

# **SERVICE MANUAL**

## **VOX**

### **Guitar Amplifier**

#### **AC4HW1**



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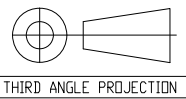
##### **AC4HW1**

**ASSEMBL SKETCH: 2**  
**SHEMATIC DIAGRAM: 4**  
**TEST MODE: 5**  
**PARTS LIST: 6**

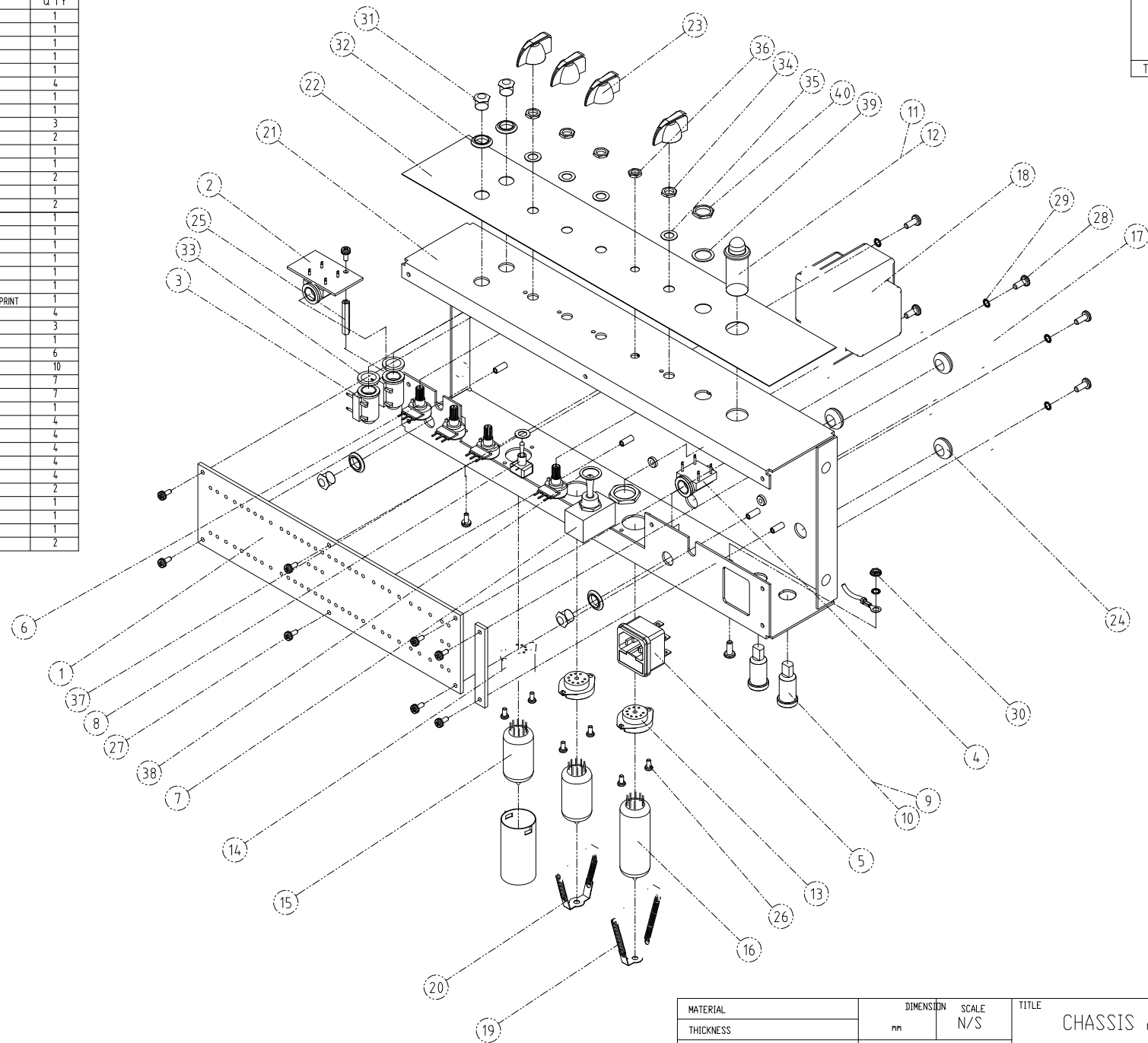


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DWG. NO. ASSY0334-01



NO	DESCRIPTION	SPECIFICATION	Q'TY
1	MAIN PCB ASS'Y	AC4HW	1
2	FOOT S/W JACK PCB ASS'Y	AC4HW	1
3	INPUT JACK ASS'Y	AC4HW	1
4	1/4" PHONE JACK	BPJ-BNB-S	1
5	INLET	SC-8F-21	1
6	VOLUME	RV160T-10-15S	4
7	POWER S/W	R13-428F1-01	1
8	MINI TOGGLE S/W	1MS1-T1-B1-M1-QES	1
9	FUSE		3
10	FUSE HOLDER	R3-11	2
11	LAMP	6.3V 1W, 28mm	1
12	LAMP HOLDER	R9-72B	1
13	VALVE BASE	GZC9-F-2	2
14	VALVE BASE	GZC9-F-B-55	1
