

Service Manual

Model: aMICTUBE

STEREO TUBE PREAMP



www.altoproaudio.com

Version: 1.1

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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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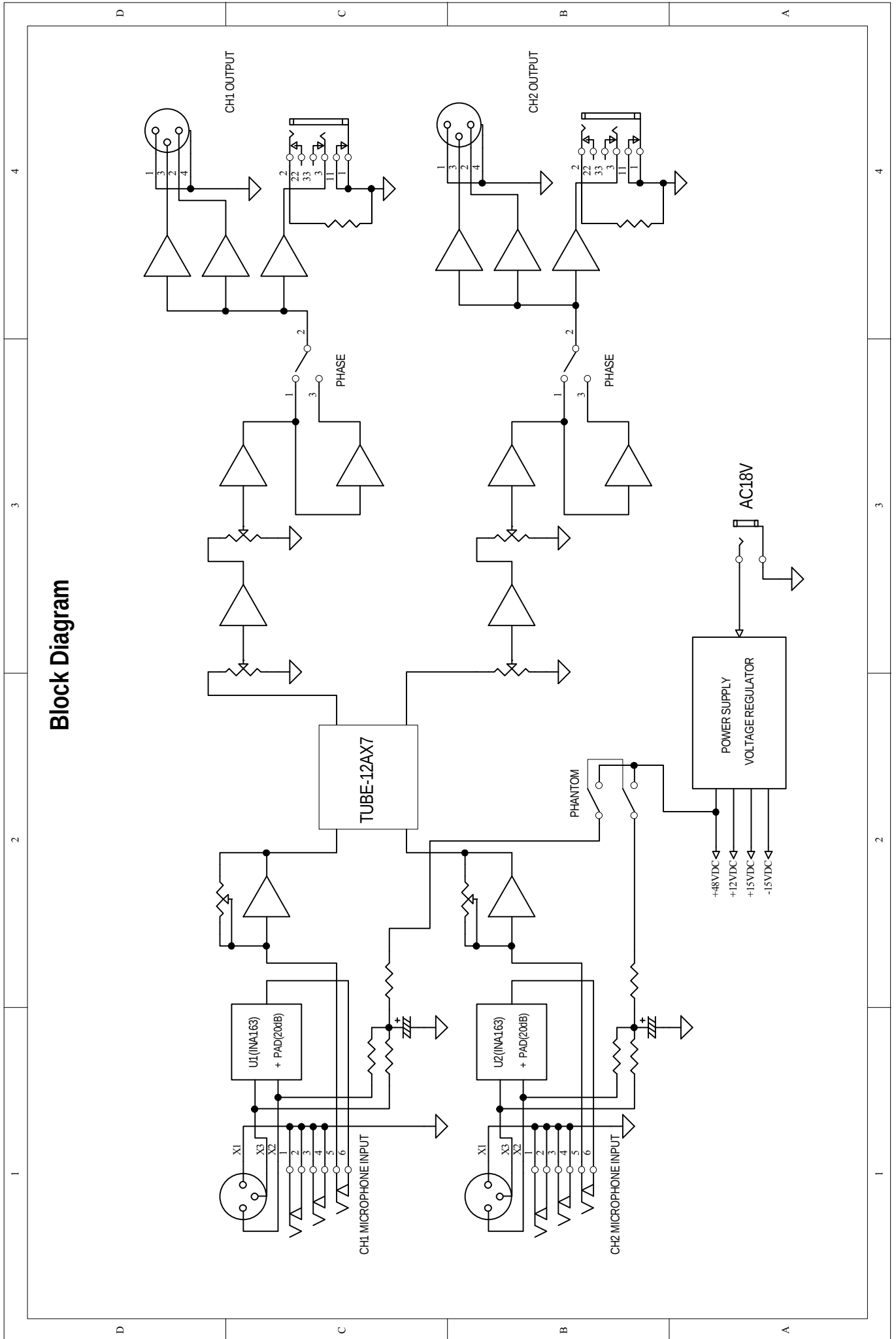
Physical

