

Service Manual

Model: aMICTUBE

STEREO TUBE PREAMP



www.altoproaudio.com

Version: 1.1

CONTENTS

1. Specification.....	1
2. Block Diagram.....	1
3. Schematic Diagram.....	3
4. Printed Circuit Board.....	11
5. Wiring Diagram.....	1
6. Test Procedure.....	2
7. Electrical Parts List.....	11
8. Exploded Views.....	1
9. Notes.....	

1. Specifications

Input

XLR Impedance	5K Ohm
1/4" High Z	1M Ohm
Connectors	Neutrik™ Combo

Output

XLR Balanced	100 Ohm
1/4" Unbalanced	100 Ohm

Panel Controls

Tube Drive	0dB to +40dB
Gain	0dB to +30dB
Phase Reverse	
20 dB Pad	
+48V Phantom Power	

Performance

THD+Noise	<0.5%
Signal To Noise	>90dB
Power Supply Rejection	>98dB
Amplifier Type	Dual Servo

Meter

8-Digit LED	-24dBu to +18dBu
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Physical

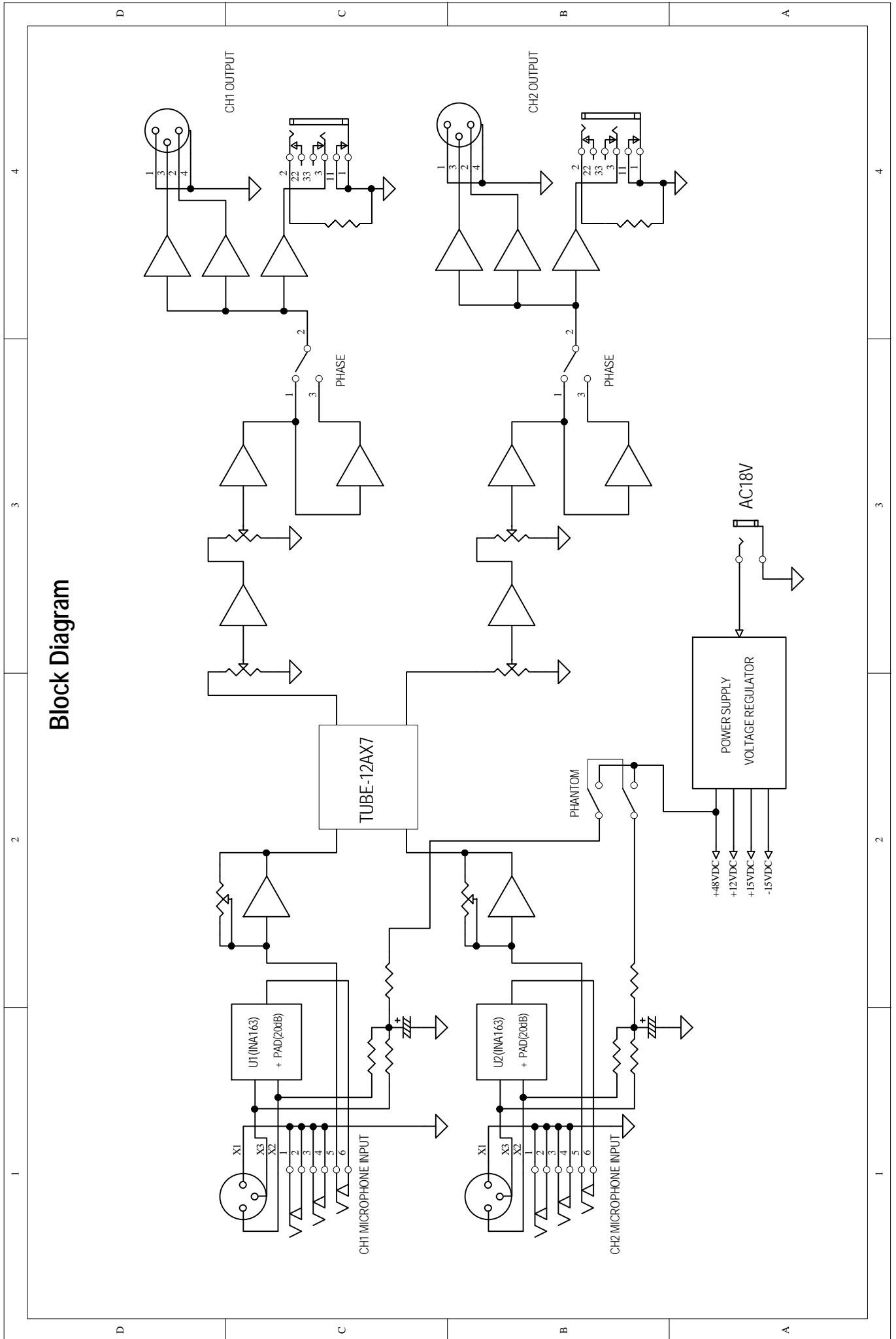
Weight	1.05Kg
Dimensions	131(W)X116(D)X44(H)mm(5.16"X4.57"X1.7")
Chassis	Steel
Panel	Brushed Aluminum(? LTO® Style)

Power Supply

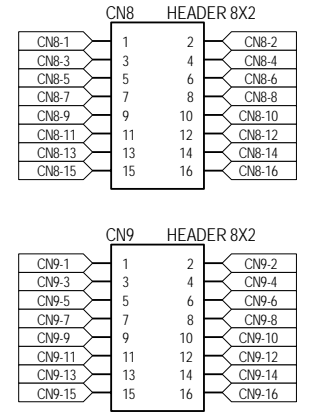
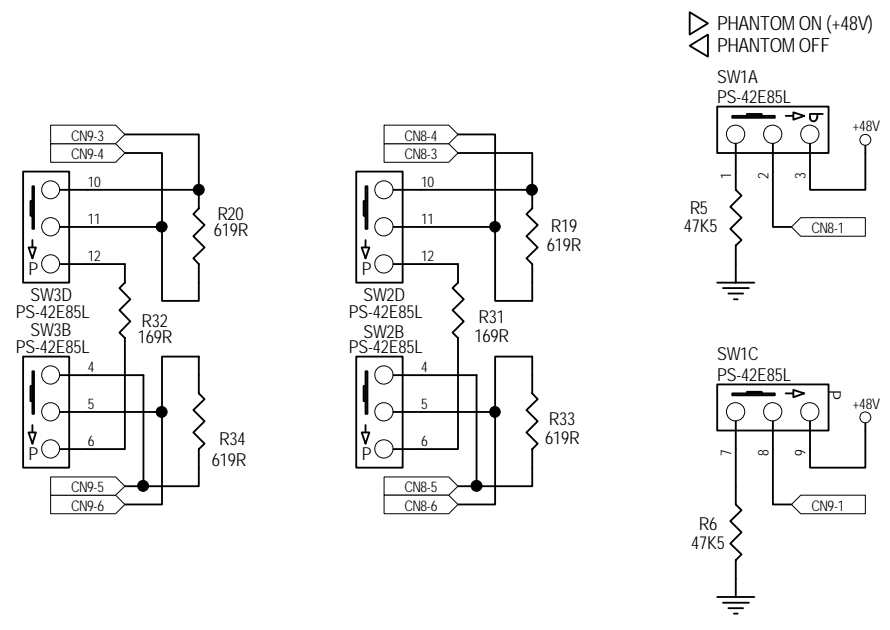
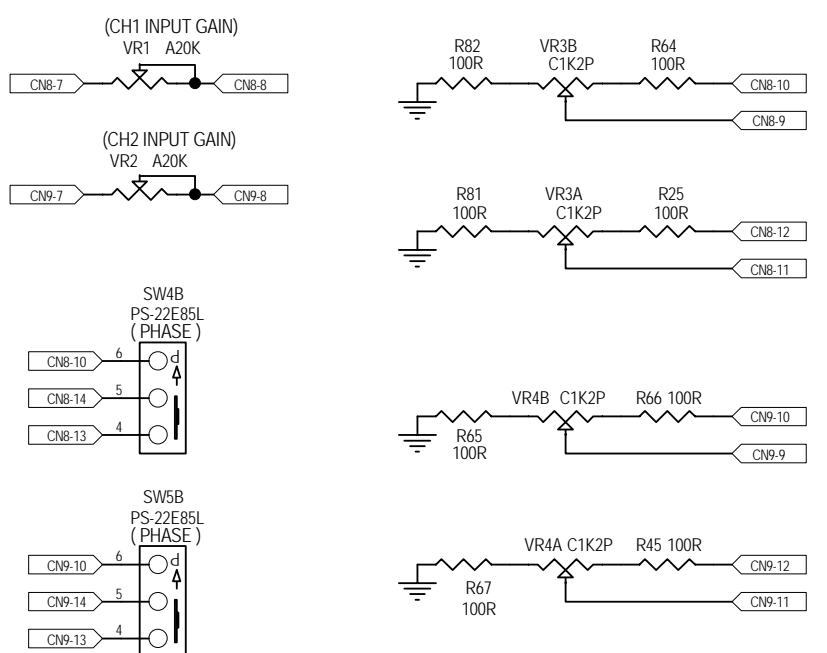
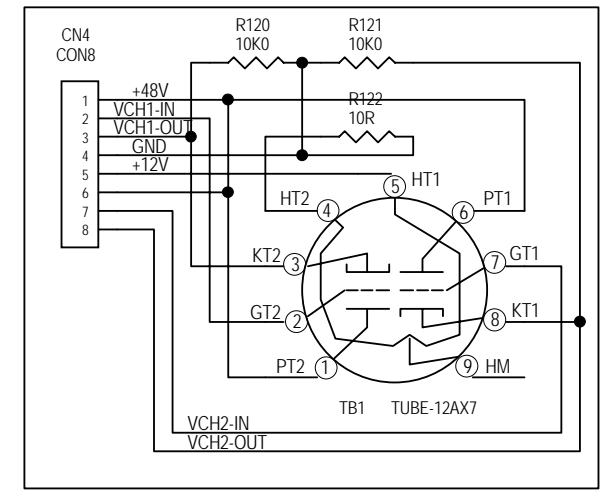
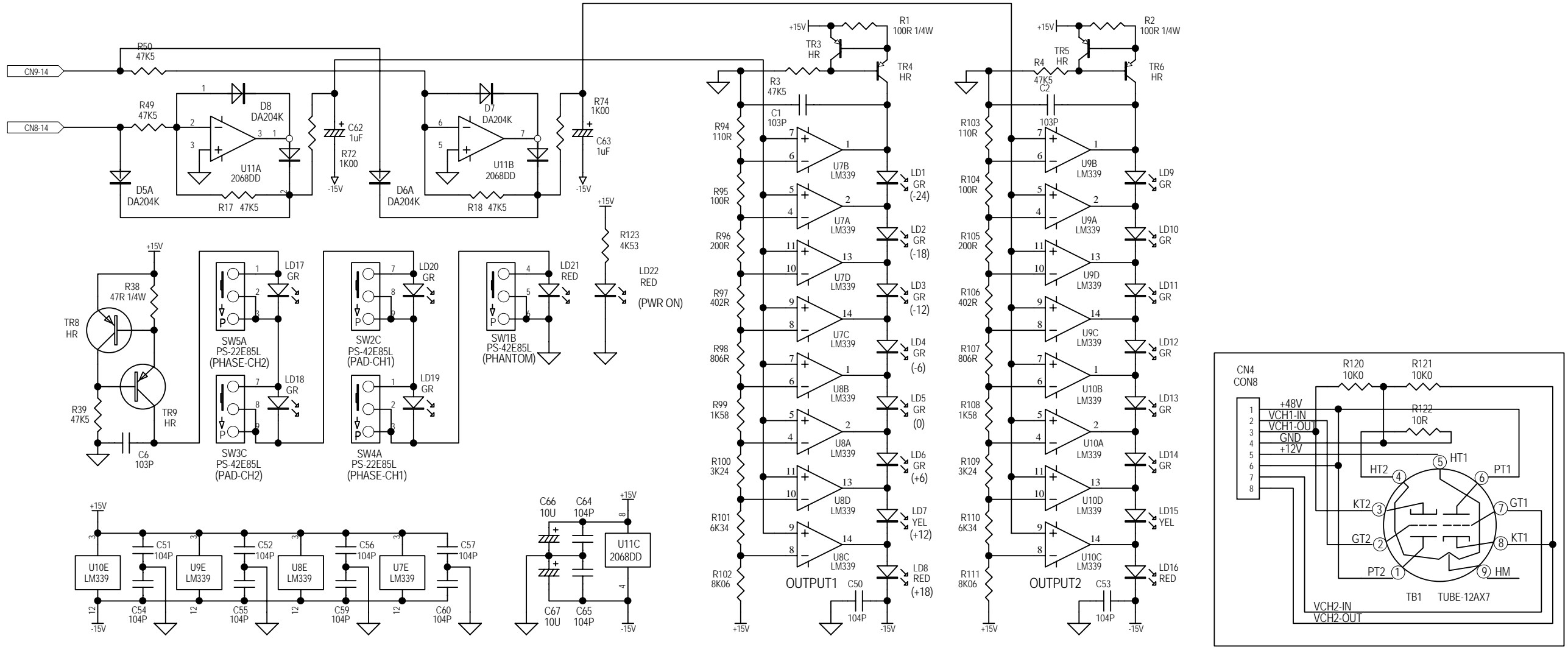
Type	Linear, External
Input	18VAC
Power	14Watts
Transformer	External Wall Mount