15	VALVE/ECC83	12AX7	2
16	VALVE/EL84	EL84C	1
17	POWER TRANS	AC4HW	1
18	OUTPUT TRANS	AC4HW	1
19	RETAINER(EL84)	CRO.5T NI, SPRING 24mm	1
20	RETAINER(12AX7)	CRO.5T NI, SPRING 12mm	1
21	MAIN CHASSIS	EGI 1.6F 378X150X70	1
22	CHASSIS LEGEND PLATE	AL 051 378X68.8 BLACK ANODISED-GOLD PRINT	1
23	VOLUME KNOB	CHICKENHEAD CREAM	4
24	RUBBER BUSHING	φ12	3
25	METAL SUPPORT	M3X27.5 NI	1
26	SCREW	MPS 3X6 NI	6
27	SCREW	MBS5W 3X8 NI	10
28	SCREW	MBS 4X10 NI	7
29	INTERNAL TOOTH WASHER	φ4 NI	7
30	FRANGE NUT	M4 NI	1
31	JACK NUT	(CRIBP)	4
32	JACK WASHER	ABS BK(BPJ)	4
33	JACK WASHER	FIBER(RED)	4
34	VOLUME NUT	M7	4
35	VOLUME WASHER	φ7 NI	4
36	MINI TOGGLE S/W NUT	M6 NI	2
37	MINI TOGGLE S/W WASHER	φ6 NI	1
38	POWER S/W SPRING WASHER	φ12 NI	1
39	POWER S/W PLATE WASHER	φ12 NI	1
40	POWER S/W NUT	M12 NI	2

