

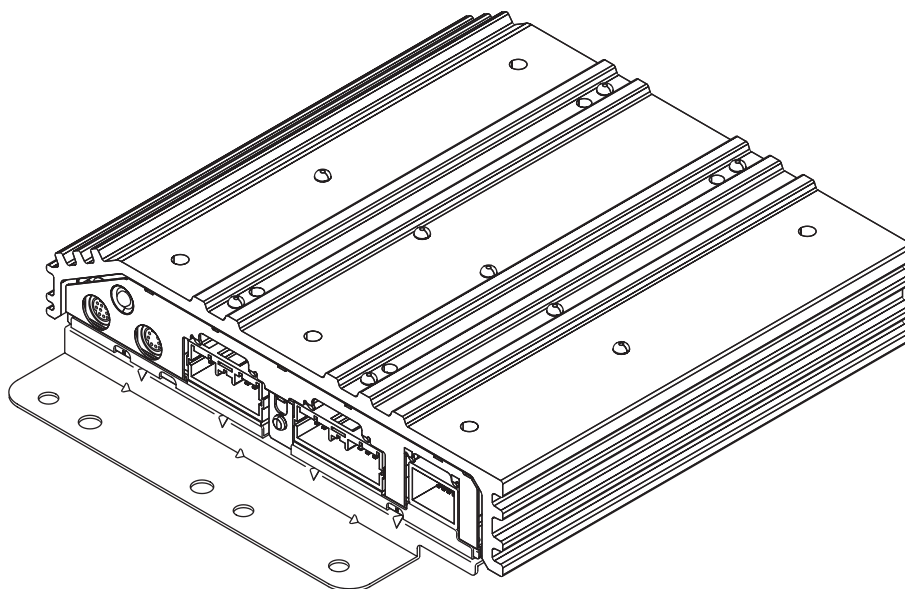
MITSUBISHI MOTORS

SERVICE MANUAL

POWER AMPLIFIER

Model: ***CV-0MW7B51***

PART No : 8701A114



CONTENTS

● FEATURES	2	● ELECTRICAL PARTS LIST	12,13
● SPECIFICATIONS	2	● PARTS LAYOUT ON PRINTED CIRCUIT BOARD	
● SYSTEM CONFIGURATION	3	PCB-AMP	14,15
● CONNECTORS	4	● SCHEMATIC DIAGRAM	
● BLOCK DIAGRAM	5	PCB-AMP	16~20
● DISASSEMBLING PROCEDURES	6	● VOLTAGE	21
● EXPLODED VIEW and PARTS LIST	7	● WAVEFORM	22
● IC EXPLANATION	8~11		

FEATURES

Audio Part

- High power 800W output power amplifier.
 - Woofer mono 150W x 2ch (1Ω) Double voice coil woofer drive
 - Front-Lo stereo 75W x 2ch (2Ω) Front-Door Speaker drive
 - Front-M/H stereo 50W x 2ch (4Ω) Front-Door Mirror Speaker drive
 - Rear stereo 50W x 2ch (4Ω) Rear-Door Speaker drive
 - Rear Gate stereo 50W x 2ch (4Ω) Rear-Gate Speaker drive
 - Center mono 50W x 1ch (4Ω) Center Speaker drive
- Analog differential signal input circuit. (input Front 2ch of H/U)
- Digital signal input circuit. (input Audio digital signal of H/U or RSES)
- DSP circuit.
 - DolbyAC-3/dts DECODER
 - Auto-Loudness, Bass/Treble/Middle, Volume/Fader/Balance
 - Sound Field
 - Fix-EQ
 - Test tone
 - Beep sound

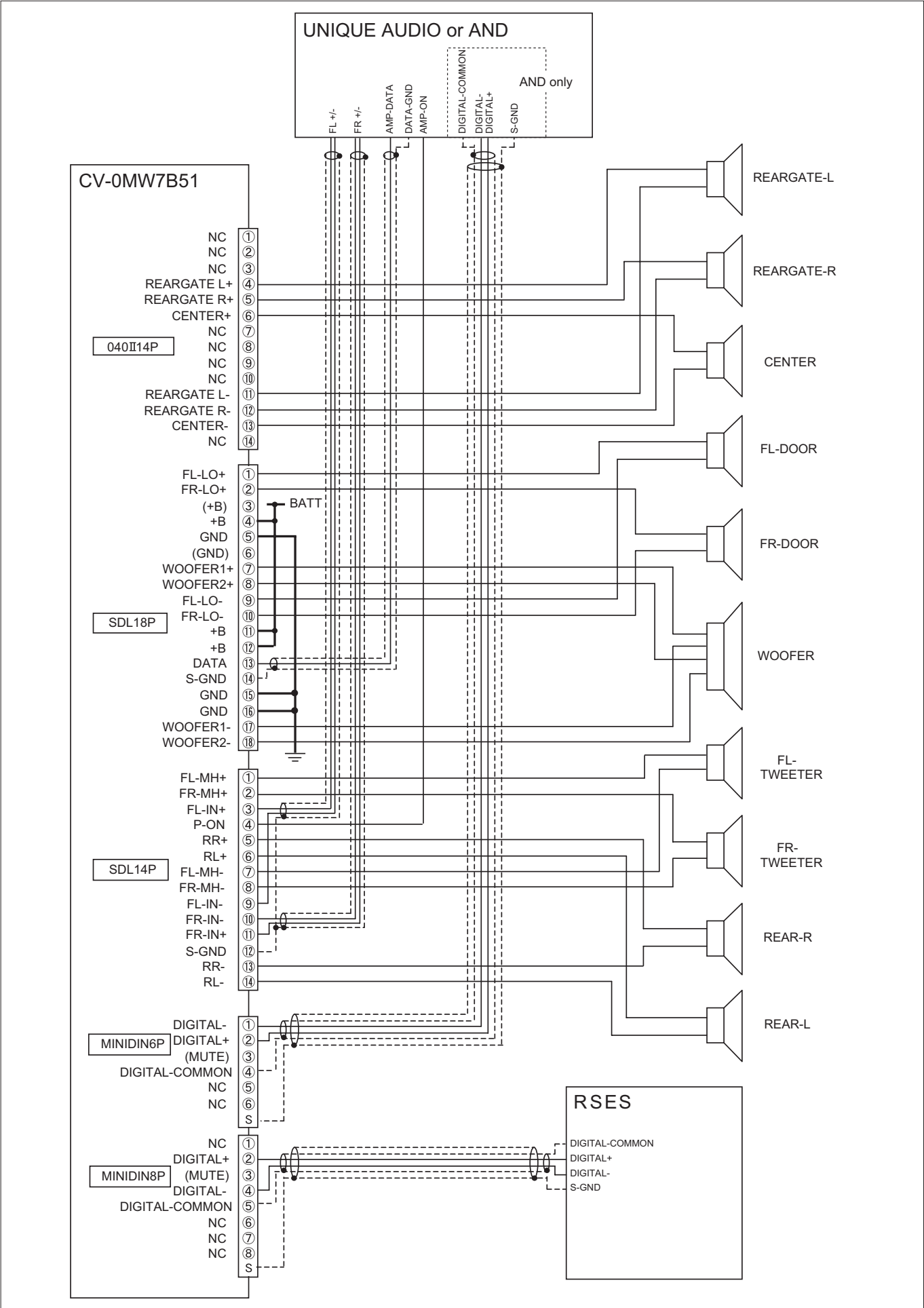
Others

- Control AMP by communication with H/U.
- DIAG function. (DC-offset detection)

