

SERVICE

MANUAL

P O W E R

AMPLIFIER

CPA-9313/9325

interM

ELECTRICAL PARTS LIST (CPA-9313/9325)

Ref No.	Part No.	Description	Value	Qty
AMP B'D (4002419400)				
Q2-3	2008606101-T	KTC3198L-BL-AT	3198L	2
Q1 Q19-20 Q75	2008606104-T	KTC3198-Y-AT	3198Y	4
Q74	2008606105-T	KTA1266-Y-AT	KTA 1266Y	1
Q5 Q7	2008606107-T	KTC3206-Y-AT	3206Y	2
Q72 Q77	2008606108-T	KTC3200-BL-AT	KTC3200	2
Q76	2028406113	KTD2058-Y-U	KTD 2058Y	1
Q4 Q6 Q8	2028407118	KTC2238A-Y-U	2SC2238Y	3
Q73	2028407990	KTC4370A-Y-U	4370	1
Q9-18 (Q10 Q12 Q15 Q15 NOT USED, CPA-9313)	2028427998	TR 2SC 3856 W/ACC	2SC 3856	10
D71(For CPA-9325)	2058300997	DIODE SCHOTTKY SBL-3040PT	SBL 3040PT	1
D71(For CPA-9313)	2058300998	DIODE SCHOTTKY SBL2040/SR2040	SBL 2040PT	1
D3-4 D74 D77-78 D80 D82	2058304100	DIODE IN4148M	1N 4148	7
D73	2058500033	DIODE ZENER UZ-3.3B(1N5226B)	3.3V	1
D81	2058502056	DIODE ZENER UZ-5.6BM(1N5232B)	UZ 5.6BM	1
D75	2058502120	DIODE ZENER UZ-12BM(1N5242B)	UZ 12BM	1
D79	2058502200	DIODE ZENER UZ-20BM(1N5250B)	UZ 20BM	1
IC6B	2118010590	IC NJM4558D JRC	4558D	1
U1	2128610400	IC 7824 COMMON	7824	1
PH2	2408000101	PHOTO COUPLER NTL5C4	NTL5C4	1
PO1	2438007995	POSISTOR PTFM04BH471Q2N34B0	50K	1
TH1 TH71	2438209031	THERMISTOR YSG-503J L=100	50K	2
T1	2808098300	TRANSFORMER INPUT (PA-9324)	I.P.T	1
R92	3001100953	RES CF 100K 1/5W F N	100K 1%	1
R88	3002100953	RES CF 10K 1/5W F N	10K 1%	2
R89 (For CPA-9325) R89 (For CPA-9313)	3002100953	RES CF 10K 1/5W F N	10K 1%	2
R93	3002536953	RES CF 53.6K 1/5W F N	53.6K 1%	1
R87	3002715953	RES CF 71.5K 1/5W FN	71.5K 1%	1
R86	3003332953	RES CF 3.32K 1/5W F N	3.32K 1%	1
R85	3009101973	RES CF 100 1/5W J N	100	1
R50 R57 (For CPA-9325)	3009102973	RES CF 1K 1/5W J N	1K	2
R50 R57 (For CPA-9313)	3009681973	RES CF 680 1/5W J N	680	2
R78	3009105973	RES CF 1M 1/5W J N	1M	1
R75	3009122973	RES CF 1.2K 1/5W J N	1.2K	1
R43 R48 R54	3009151973	RES CF 150 1/5W J N	150	3
R35	3009154973	RES CF 150K 1/5W J N	150K	1
R19	3009202973	RES CF 2K 1/5W J N	2K	1
R51 R56	3009203973	RES CF 20K 1/5W J N	20K	2
R46 R52	3009220973	RES CF 22 1/5W J N	22	2
R96	3009221973	RES CF 220 1/5W J N	220	1
R33	3009222973	RES CF 2.2K 1/5W J N	2.2K	1
R74	3009223973	RES CF 22K 1/5W J N	22K	1
R34 R49 R55	3009271973	RES CF 270 1/5W J N	270	3
R81 R95	3009272973	RES CF 2.7K 1/5W J N	2.7K	2
R77	3009330973	RES CF 33 1/5W J N	33	1
R125	3009393973	RES CF 39K 1/5W J N	39K	1
R42 R47 R53 R72	3009471973	RES CF 470 1/5W J N	470	4
R41	3009472973	RES CF 4.7K 1/5W J N	4.7K	1
R17 R79 R82 R84	3009473973	RES CF 47K 1/5W J N	47K	4
R37	3009560973	RES CF 56 1/5W J N	56	1
R32	3009562973	RES CF 5.6K 1/5W J N	5.6K	1
R16	3009681973	RES CF 680 1/5W J N	680	1

