

Service Manual

Model: S12(12-CHANNEL MIXING CONSOLE)



www.altoproaudio.com

Version: 1.2

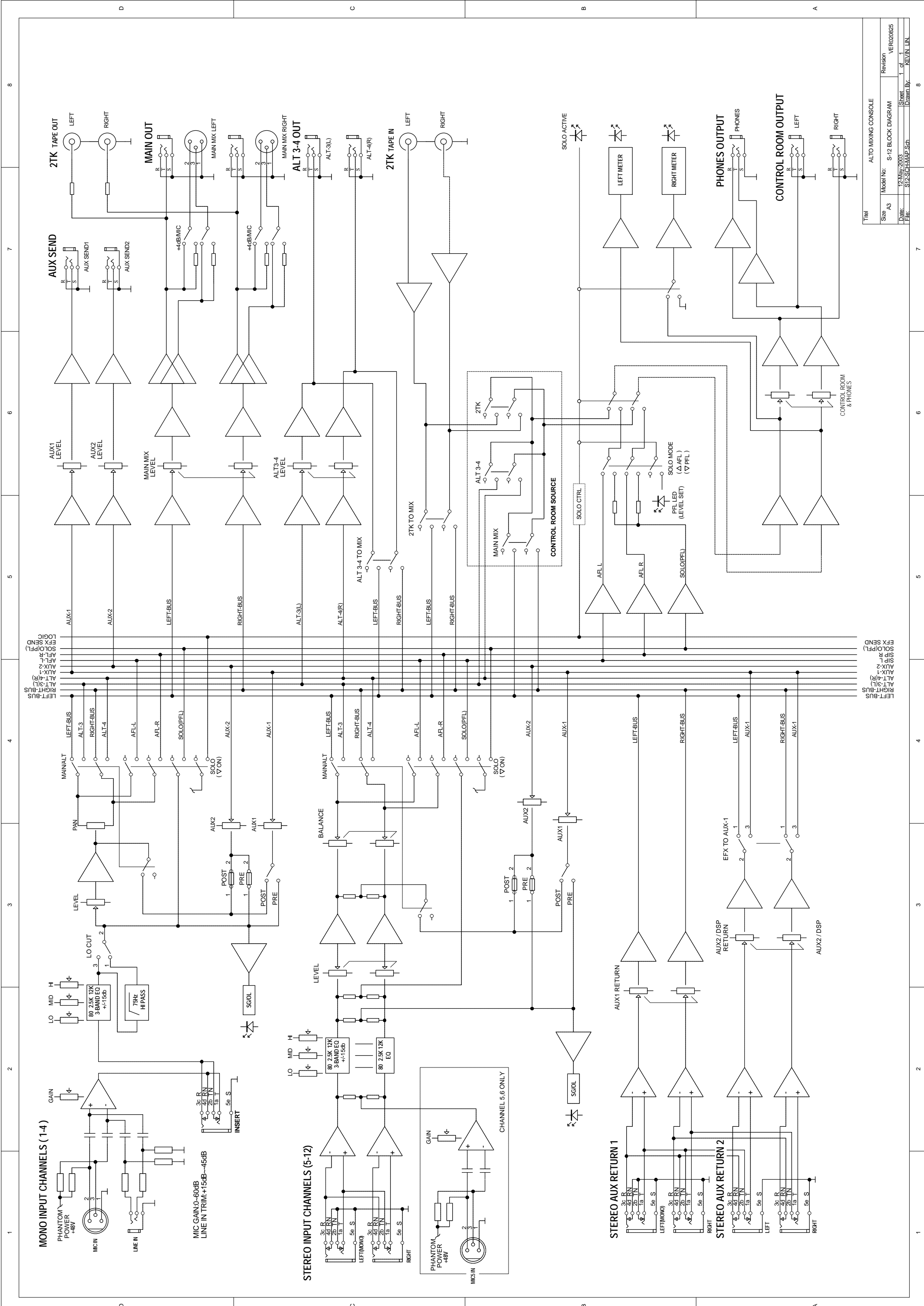
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1. SPECIFICATION (S12)

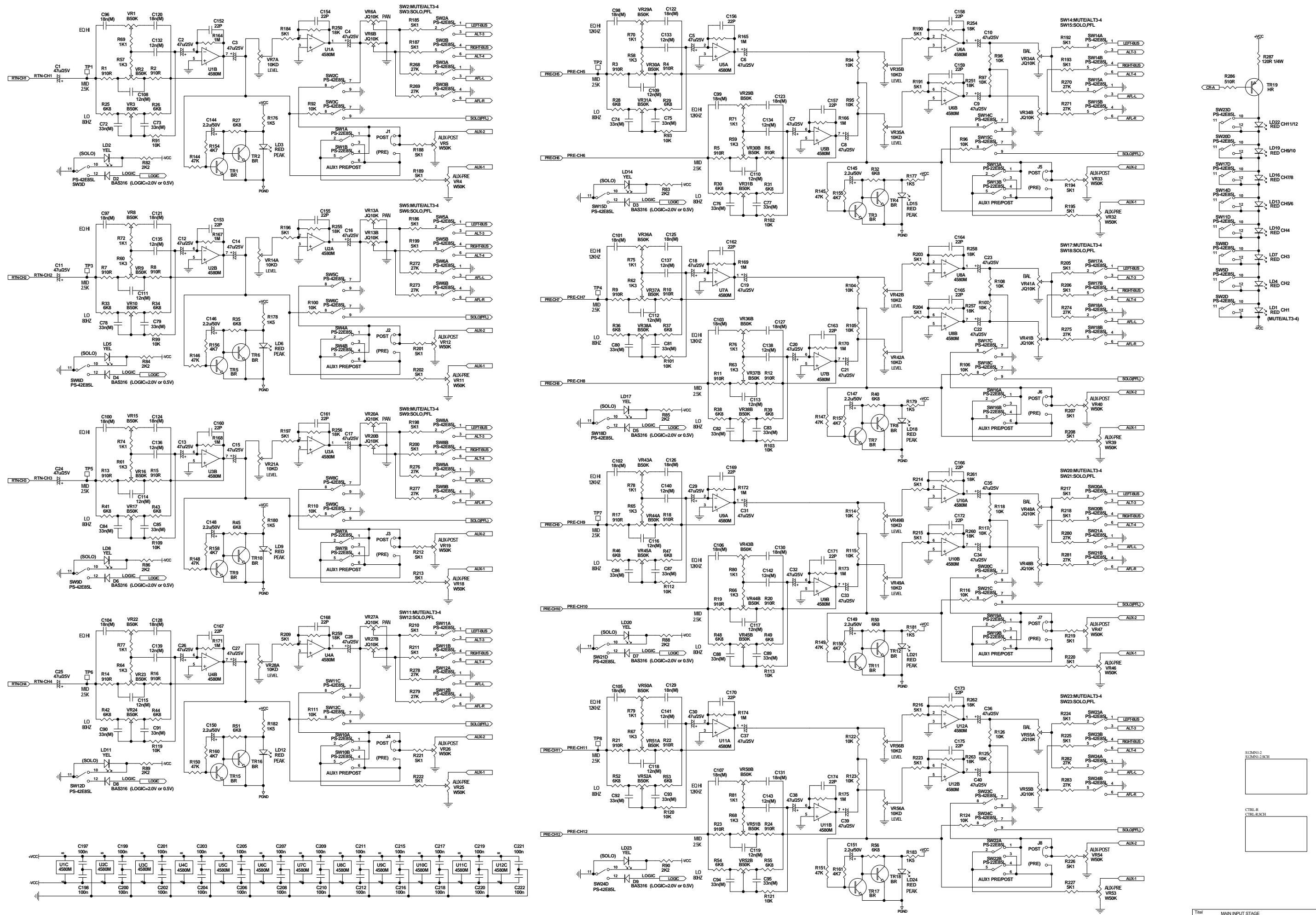
Mono input channels	
Microphone input	electronically balanced, discrete input configuration
Frequency response	10Hz to 55kHz, +/-3dB
Distortion (THD&N)	0.005% at +4dBu, 1kHz
Gain range	0dB to 60dB(MIC),
SNR (Signal Noise Rated)	115dB
Line input	electronically balanced
Frequency response	10Hz to 55kHz, +/-3dB
Distortion (THD&N)	0.005% at +4dBu, 1kHz
Sensitivity range	+15dBu to -45dBu
Stereo input channels	
Line input	unbalanced
Frequency response	10Hz to 55kHz, +/-3dB
Distortion (THD&N)	0.005% at +4dBu, 1kHz
Impedances	
Microphone input	1.4Kohm.
Channel Insert return	2.5Kohm.
All other inputs	10Kohm or greater.
Tape out	1Kohm.
All other output	120ohm.
Equalization	
Hi shelving	+/-15dB @12kHz
Mid bell	+/-12dB @2.5kHz
Low shelving	+/-15dB @80Hz
Low Cut filter	75Hz, 18dB/oct.
Main Mix Section	
Noise (Bus noise)	Fader 0 dB, channels muted:-100.0dBr (ref.:+4dBu) Fader 0dB, all input channels assigned and set to UNITY gain:-90dBr(ref.:+4dBu)
Max output	+22dBu balanced XLR, +22dBu unbalanced, 1/4" jacks
AUX Return gain range	OFF to +20dB
AUX Sends max out	+22dBu
Power supply	
Main voltage	USA/Canada100-120V~, 60Hz Europe210-240V~, 50Hz U.K./Australia240V~, 50Hz
Power Consumption	23watts
Fuse	100-120V~ : T500mAL 200-240V~ : T250mAL
Main connection	Standard IEC receptacle
Physical	
Dimension (WXDXH)	300mmX355mmX28/80mm (11.8"x14.0"x0.8"/3.1")
Net weight	4.04Kg (8.908lb)

2. Block Diagram

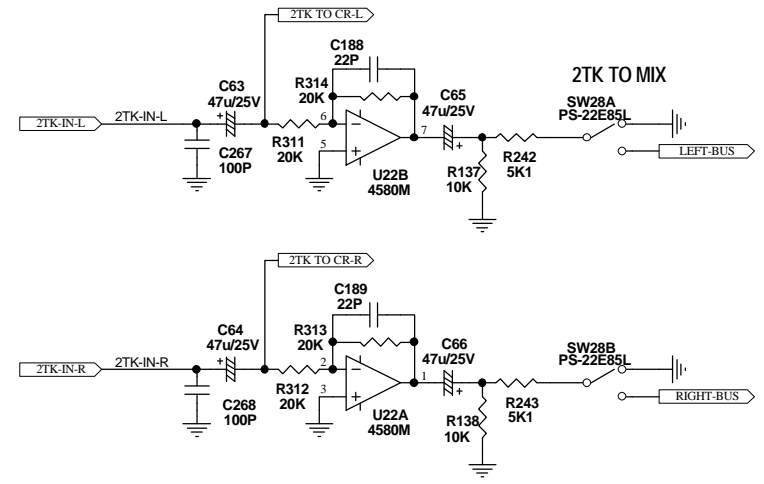
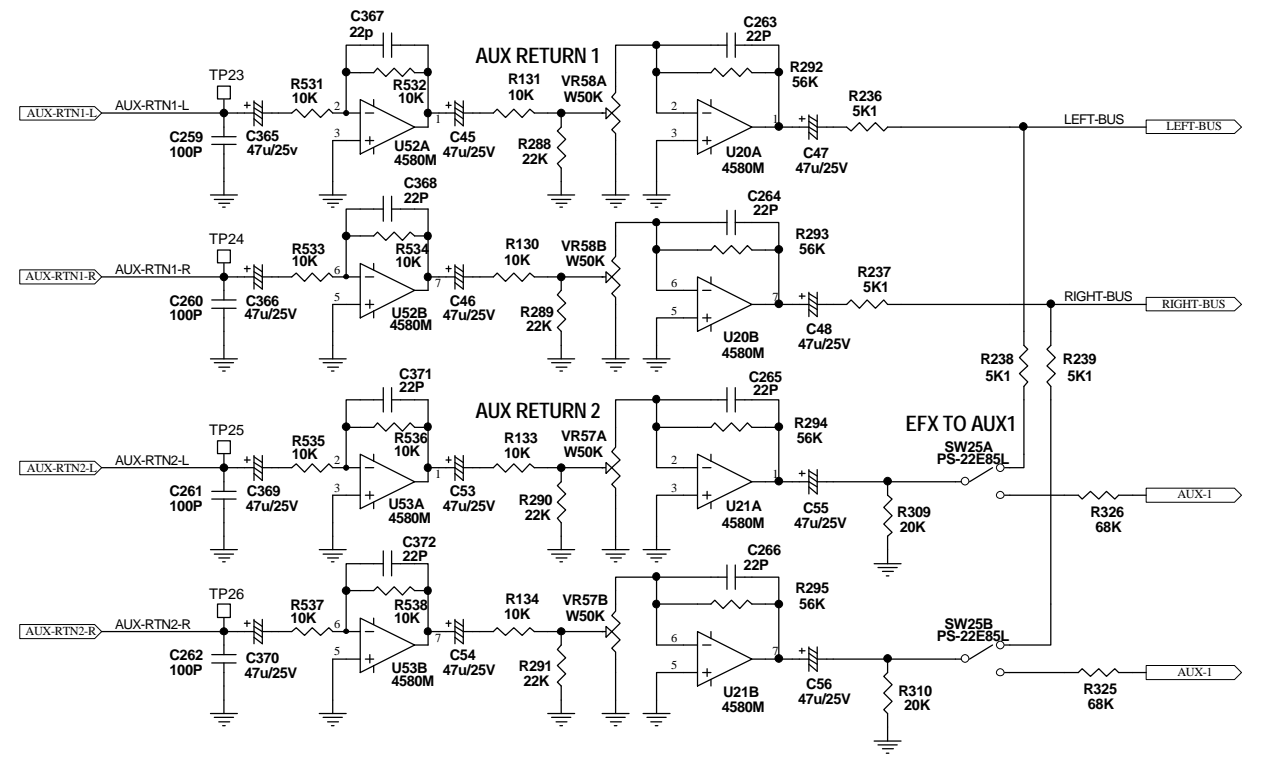
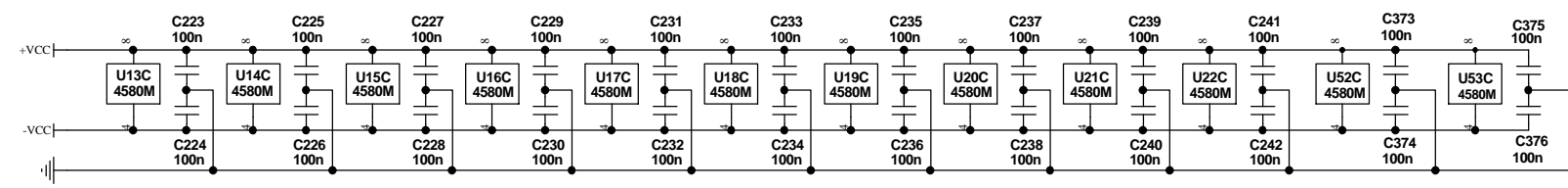
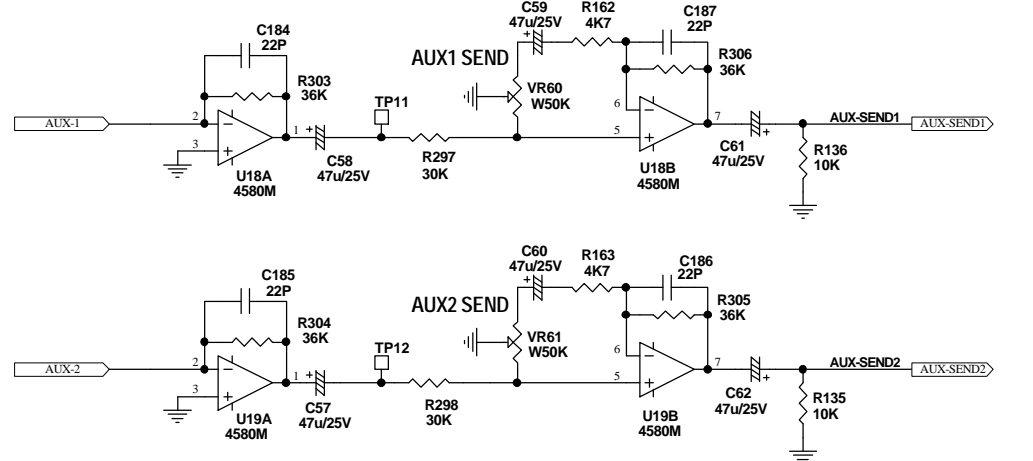
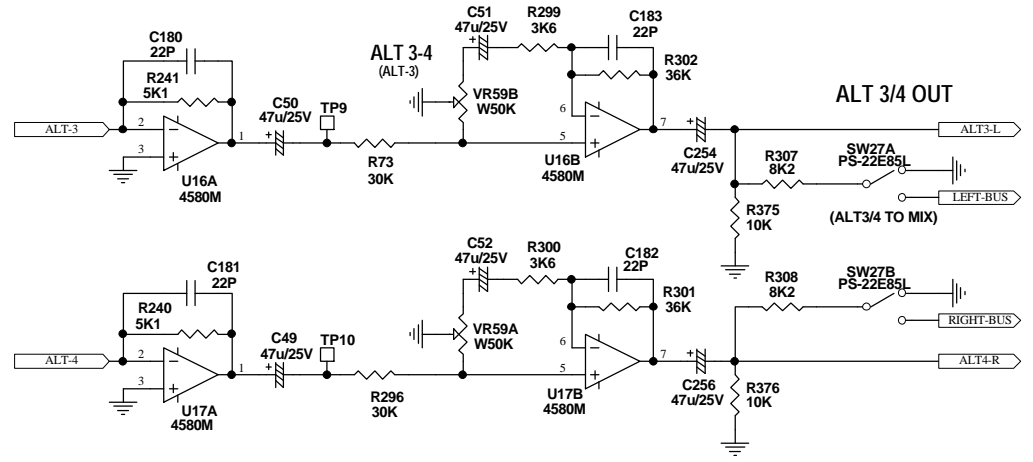
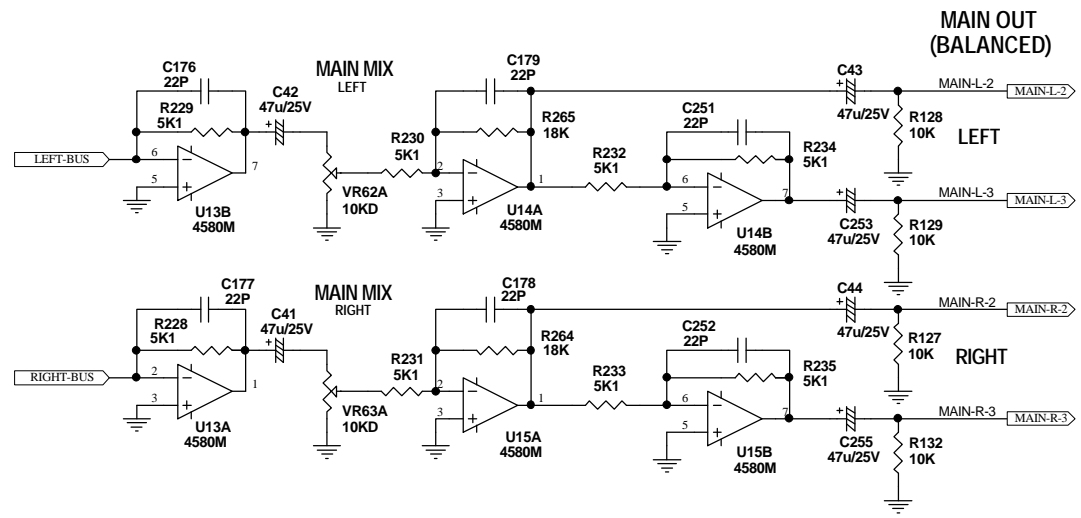


