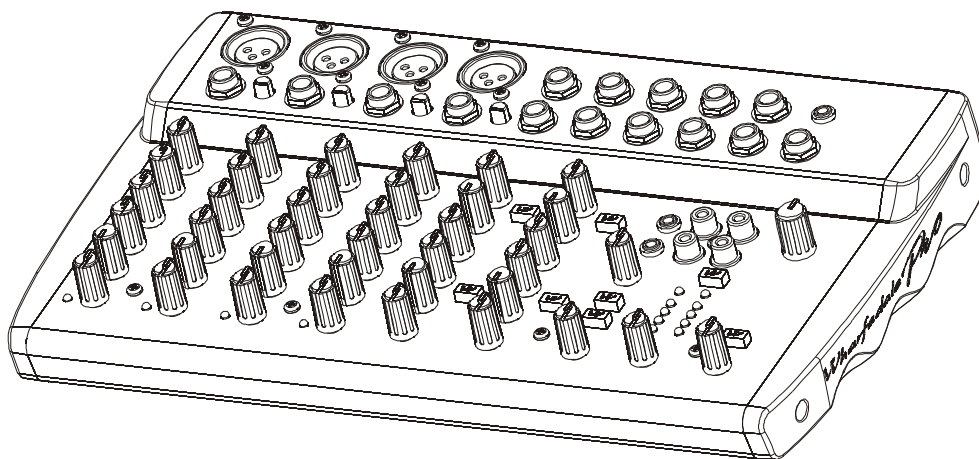


*Wharfedale*  
*Pro*

# Service Manual: EZM mini mixer 20X2FX Professional Audio Mixers



EZM mini mixer 20X2FX

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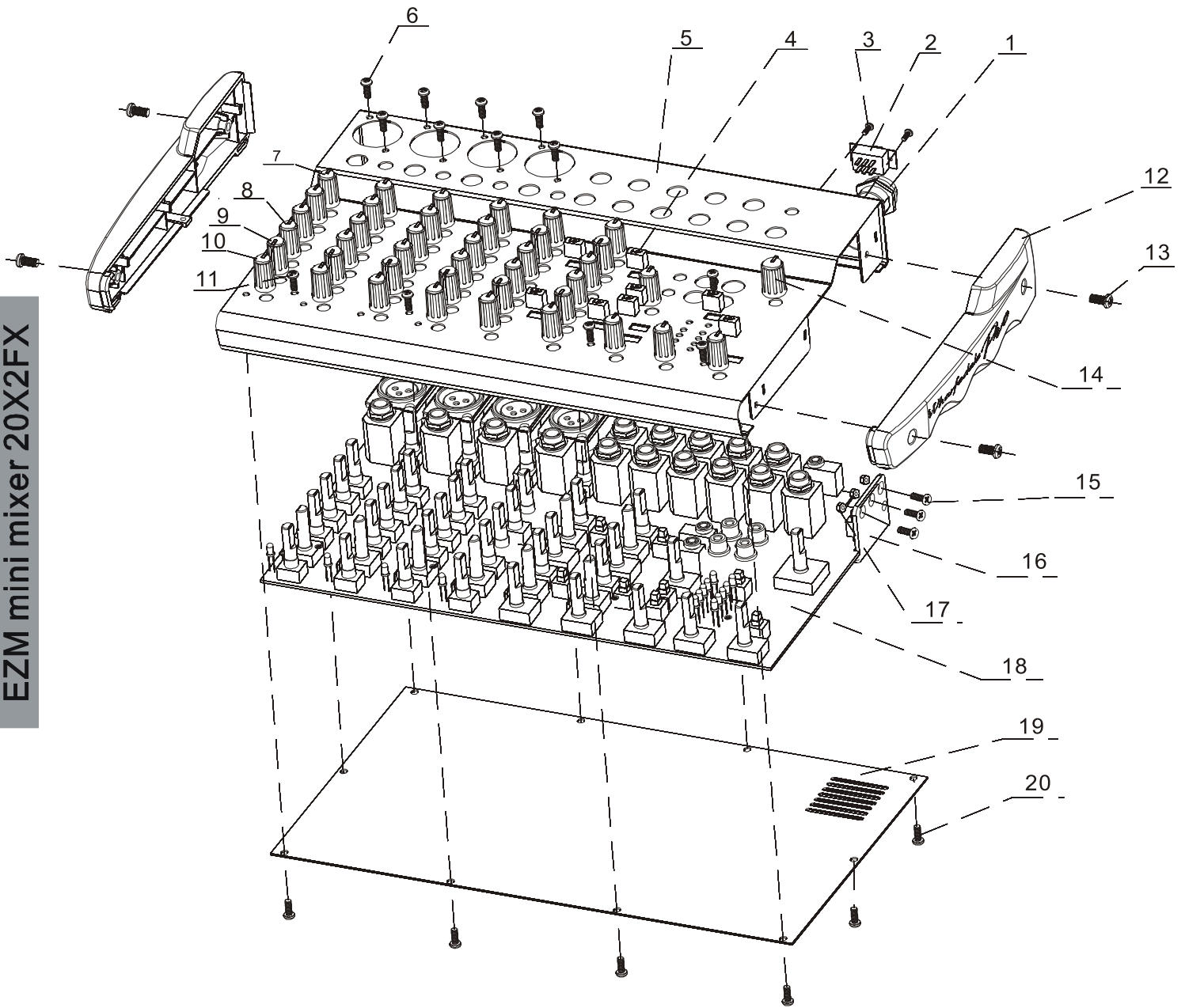
# ★ SPECIFICATIONS

