

# ***Service Manual***

**MODEL: AMX-80**

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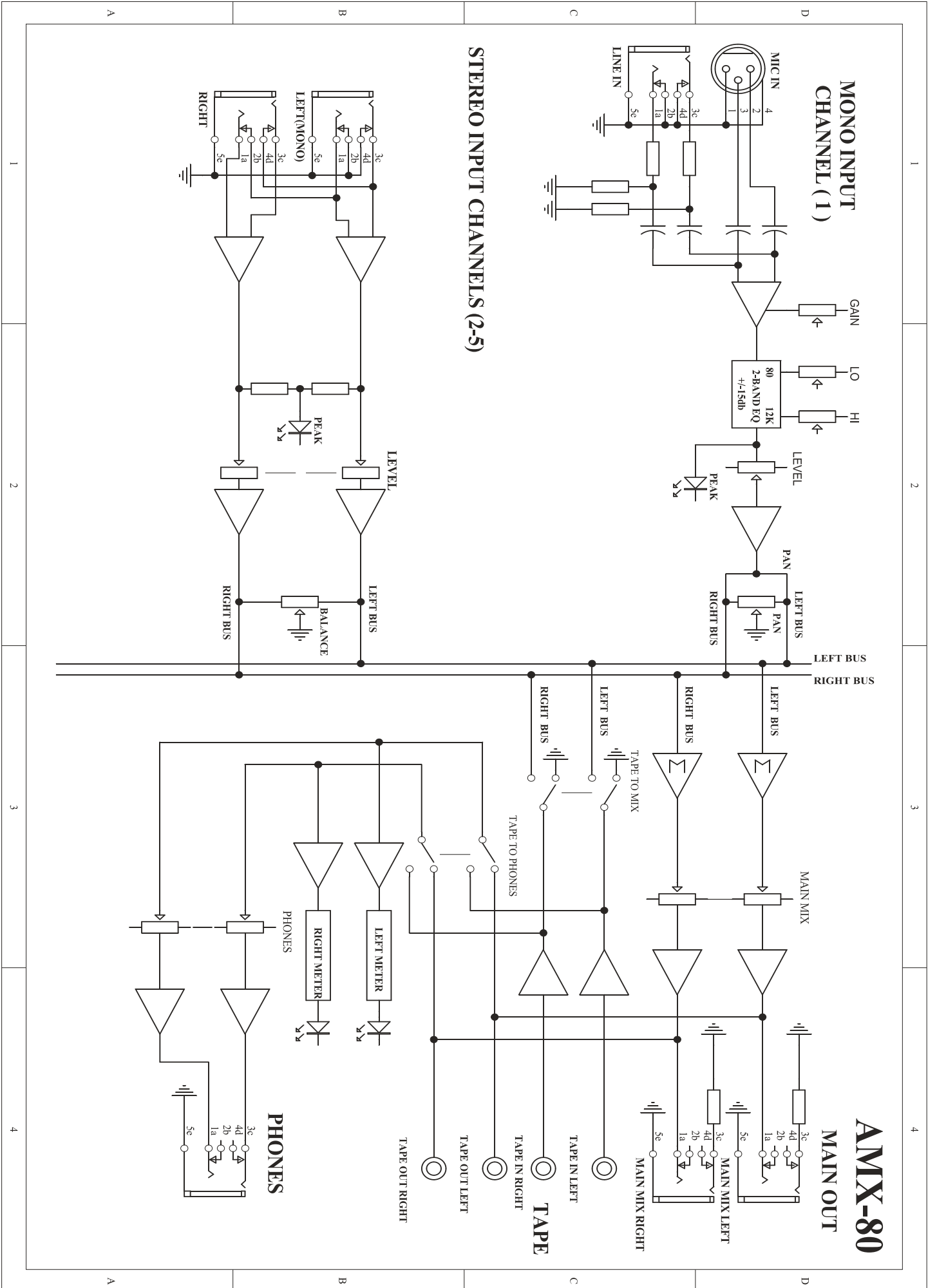
# 1. INTRODUCTION

- 1 MIC Input channel with gold plated XLR and balanced line inputs
- 2 Stereo input channel with balanced TRS jacks
- Extremely high headroom-offering dynamic range
- Balanced inputs for highest signal integrity
- Warm, natural 2-Band EQ on mono channel.
- Warm, natural 2-Band EQ on mono channel.
- Balanced TRS and Headphone Outputs
- 2-track inputs assignable to main mix, headphone output
- Highly accurate 4 segment bar graph meters
- Performance and excellent noise figures
- Manufactures under ISO 9001 certified management system