Title		ALTO MIXING CONSOLE	
Size	Model No.	Revision	Revision
A3	S-12 BLOCK DIAGRAM	1	VER020625
Date:	Drawn By:	Sheet	1 of 1
12 May 2003	STP-SCHMAP Sch.	Drawn	KEVIN LIN

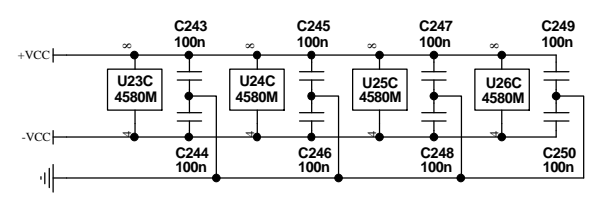
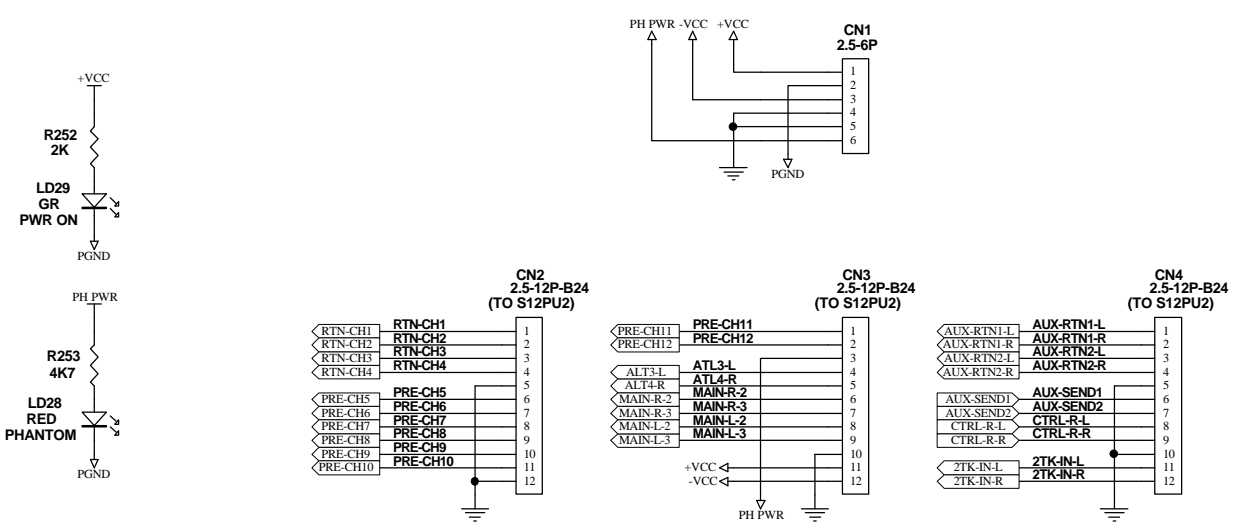
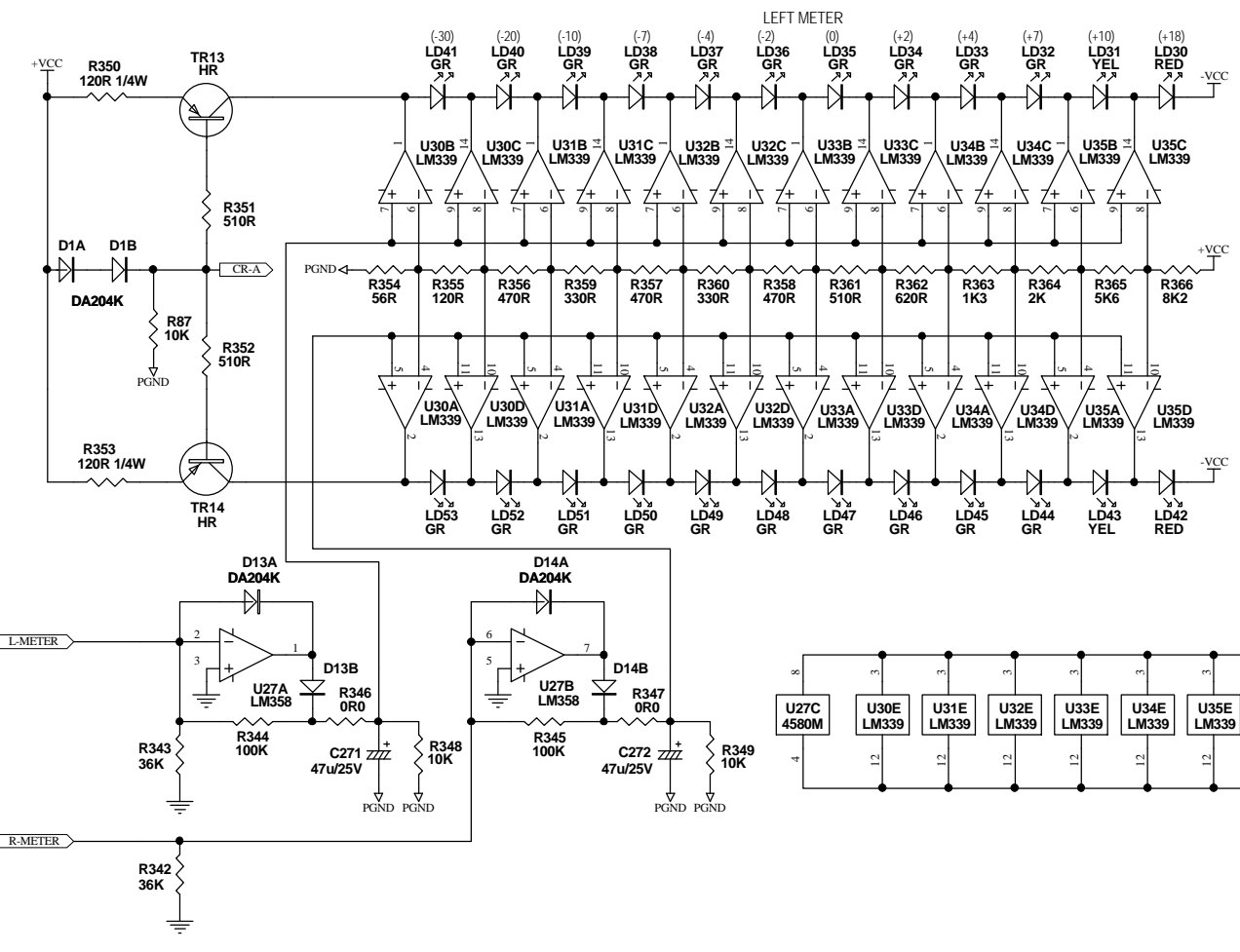
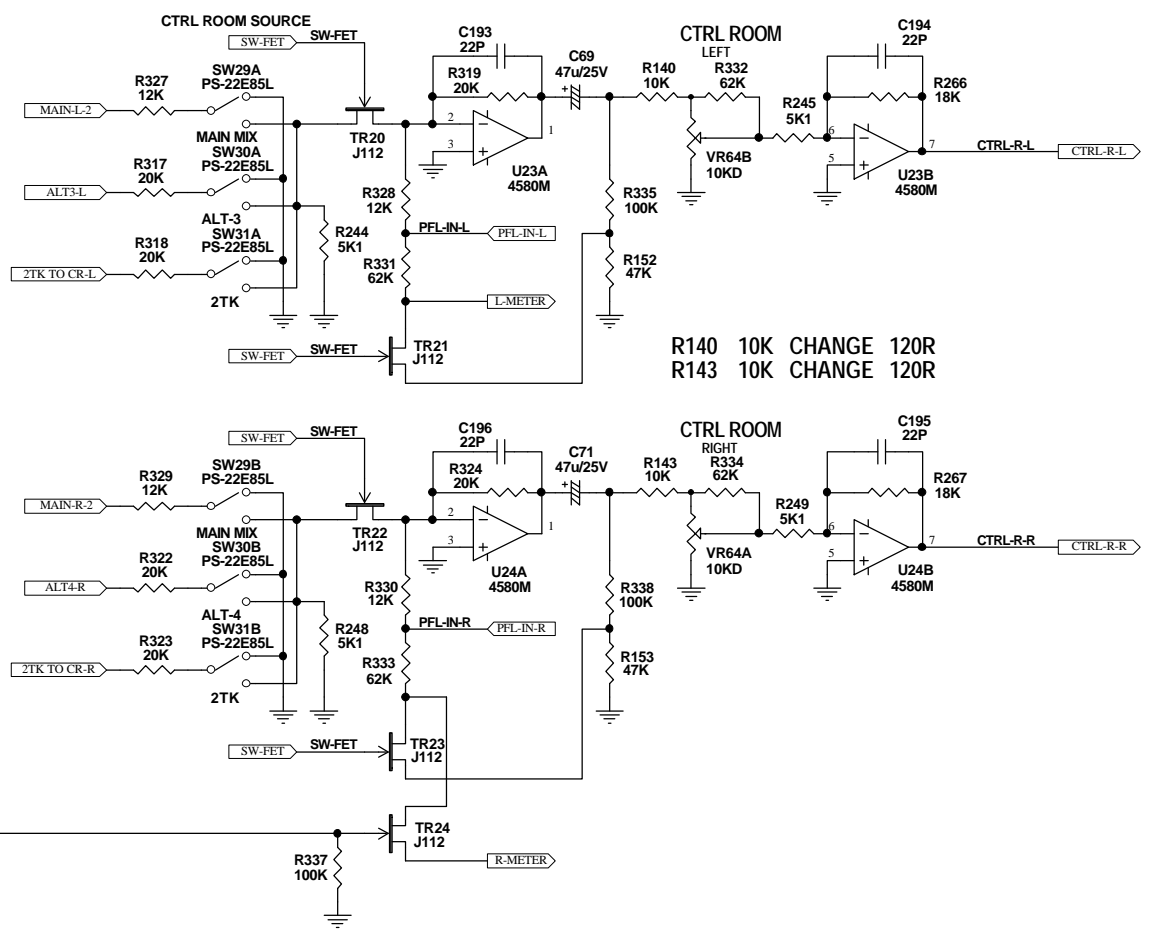
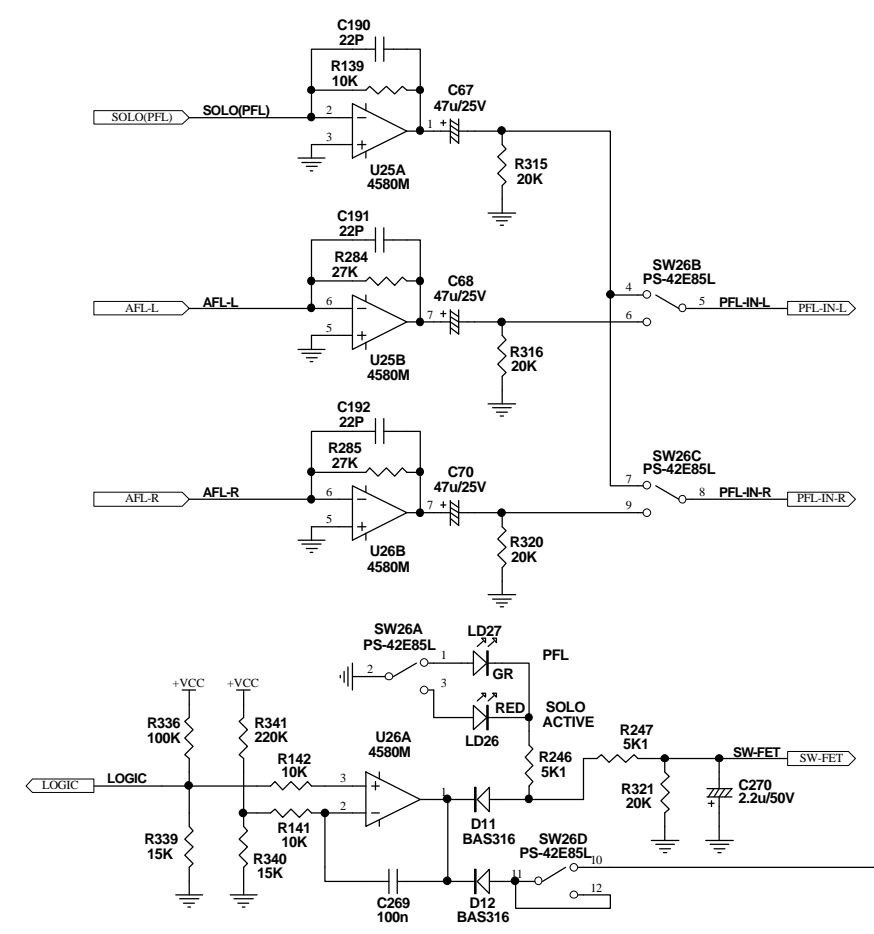
3. Schematic Diagram



