

ALESIS

MultiMix6FX (XA0)

Service Manual

P/N: 8-31-0126-A

ATTENTION!

THIS DOCUMENT CONTAINS SENSITIVE
PROPRIETARY INFORMATION. ALL
RECIPIENTS MUST HAVE A CURRENT NON-
DISCLOSURE AGREEMENT ON FILE WITH
ALESIS, LLC.

**DO NOT DISTRIBUTE THIS DOCUMENT IN
ELECTRONIC FORM**

The information in this document contains privileged and confidential information. It is intended only for the use of those authorized by Alesis. If you are not the authorized, intended recipient, you are hereby notified that any review, dissemination, distribution or duplication of this document is strictly prohibited. If you are not authorized, please contact Alesis and destroy all copies of this document. You may contact Alesis at support@Alesis.com.

Copyright © 2003 Alesis, LLC

Confidential

Alesis Service Manual

8-31-0126-A

Preface

This document is intended to assist the service technician in the operation, maintenance and repair of the Alesis device. Together with the User Reference Manual, this document provides a complete description of the functionality and serviceability of the Device. Any comments or suggestions you may have pertaining to the document are welcome and encouraged.

READ THIS!

In addition to any purchase price that Alesis may charge as consideration for Alesis selling or otherwise transferring this service manual ("Manual") to you, if you are not a service and repair facility ("Service Center") authorized by Alesis in writing to be an authorized Service Center, Alesis sells or transfers the Manual to you on the following terms and conditions:

Only Service Centers authorized by Alesis in writing are authorized to perform service and repairs covered by an Alesis warranty (if any), and transfer of the Manual to you does not authorize you to be an authorized Service Center. **Therefore, if you perform, or if the Manual is used to perform, any service or repairs on any Alesis product or part thereof, any and all warranties of Alesis as to that product and any service contract with Alesis for that product shall be voided and shall no longer apply for such product, even if your services or repairs were done in accordance with the Manual.**

All service or repairs done by you or with reference to the Manual shall be solely your responsibility, and Alesis shall have no liability for any such repairs or service work. **All such service or repairs are performed at the sole risk of the person performing the service or repairs.** You agree that all such work will be performed in a competent, professional and safe manner at all times and to indemnify and fully hold Alesis and its successors and assigns harmless in the event of any failure to so perform.

Your purchase of the Manual shall be for your own ultimate use and shall not be for purposes of resale or other transfer.

As the owner of the copyright to the Manual, Alesis does not give you the right to copy the Manual, and you agree not to copy the Manual without the written authorization of Alesis. Alesis has no obligation to provide to you any correction of, or supplement to, the Manual, or any new or superseding version thereof.

Alesis shall have the right to refuse to sell or otherwise transfer repair parts or materials to you in its sole discretion. You shall not use, sell or otherwise transfer spare or replacement parts supplied by Alesis to you (i) to repair or be used in products manufactured for or by third parties or (ii) to any third parties for any purpose.

You shall not make any warranties or guarantees with respect to the products of Alesis or the use thereof on behalf of Alesis or in your own name.

The foregoing describes the entire understanding related to sale or transfer of the Manual to you, and no other terms shall apply unless in a writing signed by an authorized representative of Alesis.

All Trademarks are property of their respective companies.

Warnings

TO REDUCE THE RISK OF ELECTRIC SHOCK OR FIRE, DO NOT EXPOSE THIS PRODUCT TO WATER OR MOISTURE.



The arrowhead symbol on a lightning flash inside a triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the enclosed product which may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point inside a triangle is intended to alert the user to the presence of important operating, maintenance and servicing instructions in the literature which accompanies the product.

REPAIR BY ANY PERSON OR ENTITY OTHER THAN AN AUTHORIZED ALESIS SERVICE CENTER WILL VOID THE ALESIS WARRANTY.

PROVISION OF THIS MANUAL DOES NOT AUTHORIZE THE RECIPIENT TO COMPETE WITH ANY ALESIS DISTRIBUTOR OR AUTHORIZED REPAIR SERVICE CENTER IN THE PROVISION OF REPAIR SERVICES OR TO BE OR MAKE REPAIRS AS AN AUTHORIZED SERVICE CENTER.

ALL REPAIRS DONE BY ANY ENTITY OTHER THAN AN AUTHORIZED ALESIS SERVICE CENTER SHALL BE SOLELY THE RESPONSIBILITY OF THAT ENTITY, AND ALESIS SHALL HAVE NO LIABILITY TO THAT ENTITY OR TO ANY OTHER PARTY FOR ANY REPAIRS BY THAT ENTITY.

Regarding the Power Supply Fuse



CAUTION: The product under service may employ the use of a replaceable fuse. Danger of fire or electrocution if fuse is incorrectly replaced. Replace with only the same type or equivalent type recommended by the equipment manufacturer.

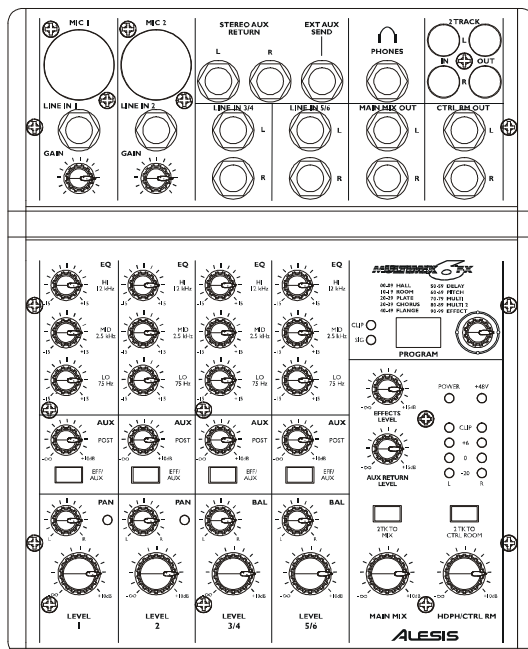
Safety Suggestions

Carefully read the applicable items of the operating instructions and these safety suggestions before using this product. Use extra care to follow the warnings written on the product itself and in the operating instructions. Keep the operating instructions and safety suggestions for reference in the future.

1. Power Source. The product should only be connected to a power supply which is described either in the operating instructions or in markings on the product.
2. Power Cord Protection. AC power supply cords should be placed such that no one is likely to step on the cords and such that nothing will be placed on or against them.
3. Periods of Non-use. If the product is not used for any significant period of time, the product's AC power supply cord should be unplugged from the AC outlet.
4. Foreign Objects and Liquids. Take care not to allow liquids to spill or objects to fall into any openings of the product.
5. Water or Moisture. The product should not be used near any water or in moisture.
6. Heat. Do not place the product near heat sources such as stoves, heat registers, radiators or other heat producing equipment.
7. Ventilation. When installing the product, make sure that the product has adequate ventilation. Improperly ventilating the product may cause overheating, which may damage the product.
8. Mounting. The product should only be used with a rack which the manufacturer recommends. The combination of the product and rack should be moved carefully. Quick movements, excessive force or uneven surfaces may overturn the combination which may damage the product and rack combination.
9. Cleaning. The product should only be cleaned as the manufacturer recommends.
10. Service. The user should only attempt the limited service or upkeep specifically described in the operating instructions for the user. For any other service required, the product should be taken to an authorized service center as described in the operating instructions.
11. Damage to the Product. Qualified service personnel should service the unit in certain situations including without limitation when:
 - a. Liquid has spilled or objects have fallen into the product,
 - b. The product is exposed to water or excessive moisture,
 - c. The AC power supply plug or cord is damaged,
 - d. The product shows an inappropriate change in performance or does not operate normally, or
 - e. The enclosure of the product has been damaged.

SERVICE MANUAL

MODEL:MULTIMIX 6 FX



Specifications

For the more technical-minded, here are some detailed specifications for the MultiMix's operating levels.

Input Channels

Mic In Sensitivity Range: -60dBu to -10dBu nominal, +5dBu maximum
Line In Sensitivity Range: -40dBu to -10dBu nominal, +25dBu maximum
Mic / Line Gain Range: +10 to +60dB

Equalization

High Shelving: 12kHz, +/-15dB
Mid Bandpass/Band Reject: 2.5kHz, +/-15dB
Low Shelving: 80Hz, +/-15dB

Aux Send

Aux Send Gain Range: - to +10dB

Aux Returns

Aux Return: - to +15dB
Effects Level Gain Range: - to +15dB

Channel Levels

Channel Level Gain Range: - to +10dB

Master Levels

Main Mix, Ctrl Room Gain Range: - to +10dB

1/4" Inputs

Stereo Aux Return Level: +4dBu nominal, +20dBu maximum

RCA Inputs

Tape In Level: -10dBV nominal, +5dBV maximum

1/4" Outputs

Main Mix, Ctrl Room, Ext Aux Send Level: +4dBu nominal, +20dBu maximum
Headphone Output: 75 ohm output impedance
>105mW into 75 ohms, >40mW into 600ohms

RCA Outputs

Tape Out Level: -10dBV nominal, +5dBV maximum

MultiMix-6FX Key Features

2 microphone/line inputs with up to 50dB of preamp gain—gives a boost to microphones and instruments with weak levels.

