

Service Manual

MODEL: MISTRAL2500/4000



www.altoproaudio.com

Version 2.0

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1. Introduction

ALTO MISTRAL amplifiers are series of innovative design power amplifiers. This series work under high stability with great power supply in just 2-rack spaces. Airflow is from back to front panel to keep in a nice air circulation inside the Rack. The automatic fan, which affects the temperature of machine includes various kinds of speed, therefore, this low-noise fan makes a good result in cooling the heat from machines. MISTRAL amplifiers include 2 independent channels with separate protection system and power supply. The independent protection system avoids opening circuit, short, and wrong loading or over-heating. The special-designed protective system applies automatically restarting functions upon the default status and then goes back to normal. All electronic inputs equip standard power connectors. And all inputs are electronic balanced, with hi-quality transformer, MISTRAL amplifiers provide an outstanding performance in any conditions.

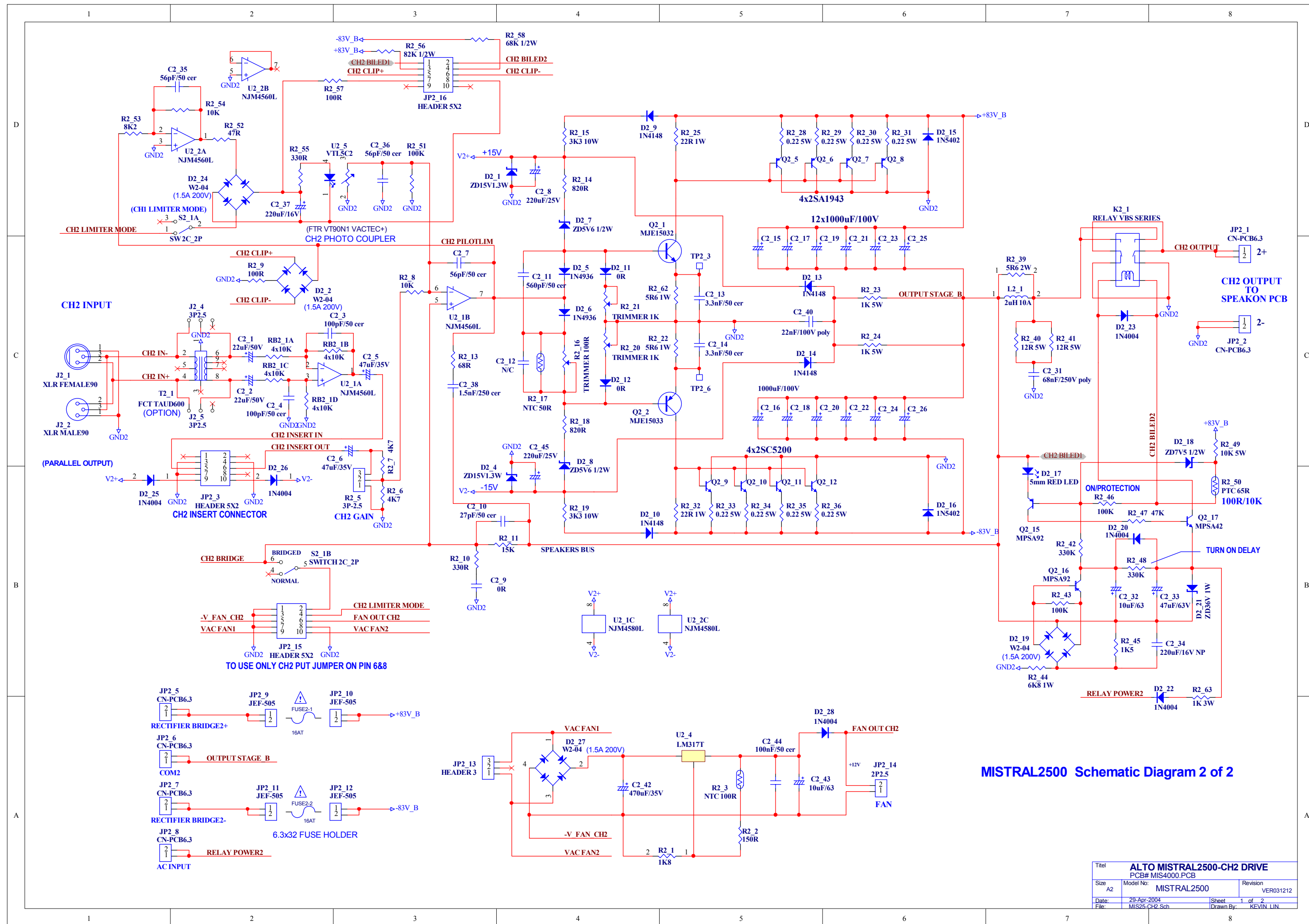
- . Innovative design and high stability power amplifiers.
- . Fan-cooled AB class high power amplifier in 19"rack, 2Usize
- . Rugged amplifiers in a strong, compact chassis.
- . 2 independent channels with separate protection system and power supply
- . Smart-designed protection system for auto re-operation after fault.
- . Auto-adjusting speed fan.
- . 4LEDs for operation/protection, limit, power on and clip
- . High-current toroidal transformer designed for high power at 20hms with low noise.
- . Independent DC and thermal overload protection on each channel.
- . IEC standard power connectors.
- . Binding post and NEUTRIK® SPEAKON outputs power connectors.
- . Balanced XLR inputs/ parallel outputs.

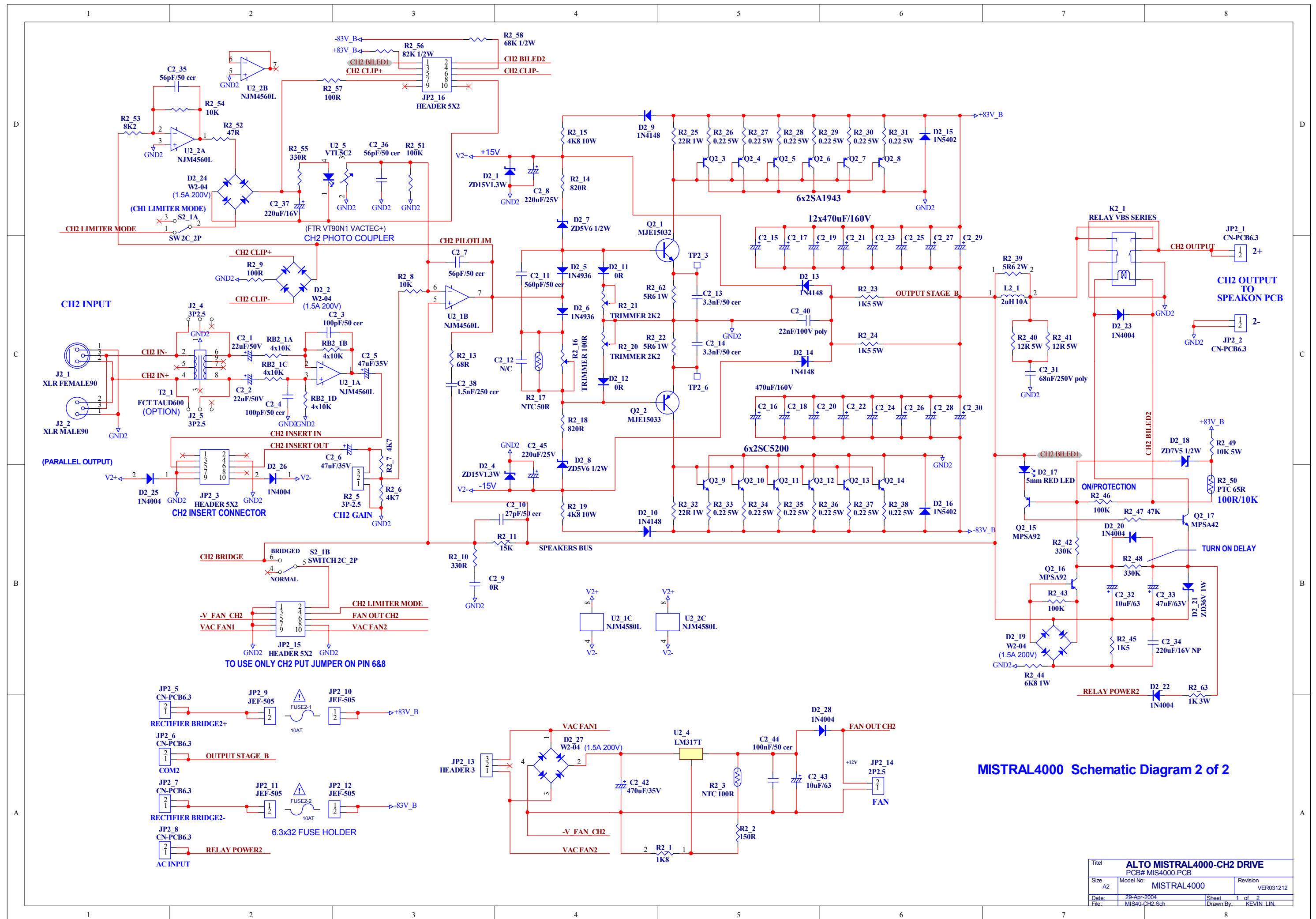
2. Specification

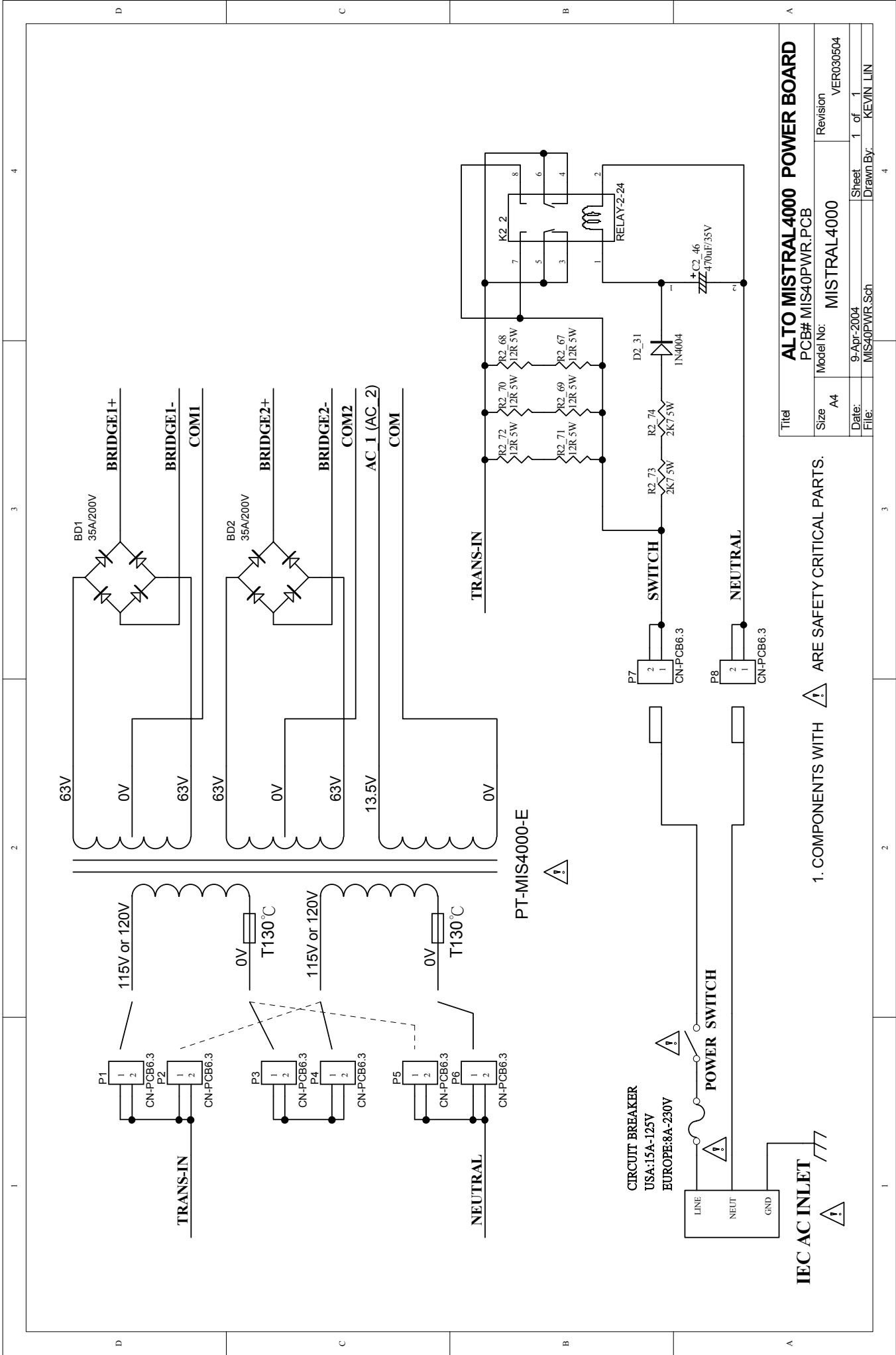
	<i>MISTRAL2500</i>	<i>MISTRAL4000</i>
Output Power		
20Hz~20KHz @0.1% THD, SCD MODE		
8 ohms per channel (EIAJ)	450W	625W
4 ohms per channel (EIAJ)	700W	1000W
BRIDGE MONO MODE		
8 ohms , 1KHz, 0.1%THD	140W	2000W
Distortion (SMPTE-IM)	<0.05%	
Frequency Response	20Hz-20kHz +/- 0.1dB, -3 dB points: 10Hz-60kHz	
Damping Factor, 1 kHz and below	>300 at 8 ohms	
Signal to Noise, 20 Hz-20 kHz	102 dB	
VOLTAGE GAIN	40x (32dB)	
Input Sensitivity @ 4 ohms	1Vrms	
Input Clipping	10 Vrms (+22 dB)	
Input Impedance	10 k ohms unbalanced, 20 k ohms balanced 56(36dB)	
Controls	FRONT: AC SWITCH, CH1 & CH2 GAIN KNOBS REAR: LIMITER, BRIDGE SELECTOR.	
Indicators (1 per channel)	Power-On: Blue LED Operation/Protection : Dual Color (Green/Red LED) Limit : Red LED Clip : Red LED	
Connectors, each channel	Input: Active balanced XLR Parallel Output : XLR Output: NEUTRIK Speakon and Binding posts	
Cooling	Continuously variable-speed fan, rear-to-front air flow	
Load Protection	On/off muting, DC-fault load grounding relay. Internal fault fuses.	
Power Requirements	200-240(100-120)Vac, 50-60Hz	
Dimensions	15.9" (40 cm) deep (rack mounting to rear support ears) 19" (48.3 cm) rack mounting, 3.5" (8.9 cm) tall (2 rack spaces)	

