

Service Manual

Model: X-P234 (2,3-WAY STEREO 4-WAY MONO)
ACTIVE CROSSOVER



www.altoproaudio.com

Version: 1.1

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1. SPECIFICATION (X-P234)

INPUT

Connectors	XLR
Type	Electronically servo-balanced, RF filtered
Impedance	Balanced >50K Ohms, unbalanced >25K Ohms
Max. Input Level	+22dBu typical, balanced or unbalanced
CMRR	>40dB, typically > 55 dB at 1 KHz

OUTPUT

Connectors	XLR
Type	Electronically servo-balanced, RF filtered
Impedance	Balanced 60 Ohms, unbalanced 30 Ohms
Max. Output Level	+20dBu balanced or unbalanced

PERFORMANCE

Bandwidth	20Hz to 20KHz, +0/-0.5dB	
Frequency Response	<5Hz to>90KHz, +0/-3dB	
Signal to Noise	Ref: +4dBu, 20Hz to 20KHz, unweighted	
	Stereo Mode:	Mono Mode:
Low Output	>93dBu	>93dBu
Low-Mid Output		>94dBu
Mid Output	>95dBu	
High-Mid Output		>94dBu
High Output	>90dBu	>88dBu
Dynamic Range	>106dB, unweighted	
THD& Noise	Limiter Off	Limiter On
	<0.04%	<0.5 %
Interchannel Crosstalk	High to Low:	<93dBu
	High to Mid:	<94dBu
	Mid to Low:	<95dBu
	High to High-Mid:	<95dBu
	High-Mid to Low-Mid:	<95dBu
	Low-Mid to Low:	<92dBu

CROSSOVER

Filter Type	Linkwitz-Riley, 24dB/Octave, state-variable	
Stereo Mode Frequencies	x1	x10
Low/High	44Hz to 930Hz	440Hz to 9.3KHz
Low/Mid	44Hz to 930Hz	440Hz to 9.3KHz
Mid /High	440Hz to 9.3KHz	
Mono Mode Frequencies	x1	x10
Low/Low-Mid	44Hz to 930Hz	440Hz to 9.3KHz
Low-Mid/High-Mid	440Hz to 9.3KHz	
High-Mid/High	440Hz to 9.3KHz	

FUNCTION SWITCHES

Front Panel	
Low Cut	Activates 25 Hz Butterworth, 12 dB/Octave high-pass filter
Mute	Mutes the individual output
Phase Invert	Inverts the phase at the individual output
CD Horn	Corrects CD horn frequency response above 3.5KHz
Limiter	Activates the limiter function for all outputs
Rear Panel	
Xover Frequency	Mutiplies crossover frequency range by 10
Mode	Selects stereo /mono and 2/3/4-way operation
LF Sum	Selects normal stereo or mono-summed low frequency operation
	ON=Channel1 +6dB Louder, Channal2: the same as before

CONTROLS

Input	Controls the input gain(+/-12dB)
Xover Frequency	Controls the crossover frequency
Delay	Controls the delay at the low output(0 to 2 msec.)
Gain	Controls the output gain(+/-6dB)
Threshold	Controls the threshold of the limiter (-6dB to OFF)

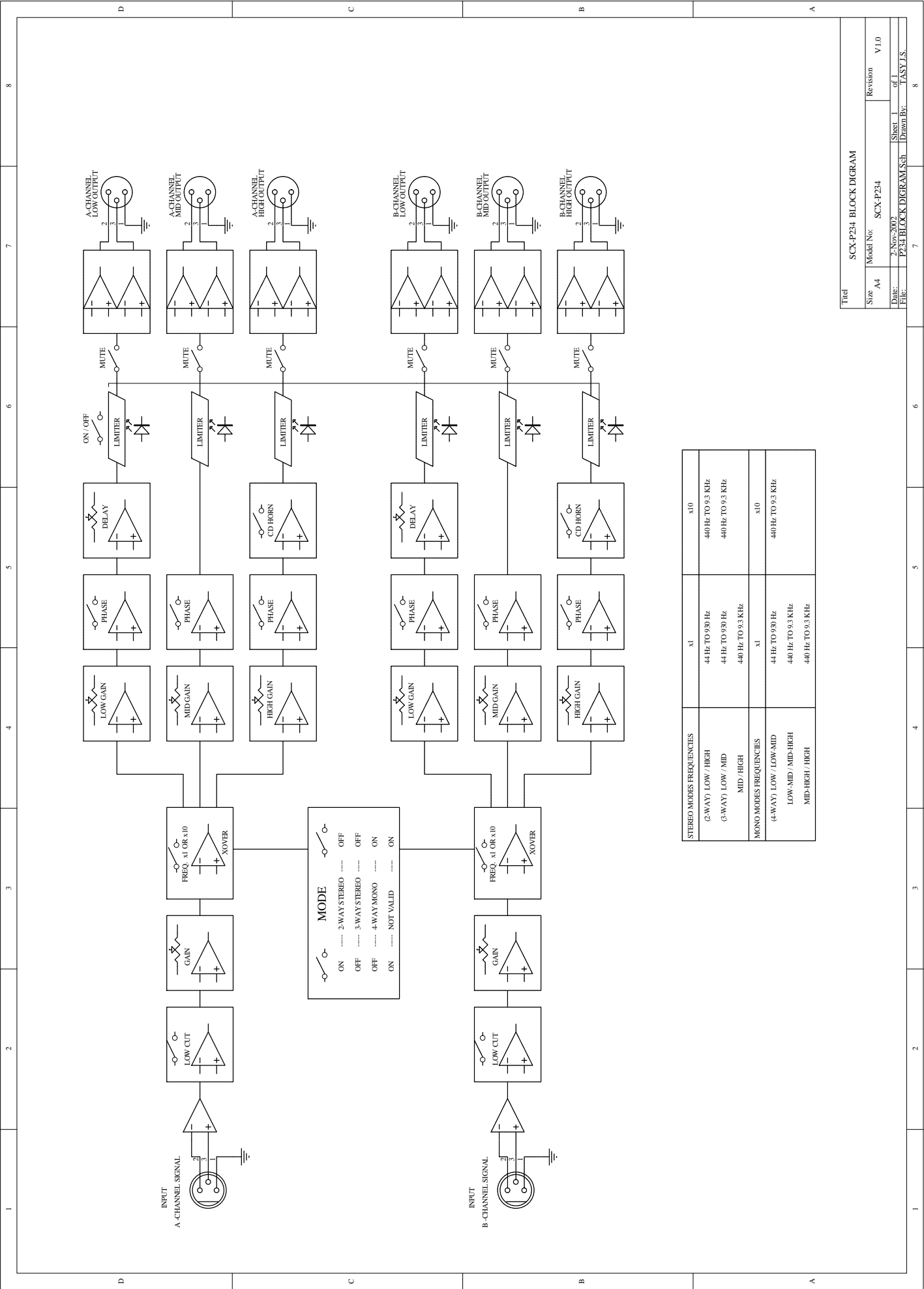
POWER SUPPLY

Connector type	3-pole IEC, grounded
Type	serve controlled, stabilized
Mains supply	95-120V~/210-240V~,60-50Hz
Power Rating	<17W
Fuse	210-240V: T250mAL 250VAC 95-120V: 500mA 250VAC

PHYSICAL

Dimensions	483(W)×194.5(D) ×44(H)mm(19"×7.7"× 1.7")
Net Weight	3.3Kg(7.27lb)