2.Block Diagram

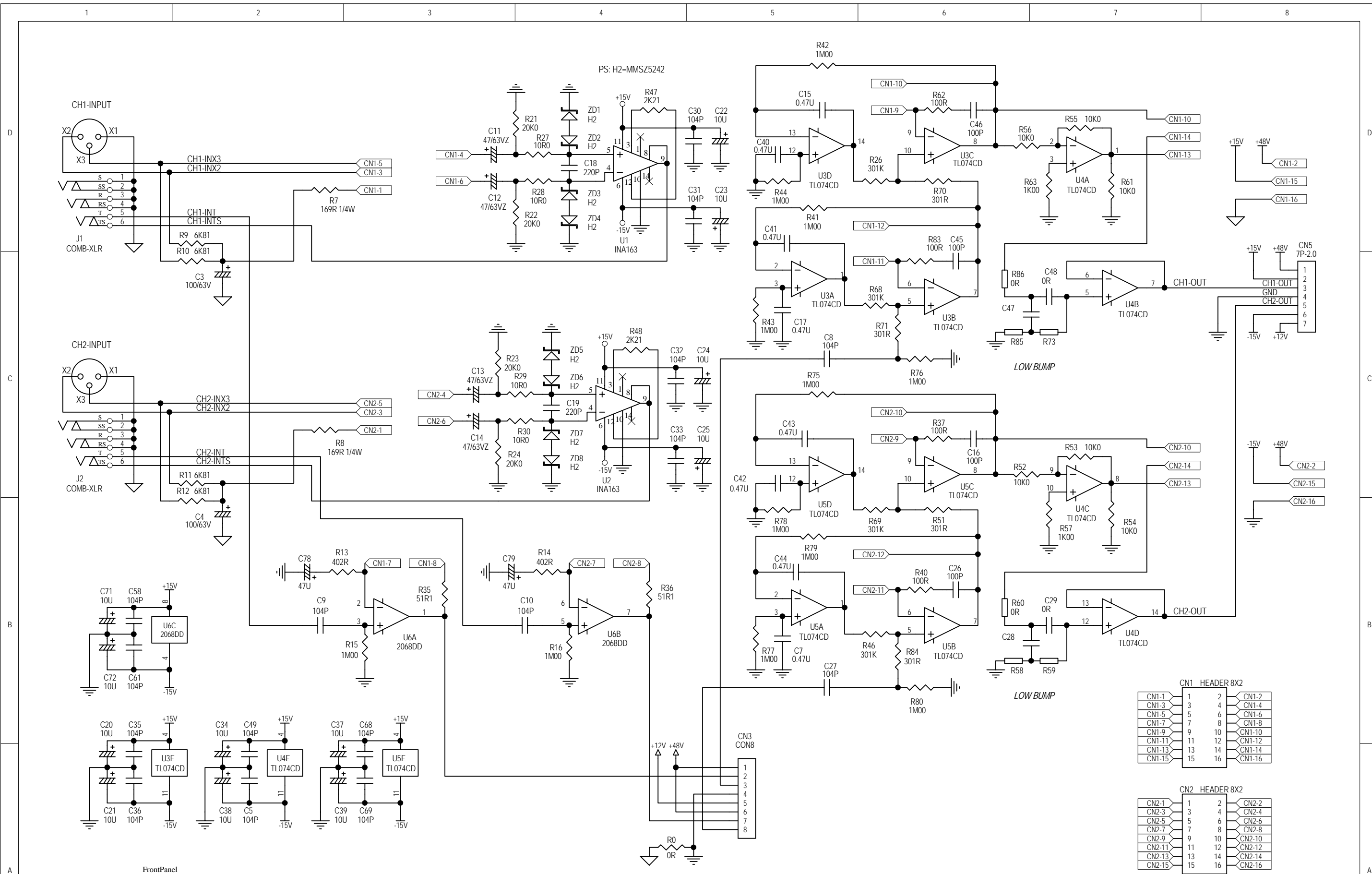
Block Diagram



3.Schematic Diagram



Title ALTO Mobile : ALPHAMICtube FRONT PANEL BOARD		
Size A3	Model No: ALPHAMICtube	Revision VER020307
Date: 7-Mar-2002	Sheet 1 of 1	Drawn By: C.C.LIN
File: AMTUBEFP.Sch		



CN1 HEADER 8X2

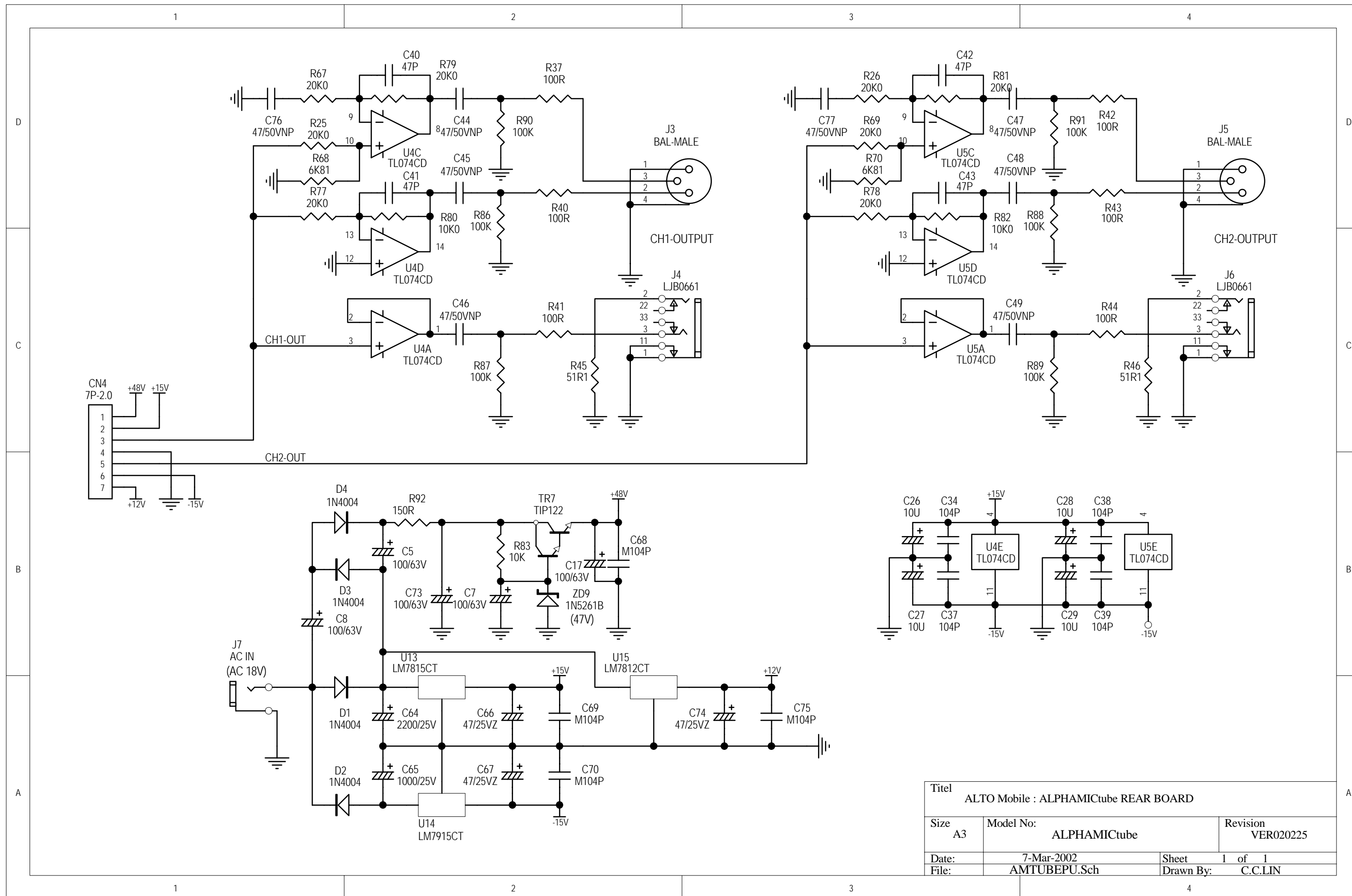
CN1-1	1	2	CN1-2
CN1-3	3	4	CN1-4
CN1-5	5	6	CN1-6
CN1-7	7	8	CN1-8
CN1-9	9	10	CN1-10
CN1-11	11	12	CN1-12
CN1-13	13	14	CN1-14
CN1-15	15	16	CN1-16

CN2 HEADER 8X2

CN2-1	1	2	CN2-2
CN2-3	3	4	CN2-4
CN2-5	5	6	CN2-6
CN2-7	7	8	CN2-8
CN2-9	9	10	CN2-10
CN2-11	11	12	CN2-12
CN2-13	13	14	CN2-14
CN2-15	15	16	CN2-16

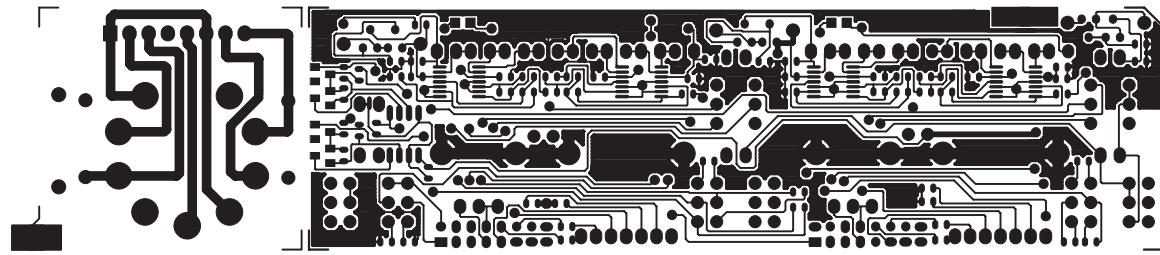
HR=MMBT3906LT1 / 2SA1036K(R)
 NOTE: 1. H2 = Zener Diode MMSZ5242BT1
 2. LOW BUMP ON C9,C12,C39,C42=104P R21,R32=4K99 R73,R28=200K
 3. LOW BUMP OFF C9,C39,R21,R66=0R OMIT:C12,C42,R28,R32,R73,R77

Titel		
ALTO Mobile : ALPHAMICtube MAIN BOARD		
Size	Model No:	Revision
A3	ALPHAMICtube	VER020225
Date:	7-Mar-2002	Sheet 1 of 1
File:	AMTUBEMN.Sch	Drawn By: C.C.LIN

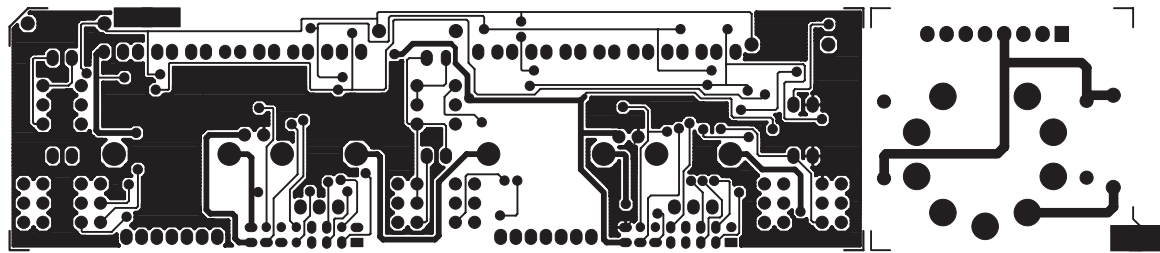


Titel			
ALTO Mobile : ALPHAMICtube REAR BOARD			
Size	Model No:	Revision	
A3	ALPHAMICtube	VER020225	
Date:	7-Mar-2002	Sheet	1 of 1
File:	AMTUBEPU.Sch	Drawn By:	C.C.LIN