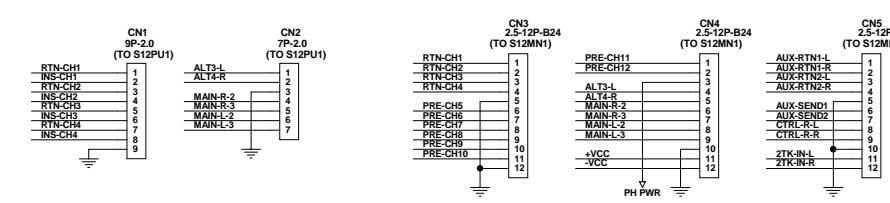
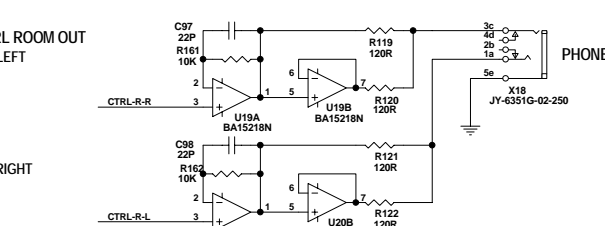
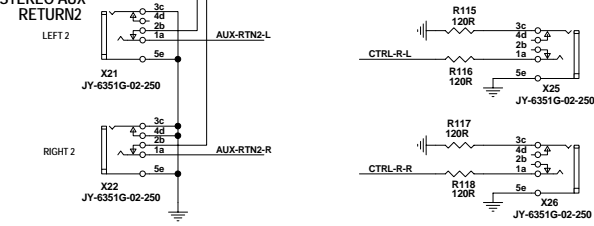
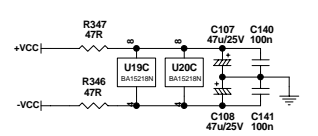
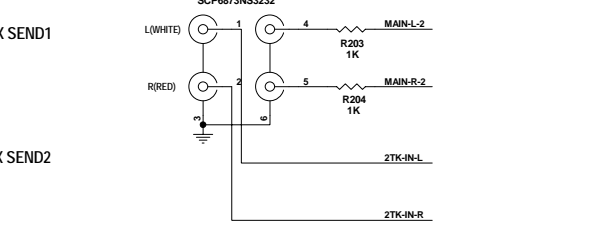
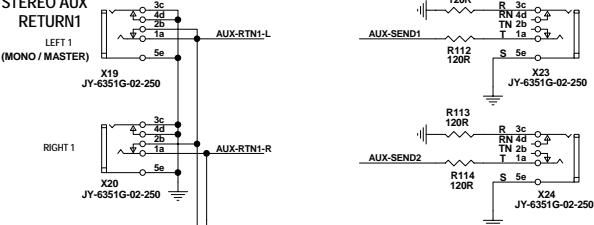
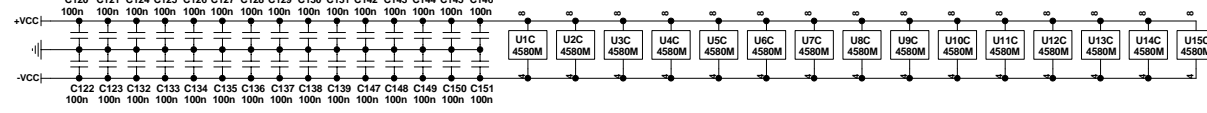
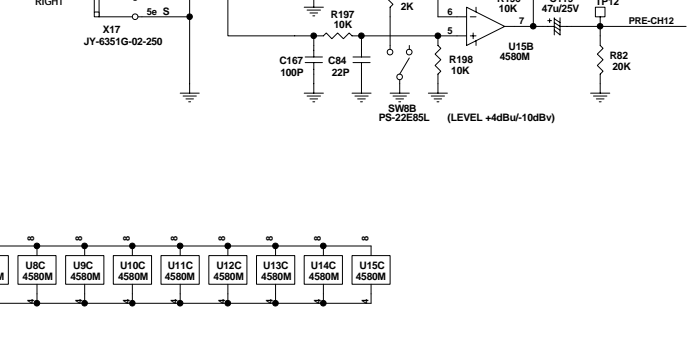
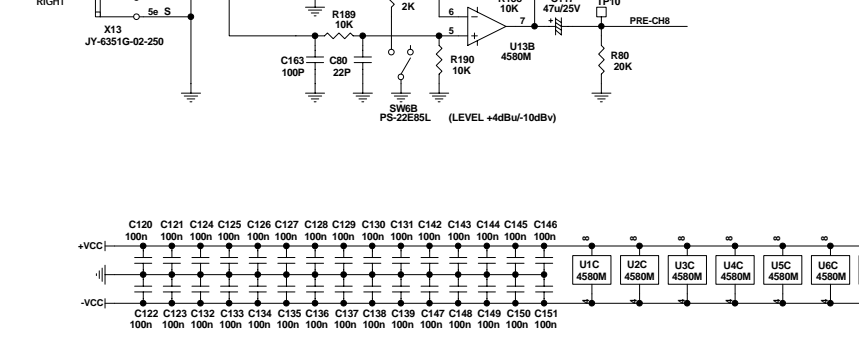
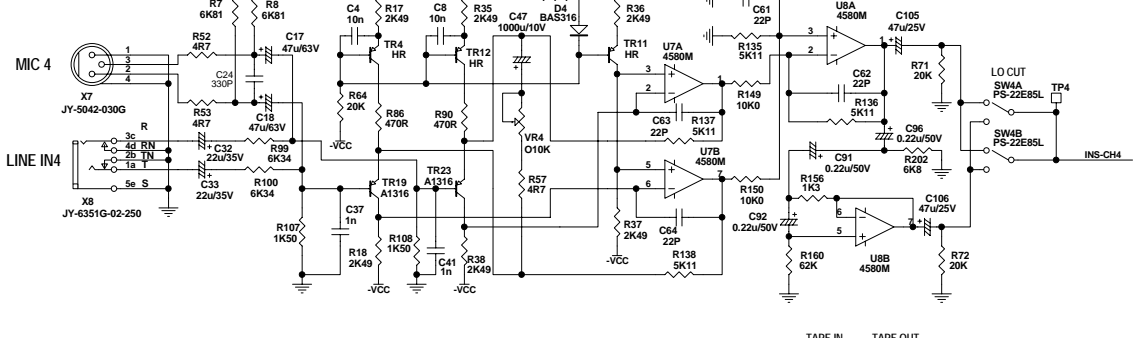
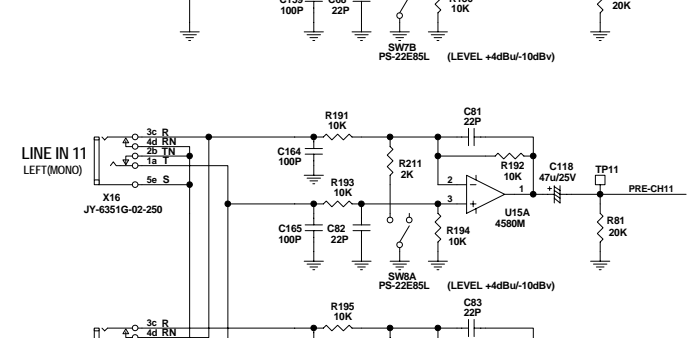
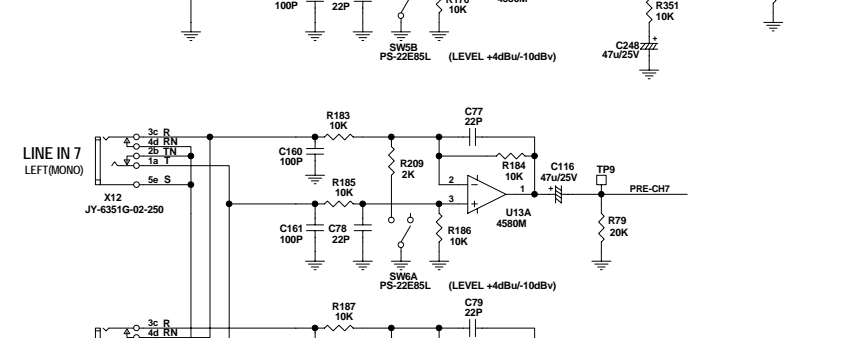
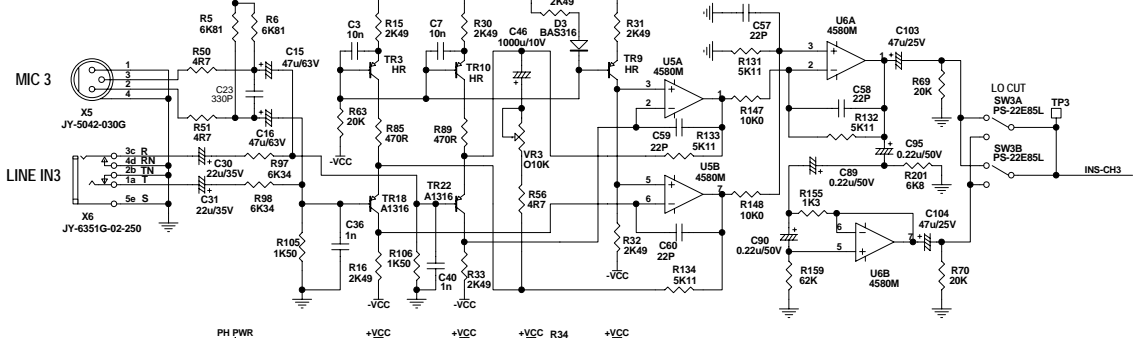
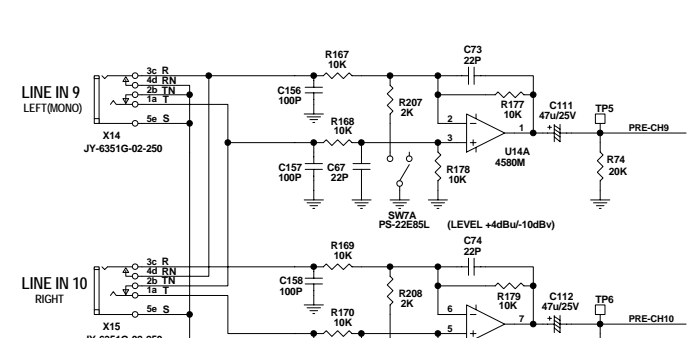
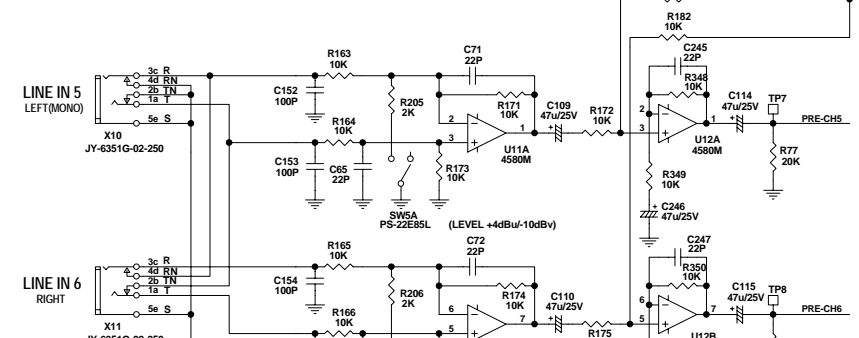
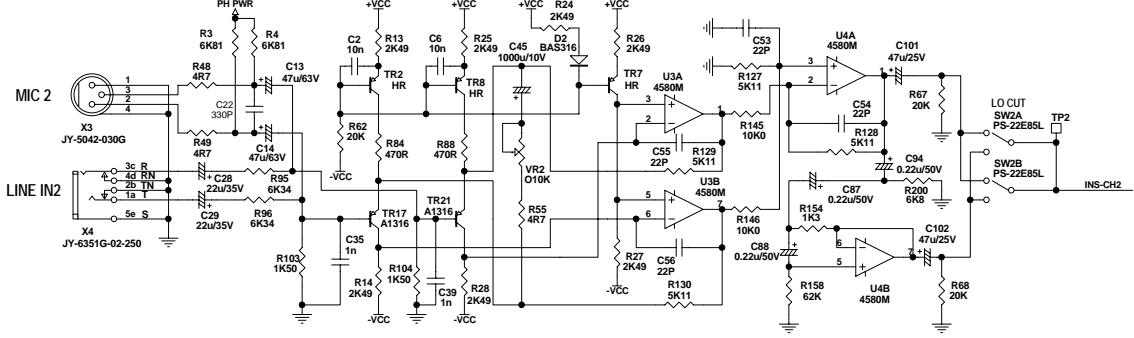
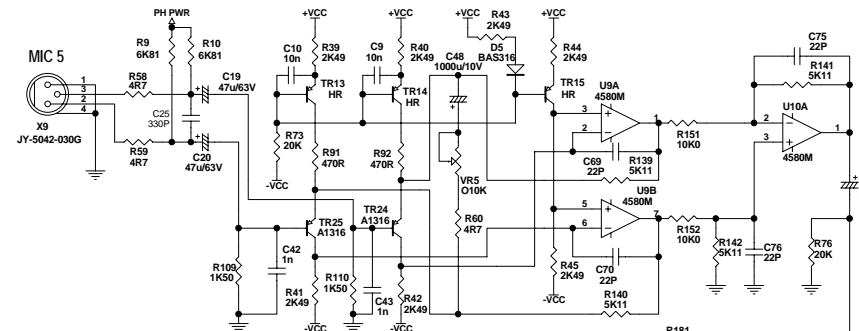
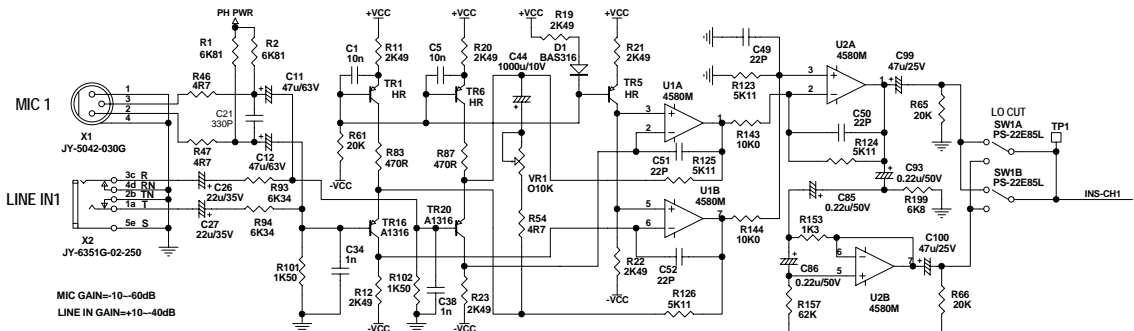
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Model No.	ALTO S-12	Sheet	1 of 3
Date	12-May-2003	Drawn By	KEVIN LIN
File	S12M1.SCH		

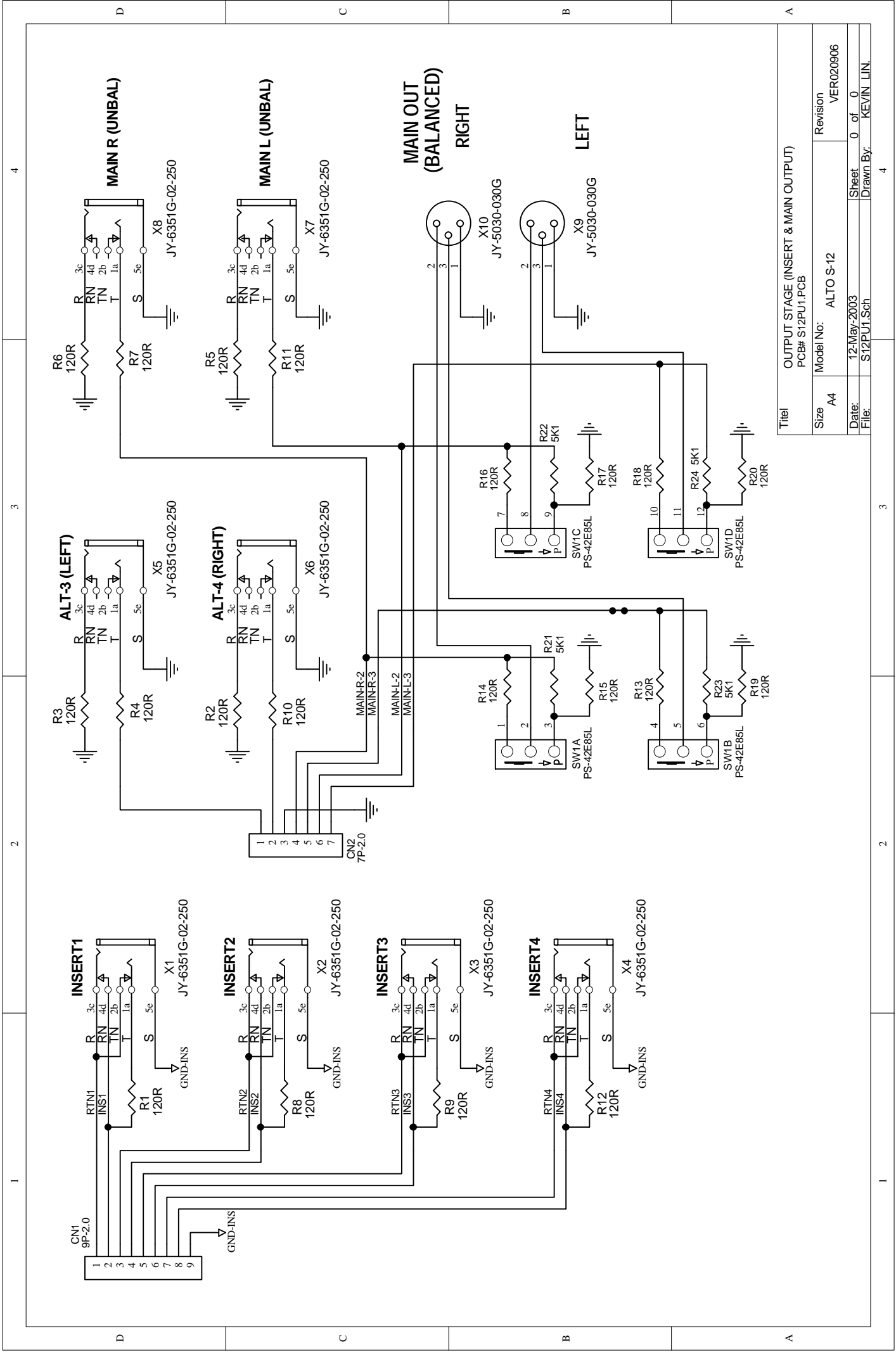


Title: PCB#S12MN1.PCB		
Size: A2	Model No: ALTO S-12	Revision: VER021115
Date: 12-May-2003	Sheet: 2 of 3	Drawn By: KEVIN LIN
File: S12MN1-2.SCH		