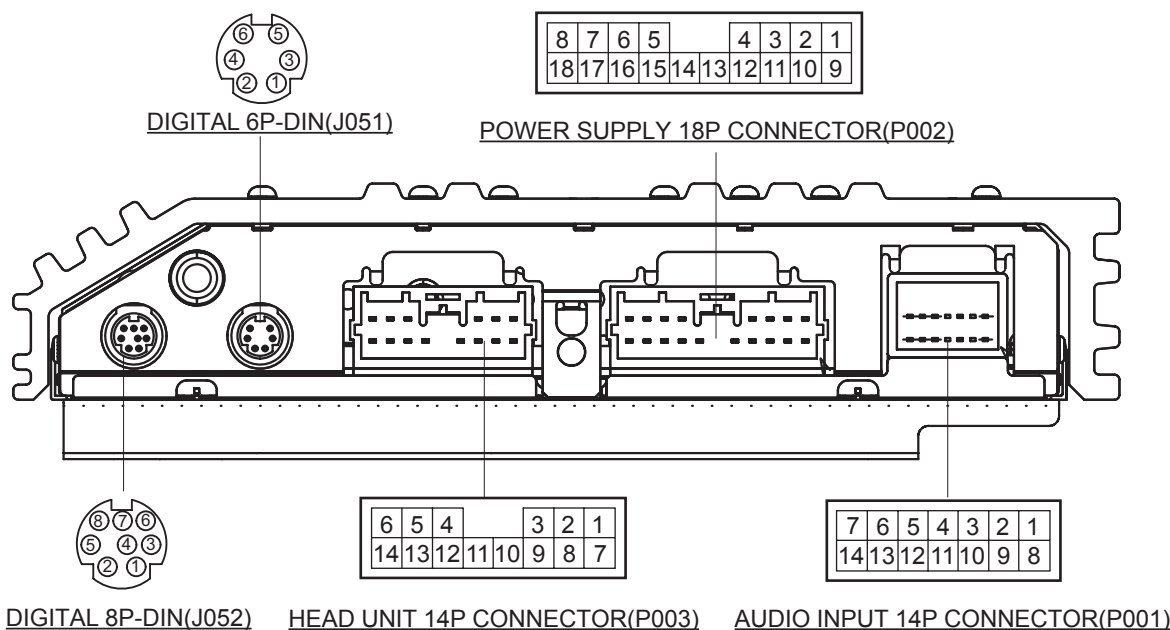
SPECIFICATIONS

- | | | | |
|----------------------|----------------------------|------------------|---------------------------------|
| ● Distortion | : 0.5% max at 0.5W | ● Offset Voltage | : 50mV max |
| ● S/N | : 55dB min at 0.5W | ● Backup Current | : 1mA max |
| ● Channel Separation | : 50dB min at 0.5W | ● Dimensions | : 265.8(W) x 220(D) x 54.8(H)mm |
| ● Residual Output | : 0.5mVrms max at Vol.min. | ● Weight | : 2.39kg |

SYSTEM CONFIGURATION



CONNECTORS



POWER SUPPLY 18P CONNECTOR(P002)

Pin No.	Function	Pin No.	Function
1	FL Lo (+)	10	FR Lo (-)
2	FR Lo (+)	11	BATTERY (+)
3	—	12	BATTERY (+)
4	BATTERY (+)	13	DATA
5	GND	14	DATA S-GND
6	—	15	GND
7	Woofer 1 (+)	16	GND
8	Woofer 2 (+)	17	Woofer 1 (-)
9	FL Lo (-)	18	Woofer 2 (-)

HEAD UNIT 14P CONNECTOR(P003)

Pin No.	Function	Pin No.	Function
1	FL M/H (+)	8	FR M/H (-)
2	FR M/H (+)	9	FL IN (-)
3	FL IN (+)	10	FR IN (-)
4	P-ON	11	FR IN (+)
5	RR (+)	12	FRONT-IN S-GND
6	RL (+)	13	RR (-)
7	FL M/H (-)	14	RL (-)

AUDIO INPUT 14P CONNECTOR(P001)

Pin No.	Function	Pin No.	Function
1	—	8	—
2	—	9	—
3	—	10	—
4	REARGATE L+	11	REARGATE L-
5	REARGATE R+	12	REARGATE R-
6	CENTER+	13	CENTER-
7	—	14	—

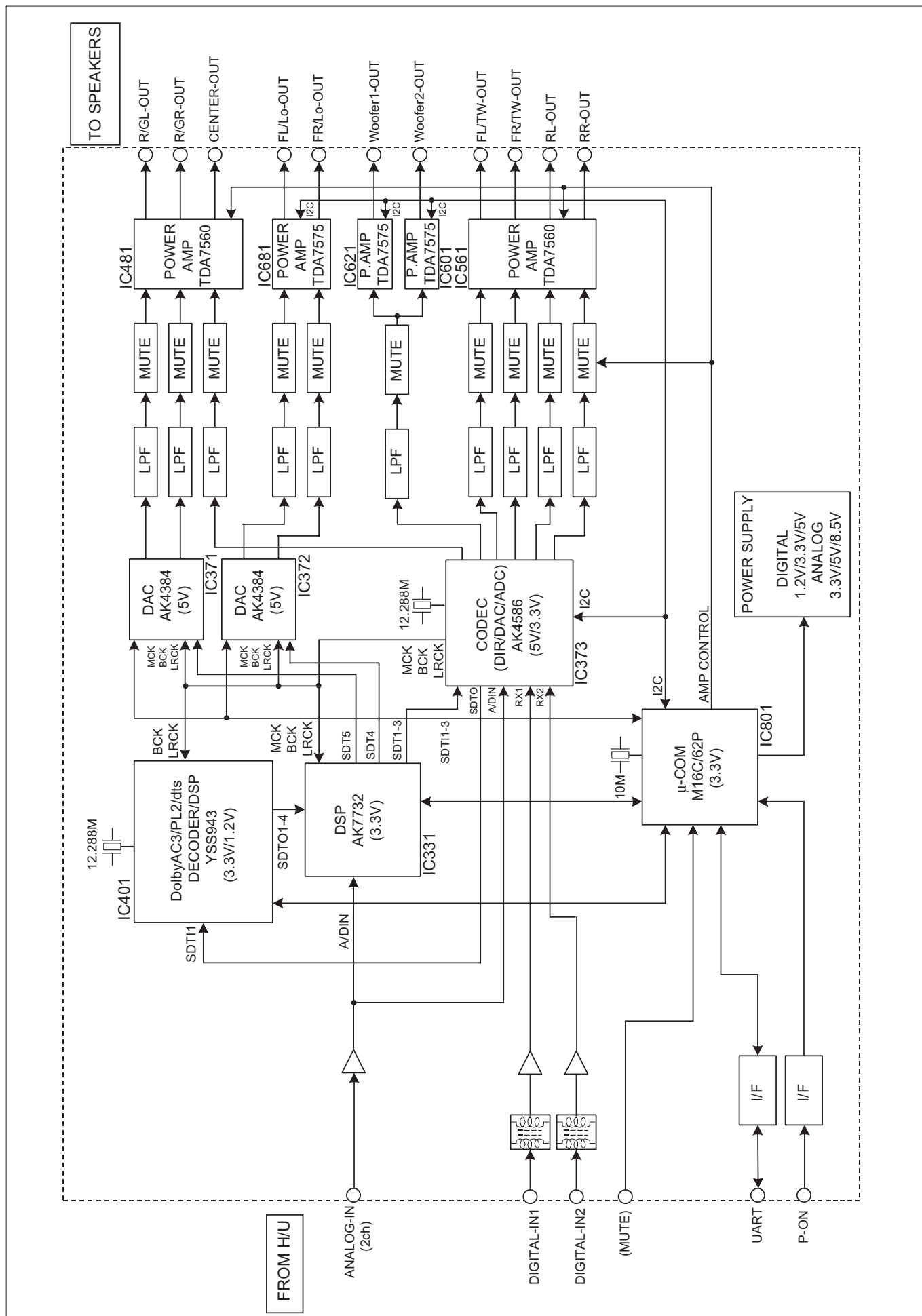
DIGITAL 8P-DIN(J052)

Pin No.	Function
1	—
2	DIGITAL+
3	(MUTE)
4	DIGITAL-
5	DIGITAL COMMON
6	—
7	—
8	—

DIGITAL 6P-DIN(J051)