## 2. TECHNICAL SPECIFICATION

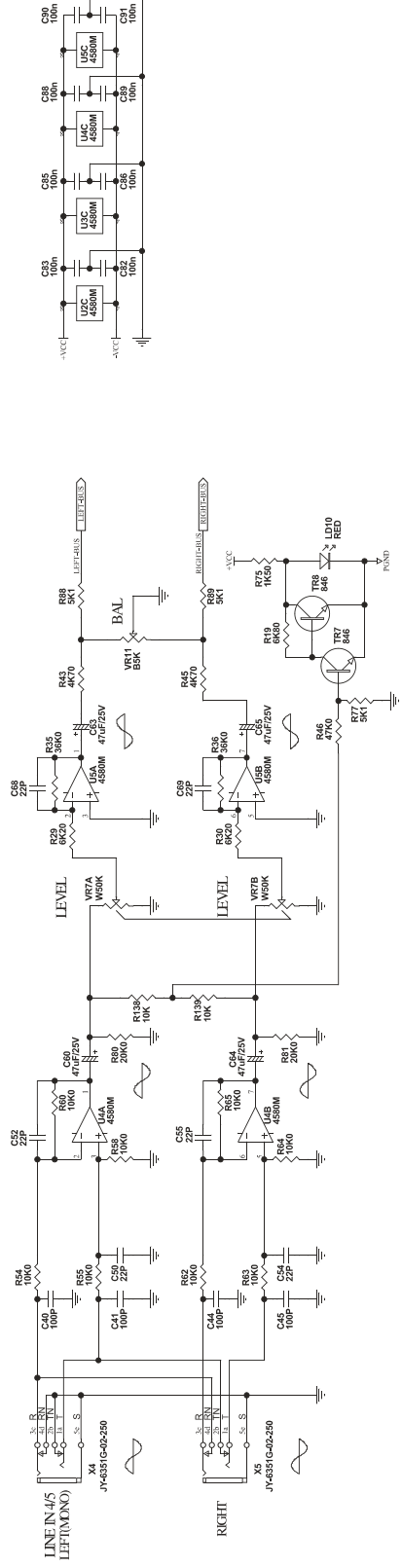
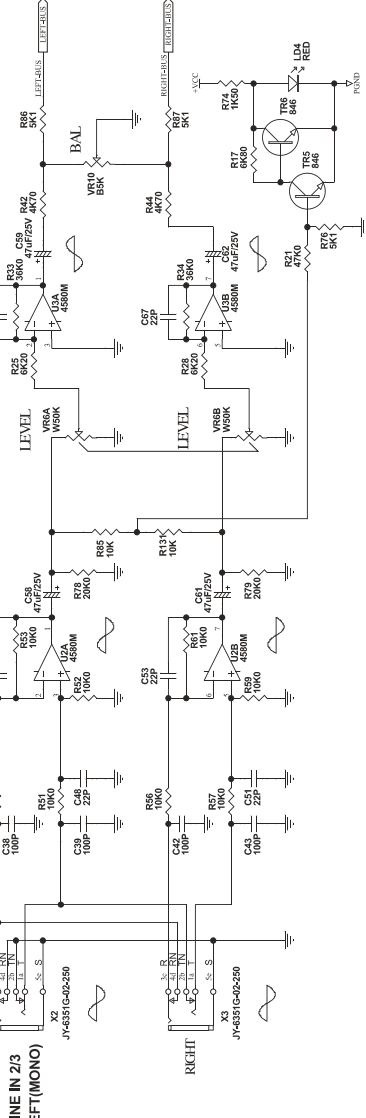
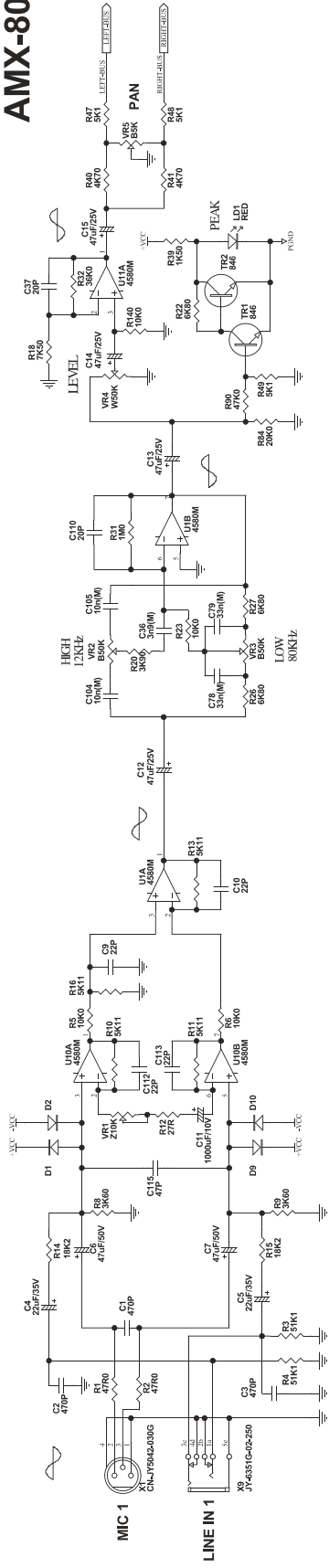
<b>Mono input channels</b>	Microphone input	Electronically balanced discrete input configuration
	Frequency response	10Hz to 150kHz, +0dB, -1dB
	Distortion (THD&N)	0.005%@+4dBu, 20Hz-20kHz
	Gain range	0dBu to 44dBu(MIC)
	SNR (Signal Noise Rated)	115dB
	Line input	Electronically balanced
	Frequency response	10Hz to 150kHz, +0dB, -1dB
	Distortion (THD&N)	0.005%@+4dBu, 20Hz-20kHz
	Sensitivity range	+15dBu to -30dBu
	Line input	Balanced
<b>Stereo input channels</b>	Frequency response	10Hz to 150kHz, +0dB, -1dB
	Distortion (THD&N)	0.005%@+4dBu, 20Hz-20kHz
	Microphone input	2.66K $\Omega$ balanced
<b>Impedance</b>	Line input	20K $\Omega$ balanced
	Main output	240 $\Omega$ (balanced) 120 $\Omega$ (unbalanced)
	phones output	25 $\Omega$
<b>Equalization</b>	High	15dB@12kHz
	Low	15dB@80Hz
<b>Main Mix Section</b>	Noise (Bus noise)	Fader 0dB, all input channels assigned and set to UNITY gain: -106dBr
	Max output	+22dBu unbalanced, 1/4" jacks
<b>Power supply (AC/AC Adaptor)</b>	Main voltage	USA/Canada 100~120VAC, 60Hz
		Europe 210~230VAC, 50Hz
		UK/Australia 240VAC, 50Hz
Power Consumption	8 Watts	
<b>Physical</b>	Dimension (W x D x H)	204mm x 126.5mm x 38mm
	Net weight	0.74Kg

