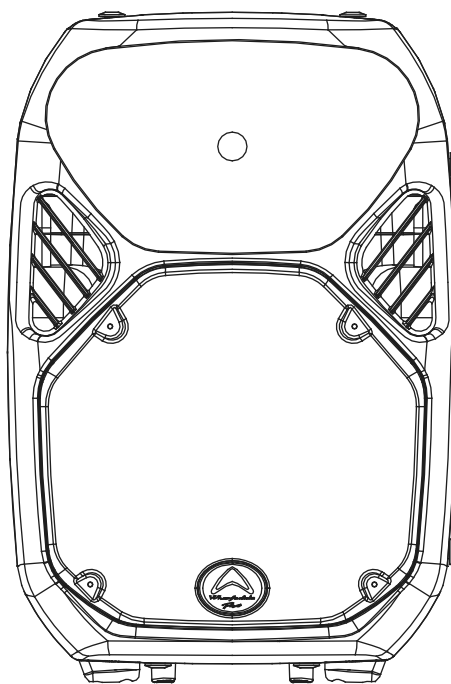




Wharfedale Professional

Service Manual

TITAN-AX15



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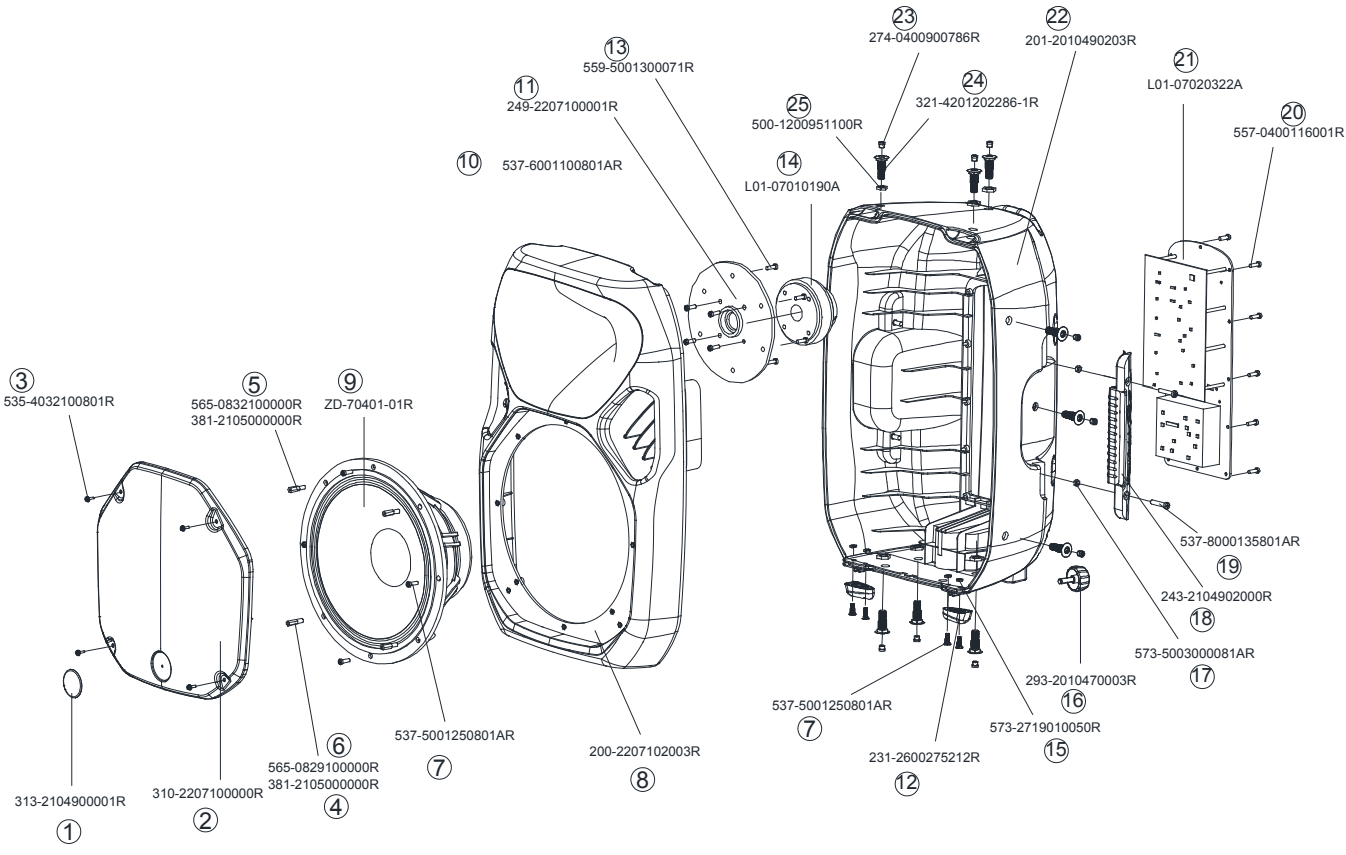
SPECIFICATION

Model Name	Titan-AX15
System Type	Active 15" 2-way
Frequency Response (+/-3dB)	50Hz-18kHz
Frequency Range (- 10 dB)	40Hz-20kHz
Maximum SPL(peak)(@1m)	129dB
Sensitivity @ 1W / 1m)	98dB
Low Frequency Transducer	
Size (mm / inches)	381mm/15"
Voice-Coil Size (mm / inches)	75mm /3"
Rated Impedance	4Ω
LF Power re:AES2-2012	400w
High Frequency Transducer	
HF Driver Type:	Compression Driver
Coil Size (mm / inches)	44mm/1.75"
Exit Size (mm / inches)	25mm/1"
Diaphragm Material	Titanium
Rated Impedance	8Ω
HF Power re:AES2-2012	40W
Nominal Coverage (H x V)	Hybrid Symmetry Horn 100°x80°
Rated Impedance	8Ω
Amplifiers	
Low-Frequency Power Amplifier -Class D, RMS/Peak Watts	350W/4ohm
High- Frequency Power Amplifier RMS(Class D)	50W/8ohm
DSP Controls---D-EQ	1:FLAT 2:MONITOR 3:SPEECH 4:BASS 5:PUNCH 6:LIVE
Amplifier Protection	yes
Power On Protection	yes
Thermal Protection	yes
Low Line Voltage Shut Down	yes
Driver Protection	
DC Protection	yes
Short Protection	yes
Clip Limiter	yes
Limiter Indicator	red LED
Power Indicator	Green LED
Inputs	
Input A – type	Balance
Input Sensitivity	775mv
Maximum Input Level	4v
Input Connector	2*XLR&6.3R(Line/MIC)
Input Impedance	Balance:20K

