

# **GUITAR AMPLIFIER**

## **AC10C1**

# **SERVICE MANUAL**

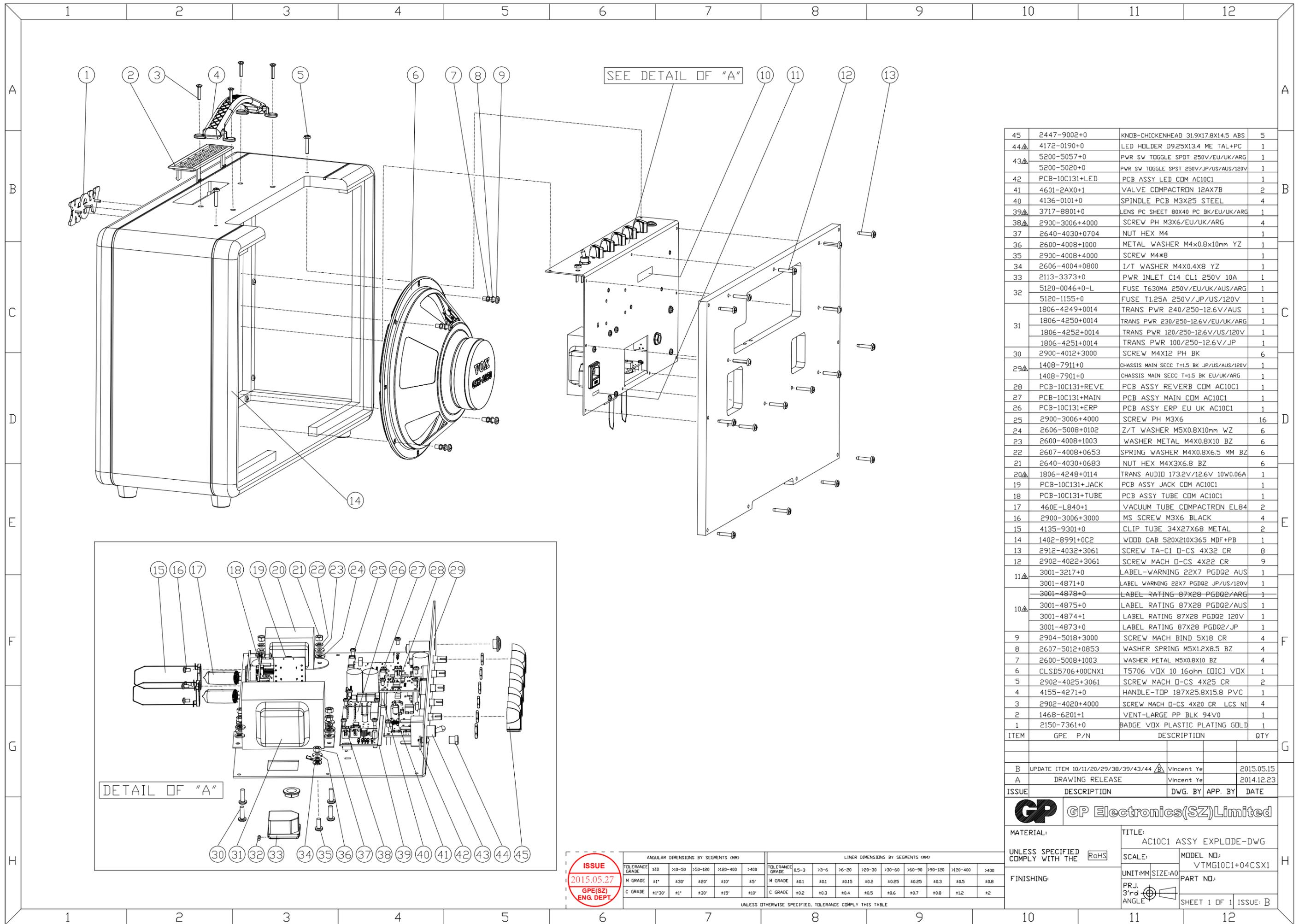


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**Ver.1.0**  
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45	2447-9002+0	KNOB-CHICKENHEAD 31.9X17.8X14.5 ABS	5
44A	4172-0190+0	LED HOLDER D9.25X13.4 ME TAL+PC	1
43A	5200-5057+0	PWR SW TOGGLE SPDT 250V/EU/UK/ARG	1
	5200-5020+0	PWR SW TOGGLE SPST 250V/JP/US/AUS/120V	1
42	PCB-10C131+LED	PCB ASSY LED CDM AC10C1	1
41	4601-2AX0+1	VALVE COMPACTRON 12AX7B	2
40	4136-0101+0	SPINDLE PCB M3X25 STEEL	4
39A	3717-8801+0	LENS PC SHEET 80X40 PC BK/EU/UK/ARG	1
38A	2900-3006+4000	SCREW PH M3X6/EU/UK/ARG	4
37	2640-4030+0704	NUT HEX M4	1
36	2600-4008+1000	METAL WASHER M4X0.8X10mm YZ	1
35	2900-4008+4000	SCREW M4*8	1
34	2606-4004+0800	I/T WASHER M4X0.4X8 YZ	1
33	2113-3373+0	PWR INLET C14 CL1 250V 10A	1
32	5120-0046+0-L	FUSE T630MA 250V/EU/UK/AUS/ARG	1
	5120-1155+0	FUSE T1.25A 250V/JP/US/120V	1
	1806-4249+0014	TRANS PWR 240/250-12.6V/AUS	1
	1806-4250+0014	TRANS PWR 230/250-12.6V/EU/UK/ARG	1
	1806-4252+0014	TRANS PWR 120/250-12.6V/US/120V	1
	1806-4251+0014	TRANS PWR 100/250-12.6V/JP	1
30	2900-4012+3000	SCREW M4X12 PH BK	6
29A	1408-7911+0	CHASSIS MAIN SECC T=1.5 BK JP/US/AUS/120V	1
	1408-7901+0	CHASSIS MAIN SECC T=1.5 BK EU/UK/ARG	1
28	PCB-10C131+REVE	PCB ASSY REVERB CDM AC10C1	1
27	PCB-10C131+MAIN	PCB ASSY MAIN CDM AC10C1	1
26	PCB-10C131+ERP	PCB ASSY ERP EU UK AC10C1	1
25	2900-3006+4000	SCREW PH M3X6	16