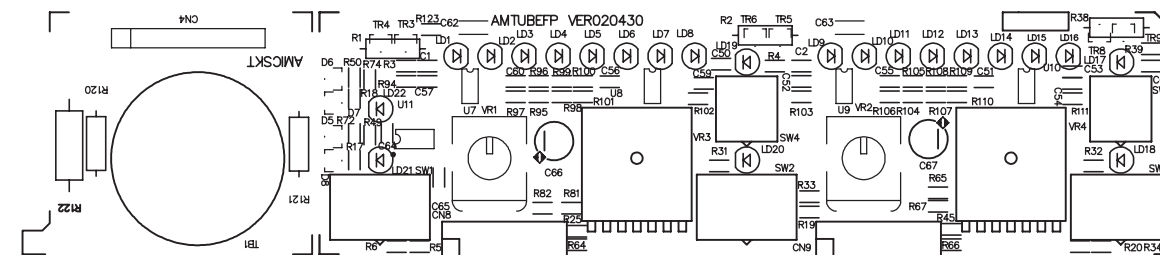
4. Printed Circuit Diagram



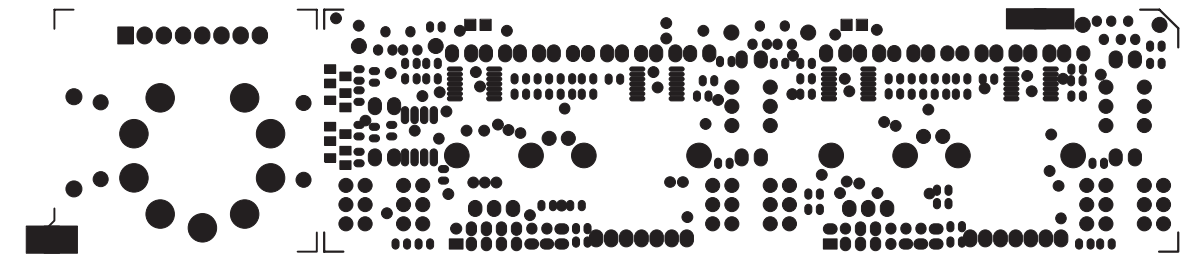
AMTUBEFP Top Layer



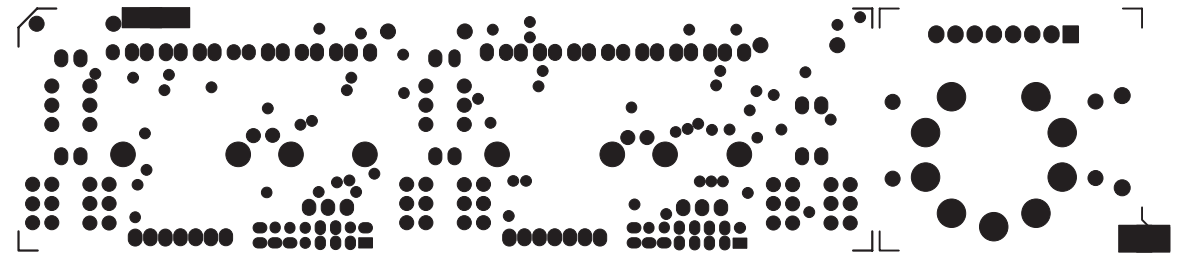
AMTUBEFP Bottom Layer



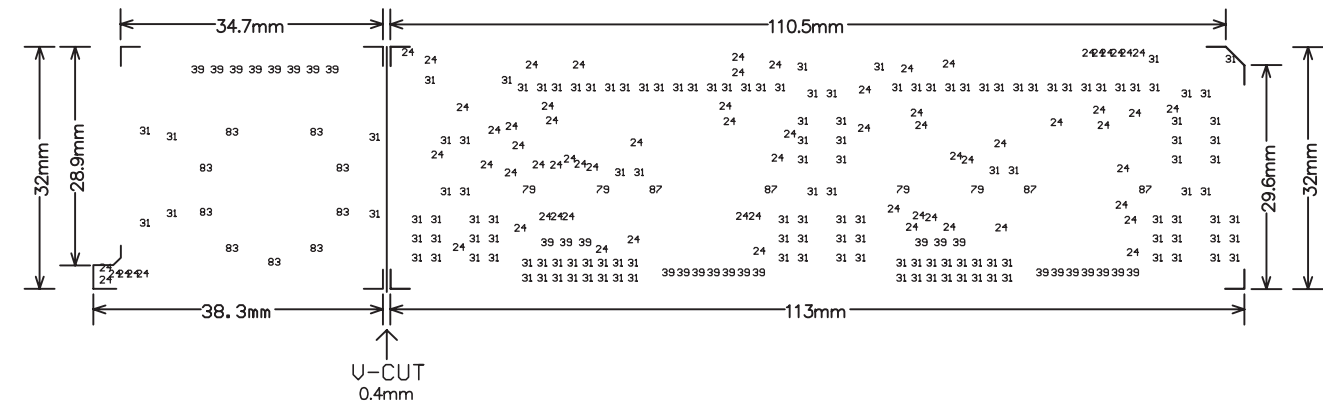
AMTUBEFP Top Silkscreen



AMTUBEFP Top Solder Mask



AMTUBEFP Bottom Solder Mask



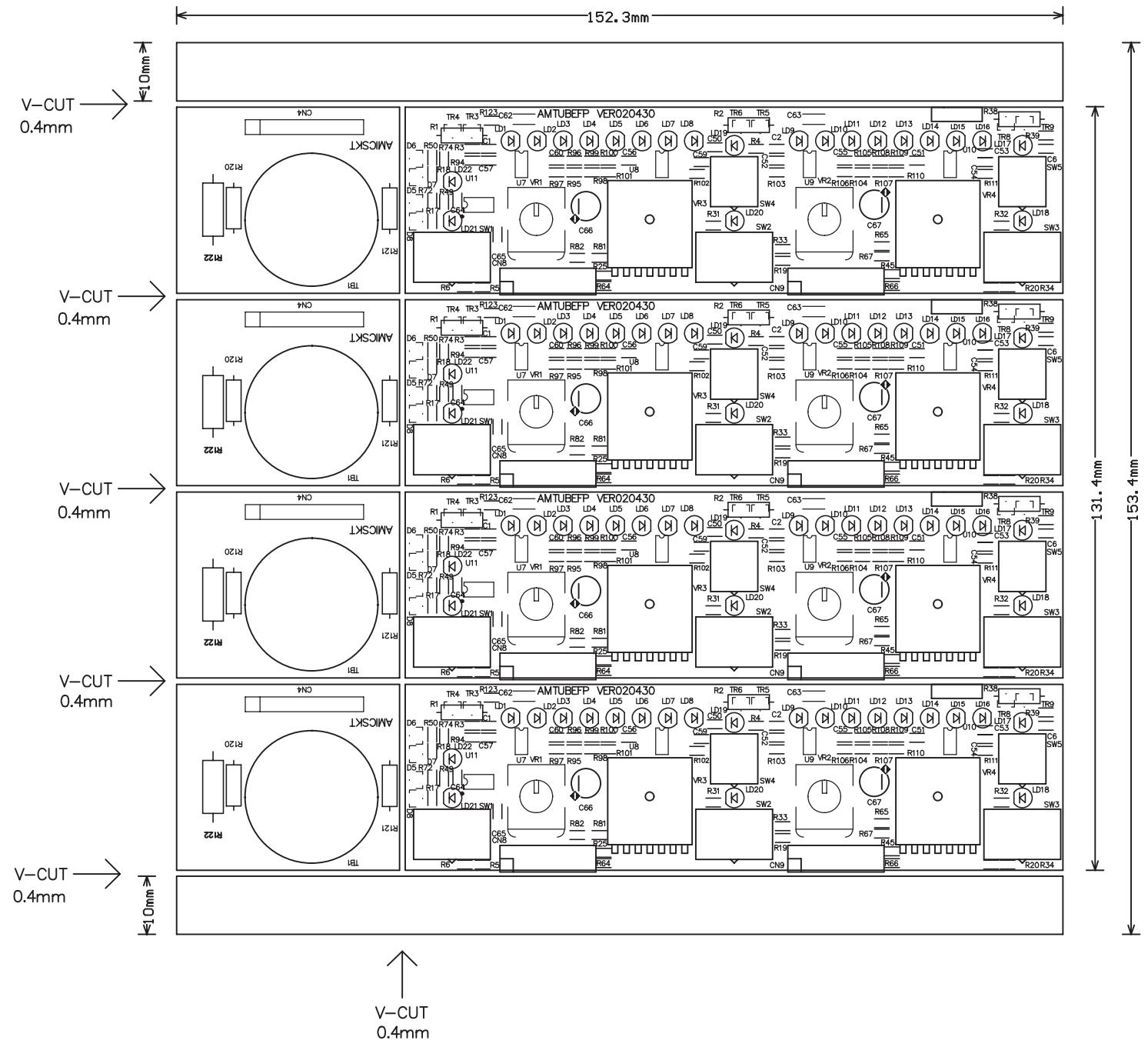
AMTUBEFP Drill Drawing

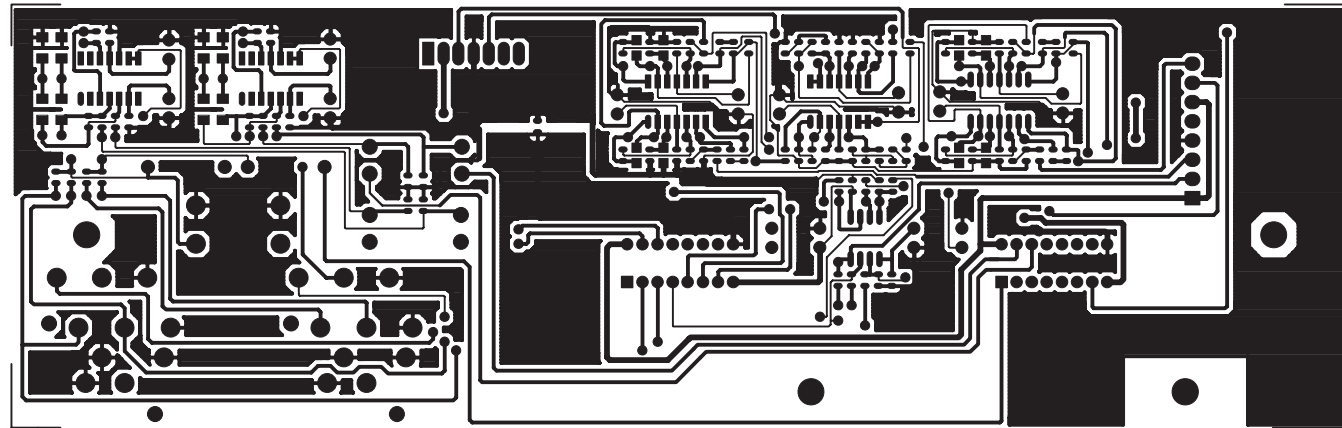
NCDrill File Report For: AMTUBEFP.PCB 9-May-2002 16:26:29

Layer Pair : TopLayer to BottomLayer
 ASCII File : NCDrillOutput.TXT
 EIA File : NCDrillOutput.DRL

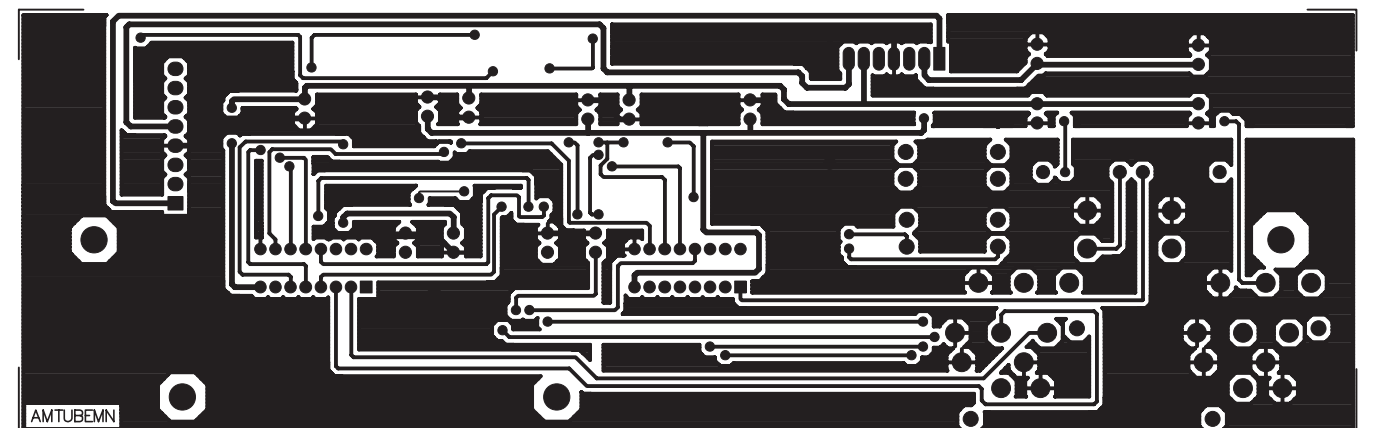
Tool	Hole Size	Hole Count Plated	Tool Travel
T1	24mil (0.6096mm)	72	29.54 Inch (750.27 mm)
T2	31mil (0.7874mm)	140	30.14 Inch (765.64 mm)
T3	39mil (0.9906mm)	28	14.01 Inch (355.84 mm)
T4	79mil (2.0066mm)	4	9.78 Inch (248.33 mm)
T5	83mil (2.1082mm)	9	6.04 Inch (153.35 mm)
T6	87mil (2.2098mm)	4	10.82 Inch (274.86 mm)
Totals		257	100.33 Inch (2548.29 mm)

