometer	Z10K RD09F1130042-10KZ(SAS1);30F	LD39,LD40,LD41,LD42
273	SA00051	L.E.D	3 orange, green BOG303b	LD3,LD4,LD7,LD8,LD9,LD11,LD23,LD35,LD37,LD38
274	NI02588	LED spacer support	LED3*11 11mm	LD1,LD2,LD5,LD6,LD22,LD34
275	SA00053	L.E.D	3 round(red)long foot 26mm	LD12,LD13,LD14,LD15,LD16,LD17,LD18,LD19,LD20,LD21,LD24,LD25,LD26,LD27,LD28,LD29,LD30,LD31,LD32,LD33,LD36,LD10
276	SA00054	L.E.D	3m/m round(yellow)long foot 26	
277	SA00052	L.E.D	3 round(green)long foot 26	
278	NI01782	LED spacer support	LEDS-11 11mm	
279	HC00499	connector	2.54 180°2*8P(gold-plated) 6/11.6mm	CN6
280	HC00072	row-wire header	connector(male)	CN1
281	HA02446	wire	14P(male)-14P(female) 60mm UL1007 28AWG	CN4
282	HA02445	wire	15P(male)-15P(female) 60mm UL1007 28AWG	CN5
283	HA02444	wire	18P(male)-18P(female) 640mm UL1007 28AWG	CN2,CN3
284	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN7
285	HK04013	PC board	P-L12MN1-SMD	
286	HB00960	PCB	L12MN1_VER031020	
287	RD00441	SMD precise resistor 1/10W	787 ±1% 0603	R488,R524
288	RD00442	SMD precise resistor 1/10W	976 ±1% 0603	R464,R500
289	RD00405	SMD precise resistor 1/10W	1.18K ±1% 0603	R476,R512
290	RD00443	SMD precise resistor 1/10W	1.54K ±1% 0603	R472,R508
291	RD00444	SMD precise resistor 1/10W	1.96K ±1% 0603	R484,R520
292	RD00445	SMD precise resistor 1/10W	2.43K ±1% 0603	R460,R496
293	RD00385	SMD precise resistor 1/10W	3.01K ±1% 0603	R492,R528
294	RD00207	SMD precise resistor 1/10W	3.92K ±1% 0603	R468,R504
295	RD00386	SMD precise resistor 1/10W	4.75K ±1% 0603	R480,R516
296	RD00300	SMD precise resistor 1/10W	6.04K ±1% 0603	R487,R523
297	RD00446	SMD precise resistor 1/10W	9.76K ±1% 0603	R475,R511
298	RD00301	SMD precise resistor 1/10W	12.1K ±1% 0603	R471,R486,R507,R522

No.	Part No.	Description	Specification	Remark
299	RD00420	SMD precise resistor 1/10W	19.1K ±1% 0602	R459,R495
300	RD00447	SMD precise resistor 1/10W	19.6K ±1% 0603	R474,R510
301	RD00448	SMD precise resistor 1/10W	24.3K ±1% 0603	R470,R491,R506,R527
302	RD00266	SMD precise resistor 1/10W	30.1K ±1% 0603	R467,R482,R503,R518
303	RD00449	SMD precise resistor 1/10W	38.3K ±1% 0603	R458,R479,R494,R515
304	RD00450	SMD precise resistor 1/10W	48.7K ±1% 0603	R490,R526
305	RD00223	SMD precise resistor 1/10W	49.9K ±1% 0603	R432,R433,R440,R441,R448,R449
306	RD00264	SMD precise resistor 1/10W	60.4K ±1% 0603	R466,R502
307	RD00451	SMD precise resistor 1/10W	76.8K ±1% 0603	R478,R514
308	RD00065	SMD fixed resistor 1/10W	47 ±5% 0603	R592,R593
309	RD00346	SMD fixed resistor 1/10W	56 ±5% 0603	R599
310	RD00066	SMD fixed resistor 1/10W	68 ±5% 0603	R624,R625
311	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R600,R657,R658,R659,R660,R661,R662, R663,R664
312	RD00073	SMD fixed resistor 1/10W	220 ±5% 0603	R646,R647,R650
313	RD00076	SMD fixed resistor 1/10W	330 ±5% 0603	R602,R604
314	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R601,R603,R605
315	RD00347	SMD fixed resistor 1/10W	510 ±5% 0603	R257,R258,R259,R260,R386,R393,R400, R407,R595,R596,R606,R622,R623
316	RD00348	SMD fixed resistor 1/10W	620 ±5% 0603	R607
317	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R125,R126,R127,R128,R654,R685,R696, R707,R718
318	RD00084	SMD fixed resistor 1/10W	1.2K ±5% 0603	R129,R130,R131,R132
319	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R608
320	RD00086	SMD fixed resistor 1/10W	1.8K ±5% 0603	R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15, R16,R17,R18,R19,R20,R137,R138,R139, R140,R141,R142,R143,R144,R145,R146, R147,R148,R149,R150,R151,R152
321	RD00087	SMD fixed resistor 1/10W	2.0K ±5% 0603	R582,R609
322	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R67,R68,R233,R234,R375,R635
323	RD00091	SMD fixed resistor 1/10W	3.3K ±5% 0603	R69,R70,R199,R200,R626,R627
324	RD00352	SMD fixed resistor 1/10W	3.6K ±5% 0603	R329,R330,R335,R336,R338,R339
325	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R210,R211,R212,R213,R217,R218,R219, R224,R583,R648,R683,R694,R716,R719, R720,R721,R722,R723,R724,R725,R726, R353,R357,R365,R366,R705
326	RD00094	SMD fixed resistor 1/10W	5.1K ±5% 0603	R79,R80,R81,R82,R83,R85,R88,R89,R90, R94,R154,R159,R162,R163,R201,R202, R209,R214,R71,R72,R388,R395,R402,R409, R414,R415,R418,R419,R422,R542,R543, R554,R555,R751,R752,R753,R754,R295, R296,R303,R304,R305,R312,R314,R315, R318,R323,R325,R326,R327,R328,R331, R332,R334,R333,R337,R341,R423
327	RD00095	SMD fixed resistor 1/10W	5.6K ±5% 0603	R566,R570,R574,R578,R610
328	RD00096	SMD fixed resistor 1/10W	6.2K ±5% 0603	R269,R271,R273,R275,R616,R617
329	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R43,R44,R46,R45,R47,R48,R49,R50,R175, R176,R177,R178,R179,R180,R181,R182
330	RD00098	SMD fixed resistor 1/10W	7.5K ±5% 0603	R463,R499,R651
331	RD00099	SMD fixed resistor 1/10W	8.2K ±5% 0603	R22,R23,R30,R31,R611,R678,R689,R700, R712,R747,R748,R749,R750,R281,R284, R288,R291,R26,R34

No.	Part No.	Description	Specification	Remark
				R21,R24,R25,R27,R28,R29,R32,R33,R153, R155,R156,R158,R160,R161,R164,R165, R203,R204,R215,R270,R272,R274,R276, R293,R294,R299,R300,R301,R302,R309, R316,R317,R382,R383,R390,R397,R411, R424,R425,R426,R427,R430,R431,R434, R435,R436,R437,R438,R442,R443,R444, R445,R446,R447,R450,R451,R452,R453, R454,R455,R456,R457,R461,R465,R469, R473,R477,R481,R485,R489,R493,R497, R501,R509,R513,R517,R521,R525,R529, R530,R540,R549,R553,R569,R577,R581, R588,R591,R594,R628,R629,R630,R631, R632,R633,R634,R637,R638,R640,R641, R642,R643,R644,R645,R655,R656,R680, R681,R691,R692,R693,R702,R703,R704, R713,R714,R715,R729,R730,R731,R741, R742,R743,R744,R439,R505,R541,R573, R636,R682,R732,R310,R311,R321,R376, R377,R216,R404,R157,R166,R205,R206, R207,R208,R220,R221,R222,R223,R677, R688,R340,R342,R428,R429 R59,R60,R61,R62,R73,R74,R75,R76,R77, R78,R84,R86,R87,R91,R92,R93,R95,R96, R97,R98,R191,R192,R193,R194,R225,R226 ,R227,R228,R546,R547,R548,R550,R551, R552,R556,R557 R462,R483,R498,R519,R537,R539,R665, R666,R667,R668,R669,R670,R671,R672, R727,R728,R733,R734,R735,R736,R737, R738,R740,R739,R229,R230,R231,R232, R313,R322 R389,R396,R403,R410,R416,R417,R384, R385 R351,R352,R354,R355,R356,R358,R359, R360,R361,R362,R363,R364,R378,R379, R387,R391,R392,R394,R398,R399,R401, R405,R406,R408,R412,R413,R533,R534, R535,R544,R560,R561,R568,R572,R576, R580,R673,R674,R99,R100,R101,R102, R699,R710 R35,R36,R37,R38,R167,R168,R380,R381, R420,R421,R170,R169,R348,R350 R367,R368,R369,R370,R371,R374,R695, R706,R717,R684,R282,R283,R285,R286, R287,R289,R290,R292 R531,R532,R372,R373 R261,R262,R263,R264,R265,R266,R267, R268,R584,R585,R613,R614,R615,R620, R621,R343,R344,R345,R346,R347,R349, R612 R63,R64,R65,R66,R195,R196,R197,R198, R563,R565,R639 R297,R298,R306,R307,R308,R320 R558,R559 R536,R545,R562,R564,R586,R589,R676, R687,R698,R709,R319,R324,R675,R686, R697,R708 R39,R40,R41,R42,R171,R172,R173,R174, R1,R2,R3,R4,R133,R134,R135,R136,R538 R649 R51,R52,R53,R54,R55,R56,R57,R58,R183, R184,R185,R186,R187,R188,R189,R190, R652 R653 AR1,AR2 C173,C174,C185,C186,C197,C198,C209, C210,C237,C238
332	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	
333	RD00102	SMD fixed resistor 1/10W	12K ±5% 0603	
334	RD00103	SMD fixed resistor 1/10W	15K ±5% 0603	
335	RD00104	SMD fixed resistor 1/10W	18K ±5% 0603	
336	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	
337	RD00105	SMD fixed resistor 1/10W	22K ±5% 0603	
338	RD00106	SMD fixed resistor 1/10W	27K ±5% 0603	
339	RD00107	SMD fixed resistor 1/10W	30K ±5% 0603	
340	RD00353	SMD fixed resistor 1/10W	36K ±5% 0603	
341	RD00111	SMD fixed resistor 1/10W	47K ±5% 0603	
342	RD00112	SMD fixed resistor 1/10W	56K ±5% 0603	
343	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	
344	RD00116	SMD fixed resistor 1/10W	100K ±5% 0603	
345	RD00119	SMD fixed resistor 1/10W	220K ±5% 0603	
346	RD00124	SMD fixed resistor 1/10W	820K ±5% 0603	
347	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	
348	RD00126	SMD fixed resistor 1/10W	2.2M ±5% 0603	
349	RE00011	SMD resistor networks 1/16W	680 *4 ±5% 8P 0603	
350	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	

No.	Part No.	Description	Specification	Remark
				C379,C421,C425,C426,C427,C428,C429,C430,C431,C437,C446,C447,C448,C449,C450,C451,C452,C453,C49,C50,C51,C52,C53,C54,C55,C56,C57,C58,C61,C62,C63,C64,C65,C66,C131,C132,C133,C134,C135,C136,C137,C138,C139,C140,C141,C142,C143,C144,C145,C146,C165,C166,C167,C168,C169,C170,C171,C172,C221,C222,C223,C224,C225,C226,C227,C228,C229,C230,C231,C232,C233,C234,C235,C236,C325,C326,C327,C328,C329,C330,C331,C332,C333,C334,C335,C336,C337,C338,C339,C340,C341,C342,C343,C344,C345,C346,C347,C348,C349,C350,C351,C352,C353,C354,C355,C356,C357,C358,C359,C360,C361,C362,C363,C364,C365,C366,C367,C368,C369,C370,C371,C372,C399,C400,C403,C404,C405,C406,C407,C408,C409,C410,C411,C412,C476,C477,C481,C482,C483,C484,C485,C478
351	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C25,C26,C27,C28,C29,C30,C31,C32,C45,C46,C47,C48,C71,C72,C78,C82,C87,C91,C94,C95,C102,C103,C109,C113,C117,C121,C125,C126,C149,C150,C151,C152,C157,C158,C159,C160,C178,C181,C182,C189,C193,C194,C201,C205,C206,C213,C214,C217,C218,C241,C242,C246,C249,C250,C253,C254,C257,C258,C261,C262,C263,C264,C269,C270,C271,C272,C273,C274,C275,C276,C277,C278,C279,C280,C281,C282,C283,C284,C373,C374,C375,C381,C382,C385,C386,C387,C388,C413,C414,C415,C416,C432,C433,C434,C435,C468,C469,C472,C473,C177,C190,C245,C202
352	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C422,C445
353	CI00053	SMD ceramic capacitor 0603	33PF/50V C0G±5%(C1608C0G1H330JT)/TDK	
354	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C456,C459,C462,C465
355	SF00038	transistor	RK7002(ROHM)	TR1,TR3,TR5,TR9
356	SG00164	SMD integrated circuit	74HC109D	U76
357	SG00068	SMD integrated circuit	74HC14DT(SO-14)/(PHI)	U77
358	SE00028	SMD rectifier diode	BAS316,115	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12,D13,D14,D15,D17,D18,D19,D20,D23,D25,D26,D27,D28,D29
359	SF00056	transistor	MMBT3904(SOT-23)/(PHI)	TR20,TR21
360	SE00009	SMD rectifier diode	DAN202K/T-146	D24
361	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR2,TR4,TR6,TR8,TR13,TR14
362	SF00039	transistor	MMBFJ112(SOT-23)/(FAIRCHILD)	TR15,TR16,TR17,TR18,TR19
363	SG00032	SMD integrated circuit	LM339DR/(TI)	U62,U63,U64,U65,U66,U67
364	SG00306	SMD integrated circuit	LM393DR(TI)/(MEXICO)	U75,U5,U9,U18,U19
365	SG00094	SMD integrated circuit	NE555DT/(ST)	U71
366	SE00007	SMD rectifier diode	RB400D(D3A)	D22
367	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U2,U3,U4,U6,U7,U10,U8,U11,U12,U13,U14,U15,U16,U17,U20,U21,U22,U23,U24,U25,U26,U27,U28,U29,U30,U31,U32,U33,U34,U35,U36,U37,U38,U39,U40,U41,U42,U43,U44,U45,U46,U47,U48,U49,U50,U51,U52,U53,U54,U55,U56,U57,U58,U59,U60,U61,U68,U69,U70,U72,U73,U74,U78,U79
368	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D21,D30,D31,D32,D33
369	SE00008	SMD rectifier diode	DA204K/T-146	D16
370	AE00221	tin soldering paste	SJ-617	
371	RD00071	SMD fixed resistor 1/10W	180 ±5% 0603	R679,R690

