

Service Manual

Model: X34SW (3-WAY STEREO PLUS SUBWOOFER)
ACTIVE CROSSOVER



www.altoproaudio.com

Version: 1.1

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1. SPECIFICATION (X34SW)

Electrical

Subwoofer Frequency Range	50Hz ~ 250Hz
Low - Mid Frequency Range	70Hz ~ 1KHz
Mid - High Frequency Range	480Hz ~ 7KHz
THD	<0.05%
S/N Ratio	>80dB

Controls

Input Level	continuously variable
Output level	Sub,Low,Mid,High continuously variable
Low Cut	Front panel switches
Phase	Front panel switches

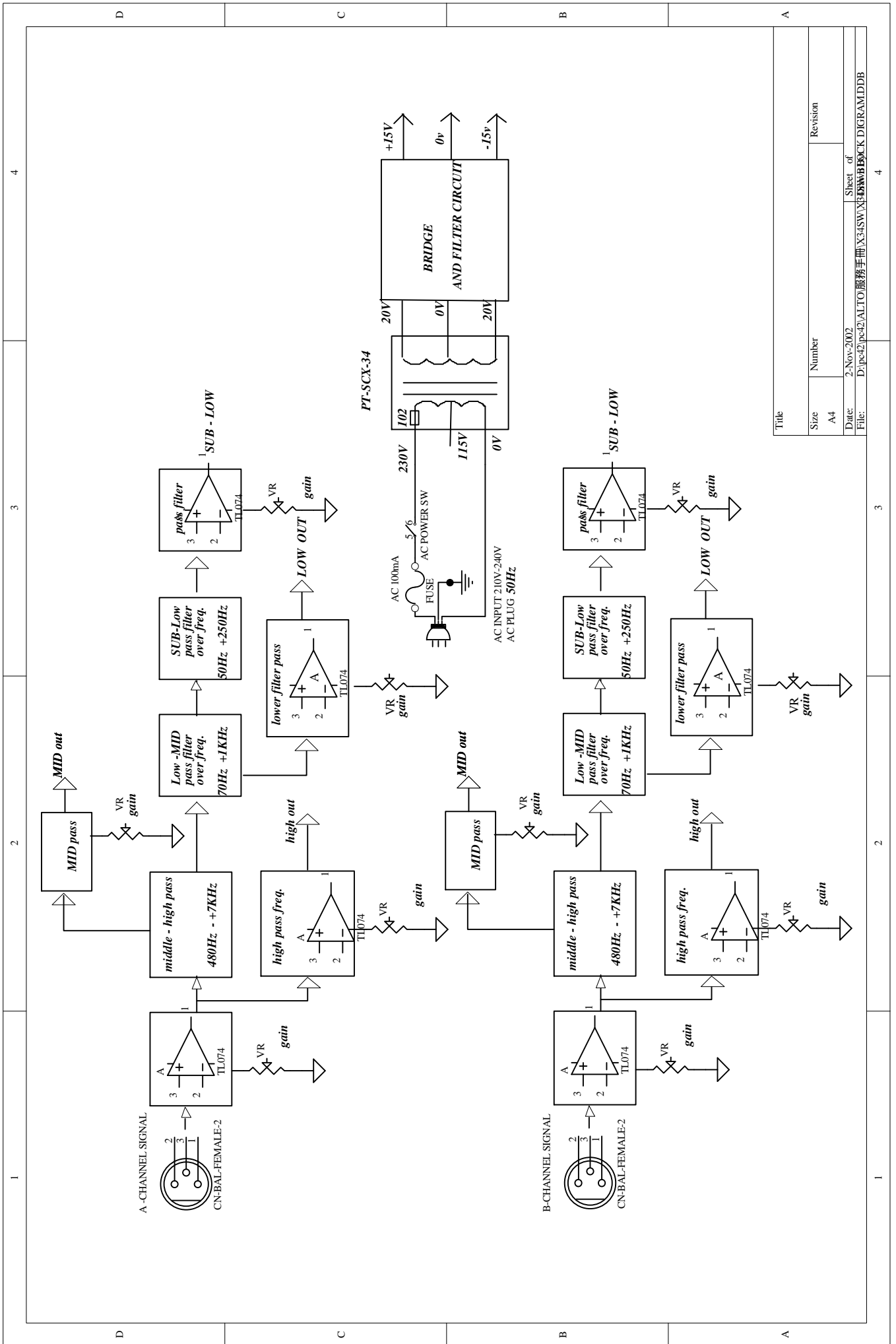
Power supply

Connector type	3-pole IEC , grounded
Type	Servo controlled , stabilized
Mains supply	95-120V~/210-240V~,60-50Hz
Power Rating	8W

Physical

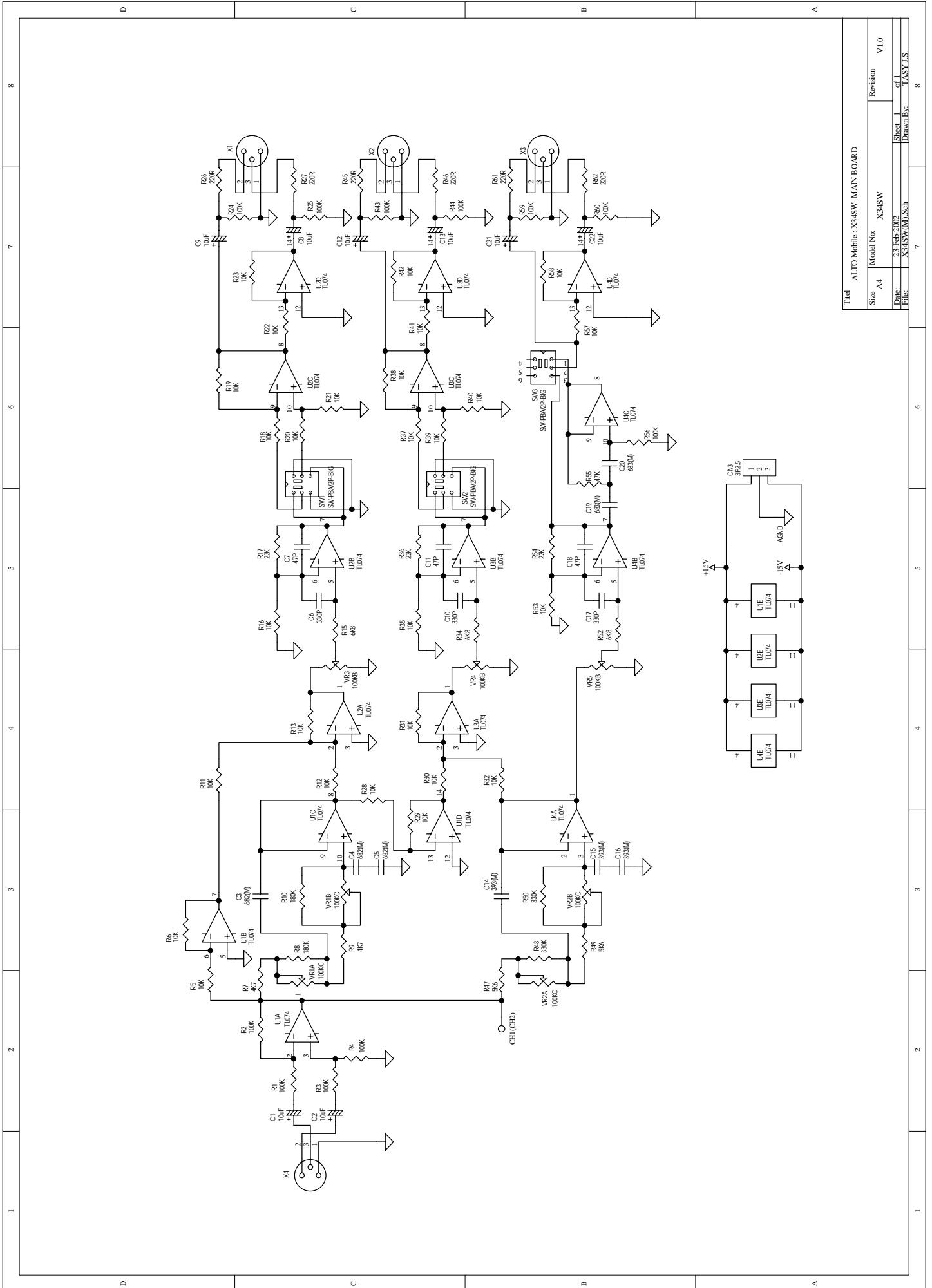
Dimensions	483(W)×194.5(D)×44(H)mm(19"×7.7"×1.7")
Weight	3.0 kg(6.62lb)

