

Service *Manual*

MODEL: DIGAN2.14

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1. Introduction

Digital control and DSP technology with graphic display 14 bands Graphic or parametric equalization.

Dynamic range processing with Ratio, Threshold, Attack and Release time control.

Tone adjustment with Bass and Treble control.

100 presets: 30 factory presets and 70 user-programmable presets.

32x24 bit DSP processing with or without link control.

Stereo channels processing with or without link control.

+/-12dB boost/cut for every bands adjustment.

Master volume control.

EQ Bypass function support.

USB control interface for easy operating with PC editor.

2 balanced 1/4" TRS jacks and 2 unbalanced 1/4" TRS jacks.

2. Specification

DIGAN2.14		
System parametric	Band	2×14 bands, 2/3 octave
	Bandwidth	20Hz-20kHz
	THD+N%	<0.05%, Analog In to Analog Out
	Signal to noise ratio	>90dB A-Weighted, Analog In to Analog Out
	Input gain	+/-12dB
	Output gain	+/-6dB
	Preset	Factory preset: 30, User preset:70
Input Section	Inputs	Balanced XLR and 1/4" TRS connectors
	Input impedance	Balanced >50Kohm, Unbalanced >25Kohm
	Input level	Maximum Input Level: +125dBu
Output Section	Outputs	Balanced XLR, 1/4" TRS and SPDIF connectors
	Output impedance	Balanced 120ohm, Unbalanced >60ohm
	Output level	Maximum Output Level: +125 dBu
USB serial port		USB1.1
Power supply (AC/AC adapter)	Input voltage	9 Volt AC Power Transformer
	Power consumption	8W
Physical	Dimension (W×D×H)	483×150×44mm
	Net weight	4.8lbs (2.15kg)

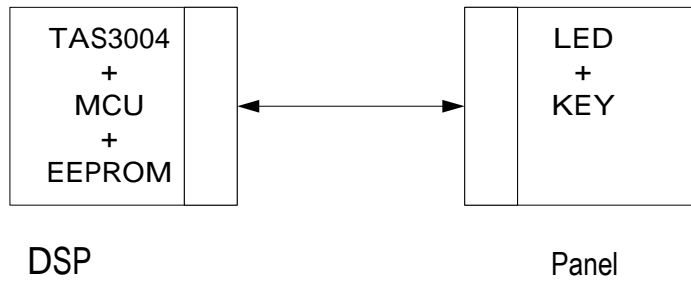
3. Block Diagram

Hardware

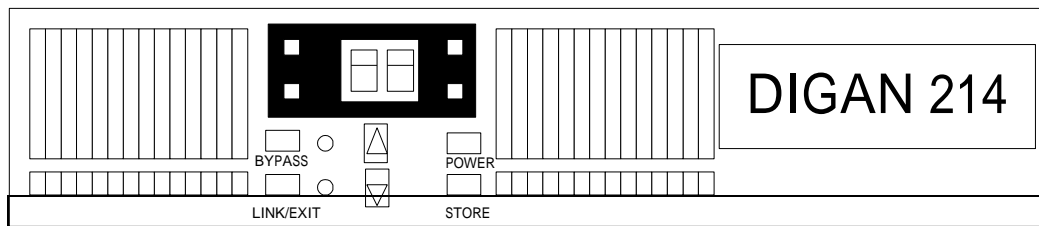
(1)Panel : LED , UP/DOWN , LINK/EXIT,BYPASS

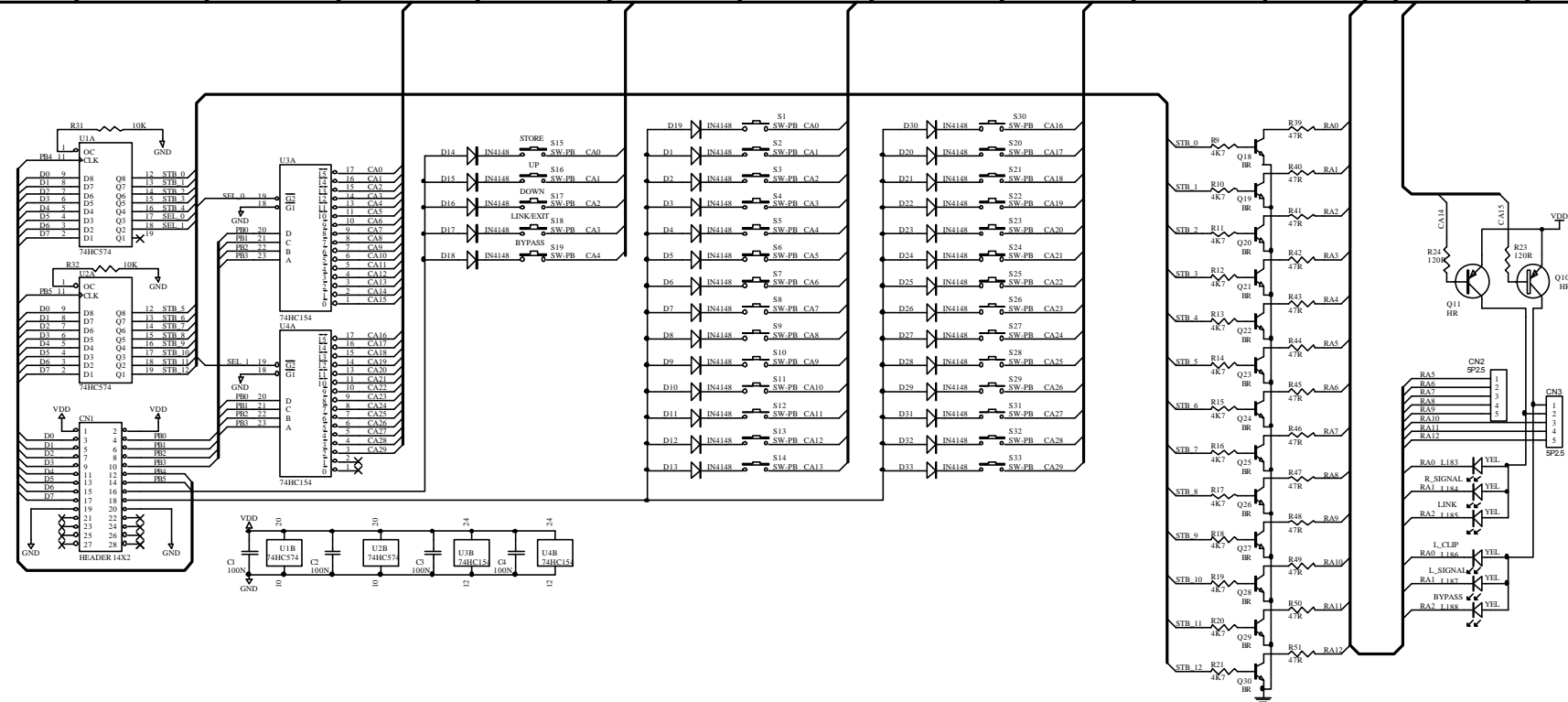
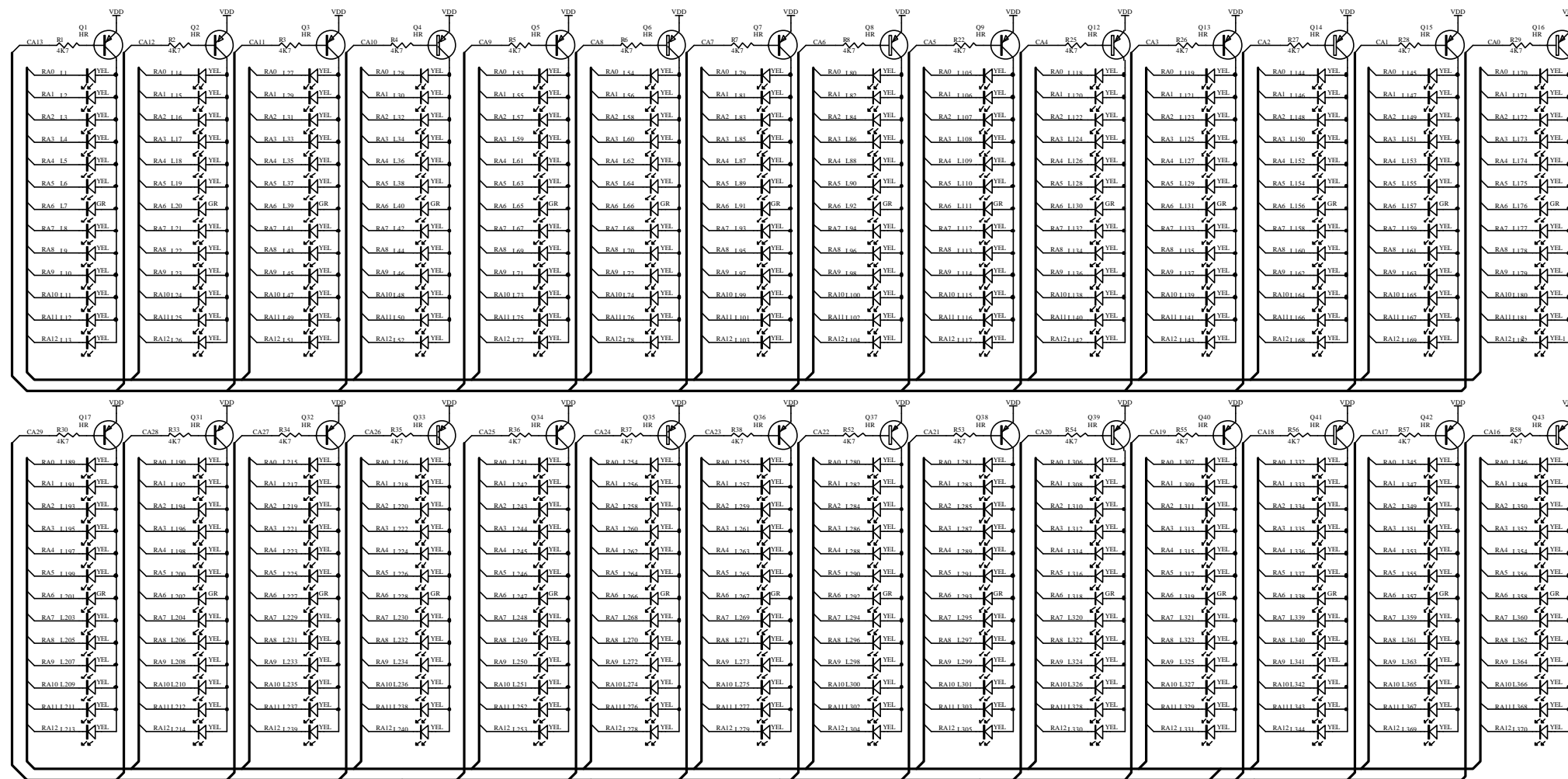
(2)DSP board : TAS3004+MCU(motorola)+EEPROM