Total Processing Time : 00:00:00

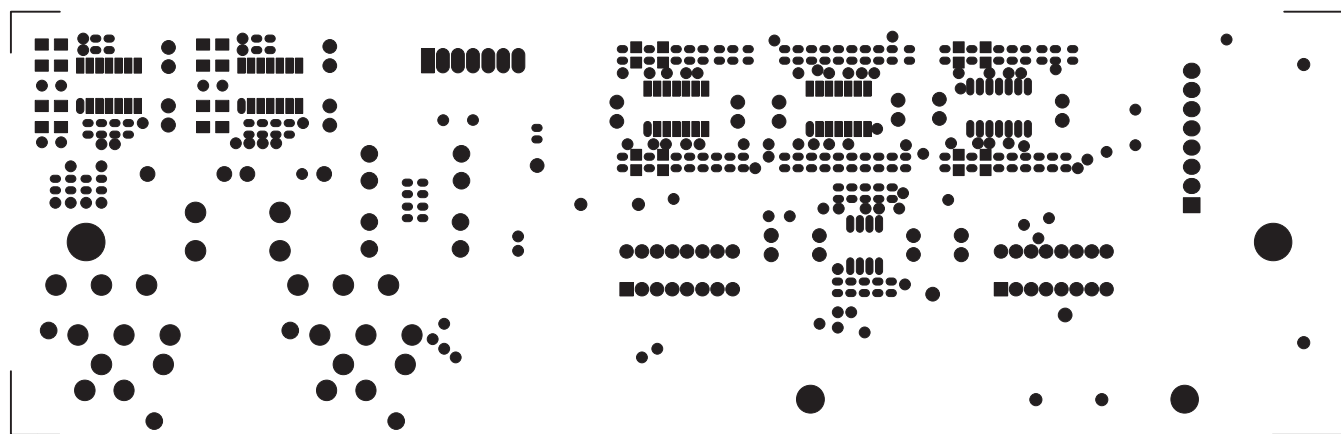




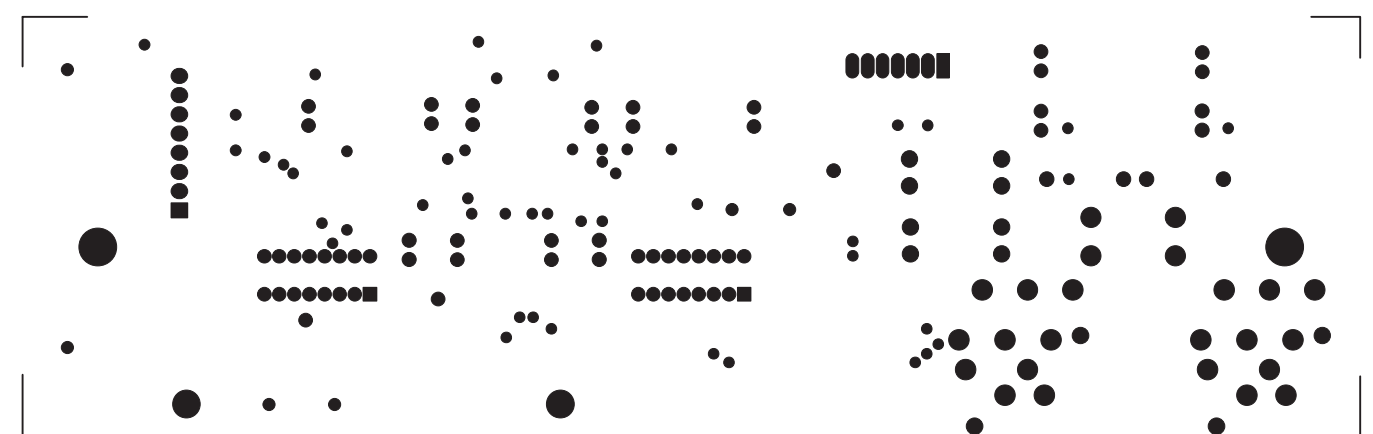
AMTUBEMN Top Layer



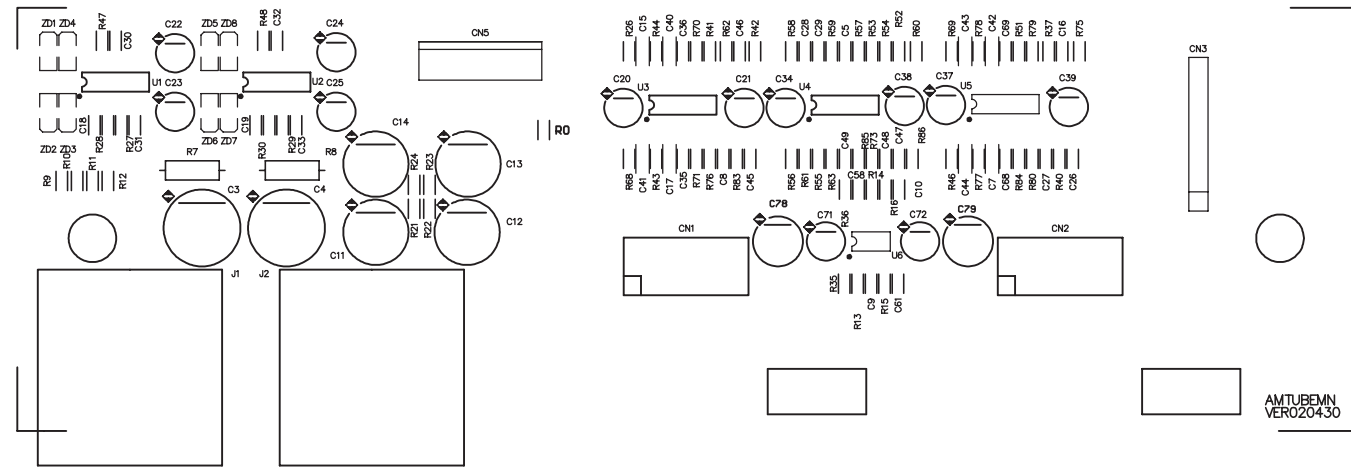
AMTUBEMN Bottom Layer



AMTUBEMN Top Solder Mask



AMTUBEMN Bottom Solder Mask



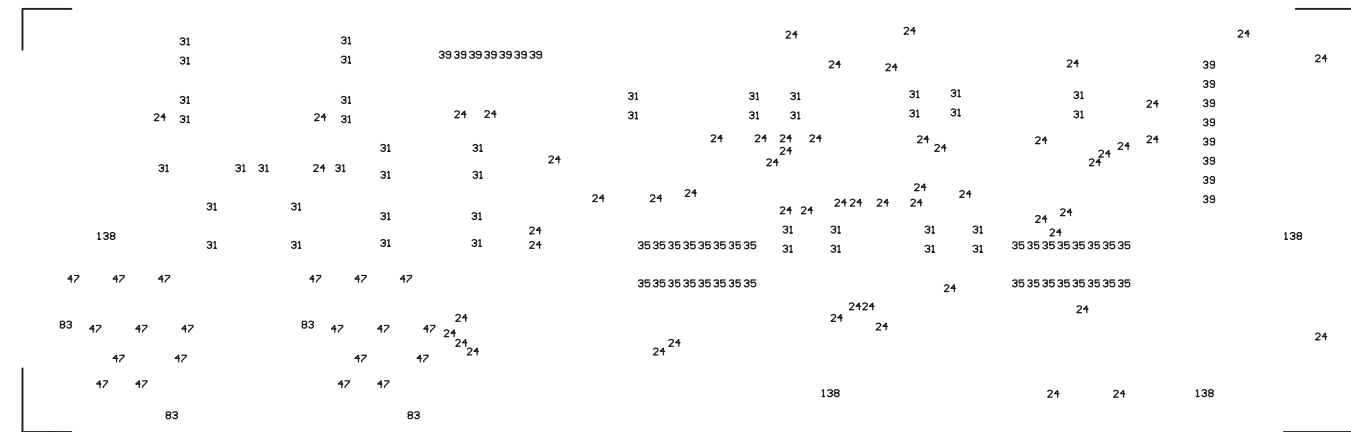
AMTUBEMN Top Scilkscreen

 NCDrill File Report For: AMTUBEMN.PCB 9-May-2002 18:22:27

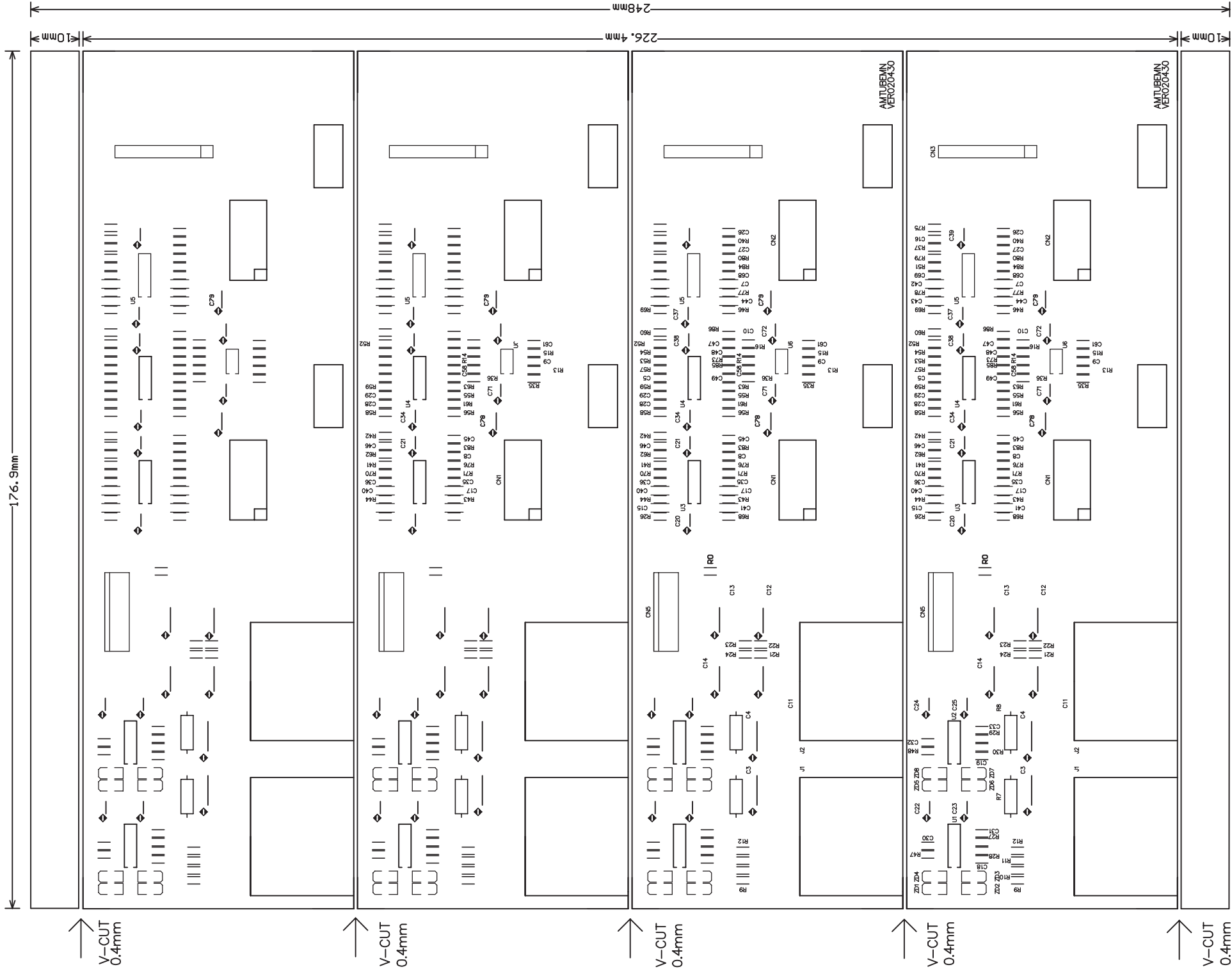
Layer Pair : TopLayer to BottomLayer
 ASCII File : NCDrillOutput.TXT
 EIA File : NCDrillOutput.DRL

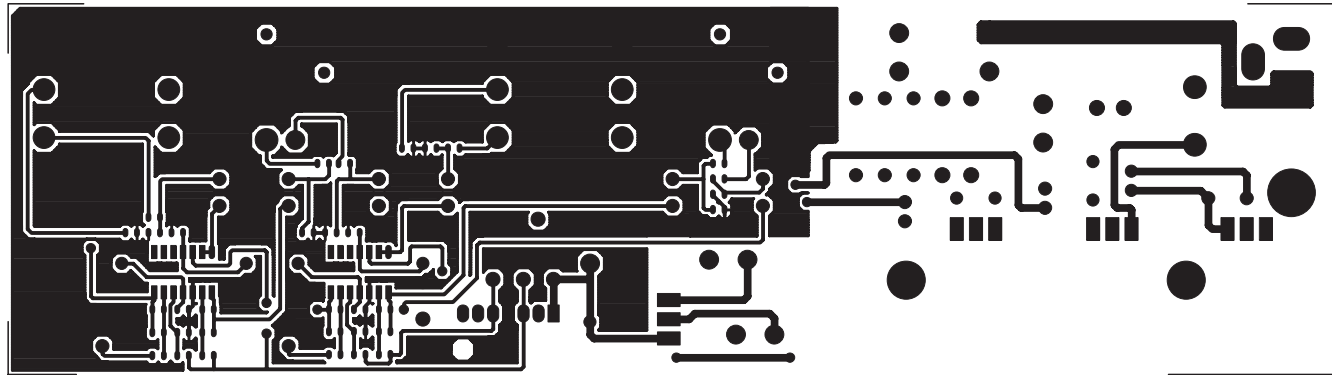
Tool	Hole Size	Hole Count Plated	Tool Travel
T1	24mil (0.6096mm)	58	26.73 Inch (678.84 mm)
T2	31mil (0.7874mm)	44	20.77 Inch (527.61 mm)
T3	35mil (0.889mm)	32	11.01 Inch (279.53 mm)
T4	39mil (0.9906mm)	15	13.68 Inch (347.41 mm)
T5	47mil (1.1938mm)	20	9.43 Inch (239.45 mm)
T6	138mil (3.5052mm)	2	8.74 Inch (221.92 mm)
T7	83mil (2.1082mm)	4	NPTH 6.86 Inch (174.24 mm)
T8	138mil (3.5052mm)	2	NPTH 15.44 Inch (392.11 mm)
Totals		177	112.64 Inch (2861.12 mm)