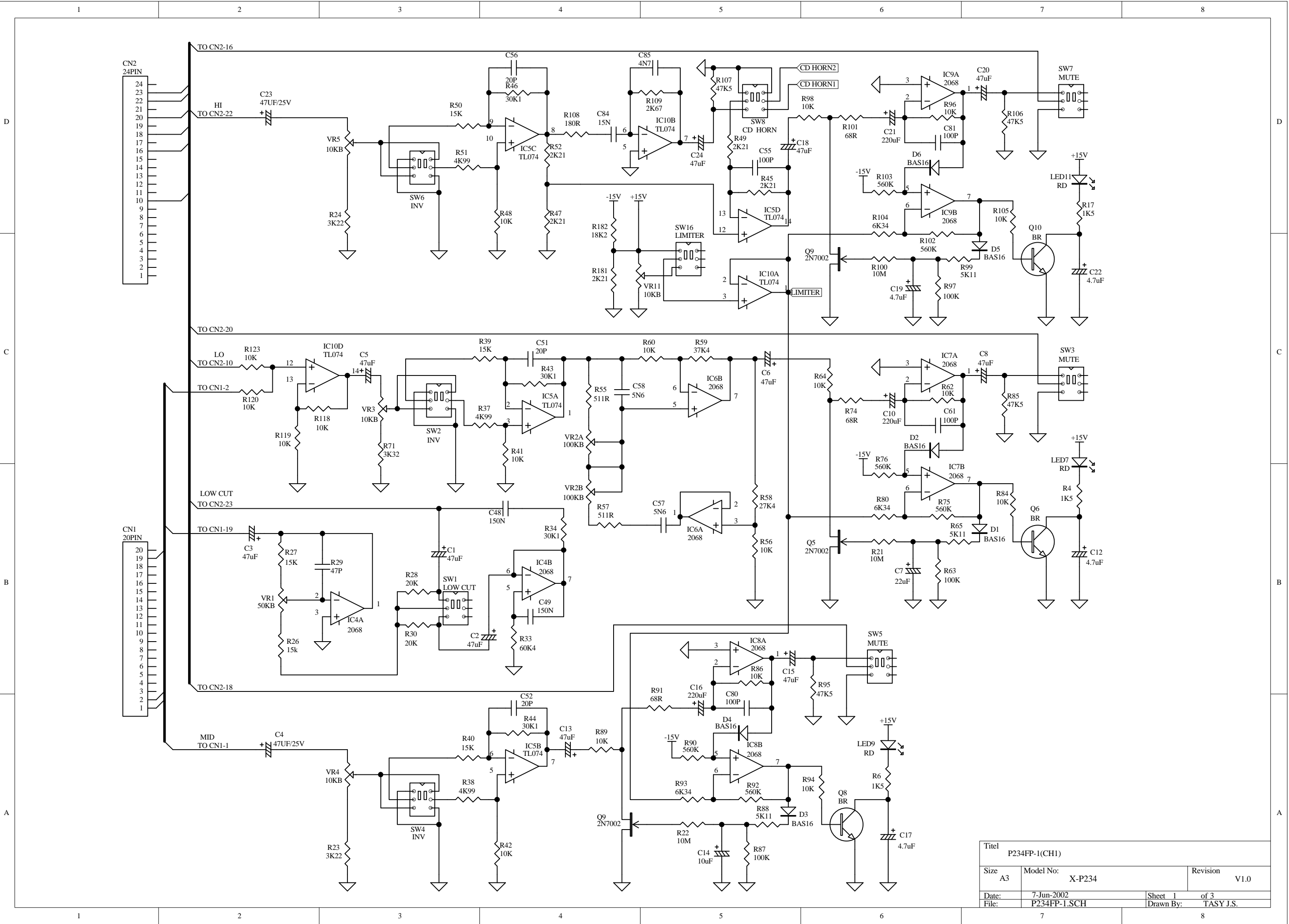
2.Block Diagram

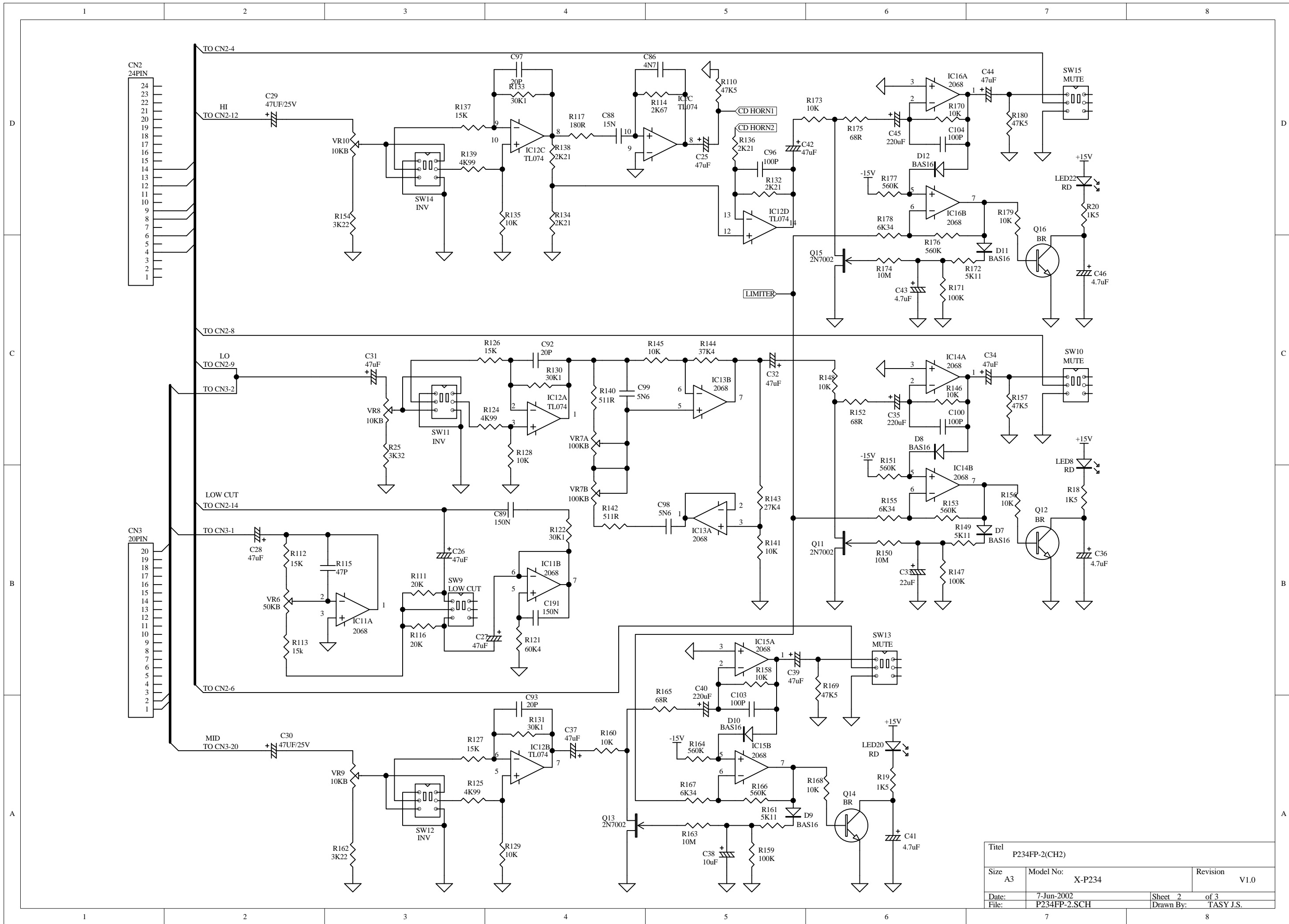


STEREO MODES FREQUENCIES			
(2-WAY) LOW / HIGH	x1	44 Hz TO 930 Hz	x10 440 Hz TO 9.3 KHz
(3-WAY) LOW / MID	x1	44 Hz TO 930 Hz	x10 440 Hz TO 9.3 KHz
MID / HIGH		440 Hz TO 9.3 KHz	
MONO MODES FREQUENCIES		44 Hz TO 930 Hz	
(4-WAY) LOW / LOW-MID	x1	44 Hz TO 930 Hz	x10 440 Hz TO 9.3 KHz
LOW-MID / MID-HIGH		440 Hz TO 9.3 KHz	
MID-HIGH / HIGH		440 Hz TO 9.3 KHz	

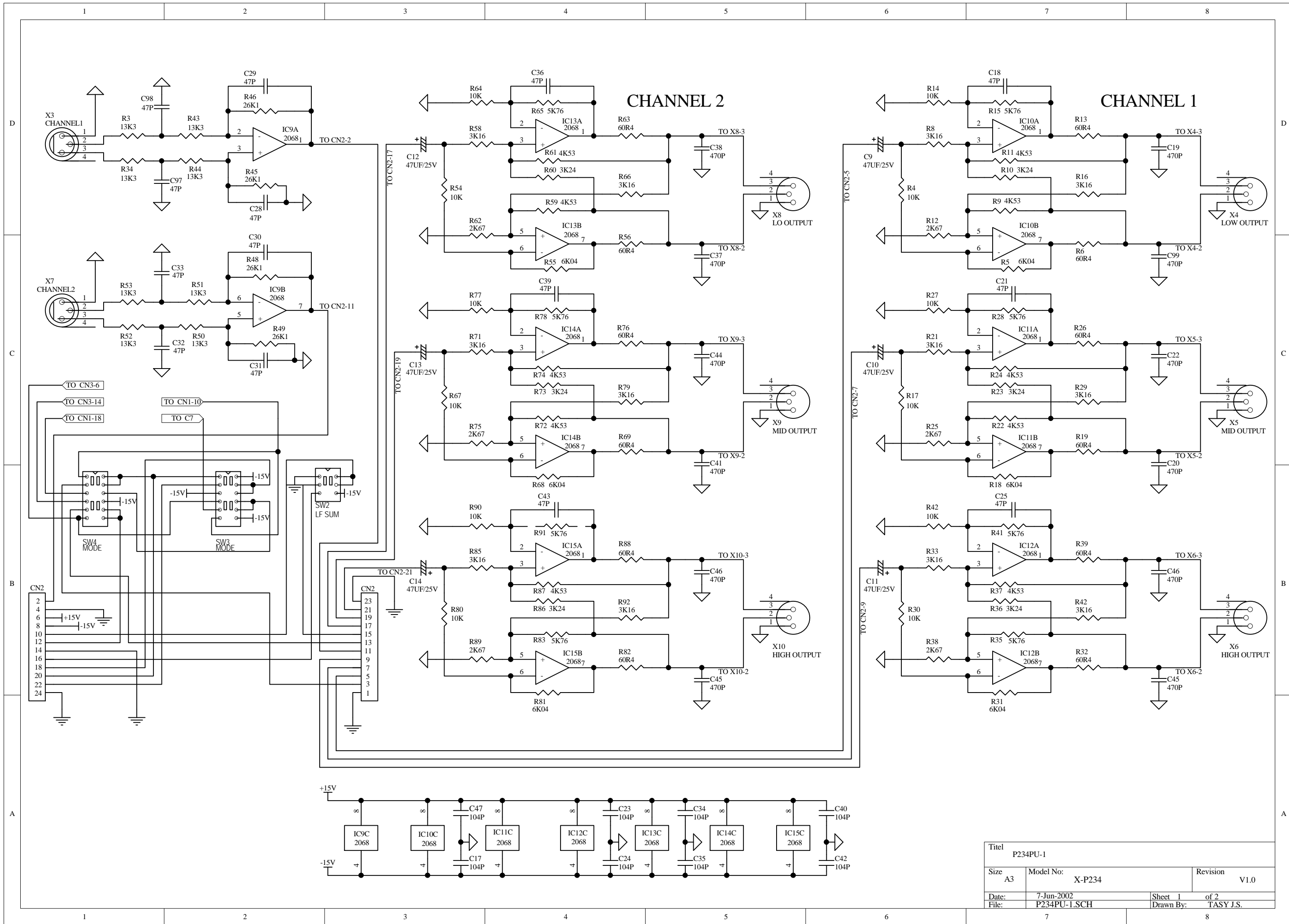
SCX-P234 BLOCK DIAGRAM			
Model No: SCX-P234		Revision V1.0	
Date: 23 Nov 2003		Sheet 1 of 1	
Fig: P234 BLOCK DIAGRAM Sch		Drawn By: TASY J.S.	