## Ez-m mini-mixer 20x2FX Specifications

|   |   |
|---|---|
| Maximum Output Level<br>(0.5%T.H.D at 1KHZ) | +22dB(MIX L/R)@600ohm<br>+22dB(2TK)@600ohm<br>Over150mw(headphone)@32ohm  |
| Total Harmonic Distortion                   | 0.0025%@+14dB<br>20Hz-20KHz (MIX L/R,2TK)@600ohm  |
| Frequency Response                          | 20Hz-20KHz. +0/-1dB<br>(MIX L/R,2TK) @600ohm  |
| Hum and Noise<br>(Average.Rs= 150)          | -127dB Equivalent Input Noise<br>-92dB Residual Noise(MIXL/R,2TK)<br>-88dB(MIX L/R,2TK)   |
| Maximum Voltage Gain                        | 88dB MIC IN TO MIX L/R.<br>88dB MIC IN TO 2TK<br>72dB LINE IN TO MIX L/R.<br>72dB LINE IN TO 2TK.<br>30dB ST TO MIX L/R.<br>20dB 2TK L//R IN TO MIX L/R |
| Maximum Levels                              | Mic in: +4dB<br>2TK in: +20dB   |
| Interference(crosstalk)at 1KHz              | Main VR Min: -87dB<br>Channel VR Min: -70dB   |
| Mono Input Channel Gain                     | 50dB Variable (-60dB~-10dB)(-40dB~+10dB)  |
| Input Channel EQ                            | High:(+/-15dB) 12KHz Shelving<br>Mid:(+/-15dB) 2.5KHz Shelving<br>Low:(+/-15dB) 80KHz Shelving  |
| Level meter                                 | 4-Segment LED*2(+4dB output at 0dB on Merer)Main L/R  |
| Clip indicator                              | Input:turns on at 3dB before clip   |
| Effect                                      | 16Effect out  |
| Power/Power consumption                     | AC100V/120V/230V/240V,50/60Hz   |
| Weights                                     | 2.88kg / 6.32lbs  |
| Dimension(H x W x D mm)                     | 46.5 x 303 x 184 mm/ 1.82" x 11.9" x 7.24"  |

