

# SERVICE

# MANUAL

DUAL CHANNEL POWER

# AMPLIFIER

PA-2312

**interM**

**ELECTRICAL PARTS LIST (PA-2312)**

| Ref No. | Part No. | Description | Value | Qty |
|---------|----------|-------------|-------|-----|
|---------|----------|-------------|-------|-----|

**INPUT B'D (4005186500)**

|   |              |                              |             |    |
|---|--------------|------------------------------|-------------|----|
| C33 C333  | 3539104531-A | CAP CE Y 10000PF 50V Z AXIAL | 0.1/50      | 2  |
| C01-02 C32 C301-302<br>C332                             | 3509102231-A | CAP CE YB 1000PF 50V K AXIAL | 1000P       | 6  |
| C12 C15 C312 C315                                       | 3509101231-A | CAP CE B 100PF 50V K AXIAL   | 100P        | 4  |
| C05 C16 C305 C316                                       | 3509221231-A | CAP CE B 220PF 50V K AXIAL   | 220P        | 4  |
| C30 C330  | 3529220311-A | CAP CE SL 22PF 50V J AXIAL   | 22P         | 2  |
| AN101   | 4355772110   | CON ASS'Y 7P 210MM,AN101     | ASS'Y 7P    | 1  |
| AN102   | 4355772011   | CON ASS'Y 7P 230MM,AN102     | ASS'Y 7P    | 1  |
| C06 C31 C306 C331                                       | 3409210971-T | CAP AF RSG 1UF 50V 5 P       | 1/50        | 4  |
| C03-04 C11 C13-14 C17<br>C303-304 C311<br>C313-314 C317 | 3409210071-T | CAP AF RSG 10UF 50V 5 P      | 10/50       | 12 |
| C34 C334  | 3409222141-T | CAP AF RSG 220UF 25V J 8 P   | 220/25      | 2  |
| JKO1 JKO3   | 4438193810   | XLR JACK(F) 3P(E203A0040N)   | XLR JACK    | 2  |
| JKO2 JKO4   | 4408194310   | XLR JACK (M) E503A0150N      | XLR-3-M     | 2  |
| VRO1-2  | 3228070100   | VR RK16311E0Z0113B           | 10KB        | 2  |
| C120 C320   | 3609103120-T | CAP MA 0.01UF 100V           | 0.01/100(M) | 2  |
| C121-122 C321-322                                       | 3609823120-T | CAP MA 0.082UF 100V J        | 0.082/100   | 4  |
| IC101 IC301   | 2118010332   | IC NJM 5532DD JRC            | NJM 5532DD  | 2  |
| R26 R326  | 3039100575-T | RES MO 10 2W JR              | 10 2W       | 2  |
| R5-7 R11 R18 R38-39<br>R305-307 R311 R318               | 3009103973   | RES CF 10K 1/5W J N          | 10K         | 12 |
| R36 R336  | 3039151575-T | RES MO 150 2W J RADIAL       | 150 2W      | 2  |
| R35 R335  | 3009154973   | RES CF 150K 1/5W J N         | 150K        | 2  |
| R33 R333  | 3009222973   | RES CF 2.2K 1/5W J N         | 2.2K        | 2  |
| R34 R334  | 3009271973   | RES CF 270 1/5W J N          | 270         | 2  |
| R13-14 R313-314   | 3009473973   | RES CF 47K 1/5W J N          | 47K         | 4  |
| R1-2 R12 R15 R32<br>R301-302 R312 R315<br>R332          | 3009562973   | RES CF 5.6K 1/5W J N         | 5.6K        | 10 |
| R37 R337  | 3009560973   | RES CF 56 1/5W J N           | 56          | 2  |
| R31 R331  | 3009682973   | RES CF 6.8K 1/5W J N         | 6.8K        | 2  |
| R16 R316  | 3009681973   | RES CF 680 1/5W J N          | 680         | 2  |
| R3-4 R303-304   | 3009822973   | RES CF 8.2K 1/5W J N         | 8.2K        | 4  |
| SWO1-3  | 4625995910   | SW SLIDE SSSU022NA011        | SLIDE SW    | 3  |
| Q4 Q304   | 2028407118   | KTC2238A-Y-U                 | 2SC 2238Y   | 2  |
| Q1 Q301   | 2008606104-T | TR NPN KTC3198-Y-AT TO-92    | KTC 3198Y   | 2  |
| Q3 Q2 Q302-303  | 2008606101-T | KTC3198L-BL-AT               | KTC 3198BL  | 4  |
| AN106   | 4355771314   | CON ASS'Y 6P 300MM AN106     | ASS'Y 6P    | 1  |
| CN106   | 4428595006   | LW5267/LWBO640/2.5MM-06P     | LW 6P       | 1  |
| D81 D381  | 2058500973   | DIODE UZ-4.7BM               | UZ 4.7BM    | 2  |