No.	Part No.	Description	Specification	Remark
372	RD00475	SMD precise resistor 1/10W	243 ±1% 0603	R701,R711
373	HA02399	wire	245mm black L3R3	
374	AC00002	solder wire	63/37%	
375	HK04001	PC board	P-L12LED-SMD	
376	HB00975	PCB	L12LED(1*30)_VRE030711	
377	SE00004	SMD L.E.D	yellow 67-21UYC/S530-A2/TR8 1210	LED1,LED2,LED3,LED4,LED5
378	AE00221	tin soldering paste	SJ-617	
379	HK01524	PC board	P-313123-DIP(L-12)	
380	SC00004	crystal oscillator	16.00MHZ	XT1
381	HC00499	connector	2.54 180°2*8P(gold-plated) 6/11.6mm	CN2
382	SG00193	SMD integrated circuit	AT27LV010A-90JC/L-8	IC4
383	SG00139	SMD integrated circuit	AT27LV010A-90JC	
384	HK03894	PC board	P-313123-SMD(L-8)	
385	HB00895	PCB	313123/2(1*6)	
386	CI00049	SMD ceramic capacitor 0603	15PF/50V C0G±5%(C1608C0G1H150JT)/TDK	C8,C9
387	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C17,C15,C18,C6,C10,C22,C20,C13,C14,C1,C3,C4,C11
388	RD00061	SMD fixed resistor 1/10W	10 ±5% 0603	R22
389	RD00068	SMD fixed resistor 1/10W	100 ±5% 0603	R12,R14,R7,R8,R34,R17,R13,R33
390	RD00073	SMD fixed resistor 1/10W	220 ±5% 0603	R3
391	RD00085	SMD fixed resistor 1/10W	1.5K ±5% 0603	R16,R15,R21,R20,R4,R19,R10,R18,R9,R5
392	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R28,R27,R23,R24,R29,R30,R25,R26
393	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R32,R31,R1
394	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R2
395	RE00006	SMD resistor networks 1/16W	100 *4 ±5% 8P 0603	AR1,AR2
396	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D1
397	SG00068	SMD integrated circuit	74HC14DT(SO-14)/(PHI)	IC1
398	SG00410	SMD integrated circuit	IC41LV16256-35KG(SOJ40)/(ICSI)	IC6
399	SG00166	SMD integrated circuit	TY-2 ALTO(GMCODE:105022)	IC3
400	SG00147	SMD integrated circuit	CHEF DSP(GMCODE:105022)	
401	SG00037	SMD integrated circuit	LD1117DT33C(TO-252)	IC2
402	HC00233	IC socket (PCB)	PLCC32 (D03-32T.A.4)	IC4
403	SG00016	SMD integrated circuit	UDA1345TS (Philips)	IC5
404	AE00221	tin soldering paste	SJ-617	
405	NE11475	label	L-8	
406	NH00035	bond paper	0.06*1M	
407	NI00017	membrane	0.055*1M	
408	AC00002	solder wire	63/37%	
409	CB00166	electrolytic capacitor	100uF/16V 6*5mm	C19,C12,C5,C2,C24,C16,C21,C25,C26,C28,C7
410	MJ01235	side cover board	L-12 left	
411	MJ01236	side cover board	L-20 left 1.0t*400*115	
412	MJ00058	single light board	1*2135*1220 20.45kg	
413	HA02453	wire	20P-20P 40mm UL2651 28AWG PH1.27mm	
414	NE02717	label	MADE IN CHINA	

No.	Part No.	Description	Specification	Remark
415	NH00038	paper	0.115*1M	
416	NI00028	membrane	0.110*1M	
417	MG00112	color screw	M4*52	
418	NB02474	cushion	L-12;16;20series right	
419	NB02473	cushion	L-12;16;20series contrary	
420	MJ00808	fixed clip	WL3-32T	
421	NC00080	washer	3.17* 8.2*1	
422	NC00014	black foil white board	0.65M*60M*1t	
423	NA00137	clip-chain bag	5*7	
424	MG00363	copper pillar	M3*14*0.5PH	
425	NI01825	cushion	0.5* 3.3* 8.3 a VERB	
426	NI00375	film	45*60.5*0.5mm	
427	HA00827	wire	210mm brown L5R5	
428	MI01813	fixed bracket	L-12 right	
429	MI01814	fixed bracket	L-12 right 1.5t*400*59*30	
430	MJ00088	single light board	1.5*2135*1220 30.67kg	
431	MI01815	fixed bracket	L-12 left	
432	MI01816	fixed bracket	L-12 left 1.5t*400*59*30	
433	MJ00088	single light board	1.5*2135*1220 30.67kg	
434	MJ00359	cushion	L-12 0.3t*85*85mm_V1.0	
435	MJ00087	iron board	0.3*200*3000 1.431kg	
436	HA03125	wire	260mm UL1015 22AWG yellow	
437	MI02108	separating shade	RD204 0.3t*69*69*58_V1.0	
438	MI02107	separating shade	RD204 0.3t*69*69*58_V1.0	
439	MJ00087	iron board	0.3*200*3000 1.431kg	
440	MI02106	separating shade	RD204 0.3t*70*70*59_V1.0	
441	MI02105	separating shade	RD204 0.3t*70*70*59_V1.0	
442	MJ00087	iron board	0.3*200*3000 1.431kg	
443	NF01492	instruction	L-12 ALTO_V1.3	
444	NH00149	paper	889*640mm	
445	NA00279	clip-chain bag	0.04t*100*150mm_V1.0	
446	AD00012	twin adhesive	90*120mm_V1.0	

L-16

No.	Part No.	Description	Specification	Remark
1	MA03903	panel	L16	
2	MA03902	panel	L16	
3	MA03901	panel	L-16_V1.2	
4	MJ01186	hot gradual zinc	1.0t*2135*1220mm 20.45kg	
5	MB02789	rear board	L-16	
6	MB02635	rear board	L16	
7	MB02689	rear board	L16_V1.0	
8	MJ00058	single light board	1*2135*1220 20.45kg	
9	ME00040	iron pillar	hexagon6.35*M3*10.1	
10	ME00099	screw pillar	M3*16*0.5PH	
11	ME00001	screw pillar	M4*10*0.7PH	
12	ME00119	screw pillar	M4*9*0.7PH	
13	MJ01159	side cover board	L20 right	
14	MJ01158	side cover board	L-20 right 1.0t*400*115	
15	MJ00058	single light board	1*2135*1220 20.45kg	
16	NI02638	acrylic panel	L-12 (3t*97.5*49mm)	
17	NI02639	acrylic panel	L-12 (3t*97.5*49mm)	
18	NI02640	acrylic panel	L-12 (3t*91.5*56mm)	
19	NI02641	acrylic panel	L-12 (3t*91.5*56mm)	
20	MJ01225	barrier	L-12 1.2t*100.5*74.5	
21	MJ00063	iron board	1.2*2135*1220 24.54kg	
22	ME00041	iron pillar	hexagon6.35*M3*6	
23	NI02620	insulation board	1*86.5*53 L-8	
24	NC00010	insulation board	0.65M*60M*1t	
25	HK05685	PC board	P-RD204PWR	
26	HB01303	PCB	L SERIES PWR_VER040525	
27	CB00170	electrolytic capacitor	1000uF/100V 18*35.5mm	C4
28	CB00052	electrolytic capacitor	100uF/100V 13*21mm	C15
29	CB00047	electrolytic capacitor	100uF/25V 6*11mm	C11,C12
30	CB00142	electrolytic capacitor	4.7uF/63V 5*11mm	C14
31	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C13
32	CB00083	electrolytic capacitor	3300uF/35V 16*32mm	C1,C2,C3
33	CB00025	electrolytic capacitor	10uF/50V 6*7mm	C5,C6
34	CH00033	laminated capacitor	0.1uF/50V +80%-10% Y5V	C7,C8,C9,C10
35	RA00332	fixed resistor 1/8W	120 M type	R5,R6
36	RA00791	fixed resistor 1/8W	180 M type	R7
37	RA00364	fixed resistor 1/8W	2.2K M type	R1,R2
38	RA00371	fixed resistor 1/8W	3.3K M type	R3,R4
39	RA00249	fixed resistor 1/4W	18K M type	R8
40	RA00250	fixed resistor 1/4W	20K M type	R9
41	RA00135	fixed resistor 1/2W	1.5k M type	R10
42	RA00141	fixed resistor 1/2W	10K M type	R11
43	SA00094	rectifier diode	1N4002/100V	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11, D12,D13,D14,D15,D16,D17

No.	Part No.	Description	Specification	Remark
44	SA00005	bridge rectifier	4A/400V RS405	BD1
45	SD00032	integrated circuit	LM317T	TR1,TR2
46	SD00033	integrated circuit	LM337SP(1.5A)(TO-220)	TR3
47	SD00074	integrated circuit	L7805CV(TO-220)(ST)	TR4
48	HC00063	FUSE holder	JEF-501 (5.2mm)	FUSE1,FUSE1
49	HD00012	glass tube fuse	500mA 250V 5.2*20mm CSA/S/UL/VDE	
50	HC00324	connect terminal	6.5m/m (PC250)	TP1,TP2
51	HC00076	connector(male)	2P 2.5mm 180°	CN2,CN4
52	HC00082	connector(male)	8P 2.5mm 180°	CN3
53	HC00181	connector(male)	7P 3.96mm 180°	CN1
54	MG00162	screw	M3*8	
55	MF00037	washer	3.2* 5.5*1t	
56	NC00005	silicone insulator	TO-220 square type	
57	NI02249	plastic washer	TW-1(TO-220)	
58	MI02762	heat sink	RD204 3t*106.5*170_V1.0	
59	MJ00057	AL plate-RS	3*2000*1000 16.32kg	
60	MI01765	switch cover	L-12	
61	MI01766	switch cover	L-12 1.2t*61.5*19.5*4	
62	MJ00059	single light board	1.2*2135*1220 24.54kg	
63	ME00060	MIC jack	JY-6351G-02-250	
64	MF00061	MIC jack	9.6* 13*0.5t	
65	MG00061	screw	M3*10	
66	HC00206	BNC jack	WJ-7031(28*12.7)	
67	HA01638	row-wire connector wiring	2P 280	
68	HA02454	wire	20Pfema*3 160mm UL2651 28AWG PH1.27mm	
69	NI02642	fixed plate	L-12 (6.8*110*63.3 white)	
70	NI02083	knob	10.5*18mm	
71	NI02081	knob	10.5*18mm	
72	NI02082	knob	10.5*18mm	
73	NI02633	knob	10.5*18	
74	NI02084	knob	10.5*18mm	
75	NI02386	knob	14*13mm	
76	NI01166	slide key	6*7*8 COOL GRAY 8U	
77	NI02309	knob	24*11.5*11	
78	NI02352	knob	24*11.5*11	
79	NI02353	knob	24*11.5*11	
80	NI01863	key-RS	5.5*W10*7.5	
81	NI01862	key	5.5*5.5*12.8	
82	NI02377	knob	5.5*7.5mm(内3.3*3.3mm)	
83	MG00041	screw	M3*6	
84	NI02548	handle	401*31*25mm	
85	NI02547	handle	401*31*25mm	
86	MG00027	screw	M3*12	

No.	Part No.	Description	Specification	Remark
87	ND00245	dustproof cloth	0.35t*463*100mm black	
88	ND00247	dustproof cloth	0.35t*100*50(2016B)_V1.1	
89	MG00304	copper pillar	M3*14*0.5PH	
90	MG00020	screw	M3*8	
91	NI00863	plastic washer	TO220B	
92	TC00186	transformer	PT-L16-115V*2	
93	MI00919	separating shade	L-16 0.3t*70.6*66.6*58	
94	MJ00087	iron board	0.3*200*3000 1.431kg	
95	ME00016	color nut	4m/m	
96	MF00038	washer	4* 7*1t	
97	MF00018	washer	4* 10*1t_V1.0	
98	MF00105	washer	4* 10*1t_V1.0	
99	MJ00058	single light board	1*2135*1220 20.45kg	
100	MF00048	washer	4* 8*0.5t	
101	ME00015	color nut	3m/m	
102	HA02337	wire	16P-16P PH1.27 105mm	
103	HI00120	slide switch	L21-22A	
104	HC00008	AC socket	3515 A TYPE(RF-2004-C-4.8)	
105	HD00012	glass tube fuse	500mA 250V 5.2*20mm CSA/S/UL/VDE	
106	HA01835	P.V.C single wave wired UL1617	80 brown	
107	HA01174	wiring CF:W146	80 green/yellow	
108	MG00042	screw	M3*10	
109	HI00026	power switch-RS	RA12KKATOF 2P	
110	HI00171	power switch-RS	R612KKATOF1	
111	NI00252	sleeve	4*20mm	
112	NI00248	sleeve	4*1000mm	
113	NI00268	sleeve	6*20mm	
114	NI00266	sleeve	6*1000mm	
115	HA02657	wire	8P-8P 360mm UL1007 20AWG	
116	HA00861	power cord Europe 3P	LT-312+LT-501	
117	NI00218	cable tie	ALT-102SB	
118	NI02519	self-adhere foot cushion	15.9*8.0mm(RF-006)	
119	NF00061	assurance card	ALTO	
120	NF01493	instruction	L-16 ALTO_V1.3	
121	NH00149	paper	889*640mm	
122	NB02050	gift carton	L-16 ALTO	
123	NB02468	carton	L-16	
124	HJ00006	desiccant	30g	
125	NA00136	PE bag	0.05t*820*540mm	
126	NE05004	label	ALTO	
127	NH00334	cone paper	0.040*1m	
128	NE11467	label	L-16 ALTO	
129	NH00012	bond paper	0.04*1M	

No.	Part No.	Description	Specification	Remark
130	NI00014	membrane	0.035*1M	
131	HK03982	PC board	P-L12PU1-DIP	
132	HC00125	MIC jack	JY-6351G-02-250	X1,X2,X3,X4,X5,X6,X7,X8,X9,X10,X11,X12, X13,X14,X15,X16,X17,X18,X19,X20,X21, X22,X23,X24,X25,X26,X27,X28,X29,X30, X31,X34,X35
133	HA01925	jump	10mm	JP1,JP2,JP3,JP4,JP5,JP6,JP7,JP11
134	HA02249	wire	0.6	
135	HC00525	connector(male)	18P 2.0mm 180°	CN2,CN3
136	HC00256	connector(male)	5P 2.0mm 180°	CN1
137	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C1,C2,C3
138	HA01919	jump	5mm	JP8,JP9,JP10
139	HA02249	wire	0.6	
140	HC00392	balance MIC jack	JY-5030-030G 180°	X32,X33
141	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW1
142	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1);30F-C	VR1
143	HK03983	PC board	P-L12PU1-SMD	
144	HB00955	PCB	L12PU1_VER050316	
145	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C5,C6 R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R11,R12, R13,R14,R15,R16,R17,R18,R19,R20,R21, R22,R23,R24,R25,R26,R27,R28,R29,R30, R31,R32,R33,R34,R35,R36,R37,R38,R39, R40,R41,R42,R43,R44,R45,R46,R47,R48, R56,R57
146	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	
147	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C4
148	RD00107	SMD fixed resistor 1/10W	30K ±5% 0603	R55
149	RD00353	SMD fixed resistor 1/10W	36K ±5% 0603	R50
150	RD00352	SMD fixed resistor 1/10W	3.6K ±5% 0603	R49
151	SG00122	SMD integrated circuit	NJM4580M-TE3	U1
152	RD00440	SMD fixed resistor 1/8W	5.1K ±5% 0805	R51,R52,R53,R54
153	AE00221	tin soldering paste	SJ-617	
154	AC00002	solder wire	63/37%	
155	HK03984	PC board	P-L12PU2-DIP	
156	CB00003	electrolytic capacitor	0.22uF/50V 5*11mm	C16,C16-1,C16-2,C17,C17-1,C17-2,C173, C16-3,C18,C18-1,C18-2,C18-3,C50,C501, C51,C51-1,C52,C52-1
157	CB00074	electrolytic capacitor	1000uF/10V 8*11mm	C19,C19-1,C19-2,C19-3,C53,C53-1
158	HC00321	connector(male)	14P 2.0mm 180°	CN1,CN2,CN4
159	HC00524	connector(male)	15P 2.0mm 180°	CN3
160	CB00029	electrolytic capacitor	22uF/35V 5*11mm	C9,C9-1,C9-2,C9-3,C10-1,C10,C10-2,C10-3 C107,C108,C109,C110,C7,C7-1,C72,C73,C8 C81,C82,C83,C54,C541,C55,C551,C56, C56-1,C57,C57-1
161	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C12,C12-1,C12-2,C12-3,C13,C13-1,C132, C13-3,C36,C36-1,C37,C37-1
162	CB00042	electrolytic capacitor	47uF/63V 105 LZ 8*11mm	R1,R1-1,R1-2,R1-3,R2,R2-1,R2-2,R23,R38, R38-1,R39,R39-1
163	RA00505	precise resistor 1/4W	6.81K M type	TR1,TR1-1,TR1-2,TR1-3,TR2,TR2-1,TR22, TR2-3,TR6,TR6-1,TR7,TR7-1
164	SB00175	transistor	2SA970-BL(TE2;T)	
165	HC00126	balance MIC jack	JY-5042-030G female plug 180°	X3,X3-1,X3-2,X3-3,X6,X6-1
166	HC00125	MIC jack	JY-6351G-02-250	X1,X1-1,X1-2,X1-3,X2,X2-1,X2-2,X2-3,X4, X4-1,X5,X5-1,X7,X8,X9,X10,X11,X12