R31 R73	3009682973	RES CF 6.8K 1/5W J N	6.8K	2
R38 R94	3039100575-T	RES MO 10 2W JR	10 2W	2
R44-45	3039102575-T	RES MO 1K 2W J RADIAL	1K 2W	2
R36	3039151575-T	RES MO 150 2W J RADIAL	150 2W	1
R76	3039200575-T	RES MO 20 2W J RADIAL	20 2W	1
R58-67	3049278786	RES CE 0.27 5W J F MANNAE	0.27 5W	10
SVR2-3	3248310120-T	RES RH0638C100101	100B	2
SVR1	3248347220-T	RES SEMI RH0638C1004720	47K	1
C35	3408222241	CAP RSA 2200UF 25V SNAP 16 P	2200/25	1
C44 C48 C75-76 C127	3409210071-T	CAP AF RSG 10UF 50V 5 P	10/50	5
C73-74 C79 C81-83	3409210171-T	CAP AF RSG 100UF 50V 8 P	100/50	6
C31	3409210971-T	CAP AF RSG 1UF 50V 5 P	1/50	1
C34	3409222141-T	CAP AF RSG 220UF 25V J 8 P	220/25	1
C72	3409233071-T	CAP AF RSG 33UF 50V 6 P	33/50	1
C71 (For CPA-9325)	3419515376	CAP AF HE 15000UF 50V	15000/50	1
C71 (For CPA-9313)	3419510378	CAP AF HS 10000UF 50V 30P LUG	10000/50	1
C32	3509102530-T	CAP CE B 0.001UF 50V J	0.001/50	1
C33 C77-78 C80	3509104530-T	CAP CE F 0.1UF 50V Z	0.1/50	4
C30	3509220130-T	CAP CE SL 22PF 50V J	22P	1
C41 C45	3509471130-T	CAP CE SL 470PF 50V J	470P	2
C123-124	3539332331-A	CAP CE YR 3300PF 16V M AXIAL	3300P	2
C84	3609103120-T	CAP MA 0.01UF 100V	0.01/100(M)	1
C0	3619334153	CAP POLY TM 0.33UF 250V	0.33/250	1
TP1-3 TP5	4225000810-T	TEST POINT (NZ0352-001Z)	TEST POINT	4
AN112	4355740913	CON ASS'Y 2P G/W	ASS'Y 2P G/W	1
AN113	4355741014	CON ASS'Y 2P Y/W	ASS'Y 2P Y/W	1
CN105	4428595002	LW5267/LWB0640/2.5MM-02P	LW5267-02	1
CON72	4428595003	LW5267/LWB0640/2.5MM-03P	LW5267-03	1
CN103	4428595004	LW5267/LWB0640/2.5MM-04P	LW5267-04	1
CN101	4428598307	CONNECTOR WAFER LW-0640-7P	LW0640-07	1
P7-10	4355874810	CONNECTOR ASS'Y 4P PA-9324	ASS'Y 4P	1
P3 P13-14			RED	3
P4			BLACK(-)	1
P17 P18			ORANGE	1
P1-2 P5-6	4465998210	TERMINAL(250)PCB TAB	250T	4

REAR B'D (4002419410)