Block Diagram

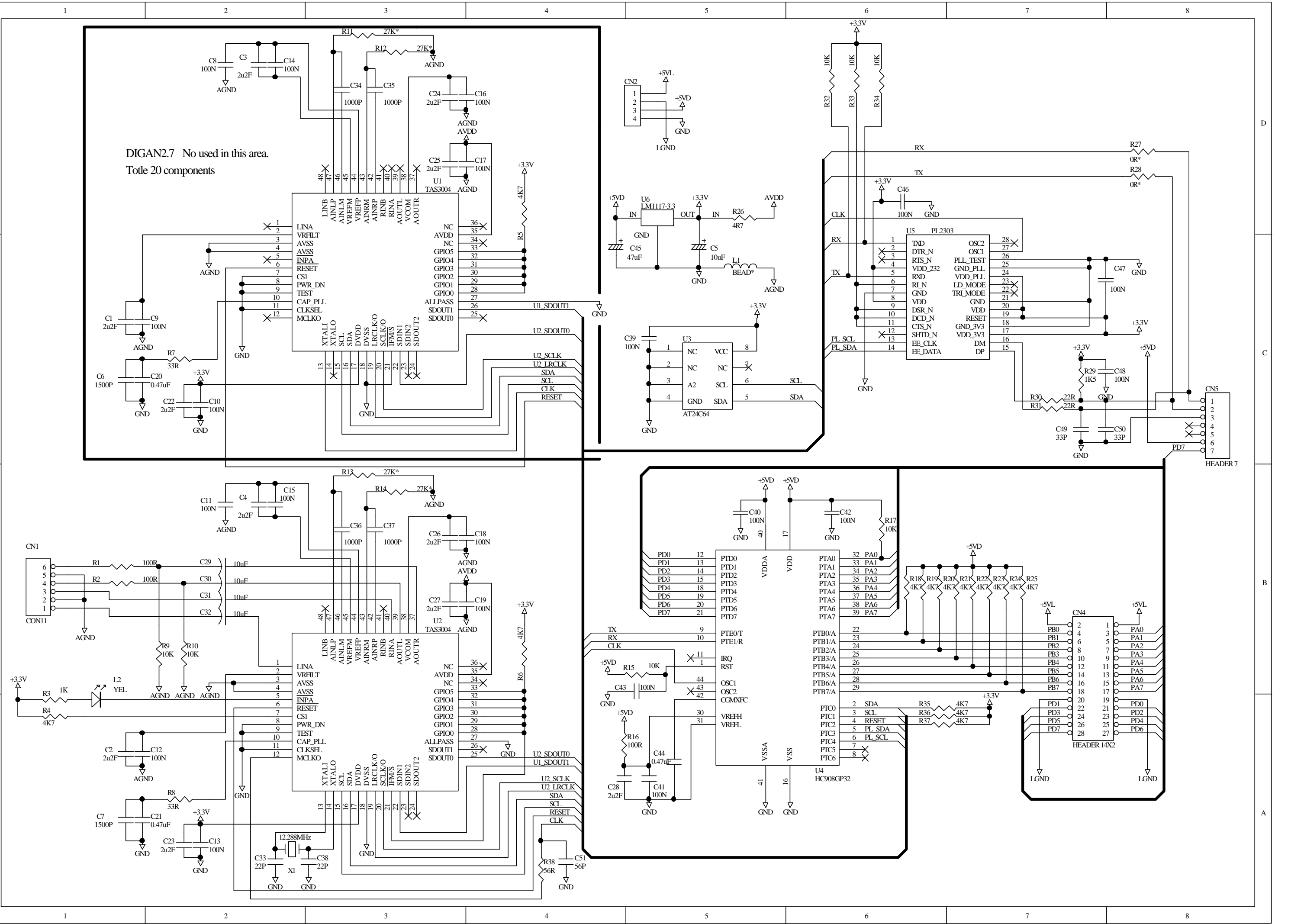


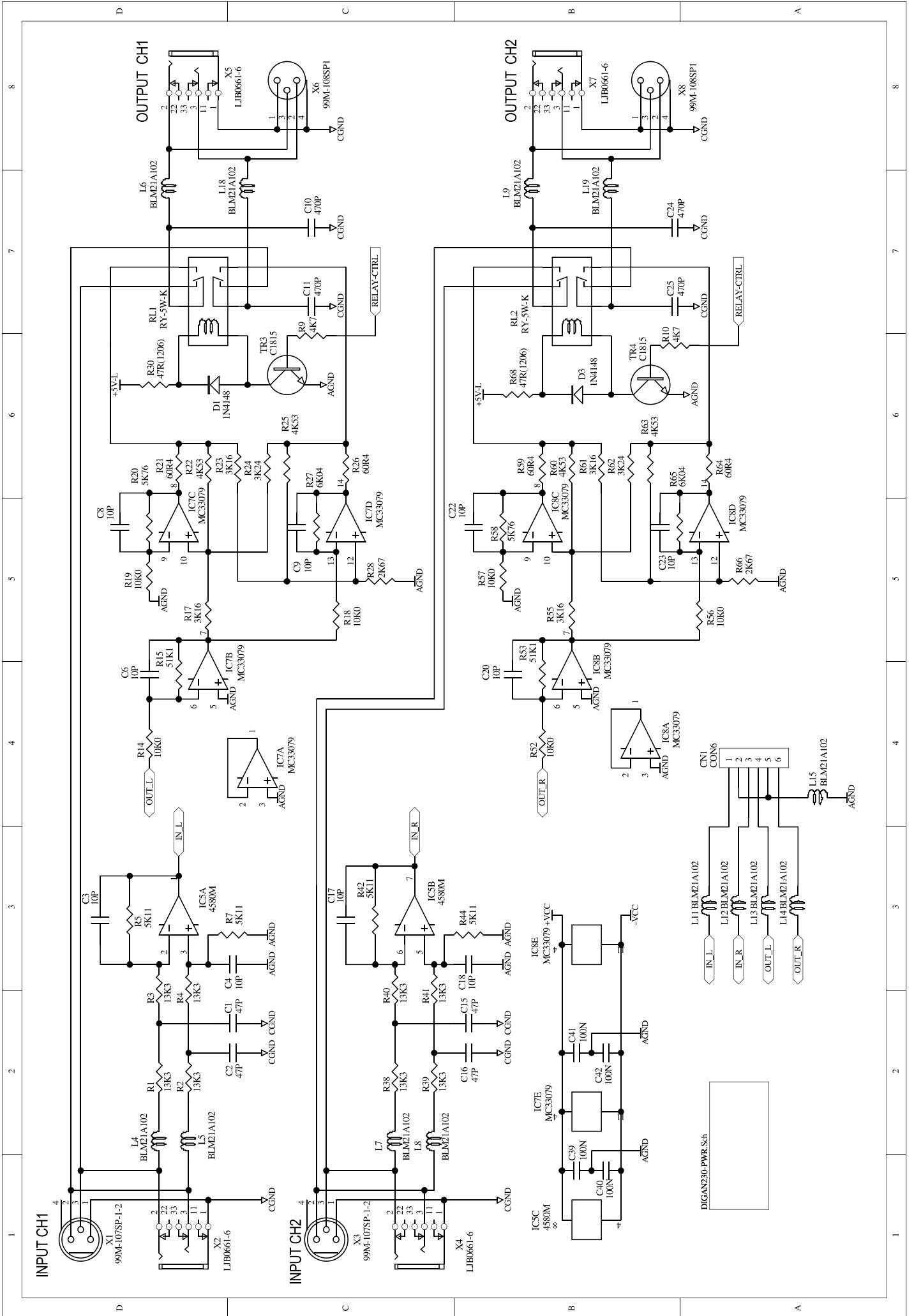
DIGAN 2.14 :