No.	Part No.	Description	Specification	Remark
167	SD00007	integrated circuit	BA15218N (M5218L substitute)	U8,U9,U10,U11
168	HC00403	RCA jack	SCP6873NS3232T2 4P	X13
169	HK03985	PC board	P-L12PU2-SMD	
170	HB00956	PCB	L12PU2_VER030530	
171	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	C58,C58-1,C59,C59-1,C60,C60-1,C61,C61-1,C91,C92,C93,C94,C95,C96,C97,98 C24,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35,C63,C64,C65,C66,C67,C68,C69,C70,C71,C72,C73,C74,C75,C76,C77,C78,C79,C80,C81,C82,C83,C84,C85,C86,C87,C89,C90,C88
172	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	R70,R701,R71,R711,R76,R77,R78,R79,R80,R81,R82,R83,R84,R85,R86,R87,R92,R93,R94,R95
173	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R26,R26-1,R26-2,R26-3,R27,R27-1,R27-2,R27-3,R61,R61-1,R62,R62-1
174	RD00214	SMD precise resistor 1/10W	10.0K ±1% 0603	C1,C1-1,C1-2,C1-3,C2,C2-1,C2-2,C2-3,C38,C38-1,C39,C39-1
175	CI00071	SMD ceramic capacitor 0603	0.01uF/50V X7R ±10%	R104,R104-1,R104-2,R104-3
176	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R96,R97,R98,R99,R100,R101,R102,R103
177	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	R66,R66-1,R67,R67-1,R68,R68-1,R69,R69-1
178	RD00104	SMD fixed resistor 1/10W	18K ±5% 0603	R31,R32
179	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R28,R28-1,R28-2,R28-3,R64,R64-1
180	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R15,R15-1,R15-2,R15-3,R16,R16-1,R16-2,R16-3,R40,R40-1,R41,R41-1
181	RD00201	SMD precise resistor 1/10W	1.50K ±1% 0603	C14,C14-1,C14-2,C14-3,C15,C15-1,C15-2,C15-3,C40,C40-1,C41,C41-1
182	CI00065	SMD ceramic capacitor 0603	0.001uF/50V X7R ±10%	R17,R17-1,R17-2,R17-3,R18,R18-1,R18-2,R18-3,R19,R19-1,R19-2,R19-3,R42,R42-1,R43,R43-1,R44,R44-1,R45-1,R45,R46,R46-1,R47,R47-1,R73,R73-1,R75,R75-1,R88,R89,R90,R91
183	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	C3,C3-1,C3-2,C3-3,C4,C4-1,C4-2,C4-3,C5,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3,C42,C42-1,C43,C43-1,C44,C44-1,C45,C45-1,C46,C46-1,C47,C47-1,C48,C48-1,C49,C49-1,C99,C100,C101,C102,C103,C104,C105,C106,C111,C112,C113,C114
184	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3,R5,R5-1,R5-2,R5-3,R6,R6-1,R6-2,R6-3,R7,R7-1,R7-2,R7-3,R8,R8-1,R8-2,R8-3,R9,R9-1,R9-2,R9-3,R48,R48-1,R49,R49-1,R50,R50-1,R51,R51-1,R52,R52-1,R53,R53-1,R54,R54-1
185	RD00204	SMD precise resistor 1/10W	2.49K ±1% 0603	C11,C11-1,C11-2,C11-3,C62,C62-1
186	CI00062	SMD ceramic capacitor 0603	330PF/50V NPO ±5 %	R72,R72-1,R74,R74-1
187	RD00105	SMD fixed resistor 1/10W	22K ±5% 0603	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3,U3,U3-1,U4,U4-1,U5,U5-1,U6,U7
188	SG00122	SMD integrated circuit	NJM4580M-TE3	R20,R20-1,R20-2,R20-3,R21,R21-1,R21-2,R21-3,R55,R55-1,R56,R56-1
189	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2,R11-3,R12,R12-1,R12-2,R12-3,R35,R35-1,R36,R36-1,R37,37-1
190	RD00355	SMD fixed resistor 1/10W	4.7 ±5% 0603	R22,R22-1,R22-2,R22-3,R23,R23-1,R23-2,R23-3,R24,R24-1,R24-2,R24-3,R25,R25-1,R25-2,R25-3,R57,R57-1,R58,R58-1,R59,R59-1,R60,R60-1
191	RD00210	SMD precise resistor 1/10W	5.11K ±1% 0603	R13,R13-1,R13-2,R13-3,R14,R14-1,R14-2,R14-3
192	RD00365	SMD precise resistor 1/10W	5.62K ±1% 0603	R30,R30-1,R30-2,R30-3,R63,R63-1
193	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	R29,R29-1,R29-2,R29-3,R65,R65-1
194	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	
195	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3,D2,D2-1

No.	Part No.	Description	Specification	Remark
196	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR8,TR8-1,TR9,TR9-1,TR10-1,TR3,TR3-1,TR3-2,TR3-3,TR4,TR4-1,TR4-2,TR4-3,TR5,TR5-1,TR5-2,TR5-3,TR10
197	AE00221	tin soldering paste	SJ-617	
198	AC00002	solder wire	63/37%	
199	HK03991	PC board	P-L12MN2-DIP	
200	RA00174	fixed resistor 1/4W	47 M type	R52,R53
201	CB00009	electrolytic capacitor	1uF/50V 4*7mm	C21,C21-1,C21-2,C21-3,C22,C22-1,C22-2,C22-3
202	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C2,C2-1,C2-2,C2-3,C3,C3-1,C3-2,C3-3,C4,C4-1,C4-2,C4-3,C28,C28-1,C28-2,C283,C24,C25,C26,C27
203	CF00023	metal-film capacitor MSC	0.033uF/63V 5% CASE01	C11,C11-1,C11-2,C11-3,C12,C12-1,C12-2,C12-3
204	CF00003	metal-film capacitor MSC	0.0015uF/100V 5% CASE01	C10,C10-1,C10-2,C10-3
205	CF00012	metal-film capacitor MSC	0.0068uF/100V 5% CASE01	C7,C7-1,C7-2,C7-3,C8,C8-1,C8-2,C8-3,C1,C1-1,C1-2,C1-3
206	HI00236	push-button switch-RS	2-stage 6P PS-9226A(SELF-LOCK)	SW3,SW3-1,SW3-2,SW3-3,SW5,SW5-1,SW5-2,SW5-3,SW6,SW6-1,SW6-2,SW6-3,SW7,SW7-1,SW7-2,SW7-3,SW2,SW21,SW2-2,SW2-3,SW1,SW1-1,SW1-2,SW1-3
207	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW4,SW4-1,SW4-2,SW4-3
208	RC00284	slide potentiometer	D10K RF6011YP600F-10KD(SAS1)	VR5,VR5-1,VR5-2,VR5-3
209	RC00356	potentiometer	Z10K RD09F1130042-10KZ(SAS1);30F	VR11,VR11-1,VR11-2,VR11-3
210	RC00358	potentiometer	B50K -RD09F113A223-50K2BT(SAS1);30F-C	VR1,VR1-1,VR1-2,VR1-3,VR2,VR2-1,VR2-2,VR2-3,VR4,VR4-1,VR4-2,VR4-3
211	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1);30F-C	VR6,VR6-1,VR6-2,VR6-3,VR7,VR7-1,VR7-2,VR7-3,VR8,VR8-1,VR8-2,VR8-3,VR9,VR9-1,VR9-2,VR9-3,VR10,VR10-1,VR10-2,VR10-3
212	RC00366	potentiometer	C500K RD12L123A43D-500K15C*2(SAS1)30F-C	VR3,VR3-1,VR3-2,VR3-3
213	SA00054	L.E.D	3m/m round(yellow)long foot 26	LD1,LD1-1,LD1-2,LD1-3
214	SA00053	L.E.D	3 round(red)long foot 26mm	LD2,LD2-1,LD2-2,LD2-3
215	SA00051	L.E.D	3 orange, green BOG303b	LD3,LD3-1,LD3-2,LD3-3
216	NI01782	LED spacer support	LEDS-11 11mm	LD1,LD1-1,LD1-2,LD1-3,LD2,LD2-1,LD2-2,LD2-3
217	NI02588	LED spacer support	LED3*11 11mm	LD3,LD3-1,LD3-2,LD3-3
218	HA02446	wire	14P-14P 60mm UL1007 28AWG	CN1,CN2
219	HA01564	row-wire connector wiring	5P(male)-5P(female) 180	CN3
220	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN4
221	HK03999	PC board	P-L12MN2-SMD	
222	HB00959	PCB	L12MN2_VER030530	
223	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R51,R51-1,R51-2,R51-3
224	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R23,R23-1,R23-2,R23-3
225	RD00090	SMD fixed resistor 1/10W	3.0K ±5% 0603	R1,R1-1,R1-2,R1-3
226	RD00091	SMD fixed resistor 1/10W	3.3K ±5% 0603	R26,R26-1,R26-2,R26-3
227	RD00092	SMD fixed resistor 1/10W	3.9K ±5% 0603	R18,R18-1,R18-2,R18-3
228	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R29,R29-1,R29-2,R29-3,R30,R30-1,R30-2,R30-3,R49,R49-1,R49-2,R49-3
229	RD00094	SMD fixed resistor 1/10W	5.1K ±5% 0603	R6,R6-1,R6-2,R6-3,R7,R7-1,R7-2,R7-3,R8,R8-1,R8-2,R8-3,R9,R9-1,R9-2,R9-3,R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2,R11-3,R12,R12-1,R12-2,R12-3,R13,R13-1,R13-2,R13-3
230	RD00095	SMD fixed resistor 1/10W	5.6K ±5% 0603	R24,R24-1,R24-2,R25,R25-1,R25-2,R25-3,R24-3

No.	Part No.	Description	Specification	Remark
231	RD00096	SMD fixed resistor 1/10W	6.2K ±5% 0603	R21,R21-1,R21-2,R21-3,R22,R22-1,R22-2,R22-3
232	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R14,R14-1,R14-3,R15,R15-3,R16,R16-3,R15-1,R16-1,R17,R17-1,R17-3,R27,R27-1,R27-3,R28,R28-1,R28-3,R14-2,R15-2,R16-2,R17-2,R27-2,R28-2
233	RD00099	SMD fixed resistor 1/10W	8.2K ±5% 0603	R43,R43-1,R43-2,R43-3
234	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R2,R2-1,R2-2,R2-3,R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3,R5,R5-1,R5-2,R5-3,R45,R45-1,R45-2,R45-3,R47,R47-1,R47-2,R47-3,R48,R48-1,R48-2,R48-3,R46,R46-1,R46-2,R46-3
235	RD00102	SMD fixed resistor 1/10W	12K ±5% 0603	R20,R20-1,R20-2,R20-3
236	RD00103	SMD fixed resistor 1/10W	15K ±5% 0603	R40,R40-1,R40-2,R40-3
237	RD00106	SMD fixed resistor 1/10W	27K ±5% 0603	R50,R50-1,R50-2,R50-3
238	RD00116	SMD fixed resistor 1/10W	100K ±5% 0603	R42,R42-1,R42-2,R42-3,R41,R41-1,R41-2,R41-3
239	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R19,R19-1,R19-2,R19-3
240	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C5,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3,C9,C9-1,C9-3,C9-2
241	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C23,C23-1,C23-2,C23-3
242	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C14,C14-1,C14-2,C14-3,C15,C15-2,C16,C16-2,C17,C17-1,C17-2,C17-3,C18,C18-1,C18-2,C18-3,C19,C19-1,C19-2,C19-3,C20,C20-1,C20-2,C20-3
243	SG00306	SMD integrated circuit	LM393DR(TI)/(MEXICO)	U4,U4-1,U4-2,U4-3
244	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D2,D2-1,D2-2,D2-3,D3,D3-1,D3-2,D3-3,D4,D4-1,D4-2,D4-3
245	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3,U3,U3-2
246	SF00038	transistor	RK7002(ROHM)	TR2,TR2-1,TR2-2,TR2-3
247	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3
248	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR1,TR1-1,TR1-2,TR1-3
249	AE00221	tin soldering paste	SJ-617	
250	RD00074	SMD fixed resistor 1/10W	270 ±5% 0603	R44,R44-1,R44-2,R44-3
251	AC00002	solder wire	63/37%	
252	HK04012	PC board	P-L12MN1-DIP	
253	CF00003	metal-film capacitor MSC	0.0015uF/100V 5% CASE01	C440,C441,C442
254	RC00285	slide potentiometer-dual unit	D10K RF60112P600G-10KD*2(SAS1)	VR5,VR16,VR38,VR39,VR56
255	RC00284	slide potentiometer	D10K RF6011YP600F-10KD(SAS1)	VR53,VR54,VR55,VR66
256	CB00024	electrolytic capacitor	10uF/16V 4*7mm	C443,C444
257	RA00185	fixed resistor 1/4W	120 M type	R597,R598
258	CF00054	metal-film capacitor MSC	0.012uF/63V ±5% CASE01	C13,C14,C15,C16,C17,C18,C19,C20,C76,C77,C85,C86,C107,C108,C115,C116
259	CF00001	metal-film capacitor MSC	0.001uF/63V 5% CASE01	C21,C22,C23,C24,C75,C84,106,C114
260	CF00038	metal-film capacitor MSC	0.22uF/63V 5% CASE02	C295,C296,C303,C304,C305,C306,C313,C314,C321,C322,C323,C324
261	CB00009	electrolytic capacitor	1uF/50V 4*7mm	C423,C424,C454,C455,C458,C460,C461,C463,C464,C457
262	CB00011	electrolytic capacitor	2.2uF/50V 5*11mm	C380
263	CF00022	metal-film capacitor MSC	0.022uF/100V 5% CASE01	C291,C292,C293,C294,C301,C302,C309,C310,C311,C312,C319,C320
264	CF00005	metal-film capacitor MSC	0.0022uF/63V 5% CASE01	C289,C290,C297,C298,C299,C300,C307,C308,C315,C316,C317,C318

No.	Part No.	Description	Specification	Remark
265	CF00006	metal-film capacitor MSC	0.0033uF/100V 5% CASE01	C33,C34,C35,C36,C37,C38,C39,C40,C79,C80,C88,C89,C110,C111,C118,C119
266	CB00018	electrolytic capacitor	4.7uF/25V 4*7mm	C436,C438,C439
267	RA00174	fixed resistor 1/4W	47 M type	R745,R746
268	CF00025	metal-film capacitor MSC	0.047uF/63V 5% CASE01	C41,C42,C43,C44,C81,C90,C112,C120 C1,C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C67,C68,C69,C70,C73,C74,C83,C92,C96,C97,C98,C99,C100,C101,C104,C105,C122,C123,C127,C128,C153,C154,C155,C156,C161,C162,C164,C163,C176,C179,C180,C184,C187,C188,C191,C192,C195,C196,C199,C200,C203,C204,C207,C211,C212,C215,C216,C219,C220,C239,C240,C243,C244,C247,C248,C252,C255,C256,C259,C260,C265,C266,C267,C268,C285,C286,C376,C377,C378,C383,C393,C384,C395,C396,C401,C417,C418,C419,C466,C467,C470,C471,C474,C475,C491,C492,C493,C494,C495,C496,C497,C498,C500,C501,C502,C503,C504,C505,C506,C507,C479,C175,C287,C288,C480,C486,C487,C397,C398,C183,C208,C251,C394,C420,C402,C488,C489,C490,C499,C508,C510,C509
269	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	VR57,VR58,VR59,VR60,VR61,VR62,VR63,VR64,VR65 SW2,SW5,SW6,SW7,SW9,SW12,SW13,SW14,SW15,SW16,SW21,SW22,SW24,SW25,SW26,SW32,SW33,SW34,SW35,SW36,SW37,SW38,SW39,SW43,SW44,SW45,SW46,SW48,SW49,SW50,SW51,SW1,SW8,SW23,SW40,SW41
270	RC00315	slide potentiometer	W100K RA3022-202-15DA-W100K-C	SW4,SW11,SW19,SW20,SW27,SW28,SW29,SW30,SW31,SW42,SW3,SW10,SW17,SW18
271	HI00236	push-button switch-RS	2-stage 6P PS-9226A(SELF-LOCK)	SW47
272	HI00238	push-button switch-RS	2 stage 6P PS-9226A(NON-LOCK)	SW4,SW11,SW19,SW20,SW27,SW28,SW29,SW30,SW31,SW42,SW3,SW10,SW17,SW18
273	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW47
274	HI00161	relay	RY-5W-K,5V	RL1
275	HI00195	rotary switch	SDB161PVB15.5F-1-4-16-16PC	EN1,EN2
276	RC00360	potentiometer	B50K RD12L12CA23A-50K3BT*2(SAS1);30F-C	VR1,VR2,VR3,VR4,VR12,VR13,VR14,VR15,VR24,VR25,VR26,VR27,VR41,VR42,VR43,VR40
277	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1);30F-C	VR6,VR7,VR8,VR9,VR10,VR17,VR18,VR19,VR20,VR21,VR28,VR29,VR31,VR32,VR33,VR34,VR35,VR36,VR37,VR48,VR49,VR50,VR51,VR71,VR72,VR30,VR69,VR70
278	RC00361	potentiometer	W50K RD12L12CA60B-50K4BT*2(SAS1);30F-C	VR23,VR44,VR45,VR46,VR47,VR52,VR67,VR68,VR73
279	RC00356	potentiometer	Z10K RD09F1130042-10KZ(SAS1);30F	VR11,VR22
280	SA00051	L.E.D	3 orange, green BOG303b	LD39,LD40,LD41,LD42
281	NI02588	LED spacer support	LED3*11 11mm	
282	SA00053	L.E.D	3 round(red)long foot 26mm	LD3,LD4,LD7,LD8,LD9,LD11,LD23,LD35,LD37,LD38
283	SA00054	L.E.D	3m/m round(yellow)long foot 26	LD1,LD2,LD5,LD6,LD22,LD34
284	SA00052	L.E.D	3 round(green)long foot 26	LD12,LD13,LD14,LD15,LD16,LD17,LD18,LD19,LD20,LD21,LD24,LD25,LD26,LD27,LD28,LD29,LD30,LD31,LD32,LD33,LD36,LD10
285	NI01782	LED spacer support	LEDS-11 11mm	
286	HC00499	connector	2.54 180°2*8P(gold-plated) 6/11.6mm	CN6
287	HC00072	row-wire header	connector(male)	CN1
288	HA02446	wire	14P(male)-14P(female) 60mm UL1007 28AWG	CN4
289	HA02445	wire	15P(male)-15P(female) 60mm UL1007 28AWG	CN5
290	HA02444	wire	18P(male)-18P(female) 640mm UL1007 28AWG	CN2,CN3