2. Block Diagram



Title	
Size	Number
A4	
Date:	Revision
2-Nov-2002	
File:	Sheet of
D:\pc42\pc42\ALTO\服務手冊\XS45SW\XS45WB\BLOCK DIAGRAM.DDB	4

3. Schematic Diagram



Title		ALTO Mobile X34SW MAIN BOARD	
Size	A4	Model No.	X34SW
Date:	24-Feb-2007	Sheet	1 of 1
File:	X34SWIND.SCH	Drawn By:	FAST.J.S.
		Revision	V1.0

D

C

B

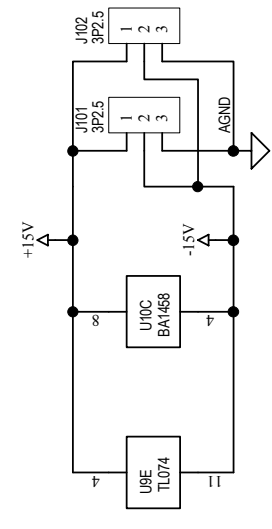
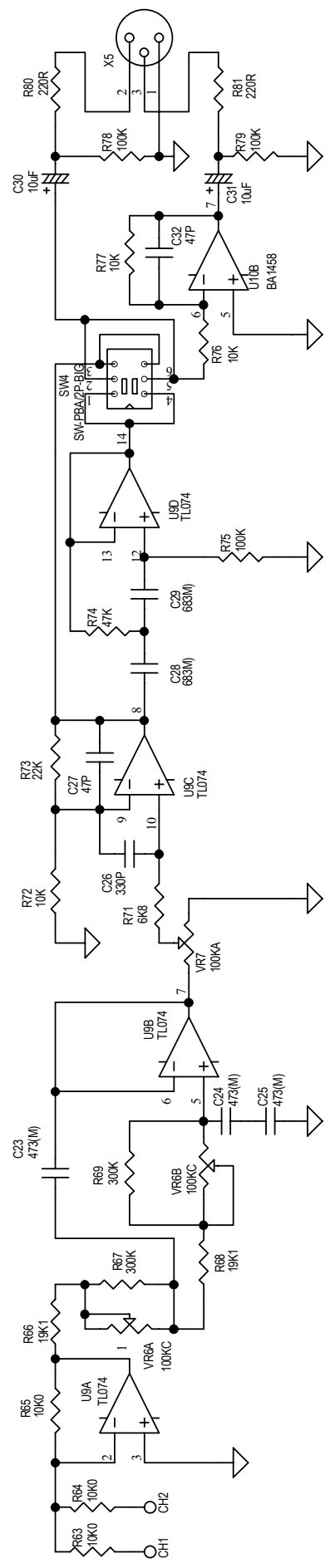
A

D

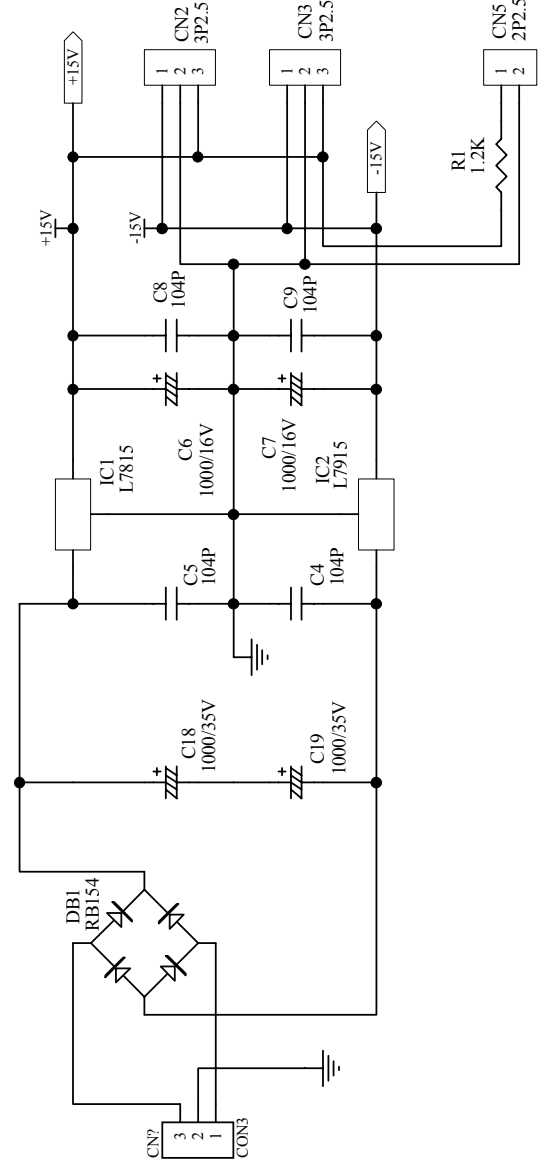
C

B

A



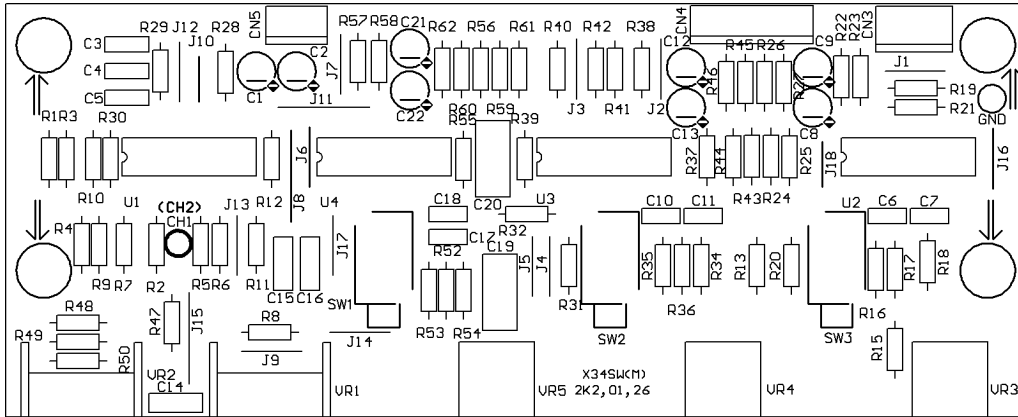
Titel			
ALTO Mobile : X34SW SUB WOOFER BOARD			
Size	Model No:	Revision	V.1.0
A4	X34SW		
Date:	27-Jan-2002	Sheet	1 of 1
File:	X34(SUB).Sch	Drawn By:	TASY J.S.



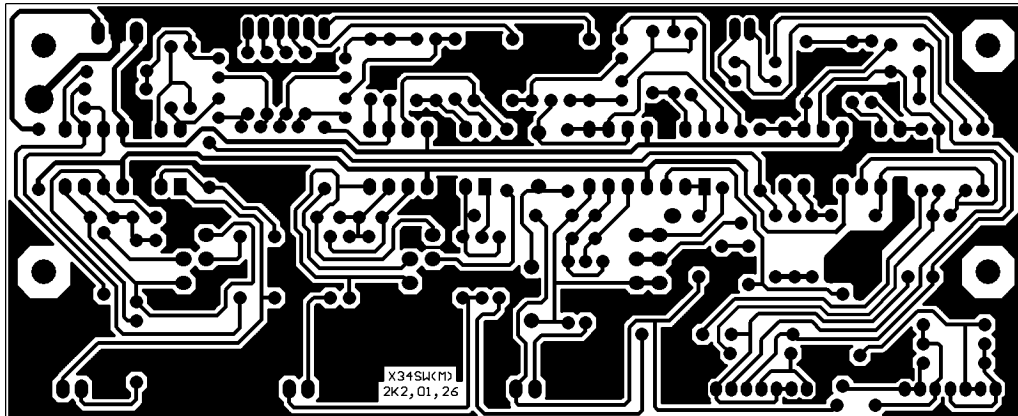
Title		SCX系列] POWER Schematic	
Size	Number	Revision	
A4			
Date:	27-Jan-2002	Sheet of	
File:	D:\pc42\pc42\ipc42\5-OVER\SCX2025\SCX2025.ddb	Sheet of	

