

**SERVICE**

**MANUAL**

P U B L I C A D D R E S S

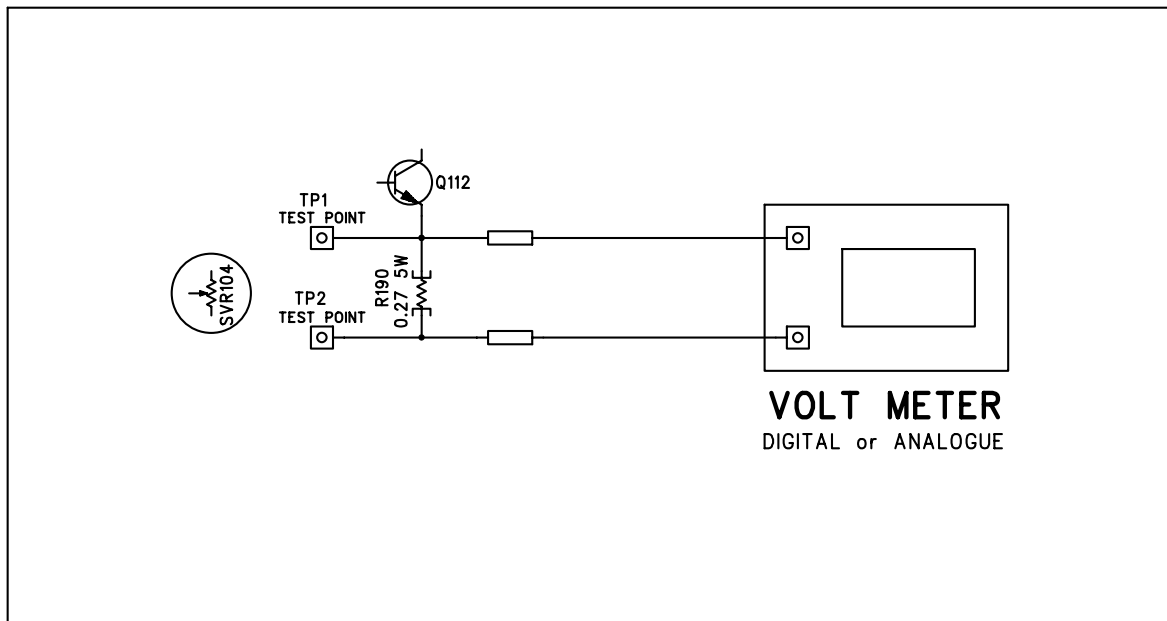
**AMPLIFIER**

**PA-935A**

**interM**

# ELECTRICAL ADJUSTMENT PROCEDURE

## 1. Connection



## 2. Adjustment

- Adjust SVR104 so that the current through the R190 become 4~7mV.  
When that voltage across the Positive "TP1" to Negative "TP2" becomes 4~7mV,  
the current becomes 15~26mA.

# SPECIFICATIONS

## ■ ELECTRICAL

Rated Output Power (at THD : 5%)	5W(RMS)
Frequency Response ( $\pm 3$ dB)	
MIC 1,2,3	150Hz~12kHz
AUX	80Hz~15kHz
CD/SATELLITE	80Hz~15kHz
TELEPHONE	330Hz~3kHz
Total Harmonic Distortion (at Rated Output, 1kHz)	Less Than 5%
Signal to Noise Ratio	
MIC 1,2,3	Better than 55dB
AUX, CD/SATELLITE, TELEPHONE	Better than 65dB
Input Sensitivity/Impedance	
MIC 1,2,3	-50dB/600 $\Omega$
AUX	-15dB/10k $\Omega$
CD/SATELLITE	0dB/10K $\Omega$
TELEPHONE	0.775V/600 $\Omega$
Output Voltage/Impedance	4 $\Omega$ /11.8V, 8 $\Omega$ /16.7V, 140 $\Omega$ /70V, 285 $\Omega$ /100V

## ■ GENERAL

Power Source	100-120VAC or 220-240VAC; 50/60Hz (Supplied AC mains transformer depends on country requirements)
Power Consumption	40W
Weight	4.4kg/9.7lb
Dimensions	290(W)x76(H)x185(D)mm / 11.4(W)x3(H)x7.3(D)in

\* Specifications and design subject to change without notice.