24	2606-5008+0102	Z/T WASHER M5X0.8X10mm WZ	6
23	2600-4008+1003	WASHER METAL M4X0.8X10 BZ	6
22	2607-4008+0653	SPRING WASHER M4X0.8X6.5 MM BZ	6
21	2640-4030+0683	NUT HEX M4X3X6.8 BZ	6
20A	1806-4248+0114	TRANS AUDIO 173.2V/12.6V 10W0.06A	1
19	PCB-10C131+JACK	PCB ASSY JACK CDM AC10C1	1
18	PCB-10C131+TUBE	PCB ASSY TUBE CDM AC10C1	1
17	460E-L840+1	VACUUM TUBE COMPACTRON EL84	2
16	2900-3006+3000	MS SCREW M3X6 BLACK	4
15	4135-9301+0	CLIP TUBE 34X27X68 METAL	2
14	1402-8991+0C2	WOOD CAB 520X210X365 MDF+PB	1
13	2912-4032+3061	SCREW TA-C1 D-CS 4X32 CR	8
12	2902-4022+3061	SCREW MACH D-CS 4X22 CR	9
11A	3001-3217+0	LABEL-WARNING 22X7 PGDQ2 AUS	1
	3001-4871+0	LABEL WARNING 22X7 PGDQ2 JP/US/120V	1
	3001-4878+0	LABEL RATING 87X28 PGDQ2/ARG	1
10A	3001-4875+0	LABEL RATING 87X28 PGDQ2/AUS	1
	3001-4874+1	LABEL RATING 87X28 PGDQ2 120V	1
	3001-4873+0	LABEL RATING 87X28 PGDQ2/JP	1
9	2904-5018+3000	SCREW MACH BIND 5X18 CR	4
8	2607-5012+0853	WASHER SPRING M5X1.2X8.5 BZ	4
7	2600-5008+1003	WASHER METAL M5X0.8X10 BZ	4
6	CLSD5706+00CNX1	T5706 VOX 10 16ohm [DIC] VOX	1
5	2902-4025+3061	SCREW MACH D-CS 4X25 CR	2
4	4155-4271+0	HANDLE-TOP 187X25.8X15.8 PVC	1
3	2902-4020+4000	SCREW MACH D-CS 4X20 CR LCS NI	4
2	1468-6201+1	VENT-LARGE PP BLK 94V0	1
1	2150-7361+0	BADGE VOX PLASTIC PLATING GOLD	1
ITEM	GPE P/N	DESCRIPTION	QTY

B	UPDATE ITEM 10/11/20/29/38/39/43/44	Vincent Ye	2015.05.15
A	DRAWING RELEASE	Vincent Ye	2014.12.23
ISSUE	DESCRIPTION	DWG. BY	APP. BY
			DATE