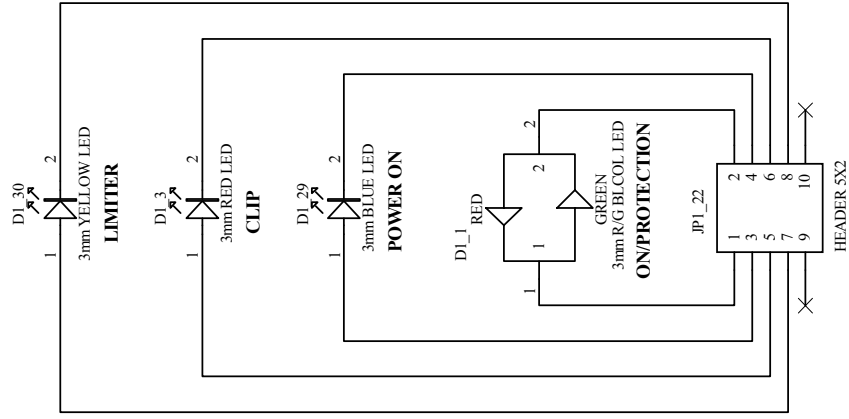
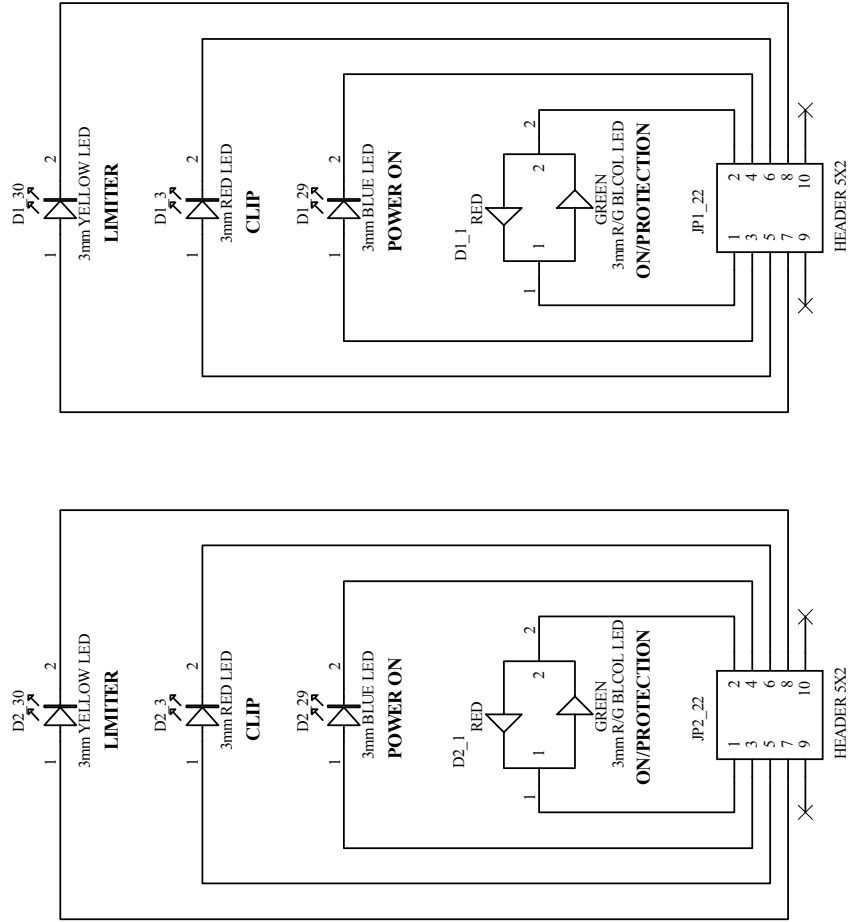
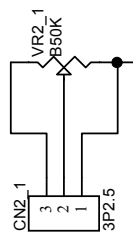
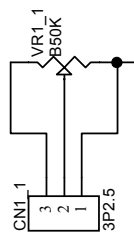
MISTRAL2500 Schematic Diagram 1 of 2

Title ALTO MISTRAL2500-CH1 DRIVE			
PCB# MIS4000.PCB			
Size A2	Model No: MISTRAL2500	Revision VER031212	
Date: 29-Apr-2004	Sheet 1 of 2		
File: MIS25-CH1.Sch	Drawn By: KEVIN LIN		

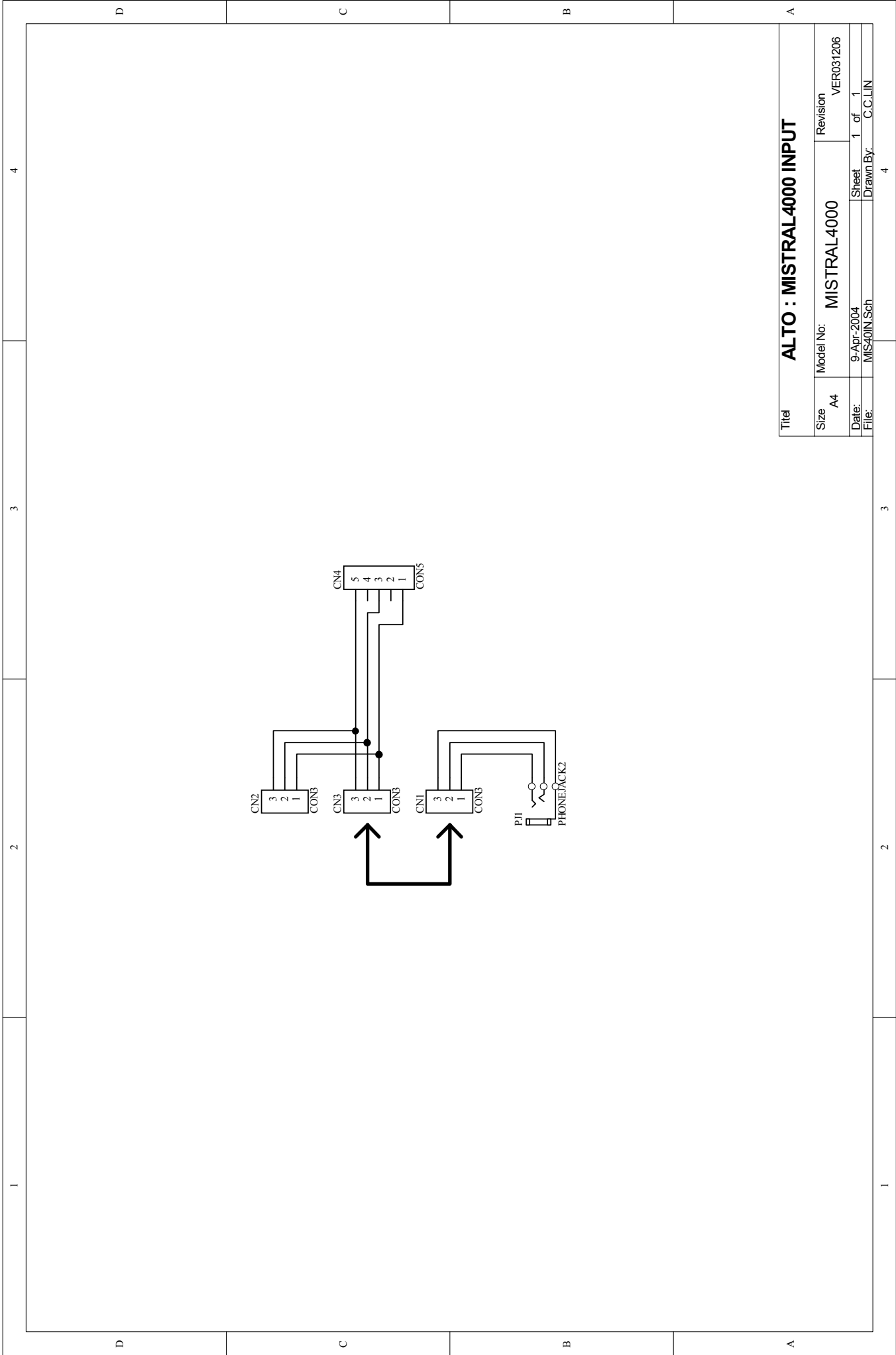




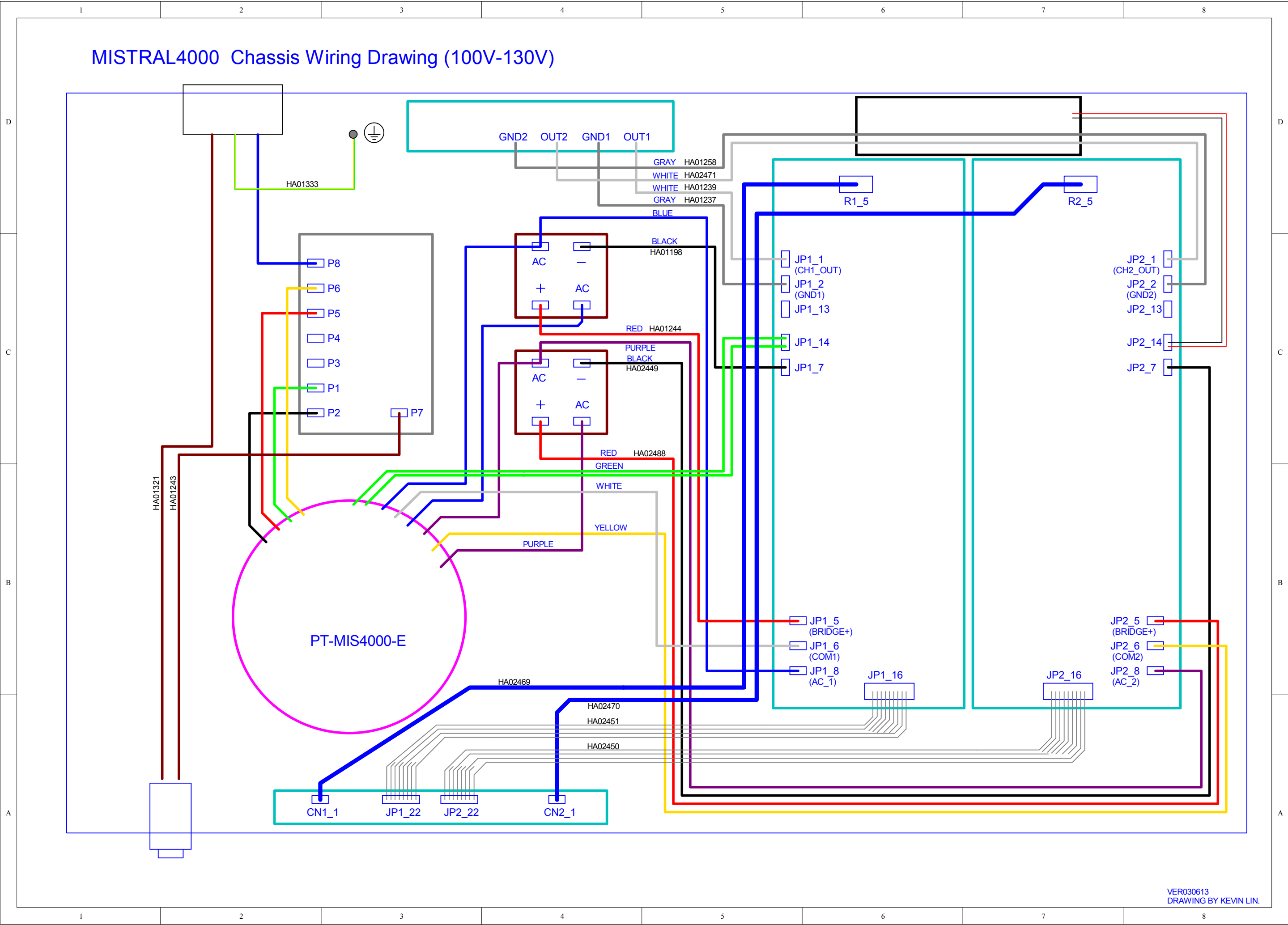




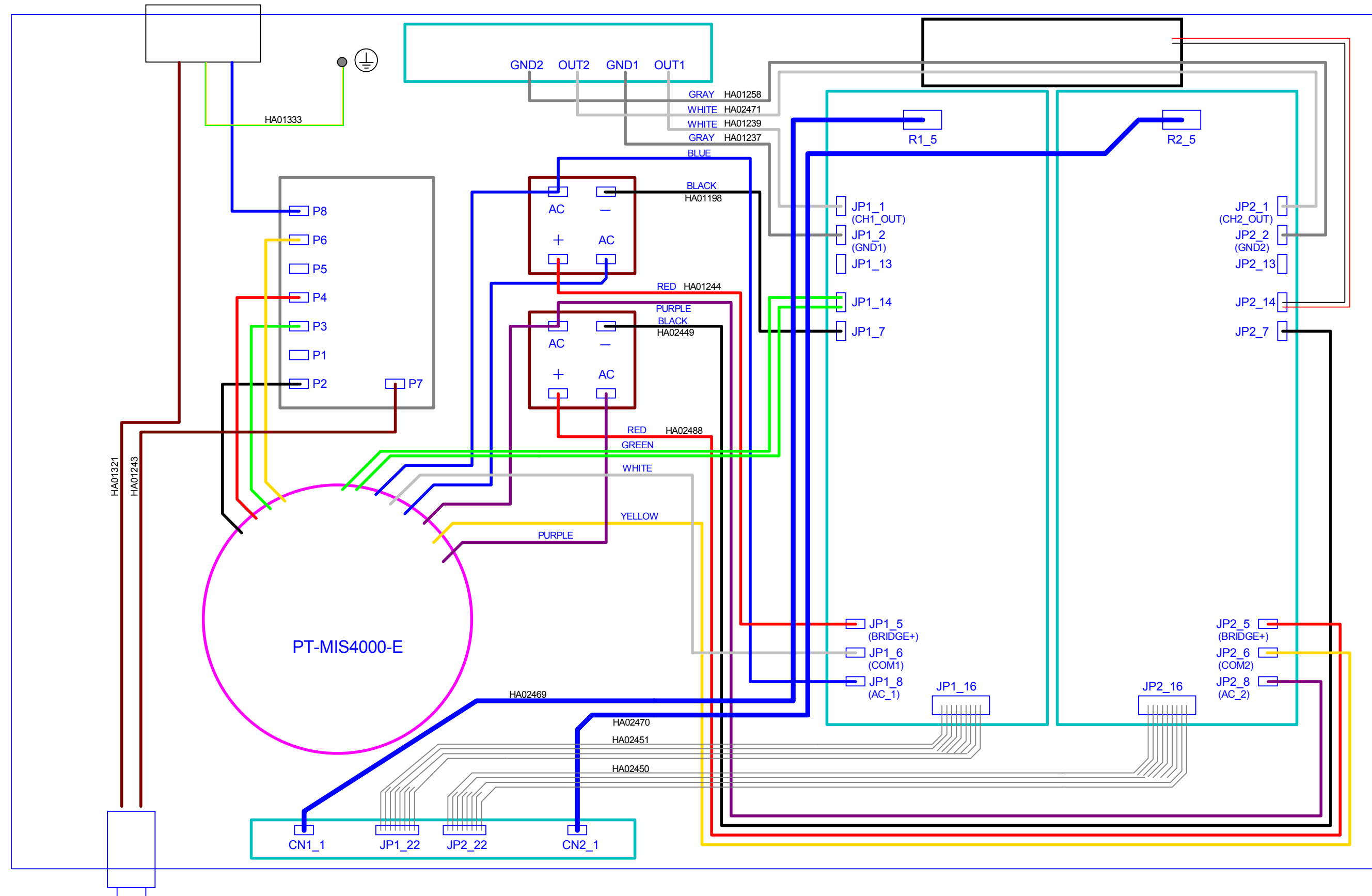
Title				ALTO : MISTRAL4000 FP			
Size	A4	Model No:	MISTRAL4000		Revision	VER030710	
Date:	9-Apr-2004		Sheet	1 of 1			
File:	MIS40FP Sch		Drawn By:	C.C.LIN			