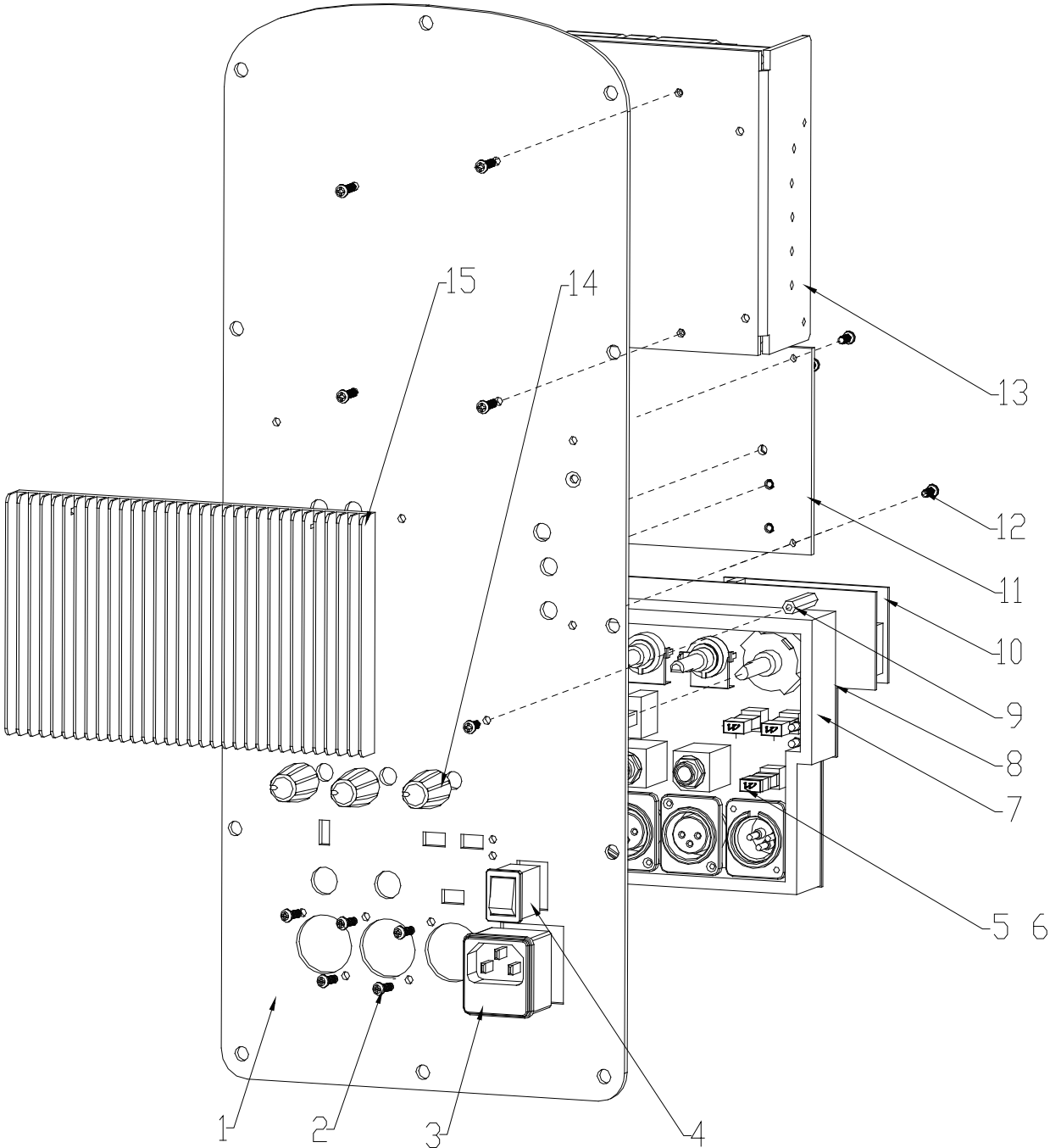
SPECIFICATION

Line Output	
Line Output Connector	XLR
Impedance Balanced	
Loop Gain	0dB
AC Power details	
Power Supply	SMPS
AC Power Options	
Power On Indicator	220-240V 50Hz
Rigging / Bracket / Mounting Options	10 M8 threaded inserts including 4 M8 threaded inserts on bottom in OmniMount Pole-mount receptacle with lock screw Optional wall-mount bracket
Handles	2 carry handles (one on each side)
Enclosure	
Enclosure Material and finish	Injection Moulded Polypropylene
Colour Options	Black paint
Grille Material & Finish	steel
Dimensions - Unpacked (mm / inches):	
Height	728.5mm/28.7in
Width Front	480.6mm/18.9in
Width Rear	480.6mm/18.9in
Depth	395.6mm/15.6in
Dimensions - Packed (mm / inches):	
Height	830mm/32.7in
Width Front	514mm/20.2in
Width Rear	514mm/20.2in
Depth	489mm/19.3in
Net Weight (kg / lbs)	22.6kg/49.7lbs
Gross Weight (kg / lbs)	27.4kg/60.3lbs