4. Printed Circuit Diagram

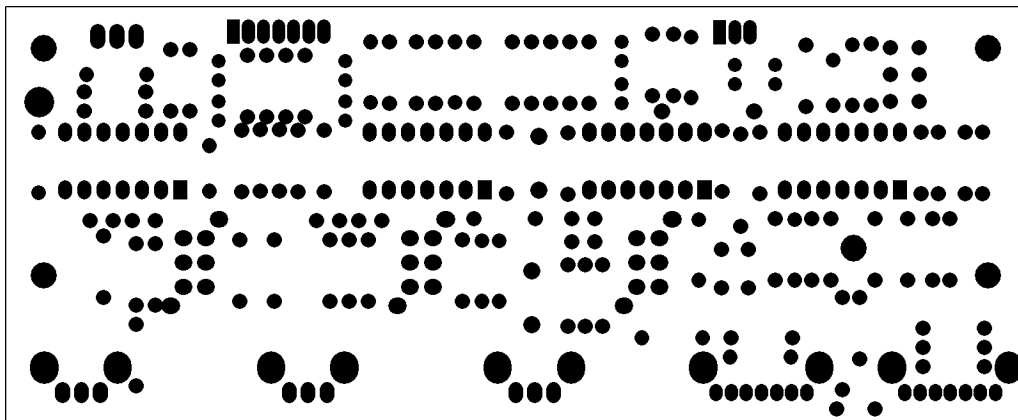
X34SW(M) PCB LAYOUT



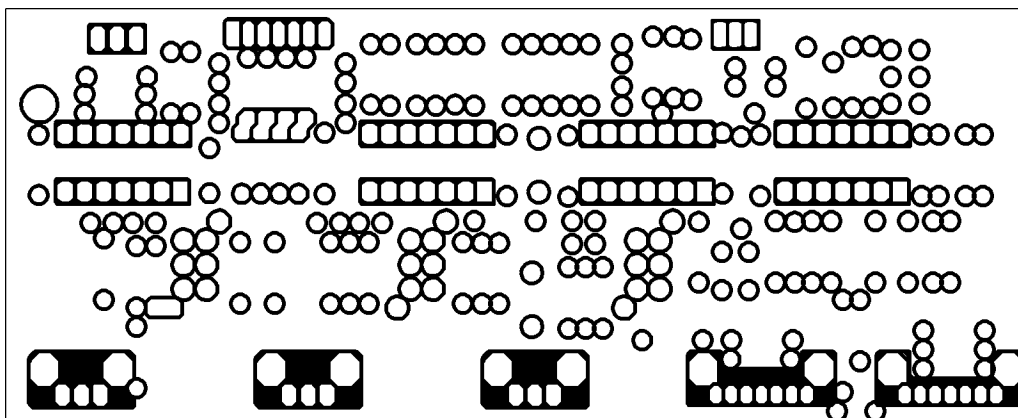
PCB : X34SW(M) Top Overlay



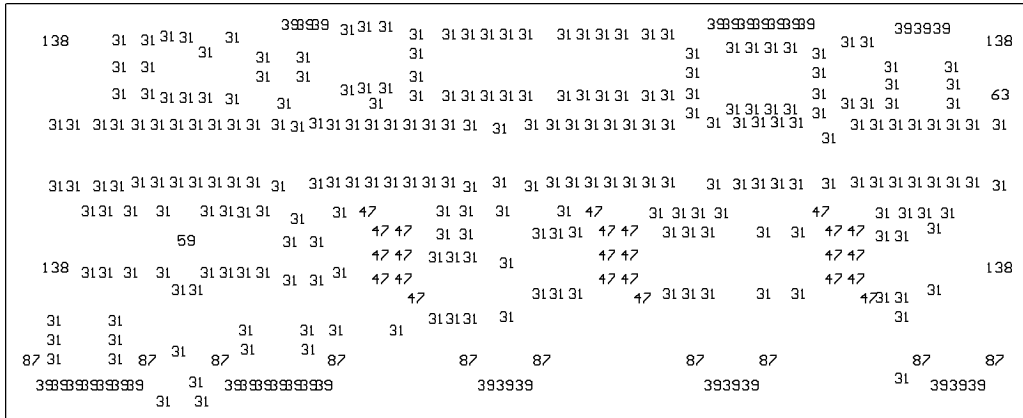
PCB : X34SW(M) Bottom Layer



PCB : X34SW(M) Bottom Solder Mask



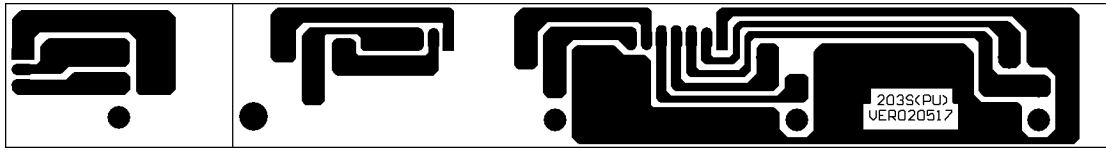
PCB : X34SW(M) Bottom Overlay



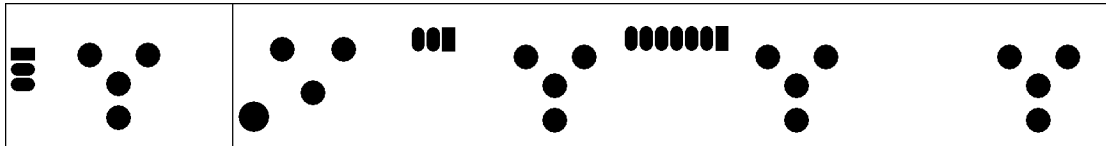
PCB : X34SW(M) Drill Drawing Plots

Hole Size	Hole Count
31mil (0.8mm)	254
39mil (1.0mm)	36
47mil (1.2mm)	24
59mil (1.5mm)	1
63mil (1.6mm)	1
87mil (2.2mm)	10
138mil (3.5mm)	4
Totals	330

203S(PU) PCB LAYOUT



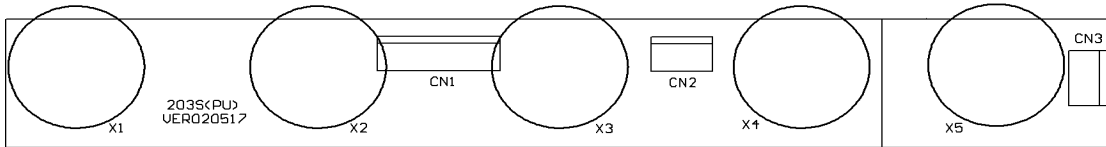
PCB : 203S(PU) Bottom Layer



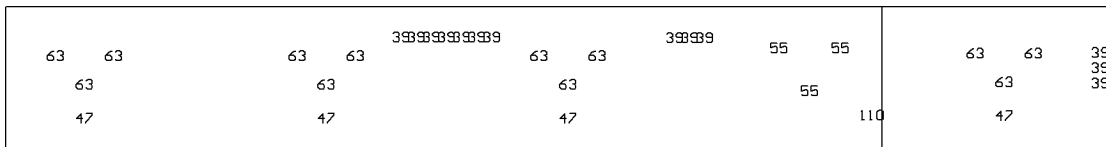
PCB : 203S(PU) Bottom Solder Mask



PCB : 203S(PU) Bottom OverLayer



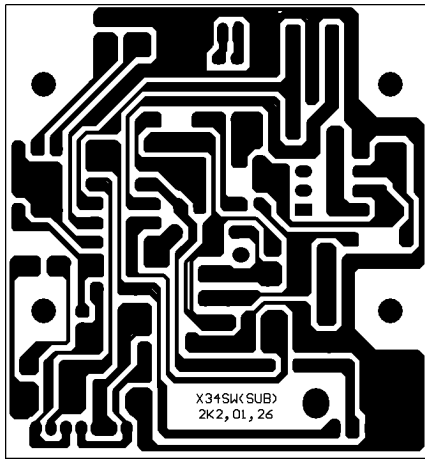
PCB : 203S(PU) Top Overlay



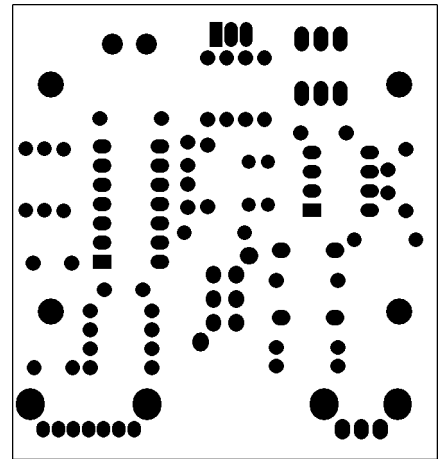
PCB : 203S(PU) Drill Drawing Plots

Hole Size	Hole Count
39mil (1.0mm)	13
47mil (1.2mm)	4
55mil (1.4mm)	3
63mil (1.6mm)	12
110mil (1.8mm)	1
Totals	33