**GP** GP Electronics(SZ)Limited

MATERIAL: AC10C1 ASSY EXPLODE-DWG

UNLESS SPECIFIED COMPLY WITH THE **RoHS**

SCALE: MODEL NO: VTMG10C1+04CSX1

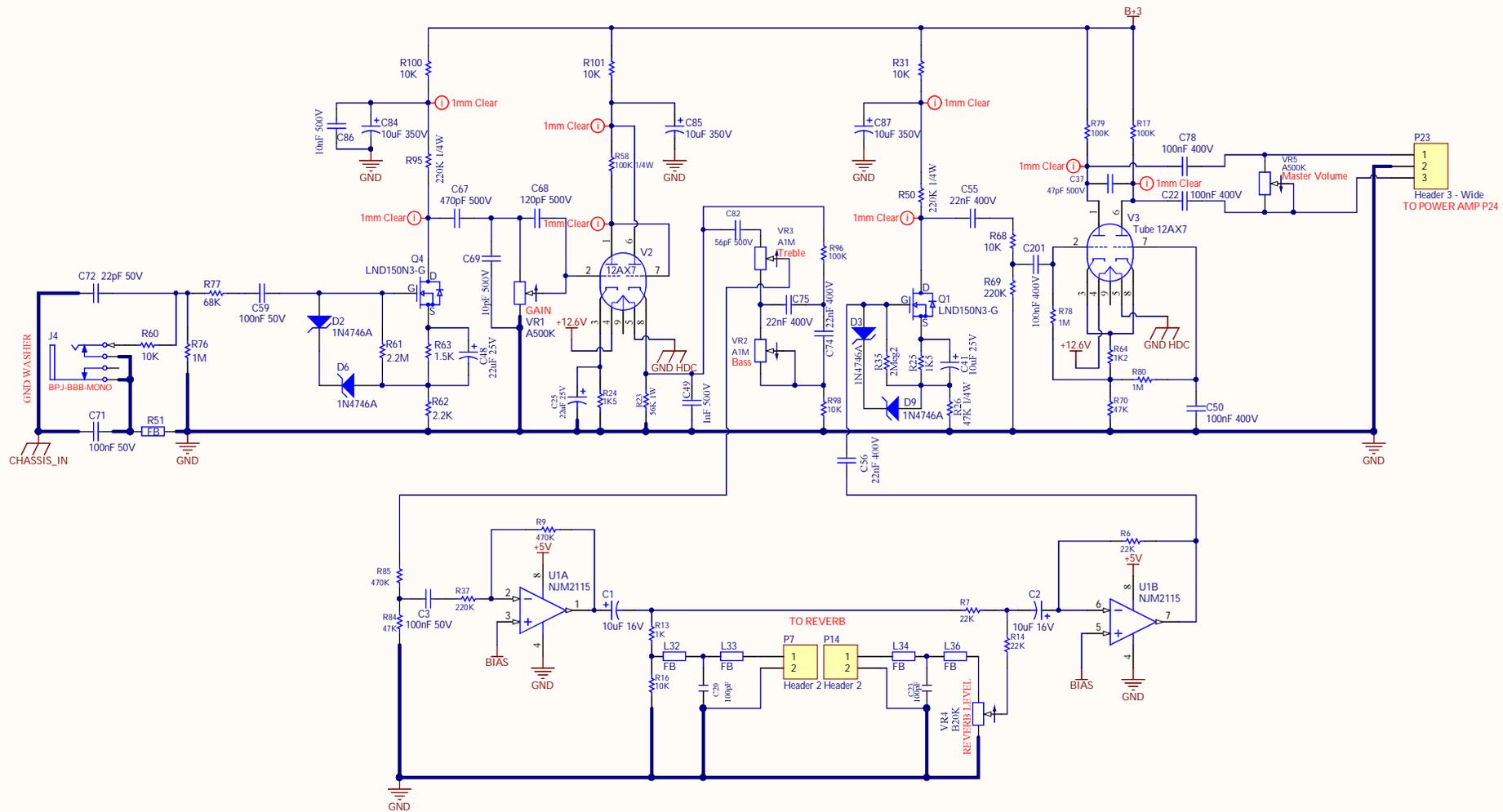
FINISHING: UNIT-MM SIZE:A0 PART NO:

PRJ. 3rd ANGLE SHEET 1 OF 1 ISSUE: B

**ISSUE**  
2015.05.27  
GPE(SZ)  
ENG. DEPT.

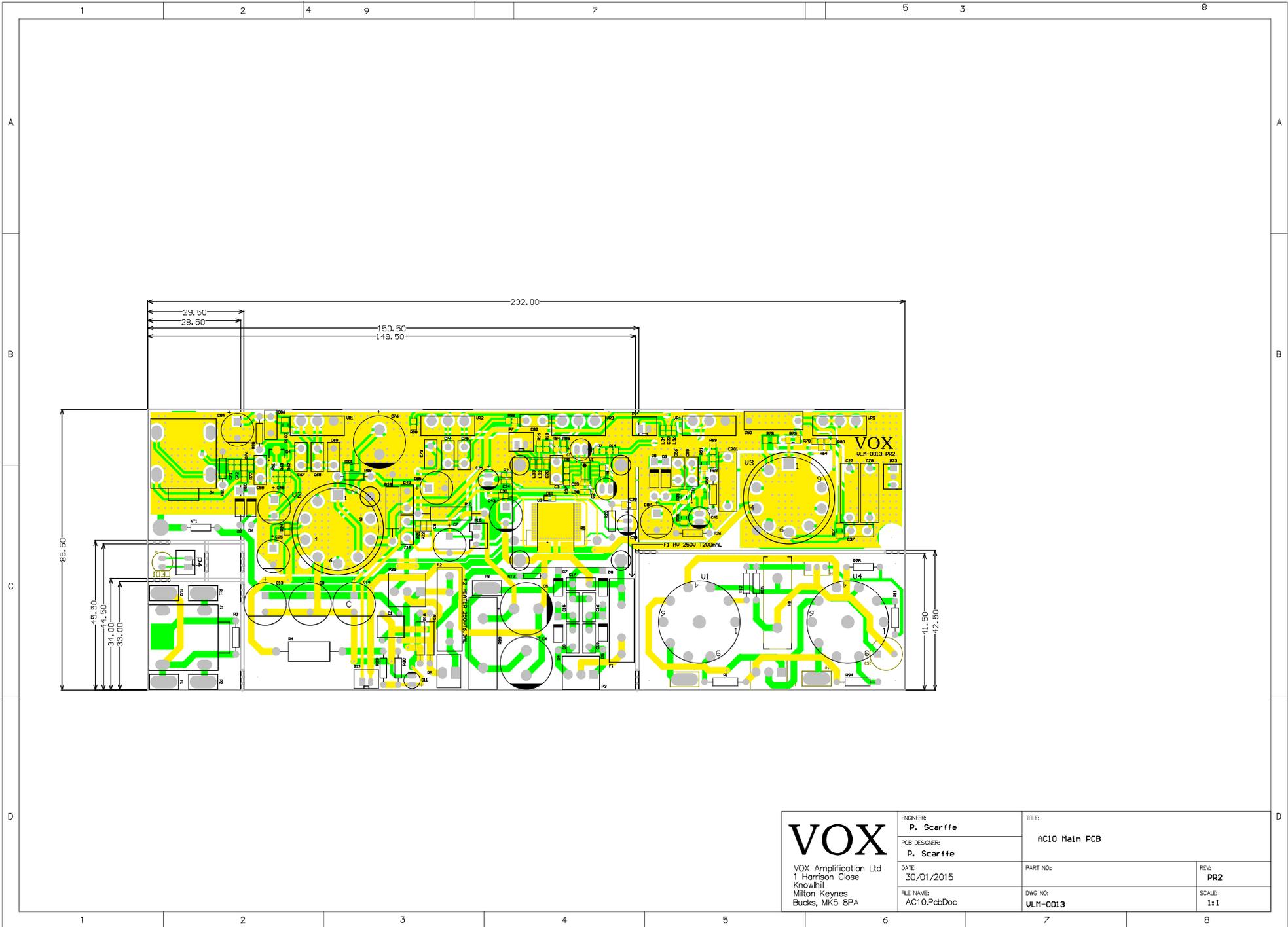
ANGULAR DIMENSIONS BY SEGMENTS (MM)					LINER DIMENSIONS BY SEGMENTS (MM)										
TOLERANCE GRADE	≤10	>10-50	>50-120	>120-400	>400	TOLERANCE GRADE	0.5-3	>3-6	>6-20	>20-30	>30-60	>60-90	>90-120	>120-400	>400
M GRADE	±1'	±30'	±20'	±10'	±5'	M GRADE	±0.1	±0.1	±0.15	±0.2	±0.25	±0.25	±0.3	±0.5	±0.8
C GRADE	±1'30'	±1'	±30'	±15'	±10'	C GRADE	±0.2	±0.3	±0.4	±0.5	±0.6	±0.7	±0.8	±1.2	±2