2 stereo line inputs—great for line-level instruments

Internal digital effects processor with 100 preset effects and an easy-to-read display—includes a variety of reverbs, delays, choruses, flanges, a pitch transposer and combinations of these.

3-band EQ per channel – a potent tool for sonically shaping each channel to get that perfect mix.

1 post-fader aux send/effects send per channel - a control for the signal being routed to an external device or to the onboard effects processor.

Control room output level-provides control over the separate control room output

2-track send and return-lets you mix your audio to tape or other media and to add a tape deck or CD player to the mix

External power supply

DISASSEMBLY PROCEDURES

1. REMOVAL OF TOP PANEL/BOTTOM PANEL (Fig1)

- (A) TAKE OUT THE 9PCS SCREW FROM WHICH
THE TOP PANEL
- (B) TAKE OUT THE 9PCS SCREW FROM WHICH
THE BOTTOM PANEL

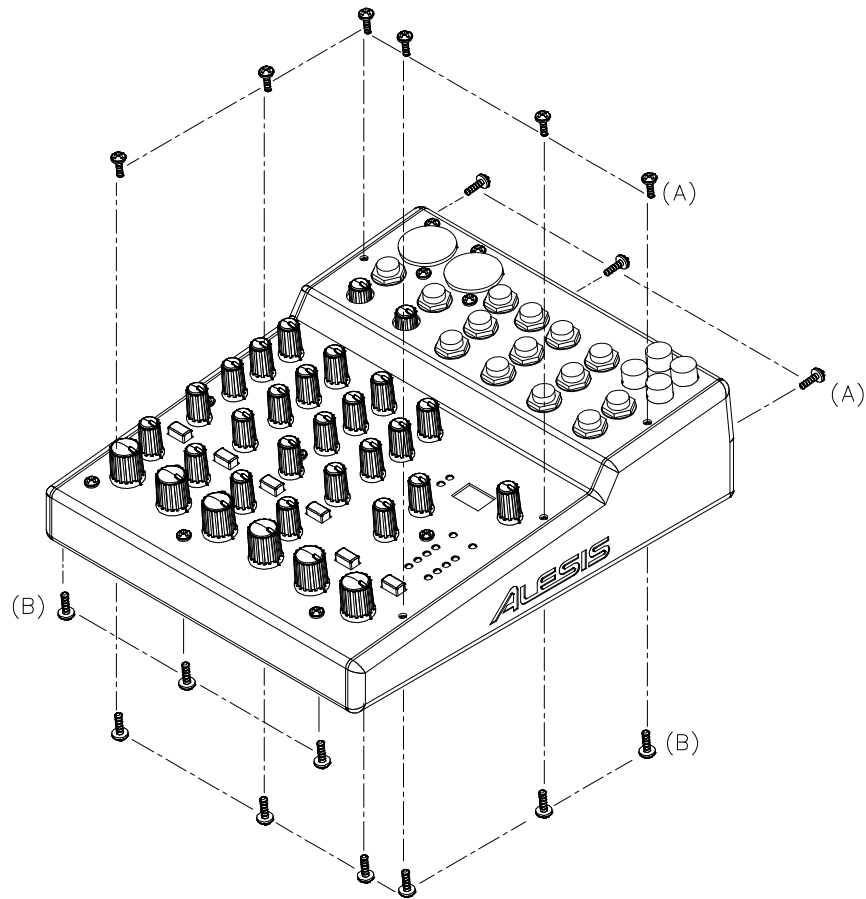


Fig.1

2. REMOVAL OF MAIN P.C.B (Fig2)

- (A) REMOVE THE 29 PCS KNOB FROM WHICH THE TOP PANEL
- (B) REMOVE THE 14 PCS NUT AND 14 PCS WASHER FROM WHICH THE TOP PANEL
- (C) REMOVE THE 13 PCS SCREW FROM WHICH THE TOP PANEL

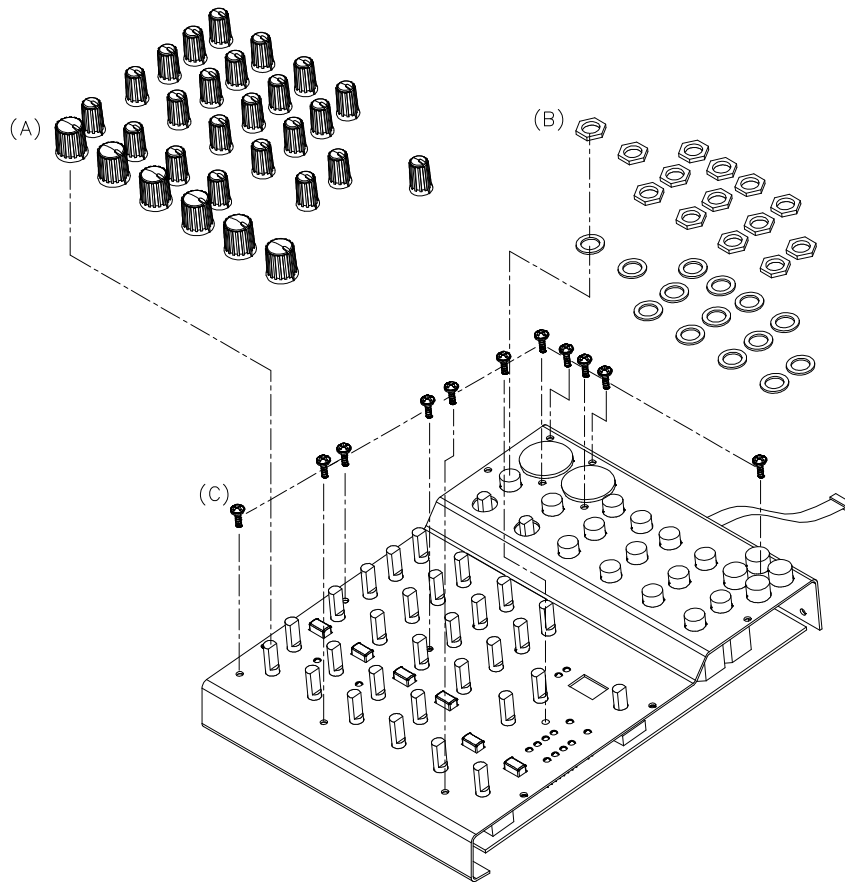


Fig.2

3.REMOVAL OF POWER P.C.B (Fig.3)

- (A) REMOVE THE 2 PCS SCREWS FROM THE POWER P.C.B
- (B) REMOVE THE 2 PCS SCREWS FROM THE BRACKET
- (C) REMOVE THE 3PCS OF CABLE CONNECTOR FROM THE POWER P.C.B