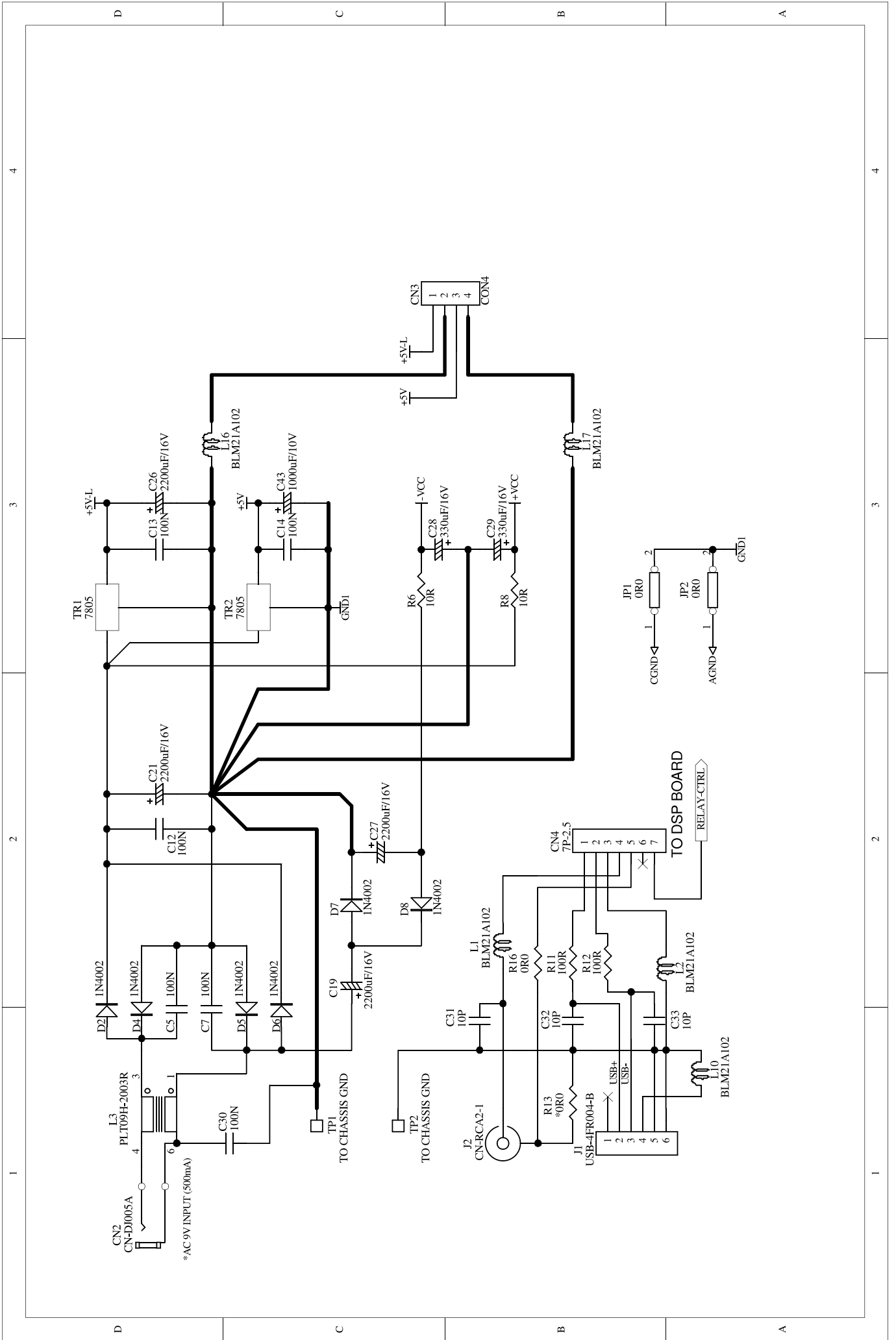


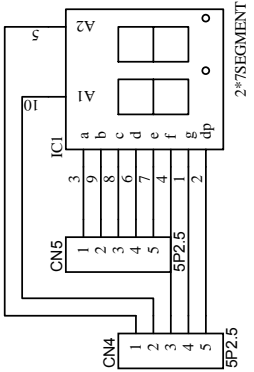
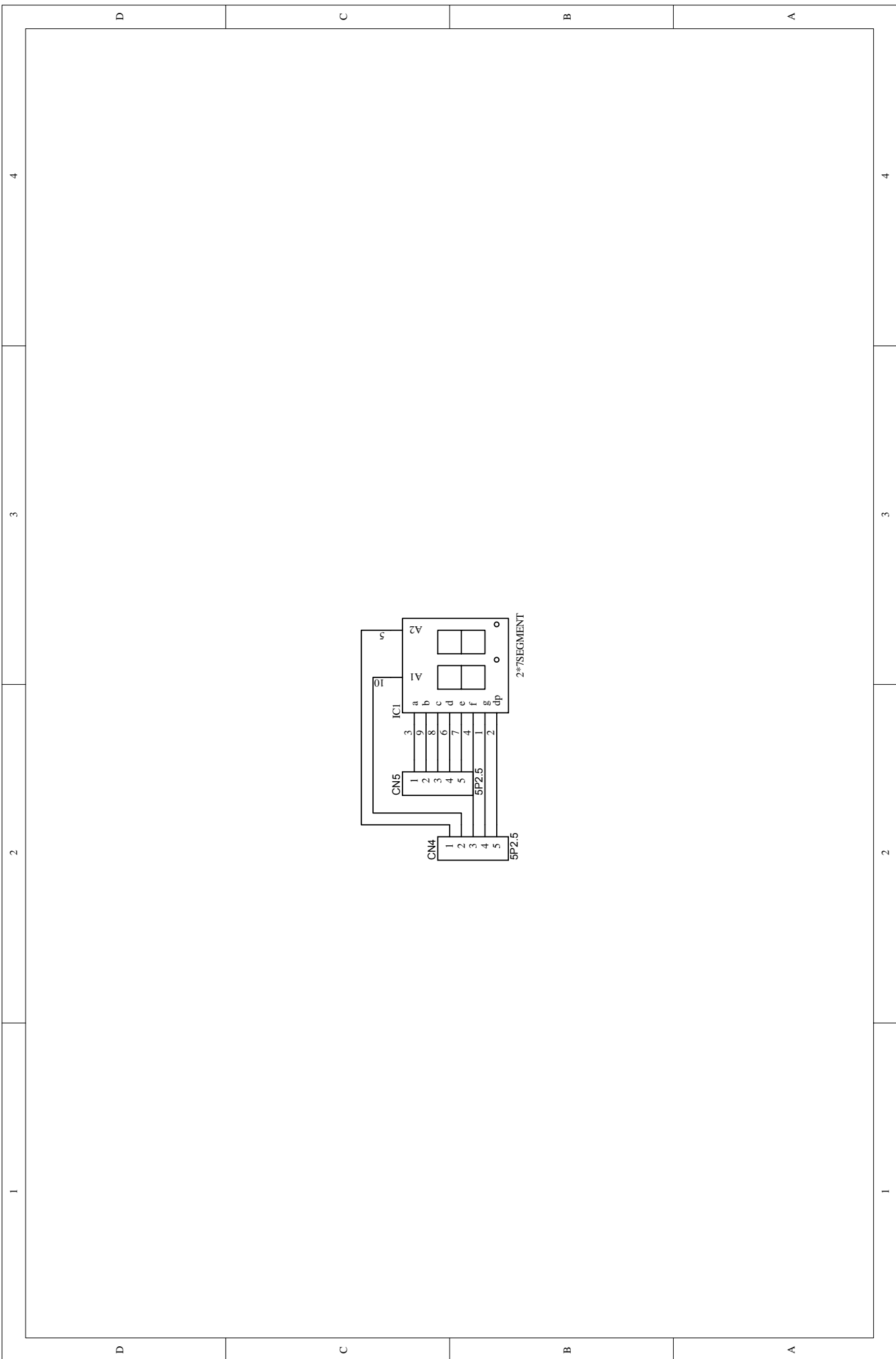