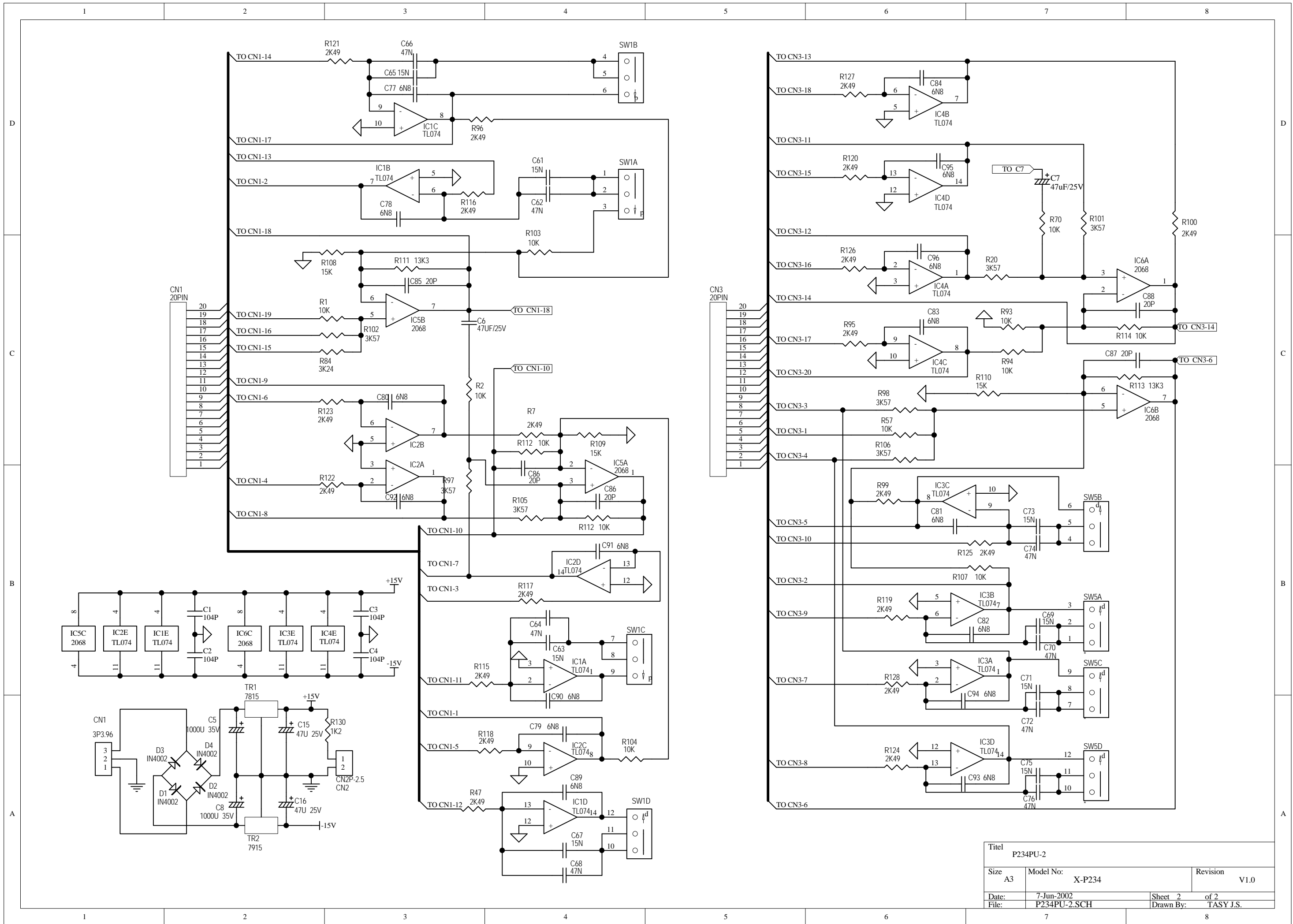
3. Schematic Diagram





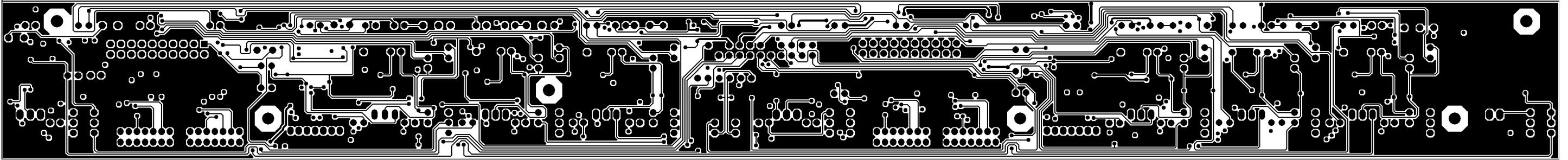
Titel			
P234FP-2(CH2)			
Size	A3	Model No:	X-P234
		Revision	V1.0
Date:	7-Jun-2002	Sheet 2	of 3
File:	P234FP-2.SCH	Drawn By:	TASY J.S.