4. Wiring Diagram

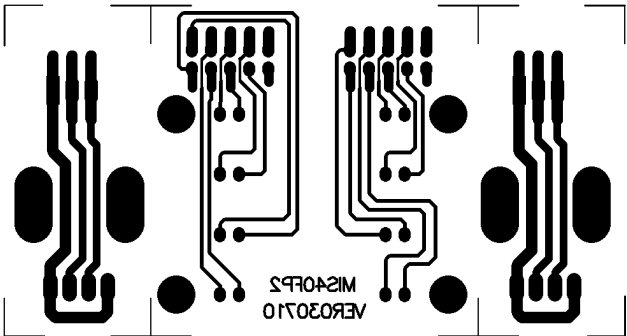


MISTRAL4000 Chassis Wiring Drawing (220V-240V)

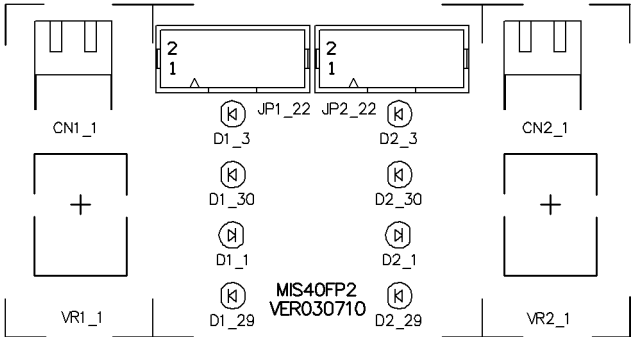


5. PCB Layout

MIS40FP2

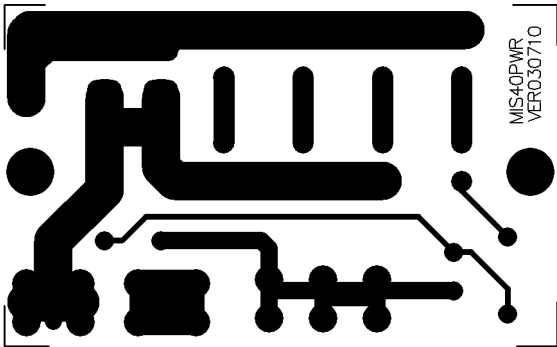


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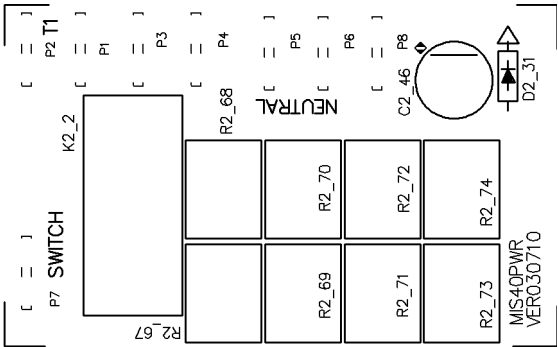


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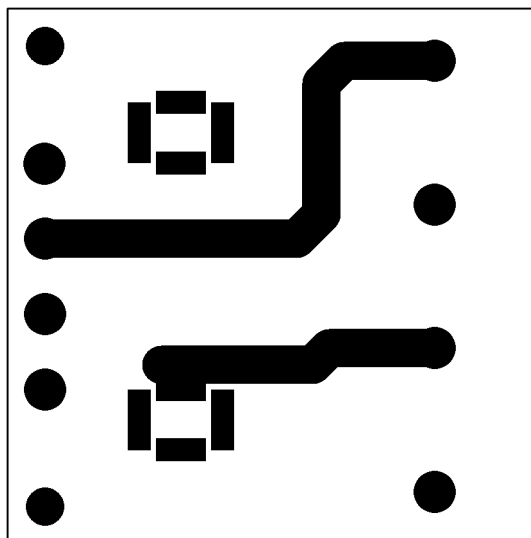
MIS40PWR



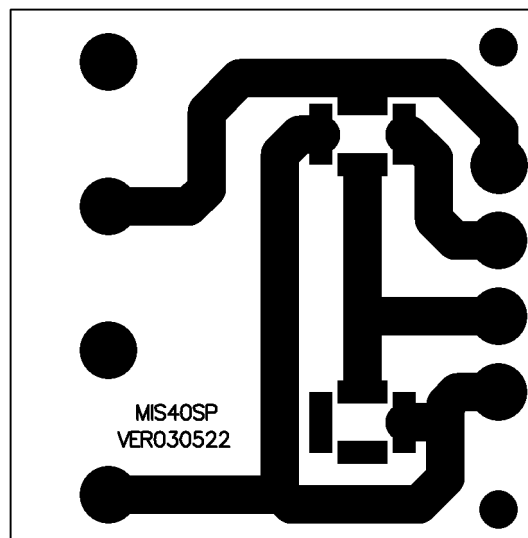
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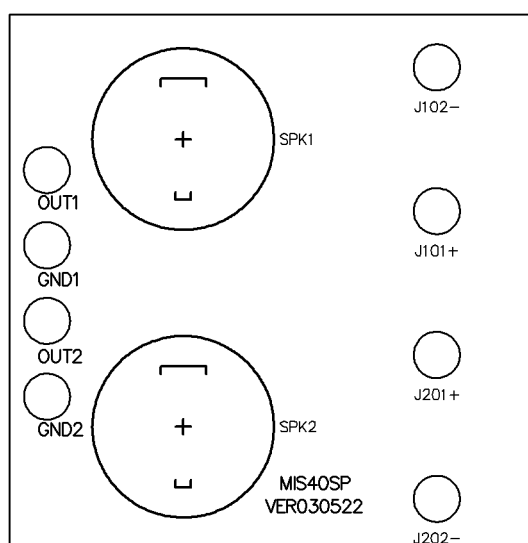
Top overlay



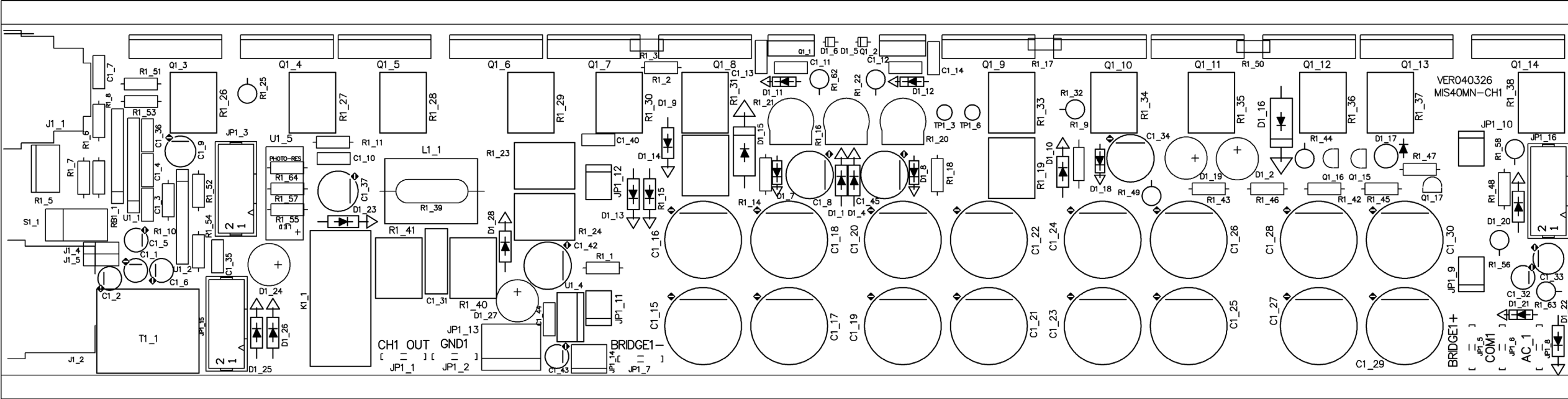
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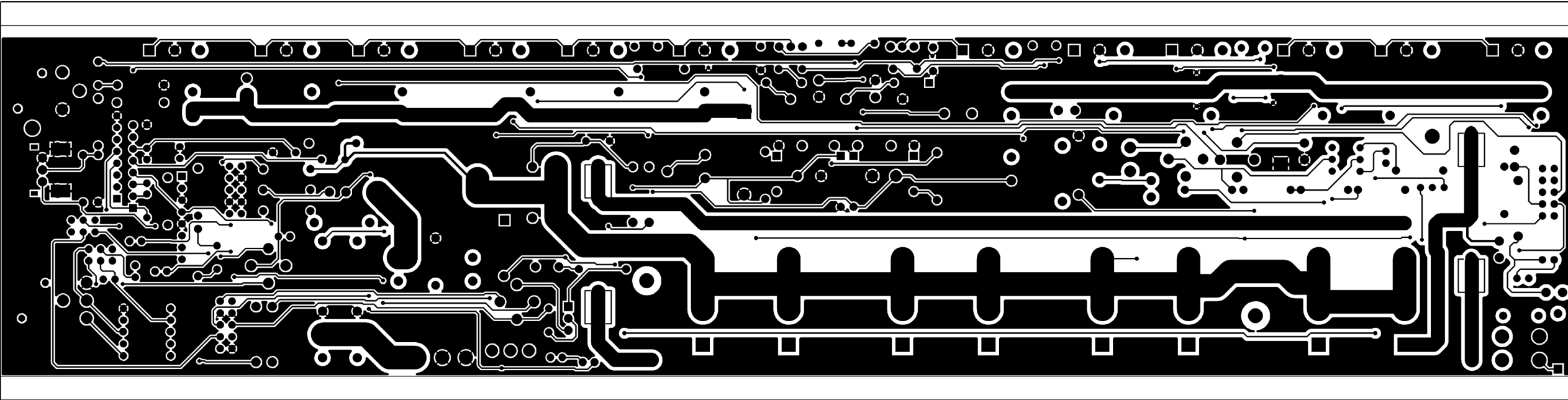
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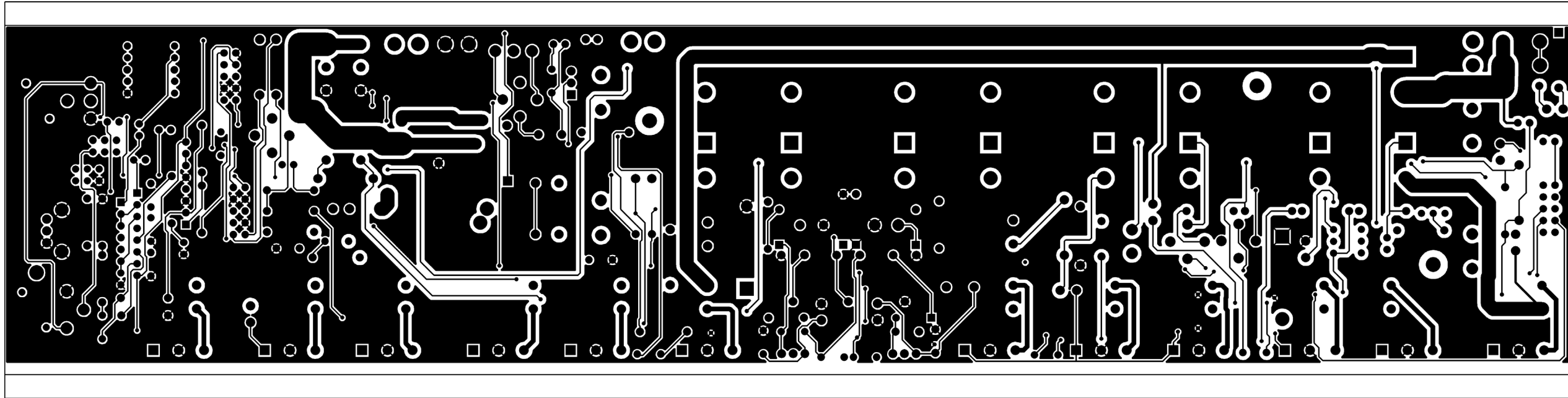
Top overlay



