

SIGNAL PROCESSOR
DFX256

SERVICE MANUAL



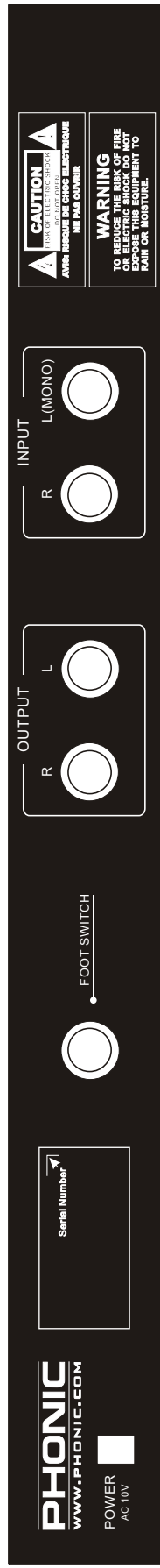
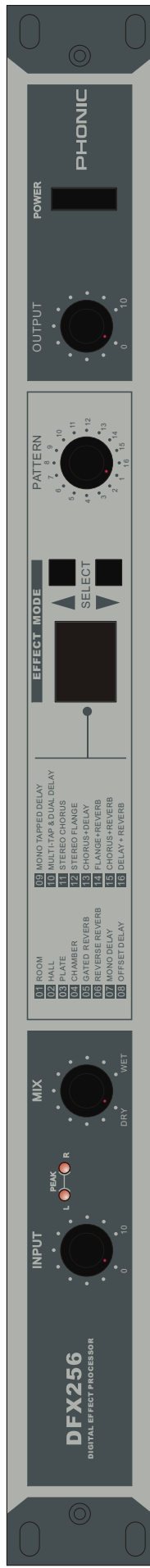
SIGNAL PROCESSOR DFX256

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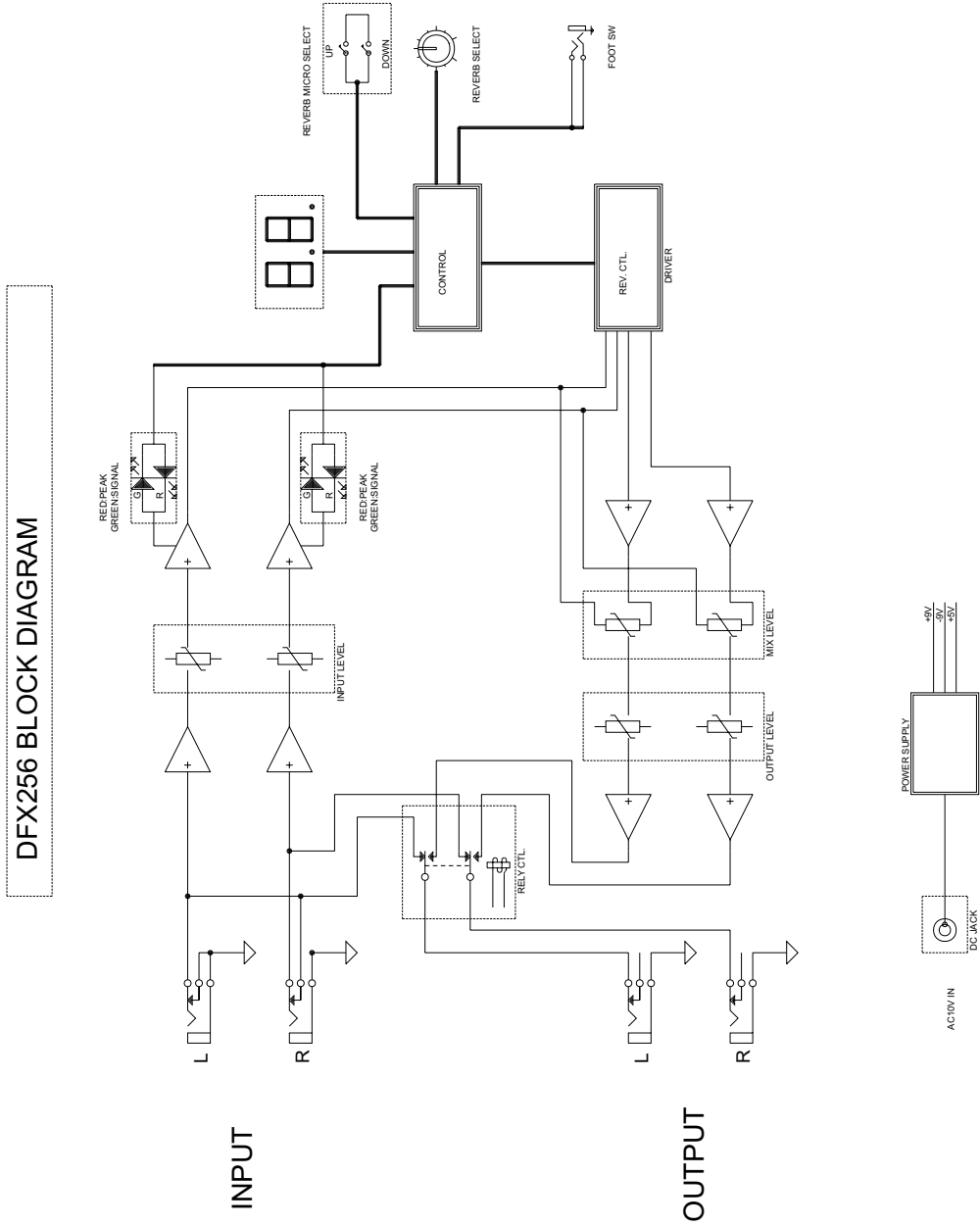
CONTENTS

| | | | |
|-------------------------------------|--------------|---|--------------|
| CONTENTS | 2 | REVERB PCB | 14 |
| PANEL LAYOUT | 3 | REVERB DSP SCHEMATIC | 15 |
| SYSTEM BLOCK DIAGRAM | 4 | REVERB CONTROL SCHEMATIC | 16 |
| PANEL PCB | 5 | INPUT BOARD PCB- PART LIST | 17~18 |
| PANEL CTL SCHEMATIC | 6 | MISCELLANEOUS ITEMS- PART LIST | 19 |
| PANEL PCB- PART LIST | 7~8 | POWER REQUIREMENT CLASSIFICATION | 20 |
| ANALOG PCB | 9 | EXPLODED VIEW | 21 |
| ANALOG INPUT SCHEMATIC | 10 | | |
| POWER SUPPLY SCHEMATIC | 11 | | |
| ANALOG PCB- PART LIST | 12~13 | | |