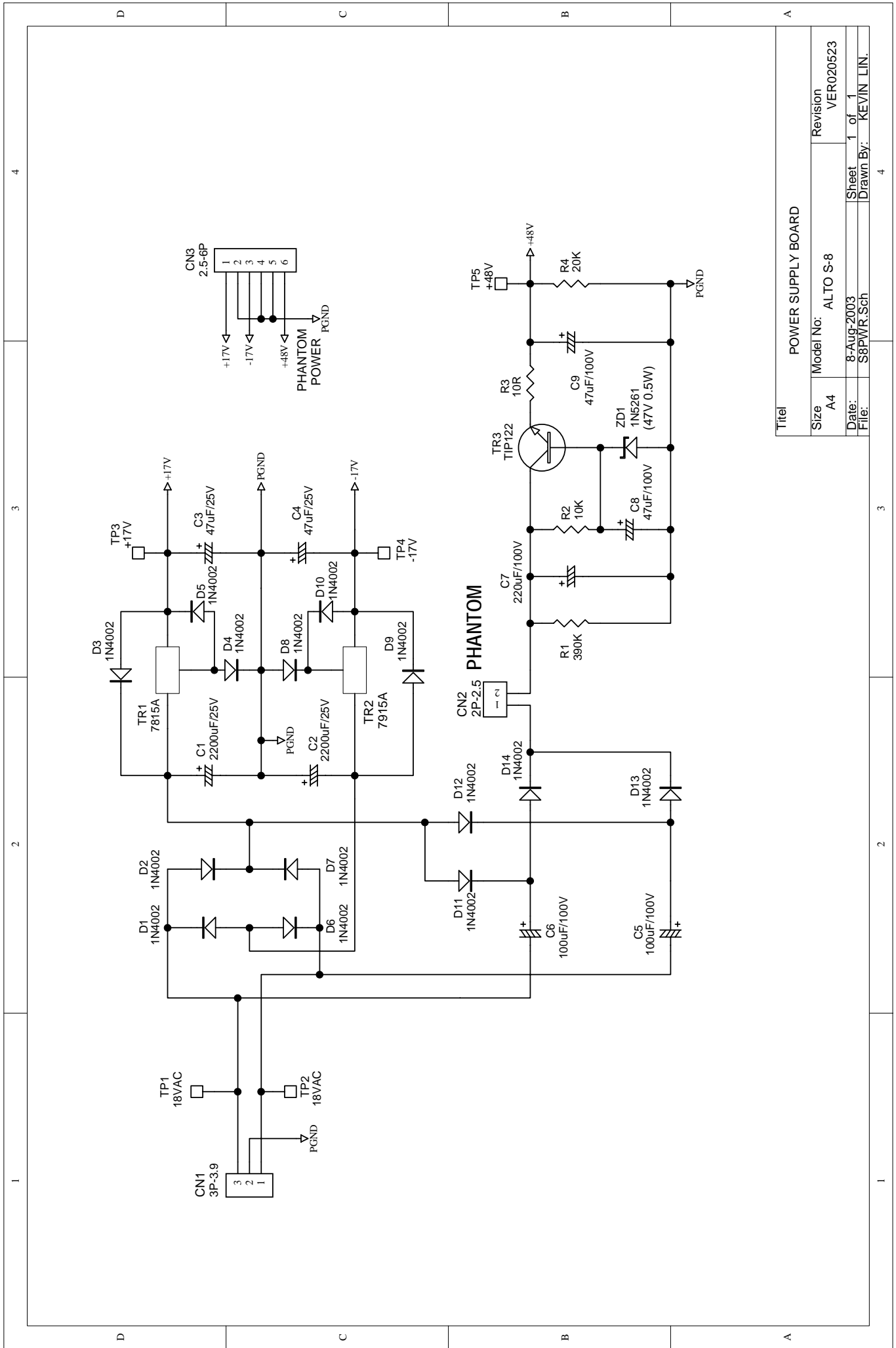


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Size A2	Model No. ALTO S-12	Revision VER021115
Date: 12-May-2003	Sheet 3 of 3	Drawn By: KEVIN LIN
File: CTRL-R_SCH		



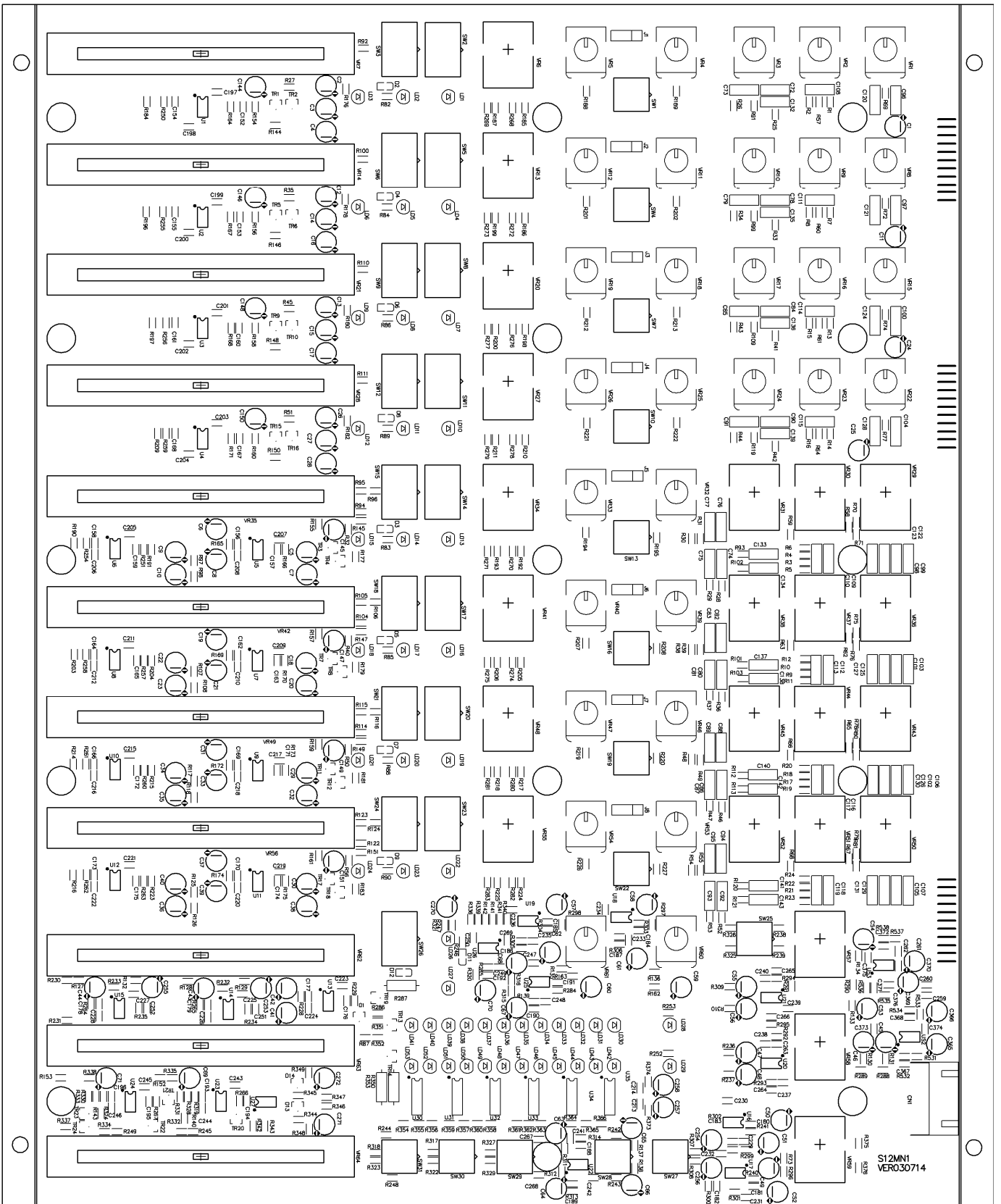


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Size		PCB# S12PU1.PCB	
Model No:	ALTO S-12	Revision	VER020906
Date:	12-May-2003	Sheet	0 of 0
File:	S12PU1.Sch	Drawn By:	KEVIN LIN

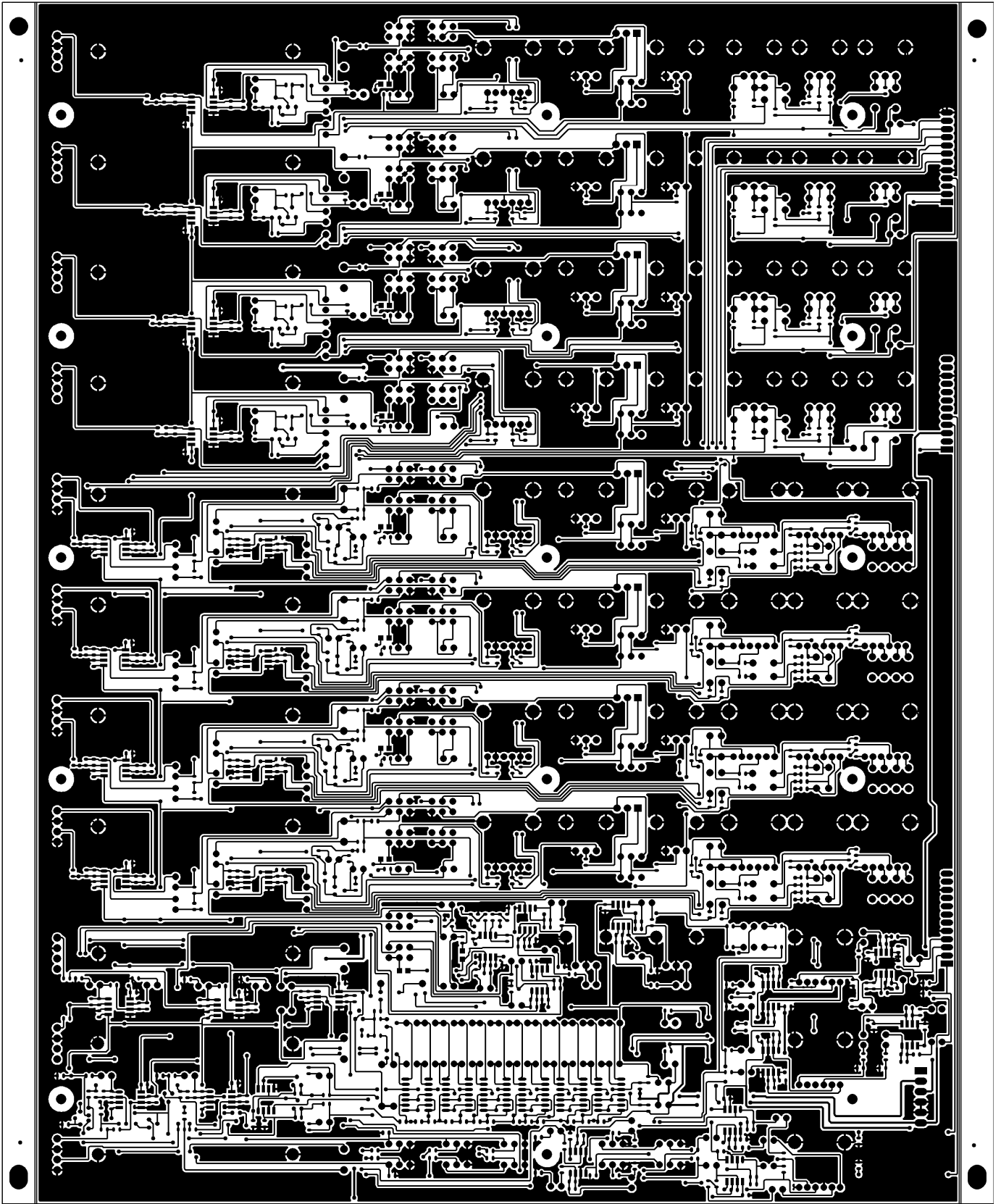


Title		POWER SUPPLY BOARD	
Size	A4	Model No:	ALTO S-8
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File:	S8PWR.Sch	Sheet	1 of 1
		Drawn By:	KEVIN LIN.