# ASSEMBLY SKETCH

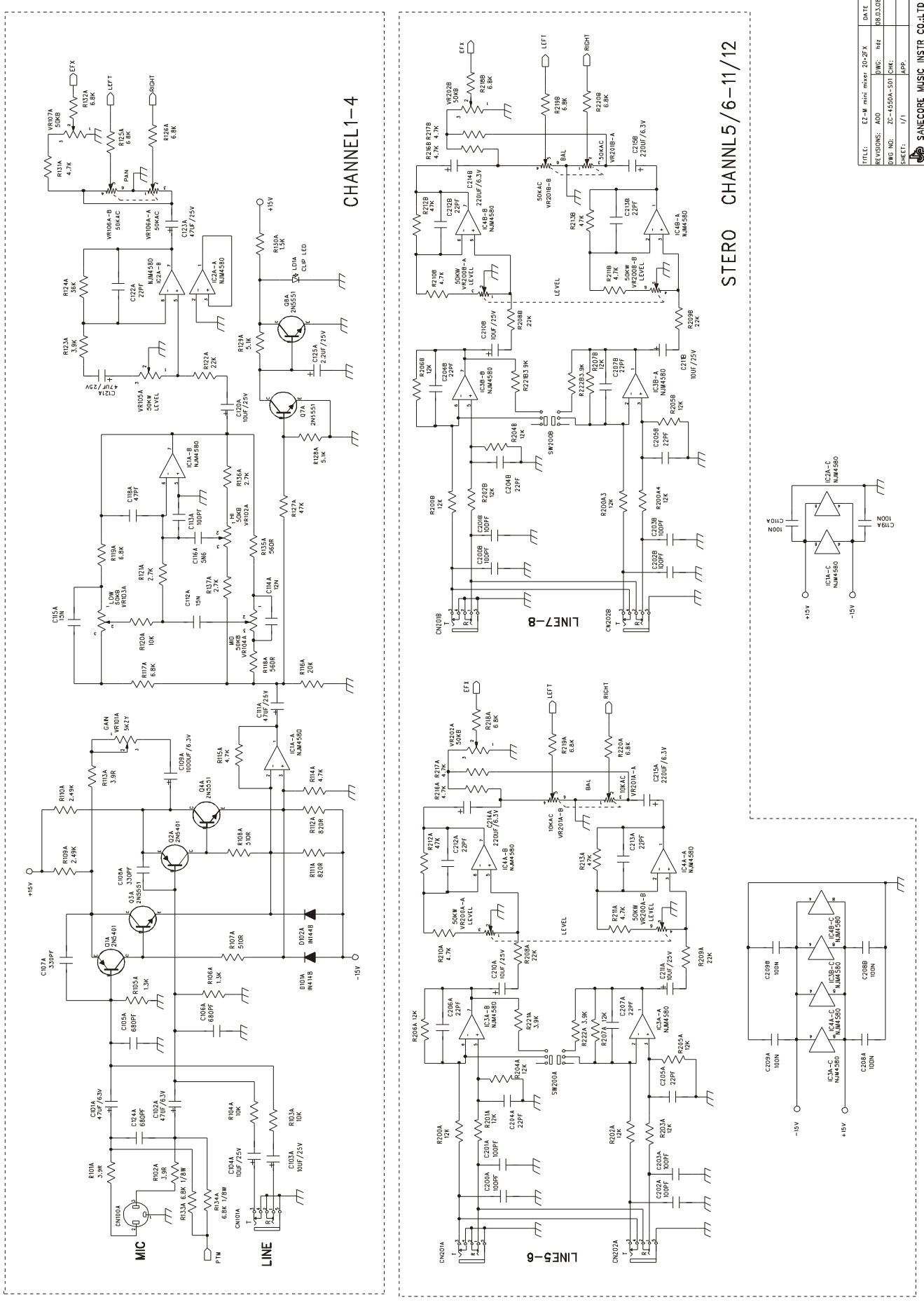
EZM mini mixer 20X2FX





# SCHEMATIC DIAGRAM

## EZM mini mixer 20X2FX



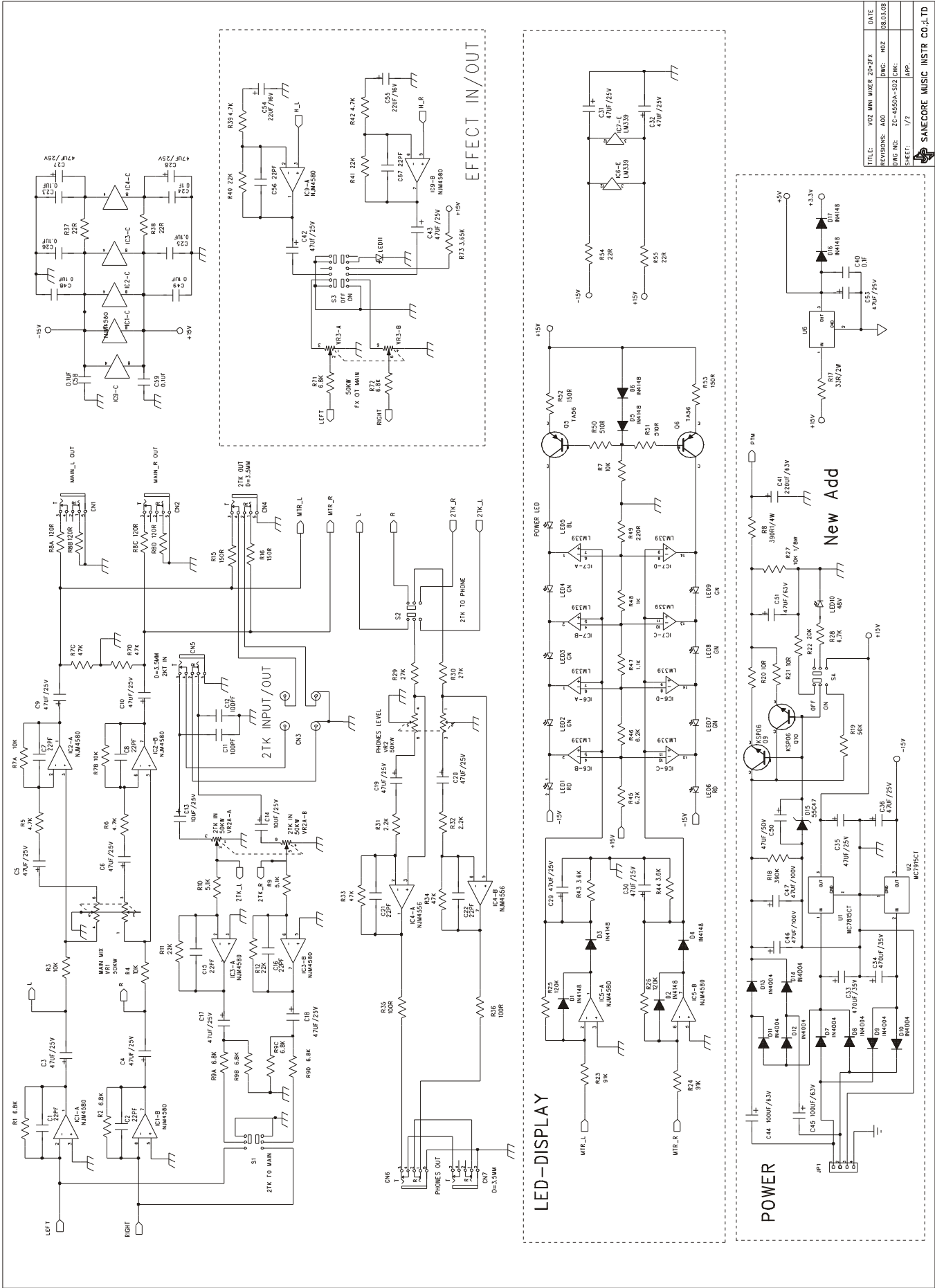
|            |                        |       |     |
|------------|------------------------|-------|-----|
| FILE:      | EZ-M mini mixer 20-2FX | DATE: |     |
| REVISIONS: | A00                    | ENG:  | haz |
| DRG NO.:   | TC-4550A-301           | CHK:  |     |
| SHEET:     | 7/1                    | APP:  |     |