Pin No.	Function
1	DIGITAL-
2	DIGITAL+
3	(MUTE)
4	DIGITAL COMMON
5	—
6	—

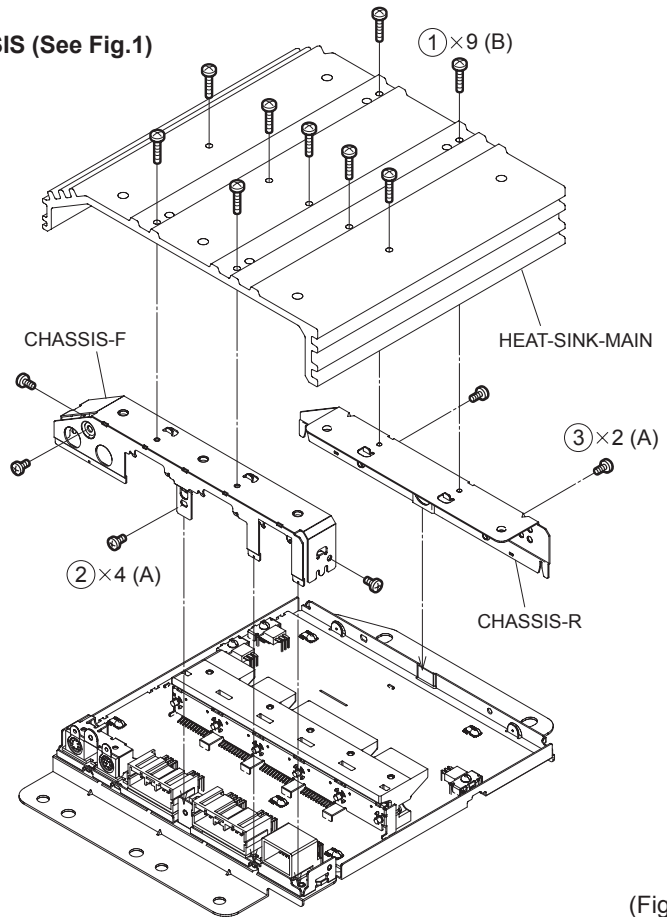
BLOCK DIAGRAM



DISASSEMBLING PROCEDURES

1. Removal of the HEAT-SINK-MAIN and CHASSIS (See Fig.1)

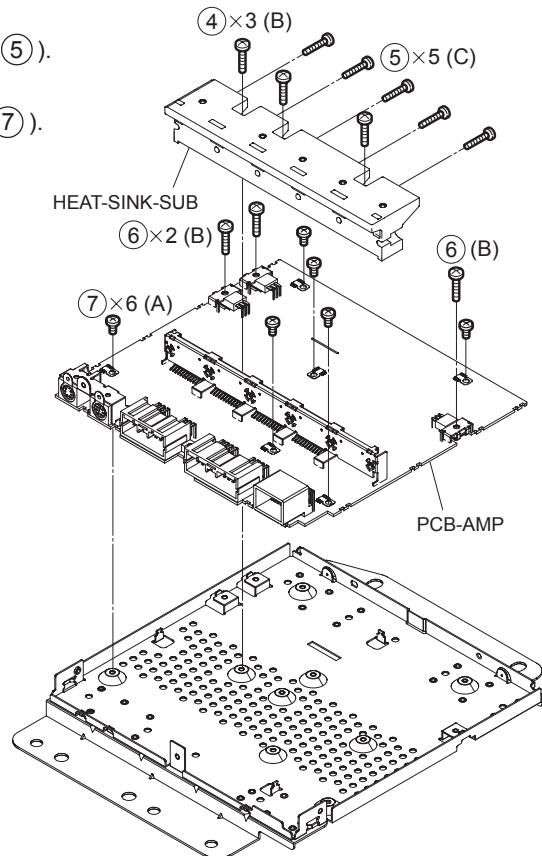
- 1) Unscrew the nine screws (①).
- 2) Remove the HEAT-SINK-MAIN.
- 3) Unscrew the four screws (②).
- 4) Remove the CHASSIS-F.
- 5) Unscrew the two screws (③).
- 6) Remove the CHASSIS-R.



(Fig.1)

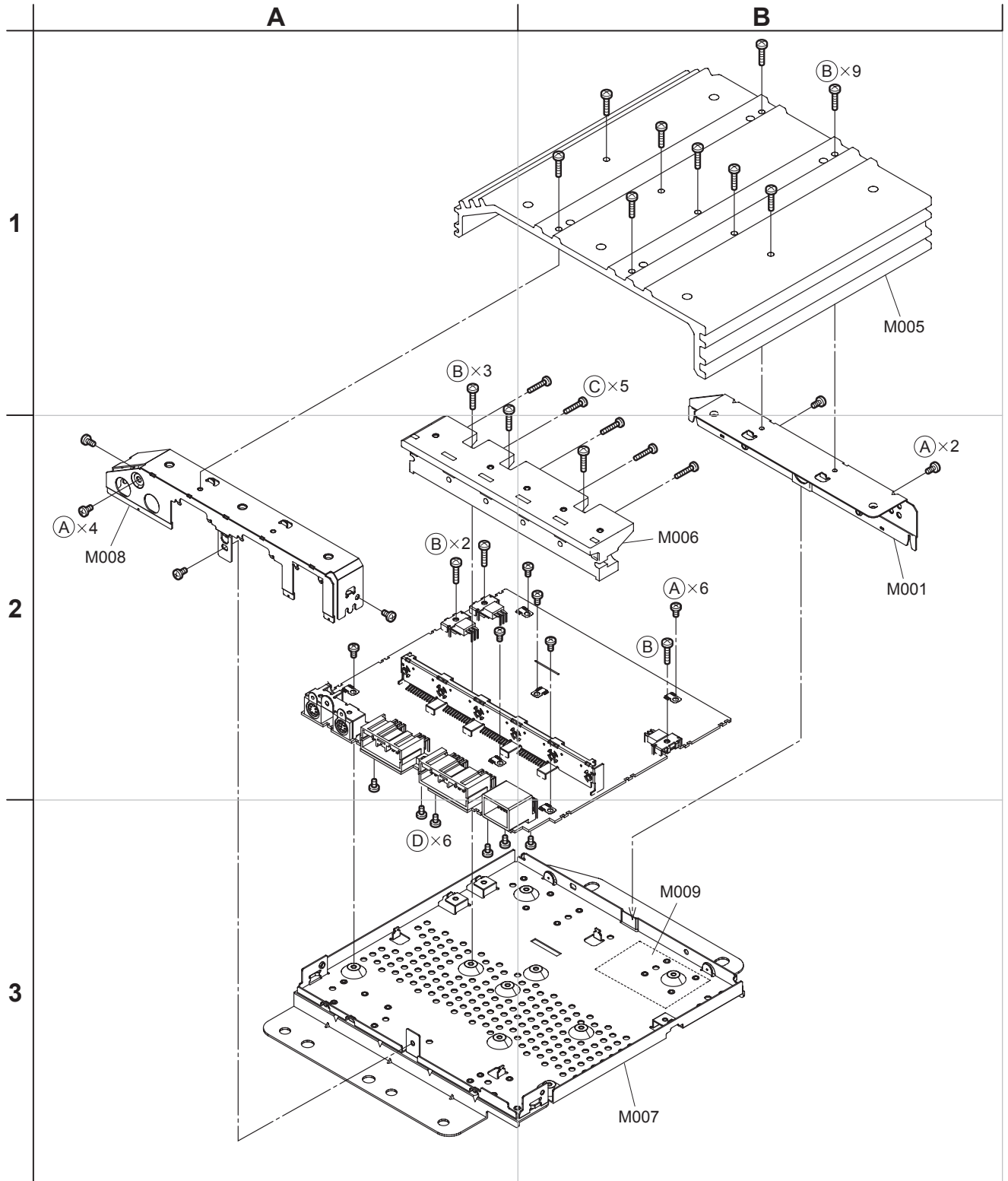
2. Removal of the PCB-AMP (See Fig.2)

- 1) Unscrew the three screws (④) and five screws (⑤).
- 2) Remove the HEAT-SINK-SUB.
- 3) Unscrew the three screws (⑥) and six screws (⑦).
- 4) Remove the PCB-AMP.



