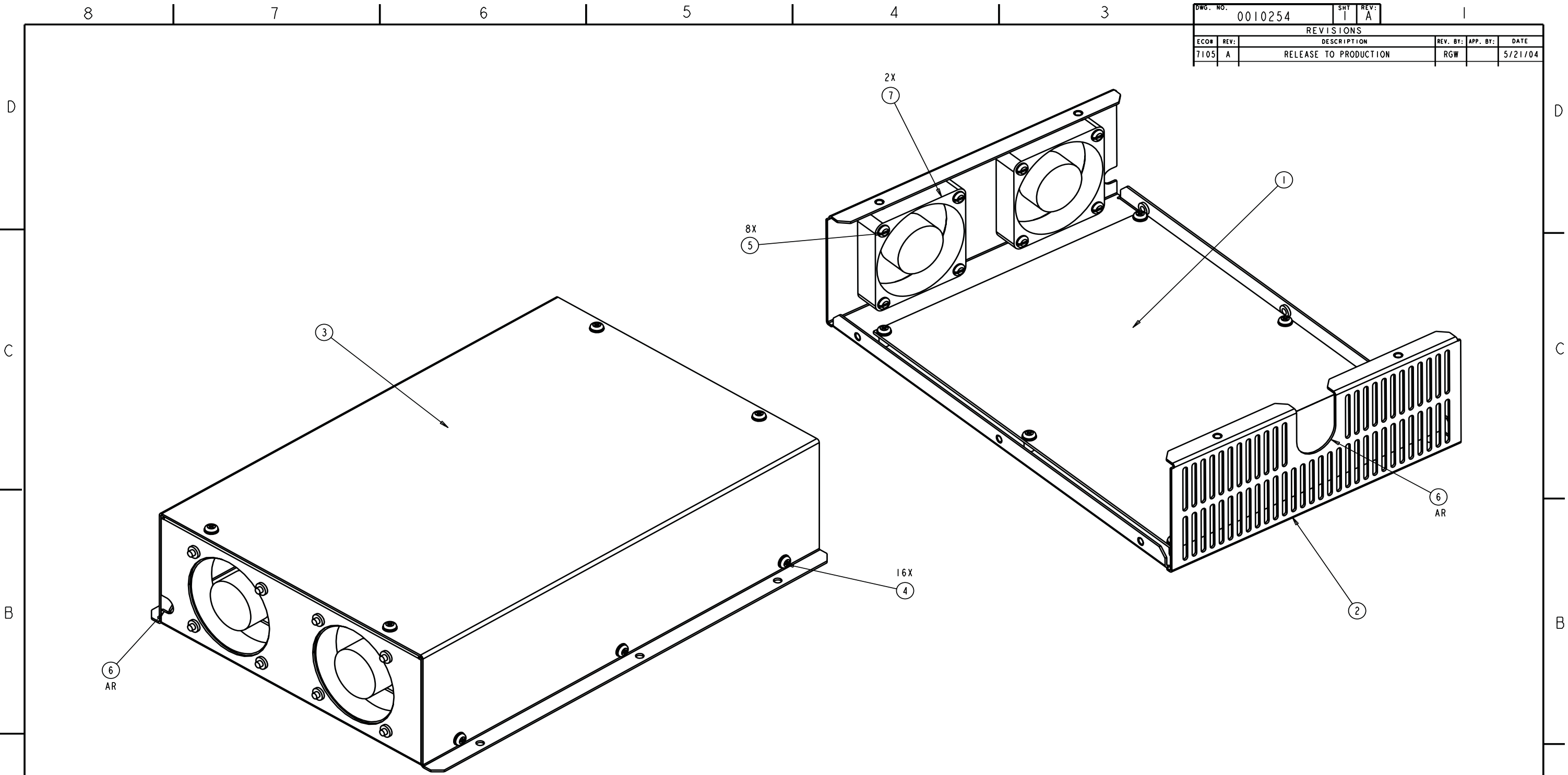


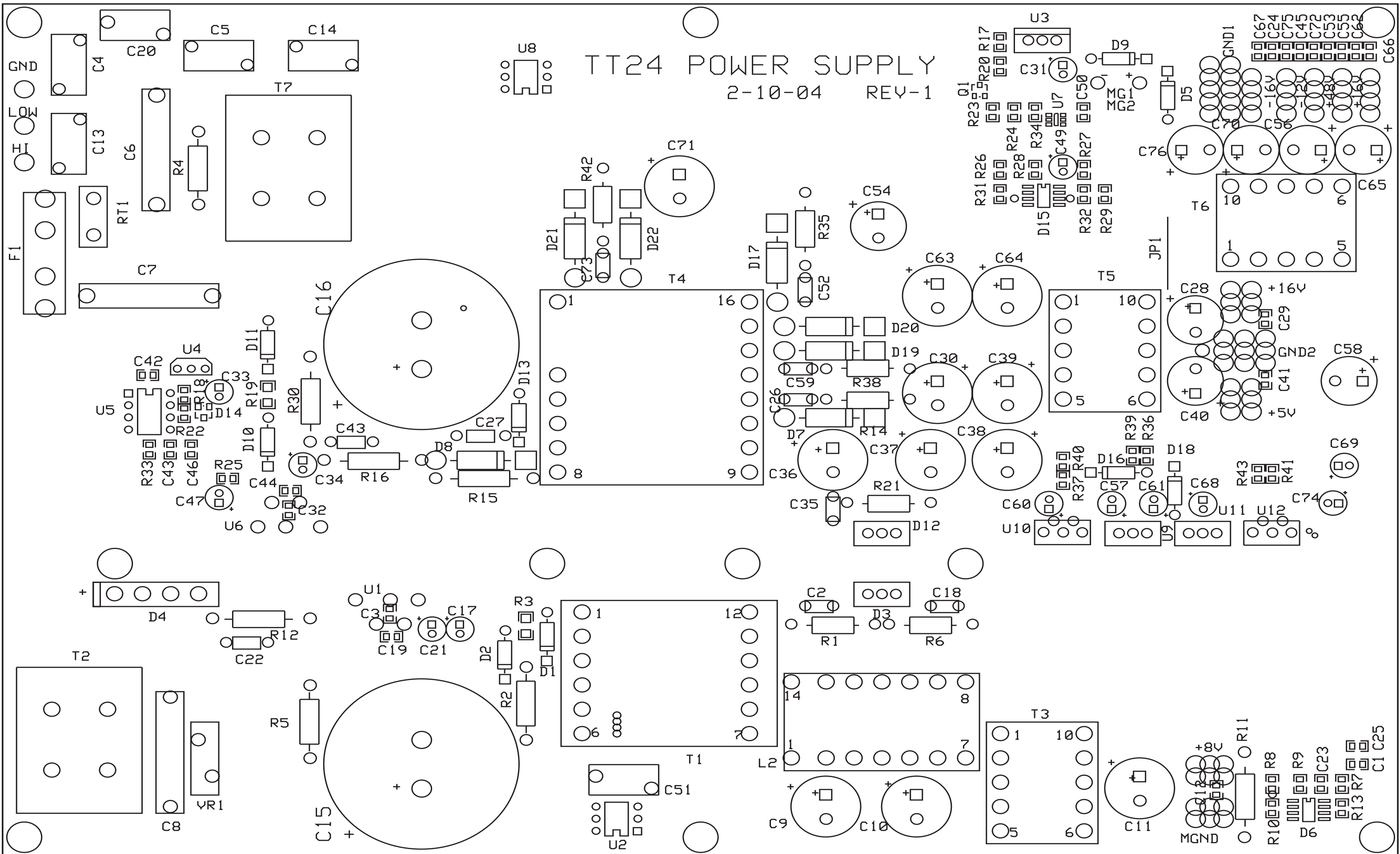
DWG. NO.	0010254	SHT	REV:	1	A
REVISIONS					
ECO#	REV:	DESCRIPTION	REV. BY:	APP. BY:	DATE
7105	A	RELEASE TO PRODUCTION	RGW		5/21/04