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

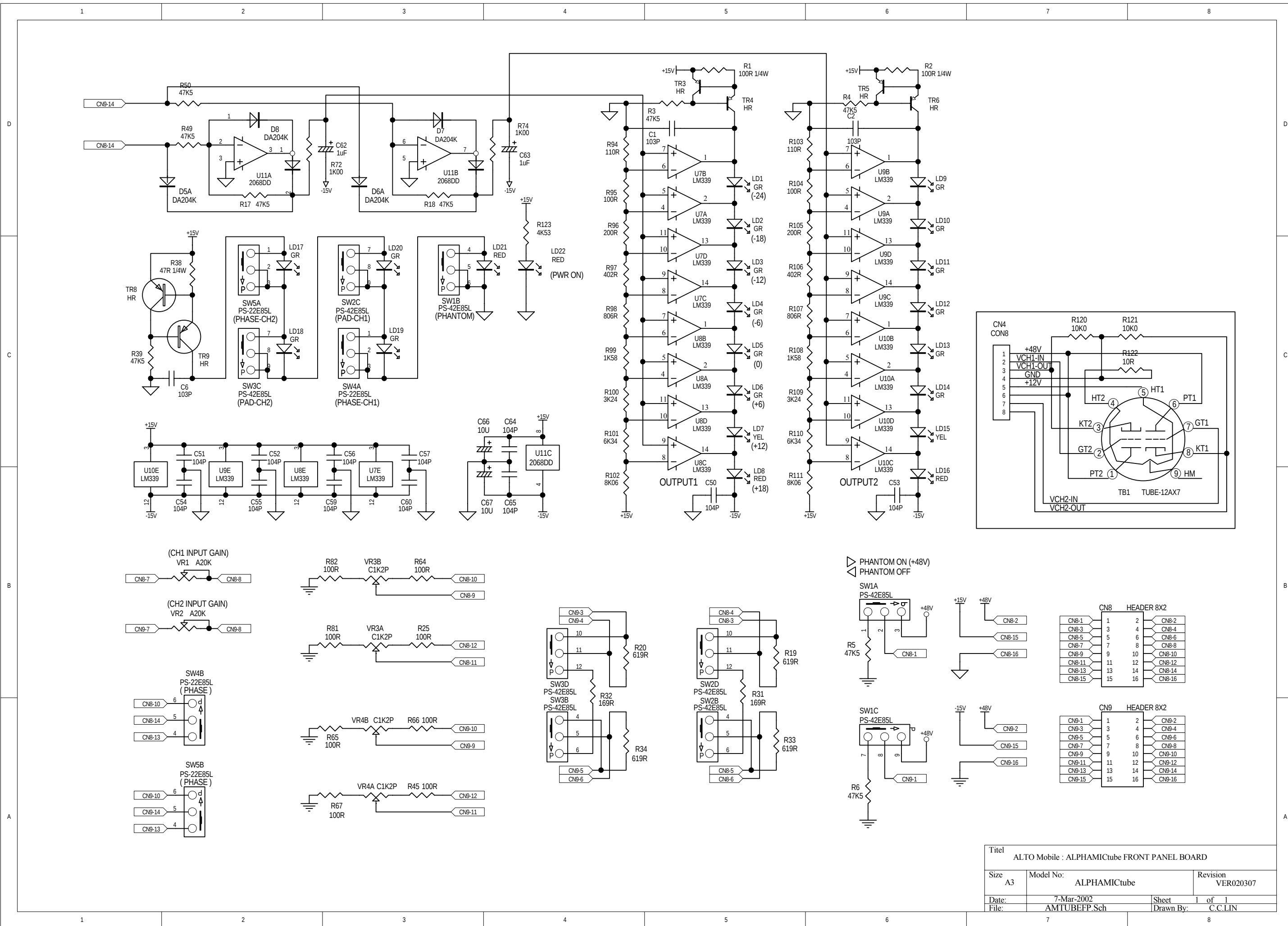
Power Supply

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

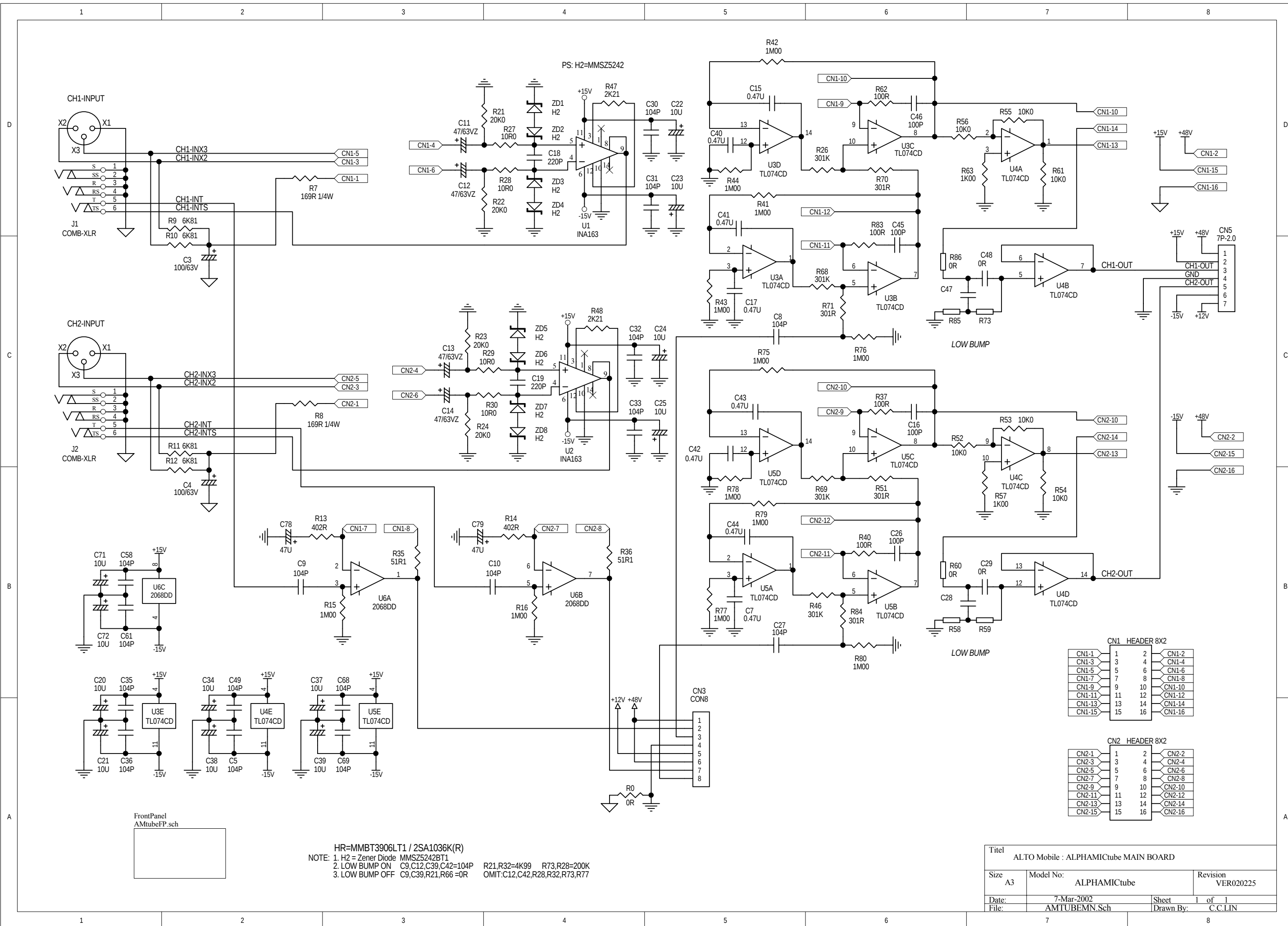
2. Block Diagram



3.Schematic Diagram



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



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

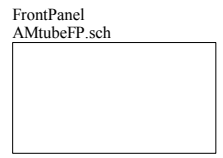
CN1 HEADER 8X2

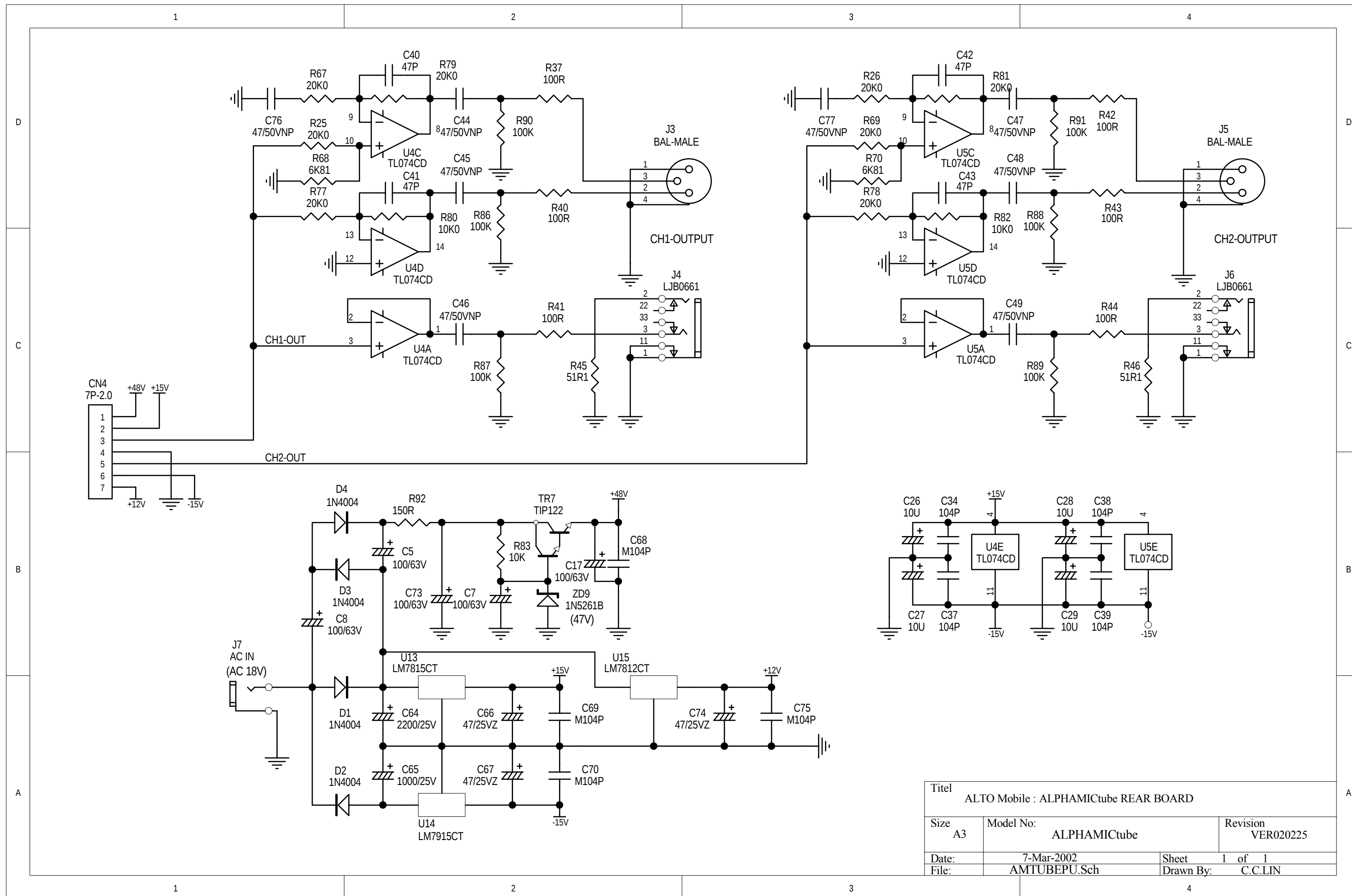
CN1-1	1	2	CN1-2
CN1-3	3	4	CN1-4
CN1-5	5	6	CN1-6
CN1-7	7	8	CN1-8
CN1-9	9	10	CN1-10
CN1-11	11	12	CN1-12
CN1-13	13	14	CN1-14
CN1-15	15	16	CN1-16

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

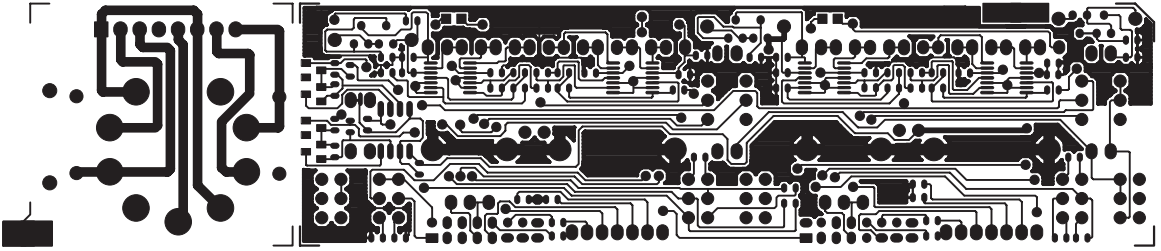
Titel		
ALTO Mobile : ALPHAMICtube MAIN BOARD		
Size	Model No:	Revision
A3	ALPHAMICtube	VER020225
Date:	7-Mar-2002	Sheet 1 of 1
File:	AMTUBEMN.Sch	Drawn By: C.C.LIN