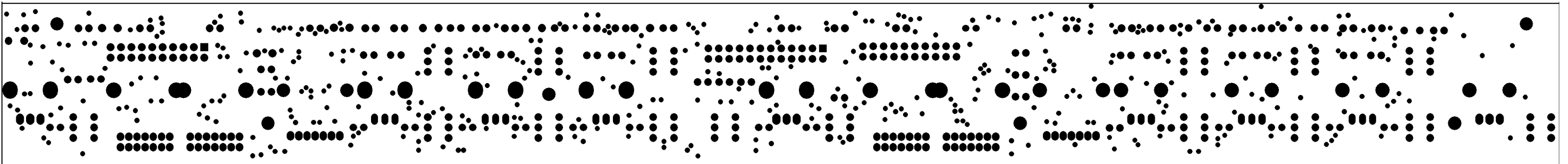


4. Printed Circuit Diagram

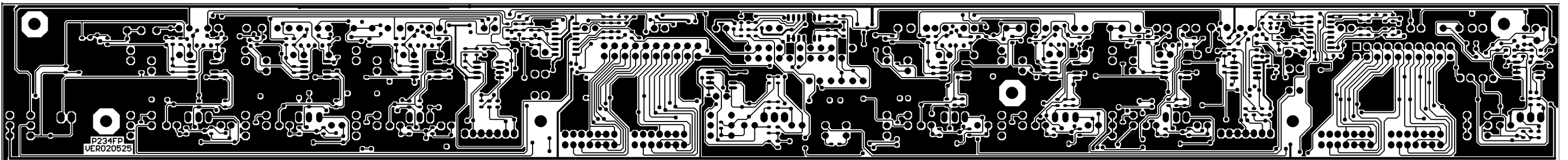
P234FP PCB LAYOUT



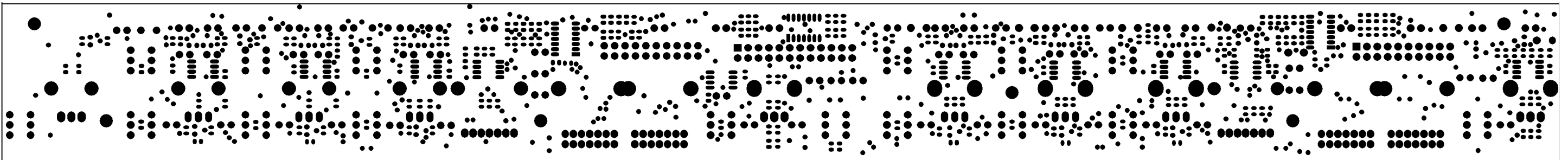
PCB : P234FP Top Layer



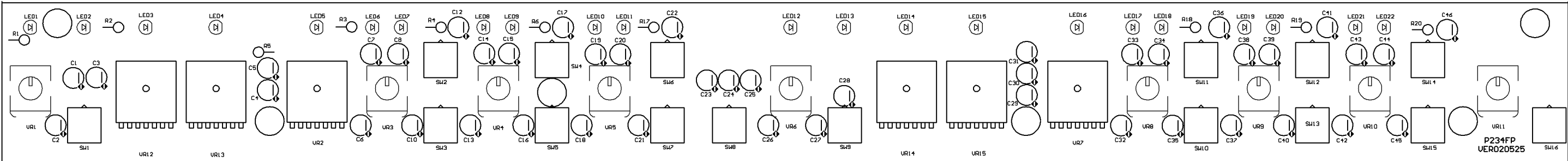
PCB : P234FP Top Solder Mask



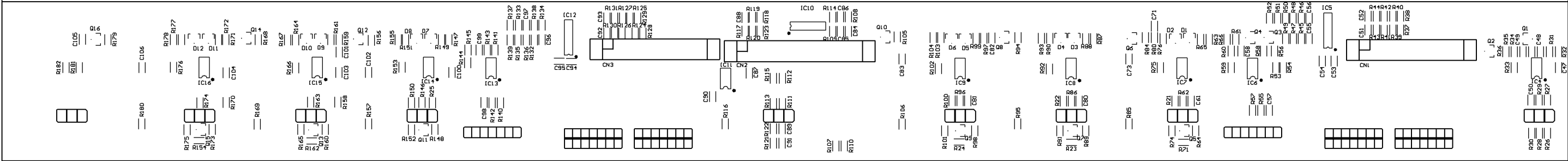
PCB : P234FP Bottom Layer



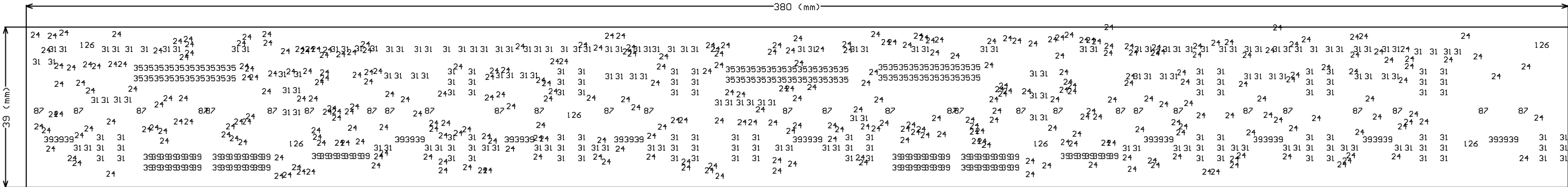
PCB : P234FP Bottom Solder Mask



PCB : P234FP Top Overlay



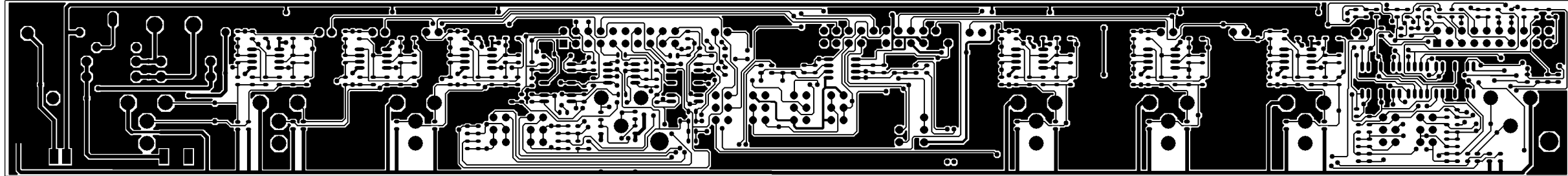
PCB : P234FP Bottom Overlay



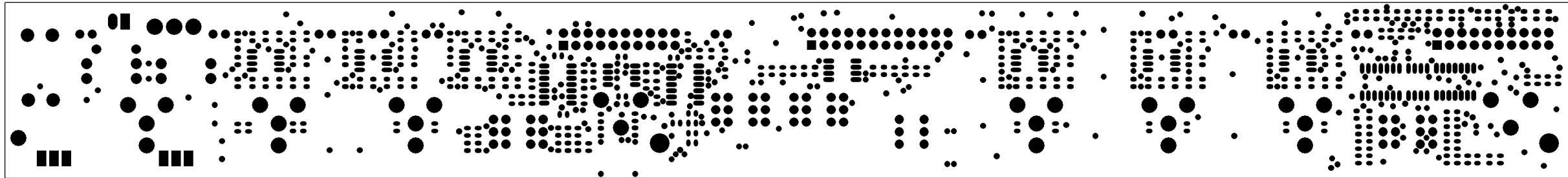
PCB : P234FP Drill Drawing Plots

Hole Size		Hole Count
24mil	(0.6mm)	353
31mil	(0.8mm)	248
35mil	(0.9mm)	64
39mil	(1.0mm)	97
87mil	(2.2mm)	30
126mil	(3.2mm)	6
Totals		798

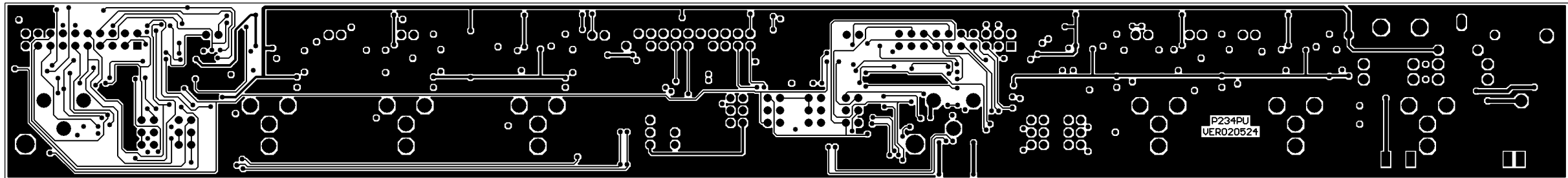
P234PU PCB LAYOUT



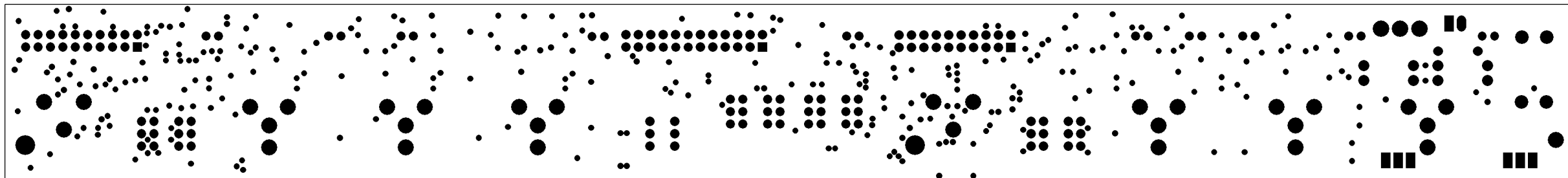
PCB : P234PU Top Layer



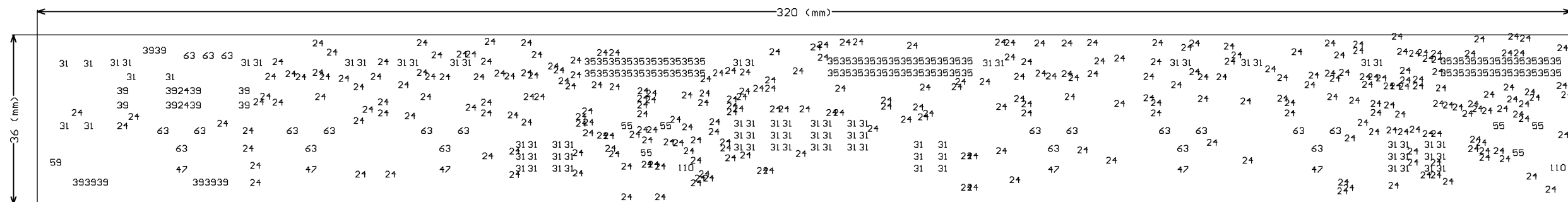
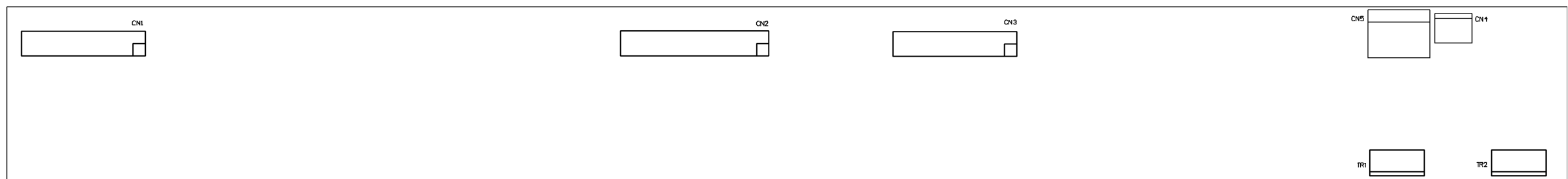
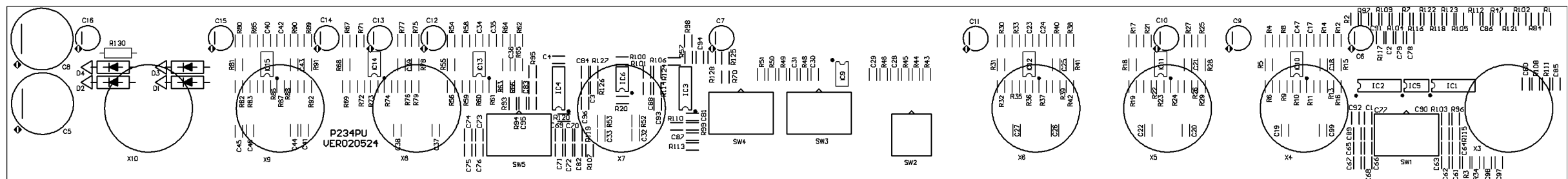
PCB : P234PU Top Solder Mask



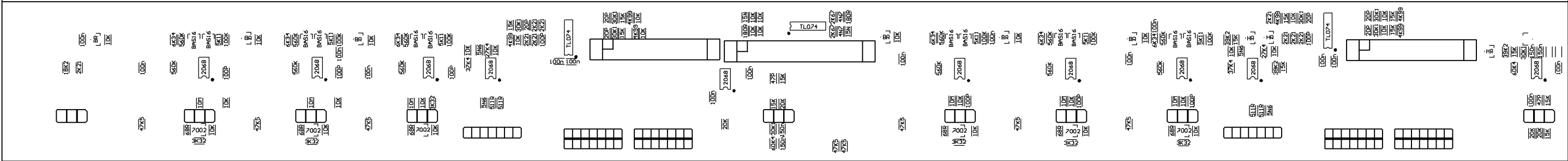
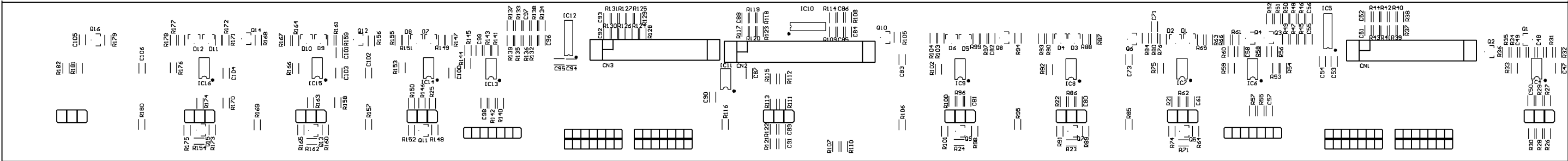
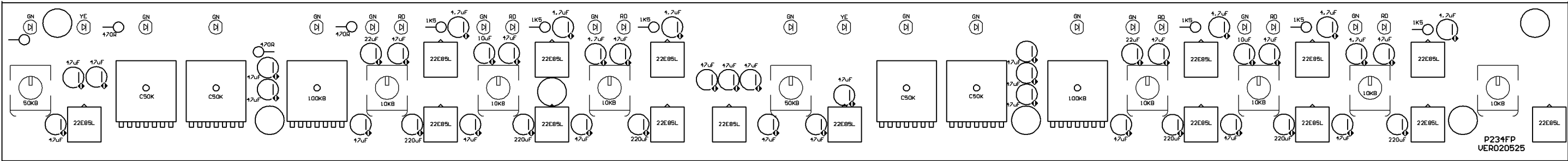
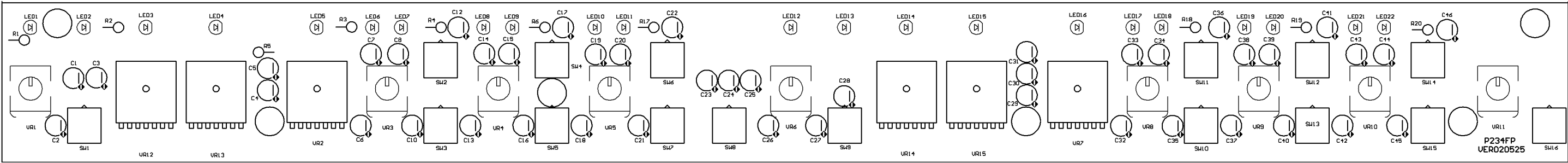
PCB : P234PU Bottom Layer