DIGAN2.7 No used in this area.
Totle 20 components

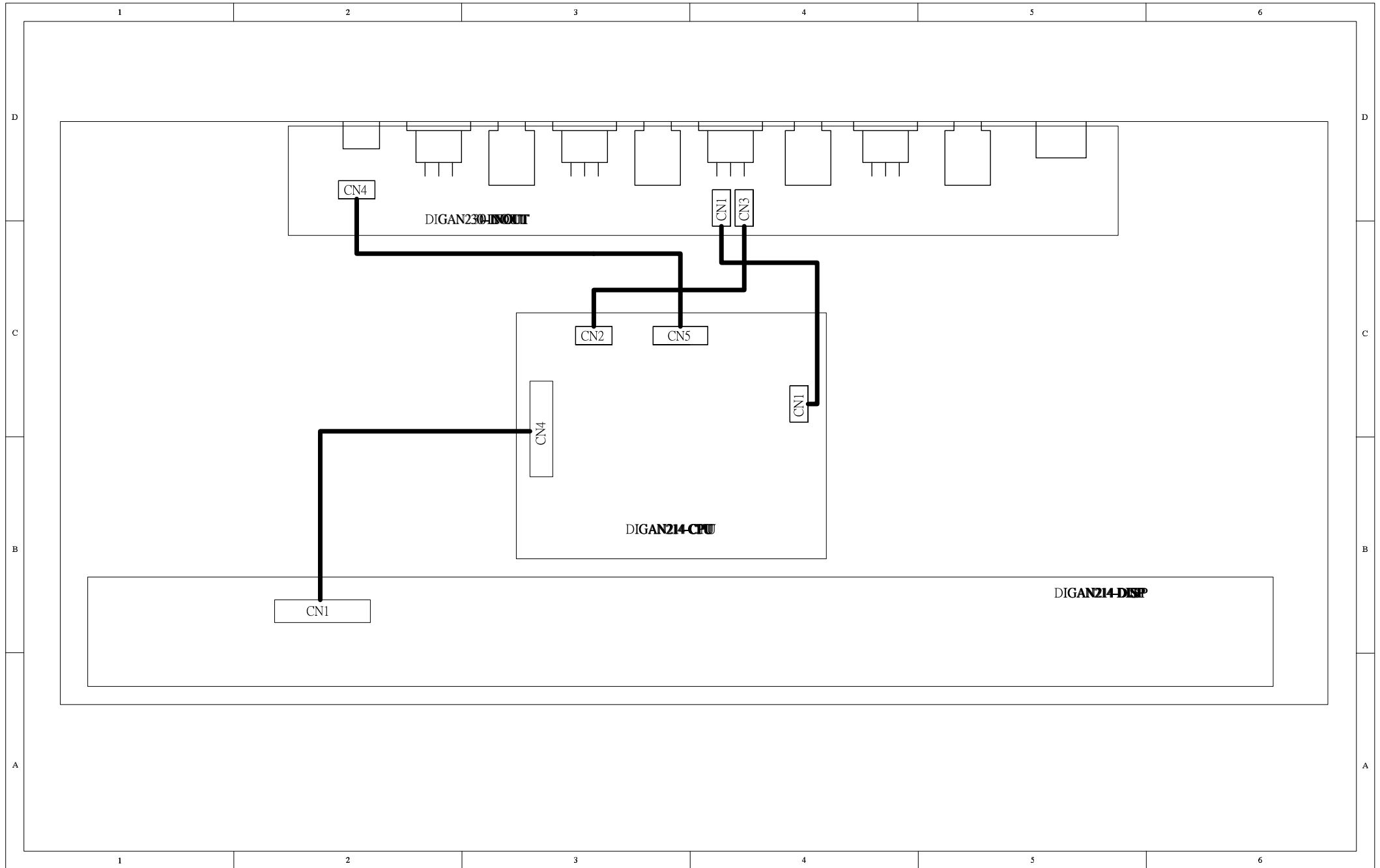




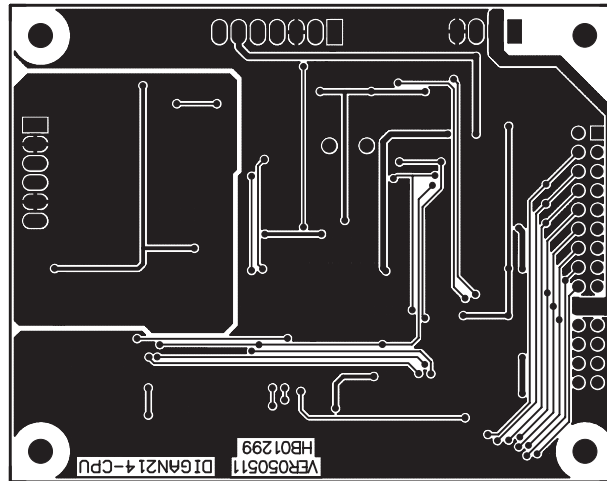




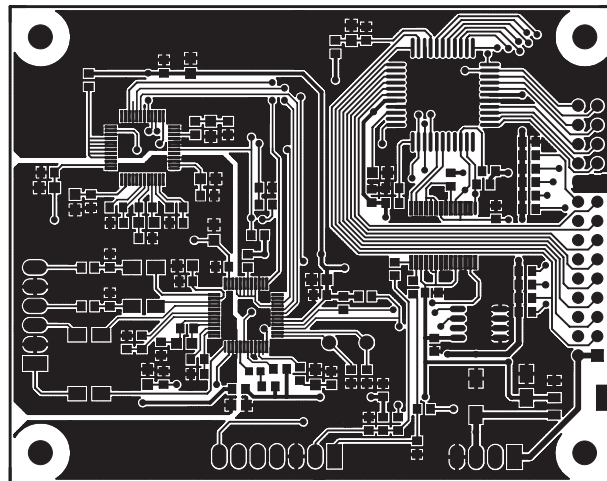
5. Wiring Diagram



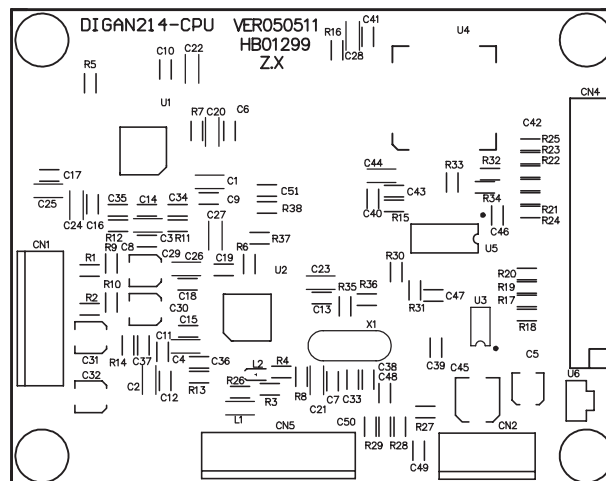
6. PCB Layout



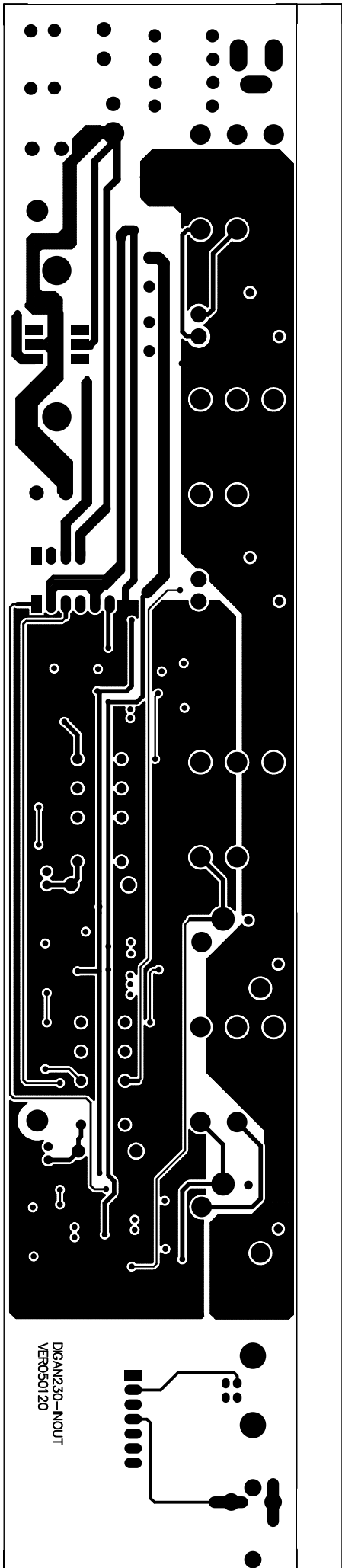
Bottom layer



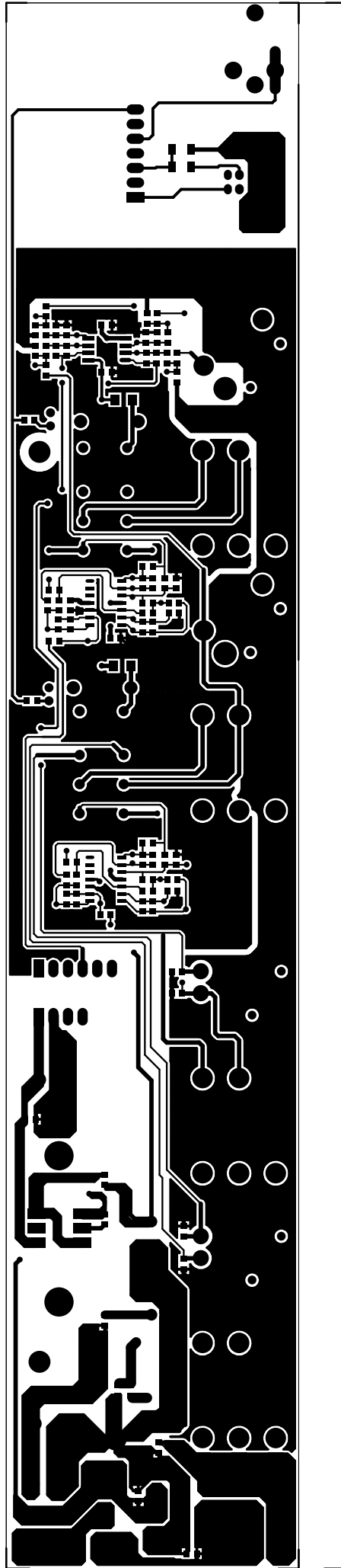
Top layer



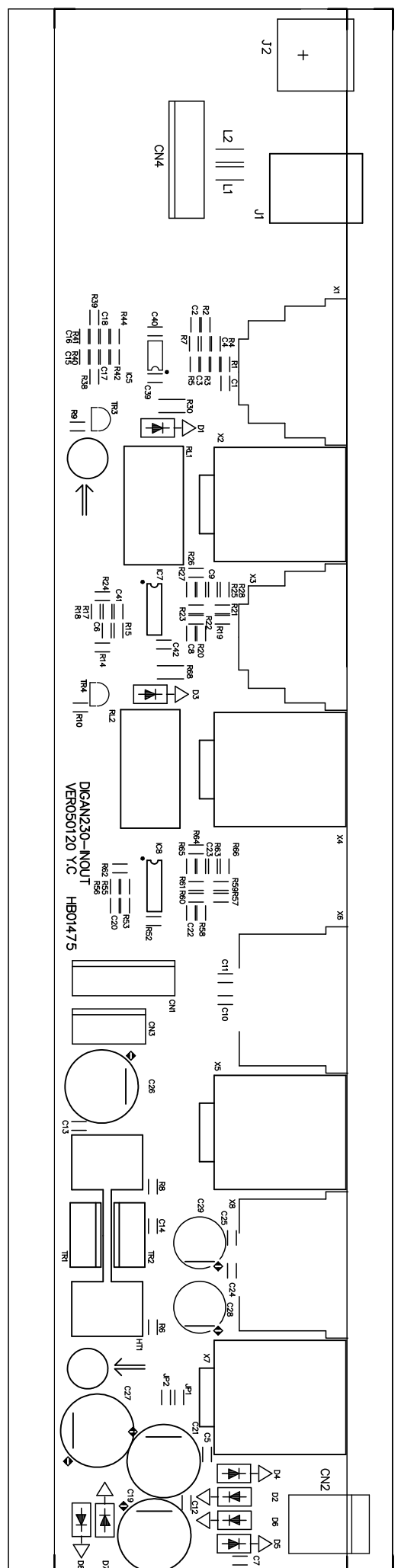
Top overlay



Bottom layer



Top layer



Top overlay

DIGAN230-INOUT
VER050120

DIGAN230-INOUT
VER050120 Y.C. HB01475

7. TEST PROCEDURE

INSTRUMENT

- 1) AP instrument
- 2) Dual track oscillograph
- 3) Computer (WINDOWS 2000)

INSTRUMENT SETTING AND CONNECTION

- 1) Connect AP output with INPUT1 AND INPUT2. Set AP 1kHz, 0dBu, Load 600Ω UNBAL & BAL.
- 2) Connect OUTPUT1 and OUTPUT2 with AP input terminal. Connect its monitor signal with oscillograph. Set UNBAL & BAL Load 100KΩ, BW: 22HZ~22KHZ

Part 1 Functional Switch Test

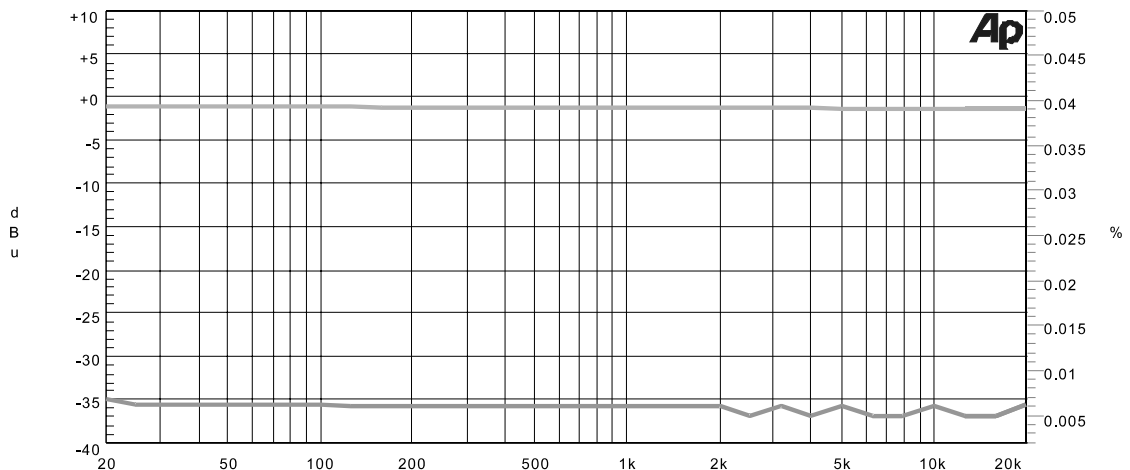
1. Connect AC9V/300mA voltage adapter to DIGAN 2.14. When the power switch is in the ON position, LED indicates "DIG214". Press POWER button, now it is in the standby mode. It is 0dBu and output 0dBu output of the AP instrument.