No.	Part No.	Description	Specification	Remark
291	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN7
292	HK04013	PC board	P-L12MN1-SMD	
293	HB00960	PCB	L12MN1_VER031020	
294	RD00441	SMD precise resistor 1/10W	787 ±1% 0603	R488,R524
295	RD00442	SMD precise resistor 1/10W	976 ±1% 0603	R464,R500
296	RD00405	SMD precise resistor 1/10W	1.18K ±1% 0603	R476,R512
297	RD00443	SMD precise resistor 1/10W	1.54K ±1% 0603	R472,R508
298	RD00444	SMD precise resistor 1/10W	1.96K ±1% 0603	R484,R520
299	RD00445	SMD precise resistor 1/10W	2.43K ±1% 0603	R460,R496
300	RD00385	SMD precise resistor 1/10W	3.01K ±1% 0603	R492,R528
301	RD00207	SMD precise resistor 1/10W	3.92K ±1% 0603	R468,R504
302	RD00386	SMD precise resistor 1/10W	4.75K ±1% 0603	R480,R516
303	RD00300	SMD precise resistor 1/10W	6.04K ±1% 0603	R487,R523
304	RD00446	SMD precise resistor 1/10W	9.76K ±1% 0603	R475,R511
305	RD00301	SMD precise resistor 1/10W	12.1K ±1% 0603	R471,R486,R507,R522
306	RD00420	SMD precise resistor 1/10W	19.1K ±1% 0602	R459,R495
307	RD00447	SMD precise resistor 1/10W	19.6K ±1% 0603	R474,R510
308	RD00448	SMD precise resistor 1/10W	24.3K ±1% 0603	R470,R491,R506,R527
309	RD00266	SMD precise resistor 1/10W	30.1K ±1% 0603	R467,R482,R503,R518
310	RD00449	SMD precise resistor 1/10W	38.3K ±1% 0603	R458,R479,R494,R515
311	RD00450	SMD precise resistor 1/10W	48.7K ±1% 0603	R490,R526
312	RD00223	SMD precise resistor 1/10W	49.9K ±1% 0603	R432,R433,R440,R441,R448,R449
313	RD00264	SMD precise resistor 1/10W	60.4K ±1% 0603	R466,R502
314	RD00451	SMD precise resistor 1/10W	76.8K ±1% 0603	R478,R514
315	RD00065	SMD fixed resistor 1/10W	47 ±5% 0603	R592,R593
316	RD00346	SMD fixed resistor 1/10W	56 ±5% 0603	R599
317	RD00066	SMD fixed resistor 1/10W	68 ±5% 0603	R624,R625
318	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R600,R657,R658,R659,R660,R661,R662, R663,R664
319	RD00073	SMD fixed resistor 1/10W	220 ±5% 0603	R646,R647,R650
320	RD00076	SMD fixed resistor 1/10W	330 ±5% 0603	R602,R604
321	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R601,R603,R605
322	RD00347	SMD fixed resistor 1/10W	510 ±5% 0603	R257,R258,R259,R260,R386,R393,R400, R407,R595,R596,R606,R622,R623
323	RD00348	SMD fixed resistor 1/10W	620 ±5% 0603	R607
324	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R125,R126,R127,R128,R654,R685, R696,R707,R718
325	RD00084	SMD fixed resistor 1/10W	1.2K ±5% 0603	R129,R130,R131,R132
326	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R608
327	RD00086	SMD fixed resistor 1/10W	1.8K ±5% 0603	R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15, R16,R17,R18,R19,R20,R137,R138,R139, R140,R141,R142,R143,R144,R145,R146, R147,R148,R149,R150,R151,R152
328	RD00087	SMD fixed resistor 1/10W	2.0K ±5% 0603	R582,R609
329	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R67,R68,R233,R234,R375,R635
330	RD00091	SMD fixed resistor 1/10W	3.3K ±5% 0603	R69,R70,R199,R200,R626,R627
331	RD00352	SMD fixed resistor 1/10W	3.6K ±5% 0603	R329,R330,R335,R336,R338,R339

No.	Part No.	Description	Specification	Remark
332	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R210,R211,R212,R213,R217,R218,R219, R224,R583,R648,R683,R694,R716,R719, R720,R721,R722,R723,R724,R725,R726, R353,R357,R365,R366,R705 R79,R80,R81,R82,R83,R85,R88,R89,R90, R94,R154,R159,R162,R163,R201,R202, R209,R214,R71,R72,R388,R395,R402,R409 ,R414,R415,R418,R419,R422,R542,R543, R554,R555,R751,R752,R753,R754,R295, R296,R303,R304,R305,R312,R314,R315, R318,R323,R325,R326,R327,R328,R331, R332,R334,R333,R337,R341,R423 R566,R570,R574,R578,R610
333	RD00094	SMD fixed resistor 1/10W	5.1K ±5% 0603	R269,R271,R273,R275,R616,R617
334	RD00095	SMD fixed resistor 1/10W	5.6K ±5% 0603	R43,R44,R46,R45,R47,R48,R49,R50,R175, R176,R177,R178,R179,R180,R181,R182 R463,R499,R651
335	RD00096	SMD fixed resistor 1/10W	6.2K ±5% 0603	R22,R23,R30,R31,R611,R678,R689,R700, R712,R747,R748,R749,R750,R281,R284, R288,R291,R26,R34 R21,R24,R25,R27,R28,R29,R32,R33,R153, R155,R156,R158,R160,R161,R164,R165, R203,R204,R215,R270,R272,R274,R276, R293,R294,R299,R300,R301,R302,R309, R316,R317,R382,R383,R390,R397,R411, R424,R425,R426,R427,R430,R431,R434, R435,R436,R437,R438,R442,R443,R444, R445,R446,R447,R450,R451,R452,R453, R454,R455,R456,R457,R461,R465,R469, R473,R477,R481,R485,R489,R493,R497, R501,R509,R513,R517,R521,R525,R529, R530,R540,R549,R553,R569,R577,R581, R588,R591,R594,R628,R629,R630,R631, R632,R633,R634,R637,R638,R640,R641, R642,R643,R644,R645,R655,R656,R680, R681,R691,R692,R693,R702,R703,R704, R713,R714,R715,R729,R730,R731,R741, R742,R743,R744,R439,R505,R541,R573, R636,R682,R732,R310,R311,R321,R376, R377,R216,R404,R157,R166,R205,R206, R207,R208,R220,R221,R222,R223,R677, R688,R340,R342,R428,R429 R59,R60,R61,R62,R73,R74,R75,R76,R77, R78,R84,R86,R87,R91,R92,R93,R95,R96, R97,R98,R191,R192,R193,R194,R225,R226 ,R227,R228,R546,R547,R548,R550,R551, R552,R556,R557 R462,R483,R498,R519,R537,R539,R665, R666,R667,R668,R669,R670,R671,R672, R727,R728,R733,R734,R735,R736,R737, R738,R740,R739,R229,R230,R231,R232, R313,R322 R389,R396,R403,R410,R416,R417,R384, R385 R351,R352,R354,R355,R356,R358,R359, R360,R361,R362,R363,R364,R378,R379, R387,R391,R392,R394,R398,R399,R401, R405,R406,R408,R412,R413,R533,R534, R535,R544,R560,R561,R568,R572,R576, R580,R673,R674,R99,R100,R101,R102, R699,R710 R35,R36,R37,R38,R167,R168,R380,R381, R420,R421,R170,R169,R348,R350 R367,R368,R369,R370,R371,R374,R695, R706,R717,R684,R282,R283,R285,R286, R287,R289,R290,R292 R531,R532,R372,R373 R261,R262,R263,R264,R265,R266,R267, R268,R584,R585,R613,R614,R615,R620, R621,R343,R344,R345,R346,R347,R349, R612
336	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	
337	RD00098	SMD fixed resistor 1/10W	7.5K ±5% 0603	
338	RD00099	SMD fixed resistor 1/10W	8.2K ±5% 0603	
339	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	
340	RD00102	SMD fixed resistor 1/10W	12K ±5% 0603	
341	RD00103	SMD fixed resistor 1/10W	15K ±5% 0603	
342	RD00104	SMD fixed resistor 1/10W	18K ±5% 0603	
343	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	
344	RD00105	SMD fixed resistor 1/10W	22K ±5% 0603	
345	RD00106	SMD fixed resistor 1/10W	27K ±5% 0603	
346	RD00107	SMD fixed resistor 1/10W	30K ±5% 0603	
347	RD00353	SMD fixed resistor 1/10W	36K ±5% 0603	

No.	Part No.	Description	Specification	Remark
348	RD00111	SMD fixed resistor 1/10W	47K ±5% 0603	R63,R64,R65,R66,R195,R196,R197,R198, R563,R565,R639
349	RD00112	SMD fixed resistor 1/10W	56K ±5% 0603	R297,R298,R306,R307,R308,R320
350	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	R558,R559
351	RD00116	SMD fixed resistor 1/10W	100K ±5% 0603	R536,R545,R562,R564,R586,R589,R676, R687,R698,R709,R319,R324,R675,R686, R697,R708
352	RD00119	SMD fixed resistor 1/10W	220K ±5% 0603	R39,R40,R41,R42,R171,R172,R173,R174, R1,R2,R3,R4,R133,R134,R135,R136,R538
353	RD00124	SMD fixed resistor 1/10W	820K ±5% 0603	R649
354	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R51,R52,R53,R54,R55,R56,R57,R58,R183, R184,R185,R186,R187,R188,R189,R190, R652
355	RD00126	SMD fixed resistor 1/10W	2.2M ±5% 0603	R653
356	RE00011	SMD resistor networks 1/16W	680 *4 ±5% 8P 0603	AR1,AR2
357	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	C173,C174,C185,C186,C197,C198,C209, C210,C237,C238 C379,C421,C425,C426,C427,C428,C429, C430,C431,C437,C446,C447,C448,C449, C450,C451,C452,C453,C49,C50,C51,C52, C53,C54,C55,C56,C57,C58,C61,C62,C63, C64,C65,C66,C131,C132,C133,C134,C135, C136,C137,C138,C139,C140,C141,C142, C143,C144,C145,C146,C165,C166,C167, C168,C169,C170,C171,C172,C221,C222, C223,C224,C225,C226,C227,C228,C229, C230,C231,C232,C233,C234,C235,C236, C325,C326,C327,C328,C329,C330,C331, C332,C333,C334,C335,C336,C337,C338, C339,C340,C341,C342,C343,C344,C345, C346,C347,C348,C349,C350,C351,C352, C353,C354,C355,C356,C357,C358,C359, C360,C361,C362,C363,C364,C365,C366, C367,C368,C369,C370,C371,C372,C399, C400,C403,C404,C405,C406,C407,C408, C409,C410,C411,C412,C476,C477,C481, C482,C483,C484,C485,C478 C25,C26,C27,C28,C29,C30,C31,C32,C45, C46,C47,C48,C71,C72,C78,C82,C87,C91, C94,C95,C102,C103,C109,C113,C117,C121, C125,C126,C149,C150,C151,C152,C157, C158,C159,C160,C178,C181,C182,C189, C193,C194,C201,C205,C206,C213,C214, C217,C218,C241,C242,C246,C249,C250, C253,C254,C257,C258,C261,C262,C263, C264,C269,C270,C271,C272,C273,C274, C275,C276,C277,C278,C279,C280,C281, C282,C283,C284,C373,C374,C375,C381, C382,C385,C386,C387,C388,C413,C414, C415,C416,C432,C433,C434,C435,C468, C469,C472,C473,C177,C190,C245,C202
358	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	
359	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	
360	CI00053	SMD ceramic capacitor 0603	33PF/50V C0G±5%(C1608C0G1H330JT)/TDK	C422,C445
361	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C456,C459,C462,C465
362	SF00038	transistor	RK7002(ROHM)	TR1,TR3,TR5,TR9
363	SG00164	SMD integrated circuit	74HC109D	U76
364	SG00068	SMD integrated circuit	74HC14DT(SO-14)/(PHI)	U77
365	SE00028	SMD rectifier diode	BAS316,115	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12 ,D13,D14,D15,D17,D18,D19,D20,D23,D25, D26,D27,D28,D29
366	SF00056	transistor	MMBT3904(SOT-23)/(PHI)	TR20,TR21
367	SE00009	SMD rectifier diode	DAN202K/T-146	D24
368	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR2,TR4,TR6,TR8,TR13,TR14
369	SF00039	transistor	MMBFJ112(SOT-23)/(FAIRCHILD)	TR15,TR16,TR17,TR18,TR19