**AMP B'D (4005186600)**

|                 |              |                              |        |   |
|-----------------|--------------|------------------------------|--------|---|
| C77-78 C80 C280 | 3539104531-A | CAP CE Y 10000PF 50V Z AXIAL | 0.1/50 | 4 |
|-----------------|--------------|------------------------------|--------|---|

|                                       |              |                              |              |    |
|---------------------------------------|--------------|------------------------------|--------------|----|
| C90-91 C290-291                       | 3539332331-A | CAP CE X 3300PF 16V M AXIAL  | 3300P        | 4  |
| C41 C45 C241 C245                     | 3509471231-A | CAP CE B 470PF 50V K AXIAL   | 470P         | 4  |
| D01-04 D74 D77-78 D80<br>D82 D201-204 | 2058304100   | DIODE IN4148M                | 1N 4148      | 13 |
| C44 C48 C75-76 C244<br>C248           | 3409210071-T | CAP AF RSG 10UF 50V 5 P      | 10/50        | 6  |
| C73-74 C79 C81-83<br>C279 C281-283    | 3409210171-T | CAP AF RSG 100UF 50V 8 P     | 100/50       | 10 |
| C71                                   | 3419515376   | CAP AF HE 15000UF 50V        | 15000/50     | 1  |
| C35 C235                              | 3408222241   | CAP RSA 2200UF 25V SNAP 16 P | 2200/25      | 2  |
| C72                                   | 3409233071-T | CAP AF RSG 33UF 50V 6 P      | 33/50        | 1  |
| C84                                   | 3609103120-T | CAP MA 0.01UF 100V           | 0.01/100(M)  | 1  |
| C00                                   | 3609104140-T | CAP MA 0.1UF 200V J          | 0.1/100(M)   | 1  |
| ICO2                                  | 2118010590   | IC NJM4558D JRC              | NJM 4558D    | 1  |
| T01 T201                              | 2808098300   | TRANSFORMER INPUT (PA-9324)  | IPT          | 2  |
| R58-59 R63-64<br>R258-259 R263-264    | 3049278786   | RES CE 0.27 5W J F MANNAE    | 0.27 5W      | 8  |
| R89                                   | 3009132973   | RES CF 1.3K 1/5W J N         | 1.3K         | 1  |
| R50 R57 R250 R257                     | 3009182973   | RES CF 1.8K 1/5W J N         | 1.8K         | 4  |
| R85                                   | 3009101973   | RES CF 100 1/5W J N          | 100          | 1  |
| R80 R92                               | 3009104973   | RES CF 100K 1/5W J N         | 100K         | 2  |
| R94 R294                              | 3039100575-T | RES MO 10 2W JR              | 10 2W        | 2  |
| R88                                   | 3009103973   | RES CF 10K 1/5W J N          | 10K          | 1  |
| R48 R54 R248 R254                     | 3009151973   | RES CF 150 1/5W J N          | 150          | 4  |
| R75                                   | 3009102973   | RES CF 1K 1/5W J N           | 1K           | 1  |
| R44-45 R244-245                       | 3039102575-T | RES MO 1K 2W J RADIAL        | 1K 2W        | 4  |
| R78                                   | 3009105973   | RES CF 1M 1/5W J N           | 1M           | 1  |
| R76                                   | 3039200575-T | RES MO 20 2W J RADIAL        | 20 2W        | 1  |
| R51 R56 R251 R256                     | 3009203973   | RES CF 20K 1/5W J N          | 20K          | 4  |
| R96 R296                              | 3009221973   | RES CF 220 1/5W J N          | 220          | 2  |
| R46 R52 R246 R252                     | 3009220973   | RES CF 22 1/5W J N           | 22           | 4  |
| R74                                   | 3009223973   | RES CF 22K 1/5W J N          | 22K          | 1  |
| R49 R55 R249 R255                     | 3009271973   | RES CF 270 1/5W J N          | 270          | 4  |
| R19 R91                               | 3009202973   | RES CF 2K 1/5W J N           | 2K           | 2  |
| R86                                   | 3009332973   | RES CF 3.3K 1/5W J N         | 3.3K         | 1  |
| R77                                   | 3009330973   | RES CF 33 1/5W J N           | 33           | 1  |
| R500-503 R700-703                     | 3089479275   | RES NFR 4.7 1/4W J R PHILKO  | FR 4.7       | 8  |
| R41 R95 R241 R295                     | 3009472973   | RES CF 4.7K 1/5W J N         | 4.7K         | 4  |
| R42 R47 R53 R72<br>R242 R247 R253     | 3009471973   | RES CF 470 1/5W J N          | 470          | 7  |
| R79 R82-84 R93                        | 3009473973   | RES CF 47K 1/5W J N          | 47K          | 5  |
| R90                                   | 3009562973   | RES CF 5.6K 1/5W J N         | 5.6K         | 1  |
| R43 R243                              | 3009561973   | RES CF 560 1/5W J N          | 560          | 2  |
| R73                                   | 3009682973   | RES CF 6.8K 1/5W J N         | 6.8K         | 1  |
| R87                                   | 3009753973   | RES CF 75K 1/5W J N          | 75K          | 1  |
| R81                                   | 3009823973   | RES CF 82K 1/5W J N          | 82K          | 1  |
| TH1 TH71TH201 CN105                   | 4428595002   | LW5267/LWB0640/2.5MM-02P     | LW 2P        | 2  |
| D71                                   | 2058300997   | DIODE SCHOTTKY SBL-3040PT    | SBL 3040PT   | 1  |
| P1-2 P5                               | 4465998210   | TERMINAL(250)PCB TAB         | TERMINAL 250 | 3  |