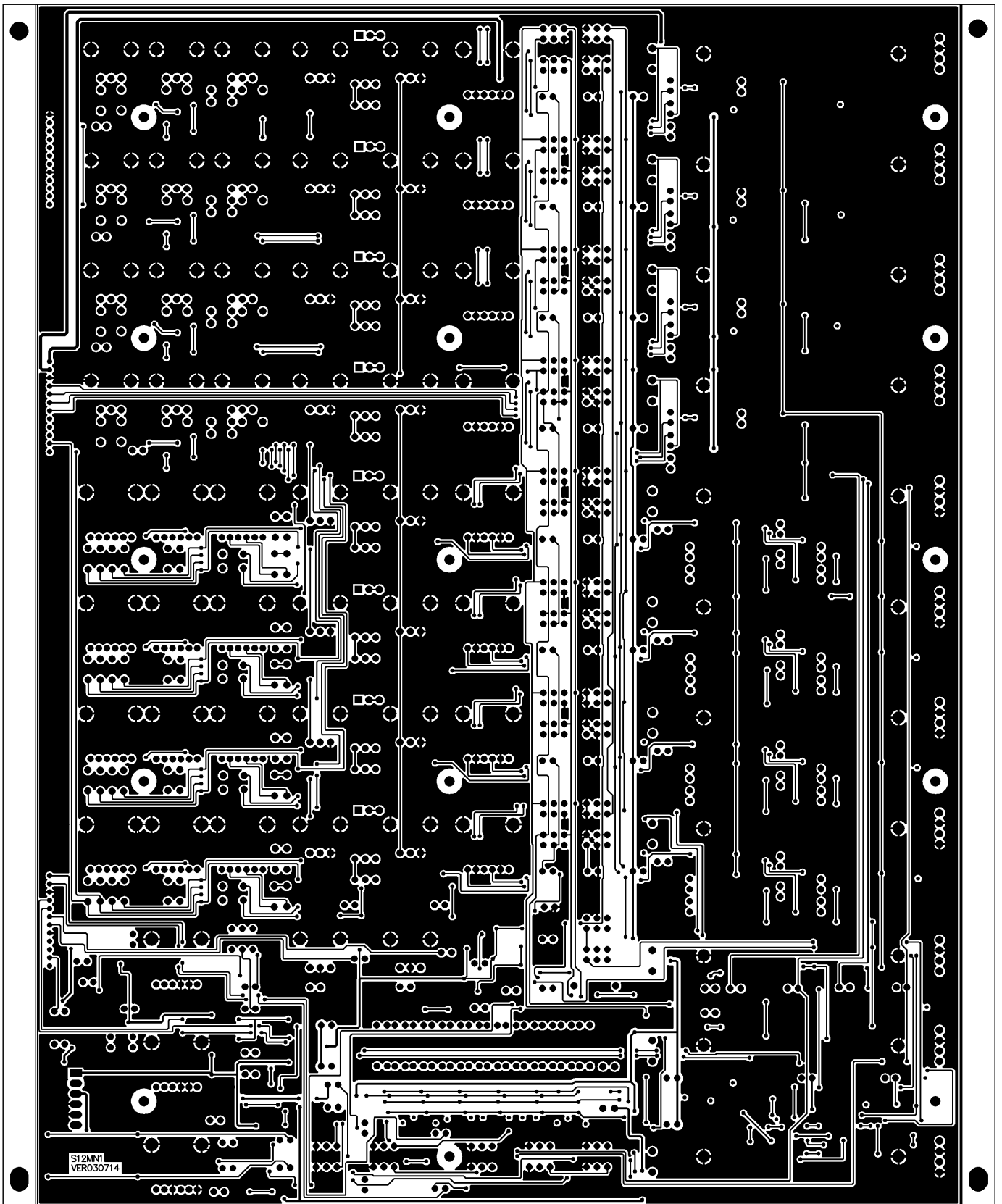
4. PRINTED CIRCUIT DIAGRAM



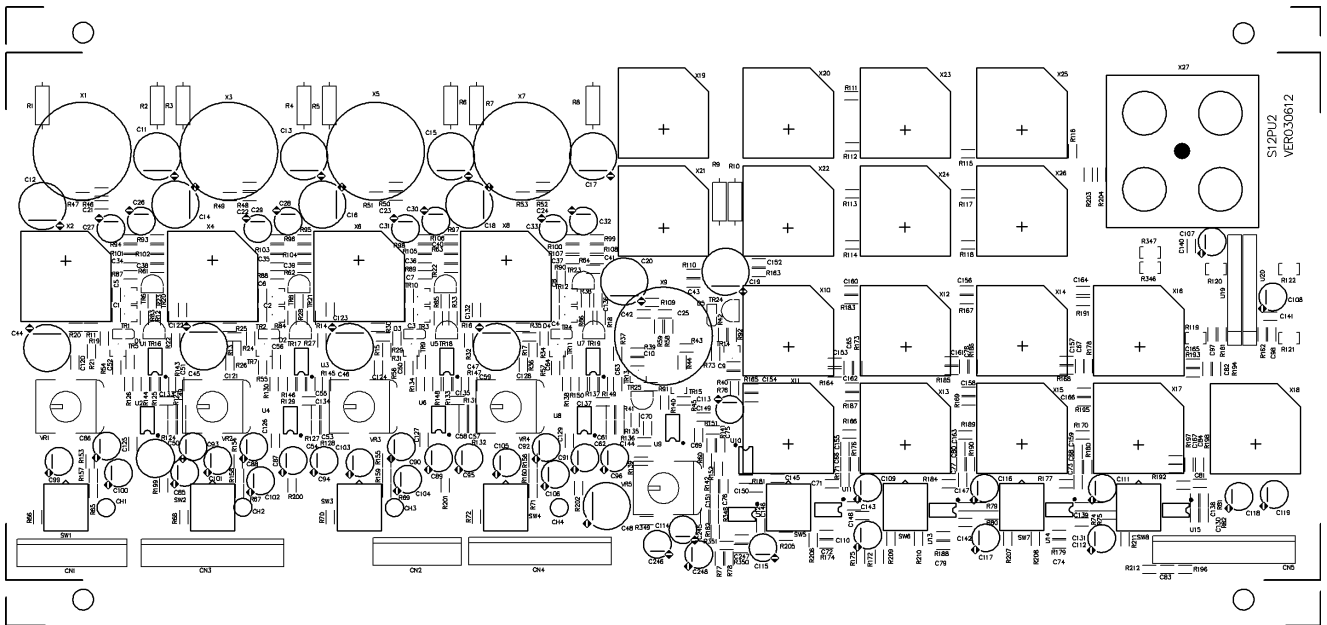
PCB : S12MN1 Top Overlay



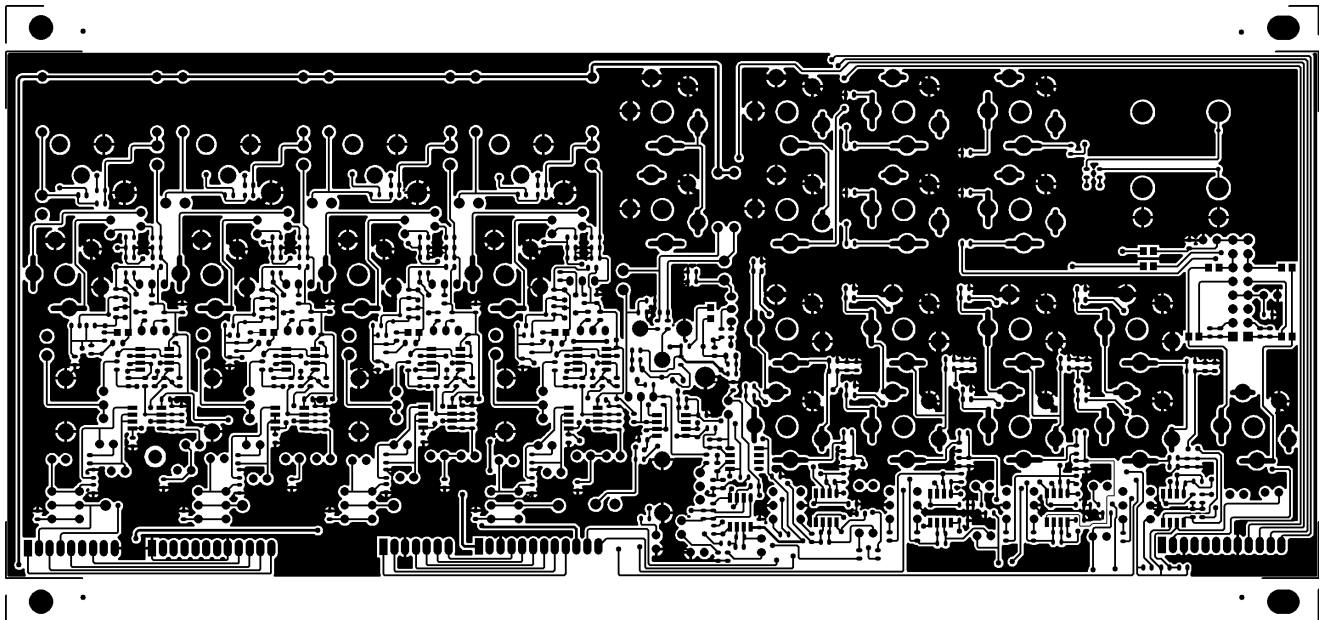
PCB : S12MN1 Top Layer



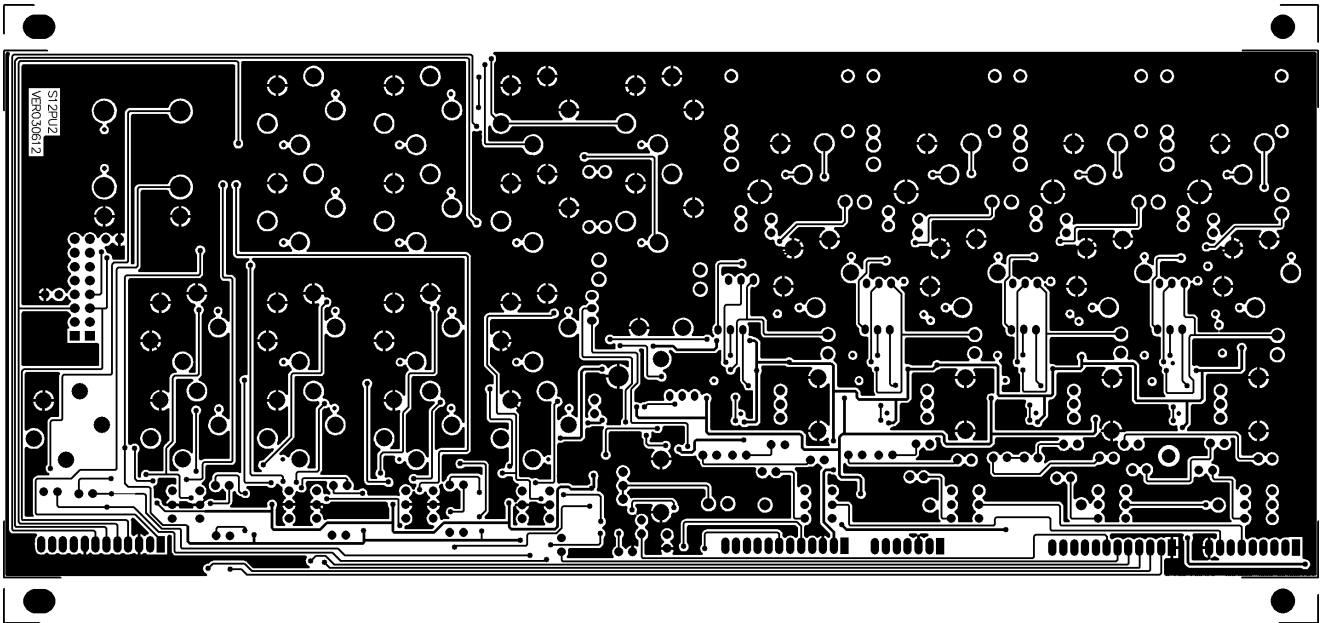
PCB : S12MN1 Bottom Layer



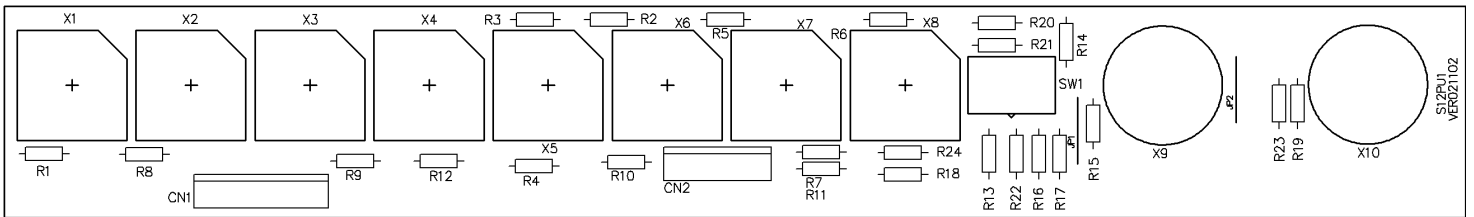
PCB : S12PU2 Top Overlay



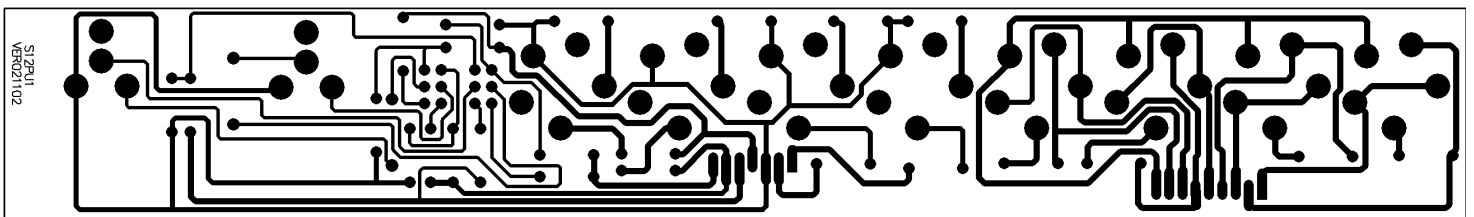
PCB : S12PU2 Top Layer



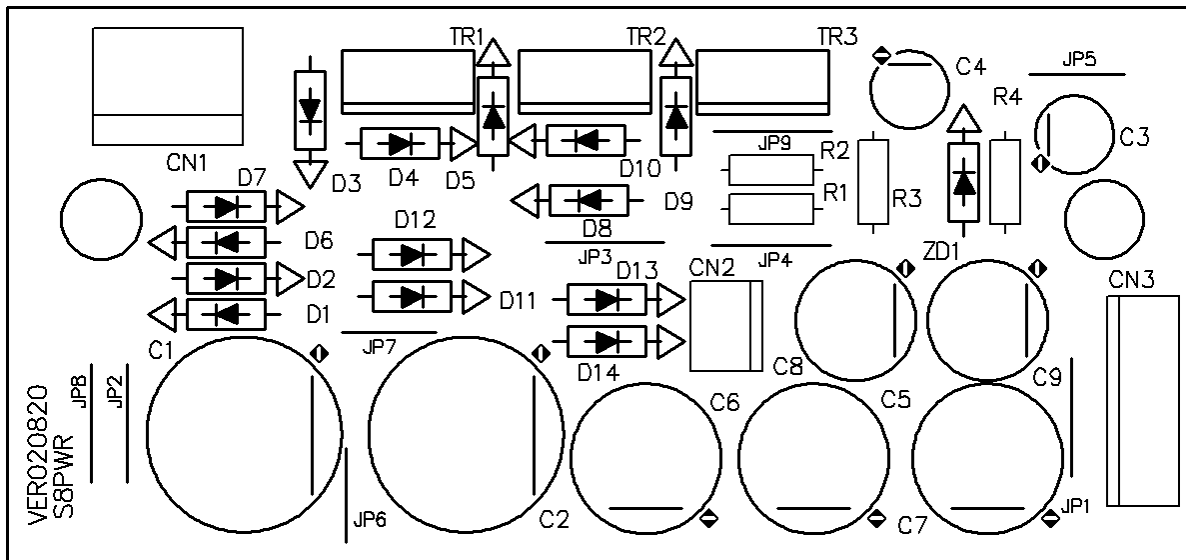
PCB : S12PU2 Bottom Layer



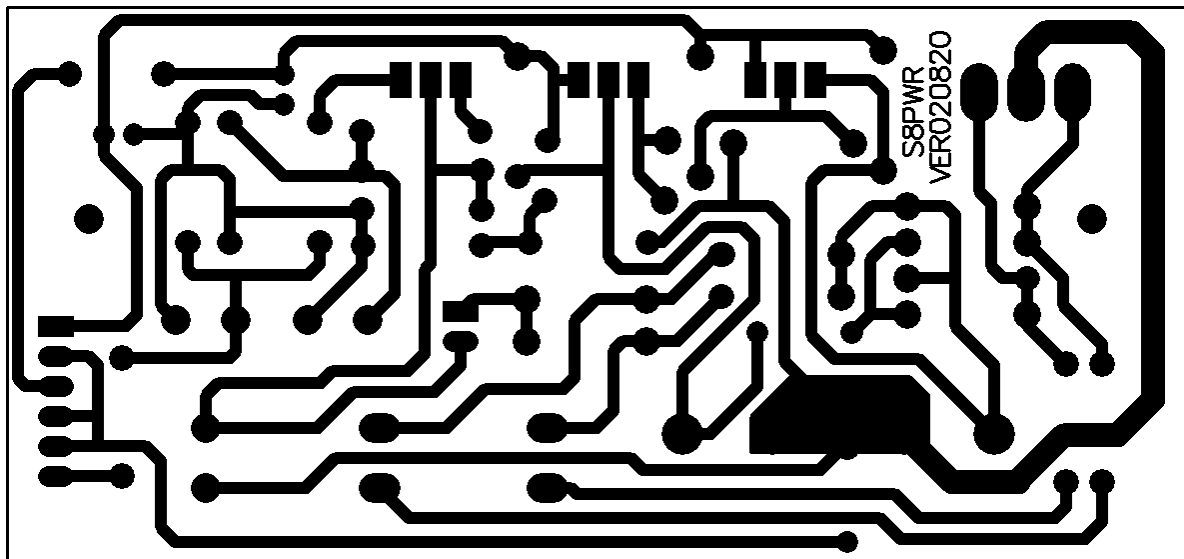
PCB : S12-PU1 Top Overlay



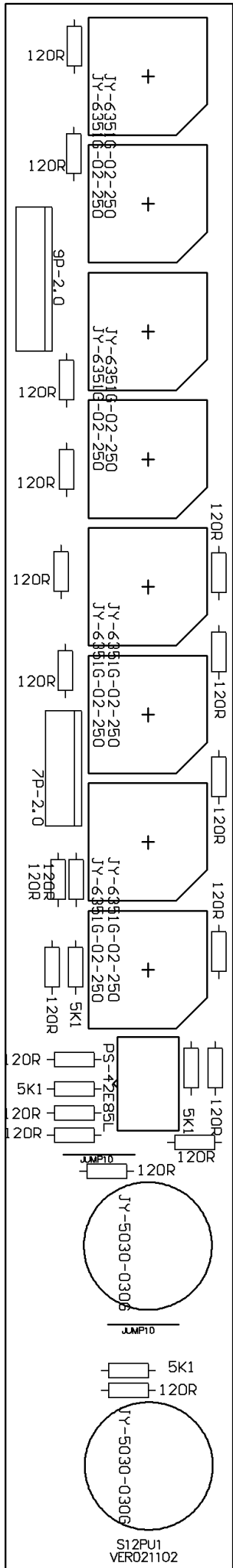
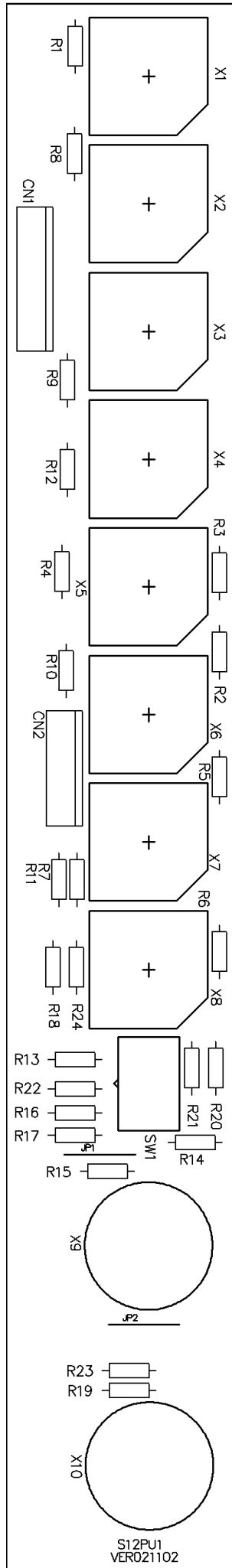
PCB : S12-PU1 Bottom Layer