IC1	2118010332	IC NJM 5532DD JRC	5532DD	1
PH1	2408000101	PHOTO COUPLER NTL5C4	NTL5C4	1
R6-7 R11 R18	3009103973	RES CF 10K 1/5W J N	10K	4
R5	3009104973	RES CF 100K 1/5W J N	100K	1
R13-14	3009473973	RES CF 47K 1/5W J N	47K	2
R1-2 R12 R15	3009562973	RES CF 5.6K 1/5W J N	5.6K	4
R3-4	3009822973	RES CF 8.2K 1/5W J N	8.2K	2
C3-4 C11 C13-14 C17	3409210071-T	CAP AF RSG 10UF 50V 5 P	10/50	6
C6	3409247871-T	CAP AF RSG 0.47UF 50V 5 P	0.47/50	1
C12 C15	3509101130-T	CAP CE SL 100PF 50V J	100P	2
C1-2	3509102530-T	CAP CE B 0.001UF 50V J	0.001/50	2
C5 C16	3509221130-T	CAP CE SL 220PF 50V J	220P	2
C8	3509471130-T	CAP CE SL 470PF 50V J	470P	1
C120	3609103120-T	CAP MA 0.01UF 100V	0.01/100(M)	1
C121-122	3609823120-T	CAP MA 0.082UF 100V J	0.082/100	2
AN101	4353989510	CONNECTOR ASS'Y 7P	ASS'Y 7P	1
AN111	4355740814	CON ASS'Y 2P BIR	ASS'Y 2P	1
AN106	4355741316	CON ASS'Y 3P 350MM	ASS'Y 3P	1
AN110	4355741407	CON ASS'Y 3P 150MM	ASS'Y 3P	1
SW0	4438094610	DC TERMINAL 2P	DC 2P	1
P11-12 P15-16	4465998210	TERMINAL(250)PCB TAB	250T	4
SW1-3	4618001110	SW SV10020-0202-9T-SN	SV10020	3
F2 (For CPA-9325)	5508224430	FUSE NB 31.8MM 20A/250V KS	20A/250V	1
F2 (For CPA-9313)	5508223830	FUSE NB 31.8MM 10A/250V KS	10A/250V	1

LED B'D (4002419420)

Q110	2008206105-T	TR PNP KAT 1268	KTA 1268	1
Q102 Q104-108	2008606104-T	KTC3198-Y-AT	3198Y	6
Q112	2008613954-T	TR DTC 124ES	DTC 124ES	1
Q111	2008613955-T	TR DTA 124ES	DTA 124ES	1
D102-103 D112-113	2058502120	DIODE ZENER UZ-12BM(1N5242B)	UZ 12BM	4
D104 D109-110	2300050105	LED LTL-307E-041A LITEON	RED(R5)	3
D106-107 D111	2300052105	LED LTL-307G-041A LITEON	GRN(R5)	3
D105	2301053105	LED SLA-114L SHINYOUNG (ORG)	ORG(R5)	1
D108	2305050005	LED SLR113L-FAI	RED(R5)	1
R115	3009102973	RES CF 1K 1/5W J N	1K	1
R131 R135 R145	3009182973	RES CF 1.8K 1/5W J N	1.8K	3
R113 R117-120 R128-129	3009202973	RES CF 2K 1/5W J N	2K	7
R132	3009473973	RES CF 47K 1/5W J N	47K	1
R111-112 R130 R136	3009682973	RES CF 6.8K 1/5W J N	6.8K	4
R133-134	3039681575-T	RES MO 680 2W J RASIAL	680 2W	2
C109	3409247071-T	CAP AF RSG 47UF 50V 6 P	47/50	1
C105-106 C108	3409247971-T	CAP AF RSG 4.7UF 50V 5 P	4.7/50	3
CN3	4435741606	CON SOCKET 6P (163681-4)	SOCKET 6P	1
CN4	4435741608	CON SOCKET 8P (163681-6)	SOCKET 8P	1

SUB LED B'D (4002419430)