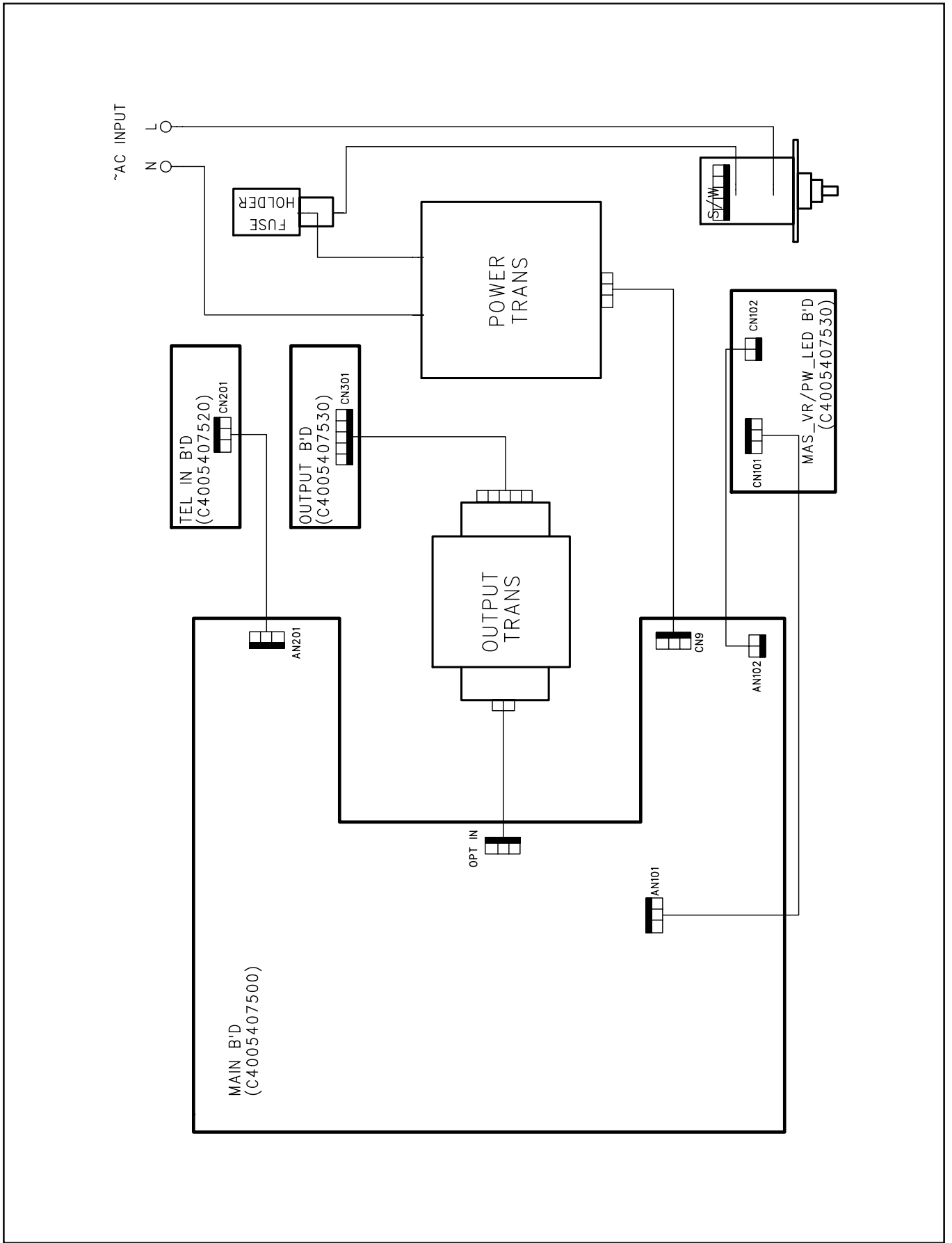
# ELECTRICAL PARTLIST

Ref No.	Part No.	Description	Value
<b>MAIN B'D (C4005407500)</b>			
TP1-2	4678699410	CNT PLUG 1P	CNT1P
Q110 Q117	2008206997-T	TR SG PNP KTA1024 TO	A1024Y
Q113	2008206998-T	TR SG PNP KTA1023 T	KTA1023Y
Q111	2008407970-T	TR SG NPN KTC1027 T	C1027Y
Q101-103	2008606104-T	TR SG NPN KTC3198 TO	C3198Y
Q105-106			
Q104 Q107	2008606998-T	TR SG NPN KTD1302 TO	D1302
Q115-116			
Q108-109	2008606999-T	TR SG NPN KTC3198 TO	C3198BL
Q112 Q114	2028443879	TR PW NPN 2SC5197TO-3	C5197
BD	2058100995	DIODE BR PBPC-306 SB-3	PBPC306
D104	2058100996	DIODE RE 1N4006 DO-41	1N 4006
D101-102	2058304100	DIODE SW 1N4148M DO-	1N4148
D105-112			
D103	2058502180	DIODE ZN 500MW BM 18V DO-35	18BM
U101-102	2118010432	IC OP AMP NJM2068D DIP8	2068DD
U103-104	2118010590	IC OP AMP NJM4558D DIP8	4558D
U106	2128610800	IC VOLT REG -15V 1A 7915 TO-22	7915
U105	2128610900	IC VOLT REG 15V 1A 7815 TO-220	7815
R189 R191	3009100973	RES MF 10 1/5W 5% AX N	10
R107 R112-113	3009101973	RES MF 100 1/5W 5% AX N	100
R123 R132 R151			
R174 R176 R186			
R188 R201			
R153 R178	3009102973	RES MF 1K 1/5W 5% AX N	1K
R101-102 R108	3009103973	RES MF 10K 1/5W 5% AX N	10K
R115 R117-118			
R126-127			
R145-146 R152			
R172 R175 R177			
R124 R133	3009104973	RES MF 100K 1/5W 5% AX N	100K
R147-148	3009122973	RES MF 1.2K 1/5W 5% AX N	1.2K
R109 R125 R134	3009123973	RES MF 12K 1/5W 5% AX N	12K