2. Press the button of POWER, BYPASS and LINK in turn quickly. The left LED shows TEST. After flashing 2 seconds, the Seven bands LCD shows "00".
 - 2-1. Press "▲" button, the yellow LED of PEQ and GEQ on the right will light up.
 - 2-2. Press "▼" button, the yellow LED of DRCE and TONE on the left will light up.
 - 2-3. Press "STORE" button, the LED of TONE and GEQ will light up simultaneously.
 - 2-4. Press "BYPASS" button, the yellow LED beside will light up.
 - 2-5. Press "LINK" button, the yellow LED beside will light up.
 - 2-6. Press the "32" button of the left channel, EQ LED will light up from left to right in turn. (The one in the middle is green, others are yellow.)
 - 2-7. Press the "80" button of the left channel, the EQ LED of the L/R channels will light up from down to up in turn.
 - 2-8. Press the "100" button, the corresponding EQ LED will light up.
 - 2-9. Press the buttons of other frequency, the corresponding EQ LED will light up.

Part 2 Electric Performance Test

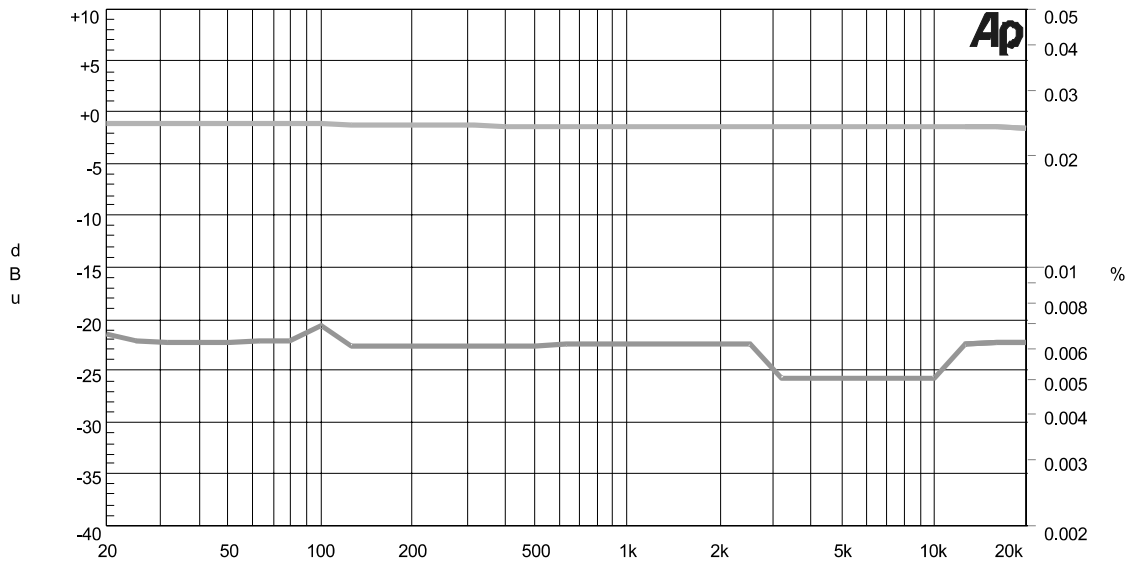
1. Set the output of AP instrument at 0dBu, BW: 22HZ~~22KHZ (input signal level= 0dBu, at model 00).