Total Processing Time : 00:00:01

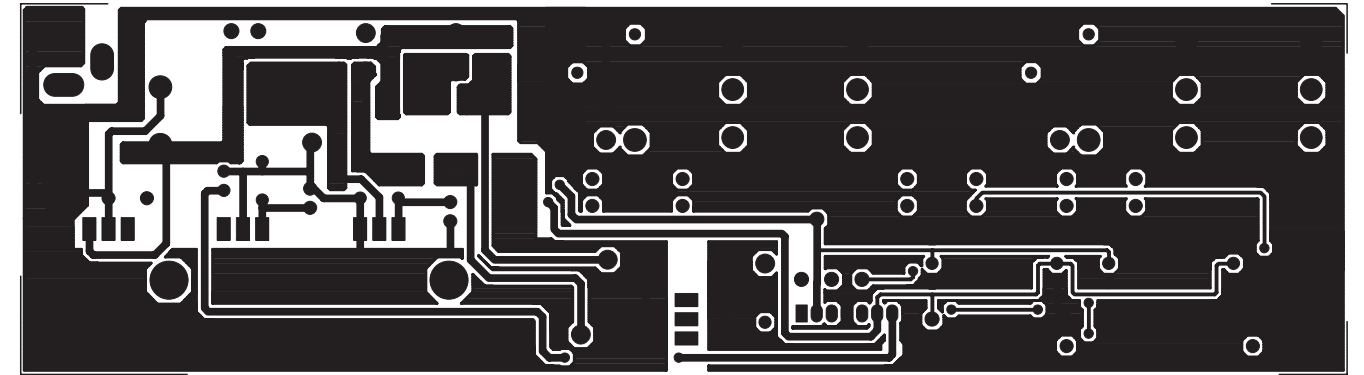


AMTUBEMN Drill Drawing

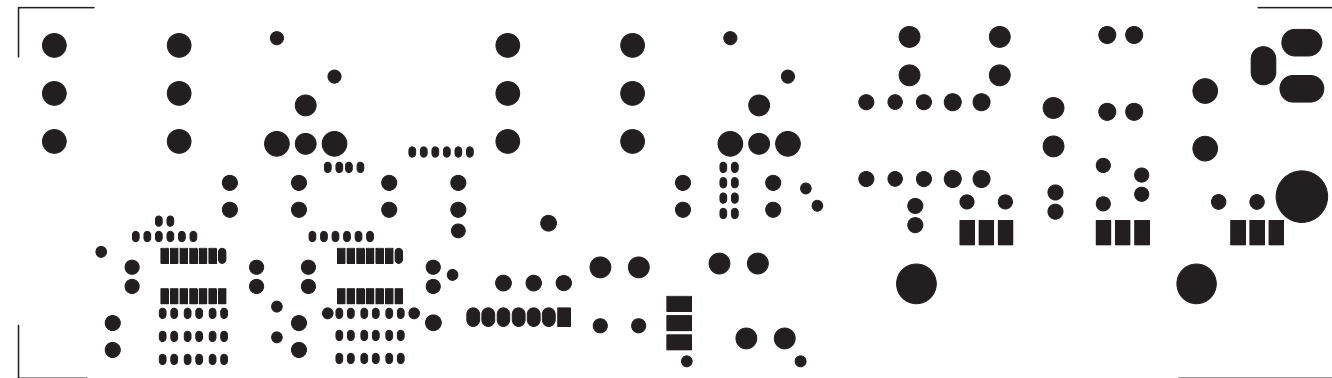




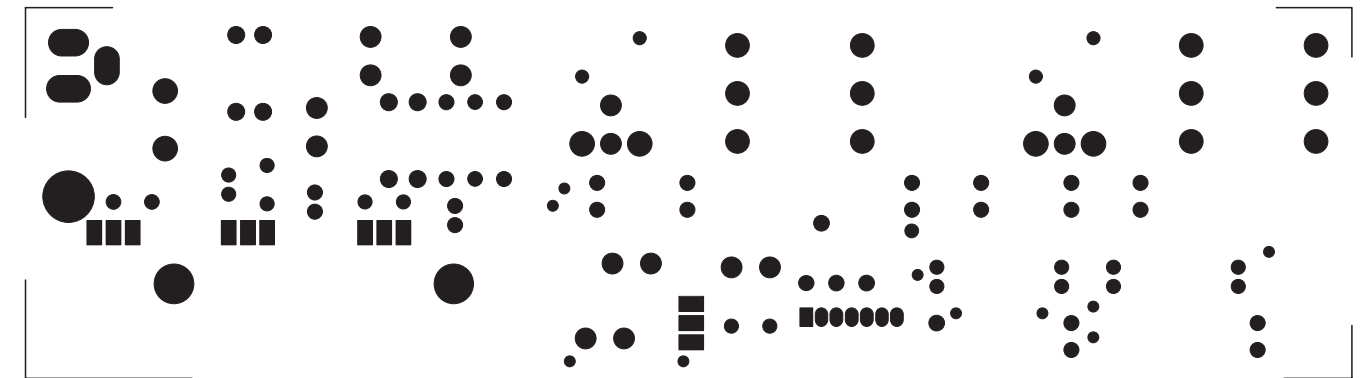
AMTUBEPU Top Layer



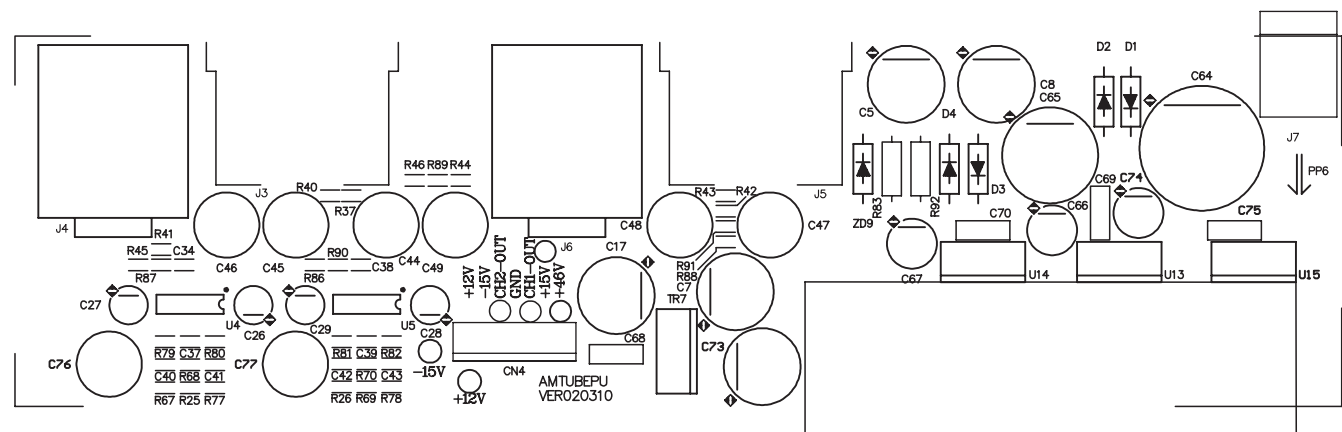
AMTUBEPU Bottom Layer



AMTUBEPU Top Solder Mask

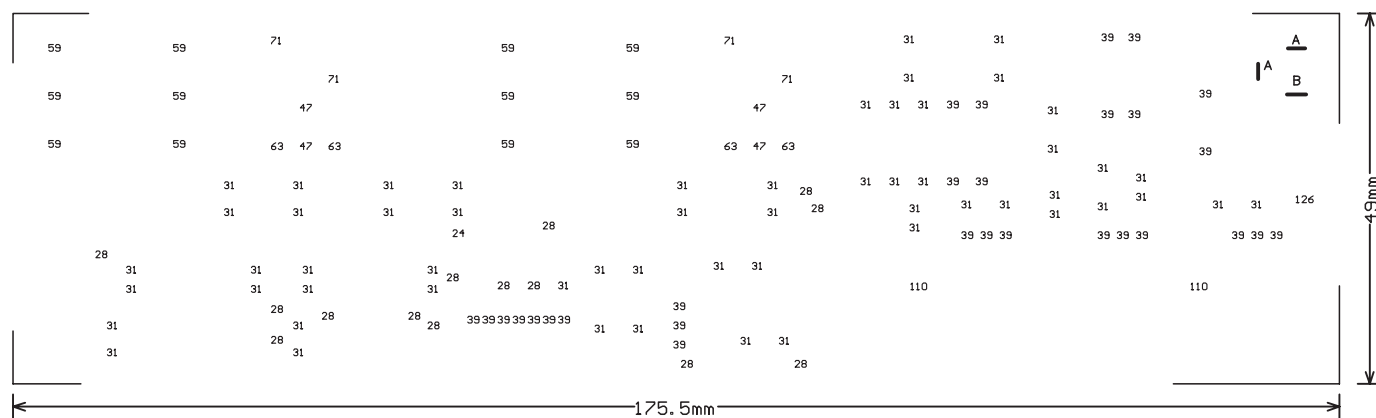


AMTUBEPU Bottom Solder Mask



AMTUBEPU Top Scilkscreen

A = BUTTONHOLE 1.3*2.6-2HOLES
 B = BUTTONHOLE 1.3*3.3-1HOLES



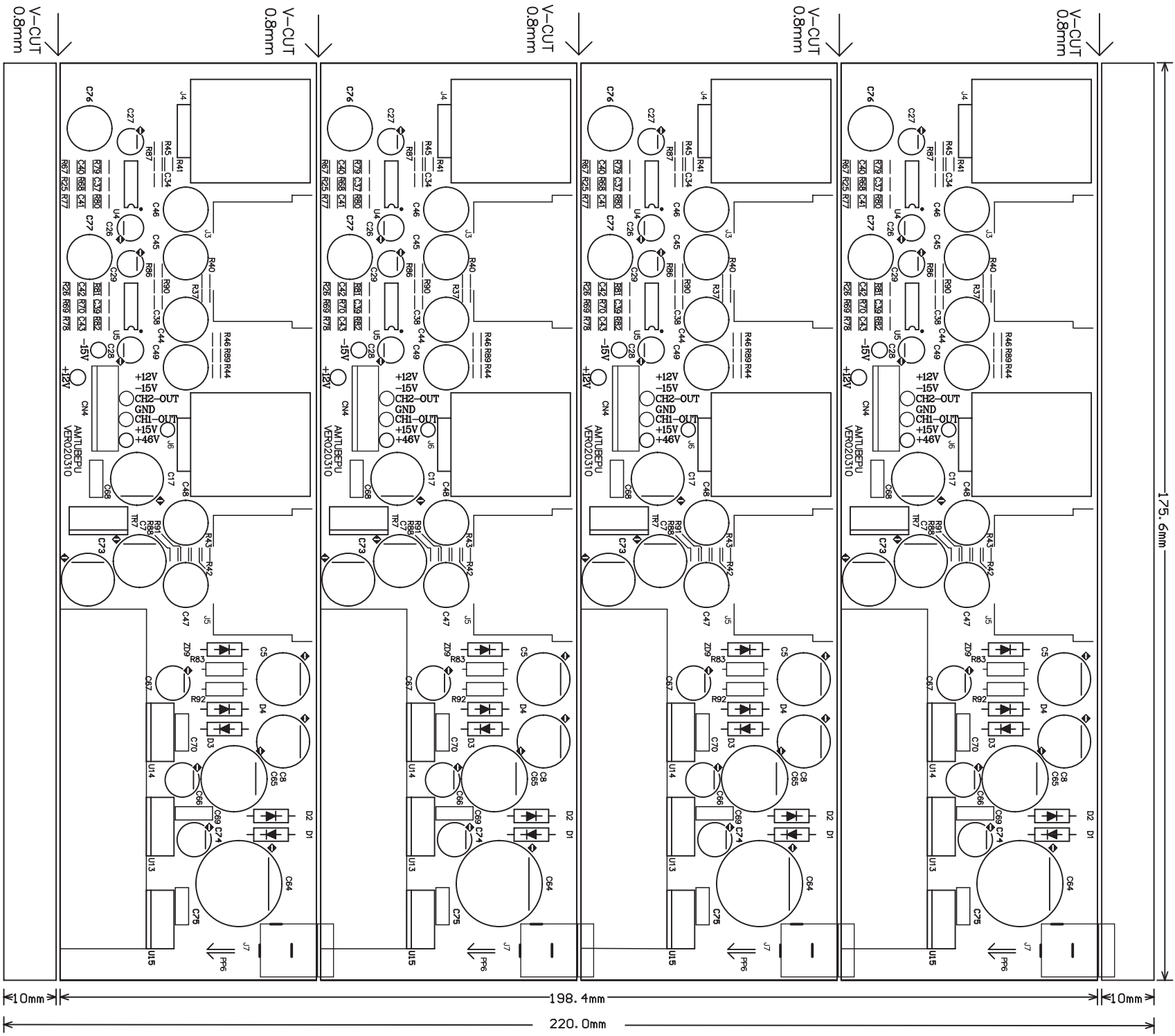
AMTUBEPU Drill Drawing

NCDrill File Report For: AMTUBEPU.PCB 9-Mar-2002 18:30:07

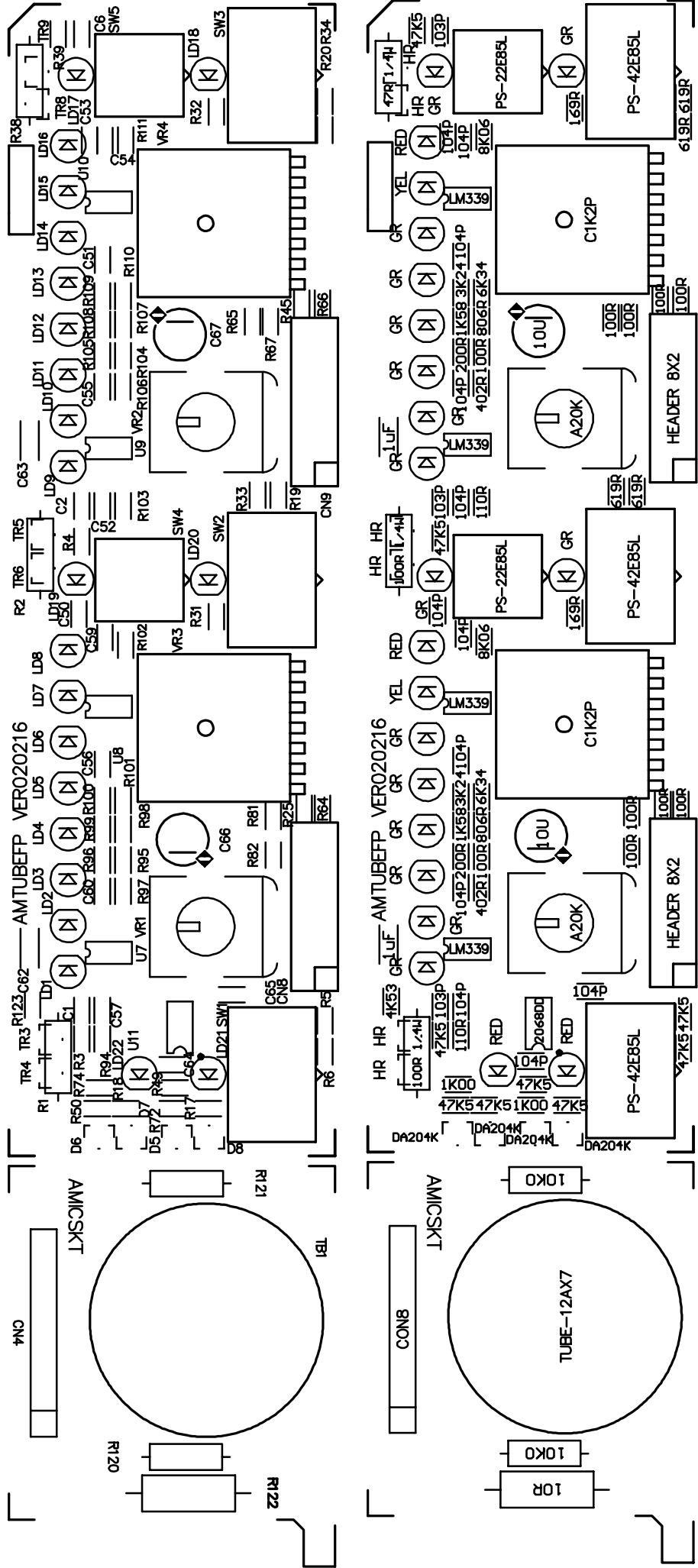
Layer Pair : TopLayer to BottomLayer
 ASCII File : NCDrillOutput.TXT
 EIA File : NCDrillOutput.DRL

Tool	Hole Size	Hole Count Plated	Tool Travel
T1	24mil (0.6096mm)	1	6.10 Inch (155.01 mm)