No.	Part No.	Description	Specification	Remark
370	SG00032	SMD integrated circuit	LM339DR/(TI)	U62,U63,U64,U65,U66,U67
371	SG00306	SMD integrated circuit	LM393DR(TI)/(MEXICO)	U75,U5,U9,U18,U19
372	SG00094	SMD integrated circuit	NE555DT/(ST)	U71
373	SE00007	SMD rectifier diode	RB400D(D3A)	D22
374	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U2,U3,U4,U6,U7,U10,U8,U11,U12,U13, U14,U15,U16,U17,U20,U21,U22,U23,U24, U25,U26,U27,U28,U29,U30,U31,U32,U33, U34,U35,U36,U37,U38,U39,U40,U41,U42, U43,U44,U45,U46,U47,U48,U49,U50,U51, U52,U53,U54,U55,U56,U57,U58,U59,U60, U61,U68,U69,U70,U72,U73,U74,U78,U79
375	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D21,D30,D31,D32,D33
376	SE00008	SMD rectifier diode	DA204K/T-146	D16
377	AE00221	tin soldering paste	SJ-617	
378	RD00071	SMD fixed resistor 1/10W	180 ±5% 0603	R679,R690
379	RD00475	SMD precise resistor 1/10W	243 ±1% 0603	R701,R711
380	HA02399	wire	245mm black L3R3	
381	AC00002	solder wire	63/37%	
382	HK04001	PC board	P-L12LED-SMD	
383	HB00975	PCB	L12LED(1*30)_VRE030711	
384	SE00004	SMD L.E.D	yellow 67-21UYC/S530-A2/TR8 1210	LED1,LED2,LED3,LED4,LED5
385	AE00221	tin soldering paste	SJ-617	
386	HK01524	PC board	P-313123-DIP(L-12)	
387	SC00004	crystal oscillator	16.00MHZ	XT1
388	HC00499	connector	2.54 180°2*8P(gold-plated) 6/11.6mm	CN2
389	SG00193	SMD integrated circuit	AT27LV010A-90JC/L-8	IC4
390	SG00139	SMD integrated circuit	AT27LV010A-90JC	
391	HK03894	PC board	P-313123-SMD(L-8)	
392	HB00895	PCB	313123/2(1*6)	
393	CI00049	SMD ceramic capacitor 0603	15PF/50V C0G±5%(C1608C0G1H150JT)/TDK	C8,C9
394	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C17,C15,C18,C6,C10,C22,C20,C13,C14,C1, C3,C4,C11
395	RD00061	SMD fixed resistor 1/10W	10 ±5% 0603	R22
396	RD00068	SMD fixed resistor 1/10W	100 ±5% 0603	R12,R14,R7,R8,R34,R17,R13,R33
397	RD00073	SMD fixed resistor 1/10W	220 ±5% 0603	R3
398	RD00085	SMD fixed resistor 1/10W	1.5K ±5% 0603	R16,R15,R21,R20,R4,R19,R10,R18,R9,R5
399	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R28,R27,R23,R24,R29,R30,R25,R26
400	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R32,R31,R1
401	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R2
402	RE00006	SMD resistor networks 1/16W	100 *4 ±5% 8P 0603	AR1,AR2
403	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D1
404	SG00068	SMD integrated circuit	74HC14DT(SO-14)/(PHI)	IC1
405	SG00410	SMD integrated circuit	IC41LV16256-35KG(SOJ40)/(ICSI)	IC6
406	SG00166	SMD integrated circuit	TY-2 ALTO(GMCODE:105022)	IC3
407	SG00147	SMD integrated circuit	CHEF DSP(GMCODE:105022)	
408	SG00037	SMD integrated circuit	LD1117DT33C(TO-252)	IC2

No.	Part No.	Description	Specification	Remark
409	HC00233	IC socket (PCB)	PLCC32 (D03-32T.A.4)	IC4
410	SG00016	SMD integrated circuit	UDA1345TS (Philips)	IC5
411	AE00221	tin soldering paste	SJ-617	
412	NE11475	label	L-8	
413	NH00035	bond paper	0.06*1M	
414	NI00017	membrane	0.055*1M	
415	AC00002	solder wire	63/37%	
416	CB00166	electrolytic capacitor	100uF/16V 6*5mm	C19,C12,C5,C2,C24,C16,C21,C25,C26,C28,C7
417	HK01563	PC board	P-L12PU3-DIP	
418	RA00505	precise resistor 1/4W	6.81K M type	R1,R1-1,R1-2,R1-3,R2,R2-1,R2-2,R2-3
419	CB00003	electrolytic capacitor	0.22uF/50V 5*11mm	C16,C16-1,C16-2,C16-3,C17,C17-1,C17-2,C17-3,C18,C18-1,C18-2,C18-3
420	CB00029	electrolytic capacitor	22uF/35V 5*11mm	C9,C9-1,C9-2,C9-3,C10,C10-1,C10-2,C10-3
421	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C7,C7-1,C7-2,C7-3,C8,C8-1,C8-2,C8-3
422	CB00042	electrolytic capacitor	47uF/63V 105 LZ 8*11mm	C12,C12-1,C12-2,C12-3,C13,C13-1,C13-2,C13-3
423	CB00074	electrolytic capacitor	1000uF/10V 8*11mm	C19,C19-1,C19-2,C19-3
424	SB00175	transistor	2SA970-BL(TE2;T)	TR1,TR1-1,TR1-2,TR1-3,TR2,TR2-1,TR2-2,TR2-3
425	HC00321	connector(male)	14P 2.0mm 180°	CN1,CN2
426	HC00126	balance MIC jack	JY-5042-030G female plug 180°	X3,X3-1,X3-2,X3-3
427	HC00125	MIC jack	JY-6351G-02-250	X1,X1-1,X1-2,X1-3,X2,X2-1,X2-2,X2-3
428	HK01564	PC board	P-L12PU3-SMD	
429	HB00958	PCB	L12PU3_VER030606	
430	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C3,C3-1,C3-2,C3-3,C4-1,C4-2,C4-3,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3
431	CI00062	SMD ceramic capacitor 0603	330PF/50V NPO ±5 %	C11,C11-1,C11-2,C11-3
432	CI00065	SMD ceramic capacitor 0603	0.001uF/50V X7R ±10%	C14,C14-1,C14-2,C14-3,C15,C15-1,C15-2,C15-3
433	CI00071	SMD ceramic capacitor 0603	0.01uF/50V X7R ±10%	C1,C1-1,C1-2,C1-3,C2,C2-1,C2-2,C2-3
434	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C24,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35,C63,C64,C65,C66
435	RD00214	SMD precise resistor 1/10W	10.0K ±1% 0603	R26,R26-1,R26-2,R26-3,R27,R27-1,R27-2,R27-3
436	RD00355	SMD fixed resistor 1/10W	4.7 ±5% 0603	R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2,R11-3,R12,R12-1,R12-3,R12-2
437	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R104,R104-1,R104-2,R104-3
438	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R20,R20-1,R20-2,R20-3,R21,R21-1,R21-2,R21-3
439	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R28,R28-1,R28-2,R28-3
440	RD00201	SMD precise resistor 1/10W	1.50K ±1% 0603	R15,R15-1,R15-2,R15-3,R16,R16-1,R16-2,R16-3
441	RD00204	SMD precise resistor 1/10W	2.49K ±1% 0603	R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3,R5,R5-1,R5-2,R5-3,R6,R6-1,R6-2,R6-3,R7,R7-1,R7-2,R7-3,R8,R8-1,R8-2,R8-3,R9,R9-1,R9-2,R9-3
442	RD00210	SMD precise resistor 1/10W	5.11K ±1% 0603	R22,R22-1,R22-2,R22-3,R23,R23-1,R23-2,R23-3,R24,R24-1,R24-2,R24-3,R25,R25-1,R25-2,R25-3
443	RD00365	SMD precise resistor 1/10W	5.62K ±1% 0603	R13,R13-1,R13-2,R13-3,R14,R14-1,R14-2,R14-3
444	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R29,R29-1,R29-2,R29-3
445	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	R17,R17-1,R17-2,R17-3,R18,R18-1,R18-2,R18-3,R19,R19-1,R19-2,R19-3
446	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	R30,R30-1,R30-2,R30-3

No.	Part No.	Description	Specification	Remark
447	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3
448	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR3,TR3-1,TR3-2,TR3-3,TR4,TR4-1,TR4-2,TR4-3,TR5,TR5-1,TR5-2,TR5-3
449	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3
450	CI00055	SMD ceramic capacitor 0603	47PF/50V C0G±5%(C1608C0G1H470JT)/TDK	C4,C5
451	AE00221	tin soldering paste	SJ-617	
452	AC00002	solder wire	63/37%	
453	HK01576	PC board	P-L12PU4-DIP	
454	HC00125	MIC jack	JY-6351G-02-250	X1,X2,X3,X4
455	HC00256	connector(male)	5P 2.0mm 180°	CN1
456	HK01565	PC board	P-L12PU4-SMD	
457	HB00961	PCB	L12PU4(1*6)_VER030530	
458	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	R1,R2,R3,R4,R5,R6,R7,R8
459	AE00221	tin soldering paste	SJ-617	
460	AC00002	solder wire	63/37%	
461	MJ01235	side cover board	L-12 left	
462	MJ01236	side cover board	L-20 left 1.0t*400*115	
463	MJ00058	single light board	1*2135*1220 20.45kg	
464	NE02717	label	MADE IN CHINA	
465	NH00038	paper	0.115*1M	
466	NI00028	membrane	0.110*1M	
467	MJ00808	fixed clip	WL3-32T	
468	NC00080	washer	3.17* 8.2*1	
469	NC00014	black foil white board	0.65M*60M*1t	
470	NA00137	clip-chain bag	5*7	
471	MG00104	color screw	M4*10	
472	NB02473	cushion	L-12;16;20series contrary	
473	NB02474	cushion	L-12;16;20series right	
474	MG00363	copper pillar	M3*14*0.5PH	
475	NI02833	cushion	0.5t*15.5*72.5 L-16	
476	NI00375	film	45*60.5*0.5mm	
477	NI01825	cushion	0.5* 3.3* 8.3 a VERB	
478	NI00375	film	45*60.5*0.5mm	
479	HA00827	wire	210mm brown L5R5	
480	HA01798	wire	250 black	
481	MJ00362	barrier	L-12_V1.0	
482	MJ00087	iron board	0.3*200*3000 1.431kg	
483	MJ00361	barrier	L-12_V1.0	
484	MJ00087	iron board	0.3*200*3000 1.431kg	
485	MG00245	copper pillar	M3*15*0.5PH	
486	MG00243	copper pillar	M3*5*0.5PH	
487	MG00145	color screw	M3*4	
488	MI02247	separating shade	0.3*94*72*60 L16_V1.3	
489	MJ00087	iron board	0.3*200*3000 1.431kg	

No.	Part No.	Description	Specification	Remark
490	ND00282	EV foam	30*20*6 black	
491	MI02287	barrier	0.3t*74*83.5*50.3_V1.1	
492	MJ00087	iron board	0.3*200*3000 1.431kg	
493	NA00279	clip-chain bag	0.04t*100*150mm_V1.0	
494	AD00012	twin adhesive	90*120mm_V1.0	
495	HA03865	row-stand connector wiring	2P-2P 305mm UL1007 28AWG	

L-20

No.	Part No.	Description	Specification	Remark
1	MA03900	panel	L20	
2	MA03899	panel	L20	
3	MA03898	panel	L-20_V1.2	
4	MJ00061	iron board	1*2135*1220 20.45kg	
5	MB03654	rear board	L-20MKII ALTO_V1.0	
6	MB03533	rear board	L-20MK	
7	MB03534	rear board	L-20MK _V1.0	
8	MJ00058	single light board	1*2135*1220 20.45kg	
9	ME00001	screw pillar	M4*10*0.7PH	
10	ME00040	iron pillar	hexagon6.35*M3*10.1	
11	ME00099	screw pillar	M3*16*0.5PH	
12	ME00119	screw pillar	M4*9*0.7PH	
13	MJ01159	side cover board	L20 right	
14	MJ01158	side cover board	L-20 right 1.0t*400*115	
15	MJ00058	single light board	1*2135*1220 20.45kg	
16	NI02638	acrylic panel	L-12 (3t*97.5*49mm)	
17	NI02639	acrylic panel	L-12 (3t*97.5*49mm)	
18	NI02640	acrylic panel	L-12 (3t*91.5*56mm)	
19	NI02641	acrylic panel	L-12 (3t*91.5*56mm)	
20	MJ01225	barrier	L-12 1.2t*100.5*74.5	
21	MJ00063	iron board	1.2*2135*1220 24.54kg	
22	ME00041	iron pillar	hexagon6.35*M3*6	
23	NI02620	insulation board	1*86.5*53 L-8	
24	NC00010	insulation board	0.65M*60M*1t	
25	HK05685	PC board	P-RD204PWR	
26	HB01303	PCB	L SERIES PWR_VER040525	
27	CB00170	electrolytic capacitor	1000uF/100V 18*35.5mm	C4
28	CB00052	electrolytic capacitor	100uF/100V 13*21mm	C15
29	CB00047	electrolytic capacitor	100uF/25V 6*11mm	C11,C12
30	CB00142	electrolytic capacitor	4.7uF/63V 5*11mm	C14
31	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C13
32	CB00083	electrolytic capacitor	3300uF/35V 16*32mm	C1,C2,C3
33	CB00025	electrolytic capacitor	10uF/50V 6*7mm	C5,C6
34	CH00033	laminated capacitor	0.1uF/50V +80%-10% Y5V	C7,C8,C9,C10
35	RA00332	fixed resistor 1/8W	120 M type	R5,R6
36	RA00791	fixed resistor 1/8W	180 M type	R7
37	RA00364	fixed resistor 1/8W	2.2K M type	R1,R2
38	RA00371	fixed resistor 1/8W	3.3K M type	R3,R4
39	RA00249	fixed resistor 1/4W	18K M type	R8
40	RA00250	fixed resistor 1/4W	20K M type	R9
41	RA00135	fixed resistor 1/2W	1.5k M type	R10
42	RA00141	fixed resistor 1/2W	10K M type	R11
43	SA00094	rectifier diode	1N4002/100V	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12, D13,D14,D15,D16,D17

No.	Part No.	Description	Specification	Remark
44	SA00005	bridge rectifier	4A/400V RS405	BD1
45	SD00032	integrated circuit	LM317T	TR1,TR2
46	SD00033	integrated circuit	LM337SP(1.5A)(TO-220)	TR3
47	SD00074	integrated circuit	L7805CV(TO-220)(ST)	TR4
48	HC00063	FUSE holder	JEF-501 (5.2mm)	FUSE1,FUSE1
49	HD00012	glass tube fuse	500mA 250V 5.2*20mm CSA/S/UL/VDE	
50	HC00324	connect terminal	6.5m/m (PC250)	TP1,TP2
51	HC00076	connector(male)	2P 2.5mm 180°	CN2,CN4
52	HC00082	connector(male)	8P 2.5mm 180°	CN3
53	HC00181	connector(male)	7P 3.96mm 180°	CN1
54	MG00162	screw	M3*8	
55	MF00037	washer	3.2* 5.5*1t	
56	NC00005	silicone insulator	TO-220 square type	
57	NI02249	plastic washer	TW-1(TO-220)	
58	MI02762	heat sink	RD204 3t*106.5*170_V1.0	
59	MJ00057	AL plate-RS	3*2000*1000 16.32kg	
60	ME00060	MIC jack	JY-6351G-02-250	
61	MF00061	MIC jack	9.6* 13*0.5t	
62	MG00061	screw	M3*10	
63	HC00206	BNC jack	WJ-7031(28*12.7)	
64	HA02455	wire	20Pfema*4 280mm UL2651 28AWG PH1.27mm	
65	NI02642	fixed plate	L-12 (6.8*110*63.3 white)	
66	NI02083	knob	10.5*18mm	
67	NI02081	knob	10.5*18mm	
68	NI02082	knob	10.5*18mm	
69	NI02633	knob	10.5*18	
70	NI02084	knob	10.5*18mm	
71	NI02386	knob	14*13mm	
72	NI01166	slide key	6*7*8 COOL GRAY 8U	
73	NI02309	knob	24*11.5*11	
74	NI02352	knob	24*11.5*11	
75	NI02353	knob	24*11.5*11	
76	NI01863	key-RS	5.5*W10*7.5	
77	NI01862	key	5.5*5.5*12.8	
78	NI02377	knob	5.5*7.5mm(内3.3*3.3mm)	
79	MG00041	screw	M3*6	
80	NI02548	handle	401*31*25mm	
81	NI02547	handle	401*31*25mm	
82	MG00027	screw	M3*12	
83	ND00244	dustproof cloth	0.35t*572*100mm black	
84	ND00247	dustproof cloth	0.35t*100*50(2016B)_V1.1	
85	MG00304	copper pillar	M3*14*0.5PH	
86	MG00020	screw	M3*8	