PCB : P234PU Bottom Solder Mask

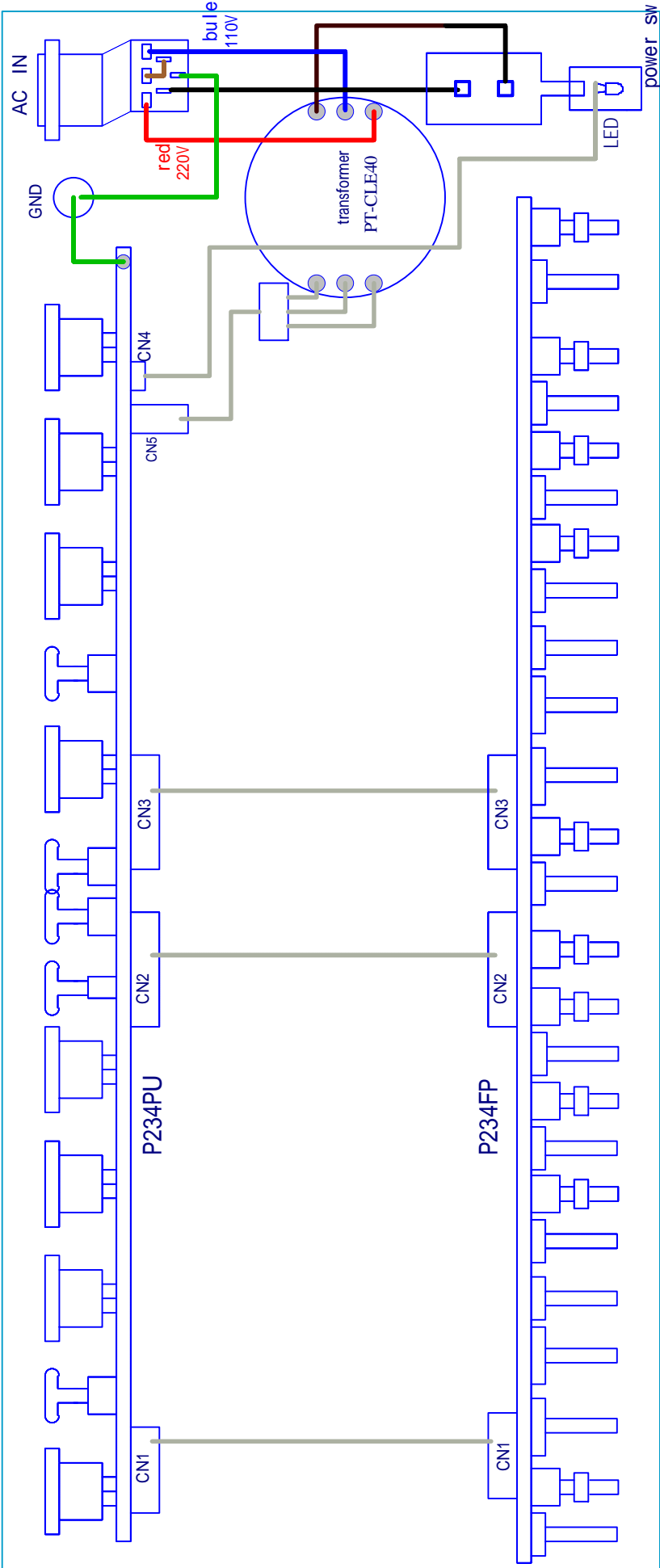


Hole Size	Hole Count
24mil (0.6mm)	303
31mil (0.8mm)	80
35mil (0.9mm)	64
39mil (1.0mm)	16
47mil (1.2mm)	6
55mil (1.4mm)	6
59mil (1.5mm)	1
63mil (1.6mm)	21
110mil (2.8mm)	2
Totals	499



5. Wiring Diagram

X-P234 Wiring Diagram



Titel X-P234 Wiring Diagram

Size	Model No.	Revision
A4	X-P234	V1.0
Date:	2-Nov-2002	Sheet 1 of 1
File:	X-P234(全).Sch	Drawn By: TASY J.S

IEBO_P02

IEBO_P02

Multi-Level BOM Structure Listing

Report No.: IEBO_P02

Prepared by 000011[謝雅芬]

Date 2003/04/09

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate @:Phantom Layer	Attrition Rate
0001-----	MA03189 panel X-P234 ALTO			PCS	1.0000 1 0.00 %	2002/09/12 N
0001-----	MA03187 panel X-P234			PCS	1.0000 1 0.00 %	2003/01/07 N
0001-----	MA03252 panel X-P234			PCS	1.0000 1 0.00 %	2002/03/16 N
0001-----	MA03186 panel X-P234			PCS	1.0000 1 0.00 %	2002/06/11 N
0001-----	MI01279 panel 44.2*17.5*483			PCS	1.0000 1 0.00 %	2002/12/19 N
0002-----	MB02115 rear board X-P234			PCS	1.0000 1 0.00 %	2002/09/12 N
0001-----	MB02113 rear board X-P234			PCS	1.0000 1 0.00 %	2003/01/04 N
0001-----	MB02112 rear board X-P234			PCS	1.0000 1 0.00 %	2002/03/16 N
0001-----	MJ00058 iron board 1*2135*1220 20.45kg			PCS KG	1.0000 76 0.00 %	2002/03/16 N
0003-----	MB02111 rear board X-P234			PCS	1.0000 1 0.00 %	2002/09/12 N
0001-----	MB02110 rear board X-P234			PCS	1.0000 1 0.00 %	2003/01/12 N
0001-----	MB02109 rear board X-P234			PCS	1.0000 1 0.00 %	2003/01/21 N
0001-----	MJ00063 Zn-plated board 1.2*2135*1220 24.54kg			PCS KG	1.0000 24 0.00 %	2002/03/16 N
0002-----	ME00035 iron pillar hexagon6.35*M3*6			PCS	4.0000 1 0.00 %	2003/01/12 N
0003-----	ME00001 screw M4*10*0.7PH			PCS	1.0000 1 0.00 %	2003/01/12 N
0004-----	ME00004 screw M3*10*0.5PH			PCS	2.0000 1 0.00 %	2003/01/12 N
0004-----	MI00143 front board SCX-P234			PCS	1.0000 1 0.00 %	2002/09/12 N
0001-----	MJ00061 Zn-plated board 1*2135*1220 20.45kg			PCS KG	1.0000 130 0.00 %	2003/02/24 N
0002-----	ME00035 iron pillar hexagon6.35*M3*6			PCS	6.0000 1 0.00 %	2003/02/24 N
0005-----	MJ00123 heat-sink(white) 65*18*4 SCX-P234			PCS	1.0000 1 0.00 %	2002/09/12 N
0001-----	MJ00120 heat-sink 65*18*4 SCX-P234			PCS	1.0000 1 0.00 %	2002/12/23 N
0001-----	MJ00070 AL board 4*2440*1220 32.40kg			PCS KG	1.0000 1400 0.00 %	2002/04/16 N

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Date 2003/04/09

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate @:Phantom Layer	Attrition Rate
0006-----	MC00209 top cover			PCS	1.0000 1	2002/09/12 N
	CLE2.0				0.00 %	
0001-----	MC00207 top cover			PCS	1.0000 1	2003/01/20 N
	CLE2.0				0.00 %	
0001-----	MC00208 top cover			PCS	1.0000 1	2002/04/14 N
	CLE2.0				0.00 %	
0001-----	MJ00059 iron board			PCS	1.0000 24	2002/04/14 N
	1.2*2135*1220 24.54kg			KG	0.00 %	
0007-----	MF00019 washer			PCS	1.0000 1	2002/09/12 N
	4* 12*1t				0.00 %	
0008-----	MF00037 washer			PCS	2.0000 1	2002/09/12 N
	3* 5*1t				0.00 %	
0009-----	MF00038 washer			PCS	2.0000 1	2002/09/12 N
	4* 7*1t				0.00 %	
0010-----	MF00048 washer			PCS	1.0000 1	2002/09/12 N
	4* 8*0.5t				0.00 %	
0011-----	MG00025 screw			PCS	10.0000 1	2002/09/12 N
	M3*6				0.00 %	
0012-----	MG00036 screw			PCS	10.0000 1	2002/09/12 N
	M3*4				0.00 %	
0013-----	MG00041 screw			PCS	2.0000 1	2002/09/12 N
	M3*6				0.00 %	
0014-----	MG00042 screw			PCS	2.0000 1	2002/09/12 N
	M3*10				0.00 %	
0015-----	MG00045 screw			PCS	4.0000 1	2002/09/12 N
	M3*7				0.00 %	
0016-----	MG00162 screw			PCS	2.0000 1	2002/09/12 N
	M3*8				0.00 %	
0017-----	MG00061 screw			PCS	16.0000 1	2002/09/12 N
	M3*10				0.00 %	
0018-----	MG00111 screw			PCS	1.0000 1	2002/09/12 N
	pill 4*30				0.00 %	
0019-----	ME00015 colour nut			PCS	2.0000 1	2002/09/12 N
	3m/m				0.00 %	
0020-----	ME00016 colour nut			PCS	2.0000 1	2002/09/12 N
	4m/m				0.00 %	
0021-----	SA00065 L.E.D			PCS	1.0000 1	2002/09/12 N
	LG2043 green				0.00 %	
0022-----	HC00015 AC outlett			PCS	1.0000 1	2002/09/12 N
	(S)315-B (AC select)				0.00 %	
0023-----	HD00054 fuse			PCS	1.0000 1	2002/09/12 N
	250mA 250V 5.2*20mm CSA/S/UL/VDE				0.00 %	
0024-----	HA01174 signle terminal wiring CF:W146			PCS	2.0000 1	2002/09/12 N
	80 green/yellow				0.00 %	