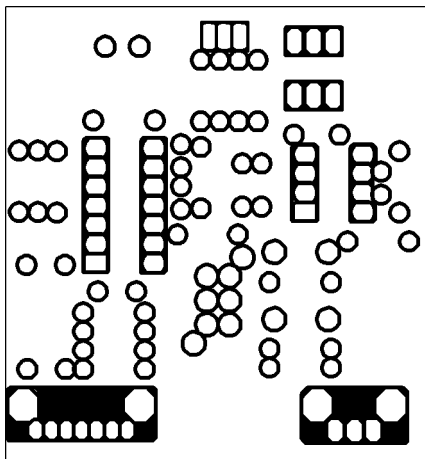
X34SW(SUB) PCB LAYOUT



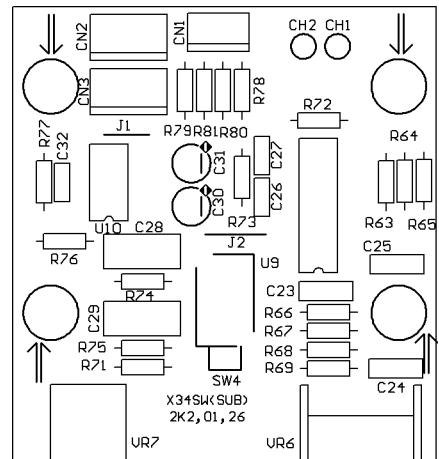
PCB : X34SW(SUB) Bottom Layer



PCB : X34SW(SUB) Bottom Solder Mask



PCB : X34SW(SUB) Bottom Overlay



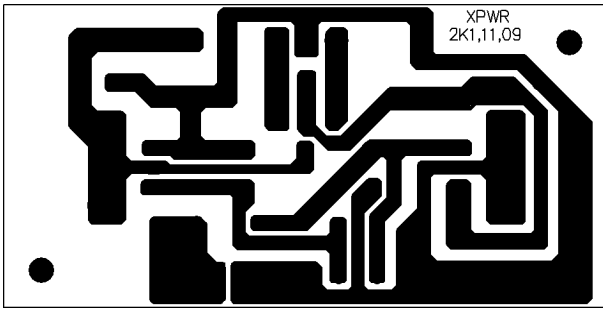
PCB : X34SW(SUB) Top Overlay

	393939	39999	47	47	
		31 31 31 31			
138	393939				138
	31	31	31 31 31 31	31	31
31	31	31	31 31	31 31	31 31 31
	31 31	31	31 31	31 31	31
	31 31	31	31 31	31 31	31 31 31
31	31	31	31	31	31
			31	31	
			31	31	
			47 47	31 31	
			47 47	31 31	138
138	31	31	47 47	31 31	
	31	31	47	31 31	
	31	31		31 31 31	
87	87			87	87
	393939			3999999999	

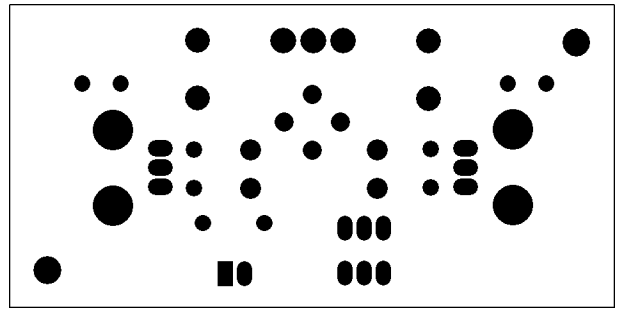
PCB : X34SW(SUB) Drill Drawing Plots

Hole Size	Hole Count
31mil (0.8mm)	82
39mil (1.0mm)	19
47mil (1.2mm)	10
87mil (2.2mm)	4
138mil (3.5mm)	4
Totals	119