### 3. BLOCK DIAGRAM



# 4. SCHEMATIC DIAGRAM

## AMX-80(1/3)

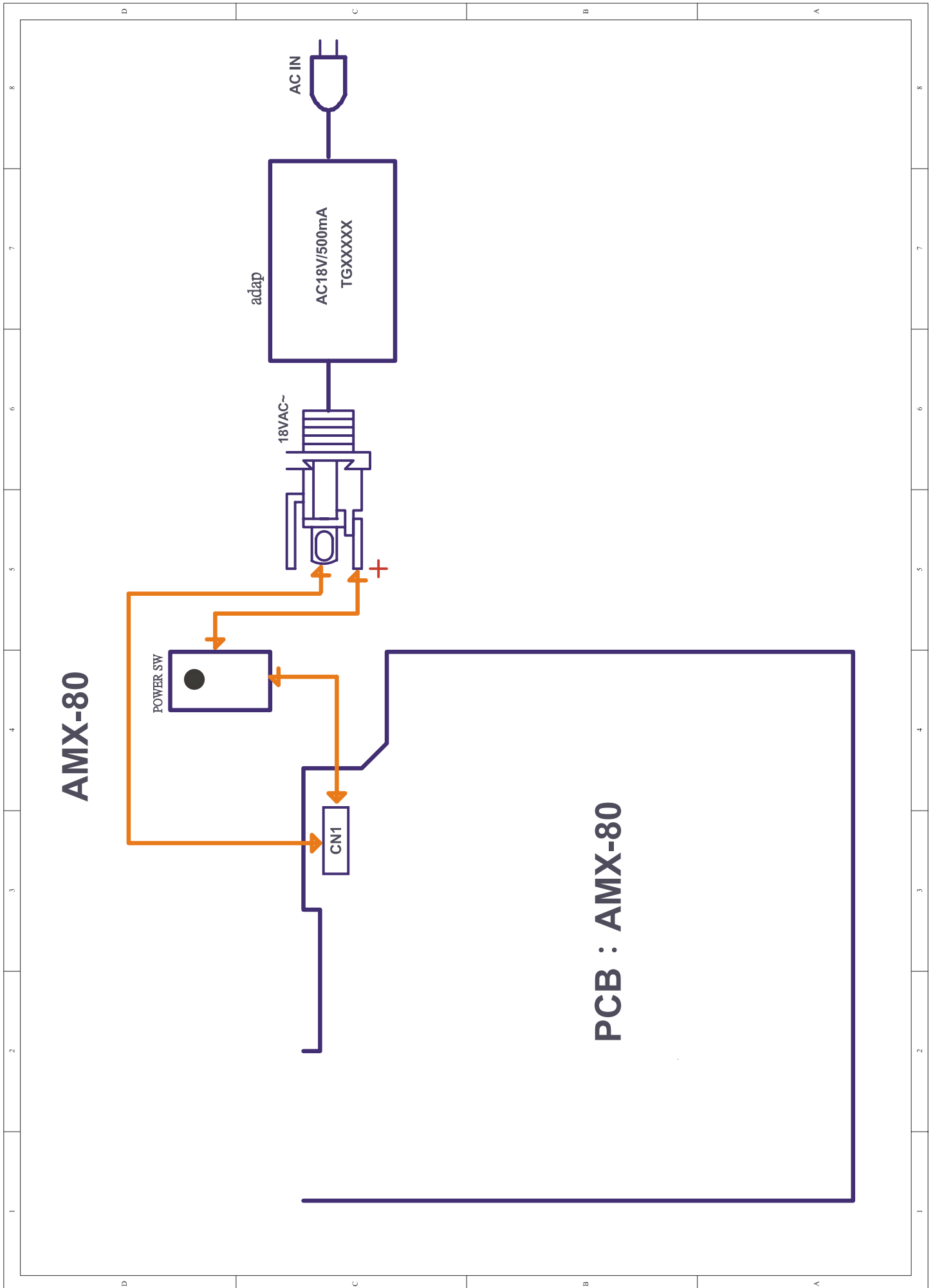




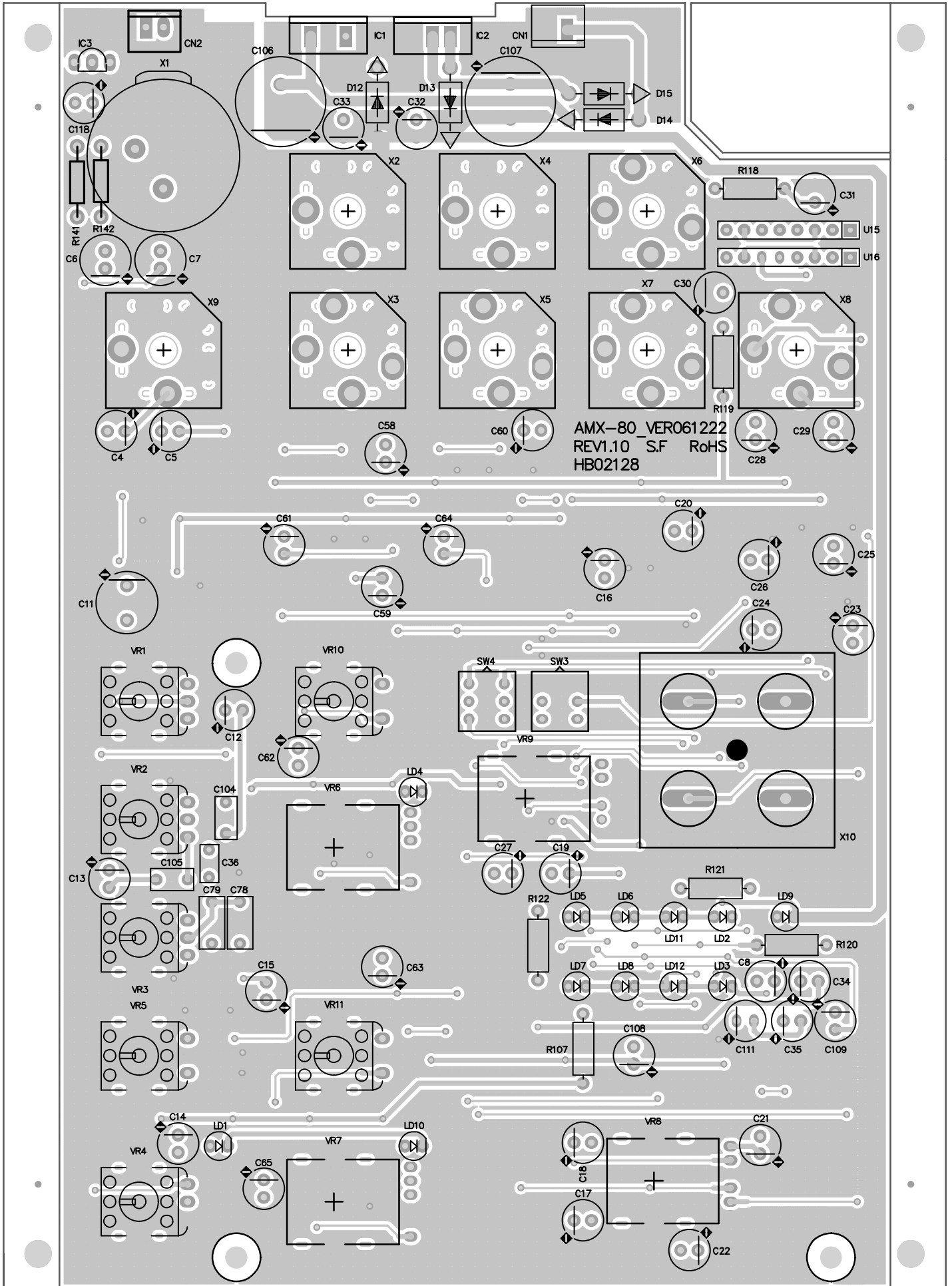




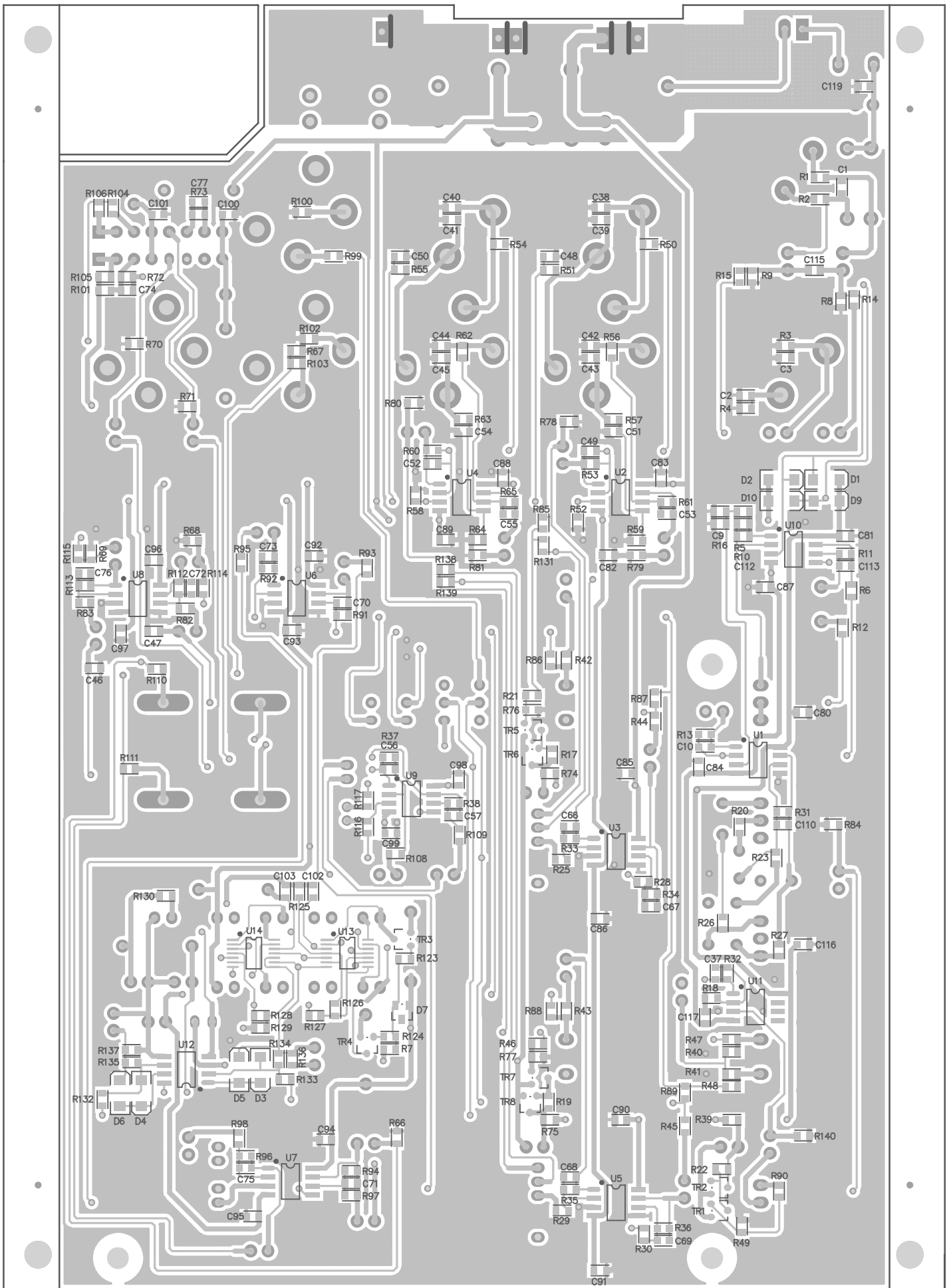
# 5. WIRING DIAGRAM



# 6. PCB LAYOUT



HB02128-AMX-80 TOP LAYER TOP OVERLAY



HB02128-AMX-80 BOTTOM LAYER BOTTOM OVERLAY

## 7. AMX-80 TEST PROCEDURE

### 1. Test instruments:

- 1). AP ( Audio precision )