No.	Part No.	Description	Specification	Remark
87	NI00863	plastic washer	TO220B	
88	TC00236	transformer	PT-L16_230V	
89	ME00016	color nut	4m/m	
90	MF00038	washer	4* 7*1t	
91	MF00018	washer	4* 10*1t_V1.0	
92	MF00105	washer	4* 10*1t_V1.0	
93	MJ00058	single light board	1*2135*1220 20.45kg	
94	MF00048	washer	4* 8*0.5t	
95	ME00015	color nut	3m/m	
96	HA02337	wire	16P-16P PH1.27 105mm	
97	HC00008	AC socket	3515 A TYPE(RF-2004-C-4.8)	
98	HD00012	glass tube fuse	500mA 250V 5.2*20mm CSA/S/UL/VDE	
99	HA01835	P.V.C single wave wired UL1617	80 brown	
100	HA01174	single terminal wiring CF:W146	80 green/yellow	
101	MG00042	screw	M3*10	
102	HI00026	power switch-RS	RA12KKATOF 2P	
103	HI00171	power switch-RS	R612KKATOF1	
104	NI00252	sleeve	4*20mm	
105	NI00248	sleeve	4*1000mm	
106	NI00268	sleeve	6*20mm	
107	NI00266	sleeve	6*1000mm	
108	HA02657	wire	8P-8P 360mm UL1007 20AWG	
109	HA00861	power cord Europe 3P	LT-312+LT-501	
110	NI00218	cable tie	ALT-102SB	
111	NI02519	self-adhere foot cushion	15.9*8.0mm(RF-006)	
112	NF00061	assurance card	ALTO	
113	NF01494	instruction	L-20 ALTO_V1.3	
114	NH00149	paper	889*640mm	
115	NB02230	gift carton	L-20 ALTO	
116	NB02469	carton	L-20	
117	HJ00006	desiccant	30g	
118	NA00136	PE bag	0.05t*820*540mm	
119	NE05004	label	ALTO	
120	NH00334	cone paper	0.040*1m	
121	NE11468	label	L-20 ALTO	
122	NH00012	bond paper	0.04*1M	
123	NI00014	membrane	0.035*1M	
124	HK03982	PC board	P-L12PU1-DIP	
125	HC00125	MIC jack	JY-6351G-02-250	X1,X2,X3,X4,X5,X6,X7,X8,X9,X10,X11,X12,X13 .X14,X15,X16,X17,X18,X19,X20,X21,X22,X23, X24,X25,X26,X27,X28,X29,X30,X31,X34,X35
126	HA01925	jump	10mm	JP1,JP2,JP3,JP4,JP5,JP6,JP7,JP11
127	HA02249	wire	0.6	
128	HC00525	connector(male)	18P 2.0mm 180°	CN2,CN3

No.	Part No.	Description	Specification	Remark
129	HC00256	connector(male)	5P 2.0mm 180°	CN1
130	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C1,C2,C3
131	HA01919	jump	5mm	JP8,JP9,JP10
132	HA02249	wire	0.6	
133	HC00392	balance MIC jack	JY-5030-030G 180°	X32,X33
134	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW1
135	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1):30F-C	VR1
136	HK03983	PC board	P-L12PU1-SMD	
137	HB00955	PCB	L12PU1_VER050316	
138	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C5,C6 R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R11,R12, R13,R14,R15,R16,R17,R18,R19,R20,R21,R22, R23,R24,R25,R26,R27,R28,R29,R30,R31,R32, R33,R34,R35,R36,R37,R38,R39,R40,R41,R42, R43,R44,R45,R46,R47,R48,R56,R57
139	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	
140	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C4
141	RD00107	SMD fixed resistor 1/10W	30K ±5% 0603	R55
142	RD00353	SMD fixed resistor 1/10W	36K ±5% 0603	R50
143	RD00352	SMD fixed resistor 1/10W	3.6K ±5% 0603	R49
144	SG00122	SMD integrated circuit	NJM4580M-TE3	U1
145	RD00440	SMD fixed resistor 1/8W	5.1K ±5% 0805	R51,R52,R53,R54
146	AE00221	tin soldering paste	SJ-617	
147	AC00002	solder wire	63/37%	
148	HK03984	PC board	P-L12PU2-DIP	
149	CB00003	electrolytic capacitor	0.22uF/50V 5*11mm	C16,C16-1,C16-2,C17,C17-1,C17-2,C17-3, C16-3,C18,C18-1,C18-2,C18-3,C50,C50-1, C51,C51-1,C52,C52-1
150	CB00074	electrolytic capacitor	1000uF/10V 8*11mm	C19,C19-1,C19-2,C19-3,C53,C53-1
151	HC00321	connector(male)	14P 2.0mm 180°	CN1,CN2,CN4
152	HC00524	connector(male)	15P 2.0mm 180°	CN3
153	CB00029	electrolytic capacitor	22uF/35V 5*11mm	C9,C9-1,C9-2,C9-3,C10-1,C10,C10-2,C10-3 C107,C108,C109,C110,C7,C7-1,C7-2,C7-3, C8,C8-1,C8-2,C8-3,C54,C54-1,C55,C55-1, C56,C56-1,C57,C57-1
154	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C12,C12-1,C12-2,C12-3,C13,C13-1,C13-2, C13-3,C36,C36-1,C37,C37-1
155	CB00042	electrolytic capacitor	47uF/63V 105 LZ 8*11mm	R1,R1-1,R1-2,R1-3,R2,R2-1,R2-2,R2-3, R38,R38-1,R39,R39-1
156	RA00505	precise resistor 1/4W	6.81K M type	TR1,TR1-1,TR1-2,TR1-3,TR2,TR2-1,TR2-2, TR2-3,TR6,TR6-1,TR7,TR7-1
157	SB00175	transistor	2SA970-BL(TE2;T)	X3,X3-1,X3-2,X3-3,X6,X6-1
158	HC00126	balance MIC jack	JY-5042-030G female plug 180°	X1,X1-1,X1-2,X1-3,X2,X2-1,X2-2,X2-3,X4, X4-1,X5,X5-1,X7,X8,X9,X10,X11,X12
159	HC00125	MIC jack	JY-6351G-02-250	
160	SD00007	integrated circuit	BA15218N (M5218L substitute)	U8,U9,U10,U11
161	HC00403	RCA jack	SCP6873NS3232T2 4P	X13
162	HK03985	PC board	P-L12PU2-SMD	
163	HB00956	PCB	L12PU2_VER030530	
164	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	C58,C58-1,C59,C59-1,C60,C60-1,C61, C61-1,C91,C92,C93,C94,C95,C96,C97,98 C24,C25,C26,C27,C28,C29,C30,C31,C32,C33, C34,C35,C63,C64,C65,C66,C67,C68,C69,C70, C71,C72,C73,C74,C75,C76,C77,C78,C79,C80, C81,C82,C83,C84,C85,C86,C87,C89,C90,C88
165	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	

No.	Part No.	Description	Specification	Remark
166	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R70,R70-1,R71,R71-1,R76,R77,R78,R79, R80,R81,R82,R83,R84,R85,R86,R87,R92,R93, R94,R95
167	RD00214	SMD precise resistor 1/10W	10.0K ±1% 0603	R26,R26-1,R26-2,R26-3,R27,R27-1,R27-2, R27-3,R61,R61-1,R62,R62-1
168	CI00071	SMD ceramic capacitor 0603	0.01uF/50V X7R ±10%	C1,C1-1,C1-2,C1-3,C2,C2-1,C2-2,C2-3C38, C38-1,C39,C39-1
169	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R104,R104-1,R104-2,R104-3
170	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	R96,R97,R98,R99,R100,R101,R102,R103
171	RD00104	SMD fixed resistor 1/10W	18K ±5% 0603	R66,R66-1,R67,R67-1,R68,R68-1,R69,R69-1
172	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R31,R32
173	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R28,R28-1,R28-2,R28-3,R64,R64-1
174	RD00201	SMD precise resistor 1/10W	1.50K ±1% 0603	R15,R15-1,R15-2,R15-3,R16,R16-1,R16-2, R16-3,R40,R40-1,R41,R41-1
175	CI00065	SMD ceramic capacitor 0603	0.001uF/50V X7R ±10%	C14,C14-1,C14-2,C14-3,C15,C15-1,C15-2, C15-3,C40,C40-1,C41,C41-1 R17,R17-1,R17-2,R17-3,R18,R18-1,R18-2, R18-3,R19,R19-1,R19-2,R19-3,R42,R42-1, R43,R43-1,R44,R44-1,R45-1,R45,R46, R46-1,R47,R47-1,R73,R73-1,R75,R75-1 R88,R89,R90,R91
176	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	C3,C3-1,C3-2,C3-3,C4,C4-1,C4-2,C4-3,C5, C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3,C42,C42-1 ,C43,C43-1,C44,C44-1,C45,C45-1,C46,C46-1 C47,C47-1,C48,C48-1,C49,C49-1,C99,C100, C101,C102,C103,C104,C105,C106,C111,C112, C113,C114 R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3,R5, R5-1,R5-2,R5-3,R6,R6-1,R6-2,R6-3,R7,R7-1, R7-2,R7-3,R8,R8-1,R8-2,R8-3,R9,R9-1,R9-2, R9-3,R48,R48-1,R49,R49-1,R50,R50-1,R51, R51-1,R52,R52-1,R53,R53-1,R54,R54-1
177	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C11,C11-1,C11-2,C11-3,C62,C62-1
178	RD00204	SMD precise resistor 1/10W	2.49K ±1% 0603	R72,R72-1,R74,R74-1
179	CI00062	SMD ceramic capacitor 0603	330PF/50V NPO ±5 %	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3,U3, U3-1,U4,U4-1,U5,U5-1,U6,U7
180	RD00105	SMD fixed resistor 1/10W	22K ±5% 0603	R20,R20-1,R20-2,R20-3,R21,R21-1,R21-2, R21-3,R55,R55-1,R56,R56-1
181	SG00122	SMD integrated circuit	NJM4580M-TE3	R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2, R11-3,R12,R12-1,R12-2,R12-3,R35,R35-1, R36,R36-1,R37,37-1
182	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R22,R22-1,R22-2,R22-3,R23,R23-1,R23-2, R23-3,R24,R24-1,R24-2,R24-3,R25,R25-1, R25-2,R25-3,R57,R57-1,R58,R58-1,R59, R59-1,R60,R60-1
183	RD00355	SMD fixed resistor 1/10W	4.7 ±5% 0603	R13,R13-1,R13-2,R13-3,R14,R14-1,R14-2, R14-3
184	RD00210	SMD precise resistor 1/10W	5.11K ±1% 0603	R30,R30-1,R30-2,R30-3,R63,R63-1
185	RD00365	SMD precise resistor 1/10W	5.62K ±1% 0603	R29,R29-1,R29-2,R29-3,R65,R65-1
186	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	D1,D1-1,D1-2,D1-3,D2,D2-1
187	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	TR8,TR8-1,TR9,TR9-1,TR10-1,TR3,TR3-1, TR3-2,TR3-3,TR4,TR4-1,TR4-2,TR4-3,TR5, TR5-1,TR5-2,TR5-3,TR10
188	SE00028	SMD rectifier diode	BAS316,115	
189	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	
190	AE00221	tin soldering paste	SJ-617	
191	AC00002	solder wire	63/37%	
192	HK03991	PC board	P-L12MN2-DIP	
193	RA00174	fixed resistor 1/4W	47 M type	R52,R53
194	CB00009	electrolytic capacitor	1uF/50V 4*7mm	C21,C21-1,C21-2,C21-3,C22,C22-1,C22-2, C22-3
195	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C2,C2-1,C2-2,C2-3,C3,C3-1,C3-2,C3-3,C4, C4-1,C4-2,C4-3,C28,C28-1,C28-2,C28-3, C24,C25,C26,C27
196	CF00023	metal-film capacitor MSC	0.033uF/63V 5% CASE01	C11,C11-1,C11-2,C11-3,C12,C12-1,C12-2, C12-3

No.	Part No.	Description	Specification	Remark
197	CF00003	metal-film capacitor MSC	0.0015uF/100V 5% CASE01	C10,C10-1,C10-2,C10-3
198	CF00012	metal-film capacitor MSC	0.0068uF/100V 5% CASE01	C7,C7-1,C7-2,C7-3,C8,C8-1,C8-2,C8-3,C1, C1-1,C1-2,C1-3
199	HI00236	push-button switch-RS	2-stage 6P PS-9226A(SELF-LOCK)	SW3,SW3-1,SW3-2,SW3-3,SW5,SW5-1,SW5-2, SW5-3,SW6,SW6-1,SW6-2,SW6-3,SW7, SW7-1,SW7-2,SW7-3,SW2,SW2-1,SW2-2, SW2-3,SW1,SW1-1,SW1-2,SW1-3
200	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW4,SW4-1,SW4-2,SW4-3
201	RC00284	slide potentiometer	D10K RF6011YP600F-10KD(SAS1)	VR5,VR5-1,VR5-2,VR5-3
202	RC00356	potentiometer	Z10K RD09F1130042-10KZ(SAS1):30F	VR11,VR11-1,VR11-2,VR11-3
203	RC00358	potentiometer	B50K -RD09F113A223-50K2BT(SAS1):30F-C	VR1,VR1-1,VR1-2,VR1-3,VR2,VR2-1, VR2-2,VR2-3,VR4,VR4-1,VR4-2,VR4-3
204	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1):30F-C	VR6,VR6-1,VR6-2,VR6-3,VR7,VR7-1, VR7-2, VR7-3,VR8,VR8-1,VR8-2, VR8-3,VR9, VR9-1, VR9-2,VR9-3,VR10,VR10-1,VR10-2,VR10-3
205	RC00366	potentiometer	C500K RD12L123A43D-500K15C*2(SAS1)30F-C	VR3,VR3-1,VR3-2,VR3-3
206	SA00054	L.E.D	3m/m round(yellow)long foot 26	LD1,LD1-1,LD1-2,LD1-3
207	SA00053	L.E.D	3 round(red)long foot 26mm	LD2,LD2-1,LD2-2,LD2-3
208	SA00051	L.E.D	3 orange, green BOG303b	LD3,LD3-1,LD3-2,LD3-3
209	NI01782	LED spacer support	LEDS-11 11mm	LD1,LD1-1,LD1-2,LD1-3,LD2,LD2-1,LD2-2, LD2-3
210	NI02588	LED spacer support	LED3*11 11mm	LD3,LD3-1,LD3-2,LD3-3
211	HA02446	wire	14P(male)-14P(female) 60mm UL1007 28AWG	CN1,CN2
212	HA01564	row-wire connector wiring	5P(male)-5P(female) 180	CN3
213	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN4
214	HK03999	PC board	P-L12MN2-SMD	
215	HB00959	PCB	L12MN2_VER030530	
216	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R51,R51-1,R51-2,R51-3
217	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R23,R23-1,R23-2,R23-3
218	RD00090	SMD fixed resistor 1/10W	3.0K ±5% 0603	R1,R1-1,R1-2,R1-3
219	RD00091	SMD fixed resistor 1/10W	3.3K ±5% 0603	R26,R26-1,R26-2,R26-3
220	RD00092	SMD fixed resistor 1/10W	3.9K ±5% 0603	R18,R18-1,R18-2,R18-3
221	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R29,R29-1,R29-2,R29-3,R30,R30-1,R30-2, R30-3,R49,R49-1,R49-2,R49-3
222	RD00094	SMD fixed resistor 1/10W	5.1K ±5% 0603	R6,R6-1,R6-2,R6-3,R7,R7-1,R7-2,R7-3,R8, R8-1,R8-2,R8-3,R9,R9-1,R9-2,R9-3,R10,R10-1, R10-2,R10-3,R11,R11-1,R11-2,R11-3,R12, R12-1,R12-2,R12-3,R13,R13-1,R13-2,R13-3
223	RD00095	SMD fixed resistor 1/10W	5.6K ±5% 0603	R24,R24-1,R24-2,R25,R25-1,R25-2,R25-3, R24-3
224	RD00096	SMD fixed resistor 1/10W	6.2K ±5% 0603	R21,R21-1,R21-2,R21-3,R22,R22-1,R22-2, R22-3
225	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R14,R14-1,R14-3,R15,R15-3,R16,R16-3,R15-1, R16-1,R17,R17-1,R17-3,R27,R27-1,R27-3, R28,R28-1,R28-3,R14-2,R15-2,R16-2,R17-2, R27-2,R28-2
226	RD00099	SMD fixed resistor 1/10W	8.2K ±5% 0603	R43,R43-1,R43-2,R43-3
227	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R2,R2-1,R2-2,R2-3,R3,R3-1,R3-2,R3-3,R4, R4-1,R4-2,R4-3,R5,R5-1,R5-2,R5-3,R45,R45-1, R45-2,R45-3,R47,R47-1,R47-2,R47-3,R48, R48-1,R48-2,R48-3,R46,R46-1,R46-2,R46-3
228	RD00102	SMD fixed resistor 1/10W	12K ±5% 0603	R20,R20-1,R20-2,R20-3
229	RD00103	SMD fixed resistor 1/10W	15K ±5% 0603	R40,R40-1,R40-2,R40-3
230	RD00106	SMD fixed resistor 1/10W	27K ±5% 0603	R50,R50-1,R50-2,R50-3
231	RD00116	SMD fixed resistor 1/10W	100K ±5% 0603	R42,R42-1,R42-2,R42-3,R41,R41-1,R41-2, R41-3
232	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R19,R19-1,R19-2,R19-3