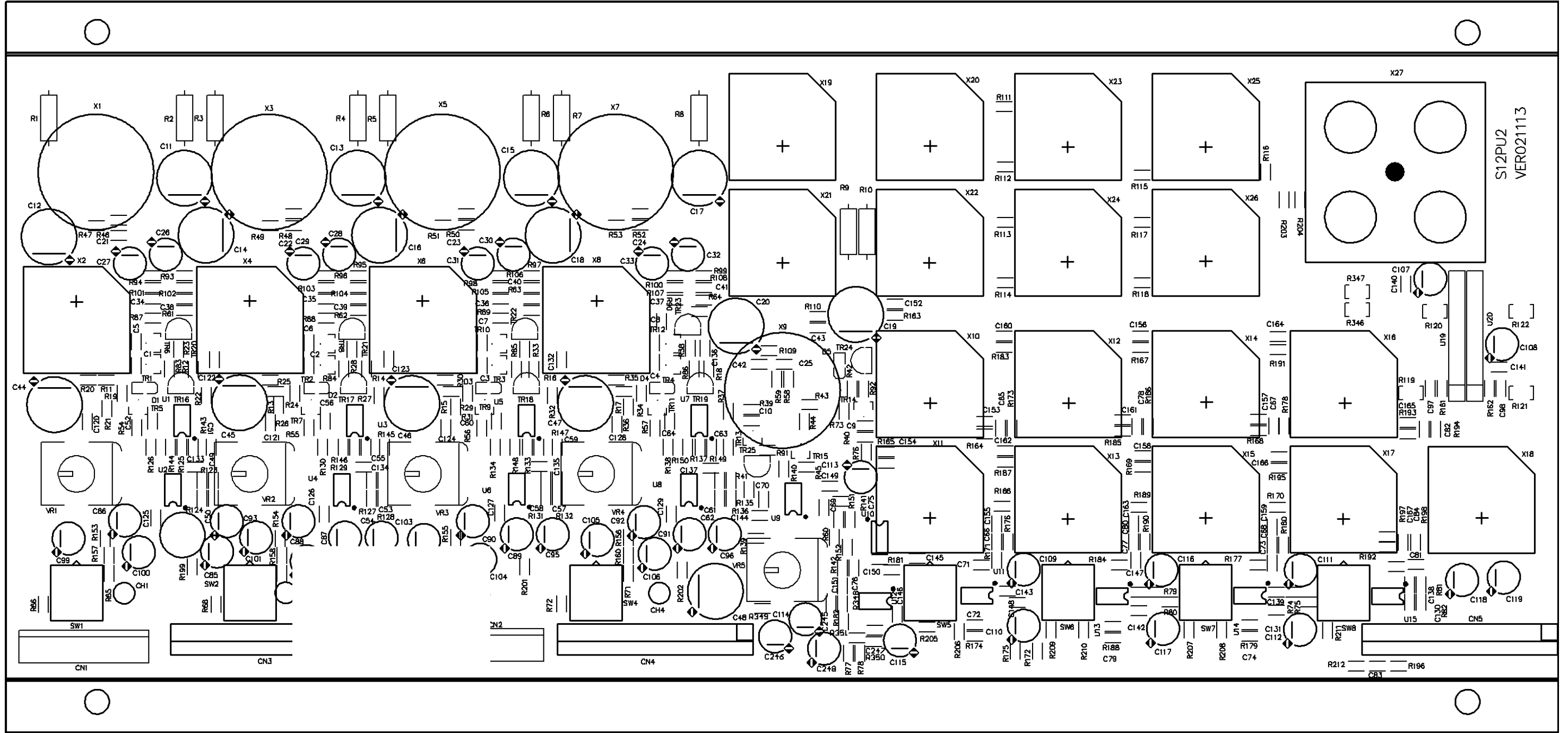


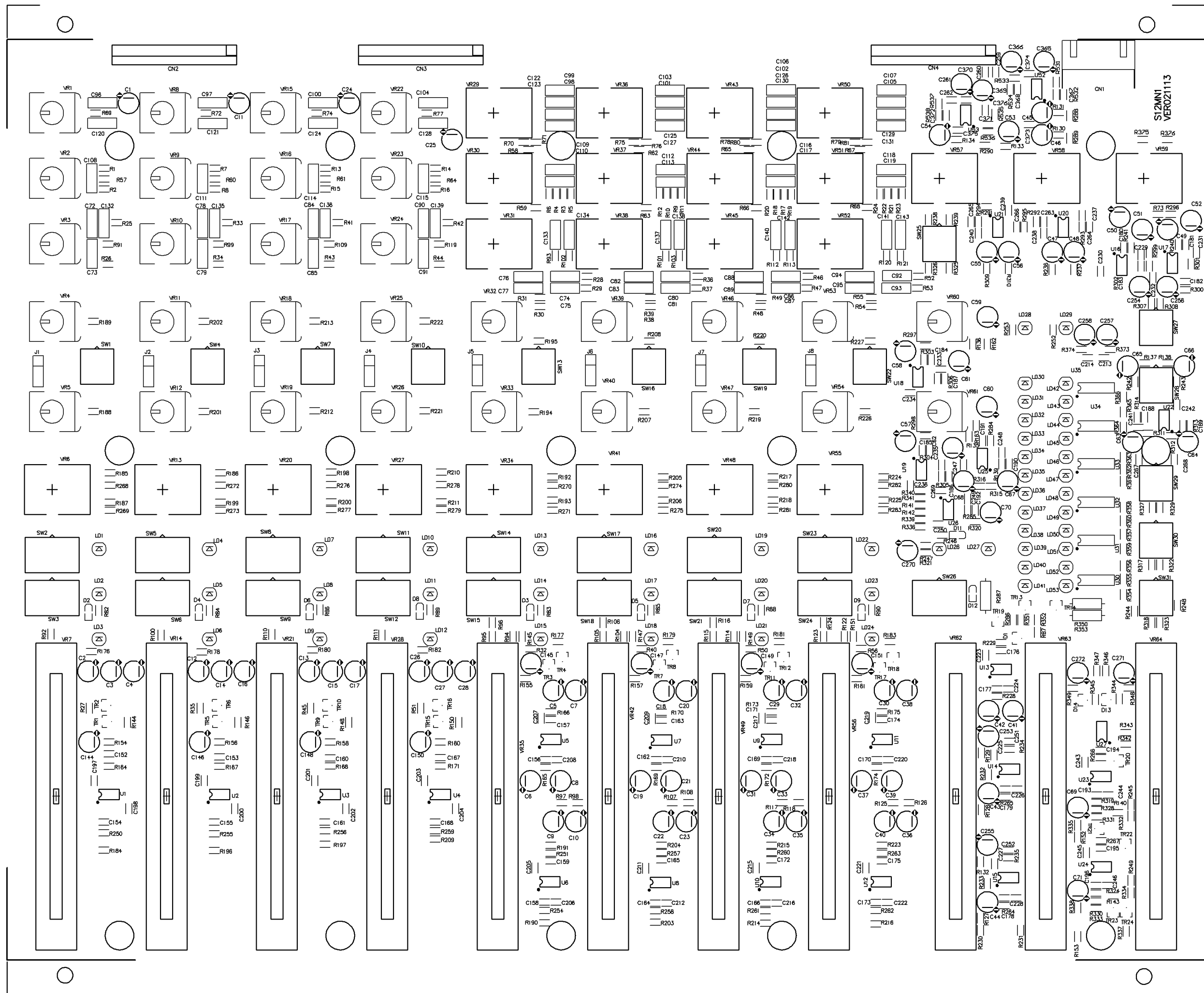
PCB : S8PWR Top Overlay



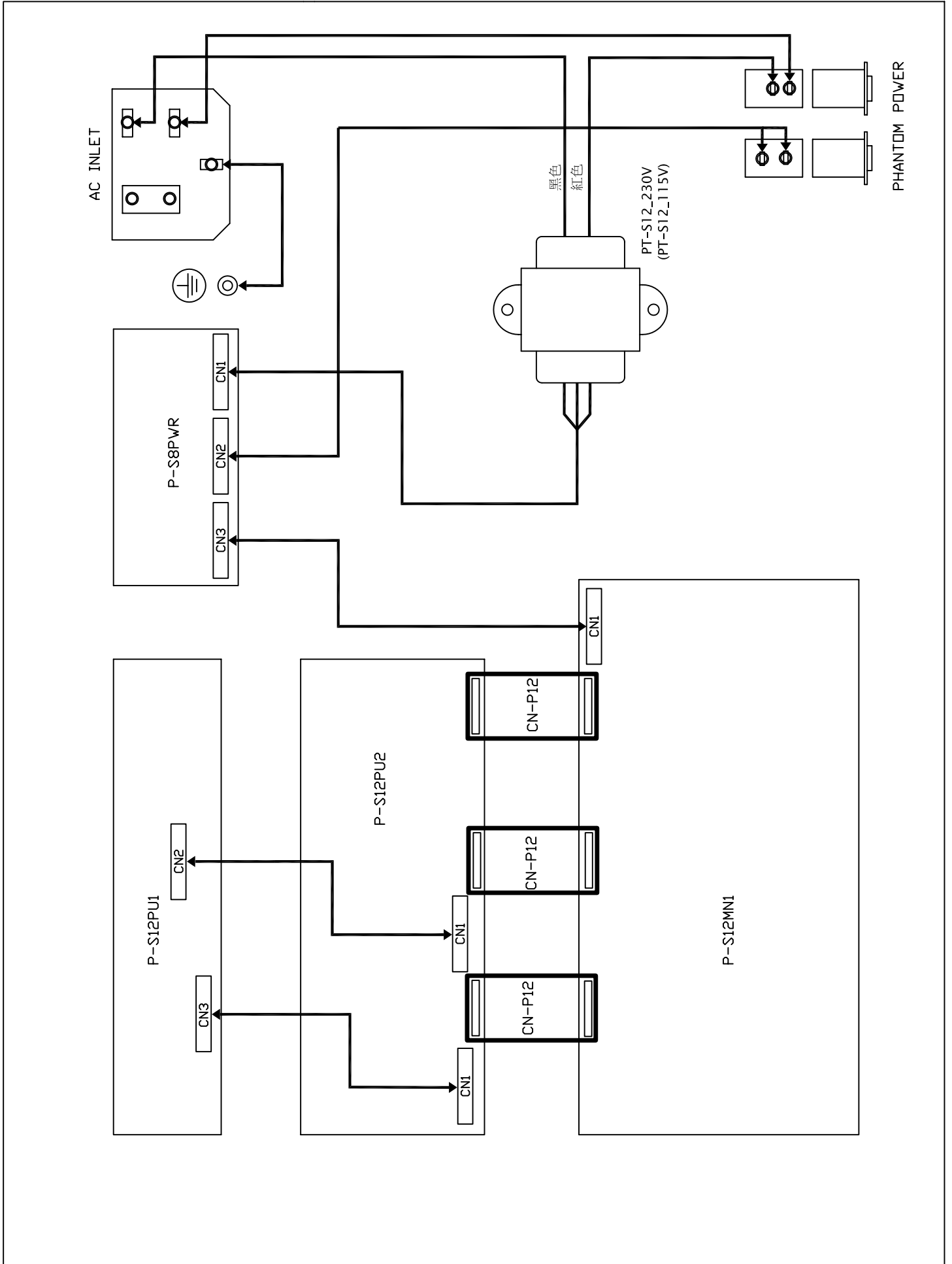
PCB : S8PWR Bottom Layer







5. Wiring Diagram



7. Electrical Parts List

SEKAKU ELECTRON INDUSTRY CO.,LTD

Multi-Level BOM Structure Listing

Report No.: IEB0_P02
Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
DESCRIPTION: S-12
S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0001-----	HI00026 power switch RA12KKATOF 2P			PCS	1.0000 1	2002/12/04 Y
0002-----	HI00171 switch R612KKATOF1			PCS	1.0000 1	2002/12/04 Y
0003-----	TC00160 transformer PT-DJM3_230V			PCS	1.0000 1	2002/12/04 Y
0004-----	MI01629 separating shade S-12			PCS	1.0000 1	2002/12/05 Y
0001-----	MJ00090 iron board 0.3*200*3000 1.431kg			PCS KG	1.0000 119	2003/02/08 N
0005-----	MJ01027 heat-sink S-8			PCS	1.0000 1	2002/12/05 Y
0001-----	MJ01030 heat-sink S-8			PCS	1.0000 1	2002/12/23 N
0001-----	MJ00070 AL board 4*2440*1220 32.40kg			PCS KG	1.0000 1400	2002/07/02 N
0006-----	HC00008 AC outlet 3515 A TYPE(RF-2004-C-4.8)			PCS	1.0000 1	2002/12/05 Y
0007-----	HD00054 fuse 250mA 250V 5.2*20mm CSA/S/UL/VDE			PCS	1.0000 1	2002/12/05 Y
0008-----	MG00304 copper pole M3*14*0.5PH			PCS	15.0000 1	2002/12/05 Y
0009-----	MG00305 copper pole M3*24*0.5PH			PCS	1.0000 1	2002/12/05 Y
0010-----	NI01862 key 5.5*5.5*14.5			PCS	9.0000 1	2002/12/05 Y
0011-----	NI01863 key 5.5*W10*7.5			PCS	32.0000 1	2002/12/05 Y
0012-----	NI02377 knob 5.5*7.5mm(內3.3*3.3mm)			PCS	8.0000 1	2002/12/05 Y
0013-----	NI02083 knob 10.5*18			PCS	27.0000 1	2002/12/05 Y
0014-----	NI02081 knob 10.5*18			PCS	18.0000 1	2002/12/05 Y
0015-----	NI02082 knob 10.5*18			PCS	8.0000 1	2002/12/05 Y
0016-----	NI02084 knob 10.5*18			PCS	5.0000 1	2002/12/05 Y
0017-----	NI02309 knob 24*11.5*11			PCS	8.0000 1	2002/12/05 Y
0018-----	NI02352 knob 24*11.5*11			PCS	2.0000 1	2002/12/05 Y
0019-----	NI02353 knob 24*11.5*11			PCS	1.0000 1	2002/12/05 Y

Multi-Level BOM Structure Listing

Report No.: IEB0_P02
 Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0020-----	MG00041 screw M3*6			PCS	48.0000 1	2002/12/24 Y
0021-----	MG00042 screw M3*10			PCS	2.0000 1	2002/12/05 Y
0022-----	MG00061 screw M3*10			PCS	15.0000 1	2002/12/05 Y
0023-----	ME00015 colour nut 3m/m			PCS	3.0000 1	2003/07/28 Y
0024-----	MF00038 washer 4* 7*1t			PCS	3.0000 1	2002/12/05 Y
0025-----	MG00102 screw M4*8			PCS	2.0000 1	2002/12/05 Y
0026-----	MF00048 washer 4* 8*0.5t			PCS	1.0000 1	2002/12/05 Y
0027-----	ME00060 socket nut JY-6351G-02-250			PCS	29.0000 1	2002/12/05 Y
0028-----	MF00061 washer JY-6351G-02-250			PCS	29.0000 1	2002/12/05 Y
0029-----	NI02249 caushion TW-1(TO-220)			PCS	3.0000 1	2002/12/05 Y
0030-----	NC00022 insulation 0.3t*18*45mm S-8			PCS	1.0000 1	2002/12/05 Y
0031-----	MG00024 screw M3*7 0.5PH			PCS	3.0000 1	2002/12/05 Y
0032-----	MF00037 washer 3* 5*1t			PCS	5.0000 1	2002/12/24 Y
0033-----	HA01174 signle terminal wiring CF:W146 80 green/yellow			PCS	1.0000 1	2002/12/05 Y
0034-----	HA01835 P.V.C single wave wired UL1617 80 brown			PCS	1.0000 1	2002/12/05 Y
0035-----	HA01392 row-wire connector wiring 2P 150			PCS	1.0000 1	2002/12/05 Y
0036-----	HA02400 wire 6P-6P 200mm UL1007 22AWG black/white			PCS	1.0000 1	2003/03/15 Y
0037-----	HA00861 power cord Europe 3P LT-312+LT-501			PCS	1.0000 1	2002/12/05 Y
0038-----	NI00218 cable tie-black ALT-102SB			PCS	2.0000 1	2002/12/05 Y
0039-----	ND00234 non wonen 0.35t*294*80mm			PCS	1.0000 1	2002/12/05 Y
0040-----	@NI00252 sleeve 4*20mm			PCS	7.0000 1	2002/12/05 Y
0001-----	NI00248 sleeve 4*1000mm			M	20.0000 1000	2002/06/04 N

Multi-Level BOM Structure Listing

Report No.: IEB0_P02
 Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0041-----	NI00501 foot cushion 12.7*9*3t(SF-004)			PCS	4.0000 1	2002/12/05 Y
0042-----	NA00135 PE bag 0.05t*610*500mm			PCS KG	1.0000 1 0.00 %	2002/12/05 Y
0043-----	NA00127 PE bag 0.1t*610*200mm			PCS KG	2.0000 1 0.00 %	2002/12/05 Y
0044-----	HJ00006 desiccant 30g			PCS	1.0000 1 0.00 %	2002/12/05 Y
0045-----	MI01619 bracket S-12			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	MI01615 bracket S-12			PCS	1.0000 1 0.00 %	2003/01/10 N
0001-----	MJ00088 iron board 1.5*2135*1220 30.67kg			PCS KG	1.0000 60 0.00 %	2002/11/03 N
0046-----	MI01622 bracket S-12			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	MI01620 bracket S-12			PCS	1.0000 1 0.00 %	2003/01/10 N
0001-----	MJ00088 iron board 1.5*2135*1220 30.67kg			PCS KG	1.0000 60 0.00 %	2002/11/03 N
0047-----	NF01109 instruction S-12			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	NH00149 paper 889*640mm			張 令	1.5000 1 0.00 %	2003/02/10 Y
0048-----	NB02119 barrier S-12 right			PCS	1.0000 1 0.00 %	2002/12/05 Y
0049-----	NB02120 barrier S-12 left			PCS	1.0000 1 0.00 %	2002/12/05 Y
0050-----	NB02118 box S-12			PCS	1.0000 1 0.00 %	2002/12/05 Y
0051-----	NB02117 box S-12			PCS	1.0000 2 0.00 %	2003/05/14 Y
0052-----	NF00061 assurance card LTO			PCS	1.0000 1 0.00 %	2002/12/05 Y
0053-----	NE10860 label S-12			PCS	4.0000 1 0.00 %	2002/12/05 Y
0001-----	NH00012 bond paper 0.04*1M			M	1.0000 80 0.00 %	2002/12/11 Y
0002-----	NI00014 membrane 0.035*1M			M	1.0000 80 0.00 %	2002/12/11 Y
0054-----	NE05004 label ALTO			PCS	4.0000 1 0.00 %	2002/12/05 Y
0055-----	NE02717 label MADE IN CHINA			PCS	2.0000 1 0.00 %	2002/12/05 Y

Multi-Level BOM Structure Listing

Report No.: IEB0_P02
 Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition	Rate
0001-----	NI00067 R-25#透明龍 cellophane paper			M	1.0000 700 0.00 %	2003/01/30 N
0002-----	NI00027 membrane 0.105*1M			M	1.0000 700 0.00 %	2003/01/30 N
0056-----	MA03683 panel S-12			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	MA03681 panel S-12			PCS	1.0000 1 0.00 %	2003/01/08 N
0001-----	MA03680 panel S-12			PCS	1.0000 1 0.00 %	2002/08/29 N
0001-----	MJ00058 iron board 1*2135*1220 20.45kg			PCS KG	1.0000 15 0.00 %	2002/09/24 N
0002-----	ME00097 screw M3*10*0.5PH			PCS	1.0000 1 0.00 %	2003/07/28 N
0057-----	MB02488 rear board S-12			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	MB02486 rear board S-12			PCS	1.0000 1 0.00 %	2003/01/12 N
0001-----	MJ00061 Zn-plated board 1*2135*1220 20.45kg			PCS KG	1.0000 17 0.00 %	2003/01/12 N
0002-----	ME00004 screw M3*10*0.5PH			PCS	2.0000 1 0.00 %	2003/01/12 N
0003-----	ME00033 iron pillar hexagon6.35*M4*5.2			PCS	2.0000 1 0.00 %	2003/01/12 N
0058-----	HK03538 K-PC板 P-S12MN1-DIP			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	HK03537 K-PC板 P-S12MN1-SMD			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	HB00813 PCB S12MN1_VERO30714			PCS	1.0000 1 0.00 %	2002/12/04 Y
0002-----	RD00059 SMDfixed resistor 1/10W 0 ±5% 0603 R346,R347			PCS	2.0000 1 0.00 %	2002/12/04 Y
0003-----	RD00065 SMDfixed resistor 1/10W 47 ±5% 0603 R373,R374			PCS	2.0000 1 0.00 %	2002/12/04 Y
0004-----	RD00346 resistor 56 ±5% 0603 R354			PCS	1.0000 1 0.00 %	2002/12/04 Y
0005-----	RD00069 SMDfixed resistor 1/10W 120 ±5% 0603 R355,R140,R143			PCS	3.0000 1 0.00 %	2003/02/06 Y