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Prepared by 000011[謝雅芬]

Date 2003/04/09

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
0025-----	HA01523 header wiring AF:W283 2P-2P 220			PCS	1.0000 1 0.00 %	2002/09/12 N
0026-----	HA01798 P.V.C wiring UL1617 AWG22 250 black			PCS	1.0000 1 0.00 %	2002/09/12 N
0027-----	HA01835 P.V.C single wave wired UL1617 80 brown			PCS	1.0000 1 0.00 %	2002/09/12 N
0028-----	HI00023 alimentation SW SDDL B 1007U			PCS	1.0000 1 0.00 %	2002/09/12 N
0029-----	NI02249 caushion TW-1(TO-220)			PCS	2.0000 1 0.00 %	2002/09/12 Y
0030-----	HA00861 power cord Europe 3P LT-312+LT-501			PCS	1.0000 1 0.00 %	2002/09/12 N
0031-----	NI00896 knob cover 8.5*4 072C			PCS	15.0000 1 0.00 %	2002/09/12 N
0032-----	NI01862 key 5.5*5.5*14.5			PCS	5.0000 1 0.00 %	2002/09/12 N
0033-----	NI01863 key 5.5*W10*7.5			PCS	5.0000 1 0.00 %	2002/09/12 N
0034-----	NI01159 switch cap 6*2.5 YELLOW C			PCS	1.0000 1 0.00 %	2002/09/12 N
0035-----	NI01161 button 3*W6*18.3			PCS	16.0000 1 0.00 %	2002/09/12 N
0036-----	NI01176 pass light pillar 3.1*80.5			PCS	3.0000 1 0.00 %	2002/09/12 N
0037-----	NC00005 silicone insulator TO-220 square type			PCS	2.0000 1 0.00 %	2002/09/12 N
0038-----	TD00118 transformer PT-CLE40(含FUSE103)			PCS	1.0000 1 0.00 %	2002/09/12 Y
0039-----	NI00443 rubber coil 20* 60*2tB			PCS	1.0000 1 0.00 %	2002/09/12 N
0040-----	NI00308 key 15*17			PCS	1.0000 1 0.00 %	2002/09/12 N
0041-----	NI00362 knob 11*17.5			PCS	15.0000 1 0.00 %	2002/09/12 N
0042-----	NI00218 cable tie-black ALT-102SB			PCS	5.0000 1 0.00 %	2002/09/12 N
0043-----	NI00240 sleeve 2.5*10mm			PCS	2.0000 1 0.00 %	2002/09/12 N
0001-----	NI00239 sleeve 2.5*1000mm			M	10.0000 1000 0.00 %	2002/06/04 N
0044-----	NI00261 sleeve 5*20mm			PCS	8.0000 1 0.00 %	2002/09/12 N
0001-----	NI00258 sleeve 5*1000mm			M	20.0000 1000 0.00 %	2002/06/04 N

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Multi-Level BOM Structure Listing

Report No.: IEBO_P02

Prepared by 000011[謝雅芬]

Date 2003/04/09

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	Rate
0045-----	HJ00006 desiccant 30g			PCS	1.0000 1 0.00 %	2002/09/12 N
0046-----	NF00903 instruction X-P234 ALTO			PCS	1.0000 1 0.00 %	2002/09/12 N
0047-----	NI00501 foot cushion 12.7*9*3t(SF-004)			PCS	4.0000 1 0.00 %	2002/09/12 N
0048-----	NF00061 assurance card LTO			PCS	1.0000 1 0.00 %	2002/09/12 N
0049-----	NA00123 PE bag 300*580*0.04			PCS KG	1.0000 1 0.00 %	2002/09/12 N
0050-----	NA00137 clip-chain bag 5*7			PCS	1.0000 1 0.00 %	2002/09/12 N
0051-----	NB02100 box X-P234 ALTO			PCS	1.0000 1 0.00 %	2003/01/06 N
0052-----	NB02163 barrier X23,34,40			PCS	1.0000 1 0.00 %	2003/01/07 N
0053-----	NB02164 barrier X23,34,40			PCS	1.0000 1 0.00 %	2003/01/07 N
0054-----	NB02088 box (1H) ALTO 19"			PCS	1.0000 4 0.00 %	2003/01/07 N
0055-----	NI02085 power switch 22*9.69			PCS	1.0000 1 0.00 %	2002/09/12 N
0056-----	SD00079 integrated circuit 7915(TO-220)			PCS	1.0000 1 0.00 %	2002/09/12 N
0057-----	SD00077 integrated circuit 7815(TO-220)			PCS	1.0000 1 0.00 %	2002/09/12 N
0058-----	NE05004 label 30*11mm ALTO number bar shape			PCS	4.0000 1 0.00 %	2002/09/12 N
0059-----	NE09727 label X-P234			PCS	4.0000 1 0.00 %	2002/09/12 N
0001-----	NH00012 bond paper 0.04*1M			M	1.0000 80 0.00 %	2003/02/14 N
0002-----	NI00014 membrane 0.035*1M			M	1.0000 80 0.00 %	2003/02/14 N
0060-----	HK01365 K-PCB P-P234PU-DIP			PCS	1.0000 1 0.00 %	2002/09/12 N
0001-----	CB00025 electrolytic capacitor 10uF/50V 6.3*7 C15,C16			PCS	2.0000 1 0.00 %	2002/08/26 N
0002-----	CB00039 electrotytic capacitor 47uF/25V C10,C11,C12,C13,C14,C6,C7,C9			PCS	8.0000 1 0.00 %	2002/08/26 N
0003-----	CB00073 electrolytic capacitor 1000uF/35V			PCS	2.0000 1 0.00 %	2002/08/26 N

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Multi-Level BOM Structure Listing

Report No.: IEBO_P02

Prepared by 000011[謝雅芬]

Date 2003/04/09

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234_ALTO_230V_歐規_無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition	Rate
	C5,C8					
0004-----	HI00162 key typed SW 2段6P PS-22E8552L(3.3x3.3) SW2			PCS	1.0000 1 0.00	2002/08/26 N %
0005-----	HI00163 key typed SW 2段12P PS-42E85L(3.3x3.3) SW1,SW3,SW4,SW5			PCS	4.0000 1 0.00	2002/08/26 N %
0006-----	SA00094 rectifier diode 1N4002/100V D1,D2,D3,D4			PCS	4.0000 1 0.00	2002/08/26 N %
0007-----	HC00392 shape male JY-5030-030G 180° X10,X4,X5,X6,X8,X9			PCS	6.0000 1 0.00	2002/08/26 N %
0008-----	HC00126 MIC jack for balance JY-5042-030G female plug 180° X3,X7			PCS	2.0000 1 0.00	2002/08/26 N %
0009-----	HC00343 row-wire header 20PIN 2.54mm(C03-20-A-3-1) CN1,CN3			PCS	2.0000 1 0.00	2002/08/26 N %
0010-----	HC00344 row-wire header 24PIN 2.54mm(C03-24-A-3-1) CN2			PCS	1.0000 1 0.00	2002/08/26 N %
0011-----	HC00076 row-wire header 2P 2.5mm 180° CN4			PCS	1.0000 1 0.00	2002/08/26 N %
0012-----	HC00089 row-wire header 3P 3.9mm 180° CN5			PCS	1.0000 1 0.00	2002/08/26 N %
0013-----	RA00356 fixed resistor 1/8W 1.2K M type R130			PCS	1.0000 1 0.00	2002/08/26 N %
0014-----	HK01364 K-PCB P-P234PU-SMD			PCS	1.0000 1 0.00	2002/09/10 N %
0001-----	HB00243 PCB P234PU(1*4)_VER020524			PCS	1.0000 1 0.00	2002/08/26 N %
0002-----	RD00297 resistor 60.4 ±1% 0603 R13,R19,R26,R32,R39,R56,R6,R63,R69,R76,R82,R88			PCS	12.0000 1 0.00	2002/08/26 N %
0003-----	RD00204 SMDprecise resistor 1/10W 2.49K ±1% 0603 R100,R115,R116,R117,R118,R116,R120,R121,R122,R123,			PCS	20.0000 1 0.00	2002/08/26 N %