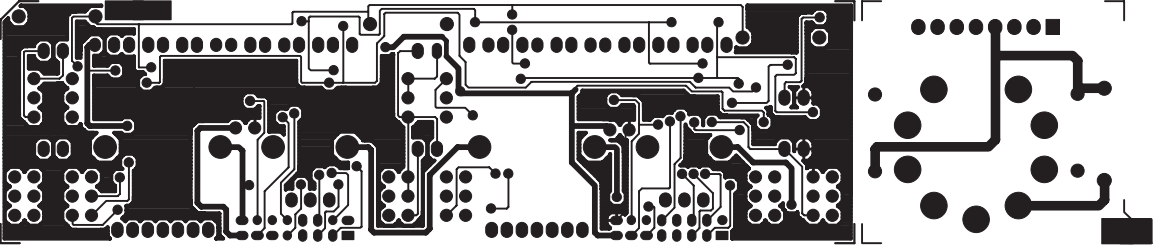


Titel			
ALTO Mobile : ALPHAMICtube REAR BOARD			
Size	Model No:	Revision	
A3	ALPHAMICtube	VER020225	
Date:	7-Mar-2002	Sheet	1 of 1
File:	AMTUBEPU.Sch	Drawn By:	C.C.LIN

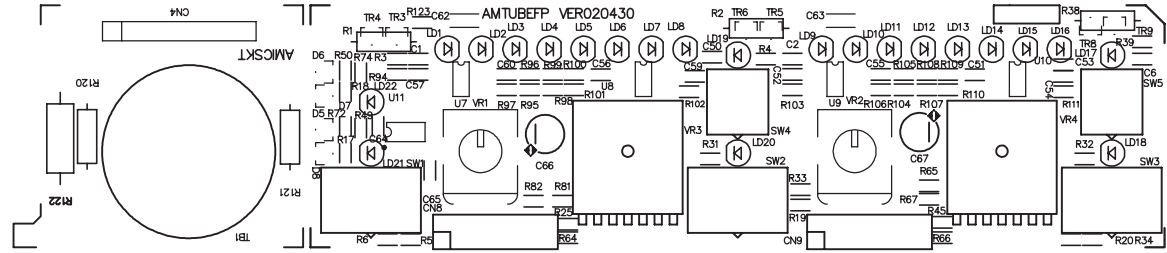
4.Printed Circuit Diagram



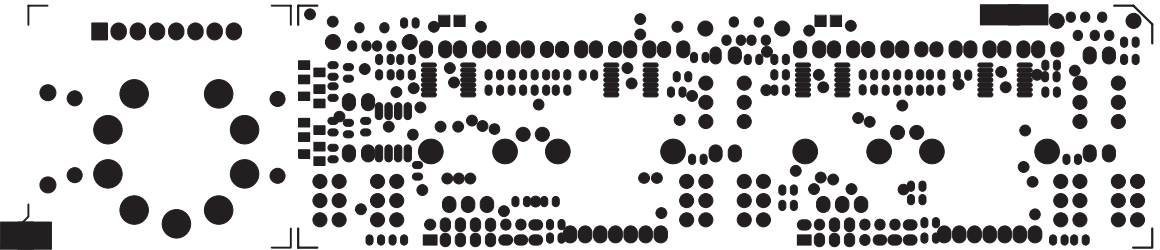
AMTUBEFP Top Layer



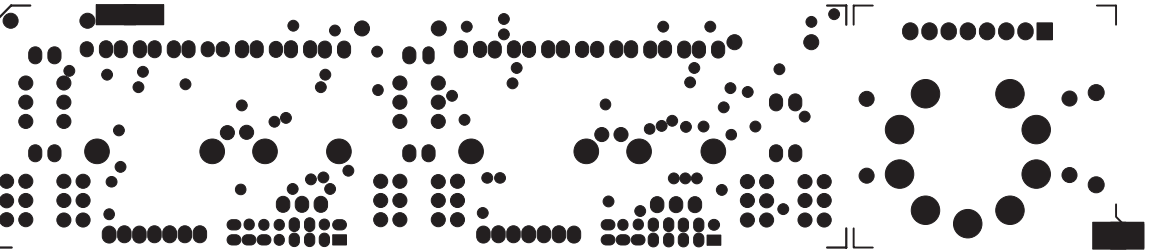
AMTUBEFP Bottom Layer



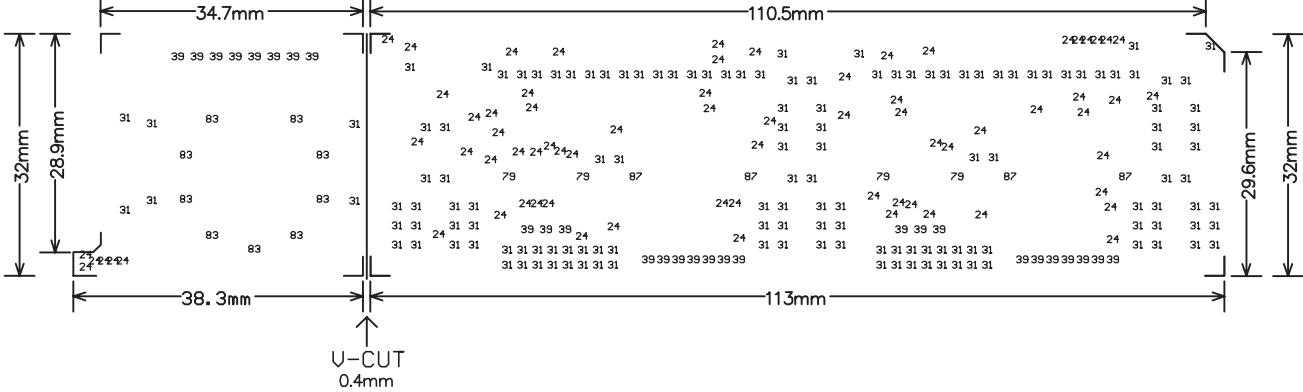
AMTUBEFP Top Silkscreen



AMTUBEFP Top Solder Mask



AMTUBEFP Bottom Solder Mask



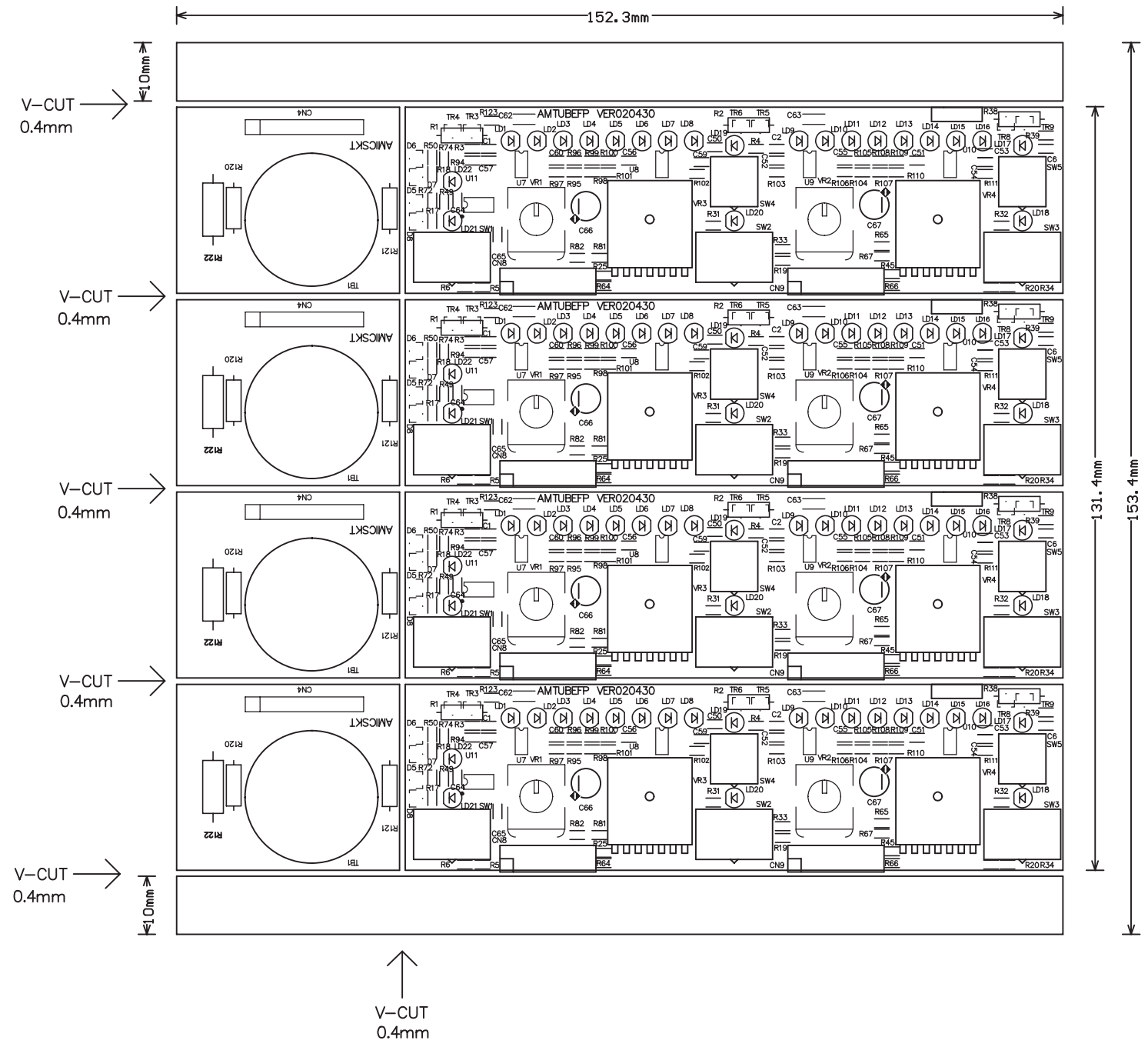