Test the unbalanced input/output of DIGAN 2.14 left/right channel is 0dBu± 2dBu. THD+N <0.02%.
Test the balanced input/output of DIGAN 2.14 left/right channel is 0dBu± 2dBu. THD+N <0.02%.
The Frequency Response is as Figure 1 & 2.

Audio Precision

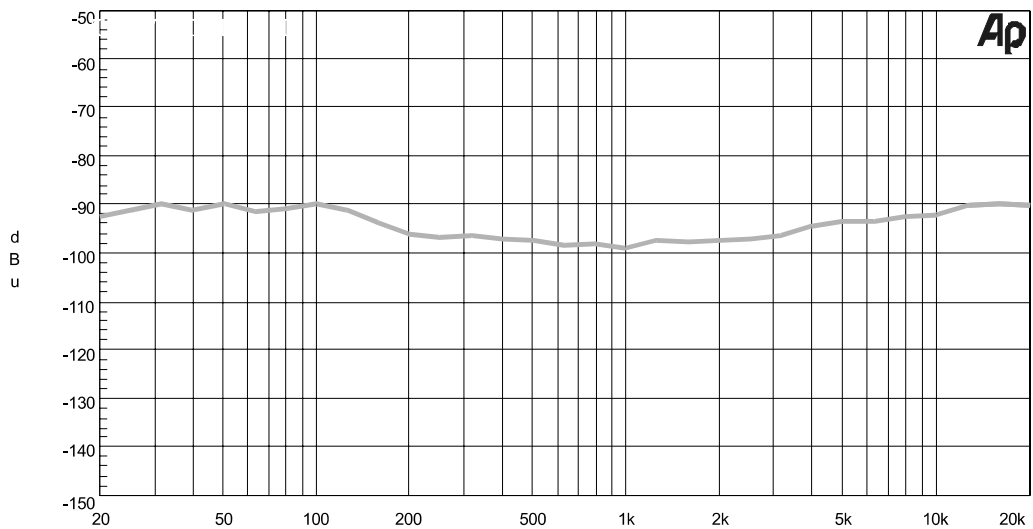


Audio Precision



2. Test the Output noise value of the L/R channel in DIGAN2.14. It is less than -85dBu. At the same time scan the Output noise as figure3.

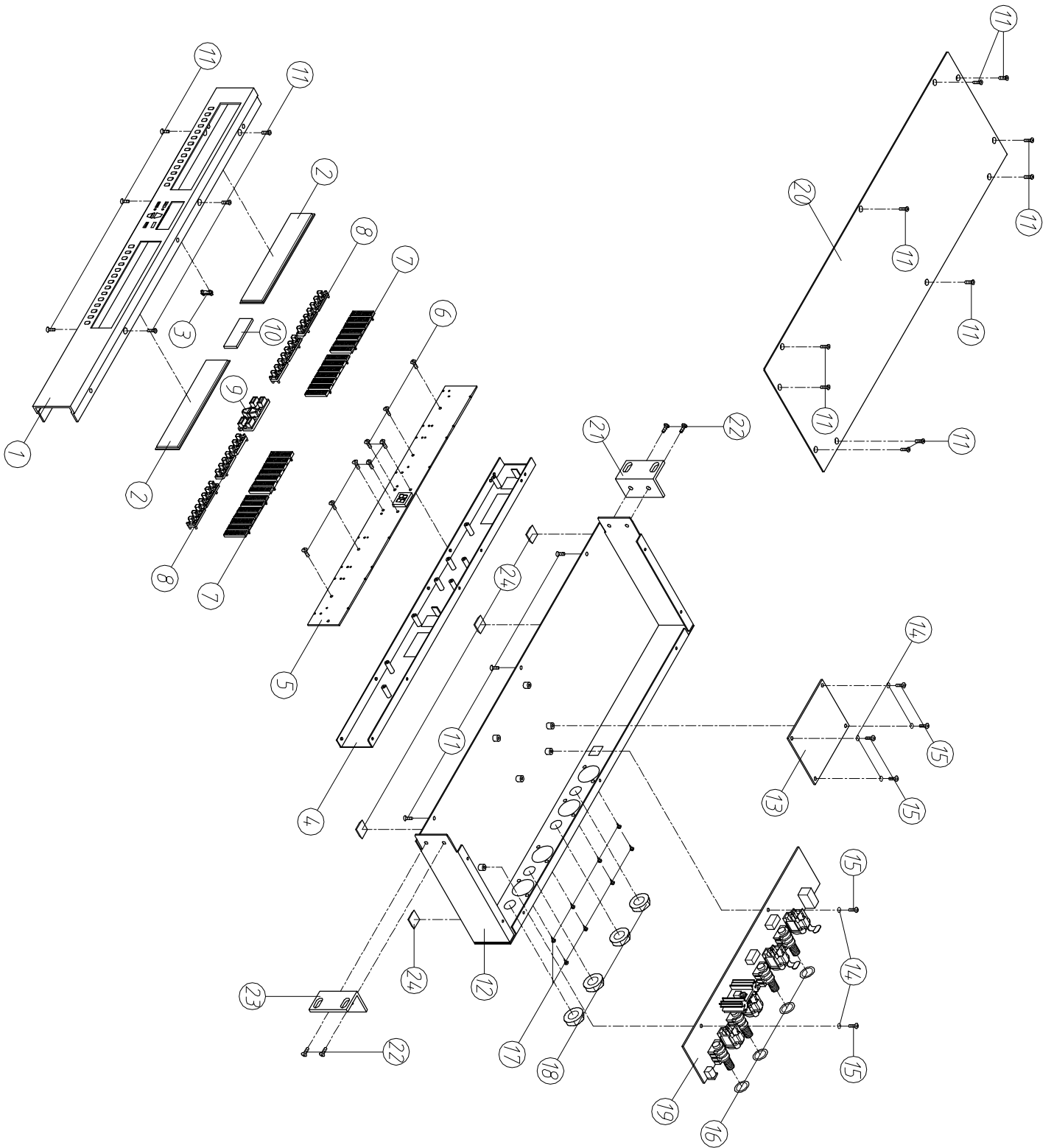
Audio Precision



3. Test the S/N value of L/R channel in DIGAN2.14. It is more than 96dBu.
- Part 3 Test if it can be connected to the computer.
1. Open DIGAN control program in the computer (as Figure 1), then click the new icon (as the arrow indicating).
 2. Select the corresponding program. If it is the DIGAN2.14 select the first one (as the arrow indicating in figure 2).
 3. After opening the program, click the external instrument connection icon (as the arrow indicating in figure 3)
 4. If the connection succeeds, the bottom of the window shows red (as the arrow indicating in figure 4).

Part 5 Done

8. Exploded View & Mechanical Parts list



Part List

Mechanical Parts List				
Model No.		Digan 2.14		
No.	Item No.	Item Description	Specification	pcs
1	MA00195	ZC-Panel-5063(blue)	DIGAN2.14_V1.0	1
2	NI03360	NC-acrylic plastic panel-transparent	DIGAN2.14 R/L_V1.1	2
3	NI03290	pass light pillar	2*4*13*5.4_V1.0	1
4	MI02545	ZD-front panel--DIGAN 2.14-02	DIGAN 2.141.2*10*38*325_V1.0	1
5	HK05624	K-PC panel	P-DIGAN214DISP-DIP	1
6	MG00153	Ni screw-pill	M2*8	8
7	NI02027	pass light cover-ABS	DIGAN2.7_V1.0	2
8	NI03353	Button-rigidity 70°	DIGAN 2.7 5.6*3.2*56(hexagon-7)_V1.0	4
9	NI03358	Button-rigidity 70°	DIGAN2.30 40*11.5_V1.0	1
10	NI03383	NC- acrylic plastic panel-transparent	DIGAN2.14_V1.0	1
11	MG00025	black-plated screw-cross-head pan dome	M3*6	19
12	MB03810	ZC-chassis	DIGAN2.14_V1.2	1
13	HK05616	K-PC board	P-DIGAN214CPU-DIP	1
14	MF00037	spring washer	3*φ5*1t	6
15	MG00041	black-plated screw -pill	M3*6	6
16	NC00131	T-wood washer	1*φp11.3*φp15.3 red	4
17	MG00061	black-plated screw iron-board pill	M3*10	8
18	NI00002	T- plastic nut-HC00108 (accessory)	outer hexagon 7/16**G20/15*4.8	4
19		K-PC board	P-DIGAN214-INOUT-DIP	1
20	MC00663	ZB-top cover	DIGAN 2.30_V1.0	1
21	MI02548	ZC-front panel fixed bracket 5063(blue)	DIGAN2.30 left L shape ALTO_V1.0	1
22	MG00021	Black-plated screw-flat	M4*6	4
23	MI02547	ZC-front panel fixed bracket 5063(blue)	DIGAN2.14 right L shape_V1.0	1
24	NI00501	self-adhere foot cushion	12.7*9*3t(SF-004)	4