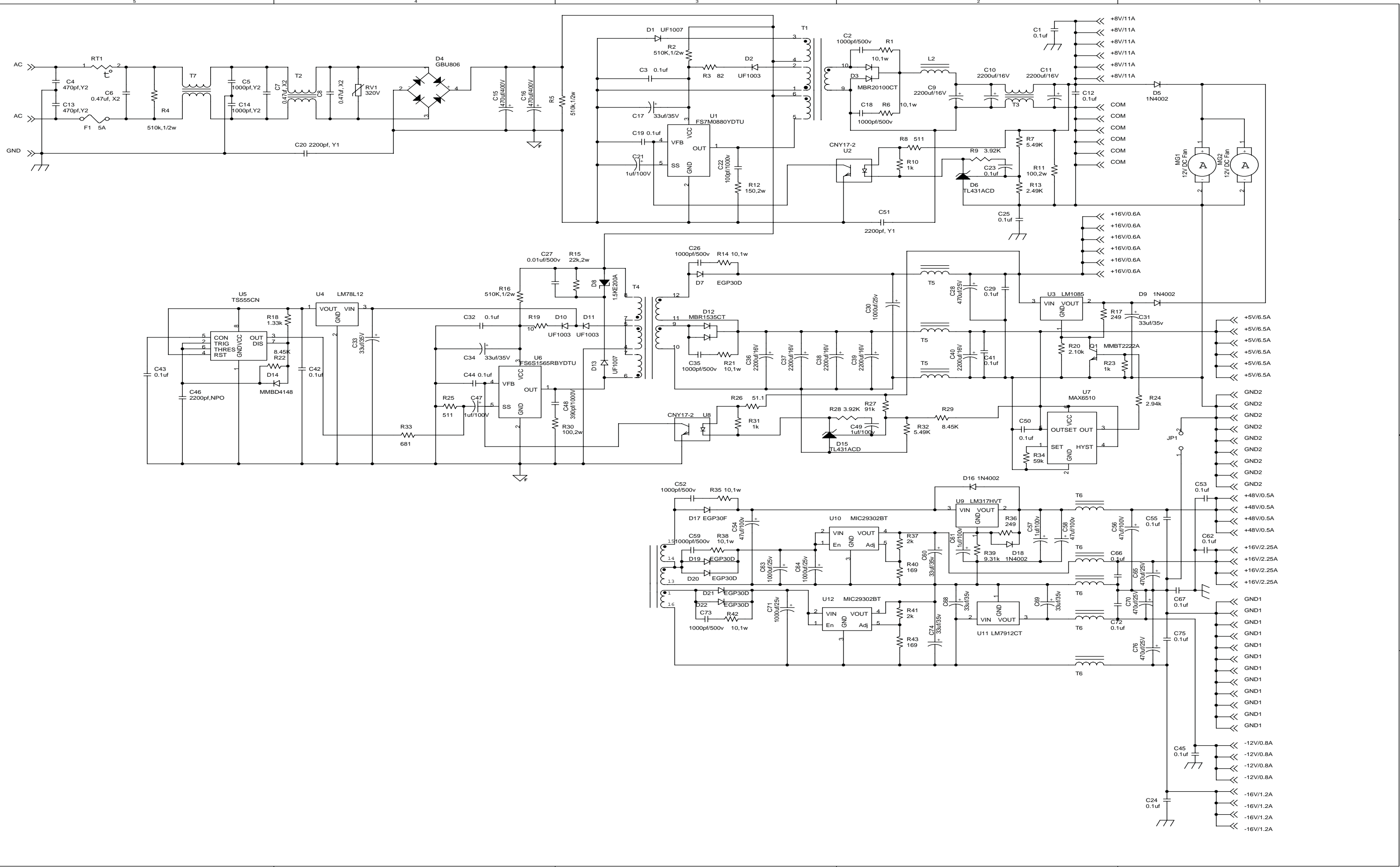


<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ALL ANGLES ARE 90° TOLERANCES ARE: FRACTIONS: DECIMALS: ANGLES: ± ± .XX± ± ± .XXX± ±</small>	APPROVALS	DATE	MACKIE™ Mackie Designs Inc. Woodinville, Wa.												
	DRAWN: RGW	5/21/04													
	CHECKED:														
	NP ENGINEERING:														
MATERIAL:			SUBASSEMBLY, POWER SUPPLY TT24												
SEE BOM															
FINISH:															
<small>DIMENSION AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5-1994</small>	<small>THE INFORMATION CONTAINED HEREIN IS PROPRIETARY AND CONFIDENTIAL PROPERTY OF MACKIE DESIGNS INC.</small>	DO NOT SCALE DRAWING	<table border="1"> <tr> <td>SIZE</td> <td>SCALE:</td> <td>DWG. NO.</td> <td>REV.</td> </tr> <tr> <td>D</td> <td>NONE</td> <td>0010254</td> <td>A</td> </tr> <tr> <td colspan="2">ISSUED:</td> <td colspan="2">DWG FILE:</td> </tr> </table>	SIZE	SCALE:	DWG. NO.	REV.	D	NONE	0010254	A	ISSUED:		DWG FILE:	
SIZE	SCALE:	DWG. NO.	REV.												
D	NONE	0010254	A												
ISSUED:		DWG FILE:													