AMTUBEFP Drill Drawing

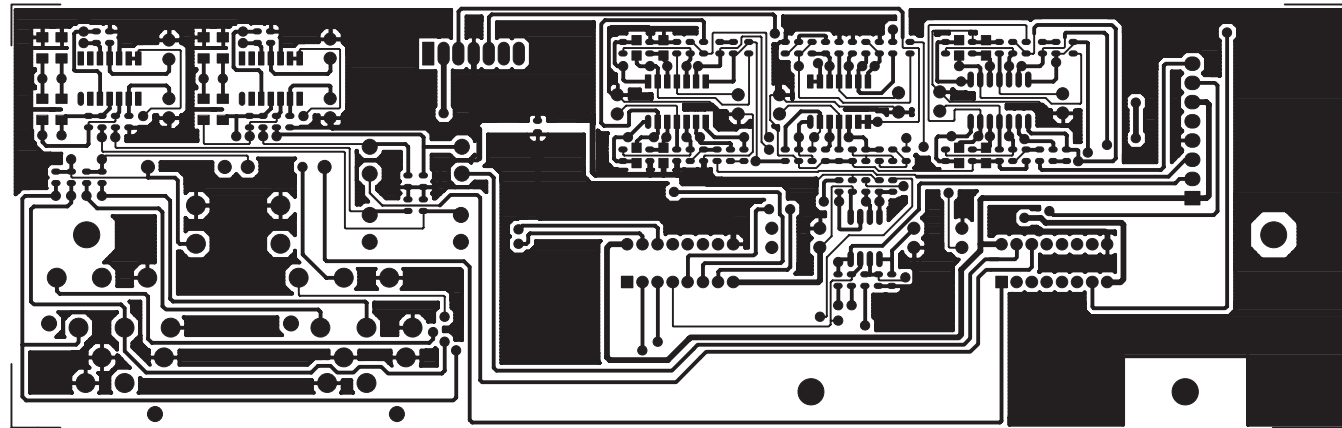
NCDrill File Report For: AMTUBEFP.PCB 9-May-2002 16:26:29

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

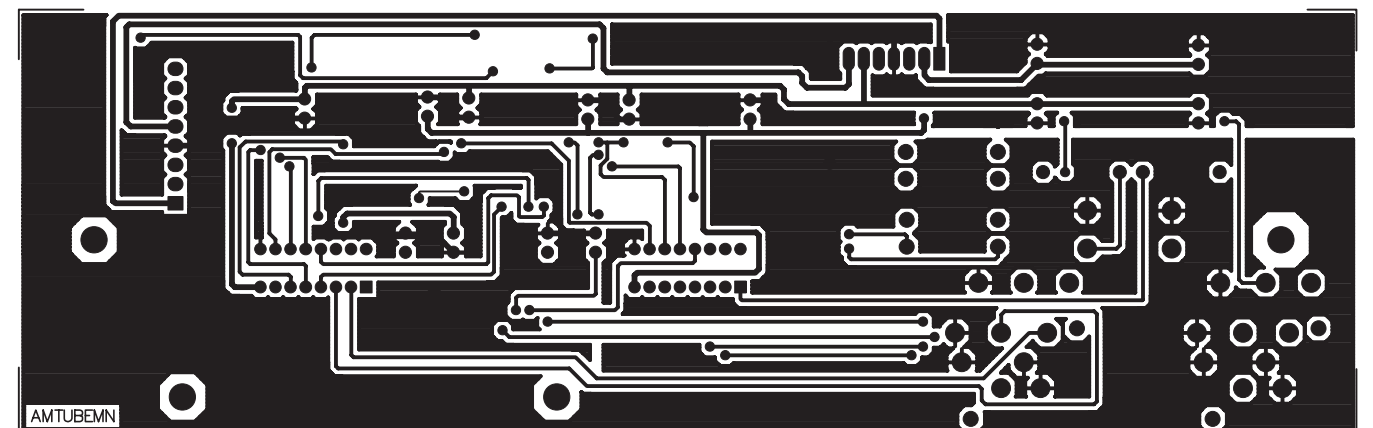
Tool	Hole Size	Hole Count Plated	Tool Travel
T1	24mil (0.6096mm)	72	29.54 Inch (750.27 mm)
T2	31mil (0.7874mm)	140	30.14 Inch (765.64 mm)
T3	39mil (0.9906mm)	28	14.01 Inch (355.84 mm)
T4	79mil (2.0066mm)	4	9.78 Inch (248.33 mm)
T5	83mil (2.1082mm)	9	6.04 Inch (153.35 mm)
T6	87mil (2.2098mm)	4	10.82 Inch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