R154 R202			
R111	3009124973	RES MF 120K 1/5W 5% AX N	120K
R144	3009132973	RES MF 1.3K 1/5W 5% AX N	1.3K
R187	3009150973	RES MF 15 1/5W 5% AX N	15
R168 R171	3009153973	RES MF 15K 1/5W 5% AX N	15K
R135-136	3009182973	RES MF 1.8K 1/5W 5% AX N	1.8K
R138-139	3009203973	RES MF 20K 1/5W 5% AX N	20K
R165	3009221973	RES MF 220 1/5W 5% AX N	220
R179 R183 R208	3009223973	RES CF 22K 1/5W J N	22K
R142	3009224973	RES CF 220K 1/5W J N	220K
R141 R157 R163	3009225973	RES MF 2.2M 1/5W 5% AX N	2.2M
R181 R199	3009272973	RES MF 2.7K 1/5W 5% AX N	2.7K
R166	3009274973	RES MF 270K 1/5W 5% AX N	270K
R170 R173	3009303973	RES MF 30K 1/5W 5% AX N	30K
R204	3009330973	RES MF 33 1/5W 5% AX N	33
R116	3009331973	RES MF 330 1/5W 5% AX N	330
R114	3009332973	RES MF 3.3K 1/5W 5% AX N	3.3K
R159	3009334973	RES MF 330K 1/5W 5% AX N	330K
R143 R207	3009392973	RES MF 3.9K 1/5W 5% AX N	3.9K
R158 R164 R180	3009393973	RES MF 39K 1/5W 5% AX N	39K
R203	3009394973	RES MF 390K 1/5W 5% AX N	390K
R140	3009431973	RES MF 430 1/5W 5% AX N	430
R206	3009471973	RES MF 470 1/5W 5% AX N	470
R149-150 R155	3009472973	RES MF 4.7K 1/5W 5% AX N	4.7K
R184-185			
R156	3009473973	RES MF 47K 1/5W 5% AX N	47K
R103-104	3009561973	RES MF 560 1/5W 5% AX N	560
R119-120			
R128-129 R161			
R110 R160 R205	3009562973	RES MF 5.6K 1/5W 5% AX N	5.6K
R162 R167 R169	3009563973	RES MF 56K 1/5W 5% AX N	56K
R121-122	3009682973	RES MF 6.8K 1/5W 5% AX N	6.8K
R130-131			