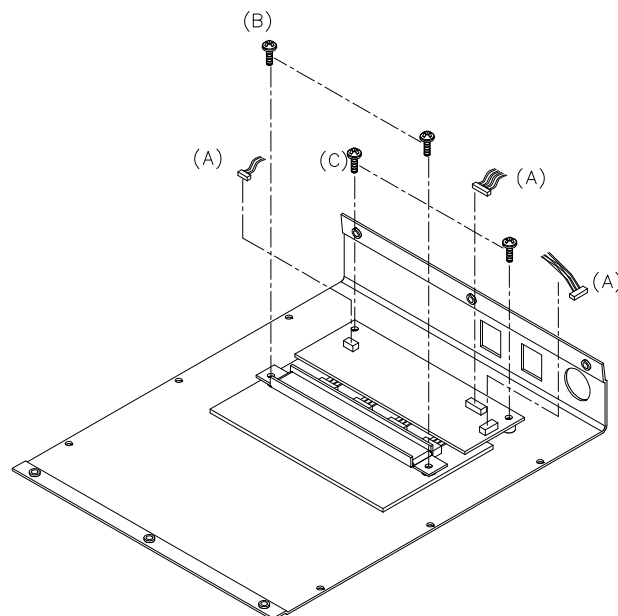
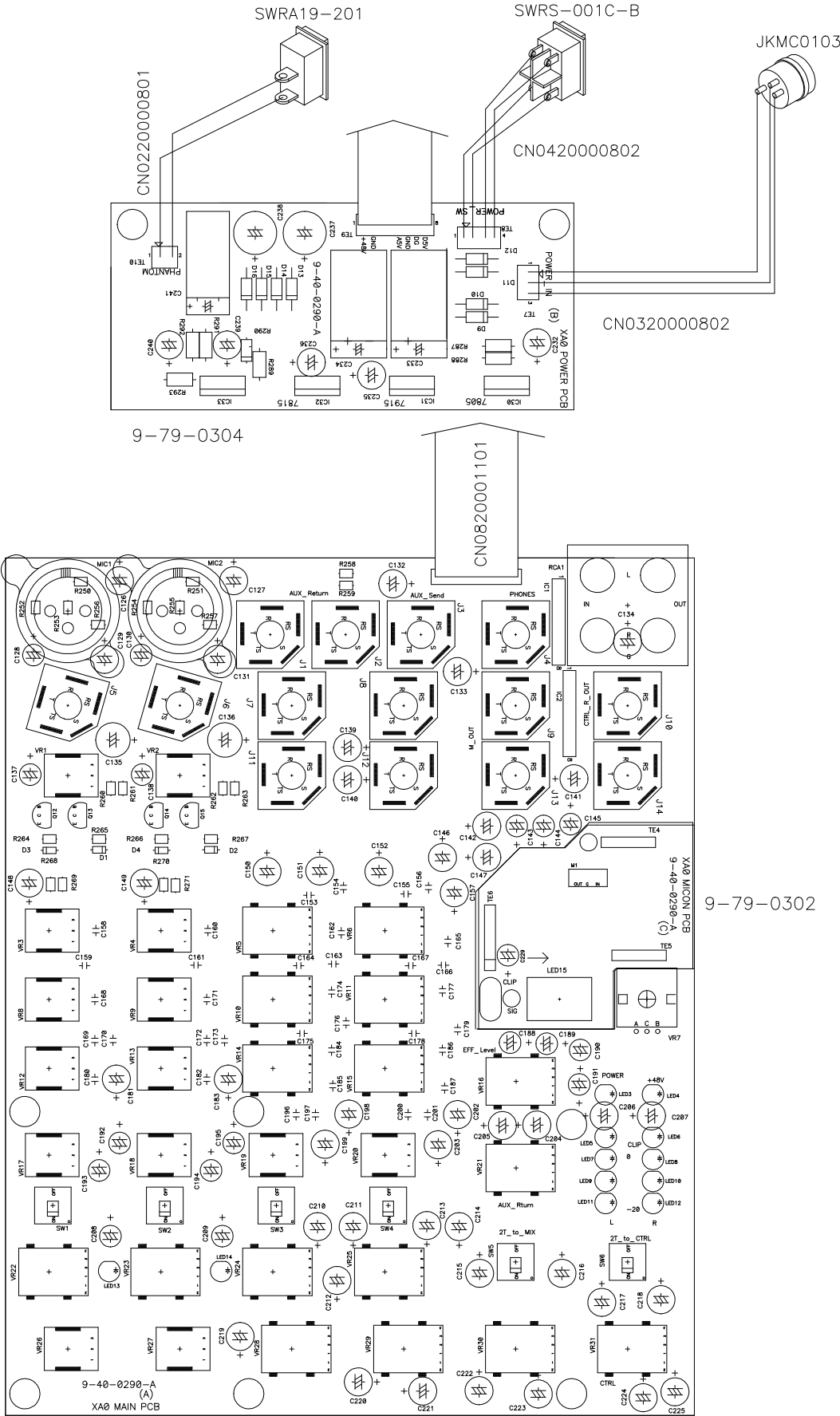


Fig.3

WIRING DIAGRAM

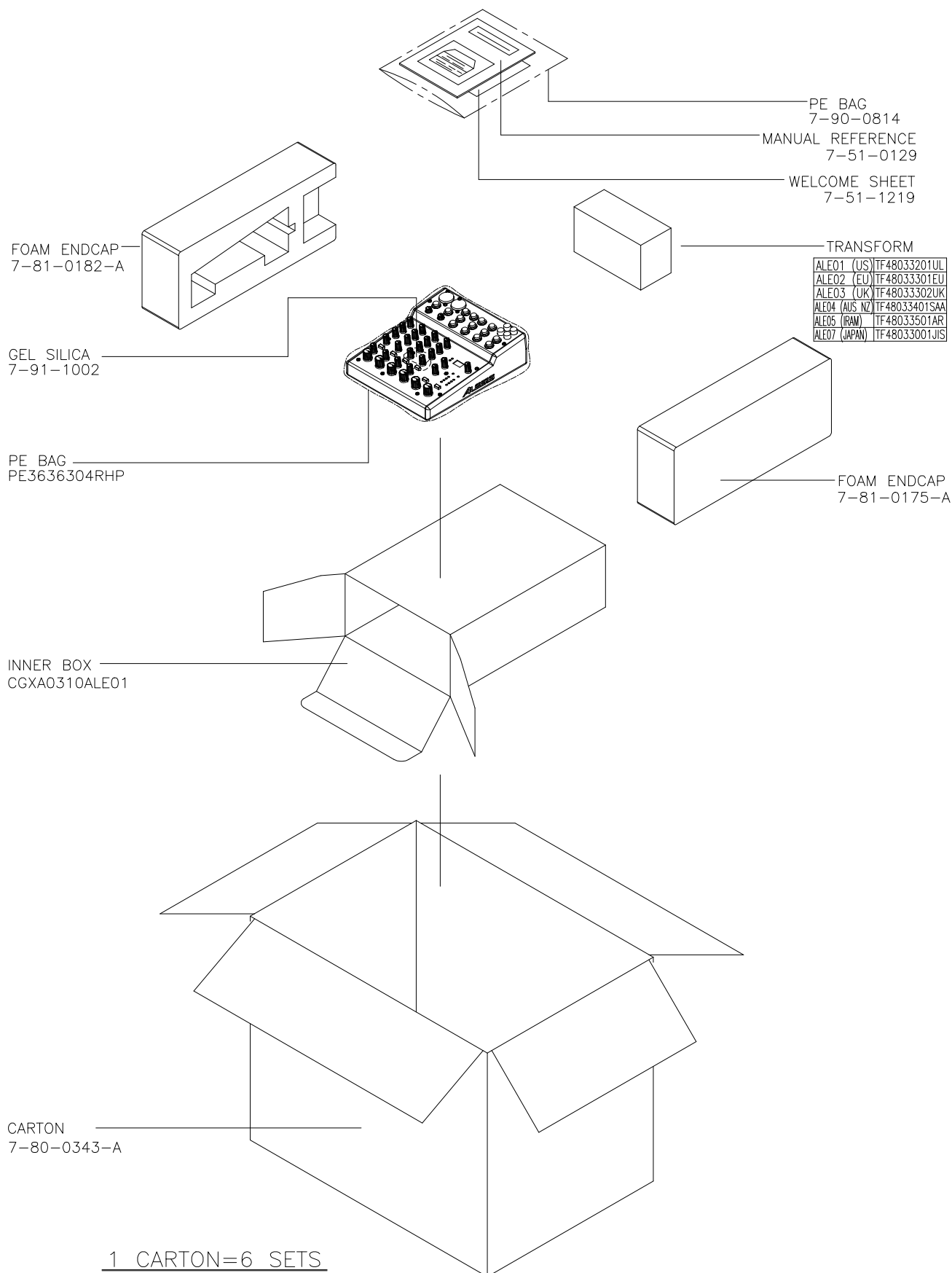
(US/EU/UK/AUS NZ/IRAM/JAPAN)