Total Processing Time : 00:00:00

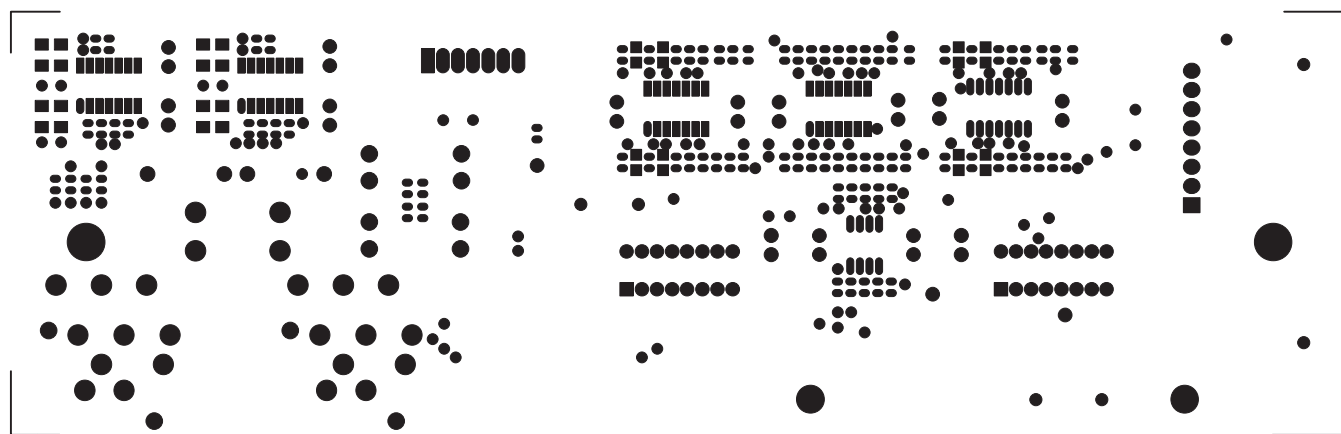




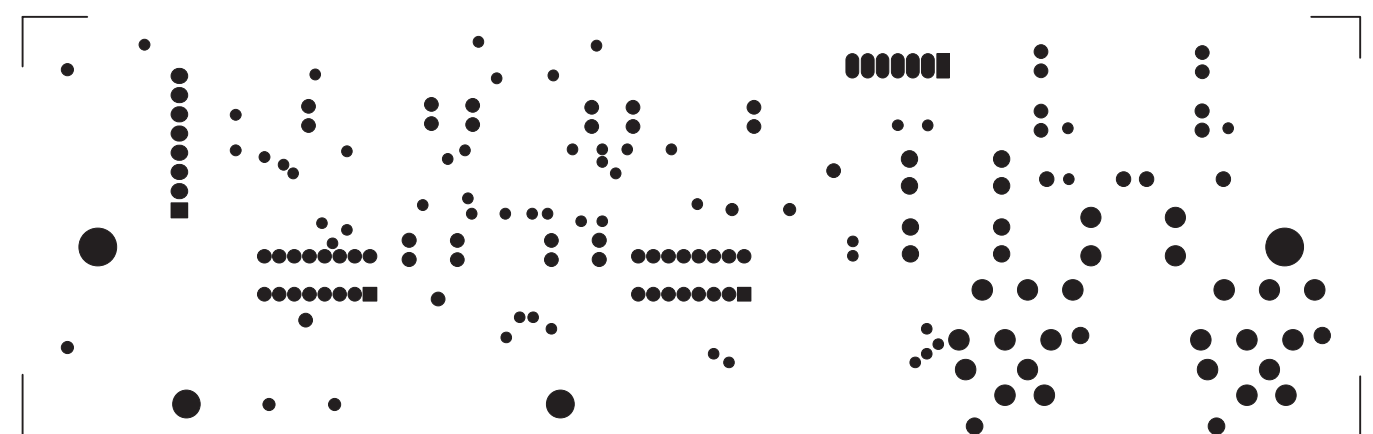
AMTUBEMN Top Layer



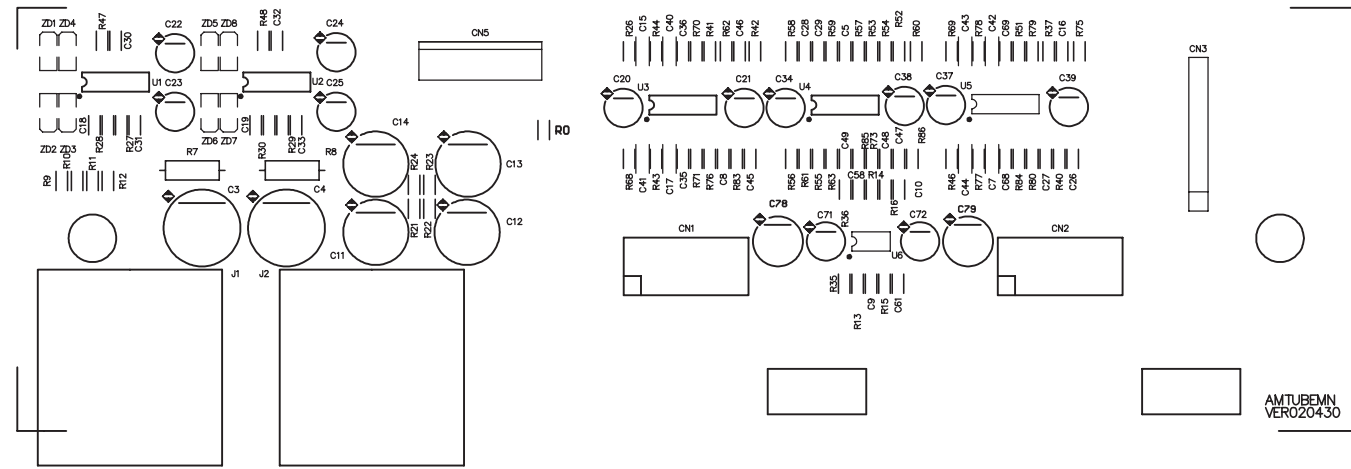
AMTUBEMN Bottom Layer



AMTUBEMN Top Solder Mask



AMTUBEMN Bottom Solder Mask



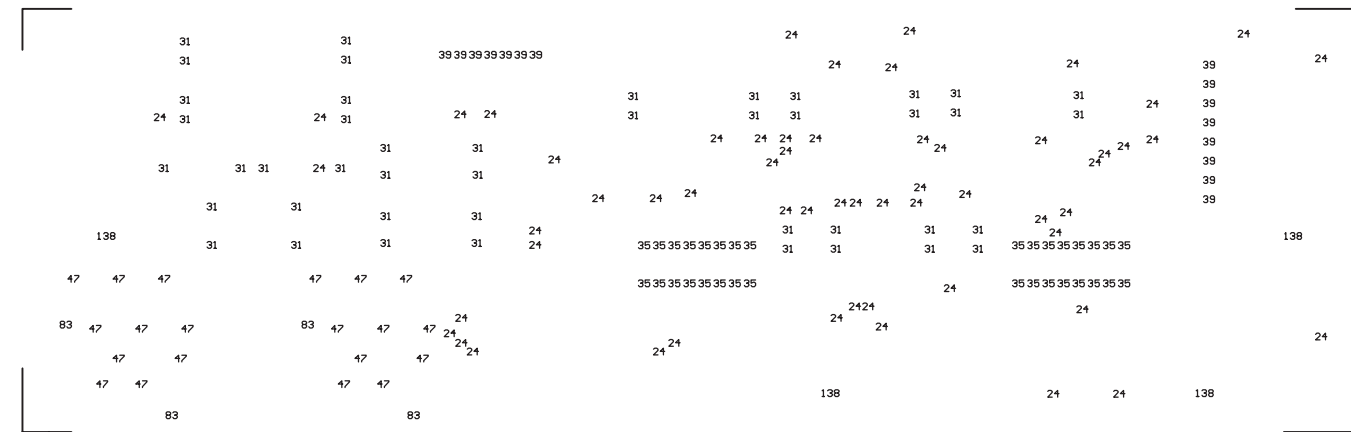
AMTUBEMN Top Scilkscreen

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

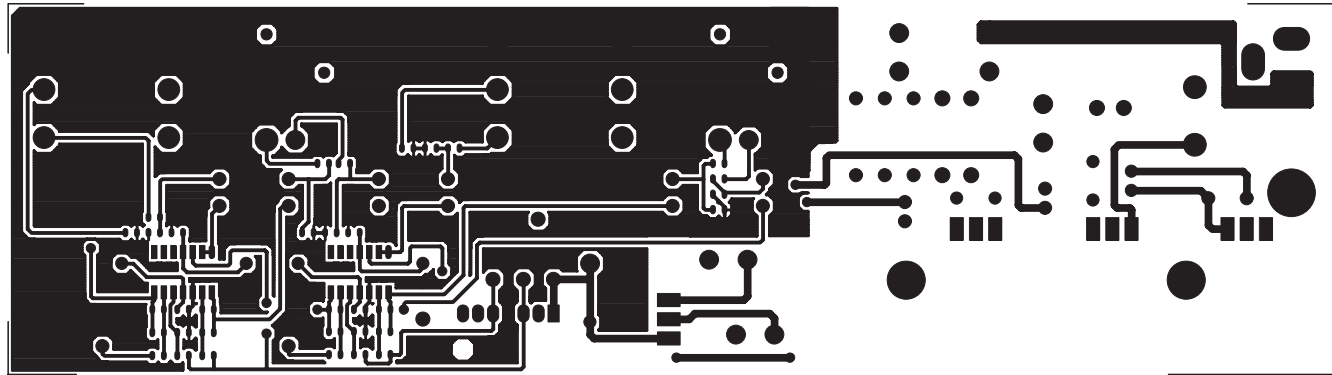
Layer Pair : TopLayer to BottomLayer
 ASCII File : NCDrillOutput.TXT
 EIA File : NCDrillOutput.DRL

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)