ASSEMBLY SKETCH



ASSEMBLY SKETCH



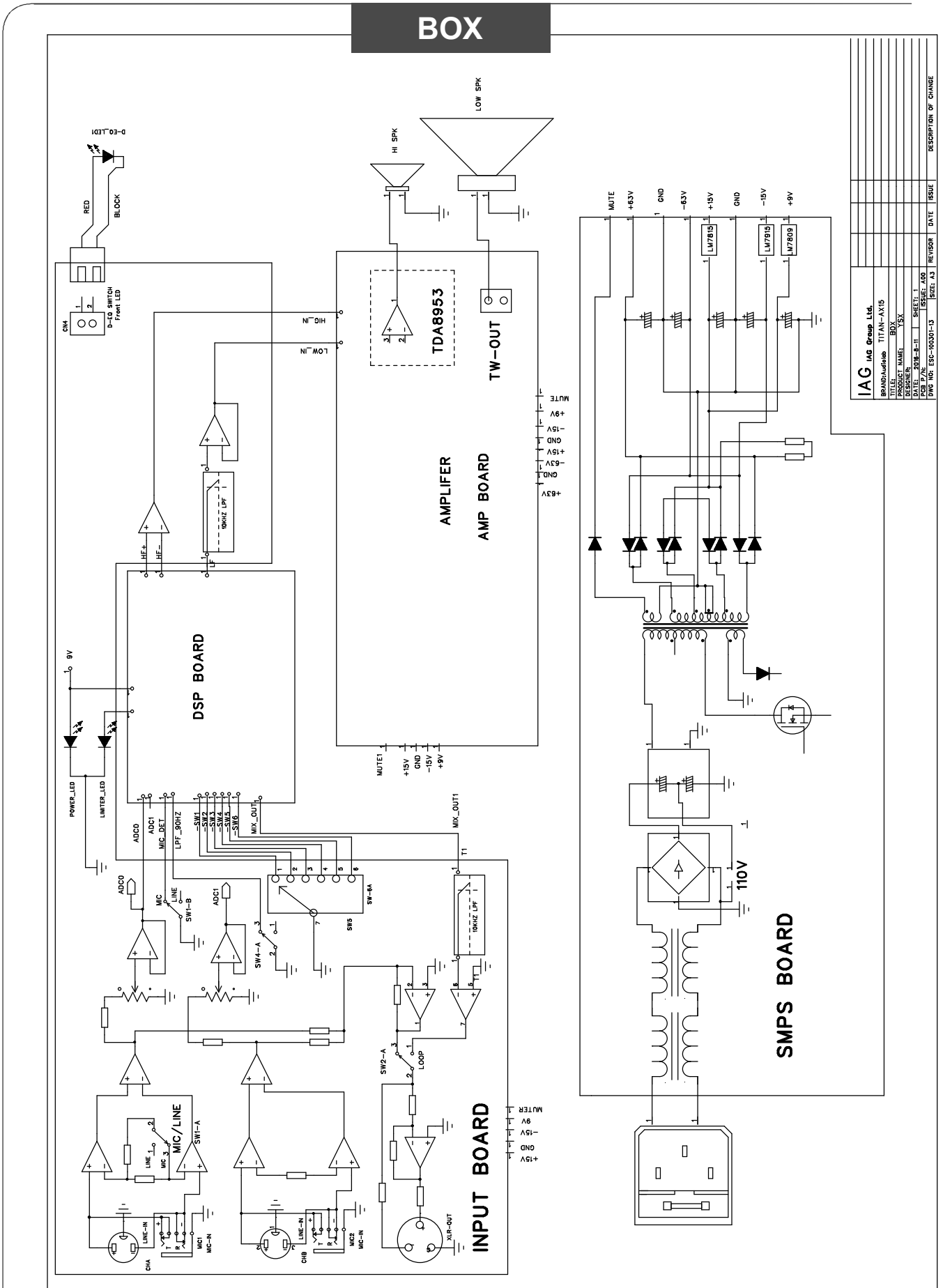
ASSEMBLY PARTS LIST

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	313-2104900001R	LOGO PLATE		1
2	310-2207100000R	GRILL	TITAN AX15 BLACK	1
3	535-4032100801R	SCREW	M4X10 BLACK	4
4	381-2105000000R	PVC	φ 10X φ 4X0.8MM	4
5	565-0827100000R	SCREWS	M5*10*M4*15*29.8	2
6	565-0832100000R	SCREWS	M5*10*M4*15*32	2
7	537-5001250801AR	SCREWS	M5*25 BLACK	10
8	200-2207102003R	TITAN AX15 FRONT FRAME	TITAN AX15 BLACK	1
9	ZD-70401-01R	TITAN 15A WOOFER	D-704A	1
10	537-6001100801AR	SCREWS	M6*10 BLACK	4
11	249-2207100001R	CONNECTING BRACKET	φ 145* φ 47*12MM	1
12	231-2600275212R	PLASTIC FOOT	ABS+TPR.	2
13	559-5001300071R	SCREWS	M5*30 BLACK	4
14	L01-07010190A	TWEETER		1
15	573-2719010050R	SCREWS	M5 BLACK	4
16	293-2010470003R	PLASTIC KNOB	ABS BLACK	1
17	500-6000008000AR	LOCKING NUT	M6 BLACK	4
18	243-2104902000R	TITAN15 PLASTIC HANDLE	TITAN15 BLACK HANDLE	2
19	537-8000135801AR	SCREWS	M8*35 BLACK	4
20	557-4001208061AR	SCREWS	4.0*20 BLACK	10
21	L01-07020322A	AMPLIFIER	TITAN-AX15	1
22	201-2010490203R	TITAN15 MAIN FRAME	TITAN15 BLACK	0.7
23	274-0400900786R	PLASTIC COVER	M8*5*7.8* φ 4* φ 9 BLACK	10
24	321-4201202286-1R	TITAN15/12 SCREW NUT	M12XM8X42MM BLACK	10
25	500-1200951100R	M12 NUT	M12x9.5mm, BLACK	10
26	534-8001200803AR	SCREWS	M8*20 BLACK	4

ASSEMBLY PARTS LIST

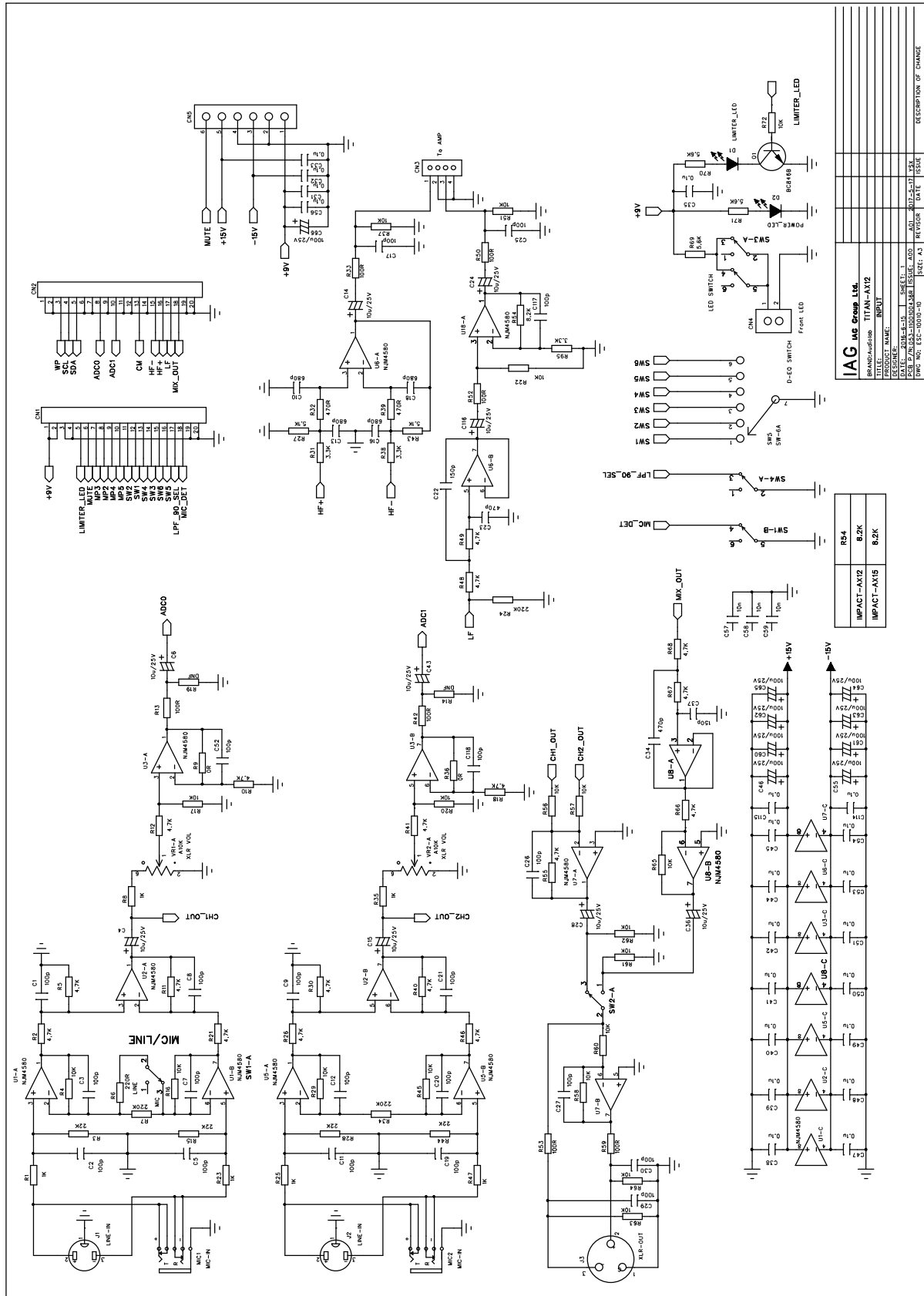
R/N	P/N	Name	Name, specification	QUA	Unit
1	300-1010010002R	TITAN-AX15 Europe panel-A00	Amplifier panel ,A3 black painting ,appearance printing PANTON 427C	1	PCS
	300-1010010000R	TITAN-AX15 USA panel --A00	Amplifier panel ,A3 black painting ,appearance printing PANTON 427C		
2	527-3012100811AR	Pan self-tapping screw ,3*10	Pan self-tapping screw ,3*10	6	PCS
3	044-2600000000R	Sockets	Power RF-2004	1	PCS
4	042-1003005000R	Power switch	RL3-421-G-2 BK/BK-P8	1	PCS
5	212-1252000001R	9*5 button	9*5 button	3	PCS
6	212-1252000003R	Button connector	Button connector	3	PCS
7	261-2102114027R	Sealed foam	Sealed foam 102*114.3*26.5mm, Adhesive3M9448	1	PCS
8	088-1100303681R	PCBA-input panel +DSP panel combination	WHARFEDALE PRO IMPACT-AX12 IPT A00 ALL	1	PCS
9	307-1030000241R	Hexagon copper cylinder	M3*24 hexagon appearance	2	PCS
10	088-1100143681R	PCBA-DSP panel DIP combination	DIP WHARFEDALE PRO IMPACT-AX12 DSP A00 ALL	1	PCS
11	088-1731011001R	Titan 15 amplifier panel has plugged	Titan 15 amplifier panel has plugged	1	PCS
12	537-3000081001R	Pan machine screw	MP(+)-3*8 electrophoresis black D Harden	4	PCS
13	088-1100340481R	PCBA-power panel Europe	DIP WHARFEDALE PRO IMPACT-AX15 PSU A00 FG	1	PCS
	088-1100350481R	PCBA-power panel USA	DIP WHARFEDALE PRO IMPACT-AX15 PSU A00 FG	1	PCS
14	293-2010470001R	Knob	Knob	3	PCS
15	306-1003010000R	IMPACT-AX15 radiator -A00	156*99*15MM Aluminum profile, appearance in black Anodize	1	PCS