TT24 POWER SUPPLY

2-10-04 REV-1





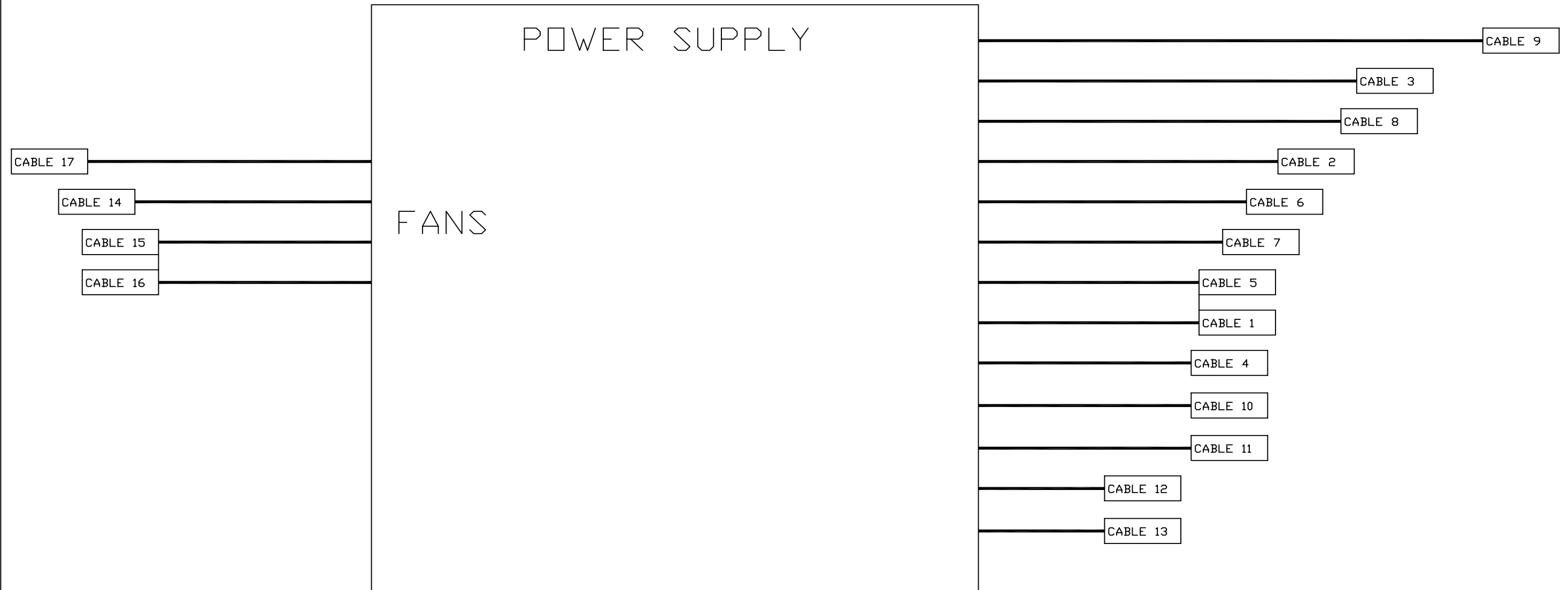
cable no:-1 mic card A 0.156 7pin connector pin 6 keyed				Mas-con idc connector CE156F18-7 (pin 6 blocked)
pin number	Voltage	wire color	wire length	
pin1	48v	purple	14 inches	
pin2	Agnd	green	18g	
pin3	P16V	orange		
pin4	Agnd	green		
pin5	N16V	blue		
pin6	keyed			
pin7	Ledgnd	green		
cable no:- 2 mic card B 0.156 7pin connector pin 6 keyed				Mas-con idc connector CE156F18-7 (pin 6 blocked)
pin number	Voltage	wire color	wire length	
pin1	48v	purple	19 inches	
pin2	Agnd	green	18g	
pin3	P16V	orange		
pin4	Agnd	green		
pin5	N16V	blue		
pin6	keyed			
pin7	Ledgnd	green		
cable no:- 3 mic card C 0.156 7pin connector pin 6 keyed				Mas-con idc connector CE156F18-7 (pin 6 blocked)
pin number	Voltage	wire color	wire length	
pin1	48v	purple	27.5 inches	
pin2	Agnd	green	18g	
pin3	P16V	orange		
pin4	Agnd	green		
pin5	N16V	blue		
pin6	keyed			
pin7	Ledgnd	green		
cable no:- 4 Codac 0.156 6 pin connector pin 5 keyed				Mas-con idc connector CE156F18-6 (pin 5 blocked)
pin number	Voltage	wire color	wire length	
pin1	Agnd	green	15.5 inches	
pin2	P16V	orange	18g	
pin3	Agnd	green		
pin4	N16V	blue		
pin5	keyed			
pin6	Ledgnd	green		
cable no:- 5 DSP 0.156 9 pin connector pin 8 keyed				Mas-con idc connector CE156F18-9 (pin 8 blocked)
pin number	Voltage	wire color	wire length	
pin1	P5V	red	14 inches	
pin2	P5V	red	18g	
pin3	P5V	red		
pin4	Dgnd	black		
pin5	Dgnd	black		
pin6	Dgnd	black		
pin7	P16V	Orange		
pin8	keyed			
pin9	Dgnd	black		
cable no:- 6 Front panel 1 0.156 5 pin connector pin 4 keyed				Mas-con idc connector CE156F18-5 (pin4 blocked)
pin number	Voltage	wire color	wire length	
pin1	P16V	orange	17 inches	
pin2	dgnd	black	18g	
pin3	Mgnd	black/yellow		
pin4	keyed			
pin5	8V	yellow		
cable no:- 7 Front panel 2 0.156 5 pin connector pin 4 keyed				Mas-con idc connector CE156F18-5 (pin4 blocked)
pin number	Voltage	wire color	wire length	
pin1	P16V	orange	15.5 inches	
pin2	dgnd	black	18g	
pin3	Mgnd	black/yellow		
pin4	keyed			
pin5	8V	yellow		
cable no:- 8 Front panel 3 0.156 5 pin connector pin 4 keyed				Mas-con idc connector CE156F18-5 (pin4 blocked)
pin number	Voltage	wire color	wire length	
pin1	P16V	black	23 inches	
pin2	dgnd	dgnd	18g	
pin3	Mgnd	black/yellow		
pin4	keyed			
pin5	8V	yellow		
cable no:- 9 Front panel 4				