T2	28mil (0.7112mm)	14	10.41 Inch (264.49 mm)
T3	31mil (0.7874mm)	57	20.11 Inch (510.86 mm)
T4	39mil (0.9906mm)	29	14.11 Inch (358.42 mm)
T5	47mil (1.1938mm)	4	10.33 Inch (262.28 mm)
T6	59mil (1.4986mm)	12	12.09 Inch (307.05 mm)
T7	63mil (1.6002mm)	4	10.41 Inch (264.44 mm)
T8	110mil (2.794mm)	2	9.26 Inch (235.31 mm)
T9	126mil (3.2004mm)	1	9.77 Inch (248.28 mm)
T10	71mil (1.8034mm)	4	NPTH 10.90 Inch (276.85 mm)
Totals		128	113.50 Inch (2883.01 mm)

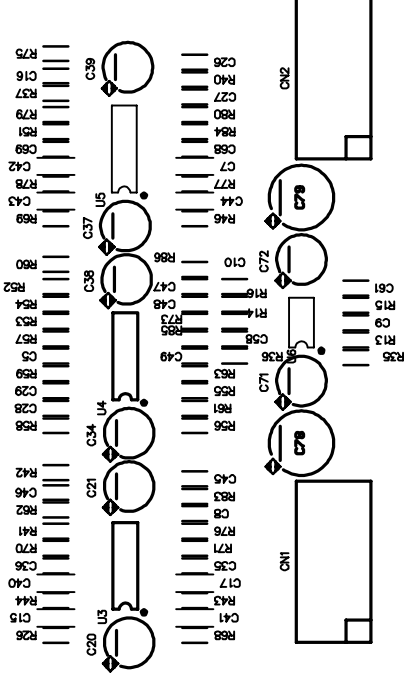
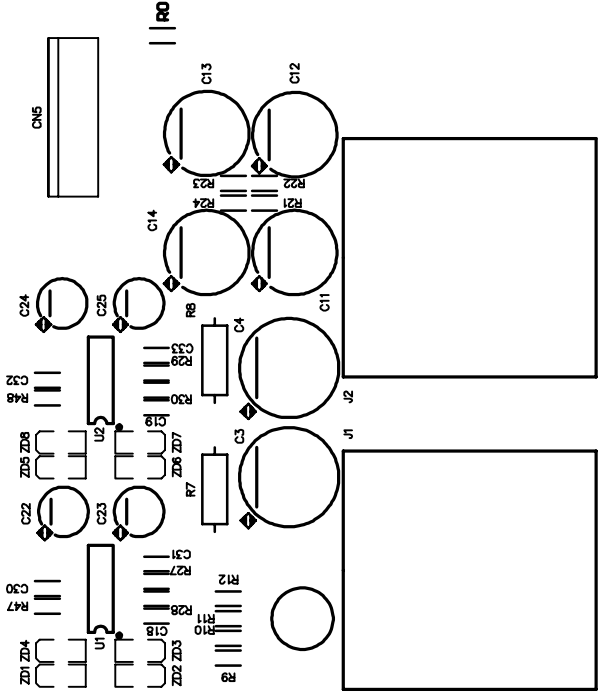
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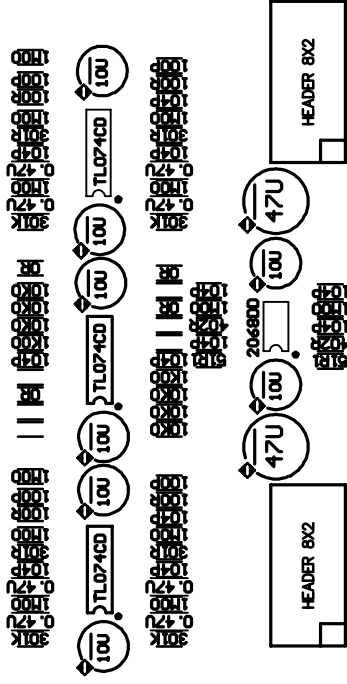
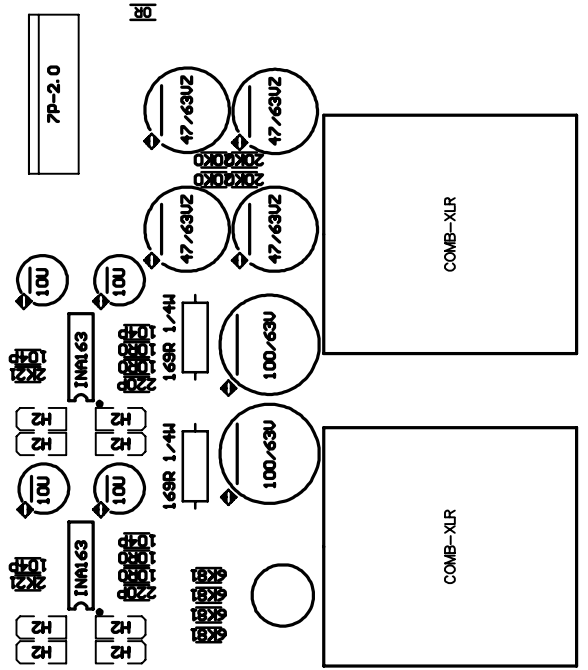
PCB:AMTUBEFP 零件阻值圖



PCB:AMTUBEMN 零件阻值圖

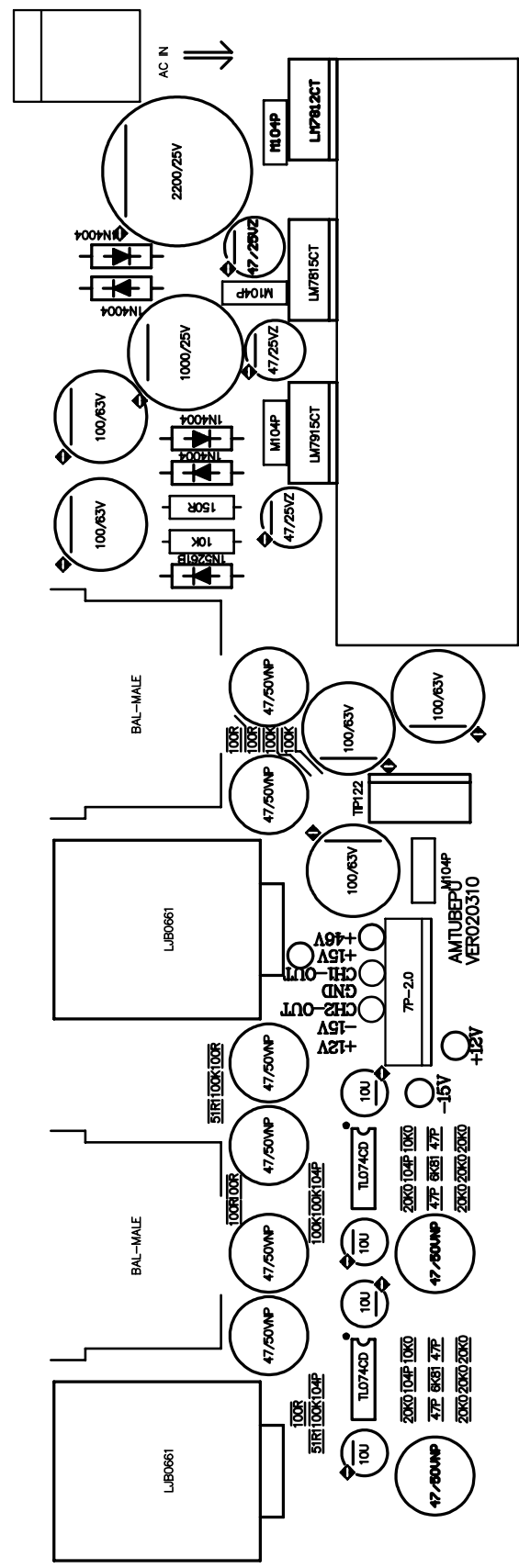
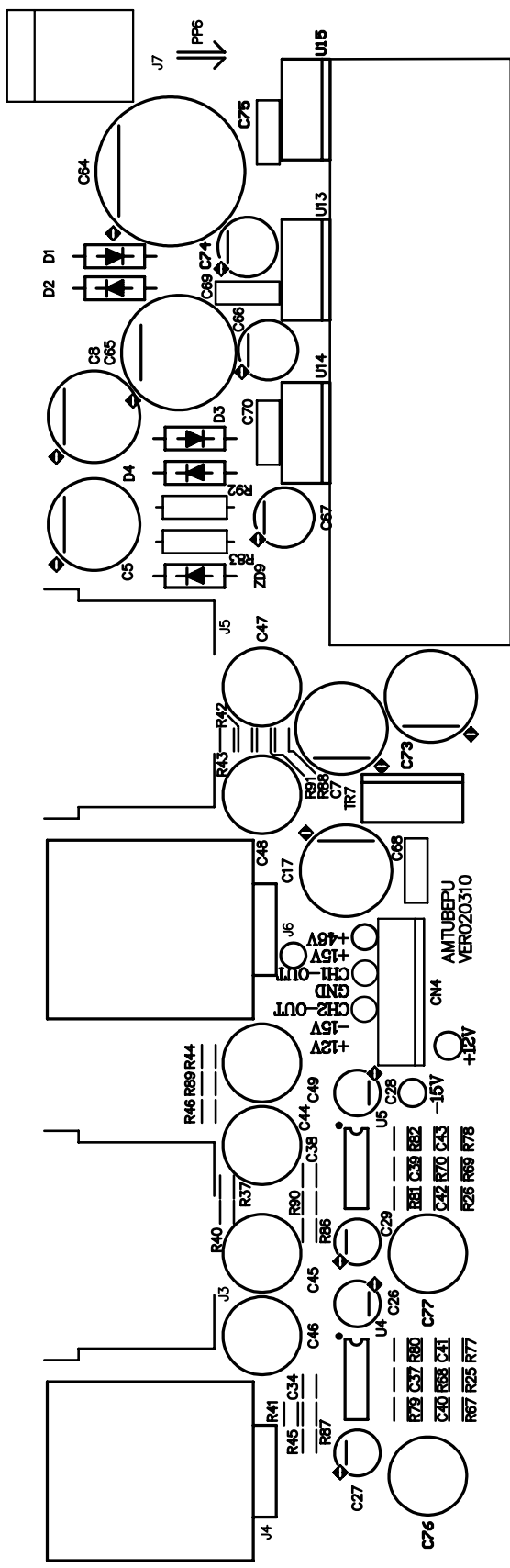