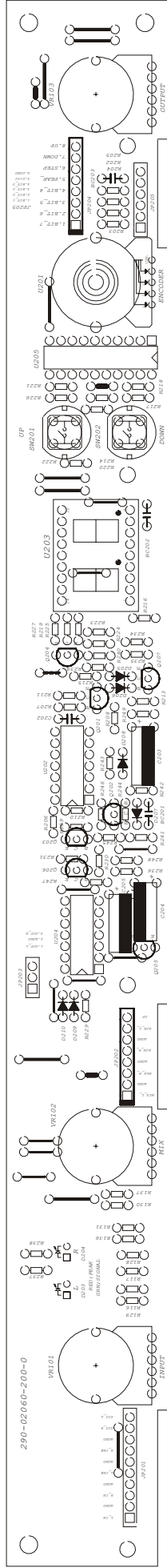
PANEL LAYOUT



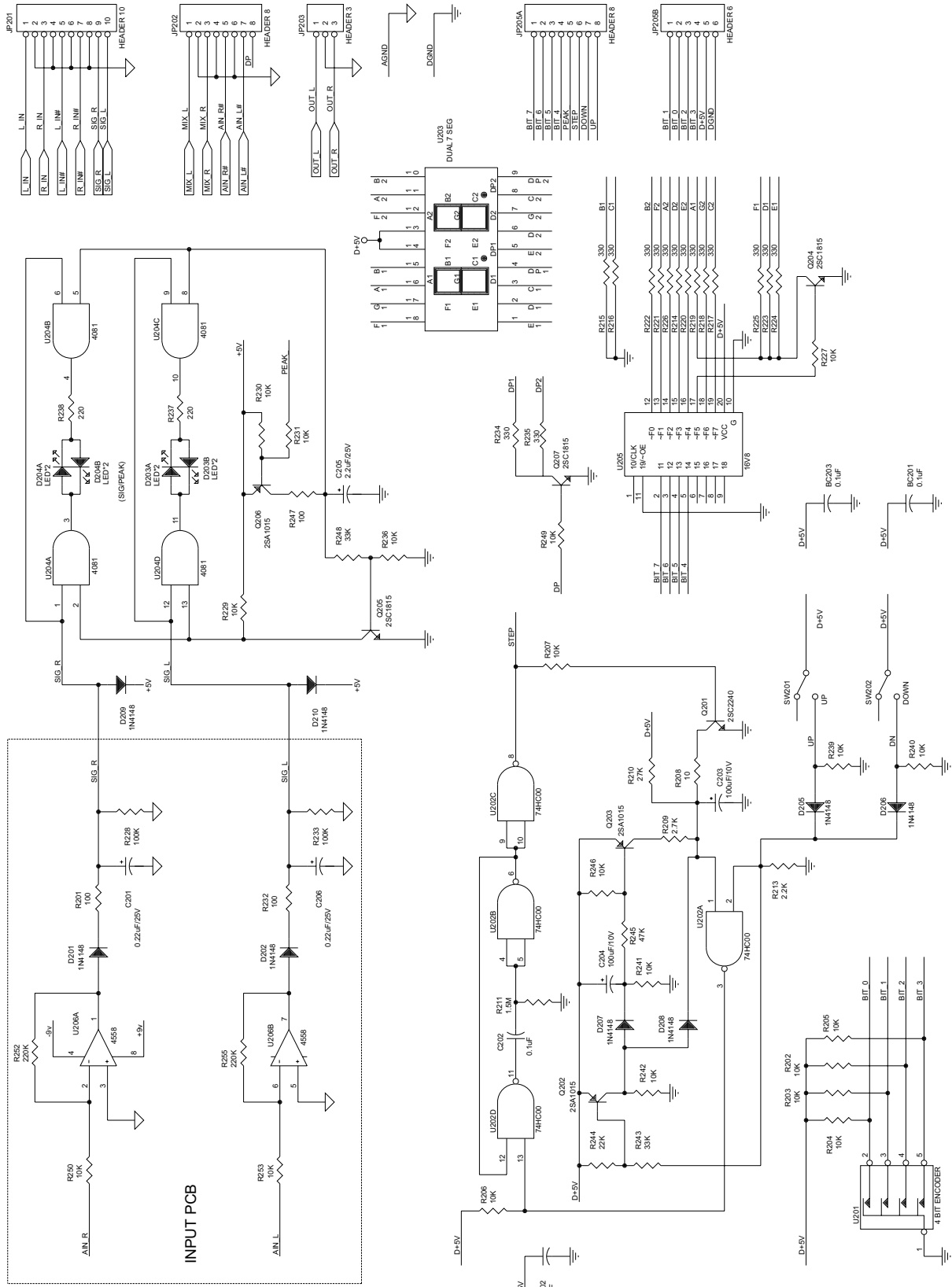
SYSTEM BLOCK DIAGRAM



PANEL PCB



PANELCTL SCHEMATIC



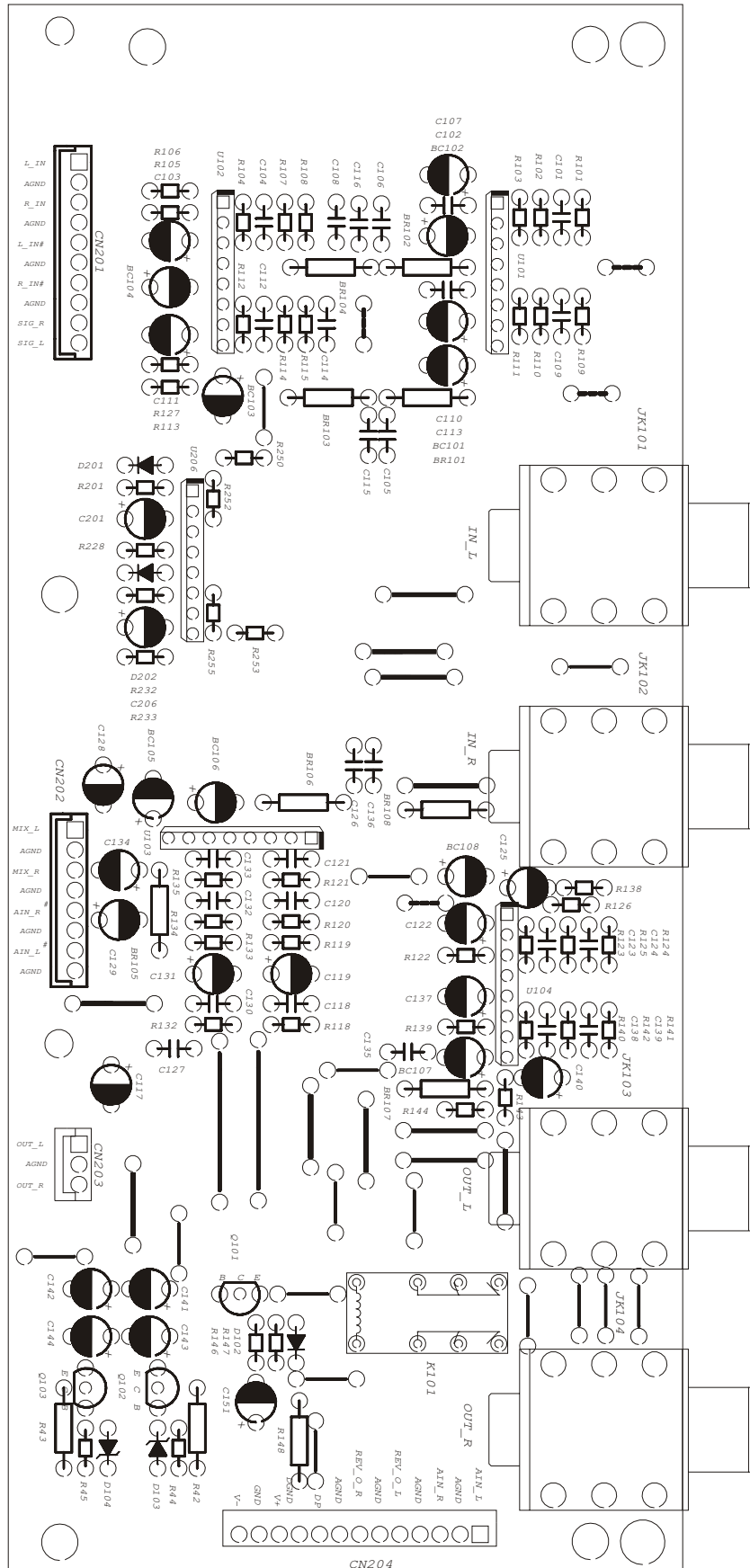
PANEL PCB- PART LIST

| Ref. | Phonic Part No. | Specifications |
|--|------------------------|---|
| | 290-02060-200-0 | PCB VERBIFEX-B 片 PANEL |
| | 382-20005-010-0 | TINNER WIRE 5.0MM D0.6 |
| | 382-20007-510-0 | TINNER WIRE 7.5MM D0.6 |
| | 382-20010-010-0 | TINNER WIRE 10MM D0.6 |
| BC201-203.C202 | 042-10426-050-0 | C/C2 0.1MF M 50V 5 T |
| C203.204 | 030-10718-0A0-0 | E/C 100MF Z 10V 6*11 5 T |
| C205 | 030-22558-0A0-0 | E/C 2.2MF Z 50V 5*11 T |
| D203.204 | 100-00060-030-0 | LED LEG2062 |
| D205-208.209.210 | 090-02000-020-0 | DIODE 1N4148 T |
| JP201 | 212-10100-280-0 | 10P WAFER/P 80MM UL1007#24 P=2.5MM |
| JP202 | 212-10080-460-0 | 8P WAFER/P 80MM UL1007#24 P=2.5MM |
| JP203 | 212-10031-010-6 | 3P WAFER/P 80MM UL1007#24 P=2.5MM |