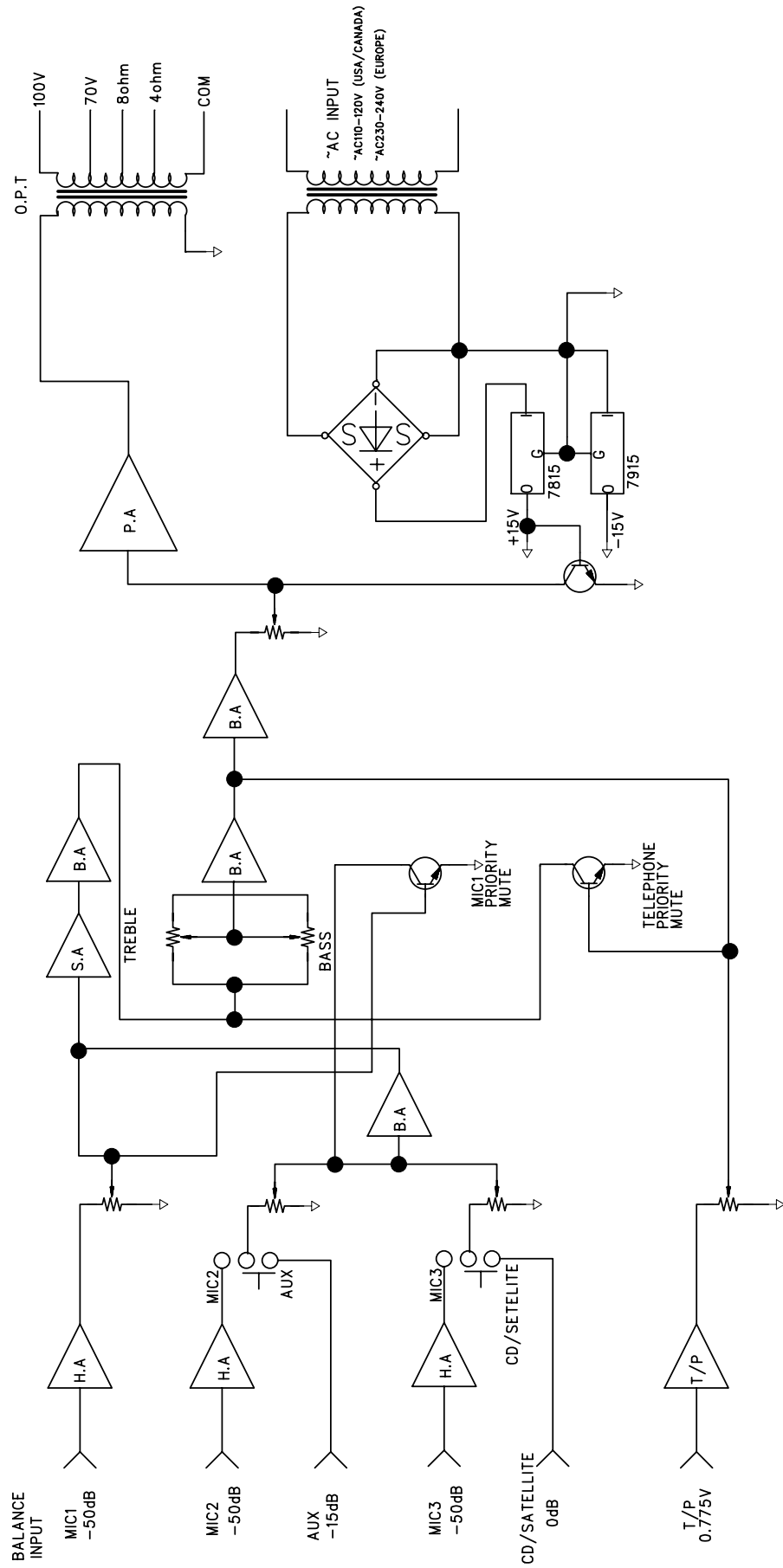
Ref No.	Part No.	Description	Value
R105-106	3009752973	RES MF 7.5K 1/5W 5% AX N TA	7.5K
R137 R182	3009821973	RES MF 820 1/5W 5% AX N TA	820
R200	3039100572-F	RES MF 10 2W 5% AX P	10 2W
R209-210	3039221572-F	RES MF 220 2W 5% AX P	220 2W
VR104-105	3228089410	VR ROT HOR 1U BUSH L20 100K W	100KW
VR101-103	3228089510	VR ROT HOR 1U BUSH L20 10K A	10KA
SVR102-103	3228090110-S	VR SEMI CE TOP 5MM 10K	10K
SVR104	3248520120-T	RES SEMI FT-63 TP(200)	200
SVR101	3248550220-T	RES SEMI FT-63 TP(5K)	5K
C172-173	3408222261	CAP E SM SG 85C 2200UF 35V M 1	2200/35
C103-104 C106	3409210071-T	CAP E SM SG 85C 10UF 50V M 5P	10/50
C118-119 C122			
C125-126 C128			
C131 C161			
C159	3409210071-T	CAP E SM SG 85C 10UF 50V M 5P	10/50
C107 C110-111	3409210141-T	CAP E SM SG 85C 100UF 25V M 6P	100/25
C121 C129 C138			
C142 C147 C153			
C156-157			
C164-166			
C160 C167	3409210171-T	CAP E SM SG 85C 100UF 50V M 8P	100/50
C170-171			
C108 C114 C137	3409210971-T	CAP E SM SG 85C 1UF 50V M 5P T	1/50
C144 C146	3409222971-T	CAP E SM SG 85C 2.2UF 50V M 5P	2.2/50
C143	3409233071-T	CAP E SM SG 85C 33UF 50V M 6P	33/50
C158	3409233871-T	CAP E SM SG 85C 0.33UF 50V M 6	0.33/50
C115 C130	3409247871-T	CAP E SM SG 85C 0.47UF 50V M 5	0.47/50
C134-135			
C112 C154	3409247971-T	CAP E SM SG 85C 4.7UF 50V M 5P	4.7/50