SCHEMATIC DIAGRAM



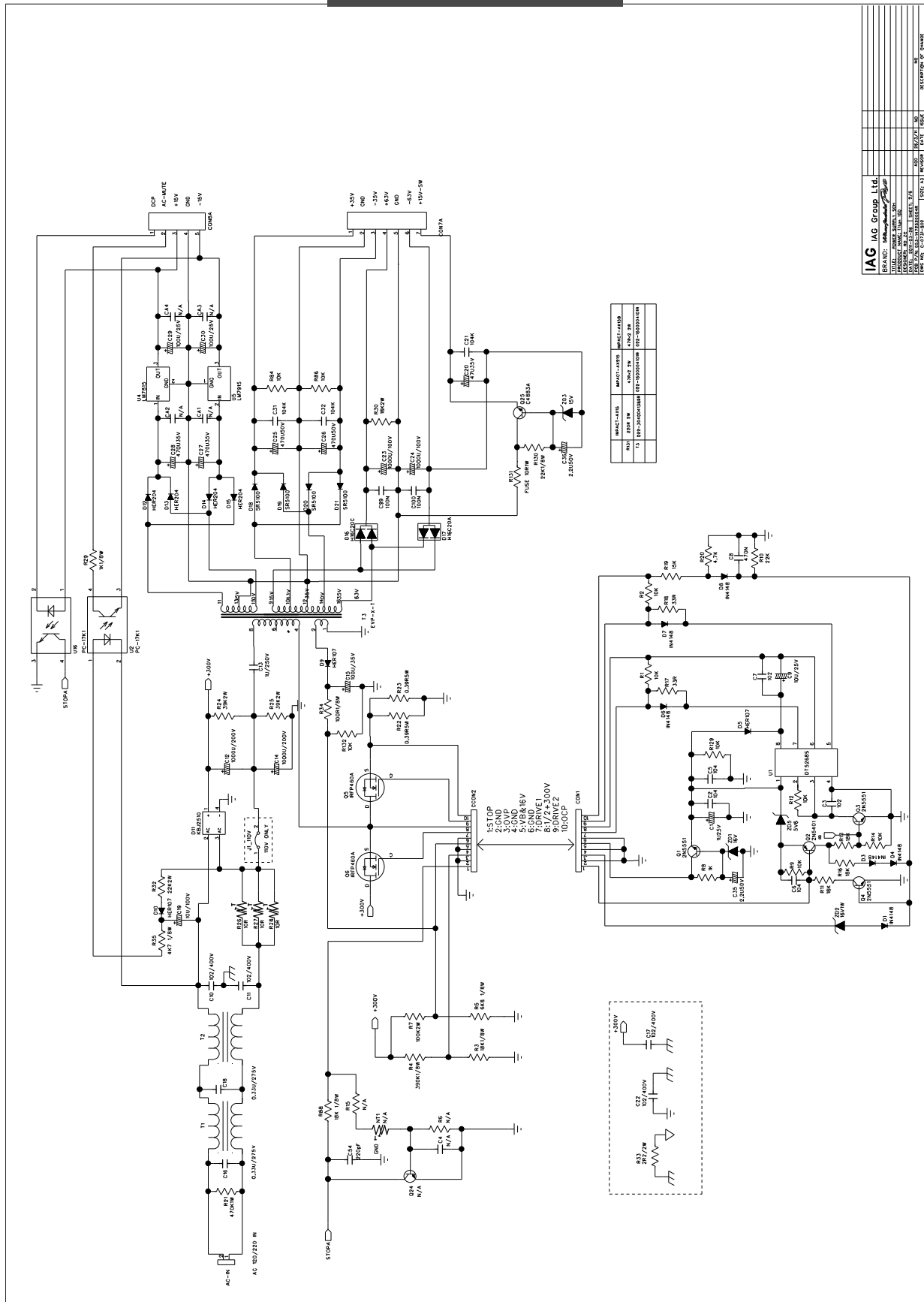
IAG		IAG Group Ltd.	
Branch/Address		TITAN-AX15	
PROJECT NAME		BOX	
DESIGNER		SUNIL	
CHECKED BY		SUNIL	
DATE		13/03/2013	
REVISED BY		SUNIL	
DATE		13/03/2013	
DESCRIPTION OF CHANGE			