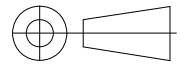


REV. NO.	REV. DATE	DESCRIPTIONS OF REVISION
C		
B		
A		

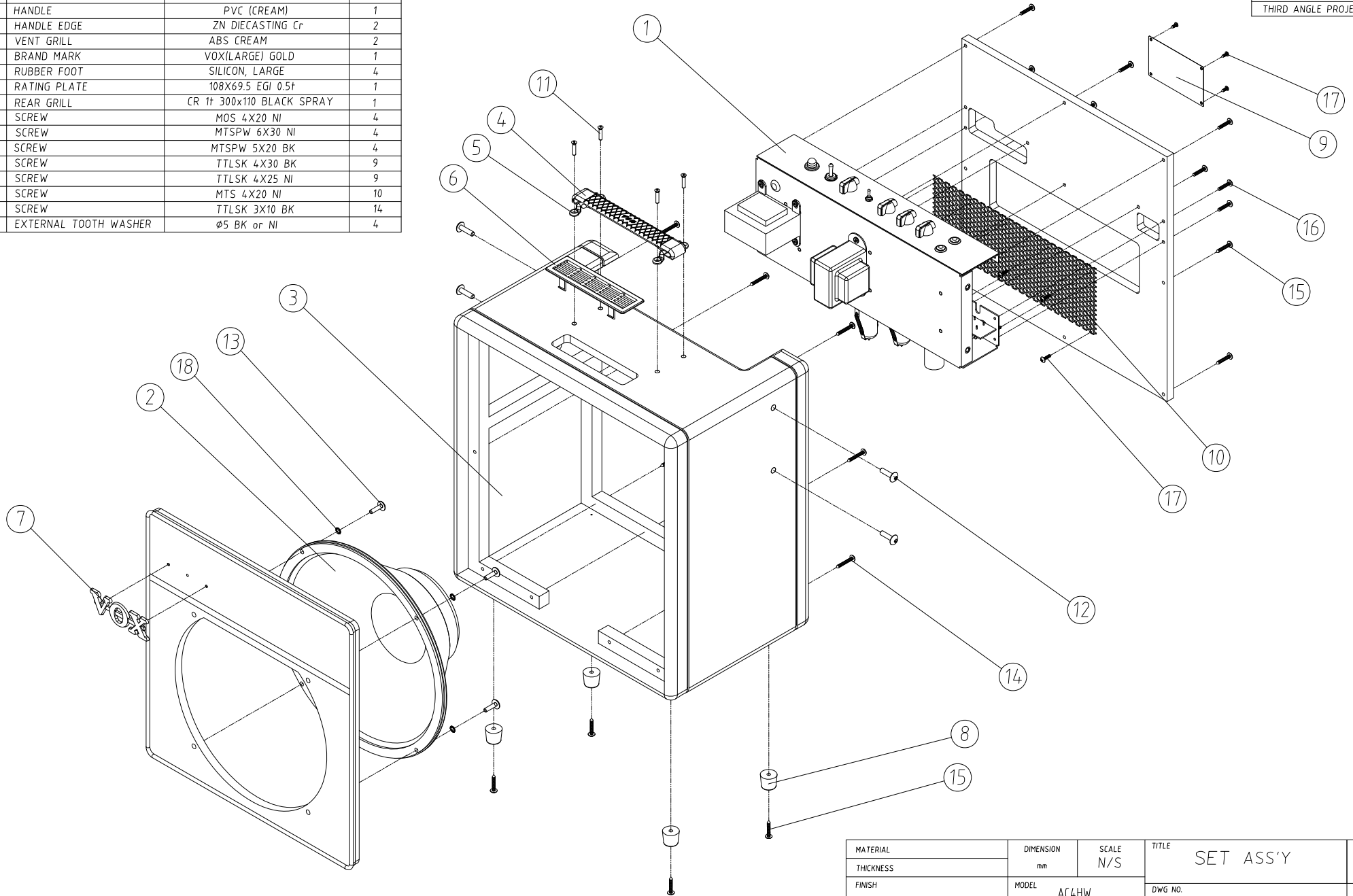
MATERIAL	DIMENSION	SCALE	TITLE	SHEET
THICKNESS	mm	N/S	CHASSIS ASSY	10F1
FINISH	MODEL	AC4HW	DWG. NO.	VER.
			ASSY0334-01	A
TOLERANCE UNLESS NOTE	DRAWN	S.Y. OH	DATE	
DIMENSIONAL			2012.03.27	
HOLE CENTERS	CHECKED		DATE	
DIAMETERS	APPROVED		DATE	
ANGULAR				
			KIMANSON	
			Kimanson Instruments CO., Ltd.	