SANECORE MUSIC INSTR CO., LTD



# SCHEMATIC DIAGRAM

## EZM mini mixer 20X2FX



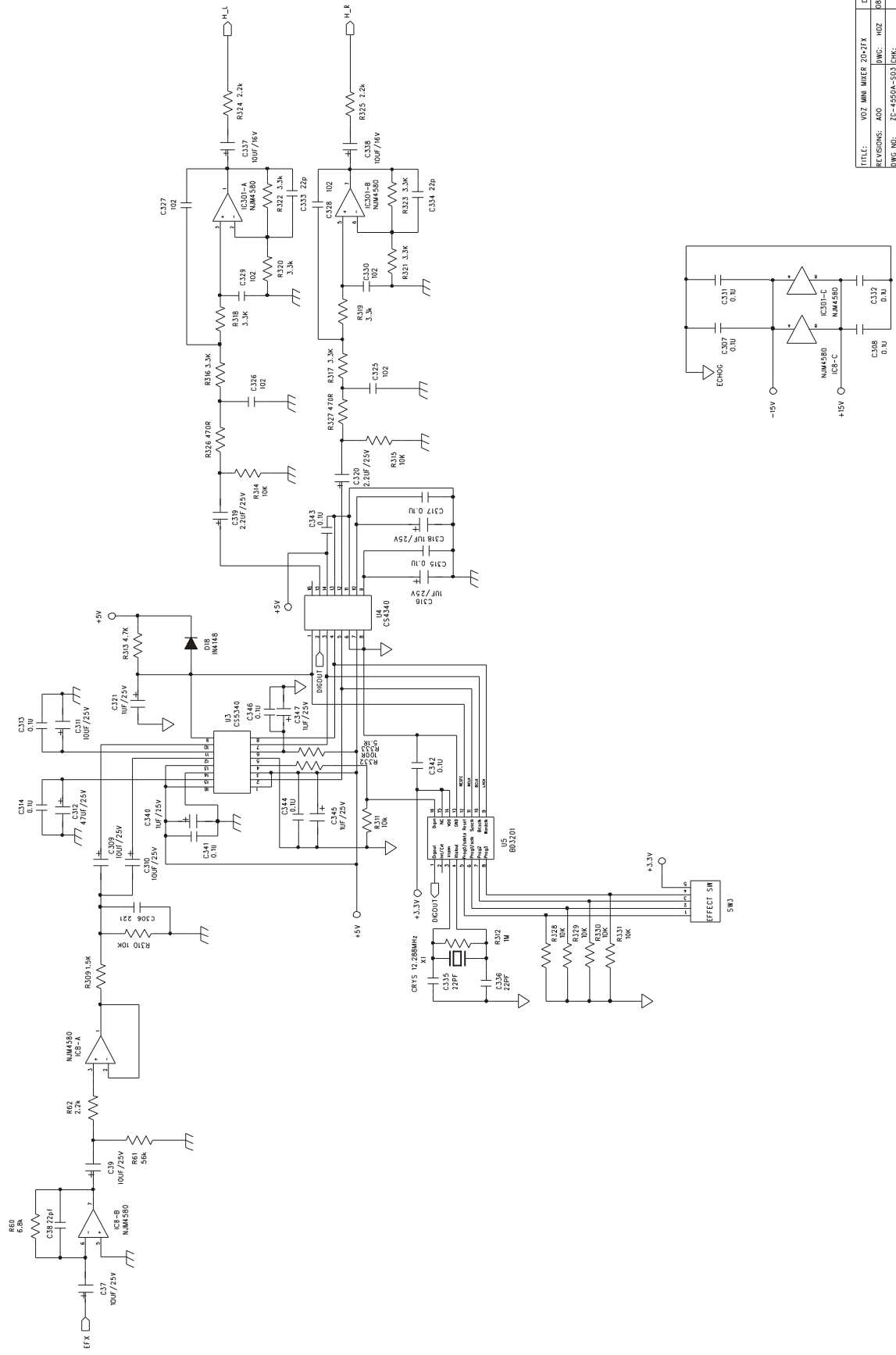
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|------------|-----------------------|-------|-----|
| TITLE:     | V02 MINI MIXER 20X2FX | DATE: |     |
| REVISIONS: | ADD                   | DESC: | HDZ |
| DWG. NO.:  | ZC-4650A-S02          | CHK:  |     |
| SHEET:     | 1/2                   | APP:  |     |