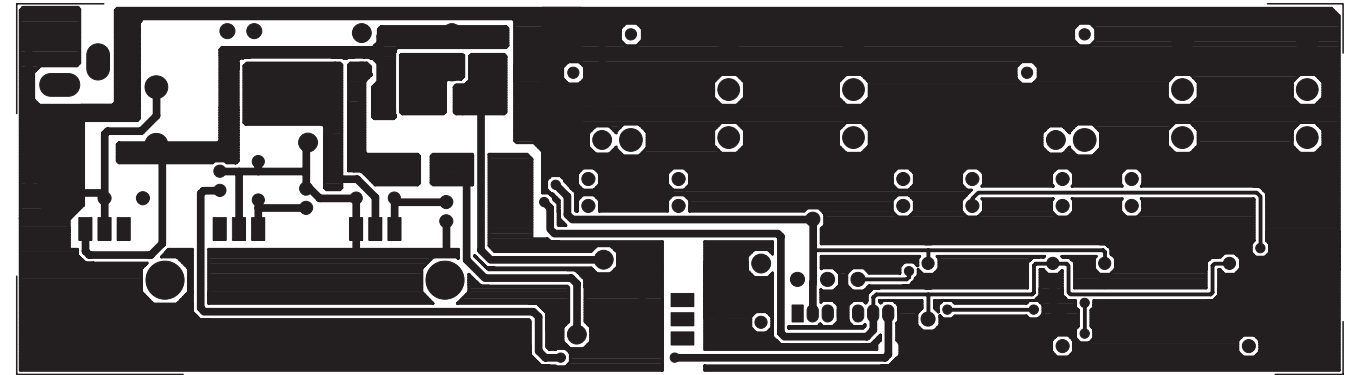
Total Processing Time : 00:00:01



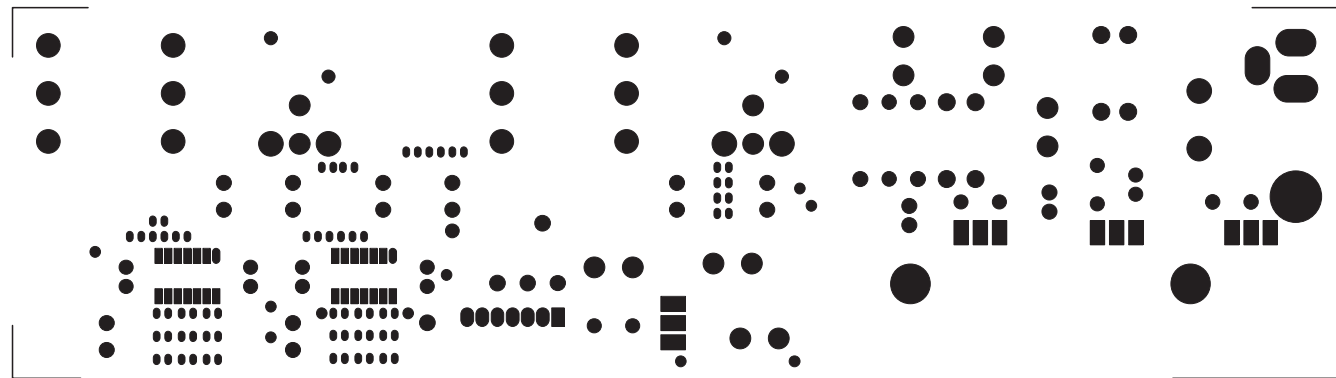
AMTUBEMN Drill Drawing



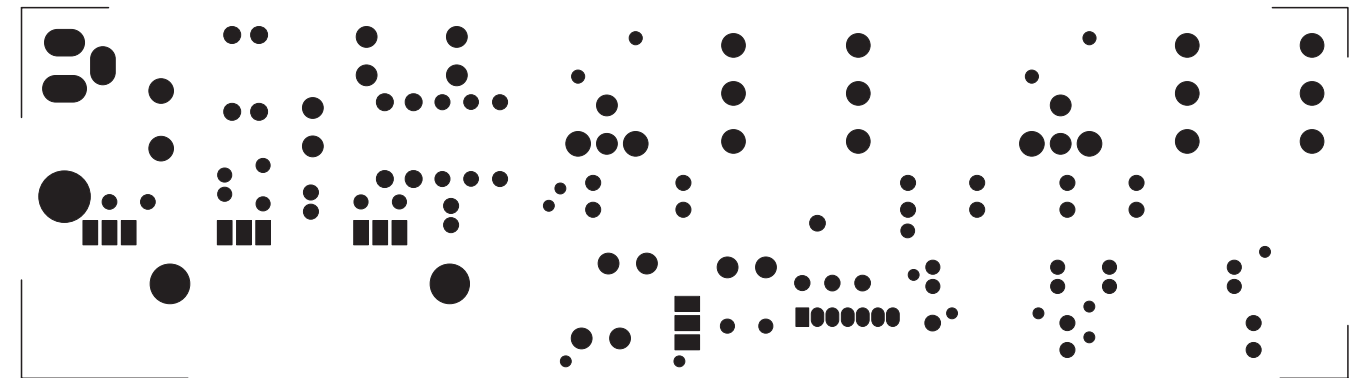
AMTUBEPU Top Layer



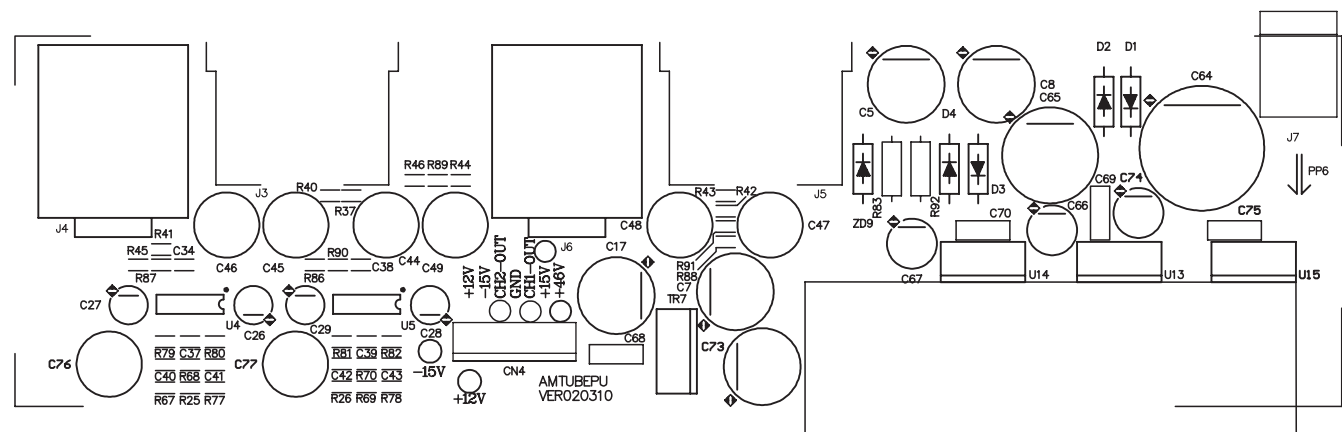
AMTUBEPU Bottom Layer



AMTUBEPU Top Solder Mask

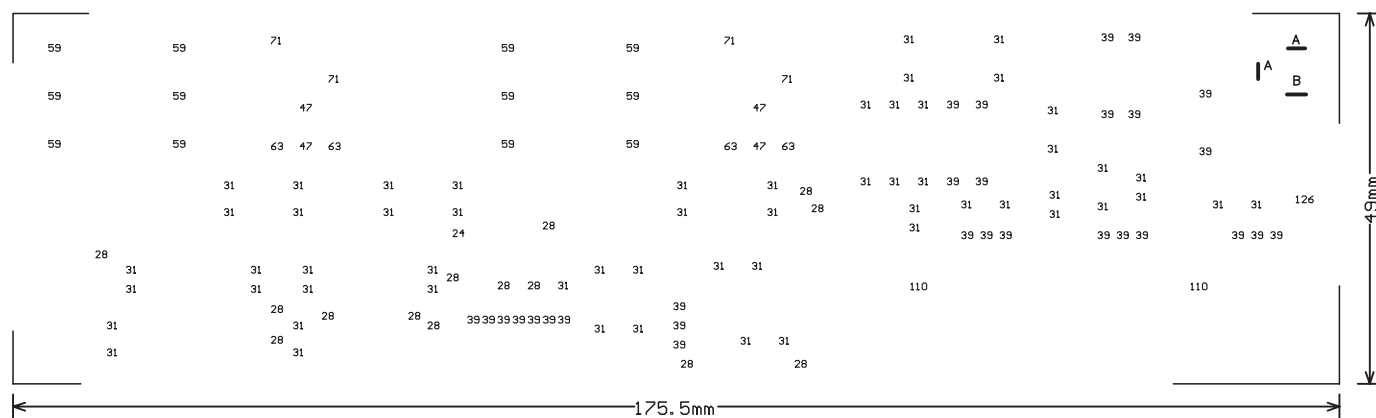


AMTUBEPU Bottom Solder Mask



AMTUBEPU Top Scilkscreen

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



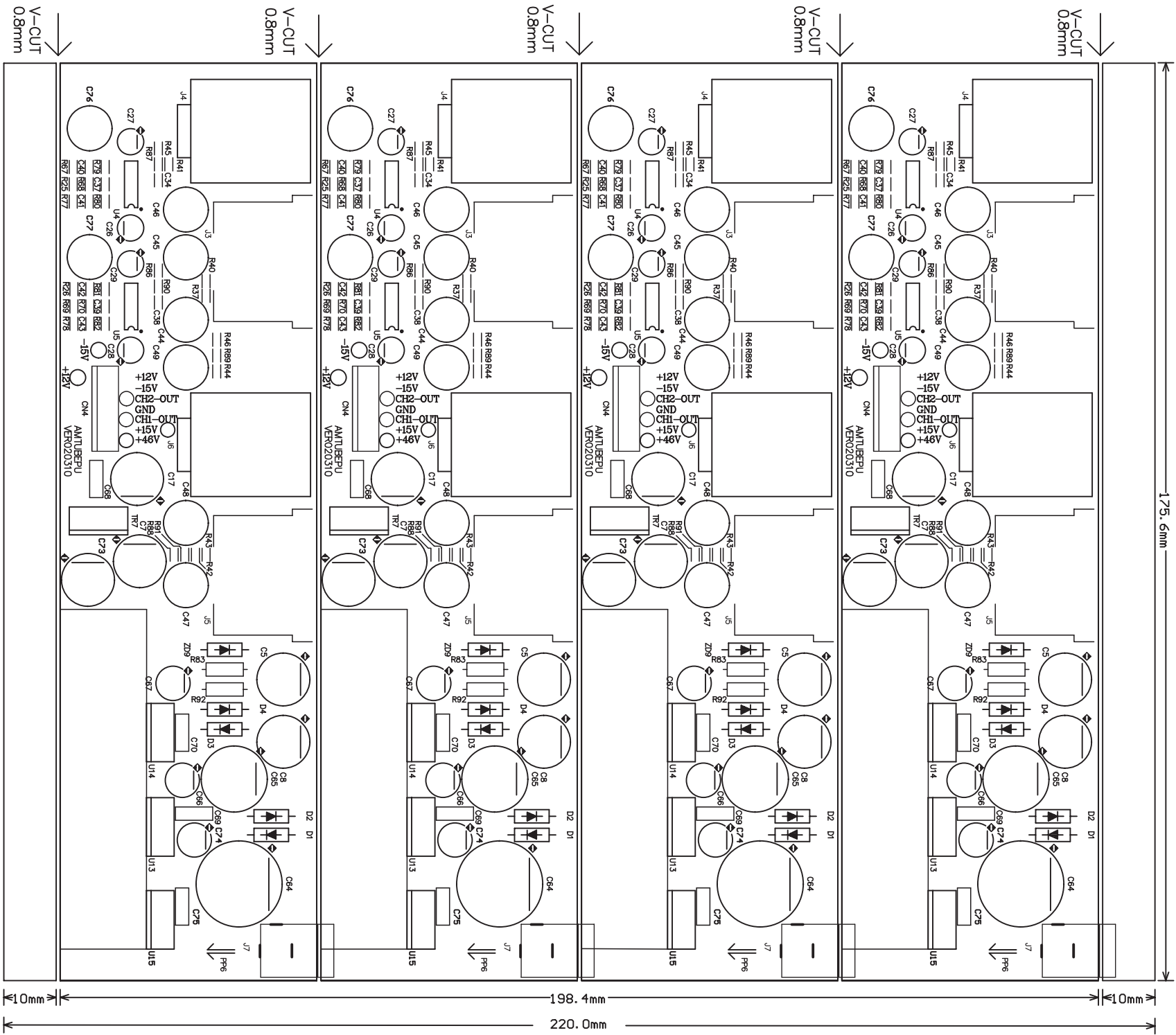
AMTUBEPU Drill Drawing