AMTUBEMN
VER020216

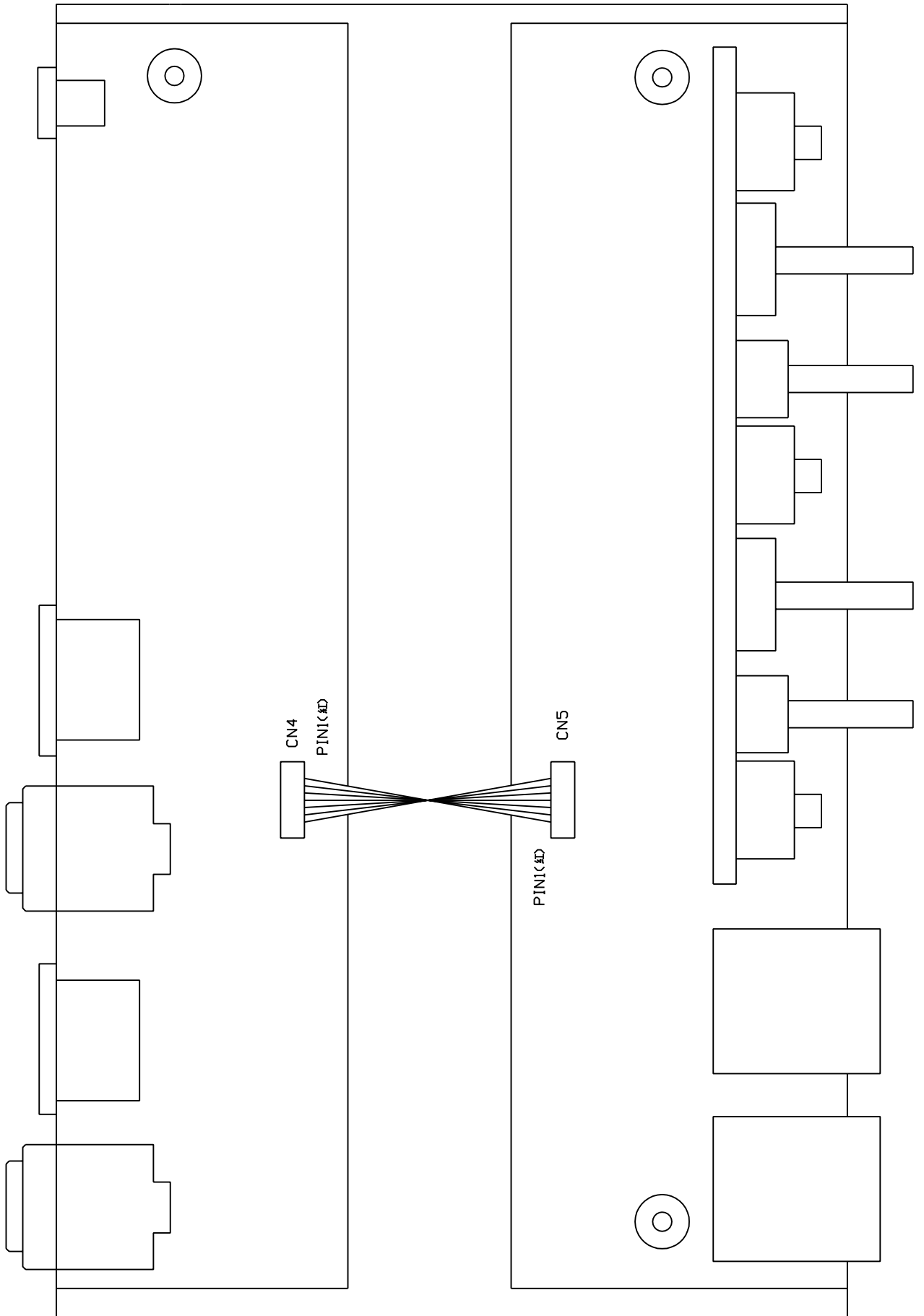


AMTUBEMN
VER020216

PCB:AMTUBEPU 零件阻值圖



αMICTUBE 全機配線圖



Test Procedures(aMICTUBE)

Required Equipment

Audio Precision System 2 with APWin software

100MHz oscilloscope connected to APS2 Analyzer Signal Monitor output (Ch. A and Ch. B)

Connection Mode

Use Audio Precision System 2 analog unbalanced (XLR) inputs/output

Test Procedures for aMICTUBE

Amplitude response test

On PC:

-Load file:amictube_amplitude(APWin File menu / Open / Test)

Test Connections:

- Output A of Audio Precision System Two \rightarrow CH1 input of the device under test.
- Output B of Audio Precision System Two \rightarrow CH2 input of the device under test.
- CH1 output of the device under test \rightarrow A input of Audio Precision System Two.
- CH2 output of the device under test \rightarrow B input of Audio Precision System Two.

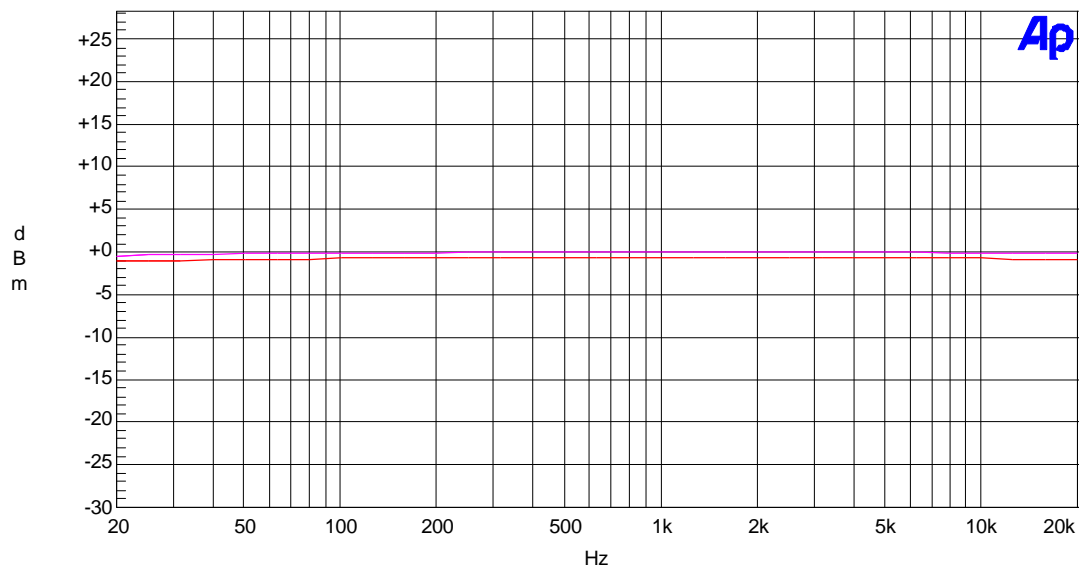
On the aMICTUBE:

- Set INPUT GAIN to zero.
- Set DRIVE to maximum.

Start the sweep (F9) and control the results (Page3 – Graph) in the following conditions:

SEKAKU

06/25/02 11:48:07



Color	Line Style	Thick	Data	Axis
Red	Solid	1	Anlr.Level A	Left
Magenta	Solid	1	Anlr.Level A	Left

Structure Needing Material Detail List

建檔日：2002/05/24 修正日：2002/08/16

<u>NO.</u>	<u>Midprod NO</u>	<u>Quantity</u>	<u>Unit</u>
1	A-aMICTUBE-ALTO-230V-法國	1.000	PCS
2	A-aMICTUBE 底板組合	1.000	PCS
3	P-aMTUBEFP-SMD	1.000	PCS
4	P-aMTUBEFP-DIP	1.000	PCS
5	P-aMISKT-DIP	1.000	PCS
6	P-aMTUBEMN-SMD	1.000	PCS
7	P-aMTUBEMN-DIP	1.000	PCS
8	P-aMTUBEPU-SMD	1.000	PCS
9	P-aMTUBEPU-DIP	1.000	PCS

Item No: aMICTUBE

specify: AMP

Mid No: A-aMICTUBE-ALTO-230V-法國 standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 MFRZ08ZZ	panel(white)	aMICTUBE	1.000	PCS	
MARK:						
	2 MTPZ02ZZ	top cover(black)	aVERB	1.000	PCS	
MARK:						
	3 MBKZ02ZZ	rear board	aMICTUBE	1.000	PCS	
MARK:						
	4 NMBP64	plastic knob double	1COOL GRAY 8C	4.000	PCS	
MARK:VR	1 2 3 4					
	5 NPL272	cover	8.5*4 blue 072C	4.000	PCS	
MARK:						
	6 NPL275	push putton	3*W6*18.3	5.000	PCS	
MARK:SW	1 2 3 4 5					
	7 NPL278	LED separating pillar	7.6*4.5*184	1.000	PCS	
MARK:						
	8 NI00002	nut	外六角形 7/16"*G20/15*4	2.000	PCS	
MARK:J	4 6					
	9 NC00131	washer	1* 11.3* 15.3 red	2.000	PCS	
MARK:J	4 6					
	10 MFS016	washer	3* 6.5*0.5t	1.000	PCS	
MARK:						
	11 MSCB58	black plated screw	iron-board pill 3*10	4.000	PCS	
MARK:						
	12 MSCB13	black-plated screw	cross-head pan head 3*6	10.000	PCS	
MARK:						
	13 MSCB34	black plated screw	pill 3*6	2.000	PCS	
MARK:						
	14 MSCB38	black plated screw	3*7	4.000	PCS	
MARK:						
	15 MSCN20	Ni screw	flat 3*8	1.000	PCS	
MARK:						
	16 NPL325	LED spacer support	3.1*85	1.000	PCS	
MARK:						
	17 TG00040	transformer	230V/50Hz,AC18V/1000mA E	1.000	PCS	
MARK:						
	18 NFO0983	instruction	aMICTUBE ALTO	1.000		
MARK:						
	19 NMCQ-073	assurance book	ALTO	1.000		
MARK:						
	20 HEM-002	desiccant	10g	1.000	PCS	
MARK:						
	21 NWCP01WW0230*0350PE	bag	23*35cm	1.000	PCS	
MARK:						
	22 NWCP04	lockable bag	5*7	1.000	PCS	
MARK:						
	23 NWCP39	bag		1.000	PCS	
MARK:						
	24 NLXM39	self-paste foot pad(SF-(12.7*9.0*3.0t		4.000	PCS	
MARK:						
	25 NBO1718	box	aMICTUBE ALTO	1.000	PCS	
MARK:						
	26 POA002	paper outter case 8hole	aVERB	0.125	PCS	
MARK:						
	27 NE05004	label	ALTO	4.000		
MARK:						
	28 NMLM385ZZ	label	MICTUBE	4.000		
MARK:						

Item No: aMICTUBE

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
29	NMLH31	label	MADE IN P.R.C.	2.000		
MARK:						
30	MI00943	bracket	aMICTUBE L	2.000	PCS	
MARK:						
31	MST003	R.S nut	9	2.000	PCS	
MARK:						
32	MI01379	bracket	aMICTUBE	1.000	PCS	
MARK:						
33	NLXC18	round rubber tube	5*10	1.000	PCS	
MARK:						
34	NE05888	label	Pre-amplificateur	2.000		
MARK:						

Item No: aMICTUBE

specify: AMP

Mid No: A-aMICTUBE 底板組合 standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 MBTZ05ZZ	bottom board(black)	aMICTUBE	1.000	PCS	
MARK:						
	2 MMC014	iron pillar	hexagon 6.35*M3*9.2	1.000	PCS	
MARK:						
	3 MMC010			2.000	PCS	
MARK:						
	4 MMC019	iron pillar	hexagon6.35*M3*8.4(coppe	1.000	PCS	
MARK:						