Top overlay

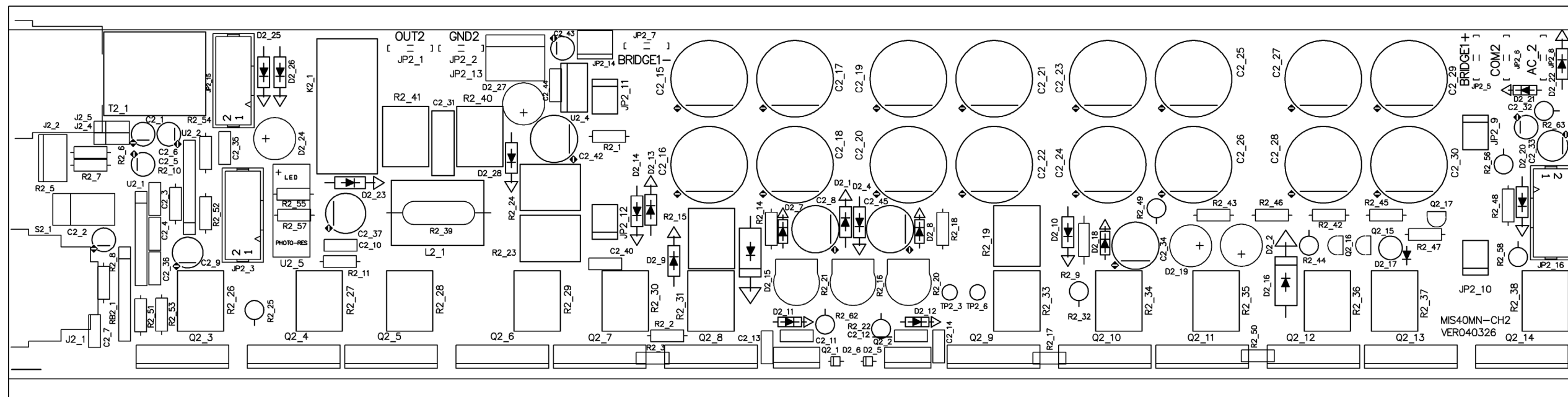


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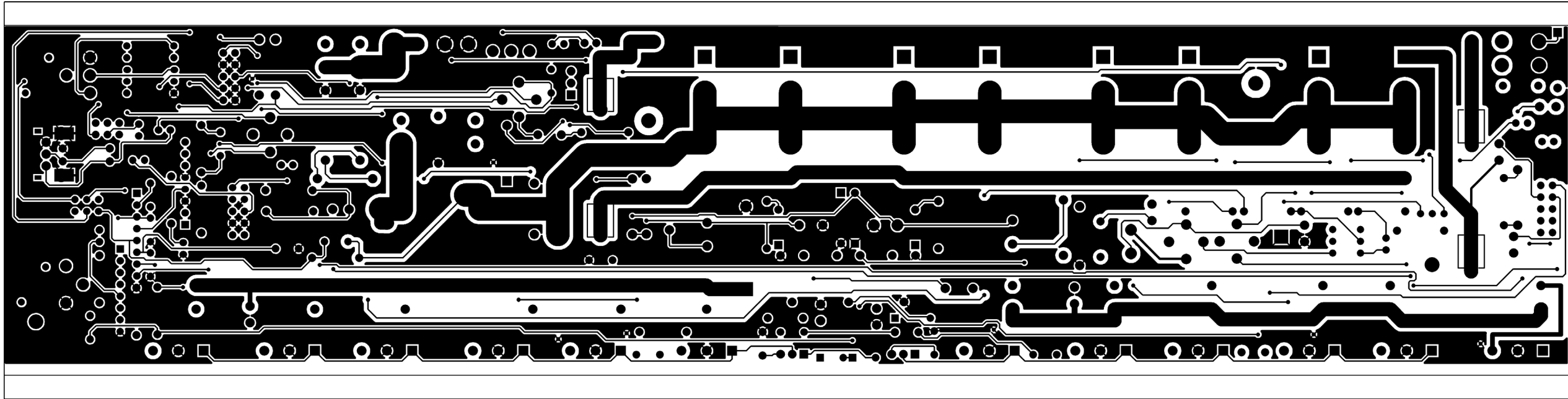


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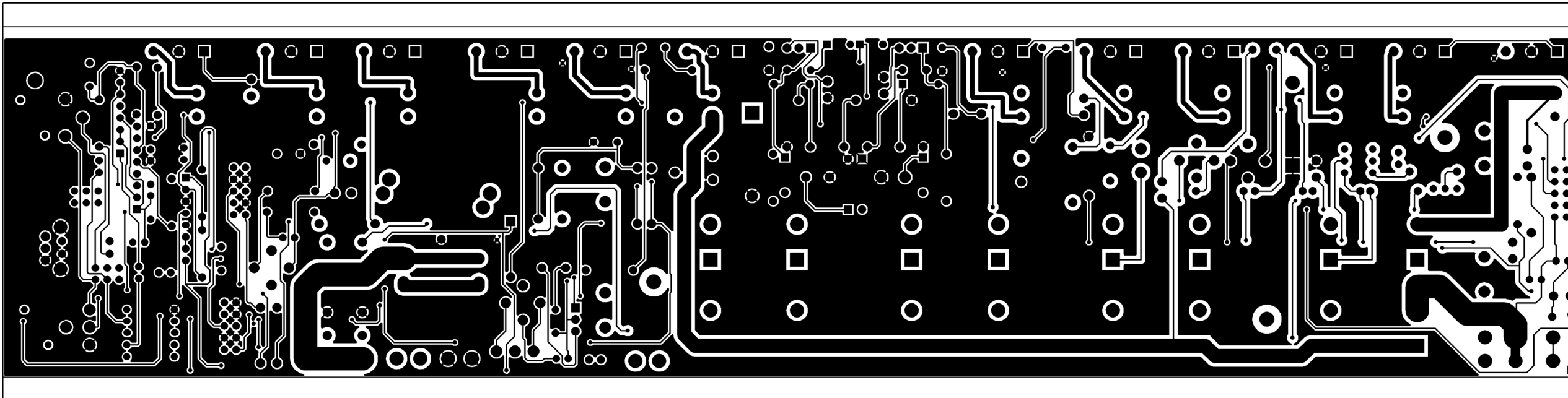
MIS40MN-CH2



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6. Test Procedure

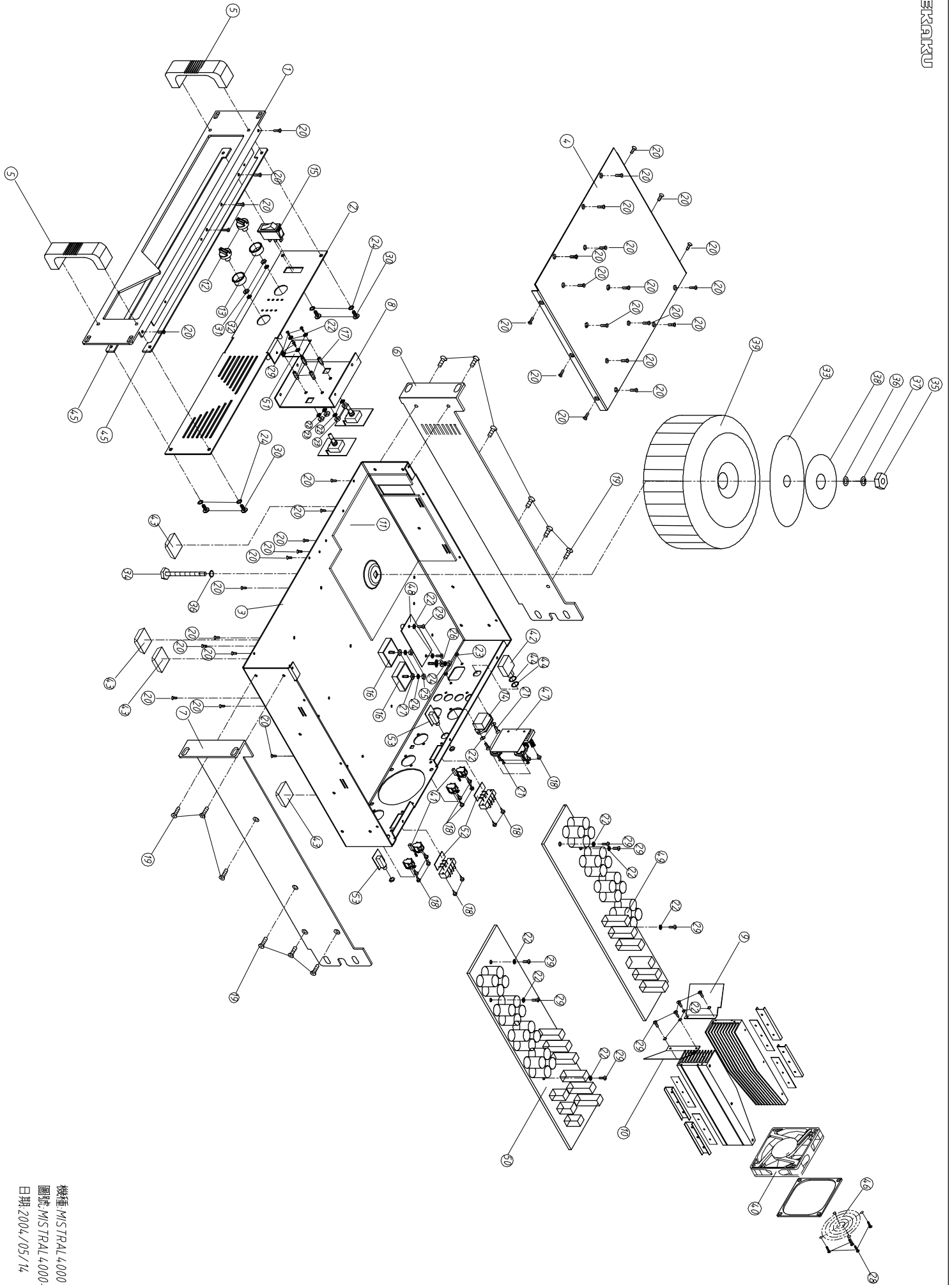
1) Test Equipment:

1. Frequency transformer 2. Digital voltage meter 3. AP (Audio precision) 4. Oscilloscope
5. Two 8 (400W) load

2) Test procedures and specification

1. Set LIMITER and BRIDGE switches at OFF, turn VR of CH1 and CH2 to maximum, then turn on the power switch and the blue power LED lights up, and OPERATING/PROTECTION LED shows red then become green after 2-5 seconds or so.
2. Applied no signal, adjust R1-16(CH1) and R2-16(CH2) so that the voltage of R1-17/2-17 is $138 \pm 2\text{mV}$. Connect a 4 load at output, input a 5KHz signal into CH1 or CH2, adjust the signal so that the output is 5VP-P (about 2VRMS), verify the curve on oscilloscope and there shall be no crossover distortion. Adjust the output signal level so that the distortion on oscilloscope is about 1.5-2%, adjust R1-20, R1-21(CH1) and R2-20, R2-21(CH2) so that the crossover distortion reaches its peak (note: the power supply shall be remained in 230V).
3. Input a 1KHz, - 4dB signal, the output shall be $48\text{V} \pm 0.5\text{V}$ and the distortion shall be less than 1%. Using the multifunctional meter to measure two pins of JP1_14(JP2_14), the voltage shall be increasing up (about 10V at first). Using a tweezers to short D1_18 (2_18), the overheat protection will start (no signal output).
4. To short the output terminal, the LIMITER on front panel is lit, the power consumption is less than 485W while in short protection.
5. S/N: larger than 90dB(A weighted is more than 102dB)
6. Compressor function test: LIMITER switch is set at ON, input a 1KHz / +12dB signal, the LIMITER LED is lit in yellow and there is no clipped signal.
7. Adjust the VR on front panel so that the output is 2V(4). The measured frequency response is more than 30Hz to 20 kHz \pm 1dB (CH1/CH2).
8. Press the BRIDGE switch down, input a 1KHz signal into CH1(the level control of CH2 is turn to minimum), connect a 8 load to output terminal, measure the bridged output voltage is more than about 85V and the distortion is less than 1%. (This measurement shall be done in a minute).
9. Turn off the input signal, the power consumption shall be less than 85W.
10. Done

7. Exploded Views & Mechanical Parts List



Mechanical Parts List (For MISTRAL2500)

No.	Item Number	Description	Specification	Quantify
1	MA04096	ZC-panel	3.1*88.8*25.5*483	1
2	MA04164	ZC-panel	1.5*83.2*22.4*422	1
3	MB02820	ZC-rear chassis	1.5t*85.5*370*430	1
4	MC00517	ZC-cover	1.5t*360*433.4	1
5	MI01744	ZB-handle	20*25.5*80	2
6	NI02650	Plastical knob	18*18mm	2
7	NI02651	Knob fixing tube	10* 22.5 black A600.2	2
8	HI00031	Power supply	SW R415KKETOF	1
9	MI01746	ZD-front panel	14*81*89	1
10	MI01750	ZB-panel fixing bracket	26.5*88.8*400mm	1
11	MI01752	ZB-panel fixing bracket	26.5*88.8*400mm	1
12	MI01759	ZD-partition board (left)	0.8t*53.5*78	1
13	MI01756	ZD-partition board (right)	0.8t*53.5*78	1
14	MI01763	ZB-cushion slice	2.0t*80*80	1
15	HC00005	AC socket	AC-008	1
16	MG00247	Copper post	M3*10*0.5PH total 16	4
17	MG00061	Black plated screw	M3*10	14
18	MG00295	Black plated screw	M4*6	12
19	MG00025	Black plated screw	M3*6	33
20	MG00042	Black plated screw	M3*10	6
21	MF00037	Spring washer	3* 5*1t	22
22	ME00015	Color nut	3mm	6
23	MF00038	Spring washer	4* 7*1t	7
24	ME00016	Color nut	4mm	3
25	MF00048	Outer-tooth washer	4* 8*0.5t	1
26	MF00018	Color washer	4* 10*1t	2
27	MG00268	Nickel screw	M5*12	4
28	MG00041	Black plated screw	M3*6	16
29	MG00075	Black plated screw	M4*16	4
30	NI00437	Rubber ring	20* 120*2tB	1

31	MG00215	Zinc screw	Outer hexagon M8*80	1
32	ME00026	Zinc nut	M8	1
33	MF00026	Color washer	8* 18*1.5t	2
34	MF00041	Spring washer	8* 13.5*2t	1
35	TD00175	Loop transformer	PT-MIS2500-E	1
36	HE00007	Fan -AD0812US-A70GL	DC12V/0.3A 80*80*25mm 300mm	1
37	NI00312	Power switch	Square 5*5*9 hole 2.8*2.8 black	2
38	HK03957	K-PCB	P-MIS40MN(MISTRAL2500	1
39	HK03958	K-PCB	P-MIS40PWR	1
40	HK03959	K-PCB	P-MIS40FP2	1
41	HK04015	K-PCB	P-MIS40SP	1
42	ME00006	Nut	9	4
43	MF00004	Color washer	9* 14*0.5t	2
44	MH00766	ZB-steel plate	11* 90*2	1
45	NC00059	ZD-fixing board	1*46*46(Sax-2000)	1
46	HK03959	K-PCB	P-MIS40FP2	1
47	MF00030	Nickel washer	3* 8*0.8t	10
48	MF00037	Spring washer	3* 5*1t	10
49	MG00171	Nickel screw	M3*14	10
50	MD00444	Fan grill	80*80mm(K-G08A05- 4HA)	1
51	MI01755	Heat sink	9*83*40*309 MISTRAL4000	2
52	MI01954	ZD-fixing bracket (right0	1.5t*136*16mm	4
53	HK00787	K-PCB	P-MIS2500-INPUT(MIC socket)	2
54	HK00793	K-PCB	P-MIS2500-INPUT(terminal stage)	2