DWG.NO. ASSY0334-02

NO	DESCRIPTION	SPECIFICATION	Q'TY
1	CHASSIS ASSY	AC4HW	1
2	SPEAKER	T1221AX60-G12 GREENBACK 16ohm	1
3	CABINET ASSY	AC4HW	1
4	HANDLE	PVC (CREAM)	1
5	HANDLE EDGE	ZN DIECASTING Cr	2
6	VENT GRILL	ABS CREAM	2
7	BRAND MARK	VOX(LARGE) GOLD	1
8	RUBBER FOOT	SILICON, LARGE	4
9	RATING PLATE	108X69.5 EGI 0.5t	1
10	REAR GRILL	CR 1f 300x110 BLACK SPRAY	1
11	SCREW	MOS 4X20 NI	4
12	SCREW	MTSPW 6X30 NI	4
13	SCREW	MTSPW 5X20 BK	4
14	SCREW	TTLISK 4X30 BK	9
15	SCREW	TTLISK 4X25 NI	9
16	SCREW	MTS 4X20 NI	10
17	SCREW	TTLISK 3X10 BK	14
18	EXTERNAL TOOTH WASHER	ø5 BK or NI	4

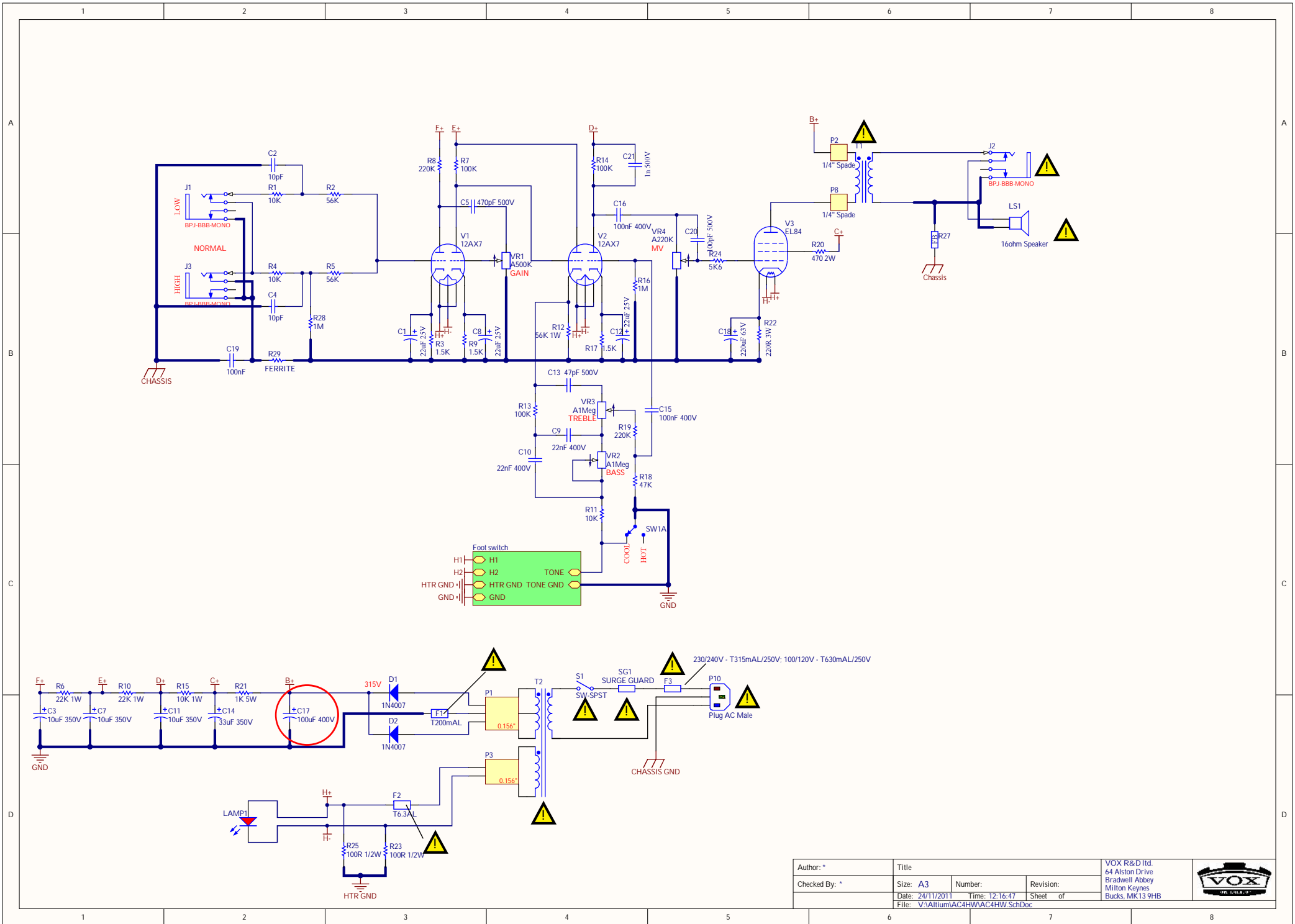



THIRD ANGLE PROJECTION



REV. NO.	REV. DATE	DESCRIPTIONS OF REVISION

MATERIAL	DIMENSION	SCALE	TITLE	SHEET
THICKNESS	mm	N/S	SET ASS'Y	10F1
FINISH	MODEL	AC4HW	DWG. NO.	VER.
TOLERANCE UNLESS NOTE	DRAWN	DATE	ASSY0334-02	A
DIMENSIONAL ±	S.Y. OH	2012.03.29	 <b>KIMANSON</b> Kimanson Instruments CO., Ltd.	
HOLE CENTERS ±	CHECKED	DATE		
DIAMETERS ±	APPROVED	DATE		
ANGULAR ±				



Author: *	Title			VOX R&D Ltd. 64 Alston Drive Bradwell Abbey Milton Keynes Bucks, MK13 9HB	
Checked By: *	Size: A3	Number:	Revision:		