SAWECORE MUSIC INSTR CO., LTD



# SCHEMATIC DIAGRAM

## EZM mini mixer 20X2FX



|            |                       |       |     |
|------------|-----------------------|-------|-----|
| TITLE:     | VOZ MINI MIXER 20X2FX | DATE: |     |
| REVISIONS: | A00                   | DWG:  | HDZ |
| DWG NO.:   | ZC-4590A-503          | CHK:  |     |
| SHEET:     | 1/3                   | APP:  |     |

SANECORE MUSIC INSTR CO., LTD

# ★ ASSEMBLY PARTS LIST

EZM mini mixer 20X2FX

| R/N | P/N              | PART NAME      | DESCRIPTION    | QIA |
|-----|------------------|----------------|----------------|-----|
| 1   | 300-1455000000R  | PANEL          |                | 1   |
| 2   | 303-1455000000R  | BOTTOM COVER   |                | 1   |
| 3   | 224-1453000000R  | LEFT HANDLE    |                | 1   |
| 4   | 224-1453000001R  | RIGHT HANDLE   |                | 1   |
| 5   | 215-1252000003R  | KNOB           | BLACK CAP      | 11  |
| 6   | 215-1252000002R  | KNOB           | RED CAP        | 9   |
| 7   | 215-1252000000R  | KNOB           | WHITE CAP 180  | 8   |
| 8   | 215-1252000001R  | KNOB           | BLUE CAP       | 12  |
| 9   | 215-1453000001R  | BIG KONB       | RED CAP        | 1   |
| 10  | 212-1252000001R  | BUTTON CAP     | 9X5mm          | 8   |
| 11  | 223-0630121501R  | PASTIC BRACKET | PASTIC BRACKET | 4   |
| 12  | 527-3014080811AR | SCREW          | SP(+)3*8 DT H  | 9   |
| 13  | 537-3001080801AR | SCREW          | MP(+)3*8       | 8   |
| 14  | 537-4001080801AR | SCREW          | MP(+)4*8       | 4   |
| 15  | 537-2001041001R  | SCREW          | MP(+)2*4       | 2   |
| 16  | 527-3014060811AR | SCREW          | SP(+)3*6 DT H  | 2   |
| 17  | 537-3001060801AR | SCREW          | MP(+)3*6       | 8   |
| 18  | 537-3001100801AR | SCREW          | MP(+)3*10      | 3   |
| 19  | 306-1455000000R  | HEATSINK       |                | 1   |
| 20  | 500-3050240800AR | NUT            | M3.0           | 3   |
| 21  | 088-1455000000R  | MAIN PCBA      |                | 1   |
| 22  | 044-0700000000R  | POWER JACK     |                | 1   |
| 23  | 043-0306100601R  | SWITCH         |                | 1   |