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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0006-----	RD00076 SMDfixed resistor 1/10W 330 ±5% 0603 R359, R360			PCS	2.0000 1 0.00 %	2002/12/04 Y
0007-----	RD00078 SMDfixed resistor 1/10W 470 ±5% 0603 R356, R357, R358			PCS	3.0000 1 0.00 %	2002/12/04 Y
0008-----	RD00347 resistor 510 ±5% 0603 R286, R351, R352, R361			PCS	4.0000 1 0.00 %	2002/12/04 Y
0009-----	RD00348 resistor 620 ±5% 0603 R362			PCS	1.0000 1 0.00 %	2002/12/04 Y
0010-----	RD00349 resistor 910 ±5% 0603 R1, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R2, R20, R21, R22, R23, R24, R3, R4, R5, R6, R7, R8, R9			PCS	24.0000 1 0.00 %	2002/12/04 Y
0011-----	RD00350 resistor 1.1K ±5% 0603 R69, R70, R71, R72, R74, R75, R76, R77, R78, R79, R80, R81			PCS	12.0000 1 0.00 %	2002/12/04 Y
0012-----	RD00351 resistor 1.3K ±5% 0603 R363, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68			PCS	13.0000 1 0.00 %	2002/12/04 Y
0013-----	RD00085 SMDfixed resistor 1/10W 1.5K ±5% 0603 R176, R177, R178, R179, R180, R181, R182, R183			PCS	8.0000 1 0.00 %	2002/12/04 Y
0014-----	RD00087 SMDfixed resistor 1/10W 2.0K ±5% 0603 R252, R364			PCS	2.0000 1 0.00 %	2002/12/04 Y
0015-----	RD00088 SMDfixed resistor 1/10W 2.2K ±5% 0603 R82, R83, R84, R85, R86, R88, R89, R90			PCS	8.0000 1 0.00 %	2002/12/04 Y
0016-----	RD00352 resistor 3.6K ±5% 0603 R299, R300			PCS	2.0000 1 0.00 %	2002/12/04 Y
0017-----	RD00093 SMDfixed resistor 1/10W 4.7K ±5% 0603 R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R253			PCS	11.0000 1 0.00 %	2002/12/04 Y
0018-----	RD00094 SMDfixed resistor 1/10W 5.1K ±5% 0603 R184, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213,			PCS	66.0000 1 0.00 %	2002/12/04 Y

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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
						R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R245, R246, R247, R248, R249
0019-----	RD00095 SMDfixed resistor 1/10W 5.6K ±5% 0603 R365			PCS	1.0000 1 0.00 %	2002/12/04 Y
0020-----	RD00097 SMDfixed resistor 1/10W 6.8K ±5% 0603 R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56			PCS	32.0000 1 0.00 %	2002/12/04 Y
0021-----	RD00099 SMDfixed resistor 1/10W 8.2K ±5% 0603 R307, R308, R366			PCS	3.0000 1 0.00 %	2002/12/04 Y
0022-----	RD00101 SMDfixed resistor 1/10W 10K ±5% 0603 R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R141, R142, R348, R349, R375, R376, R531, R532, R533, R534, R535, R536, R537, R538, R87, R91, R92, R93, R94, R95, R96, R97, R98, R99			PCS	64.0000 1 0.00 %	2003/02/06 Y
0023-----	RD00102 SMDfixed resistor 1/10W 12K ±5% 0603 R327, R328, R329, R330			PCS	4.0000 1 0.00 %	2002/12/04 Y
0024-----	RD00103 SMDfixed resistor 1/10W 15K ±5% 0603 R339, R340			PCS	2.0000 1 0.00 %	2002/12/04 Y
0025-----	RD00104 SMDfixed resistor 1/10W 18K ±5% 0603 R250, R251, R254, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R267			PCS	16.0000 1 0.00 %	2002/12/04 Y
0026-----	RD00306 resistor 20K ±5% 0603 R309, R310, R311, R312, R313, R314, R315, R316, R317, R318, R319, R320, R321, R322, R323, R324			PCS	16.0000 1 0.00 %	2002/12/04 Y
0027-----	RD00105 SMDfixed resistor 1/10W 22K ±5% 0603 R288, R289, R290, R291			PCS	4.0000 1 0.00 %	2002/12/04 Y
0028-----	RD00106 SMDfixed resistor 1/10W 27K ±5% 0603 R268, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R285			PCS	18.0000 1 0.00 %	2002/12/04 Y

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 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0029-----	RD00107 SMDfixed resistor 1/10W 30K ±5% 0603 R296, R297, R298, R73			PCS	4.0000 1 0.00 %	2002/12/04 Y
0030-----	RD00353 resistor 36K ±5% 0603 R301, R302, R303, R304, R305, R306, R342, R343			PCS	8.0000 1 0.00 %	2002/12/04 Y
0031-----	RD00111 SMDfixed resistor 1/10W 47K ±5% 0603 R144, R145, R146, R147, R148, R149, R150, R151, R152, R153			PCS	10.0000 1 0.00 %	2002/12/04 Y
0032-----	RD00112 SMDfixed resistor 1/10W 56K ±5% 0603 R292, R293, R294, R295			PCS	4.0000 1 0.00 %	2002/12/04 Y
0033-----	RD00113 SMDfixed resistor 1/10W 62K ±5% 0603 R331, R332, R333, R334			PCS	4.0000 1 0.00 %	2002/12/04 Y
0034-----	RD00114 SMDfixed resistor 1/10W 68K ±5% 0603 R325, R326			PCS	2.0000 1 0.00 %	2002/12/04 Y
0035-----	RD00116 SMDfixed resistor 1/10W 100K ±5% 0603 R335, R336, R337, R338, R344, R345			PCS	6.0000 1 0.00 %	2002/12/04 Y
0036-----	RD00119 SMDfixed resistor 1/10W 220K ±5% 0603 R341			PCS	1.0000 1 0.00 %	2002/12/04 Y
0037-----	RD00125 SMDfixed resistor 1/10W 1.0M ±5% 0603 R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175			PCS	12.0000 1 0.00 %	2002/12/04 Y
0038-----	CI00051 SMDceramic capacitor0603 22PF/50V NPO ±5% C152, C153, C154, C155, C156, C157, C158, C159, C160, C161, C162, C163, C164, C165, C166, C167, C168, C169, C170, C171, C172, C173, C174, C175, C176, C177, C178, C179, C180, C181, C182, C183, C184, C185, C186, C187, C188, C189, C190, C191, C192, C193, C194, C195, C196, C251, C252, C263, C264, C265, C266, C367, C368, C371, C372			PCS	55.0000 1 0.00 %	2002/12/04 Y
0039-----	CI00059 SMDceramic capacitor0603 100PF/50V NPO ±5% C259, C260, C261, C262, C267, C268			PCS	6.0000 1 0.00 %	2002/12/04 Y
0040-----	CI00075 SMDceramic capacitor0603 0.1uF/50V Y5V +80, -20% C197, C198, C199, C200, C201, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, C222, C223, C224, C225, C226,			PCS	59.0000 1 0.00 %	2002/12/04 Y

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 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
						C227, C228, C229, C230, C231, C232, C233, C234, C235, C236, C237, C238, C239, C240, C241, C242, C243, C244, C245, C246, C247, C248, C249, C250, C269, C373, C374, C375, C376
0041-----	SE00028 diode BAS316, 115 D11, D12, D2, D3, D4, D5, D6, D7, D8, D9			PCS	10.0000 1 0.00 %	2002/12/04 Y
0042-----	SF00004 SMD transistor 2SA1036K(R) (MMBT3906LT1) TR13, TR14, TR19			PCS	3.0000 1 0.00 %	2002/12/04 Y
0043-----	SF00010 SMD transistor 2SC2412K(R) (MMBT3904LT1) TR1, TR10, TR11, TR12, TR15, TR16, TR17, TR18, TR2, TR3, TR4, TR5, TR6, TR7, TR8, TR9			PCS	16.0000 1 0.00 %	2002/12/04 Y
0044-----	SF00039 SMD field effect transistor MMBFJ112/PMBFJ112(SOT-23) TR20, TR21, TR22, TR23, TR24			PCS	5.0000 1 0.00 %	2002/12/04 Y
0045-----	SE00008 SMD rectifier diode DA204K/T-146 D1, D13, D14			PCS	3.0000 1 0.00 %	2002/12/04 Y
0046-----	SG00122 SMD integrated circuit NJM4580M-TE3 U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U3, U4, U5, U52, U53, U6, U7, U8, U9			PCS	28.0000 1 0.00 %	2003/05/08 Y
0047-----	SG00032 SMD integrated circuit BA10339F(ST LM339DT) U30, U31, U32, U33, U34, U35			PCS	6.0000 1 0.00 %	2002/12/04 Y
0048-----	SG00033 SMD integratd circuit(NS/MOT) LM358N(NJM2904M) U27			PCS	1.0000 1 0.00 %	2003/05/08 Y
0002-----	RA00185 fixed resistor 1/4W 120 M type R287, R350, R353			PCS	3.0000 1 0.00 %	2002/12/05 Y
0003-----	CF00054 metal-film capacitor(MSC) 0.012uF/63V ±5% CASE01 4mm C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C132, C133, C134, C135, C136, C137, C138, C139, C140, C141, C142, C143			PCS	24.0000 1 0.00 %	2002/12/05 Y
0004-----	CF00021 metal-film capacitor 0.018uF/63V 5% CASE01 4mm C100, C101, C102, C103, C104, C105, C106, C107, C120, C121, C122, C123, C124, C125, C126, C127, C128, C129, C130, C131, C96, C97, C98, C99			PCS	24.0000 1 0.00 %	2002/12/05 Y

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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No Item Descri	Loss %	Ver.	Unit	Cardinal Usage Rate @: Attrition Rate	Effective Date Phantom Layer
0005-----	CF00023 metal-film capacitor MSC 0.033uF/63V 5% CASE01 4mm C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95			PCS	24.0000 1 0.00 %	2002/12/05 Y
0006-----	CB00011 electrolytic capacitor 2.2uF/50V C144, C145, C146, C147, C148, C149, C150, C151, C270			PCS	9.0000 1 0.00 %	2002/12/05 Y
0007-----	CB00175 capacitor 47uF/25V SLL 5*11mm C1, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C2, C20, C21, C22, C23, C24, C25, C253, C254, C255, C256, C257, C258, C26, C27, C271, C272, C28, C29, C3, C30, C31, C32, C33, C34, C35, C36, C365, C366, C369, C37, C370, C38, C39, C4, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C5, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C6, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C7, C70, C71, C8, C9			PCS	83.0000 1 0.00 %	2003/06/13 Y
0008-----	SA00053 L.E.D high intensity 3m/m round(red)long foot 26mm LD1, LD10, LD12, LD13, LD15, LD16, LD18, LD19, LD21, LD22, LD24, LD26, LD28, LD3, LD30, LD4, LD42, LD6, LD7, LD9			PCS	20.0000 1 0.00 %	2002/12/05 Y
0009-----	SA00054 L.E.D high intensity 3m/m round(yellow)long foot 26 LD11, LD14, LD17, LD2, LD20, LD23, LD31, LD43, LD5, LD8			PCS	10.0000 1 0.00 %	2002/12/05 Y
0010-----	SA00052 L.E.D high intensity 3m/m round(green)long foot 26 LD29, LD32, LD33, LD34, LD35, LD36, LD37, LD38, LD39, LD40, LD41, LD44, LD45, LD46, LD47, LD48, LD49, LD50, LD51, LD52, LD53, LD27			PCS	22.0000 1 0.00 %	2002/12/05 Y
0011-----	RC00235 potentiometer W50K RV09BC-40-30F-W50K-OC VR11, VR12, VR18, VR19, VR25, VR26, VR32, VR33, VR39, VR4, VR40, VR46, VR47, VR5, VR53, VR54, VR60, VR61			PCS	18.0000 1 0.00 %	2002/12/05 Y
0012-----	RC00237 potentiometer W50K RV112BC-40-30A-W50K-OC VR57, VR58, VR59			PCS	3.0000 1 0.00 %	2002/12/05 Y
0013-----	RC00233 potentiometer B50K RV09BC-40-30F-B50K-OC VR1, VR10, VR15, VR16, VR17, VR2, VR22, VR23, VR24, VR3, VR8, VR9			PCS	12.0000 1 0.00 %	2002/12/05 Y
0014-----	RC00236 potentiometer B50K RV112BC-40-30A-B50K-OC VR29, VR30, VR31, VR36, VR37, VR38, VR43, VR44, VR45, VR50, VR51, VR52			PCS	12.0000 1 0.00 %	2002/12/05 Y
0015-----	RC00259 potentiometer J/Q10K RV112BC-40-30A-J/Q10K-OC VR13, VR20, VR27, VR34, VR41, VR48, VR55, VR6			PCS	8.0000 1 0.00 %	2002/12/05 Y

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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No Item Descri	Loss %	Ver.	Unit	Cardinal Usage Rate Attrition Rate	Effective Date @:Phantom Layer Rate
0016-----	RC00284 potentiometer D10K RF6011YP600F-10KD(AA) VR14, VR21, VR28, VR62, VR63, VR7			PCS	6.0000 1 0.00 %	2003/07/16 Y
0017-----	RC00285 potentiometer D10K RF60112P600G-10KD*2(AA) VR35, VR42, VR49, VR56, VR64			PCS	5.0000 1 0.00 %	2003/07/16 Y
0018-----	HC00261 row-wire header 12P 2.0mm 180° CN2, CN3, CN4			PCS	3.0000 1 0.00 %	2003/05/31 Y
0019-----	HC00070 row-wire header 6P 2.5mm 90° CN1			PCS	1.0000 1 0.00 %	2002/12/05 Y
0020-----	HI00162 按壓式SW 2段6P PS-22E8552L(3.3x3.3) SW1, SW10, SW13, SW16, SW19, SW22, SW25, SW27, SW28, SW29, SW30, SW31, SW4, SW7			PCS	14.0000 1 0.00 %	2002/12/05 Y
0021-----	HI00163 按壓式SW 2段12P PS-42E85L(3.3x3.3) SW11, SW12, SW14, SW15, SW17, SW18, SW2, SW20, SW21, SW23, SW24, SW26, SW3, SW5, SW6, SW8, SW9			PCS	17.0000 1 0.00 %	2002/12/05 Y
0022-----	NI01782 LED spacer support LEDS-11 11mm			PCS	52.0000 1 0.00 %	2002/12/05 Y
0059-----	HK03540 K-PC板 P-S12PU2-DIP			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	HK03539 K-PC板 P-S12PU2-SMD			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	HB00812 PCB S12PU2_VER030612			PCS	1.0000 1 0.00 %	2002/12/04 Y
0002-----	RD00355 resistor 4.7 ±5% 0603 R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60			PCS	15.0000 1 0.00 %	2002/12/04 Y
0003-----	RD00069 SMDfixed resistor 1/10W 120 ±5% 0603 R111, R112, R113, R114, R115, R116, R117, R118			PCS	8.0000 1 0.00 %	2002/12/04 Y
0004-----	RD00078 SMDfixed resistor 1/10W 470 ±5% 0603 R83, R84, R85, R86, R87, R88, R89, R90, R91, R92			PCS	10.0000 1 0.00 %	2002/12/04 Y
0005-----	RD00083 SMDfixed resistor 1/10W 1.0K ±5% 0603 R203, R204			PCS	2.0000 1 0.00 %	2002/12/04 Y

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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No Item Descri	Loss %	Ver.	Unit	Cardinal Usage Rate @: Attrition Rate	Effective Date Phantom Layer Rate
0006-----	RD00351 resistor 1.3K ±5% 0603 R153, R154, R155, R156			PCS	4.0000 1 0.00 %	2002/12/04 Y
0007-----	RD00087 SMDfixed resistor 1/10W 2.0K ±5% 0603 R205, R206, R207, R208, R209, R210, R211, R212			PCS	8.0000 1 0.00 %	2002/12/04 Y
0008-----	RD00097 SMDfixed resistor 1/10W 6.8K ±5% 0603 R199, R200, R201, R202			PCS	4.0000 1 0.00 %	2002/12/04 Y
0009-----	RD00101 SMDfixed resistor 1/10W 10K ±5% 0603 R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R172, R173, R175, R176, R178, R180, R181, R182, R183, R185, R186, R187, R189, R190, R191, R193, R194, R195, R197, R198, R348, R349, R350, R351			PCS	34.0000 1 0.00 %	2003/07/31 Y
0010-----	RD00306 resistor 20K ±5% 0603 R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82			PCS	22.0000 1 0.00 %	2002/12/04 Y
0011-----	RD00113 SMDfixed resistor 1/10W 62K ±5% 0603 R157, R158, R159, R160			PCS	4.0000 1 0.00 %	2002/12/04 Y
0012-----	RD00201 SMDprecise resistor 1/10W 1.50K ±1% 0603 R101, R102, R103, R104, R105, R106, R107, R108, R109, R110			PCS	10.0000 1 0.00 %	2002/12/04 Y
0013-----	RD00204 SMDprecise resistor 1/10W 2.49K ±1% 0603 R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45			PCS	35.0000 1 0.00 %	2002/12/04 Y
0014-----	RD00210 SMDprecise resistor 1/10W 5.11K ±1% 0603 R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142			PCS	20.0000 1 0.00 %	2002/12/04 Y
0015-----	RD00287 resistor 6.34K ±1% 0603 R100, R93, R94, R95, R96, R97, R98, R99			PCS	8.0000 1 0.00 %	2002/12/04 Y
0016-----	RD00214 SMDprecise resistor 1/10W 10.0K ±1% 0603 R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R171, R174, R177, R179, R184, R188, R192, R196			PCS	18.0000 1 0.00 %	2003/07/31 Y
0017-----	RD00004 SMDfixed resistor 1/10W 47 ±5% 0805 R346, R347			PCS	2.0000 1 0.00 %	2002/12/04 Y