Mechanical Parts List (For MISTRAL4000)

No.	Item Number	Description	Specification	Quantify
1	MA04096	ZC-panel	3.1*88.8*25.5*483	1
2	MA04111	ZC-panel	1.5*83.2*22.4*422	1
3	MB02820	ZC-rear chassis	1.5t*85.5*370*430	1
4	MC00517	ZC-cover	1.5t*360*433.4	1
5	MI01744	ZB-handle	20*25.5*80	2
6	NI02650	Plastical knob	18*18mm	2
7	NI02651	Knob fixing tube	10* 22.5 black A600.2	2
8	HI00031	Power supply	SW R415KKETOF	1
9	MI01746	ZD-front panel	14*81*89	1
10	MI01750	ZB-panel fixing bracket	26.5*88.8*400mm	1
11	MI01752	ZB-panel fixing bracket	26.5*88.8*400mm	1
12	MI01759	ZD-partition board (left)	0.8t*53.5*78	1
13	MI01756	ZD-partition board (right)	0.8t*53.5*78	1
14	MI01763	ZB-cushion slice	2.0t*80*80	1
15	HC00005	AC socket	AC-008	1
16	MG00247	Copper post	M3*10*0.5PH total 16	4
17	MG00061	Black plated screw	M3*10	14
18	MG00295	Black plated screw	M4*6	12
19	MG00025	Black plated screw	M3*6	33
20	MG00042	Black plated screw	M3*10	6
21	MF00037	Spring washer	3* 5*1t	22
22	ME00015	Color nut	3mm	6
23	MF00038	Spring washer	4* 7*1t	7
24	ME00016	Color nut	4mm	3
25	MF00048	Outer-tooth washer	4* 8*0.5t	1
26	MF00018	Color washer	4* 10*1t	2
27	MG00268	Nickel screw	M5*12	4
28	MG00041	Black plated screw	M3*6	16
29	MG00075	Black plated screw	M4*16	4
30	NI00437	Rubber ring	20* 120*2tB	1

31	MG00215	Zinc screw	Outer hexagon M8*80	1
32	ME00026	Zinc nut	M8	1
33	MF00026	Color washer	8* 18*1.5t	2
34	MF00041	Spring washer	8* 13.5*2t	1
35	TD00217	Loop transformer	PT-MIS4000-E	1
36	HE00007	Fan -AD0812US-A70GL	DC12V/0.3A 80*80*25mm 300mm	1
37	NI00312	Power switch	Square 5*5*9 hole 2.8*2.8 black	2
38	HK00673	K-PCB	P-MIS40MN(MISTRAL4000)	1
39	HK01708	K-PCB	P-MIS40PWR(MISTRAL4000)	1
40	HK03958	K-PCB	P-MIS40PWR	1
41	HK04015	K-PCB	P-MIS40SP	1
42	ME00006	Nut	9	4
43	MF00004	Color washer	9* 14*0.5t	2
44	MH00766	ZB-steel plate	11* 90*2	1
45	NC00059	ZD-fixing board	1*46*46(Sax-2000)	1
46	NI02666	Fixing plate	26.5*7*3.5	1
47	MF00030	Nickel washer	3* 8*0.8t	10
48	MF00037	Spring washer	3* 5*1t	10
49	MG00171	Nickel screw	M3*14	10
50	MD00444	Fan grill	80*80mm(K-G08A05- 4HA)	1
51	MI01755	Heat sink	9*83*40*309 MISTRAL4000	2
52	MI01958	K-PCB	P-MIS40PWR	4
53	HK00787	K-PCB	P-MIS2500-INPUT(MIC socket)	2
54	HK00793	K-PCB	P-MIS2500-INPUT(terminal stage)	2

8. BOM

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
1	MA04096	panel	MISTRAL4000	
2	MA04097	panel	MISTRAL4000	
3	MA04098	panel	MISTRAL4000 3.1*88.8*25.5*483	
4	MI01309	panel	3.1*88.8*25.5*483	
5	MA00150	panel	MISTRAL2500 ALTO new_V1.0	
6	MA04436	panel	CPA 1000	
7	MA05424	panel	MISTRAL1500_V1.0	
8	MJ00088	iron board	1.5*2135*1220 30.67kg	
9	MB02820	rear board	MISTRAL4000	
10	MB02821	rear board	MISTRAL4000_V1.1	
11	MB02822	rear board	MISTRAL4000 430*400*85.5*2.0t_V1.1	
12	MJ00088	iron board	1.5*2135*1220 30.67kg	
13	ME00002	screw pillar	M4*20*0.7PH	
14	ME00051	iron pillar	M3*12	
15	ME00001	screw pillar	M4*10*0.7PH	
16	MI01516	partition	MISTRAL4000 57*177*195	
17	MJ00058	iron board	1*2135*1220 20.45kg	
18	MC00517	top cover	MISTRAL4000	
19	MC00622	top cover	MISTRAL2500_V1.0	
20	MC00621	top cover	MISTRAL2500_V1.0	
21	MJ00088	iron board	1.5*2135*1220 30.67kg	
22	MI01744	handle	MISTRAL4000 20*25.5*80	
23	MI01745	handle	MISTRAL4000 20*25.5*80	
24	MI01750	fixed bracket	MISTRAL4000 left L type	
25	MI01751	fixed bracket	MISTRAL4000 left L type 26.5*88.8*400mm	
26	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
27	MI01752	fixed bracket	MISTRAL4000 right L type	
28	MI01753	fixed bracket	26.5*88.8*400mm	
29	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
30	MI01746	front board	MISTRAL4000 14*81*89	
31	MJ00061	Zn-plated board	1*2135*1220 20.45kg	
32	MI01759	partition	MISTRAL4000(LEFT) 0.8*53.5*78_V1.1	
33	MJ00067	iron board	0.8*2440*1220 18.69kg	
34	MI01756	partition	MISTRAL4000(RIGHT) 0.8*53.5*78_V1.1	
35	MJ00067	iron board	0.8*2440*1220 18.69kg	

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
36	NI02650	knob	18*18mm	
37	NI02651	knob fix sheath	10* 22.5	
38	HC00005	AC socket	AC-008	
39	HI00031	power switch	R415KKETO	
40	SA00013	bridge rectifier	35A/200V	
41	HA01243	wire	300mm UL1015 14AWG brown	
42	HA01333	single terminal wiring CF:W76	150mm UL1015 18AWG green/yellow	
43	HA01247	wire	180mm UL1015 14AWG blue	
44	HA02469	wire	3P-3P 480mm 28AWG blue	
45	HA02470	wire	3P-3P 600mm 28AWG blue	
46	HA02452	wire	10Pfema*3 415mm UL2651	
47	HA02448	wire	530mm UL1015 14AWG red	
48	HA02449	wire	700mm UL1015 14AWG black	
49	HA01244	wire	380mm UL1015 14AWG red	
50	HA01198	wire	180mm UL1015 14AWG black	
51	MG00247	copper pillar	M3*10*0.5PHsingle length16	
52	MG00061	screw	M3*10	
53	MG00295	screw	M4*6	
54	MG00025	screw	M3*6	
55	MG00042	screw	M3*10	
56	MF00037	washer	3* 5*1t	
57	ME00015	nut	3m/m	
58	MF00038	washer	4* 7*1t	
59	ME00016	nut	4m/m	
60	MF00048	washer	4* 8*0.5t	
61	MF00018	washer	4* 10*1t	
62	MG00268	screw	M5*12	
63	MG00041	screw	M3*6	
64	MG00075	screw	M4*16	
65	ME00006	nut R.S	9	
66	MF00004	washer	9* 14*0.5t	
67	NI00437	rubber coil	20* 120*2tB	
68	MG00556	screw	M8*82.5*1.25PH_V1.0	
69	ME00026	nut	8m/m	
70	MF00026	washer	8* 18*1.5t	

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
71	MF00041	washer	8* 13.5*2t	
72	MH00766	iron piece	11* 90*2_V1.1	
73	MH00768	iron piece	11* 90*2_V1.1	
74	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
75	TD00175	loop transformer	PT-MIS2500_115/230V	
76	NI00252	sleeve	4*20mm	
77	NI00248	sleeve	4*1000mm	
78	HE00050	fan	DV12V/0.37A 80*80*25 360mm JST2P	
79	NI00312	power switch button	square 5*5*9 hole 2.8*2.8 black	
80	HA00871	power cord(European 3P)	LT-322+1.5*3C(H05VV-F) 6FT+LT-501	
81	NI00218	cable tie-black	ALT-102SB	
82	HJ00006	desiccant	30g	
83	NA00135	PE bag	0.05t*610*500mm	
84	NB02476	box	MISTRAL2500 ALTO_V1.1	
85	NB01944	barrier	PSA-3000_V1.1	
86	NB02086	box	MACRO	
87	NE02227	label	PSA-31500 220-240V	
88	NI00037	adhesive label	0.05*1M	
89	NI00034	membrane	0.045*1M	
90	NF00061	assurance card	ALTO	
91	NE11516	label	MISTRAL2500	
92	NH00012	bond paper	0.04*1M	
93	NI00014	membrane	0.035*1M	
94	NE11347	label	ALTO PI	
95	NH00334	cone paper	0.040*1m	
96	NC00059	fixed board	1*46*46(Sax-2000)	
97	NC00175	insulator	1.0t*51mm*100M	
98	HK04155	PC board	P-MIS40MN CH2(MISTRAL2500)	
99	HB01243	PCB	MIS40MN-CH2_VER040326	
100	RA00211	fixed resistor 1/4W	820 M type	R2_14,R2_18
101	RA00239	fixed resistor 1/4W	8.2K M type	
102	RA00266	fixed resistor 1/4W	47K M type	R2_47
103	RA00174	fixed resistor 1/4W	47 M type	R2_52
104	RA00299	fixed resistor 1/4W	330K M type	R2_42,R2_48
105	RA00200	fixed resistor 1/4W	330 M type	R2_10,R2_55

MISTRAL2500 Parts List

No.	Part No.	Description	Specification		Remark
106	RA00616	fixed resistor 1/4W	470	M type	R2_9
107	RA00217	fixed resistor 1/4W	1.5K	M type	R2_45
108	RA00158	fixed resistor 1/4W	0.0	M type	R2_2
109	RA00246	fixed resistor 1/4W	15K	M type	R2_11
110	RA00219	fixed resistor 1/4W	1.8K	M type	R2_1
111	RA00282	fixed resistor 1/4W	100K	M type	R2_43,R2_46,R2_51
112	RA00184	fixed resistor 1/4W	100	M type	R2_57
113	RA00242	fixed resistor 1/4W	10K	M type	R2_54,R2_8
114	RA00908	fixed resistor 1/2W	68K	P type	R2_58
115	RA00909	fixed resistor 1/2W	82K	P type	R2_56
116	RB00010	resistor	10K	8P C Type	RB2_1
117	RA00027	metal-oxide-film resistor 1W	5.6	P type	R2_22,R2_62
118	RA00007	metal-oxide-film resistor 1W	22	P type	R2_25,R2_32
119	RA00020	metal-oxide-film resistor 1W	6.8K	P type	R2_44
120	RA00051	metal-oxide-film resistor 2W	5.6	P type	R2_39
121	RA00953	metal-oxide-film resistor 5W	10K	P type	R2_49
122	RA00062	metal-oxide-film resistor 3W	1.0K	RSS P type	R2_63
123	RA00880	cement resistor 5W	0.22	SQM type	R2_28,R2_29,R2_30,R2_31,R2_33,R2_34, R2_36,R2_35
124	RA00870	cement resistor 5W	12	SQM type	R2_41,R2_40
125	RA00869	cement resistor 5W	1K	SQM type	R2_23,R2_24
126	RA00981	cement resistor 10W	3.3K	SQM type	R2_15,R2_19
127	CA00010	ceramic capacitor	27PF	NPO	C2_10
128	CA00018	ceramic capacitor	56PF	NPO	C2_35,C2_36,C2_7
129	CA00024	ceramic capacitor	100PF	SL	C2_3,C2_4
130	CA00043	ceramic capacitor	0.0033uF		C2_13,C2_14
131	CA00070	ceramic capacitor	0.022uF/50V±20%	Y5U	C2_11
132	CA00047	ceramic capacitor	0.033uF		C2_12
133	CA00053	ceramic capacitor	0.1uF	SL	C2_44
134	CF00022	metal-film capacitor MSC	0.022uF/100V	5% CASE01	C2_40
135	CF00013	metal-film capacitor MEF	0.068uF/250V		C2_31
136	CB00143	electrolytic capacitor	10uF/63V	5*11mm	C2_32,C2_43
137	CB00177	electrolytic capacitor	22uF/50V	5*11mm	C2_1,C2_2,R2-43
138	CB00169	electrolytic capacitor	47uF/16V NP	6.3*11mm	C2_9
139	CB00039	electrolytic capacitor	47uF/25V	5*11mm	C2_5,C2_6
140	CB00149	electrolytic capacitor	47uF/63V	6*11mm	C2_33

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
141	CB00055	electrolytic capacitor	220uF/16V 8*11mm	C2_37
142	CB00171	electrolytic capacitor	220uF/16V NP 10*12.5mm	C2_34
143	CB00057	electrolytic capacitor	220uF/25V 8*11mm	C2_8,C2_45
144	CB00067	electrolytic capacitor	470uF/35V 10*20mm	C2_42
145	CB00170	electrolytic capacitor	1000uF/100V 18*35.5mm	C2_15,C2_16,C2_17,C2_18,C2_19,C2_20, C2_21,C2_22,C2_23,C2_24,C2_25,C2_26
146	SA00167	bridge rectifier	2A W2-04	D2_2,D2_19,D2_24,D2_27
147	SA00093	rectifier diode	1N4148 0.5A	D2_11,D2_12
148	SA00098	rectifier diode	1A/400V IN4004	D2_10,D2_13,D2_14,D2_20,D2_22,D2_23, D2_25,D2_26,D2_28,D2_9
149	SA00187	rectifier diode	IN5404	D2_15,D2_16
150	SA00002	high speed diode	1A/600V 1N4937	D2_5,D2_6
151	SA00107	zener diode	1W 15V 1N4744	D2_1,D2_4
152	SA00197	L.E.D	1W 36V 1N4753	D2_21
153	SA00117	zener diode	1/2W 5.6V 6B1	D2_7,D2_8
154	SA00188	diode	1/2W 7.5V	D2_18
155	SA00026	L.E.D	5m/m circle red B1115	D2_17
156	SB00042	transistor	MJE15032	Q2_1
157	SB00044	transistor	MJE15033	Q2_2
158	SB00130	transistor	MPSA42/(PHILIPS)	Q2_17
159	SB00129	transistor	MPSA92(TO92)/(PHI)	Q2_15,Q2_16
160	SB00023	power transistor	2SA1943-O	Q2_5,Q2_6,Q2_7,Q2_8
161	SB00021	power transistor	2SC5200	Q2_9,Q2_10,Q2_11,Q2_12
162	SD00032	integrated circuit	LM317T	U2_4
163	SD00173	integrated circuit	NJM4580L(JRC)	U2_1,U2_2
164	CN00060	fixed inductance	2uH 10A(CSAF-302824)(1.5mm*12 1/2T)	L2_1
165	RH00021	Thermal resistor	500 (TDC5C150L)	R2_3
166	RH00017	Thermal resistor	50 (TDC05A050J)	R2_17
167	RH00025	resistor	100 (PAS7101ZF)	R2_50
168	RC00319	resistor	B100 PT1030-V1B101-C1-H10	R2_16
169	RC00348	resistor	B1K PT1030-V1B102-C1-H10	R2_20,R2_21
170	HI00211	relay	8P 24VDC/16A 881H-1CC-C	K2_1
171	HI00039	push-button switch	SP70300-0202-11F1-N	S2_1
172	HK02231	coupling	P-photosensitive resistance 5LLED	U2_5
173	RH00020	photosensitive resistance	VT90N1	
174	SA00201	L.E.D	5 red(LI3330/A)	
175	NI02779	sleeve	9*30mm	