9. BOM

No.	Part No.	Description	Specification	Remark
1	MA00195	panel	DIGAN2.14_V1.0	
2	MA00256	panel	DIGAN 2.14	
3	MA00255	panel	DIGAN 2.14_V1.0	
4	MI02544	panel	2.1*21.5*44*433_V1.0	
5	MB03810	chassis	DIGAN2.14_V1.2	
6	MB03809	chassis	DIGAN2.14	
7	MB03808	chassis	DIGAN2.14_V1.0	
8	MJ00059	single light board	1.2*2135*1220 24.54kg	
9	ME00041	iron pillar	hexagon6.35*M3*6	
10	MI02545	front board	DIGAN 2.14 1.2*10*38*325_V1.0	
11	MJ00061	iron board	1*2135*1220 20.45kg	
12	ME00183	iron pillar	DIGAN 2.30 (5)*M2*0.4PH*13_V1.0	
13	MC00663	top cover	DIGAN 2.30_V1.0	
14	MC00662	top cover	DIGAN 2.30_V1.0	
15	MJ00059	single light board	1.2*2135*1220 24.54kg	
16	NI03354	bole	DIGAN 2.7 3.7*25*54 black_V1.0	
17	NI03358	silicone sleeve	DIGAN2.30 40*11.5_V1.0	
18	NI03360	acrylic panel	DIGAN2.14 left right_V1.1	
19	NI03355	acrylic panel	DIGAN 2.7 2.1*24.6*117.8_V1.0	
20	NI03383	acrylic panel	DIGAN2.14 middle_V1.1	
21	NI03357	acrylic panel	DIGAN 2.30 2.1*14.8*37.8_V1.1	
22	NH00380	cone	DIGAN2.7/DIGAN2.14_V1.0	
23	NI03290	LED lens	2*4*13*5.4_V1.0	
24	MI02548	fixed bracket	DIGAN2.30 left L type ALTO_V1.0	
25	MI03128	fixed bracket	RKB-2 L type	
26	AE00046	solvent	solvent	
27	AE00284	.	.	
28	MI00597	fixed bracket	RKB-2 L type_V1.0	
29	MI02547	fixed bracket	DIGAN2.14 right Ltype_V1.0	
30	MI03128	fixed bracket	RKB-2 L type	
31	AE00046	solvent	solvent	
32	AE00284	.	.	
33	MI00597	fixed bracket	RKB-2 L type_V1.0	
34	NC00131	washer	1* 11.3* 15.3 red	
35	NI00002	plastic nut	7/16**G20/15*4.8(hexagon)	
36	MG00025	screw	M3*6	
37	MG00041	screw	M3*6	
38	MG00153	screw	M2*8	
39	MF00037	washer	3.2* 5.5*1t	
40	MG00061	screw	M3*10	
41	MG00021	screw	M4*6	
42	NI00218	cable tie	ALT-102SB	

No.	Part No.	Description	Specification	Remark
43	NF00061	assurance card	ALTO	
44	NE05004	label	ALTO	
45	NH00334	cone paper	0.040*1m	
46	NE13916	label	DIGAN2.14_V1.0	
47	NI00014	membrane	0.035*1M	
48	NH00012	bond paper	0.04*1M	
49	NB03676	gift carton	DIGAN2.14 ALTO_V1.0	
50	NA00380	silk wadding	DIGAN2.30 right_V1.0	
51	NA00381	silk wadding	DIGAN2.30 left_V1.0	
52	TG00161	adapter	230V/50~60Hz_AC9V/500mA_EI-41	
53	HJ00006	desiccant	30g	
54	NI00501	self-adhere foot cushion	12.7*9*3t(SF-004)	
55	NA00137	clip-chain bag	5*7	
56	NA00123	PE bag	0.04t*580*300mm	
57	NA00279	clip-chain bag	0.04t*100*150mm_V1.0	
58	AD00012	twin adhesive	90*120mm_V1.0	
59	HA01959	row-wire connecting wiring	4P-4P 180	
60	HA01553	header wiring AF:W322	7P-7P 120	
61	HA01502	header wiring	6P-6P 120	
62	HA03817	wire	20P-20P 165mm UL2651 28AWG gray red	
63	HK05616	PC board	P-DIGAN214-CPU-DIP	
64	HC00078	connector(male)	4P 2.5mm 180°	CN2
65	SC00319	crystal oscillator	12.288MHZ	X1
66	HC00080	connector(male)	6P 2.5mm 180°	CN1
67	HC00154	connector	2.54 180° 2*10P(gold-plated) 6/11.6mm	CN4
68	HC00081	connector(male)	7P 2.5mm 180°	CN5
69	AC00002	solder wire	63/37%	
70	HK05623	PC board	P-DIGAN214-CPU-SMD	
71	HB01299	PCB	DIGAN214-CPU_VER050511	
72	CI00114	SMD ceramic capacitor 0805	0.47uF/25V	C20,C21,C44
73	CI00065	SMD ceramic capacitor 0603	0.001uF/50V X7R ±10%	C34,C35,C36,C37
74	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C8,C9,C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C39,C40,C41,C42,C43,C46,C47,C48
75	RD00068	SMD fixed resistor 1/10W	100 ±5% 0603	R1,R2,R16
76	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R9,R10,R15,R17,R32,R33,R34
77	CJ00005	SMD AL electrolytic capacitor	10uF/16V CASE4	C5,C29,C30,C31,C32
78	CI00129	SMD ceramic capacitor 0603	0.0015uF/50V X7R ±10%	C6,C7
79	RD00083	SMD fixed resistor 1/10W	1.0K ±5% 0603	R3
80	RD00085	SMD fixed resistor 1/10W	1.5K ±5% 0603	R29
81	CI00051	SMD ceramic capacitor 0603	22PF/50VC0G±5%(C0G1H220JT)/TDK	C33,C38
82	RD00063	SMD fixed resistor 1/10W	22 ±5% 0603	R30,R31
83	CI00031	SMD ceramic capacitor 0805	2.2uF/16V Y5V-0805(2012)	C1,C2,C3,C4,C22,C23,C24,C25,C26,C27,C28

No.	Part No.	Description	Specification	Remark
84	CI00053	SMD ceramic capacitor 0603	33PF/50VCOG±5%(C1608C0G1H330JT)/TDK	C49,C50
85	RD00304	SMD fixed resistor 1/10W	33 ±5% 0603	R7,R8
86	CL00008	SMD tantalum capacitor	47uF/7V case B2	C45
87	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R4,R5,R6,R18,R19,R20,R21,R22,R23, R24,R25,R35,R36,R37
88	RD00355	SMD fixed resistor 1/10W	4.7 ±5% 0603	R26
89	CI00056	SMD ceramic capacitor 0603	56PF/50V NPO ±5%	C51
90	RD00346	SMD fixed resistor 1/10W	56 ±5% 0603	R38
91	SG00025	SMD integrated circuit	24LC64I/SN	U3
92	SG00229	SMD integrated circuit	MC68HC908GP32CFB(QFP-44)/(MOT)	U4
93	SF00009	voltage stabilized transistor	LM1117MP-3.3 (3.3V, SOT223)	U6
94	SG00327	SMD integrated circuit	PL-2303HX(SSOP28)/Prolific	U5
95	SG00365	integrated circuit	TAS3004PFBR(PFB48)/(TI)	U1,U2
96	SE00054	SMD L.E.D	yellow 19-21UYC/S530-A2/TR8	L2
97	AE00221	tin soldering paste	SJ-617	
98	NI01906	cushion	QW-3(HC-49U)	
99	HK05624	PC board	P-DIGAN214-DISP-DIP	
100	HC00435	connector	2.54 180° 5P 6/11.6mm	CN2,CN3
101	HH00051	seven display	LDD3265-10	
102	HB01469	PCB	DIGAN230-7SEG(1*25)_VER050118	
103	SE00054	SMD L.E.D	yellow 19-21UYC/S530-A2/TR8	L1,L2,L3,L4,L5,L6,L8,L9,L10,L11,L12,L13,L14, L15,L16,L17,L18,L19,L21,L22,L23,L24,L25, L26,L27,L28,L29,L30,L31,L32,L33,L34,L35, L36,L37,L38,L41,L42,L43,L44,L45,L46,L47, L48,L49,L50,L51,L52,L53,L54,L55,L56,L57, L58,L59,L60,L61,L62,L63,L64,L67,L68,L69, L70,L71,L72,L73,L74,L75,L76,L77,L78,L79, L80,L81,L82,L83,L84,L85,L86,L87,L88,L89, L90,L93,L94,L95,L96,L97,L98,L99,L100,L101, L102,L103,L104,L105,L106,L107,L108,L109, L110,L112,L113,L114,L115,L116,L117,L118, L119,L120,L121,L122,L123,L124,L125,L126, L127,L128,L129,L132,L133,L134,L135,L136, L137,L138,L139,L140,L141,L142,L143,L144, L145,L146,L147,L148,L149,L150,L151,L152, L153,L154,L155,L158,L159,L160,L161,L162, L163,L164,L165,L166,L167,L168,L169,L170, L171,L172,L173,L174,L175,L177,L178,L179, L180,L181,L182,L185,L188,L189,L190,L191, L192,L193,L194,L195,L196,L197,L198,L199, L200,L203,L204,L205,L206,L207,L208,L209, L210,L211,L212,L213,L214,L215,L216,L217, L218,L219,L220,L221,L222,L223,L224,L225, L226,L229,L230,L231,L232,L233,L234,L235, L236,L237,L238,L239,L240,L241,L242,L243, L244,L245,L246,L24
104	RD00069	SMD fixed resistor 1/10W	120 ±5% 0603	R23,R24
105	RD00101	SMD fixed resistor 1/10W	10K ±5% 0603	R31,R32
106	AC00002	solder wire	63/37%	
107	HK05625	PC board	P-DIGAN214-DISP-SMD	
108	HB01009	PCB	DIGAN214-DISP_VER050117	
109	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C1,C2,C3,C4
110	RD00065	SMD fixed resistor 1/10W	47 ±5% 0603	R39,R40,R41,R42,R43,R44, R45,R46,R47,R48,R49,R50,R51