Multi-Level BOM Structure Listing

Report No.: IEBO_P02
 Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0018-----	RD00007 SMDfixed resistor 1/10W 120 ±5% 0805 R119,R120,R121,R122			PCS	4.0000 1 0.00 %	2002/12/04 Y
0019-----	CI00051 SMDceramic capacitor0603 22PF/50V NPO ±5% C245,C247,C49,C50,C51,C52,C53,C54,C55,C56,C57,C58,C59, C60,C61,C62,C63,C64,C65,C66,C67,C68,C69,C70,C71,C72, C73,C74,C75,C76,C77,C78,C79,C80,C81,C82,C83,C84,C97, C98			PCS	40.0000 1 0.00 %	2002/12/04 Y
0020-----	CI00059 SMDceramic capacitor0603 100PF/50V NPO ±5% C152,C153,C154,C155,C156,C157,C158,C159,C160,C161, C162,C163,C164,C165,C166,C167			PCS	16.0000 1 0.00 %	2002/12/04 Y
0021-----	CI00062 SMDceramic capacitor0603 330PF/50V NPO ±5 % C21,C22,C23,C24,C25			PCS	5.0000 1 0.00 %	2002/12/04 Y
0022-----	CI00065 SMDceramic capacitor0603 0.001uF/50V X7R ±10% C34,C35,C36,C37,C38,C39,C40,C41,C42,C43			PCS	10.0000 1 0.00 %	2002/12/04 Y
0023-----	CI00071 SMDceramic capacitor0603 0.01uF/50V X7R ±10% C1,C10,C2,C3,C4,C5,C6,C7,C8,C9			PCS	10.0000 1 0.00 %	2002/12/04 Y
0024-----	CI00075 SMDceramic capacitor0603 0.1uF/50V Y5V +80,-20% C120,C121,C122,C123,C124,C125,C126,C127,C128,C129, C130,C131,C132,C133,C134,C135,C136,C137,C138,C139, C140,C141,C142,C143,C144,C145,C146,C147,C148,C149, C150,C151			PCS	32.0000 1 0.00 %	2002/12/04 Y
0025-----	SE00028 diode BAS316,115 D1,D2,D3,D4,D5			PCS	5.0000 1 0.00 %	2002/12/04 Y
0026-----	SF00004 SMD transistor 2SA1036K(R) (MMBT3906LT1) TR1,TR10,TR11,TR12,TR13,TR14,TR15,TR2,TR3,TR4,TR5,TR6, TR7,TR8,TR9			PCS	15.0000 1 0.00 %	2002/12/04 Y
0027-----	SG00122 SMD integrated circuit NJM4580M-TE3 U1,U10,U11,U12,U13,U14,U15,U2,U3,U4,U5,U6,U7,U8,U9			PCS	15.0000 1 0.00 %	2002/12/04 Y
0002-----	RA00505 precise resistor 1/4W 6.81K M type R1,R10,R2,R3,R4,R5,R6,R7,R8,R9			PCS	10.0000 1 0.00 %	2002/12/05 Y
0003-----	CB00003 electrotytic capacitor 0.22uF/50V			PCS	12.0000 1 0.00 %	2002/12/05 Y

Multi-Level BOM Structure Listing

Report No.: IEB0_P02
 Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12 ALTO 230V 歐規 CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
	C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96					
0004-----	CB00029 electrotytic capacitor 22uF/35V			PCS	8.0000 1 0.00 %	2002/12/05 Y
	C26, C27, C28, C29, C30, C31, C32, C33					
0005-----	CB00175 capacitor 47uF/25V SLL 5*11mm			PCS	23.0000 1 0.00 %	2003/06/13 Y
	C100, C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C246, C248, C99					
0006-----	CB00042 electrotytic capacitor 47uF/63V LZ 105 8*12			PCS	10.0000 1 0.00 %	2002/12/05 Y
	C11, C12, C13, C14, C15, C16, C17, C18, C19, C20					
0007-----	CB00074 electrotytic capacitor 1000uF/10V 8*11.5			PCS	5.0000 1 0.00 %	2002/12/05 Y
	C44, C45, C46, C47, C48					
0008-----	SB00050 transistor 2SA1316-GR			PCS	10.0000 1 0.00 %	2002/12/05 Y
	TR16, TR17, TR18, TR19, TR20, TR21, TR22, TR23, TR24, TR25					
0009-----	SD00007 integrated circuit BA15218N (M5218L substitute) U19, U20			PCS	2.0000 1 0.00 %	2002/12/05 Y
0010-----	HI00162 按壓式SW 2段6P PS-22E8552L (3.3x3.3) SW1, SW2, SW3, SW4, SW5, SW6, SW7, SW8			PCS	8.0000 1 0.00 %	2002/12/05 Y
0011-----	HC00126 MIC jack for balance JY-5042-030G female plug 180° X1, X3, X5, X7, X9			PCS	5.0000 1 0.00 %	2002/12/05 Y
0012-----	HC00125 MIC jack JY-6351G-02-250 X10, X11, X12, X13, X14, X15, X16, X17, X18, X19, X2, X20, X21, X22, X23, X24, X25, X26, X4, X6, X8			PCS	21.0000 1 0.00 %	2002/12/05 Y
0013-----	HC00403 rca SCP6873NS3232T2 4P X27			PCS	1.0000 1 0.00 %	2002/12/05 Y
0014-----	RC00296 potentiometer 010K RV09BC-40-30F-02C10K VR1, VR2, VR3, VR4, VR5			PCS	5.0000 1 0.00 %	2003/03/15 Y
0015-----	HA01507 row-wire connector wiring 7P(male)-7P(parent) 140 CN2			PCS	1.0000 1 0.00 %	2002/12/05 Y

Multi-Level BOM Structure Listing

Report No.: IEBO_P02
 Prepared by JG970003[蔡忠憲]

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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
0016-----	HA01506 header wiring AF:W267 9P(male)-9P(parent) 140 CN1			PCS	1.0000 1 0.00 %	2002/12/05 Y
0017-----	HA01583 header wiring 12P-12P 40 CN3,CN4,CN5			PCS	3.0000 1 0.00 %	2003/05/31 Y
0060-----	HK03541 K-PC板 P-S12PU1			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	HB00811 PCB S12PU1(1*4)_VER021102			PCS	1.0000 1 0.00 %	2002/12/04 Y
0002-----	RA00332 fixed resistor 1/8W 120 M type R1,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R2,R20,R3, R4,R5,R6,R7,R8,R9			PCS	20.0000 1 0.00 %	2002/12/04 Y
0003-----	RA00376 fixed resistor 1/8W 5.1K M type R21,R22,R23,R24			PCS	4.0000 1 0.00 %	2002/12/04 Y
0004-----	HA01925 jumper wire 10mm JP1,JP2			PCS	2.0000 1 0.00 %	2002/12/04 Y
0001-----	HA02249 wire 0.6			M KG	0.0200 1 0.00 %	2002/09/19 N
0005-----	HC00392 shape male JY-5030-030G 180° X10,X9			PCS	2.0000 1 0.00 %	2002/12/04 Y
0006-----	HC00125 MIC jack JY-6351G-02-250 X1,X2,X3,X4,X5,X6,X7,X8			PCS	8.0000 1 0.00 %	2002/12/04 Y
0007-----	HI00163 按壓式SW 2段12P PS-42E85L(3.3x3.3) SW1			PCS	1.0000 1 0.00 %	2002/12/04 Y
0008-----	HC00252 row-wire header 7P 2.0mm 90° CN2			PCS	1.0000 1 0.00 %	2002/12/04 Y
0009-----	HC00260 row wire header 9P 2.0mm 180° CN1			PCS	1.0000 1 0.00 %	2002/12/04 Y
0061-----	HK00929 K-PC板 P-S8PWR			PCS	1.0000 1 0.00 %	2002/12/05 Y
0001-----	HB00716 PC board S8PWR_VER020820			PCS	1.0000 1 0.00 %	2002/07/31 N

Multi-Level BOM Structure Listing

Report No.: IEBO_P02
 Prepared by JG970003[蔡忠憲]

Date 2003/08/08
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Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer Attrition Rate
0002-----	RA00242 fixed resistor 1/4W 10K M type R2			PCS	1.0000 1 0.00 %	2002/07/31 N
0003-----	RA00159 fixed resistor 1/4W 10 Mr type R3			PCS	1.0000 1 0.00 %	2002/07/31 N
0004-----	SA00094 rectifier diode 1N4002/100V D1,D10,D11,D12,D13,D14,D2,D3,D4,D5,D6,D7,D8,D9			PCS	14.0000 1 0.00 %	2002/07/31 N
0005-----	SA00127 zener diode 1/2W 47V 1N5261 ZD1			PCS	1.0000 1 0.00 %	2002/07/31 N
0006-----	RA00250 fixed resistor 1/4W 20K M type R4			PCS	1.0000 1 0.00 %	2002/07/31 N
0007-----	RA00301 fixed resistor 1/4W 390K M type R1			PCS	1.0000 1 0.00 %	2002/07/31 N
0008-----	CB00039 electrotytic capacitor 47uF/25V C3,C4			PCS	2.0000 1 0.00 %	2002/07/31 N
0009-----	CB00043 electrolytic capacitor 47uF/100V C8,C9			PCS	2.0000 1 0.00 %	2002/07/31 N
0010-----	CB00052 electrotytic capacitor 100uF/100V C5,C6			PCS	2.0000 1 0.00 %	2002/07/31 N
0011-----	CB00061 electrotytic capacitor 220uF/100V C7			PCS	1.0000 1 0.00 %	2002/07/31 N
0012-----	CB00082 electrotytic capacitor 2200uF/25V 18*21.5 C1,C2			PCS	2.0000 1 0.00 %	2002/07/31 N
0013-----	SD00077 integrated circuit 7815(TO-220) TR1			PCS	1.0000 1 0.00 %	2002/07/31 N
0014-----	SD00079 integrated circuit 7915(TO-220) TR2			PCS	1.0000 1 0.00 %	2002/07/31 N

Multi-Level BOM Structure Listing

Report No.: IEBO_P02
 Prepared by JG970003[蔡忠憲]

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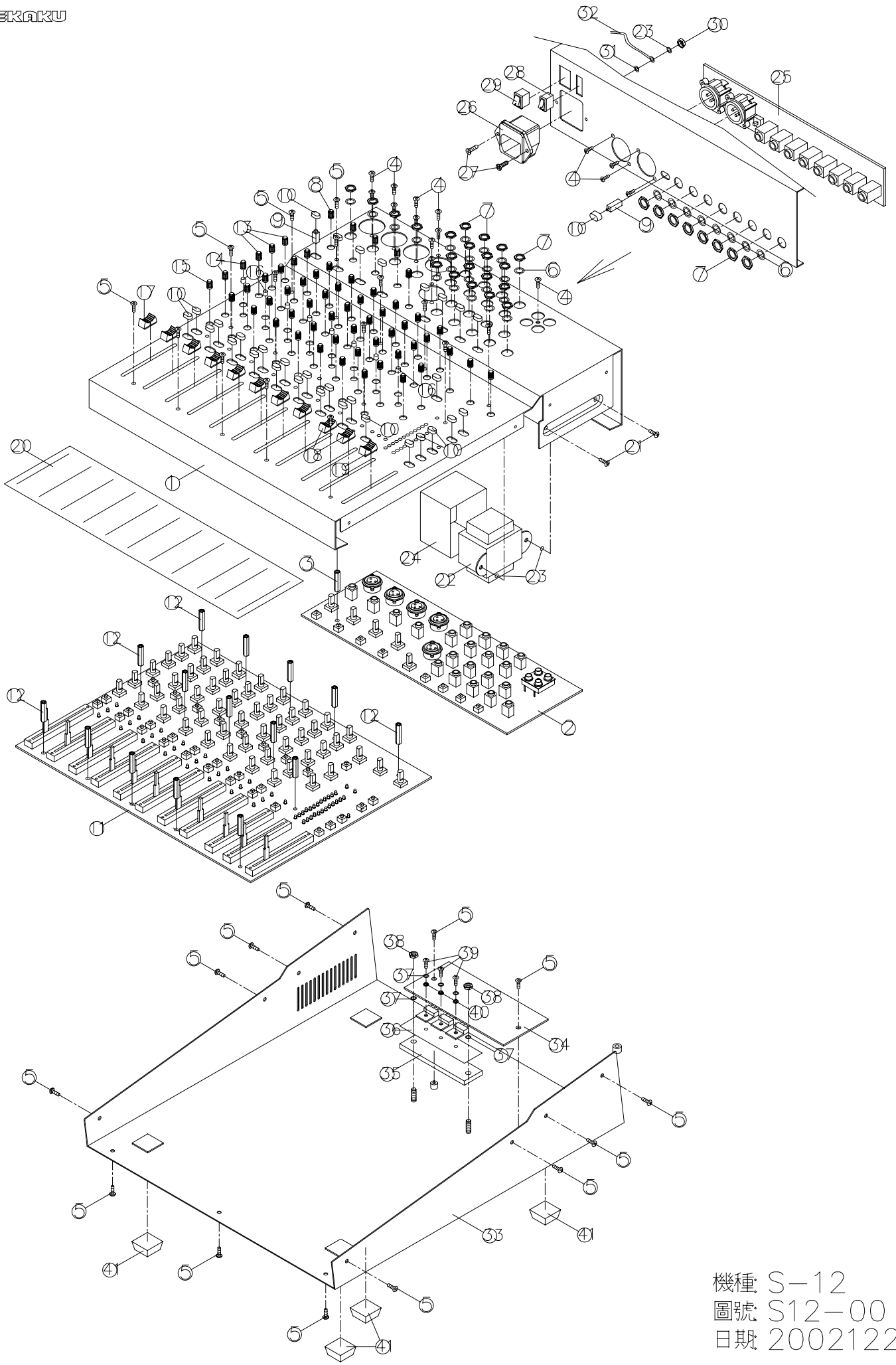
Item No. PF00311 Version
 DESCRIPTION: S-12
 S-12_ALTO_230V_歐規_CHINA

UNIT: PCS
 Date: 2002/11/23

Version	Item No	Loss %	Ver.	Unit	Cardinal	Effective Date
Component Remark	Item Descri				Usage Rate	@:Phantom Layer
					Attrition Rate	
0015-----	SB00043 transistor TIP122(ST) TR3			PCS	1.0000 1 0.00 %	2002/07/31 Y
0016-----	HC00076 row-wire header 2P 2.5mm 180° CN2			PCS	1.0000 1 0.00 %	2002/07/31 N
0017-----	HC00080 row-wire header 6P 2.5mm 180° CN3			PCS	1.0000 1 0.00 %	2002/07/31 N
0018-----	HC00089 row-wire header 3P 3.9mm 180° CN1			PCS	1.0000 1 0.00 %	2002/07/31 N
0019-----	HA01922 jumper wire 8mm JP5,JP6,JP7			PCS	3.0000 1 0.00 %	2002/07/31 N
0001-----	HA02249 wire 0.6			M KG	0.0180 1 0.00 %	2002/09/19 N
0020-----	HA01925 jumper wire 10mm JP1,JP2,JP3,JP4,JP8,JP9			PCS	6.0000 1 0.00 %	2002/07/31 N
0001-----	HA02249 wire 0.6			M KG	0.0200 1 0.00 %	2002/09/19 N
0062-----	NI01272 handle for wireless coloful box			PCS	1.0000 1 0.00 %	2003/05/24

8. Exploded Views

SEKAKU



機種: S-12
圖號: S12-00
日期: 20021221

		Mechanical Parts List		
Model No.		ALTO S-12		
NO	Item No	Item Description		pcs
1	MA03683	panel	S-12	1
2	HK03540	K-PC板	P-S12PU2-DIP	1
3	MG00305	copper pole	M3*24*0.5PH	1
4	MG00061	screw	M3*10	15
5	MG00041	screw	M3*6	46
6	MF00061	washer	JY-6351G-02-250	29
7	ME00060	socket nut	JY-6351G-02-250	29
8	NI02084	knob	10.5*18	5
9	NI01862	key	5.5*5.5*14.5	9
10	NI01863	key	5.5*W10*7.5	32
11	HK03538	K-PC板	P-S12MN1-DIP	1
12	MG00304	copper pole	M3*14*0.5PH	15
13	NI02083	knob	10.5*18	27
14	NI02081	knob	10.5*18	18
15	NI02082	knob	10.5*18	8
16	NI02377	knob	5.5*7.5mm(内3.3*3.3mm)	8
17	NI02309	knob	24*11.5*11	8
18	NI02352	knob	24*11.5*11	2
19	NI02353	knob	24*11.5*11	1
20	ND00234	non wonen	0.35t*294*80mm	1
21	MG00102	screw	M4*8	2
22	TC00160	transformer	PT-S12_230V	1
23	MF00038	washer	4* 7*1t	3
24	MI01629	separating shade	S-12	1
25	HK03541	K-PC板	P-S12 PU1-DIP	1
26	HC00008	AC outlet	3515 A TYPE(RF-2004-C-4.8)	1
27	MG00042	screw	M3*10	2
28	HI00171	switch	R612KKATOF1	1
29	HI00026	power switch	RA12KKATOF 2P	1
30	ME00016	screw	4mm	1
31	MF00048	washer	4* 8*0.5t	1
32	HA01174	signle terminal wiring CF:W146	80 green/yellow	1
33	MB02488	rear board	S-12	1
34	HK00929	K-PC板	P-S8PWR	1
35	MJ01027	heat-sink	S-8	1
36	NC00022	silica gel insulation	0.3t*18*45mm	1
37	MF00037	washer	3* 5*1t	5
38	ME00015	colour nut	3m/m	2
39	MG00024	screw	M3*7 0.5PH	3
40	NI02249	caushion	TW-1(T0-220)	3
41	NI00501	foot cushion	12.7*9*3t(SF-004)	4