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
176	NI00274	sleeve	9*1000mm	
177	HC00324	terminal	6.5m/m (PC250)	JP2_1,JP2_2,JP2_5,JP2_6,JP2_7,JP2_8
178	HC00056	FUSE holder	8*10.6*1.5 JEF-505	JP2_9,JP2_10,JP2_11,JP2_12
179	HC00112	XLR MIC jack	99M-107SP-1-2 90° PUSH	J2_1
180	HC00111	XLR MIC jack	99M-108SP1	J2_2
181	HC00504	row-wire header(male)	10P 2.54mm 180°	JP2_15,JP2_16,JP2_3
182	HC00172	row-wire header(male)	3P 3.96mm 180°	JP2_13
183	HC00077	row-wire header(male)	3P 2.5mm 180°	R2_5
184	HC00076	row-wire header(male)	2P 2.5mm 180°	JP2_14
185	HA01933	jumper wire	2.5mm	J2_4,J2_5
186	HC00034	connector	NO.2700 2.54mm/6mm OPEN	
187	HD00029	ceramic tube fuse	15A 6*32mm UL	
188	MJ01200	spacer	MISTRAL4000 14.5*30.5*2t	
189	MJ01201	spacer	MISTRAL4000 14.5*30.5*2t	
190	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
191	MF00030	washer	3* 8*0.8t	
192	MF00037	washer	3* 5*1t	
193	NC00005	silicone insulator	TO-220 square type	
194	MG00171	screw	M3*14	
195	ND00182	silicone sleeve	1*30mm	
196	ND00171	silicone sleeve	1*1000mm	
197	NC00181	insulator	MISTRAL4000 1.6t*136*16mm	
198	NC00041	red foil white board	1.6t*0.65M*70M	
199	MI01954	fixed bracket	MISTRAL4000 1.5t*136*16mm right	
200	MJ00069	iron board	1.5*2135*1220 30.67kg	
201	HA02759	wire	5P-5P 120mm UL1007 24AWG	
202	CA00088	ceramic capacitor	100PF/1000V	Q2-1,Q2-2
203	MI02325	heat-sink	9*83*70*309 right_V1.0	
204	MI02359	heat sink	9*83*70*4400 +5/-0 18.8320KG_V1.0	
205	HK03958	PC board	P-MIS40PWR	
206	HB00946	PCB	MIS40PWR_VER030710	
207	HC00324	terminal	6.5m/m (PC250)	P1,P2,P3,P4,P5,P6,P7,P8
208	CG00044	metal oxide varistor	NP35L-Y2	K2-2
209	HK03959	PC board	P-MIS40FP2	
210	HB00947	PCB	MIS40FP2_VER030710	

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
211	SA00191	L.E.D	3 (LEG2062)	D1_1,D2_1
212	SA00053	L.E.D high intensity	3m/m round(red)long foot 26mm	D1+3,D2_3
213	SA00054	L.E.D high intensity	3m/m round(yellow)long foot 26	D1_30,D2_30
214	HC00066	row-wire header(male)	3P 2.5mm 90°	CN1_1,CN2_1
215	RC00209	PPBC239	A10K RV110-40E1-225A-A14	VR1_1,VR2_1
216	SA00194	L.E.D	3	D1_29,D2_29
217	NI01765	LED spacer support	LEDS-10 10mm	
218	HA02450	wire	10P-10P 350mm UL2651 28AWG PH1.27mm	JP2_22
219	HA02451	wire	10P-10P 250mm UL2651 28AWG PH1.27mm	JP1_22
220	HK04015	PC board	P-MIS40SP	
221	HB00962	PCB	MIS40SP_VER030522	
222	HC00442	speaker holder	NL4MP (NEUTRIK)	
223	HC00522	terminal	4P black/red/red/black A414B-BL	
224	MJ00942	fixed board	CS12/600	
225	MJ00061	Zn-plated board	1*2135*1220 20.45kg	
226	HA01239	single terminal wiring CF:W209	180mm UL1015 14AWG white	
227	HA01237	single terminal wiring CF:W207	200mm UL1015 14AWG grey	
228	HA02471	wire	360mm UL1015 14AWG white	
229	HA01258	quick terminal wiring	380mm UL1015 14AWG grey	
230	HI00143	manual reposition switch	A0701HM-8A	
231	HA01241	wire	480mm UL1015 14AWG brown	
232	HA01248	wire	150mm UL1015 14AWG brown	
233	NA00116	PE bag	0.04t*170*100mm	
234	NI01867	self-adhere foot cushion	20.5*14*7.6mm(SF-006)	
235	NI00389	plastic washer	12* 16*0.5	
236	NI00375	film	45*60.5*0.5mm	
237	MJ01227	cushion	MISTRAL2500	
238	MJ01228	cushion	MISTRAL2500 2.0t*422*15	
239	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
240	HK00793	PC board	P-MIS2500-INPUT	
241	HB01105	PCB	MIS40IN-1_VER031206	
242	HC00297	terminal block	DT-55-A14W-03(3PH)	CN1
243	HC00077	row-wire header(male)	3P 2.5mm 180°	CN3
244	HC00079	row-wire header(male)	5P 2.5mm 180°	CN4
245	HK00787	PC board	P-MIS2500-INPUT(MIC jack)	

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
246	HB01104	PCB	MIS40IN-2_VER031206	
247	HC00077	row-wire header(male)	3P 2.5mm 180°	CN1
248	HC00110	MIC jack	JY-6314-02-340	JP1
249	HA01394	row-wire connector wiring	3P-3P 120	
250	MD00444	protecting cover	80*80mm(K-G08A05-4HA)	
251	NF01672	instruction	MISTRAL2500 ALTO_V1.3	
252	NH00149	paper	889*640mm	
253	HK04156	PC board	P-MIS40MN CH1(MISTRAL2500)	
254	HB01242	PCB	MIS40MN-CH1_VER040326	
255	RA00211	fixed resistor 1/4W	820 M type	R1_14,R1_18
256	RA00239	fixed resistor 1/4W	8.2K M type	R1_53
257	RA00266	fixed resistor 1/4W	47K M type	R1_47
258	RA00174	fixed resistor 1/4W	47 M type	R1_52
259	RA00299	fixed resistor 1/4W	330K M type	R1_42,R1_48
260	RA00200	fixed resistor 1/4W	330 M type	R1_10,R1_55
261	RA00616	fixed resistor 1/4W	470 M type	R1_9
262	RA00217	fixed resistor 1/4W	1.5K M type	R1_45
263	RA00158	fixed resistor 1/4W	0.0 M type	R1_2
264	RA00246	fixed resistor 1/4W	15K M type	R1_11,R1_64
265	RA00219	fixed resistor 1/4W	1.8K M type	R1_1
266	RA00282	fixed resistor 1/4W	100K M type	R1_43,R1_46,R1_51
267	RA00184	fixed resistor 1/4W	100 M type	R1_57
268	RA00242	fixed resistor 1/4W	10K M type	R1_54,R1_8
269	RA00908	fixed resistor 1/2W	68K P type	R1_58
270	RA00909	fixed resistor 1/2W	82K P type	R1_56
271	RB00010	resistor	10K 8P C Type	RB1_1
272	RA00027	metal-oxide-film resistor 1W	5.6 P type	R1_22,R1_62
273	RA00007	metal-oxide-film resistor 1W	22 P type	R1_25,R1_32
274	RA00020	metal-oxide-film resistor 1W	6.8K P type	R1_44
275	RA00051	metal-oxide-film resistor 2W	5.6 P type	R1_39
276	RA00953	metal-oxide-film resistor 5W	10K P type	R1_49
277	RA00062	metal-oxide-film resistor 3W	1.0K RSS P type	R1_63
278	RA00880	cement resistor 5W	0.22 SQM type	R1_28,R1_29,R1_30,R1_31,R1_33,R1_34, R1_36,R1-35
279	RA00870	cement resistor 5W	12 SQM type	R1_40,R1_41
280	RA00869	cement resistor 5W	1K SQM type	R1_23,R1_24

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
281	RA00981	cement resistor 10W	3.3K SQM type	R1_15,R1_19
282	CA00010	ceramic capacitor	27PF NPO	C1_10
283	CA00018	ceramic capacitor	56PF NPO	C1_36,C1_35,C1_7
284	CA00024	ceramic capacitor	100PF SL	C1_3,C1_4
285	CA00043	ceramic capacitor	0.0033uF	C1_13,C1_14
286	CA00070	ceramic capacitor	0.022uF/50V±20% Y5U	C1_11
287	CA00047	ceramic capacitor	0.033uF	C1_12
288	CA00053	ceramic capacitor	0.1uF SL	C1_44
289	CF00022	metal-film capacitor MSC	0.022uF/100V 5% CASE01	C1_40
290	CF00013	metal-film capacitor MEF	0.068uF/250V	C1_31
291	CB00185	electrolytic capacitor	10uF/63V 5*11mm	C1_32,C1_43
292	CB00177	electrolytic capacitor	22uF/50V 5*11mm	C1_2,C1_1,R1-43
293	CB00169	electrolytic capacitor	47uF/16V NP 6.3*11mm	C1_9
294	CB00039	electrolytic capacitor	47uF/25V 5*11mm	C1_5,C1_6
295	CB00149	electrolytic capacitor	47uF/63V 6*11mm	C1_33
296	CB00055	electrolytic capacitor	220uF/16V 8*11mm	C1_37
297	CB00171	electrolytic capacitor	220uF/16V NP 10*12.5mm	C1_34
298	CB00057	electrolytic capacitor	220uF/25V 8*11mm	C1_8,C1_45
299	CB00067	electrolytic capacitor	470uF/35V 10*20mm	C1_42
300	CB00170	electrolytic capacitor	1000uF/100V 18*35.5mm	C1_15,C1_16,C1_17,C1_18,C1_19,C1_20, C1_21,C1_22,C1_23,C1_24,C1_25,C1_26
301	SA00167	bridge rectifier	2A W2-04	D1_19,D1_2,D1_24,D1_27
302	SA00093	rectifier diode	1N4148 0.5A	D1_11,D1_12
303	SA00098	rectifier diode	1A/400V IN4004	D1_10,D1_13,D1_14,D1_20,D1_22,D1_23, D1_25,D1_26,D1_28,D1_9
304	SA00187	rectifier diode	IN5404	D1_15,D1_16
305	SA00002	high speed diode	1A/600V 1N4937	D1_5,D1_6
306	SA00107	zener diode	1W 15V 1N4744	D1_1,D1_4
307	SA00197	L.E.D	1W 36V 1N4753	D1_21
308	SA00117	zener diode	1/2W 5.6V 6B1	D1_7,D1_8
309	SA00188	diode	1/2W 7.5V	D1_18
310	SA00026	L.E.D	5m/m circle red B1115	D1_17
311	SB00042	transistor	MJE15032	Q1_1
312	SB00044	transistor	MJE15033	Q1_2
313	SB00130	transistor	MPSA42/(PHILIPS)	Q1_17
314	SB00129	transistor	MPSA92(TO92)/(PHI)	Q1_15,Q1_16
315	SB00023	power transistor	2SA1943-O	Q1_6,Q1_7,Q1_8,Q1_5

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
316	SB00021	power transistor	2SC5200	Q1_10,Q1_11,Q1_12,Q1_9
317	SD00032	integrated circuit	LM317T	U1_4
318	SD00173	integrated circuit	NJM4580L(JRC)	U1_1,U1_2
319	CN00060	fixed inductance	2uH 10A(CSAF-302824)(1.5mm*12 1/2T)	L1_1
320	RH00021	Thermal resistor	500 (TDC5C150L)	R1_3
321	RH00017	Thermal resistor	50 (TDC05A050J)	R1_17
322	RH00025	resistor	100 (PAS7101ZF)	R1_50
323	RC00319	resistor	B100 PT1030-V1B101-C1-H10	R1_16
324	RC00348	resistor	B1K PT1030-V1B102-C1-H10	R1_20,R1_21
325	HI00211	raley	8P 24VDC/16A 881H-1CC-C	K1_1
326	HI00039	push-button switch	SP70300-0202-11F1-N	S1_1
327	HK02231	coupling	P-photosensitive resistance 5LLED	U1_5
328	RH00020	photosensitive resistance	VT90N1	
329	SA00201	L.E.D	5 red(LI3330/A)	
330	NI02779	sleeve	9*30mm	
331	NI00274	sleeve	9*1000mm	
332	HC00324	terminal	6.5m/m (PC250)	JP1_1,JP1_2,JP1_5,JP1_6,JP1_7, JP1_8
333	HC00056	FUSE holder	8*10.6*1.5 JEF-505	JP1_10,JP1_11,JP1_12,JP1_9
334	HC00112	XLR MIC jack	99M-107SP-1-2 90° PUSH	J1_1
335	HC00111	XLR MIC jack	99M-108SP1	J1_2
336	HC00504	row-wire header(male)	10P 2.54mm 180°	JP1_15,JP1_16,JP1_3
337	HC00172	row-wire header(male)	3P 3.96mm 180°	JP1_13
338	HC00077	row-wire header(male)	3P 2.5mm 180°	R1_5
339	HC00076	row-wire header(male)	2P 2.5mm 180°	JP1_14
340	HA01933	jumper wire	2.5mm	J1_4,J1_5
341	HC00034	connector	NO.2700 2.54mm/6mm OPEN	
342	HD00029	ceramic tube fuse	15A 6*32mm UL	
343	MI01755	heat-chassis	9*83*40*309 MISTRAL4000	
344	MJ01200	spacer	MISTRAL4000 14.5*30.5*2t	
345	MJ01201	spacer	MISTRAL4000 14.5*30.5*2t	
346	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
347	MF00030	washer	3* 8*0.8t	
348	MF00037	washer	3* 5*1t	
349	NI00279	sleeve	15*20mm	U1_4
350	NI00278	sleeve	15*1000mm	