|                                   |              |                               |            |   |
|-----------------------------------|--------------|-------------------------------|------------|---|
| P3                                | 4355833107   | CON ASS'Y 1P (RED)            | ASS'Y 1P   | 1 |
| P6                                | 4355771903   | CON ASS'Y 1P BLK 100MM P6     | ASS'Y 1P   | 1 |
| P7-9 P207-209                     | 4355874810   | CONNECTOR ASS'Y 4P PA-9324    | CONNECTOR  | 6 |
| P18 P17                           | 4355875101   | CONNECTOR ASS'Y 1P            | ASS'Y 1P   | 2 |
| P14 P13                           | 4355875001   | CONNECTOR ASS'Y 1P PA-9324    | ASS'Y 1P   | 2 |
| P210                              | 4355833201   | CON ASS'Y 1P (BLK)            | ASS'Y 1P   | 1 |
| TP2 TP202-203 TP3                 | 4225000810-T | TEST POINT (NZ0352-001Z)      | TEST POINT | 4 |
| Q6 Q8 Q206 Q208                   | 2028407118   | KTC2238A-Y-U                  | 2SC 2238Y  | 4 |
| Q9-10 Q14-15<br>Q209-210 Q214-215 | 2028427998   | TR 2SC 3856 W/ACC             | 2SC 3856   | 8 |
| Q77 Q277                          | 2008606108-T | KTC3200-BL-AT                 | KTC 3200BL | 2 |
| Q5 Q7 Q205 Q207                   | 2008606107-T | KTC3206-Y-AT                  | KTC 3206Y  | 4 |
| Q73                               | 2008606999-T | KTC3198-BL-AT                 | KTC 3198BL | 1 |
| Q13 Q19 Q72 Q75<br>Q213 Q219      | 2008606104-T | TR NPN KTC3198-Y-AT TO-92     | KTC 3198Y  | 6 |
| Q71 Q76 Q276                      | 2028406113   | KTD2058-Y-U                   | KTD 2058Y  | 3 |
| Q74                               | 2008606105-T | TR NPN KTA1266-Y-AT TO-92     | KTA 1266Y  | 1 |
| SVR02-03 SVR202-203               | 3248310120-T | RES RH063MC12R                | 100B       | 4 |
| CN72 CN104                        | 4428595003   | LW5267/LWB0640/2.5MM-03P      | LW 03P     | 2 |
| CN103                             | 4428595004   | LW5267/LWB0640/2.5MM-04P      | LW 04P     | 1 |
| CN101-102                         | 4428595007   | LW5267/LWB0640/2.5MM-07P      | LW 7P      | 2 |
| D75-76                            | 2058502120   | DIODE ZENER UZ-12BM(1N5242B)  | UZ 12BM    | 2 |
| D72                               | 2058502180   | DIODE ZENER UZ-18BM(1N5248B)  | UZ 18BM    | 1 |
| D79 D279                          | 2058502200   | DIODE ZENER UZ-20BM(1N5250B)  | UZ 20BM    | 2 |
| D73                               | 2058502082   | DIODE ZENER UZ-8.2BM(1N5237B) | UZ 8.2BM   | 1 |
| TP1 TP4 TP204                     | 4678699411   |                               |            | 3 |