UNLESS OTHERWISE SPECIFIED, TOLERANCE COMPLY THIS TABLE



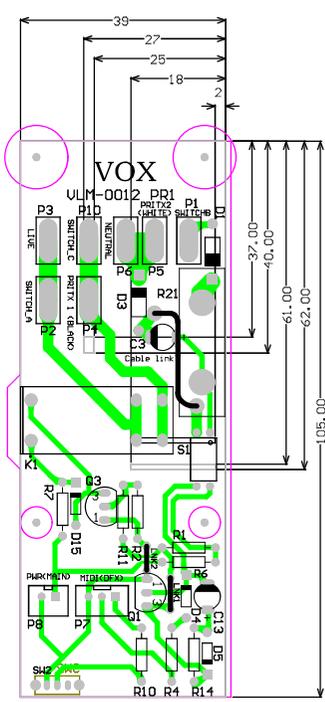
Drawing Number: VD-A30013		Designed By: P Scarffe	Checked By: D. Clarke	Date: 09/06/2015	
CHANGE HISTORY					
Issue	Date	Change	Signed		
				VOX Amplification Ltd. 1 Harrison Close Knowlhill Milton Keynes Bucks, MK5 8PA	
Title AC10C1 Main Schematics			Revision: PR2	Sheet 1 of 2	





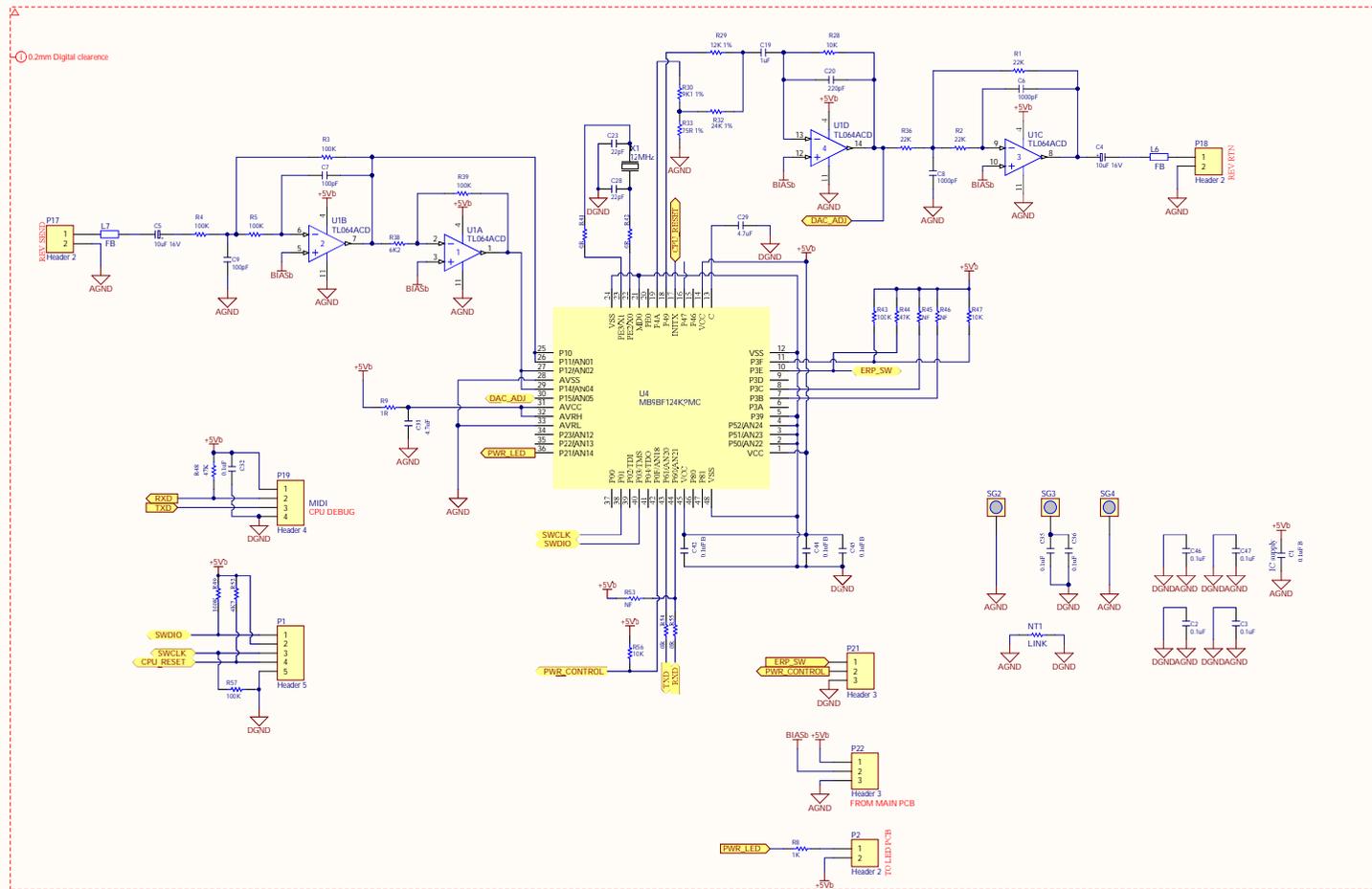
<b>VOX</b> VOX Amplification Ltd 1 Harrison Close Knowlhill Milton Keynes Bucks, MK5 8PA	ENGINEER: <b>P. Scarffe</b>	TITLE: <b>AC10 Main PCB</b>	
	PCB DESIGNER: <b>P. Scarffe</b>	DATE: <b>30/01/2015</b>	PART NO.: <b>PR2</b>
	FILE NAME: <b>AC10.PcbDoc</b>	DWG NO.: <b>ULM-0013</b>	SCALE: <b>1:1</b>