No.	Part No.	Description	Specification	Remark
233	CI00051	SMD ceramic capacitor 0603	22PF/50V COG±5%(C1608C0G1H220JT)/TDK	C5,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3,C9, C9-1,C9-3,C9-2
234	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C23,C23-1,C23-2,C23-3
235	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C14,C14-1,C14-2,C14-3,C15,C15-2,C16,C16-2, C17,C17-1,C17-2,C17-3,C18,C18-1,C18-2, C18-3,C19,C19-1,C19-2,C19-3,C20,C20-1, C20-2,C20-3
236	SG00306	SMD integrated circuit	LM393DR(TI)/(MEXICO)	U4,U4-1,U4-2,U4-3
237	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D2,D2-1,D2-2,D2-3,D3,D3-1,D3-2,D3-3,D4, D4-1,D4-2,D4-3
238	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3,U3, U3-2
239	SF00038	transistor	RK7002(ROHM)	TR2,TR2-1,TR2-2,TR2-3
240	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3
241	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR1,TR1-1,TR1-2,TR1-3
242	AE00221	tin soldering paste	SJ-617	
243	RD00074	SMD fixed resistor 1/10W	270 ±5% 0603	R44,R44-1,R44-2,R44-3
244	AC00002	solder wire	63/37%	
245	HK04012	PC board	P-L12MN1-DIP	
246	CF00003	metal-film capacitor MSC	0.0015uF/100V 5% CASE01	C440,C441,C442
247	RC00285	slide potentiometer-dual unit	D10K RF60112P600G-10KD*2(SAS1)	VR5,VR16,VR38,VR39,VR56
248	RC00284	slide potentiometer	D10K RF6011YP600F-10KD(SAS1)	VR53,VR54,VR55,VR66
249	CB00024	electrolytic capacitor	10uF/16V 4*7mm	C443,C444
250	RA00185	fixed resistor 1/4W	120 M type	R597,R598
251	CF00054	metal-film capacitor MSC	0.012uF/63V ±5% CASE01	C13,C14,C15,C16,C17,C18,C19,C20,C76,C77, C85,C86,C107,C108,C115,C116
252	CF00001	metal-film capacitor MSC	0.001uF/63V 5% CASE01	C21,C22,C23,C24,C75,C84,106,C114
253	CF00038	metal-film capacitor MSC	0.22uF/63V 5% CASE02	C295,C296,C303,C304,C305,C306,C313,C314, C321,C322,C323,C324
254	CB00009	electrolytic capacitor	1uF/50V 4*7mm	C423,C424,C454,C455,C458,C460,C461,C463, C464,C457
255	CB00011	electrolytic capacitor	2.2uF/50V 5*11mm	C380
256	CF00022	metal-film capacitor MSC	0.022uF/100V 5% CASE01	C291,C292,C293,C294,C301,C302,C309,C310, C311,C312,C319,C320
257	CF00005	metal-film capacitor MSC	0.0022uF/63V 5% CASE01	C289,C290,C297,C298,C299,C300,C307,C308, C315,C316,C317,C318
258	CF00006	metal-film capacitor MSC	0.0033uF/100V 5% CASE01	C33,C34,C35,C36,C37,C38,C39,C40,C79,C80, C88,C89,C110,C111,C118,C119
259	CB00018	electrolytic capacitor	4.7uF/25V 4*7mm	C436,C438,C439
260	RA00174	fixed resistor 1/4W	47 M type	R745,R746
261	CF00025	metal-film capacitor MSC	0.047uF/63V 5% CASE01	C41,C42,C43,C44,C81,C90,C112,C120 C1,C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12, C67,C68,C69,C70,C73,C74,C83,C92,C96,C97, C98,C99,C100,C101,C104,C105,C122,C123, C127,C128,C153,C154,C155,C156,C161,C162, C164,C163,C176,C179,C180,C184,C187,C188, C191,C192,C195,C196,C199,C200,C203,C204, C207,C211,C212,C215,C216,C219,C220,C239, C240,C243,C244,C247,C248,C252,C255,C256, C259,C260,C265,C266,C267,C268,C285,C286, C376,C377,C378,C383,C393,C384,C395,C396, C401,C417,C418,C419,C466,C467,C470,C471, C474,C475,C491,C492,C493,C494,C495,C496, C497,C498,C500,C501,C502,C503,C504,C505, C506,C507,C479,C175,C287,C288,C480,C486, C487,C397,C398,C183,C208,C251,C394,C420, C402,C488,C489,C490,C499,C508,C510,C509
262	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	VR57,VR58,VR59,VR60,VR61,VR62,VR63, VR64,VR65
263	RC00315	slide potentiometer	W100K RA3022-202-15DA-W100K-C	

No.	Part No.	Description	Specification	Remark
264	HI00236	push-button switch-RS	2-stage 6P PS-9226A(SELF-LOCK)	SW2,SW5,SW6,SW7,SW9,SW12,SW13,SW14,SW15,SW16,SW21,SW22,SW24,SW25,SW26,SW32,SW33,SW34,SW35,SW36,SW37,SW38,SW39,SW43,SW44,SW45,SW46,SW48,SW49,SW50,SW51,SW1,SW8,SW23,SW40,SW41
265	HI00238	push-button switch-RS	2 stage 6P PS-9226A(NON-LOCK)	SW47
266	HI00237	push-button switch-RS	2stage 12P PS-13422R(SELF-LOCK)	SW4,SW11,SW19,SW20,SW27,SW28,SW29,SW30,SW31,SW42,SW3,SW10,SW17,SW18
267	HI00161	relay	RY-5W-K,5V	RL1
268	HI00195	rotary switch	SDB161PVB15.5F-1-4-16-16PC	EN1,EN2
269	RC00360	potentiometer	B50K RD12L12CA23A-50K3BT*2(SAS1):30F-C	VR1,VR2,VR3,VR4,VR12,VR13,VR14,VR15,VR24,VR25,VR26,VR27,VR41,VR42,VR43,VR40
270	RC00359	potentiometer	W50K RD09F113A224-50K4BT(SAS1):30F-C	VR6,VR7,VR8,VR9,VR10,VR17,VR18,VR19,VR20,VR21,VR28,VR29,VR31,VR32,VR33,VR34,VR35,VR36,VR37,VR48,VR49,VR50,VR51,VR71,VR72,VR30,VR69,VR70
271	RC00361	potentiometer	W50K RD12L12CA60B-50K4BT*2(SAS1):30F-C	VR23,VR44,VR45,VR46,VR47,VR52,VR67,VR68,VR73
272	RC00356	potentiometer	Z10K RD09F1130042-10KZ(SAS1):30F	VR11,VR22
273	SA00051	L.E.D	3 orange, green BOG303b	LD39,LD40,LD41,LD42
274	NI02588	LED spacer support	LED3*11 11mm	
275	SA00053	L.E.D	3 round(red)long foot 26mm	LD3,LD4,LD7,LD8,LD9,LD11,LD23,LD35,LD37,LD38
276	SA00054	L.E.D	3m/m round(yellow)long foot 26	LD1,LD2,LD5,LD6,LD22,LD34
277	SA00052	L.E.D	3 round(green)long foot 26	LD12,LD13,LD14,LD15,LD16,LD17,LD18,LD19,LD20,LD21,LD24,LD25,LD26,LD27,LD28,LD29,LD30,LD31,LD32,LD33,LD36,LD10
278	NI01782	LED spacer support	LEDS-11 11mm	
279	HC00499	connector	2.54 180°2*8P(gold-plated) 6/11.6mm	CN6
280	HC00072	row-wire header	connector(male)	CN1
281	HA02446	wire	14P(male)-14P(female) 60mm UL1007 28AWG	CN4
282	HA02445	wire	15P(male)-15P(female) 60mm UL1007 28AWG	CN5
283	HA02444	wire	18P(male)-18P(female) 640mm UL1007 28AWG	CN2,CN3
284	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN7
285	HK04013	PC board	P-L12MN1-SMD	
286	HB00960	PCB	L12MN1_VER031020	
287	RD00441	SMD precise resistor 1/10W	787 ±1% 0603	R488,R524
288	RD00442	SMD precise resistor 1/10W	976 ±1% 0603	R464,R500
289	RD00405	SMD precise resistor 1/10W	1.18K ±1% 0603	R476,R512
290	RD00443	SMD precise resistor 1/10W	1.54K ±1% 0603	R472,R508
291	RD00444	SMD precise resistor 1/10W	1.96K ±1% 0603	R484,R520
292	RD00445	SMD precise resistor 1/10W	2.43K ±1% 0603	R460,R496
293	RD00385	SMD precise resistor 1/10W	3.01K ±1% 0603	R492,R528
294	RD00207	SMD precise resistor 1/10W	3.92K ±1% 0603	R468,R504
295	RD00386	SMD precise resistor 1/10W	4.75K ±1% 0603	R480,R516
296	RD00300	SMD precise resistor 1/10W	6.04K ±1% 0603	R487,R523
297	RD00446	SMD precise resistor 1/10W	9.76K ±1% 0603	R475,R511
298	RD00301	SMD precise resistor 1/10W	12.1K ±1% 0603	R471,R486,R507,R522
299	RD00420	SMD precise resistor 1/10W	19.1K ±1% 0602	R459,R495
300	RD00447	SMD precise resistor 1/10W	19.6K ±1% 0603	R474,R510
301	RD00448	SMD precise resistor 1/10W	24.3K ±1% 0603	R470,R491,R506,R527

No.	Part No.	Description	Specification	Remark
302	RD00266	SMD precise resistor 1/10W	30.1K ±1% 0603	R467,R482,R503,R518
303	RD00449	SMD precise resistor 1/10W	38.3K ±1% 0603	R458,R479,R494,R515
304	RD00450	SMD precise resistor 1/10W	48.7K ±1% 0603	R490,R526
305	RD00223	SMD precise resistor 1/10W	49.9K ±1% 0603	R432,R433,R440,R441,R448,R449
306	RD00264	SMD precise resistor 1/10W	60.4K ±1% 0603	R466,R502
307	RD00451	SMD precise resistor 1/10W	76.8K ±1% 0603	R478,R514
308	RD00065	SMD fixed resistor 1/10W	47 ±5% 0603	R592,R593
309	RD00346	SMD fixed resistor 1/10W	56 ±5% 0603	R599
310	RD00066	SMD fixed resistor 1/10W	68 ±5% 0603	R624,R625
311	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R600,R657,R658,R659,R660,R661,R662,R663,R664
312	RD00073	SMD fixed resistor 1/10W	220 ±5% 0603	R646,R647,R650
313	RD00076	SMD fixed resistor 1/10W	330 ±5% 0603	R602,R604
314	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R601,R603,R605
315	RD00347	SMD fixed resistor 1/10W	510 ±5% 0603	R257,R258,R259,R260,R386,R393,R400,R407,R595,R596,R606,R622,R623
316	RD00348	SMD fixed resistor 1/10W	620 ±5% 0603	R607
317	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R125,R126,R127,R128,R654,R685,R696,R707,R718
318	RD00084	SMD fixed resistor 1/10W	1.2K ±5% 0603	R129,R130,R131,R132
319	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R608
320	RD00086	SMD fixed resistor 1/10W	1.8K ±5% 0603	R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20,R137,R138,R139,R140,R141,R142,R143,R144,R145,R146,R147,R148,R149,R150,R151,R152
321	RD00087	SMD fixed resistor 1/10W	2.0K ±5% 0603	R582,R609
322	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R67,R68,R233,R234,R375,R635
323	RD00091	SMD fixed resistor 1/10W	3.3K ±5% 0603	R69,R70,R199,R200,R626,R627
324	RD00352	SMD fixed resistor 1/10W	3.6K ±5% 0603	R329,R330,R335,R336,R338,R339
325	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R210,R211,R212,R213,R217,R218,R219,R224,R583,R648,R683,R694,R716,R719,R720,R721,R722,R723,R724,R725,R726,R353,R357,R365,R366,R705
326	RD00094	SMD fixed resistor 1/10W	5.1K ±5% 0603	R79,R80,R81,R82,R83,R85,R88,R89,R90,R94,R154,R159,R162,R163,R201,R202,R209,R214,R71,R72,R388,R395,R402,R409,R414,R415,R418,R419,R422,R542,R543,R554,R555,R751,R752,R753,R754,R295,R296,R303,R304,R305,R312,R314,R315,R318,R323,R325,R326,R327,R328,R331,R332,R334,R333,R337,R341,R423
327	RD00095	SMD fixed resistor 1/10W	5.6K ±5% 0603	R566,R570,R574,R578,R610
328	RD00096	SMD fixed resistor 1/10W	6.2K ±5% 0603	R269,R271,R273,R275,R616,R617
329	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R43,R44,R46,R45,R47,R48,R49,R50,R175,R176,R177,R178,R179,R180,R181,R182
330	RD00105	SMD fixed resistor 1/10W	22K ±5% 0603	R35,R36,R37,R38,R167,R168,R380,R381,R420,R421,R170,R169,R348,R350
331	RD00106	SMD fixed resistor 1/10W	27K ±5% 0603	R367,R368,R369,R370,R371,R374,R695,R706,R717,R684,R282,R283,R285,R286,R287,R289,R290,R292
332	RD00107	SMD fixed resistor 1/10W	30K ±5% 0603	R531,R532,R372,R373
333	RD00353	SMD fixed resistor 1/10W	36K ±5% 0603	R261,R262,R263,R264,R265,R266,R267,R268,R584,R585,R613,R614,R615,R620,R621,R343,R344,R345,R346,R347,R349,R612
334	RD00098	SMD fixed resistor 1/10W	7.5K ±5% 0603	R463,R499,R651
335	RD00099	SMD fixed resistor 1/10W	8.2K ±5% 0603	R22,R23,R30,R31,R611,R678,R689,R700,R712,R747,R748,R749,R750,R281,R284,R288,R291,R26,R34