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

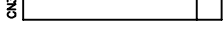
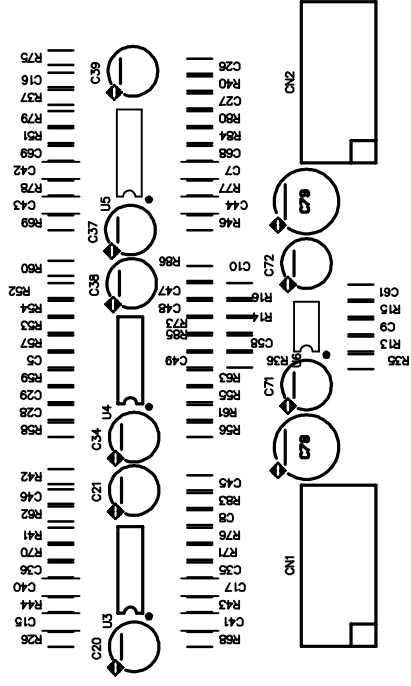
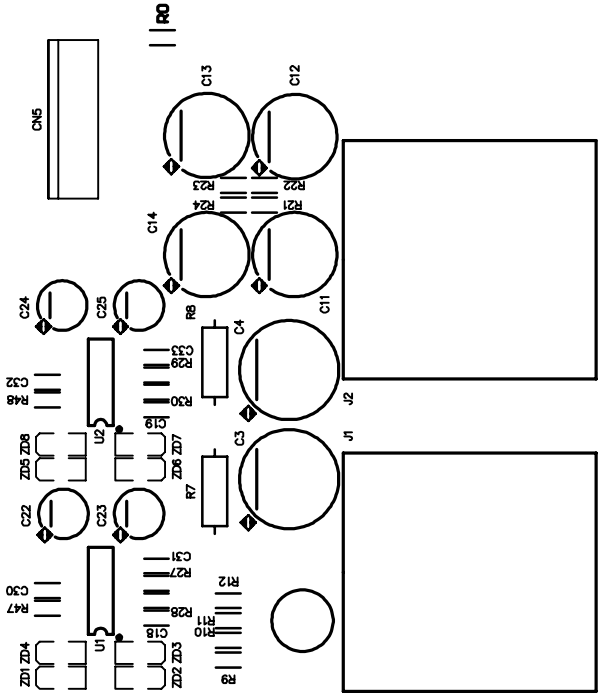
Layer Pair : TopLayer to BottomLayer
 ASCII File : NCDrillOutput.TXT
 EIA File : NCDrillOutput.DRL

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)

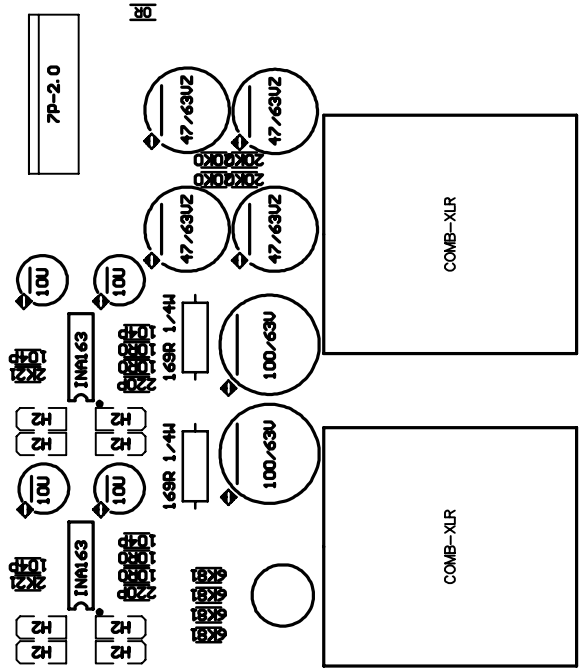
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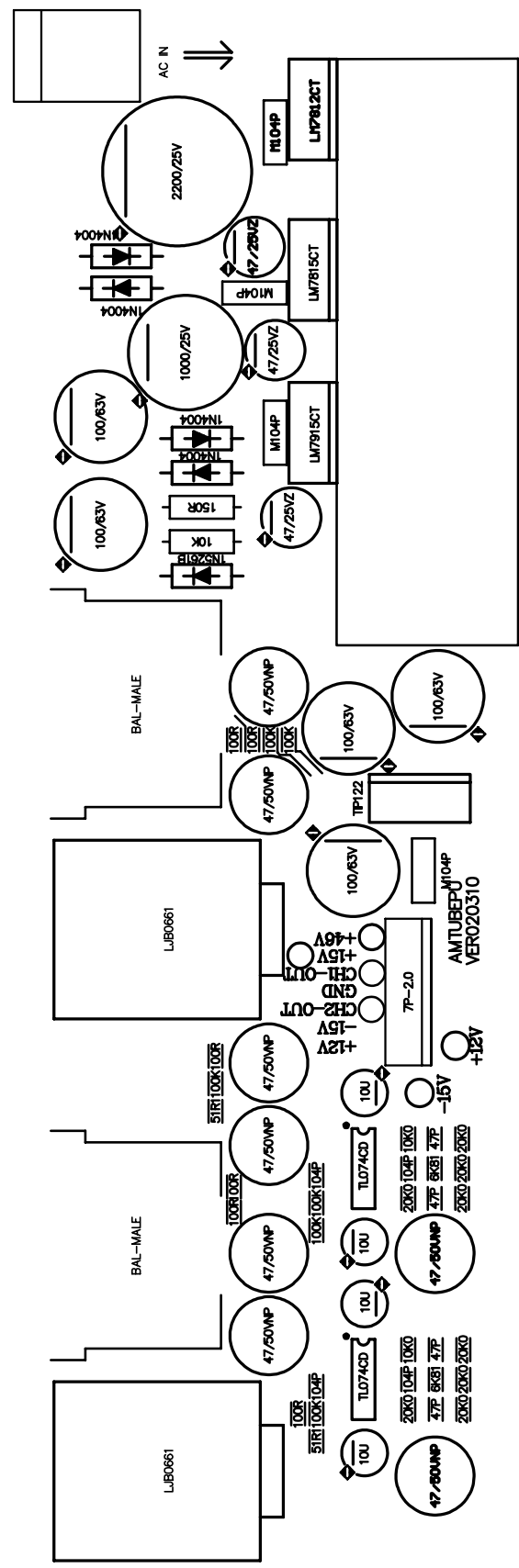
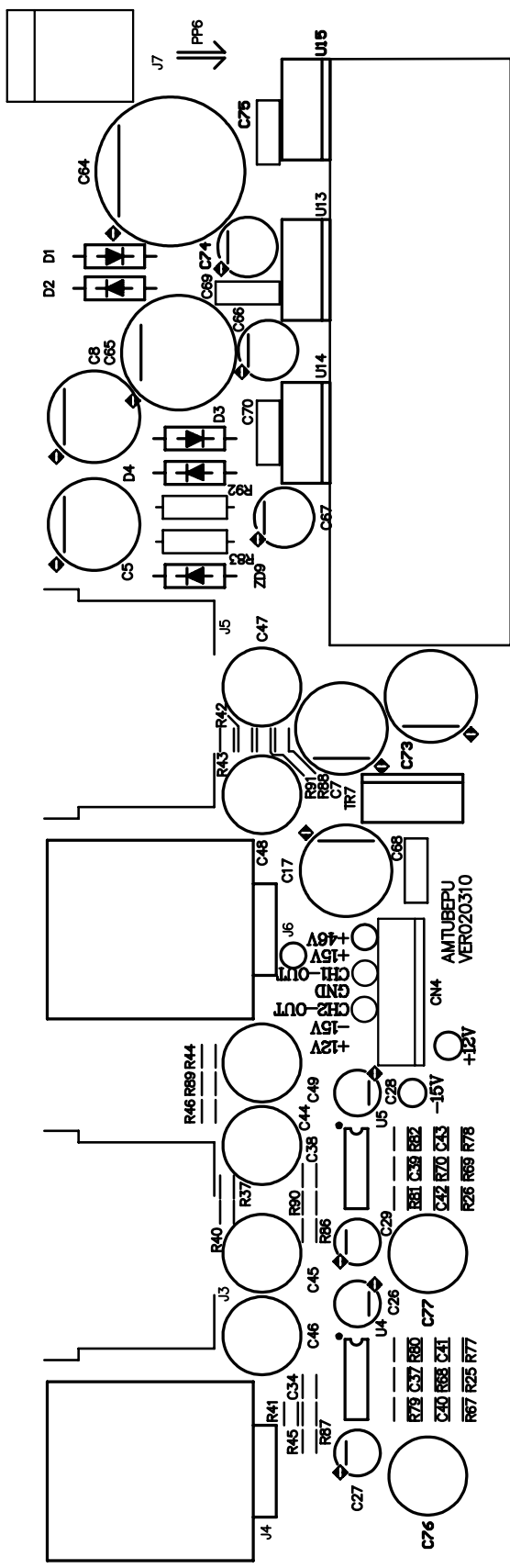
PCB:AMTUBEMN 零件阻值圖