9-79-0290

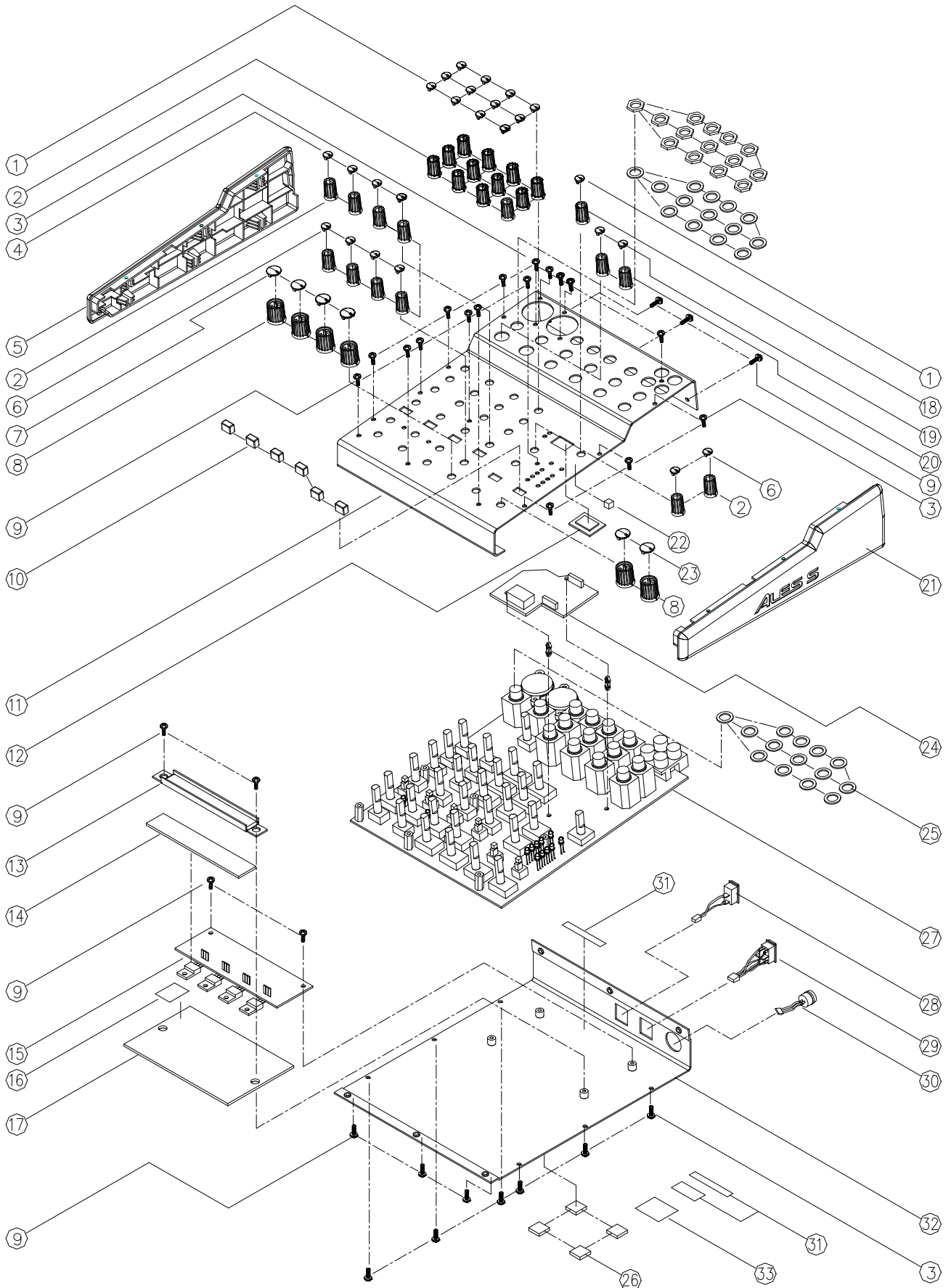
PACKING DIAGRAM

(US/EU/UK/AUS NZ /IRAM/JAPAN)



EXPLODE DIAGRAM

(US/EU/UK/AUS NZ / IRAM / JAPAN)

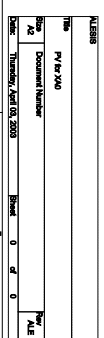


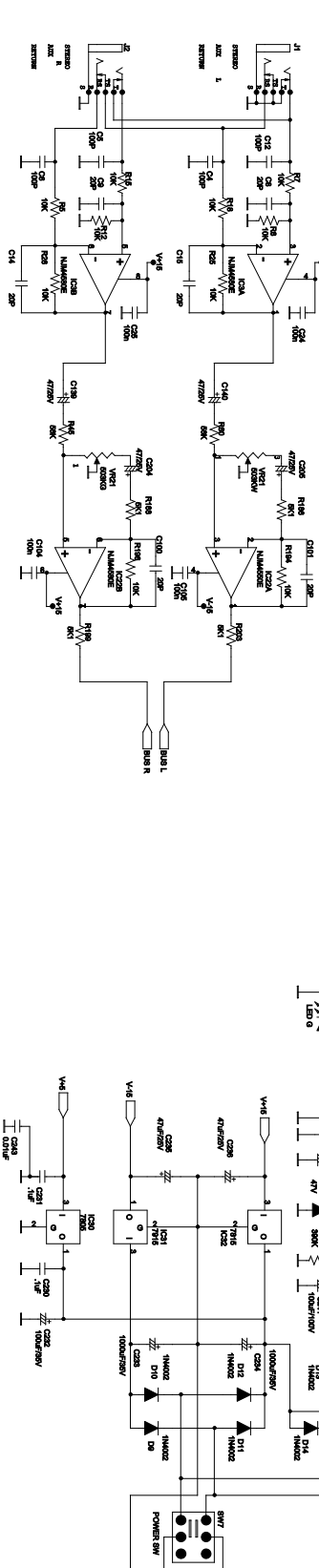
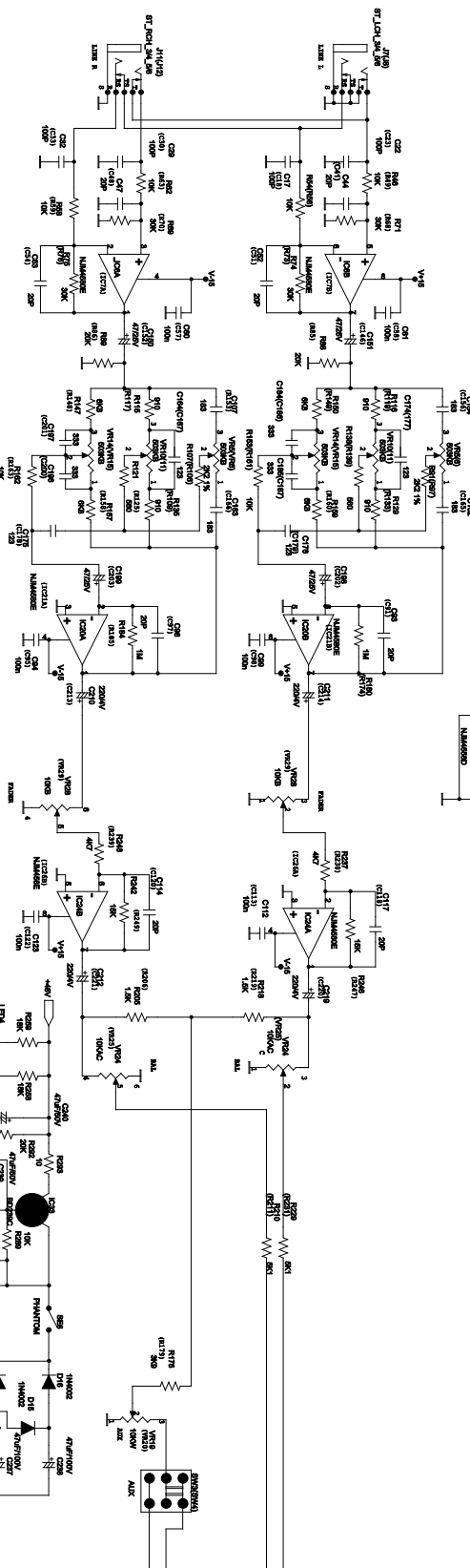
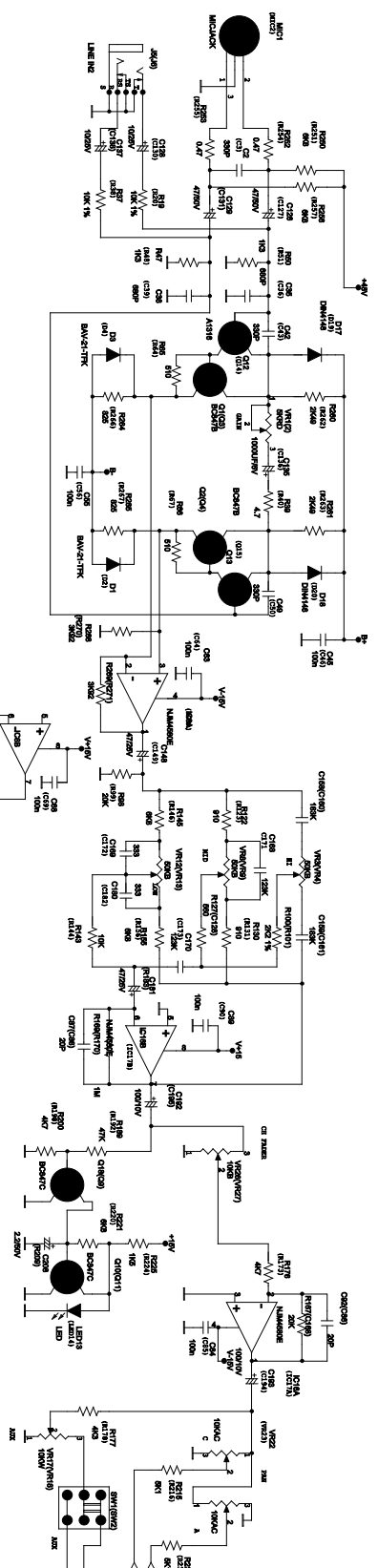
SEQUENTIAL NO OF EXPLODE DIAGRAM WILL BE MARKED ON REF. COLUMN OF BOM LIST