# ELECTRONICS PARTS LIST

EZM mini mixer 20X2FX

| R/N | P/N             | PART NAME   | DESCRIPTION   | QIA | LOCATION   |
|-----|-----------------|-------------|---------------|-----|--|
| 1   | 088-1455000000R | MASTER PCBA |               | 1   |  |
| 2   | 053-1455001600R | PCB         |               | 1   |  |
| 3   | 002-1102032010R | RESISTOR    | 1.1K1/8W 1%   | 1   | R47  |
| 4   | 002-1302031010R | RESISTOR    | 1.3K1/8W 1%   | 8   | R105A-D 106A-D   |
| 5   | 002-1502031010R | RESISTOR    | 1.5K1/8W 1%   | 5   | R130A-D R309   |
| 6   | 002-1003011010R | RESISTOR    | 10K1/8W 1%    | 24  | R103A-D R104A-D R120A-D<br>R3-4 R7A-B R311 R328-331<br>R310 R314-315 |
| 7   | 002-1003032010R | RESISTOR    | 10K 1/8W 1%   | 1   | R7   |
| 8   | 002-1500032010R | RESISTOR    | 150R 1/8W 5%  | 4   | R52-53 R15-16  |
| 9   | 002-2202011010R | RESISTOR    | 2.2K 1/8W 1%  | 5   | R31-32 R62 R324-325  |
| 10  | 001-3901205010R | RESISTOR    | 390 1/4W 5%   | 1   | R8   |
| 11  | 002-4701011010R | RESISTOR    | 470R 1/8W 1%  | 2   | R326-327   |
| 12  | 002-1002032010R | RESISTOR    | 1K 1/8W 1%    | 1   | R48  |
| 13  | 002-1105031010R | RESISTOR    | 1M 1/8W 1%    | 1   | R312   |
| 14  | 002-1000022050R | RESISTOR    | 10R1/8W 5%    | 2   | R20-21   |
| 15  | 002-2492031010R | RESISTOR    | 2.49K 1/8W 1% | 8   | R109A-D R110A-D  |
| 16  | 002-5101032010R | RESISTOR    | 510R 1/8W 1%  | 2   | R50-51   |
| 17  | 002-2003011010R | RESISTOR    | 20K 1/8W 1%   | 4   | R116A-D  |
| 18  | 002-2003032010R | RESISTOR    | 20K 1/8W 1%   | 1   | R22  |
| 19  | 002-2201032010R | RESISTOR    | 220R 1/8W 1%  | 1   | R49  |
| 20  | 002-2203031010R | RESISTOR    | 22K 1/8W 5%   | 16  | R122A-D R208A-D R209A-D<br>R11-12 R40-41                             |
| 21  | 002-1002071050R | RESISTOR    | 100R 1/16W 5% | 3   | R35-36 R332  |
| 22  | 002-2702011050R | RESISTOR    | 2.7K 1/8W 5%  | 12  | R121A-D 136A-D 137A-D  |
| 23  | 002-2200032050R | RESISTOR    | 22R 1/8W 5%   | 4   | R 37-38 54-55  |
| 24  | 002-2703031010R | RESISTOR    | 27K 1/8W 1%   | 2   | R29-30   |
| 25  | 002-3602031010R | RESISTOR    | 3.6K 1/8W 1%  | 2   | R43-44   |
| 26  | 002-3603031010R | RESISTOR    | 36K 1/8W 1%   | 4   | R124A-D  |
| 27  | 002-3651012010R | RESISTOR    | 3.65K 1/8W 1% | 1   | R73  |
| 28  | 002-3902031010R | RESISTOR    | 3.9K 1/8W 1%  | 12  | R123A-D 221A-D 222A-D  |
| 29  | 002-3900031010R | RESISTOR    | 3.9R 1/8W 1%  | 12  | R101A-D R102A-D R113A-D  |
| 30  | 002-4024022010R | RESISTOR    | 390K 1/10W 1% | 1   | R18  |
| 31  | 002-3302011010R | RESISTOR    | 3.3K 1/8W 1%  | 8   | R316-R323  |
| 32  | 002-4703021010R | RESISTOR    | 47K 1/8W 1%   | 16  | R127A-D R33-34 R7C-D<br>R212A-D R213A-D                              |
| 33  | 002-5102031010R | RESISTOR    | 5.1K 1/8W 1%  | 10  | R128A-D R129A-D R9-10  |
| 34  | 002-5101031010R | RESISTOR    | 510R 1/8W 1%  | 8   | R107A-D R108A-D  |