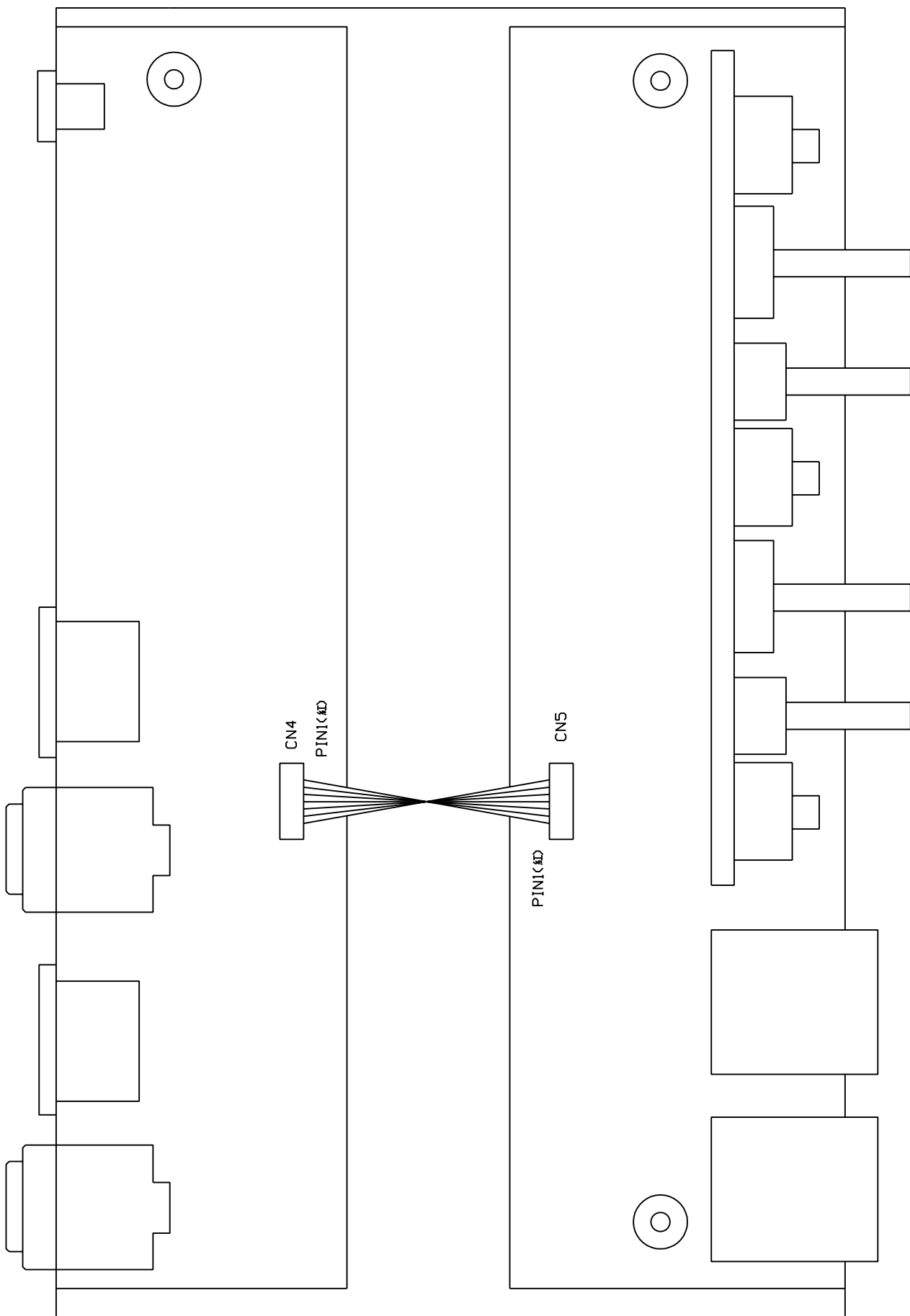
AMTUBEMN
VER020216



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.

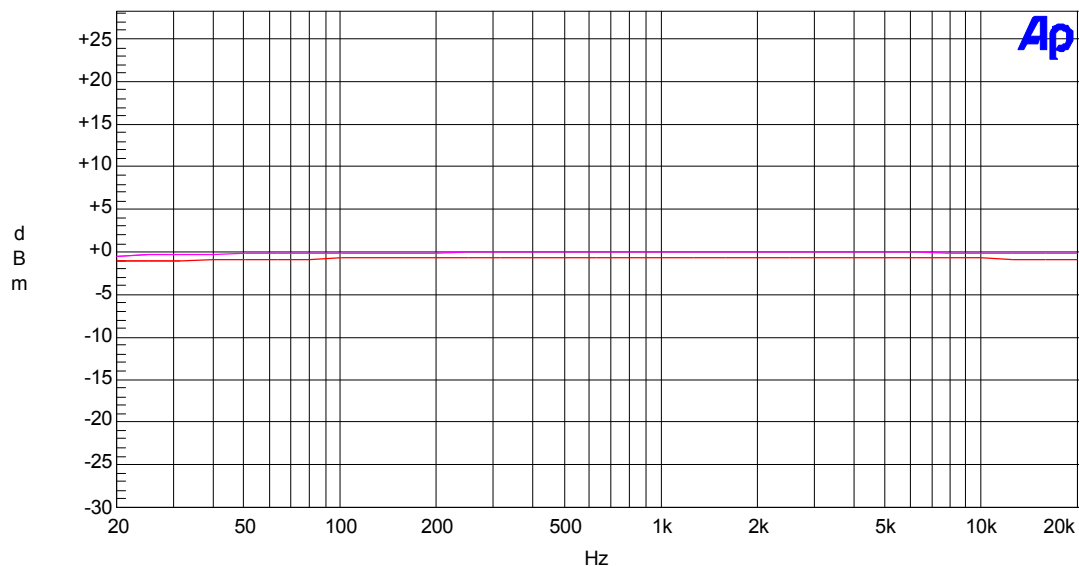
On the aMICTUBE:

- 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

aMICTUBE-ALTO-230V-

Structure Needing Material Detail List

NO. **Midprod NO** **Quantity** **Unit**

NO	Material No	Item Name	Specific
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8.Exploded Views