Q101 Q109	2008606108-T	KTC3200-BL-AT	KTC 2240BL	2
Q103	2008613954-T	TR DTC 124ES	DTC 124ES	1
D101	2058502120	DIODE ZENER UZ-12BM(1N5242B)	UZ 12BM	1
IC3-6	2118010590	IC NJM4558D JRC	4558D	4
R101 R142	3002330953	RES CF 33K 1/5W FN PL-2404	33K 1%	2
R102 R143	3003820953	RES CF 8.2K 1/5W FN	8.2K 1%	2
R109	3009100973	RES CF 10 1/5W J N	10	1
R122 R126 R140	3009102973	RES CF 1K 1/5W J N	1K	3
R137	3009103973	RES CF 10K 1/5W J N	10K	1
R104 R139	3009104973	RES CF 100K 1/5W J N	100K	2
R105	3009132973	RES CF 1.3K 1/5W J N	1.3K	1
R147	3009202973	RES CF 2K 1/5W J N	2K	1
R138	3009242973	RES CF 2.4K 1/5W J N	2.4K	1
R108	3009302973	RES CF 3K 1/5W J N	3K	1
R141	3009303973	RES CF 30K 1/5W J N	30K	1
R103 R144	3009334973	RES CF 330K 1/5W J N	330K	2
R123	3009471973	RES CF 470 1/5W J N	470	1
R107 R148 R151	3009472973	RES CF 4.7K 1/5W J N	4.7K	3
R149-150	3009473973	RES CF 47K 1/5W J N	47K	2
R110	3009682973	RES CF 6.8K 1/5W J N	6.8K	1
R146	3009821973	RES CF 820 1/5W J N	820	1
R106	3009822973	RES CF 8.2K 1/5W J N	8.2K	1
C101 C103 C111 C115	3409210071-T	CAP AF RSG 10UF 50V 5 P	10/50	4
C102	3409210971-T	CAP AF RSG 1UF 50V 5 P	1/50	1
C112	3409222141-T	CAP AF RSG 220UF 25V J 8 P	220/25	1
C104	3409247041-T	CAP AF RSG 47UF 25V 5 P	47/25	1
C113	3409247971-T	CAP AF RSG 4.7UF 50V 5 P	4.7/50	1
C107	3509100130-T	CAP CE SL 10PF 50V D	10P	1
C116	3509101130-T	CAP CE SL 100PF 50V J	100P	1
C110	3509509030-T	CAP CE SL 5PF 50V J	5P	1
C114	3609223120-T	CAP MA 0.022UF 100V J	0.022/100(M)	1
AN103	4355772303	CON ASS'Y 4P 100MM,AN103	ASS'Y 4P	1
CN111-113	4428594902	LA5268/LAB0640/2.5MM-02P	LA5268-02	3
CN114	4428594903	LA5268/LAB0640/2.5MM-03P	LA5268-03	1
CN1	4435741406	PIN HEADER 6PIN PH04-265-06A	HEADER 6P	1
CN2	4435741408	PIN HEADER 8PIN PH04-265-08A	HEADER 8P	1

INPUT B'D (4002419440)

TER100	4408193906	TERMINAL BLOCK(M) 6P	BLOCK(M) 6P	1
TER100A	4408194006	TERMINAL BLOCK(F) 6P	BLOCK(F) 6P	1
CN110	4428595003	LW5267/LWB0640/2.5MM-03P	LW5267-03	1

OUTPUT B'D (4002419450)

J1-4	1508400501	JUMP WIRE(0.5/52M/M)	JUMPER	4
L300	2648699400	COIL INDUCTOR 5MH,BI	5.3mH	1
R300	3059101776	RES WWCE 100 5W J T	100 5W	1
C303	3409222141-T	CAP AF RSG 220UF 25V J 8 P	220/25	1
C300	3509103450-T	CAP CE 0.01UF 500V Z	0.01/500	1
C301-302	3609473160	CAP MA 0.047UF 400V J	0.047/400(M)	2
AN114	4355741216	CON ASS'Y 2P 350MM	ASS'Y 2P	1
TER1A	4408194004	TERMINAL BLOCK(F) 4P	BLOCK(F) 4P	1
TER1	4428193904	TERMINAL BLOCK(M) 4P	BLOCK(M) 4P	1
CN107	4428596605	LOCK WAFER LW-1143-05P	LW1143-05	1

VR B'D (4002419460)

R200	3009103973	RES CF 10K 1/5W J N	10K	1
VR1	3228070100	VR RK16311E0Z0113B (21DETENT)	10KB	1
CN106	4428595003	LW5267/LWB0640/2.5MM-03P	LW5267-03	1

POWER LED B'D (4002419470)