INPUT PCB



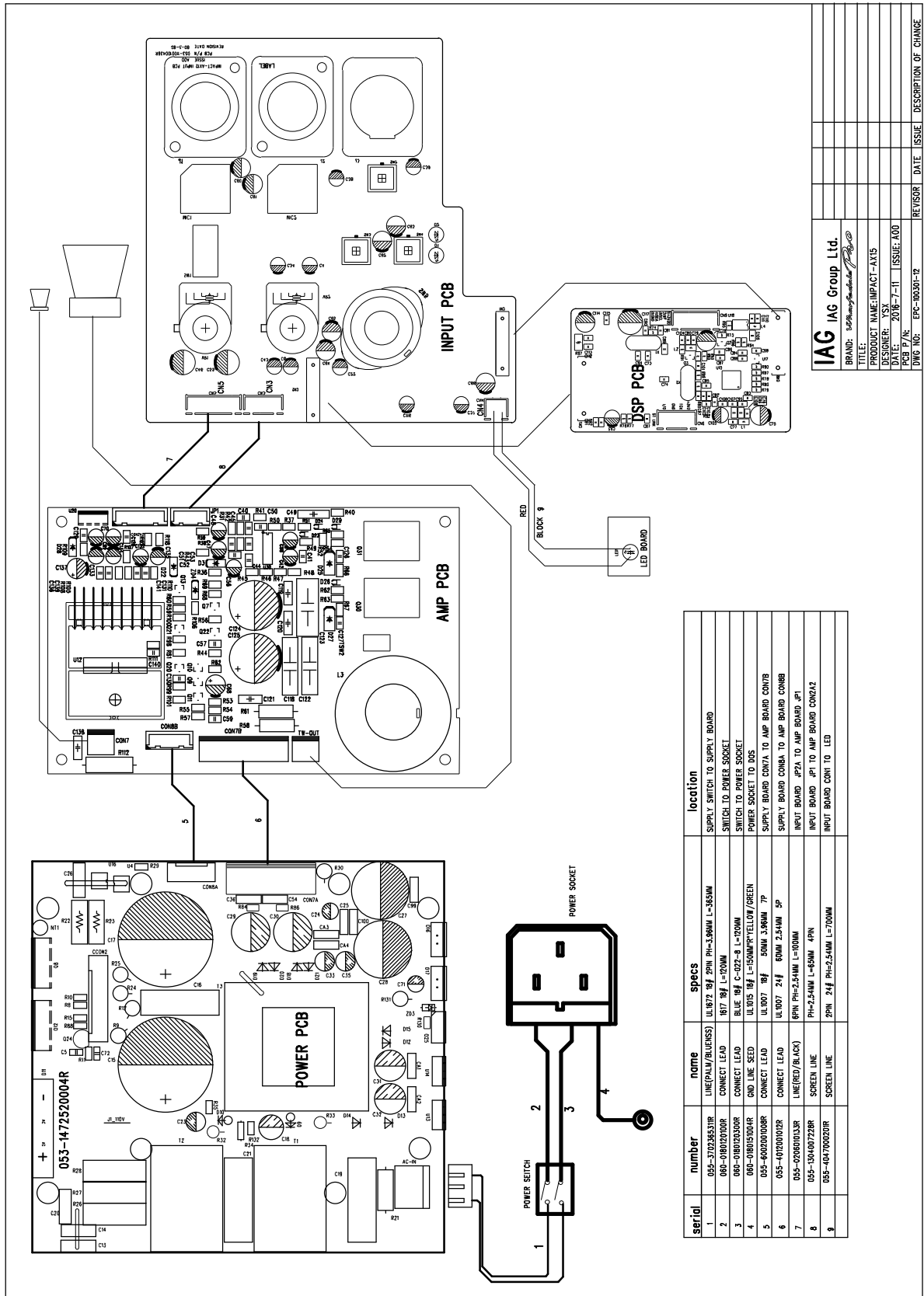
SCHEMATIC DIAGRAM

POWER SUPPLY



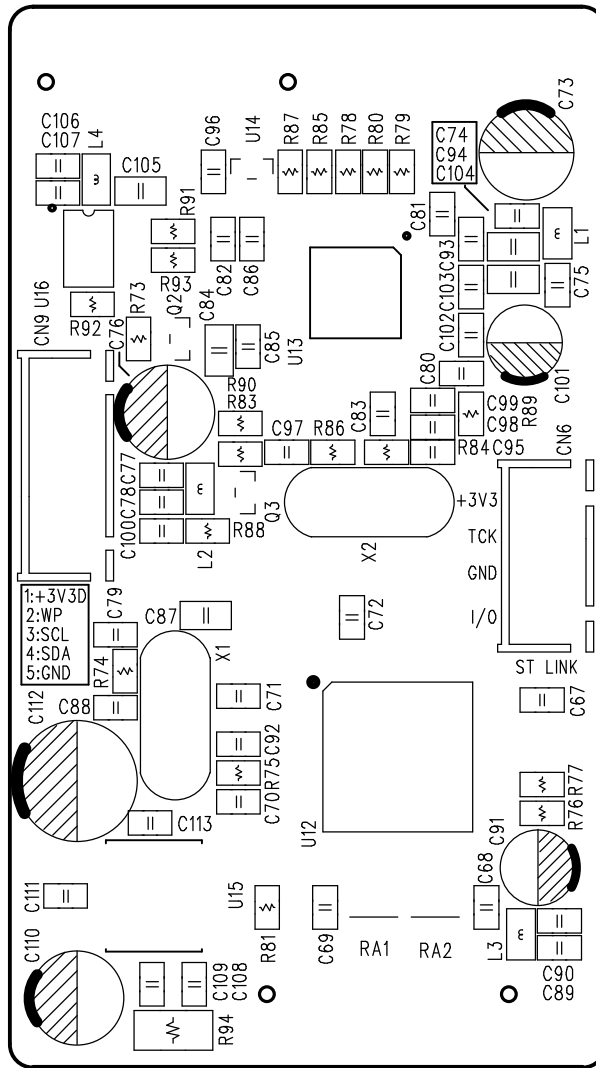
IAG IAG Group Ltd.	
BRAND: WALSLEY	
TITLE: POWER SUPPLY	
DATE: 2015-01-15	
DRAWN: J. J. J.	
CHECKED: J. J. J.	
APPROVED: J. J. J.	
REV	DESCRIPTION
1	ISSUE FOR MANUFACTURE

WIRING DIAGRAM



SILKSCREEN OF TOP/BOTTOM

LAYER STACKUP	
BOTTOM ROUTING	
BOTTOM SILKSCREEN	
MATERIAL	FR-4/2.0
COPPER WEIGHT	2 OZ
LAYERS	2 LAYERS
MINIMUM WIDTH	0.3 mm
MINIMUM GAP	0.3 mm
PLATING	75μm(3oz)
VIA	unplugged
SILKSCREEN	GREEN
RESIST	GREEN
TOP	
BOT	



IAG IAG Group Ltd.	
BRAND:	INPUT PCB BOARD
TITLE:	PRODUCT NAME: IMPACT-AX12 INPUT
DESIGNER:	LZY
DATE:	2016-6-13
ISSUE:	A00
TCR P/N:	05-1100100136R
DWG NO.:	EPC-11000-09
REVISOR:	
DATE:	
ISSUE:	
DESCRIPTION OF CHANGE:	

SILKSCREEN OF TOP/BOTTOM

LAYER STACKUP	
BOTTOM ROUTING	
BOTTOM SILKSCREEN	
MATERIAL	FR-4/2.0
COPPER WEIGHT	2 OZ
LAYERS	2 LAYERS
MINIMUM WIDTH	0.5 mm
MINIMUM GAP	0.3 mm
PLATING	75%(25%)
VIA	enlarged
SILKSCREEN	GREEN
RESIST	GREEN
TOP	GREEN
BOT	GREEN

IMPACT-AX12 DSP PCB	ISSUE	A00	PCB P/N	053-1100100475R	REVISION DATE	BG-12-AB
LABEL						

IAG IAG Group Ltd.	
BRAND:	TITLE: INPUT PCB BOARD
PRODUCT NAME: IMPACT-AX12 INPUT	DESIGNER: LZ
DATE: 2016-6-13	ISSUE: A00
PCB P/N: 053-1100100436R	TRC P/N: 053-1100100436R
DWG NO: EPC-110006-13	REVISOR: DATE: ISSUE: DESCRIPTION OF CHANGE:

MAINTENANCE ALIGNMENT PROCEDURE

P/N	Test description		Test status	Specification requirement	Test result
1	Rated power	woofer Rated power	250Hz input, horn output THD=1%	400W/4 ohms	380W
		Tweeter Rated power	10KHz input, horn output THD=1%	50W/8 ohms	60W
2	Frequency response	Frequency response(woofer)	20Hz-2KHz @1W output, impedance 4ohms	.+1.0/-3.0dB	20Hz-2.3KHz
		Frequency response(Tweeter)	1.8KHz-20KHz @1W output, impedance 8ohms	.+1.0/-3.0dB	1.6K-20KHz
3	Input sensitivity	Input sensitivity (woofer)	CH/A 250Hz input, switch MIC horn output THD=1%	30MV	
		Input sensitivity (woofer)	CH/A 250Hz input, switch Line horn output THD=1%	0.5V	
		Input sensitivity (Tweeter)	CH/B 10KHz input, horn output THD=1%	0.5V	
4	BALANCED OUTPUT		CH/B 90Hz/ 0.5V input, LOOP press	0.5V	
			CH/B 90Hz/ 0.5V input, LOOP press HPFpress D-EQ 1#	1V	
			CH/B 90Hz/ 0.5V input, LOOPpress HPFpress D-EQ 1#	0.3V	
5	THD @20Hz-2.0KHz	woofer output	CH/B Line TRS in, D-EQ 1# SPK output 40W	Less than 0.4%	<0.3
	THD @2.3KHz-20KHz	Tweeter output	CH/B Line TRS in, D-EQ 1# SPK output 10W	Less than 0.4%	<0.3
6	S/N, 20-22KHz band pass filter		Line TRS/RCA in, output 1W, volume gain 0dB	Greater than 75dB	62
7	S/N, 20-22KHz band pass filter		Line TRS/RCA in, output THD=1%	Greater than 82dB	82
8	L/R Polarity		Line TRS 1kHz input	no reverse	na
9	Mic Max. Voltage Gain		Mic input -50dBV, volume Max	greater then 90dB	75
10	Line Max. Voltage Gain		Line input -20dBV, volume Max	greater then 45dB	45.7
11	DC Offset		No signal input	Less than 50mV	7.2
12	Noise level		all VR Max. measure at Speaker output	less than -50dBu	-39
13	FFT		No signal input, Gain or Volume set to Max.	less than -70dBV	-60
14	Noise listening		VR Max. Hum&White noise	No abnormal	ok
15	autoexcitation/screechy test		adjust volume	No abnormal	ok
16	AMP Mode and Bypass switch .has Pop noise or not		Operate AMP Mode and Bypass	No abnormal	ok
17	on/off pop noise		with 264V mains line, 1/3 power	No abnormal	ok