MISTRAL2500 Parts List

No.	Part No.	Description	Specification	Remark
351	NC00005	silicone insulator	TO-220 square type	
352	MG00171	screw	M3*14	
353	ND00182	silicone sleeve	1*30mm	
354	ND00171	silicone sleeve	1*1000mm	
355	NC00181	insulator	MISTRAL4000 1.6t*136*16mm	
356	NC00041	red foil white board	1.6t*0.65M*70M	
357	MI01954	fixed bracket	MISTRAL4000 1.5t*136*16mm right	
358	MJ00069	iron board	1.5*2135*1220 30.67kg	
359	HA02759	wire	5P-5P 120mm UL1007 24AWG	
360	CA00088	ceramic capacitor	100PF/1000V	Q1-1,Q1-2
361	MI02324	heat-sink	9*83*70*309 left_V1.0	
362	MI02359	heat sink	9*83*70*4400 +5/-0 18.8320KG_V1.0	
363	NA00279	clip-chain bag	0.04t*100*150mm_V1.0	
364	AD00012	twin adhesive	90*120mm_V1.0	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
1	MA04096	panel	MISTRAL4000	
2	MA04097	panel	MISTRAL4000	
3	MA04098	panel	MISTRAL4000 3.1*88.8*25.5*483	
4	MI01309	panel	3.1*88.8*25.5*483	
5	MA00196	panel	MISTRAL4000 ALTO new_V1.0	
6	MA04436	panel	CPA 1000	
7	MA05424	panel	MISTRAL1500_V1.0	
8	MJ00088	iron board	1.5*2135*1220 30.67kg	
9	MB02820	rear board	MISTRAL4000	
10	MB02821	rear board	MISTRAL4000_V1.1	
11	MB02822	rear board	MISTRAL4000 430*400*85.5*2.0t_V1.1	
12	MJ00088	iron board	1.5*2135*1220 30.67kg	
13	ME00002	screw pillar	M4*20*0.7PH	
14	ME00051	iron pillar	M3*12	
15	ME00001	screw pillar	M4*10*0.7PH	
16	MI01516	partition	MISTRAL4000 57*177*195	
17	MJ00058	iron board	1*2135*1220 20.45kg	
18	MC00517	top cover	MISTRAL4000	
19	MC00622	top cover	MISTRAL2500_V1.0	
20	MC00621	top cover	MISTRAL2500_V1.0	
21	MJ00088	iron board	1.5*2135*1220 30.67kg	
22	MI01744	handle	MISTRAL4000 20*25.5*80	
23	MI01745	handle	MISTRAL4000 20*25.5*80	
24	MI01750	fixed bracket	MISTRAL4000 left L type	
25	MI01751	fixed bracket	26.5*88.8*400mm	
26	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
27	MI01752	fixed bracket	MISTRAL4000 right L type	
28	MI01753	fixed bracket	26.5*88.8*400mm	
29	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
30	MI01746	front board	MISTRAL4000 14*81*89	
31	MJ00061	Zn-plated board	1*2135*1220 20.45kg	
32	MI01759	partition	MISTRAL4000(left) 0.8t*53.5*78_V1.1	
33	MJ00067	iron board	0.8*2440*1220 18.69kg	
34	MI01756	partition	MISTRAL4000(right) 0.8t*53.5*78_V1.1	
35	MJ00067	iron board	0.8*2440*1220 18.69kg	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
36	NI02650	knob	18*18mm	
37	NI02651	knob fix sheath	10* 22.5	
38	HC00005	AC socket	AC-008	
39	HI00031	power switch	R415KKETO	
40	SA00200	bridge rectifier	40A/400V BP40-04	
41	HA01243	wire	300mm UL1015 14AWG brown	
42	HA01333	single terminal wiring CF:W76	150mm UL1015 18AWG green/yellow	
43	HA01247	wire	180mm UL1015 14AWG blue	
44	HA02469	wire	3P-3P 480mm 28AWG blue	
45	HA02470	wire	3P-3P 600mm 28AWG blue	
46	HA02452	wire	10Pfema*3 415mm UL2651	
47	HA02448	wire	530mm UL1015 14AWG red	
48	HA02449	wire	700mm UL1015 14AWG black	
49	HA01244	wire	380mm UL1015 14AWG red	
50	HA01198	wire	180mm UL1015 14AWG black	
51	MG00247	copper pillar	M3*10*0.5PHsingle length16	
52	MG00061	screw	M3*10	
53	MG00295	screw	M4*6	
54	MG00025	screw	M3*6	
55	MG00042	screw	M3*10	
56	MF00037	washer	3* 5*1t	
57	ME00015	nut	3m/m	
58	MF00038	washer	4* 7*1t	
59	ME00016	nut	4m/m	
60	MF00048	washer	4* 8*0.5t	
61	MF00018	washer	4* 10*1t	
62	MG00268	screw	M5*12	
63	MG00041	screw	M3*6	
64	MG00075	screw	M4*16	
65	ME00006	nut R.S	9	
66	MF00004	washer	9* 14*0.5t	
67	NI00437	rubber coil	20* 120*2tB	
68	MG00556	screw	M8*82.5*1.25PH_V1.0	
69	ME00026	nut	8m/m	
70	MF00026	washer	8* 18*1.5t	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
71	MF00041	washer	8* 13.5*2t	
72	MH00766	iron piece	11* 90*2_V1.1	
73	MH00768	iron piece	11* 90*2_V1.1	
74	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
75	TD00217	loop transformer	PT-MIS4000_115/230V	
76	NI00252	sleeve	4*20mm	
77	NI00248	sleeve	4*1000mm	
78	HE00050	fan	DV12V/0.37A 80*80*25 360mm JST2P	
79	NI00312	power switch button	square 5*5*9 hole 2.8*2.8 black	
80	HA00871	power cord(European 3P)	LT-322+1.5*3C(H05VV-F) 6FT+LT-501	
81	NI00218	cable tie-black	ALT-102SB	
82	HJ00006	desiccant	30g	
83	NA00135	PE bag	0.05t*610*500mm	
84	NF01499	instruction	MISTRAL4000 ALTO_V1.3	
85	NH00149	paper	889*640mm	
86	NB02466	color box	MISTRAL4000 ALTO_V1.1	
87	NB01944	barrier	PSA-3000_V1.1	
88	NB02086	box	MACRO	
89	NE02227	label	PSA-31500 220-240V	
90	NI00037	adhesive label	0.05*1M	
91	NI00034	membrane	0.045*1M	
92	NF00061	assurance card	ALTO	
93	NE11460	label	MISTRAL4000	
94	NH00012	bond paper	0.04*1M	
95	NI00014	membrane	0.035*1M	
96	NE11347	label	ALTO PI	
97	NH00334	cone paper	0.040*1m	
98	NC00059	fixed board	1*46*46(Sax-2000)	
99	NC00175	insulator	1.0t*51mm*100M	
100	HK04177	PC board	P-MIS40MN CH1(MISTRAL4000)	
101	HB01242	PCB	MIS40MN-CH1_VER040326	
102	RA00211	fixed resistor 1/4W	820 M type	R1_14,R1_18
103	RA00239	fixed resistor 1/4W	8.2K M type	R1_53
104	RA00266	fixed resistor 1/4W	47K M type	R1_47
105	RA00174	fixed resistor 1/4W	47 M type	R1_52

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
106	RA00299	fixed resistor 1/4W	330K M type	R1_42,R1_48
107	RA00200	fixed resistor 1/4W	330 M type	R1_10,R1_55
108	RA00616	fixed resistor 1/4W	470 M type	R1_9
109	RA00217	fixed resistor 1/4W	1.5K M type	R1_45
110	RA00158	fixed resistor 1/4W	0.0 M type	R1_2
111	RA00246	fixed resistor 1/4W	15K M type	R1_11,R1_64
112	RA00219	fixed resistor 1/4W	1.8K M type	R1_1
113	RA00282	fixed resistor 1/4W	100K M type	R1_43,R1_46,R1_51
114	RA00184	fixed resistor 1/4W	100 M type	R1_57
115	RA00242	fixed resistor 1/4W	10K M type	R1_54,R1_8
116	RA00908	fixed resistor 1/2W	68K P type	R1_58
117	RA00909	fixed resistor 1/2W	82K P type	R1_56
118	RB00010	resistor	10K 8P C Type	RB1_1
119	RA00027	metal-oxide-film resistor 1W	5.6 P type	R1_22,R1_62
120	RA00007	metal-oxide-film resistor 1W	22 P type	R1_25,R1_32
121	RA00020	metal-oxide-film resistor 1W	6.8K P type	R1_44
122	RA00051	metal-oxide-film resistor 2W	5.6 P type	R1_39
123	RA00953	metal-oxide-film resistor 5W	10K P type	R1_49
124	RA00062	metal-oxide-film resistor 3W	1.0K RSS P type	R1_63
125	RA00880	cement resistor 5W	0.22 SQM type	R1_27,R1_28,R1_29,R1_30,R1_31,R1_33, R1_34,R1_36,R1_37,R1-26,R1-35,R1-38
126	RA00870	cement resistor 5W	12 SQM type	R1_40,R1_41
127	RA01016	cement resistor 5W	2.2K SQM type	R1_23,R1_24
128	RA01017	cement resistor 10W	4.7K SQM type	R1_15,R1_19
129	CA00010	ceramic capacitor	27PF NPO	C1_10
130	CA00018	ceramic capacitor	56PF NPO	C1_36,C1_35,C1_7
131	CA00024	ceramic capacitor	100PF SL	C1_3,C1_4
132	CA00043	ceramic capacitor	0.0033uF	C1_13,C1_14
133	CA00070	ceramic capacitor	0.022uF/50V±20% Y5U	C1_11
134	CA00047	ceramic capacitor	0.033uF	C1_12
135	CA00053	ceramic capacitor	0.1uF SL	C1_44
136	CF00022	metal-film capacitor MSC	0.022uF/100V 5% CASE01	C1_40
137	CF00013	metal-film capacitor MEF	0.068uF/250V	C1_31
138	CB00185	electrolytic capacitor	10uF/63V 5*11mm	C1_32,C1_43
139	CB00177	electrolytic capacitor	22uF/50V 5*11mm	C1_2,C1_1,R1-43
140	CB00169	electrolytic capacitor	47uF/16V NP 6.3*11mm	C1_9