	Date: 24/11/2011	Time: 12:16:47	Sheet of		
	File: V:\Alitium\AC4HWAC4HW.SchDoc				

Inspection standard  
AC4HW1

Check Point	Knob & SW Positions					Input conditions	Filters			RESPONSE	Value
	GAIN	TREBLE	BASS	HOT/COOL	VOLUME		80k	20k	AUDIO	SLOW	
EXTERNAL SPEAKER (16ohm)	MAX	MIN	MIN	COOL	MAX						
LOW INPUT						1kHz/-50dBm	o				11dBm ~ 19dBm
HIGH INPUT						1kHz/-56dBm	o				11dBm ~ 19dBm
GAIN - min	MIN					1kHz/-50dBm			o	o	-60dBm ~ -30dBm
TREBLE - min	MAX					10kHz/-65dBm	o				-4dBm ~ 4dBm
TREBLE - max		MAX				10kHz/-65dBm	o				10dBm ~ 18dBm
BASS - min		MIN				100Hz/-50dBm	o			o	-4dBm ~ 4dBm
BASS - max			MAX			100Hz/-50dBm	o			o	11dBm ~ 19dBm
HOT			MIN	HOT		1kHz/-75dBm	o				11dBm ~ 19dBm
Foot SW on (COLD)						1kHz/-75dBm	o				-7dBm ~ 1dBm
Remove Foot SW adjusting GAIN	Adjust			COOL		1K/- 40dBm	o				Set Level to +20.3dBm (+20.2dBm ~ +20.4dBm)
DISTORTION						1K/- 40dBm		o		o	≤ 15 %
VOLUME - min	MAX				MIN	1K/- 40dBm			o	o	-60 dBm ~ -30dBm
MAX NOISE			MAX	HOT	MAX	OSC OFF			o	o	-60 dBm ~ -14dBm
Remove Input Plug						No Input			o	o	-60 dBm ~ -14dBm

# KORG AC4HW1 Parts List

 = SAFETY CRITICAL COMPONENT.