0.156 5 pin connector pin 4 keyed

Mas-con idc connector **CE156F18-5** (pin4 blocked)

pin number	Voltage	wire color	wire length	
pin1	P16V	black	32 inches	
pin2	dgnd	dgnd	18g	
pin3	Mgnd	black/yellow		
pin4	keyed			
pin5	8V	yellow		
cable no:- 10 Little light				
bullet connector	N12V	blue	15 inches 18g	Hollingsworth FP5332F
cable no:- 11 Little light				
bullet connector	Gnd	green	15 inches 18g	Hollingsworth FP5332F
cable no:- 12 Little light				
bullet connector	N12V	blue	11 inches 18g	Hollingsworth FP5332F
cable no:- 13 Little light				
bullet connector	Gnd	green	11 inches 18g	Hollingsworth FP5332F
cable no:- 14 GND				
Ring	Chassis gnd	green/yellow	18 inches 18g	Keystone cat no:- 915
cable no:-15 AC in hot				
0.187 Qdisc	live	Brown	15.5 inches 18g	Hollingsworth XS09775T PDF 400-091-00
cable no:-16 AC in neutral				
0.187 Qdisc	neutral	Blue	15.5 inches 18g	Hollingsworth XS09775T
cable no:-17 headphone gnd				
0.25 Qdisc	HP Gnd	green	29 inches 18g	Panduit DPF18-250FIB-3K