ASSEMBLY PARTS LIST

Titan-AX15 ELECTRONIC PARTS LIST

R/N	R/N	P/N	PART NAME	DESCRIPTION	QIA	LOCATION	RE
1	1	088-1100340481R	Titan-AX15D Supply PCBA DIP ASSEMBLY)	Titan 15X Supply PCBA DIP ASSEMBLY)	1.00		
2	2	001-0393108050R	Resistance	39K 2W 5%	2.00	R32	
3	2	001-0398810050R	Resistance	0.39R 5W 5% H19 X W14 X T5.0 PH=9.5 mm	2.00	R22.23	
4	2	001-1001105050R	Resistance	100Ω 1/4W J	1.00	R34	
5	2	001-1004208050R	Resistance	100K2W 5%	1.00	R7	
6	2	001-1803308050R	Resistance	18K, 2W 5% T66	1.00	R30	
7	2	001-2209308050QR	Resistance	2R2 2W 5%	1.00	R33	
8	2	001-4703107050R	Resistance	470K 1W 5%	1.00	R21	
9	2	001-2203208010R	Resistance	22K 2W 1%	1.00	R32	
10	2	004-3307000000R	Resistance	NTC 10D-20	3.00	R26.27.28	
11	2	006-1004061194R	capacitance	10uF 100V 105° C	1.00	C19	
12	2	006-1014061153AR	capacitance	100UF/25V 6.3*11 20%105°C PH=3.0MM	2.00	C29.30	
13	2	006-1014081153AR	capacitance	100UF/35V 8*11 20%105°C PH=3.5MM	1.00	C15	
14	2	006-1021174293R	capacitance	1000U/100V/20% 18*41MM 105°C	2.00	C23.24	
15	2	006-1024304109R	capacitance	1000UF/200V 105°C ∅ 30*41mm 20% ECOSZDA102DA	2.00	C12.14	
16	2	006-2291051163R	capacitance	2.2UF/50V 10% 5*11 105°C PH=2.0MM	1.00	C36.	
17	2	006-4700051251R	capacitance	47uF 35V 105°C φ5.1*11.5	1.00	C20	
18	2	006-4714102053AR	capacitance	470UF/35V 10*20 20%105°C PH=5.0MM	2.00	C27.28	
19	2	006-4714132063R	capacitance	470UF/50V 20% 13*20 105°C PH=5.0MM	2.00	C25.26	
20	2	008-1021040005R	capacitance	102PF 400V M D:7.5 T:4.5 PH=10mm	4.00	C10.11.17.22	
21	2	013-3304025005R	capacitance	334/275V J	2.00	C16.C18	
22	2	014-1040311028R	capacitance	MKS2 100nF 100V 10%	5.00	C21.31.32.99.100	
23	2	014-1050411006	capacitance	1UF/250V 10'	1.00	C13	
24	2	017-0190000000R	IC	NJM7815FA TO-220F(JRC)	1.00	U4	
25	2	017-1830000000R	IC	KIA7915 TO-220 KEC	1.00	U5	
26	2	018-0304883113R	Transistor	2SC4883A (SANKEN) TO-220F	1.00	Q25	
27	2	018-7000460125R	field effect	IRFP460A TO-247AC : IR	2.00	Q5.6	
28	2	022-3040041389R	Transformer	EC-40 out:+/- 63V, +/-35V, +/-15V	1.00	T3	
29	2	034-1119992508R	rectifier bridge	RBV2510	1.00	D11	
30	2	056-0103003300R	Extension Socker	2PIN 3.96PH(KAM-15-5)	1.00	AC-IN	
31	2	056-4105221100R	Extension Socker	5pin DJ2802-05	1.00	CON8A	
32	2	056-6107004150R	Extension Socker	7pin 180 PH=3.96mm	1.00	CON7A	
33	2	067-2200107000R	high speed Diode	HER107 JAL	2.00	D9.10	
34	2	067-2200207000R	Diode	HER204	4.00	D12.13.14.15	
35	2	067-2201620000R	Diode	F16C20C mospec TO-220	1.00	D16	
36	2	067-2201620001R	Diode	F16C20A mospec TO-220	1.00	D17	
37	2	067-2205100000R	Diode	SB/SR5100 DIP	4.00	D18.19.20.21	
38	2	067-3304744000R	Diode	1N4744A 15V-1W	1.00	ZD3	
39	2	080-0205312016R	common mode choke	5.3mH 0.8mm*2 120V AC	2.00	T1.T2	
40	2	082-0100000000R	optocoupler	PC-17K1 KODENSHI	2.00	U2.16	
41	2	085-0070290200R	insulating bush	gray: 28.8*18.5*Φ6.6mm	2.00	Q5,Q6	
42	2	088-1472520400R	Titan 15A Supply drive PCBA	Titan 15A supply drive PCBA DIP	1.00	CCON2	
43	2	263-0500090062R	Black EVA	500*9mm,T=6mm,	0.07		
44	2	324-0180130100R	Mica plate	TO-220 18*13MM	2.00	D16 D17	
45	2	332-1472520000R	IC Mound layer	SPCC,T=1.2mm, Black	1.00	D11	
46	2	500-3050240800AR	NUT	M3 Black	6.00	LOCK IC	
47	2	520-3006400000	Transistor pad	TV-4 hole: 3.0, L=2.0 3.5, 6.0mi	2.00	D16 D1:	
48	2	537-3001140801-1A	Screw	M3*14/ Black	2.00	LOCK IC D11	
49	2	591-0003012500R	Screw	M3*12 Black	5.00	LOCK IC	

ASSEMBLY PARTS LIST

Titan-AX15 ELECTRONIC PARTS LIST

R/N	R/N	P/N	PART NAME	DESCRIPTION	QIA	LOCATION	RE
50	2	591-0003014500R	Screw	M3*14 Black	1.00	LOCK IC Mound layer	
51	2	251-22020006002	Black EVA pad	45, 20*7*T: 6MM	4.00		
52	2	001-1501709050R	Resistance	150Ω, 3W 5%	1.00	R131	
53	2	304-1003010000-1R	power supply PCB holder	139*125*50MM AL	1.00		
54	2	591-0003008400R	Screw	M3*8mm NI	6.00		
55	2	088-1472520402R	Titan 15A Supply PCBA SMT assembly	Titan 15A supply PCBA smt	1.00		
56	3	002-1002032010R	Resistance	1K 1/8W 1% 0805	1.00	R29	
57	3	002-4024022010R	Resistance	0805 390K 1/10W J	1.00	R4	
58	3	002-1803032010R	Resistance	18K 1/8W 0805 1%	2.00	R3.88	
59	3	002-4702032010R	Resistance	4.7K 1/8W 1% 0805	1.00	R35	
60	3	002-2203032010R	Resistance	22K 1/8W 1% 0805	1.00	R130	
61	3	007-2201062060R	capacitance	220PF CP50V 10% 0805	1.00	C54	
62	3	002-1003032010QR	Resistance	10KΩ 1/8W 1% 0805	2.00	R132 R5	
63	3	053-147252B004R	Titan 15A power PCB	2L FR4 A02 142*125mm 1.6T 2OZ 1joint	1.00		
64	1	088-1731011001R	Titan 15 Amplifier DIP Assembly	Titan 15 Amplifier pcba	1.00		
65	2	001-0470308050R	Resistance	4.7Ω 2W J	1.00	R112	
66	2	001-1000107050R	Resistance	10Ω 1W J	1.00	R61	
67	2	006-1014061153AR	capacitance	100UF/25V 6.3*11 20%105°C PH=3.0MM	1.00	C51	
68	2	006-1094051163R	capacitance	SM 1 μF 50V 20%	1.00	C76	
69	2	006-2201061173R	capacitance	22uF/63V 20% 105°C 6*11.5	1.00	C80	
70	2	012-1005000202R	capacitance	10pF 500V CD15CD100J03F 1%	1.00	C42	
71	2	014-1040311028R	capacitance	MKS2 100nF 100V 10%	4.00	C56 C57 C58 C81	
72	2	017-2700000000R	IC	TDA7294 ST	1.00	U12	
73	2	018-4404229225R	field effect transistor	IRFP4229 PBF TO-247AC IR	2.00	Q30 Q31	
74	2	056-0102224400R	Extension Socker	JS3962-2P-WAFER	2.00	CON7 TW-OUT	
75	2	056-4104221100R	Extension Socker	DJ2802-4P	1.00	JP1	
76	2	056-4105221100R	Extension Socker	5pin DJ2802-05	1.00	CON8B	
77	2	056-4106220000R	Extension Socker	6pin DJ2810-06	1.00	CON2A2	
78	2	056-6107004150R	Extension Socker	7pin 180 PH=3.96mm	1.00	CON7B	
79	2	066-0095010000R	Switch temper control	TO-2P, 95	1.00	TSW2	
80	2	080-0020006024	Inductor	20UH Enamelled wire:1.2MM	1.00	L1	
81	2	306-1731010000R	HEAT SINK	140x85x3mm AL	1.00		
82	2	306-1731010001R	L HEAT SINK	32x32x26mm 6.2mm AL	1.00	U12	
83	2	324-0280220100R	MICA PLATE-3P	18*22	2.00	Q30 Q31	
84	2	520-3006400000R	Transistor pad	TW-4 Hole=3.0, l=2.0 3.5, 6.0mm	1.00	U12	
85	2	018-9807809111R	Transistor	L7809CV TO-220 ST	1.00	U13	
86	2	006-1006051243R	capacitance	10UF/25V φ5*12 105°C	7.00	C37 C40 C41 C75 C49 C52 C53	
87	2	006-0104051143R	capacitance	1UF 25V 20%	1.00	C74	
88	2	006-2291051163R	capacitance	2.2UF/50V 10% 5*11 105°C PH=2.0MM	2.00	C72,C47	
89	2	500-3050240800AR	NUT	M3 Black	1.00	U12	
90	2	001-2202307050R	capacitance	2.2K 1W J	1.00	R58	
91	2	006-4714162593AR	capacitance	470UF/100V 16*25 20%105°C PH=7.5MM	2.00	C61 C62	
92	2	016-4742100001R	capacitance	0.47uF 250V 5% PH=15mm WIMA MKP4F034704D00JSSD	1.00	C60	
93	2	537-3000061001R	Screw	MP (+) 3*6, Black	1.00		
94	2	324-0280220111R	mica plate TO-3P	28*22	1.00	U12	
95	2	016-4742100002R	capacitance	0.47UF/250V 5% 16*13*7	2.00	C55 C59	