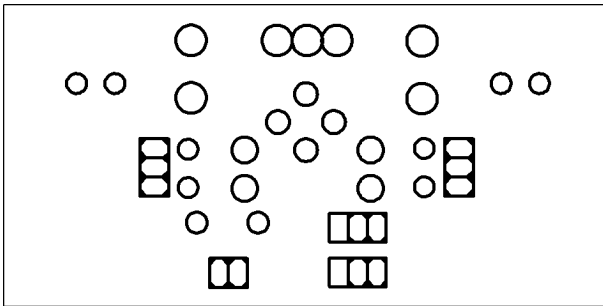
XPWR PCB LAYOUT



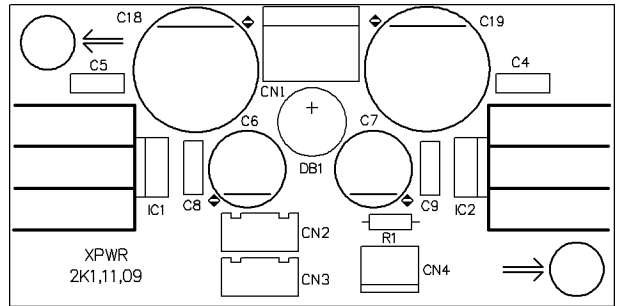
PCB : XPWR Bottom Layer



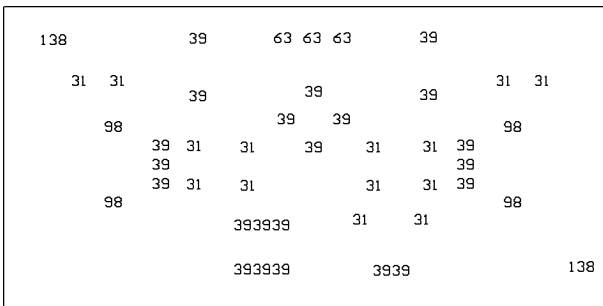
PCB : XPWR Bottom Solder Mask



PCB : XPWR Bottom Overlay

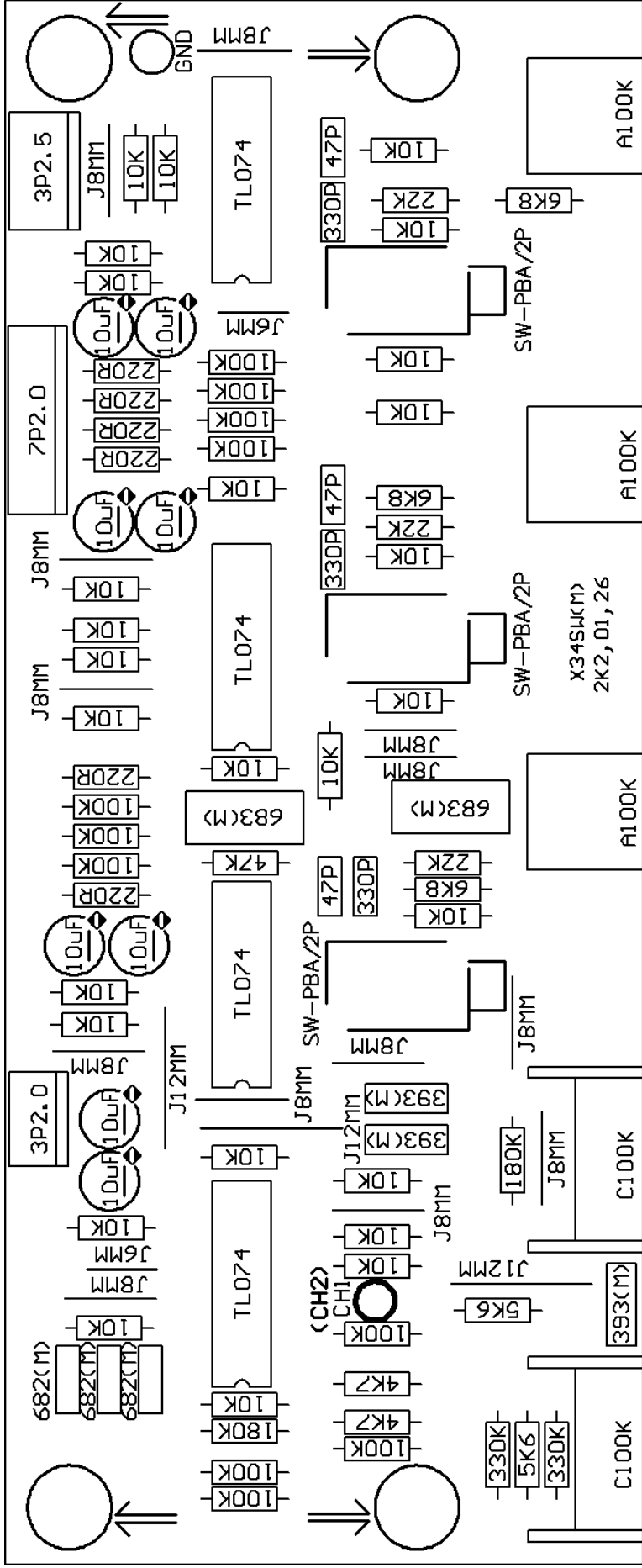


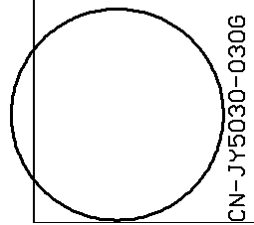
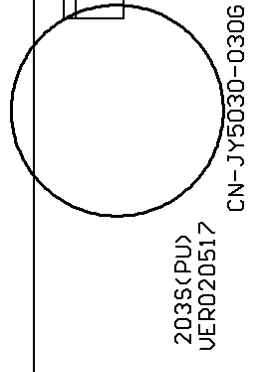
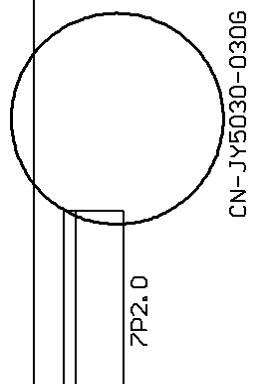
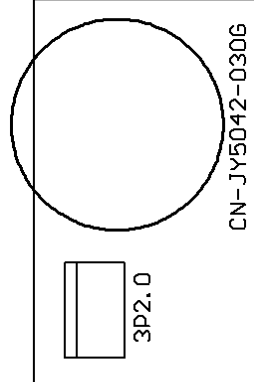
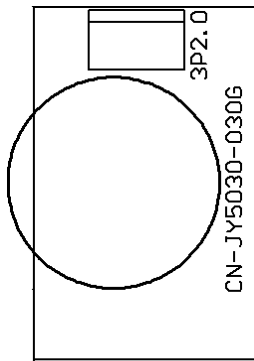
PCB : XPWR Top Overlay

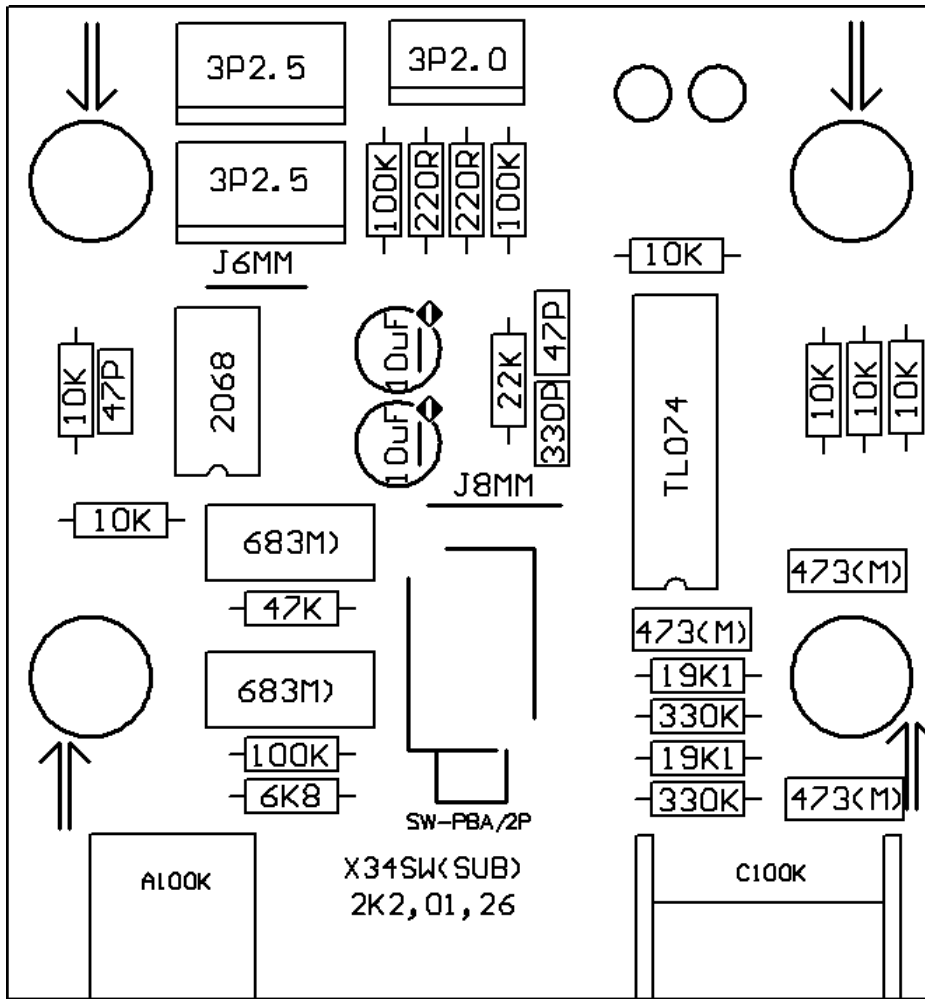


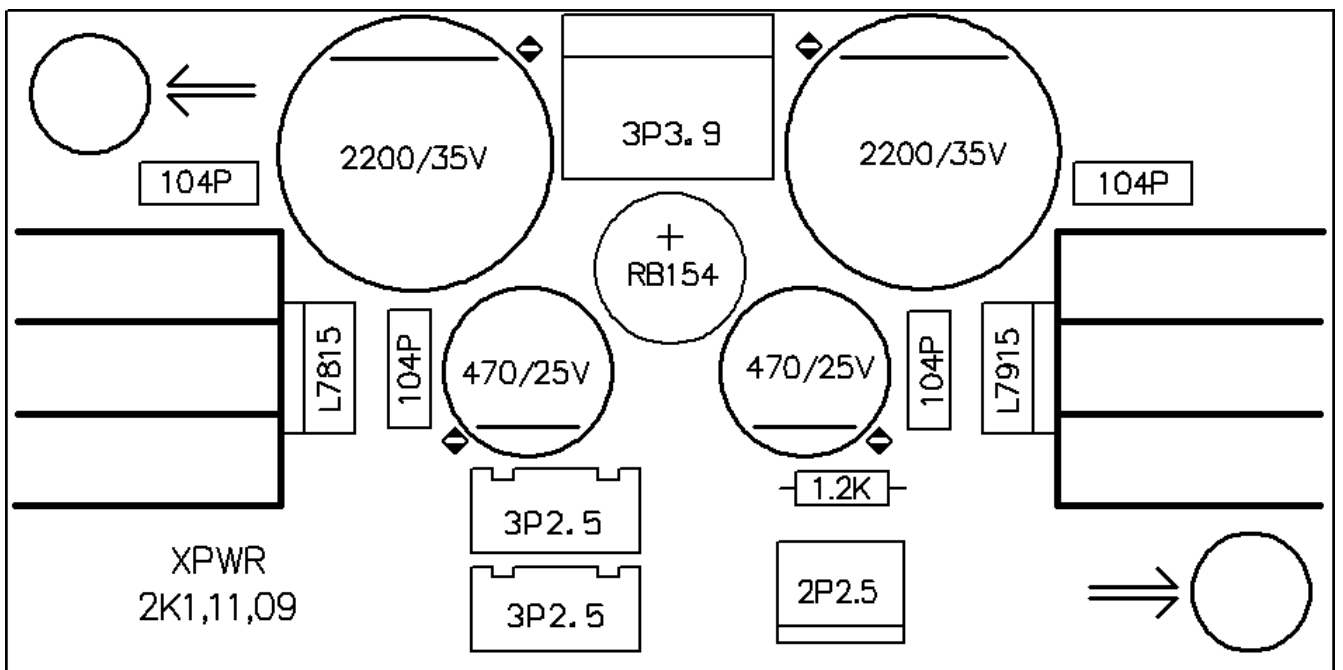
PCB : XPWR Drill Drawing Plots

Hole Size	Hole Count
31mil (0.8mm)	14
39mil (1.0mm)	22
63mil (1.6mm)	3
98mil (2.5mm)	4
138mil (3.5mm)	4
Totals	90