NOTE
THIS DRAWING FOR REFERANCE ONLY SEE CABLE_DOC FOR CABLE DETAILS



TT24 Power Supply

Bill Of Materials 5-10-04							
Item	QTY	Reference	Part Description	Manufacture	Manufacture's P/N	Cost	Cost Total
1	22	C1,C3,C12,C19,C23,C25, C29,C32,C41,C42,C43,C44, C45,C50,C53,C55,C62,C66, C67,C72,C75,C24	Cap,Cer,0.1uf,100V, Z5U, 0805				
2	7	C2,C18,C26,C35,C52,C59, C73	Cap, Cer, 1000pf, 500v, Y5P, Disc	XICON passive	CDR500P5102KS		
3	2	C4,C13	Cap, Cer, 470pf, Y2, 300Vac, Safety	VISHAY	30LVT47		
4	3	C6,C7,C8	Cap, Film, 0.47uf, X2, 250Vac, Safety	Panasonic	ECQU2A474ML		
5	8	C9,C10,C11,C36,C37,C38, C39,C40	Cap, AL, 2200uf, 16V, Low ESR	Nichicon	UPL1C222MHH		
6	2	C16,C15	Cap, AL, 470uf, 400V	Panasonic	ECE-S2GP471EX		
7	8	C17,C31,C33,C34,C60,C68, C69,C74	Cap, AL, 33uf, 35V, Low ESR	Nichicon	UPL1V330MEH		
8	2	C20,C51	Cap, Cer, 2200pf, Y1, 250Vac, Safety	VISHAY	440LD22		
9	5	C21,C47,C49,C57,C61	Cap, AL, 1uf, 100v, Low ESR	XICON passive	ESRL100V1.0		
10	1	C22	Cap,Cer,100pf,1000v, SL, Disc	XICON passive	CDR102S9391KS		
11	1	C27	Cap, film, polyester, 0.01uf, 500V	Cornell Dubilier	DME6S1K		
12	4	C28,C65,C70,C76	Cap,AL,470uf,25V,Low ESR	Nichicon	UPL1E471MPH		
13	4	C30,C63,C64,C71	Cap,AL,1000uf,25v,Low ESR	Nichicon	UPL1E102MHH		
14	1	C46	Cap, Cer, 2200pf, 50V, NPO, 0805				
15	1	C48	Cap, Cer, 390pf, 1000V, SL, Disc	XICON passive	CDR102S9101KS		
16	3	C54,C56,C58	Cap, AL, 47uf, 100V, Low ESR	XICON passive	ESRL100V47		
17	2	D1,D13	Diode, UFROVY, 1A, 1000V, DO-41	Diodes Inc	UF1007		
18	3	D2,D10,D11	Diode, UFROVY, 1A, 200V, DO-41	Diodes Inc	UF1003		
19	1	D3	Diode, Schottky, 20A, 100V, TO-220	On Semi	MBR20100CT		
20	1	D4	Diode, Rect, Bridge, 8A, 600V, GBU	Diodes Inc	GBU806		
21	4	D5,D9,D16,D18	Diode, Rect, 1A, 100V, DO-41	Diodes Inc	1N4002		
22	2	D15,D6	IC, Volt Ref, 2.5V, 2%, SO8	ST Micro	TL431ACD		
23	5	D7,D19,D20,D21,D22	Diode, FROVY, 3A, 200V, DO-201AD	Fairchild Semi	EGP30D		
24	1	D8	Diode, Tran Sup, 1500W, 200V, DO-201AD	Diodes Inc	1.5KE200A		
25	1	D12	Diode, Schottky, 15A, 35V, TO-220	International Rectifier	MBR1535CT		
26	1	D14	Diode, Switching, 200mA, 75V, SOT-23	Diodes Inc	MMBD4148		