| JP204, JP205 | 212-10140-110-0 | 14P WAFER/P 100MM 8+6 UL1007#24 PH=2.5 |
| LED*2 | 615-20082-620-0 | LED HOUSING LED3-8 |
| Q201 | 120-00001-010-0 | TRAN 2SC2240-BL TOSHIBA |
| Q202.203.206 | 121-00000-200-0 | TRAN. 2SA1015 GR TOSHIBA |
| Q204.205.207 | 120-00000-800-0 | TRAN. 2SC1815 GR TOSHIBA |
| R116.117.130.131 | 000-47206-400-0 | CF RES 4.7K J 0.0625W T |
| R128.136 | 000-24206-400-0 | CF RES 2K4 J 0.0625W T |
| R129.137 | 000-20306-400-0 | CF RES. 20K J 0.0625W T |
| R202-207.239-242.246.227. 229-231.236.249 | 000-10306-400-0 | CF RES. 10K J 0.0625W T |
| R208 | 000-10006-400-0 | CF RES. 10 J 0.0625W T |
| R209 | 000-27206-400-0 | CF RES. 2K7 J 0.0625W T |
| R210 | 000-27306-400-0 | CF RES. 27K J 0.0625W T |
| R211 | 000-15506-400-0 | CF RES 1M5 J 0.0625W T |
| R213 | 000-22206-400-0 | CF RES. 2K2 J 0.0625W T |
| R214-226.234.235 | 000-33106-400-0 | CF RES. 330 J 0.0625W T |
| R237.238 | 000-22106-400-0 | CF RES. 220 J 0.0625W T |