C113 C155	3509101130-T	CAP CE TEMP SL 100PF 50V J RA	100P
C101-102	3509102530-T	CAP CE HI-DI Y5P 1000PF 50V J	0.001
C116-117			
C123-124 C136			
C174			
C105	3509121130-T	CAP CE TEMP SL 120PF 50V J RA	120P
C120 C127	3509150130-T	CAP CE TEMP SL 15PF 50V J RA T	15P
C162	3509330130-T	CAP CE TEMP SL 33PF 50V J RA T	33P
C109 C151	3509470130-T	CAP CE TEMP SL 47PF 50V J RA T	47P
C132-133	3509472530-T	CAP CE HI-DI Y5V 4700PF 50V Z	0.0047
SP_CAP	3549472407	CAP CE AC Y2/X1 4700PF 250VAC	4700P
C140	3609103120-T	CAP FILM POLYESTR 0.01UF 100V	0.01(M)
C168-169	3609104120-T	CAP FILM POLYESTR 0.1UF 100V J	0.1(M)
C152	3609122120-T	CAP FILM POLYESTR 0.0012UF 100	0.0012(M)
C148 C150	3609123120-T	CAP FILM POLYESTR 0.012UF 100V	0.012(M)
C145	3609182120-T	CAP FILM POLYESTR 0.0018UF 100	0.0018(M)
C163	3609563120-T	CAP FILM POLYESTR 0.056UF 100V	0.056(M)
C139 C141	3609683120-T	CAP FILM POLYESTR 0.068UF 100V	0.068(M)
AN102	4355709101	CON ASS'Y 2P 80MM	ASS'Y 2P_80
AN201	4355709203	CON ASS'Y 3P 100MM	ASS'Y 3P_100
AN101	4355709309	CON ASS'Y 3P 190MM	ASS'Y 3P_190
CN1 CN9	4428596603	CON WAFER LOCK(M) 3P ST	LW1143-03
SW101-102	4618001110	SW SLIDE HOR DPDT NS L7.5	SLIDE SW
SW	4648098510	SW PUSH HOR SPST NS 1U BKT L18	POWER SW
R190 R192	C3059228776	RES CE 0.27 Ω 5W RA T	0.27 5W
JK1-4	C4438097210	JACK PHONE 1U 4P AN	JY-6313
JK5	C4438189120	JACK RCA 1U 2P AN	RJ-1060