- 2).Dual track oscilloscope
3. Volt meter

### 2. Instrument setting:

- 1). AP output : 0dBu 1Khz SINE wave, Load out 40Ω Bal-Float or Load out 600ΩBNC-Unbal.
- 2). AP input : Load 100KΩBNC-Unbal or Load 100KΩBal-Float BW : 22Hz~22KHz. Fltr : A-Weighting(1207)

### 3. Visual Check:

- 1). Check the AMX-80 surface; and be sure no friction of all pots.

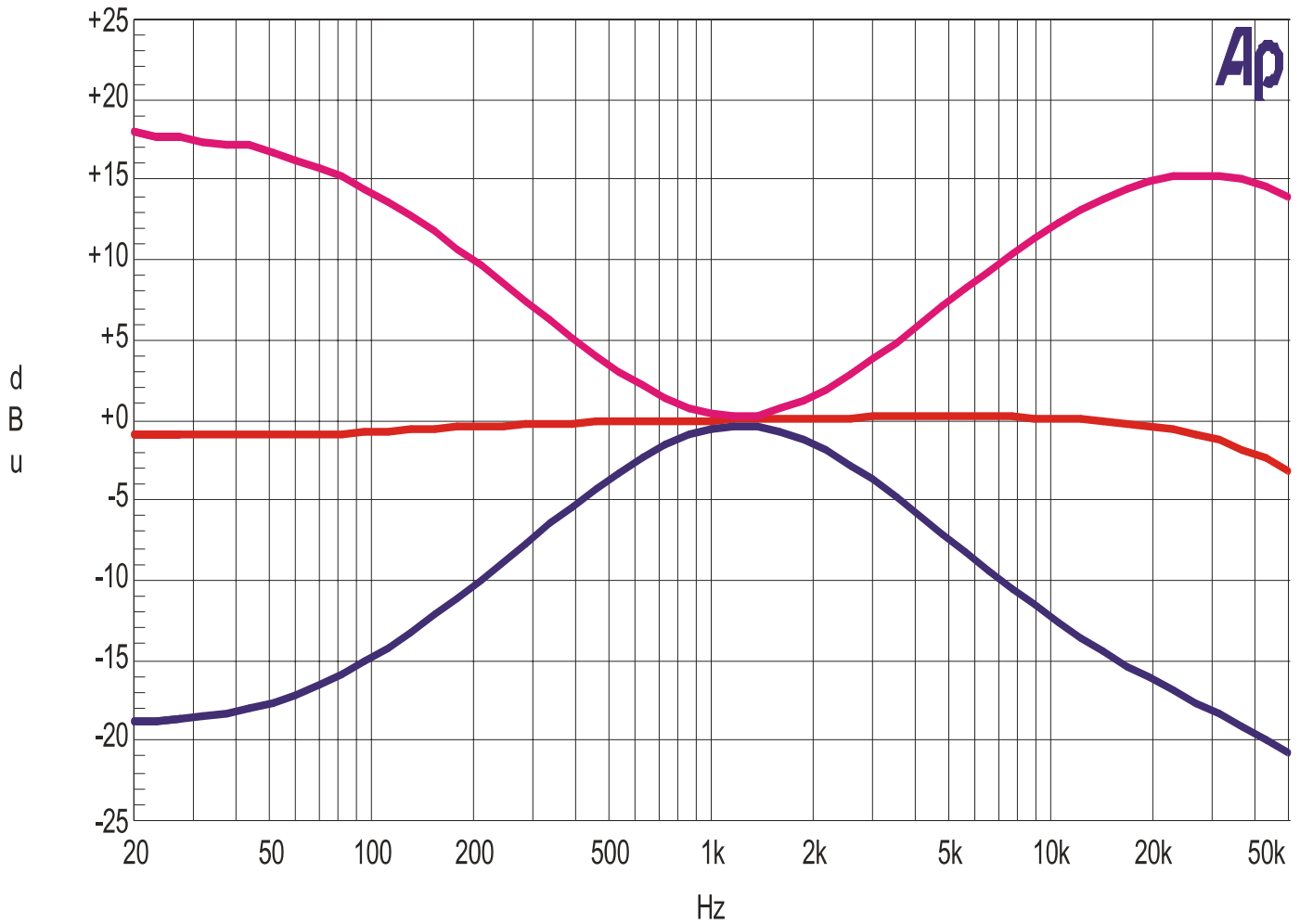
### 4. Functions Test:

- 1). Set all knob to 0 position, TRIM to minimum , and MAIN MIX LEVEL to middle position.
- 2). Set AP output to -30 dBu, connecting unbalanced input to LINE IN 1, unbalanced output to MAIN OUTPUT, then the output LEVEL should be -45dBu(±3dBu)  
Set TRIM to maximum, output LEVEL should be 0dBu(±3dBu)  
(After test set TRIM back to minimum)
- 3). Set AP output to +15dBu, connecting unbalanced input to LINE IN 1, unbalanced output to MAIN OUTPUT, then the output LEVEL should be 0dBu(±3dBu) THD+N<0.005%.  
Rotate CH LEVEL to maximum, output LEVEL should be +15dBu (±3dBu)  
THD+N<0.005%.  
(After test set CH LEVEL back to middle position)  
Rotate MAIN MIX LEVEL to maximum, the output LEVEL should be +15dBu (±3dBu)  
THD+N<0.008%.  
(After test set MAIN MIX LEVEL back to middle position, and CH LEVEL to minimum.)
- 4). Set AP input to 0dBu, connecting unbalanced input with LINE2/3~LINE4/5, unbalanced output to MAIN OUTPUT, then the output LEVEL should be 0dBu (±3dBu) THD+N<0.005%.  
Rotate CH LEVEL to maximum, the output should be +15dBu (±3dBu) THD+N<0.005%.  
(After test set CH LEVEL back to middle position)
- 5). Set AP input to 0dBu, connecting balanced input to MIC1, and the unbalanced output to MAIN OUTPUT, then the level should be 0 dBu (±3dBu), THD+N<0.005%. (After test set CH LEVEL back to middle position)  
Set the MAIN MIX LEVEL knob to maximum, the output level should be +15dBu (±3dBu), THD+N<0.008%. (After test set MAIN MIX LEVEL back to middle position. And set the CH LEVEL to minimum. )
- 6). Set AP input to +15dBu, connecting unbalanced input to LINE IN1, and the unbalanced output to PHONES, the output level should be 0dBu(±3dBu) THD+N<0.01%.  
Rotate the CH LEVEL to maximum, output level should be +15dBu (±3dBu), THD+N<0.006%.( After test set the knob to central position )  
Set the MAIN MIX LEVEL to maximum, the output level should be+15dBu (±3dBu), THD+N<0.01%.( After test set the knob to central position)

- Set the PHONES to maximum, the output level should be +10dBu ( $\pm 3$ dBu), THD+N < 0.006%.  
( After test set the knob to central position and CH LEVEL to minimum. )
- 7). Set AP input to 0dBu, connecting unbalanced input at LINE IN2/3~ LINE IN4/5, and the unbalanced output to PHONES, the output level should be 0dBu( $\pm 3$ dBu) THD+N < 0.01%.  
Rotate the CH LEVEL to maximum, output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.006%. ( After test set the knob to central position )  
Set the MAIN MIX LEVEL to maximum, the output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.01%. ( After test set the knob to central position )  
Set the PHONES to maximum, the output level should be +10dBu ( $\pm 3$ dBu), THD+N < 0.006%.  
( After test set the knob to central position and CH LEVEL to minimum. )
- 8). Set AP input to +15dBu, connecting unbalanced input at LINE IN1, and the unbalanced output to TAPE OUT, the output level should be 0dBu( $\pm 3$ dBu) THD+N < 0.005%.  
Rotate the CH LEVEL to maximum, output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.005%. ( After test set the knob to central position )  
Set the MAIN MIX LEVEL to maximum, the output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.008%.  
( After test set the knob to central position and CH LEVEL to minimum. )
- 9). Set AP input to 0dBu, connecting unbalanced input at LINE IN2/3~ LINE IN4/5, and the unbalanced output to TAPE OUT, the output level should be 0dBu( $\pm 3$ dBu) THD+N < 0.005%.  
Rotate the CH LEVEL to maximum, output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.005%. ( After test set the knob to central position )  
Set the MAIN MIX LEVEL to maximum, the output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.008%.  
( After test set the knob to central position and CH LEVEL to minimum. )
- 10). Set AP input to 0dBu, connecting unbalanced input to TAPE IN and the unbalanced output to MAIN OUTPUT, then press the TAPE TO MIX key ,the output level should be 0dBu( $\pm 3$ dBu) THD+N < 0.005%.  
Set the MAIN MIX LEVEL to maximum, the output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.009%. ( After test repeat press the key once )
- 11). Set AP input to 0dBu, connecting unbalanced input to TAPE IN and the unbalanced output to TAPE OUT, then press the TAPE TO MIX key ,the output level should be 0dBu( $\pm 3$ dBu) THD+N < 0.005%.  
Set the MAIN MIX LEVEL to maximum, the output level should be +15dBu ( $\pm 3$ dBu), THD+N < 0.009%. ( After test repeat press the key once )
- 12). Set AP input to 0dBu, connecting unbalanced input to TAPE IN and the unbalanced output to PHONES, then press the TAPE TO PHONES key ,the output level should be 0dBu( $\pm 3$ dBu) THD+N < 0.005%.  
Set the PHONES control to maximum, the output level should be 10dBu ( $\pm 3$ dBu), THD+N < 0.009%. ( After test repeat press the key once )

## 5. Frequency Response test

With unbalance input connecting LINE IN of the AMX-80, set the high EQ knob to maximum & low EQ knob to minimum (the mid EQ to middle position), and use unbalanced output to connect MAIN OUT. The frequency response diagram should be as following:



## 6. Random check

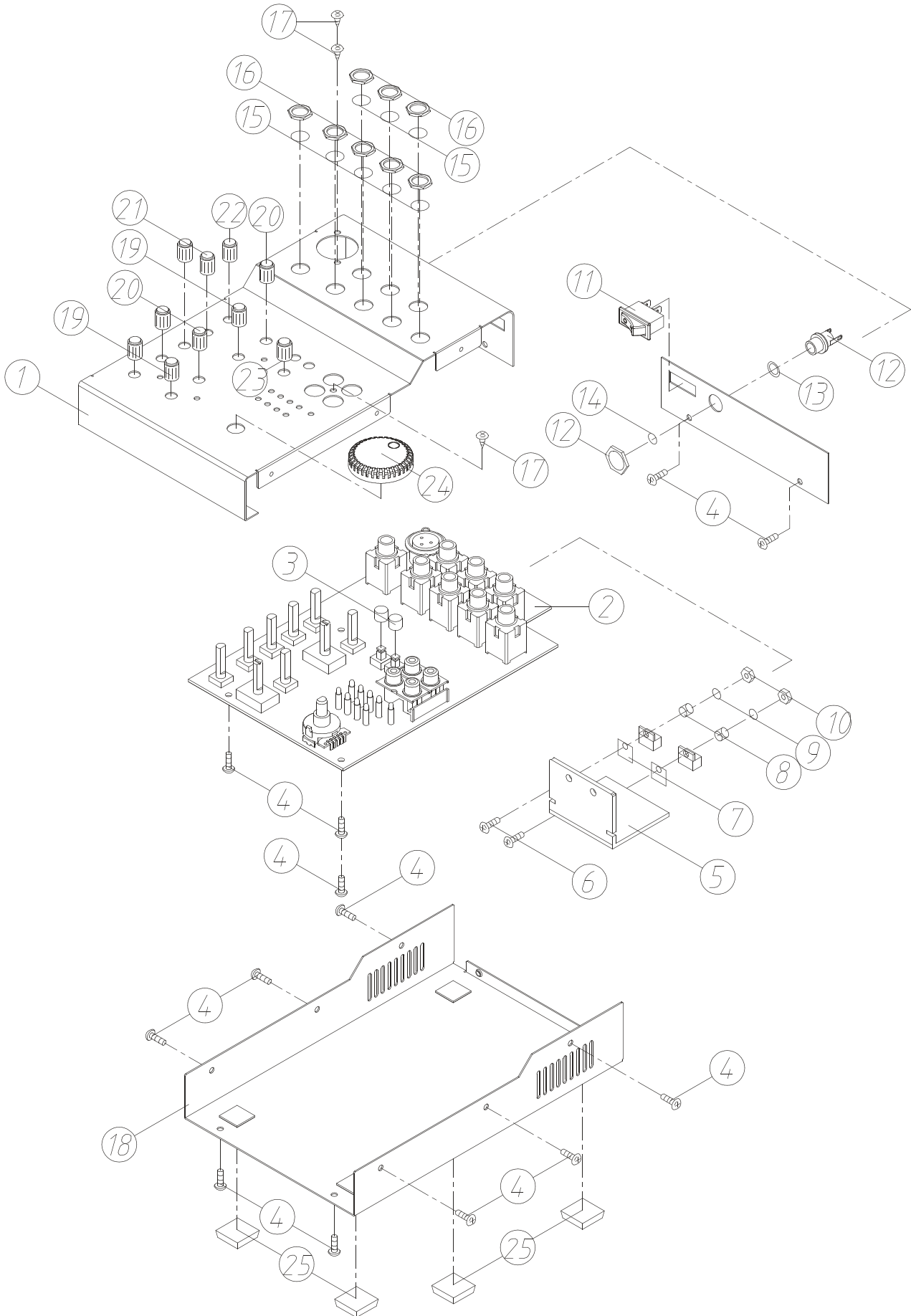
Connect AMX-80 to high quality amplifier and speaker, to check if the sound is normally.

## 7. The shipment setting of the AMX-80

Set all the volumes knobs to minimum, all the other knobs to middle position, and all the switches to off position.

~~ Test Complete ~~

# 8. EXPLODED VIEW & MECHANICAL PARTS LIST



# Parts List

No.	Part No.	Description	Specification	PCS
1	MA06128	front panel	AMX-80 ALTO_V1.0	1
2	HK07192	K-PC board	P-AMX-80-DIP	1
3	NI02377	button	φ5.5*7.5mm( inner3.3*3.3mm) black	2
4	MG00041	black-plated screw	M3*6	13
5	MI02702	heat sink	MIX50 2t*29*35*39_V1.0	1
6	MG00162	Ni- screw	M3*8	2
7	NC00005	mica	SB-9500DSP 18*13*0.1t_V1.0	2
8	NI02249	plastic washer	TW-1(TO-220)	2
9	MF00037	spring washer	φ3.2*φ5.5*1t	2
10	ME00015	color nuts	3mm	2
11	HI00171	power switch-RS	R612KKAT0F1	1
12	HC00839	DC socket	SCD554CCS103BB4G	1
13	NI00378	plastic washer	φ9*φ13 used to PU socket	1
14	NC00037	gasket	1t*φ8*φ12.5mm XM1602_V1.0	1
15	MF00061	washer	φ9.6*φ13*0.5t	8
16	ME00060	MIC jack	hexagon use to JY-6351G-02-250	8
17	MG00061	black-plated screw-pill	M3*10	3
18	MB04892	bottom board	AMX-80 ALTO_V1.0	1
19	NI00826	plastic knob	φ12*18mm double color	3
20	NI02082	plastic knob	φ10.5*18mm double color	3
21	NI02083	plastic knob	φ10.5*18mm double color	2
22	NI02084	plastic knob	φ10.5*18mm double color	1
23	NI02817	plastic knob	φ10.5*18mm double color	1
24	NI02837	plastic knob	φ35*11mm 534C	1
25	NI00498	foot cushion	12.7*7*6mm(SF-005)	4