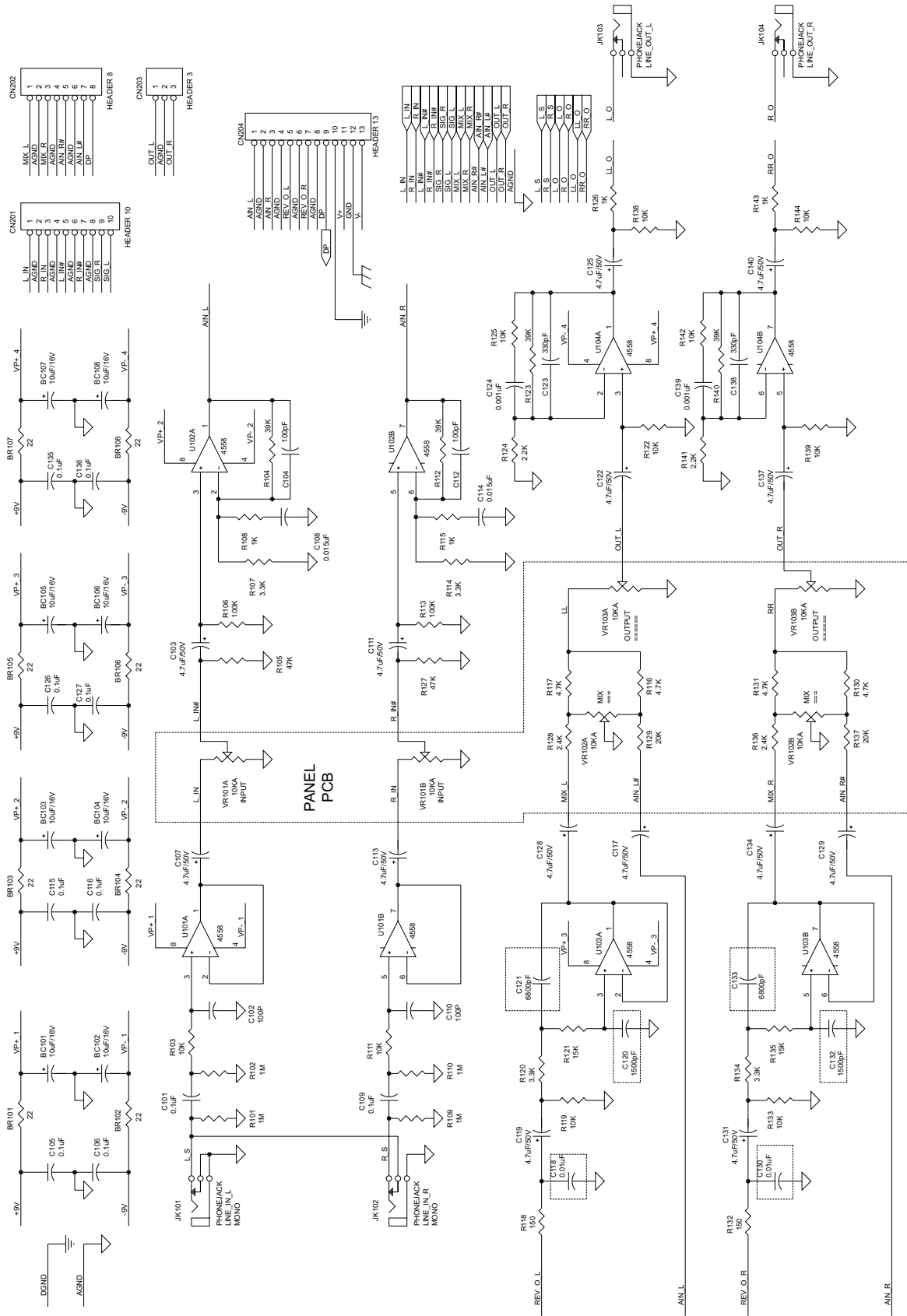
PANEL PCB- PART LIST

| Ref. | Phonic Part No. | Specifications |
|-------------|------------------------|--|
| R243.248 | 000-33306-400-0 | CF RES. 33K J 0.0625W T |
| R244 | 000-22306-400-0 | CF RES. 22K J 0.0625W T |
| R245 | 000-47306-400-0 | CF RES. 47K J 0.0625W T |
| R247 | 000-10106-400-0 | CF RES. 100 J 0.0625W T |
| SW201.202 | 210-02101-040-0 | PSH/SW SK12030-0102-4S-NB-3 |
| TACT SW*2 | 615-20076-620-0 | TRAN WASHER TRC-601 |
| U201 | 210-16000-010-0 | ENCODER SDB161P VB15.5F-1-4-16-16PC |
| U202 | 171-00000-020-0 | CMOS IC 74HCT00 |
| U203 | 100-02000-060-0 | 7 SEG/LED LDD5062-20(GREEN) |
| U204 | 172-00001-600-0 | CMOS IC CD4081BE RCA |
| U205 | 177-02000-311-0 | GAL IC 16V8D-15LP LATTICE |
| U205 | 211-11202-002-0 | IC/S 20P 9.8*25MM (NARROW) |
| VR101-103 | 023-10320-080-0 | D.ROT/VR 10KA 15MM P |