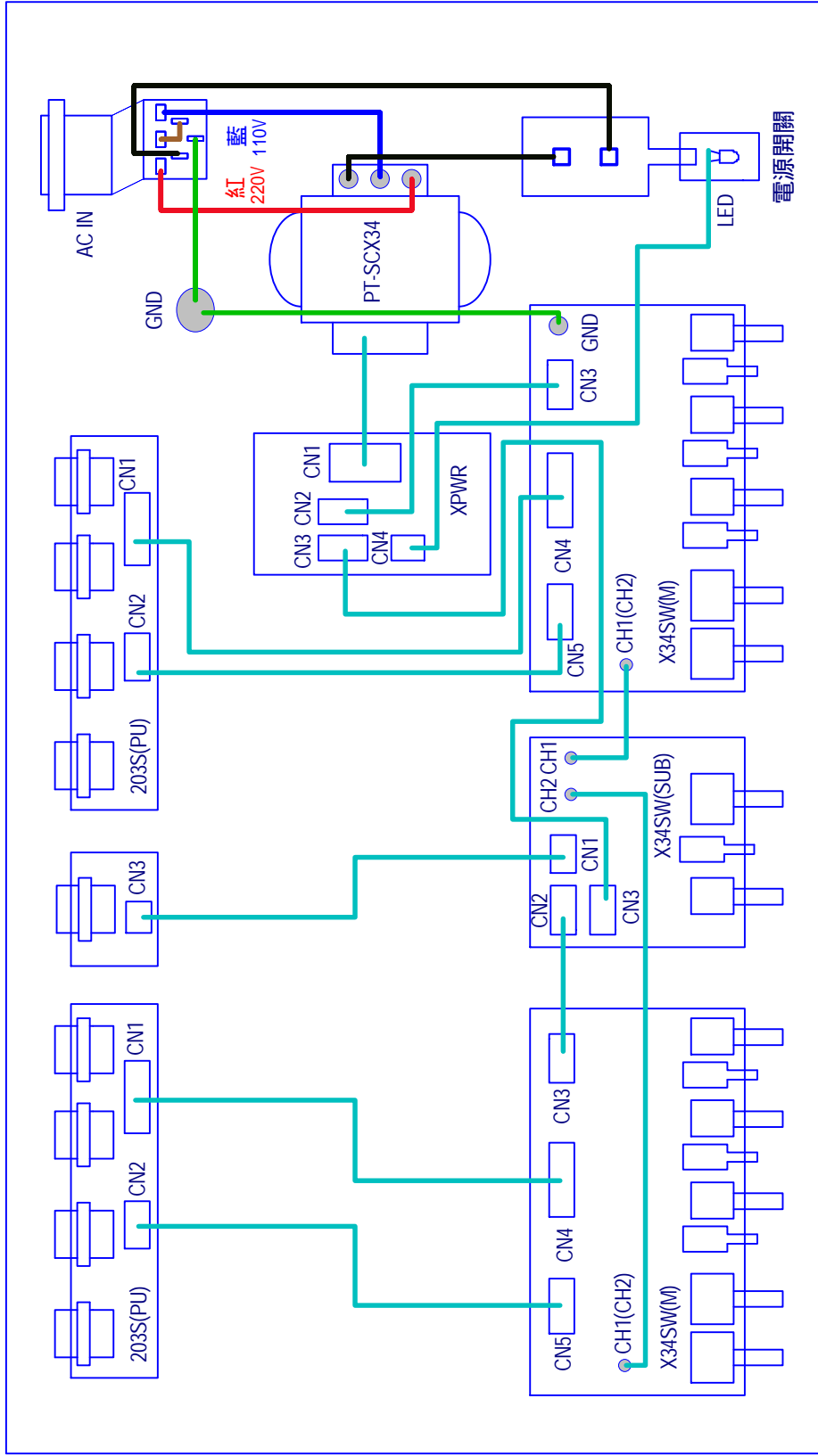
				
<p>CN-JY5030-030G</p>	<p>2035<PU> VER020517 CN-JY5030-030G</p>	<p>7P2.0 CN-JY5030-030G</p>	<p>3P2.0 CN-JY5042-030G</p>	<p>3P2.0 CN-JY5030-030G</p>





5. Wiring Diagram

X34SW Wiring Diagram



Titel ALTO Mobile : X34SW Wiring Diagram

Size A4 Model No: X34SW Revision V2.0

Date: 6 Nov 2002 Sheet 1 of 1
 File: X34SW(全).Sch Drawn By: TASY J.S.

Structure Needing Material Detail List

建檔日: 2002/02/08 修正日: 2002/10/28

<u>NO.</u>	<u>Midprod NO</u>	<u>Quantity</u>	<u>Unit</u>
1	A-X34SW-ALTO-230V	1.000	PCS
2	A-X34SW 底后板組合	1.000	PCS
3	P-XPWR	1.000	PCS
4	P-203S(PU) - (R)	1.000	PCS
5	P-203S(PU) - (L)	1.000	PCS
6	P-X34SW(M)	2.000	PCS
7	P-X34SW(SUB)	1.000	PCS

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 MFR3153ZZ	panel(white)	X34SW	1.000	PCS	
	MARK:					
	2 MTP229ZZ	top cover-printing	CLE2.0	1.000	PCS	
	MARK:					
	3 MBK324ZZ	rear board(black)	X34SW	1.000	PCS	
	MARK:					
	4 HD00021	fuse(T)	100mA 250V 5*20mm CSA/	1.000	PCS	
	MARK:					
	5 TP3055	loop transformer	PT-SCX34	1.000	PCS	
	MARK:					
	6 HCSA16	AC outlett	(S)315-B (AC select)	1.000	PCS	
	MARK:					
	7 NPL287		3*W6*18.3 black ABS	7.000	PCS	
	MARK:					
	8 HLSF129	row-wire connector wirin	3P-3P 200m/m	1.000	PCS	
	MARK:					
	9 HLSF134	row-wire connector wirin	3P-3P 120m/m	2.000	PCS	
	MARK:					
	10 HLSC146	signle terminal wiring C	green/yellow 80m/m	1.000	PCS	
	MARK:					
	11 HLSC76	single terminal wiring C	green/yellow 150m/m	1.000	PCS	
	MARK:					
	12 NMBP64	plastic knob double	1 COOL GRAY 8C	12.000	PCS	
	MARK:					
	13 NPL272	cover	8.5*4 blue 072C	12.000	PCS	
	MARK:					
	14 MSCB28	black plated screw	flat self 3*4	14.000	PCS	
	MARK:					
	15 MSCB34	black plated screw	pill 3*6	2.000	PCS	電源開關
	MARK:					
	16 MSCB38	black plated screw	3*7	4.000	PCS	面板
	MARK:					
	17 MSCB13	black-plated screw	cross-head pan head 3*6	10.000	PCS	上蓋,后板
	MARK:					
	18 MSCB35	black plated screw	cross-head pan head 3*10	2.000	PCS	AC座
	MARK:					
	19 MSCB58	black plated screw	iron-board pill 3*10	18.000	PCS	平衡座
	MARK:					
	20 MSTC04	colour nut	4m/m	1.000	PCS	地線
	MARK:					
	21 MFSS04	washer	4* 7*1t	1.000	PCS	地線
	MARK:					
	22 MFST01	washer	4* 8*0.5t	2.000	PCS	地線
	MARK:					
	23 MSTC03	colour nut	3m/m	2.000	PCS	PT
	MARK:					
	24 MFSC09	washer	3* 10*1t	2.000	PCS	PT
	MARK:					
	25 NMCR01	cable tie(black)	ALT-102SB	10.000	PCS	
	MARK:					