1.6mm single sided bakeboard  
ALL DIMENSIONS IN MM

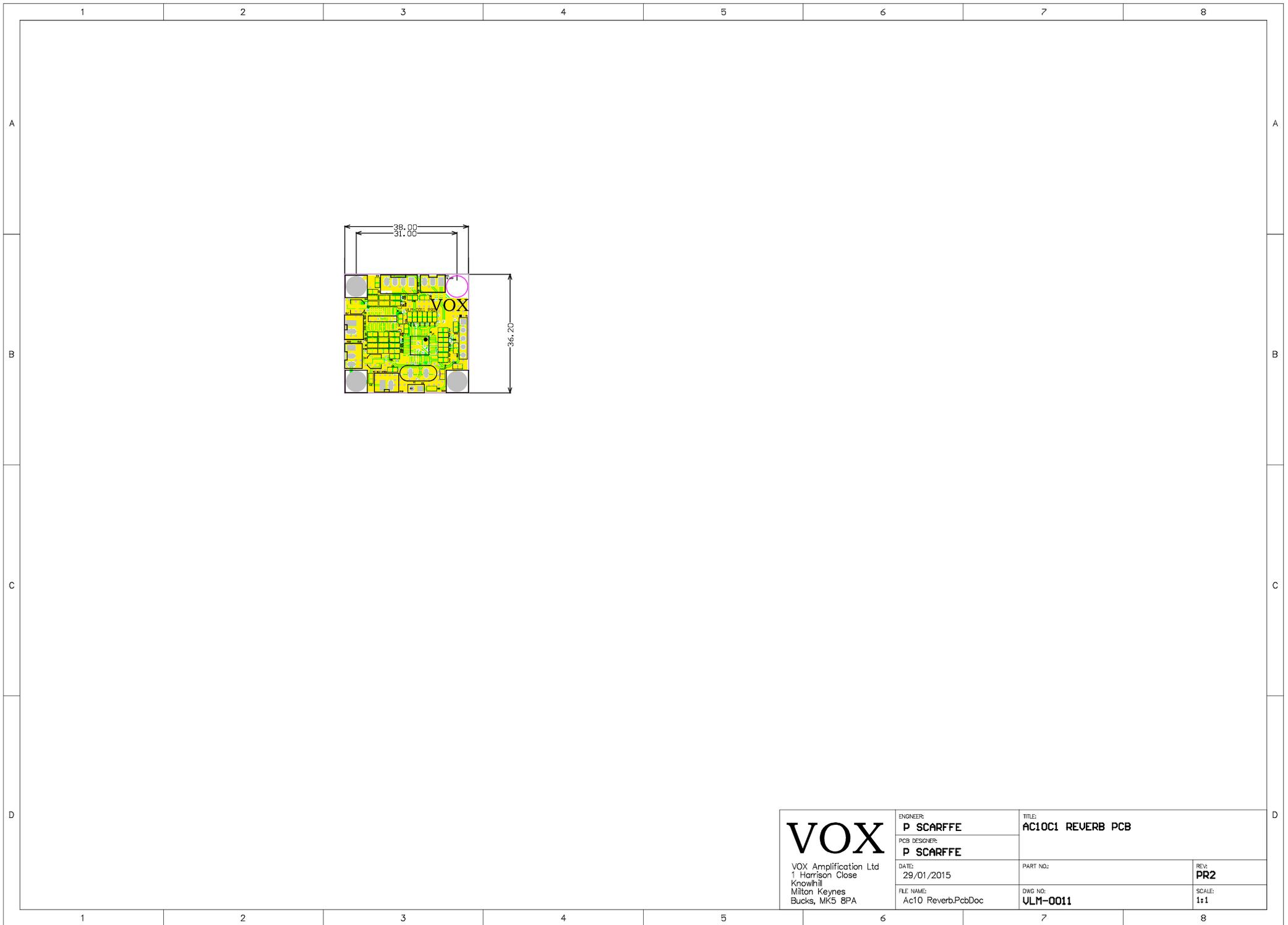
<b>VOX</b> VOX Amplification Ltd 1 Harrison Close Knowlhill Milton Keynes Bucks, MK5 8PA	ENGINEER: P SCARFFE	TITLE: AC10C1 ErP PCB	
	PCB DESIGNER: P SCARFFE	PART NO.:	REV: <b>PR2</b>
	DATE: 30/01/2015	DWG NO: ULM-0012	SCALE:
	FILE NAME: AC10 ErP.PcbDoc		