# 9.BOM

Class	Part No.	Part Name	Specification	QTY	Remark
PF03243		MIXER	AMX-80_ALTO_230V	1	
└0001	MA06128	panle-RS	AMX-80 ALTO_V1.3	1	
└0002	MB04892	chassis-RS	AMX-80 ALTO_V1.2	1	
└0003	HI00171	power switch-RS	R612KKAT0F1	1	
└0004	NI02084	knob	φ10.5*18mm	1	
└0005	NI02817	knob	φ10.5*18mm	1	
└0006	NI02082	knob	φ10.5*18mm	3	
└0007	NI02083	knob	φ10.5*18mm	2	
└0008	NI00826	knob	φ12*18mm double color	3	
└0009	NI02837	knob	φ35*11mm 534C	1	
└0010	NI02377	knob-RS	φ5.5*7.5(3.3*3.3mm)_V1.2	2	
└0011	MG00041	screw	M3*6	13	
└0012	MG00061	screw-RS	M3*10	3	
└0013	ME00060	MIC jack	JY-6351G-02-250	8	
└0014	MF00061	MIC jack	φ9.6*φ13*0.5t	9	
└0015	NA00121	PE bag	0.04t*280*220mm	1	
└0016	NB04908	gift carton-RS	AMX-80 ALTO_V1.1	1	
└0017	NB04909	barrier-RS	AMX-80_V1.2	1	
└0018	NF00061	assurance card	ALTO	1	
└0019	NE05004	label	ALTO	4	
└0001	NH00334	cone paper	0.040*1m	1	
└0020	NF02625	user manual-RS	AMX-80 ALTO_V1.0	1	
└0001	NH00149	paper	889*640mm	0.75	
└0021	NE16344	lable-RS	AMX-80_V1.0	4	
└0001	NI00014	membrane	0.035*1M	1	
└0002	NH00012	bond paper	0.04*1M	1	
└0022	NE02717	label	MADE IN CHINA	2	
└0001	NH00038	paper	0.115*1M	1	
└0002	NI00028	membrane	0.110*1M	1	
└0023	TG00212	adaptor-RS	230V/50Hz_AC18V/500mA_EI-41_CE	1	
└0024	NI00245	sleeve	φ3*10mm	3	
└0001	NI00243	sleeve	φ3*1000mm	10	
└0025	NI00261	sleeve	φ5*20mm	2	
└0001	NI00258	sleeve	φ5*1000mm	20	
└0026	HC00839	DC power jack-RS	SCD554CCS103BB4G	1	
└0027	NI00378	plastic washer	9*13 used to PU socket	1	
└0028	NC00037	cushion-RS-ACT	1t*φ8*φ12.5mm XM1602_V1.1	1	
└0001	NC01110	insulator	1.0t*65mm(+0.1)*60M	0.3	
└0029	NI00498	self-adhere foot cushion	12.7*7*6mm(SF-005)	4	
└0030	HA00040	wire-RS	60mm yellow L5R5	1	
└0031	HA01551	wire-RS	2P 80mm UL1007 26AWG	1	
└0032	HK07192	PC board-RS	P-AMX-80-DIP	1	
└0001	CB00073	electrolytic capacitor	1000uF/35V φ13*20mm	2	C106,C107
└0002	HC00076	connector(male)	2P 2.5mm 180°	1	CN1
└0003	SD00077	integrated circuit-RS	L7815CV(TO220)/(ST/MOROCCO)	1	IC1
└0004	SD00079	integrated circuit	L7915CV(TO220)/(ST)	1	IC2
└0005	RC00358	potentiometer	B50KΩ-RD09F113A223-50K2BT(SAS1);30F-C	2	VR2,VR3
└0006	RC00465	potentiometer	B5KΩ RD09F113A225-5K2BT(SAS1);30F-C	3	VR5,VR10,VR11

Class	Part No.	Part Name	Specification	QTY	Remark	
	└0007	SD00007	integrated circuit	BA15218N(use M5218Linstead )(SIP8)/(ROHM)	2	U15,U16
	└0008	HC00126	balance MIC jack-RS	JY-5042-030G female plug 180°	1	X1
	└0009	SA00052	L.E.D	φ3 round(green)long foot 26	5	LD5,LD6,LD7,LD8,LD9
	└0010	HC00125	MIC jack-RS	JY-6351G-02-250	8	X2,X3,X4,X5,X6,X7,X8,X9
	└0011	HI00236	push-button switch-RS	2 6P PS-92 26A(SELF-LOCK)	2	SW3,SW4
	└0012	SA00053	L.E.D	φ3 round(red)long foot 26mm	5	LD1,LD2,LD3,LD4,LD10
	└0013	HC00528	RCA jack	SCP6873NS3232T1 4P red white	1	X10
	└0014	RC00359	potentiometer	W50KΩ RD09F113A224-50K4BT(SAS1);30F-C	1	VR4
	└0015	RC00361	potentiometer	W50KΩ RD12L12CA60B-50K4BT*2(SAS1);30F-C	3	VR6,VR7,VR9
	└0016	RC00617	potentiometer(dual unit)-RS	W50KΩ RD12L12CA606-50KBT*2(SAS);20F-C	1	VR8
	└0017	SA00054	L.E.D	3m/m round(yellow)long foot 26	2	LD11,LD12
	└0018	RC00356	potentiometer	Z10KΩ RD09F1130042-10KZ(SAS1);30F	1	VR1
	└0019	NI01782	LED spacer support	LEDS-11 11mm	12	
	└0020	MI02702	bady-RS-ACT	MIX50 2t*29*35*39_V1.0	1	
	└0001	MJ00055	AL plate	2*2000*1000 10.88kg	1	
	└0021	ME00015	color nut	3m/m	2	
	└0022	MF00037	washer	φ3.2*φ5.5*1t	2	
	└0023	MG00162	screw	M3*8	2	
	└0024	NI02249	plastic washer	TW-1(TO-220)	2	
	└0025	NC00005	mica	SB-9500DSP 18*13*0.1t_V1.0	2	
	└0026	ND00155	EV foam	25*20*5	1	
	└0027	AC00179	tin without lead-RS	M705E Sn 3Ag-0.5Cu	9.5148	
	└0028	HK07193	PC board-RS	P-AMX-80-SMD	1	
	└0001	SE00011	SMD rectifier diode	RLS4148 0.5A (LL-34)	8	D1,D2,D3,D4,D5,D6,D9,D10
	└0002	RD00224	SMD precise resistor 1/10W	100KΩ ±1% 0603	4	R132,R133,R134,R135
	└0003	CI00059	SMD ceramic capacitor 0603	100PF/50V NPO ±5%	10	C38,C39,C40,C41,C42, C43,C44,C45,C46,C47
	└0004	CI00075	SMD ceramic capacitor 0603	0.1uF/50V Y5V +80,-20%	27	C80,C81,C82,C83,C84, C85,C86,C87,C88,C89, C90,C91,C92,C93,C94, C95,C96,C97,C98,C99, C100,C101,C102,C103, C116,C117,C119
	└0005	RD00214	SMD precise resistor 1/10W	10.0KΩ ±1% 0603	37	R5,R6,R7,R23,R50,R51,R52, R53,R54,R55,R56,R57,R58, R59,R60,R61,R62,R63,R64, R65,R66,R67,R68,R69,R70, R71,R72,R73, R136,R137,R140,R85,R131, R138,R139,R14,R15
	└0006	RD00272	SMD precise resistor 1/10W	10.0Ω ±1% 0603	1	R125
	└0007	RD00275	SMD precise resistor 1/10W	110Ω ±1% 0603	1	R126
	└0008	RD00069	SMD fixed resistor 1/10W	120Ω ±5% 0603	8	R99,R100,R101,R102, R103,R104,R105,R106
	└0009	RD00200	SMD precise resistor 1/10W	150Ω ±1% 0603	1	R127
	└0010	RD00282	SMD precise resistor 1/10W	1.00KΩ ±1% 0603	3	R110,R111,R128
	└0011	RD00201	SMD precise resistor 1/10W	1.50KΩ ±1% 0603	3	R39,R74,R75
	└0012	RD00292	SMD precise resistor 1/10W	1.00MΩ ±1% 0603	1	R31
	└0013	RD00219	SMD precise resistor 1/10W	20.0KΩ ±1% 0603	9	R78,R79,R80,R81,R82,R8 3,R84,R91,R92
	└0014	CI00109	SMD ceramic capacitor 0603	20PF/50V C0G±5%(C1608C0G1H200JT)/TDK	2	C37,C110