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	26 NLXM39	self-paste foot pad(SF-0	12.7*9.0*3.0t	4.000	PCS	
MARK:						
	27 HLSP164	P.V.C wiring	UL1617 AWG22 250mm black	1.000	PCS	
MARK:						
	28 HLSP71	P.V.C single wave wired	UL1617 22AWG 80m/m brown	1.000	PCS	
MARK:						
	29 HLSP150	P.V.C single wave wired	UL1007 AWG22 80mm black	1.000	PCS	
MARK:						
	30 HLSP158	P.V.C single wave wired	UL1007 AWG22 250mm bla	1.000	PCS	
MARK:						
	31 HLSA31	power cord	Europe 3P LT-312+LT-501	1.000	PCS	
MARK:						
	32 NMCT20WW0020	sleeving flame retardant5	*20m/m	8.000	PCS	
MARK:						
	33 NMCT16WW0010	sleeving flame retardant2.5	*10m/m	2.000	PCS	
MARK:						
	34 NWCP04	lockable bag	5*7	1.000	PCS	
MARK:						
	35 NWCP01WW0300*0580	PE bag	30*58cm	1.000	PCS	
MARK:						
	36 HEM083	desiccant	30g	1.000		
MARK:						
	37 HSWA13	alimentation SW	SDDL B 1007U	1.000	PCS	
MARK:						
	38 DL43RG	L.E.D	LG2043 green	1.000	PCS	
MARK:						
	39 NPL285	switch cap	6*2.5 YELLOW C	1.000	PCS	
MARK:						
	40 NMBA02	power push button	15*17	1.000	PCS	
MARK:						
	41 HLSF160	row-wire connecting wiri	2P 230mm	1.000	PCS	
MARK:						
	42 NB01720	box	ALTO 19"系列	1.000	PCS	
MARK:						
	43 PKMS153	sponge barrier	ALTO 19"	1.000	PCS	
MARK:						
	44 PKMS156	barrier	ALTO19"	1.000	PCS	
MARK:						
	45 POA182	paper outter case 4 hole	ALTO 19"	0.250	PCS	
MARK:						
	46 NMLB1589-05ZZ	label	X34SW ALTO	2.000		
MARK:						
	47 NMCQA-328	instruction	X34SW ALTO	1.000		
MARK:						
	48 NMCQ-073	assurance book	ALTO	1.000		
MARK:						
	49 NMLM382ZZ	label	X34SW	4.000		
MARK:						
	50 NE05004	label	ALTO	4.000		
MARK:						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
51	NMLH31	label	MADE IN P.R.C.	2.000		
MARK:						
52	NA00154	box	ALTO	2.000	PCS	
MARK:						
53	NI02085	power switch	22*9.69	1.000	PCS	
MARK:						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 MBT2172ZZ	bottom rear plate	X34SW	1.000	PCS	
MARK:						
	2 MMC013	iron pillar	hexagon 6.35*M3*6	2.000	PCS	
MARK:						
	3 ME00050	iron pillar		12.000	PCS	
MARK:						
	4 MSC023	screw pillar	M4*10*0.7PH	1.000	PCS	
MARK:						
	5 MSC030		M3*10*0.5PH	2.000	PCS	
MARK:						
	6 MSDE35ZZ	fixed board (black)	X23	1.000	PCS	
MARK:						
	7 MSDE34ZZ	barrier (black)	X23	1.000	PCS	
MARK:						
	8 MAPR80ZZ	L-shape fixed bracket	1.2*28*20*10(CLE2.0)	1.000	PCS	
MARK:						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 NPC0106	PCB	XPWR(1*4)	1.000	PCS	
MARK:						
	2 RFC212S	1/8W fixed resistor	1.2K S type	1.000	PCS	
MARK:	R 1					
	3 CC410F	ceramic capacitor	0.1uF SL	4.000	PCS	
MARK:	C 4 5 8 9					
	4 CE747E	electrolytic capacitor	470/25V	2.000	PCS	
MARK:	C 6 7					
	5 CE822F	electrolytic capacitor	2200/35V 16*31.5mm	2.000	PCS	
MARK:	C 18 19					
	6 DB001A	bridge rectifier	RB154 1A/400V	1.000	PCS	
MARK:	DB 1					
	7 SIC717	integrated circuit	7815	1.000	PCS	
MARK:	IC 1					
	8 SIC719	integrated circuit	7915	1.000	PCS	
MARK:	IC 2					
	9 HCSI0203	row-wire header	3P 2.5mm 180 °	2.000	PCS	
MARK:	CN 2 3					
	10 HCSI0202	row-wire header	2P 2.5mm 180 °	1.000	PCS	
MARK:	CN 4					
	11 HCSR0203	row-wire header	3P 3.96mm 180 °	1.000	PCS	
MARK:	CN 1					
	12 STR802-T2	silicone insulator	T0-220 square type	2.000		
MARK:						
	13 MHL013	heat sink	MA103*25m/m*2PIN	2.000	PCS	
MARK:						
	14 MFSS03	washer	3* 5*1t	2.000	PCS	
MARK:						
	15 MSCN16	Ni screw	pill 3*6 thin tooth P0.	2.000	PCS	
MARK:						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	NPC2070	PCB	203S(PU)(1*4)_VER020517	1.000	PCS	
MARK:						
2	HC00392	balance mic socket	JY-5030-030G 公插插板式	3.000	PCS	
MARK:X 1 2 3						
3	HCSM61	MIC jack for balance	JY-5042-030G female plug	1.000	PCS	
MARK:X 4						
4	HLSF369	row-wire connecting wiri	3P(male)-3P(parent) 220m	1.000	PCS	
MARK:CN 2						
5	HLSF370	header wiring	7P(male)-7P(parent) 220m	1.000	PCS	
MARK:CN 1						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	NPC2070	PCB	203S(PU)(1*4)_VER020517	1.000	PCS	
MARK:						
2	HC00392	balance mic socket	JY-5030-030G 公插插板式	4.000	PCS	
MARK:X 1 2 3 5						
3	HCSM61	MIC jack for balance	JY-5042-030G female plug	1.000	PCS	
MARK:X 4						
4	HLSF369	row-wire connecting wiri	3P(male)-3P(parent) 220m	2.000	PCS	
MARK:CN 2 3						
5	HLSF370	header wiring	7P(male)-7P(parent) 220m	1.000	PCS	
MARK:CN 1						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	NPC3104	PCB	X34SW(M)1*2	1.000	PCS	
MARK:						
2	RFC122S	1/8W fixed resistor	220 S type	6.000	PCS	
MARK:R 26 27 45 46 61 62						
3	RFC247S	1/8W fixed resistor	4.7K S type	2.000	PCS	
MARK:R 7 9						
4	RFC256S	1/8W fixed resistor	5.6K S type	2.000	PCS	
MARK:R 47 49						
5	RFC268S	1/8W fixed resistor	6.8K S type	3.000	PCS	
MARK:R 15 34 52						
6	RFC310S	1/8W fixed resistor	10K S type	27.000	PCS	
MARK:R 11 12 13 16 18 19 20 21 22 23 28 29 30 31 32 35 37 38 39 40 41 42 5 53 57 58 6						
7	RFC322S	1/8W fixed resistor	22K S type	3.000	PCS	
MARK:R 17 36 54						
8	RFC347S	1/8W fixed resistor	47K S type	1.000	PCS	
MARK:R 55						
9	RFC410S	1/8W fixed resistor	100K S type	11.000	PCS	
MARK:R 1 2 24 25 3 4 43 44 56 59 60						
10	RFC418S	1/8W fixed resistor	180K S type	2.000	PCS	
MARK:R 10 8						
11	RFC433S	1/8W fixed resistor	330K S type	2.000	PCS	
MARK:R 48 50						
12	CE610N	electrolytic capacitor	10/16V 4*7	8.000	PCS	
MARK:C 1 12 13 2 21 22 8 9						
13	MMCJ04	jumper wire	6m/m	2.000	PCS	
MARK:J 10 18						
14	MMCJ06	jumper wire	8m/m	13.000	PCS	
MARK:J 1 12 13 14 16 17 19 2 20 21 23 24 25 26 27 28 29 3 4 5 6 7 9						
15	MMCJ12	jumper wire	12m/m	3.000	PCS	
MARK:J 11 15 8						
16	HCSI0203	row-wire header	3P 2.5mm 180 °	1.000	PCS	
MARK:CN 3						
17	HCSV0203	row-wire header	3P 2.0mm 180 °	1.000	PCS	
MARK:CN 5						
18	HCSV0207	row-wire header	7P 2.0mm 180 °	1.000	PCS	
MARK:CN 4						
19	CL268G	mylar capacitor	0.0068/50V	3.000	PCS	
MARK:C 3 4 5						
20	CL339G	mylar capacitor	0.039/50V	3.000	PCS	
MARK:C 14 15 16						
21	CL368G	mylar capacitor	0.068/50V	2.000	PCS	
MARK:C 19 20						
22	HSWA18	power switch	PZ30 PBA-M-2PB1L	3.000	PCS	
MARK:SW 1 2 3						
23	SIC002	integrated circuit	TL074CN(S&T)	4.000	PCS	
MARK:U 1 2 3 4						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
24	CC047B	ceramic capacitor	47PF NPO	3.000	PCS	
MARK:C	11 18 7					
25	CC133D	ceramic capacitor	330PF Y5E	3.000	PCS	
MARK:C	10 17 6					
26	RC00157			3.000	PCS	
MARK:VR	3 4 5					
27	RVS104	potentiometer (C100K)	RV142B-20-25A-C15	2.000	PCS	
MARK:VR	1 2					
28	MI01259		test-5 1.8*10	2.000	PCS	
MARK:						