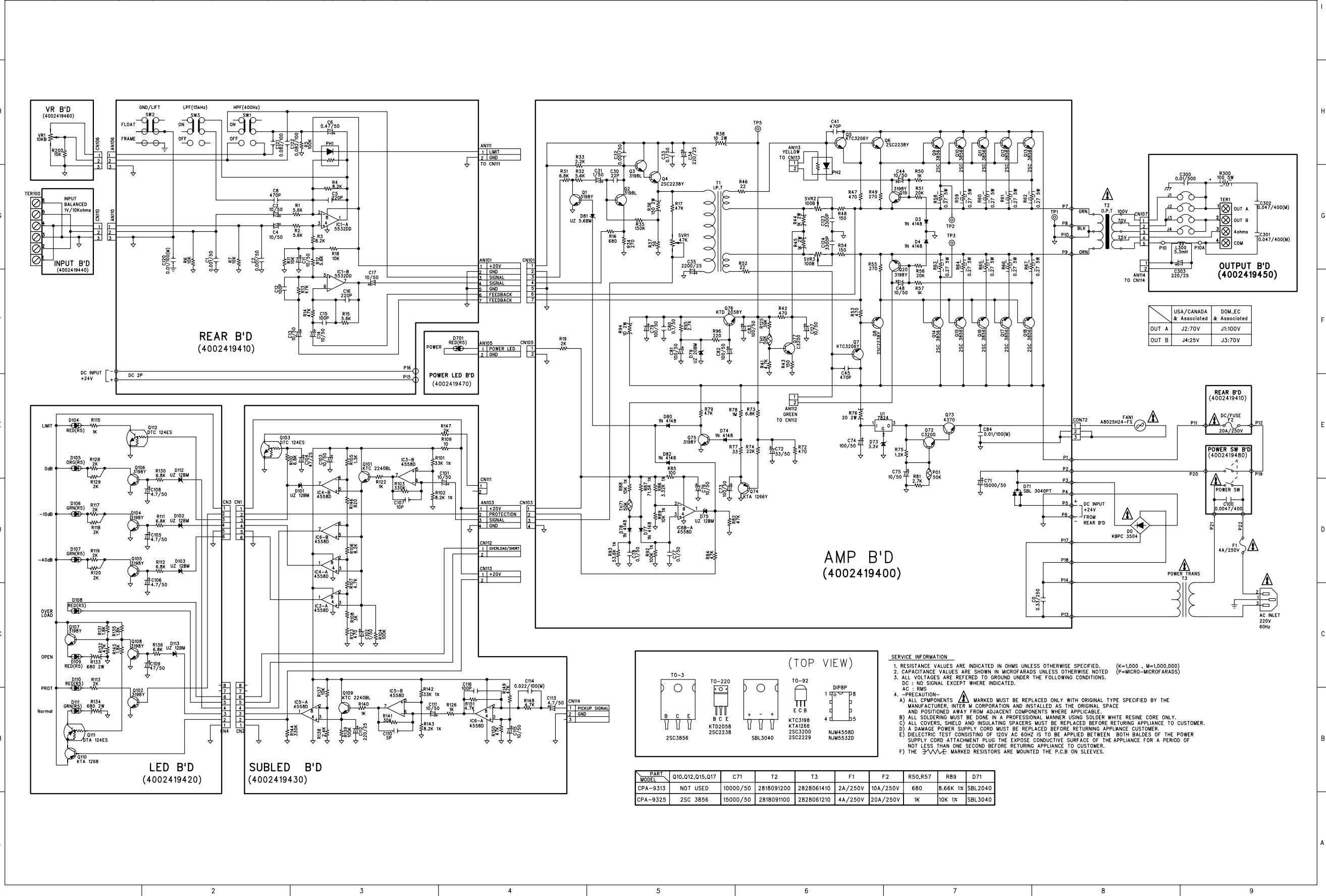
D701	2300050101	LED LTL-307E-012A	RED(R5)	1
AN105	4353986914	CON ASS'Y 2P	ASS'Y 2P	1

POWER SW B'D (4002419480)