## LED DRIVE B'D

|  |              |                            |           |    |
|--|--------------|----------------------------|-----------|----|
| C107 C407                                | 3509331130-T | CAP CE SL 330PF 50V J      | 330P      | 2  |
| C103 C403                                | 3409247871-T | CAP AF RSG 0.47UF 50V 5 P  | 0.47/50   | 2  |
| C102 C402                                | 3409210971-T | CAP AF RSG 1UF 50V 5 P     | 1/50      | 2  |
| C101 C401                                | 3409210071-T | CAP AF RSG 10UF 50V 5 P    | 10/50     | 2  |
| C104-106 C404-406                        | 3409247971-T | CAP AF RSG 4.7UF 50V 5 P   | 4.7/50    | 6  |
| D104-105 D404-405                        | 2300050105   | LED LTL-307E-041A LITEON   | 307E-041A | 4  |
| D106-107 D406-407                        | 2300052105   | LED LTL-307G-041A LITEON   | 307G-041A | 4  |
| IC103-104 IC403-404                      | 2118010590   | IC NJM4558D JRC            | NJM 4558D | 4  |
| R109 R409                                | 3009101973   | RES CF 100 1/5W J N        | 100       | 2  |
| R104 R404                                | 3009104973   | RES CF 100K 1/5W J N       | 100K      | 2  |
| R122 R422                                | 3009102973   | RES CF 1K 1/5W J N         | 1K        | 2  |
| R105 R405                                | 3009222973   | RES CF 2.2K 1/5W J N       | 2.2K      | 2  |
| R108 R408                                | 3009272973   | RES CF 2.7K 1/5W J N       | 2.7K      | 2  |
| R113 R115 R117-120<br>R413 R415 R417-420 | 3009202973   | RES CF 2K 1/5W J N         | 2K        | 12 |
| R103 R403                                | 3009334973   | RES CF 330K 1/5W J N       | 330K      | 2  |
| R101 R401                                | 3002330953   | RES CF 33K 1/5W FN PL-2404 | 33K 1%    | 2  |
| R125 R425                                | 3003300953   | RES CF 3K 1/5W FN          | 3K 1%     | 2  |
| R107 R407                                | 3009472973   | RES CF 4.7K 1/5W J N       | 4.7K      | 2  |
| R124 R424                                | 3009473973   | RES CF 47K 1/5W J N        | 47K       | 2  |
| R110-112 R410-412                        | 3009682973   | RES CF 6.8K 1/5W J N       | 6.8K      | 6  |

|                   |              |                              |           |    |
|-------------------|--------------|------------------------------|-----------|----|
| R126 R426         | 3002610953   | RES CF 61K 1/5W F N          | 61K 1%    | 2  |
| R123 R423         | 3009681973   | RES CF 680 1/5W J N          | 680       | 2  |
| R102 R402         | 3003820953   | RES CF 8.2K 1/5W FN          | 8.2K 1%   | 2  |
| R106 R406         | 3009822973   | RES CF 8.2K 1/5W J N         | 8.2K      | 2  |
| Q101-105 Q401-405 | 2008606104-T | TR NPN KTC3198-Y-AT TO-92    | KTC 3198Y | 10 |
| D101-103 D401-403 | 2058502120   | DIODE ZENER UZ-12BM(1N5242B) | UZ 12BM   | 6  |
| AN104             | 4355772214   | CON ASS'Y 2P 300MM,AN104     | ASS'Y 3P  | 1  |
| AN103             | 4355772303   | CON ASS'Y 4P 100MM,AN103     | ASS'Y 4P  | 1  |

### LED B'D (4005186610)

|       |            |                   |           |   |
|-------|------------|-------------------|-----------|---|
| AN105 | 4353986914 | CON ASS'Y 2P      | ASS'Y 2P  | 1 |
| D701  | 2300050101 | LED LTL-307E-012A | 307E-012A | 1 |