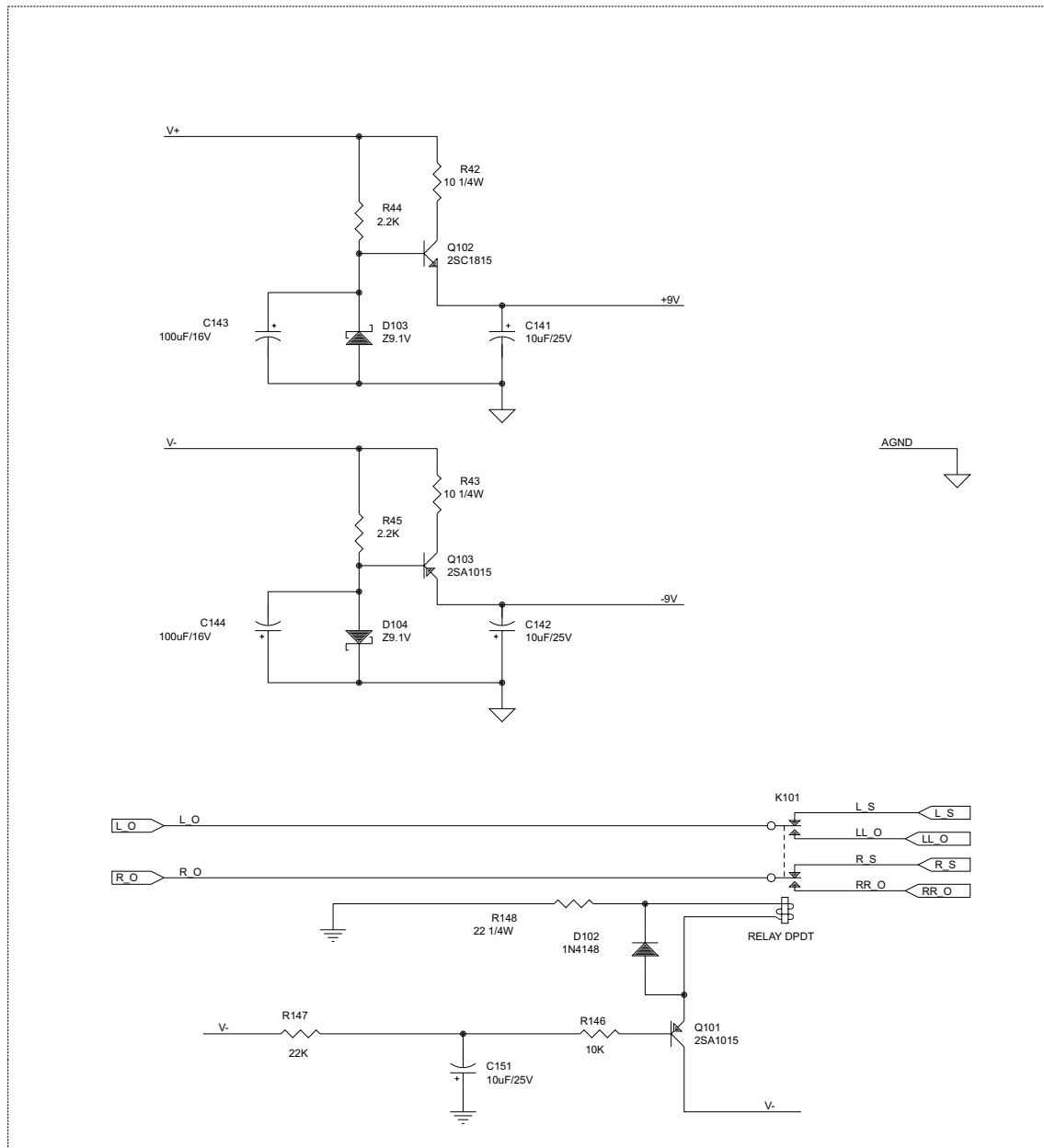
ANALOG PCB



ANALOG INPUT SCHEMATIC



POWER SUPPLY SCHEMATIC



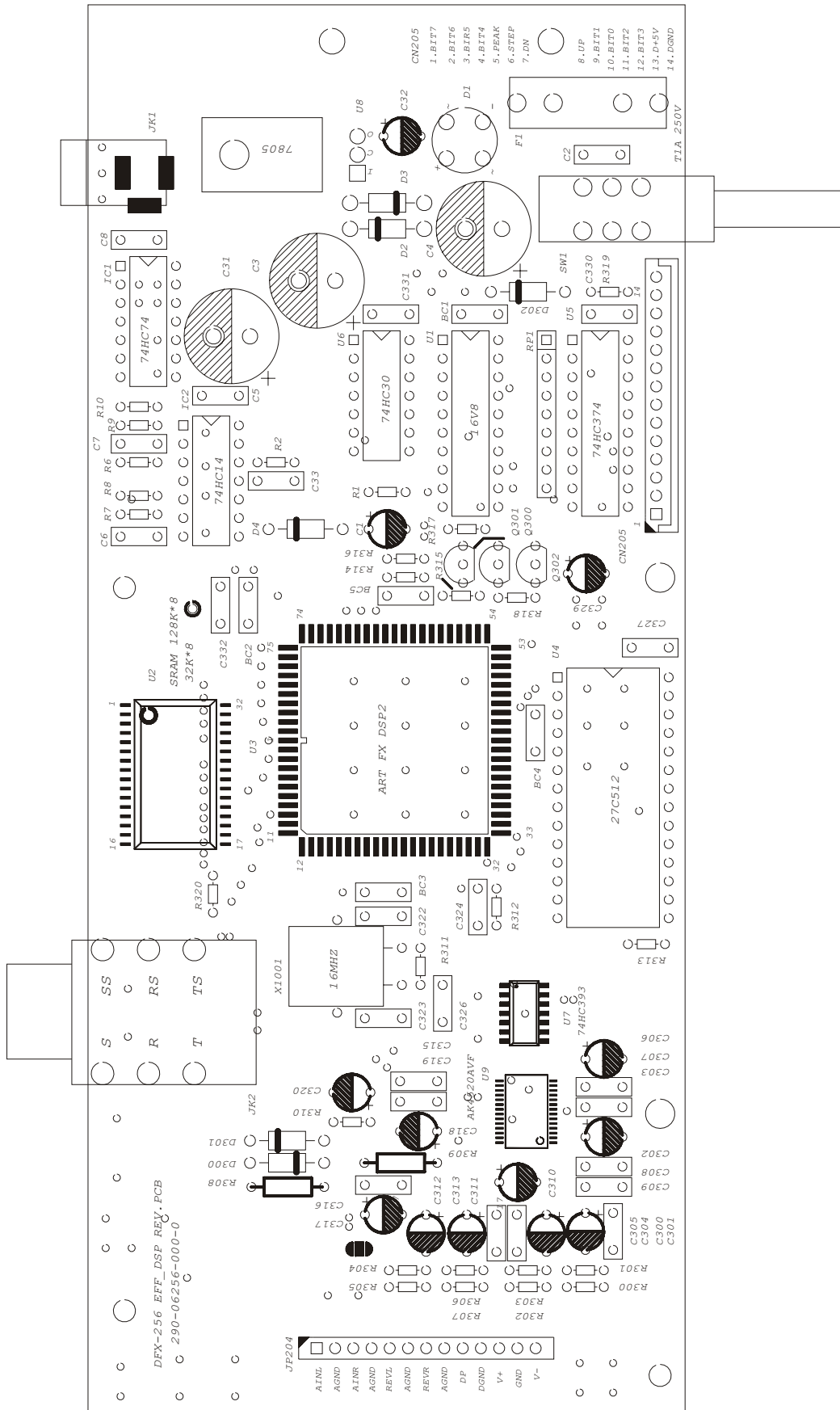
ANALOG PCB- PART LIST

| Ref. | Phonic Part No. | Specifications |
|--|------------------------|--|
| | 290-02060-100-0 | PCB VERBIFEX-A INPUT |
| | 382-20005-010-0 | TINNER WIRE 5.0MM D0.6 |
| | 382-20007-510-0 | TINNER WIRE 7.5MM D0.6 |
| | 382-20012-510-0 | TINNER WIRE 12.5MM D0.6 |
| BR101-108 | 382-20010-010-0 | TINNER WIRE 10MM D0.6 |
| C101.105.106.109.115.116.126. 127.135.136 | 042-10426-050-0 | C/C2 0.1MF M 50V 5 T |
| C103.107.111.113.117.119.122. 125.128.129.131.134.137.140 | 030-47558-0A0-0 | E/C 4.7MF Z 50V 5*11 T |
| C104.112.102.110 | 042-10124-050-0 | C/C2 100PF J 50V T |
| C108.114 | 046-15305-060-0 | M/C 0.015UF K 50V T |
| C123.138 | 042-33125-050-0 | C/C2 330PF K 50V T |
| C124.139 | 046-10204-060-0 | M/C 0.001MF J 50V 5 T |
| C143.144 | 030-10728-0A0-0 | E/C 100MF Z 16V 6*11 T |
| C151.141.142 | 030-10638-0A0-0 | E/C 10MF Z 25V 5*11 T |
| C221.226 | 030-22439-0A0-0 | E/C 0.22MF B 25V 5*11 T |
| CN21 | 211-10101-080-0 | 10P WAFER/S 2532-10 180DEGREE |
| CN22 | 211-10081-060-0 | 8P WAFER/S 2532-08 180 DEGREE |
| CN23 | 211-10031-171-0 | 3P WAFER/S TJC3-3A PH=2.5MM 180 DEGREE |
| CN24 | 211-10131-020-0 | 13P WAFER/S A2501WV2-13P P=2.5MM 180 DEGREE |
| D102.201.202 | 090-02000-020-0 | DIODE 1N4148 T |
| D103.104 | 090-01912-000-0 | ZEN/DIODE 9.1V J 0.5W FAI |
| JK101-104 | 211-01602-301-0 | 6D3/J PJB0661-6R |
| K101,OEG | 076-00522-000-0 | RELAY OVR-SH-205L 1A125VAC 1.25A 24VDC |
| Q101.103 | 121-00000-200-0 | TRAN. 2SA1015 GR TOSHIBA |
| Q102 | 120-00000-800-0 | TRAN. 2SC1815 GR TOSHIBA |
| R101.102.109.110 | 000-10506-400-0 | CF RES. 1M J 0.0625W T |
| R104.112.123.140 | 000-39306-400-0 | CF RES. 39K J 0.0625W T |
| R105.127 | 000-47306-400-0 | CF RES. 47K J 0.0625W T |