EXP=EXPLODED VIEW Item No

Part Number	Category	Part Name	Location	EXP		Reference	QTY
				CHASSIS	SET		
530000002246		CONDUCTORT LP222G	JACK			S1	1
530000001945	JACK	BPJ-BNB-P, 8MM	JACK	4		J1	1
530000001590	JACK	PHONEJACK BPJ-BNB-S	INPUT			J1,J3	2
530000001447	DIODE	D 1N4007 T	MAIN			D1,D2	2
530000002831	RESISTOR	METAL OXIDE R 3W J 220 OHM, BF	MAIN			R22	1
530000002936	RESISTOR	WIRE WOUN 5 WATT J 1K OHM BF	MAIN			R21	1
530000001476 		THERMISTOR SL22 10008	MAIN			SG1	1
530000002248	PCB ASS'Y	PCB ASSYAC15HW1 FOOT JACK	CHASSIS	2			1
530000002945	PCB ASS'Y	INPUT JACK ASS'Y AC4HW1	CHASSIS	3			1
530000002946	PCB ASS'Y	MAIN PCB ASSY AC4HW1	CHASSIS	1			1
530000000199 	INLET	INLET/FUSE HOLDER SC-8F-21	CHASSIS	5			1
530000001467 	TRANS	OUTPUT TRANS 066-AC4 OPT	CHASSIS	18		T2	1
530000002937 	TRANS	POWER TX 076-AC4HW	CHASSIS	17		T3	1
530000002253	VOLUME	POT RV160T-10-15S-A500K	CHASSIS	6		VR1	1
530000002256	VOLUME	POT RV160T-10-15S-A1M	CHASSIS			VR2,VR3	2
530000002938	VOLUME	VOLUME RV160T-10-15S-A220K	CHASSIS			VR4	1
530000002259	SWITCH	MINI TOGGLE 1MS1-T1-B1-M1-QES	CHASSIS	8		SW1	1
510465500501	TUBE	12AX7AC5HG	CHASSIS	15		V3,V4	2
530000002271	TUBE	VALVE / EL84EL84C	CHASSIS	16		V1,V2	1
530000002268	SOCKET	VALVE BASSGZC9-F-B-55	CHASSIS	14			1
530000002267	SOCKET	VALVE BASSGZC9-F-2	CHASSIS	13			2
530000002559 	SWITCH	POWER SWITCH R13-428F1-01	CHASSIS	7		S1	1
530000002561	LAMP	LAMP 1W 6.3V, 23MM(6.3VAC)	CHASSIS	11			1
530000002562		LAMP HOLDER R9-72B	CHASSIS	12			1
530000002264		FUSE HOLDER R3-11	CHASSIS	10			2
530000002939 		FUSE T200MAL	CHASSIS			F1	1
530000002263 		FUSE250V T6.3A	CHASSIS			F2	1
530000002940 		FUSE:T315MAL/250V	CHASSIS			F3(220V-240V)	1
530000002261 		FUSE:T630MAL/250V				F3(100V-120V)	
530000001481		SPRING RETAINER(24MM),(EL84)	CHASSIS	19		PRE0072	1
530000001483		SPRING RETAINER(12MM-12AX7WA)	CHASSIS	20		PRE0092	1
530000002941		FRONT PANEL AC4HW1	CHASSIS			FPN0252	1
530000001126		VOLUME KNOB CHIKEN HEAD CREAM	CHASSIS	23			4
530000002229 	SPEAKER	T1221AX60 - G12M GREENBACK	SET		2		1
530000002942 		CABINET ASSY AC4HW1	SET		3	CAB0451	1
530000000313		HANDLE ASS'Y	SET		4,5		1
530000002293		VENT GRILLABS CREAM	SET		6		1
530000002294		RUBBER FOOTSIICON,LARGE	SET		8		4
530000002580		SHELF VENT GRILL CR 1T(TB35C1)	SET			PRE0138	1
530000002943		BAFFLE ASS'Y AC4HW1	SET				1
550V906400008		VOX BRAND MARK LARGE	SET		7		1
500600006508 	AC CORD	LY100JPVCTFLY35LY37(JP)					1
530000002764 		AC CORD 120V = KKP30-16A(SJT)					
530000000124 		AC CORD 230V = KKP4819R-16A					
530000000125 		AC CORD 230V = KKP650-16A					
530000000126 		AC CORD 240V = KKP550-16A					