(Fig.2)

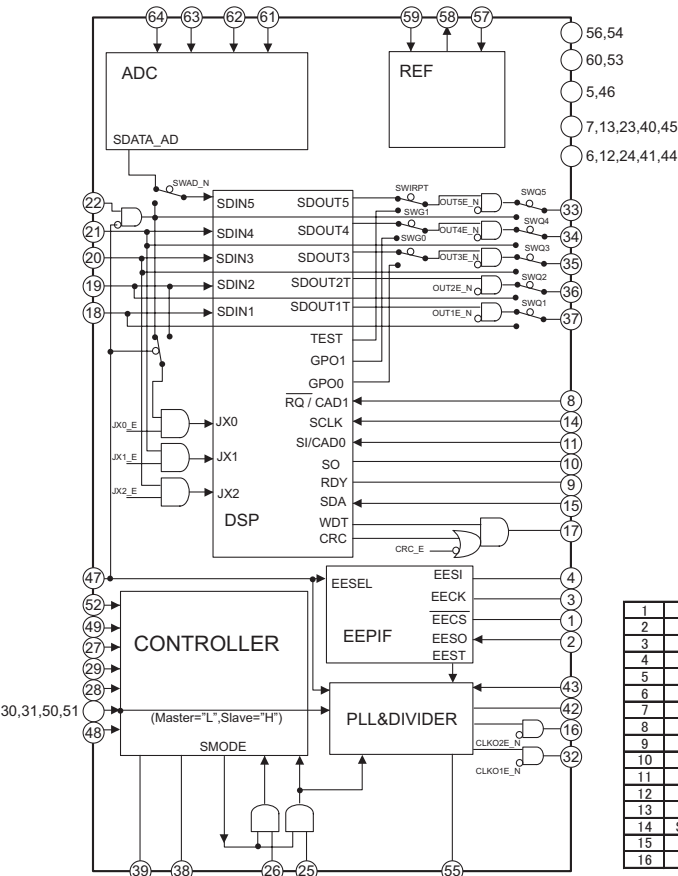
EXPLODED VIEW and PARTS LIST



Ref. No.	Part No.	Description	Index
M001	560J32610	CHASSIS-R	B-2
M005	635J08910	HEAT-SINK-MAIN	B-1
M006	635K06610	HEAT-SINK-SUB	B-2
M007	891J07610	ASSY-CHAS	B-3
M008	560J33312	CHASSIS-F	A-2
M009	943M22007	NAME-CARD(CV-0MW7B51)	B-3

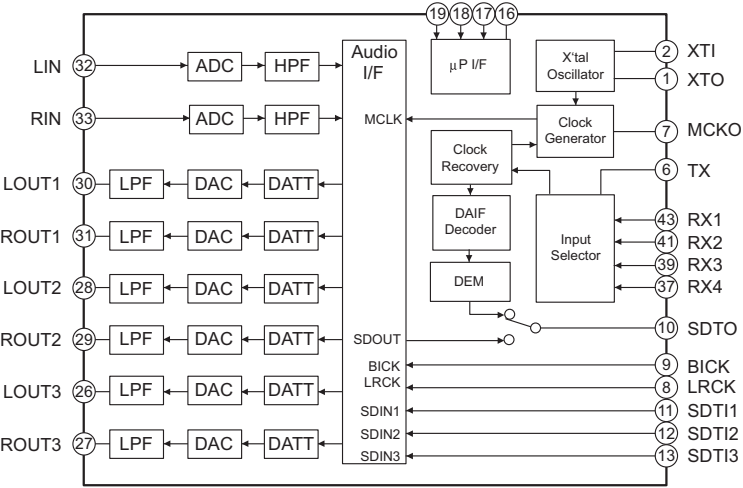
Ref. No.	Part No.	Description	Index
A	653P11046	SCREW-S-PAN 3X6	-
B	653P11048	SCREW-S-PAN 3X10	-
C	653P11052	SCREW-S-PAN 3X16	-
D	669L05701	SCREW-TAP 3X6	-

IC331 AK7732VT

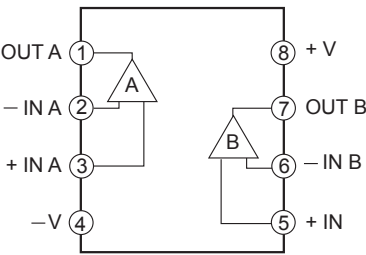


1	EECS	17	STO	33	SDOUT5	49	TESTI2
2	EES0	18	SDIN1	34	SDOUT4	50	CKM[1]
3	EECK	19	SDIN2/JX0	35	SDOUT3	51	CKM[0]
4	EESI	20	SDIN3/JX2	36	SDOUT2	52	TESTI1
5	BVSS	21	SDIN4/JX1	37	SDOUT1	53	AVSS
6	DVSS	22	SDIN5/JX0	38	BITCLK O	54	AVDD
7	DVDD	23	DVDD	39	LRCLK O	55	LFLT
8	RQ/CAD1	24	DVSS	40	DVDD	56	AVDD
9	RDY	25	BITCLK I	41	DVSS	57	VREFH
10	SO	26	LRCLK I	42	XTO	58	VCOM
11	SI/CAD0	27	INIT RESET	43	XTI	59	VREFL
12	DVSS	28	CK RESET	44	DVSS	60	AVSS
13	DVDD	29	S RESET	45	DVDD	61	AINR-
14	SCLK/SCL	30	CKM[3]	46	BVSS	62	AINR+
15	SDA	31	CKM[2]	47	EESEL	63	AINL-
16	SLKO2	32	CLKO1	48	I2CSEL	64	AINL+