ISS1	Removed C-39 and C-46 Shorted to GND	04/12/2014		
Step 1	Revision for change			
Author: P-Scarffe	Title: AC10C1			
Checked By: D. Clarke	Size: A2	Number: VD-A20011	Revision: PR2	
	Date: 28/07/2015	Time: 17:17:22	Sheet 1 of 1	
	File: V:\Albion\AC10C1\10_RevB-2_SchDoc			

VOX Amplification Ltd  
 1 Harrison Close  
 Kewstall  
 Milton Keynes  
 Bucks, MK5 8PA





# VOX

VOX Amplification Ltd  
1 Harrison Close  
Knowlhill  
Milton Keynes  
Bucks, MK5 8PA

ENGINEER: <b>P SCARFFE</b>	TITLE: <b>AC10C1 REVERB PCB</b>
PCB DESIGNER: <b>P SCARFFE</b>	
DATE: 29/01/2015	PART NO.:
FILE NAME: Ac10 Reverb.PcbDoc	DWG NO: <b>ULM-0011</b>

REV: <b>PR2</b>
SCALE: <b>1:1</b>

AC10C1 Audio Test

Load: 16ohm resistance

ITEM	Check Point	Knob Positions					Input conditions	Filters			SLOW	Value
		GAIN	BASS	TREBLE	REVERB	VOLUME		80k	20k	AUDIO		
	* EXTERNAL SPEAKER (16ohm)	MAX	MIN	MIN	MIN	MAX	1kHz/-50dBm	o				15dBm ~ 21dBm
	Internal speaker (16ohm)	↓	↓	↓	↓	↓						
1	GAIN - min	MIN	↓	↓	↓	↓	1kHz/-50dBm			o	o	-50dBm ~ -30dBm
2	GAIN - max	MAX	↓	↓	↓	↓	1kHz/-50dBm	o				15dBm ~ 21dBm
3	BASS - min	↓	↓	↓	↓	↓	100Hz/-50dBm	o			o	0dBm ~ 8dBm
4	BASS - max	↓	MAX	↓	↓	↓	100Hz/-50dBm	o			o	16dBm ~ 22dBm
5	TREBLE - min	↓	MIN	↓	↓	↓	10kHz/-60dBm	o				3dBm ~ 9dBm
6	TREBLE - max	↓	↓	MAX	↓	↓	10kHz/-60dBm	o				19dBm ~ 25dBm
7	adjusting GAIN (+24.3dBm out)	Adjust	↓	MIN	↓	↓	1K/- 30dBm	o				Set Level to + dBm (+24.2dBm~+24.4dBm)
8	DISTORTION	↓	↓	↓	↓	↓	1K/- 30dBm		o		o	≤ 15 %
9	CHECK REVERB (remove INPUT jack and observe decay)				MAX							
10	VOLUME - min	MAX	↓	↓	MIN	MIN	1K/- 30dBm			o	o	< -15dBm
11	ALL MAX NOISE	↓	MAX	MAX	MAX	MAX	OSC OFF			o	o	-15dBm ~ -22dBm
12	Remove Input Plug	↓	↓	↓	↓	↓	No Input			o	o	-15dBm ~ -22dBm