TT24 Power Supply

27	1	D17	Diode, FROVY, 3A, 300V, DO-201AD	Fairchild Semi	EGP30F		
28	1	F1	Fuse, 5A, 250Vac, fast, 5mm X 20mm	Littelfuse	H217005		
29	1	JP1	JUMPER	Custom			
30	2	C5, C14	Cap, Cer, 1000pf, Y2, 250Vac, Safety	Panasonic	ECK-NVS102ME		
31	1	L2	Inductor, output, 88W	Custom			
32	2	MG2, MG1	DC Fan, 12V, 16CFM, 60 X 60 X 15 mm	DELTA Electronics	AFB0612HB		
33	1	Q1	Transistor, NPN, 400mA, 40V, SOT-23	Diodes Inc	MMBT2222A		
34	1	RT1	Inrush Current Limiter, 8A, 1 ohm	Ametherm	SL12 1R008		
35	1	RV1	MOV, 320Vac, 13.5mm	BC components	2322 594 53216		
36	7	R1,R6,R14,R21,R35,R38, R42	Resistor, Carbon, 10, 1w, 5%	XICON passive	294-10		
37	4	R2,R4,R5,R16	Resistor, Carbon, 510K, 1/2w, 5%	XICON passive	293-510K		
38	1	R19	Resistor, SMT, 10, 1/8W, 1%, 1206				
39	2	R32,R7	Resistor, SMT, 5.49K, 1/10W, 1%, 0805				
40	2	R25,R8	Resistor, SMT, 511, 1/10W, 1%, 0805				
41	2	R28,R9	Resistor, SMT, 3.92K, 1/10W, 1%, 0805				
42	3	R10,R23,R31	Resistor, SMT, 1K, 1/10W, 1%, 0805				
43	2	R30,R11	Resistor, Metal Oxide, 100, 2w, 5%	XICON passive	262-100		
44	1	R12	Resistor, Metal Oxide, 150, 2w, 5%	XICON passive	262-150		
45	1	R13	Resistor, SMT, 2.49K, 1/10W, 1%, 0805				
46	1	R15	Resistor, Metal Oxide, 22K, 2w, 5%	XICON passive	262-22K		
47	2	R17,R36	Resistor, SMT, 249, 1/10W, 1%, 0805				
48	1	R18	Resistor, SMT, 1.33K, 1/10W, 1%, 0805				
49	1	R20	Resistor, SMT, 2.10K, 1/10W, 1%, 0805				
50	2	R29,R22	Resistor, SMT, 8.45K, 1/10W, 1%, 0805				
51	1	R24	Resistor, SMT, 2.94K, 1/10W, 1%, 0805				
52	1	R26	Resistor, SMT, 51.1, 1/10W, 1%, 0805				
53	1	R27	Resistor, SMT, 91K, 1/10W, 1%, 0805				
54	1	R33	Resistor, SMT, 681, 1/10W, 1%, 0805				
55	1	R34	Resistor, SMT, 59K, 1/10W, 1%, 0805				
56	2	R37,R41	Resistor, SMT, 2K, 1/10W, 1%, 0805				
57	1	R39	Resistor, SMT, 9.31K, 1/10W, 1%, 0805				
58	2	R43,R40	Resistor, SMT, 169, 1/10W, 1%, 0805				
59	1	T1	Switching Transformer, 88W	Custom			
60	1	T4	Switching Transformer, 134W	Custom			
61	2	T2,T7	Input CM Filter, 3.85A	Coiltronics	CMT1-8		
62	3	T3,T5,T6	Output CM filter	Custom			

TT24 Power Supply

63	1		PCB, double side, 254 x 178 mm			
64	1	U1	IC, PWM Controller, 8A, 800V, TO-3P-5L	Fairchild Semi	FS7M0880YDTU	
65	2	U8,U2	IC, Opto coupler	Fairchild Semi	CNY17-2	
66	1	U3	IC, Volt Reg, Low Drop, Adj, 3A, TO-220	National Semi	LM1085IT-ADJ	
67	1	U4	IC, Volt Reg, 12V, 150mA, TO-92	National Semi	LM78L12	
68	1	U5	IC, Timer, CMOS, DP-8	ST Micro	TS555CN	
69	1	U6	IC, PWM Controller, 15A, 650V, TO-3P-5L	Fairchild Semi	FS6S1565RBYDTU	
70	1	U7	IC, Temp Switch, SOT23-6	Maxim Semi	MAX6510CAUT-T	
71	1	U9	IC, Volt Reg, HV, Adj, 1.5A, TO-220	National Semi	LM317HVT	
72	2	U12,U10	IC, Volt Reg, Low Drop, Adj, 3A, TO-220-5	Micrel Inc.	MIC29302BT	
73	1	U11	IC, Volt Reg, -12V, 1.5A, TO-220	National Semi	LM7912CT	
74	2		Fuse Clip	Keystone	3517	
75	2		Heatsink, 4.7"	AAVID	78220	
76	1		Metal Enclosure	Custom		
77	6		Thermal Pad TO-220			
78	2		Thermal Pad TO-3P			
79	16		Screw, M3.5 X 8			
80	8		Screw, M3.5 X 20			
81	6		Washer, Splt, M3.5			
82	4		Screw, M2.5 X 16			
83	4		Screw, M2.5 X 20			
84	8		Washer, Splt, M2.5			
85	8		Washer, Flat, M2.5			
86	6		Washer, Shoulder, Nylon, TO-220	Keystone	3049	
87	8		Nut, Hex, M2.5			
88	10		Output cable assembly	Custom	See drawings	
89	4		Input Cable	Custom	See drawings	
90	1	R3	Resistor, SMT, 82, 1/8W, 1%, 1206			
91	4		Screw, M4 X 8			
			Estimated Components Cost:			