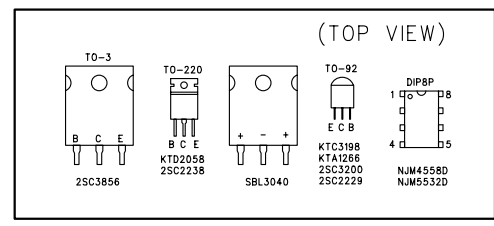
C100	3549472407	CAP DE2E3KH472MA4B	0.0047/400	1
P19-22	4465998210	TERMINAL(250)PCB TAB	250T	4
SW27	4648098210	SW POWER JPP 2197BCS32	POWER SW	1

ASSY

D0	2058100998	DIODE KBPC3504	KBPC 3504	1
CONNECTOR	4353989116	TERMINAL WIRE(P6-P16)		
	4355910018	TERMINAL ASS'Y		
	4355925901	CNT CONNECTOR 1P		
	4355795508	CON ASS'Y 1P Y-G #18 250-RING		
	4355771414	CON ASS'Y 1P BLK 300MM P22		
	4355795614	CON ASS'Y 1P BRN #Q8 250-250		
	4355741101	CON ASS'Y 1P 50MM		
	4355833201	CON ASS'Y 1P (BLK)		
	4355733101	CON ASS'Y 1P (RED)		
	4355875001	CONNECTOR ASS'Y 1P PA-9324		
	4355875101	CON ASS'Y 1P		
	4355874905	CONNECTOR ASS'Y 1P PA-9324		
	4428598304	WAFER LW-0640-4P		
HEAT SINK (For CPA-9325)	7502088910	HEAT SINK CPA-9325		
HEAT SINK (For CPA-9313)	7502089010	HEAT SINK CPA-9313		
F1 (For CPA-9325)	5508213230	FUSE 217F 20MM 4A/250V UCSKJ	4A/250V	1
F1 (For CPA-9313)	5508212730	FUSE 219F 20MM 2A/250V UCSKJ	2A/250V	
FAN1	7308998911	DC FAN (A8025H24B-FS)	A8025H24-FS	1
T2 (For CPA-9325)	2818091100	TRANSFORMER OUTPUT PA-9324	O.P.T	1
T2 (For CPA-9313)	2818091200	TRANSFORMER OUTPUT PA-9312	O.P.T	
T3 (For CPA-9325)	2828061210	TRANS POWER CPA-9325 220V	POWER TRANS	1
T3 (For CPA-9313)	2828061410	TRANS POWER CPA-9313 220V	POWER TRANS	
AC INLET	4448996710	AC INLET (6200,2300) SYS-6004	6200.2300	1
AC CORD	4308997310	AC CORD DOME 3-CORES	AC CORD	