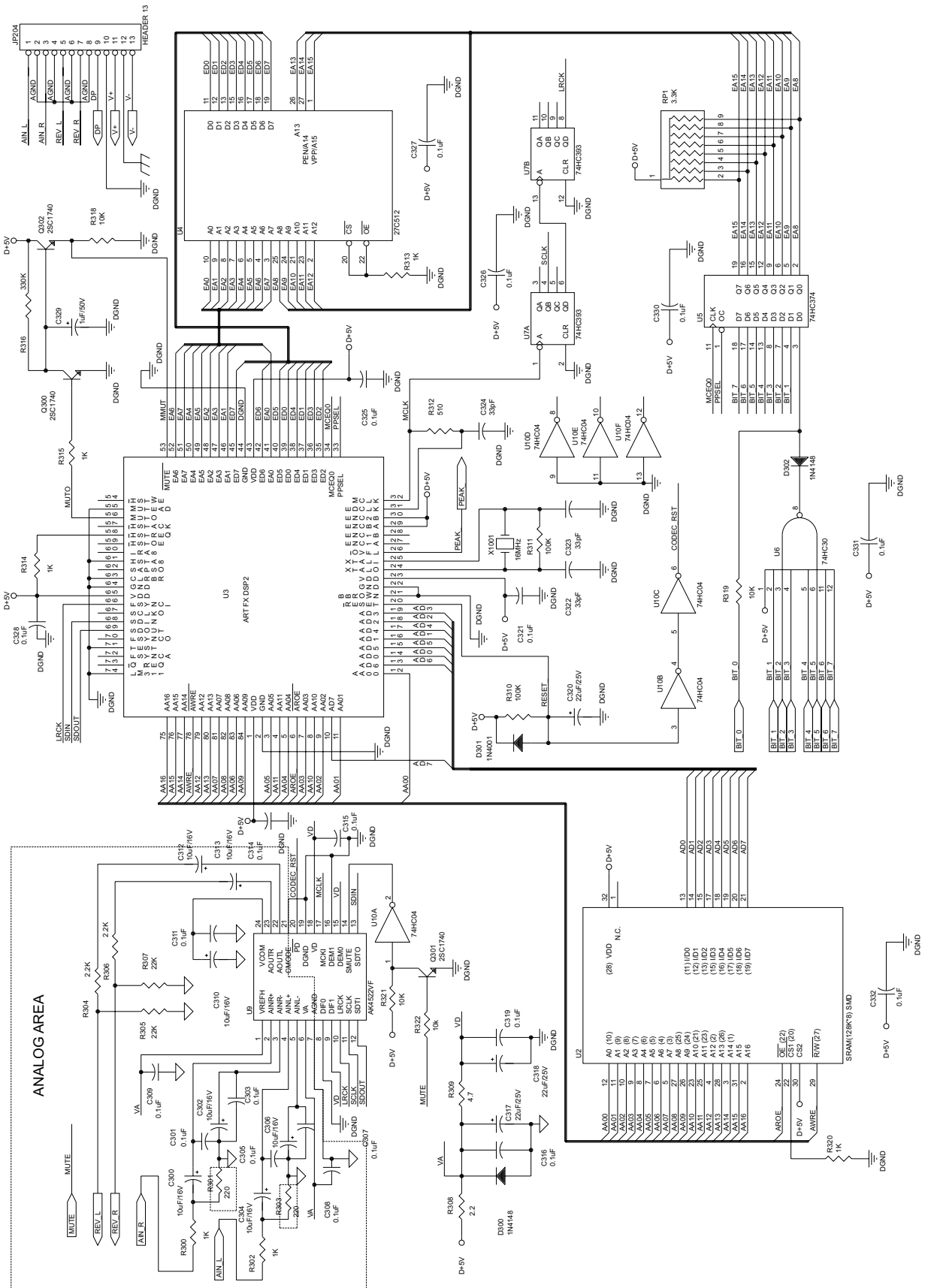
ANALOG PCB- PART LIST

| Ref. | Phonic Part No. | Specifications |
|--|------------------------|--------------------------|
| R106.113.228.233 | 000-10406-400-0 | CF RES. 100K J 0.0625W T |
| R107.114.120.134 | 000-33206-400-0 | CF RES. 3K3 J 0.0625W T |
| R118.132 | 000-15106-400-0 | CF RES.150J 0.0625W T |
| R119.122.125.133.138.139.142. 144.146.103.111.250.253 | 000-10306-400-0 | CF RES. 10K J 0.0625W T |
| R121.135 | 000-15306-400-0 | CF RES. 15K J 0.0625W T |
| R124.141.44.45 | 000-22206-400-0 | CF RES. 2K2 J 0.0625W T |
| R126.143.108.115 | 000-10206-400-0 | CF RES. 1K J 0.0625W T |
| R147 | 000-22306-400-0 | CF RES. 22K J 0.0625W T |
| R148 | 000-22026-400-0 | CF RES. 22 J 0.25W T |
| R201.232 | 000-10106-400-0 | CF RES. 100 J 0.0625W T |
| R252.255 | 000-22406-400-0 | CF RES. 220K J 0.0625W T |
| R420.430 | 000-10026-400-0 | CF RES. 10 J 0.25W T |
| U101-104.206 | 160-00017-900-0 | IC NJM4558LD JRC |