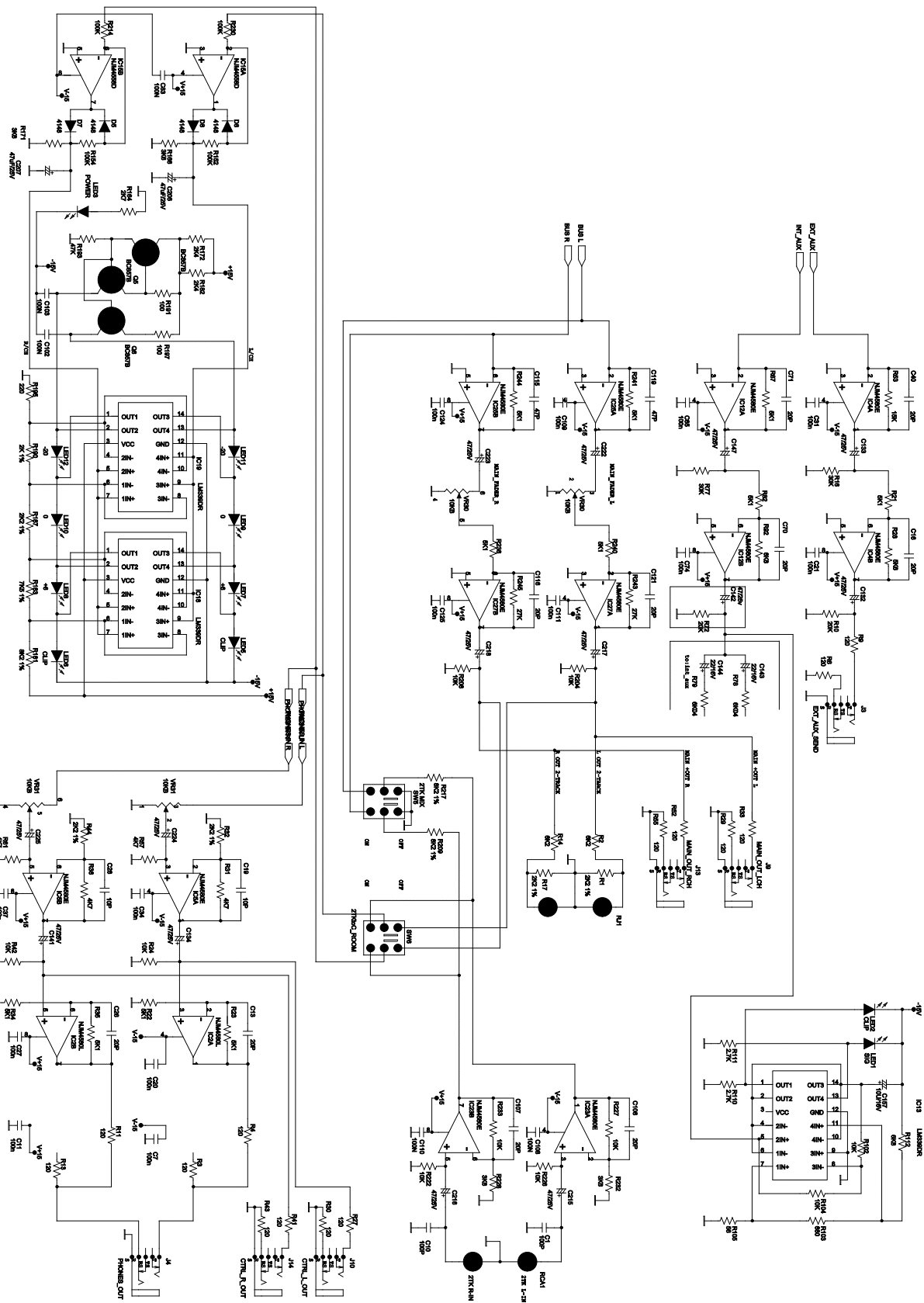
ALESIS

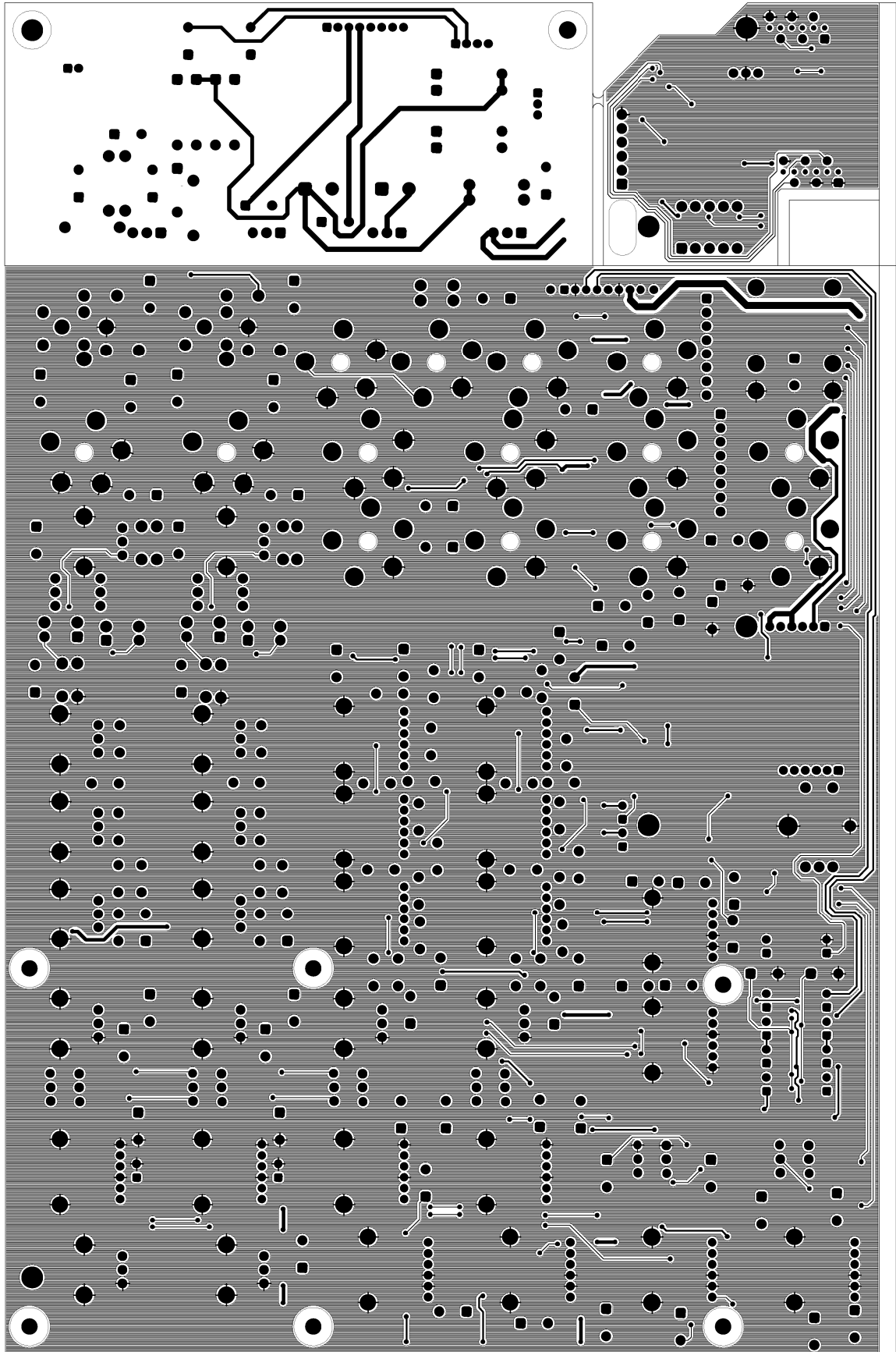
MultiMix6FX (XA0)