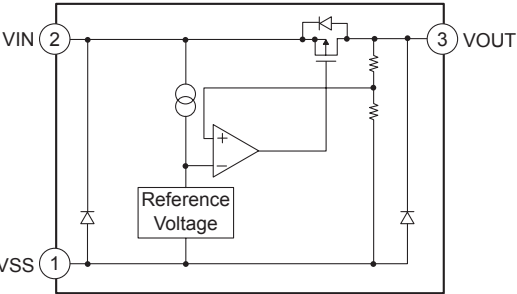
IC373 AK4586VQ



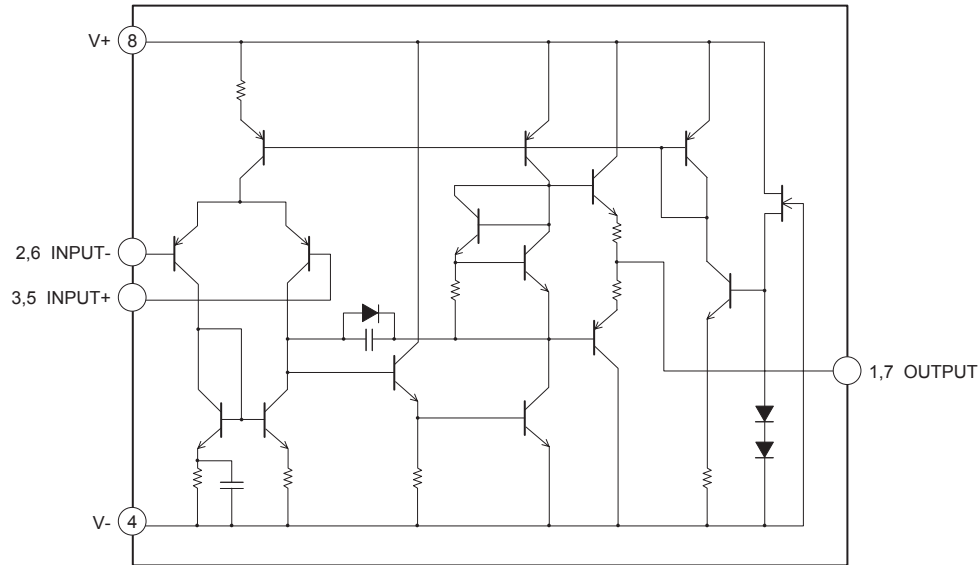
IC301,302,351 NJM2115V-TE1



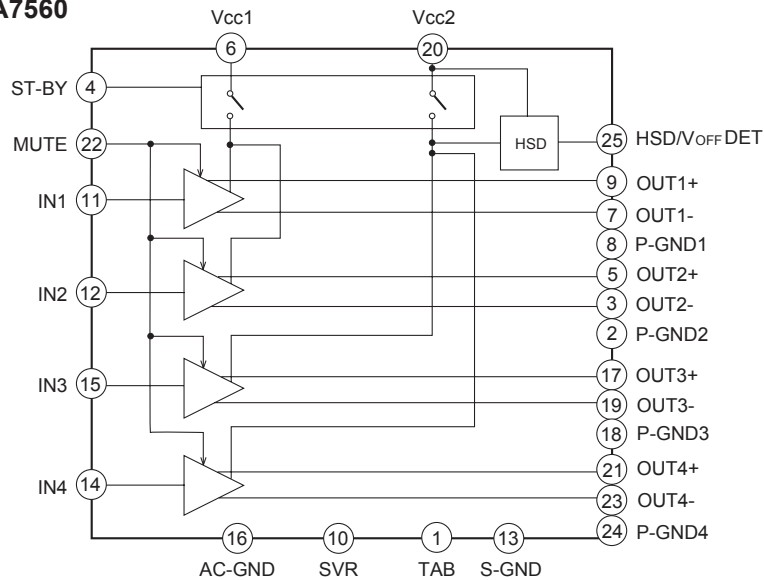
IC903 S-812C33AUA-C2N-T2



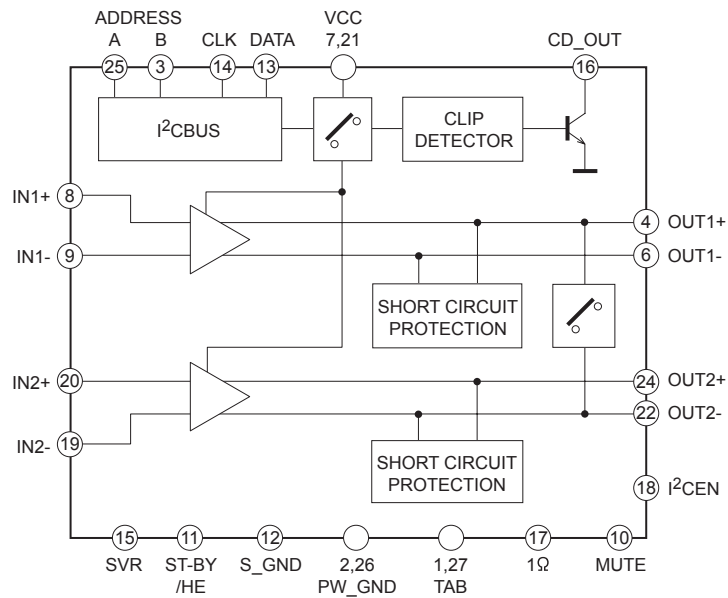
IC461,462,etc. NJM4580V



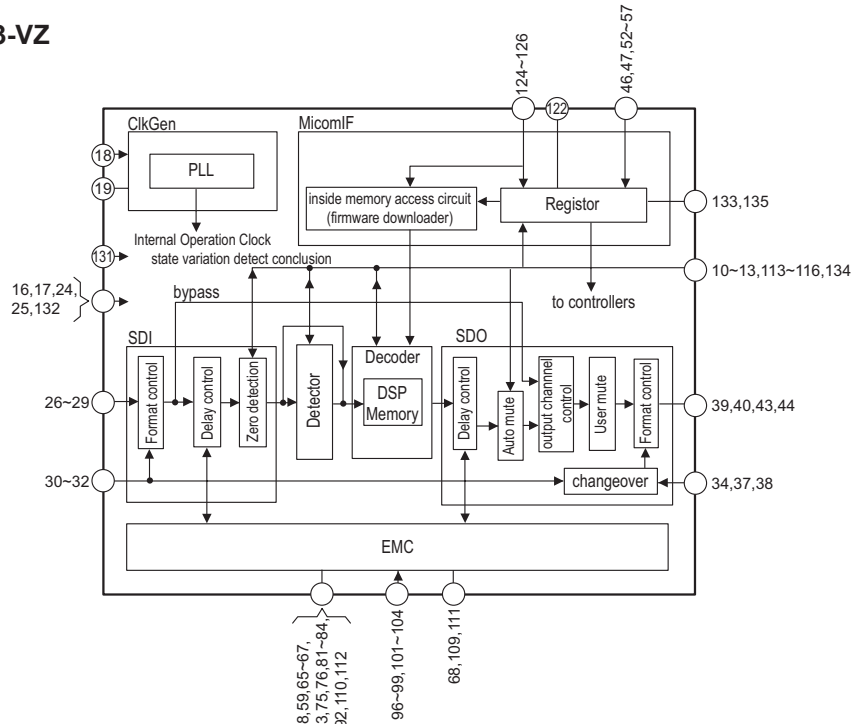
IC481,561 TDA7560



IC601,621,681 TDA7575

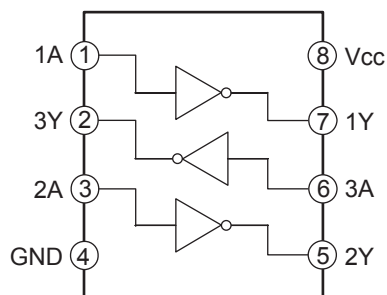


IC401 YSS943-VZ

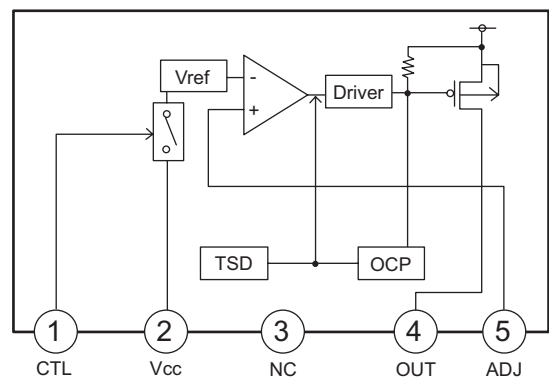


1	AHVSS	37	SDOWCK	73	MEMA16	109	nMEMCE
2	AHVSSG	38	SDOMCK	74	MEMA14	110	MEMA10
3	DVSS	39	SDO0	75	MEMA12	111	nMEMOE
4	DVDD	40	SDO1	76	MEMA7	112	MEMA18
5	VDD2	41	VSS	77	VSS	113	STATUS0
6	VDD2	42	VSS	78	VSS	114	STATUS1
7	VSS	43	SDO2	79	VDD2	115	STATUS2
8	VSS	44	SDO3	80	VDD2	116	STATUS3
9	VDD1	45	VDD1	81	MEMA6	117	VSS
10	STATUS4	46	IOPORT0	82	MEMA5	118	VSS
11	STATUS5	47	IOPORT1	83	MEMA4	119	VDD2
12	STATUS6	48	VSS	84	MEMA3	120	VDD2
13	STATUS7	49	VSS	85	VDD1	121	VDD1
14	VSS	50	VDD2	86	VSS	122	MIS0
15	VDD2	51	VDD2	87	VSS	123	VSS
16	TEST	52	IOPORT2	88	VDD2	124	MIS1
17	TEST	53	IOPORT3	89	VDD2	125	MISCK
18	XI	54	IOPORT4	90	MEMA2	126	nMICS
19	XO	55	IOPORT5	91	MEMA1	127	VDD2
20	VSS	56	IOPORT6	92	MEMA0	128	VDD2
21	VSS	57	IOPORT7	93	VSS	129	VSS
22	VDD2	58	MEMA17	94	VSS	130	VSS
23	VDD2	59	MEMA13	95	VDD2	131	nIC
24	TEST	60	VDD1	96	MEMD0	132	TEST
25	TEST	61	VSS	97	MEMD1	133	ZEROFLG
26	SDI3	62	VSS	98	MEMD2	134	nINT
27	SDI2	63	VDD2	99	MEMD3	135	nMUTE
28	SDI1	64	VDD2	100	VDD1	136	VDD1
29	SDI0	65	MEMA8	101	MEMD4	137	VDD2
30	SDIWCK	66	MEMA9	102	MEMD5	138	VDD2
31	SDIBCK	67	MEMA11	103	MEMD6	139	VSS
32	SDIMCK	68	nMEMWE	104	MEMD7	140	VSS
33	VDD1	69	VSS	105	VSS	141	AVSSR
34	SDOBCK	70	VDD2	106	VSS	142	AVDDR
35	VSS	71	VDD2	107	VDD2	143	AHVDD
36	VDD2	72	MEMA15	108	VDD2	144	AHVDDG