Item No: X34SW

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 NPC3105	PCB	X34SW(SUB)1*3	1.000	PCS	
MARK:						
	2 RFC122S	1/8W fixed resistor	220 S type	2.000	PCS	
MARK:	R 80 81					
	3 RFC268S	1/8W fixed resistor	6.8K S type	1.000	PCS	
MARK:	R 71					
	4 RFC310S	1/8W fixed resistor	10K S type	6.000	PCS	
MARK:	R 63 64 65 72 76 77					
	5 RFC322S	1/8W fixed resistor	22K S type	1.000	PCS	
MARK:	R 73					
	6 RFC347S	1/8W fixed resistor	47K S type	1.000	PCS	
MARK:	R 74					
	7 RFC410S	1/8W fixed resistor	100K S type	3.000	PCS	
MARK:	R 75 78 79					
	8 RFC433S	1/8W fixed resistor	330K S type	2.000	PCS	
MARK:	R 67 69					
	9 RPC2191S	1/8W precision resistor	19.1K S type	2.000	PCS	
MARK:	R 66 68					
	10 CE610N	electrolytic capacitor	10/16V 4*7	2.000	PCS	
MARK:	C 30 31					
	11 HCSI0203	row-wire header	3P 2.5mm 180 °	2.000	PCS	
MARK:	CN 2 3					
	12 HCSV0203	row-wire header	3P 2.0mm 180 °	1.000	PCS	
MARK:	CN 1					
	13 CL347G	mylar capacitor	0.047/50V	3.000	PCS	
MARK:	C 23 24 25					
	14 CL368G	mylar capacitor	0.068/50V	2.000	PCS	
MARK:	C 28 29					
	15 HSWA18	power switch	PZ30 PBA-M-2PB1L	1.000	PCS	
MARK:	SW 4					
	16 SIC002	integrated circuit	TL074CN(S&T)	1.000	PCS	
MARK:	U 9					
	17 RC00157			1.000	PCS	
MARK:	VR 7					
	18 RVS104	potentiometer (C100K)	RV142B-20-25A-C15	1.000	PCS	
MARK:	VR 6					
	19 SIC206VV	integrated circuit	JRC NJM2068DD(LM833N)	1.000	PCS	
MARK:	U 10					
	20 CC047B	ceramic capacitor	47PF NPO	2.000	PCS	
MARK:	C 27 32					
	21 CC133D	ceramic capacitor	330PF Y5E	1.000	PCS	
MARK:	C 26					
	22 MMCJ06	jumper wire	8m/m	1.000	PCS	
MARK:	J 2					
	23 MMCJ04	jumper wire	6m/m	1.000	PCS	
MARK:	J 1					

Item No: X34SW

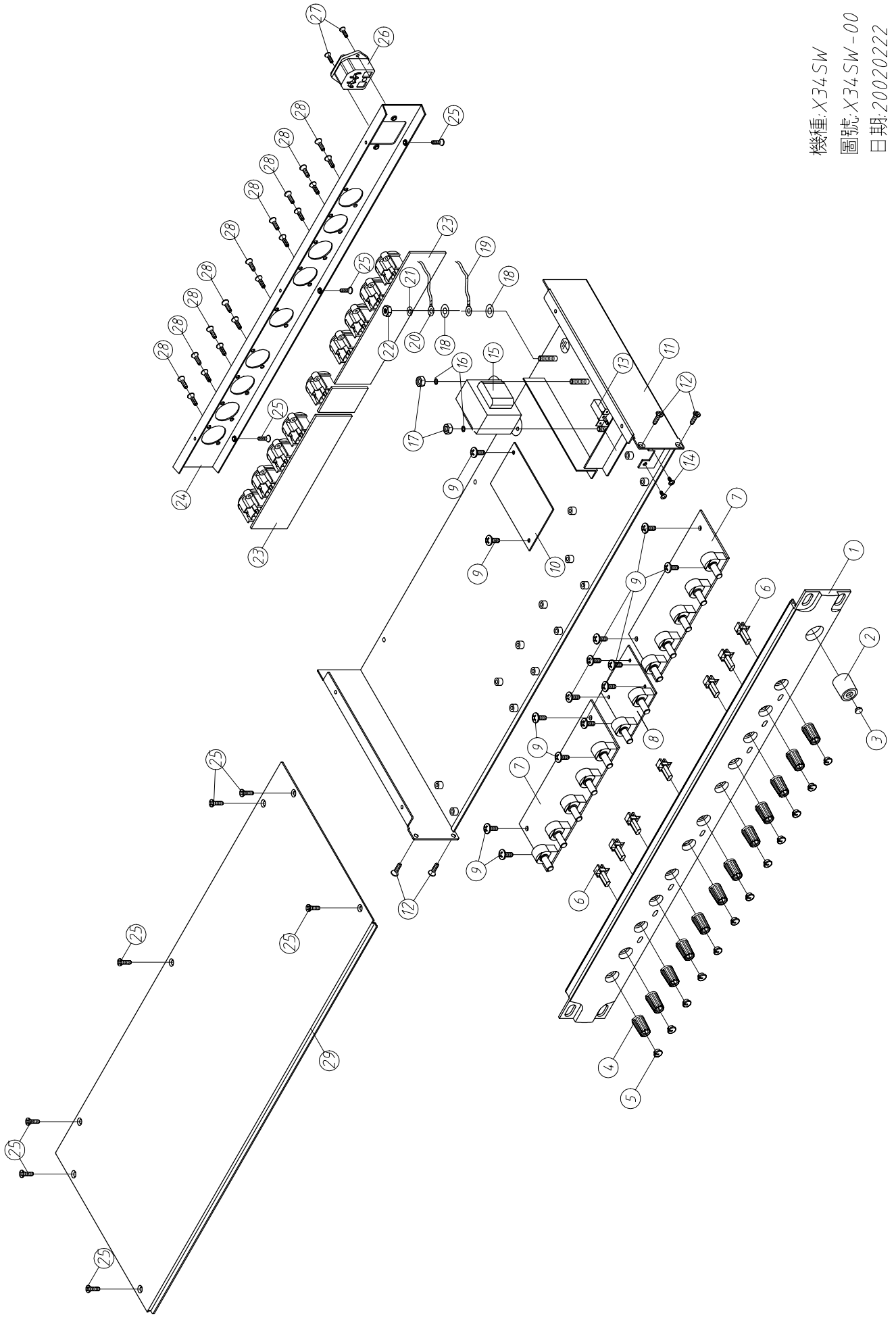
specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
24	MI01259	test-5	1.8*10	2.000	PCS	

MARK:

8. Exploded Views



機種: X34SW
圖號: X34SW-00
日期: 20020222