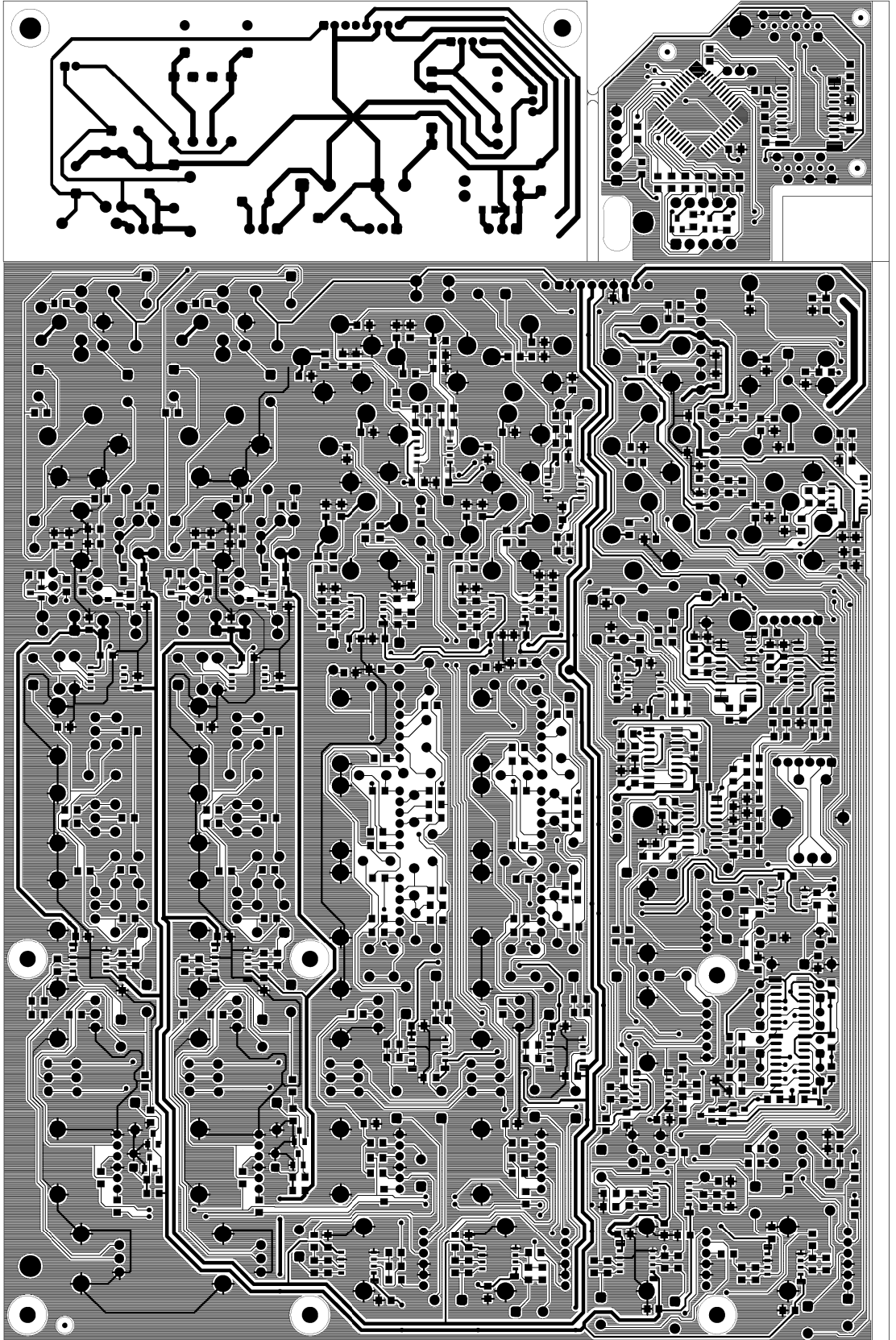
SCHEMATIC AND PCB FILES

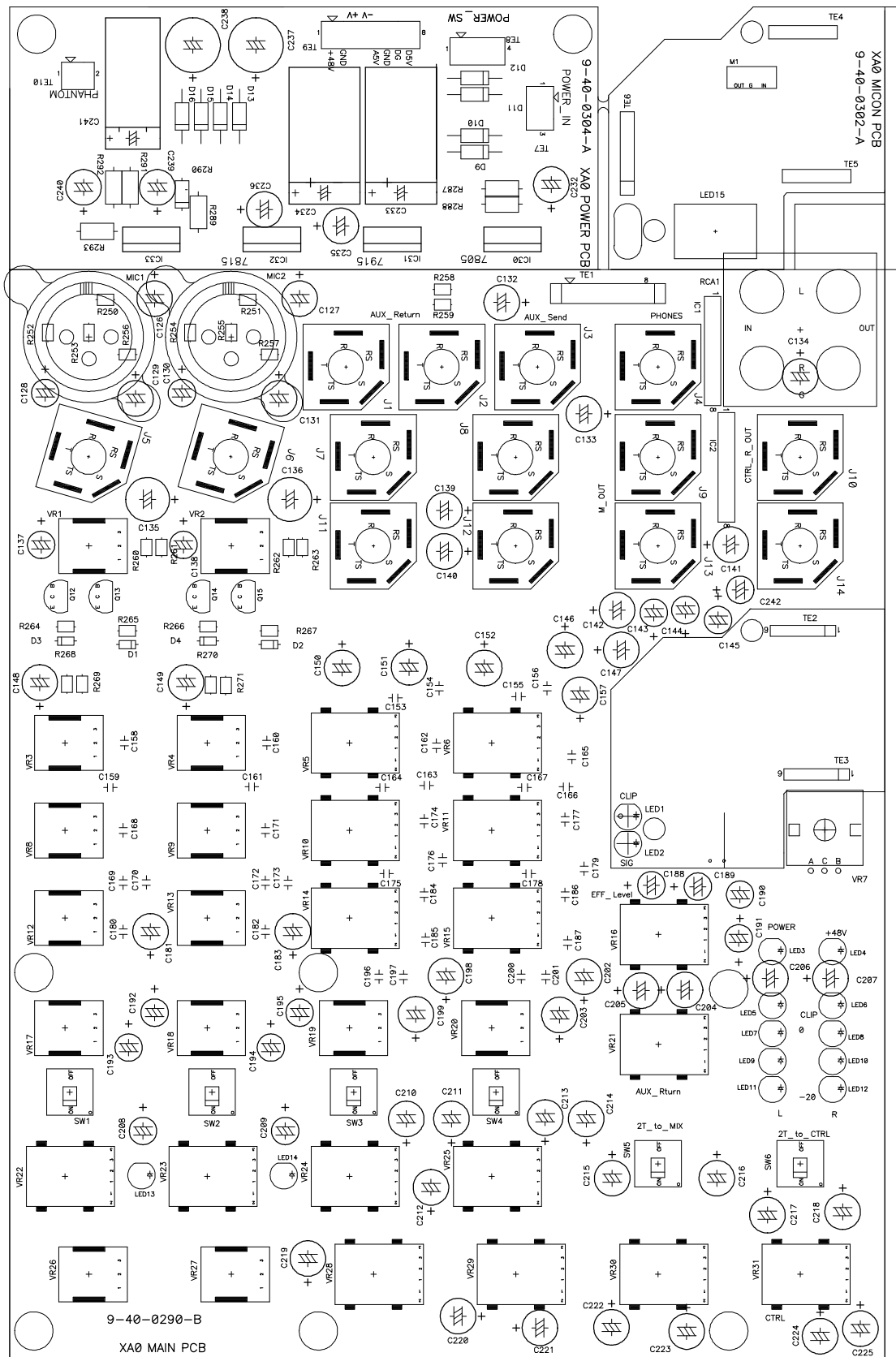


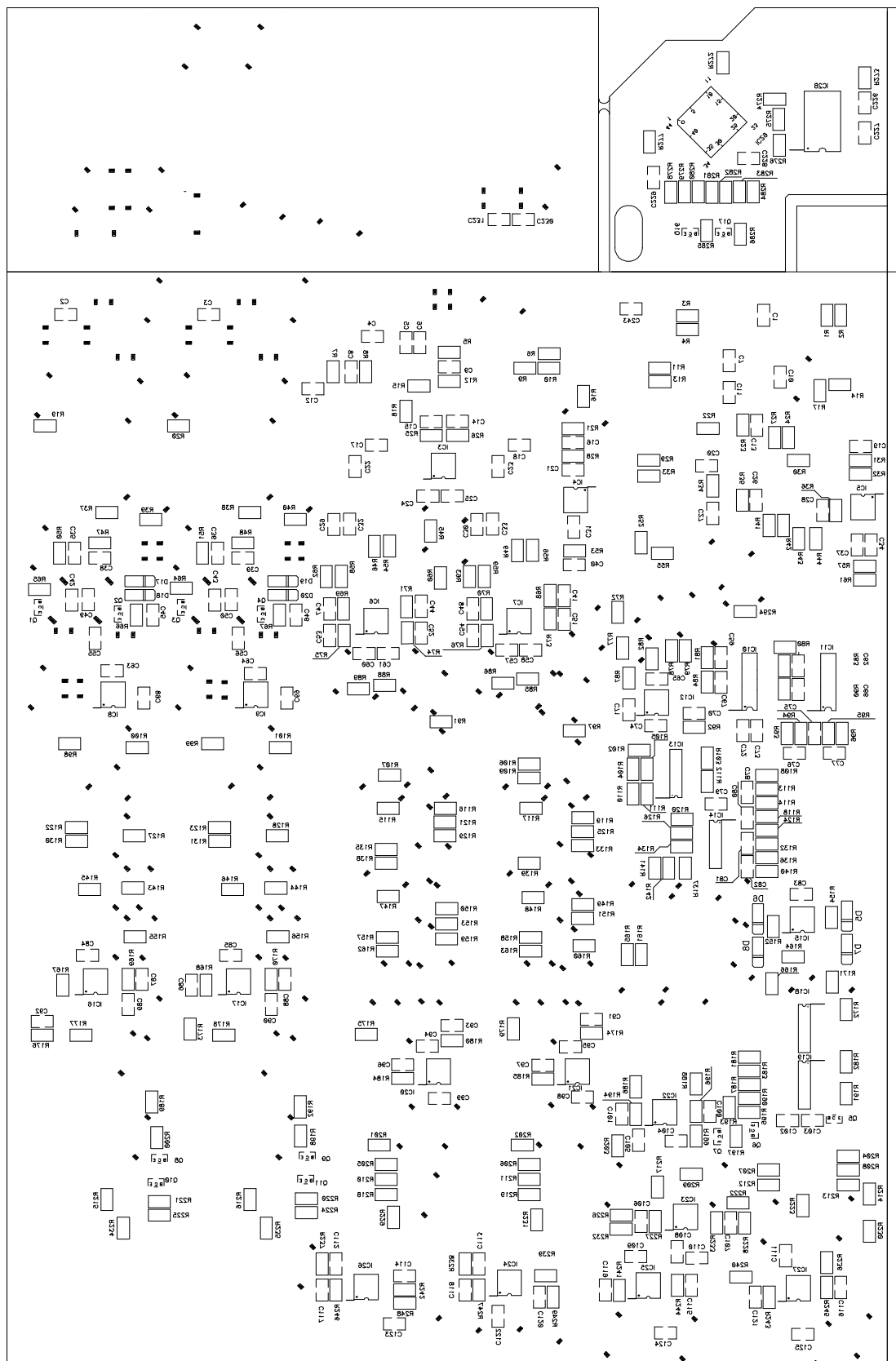












ALESIS MultiMix6FX (XA0)

ECN HISTORY

ALESIS

MultiMix6FX (XA0)

BOM

MULTIMIX 6 FX ALE01

LEVEL	P/N	DESCRIPTION	QTY	REF
1	BATO-220	GASKET	1	16
1	5-03-0037	STANDOFF RUBBER 8X8X8MM	1	22
1	7-54-0018	STICKER BARCODE UPC	1	31
1	LAC52ALE01	STICKER COMPLIANCE	1	33
1	7-13-0037-A	PLATE METAL THERMAL TRANSFER	1	17
1	MT1304430	SUBPANEL	1	13
1	MT1330004	TOP PANEL	1	11
1	9-01-0066-A	CHASSIS BOTTOM	1	32
1	9-10-0062-A	BEZEL LED DISPLAY XA SERIES MIXERS	1	12
1	9-15-0332-A	KNOB CAP LARGE BLUE	2	23
1	9-15-0378-A	KNOB CAP LARGE BLACK	4	7
1	9-15-0382-A	KNOB LARGE GREY	6	8
1	9-15-0338-A	KNOB CAP SMALL BLUE	13	1
1	9-15-0336-A	KNOB CAP SMALL GREEN	6	6
1	9-15-0337-A	KNOB CAP SMALL RED	4	4
1	9-15-0379-A	KNOB CAP SMALL BLACK	2	19
2	9-15-0380-A	KNOB SMALL GREY	22	2
1	9-15-0384-A	BUTTON CAP RECT GREY	6	10
1	9-15-0340-A	ENDCAP PLASTIC RIGHT	1	21
1	9-15-0339-A	ENDCAP PLASTIC LEFT	1	5
1	9-15-0383-A	KNOB SMALL BLACK	2	20
1	9-15-0381-A	KNOB SMALL GREY	1	18
1	PXAOALE01	PACKING ASSEMBLY	1	
2	CGXA0310ALE01	GIFT BOX	1	
2	7-80-0343-A	BOX SHIPPING	0.167	
2	7-51-0129	MANUAL REFERENCE	1	
2	PE2333404RHP	POLYBAG	0.007	
2	PE3636304RHP	POLYBAG	0.007	
2	7-81-0182-A	FOAM ENDCAP PACKING RIGHT	1	
2	7-81-0175-A	FOAM ENDCAP PACKING LEFT	1	
2	7-51-1219	SHEET "WELCOME TO ALESIS FAMILY" 5 x 8"	1	
2	7-91-1002	GEL SILICA 5G PACKET	1	
1	RU1304402	RUBBER	1	14
1	SC0306RIBI	SCREW	16	9
1	TF48033201UL	TRANFORMAT	1	
1	WS114009605IN	WASHR	14	25
1	5-00-1308	SCREW	17	
1	9-23-1024	FEET RUBBER	4	26
1	TWJKMC010301	POWER ASS'Y		30
1	TWSWRA19-20101	POWER SWITCH ASS'Y		28
1	TWSWRS-001C-B	POWER SWITCH ASS'Y		29
1	9-79-029001	MIXER PCB ASS'Y	1	
1	9-40-0290	MIXER PCB	1	
1	9-79-0290	MIXER PCB ASS'Y	1	27
2	BAKCA-04	PCB HOLDER	2	
2	BALD40210-0	LED HOLDER	14	LED1,2,3,4,5,6,7,8,9,10,11,12,13,14
2	CN0820001101	CONNECTOR	1	TE1
2	CS100J5005COG	CERAMIC 10P (SMD)	3	C19,26,28
2	CS101J5005COG	CERAMIC 100P (SMD)	14	C1,4,5,6,10,12,17,18,22,23,29,30,32,33
2	CS102K5005X7R	CERAMIC 1000P (SMD)	2	C76,77
2	CS103K5005X7R	CERAMIC 0.01UF (SMD)	1	C243

2	CS104K2505X7R	CERAMIC 0.1UF (SMD)	52	C7,11,20,21,24,25,27,31,34,37,45,46,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,74,79,83,84,85,89,90,94,95,98,99,102,103,104,105,108,109,110,111,112,113,122,123,124,125
2	CS200J5005COG	CERAMIC 20P (SMD)	35	C8,9,13,14,15,16,40,41,44,47,48,51,52,53,54,70,75,86,87,88,91,92,93,96,97,100,101,106,107,114,116,117,118,120,121
2	CS331J5005COG	CERAMIC 330P (SMD)	12	C2,3,42,43,49,50,72,73,78,80,81,82
2	CS470J5005COG	CERAMIC 47P (SMD)	3	C71,115,119