### SW B'D (4005186530)

|                |            |                        |           |   |
|----------------|------------|------------------------|-----------|---|
| C100           | 3549472407 | CAP DE2E3KH472MA4B     | 472/400   | 1 |
| FO2            | 4255000410 | FUSE CLIP 6*31.8       | FUSE CLIP | 1 |
| SW1            | 4648098210 | SW POWER JPP 2197BCS32 | POWER SW  | 1 |
| P11 P19 P21-22 | 4625998210 | SW PUSH SPUN50X2C011   | 250       | 4 |

### TERMINAL B'D (4005186520)

|                 |            |                       |              |   |
|-----------------|------------|-----------------------|--------------|---|
| C700-703        | 3609473160 | CAP MA 0.047UF 400V J | 0.047/400(M) | 4 |
| R700 R701       | 3059101776 | RES WWCE 100 5W J T   | 100 5W       | 2 |
| TER1            | 4465997604 | SCREW TERMINAL 4P(D)  | TER 4P       | 1 |
| CN107-108       | 4355923805 | WAFER LW(3.96) 5P JIS | WAFER LW 5P  | 2 |
| J100-103 J00-03 |            |                       |              | 8 |

### VR B'D (40085186540)

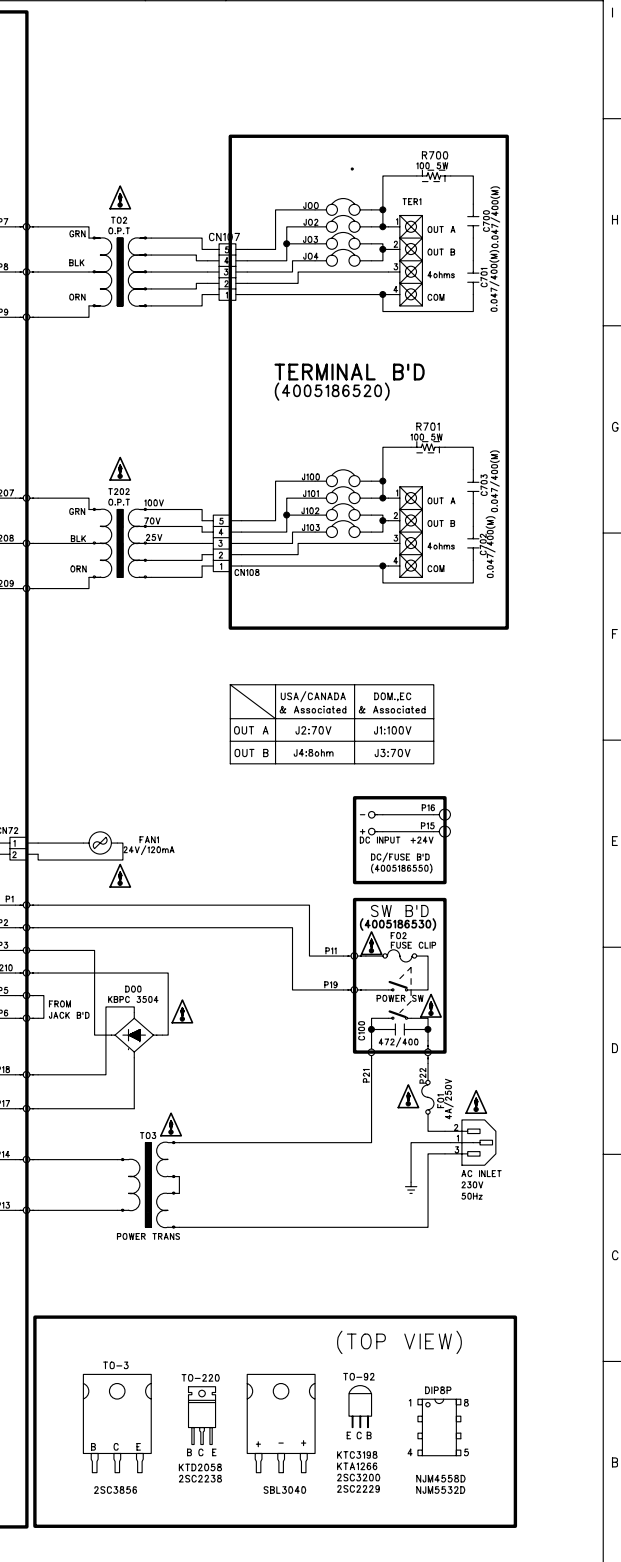
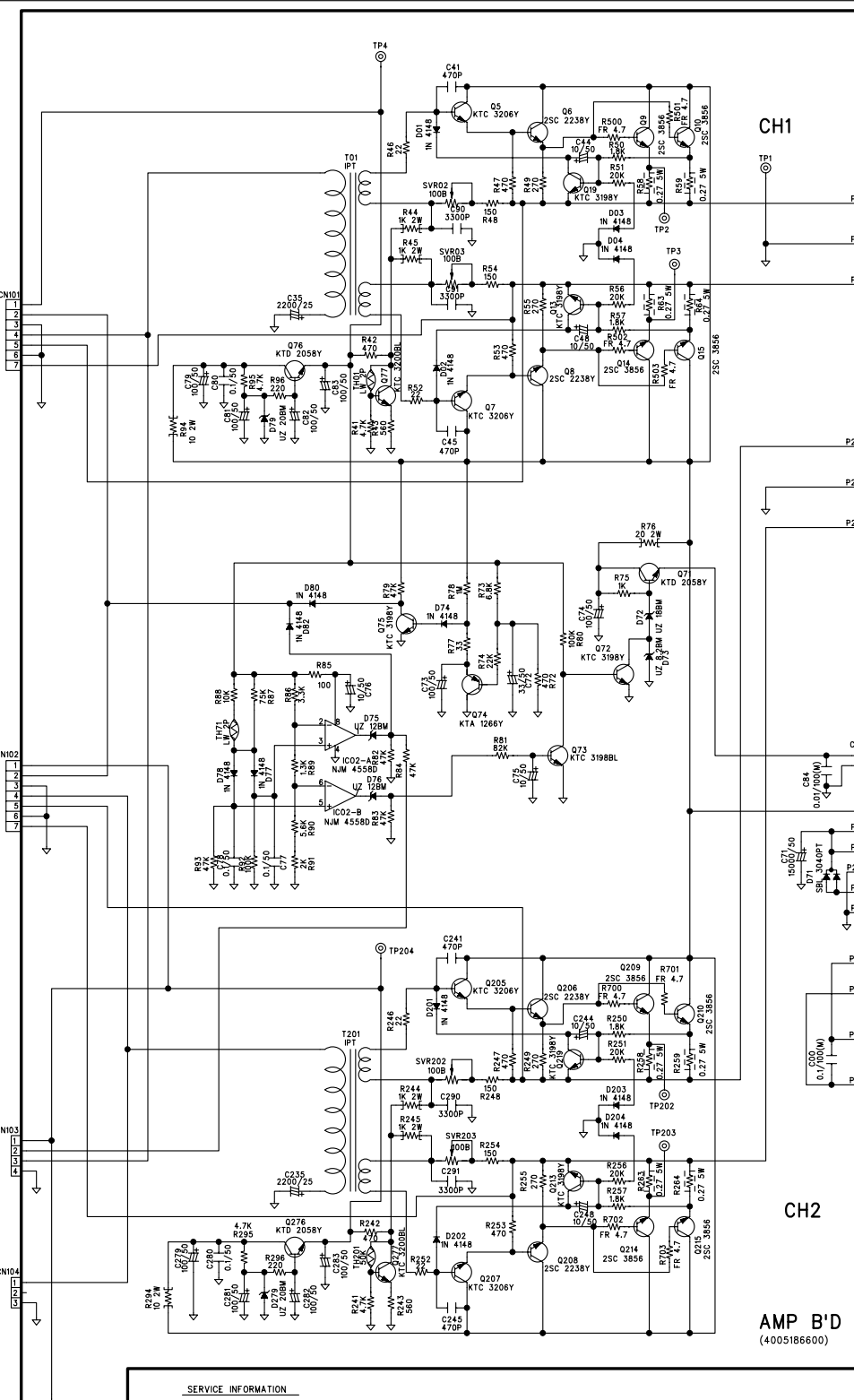
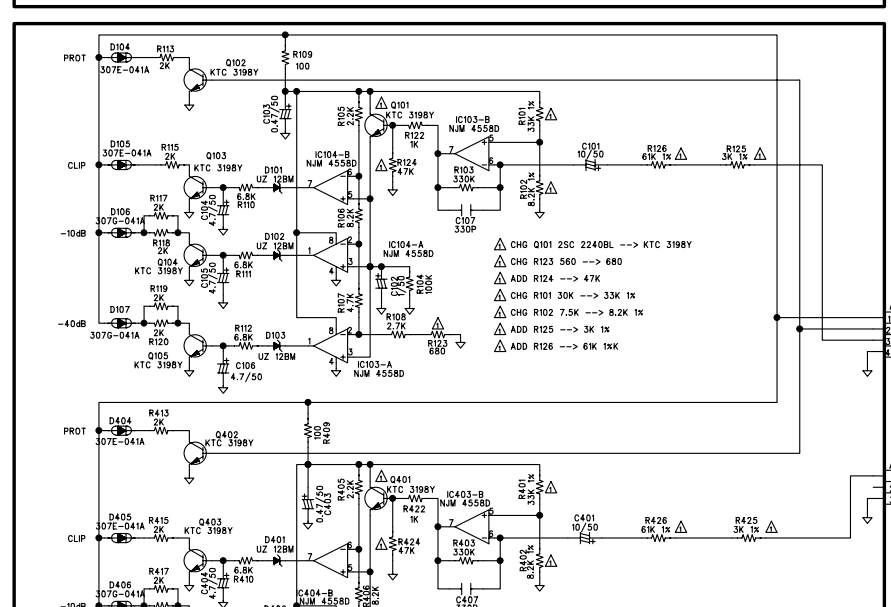
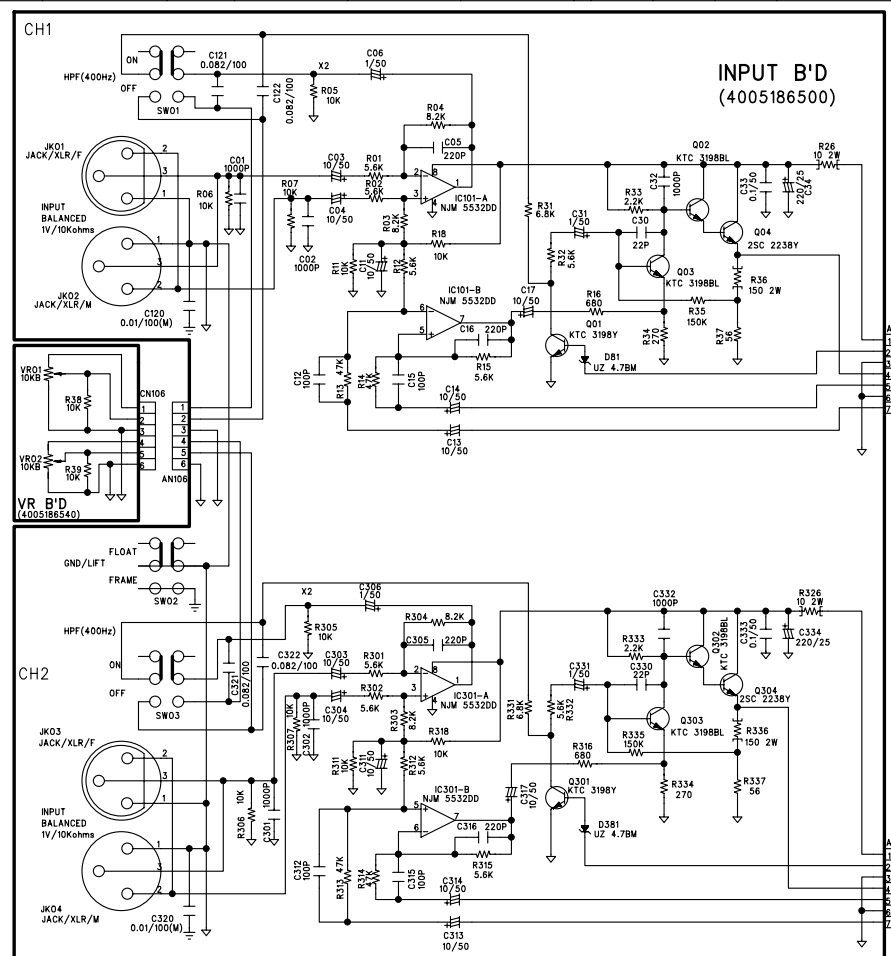
|        |            |                          |       |   |
|--------|------------|--------------------------|-------|---|
| VRO1-2 | 3228070100 | VR RK16311E0Z0113B       | 10KB  | 2 |
| R38-39 | 3009103973 | RES CF 10K 1/5W J N      | 10K   | 2 |
| CN106  | 4428595006 | LW5267/LWB0640/2.5MM-06P | LW 6P | 1 |