# ELECTRONICS PARTS LIST

EZM mini mixer 20X2FX

| R/N | P/N             | PART NAME | DESCRIPTION   | QIA | LOCATION  |
|-----|-----------------|-----------|---------------|-----|---|
| 35  | 002-5601011050R | RESISTOR  | 560R 1/8W 5%  | 8   | R118A-D 135A-D  |
| 36  | 002-5603031050R | RESISTOR  | 56K 1/16W5%   | 2   | R19 R61   |
| 37  | 002-6202032010R | RESISTOR  | 6.2K 1/8W 1%  | 2   | R45-46  |
| 38  | 002-9103032010R | RESISTOR  | 91K 1/8W 1%   | 2   | R23-24  |
| 39  | 002-4702011010R | RESISTOR  | 4.7K 1/8W 1%  | 34  | R5-6 R39 R42 R114A-D 115A-D R131A-D R216A-D 217A-D R28 R313 R210A-D R211A-D           |
| 40  | 002-6802031010R | RESISTOR  | 6.8K 1/8W 1%  | 41  | R1-2 R117A-D R119A-D R125A-D R126A-D R132A-D R218A-D R219A-D R220A-D R9A-D R60 R71-72 |
| 41  | 002-8201031010R | RESISTOR  | 820R 1/8W 1%  | 8   | R111A-D R11 2A-D  |
| 42  | 002-5109021010R | RESISTOR  | 5.1R 1/10W 1% | 1   | R333  |
| 43  | 001-3300308050R | RESISTOR  | 33R 2W 5%     | 1   | R17   |
| 44  | 002-1204031050R | RESISTOR  | 120K 1/8W 5%  | 2   | R25-26  |
| 45  | 002-1203011005R | RESISTOR  | 12K 1/16W 5%  | 32  | R200A-D R201A-D R202A-D R203A-D R204A-D R205A-D R206A-D R207A-D                       |
| 46  | 002-1201032010R | RESISTOR  | 120R 1/8W 1%  | 4   | R8A-D   |
| 47  | 001-6802203010R | RESISTOR  | 6.8K 1/8W F   | 8   | R133A-D R134A-D   |
| 48  | 001-1003203010R | RESISTOR  | 10K 1/8W F    | 1   | R27   |
| 49  | 007-6800051060R | CAPACITOR | 680PF/50V     | 12  | C105A-D C106A-D C124A-D   |
| 50  | 006-1014040731R | CAPACITOR | 10UF/16V      | 2   | C337-338  |
| 51  | 006-2214040731R | CAPACITOR | 22UF/16V      | 2   | C54 C55   |
| 52  | 006-0104051143R | CAPACITOR | 1UF/25V       | 6   | C316 C318 C321 C340 C345 C347   |
| 53  | 006-2291081463R | CAPACITOR | 2.2UF/50V     | 6   | C125A-D C319-320  |
| 54  | 006-2214051118R | CAPACITOR | 220UF/6.3V    | 8   | C214A-D C215A-D   |
| 55  | 006-1024101223R | CAPACITOR | 1000UF/10V    | 4   | C109A-D   |
| 56  | 006-4711102053R | CAPACITOR | 470UF/35V     | 2   | C33-34  |
| 57  | 006-2214102073R | CAPACITOR | 220UF/63V     | 1   | C41   |
| 58  | 006-1004051143R | CAPACITOR | SM10UF/25V    | 27  | C13-14 C103A-D C104A-D C120A-D C210A-D C211A-D C37 C39 C309-310 C311                  |
| 59  | 006-4704081173R | CAPACITOR | 47UF 63V      | 10  | C101A-DC102A-D C50-51   |
| 60  | 006-4704101392R | CAPACITOR | 47UF/100V     | 2   | C46-47  |
| 61  | 006-1014081673R | CAPACITOR | 100UF/63V     | 2   | C44-45  |
| 62  | 014-5620100001R | CAPACITOR | 5N6/50V       | 4   | C116A-D   |
| 63  | 014-1530100002R | CAPACITOR | 15N/63V       | 8   | C112A-D C115A-D   |
| 64  | 013-1230110501R | CAPACITOR | 12NF50V       | 4   | C114A-D   |