2	CS681J5005COG	CERAMIC 680P (SMD)	4	C35,36,38,39
2	DIENLL4148SM	DIODE	8	D5,6,7,8,17,18,19,20
2	EC10616TS	ELECT 10UF/16V(S)	1	C242
2	EC10625T	ELECT 10UF/25V	4	C128,130,137,138
2	EC10635TS	ELECT 10UF/35V(S)	1	C157
2	EC10710TS	ELECT 100UF/10V(S)	4	C192,193,194,195
2	EC10806	ELECT 1000UF/6V	2	C135,136
2	EC22550TSU	ELECT 2.2UF/50V	2	C208,209
2	EC22616TS	ELECT 22UF/16V(S)	7	C143,144,145,188,189,190,191
2	EC22704T	ELECT 220UF/4V	8	C210,211,212,213,214,219,220,221
2	EC47625TS	ELECT 47UF/25V(S)	32	C132,133,134,139,140,141,142,146,147,148,149,150,151,152,181,183,198,199,202,203,204,205,206,207,215,216,217,218,222,223,224,225
2	EC47650	ELECT 47UF/50V	4	C126,127,129,131
2	IC4580L	IC OP NJM 4508L	1	IC2
2	JK5031	XLR BASE	2	MIC1,2
2	JK6353-02-250	MIC BASE	14	J1,2,3,4,5,6,7,8,9,10,11,12,13,14
2	LD-LG2040	GREEN LED	6	LED2,3,9,10,11,12
2	LDLT0311-41	RED LED	5	LED1,5,6,13,14
2	LDLY2040A	YELLOW LED	3	LED4,7,8
2	MC12350T	CAP 0.012UF/50VJ	12	C164,167,168,170,171,173,174,175,176,177,178,179
2	MC18350T	CAP 0.018UF/50VJ	12	C153,154,155,156,158,159,160,161,162,163,165,166
2	MC33350T	CAP 0.033UF/50VJ	12	C169,172,180,182,184,185,186,187,196,197,200,201
2	MR249216	RESISTOR 2.49K	4	R260,261,262,263
2	MR392216	RESISTOR 3.92K	4	R268,269,270,271
2	MR681216	RESISTOR 6.8K	4	R250,251,256,257
2	MR825116	RESISTOR 825O	4	R264,265,266,267
2	5-03-0036	STANDOFF METAL F-F 13.5MM M3	6	
2	RJGJ107NI	JACK	1	RCA1
2	RS00018J05	RESISTOR 0O (SMD)	4	R207,212,213,223
2	RS04718J05	RESISTOR 4.7O (SMD)	2	R39,40
2	RS10018J05	RESISTOR 10O (SMD)	1	R294
2	RS10118J05	RESISTOR 100O (SMD)	2	R191,197
2	RS10218F05	RESISTOR 1K (SMD) 1%	6	R113,114,126,132,136,142
2	RS10318F05	RESISTOR 10K (SMD)1%	4	R19,20,37,38
2	RS10318J05	RESISTOR 10K (SMD)	34	R5,7,8,12,15,18,24,25,26,42,46,49,54,56,58,59,62,63,102,104,143,144,151,153,162,163,194,196,204,208,222,226,227,233
2	RS10418J05	RESISTOR 100K (SMD)	4	R152,154,214,230
2	RS10518J05	RESISTOR 1M (SMD)	6	R169,170,174,180,184,185
2	RS12118J05	RESISTOR 120O (SMD)	14	R3,4,6,9,11,13,27,29,30,33,41,43,52,55
2	RS13218J05	RESISTOR 1K3 (SMD)	4	R47,48,50,51
2	RS15218J05	RESISTOR 1K5 (SMD)	6	R205,206,218,219,224,225
2	RS15318J05	RESISTOR 15K (SMD)	5	R53,242,246,247,249
2	RS20218F05	RESISTOR 2K (SMD)1%	1	R190
2	RS20318J05	RESISTOR 20K (SMD)	10	R10,72,85,86,88,89,98,99,167,168
2	RS22118J05	RESISTOR 220O (SMD)	1	R195
2	RS22218F05	RESISTOR 2K2 (SMD)	11	R1,17,32,44,91,97,100,101,106,107,187
2	RS24218J05	RESISTOR 2K4 (SMD)	2	R172,182
2	RS27218J05	RESISTOR 2K7 (SMD)	3	R110,111,164
2	RS27318J05	RESISTOR 27K (SMD)	2	R243,245
2	RS30318J05	RESISTOR 30K (SMD)	10	R16,68,69,70,71,73,74,75,76,77
2	RS36218J05	RESISTOR 3K6 (SMD)	4	R166,171,228,232