Ref No.	Part No.	Description	Value
<b>MAS VR/PW LED B'D (C4005407510)</b>			
CN102	4428595002	CON WAFER BOX(M) 2P ST	LW5267-02
CN101	4428595003	CON WAFER BOX(M) 3P ST	LW5267-03
VR106	3228089510	VR ROT HOR 1U BUSH L20 10K A	10KA
LD1	2300030006	LED RND 3.1MM RED CLR 1U ST2.5	RED
<b>TEL IN B'D (C4005407520)</b>			
TER1	C4465995803	TERMINAL SCREW 3P	TERMINAL 3P
CN201	4428595003	CON WAFER BOX(M) 3P ST	LW5267-03
<b>OUTPUT B'D (C4005407530)</b>			
TER2	C4465995805	TERMINAL SCREW 5P	TERMINAL 5P
CN301	4428596505	CON WAFER LOCK(M) 5P ST	LA1143-05
<b>ASS'Y</b>			
	4308998910	ASS'Y AC CORD 2P 3A 250VAC K	
	4308990110	ASS'Y AC CORD 3P 16A 250VAC V	
	4308998610	AC CORD 2P 3A 250VAC K	
	4308000430	AC CORD 2P 2.5A 250VAC V	
	4308995510	AC CORD KKP-660 BSI	
	4308995410	AC CORD KKP-560A SAA	
	4448200210	CLLOSE & CONNECTOR CEC2SQ	
	4355705907	CON ASS'Y 1P 150MM BLK	
	4458000110	FUSE HOLDER (EDK20MM) FH-033	
F1	5508412239	FUSE 20MM T 1A 250V K/U/CS/J	T1AL/250V
OPT	C2818085200	TRANS OPT 70/100V 35W PA-935A	O.P.T
PT	C2828054600	TRANS POWER 100V PA-935A	100V
	C2828054610	TRANS POWER 120V PA-935A	120V
	C2828054620	TRANS PW EI 220V 29.4V 1.04A	220V
	C2828054630	TRANS PW EI 230V 29.4V 1.04A	230V
	C2828054640	TRANS PW EI 240V 29.4V 1.04A	240V