# ELECTRONICS PARTS LIST

EZM mini mixer 20X2FX

| R/N | P/N             | PART NAME       | DESCRIPTION            | QIA | LOCATION   |
|-----|-----------------|-----------------|------------------------|-----|--|
| 65  | 006-4704051143R | CAPACITOR       | 47UF/25V               | 35  | C3-6 C9-10 C17-20 C27-32<br>C35-36 C42-43 C53 C111A-D<br>C121A-D C123A-D C312  |
| 66  | 007-2201051060R | CAPACITOR       | 0603 220PF/50 V        | 1   | C306   |
| 67  | 007-1002051041R | CAPACITOR       | 0603 102/50V           | 6   | 325-330  |
| 68  | 008-1001005015R | CAPACITOR       | 100PF/50V              | 4   | C113A-D  |
| 69  | 007-1001051060R | CAPACITOR       | 0603 100NF/50 V        | 16  | C110A-D C119A-D C208A-D<br>C209A-D   |
| 70  | 007-1001051041R | CAPACITOR       | 0603 100PF/50 V        | 18  | C200A-D C201A-D C202A-D<br>C203A-D C11-12  |
| 71  | 007-1004051050R | CAPACITOR       | 0603 0.1UF/50 V        | 21  | C23 C24 C25 C26 C48-49<br>C58-59 C307-308 C313-315<br>C317 C331-332 C341-344<br>C346                                     |
| 72  | 007-2209051060R | CAPACITOR       | 0603 22PF/50 V         | 47  | C1-2 C7-8 C15-16 C21-22<br>C38 C56-57 C122A-D C204A-<br>D C205A-D C206A-D C207A-D<br>C212A-D C213A-D C118A-D<br>C333-336 |
| 73  | 007-3301051041R | CAPACITOR       | 0603 330PF/25 V        | 8   | C107A-D C108A-D  |
| 74  | 067-3300047006R | DIODE           | BZX55C47               | 1   | D15  |
| 75  | 067-2204004000R | DIODE           | IN4004                 | 8   | D7-14  |
| 76  | 067-2204148111R | DIODE           | IN4148                 | 17  | D1-6 D101A-D 102A-D D16-18   |
| 77  | 019-0311022001R | LED             | 3.0RED                 | 8   | LED1 LED6 LD1A-D LED10-11  |
| 78  | 019-0322022001R | LED             | GREEN                  | 6   | LED2-4 LED7-9  |
| 79  | 019-0333122001R | LED             | YELLOW                 | 1   | LED5   |
| 80  | 222-0120403011R | LAMP SUPPORT    | 3*12                   | 15  | LED1-11 LD1A-D   |
| 81  | 018-2905401227R | SMT DARLINGTONS | 2N5401S                | 8   | Q1A-D Q2A-D  |
| 82  | 018-2905551227R | SMT DARLINGTONS | 2N5551S                | 16  | Q3A-D Q4A-D Q7A-D Q8A-D  |
| 83  | 018-2700056227R | SMT DARLINGTONS | MBTA56                 | 2   | Q5-6   |
| 84  | 018-9200006115R | SMT DARLINGTONS | KSP06                  | 2   | Q9-10  |
| 85  | 017-0190000000R | IC              | NJM7815AF              | 1   | U1   |
| 86  | 017-1830000000R | IC              | KIA7915                | 1   | U2   |
| 87  | 017-1005000000R | SMT IC          | LM339DT                | 2   | IC6-7  |
| 88  | 017-9090000000R | SMT IC          | AZ4580 SOIC-8<br>W=3.9 | 23  | IC1-3 IC5 IC8 IC9 IC1A-D<br>IC2A-D IC3A-D IC4A-DI C301   |
| 89  | 017-0950000000R | IC              | LM7805T/CV(1.0A )      | 1   | U6   |
| 90  | 017-3210000000R | IC              | NJM4556 JRC            | 1   | IC4  |
| 91  | 096-0070000000R | JACK            | 3.5mm JACK             | 3   | CN4-5 CN7  |
| 92  | 049-2102224111R | JACK            | 6.3mm JACK             | 15  | CN1-2 CN6 CN101A-D CN201A-<br>D CN202A-D   |



# ELECTRONICS PARTS LIST

EZM mini mixer 20X2FX

| R/N | P/N               | PART NAME     | DESCRIPTION              | QIA | LOCATION                                    |
|-----|-------------------|---------------|--------------------------|-----|---|
| 93  | 044-3170000000R   | RCA JACK      | AV4-8.4-32C27*27*13.5MM  | 1   | CN3   |
| 94  | 040-1400000000 R  | BUTTON SWICH  | JPS2281EA                | 7   | S1-2 S4 SW200A-D                            |
| 95  | 040-2500000000 R  | BUTTON SWICH  | 4P2T H=15MM (SPEA12MC03) | 1   | S3  |
| 96  | 020-5022124114 R  | POTENTIOMETER | 5KZY                     | 4   | VR101A-D                                    |
| 97  | 020-5032111115B R | POTENTIOMETER | 50KB                     | 20  | VR102A-D VR103A-D VR104A-D VR107AD VR202A-D |
| 98  | 020-1032117125AR  | POTENTIOMETER | 10KAC*2                  | 8   | VR106A-D VR201A-D                           |
| 99  | 020-5032122115 R  | POTENTIOMETER | 50KW                     | 4   | VR105A-D                                    |
| 100 | 020-5032122125 R  | POTENTIOMETER | 50KW*2                   | 8   | VR1-3 VR200A-D VR2A                         |
| 101 | 048-1700000000R   | XLR JACK      | NYS139 K3Y1              | 4   | CN100A-D                                    |
| 102 | 017-9540000000R   | SMT IC        | BD3201-14                | 1   | U5  |
| 103 | 017-1006000000R   | SMT IC        | CS5340                   | 1   | U3  |
| 104 | 017-1007000000R   | SMT IC        | CS4340                   | 1   | U4  |
| 105 | 059-1228802111R   | CRYSTAL       | 12.288MHZ-20pf-20PPM     | 1   | X1  |
| 106 | 020-0002120165 R  | EFFECT SWITCH | 16 PIN ROTARY SWITCH     | 1   | SW3   |
| 107 | 056-4103220000R   | 3P JACK       | 1136S-3P                 | 2   | JP1-2                                       |
| 108 | 022-1057013341R   | AC ADAPTER    | AC 19V/1000MA            | 1   |   |