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate @:Phantom Layer	Attrition Rate
	R124,R125,R126,R127,R128,R47,R7,R95,R96,R99					
0004-----	RD00271				6.0000	2002/08/26
	SMD fixed resistor 1/10W			PCS	1	N
	2.67K ±1% 0603				0.00	%
	R12,R25,R38,R62,R75,R89					
0005-----	RD00363				12.0000	2002/08/26
	resistor			PCS	1	N
	3.16K ±1% 0603				0.00	%
	R16,R21,R29,R33,R42,R58,R66,R71,R79,R8,R85,R92					
0006-----	RD00285				6.0000	2002/08/26
	resistor			PCS	1	N
	3.24K ±1% 0603				0.00	%
	R10,R23,R36,R60,R73,R86					
0007-----	RD00206				8.0000	2002/08/26
	SMD precise resistor 1/10W			PCS	1	N
	3.57K ±1% 0603				0.00	%
	R101,R102,R105,R106,R20,R84,R97,R98					
0008-----	RD00286				12.0000	2002/08/26
	resistor			PCS	1	N
	4.53K ±1% 0603				0.00	%
	R11,R22,R24,R35,R37,R59,R61,R72,R74,R83,R87,R9					
0009-----	RD00299				6.0000	2002/08/26
	resistor			PCS	1	N
	5.76K ±1% 0603				0.00	%
	R15,R28,R51,R65,R78,R91					
0010-----	RD00300				6.0000	2002/08/26
	resistor			PCS	1	N
	6.04K ±1% 0603				0.00	%
	R18,R31,R5,R55,R68,R81					
0011-----	RD00214				24.0000	2002/08/26
	SMDprecise resistor 1/10W			PCS	1	N
	10.0K ±1% 0603				0.00	%
	R1,R103,R104,R107,R111,R112,R113,R114,R14,R17,R2,R27, R30,R4,R40,R54,R57,R64,R67,R70,R77,R80,R90,R94					
0012-----	RD00216				8.0000	2002/08/26
	SMDprecise resistor 1/10W			PCS	1	N
	13.3K ±1% 0603				0.00	%
	R3,R34,R43,R44,R50,R51,R52,R53					
0013-----	RD00367				4.0000	2002/08/26
	resistor			PCS	1	N
	15.4K ±1% 0603				0.00	%
	R108,R109,R110,R93					
0014-----	RD00356				4.0000	2002/08/26
	resistor			PCS	1	N
	26.1K ±1% 0603				0.00	%
	R45,R46,R48,R49					
0015-----	CI00109				4.0000	2002/08/26
	SMD0603 ceramic capacitor			PCS	1	N
	20PF/50v NPO ±5%				0.00	%
	C85,C86,C87,C88					
0016-----	CI00055				14.0000	2002/08/27
	SMDceramic capacitor0603			PCS	1	N
	47PF/50V NPO ±5%				0.00	%
	C18,C21,C25,C28,C29,C30,C31,C32,C33,C36,C39,C43,C97,					

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate @:Phantom Layer	Attrition Rate
	C98					
0017-----	CI00063				12.0000	2002/08/27
	SMDceramic capacitor0603			PCS	1	N
	470PF/50V NPO ±5 %				0.00	%
	C19,C20,C22,C26,C27,C37,C38,C41,C44,C45,C46,C99					
0018-----	CI00092				16.0000	2002/08/27
	SMD0603 ceramic capacitor			PCS	1	N
	0.0068uF/50V X7R ±10%				0.00	%
	C77,C78,C79,C80,C81,C82,C83,C84,C89,C90,C91,C92,C93,C94,C95,C96					
0019-----	CI00093				8.0000	2002/08/27
	SMD0603 ceramic capacitor			PCS	1	N
	0.015uF/50V X7R ±10%				0.00	%
	C61,C63,C65,C67,C69,C71,C73,C75					
0020-----	CI00074				8.0000	2002/08/27
	SMDceramic capacitor0603			PCS	1	N
	0.047uF/25V X7R ±10 %				0.00	%
	C62,C64,C66,C68,C70,C72,C74,C76					
0021-----	CI00128				12.0000	2002/09/26
	capacitor			PCS	1	N
	0.1uF/25V Y5V +80,-20%				0.00	%
	C1,C17,C2,C23,C24,C3,C34,C35,C4,C40,C42,C47					
0022-----	SG00021				9.0000	2002/08/27
	SMD integrated circuit			PCS	1	N
	NJM2068M-TE1(LM833D)				0.00	%
	IC10,IC11,IC12,IC13,IC14,IC15,IC5,IC6,IC9					
0023-----	SG00001				4.0000	2002/08/27
	SMD integrated circuit			PCS	1	N
	TL074CDT				0.00	%
	IC1,IC2,IC3,IC4					
0061-----	HK02144				1.0000	2002/09/12
	K-PCB			PCS	1	N
	P-P234FP-1				0.00	%
0001-----	HK02141				1.0000	2002/09/10
	K-PCB			PCS	1	N
	P-P234FP-1-DIP				0.00	%
0001-----	RC00206				2.0000	2002/09/10
	potentiometer			PCS	1	N
	B100K R1411GOA-V1B104FN-00-00				0.00	%
	VR2,VR7					
0002-----	RC00213				7.0000	2002/09/10
	potentiometer			PCS	1	N
	B10K 35 R0911NOB-V1B103FN00-00				0.00	%
	VR10,VR11,VR3,VR4,VR5,VR8,VR9					
0003-----	RC00217				2.0000	2002/09/10
	potentiometer			PCS	1	N
	B50K R0911NOB-V1B503FN00-00				0.00	%
	VR1,VR6					
0004-----	RC00207				4.0000	2002/09/10
	potentiometer			PCS	1	N
	C50K R1411FOX-V1C503FN-00-00				0.00	%
	VR12,VR13,VR14,VR15					
0005-----	CB00018				8.0000	2002/09/10
	electrolytic capacitor			PCS	1	N
	4.7uF/25V 4*7				0.00	%

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate @:Phantom Layer	Attrition Rate
	C12,C17,C19,C22,C36,C41,C43,C46					
0006-----	CB00025 electrolytic capacitor 10uF/50V 6.3*7 C14,C38			PCS	2.0000 1 0.00 %	2002/09/10 N
0007-----	CB00039 electrotytic capacitor 47uF/25V C1,C13,C15,C18,C2,C20,C23,C24,C25,C26,C27,C28,C29,C3, C30,C31,C32,C34,C37,C39,C4,C42,C44,C5,C6,C8			PCS	26.0000 1 0.00 %	2002/09/10 N
0008-----	CB00054 electrolytic capacitor 220uF/10V 5*11 C10,C16,C21,C35,C40,C45			PCS	6.0000 1 0.00 %	2002/09/10 N
0009-----	CB00029 electrotytic capacitor 22uF/35V C33,C7			PCS	2.0000 1 0.00 %	2002/09/10 N
0010-----	HI00162 key typed SW 2段6P PS-22E8552L(3.3x3.3) SW1,SW10,SW11,SW12,SW13,SW14,SW15,SW16,SW2,SW3,SW4, SW5,SW6,SW7,SW8,SW9			PCS	16.0000 1 0.00 %	2002/09/10 N
0011-----	RA00203 fixed resistor 1/4W 470 F type R2,R3,R5			PCS	3.0000 1 0.00 %	2002/09/10 N
0012-----	RA00216 fixed resistor 1/4W 1.5K F type R17,R18,R19,R20,R4,R6			PCS	6.0000 1 0.00 %	2002/09/10 N
0013-----	SA00052 L.E.D high intensity 3m/m round(green)long foot 26 LED1,LED10,LED12,LED14,LED15,LED16,LED17,LED19,LED21, LED3,LED4,LED5,LED6,LED8			PCS	14.0000 1 0.00 %	2002/09/10 N
0014-----	SA00053 L.E.D high intensity 3m/m round(red)long foot 26mm LED11,LED18,LED20,LED22,LED7,LED9			PCS	6.0000 1 0.00 %	2002/09/10 N
0015-----	SA00054 L.E.D high intensity 3m/m round(yellow)long foot 26 LED13,LED2			PCS	2.0000 1 0.00 %	2002/09/10 N
0016-----	HA02069 header wiring FL-0607A(A01+A11) 20P-20P PH1.27 220 CN1,CN3			PCS	2.0000 1 0.00 %	2002/09/10 N
0017-----	HA01534 wire 24P-24P PH1.27 220 CN2			PCS	1.0000 1 0.00 %	2002/09/10 N

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Report No.: IEBO_P02

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234_ALTO_230V_歐規_無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate @:Phantom Layer	Attrition Rate
0018-----	NI01781 LED separating pillar LEDS-8 8mm			PCS	22.0000 1	2002/09/10 N
0002-----	HK01366 K-PCB			PCS	0.00 1	% N
0001-----	P-P234FP-SMD HB00244			PCS	1.0000 1	2002/09/10 N
0002-----	PCB P234FP(1*4)_VER020525			PCS	0.00 1	% N
	RD00361 resistor			PCS	4.0000 1	2002/08/26 N
	511 ±1% 0603 R140,R142,R55,R57				0.00	%
0003-----	RD00284 resistor			PCS	9.0000 1	2002/08/26 N
	2.21K ±1% 0603 R132,R134,R136,R138,R181,R45,R47,R49,R52				0.00	%
0004-----	RD00271 SMD fixed resistor 1/10W			PCS	2.0000 1	2002/08/26 N
	2.67K ±1% 0603 R109,R114				0.00	%
0005-----	RD00357 resistor			PCS	6.0000 1	2002/08/26 N
	3.32K ±1% 0603 R154,R162,R23,R24,R25,R71				0.00	%
0006-----	RD00209 SMDprecise resistor 1/10W			PCS	6.0000 1	2002/08/26 N
	4.99K ±1% 0603 R124,R125,R139,R37,R38,R51				0.00	%
0007-----	RD00210 SMDprecise resistor 1/10W			PCS	6.0000 1	2002/08/26 N
	5.11K ±1% 0603 R149,R161,R172,R65,R88,R99				0.00	%
0008-----	RD00287 resistor			PCS	6.0000 1	2002/08/26 N
	6.34K ±1% 0603 R104,R155,R167,R178,R80,R93				0.00	%
0009-----	RD00214 SMDprecise resistor 1/10W			PCS	32.0000 1	2002/08/26 N
	10.0K ±1% 0603 R105,R118,R119,R120,R123,R128,R129,R135,R141,R145, R146,R148,R156,R158,R160,R168,R170,R173,R179,R41,R48, R42,R56,R60,R62,R64,R84,R86,R89,R94,R96,R98				0.00	%
0010-----	RD00218 SMDprecise resistor 1/10W			PCS	13.0000 1	2002/08/26 N
	15.0K ±1% 0603 R112,R113,R126,R127,R137,R26,R27,R35,R39,R40,R50,R54, R61				0.00	%
0011-----	RD00358 resistor			PCS	1.0000 1	2002/08/26 N
	18.2K ±1% 0603 R182				0.00	%
0012-----	RD00219 SMDprecise resistor 1/10W			PCS	4.0000 1	2002/08/26 N
	20.0K ±1% 0603 R111,R116,R28,R30				0.00	%