### DC B'D (4005186550)

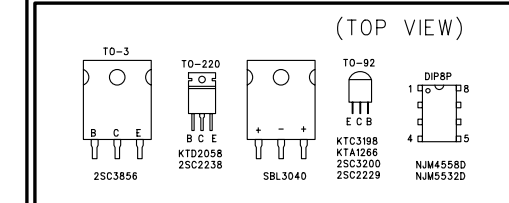
|             |            |                      |         |   |
|-------------|------------|----------------------|---------|---|
| P15-16      | 4625998210 | SW PUSH SPUN50X2C011 | 250 TAB | 2 |
| DC TERMINAL | 4438094610 | DC TERMINAL 2P       |         | 1 |

### ASS'Y

|         |            |                              |               |   |
|---------|------------|------------------------------|---------------|---|
| PT      | 2828064410 | TRANS POWER 220V PA-2312     |               | 1 |
|         | 2828064420 | TRASNS POWER 230V PA-2312    | B ,C ,R       | 1 |
|         | 2828064430 | TRANS POWER 240V PA-2312     | D             | 1 |
|         | 2828064400 | TRANS POWER 120V PA-2312     | E             | 1 |
| AC CORD | 4308997310 | AC CORD DOME 3-CORES         |               | 1 |
|         | 4308999410 | AC CORD V+VII6A-250VHOVV-F3G | B ,R          | 1 |
|         | 4308996710 | AC CORD (WITHOUT PLUG)       | C             | 1 |
|         | 4308998000 | AC CORD POWER FOR SAA        | D             | 1 |
|         | 4308999310 | AC CORD UL 3 (INLET)         | E             | 1 |
| FUSE    | 5508213239 | FUSE#217F 20MM 4A/250V UCSKJ |               | 1 |
|         | 5508124433 | FUSE SB 31.8MM 20A/250V U/C  | B ,C ,D ,E ,R | 1 |
|         | 5508224430 | FUSE NB 31.8MM 20A/250V KS   |               | 1 |
|         | 5508413239 | FUSE#218T 20MM 4A/250V UCSKJ | B ,C ,D ,R    | 1 |
|         | 5508213739 | FUSE#234F 20MM 8A/250V UCKJ  | E             | 1 |



|                         |                      |
|-------------------------|----------------------|
| USA/CANADA & Associated | DOM. EC & Associated |
| OUT A                   | J2:70V               |
| OUT B                   | J4:8ohm              |
|                         | J1:100V              |
|                         | J3:70V               |



**SERVICE INFORMATION**

- RESISTANCE VALUES ARE INDICATED IN OHMS UNLESS OTHERWISE SPECIFIED. (K=1,000, M=1,000,000)
- CAPACITANCE VALUES ARE SHOWN IN MICROFARADS UNLESS OTHERWISE NOTED (P=MICRO-MICROFARADS)
- ALL VOLTAGES ARE REFERRED TO GROUND UNDER THE FOLLOWING CONDITIONS:  
DC : NO SIGNAL EXCEPT WHERE INDICATED.  
AC : RMS
- PRECAUTION:**  
A) ALL COMPONENTS MARKED MUST BE REPLACED ONLY WITH ORIGINAL TYPE SPECIFIED BY THE MANUFACTURER, INTER M CORPORATION AND INSTALLED AS THE ORIGINAL SPACE AND POSITIONED AWAY FROM ADJACENT COMPONENTS WHERE APPLICABLE.  
B) ALL SOLDERING MUST BE DONE IN A PROFESSIONAL MANNER USING SOLDER WHITE RESINE CORE ONLY.  
C) ALL COVERS, SHIELD AND INSULATING SPACERS MUST BE REPLACED BEFORE RETURNING APPLIANCE TO CUSTOMER.  
D) A DAMAGE POWER SUPPLY CORD MUST BE REPLACED BEFORE RETURNING APPLIANCE TO CUSTOMER.  
E) DIELECTRIC TEST CONSISTING OF 120V AC 60HZ IS TO BE APPLIED BETWEEN BOTH BALDES OF THE POWER SUPPLY CORD ATTACHMENT PLUG THE EXPOSE CONDUCTIVE SURFACE OF THE APPLIANCE FOR A PERIOD OF NOT LESS THAN ONE SECOND BEFORE RETURNING APPLIANCE TO CUSTOMER.  
F) THE  $\overline{M}$  MARKED RESISTORS ARE MOUNTED THE P.C.B ON SLEEVES.