IC051,052 TC7W04F

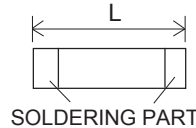


IC902 BD00KA5WFP-E2



ELECTRICAL PARTS LIST

< CHIP PARTS (RESISTORS & CAPACITORS) >



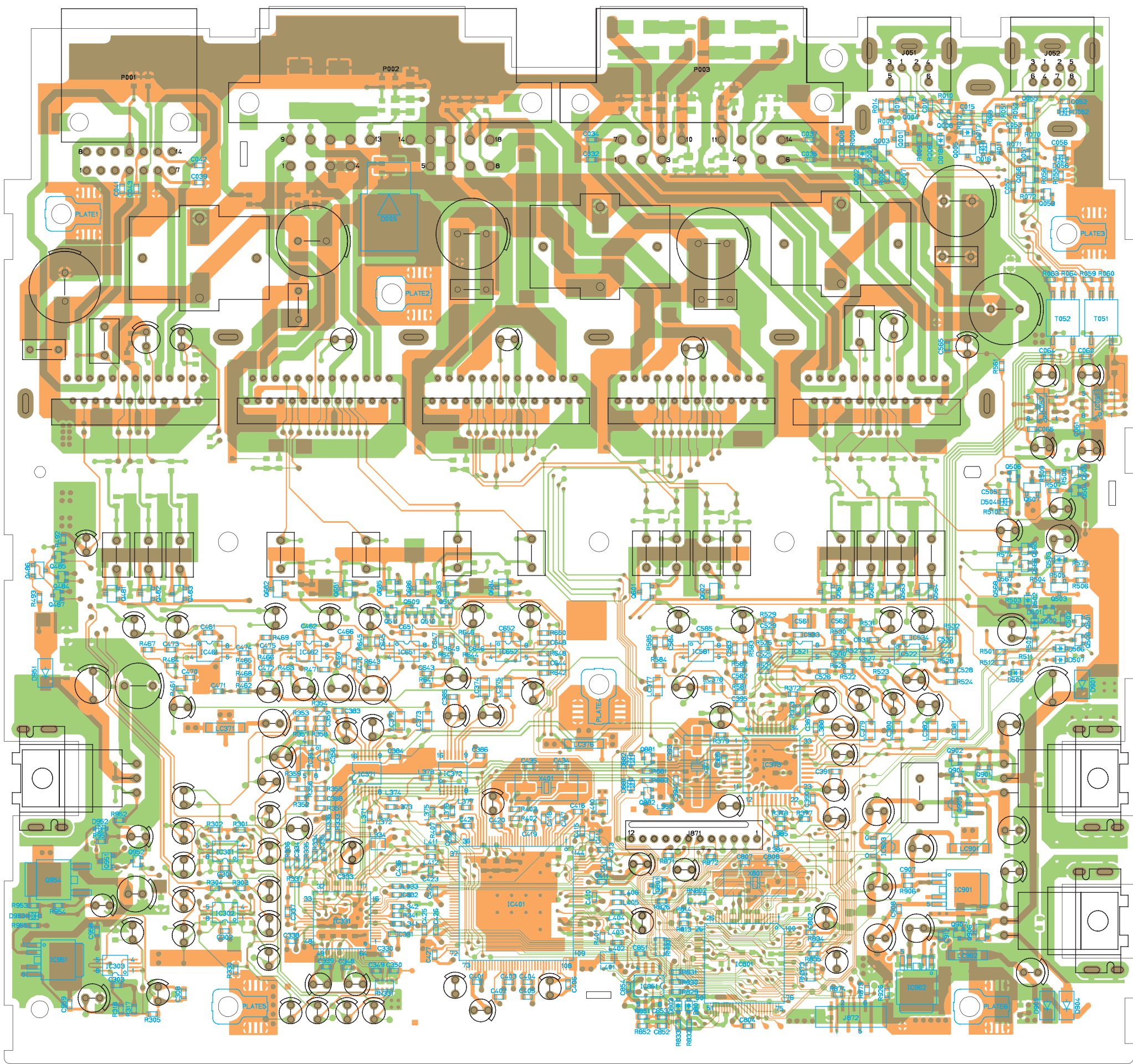
Part No.	L	Part No.	L
103L19xOx	2.0mm	103P50xOx	1.6mm
103L29xOx	1.6mm	141L16xOx	1.6mm
103L30xOx	5.0mm	141L18xOx	1.6mm

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CHIP PARTS (RESISTORS)			C470~472,etc.	141L184O9	C-CERAMIC-CHIP 390pF
R198,199,etc.	103L299O9	R-CHIP 0Ω	C582	141L185O3	C-CERAMIC-CHIP 560pF
R023,024	103L301O0	R-CHIP 56Ω	C349,350,etc.	141L185O9	C-CERAMIC-CHIP 1000pF
R021,022,etc.	103L301O1	R-CHIP 68Ω	C346	141L161O9	C-CERAMIC-CHIP 6800pF
R059,060,etc.	103L291O3	R-CHIP 100Ω	C301,302,etc.	141L162O1	C-CERAMIC-CHIP 0.01μF
R816,817,etc.	103L291O7	R-CHIP 220Ω	C605,625	141L162O3	C-CERAMIC-CHIP 0.015μF
R001,002	103L192O1	R-CHIP 470Ω	C060,061,etc.	141L164O6	C-CERAMIC-CHIP 0.1μF
R005,374,etc.	103L292O1	R-CHIP 470Ω	C402,418,913	141L165O0	C-CERAMIC-CHIP 1μF
R008,317,etc.	103L292O5	R-CHIP 1kΩ	TRANSISTORS		
R951	103L292O6	R-CHIP 1.2kΩ	Q903,908,953	260P68210	TR 2SD2375OP
R062,066,etc.	103L292O9	R-CHIP 2.2kΩ	Q001,004,etc.	260M061O6	TR-CHIP 2SA1037AK
R506	103L293O0	R-CHIP 2.7kΩ	Q905	260L047O1	TR-CHIP 2SA1369
R006,511	103L293O1	R-CHIP 3.3kΩ	Q002,003,005	260M061O5	TR-CHIP 2SC2412K
R508	103L293O2	R-CHIP 3.9kΩ	Q954	260L100O1	TR-CHIP 2SD1760
R003,013,etc.	103L293O3	R-CHIP 4.7kΩ	Q486,547,etc.	260M061O1	TR-CHIP DTA124E
R310,312,etc.	103P503O3	R-CHIP 4.7kΩ	Q502,511,512	260P109O3	TR-CHIP DTA144T
R681~684	103L293O5	R-CHIP 6.8kΩ	Q881,882	260L059O2	TR-CHIP DTC114T
R301~304,etc.	103L293O7	R-CHIP 10kΩ	Q006,051,etc.	260M06219	TR-CHIP DTC124E
R584,585,etc.	103P503O7	R-CHIP 10kΩ	Q902,904,etc.	260M06220	TR-CHIP DTC144E
R340,464,etc.	103L293O9	R-CHIP 15kΩ	Q685,686	260L042O3	TR-CHIP DTC144T
R373	103P504O0	R-CHIP 18kΩ	Q481~483,etc.	260L033O1	TR-CHIP DTC323T
R004,007,etc.	103L294O1	R-CHIP 22kΩ	DIODES		
R909	103P504O1	R-CHIP 22kΩ	D901,904,etc.	264P607O2	DIODE-CHIP 1SR154
R461~463,etc.	103L294O2	R-CHIP 27kΩ	D009,017,etc.	264L060O1	DIODE-CHIP 1SS355
R581	103L294O3	R-CHIP 33kΩ	D006,007	264P516O1	DIODE-CHIP S3D6600
R351~354,910	103P504O3	R-CHIP 33kΩ	D504	264P582O7	DIODE-Z-CHIP MA8043H
R309,311,etc.	103P504O4	R-CHIP 39kΩ	D881,882,etc.	264L067O4	DIODE-Z-CHIP MA8056
R061,065,etc.	103L294O5	R-CHIP 47kΩ	D016	264P584O4	DIODE-Z-CHIP MA8075M
R583	103L294O6	R-CHIP 56kΩ	D952	264P585O0	DIODE-Z-CHIP MA8091M
R011,012,etc.	103L294O9	R-CHIP 100kΩ	D008,010,etc.	264P588O6	DIODE-Z-CHIP MA8270M
R697~700,821	103L295O3	R-CHIP 220kΩ	IC		
R503,695,696	103L295O6	R-CHIP 390kΩ	IC801	930L82110	ASSY-ROM(M30624FGPGP)
R851	103L295O7	R-CHIP 470kΩ	IC371,372	262P61810	IC AK4384VT-E2
R402	103L296O1	R-CHIP 1MΩ	IC373	262P62710	IC AK4586VQ
RN331,801,802	109P01211	R-NETWORK-CHIP 220Ω	IC331	262P62610	IC AK7732VT
RN373	109P01213	R-NETWORK-CHIP 10kΩ	IC902	262P14210	IC BD00KA5WFP-E2
CHIP PARTS (CAPACITORS)			IC901,951	266P61410	IC LF33ABPT
C807,808	141L180O9	C-CERAMIC-CHIP 8pF	IC851	263P02510	IC MM1185BFFE
C434,435	141L181O1	C-CERAMIC-CHIP 10pF	IC301,302,351	266L065O5	IC NJM2115V-TE1
C393,394	141L181O5	C-CERAMIC-CHIP 15pF	IC461,462,etc.	266L065O6	IC NJM4580V
C358,359,etc.	141L181O9	C-CERAMIC-CHIP 22pF	IC903	263P23533	IC S-812C33AUA-C2N-T2
C008,010,etc.	141L183O5	C-CERAMIC-CHIP 100pF	IC051,052	263L031O8	IC TC7W04F
C052,056	141L184O3	C-CERAMIC-CHIP 220pF	IC481,561	266P62810	IC TDA7560
C321~324	141L184O7	C-CERAMIC-CHIP 330pF	IC601,621,681	266P65210	IC TDA7575