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Report No.: IEBO_P02

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

Date: 2002/09/12

X-P234_ALTO_230V_歐規_無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
0013-----	RD00221 SMDprecise resistor 1/10W 27.4K ±1% 0603 R143,R58			PCS	2.0000 1 0.00 %	2002/08/26 N
0014-----	RD00266 SMD 1/10W precise resistor 30.1K ±1% 0603 R122,R130,R131,R133,R34,R43,R44,R46			PCS	8.0000 1 0.00 %	2002/08/26 N
0015-----	RD00359 resistor 37.4K ±1% 0603 R144,R59			PCS	2.0000 1 0.00 %	2002/08/26 N
0016-----	RD00317 resistor 39.2K ±1% 0603 R36,R53,R66			PCS	3.0000 1 0.00 %	2002/08/26 N
0017-----	RD00290 resistor 47.5K ±1% 0603 R106,R107,R110,R157,R169,R180,R85,R95			PCS	8.0000 1 0.00 %	2002/08/26 N
0018-----	RD00264 SMD 1/10W precise resistor 60.4K ±1% 0603 R121,R33			PCS	2.0000 1 0.00 %	2002/08/26 N
0019-----	RD00224 SMDprecise resistor 1/10W 100K ±1% 0603 R147,R159,R171,R63,R87,R97			PCS	6.0000 1 0.00 %	2002/08/26 N
0020-----	RD00066 SMDfixed resistor 1/10W 68 ±5% 0603 R101,R152,R165,R175,R74,R91			PCS	6.0000 1 0.00 %	2002/08/26 N
0021-----	RD00071 SMDfixed resistor 1/10W 180 ±5% 0603 R108,R117			PCS	2.0000 1 0.00 %	2002/08/26 N
0022-----	RD00307 resistor 560K ±5% 0603 R102,R103,R151,R153,R164,R166,R176,R177,R75,R76,R90, R92			PCS	12.0000 1 0.00 %	2002/08/26 N
0023-----	RD00309 resistor 10M ±5% 0603 R100,R150,R163,R174,R21,R22			PCS	6.0000 1 0.00 %	2002/08/26 N
0024-----	CI00109 SMD0603 ceramic capacitor 20PF/50v NPO ±5% C51,C52,C56,C92,C93,C97			PCS	6.0000 1 0.00 %	2002/08/26 N
0025-----	CI00055 SMDceramic capacitor0603 47PF/50V NPO ±5% R155,R29			PCS	2.0000 1 0.00 %	2002/08/26 N

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Report No.: IEBO_P02

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Item No. PF00201

Version

UNIT: PCS

DESCRIPTION: X-P234

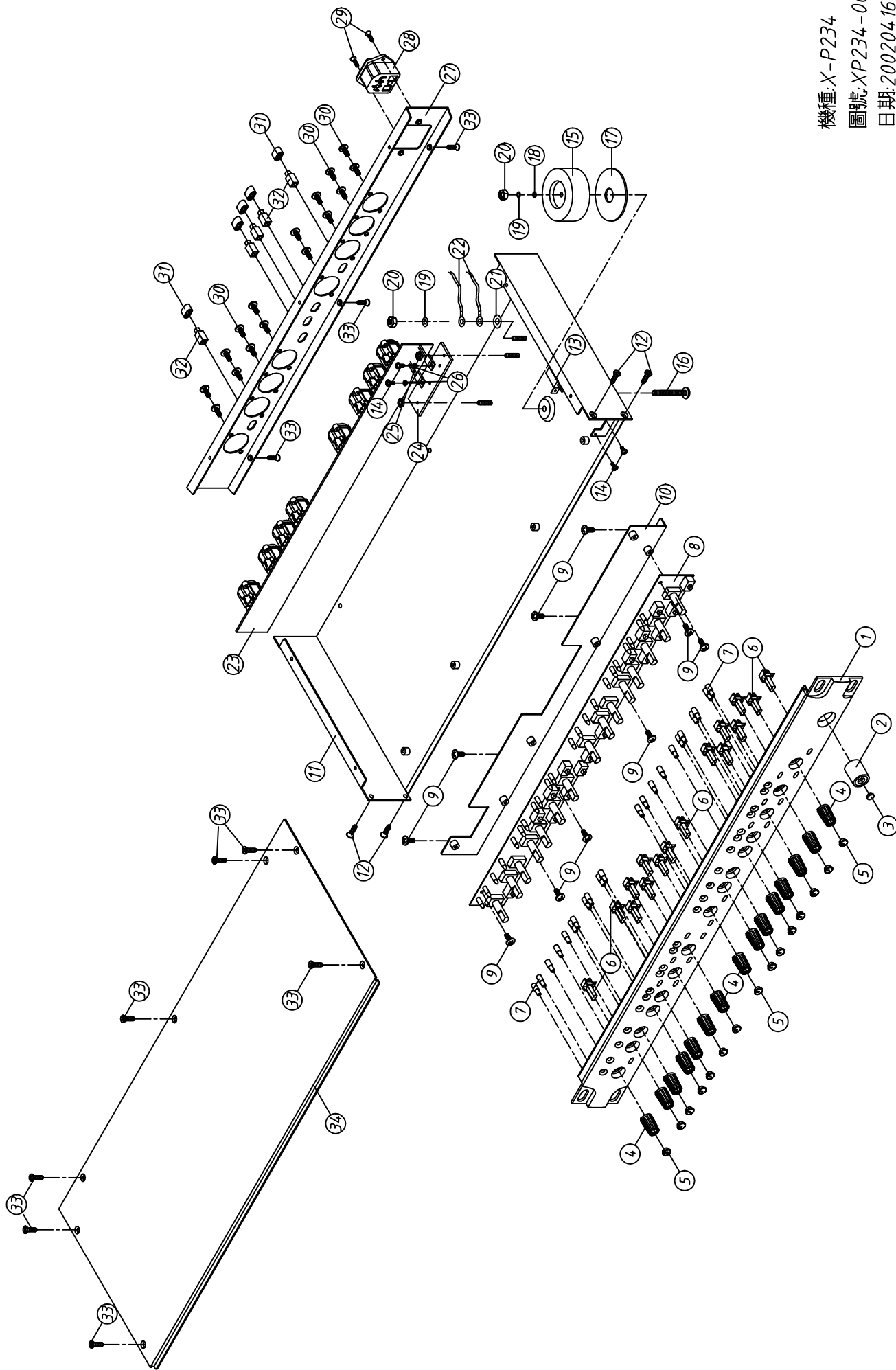
Date: 2002/09/12

X-P234 ALTO 230V 歐規 無

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
0026-----	CI00059 SMD ceramic capacitor0603 100PF/50V NPO ±5% C100,C103,C104,C55,C61,C80,C81,C96			PCS	8.0000 1 0.00 %	2002/08/26 N
0027-----	CI00090 SMD0603 ceramic capacitor 0.0047uF/50V X7R ±10% C85,C86			PCS	2.0000 1 0.00 %	2002/08/26 N
0028-----	CI00091 SMD0603 ceramic capacitor 0.0056uF/50V X7R ±10% C57,C58,C98,C99			PCS	4.0000 1 0.00 %	2002/08/26 N
0029-----	CI00093 SMD0603 ceramic capacitor 0.015uF/50V X7R ±10% C84,C88			PCS	2.0000 1 0.00 %	2002/08/26 N
0030-----	CI00128 capacitor 0.1uF/25V Y5V +80,-20% C101,C102,C105,C106,C47,C50,C53,C54,C71,C73,C82,C83, C87,C90,C94,C95			PCS	16.0000 1 0.00 %	2002/09/26 N
0031-----	CI00094 SMD0603 ceramic capacitor 0.15uF/50V Y5V +80,-20% C48,C49,C89,C91			PCS	4.0000 1 0.00 %	2002/08/26 N
0032-----	SF00038 SMD field effect transistor RK7002(ROHM) Q11,Q13,Q15,Q5,Q7,Q9			PCS	6.0000 1 0.00 %	2002/08/26 Y
0033-----	SE00010 SMD rectifier diode BAS16(SOT-23) D1,D10,D11,D12,D2,D3,D4,D5,D6,D7,D8,D9			PCS	12.0000 1 0.00 %	2002/08/26 N
0034-----	SF00010 SMD transistor 2SC2412K(R)(MMBT3904LT1) Q10,Q12,Q14,Q16,Q6,Q8			PCS	6.0000 1 0.00 %	2002/08/26 N
0035-----	SF00004 SMD transistor 2SA1036K(R)(MMBT3906LT1) Q2,Q3,Q4			PCS	3.0000 1 0.00 %	2002/08/26 N
0036-----	SG00021 SMD integrated circuit NJM2068M-TE1(LM833D) IC11,IC13,IC14,IC15,IC16,IC4,IC6,IC7,IC8,IC9			PCS	10.0000 1 0.00 %	2002/08/26 N
0037-----	SG00001 SMD integrated circuit TL074CDT IC10,IC12,IC5			PCS	3.0000 1 0.00 %	2002/08/26 N
0062-----	NI02408 bracket 15*2.7mm white CONTROL30			PCS	15.0000 1 0.00 %	2003/03/05

8. Exploded Views

SEKAKU



機種: X-P234
圖號: XP234-00
日期: 20020416