No.	Part No.	Description	Specification	Remark
				R21,R24,R25,R27,R28,R29,R32,R33,R153, R155,R156,R158,R160,R161,R164,R165,R203, R204,R215,R270,R272,R274,R276,R293,R294, R299,R300,R301,R302,R309,R316,R317,R382, R383,R390,R397,R411,R424,R425,R426,R427, R430,R431,R434,R435,R436,R437,R438,R442, R443,R444,R445,R446,R447,R450,R451,R452, R453,R454,R455,R456,R457,R461,R465,R469, R473,R477,R481,R485,R489,R493,R497,R501, R509,R513,R517,R521,R525,R529,R530,R540, R549,R553,R569,R577,R581,R588,R591,R594, R628,R629,R630,R631,R632,R633,R634,R637, R638,R640,R641,R642,R643,R644,R645,R655, R656,R680,R681,R691,R692,R693,R702,R703, R704,R713,R714,R715,R729,R730,R731,R741, R742,R743,R744,R439,R505,R541,R573,R636, R682,R732,R310,R311,R321,R376,R377,R216, R404,R157,R166,R205,R206,R207,R208,R220, R221,R222,R223,R677,R688,R340,R342,R428, R429
336	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R59,R60,R61,R62,R73,R74,R75,R76,R77,R78, R84,R86,R87,R91,R92,R93,R95,R96,R97,R98, R191,R192,R193,R194,R225,R226,R227,R228, R546,R547,R548,R550,R551,R552,R556,R557, R462,R483,R498,R519,R537,R539,R665,R666, R667,R668,R669,R670,R671,R672,R727,R728, R733,R734,R735,R736,R737,R738,R740,R739, R229,R230,R231,R232,R313,R322
337	RD00102	SMD fixed resistor 1/10W	12K ±5% 0603	R389,R396,R403,R410,R416,R417,R384,R385 R351,R352,R354,R355,R356,R358,R359,R360, R361,R362,R363,R364,R378,R379,R387,R391, R392,R394,R398,R399,R401,R405,R406,R408, R412,R413,R533,R534,R535,R544,R560,R561, R568,R572,R576,R580,R673,R674,R99,R100, R101,R102,R699,R710
338	RD00103	SMD fixed resistor 1/10W	15K ±5% 0603	R63,R64,R65,R66,R195,R196,R197,R198, R563,R565,R639
339	RD00104	SMD fixed resistor 1/10W	18K ±5% 0603	R297,R298,R306,R307,R308,R320
340	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	R558,R559
341	RD00111	SMD fixed resistor 1/10W	47K ±5% 0603	R536,R545,R562,R564,R586,R589,R676,R687, R698,R709,R319,R324,R675,R686,R697,R708 R39,R40,R41,R42,R171,R172,R173,R174,R1, R2,R3,R4,R133,R134,R135,R136,R538
342	RD00112	SMD fixed resistor 1/10W	56K ±5% 0603	R649
343	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	R51,R52,R53,R54,R55,R56,R57,R58,R183, R184,R185,R186,R187,R188,R189,R190,R652
344	RD00116	SMD fixed resistor 1/10W	100K ±5% 0603	R653
345	RD00119	SMD fixed resistor 1/10W	220K ±5% 0603	AR1,AR2
346	RD00124	SMD fixed resistor 1/10W	820K ±5% 0603	C173,C174,C185,C186,C197,C198,C209,C210, C237,C238 C379,C421,C425,C426,C427,C428,C429,C430, C431,C437,C446,C447,C448,C449,C450,C451, C452,C453,C49,C50,C51,C52,C53,C54,C55, C56,C57,C58,C61,C62,C63,C64,C65,C66,C131 ,C132,C133,C134,C135,C136,C137,C138,C139 ,C140,C141,C142,C143,C144,C145,C146,C165 ,C166,C167,C168,C169,C170,C171,C172,C221 ,C222,C223,C224,C225,C226,C227,C228,C229 ,C230,C231,C232,C233,C234,C235,C236,C325 ,C326,C327,C328,C329,C330,C331,C332,C333 ,C334,C335,C336,C337,C338,C339,C340,C341 ,C342,C343,C344,C345,C346,C347,C348,C349 ,C350,C351,C352,C353,C354,C355,C356,C357 ,C358,C359,C360,C361,C362,C363,C364,C365 ,C366,C367,C368,C369,C370,C371,C372,C399 ,C400,C403,C404,C405,C406,C407,C408,C409 ,C410,C411,C412,C476,C477,C481,C482,C483 ,C484,C485,C478
347	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	
348	RD00126	SMD fixed resistor 1/10W	2.2M ±5% 0603	
349	RE00011	SMD resistor networks 1/16W	680 *4 ±5% 8P 0603	
350	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	
351	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	

No.	Part No.	Description	Specification	Remark
352	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C25,C26,C27,C28,C29,C30,C31,C32,C45,C46,C47,C48,C71,C72,C78,C82,C87,C91,C94,C95,C102,C103,C109,C113,C117,C121,C125,C126,C149,C150,C151,C152,C157,C158,C159,C160,C178,C181,C182,C189,C193,C194,C201,C205,C206,C213,C214,C217,C218,C241,C242,C246,C249,C250,C253,C254,C257,C258,C261,C262,C263,C264,C269,C270,C271,C272,C273,C274,C275,C276,C277,C278,C279,C280,C281,C282,C283,C284,C373,C374,C375,C381,C382,C385,C386,C387,C388,C413,C414,C415,C416,C432,C433,C434,C435,C468,C469,C472,C473,C177,C190,C245,C202
353	CI00053	SMD ceramic capacitor 0603	33PF/50V C0G±5%(C1608C0G1H330JT)/TDK	C422,C445
354	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C456,C459,C462,C465
355	SF00038	transistor	RK7002(ROHM)	TR1,TR3,TR5,TR9
356	SG00164	SMD integrated circuit	74HC109D	U76
357	SG00068	SMD integrated circuit	74HC14DT(SO-14)/(PHI)	U77
358	SE00028	SMD rectifier diode	BAS316,115	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12,D13,D14,D15,D17,D18,D19,D20,D23,D25,D26,D27,D28,D29
359	SF00056	transistor	MMBT3904(SOT-23)/(PHI)	TR20,TR21
360	SE00009	SMD rectifier diode	DAN202K/T-146	D24
361	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR2,TR4,TR6,TR8,TR13,TR14
362	SF00039	transistor	MMBFJ112(SOT-23)/(FAIRCHILD)	TR15,TR16,TR17,TR18,TR19
363	SG00032	SMD integrated circuit	LM339DR(TI)	U62,U63,U64,U65,U66,U67
364	SG00306	SMD integrated circuit	LM393DR(TI)/(MEXICO)	U75,U5,U9,U18,U19
365	SG00094	SMD integrated circuit	NE555DT/(ST)	U71
366	SE00007	SMD rectifier diode	RB400D(D3A)	D22
367	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U2,U3,U4,U6,U7,U10,U8,U11,U12,U13,U14,U15,U16,U17,U20,U21,U22,U23,U24,U25,U26,U27,U28,U29,U30,U31,U32,U33,U34,U35,U36,U37,U38,U39,U40,U41,U42,U43,U44,U45,U46,U47,U48,U49,U50,U51,U52,U53,U54,U55,U56,U57,U58,U59,U60,U61,U68,U69,U70,U72,U73,U74,U78,U79
368	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D21,D30,D31,D32,D33
369	SE00008	SMD rectifier diode	DA204K/T-146	D16
370	AE00221	tin soldering paste	SJ-617	
371	RD00071	SMD fixed resistor 1/10W	180 ±5% 0603	R679,R690
372	RD00475	SMD precise resistor 1/10W	243 ±1% 0603	R701,R711
373	HA02399	wire	245mm black L3R3	
374	AC00002	solder wire	63/37%	
375	HK04001	PC board	P-L12LED-SMD	
376	HB00975	PCB	L12LED(1*30)_VRE030711	
377	SE00004	SMD L.E.D	yellow 67-21UYC/S530-A2/TR8 1210	LED1,LED2,LED3,LED4,LED5
378	AE00221	tin soldering paste	SJ-617	
379	HK01524	PC board	P-313123-DIP(L-12)	
380	SC00004	crystal oscillator	16.00MHZ	XT1
381	HC00499	connector	2.54 180°2*8P(gold-plated) 6/11.6mm	CN2
382	SG00193	SMD integrated circuit	AT27LV010A-90JC/L-8	IC4
383	SG00139	SMD integrated circuit	AT27LV010A-90JC	
384	HK03894	PC board	P-313123-SMD(L-8)	

No.	Part No.	Description	Specification	Remark
385	HB00895	PCB	313123/2(1*6)	
386	CI00049	SMD ceramic capacitor 0603	15PF/50V C0G±5%(C1608C0G1H150JT)/TDK	C8,C9
387	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C17,C15,C18,C6,C10,C22,C20,C13,C14,C1,C3,C4,C11
388	RD00061	SMD fixed resistor 1/10W	10 ±5% 0603	R22
389	RD00068	SMD fixed resistor 1/10W	100 ±5% 0603	R12,R14,R7,R8,R34,R17,R13,R33
390	RD00073	SMD fixed resistor 1/10W	220 ±5% 0603	R3
391	RD00085	SMD fixed resistor 1/10W	1.5K ±5% 0603	R16,R15,R21,R20,R4,R19,R10,R18,R9,R5
392	RD00088	SMD fixed resistor 1/10W	2.2K ±5% 0603	R28,R27,R23,R24,R29,R30,R25,R26
393	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R32,R31,R1
394	RD00125	SMD fixed resistor 1/10W	1.0M ±5% 0603	R2
395	RE00006	SMD resistor networks 1/16W	100 *4 ±5% 8P 0603	AR1,AR2
396	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D1
397	SG00068	SMD integrated circuit	74HC14DT(SO-14)/(PHI)	IC1
398	SG00410	SMD integrated circuit	IC41LV16256-35KG(SOJ40)/(ICSI)	IC6
399	SG00166	SMD integrated circuit	TY-2 ALTO(GMCODE:105022)	IC3
400	SG00147	SMD integrated circuit	CHEF DSP(GMCODE:105022)	
401	SG00037	SMD integrated circuit	LD1117DT33C(TO-252)	IC2
402	HC00233	IC socket (PCB)	PLCC32 (D03-32T.A.4)	IC4
403	SG00016	SMD integrated circuit	UDA1345TS (Philips)	IC5
404	AE00221	tin soldering paste	SJ-617	
405	NE11475	label	L-8	
406	NH00035	bond paper	0.06*1M	
407	NI00017	membrane	0.055*1M	
408	AC00002	solder wire	63/37%	
409	CB00166	electrolytic capacitor	100uF/16V 6*5mm	C19,C12,C5,C2,C24,C16,C21,C25,C26,C28,C7
410	HK01563	PC board	P-L12PU3-DIP	
411	RA00505	precise resistor 1/4W	6.81K M type	R1,R1-1,R1-2,R1-3,R2,R2-1,R2-2,R2-3
412	CB00003	electrolytic capacitor	0.22uF/50V 5*11mm	C16,C16-1,C16-2,C16-3,C17,C17-1,C17-2,C17-3,C18,C18-1,C18-2,C18-3
413	CB00029	electrolytic capacitor	22uF/35V 5*11mm	C9,C9-1,C9-2,C9-3,C10,C10-1,C10-2,C10-3
414	CB00175	electrolytic capacitor	47uF/25V SLL 5*11mm	C7,C7-1,C7-2,C7-3,C8,C8-1,C8-2,C8-3
415	CB00042	electrolytic capacitor	47uF/63V 105 LZ 8*11mm	C12,C12-1,C12-2,C12-3,C13,C13-1,C13-2,C13-3
416	CB00074	electrolytic capacitor	1000uF/10V 8*11mm	C19,C19-1,C19-2,C19-3
417	SB00175	transistor	2SA970-BL(TE2;T)	TR1,TR1-1,TR1-2,TR1-3,TR2,TR2-1,TR2-2,TR2-3
418	HC00321	connector(male)	14P 2.0mm 180°	CN1,CN2
419	HC00126	balance MIC jack	JY-5042-030G female plug 180°	X3,X3-1,X3-2,X3-3
420	HC00125	MIC jack	JY-6351G-02-250	X1,X1-1,X1-2,X1-3,X2,X2-1,X2-2,X2-3
421	HK01564	PC board	P-L12PU3-SMD	
422	HB00958	PCB	L12PU3_VER030606	
423	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	C3,C3-1,C3-2,C3-3,C4-1,C4-2,C4-3,C5-1,C5-2,C5-3,C6,C6-1,C6-2,C6-3
424	CI00062	SMD ceramic capacitor 0603	330PF/50V NPO ±5 %	C11,C11-1,C11-2,C11-3
425	CI00065	SMD ceramic capacitor 0603	0.001uF/50V X7R ±10%	C14,C14-1,C14-2,C14-3,C15,C15-1,C15-2,C15-3
426	CI00071	SMD ceramic capacitor 0603	0.01uF/50V X7R ±10%	C1,C1-1,C1-2,C1-3,C2,C2-1,C2-2,C2-3

No.	Part No.	Description	Specification	Remark
427	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C24,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35,C63,C64,C65,C66
428	RD00214	SMD precise resistor 1/10W	10.0K ±1% 0603	R26,R26-1,R26-2,R26-3,R27,R27-1,R27-2,R27-3
429	RD00355	SMD fixed resistor 1/10W	4.7 ±5% 0603	R10,R10-1,R10-2,R10-3,R11,R11-1,R11-2,R11-3,R12,R12-1,R12-3,R12-2
430	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R104,R104-1,R104-2,R104-3
431	RD00078	SMD fixed resistor 1/10W	470 ±5% 0603	R20,R20-1,R20-2,R20-3,R21,R21-1,R21-2,R21-3
432	RD00351	SMD fixed resistor 1/10W	1.3K ±5% 0603	R28,R28-1,R28-2,R28-3
433	RD00201	SMD precise resistor 1/10W	1.50K ±1% 0603	R15,R15-1,R15-2,R15-3,R16,R16-1,R16-2,R16-3
434	RD00204	SMD precise resistor 1/10W	2.49K ±1% 0603	R3,R3-1,R3-2,R3-3,R4,R4-1,R4-2,R4-3,R5,R5-1,R5-2,R5-3,R6,R6-1,R6-2,R6-3,R7,R7-1,R7-2,R7-3,R8,R8-1,R8-2,R8-3,R9,R9-1,R9-2,R9-3
435	RD00210	SMD precise resistor 1/10W	5.11K ±1% 0603	R22,R22-1,R22-2,R22-3,R23,R23-1,R23-2,R23-3,R24,R24-1,R24-2,R24-3,R25,R25-1,R25-2,R25-3
436	RD00365	SMD precise resistor 1/10W	5.62K ±1% 0603	R13,R13-1,R13-2,R13-3,R14,R14-1,R14-2,R14-3
437	RD00097	SMD fixed resistor 1/10W	6.8K ±5% 0603	R29,R29-1,R29-2,R29-3
438	RD00306	SMD fixed resistor 1/10W	20K ±5% 0603	R17,R17-1,R17-2,R17-3,R18,R18-1,R18-2,R18-3,R19,R19-1,R19-2,R19-3
439	RD00113	SMD fixed resistor 1/10W	62K ±5% 0603	R30,R30-1,R30-2,R30-3
440	SE00028	SMD rectifier diode	BAS316,115	D1,D1-1,D1-2,D1-3
441	SF00053	transistor	MMBT3906(SOT-23)/(PHI)	TR3,TR3-1,TR3-2,TR3-3,TR4,TR4-1,TR4-2,TR4-3,TR5,TR5-1,TR5-2,TR5-3
442	SG00122	SMD integrated circuit	NJM4580M-TE3	U1,U1-1,U1-2,U1-3,U2,U2-1,U2-2,U2-3
443	CI00055	SMD ceramic capacitor 0603	47PF/50V C0G±5%(C1608C0G1H470JT)/TDK	C4,C5
444	AE00221	tin soldering paste	SJ-617	
445	AC00002	solder wire	63/37%	
446	HK01576	PC board	P-L12PU4-DIP	
447	HC00125	MIC jack	JY-6351G-02-250	X1,X2,X3,X4
448	HC00256	connector(male)	5P 2.0mm 180°	CN1
449	HK01565	PC board	P-L12PU4-SMD	
450	HB00961	PCB	L12PU4(1*6)_VER030530	
451	RD00007	SMD fixed resistor 1/8W	120 ±5% 0805	R1,R2,R3,R4,R5,R6,R7,R8
452	AE00221	tin soldering paste	SJ-617	
453	AC00002	solder wire	63/37%	
454	MJ01235	side cover board	L-12 left	
455	MJ01236	side cover board	L-20 left 1.0t*400*115	
456	MJ00058	single light board	1*2135*1220 20.45kg	
457	NE02717	label	MADE IN CHINA	
458	NH00038	paper	0.115*1M	
459	NI00028	membrane	0.110*1M	
460	MJ00808	fixed clip	WL3-32T	
461	NC00080	washer	3.17* 8.2*1	
462	NC00014	black foil white board	0.65M*60M*1t	
463	NA00137	clip-chain bag	5*7	
464	MG00104	color screw	M4*10	
465	NB02473	cushion	L-12;16;20series contrary	
466	NB02474	cushion	L-12;16;20series right	

No.	Part No.	Description	Specification	Remark
467	MG00363	copper pillar	M3*14*0.5PH	
468	NI02833	cushion	0.5t*15.5*72.5 L-16	
469	NI00375	film	45*60.5*0.5mm	
470	NI01825	cushion	0.5* 3.3* 8.3 a VERB	
471	NI00375	film	45*60.5*0.5mm	
472	HA03125	wire	260mm UL1015 22AWG yellow	
473	MI02108	separating shade	RD204 0.3t*69*69*58_V1.0	
474	MI02107	separating shade	RD204 0.3t*69*69*58_V1.0	
475	MJ00087	iron board	0.3*200*3000 1.431kg	
476	MI02106	separating shade	RD204 0.3t*70*70*59_V1.0	
477	MI02105	separating shade	RD204 0.3t*70*70*59_V1.0	
478	MJ00087	iron board	0.3*200*3000 1.431kg	
479	NA00279	clip-chain bag	0.04t*100*150mm_V1.0	
480	AD00012	twin adhesive	90*120mm_V1.0	
481	HA03865	row-stand connector wiring	2P-2P 305mm UL1007 28AWG	