2	RS39218J05	RESISTOR 3K9 (SMD)	4	R120,137,175,179
2	RS43218J05	RESISTOR 4K3 (SMD)	2	R177,178
2	RS47118J05	RESISTOR 4700 (SMD)	5	R80,81,83,84,90
2	RS47218J05	RESISTOR 4K7 (SMD)	12	R31,36,57,61,173,176,198,200,237,238,239,248
2	RS47318J05	RESISTOR 47K (SMD)	3	R189,192,193
2	RS51118J05	RESISTOR 5100 (SMD)	4	R64,65,66,67
2	RS51218J05	RESISTOR 5K1 (SMD)	25	R21,22,23,34,35,82,87,161,165,186,188,199,203,210,211,215,216,229,231,234,235,236,240,241,244
2	RS56018J05	RESISTOR 560 (SMD)	1	R105
2	RS56118J05	RESISTOR 5600 (SMD)	6	R121,125,127,128,138,139
2	RS56218J05	RESISTOR 5K6 (SMD)	1	R28
2	RS56318J05	RESISTOR 56K (SMD)	2	R45,60
2	RS62218J05	RESISTOR 6K2 (SMD)	2	R2,14
2	RS68118J05	RESISTOR 6800 (SMD)	1	R103
2	RS68218J05	RESISTOR 6K8 (SMD)	16	R92,112,145,146,147,148,149,150,155,156,157,158,159,160,220,221
2	RS82218F05	RESISTOR 8K2 (SMD)1%	5	R134,141,181,209,217
2	RS91118J05	RESISTOR 9100 (SMD)	12	R109,115,116,117,119,122,123,129,130,131,133,135
2	R004716	RESISTOR 0.470 1/16W	4	R252,253,254,255
2	R18316	RESISTOR 18K 1/16W	2	R258,259
2	SC0306RIBI	SCREW	6	
2	SWSFPC12MC02	PUSH SWITCH	6	SW1,2,3,4,5,6
2	TE162000602	6P TERMINAL	2	TE2,3
2	TE812000811	8P CONNECTOR	1	TE1
2	TRA1316GR	TRANSISTOR 2SA1316GR	4	Q12,13,14,15
2	TRBC847B	TRANSISTOR	8	Q1,2,3,4,8,9,10,11
2	TRBC857B	TRANSISTOR	3	Q5,6,7
2	VRK10301202	VR 10K AC CC	4	VR22,23,24,25
2	VRK10301207	VR 10KK(25A)	1	VR16
2	VRK10301209	VR B10K X2	4	VR28,29,30,31
2	VRK1030904	VR 10KW	4	VR17,18,19,20
2	VRK1030905	VR 10KB	2	VR26,27
2	VRK5020902	VR 5KRD	2	VR1,2
2	VRK50301203	VR B50K X2 CC	6	VR5,6,10,11,14,15
2	VRK50301204	VR 50RW X2	1	VR21
2	VRK5030903	VR B50K	6	VR3,4,8,9,12,13
2	0-16-1472	RESISTOR 14.7K (SMD)	4	R108,118,124,140
2	0-16-6041	RESISTOR 6.04K (SMD)	2	R78,79
2	0-16-7321	RESISTOR 7.32K (SMD)	4	R93,94,95,96
2	0-16-7501	RESISTOR 7.5K (SMD)	1	R183
2	2-71-0084	IC	1	IC14
2	2-71-4580	IC	19	IC3,4,5,6,7,8,9,12,15,16,17,20,21,22,23,24,25,26,27
2	2-72-0339	IC LM339	3	IC13,18,19
2	2-75-1101	IC AL1101	1	IC10
2	2-75-1201	IC AL1201	1	IC11
2	2-99-0021	DIODE BAV21	4	D1,2,3,4
2	6-00-0008	ENCODER	1	VR7
1	9-79-0302	MICON PCB ASS'Y	1	24
2	CC10450T	CERAMIC 0.1UF	1	C229
2	CS104K2505X7R	CERAMIC 0.1UF (SMD)	3	C226,227,228
2	LDT2601G	LED SENSOR	1	LED15
2	RS10118J05	RESISTOR 1000 (SMD)	3	R272,285,286
2	RS22118J05	RESISTOR 2200 (SMD)	8	R277,278,279,280,281,282,283,284
2	RS47118J05	RESISTOR 4700 (SMD)	4	R273,274,275,276
2	TE162000601	6P TERMINAL	2	TE4,5
2	TE162500603	8P TERMINAL	1	TE6
2	TRBC857B	TRANSISTOR	2	Q16,17
2	2-27-0054	IC AL3201	1	IC28
2	ICAL2K03M01	IC 87C84 64K	1	IC29
2	7-01-0033	CRYSTAL 12MHz	1	M1

1	9-79-0304	POWER PCB ASS'Y	1	15
2	CS104K2505X7R	CERAMIC 0.1UF (SMD)	2	C230,231
2	DIN4002	DIODE	8	D9,10,11,12,13,14,15,16
2	DIZBZX79C47V	ZENER DIODE	1	R290
2	EC107100TS	ELECT 100UF/100V(S)	1	C241
2	EC10735T	ELECT 100UF/35V	1	C232
2	EC10835	ELECT 1000UF/35V	2	C233,234
2	EC476100	ELECT 47UF/100V	2	C237,238
2	EC47625	ELECT 47UF/25V	2	C235,236
2	EC47650	ELECT 47UF/50V	2	C239,240
2	IC7805	IC	1	IC30
2	IC7815	IC	1	IC32
2	IC7915	IC	1	IC31
2	JW5206T	JUMP WIRE	1	R288
2	R10014	RESISTOR 100 1/4W	1	R293
2	R10318	RESISTOR 10K 1/8W	1	R289
2	R20314	RESISTOR 20K 1/4W	1	R292
2	R39414	RESISTOR 390K 1/4W	1	R291
2	TE612000202	2P CONNECTOR	1	TE10
2	TE612000301	3P CONNECTOR	1	TE7
2	TE612000402	4P CONNECTOR	1	TE8
2	TE612000801	8P CONNECTOR	1	TE9
2	TRBD239C	TRANSISTOR	1	IC33