ASSEMBLY PARTS LIST

Titan-AX15 ELECTRONIC PARTS LIST

R/N	R/N	P/N	PART NAME	DESCRIPTION	QIA	LOCATION	RE
96	2	591-0003012500R	Screw	M3*12 Black	4.00		
97	2	591-0003008400R	Screw	M3*8mm NI	4.00		
98	2	591-0003014500R	Screw	M3*14 Black	1.00		
99	2	088-1731011000R	Titan 15D Amplifier SMT Assembly	Titan 15D Amplifier PCBA SMT	1.00		
100	3	002-1004032010R	Resistance	100KΩ 1/8W 1% 0805	1.00	R82	
101	3	002-2202032010R	Resistance	2.2K 1/8W 1% 0805	1.00	R80	
102	3	002-2204032050R	Resistance	220K 0805 ±5% 1/8W	1.00	R68	
103	3	002-2703032010R	Resistance	27K 1/8W 1% 0805	1.00	R93	
104	3	002-0000032100R	Resistance	0R7% 1/8W 0805	1.00	R42	
105	3	002-4701032100R	Resistance	470Ω ±1/8W 0805	1.00	R43	
106	3	002-5602032010	Resistance	5.6KΩ 1/8W 1% 0805	1.00	R83	
107	3	002-9102032010R	Resistance	9.1K 1/8W 1% 0805	1.00	R37	
108	3	002-6803032010R	Resistance	68K 1/8W 1% 0805	1.00	R51	
109	3	002-7502032010R	Resistance	7.5KΩ 1/8W 1% 0805	1.00	R46	
110	3	002-8201032010R	Resistance	820Ω 1/8W 1% 0805	2.00	R38 R39	
111	3	002-8202032010R	Resistance	8.2K 1/8W 1% 0805	2.00	R47 R118	
112	3	007-1002052060QR	capacitance	SMD 1nF 50V 5% 0805	1.00	C46	
113	3	007-1003062090R	capacitance	103/100V 0805 10%	1.00	C50	
114	3	007-1004052060R	capacitance	100nF 50V 5% 0805	10.00	C34 C38 C39 C43 C48 C65 C66 C68 C79 C82	
115	3	007-1501062091R	capacitance	150pF 100V NPO 10% 0805	2.00	C63 C64	
116	3	007-2201062060R	capacitance	220PF CP50V 10% 0805	1.00	C88	
117	3	007-4701062090R	capacitance	470PF/100V 0805 10%	1.00	C70	
118	3	017-1149000000R	IC	IRS2092(Class D Driver IC) SMD SOIC16N	1.00	U30	
119	3	018-2905401227R	Transistor	2N5401S SOT-23 KEC	3.00	Q7 Q11 Q21	
120	3	018-2905551227R	Transistor	2N5551S SOT-23 KEC	5.00	Q9 Q10 Q12 Q20 Q22	
121	3	067-2204148110R	Diode	ST LL4148 SMD1206	3.00	D2 D22 D28	
122	3	067-3300015114R	Diode	15V ST 1206	1.00	ZD4	
123	3	002-2003032010R	Resistance	20KΩ 1/8W 1% 0805	2.00	R105,R111	
124	3	002-4703032010R	Resistance	47KΩ 1/8W 1% 0805	2.00	R53 R85	
125	3	007-1801052063R	capacitance	1800PF 50V 5% COG 0805 ROHS	2.00	C44 C45	
126	3	002-3302032010R	Resistance	3.3K 1/8W 1% 0805	1.00	R31	
127	3	002-1003032010R	Resistance	10KΩ 1/8W 1% 0805	16.00	R36 R44 R45 R50 R52 R54 R55 R59 R60 R63 R64 R66 R67 R77 R81 R106	
128	3	002-1002032010R	Resistance	1K 1/8W 1% 0805	2.00	R110,R107	
129	3	002-3904032010R	Resistance	390K 1/8W 1% 0805	1.00	R109	
130	3	053-173101A010R	Titan 15D AMP PCB	Titan15D AMP 1.6T 2OZ FR-4 120mm*95mm A01	1.00		
131	3	019-0012003103R	Diode	MURS120T3 (Pk:SMB) ON	3.00	D23 D25 D27	
132	3	067-7700021115R	high speed Diode	BAV21WS SOD-323 141V IF=0.4A	3.00	D24 D26 D29	
133	3	002-1000033050R	Resistance	贴片 1206 10R 1/8W5%	3.00	R1 R62 R65	
134	3	002-4702033010R	Resistance	4R7 1206 1/8W 1%	1.00	R49	
135	3	002-3903032010R	Resistance	39K 1/8W 1% 0805	1.00	R69	
136	3	002-2203032010	Resistance	22K 1/8W 1% 080	1.00	R10€	
137	3	002-4702032010R	Resistance	4.7K 1/8W 1% 0805	1.00	R57	
138	3	002-6201032010QR	Resistance	620R 1/8W 1%	1.00	R40	
139	3	002-5603022010R	Resistance	0805 56K 1/10W 1%	1.00	R56	
140	3	002-6043022010R	Resistance	0805 60.4K 1/10W J	1.00	R41	
141	3	088-1101003681-1R	PCBA-INPUT+DSP	WHARFEDALE PRO Titan-AX15 IPT+DSP ALL			
142	3	307-1030000241R	NUT	M3*24	2.00		
143	3	307-1300800141R	NUT	M3*8, L=14.5mm	1.00		
144	3	500-3050240300AR	NUT	M3 NI	1.00		
145	3	537-3001060301-1R	Scscrew	M3*6/ nicke	2.00		
146	3	591-0003008400R	Scscrew	M3*8mm nickel	1.00		
147	1	088-1003013681-1R	PCBA-input DIP	DIP WHARFEDALE PRO DVP(titan)-AX15 IPT A00 ALL			
148	2	006-1004051163R	capacitance	SM10 μF 50V 20%	9.00	C4 C6 C14-15 C24 C28 C36 C43 C116	
149	2	006-1014061153AR	capacitance	100UF/25V 6.3*11 20%105°C3.0MM	9.00	C46 C55 C60-66	
150	2	019-0311122001R	LED	204HD/E-A RED Φ3	1.00	D1	
151	2	019-0322122001R	LED	LED 204GD/E-A Green Φ3	1.00	D2	
152	2	020-1032120325R	Volume	RD16K12D0094-10K15Ax2	2.00	VR1-2	
153	2	040-1400000000R	shwitch	JPS2281EA	3.00	SW2-4	