No.	Part No.	Description	Specification	Remark
111	SE00004	SMD L.E.D	yellow 67-21UYC/S530-A2/TR8 1210	L183,L184,L186,L187
112	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20,R21,R22,R25,R26,R27,R28,R29,R30,R33,R34,R35,R36,R37,R38,R52,R53,R54,R55,R56,R57,R58
113	SG00308	SMD integrated circuit	74HC154DT(PHI)	U3,U4
114	SG00078	SMD integrated circuit	SN74HC574DW	U1,U2
115	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12,D13,D14,D15,D16,D17,D18,D19,D20,D21,D22,D23,D24,D25,D26,D27,D28,D29,D30,D31,D32,D33,D34
116	SF00010	SMD transistor	2SC2412K(SOT-23)/(R)	Q18,Q19,Q20,Q21,Q22,Q23,Q24,Q25,Q26,Q27,Q28,Q29,Q30
117	SE00055	SMD L.E.D	green 19-21SYGC/S530-E3/TR8	L7,L20,L39,L40,L65,L66,L91,L92,L111,L130,L131,L156,L157,L176,L201,L202,L227,L228,L247,L266,L267,L292,L293,L318,L319,L338,L357,L358
118	SF00004	SMD transistor	2SA1036K(SOT-23)/(R)	Q1,Q2,Q3,Q4,Q5,Q6,Q7,Q8,Q9,Q10,Q11,Q12,Q13,Q14,Q15,Q16,Q17,Q31,Q32,Q33,Q34,Q35,Q36,Q37,Q38,Q39,Q40,Q41,Q42,Q43
119	HL00004	push button switch-RS	6*3.8*2.5mm TRAVEL=0.25	S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34
120	HC00718	connector	2.54 180° 2*10P 6/11.6mm	CN1
121	AE00221	tin soldering paste	SJ-617	
122	HK05801	K-PC board	P-DIGAN2.14-INOUT-DIP	
123	SA00094	rectifier diode	1N4002/100V	D2,D4,D5,D6,D7,D8
124	SA00093	rectifier diode	1N4148 0.5A	D1,D3
125	CB00075	electrolytic capacitor	2200uF/16V 13*20mm	C19,C21,C26,C27
126	CB00063	electrolytic capacitor	330uF/16V 8*11mm	C28,C29
127	CB00255	electrolytic capacitor	1000uF/10V 8*11mm 5mm	C43
128	SD00074	integrated circuit	L7805CV(TO-220)(ST)	TR1,TR2
129	HC00081	connector(male)	7P 2.5mm 180°	CN4
130	SB00034	transistor	2SC1815GR	TR3,TR4
131	HC00183	DC jack	KJ-36-S 3.5	CN2
132	HC00078	connector(male)	4P 2.5mm 180°	CN3
133	HC00080	connector(male)	6P 2.5mm 180°	CN1
134	MI00257	heat-sink	25*34.6*12*1.5 DX26	HT1
135	HC00111	balance MIC jack	99M-108SP1	X6,X8
136	HC00108	stereo MIC jack	6.3 stereo LJB0661-6	X2,X4,X5,X7
137	HC00112	balance MIC jack	99M-107SP-1-2 90° PUSH	X1,X3
138	HI00161	relay	RY-5W-K,5V	RL1,RL2
139	HC00556	USB socket	UCB-4FR004-B 90°	J1
140	CG00024	filter-EMI FILTER	PLT09H-2003R	L3
141	NC00005	silicone insulator	TO-220 square type	
142	NI02249	plastic washer	TW-1(TO-220)	
143	ME00015	color nut	3m/m	
144	MF00037	washer	3.2* 5.5*1t	

No.	Part No.	Description	Specification	Remark
145	MG00171	screw	M3*14	
146	AC00002	solder wire	63/37%	
147	HK04842	PC board	P-DIGAN230-INOUT-SMD	
148	HB01475	PCB	DIGAN230-INOUT(1*4)_VER050306	
149	RD00059	SMD fixed resistor 1/10W	0.0 ±5% 0603	JP1,JP2,R16,R13
150	RD00002	SMD fixed resistor 1/8W	0.0 ±5% 0805	L2
151	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	C5,C7,C12,C13,C14,C39,C40,C41,C42,C30
152	RD00068	SMD fixed resistor 1/10W	100 ±5% 0603	R11,R12
153	RD00214	SMD precise resistor 1/10W	10.0K ±1% 0603	R18,R19,R56,R57,R14,R52
154	RD00210	SMD precise resistor 1/10W	5.11K ±1% 0603	R5,R7,R42,R44
155	CI00047	SMD ceramic capacitor 0603	10PF/50VC0G±0.25PF(C0G1H100CT)TDK	C3,C4,C6,C8,C9,C17,C18,C20,C22,C23,C31,C32,C33
156	RD00061	SMD fixed resistor 1/10W	10 ±5% 0603	R6,R8
157	RD00216	SMD precise resistor 1/10W	13.3K ±1% 0603	R1,R2,R3,R4,R38,R39,R40,R41
158	RD00371	SMD precise resistor 1/10W	51.1K ±1% 0603	R15,R53
159	RD00271	SMD precise resistor 1/10W	2.67K ±1% 0603	R28,R66
160	RD00363	SMD precise resistor 1/10W	3.16K ±1% 0603	R17,R23,R55,R61
161	RD00285	SMD precise resistor 1/10W	3.24K ±1% 0603	R24,R62
162	SG00122	SMD integrated circuit	NJM4580M-TE3	IC5
163	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5 %	C10,C11,C24,C25
164	CI00055	SMD ceramic capacitor 0603	47PF/50VC0G±5%(C0G1H470JT)/TDK	C1,C2,C15,C16
165	RD00132	SMD fixed resistor 1/4W	47 ±5% 1206	R30,R68
166	RD00286	SMD precise resistor 1/10W	4.53K ±1% 0603	R22,R25,R60,R63
167	RD00093	SMD fixed resistor 1/10W	4.7K ±5% 0603	R9,R10
168	RD00299	SMD precise resistor 1/10W	5.76K ±1% 0603	R20,R58
169	RD00297	SMD precise resistor 1/10W	60.4 ±1% 0603	R21,R26,R59,R64
170	RD00300	SMD precise resistor 1/10W	6.04K ±1% 0603	R27,R65
171	CO00006	SMD chip inductance	BLM21A102SPT/(MURATA)	L1,L4,L5,L6,L7,L8,L9,L10,L11,L12,L13,L14,L15,L16,L17,L18,L19
172	SG00118	SMD integrated circuit	MC33079DT(ST)MC33079D(ON)	IC7,IC8
173	AE00221	tin soldering paste	SJ-617	
174	NF02232	user manual English	DIGAN2.14 ALTO_V1.0	
175	NH00149	paper	889*640mm	
176	NB03707	carton	DIGAN2.30 ALTO_V1.0	
177	NI03353	silicone sleeve	DIGAN 2.7 5.6*3.2*56_V1.0	