Item No: aMICTUBE

specify: AMP

Mid No: P-aMTUBEFP-SMD standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	NPC0115	PCB	AMTUBEFP+AMICSKT(1*4)_VE	1.000	PCS	
MARK:						
2	RPCA0100	SMD 1/10W precise resist	100 ±1% 0603	10.000	PCS	
MARK: R 104 25 45 64 65 66 67 81 82 95						
3	RPCA0110	SMD 1/10W precise resist	110 ±1% 0603	2.000	PCS	
MARK: R 103 94						
4	RPCA0169	SMD 1/10W precise resist	169 ±1% 0603	2.000	PCS	
MARK: R 31 32						
5	RPCA0200	SMD 1/10W precise resist	200 ±1% 0603	2.000	PCS	
MARK: R 105 96						
6	RPCA0402	SMD 1/10W precise resist	402 ±1% 0603	2.000	PCS	
MARK: R 106 97						
7	RPCA0619	SMD 1/10W precise resist	619 ±1% 0603	4.000	PCS	
MARK: R 19 20 33 34						
8	RPCA0806	SMD 1/10W precise resist	806 ±1% 0603	2.000	PCS	
MARK: R 107 98						
9	RPCA1100	SMD 1/10W precise resist	1.00K ±1% 0603	2.000	PCS	
MARK: R 72 74						
10	RPCA1158	SMD 1/10W precise resist	1.58K ±1% 0603	2.000	PCS	
MARK: R 108 99						
11	RD00285	resistor	3.24K ±1% 0603	2.000	PCS	
MARK: R 100 109						
12	RD00286	resistor	4.53K ±1% 0603	1.000	PCS	
MARK: R 123						
13	RD00287	resistor	6.34K ±1% 0603	2.000	PCS	
MARK: R 101 110						
14	RPCA1806	SMD 1/10W precise resist	8.06K ±1% 0603	2.000	PCS	
MARK: R 102 111						
15	RD00290	resistor	47.5K ±1% 0603	9.000	PCS	
MARK: R 17 18 3 39 4 49 5 50 6						
16	CCE310I	SMD0603 ceramic capacitor	0.01uF X7R ±10% -5C	3.000	PCS	
MARK: C 1 2 6						
17	CCE410F	SMD0603 ceramic capacitor	0.1uF Y5V+80 -20%50V	12.000	PCS	
MARK: C 50 51 52 53 54 55 56 57 59 60 64 65						
18	CCC510F	SMD0805 ceramic capacitor	1uF/16V Y5V-0805(201	2.000	PCS	
MARK: C 62 63						
19	DRS0002	SMD rectifier diode	DA204K/T-146	4.000	PCS	
MARK: D 5 6 7 8						
20	STRS103	SMD transistor	2SA1036K(R)(MMBT3906LT1)	6.000	PCS	
MARK: TR 3 4 5 6 8 9						
21	SICS202	SMD integrated circuit	NJM2068M-TE1(LM833D)	1.000	PCS	
MARK: U 11						
22	SICS115	SMD integrated circuit	BA10339FV E2	4.000	PCS	
MARK: U 10 7 8 9						

Item No: aMICTUBE

specify: AMP

Mid No: P-aMTUBEFP-DIP standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	RFB047S	1/4W fixed resistor	47 S type	1.000	PCS	
MARK: R 38						
2	RFB110S	1/4W fixed resistor	100 S type	2.000	PCS	
MARK: R 1 2						
3	CE610F	electrotytic capacitor	10uF/35V 105 4*7	2.000	PCS	
MARK: C 66 67						
4	DL50RG	L.E.D	LVG2340/A 3 green	16.000	PCS	
MARK: LD 1 10 11 12 13 14 17 18 19 2 20 3 4 5 6 9						
5	DL50RR	L.E.D	LI2340/A 3 red	4.000	PCS	
MARK: LD 16 21 22 8						
6	DL50RY	L.E.D	LVE2340/A 3 yellow	2.000	PCS	
MARK: LD 15 7						
7	HCSP07001	row-pin(single)#5200	2.0 180 ° 2*8P(gold-plat	2.000	PCS	
MARK: CN 8 9						
8	HI00162	sw	PS-22E8552L(3.3x3.3)	2.000	PCS	
MARK: SW 4 5						
9	HI00163	SW	PS-42E85L(3.3x3.3)	3.000	PCS	
MARK: SW 1 2 3						
10	RVS132	potentiometer	C1K R1411G0A-V1C102FNC	2.000	PCS	
MARK: VR 3 4						
11	RC00211	potentiometer	A20K R0911N0B-V1A203FM	2.000	PCS	
MARK: VR 1 2						
12	NI01772	LED separating pillar	LEDS-7 7mm	19.000	PCS	
MARK: LD 1 10 11 12 13 14 15 16 17 19 2 21 3 4 5 6 7 8 9						
13	NI01766	LED separating pillar	LEDS-19 19mm	1.000	PCS	
MARK: LD 22						
14	NI01831		8.5*4*17 black	2.000	PCS	
MARK: LD 18 20						

Item No: aMICTUBE

specify: AMP

Mid No: P-aMICSKT-DIP standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 RPB2100S	1/4W precise resistor	10.0K S type	2.000	PCS	
	MARK: R 120 121					
	2 RFA010S	1/2W fixed resistor	10 S type	1.000	PCS	
	MARK: R 122					
	3 HCSP02001	row pin	2.54 90 ° 8P(gold-platec	1.000	PCS	
	MARK: CN 4					
	4 HEM201	auto revers appliance	12AX7WA	1.000	PCS	
	MARK: TB 1					
	5 HCSS77			1.000	PCS	
	MARK: TB 1					

Item No: aMICTUBE

specify: AMP

Mid No: P-aMTUBEMN-SMD standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	NPC0116	PCB	AMTUBEMN(1*4)_VER020430	1.000	PCS	
MARK:						
2	RPCAG100	SMD 1/10W precise resist	10.0 ±1% 0603	4.000	PCS	
MARK:R 27 28 29 30						
3	RPCAG511	SMD 1/10W precise resist	51.1 ±1% 0603	2.000	PCS	
MARK:R 35 36						
4	RPCA0100	SMD 1/10W precise resist	100 ±1% 0603	4.000	PCS	
MARK:R 37 40 62 83						
5	RPCA0301	SMD 1/10W precise resist	1301 ±1% 0603	4.000	PCS	
MARK:R 51 70 71 84						
6	RPCA0402	SMD 1/10W precise resist	402 ±1% 0603	2.000	PCS	
MARK:R 13 14						
7	RPCA1100	SMD 1/10W precise resist	1.00K ±1% 0603	2.000	PCS	
MARK:R 57 63						
8	RD00284	resistor	2.21K ±1% 0603	2.000	PCS	
MARK:R 47 48						
9	RPCA1681	SMD 1/10W precise resist	6.81K ±1% 0603	4.000	PCS	
MARK:R 10 11 12 9						
10	RPCA2100	SMD 1/10W precise resist	10.0K ±1% 0603	6.000	PCS	
MARK:R 52 53 54 55 56 61						
11	RPCA2200	SMD 1/10W precise resist	20.0K ±1% 0603	4.000	PCS	
MARK:R 21 22 23 24						
12	RPCA3301	SMD 1/10W precise resist	301K ±1% 0603	4.000	PCS	
MARK:R 26 46 68 69						
13	RPCA4100	SMD 1/10W precise resist	1.00M ±1% 0603	12.000	PCS	
MARK:R 15 16 41 42 43 44 75 76 77 78 79 80						
14	RFCF000	SMD 1/10W fixed resistor	0 ±5% 0603	5.000	PCS	
MARK:C 29 48 R60 R86 R0						
15	CCE110B	SMD0603 ceramic capacitor	100PF NPO ±5% -5C	4.000	PCS	
MARK:C 16 26 45 46						
16	CCE122B	SMD0603 ceramic capacitor	220PF NPO ±5% -5C	2.000	PCS	
MARK:C 18 19						
17	CCE410F	SMD0603 ceramic capacitor	0.1uF Y5V+80 -20%50V	16.000	PCS	
MARK:C 10 27 30 31 32 33 35 36 49 5 58 61 68 69 8 9						
18	CCC447F	SMD0805 ceramic capacitor	0.47uF/25V Y5V-0805(201	8.000	PCS	
MARK:C 15 17 40 41 42 43 44 7						
19	DZSA112	SMD zener diode (SOD123)	1/2W 12V(MMSZ5242BT1)	8.000	PCS	
MARK:ZD 1 2 3 4 5 6 7 8						
20	SICS202	SMD integrated circuit	NJM2068M-TE1(LM833D)	1.000	PCS	
MARK:U 6						
21	SICS116	SMD integrated circuit	INA163UA	2.000	PCS	
MARK:U 1 2						
22	SICS003	SMD integrated circuit	TL074CDT	3.000	PCS	
MARK:U 3 4 5						

Item No: aMICTUBE

specify: AMP

Mid No: P-aMTUBEMN-DIP standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	RPB0169S	1/4W precise resistor	169 S type	2.000	PCS	
MARK:	R 7 8					
2	CE610F	electrotytic capacitor	10uF/35V 105 4*7	12.000	PCS	
MARK:	C 20 21 22 23 24 25 34 37 38 39 71 72					
3	CE647E-3	electrotytic capacitor	47uF/25V 105 6.3*7	2.000	PCS	
MARK:	C 78 79					
4	CE647G-1	electrotytic capacitor	47uF/63V LZ 105 8*12	4.000	PCS	
MARK:	C 11 12 13 14					
5	CE710I	electrolytic capacitor	100uF/63V 10*12.5	2.000	PCS	
MARK:	C 3 4					
6	HCSB03	row-pin header(single)#	2.0 180 ° 2*8P 16.4*4.2*	2.000	PCS	
MARK:	CN 1 2					
7	HCSM51	mix balance jack	NCJ9FI-H-0(NEUTRIK)	2.000	PCS	
MARK:	J 1 2					
8	HLSF274	row-wire connector wirir	7P(male)-7P(parent) 70mm	1.000	PCS	
MARK:	CN 5					

Item No: aMICTUBE

specify: AMP

Mid No: P-aMTUBEPU-SMD standard quantity: 1.000

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
1	NPC0117	PCB	AMTUBEPU(1*4)_VER020310	1.000	PCS	
MARK:						
2	RPCAG511	SMD 1/10W precise resist	51.1 ± 1% 0603	2.000	PCS	
MARK:R 45 46						
3	RPCA0100	SMD 1/10W precise resist	100 ± 1% 0603	6.000	PCS	
MARK:R 37 40 41 42 43 44						
4	RPCA1681	SMD 1/10W precise resist	6.81K ± 1% 0603	2.000	PCS	
MARK:R 68 70						
5	RPCA2100	SMD 1/10W precise resist	10.0K ± 1% 0603	2.000	PCS	
MARK:R 80 82						
6	RPCA2200	SMD 1/10W precise resist	20.0K ± 1% 0603	8.000	PCS	
MARK:R 25 26 67 69 77 78 79 81						
7	RPCA3100	SMD 1/10W precise resist	100K ± 1% 0603	6.000	PCS	
MARK:R 86 87 88 89 90 91						
8	CCE047B	SMD0603 ceramic capacitor	47PF NPO ± 5% -5C	4.000	PCS	
MARK:C 40 41 42 43						
9	CCE410F	SMD0603 ceramic capacitor	0.1uF Y5V+80 -20%50V	4.000	PCS	
MARK:C 34 37 38 39						
10	SICS003	SMD integrated circuit	TL074CDT	2.000	PCS	
MARK:U 4 5						

Item No: aMICTUBE

specify: AMP

Mid No: standard quantity:

NO	Material No	Item Name	Specific	Quantity	Unit	Ps
	1 RFB115S	1/4W fixed resistor	150 S type	1.000	PCS	
MARK:	R 92					
	2 RFB310S	1/4W fixed resistor	10K S type	1.000	PCS	
MARK:	R 83					
	3 CU410A-1	heap-layer capacitor (s10.1uF 50V Y5V PH5mm		4.000	PCS	
MARK:	C 68 69 70 75					
	4 CE610F	electrotytic capacitor	10uF/35V 105 4*7	4.000	PCS	
MARK:	C 26 27 28 29					
	5 CE647E-3	electrotytic capacitor	47uF/25V 105 6.3*7	3.000	PCS	
MARK:	C 66 67 74					
	6 CE647A	electrolytic capacitor	47/50V NP nil polarity	8.000	PCS	
MARK:	C 44 45 46 47 48 49 76 77					
	7 CE710I	electrolytic capacitor	100uF/63V 10*12.5	5.000	PCS	
MARK:	C 17 5 7 73 8					
	8 CE810E	electrotytic capacitor	1000/25V	1.000	PCS	
MARK:	C 65					
	9 CE822V	electrotytic capacitor	2200/25V 16*25mm	1.000	PCS	
MARK:	C 64					
	10 DR008A	rectifier diode	1N4004/400V 1A	4.000	PCS	
MARK:	D 1 2 3 4					
	11 DZA47V	zener diode	1/2W 47V 1N5261	1.000	PCS	
MARK:	ZD 9					
	12 STR121	transistor	TIP112 or TIP122	1.000	PCS	
MARK:	TR 7					
	13 SIC705	integrated circuit	7812	1.000	PCS	
MARK:	U 15					
	14 SIC717	integrated circuit	7815	1.000	PCS	
MARK:	U 13					
	15 SIC719	integrated circuit	7915	1.000	PCS	
MARK:	U 14					
	16 HCSS02	DC jack	DJ-005A	1.000	PCS	
MARK:	J 7					
	17 HCO0108	MIC	6.3 LJB0661-6	2.000	PCS	
MARK:	J 4 6					
	18 HCSM40	MIC jack for balance	99M-108SP1	2.000	PCS	
MARK:	J 3 5					
	19 MHL102	heat-sink	64.5*20*25	1.000	PCS	
MARK:						
	20 NPL029	insulate bean	T0220B	3.000	PCS	
MARK:	U 13 14 15					
	21 STR802-T2	silicone insulator	T0-220 square type	3.000		
MARK:	U 13 14 15					
	22 MSCN19	Ni screw	pill 3*8	3.000	PCS	
MARK:	U 13 14 15					
	23 MFSS03	washer	3* 5*1t	3.000	PCS	
MARK:	U 13 14 15					
	24 HCSV0207	row-wire header	7P 2.0mm 180 °	1.000	PCS	
MARK:	CN 4					
	25 MSCB44	black-plated screw	cut-tail pill 3*8	2.000	PCS	
MARK:						

8.Exploded Views