ASSEMBLY PARTS LIST

Titan-AX15 ELECTRONIC PARTS LIST

R/N	R/N	P/N	PART NAME	DESCRIPTION	QIA	LOCATION	RE
154	2	044-6670000000R	XLR jack	3PIN 5MM LA1099-T	1.00	J3	
155	2	048-1700000000R	CONNECTOR	NYS139 K3Y1	2.00	J1-2	
156	2	049-2102224111R	Extension Socker	PHONE JY6351-02-250	2.00	MIC1-2	
157	2	055-0206010133R	fiat cable 6pin	PH=2.54mm24AWG L=100mm	1.00	CN5	
158	2	055-1304007228R	fiat cable 4pin	L=65MM PH=2.5MM 28#	1.00	CN3	
159	2	056-4202220000R	Extension Socker	2P PH=2.54MM	1.00	CN4	
160	2	057-1000422201R	Extension Socker	2*10PIN SMD PH=2.00mm	2.00	CN1-2	
161	2	089-0500000012R	shwitch	SS-22F20-G12	1.00	SW1	
162	2	097-0701200000R	shwitch	SR2512-0206-26F1A-C9-S	1.00	SW5	
163	2	221-1472410000R	LED POST	M5*22.5mm, WHITE	2.00	D1 D2	
164	2	826-0301501410R	Insulation sheet	RED,SIZE:D15.8*14.6*1.0mm,	3.00	J1 J2,J3	
165	2	088-1003013680	PCBA-INPUT SMT	SMT WHARFEDALE PRO DVP(titan)-AX15 IPT A00 AL	1.00		
166	3	002-0000032010R	Resistance	0Ω 1/8W 1%	3.00	R9 R36 R69	
167	3	002-1001022010R	Resistance	0805 100Ω 1/10W F	7.00	R13 R33 R42 R50 R52-53 R59	
168	3	002-1002022010R	Resistance	0805 1K 1/10W F	6.00	R1 R8 R23 R25 R35 R47	
169	3	002-1003022010R	Resistance	0805 10K 1/10W F	19.00	R4 R16-17 R20 R22 R29 R37 R45 R51 R56-58 R60-64 R65 R72	
170	3	002-2201032010R	Resistance	220Ω 1/8W 1% 0805	1.00	R6	
171	3	002-2203022050R	Resistance	22KΩ 5% 1/10W 0805	4.00	R3 R15 R28 R44	
172	3	002-2203032011R	Resistance	220K 1/8W 0805 1%	3.00	R7 R34 R24 C57-59	
173	3	002-3302032010R	Resistance	3.3K 1/8W 1% 0805	3.00	R31 R38 R95	
174	3	002-4701032010R	Resistance	470Ω 1/8W 1% 0805	2.00	R32 R39	
175	3	002-4702032010R	Resistance	4.7K 1/8W 1% 0805	18.00	R2 R5 R10-12 R18 R21 R26 R30 R40-41 R46 R55 R48-49 R66-68	
176	3	002-5102032010R	Resistance	5.1KΩ 1/8W 1% 0805	2.00	R27 R43	
177	3	002-5602032010R	Resistance	5.6KΩ 1/8W 1% 0805	2.00	R70-71	
178	3	002-8202032010R	Resistance	8.2K 1/8W 1% 0805	1.00	R54	
179	3	007-1001052060R	capacitance	100PF50V 5% NPO 0805	21.00	C1-3 C5 C7-9 C11-12 C17 C19-21 C25-27 C29-30 C52 C117-118	
180	3	007-1002052050R	capacitance	10nF/50V 5% X7R 0805	3.00		
181	3	007-1004052060R	capacitance	100nF 50V 5% 0805	21.00	C31-33 C35 C38-42 C44-45 C47-51 C53-54 C56 C114-115	
182	3	007-1500062060R	capacitance	150PF/50V 2% 0805	2.00	C37 C22	
183	3	007-4701052090R	capacitance	CAP 470PF/100V COG 0805 5% ROHS	2.00	C23 C34	
184	3	007-6801052060QR	capacitance	680P 5% 50V	4.00	C10 C13 C16 C18	
185	3	017-9090000000R	IC	AZ4580 MTR-E1 AAC(BCD)	8.00	U1-3,U5-8, U18	
186	3	018-1400846227R	Transistor	BC846B SOT-23 NXP	1.00	Q1	
187	3	053-1100100436R	PCB-input board	128.3*122.7*1.6MM FR4 2L 1OZ green IPT A00	1.00		
188	2	088-1101023681-1R	PCBA-DSP DIP assombly	DIP WHARFEDALE PRO Titan-AX15 DSP A00 ALL BURN	1.00		
189	3	006-1014051123-1R	capacitance	100JF 10V 85°C, KW NICHICON 20% Φ5*11MM	2.00	C91 C101	
190	3	006-1024081213R	capacitance	1000uF,6.3V,105DegC,8mmDia,12mmH,3.5mmPitch,Lelon	1.00	C112	
191	3	006-2214061233R	capacitance	220UF/16V (φ6*12)	1.00	C110	
192	3	006-4717030201R	capacitance	470uF 6.3V ±20% φ 6.3*11 PH2.5 105°C Su'scon SK	2.00	C73 C76	
193	3	056-2110551134R	Extension Socker	2*10Pin PH=2.0mm H=4.5mm SMT2207CS-20G-SM-45-PCB	2.00	CN7-8	
194	3	056-4104003300R	Extension Socker	4PIN PH=2.54mm	1.00	CN6	
195	3	056-4105221100R	Extension Socker	DJ2802-05	1.00	CN9	

COUNTRY BOM DEVIATION

ITEM	UNIT CODE	P/N	PART NAME	DESCRIPTION	QTY	UNIT	COUNTRY
1	WP-101001-01A	L01-07020322A	AMP	Amplifier Active FG	1	PCS	CH
		062-5330000101R	Power cord	PHP-304&PHS301R RVV3G0.75mm2	1		
		031-4200510121R	FUSE	T3.15A 250V 5*20MM UL LITTLE FUSE	1		
		088-1100340481R	Power Supply	Power Supply pcb assembly	1		
2	WP-101001-02A	L01-07020323A	AMP	Amplifier Active US	1	PCS	USA
		062-1330000101R	Power cord	18/3C PHP-301&PHS-301&SJTAWG	1		
		031-2200515121HR	FUSE	T6.3A 250V 5*20MM UL LITTLE FUSE	1		
		088-1100350481R	Power Supply	Power Supply pcb assembly	1		
3	WP-101001-03A	L01-07020322A	AMP	Amplifier Active FG	1	PCS	UK
		062-3330000101R	Power cord	Black,H03VV-F3G 0.75mm ,L=1.8M	1		
		031-4200510121R	FUSE	T3.15A 250V 5*20MM UL LITTLE FUSE	1		
		088-1100340481R	Power Supply	Power Supply pcb assembly	1		
4	WP-101001-05A	L01-07020322A	AMP	Amplifier Active FG	1	PCS	Australia
		062-6330000101R	Power cord	Black,VDEH05VV-F3*0.75MM2 L=1.8M	1		
		031-4200510121R	FUSE	T3.15A 250V 5*20MM UL LITTLE FUSE	1		
		088-1100340481R	Power Supply	Power Supply pcb assembly	1		
5	WP-101001-07A	L01-07020322A	AMP	Amplifier Active FG	1	PCS	FG
		062-2330000101R	Power cord	Black,H05VV-F3G0.75mm2,L=1.8M	1		
		031-4200510121R	FUSE	T3.15A 250V 5*20MM UL LITTLE FUSE	1		
		088-1100340481R	Power Supply	Power Supply pcb assembly	1		
6	WP-101001-14A	L01-07020322A	AMP	Amplifier Active FG	1	PCS	SA
		062-8330000100R	Power cord	H03VV-F3G 1.0MM2 L=1.8M	1		
		031-4200510121R	FUSE	T3.15A 250V 5*20MM UL LITTLE FUSE	1		
		088-1100340481R	Power Supply	Power Supply pcb assembly	1		



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