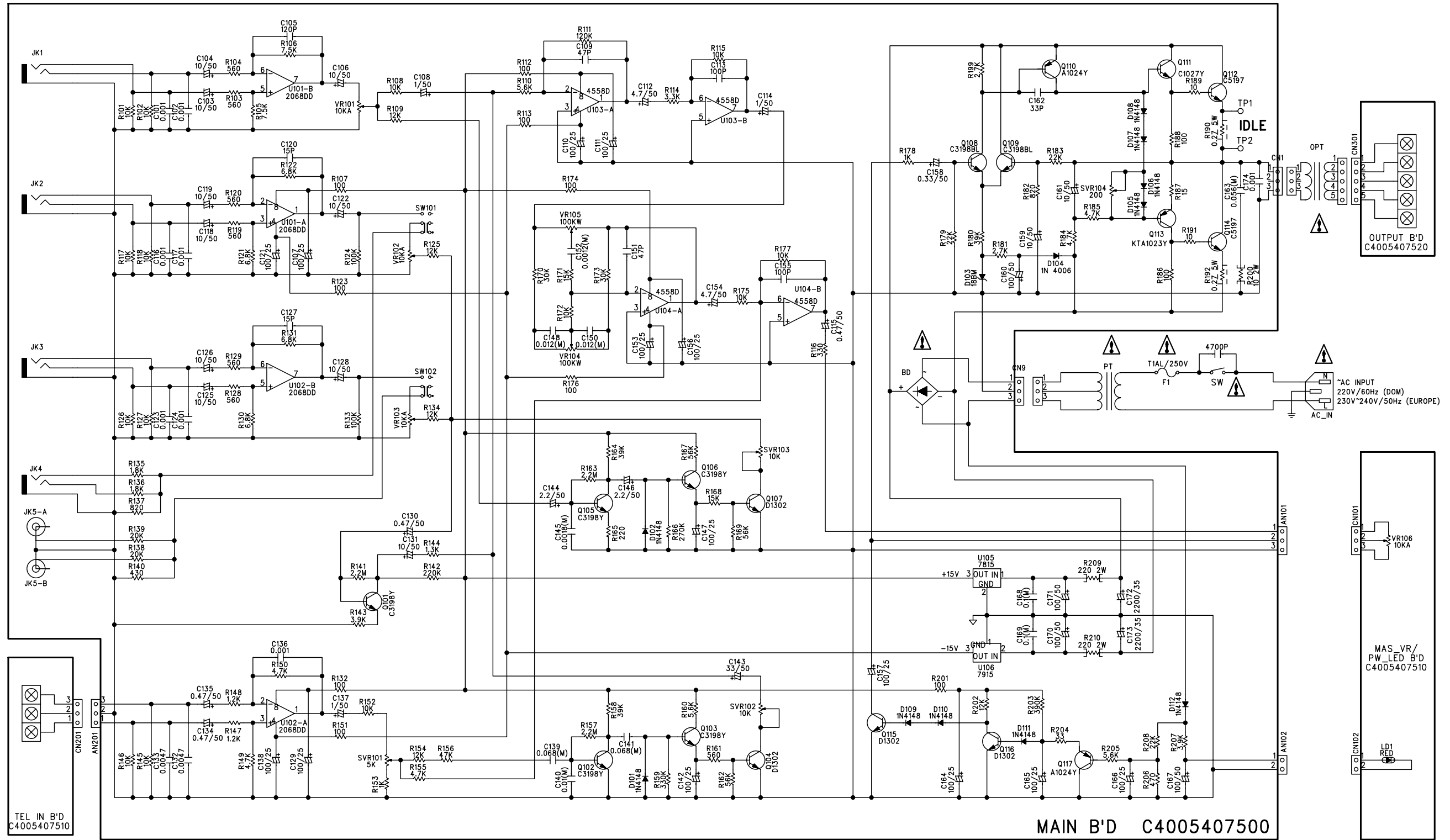
# WIRING DIAGRAM




# BLOCK DIAGRAM



# SCHEMATIC DIAGRAM



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.

MAIN B'D C4005407500

MAS\_VR/  
PW\_LED B'D  
C4005407510