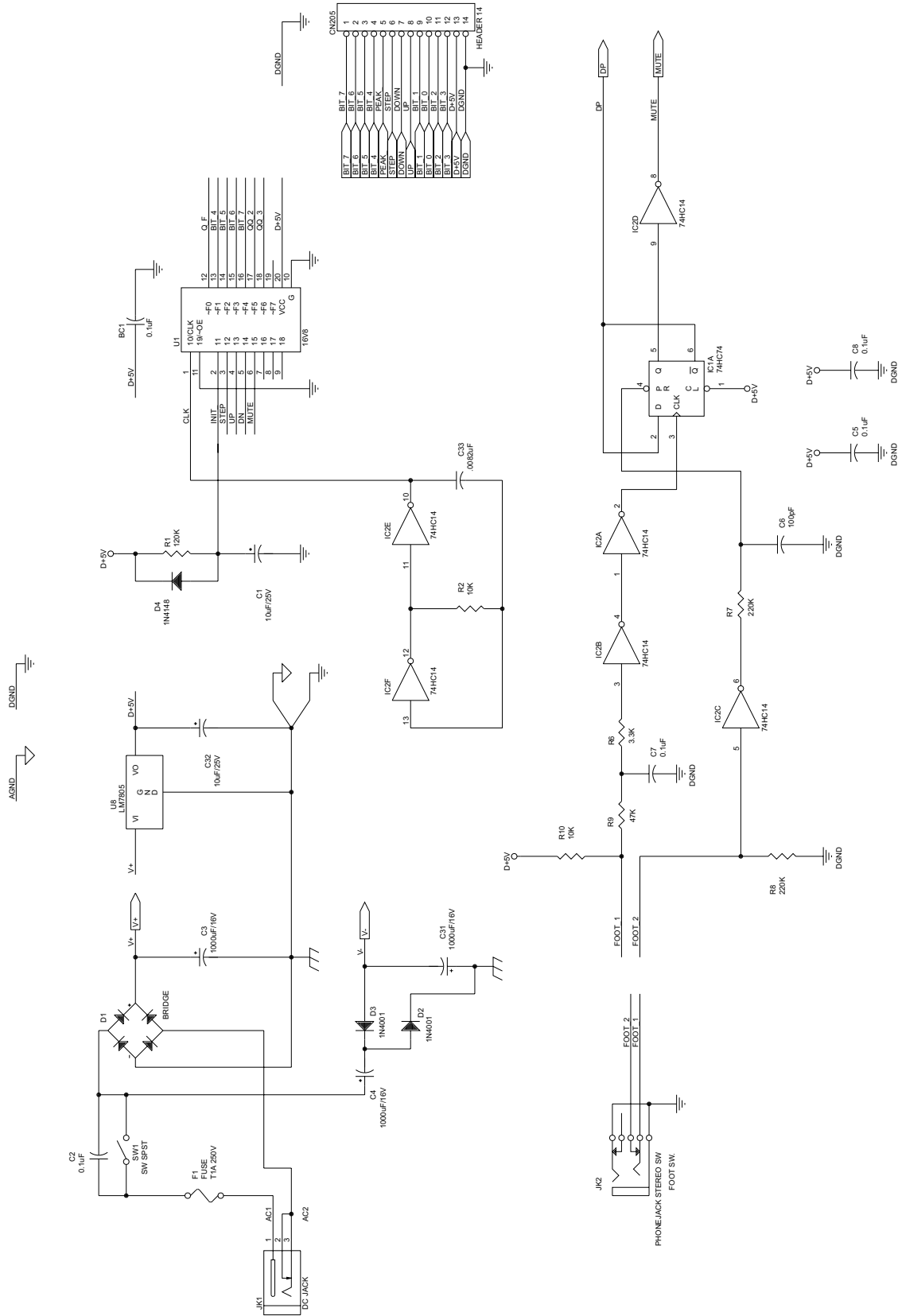
REVERB PCB



REVERB DSP SCHEMATIC



REVERB CONTROL SCHEMATIC



REVERB PCB- PART LIST

| Ref. | Phonic Part No. | Specifications |
|--|------------------------|--|
| | 290-06256-001-0 | DFX256 DIGITAL PCB |
| BC1.5.C2.5.7.8.303.307.308. 309.311.314.315.316.319.321. 325-328.330-332 | 042-10426-050-0 | C/C2 0.1MF M 50V 5 T |
| C1.32.300.302.304.306.310. 312.313 | 030-10638-0A0-0 | E/C 10MF Z 25V 5*11 T |
| C3.4.31 | 030-10838-006-0 | E/C 1000MF Z 25V 10*21 P |
| C301.305 | 042-22225-050-0 | C/C2 0.0022MF K 50V 5 T |
| C317.318.320 | 030-22638-0A0-0 | E/C 22MF Z 25V 5*11 T |
| C322.323.324 | 042-33024-050-0 | C/C2 33PF J 50V 5 T |
| C329 | 030-10558-0A0-0 | E/C 1MF Z 50V 5*11 T |
| C33 | 046-82204-060-0 | M/C 0.0082 MF J 50V 5 T |
| C6 | 042-10124-050-0 | C/C2 100PF J 50V T |
| CN25 | 211-10141-040-0 | 14P WAFER/S A2501WV2-14P P=2.5MM 180 DEGREE |
| D1 | 090-10000-000-0 | B/DIODE PB154 |
| D2.3.301 | 090-00000-020-0 | DIODE 1N4001 SILITEK T |
| D4.300.302 | 090-02000-020-0 | DIODE 1N4148 T |
| F1 | 280-1026E-000-0 | FUSE T1A 250V S (UL/CSA/JIS/CE) |
| F1*2 | 281-00000-020-0 | FUSE CLIP FH-1206 |
| IC1 | 171-00000-310-0 | CMOS IC HD74HC74P HITACHI |
| IC2 | 171-00003-500-0 | CMOS IC 74HC14 HITACHI |
| JK1 | 211-02300-040-0 | 2D DC/J DJ-0702-020 |
| JK2 | 211-01602-301-0 | 6D3/J PJB0661-6R |
| JP24 | 212-10130-040-0 | 13P WAFER/P 60MM UL1007#24 P=2.5MM |
| L1 | 382-20010-010-0 | TINNER WIRE 10MM D0.6 |
| Q300.301.302 | 120-00004-600-0 | TRAN. 2SC1740 LN-R ROHM |
| R1 | 000-12406-400-0 | CF RES. 120K J 0.0625W T |
| R2.10.318.319.321.322 | 000-10306-400-0 | CF RES. 10K J 0.0625W T |
| R300.302.313.314.315.320 | 000-10206-400-0 | CF RES. 1K J 0.0625W T |
| R301.303 | 000-56106-400-0 | CF RES. 560 J 0.0625W T |
| R304.306 | 000-22206-400-0 | CF RES. 2K2 J 0.0625W T |

REVERB PCB- PART LIST

| Ref. | Phonic Part No. | Specifications |
|-------------|------------------------|--|
| R305.307 | 000-22306-400-0 | CF RES. 22K J 0.0625W T |
| R308 | 000-22726-400-0 | CF RES. 2.2 J 0.25W T |
| R309 | 000-47726-400-0 | CF RES. 4.7 J 0.25W T |
| R310.311 | 000-10406-400-0 | CF RES. 100K J 0.0625W T |
| R312 | 000-51106-400-0 | CF RES. 510 J 0.0625W T |
| R316 | 000-33406-400-0 | CF RES 330K J 0.0625W Y |
| R6 | 000-33206-400-0 | CF RES. 3K3 J 0.0625W T |
| R7.8 | 000-22406-400-0 | CF RES. 220K J 0.0625W T |
| R9 | 000-47306-400-0 | CF RES. 47K J 0.0625W T |
| RP1 | 017-08090-010-0 | NETWORK RES. A8-332 J 9P 3.3K |
| SW1 | 210-02201-070-0 | P/SW SPUE19K04-PJ |
| U1 | 177-02000-321-0 | GAL IC 16V8D-15LP LATTICE |
| U1 | 211-11202-002-0 | IC/S 20P 9.8*25MM (NARROW) |
| U10 | 171-00000-220-0 | CMOS IC HD74HC04N (SMT) |
| U2 | 211-11282-001-0 | IC/S 28P 17*35MM (WIDTH) |
| U2 | 177-01004-700-0 | IC BS62LV1024SC-70 SOP BSI |
| U3 | 177-04013-000-0 | CHIP ART FX DSP2 84P JAPAN 100-1365-102 |
| U4 | 177-01003-510-0 | IC M27C512-12 SINGAPORE WINBOND |
| U5 | 171-00002-900-0 | CMOS IC PC74HC374P |
| U6 | 171-00002-800-0 | CMOS IC PC74HC30P |
| U7 | 170-00007-000-0 | TTL IC 74HC393 SMD |
| U8 | 160-00004-114-0 | IC UPC7805H NEC (KIA) |
| U8*1 | 526-20001-110-0 | HEAT SINK BLK 19*13*12 L=19MM |
| U8*1 | 590-53008-100-0 | M/E SET SCR. M3.0*8 NI |
| U8*1 | 600-00302-200-0 | HEX. NUT M3.0*2.2 ZN |
| U8*1 | 610-60301-006-0 | SPR .WAS. D3*D5*1 NI |
| U9 | 177-04022-000-0 | IC AK4522A-VF VSOP AKM |
| X101 | 300-16004-003-0 | CRYSTAL 16.000MHZ |