**VOX AC10C1 Parts List**

⚠ : SAFETY CRITICAL COMPONENT.  
EXP=EXPLODED VIEW Item No

Code	Part Name	Location	EXP	Reference	QTY
530000003368	PCB ASSY JACK COM AC10C1	JACK			1
530000002888	JACK SOCKET(MONO)	JACK		J1	1
530000002069	SPECIAL WASHER 18.9X18X	JACK		J1 INPUT	1
530000003369	PCB ASSY LED COM AC10C1	LED			1
530000003370	LED HOLDER D9.25X13.4 ME	LED		LED HOLD	1
530000003371	LED CY 5X8.6X16 RD	LED		LED1	1
530000003372	PCB ASSY MAIN COM AC10C1	MAIN			1
530000003373	DIODE DB101-C 50V 1A	MAIN		D1	1
530000003374	DZ 1W 18V 5% 1N5931B AT	MAIN		D2, D3, D6, D9	4
530000002089	DIODE IN4007-F AT	MAIN		D4, D5, D7, D8	4
530000003375	RCF 2W 6.8R 5% ATW	MAIN		R4	1
530000003376	RMF 3W 33R 5% AT	MAIN		R5	1
530000002633	RWR 5W 1K 5% SQZ RL	MAIN		R99	1
530000002438	⚠ FUSE 200MA 250V EU/UK/AUS/SKOR	MAIN		F1	1
530000002094	⚠ FUSE T6.3A 250V 5X20 UL	MAIN		F2	1
530000003377	VR ROTARY A500KX1 20% V	MAIN		VR1	1
530000002631	VR ROTARY A1MX1 30% V	MAIN		VR2, VR3	2
530000001882	VR Rotary B20KX1 20% V	MAIN		VR4	1
530000002083	VR ROTARY A500KX1 20% V	MAIN		VR5	1
530000002448	SPECIAL WASHER 23.8X18X	MAIN		J2 INPUT	1
530000003378	PHONE JACK F 4P 6.4X16.5	MAIN		J4	1
530000003379	MOSFET N-CH 500V LND150N	MAIN		Q1, Q4	2
530000003380	IC ASIC NJM2115M DMP8	MAIN		U1	1
530000003381	IC REGULATOR LM2940CS-5.	MAIN		U3	1
530000003382	SOCKET 9PIN 500V WHITE	MAIN		V2, V3	2
530000003383	PCB ASSY TUBE COM AC10C1	TUBE			1
530000003179	RWR 5W 120R 5% SQZ RL	TUBE		R8	1
530000002060	SOCKET 9PIN 500V D=22	TUBE		V1, V4	2
530000003384	PCB ASSY ERP EU UK AC10C	EU UK			1
530000002089	DIODE IN4007-F AT	EU UK		D1, D3	2
530000002636	DIODE 1N4148T AT	EU UK		D4, D15	2
530000003385	TR 2N3904TA RLT	EU UK		Q1, Q3	2
530000003178	RWR 5W 47K 5% SQZ RL	EU UK		R21	1
530000003386	⚠ RELAY 5V 80MA SPST BRT3-	EU UK		K1	1
530000003180	⚠ PHOTOCOUPLER EL817	EU UK		S1	1
530000003387	SW SLIDE SPDT 12V 0.1A	EU UK		SW2	1
530000003388	PCB ASSY REVERB COM AC10 (DATA)	REVERB			
530000003389	CRYSTAL 12.000MHZ HC-49U	REVERB		X1	1
530000003390	IC ASIC TL064ACD SO16	REVERB		U1	1
530000001874	Logo 45X11		1		1
530000002046	⚠ VENT-LARGE PP BLK 94V0		2		1
530000003392	SCREW MACH O-CS 4X20 CR LCS NI		3		4
530000002076	HANDLE-TOP 187X25.8X15.8		4		1
530000002445	T5706 VOX 10 16OHM[OIC]		6		1
530000003394	WOOD CAB 520X210X365 MDF+PB		14		1
530000002067	CLIP TUBE 34X27X68 METAL		15		2
530000002081	VACUUM TUBE COMPACTRON EL84		17		2

Code	Part Name	Location	EXP	Reference	QTY
530000003395	TRANS AUDIO 173.2/12.6V 10W0.06A		20		1
530000003396	SCREW M4X12 PH BK		30		6
530000003397	TRANS PWR 240/250-12.6V/AUS		31		1
530000003398	TRANS PWR 230/250-12.6V/EU/UK/ARG		31		
530000003399	TRANS PWR 120/250-12.6V/US/120V		31		
530000003400	TRANS PWR 100/250-12.6V/JP		31		
530000001921	FUSE T630MA 250V EU/UK/AUS		32		1
530000001920	FUSE T1.25A 250V JP/US		32		1
530000002611	AC INLET M 3P 250V 10A(NT50H)		33		1
530000003401	LENS PC SHEET 80X40 PC BK/EU/UK /ARG		39		1
530000002080	VALVE COMPACTRON 12AX7B		41		2
530000003184	SWITCH POWER TOGGLE SPDT		43	(* for 230V only)	1
530000002641	SWITCH POWER SPST 250V		43		
530000003370	LED HOLDER D9.25X13.4 ME		44		1
530000002923	KNOB-CHICKENHEAD AC4C1		45		5