Class	Part No.	Part Name	Specification	QTY	Remark	
	└0015	CI00051	SMD ceramic capacitor 0603	22PF/50V C0G±5%(C1608C0G1H220JT)/TDK	26	C9,C10,C48,C49,C50,C51,C52,C53,C54,C55,C56,C57,C66,C67,C68,C69,C70,C71,C72,C73,C74,C75,C76,C77,C112,C113
	└0016	RD00106	SMD fixed resistor 1/10W	27KΩ ±5% 0603	2	R116,R117
	└0017	RD00265	SMD fixed resistor 1/10W	27Ω ±5% 0603	1	R12
	└0018	RD00203	SMD precise resistor 1/10W	2.00KΩ ±1% 0603	1	R130
	└0019	RD00329	SMD precise resistor 1/10W	30.0KΩ ±1% 0603	4	R93,R94,R95,R96
	└0020	RD00370	SMD precise resistor 1/10W	33.2KΩ ±1% 0603	2	R37,R38
	└0021	RD00407	SMD precise resistor 1/10W	36.0KΩ ±1% 0603	5	R32,R33,R34,R35,R36
	└0022	SF00053	transistor	MMBT3906(SOT23)/(PHI)	2	TR3,TR4
	└0023	RD00406	SMD precise resistor 1/10W	3.60KΩ ±1% 0603	4	R8,R9,R97,R98
	└0024	RD00414	SMD precise resistor 1/10W	3.90KΩ ±1% 0603	1	R20
	└0025	CI00063	SMD ceramic capacitor 0603	470PF/50V NPO ±5%	3	C1,C2,C3
	└0026	RD00078	SMD fixed resistor 1/10W	470Ω ±5% 0603	2	R123,R124
	└0027	RD00339	SMD precise resistor 1/10W	47.0KΩ ±1% 0603	3	R21,R46,R90
	└0028	CI00055	SMD ceramic capacitor 0603	47PF/50V C0G±5%(C1608C0G1H470JT)/TDK	1	C115
	└0029	RD00298	SMD precise resistor 1/10W	47.0Ω ±1% 0603	2	R1,R2
	└0030	RD00341	SMD precise resistor 1/10W	4.70KΩ ±1% 0603	6	R40,R41,R42,R43,R44,R45
	└0031	RD00371	SMD precise resistor 1/10W	51.1KΩ ±1% 0603	2	R3,R4
	└0032	RD00094	SMD fixed resistor 1/10W	5.1KΩ ±5% 0603	9	R47,R48,R49,R76,R77,R86,R87,R88,R89
	└0033	RD00210	SMD precise resistor 1/10W	5.11KΩ ±1% 0603	6	R10,R11,R13,R16,R114,R115
	└0034	RD00211	SMD precise resistor 1/10W	5.49KΩ ±1% 0603	2	R112,R113
	└0035	RD00510	SMD precise resistor 1/10W	6.20KΩ ±1% 0603	4	R25,R28,R29,R30
	└0036	RD00326	SMD precise resistor 1/10W	6.80KΩ ±1% 0603	5	R17,R19,R22,R26,R27
	└0037	RD00082	SMD fixed resistor 1/10W	820Ω ±5% 0603	1	R129
	└0038	SF00033	SMD transistor-RS-ACT	BC846B(SOT23)/(PHI)	6	TR1,TR2,TR5,TR6,TR7,TR8
	└0039	RD00327	SMD precise resistor 1/10W	8.20KΩ ±1% 0603	2	R108,R109
	└0040	SE00008	SMD rectifier diode	DA204K/T-146	1	D7
	└0041	SG00116	SMD integrated circuit	BA10339FV E2(SSOP-B14)/(ROHM)	2	U13,U14
	└0042	RD00213	SMD precise resistor 1/10W	7.50KΩ ±1% 0603	1	R18
	└0043	HK07170	PC board-RS	P-AMX-80-AI	1	
	└0001	HB02128	PCB-RS	AMX-80_VER061222	1	
	└0002	CC00074	mylar capacitor-RS-ACT	0.01uF/100V 3%	2	C104,C105
	└0003	RA01260	fixed resistor 1/4W	120Ω	2	R107,R122
	└0004	SA00159	rectifier diode	1A/1000V IN4007	2	D14,D15
	└0005	SA00328	Schottky barrier diode-RS	1N5817(DO-41)	2	D12,D13
	└0006	CB00242	electrolytic capacitor	22uF/35V φ5*11mm	2	C4,C5
	└0007	CC00059	mylar capacitor	0.033uF/100V 3%	2	C78,C79
	└0008	CC00063	mylar capacitor-RS	0.0039uF/100V 10%	1	C36
	└0009	RA01259	fixed resistor 1/4W	47Ω	4	R118,R119,R120,R121
	└0010	CB00194	electrolytic capacitor	47uF/25V φ5*11mm	36	C8,C12,C13,C14,C15,C16,C17,C18,C19,C20,C21,C22,C23,C24,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35,C58,C59,C60,C61,C62,C63,C64,C65,C108,C109,C111
	└0011	CB00334	electrolytic capacitor-RS	47uF/50V φ6.3*11mm	2	C6,C7
	└0012	HA01933	jump	2.5mm	1	CN2
	└0013	RA01413	fixed resistor 1/4W	2.7KΩ	2	R141,R142

Class	Part No.	Part Name	Specification	QTY	Remark
L0044	SG00558	integrated circuit-RS	4580M(SOP8)/(YW)	12	U1,U2,U3,U4,U5,U6,U7,U8,U9,U10,U11,U12
0029	CB00255	electrolytic capacitor	1000uF/10V φ8*11mm 5mm	1	C11
L0030	SD00238	integrated circuit	MC78L18ACP(TO92)/(ON)	1	IC3
0033	HJ00002	dessicant	10g	1	
L0034	NB04919	carton-RS	AMX-80 ALTO_V1.1	1	