Ref. No.	Part No.	Description
IC401	262P62410	IC YSS943-VZ
COILS		
L334,410,etc.	351P031O6	COIL-CHIP
L053,054,etc.	351P091O3	COIL-CHIP
L380~382	351P094O2	COIL-CHIP
L001~003	351P11310	COIL-CHOKE
L401	351P030O4	COIL-CHOKE-CHIP
L051,052,etc.	351P095O4	COIL-CHOKE-CHIP
T051,052	409P03810	TRANS-CHIP
CONNECTORS		
P003	452L34211	CONNECTOR 14P
P001	452P23214	CONNECTOR 14P
P002	452L173O3	CONNECTOR 18P
J052	449P03512	SOCKET 8PIN
J051	449P03510	SOCKET-DIN
OTHERS		
X371,401	285P101O5	CRYSTAL
X801	285P11425	CRYSTAL-CHIP
H-C-1	593L83810	HOLDER
H-IC-1	591K55210	HOLDER-IC
H-TR-1~3	593L34010	HOLDER-TR
LC372~375,etc.	409P023O2	LC-MULTIPLE-CHIP
LC371,376,etc.	409P030O1	LC-MULTIPLE-CHIP
PLATE1~6	443P01012	TERMINAL

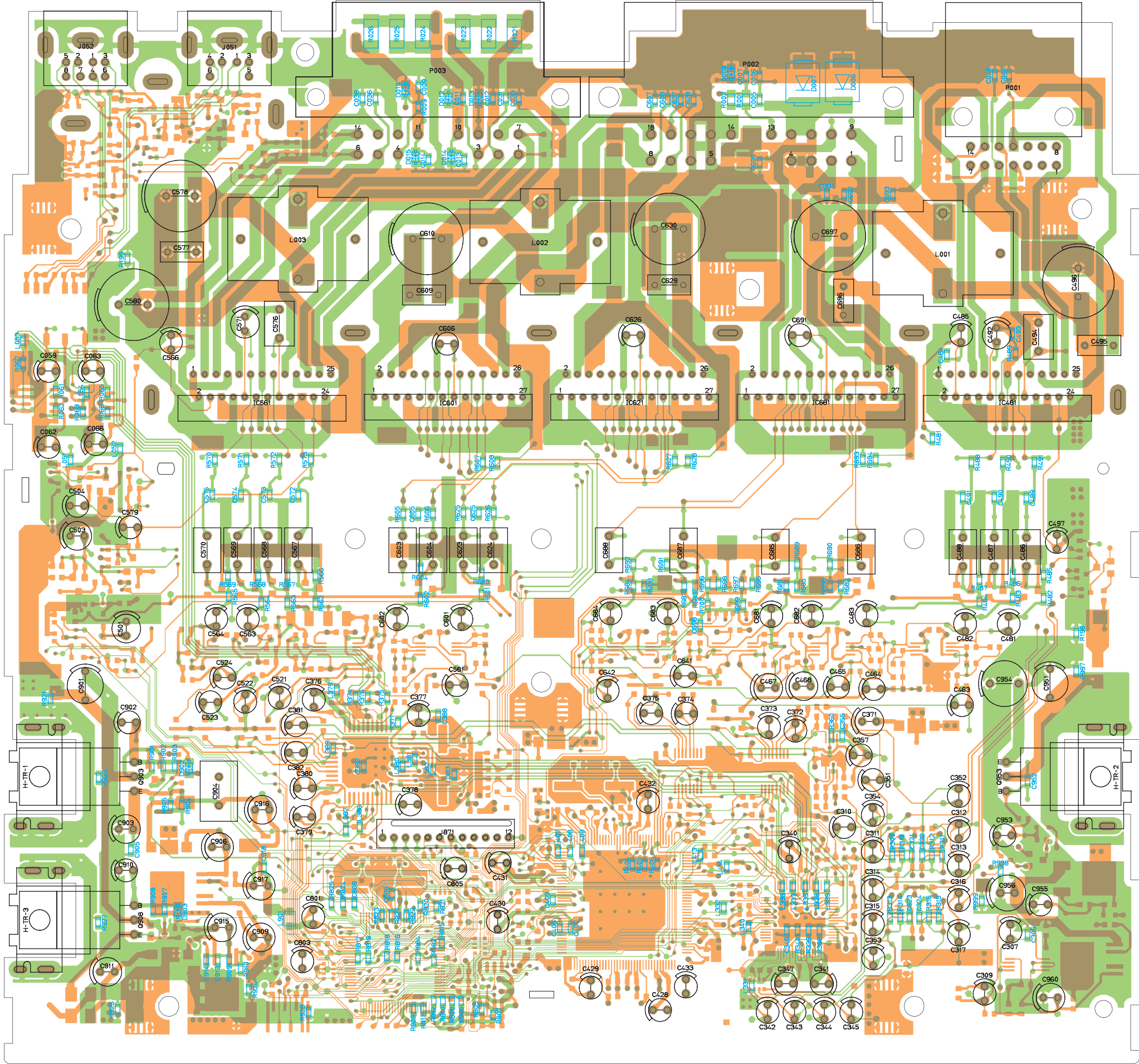
PARTS LAYOUT ON PRINTED CIRCUIT BOARD
MODEL : CV-0MW7B51 (PARTS SIDE)