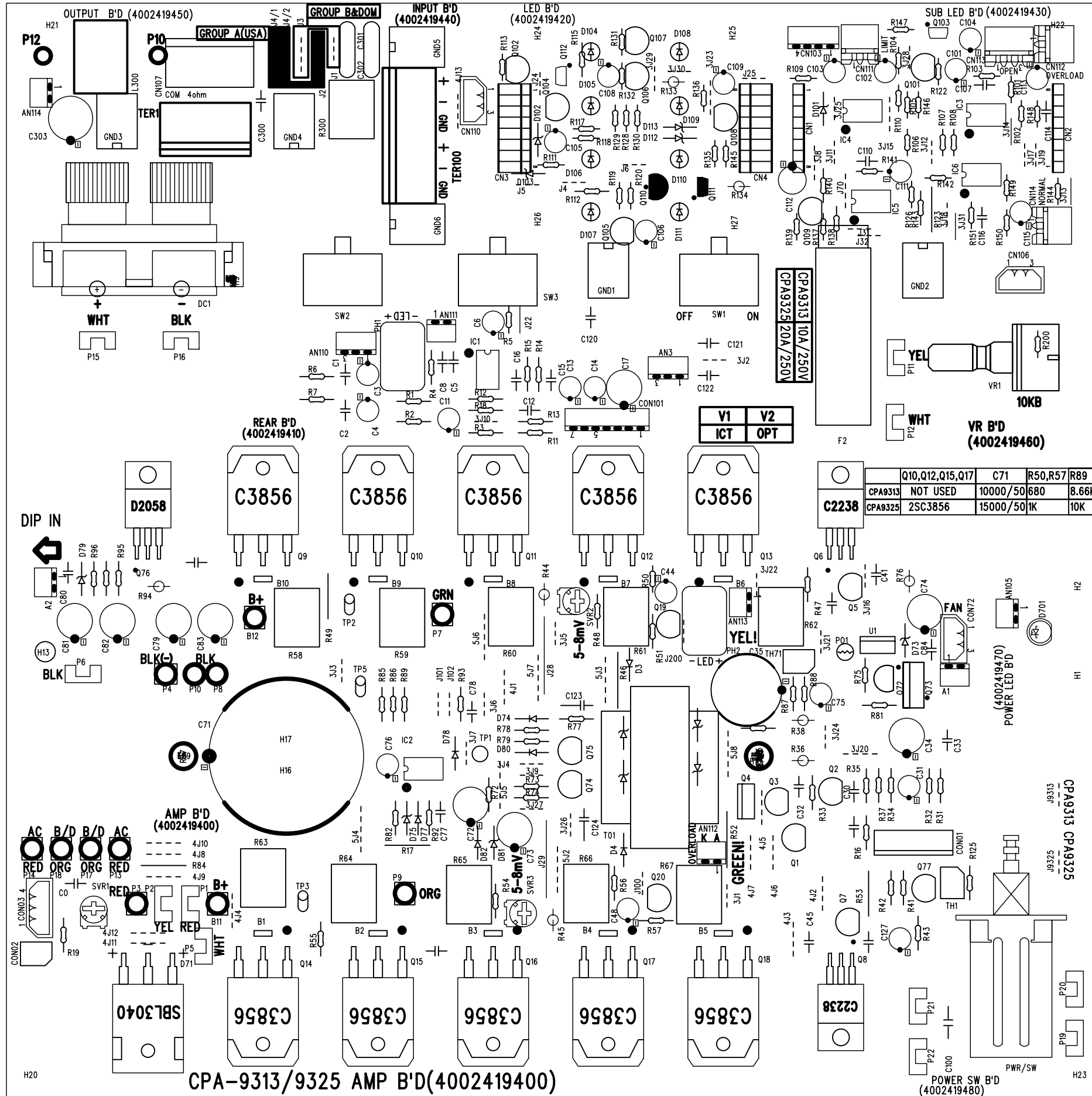
USA/CANADA & Associated	DM, EC & Associated
OUT A J2:70V	J1:100V
OUT B J4:25V	J3:70V



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=PICTO-MICROFARADS)
- ALL VOLTAGES ARE REFERRED TO GROUND UNDER THE FOLLOWING CONDITIONS:
DC - NO SIGNAL EXCEPT WHERE INDICATED.
AC - RMS
- PRECAUTION:
 - 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.
 - ALL SOLDERING MUST BE DONE IN A PROFESSIONAL MANNER USING SOLDER WHITE RESINE CORE ONLY.
 - ALL COVERS, SHIELD AND INSULATING SPACERS MUST BE REPLACED BEFORE RETURNING APPLIANCE TO CUSTOMER.
 - A DAMAGE POWER SUPPLY CORD MUST BE REPLACED BEFORE RETURNING APPLIANCE TO CUSTOMER.
 - DELTA TEST CONSISTING OF 220V 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.
 - THE ∇ MARKED RESISTORS ARE MOUNTED THE P.C.B ON SLEEVES.

PART MODEL	Q10,Q12,Q15,Q17	C71	T2	T3	F1	F2	R50,R57	R89	D71
CPA-9313	NOT USED	10000/50	2818091200	2828061410	2A/250V	10A/250V	680	8.66K 1X	SBL2040
CPA-9325	25C 3856	15000/50	2818091100	2828061210	4A/250V	20A/250V	1K	10K 1X	SBL3040



CPA9313 10A/250V
CPA9325 20A/250V

V1	V2
ICT	OPT

	Q10, Q12, Q15, Q17	C71	R50, R57	R89
CPA9313	NOT USED	10000/50	680	8.66K
CPA9325	2SC3856	15000/50	1K	10K

H20

CPA-9313/9325 AMP B'D(4002419400)

H23