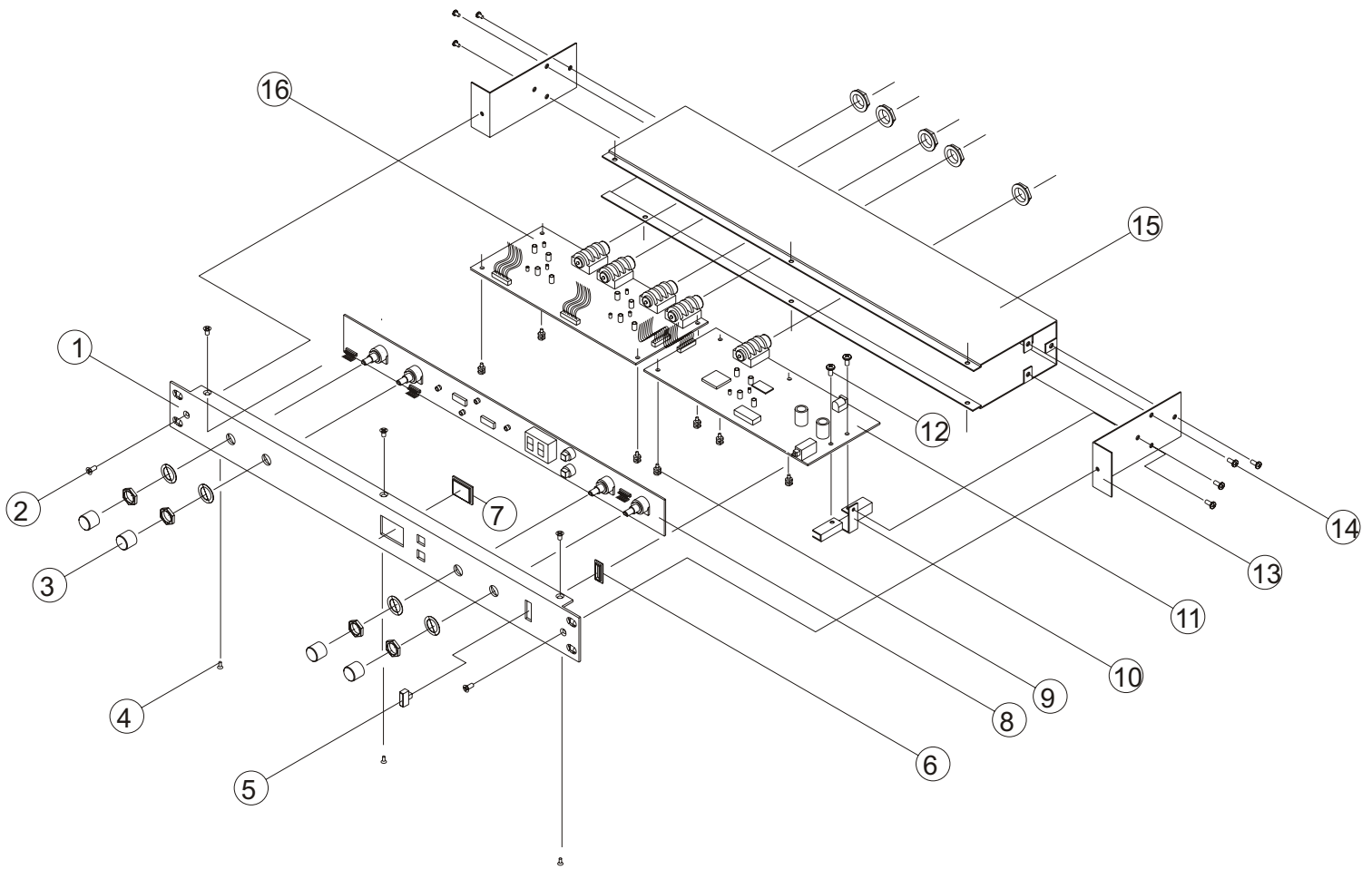
MISCELLANEOUS ITEMS

| Ref. | Phonic Part No. | Specifications |
|-----------------|------------------------|---|
| | 510-20700-300-0 | PANEL DFX256 |
| | 511-20470-300-0 | BACK PANEL DFX256 |
| | 529-20017-100-0 | ACRYLIC LENS 24.6*18.6*4 |
| | 543-20190-120-0 | P/KNOB BUSHING 17*5.5 BLK |
| | 551-20046-400-0 | PCB BRKT VERBIFEX BLK |
| | 560-20800-200-0 | CARTON: 522*420*346 (内) |
| | 561-21010-300-0 | G/B DFX256 |
| | 567-60003-000-0 | EPE+PAPER BOARD |
| | 568-20004-000-0 | PE BAG 550*300*0.05 |
| | 572-00000-050-0 | DRYER 5g |
| | 573-10063-012-0 | M.I.C LABEL 50*10MM |
| | 573-60240-000-0 | BAR CODE LABEL PHONIC |
| | 573-60343-000-0 | LABEL LEVEL METER PVC BLUE D=8mm |
| | 574-02060-112-0 | OWN. MANU. DFX256 |
| | S02-11000-000-0 | DFX256 MATERIAL |
| | 510-20700-300-F | PANEL DFX256 |
| | 511-20470-300-F | BACK PANEL DFX256 |
| | 551-20046-400-F | PCB BRKT DFX256 |
| | 551-20047-400-F | SIDE BRKT DFX256 |
| ALL VR*4 | 540-20260-120-0 | R/KNOB D16*16H BLK 270 DEGREE AXLE 12.5MM |
| BACK PANEL*6 | 590-03004-100-0 | M/E FLT SCR. M3.0*4 NI |
| BOARD*2 | 590-03004-200-0 | M/E FLT SCR. M3.0*4 BLK |
| FIXED TRANSFER | 562-60014-000-0 | PULP PANEL 300*288 A3B |
| GRILLE*3 | 600-00302-200-0 | HEX. NUT M3.0*2.2 ZN |
| GRILLE*7 | 590-23006-200-0 | M/E BID SCR. M3.0*6 BLK |
| LF*1,RT*1 | 551-20047-400-0 | SIDE BRKT VERBIFEX BLK |
| PCB & SUPPORT*7 | 615-20078-620-0 | SPACER SUPPORT DCBS-6 |
| PCB GRILLE*2 | 590-43006-100-0 | M/E PAN SCR. M3.0*6 NI |
| PUSH SW*1 | 542-20230-120-0 | P/KNOB 17*5.5*14H BLK (AXLE 3.3*3.3 WIDTH OF AXLE12MM) |

POWER REQUIREMENT CLASSIFICATION

| Ref. | Phonic Part No. | Specifications |
|-------------------|------------------------|-------------------------------|
| 100VAC JIS | 353-20401-400-0 | AC ADAPTOR L-3200/DX22 JIS |
| 120VAC UL | 353-20401-010-0 | ADAPTOR AC10V 600MA UL L/DX22 |
| 240VAC BS | 353-20401-200-0 | AC ADAPTOR L-3200/DX22 BS |
| | 573-10032-010-0 | POWER LABEL (ONLY USED IN BS) |
| 240VAC SA | 353-21707-000-0 | ADAPTOR VERBIFEX AC240V SA |
| 240VAC SAA | 353-20401-300-0 | AC ADAPTOR L-3200/DX22 SAA |

EXPLODED VIEW



| | | | |
|----|-----------------|------------------|-----|
| 16 | F02-06000-001-0 | IUPUT PCB ASS'Y | 1 |
| 15 | 511-20470-200-0 | BACK PANEL | 1 |
| 14 | 590-23006-200-0 | M3.0*6 BLK | 7 |
| 13 | 551-20047-400-0 | SIDE BRKT | 2 |
| 12 | 590-53008-100-0 | M3.0*8 NI | 2 |
| 11 | F02-06000-003-0 | REVERB PCB ASS'Y | 1 |
| 10 | 551-20046-400-0 | PCB BRKT | 1 |
| 9 | 615-20078-620-0 | SPACER SUPPORT | 7 |
| 8 | F02-06000-002-0 | PANEL PCBASS'Y | 1 |
| 7 | 529-20017-100-0 | LENS | 1 |
| 6 | 543-20190-120-0 | R/KNOB BUSHING | 1 |
| 5 | 542-20230-120-0 | P/KNOB | 1 |
| 4 | 590-03004-100-0 | M3.0*4 NI | 6 |
| 3 | 540-20260-120-0 | R/KNOB | 4 |
| 2 | 590-03004-200-0 | M3.0*4 BLK | 2 |
| 1 | 510-20700-200-0 | PANEL DFX256 | 1 |
| No | PART NO | Title | QTY |