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
141	CB00039	electrolytic capacitor	47uF/25V 5*11mm	C1_5,C1_6
142	CB00149	electrolytic capacitor	47uF/63V 6*11mm	C1_33
143	CB00055	electrolytic capacitor	220uF/16V 8*11mm	C1_37
144	CB00171	electrolytic capacitor	220uF/16V NP 10*12.5mm	C1_34
145	CB00057	electrolytic capacitor	220uF/25V 8*11mm	C1_8,C1_45
146	CB00067	electrolytic capacitor	470uF/35V 10*20mm	C1_42
147	CB00180	electrolytic capacitor	470uF/160V 18*45mm	C1_15,C1_16,C1_17,C1_18,C1_19,C1_20,C1_21,C1_22,C1_23,C1_24,C1_25,C1_26,C1_27,C1_28,C1_29,C1_30
148	SA00167	bridge rectifier	2A W2-04	D1_19,D1_24,D1_27,D1_2
149	SA00093	rectifier diode	1N4148 0.5A	D1_11,D1_12
150	SA00098	rectifier diode	1A/400V IN4004	D1_10,D1_13,D1_14,D1_20,D1_22,D1_23,D1_25,D1_26,D1_28,D1_9
151	SA00187	rectifier diode	IN5404	D1_15,D1_16
152	SA00002	high speed diode	1A/600V 1N4937	D1_5,D1_6
153	SA00107	zener diode	1W 15V 1N4744	D1_1,D1_4
154	SA00197	L.E.D	1W 36V 1N4753	D1_21
155	SA00117	zener diode	1/2W 5.6V 6B1	D1_7,D1_8
156	SA00188	diode	1/2W 7.5V	D1_18
157	SA00026	L.E.D	5m/m circle red B1115	D1_17
158	SB00042	transistor	MJE15032	Q1_1
159	SB00044	transistor	MJE15033	Q1_2
160	SB00130	transistor	MPSA42/(PHILIPS)	Q1_17
161	SB00129	transistor	MPSA92(TO92)/(PHI)	Q1_15,Q1_16
162	SB00023	power transistor	2SA1943-O	Q1_6,Q1_7,Q1_8,Q1_5,Q1_4,Q1_3
163	SB00021	power transistor	2SC5200	Q1_10,Q1_11,Q1_12,Q1_9,Q1_13,Q1_14
164	SD00032	integrated circuit	LM317T	U1_4
165	SD00173	integrated circuit	NJM4580L(JRC)	U1_1,U1_2
166	CN00060	fixed inductance	2uH 10A(CSAF-302824)(1.5mm*12 1/2T)	L1_1
167	RH00021	Thermal resistor	500 (TDC5C150L)	R1_3
168	RH00017	Thermal resistor	50 (TDC05A050J)	R1_17
169	RH00025	resistor	100 (PAS7101ZF)	R1_50
170	RC00319	resistor	B100 PT1030-V1B101-C1-H10	R1_16
171	RC00348	resistor	B1K PT1030-V1B102-C1-H10	R1_20,R1_21
172	HI00211	raley	8P 24VDC/16A 881H-1CC-C	K1_1
173	HI00039	push-button switch	SP70300-0202-11F1-N	S1_1
174	HK02231	coupling	P-photosensitive resistance 5LLED	U1_5
175	RH00020	photosensitive resistance	VT90N1	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
176	SA00201	L.E.D	5 red(LI3330/A)	
177	NI02779	sleeve	9*30mm	
178	NI00274	sleeve	9*1000mm	
179	HC00324	terminal	6.5m/m (PC250)	JP1_1,JP1_2,JP1_5,JP1_6,JP1_7,JP1_8
180	HC00056	FUSE holder	8*10.6*1.5 JEF-505	JP1_10,JP1_11,JP1_12,JP1_9
181	HC00112	XLR MIC jack	99M-107SP-1-2 90° PUSH	J1_1
182	HC00111	XLR MIC jack	99M-108SP1	J1_2
183	HC00504	row-wire header(male)	10P 2.54mm 180°	JP1_15,JP1_16,JP1_3
184	HC00172	row-wire header(male)	3P 3.96mm 180°	JP1_13
185	HC00077	row-wire header(male)	3P 2.5mm 180°	R1_5
186	HC00076	row-wire header(male)	2P 2.5mm 180°	JP1_14
187	HA01933	jumper wire	2.5mm	J1_4,J1_5
188	HC00034	connector	NO.2700 2.54mm/6mm OPEN	
189	HD00029	ceramic tube fuse	15A 6*32mm UL	
190	MI02324	heat-sink	9*83*70*309 left_V1.0	
191	MI02359	heat sink	9*83*70*4400 +5/-0 18.8320KG_V1.0	
192	MJ01200	spacer	MISTRAL4000 14.5*30.5*2t	
193	MJ01201	spacer	MISTRAL4000 14.5*30.5*2t	
194	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
195	MF00030	washer	3* 8*0.8t	
196	MF00037	washer	3* 5*1t	
197	NI00279	sleeve	15*20mm	U1_4
198	NI00278	sleeve	15*1000mm	
199	NC00005	silicone insulator	TO-220 square type	
200	MG00171	screw	M3*14	
201	ND00182	silicone sleeve	1*30mm	
202	ND00171	silicone sleeve	1*1000mm	
203	NC00181	insulator	MISTRAL4000 1.6t*136*16mm	
204	NC00041	red foil white board	1.6t*0.65M*70M	
205	MI01954	fixed bracket	MISTRAL4000 1.5t*136*16mm right	
206	MJ00069	iron board	1.5*2135*1220 30.67kg	
207	HA02759	wire	5P-5P 120mm UL1007 24AWG	
208	CA00088	ceramic capacitor	100PF/1000V	Q1-1,Q1-2
209	HK01708	PC board	P-MIS40PWR(MIS4000)	
210	HB00946	PCB	MIS40PWR_VER030710	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
211	HC00324	terminal	6.5m/m (PC250)	P1,P2,P3,P4,P5,P6,P7,P8
212	CG00044	metal oxide varistor	NP35L-Y2	K2-2
213	HK03959	PC board	P-MIS40FP2	
214	HB00947	PCB	MIS40FP2_VER030710	
215	SA00191	L.E.D	3 (LEG2062)	D1_1,D2_1
216	SA00053	L.E.D high intensity	3m/m round(red)long foot 26mm	D1+3,D2_3
217	SA00054	L.E.D high intensity	3m/m round(yellow)long foot 26	D1_30,D2_30
218	HC00066	row-wire header(male)	3P 2.5mm 90°	CN1_1,CN2_1
219	RC00209	PPBC239	A10K RV110-40E1-225A-A14	VR1_1,VR2_1
220	SA00194	L.E.D	3	D1_29,D2_29
221	NI01765	LED spacer support	LEDS-10 10mm	
222	HA02450	wire	10P-10P 350mm UL2651 28AWG PH1.27mm	JP2_22
223	HA02451	wire	10P-10P 250mm UL2651 28AWG PH1.27mm	JP1_22
224	HK04015	PC board	P-MIS40SP	
225	HB00962	PCB	MIS40SP_VER030522	
226	HC00442	speaker holder	NL4MP (NEUTRIK)	
227	HC00522	terminal	4P black/red/red/black A414B-BL	
228	MJ00942	fixed board	CS12/600	
229	MJ00061	Zn-plated board	1*2135*1220 20.45kg	
230	HA01239	signle terminal wiring CF:W209	180mm UL1015 14AWG white	
231	HA01237	signle terminal wiring CF:W207	200mm UL1015 14AWG grey	
232	HA02471	wire	360mm UL1015 14AWG white	
233	HA01258	quick terminal wiring	380mm UL1015 14AWG grey	
234	HI00141	manual reposition switch	A0701HM-10A	
235	HA01241	wire	480mm UL1015 14AWG brown	
236	HA01248	wire	150mm UL1015 14AWG brown	
237	NA00116	PE bag	0.04t*170*100mm	
238	NI01867	self-adhere foot cushion	20.5*14*7.6mm(SF-006)	
239	NI00389	plastic washer	12* 16*0.5	
240	NI00375	film	45*60.5*0.5mm	
241	MJ01227	cushion	MISTRAL2500	
242	MJ01228	cushion	MISTRAL2500 2.0t*422*15	
243	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
244	HK00793	PC board	P-MIS2500-INPUT	
245	HB01105	PCB	MIS40IN-1_VER031206	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
246	HC00297	terminal block	DT-55-A14W-03(3PH)	CN1
247	HC00077	row-wire header(male)	3P 2.5mm 180°	CN3
248	HC00079	row-wire header(male)	5P 2.5mm 180°	CN4
249	HK00787	PC board	P-MIS2500-INPUT(MIC jack)	
250	HB01104	PCB	MIS40IN-2_VER031206	
251	HC00077	row-wire header(male)	3P 2.5mm 180°	CN1
252	HC00110	MIC jack	JY-6314-02-340	JP1
253	HA01394	row-wire connector wiring	3P-3P 120	
254	MD00444	protecting cover	80*80mm(K-G08A05-4HA)	
255	HK04178	PC board	P-MIS40MN CH2(MISTRAL4000)	
256	HB01243	PCB	MIS40MN-CH2_VER040326	
257	RA00211	fixed resistor 1/4W	820 M type	R2_14,R2_18
258	RA00239	fixed resistor 1/4W	8.2K M type	R2_53
259	RA00266	fixed resistor 1/4W	47K M type	R2_47
260	RA00174	fixed resistor 1/4W	47 M type	R2_52
261	RA00299	fixed resistor 1/4W	330K M type	R2_42,R2_48
262	RA00200	fixed resistor 1/4W	330 M type	R2_10,R2_55
263	RA00616	fixed resistor 1/4W	470 M type	R2_9
264	RA00217	fixed resistor 1/4W	1.5K M type	R2_45
265	RA00158	fixed resistor 1/4W	0.0 M type	R2_2
266	RA00246	fixed resistor 1/4W	15K M type	R2_11
267	RA00219	fixed resistor 1/4W	1.8K M type	R2_1
268	RA00282	fixed resistor 1/4W	100K M type	R2_43,R2_46,R2_51
269	RA00184	fixed resistor 1/4W	100 M type	R2_57
270	RA00242	fixed resistor 1/4W	10K M type	R2_54,R2_8
271	RA00908	fixed resistor 1/2W	68K P type	R2_58
272	RA00909	fixed resistor 1/2W	82K P type	R2_56
273	RB00010	resistor	10K 8P C Type	RB2_1
274	RA00027	metal-oxide-film resistor 1W	5.6 P type	R2_22,R2_62
275	RA00007	metal-oxide-film resistor 1W	22 P type	R2_25,R2_32
276	RA00020	metal-oxide-film resistor 1W	6.8K P type	R2_44
277	RA00051	metal-oxide-film resistor 2W	5.6 P type	R2_39
278	RA00953	metal-oxide-film resistor 5W	10K P type	R2_49
279	RA00062	metal-oxide-film resistor 3W	1.0K RSS P type	R2_63
280	RA00880	cement resistor 5W	0.22 SQM type	R2_27,R2_28,R2_29,R2_30,R2_31,R2_33, R2_34,R2-37,R2_36,R2-26,R2-35,R2-38

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
281	RA00870	cement resistor 5W	12 SQM type	R2_41,R2_40
282	RA01016	cement resistor 5W	2.2K SQM type	R2_23,R2_24
283	RA01017	cement resistor 10W	4.7K SQM type	R2_15,R2_19
284	CA00010	ceramic capacitor	27PF NPO	C2_10
285	CA00018	ceramic capacitor	56PF NPO	C2_35,C2_36,C2_7
286	CA00024	ceramic capacitor	100PF SL	C2_3,C2_4
287	CA00043	ceramic capacitor	0.0033uF	C2_13,C2_14
288	CA00070	ceramic capacitor	0.022uF/50V±20% Y5U	C2_11
289	CA00047	ceramic capacitor	0.033uF	C2_12
290	CA00053	ceramic capacitor	0.1uF SL	C2_44
291	CF00022	metal-film capacitor MSC	0.022uF/100V 5% CASE01	C2_40
292	CF00013	metal-film capacitor MEF	0.068uF/250V	C2_31
293	CB00185	electrolytic capacitor	10uF/63V 5*11mm	C2_32,C2_43
294	CB00177	electrolytic capacitor	22uF/50V 5*11mm	C2_1,C2_2,R2-43
295	CB00169	electrolytic capacitor	47uF/16V NP 6.3*11mm	C2_9
296	CB00039	electrolytic capacitor	47uF/25V 5*11mm	C2_5,C2_6
297	CB00149	electrolytic capacitor	47uF/63V 6*11mm	C2_33
298	CB00055	electrolytic capacitor	220uF/16V 8*11mm	C2_37
299	CB00171	electrolytic capacitor	220uF/16V NP 10*12.5mm	C2_34
300	CB00057	electrolytic capacitor	220uF/25V 8*11mm	C2_8,C2_45
301	CB00067	electrolytic capacitor	470uF/35V 10*20mm	C2_42
302	CB00180	electrolytic capacitor	470uF/160V 18*45mm	C2_15,C2_16,C2_17,C2_18,C2_19,C2_20,C2_21,C2_22,C2_23,C2_24,C2_25,C2_26,C2_27,C2_28,C2_29,C2_30
303	SA00167	bridge rectifier	2A W2-04	D2_2,D2_19,D2_24,D2_27
304	SA00093	rectifier diode	1N4148 0.5A	D2_11,D2_12
305	SA00098	rectifier diode	1A/400V IN4004	D2_10,D2_13,D2_14,D2_20,D2_22,D2_23,D2_25,D2_26,D2_28,D2_9
306	SA00187	rectifier diode	IN5404	D2_15,D2_16
307	SA00002	high speed diode	1A/600V 1N4937	D2_5,D2_6
308	SA00107	zener diode	1W 15V 1N4744	D2_1,D2_4
309	SA00197	L.E.D	1W 36V 1N4753	D2_21
310	SA00117	zener diode	1/2W 5.6V 6B1	D2_7,D2_8
311	SA00188	diode	1/2W 7.5V	D2_18
312	SA00026	L.E.D	5m/m circle red B1115	D2_17
313	SB00042	transistor	MJE15032	Q2_1
314	SB00044	transistor	MJE15033	Q2_2
315	SB00130	transistor	MPSA42/(PHILIPS)	Q2_17

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
316	SB00129	transistor	MPSA92(TO92)/(PHI)	Q2_15,Q2_16
317	SB00023	power transistor	2SA1943-O	Q2_5,Q2_6,Q2_7,Q2_8,Q2_4,Q2_3
318	SB00021	power transistor	2SC5200	Q2_9,Q2_10,Q2_11,Q2_12,Q2_13,Q2_14
319	SD00032	integrated circuit	LM317T	U2_4
320	SD00173	integrated circuit	NJM4580L(JRC)	U2_1,U2_2
321	CN00060	fixed inductance	2uH 10A(CSAF-302824)(1.5mm*12 1/2T)	L2_1
322	RH00021	Thermal resistor	500 (TDC5C150L)	R2_3
323	RH00017	Thermal resistor	50 (TDC05A050J)	R2_17
324	RH00025	resistor	100 (PAS7101ZF)	R2_50
325	RC00319	resistor	B100 PT1030-V1B101-C1-H10	R2_16
326	RC00348	resistor	B1K PT1030-V1B102-C1-H10	R2_20,R2_21
327	HI00211	raley	8P 24VDC/16A 881H-1CC-C	K2_1
328	HI00039	push-button switch	SP70300-0202-11F1-N	S2_1
329	HK02231	coupling	P-photosensitive resistance 5LLED	U2_5
330	RH00020	photosensitive resistance	VT90N1	
331	SA00201	L.E.D	5 red(LI3330/A)	
332	NI02779	sleeve	9*30mm	
333	NI00274	sleeve	9*1000mm	
334	HC00324	terminal	6.5m/m (PC250)	JP2_1,JP2_2,JP2_5,JP2_6,JP2_7,JP2_8
335	HC00056	FUSE holder	8*10.6*1.5 JEF-505	JP2_9,JP2_10,JP2_11,JP2_12
336	HC00112	XLR MIC jack	99M-107SP-1-2 90° PUSH	J2_1
337	HC00111	XLR MIC jack	99M-108SP1	J2_2
338	HC00504	row-wire header(male)	10P 2.54mm 180°	JP2_15,JP2_16,JP2_3
339	HC00172	row-wire header(male)	3P 3.96mm 180°	JP2_13
340	HC00077	row-wire header(male)	3P 2.5mm 180°	R2_5
341	HC00076	row-wire header(male)	2P 2.5mm 180°	JP2_14
342	HA01933	jumper wire	2.5mm	J2_4,J2_5
343	HC00034	connector	NO.2700 2.54mm/6mm OPEN	
344	HD00029	ceramic tube fuse	15A 6*32mm UL	
345	MI02325	heat-sink	9*83*70*309 right_V1.0	
346	MI02359	heat sink	9*83*70*4400 +5/-0 18.8320KG_V1.0	
347	MJ01200	spacer	MISTRAL4000 14.5*30.5*2t	
348	MJ01201	spacer	MISTRAL4000 14.5*30.5*2t	
349	MJ01154	iron board	2.0t*1850*950mm 27.6kg	
350	MF00030	washer	3* 8*0.8t	

MISTRAL4000 Parts List

No.	Part No.	Description	Specification	Remark
351	MF00037	washer	3* 5*1t	
352	NC00005	silicone insulator	TO-220 square type	
353	MG00171	screw	M3*14	
354	ND00182	silicone sleeve	1*30mm	
355	ND00171	silicone sleeve	1*1000mm	
356	NC00181	insulator	MISTRAL4000 1.6t*136*16mm	
357	NC00041	red foil white board	1.6t*0.65M*70M	
358	MI01954	fixed bracket	MISTRAL4000 1.5t*136*16mm right	
359	MJ00069	iron board	1.5*2135*1220 30.67kg	
360	HA02759	wire	5P-5P 120mm UL1007 24AWG	
361	CA00088	ceramic capacitor	100PF/1000V	Q2-1,Q2-2
362	MG00027	screw	M3*12	
363	NA00279	clip-chain bag	0.04t*100*150mm_V1.0	
364	AD00012	twin adhesive	90*120mm_V1.0	