PCB-AMP

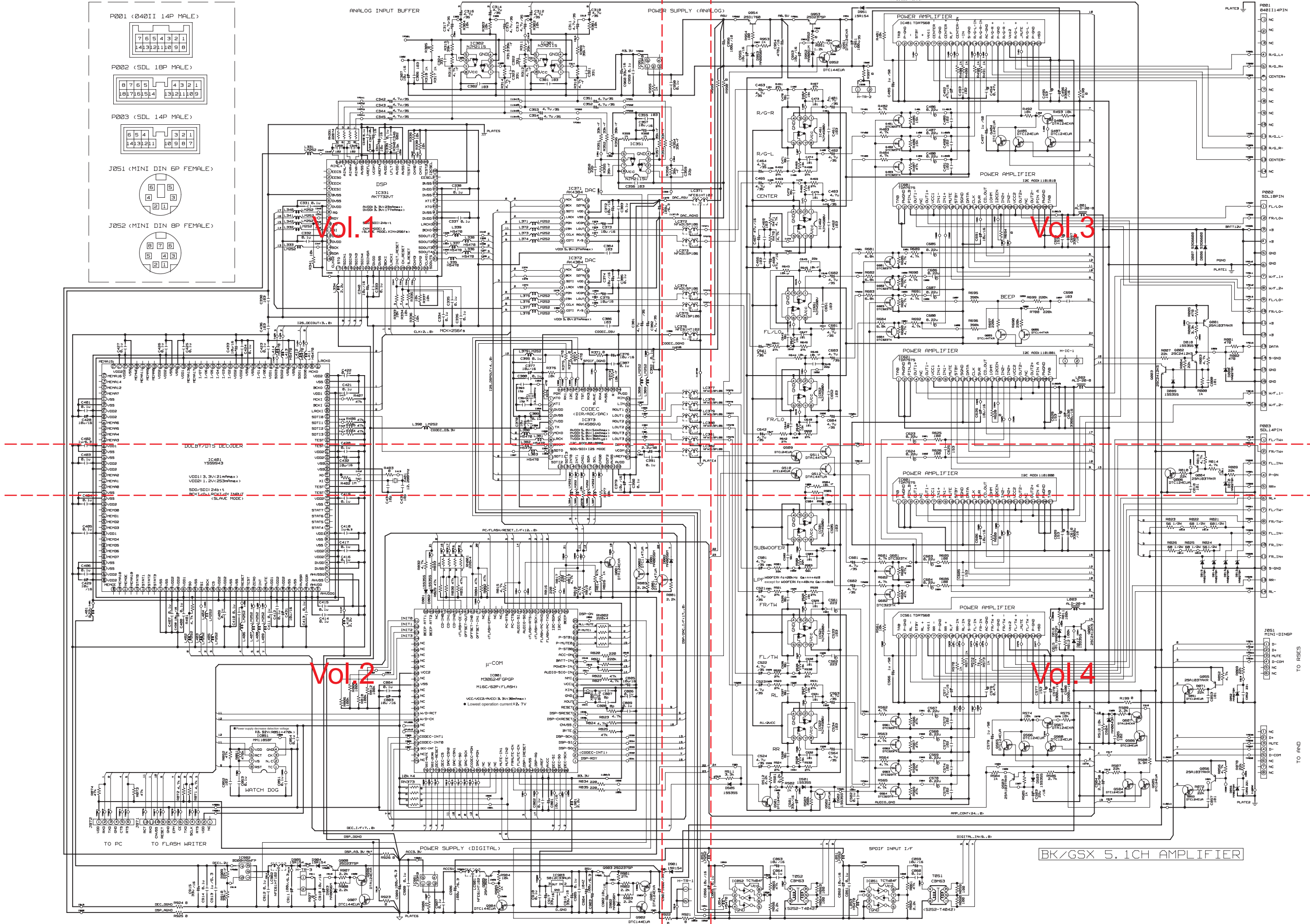


PARTS LAYOUT ON PRINTED CIRCUIT BOARD
MODEL : CV-0MW7B51 (PATTERN SIDE)

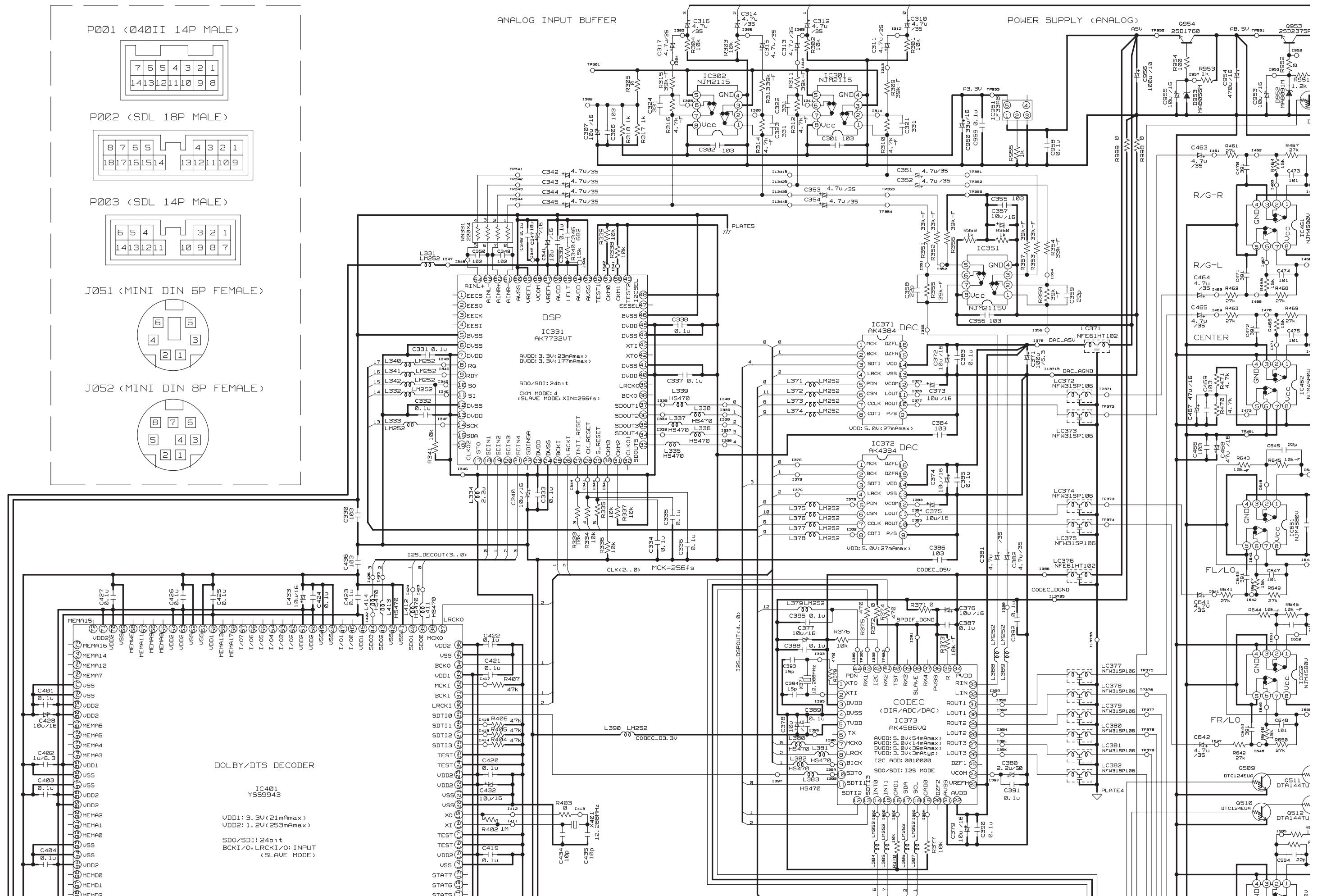
PCB-AMP



SCHEMATIC DIAGRAM PCB-AMP MODEL:CV-0MW7B51



SCHEMATIC DIAGRAM PCB-AMP MODEL:CV-0MW7B51 Vol.1

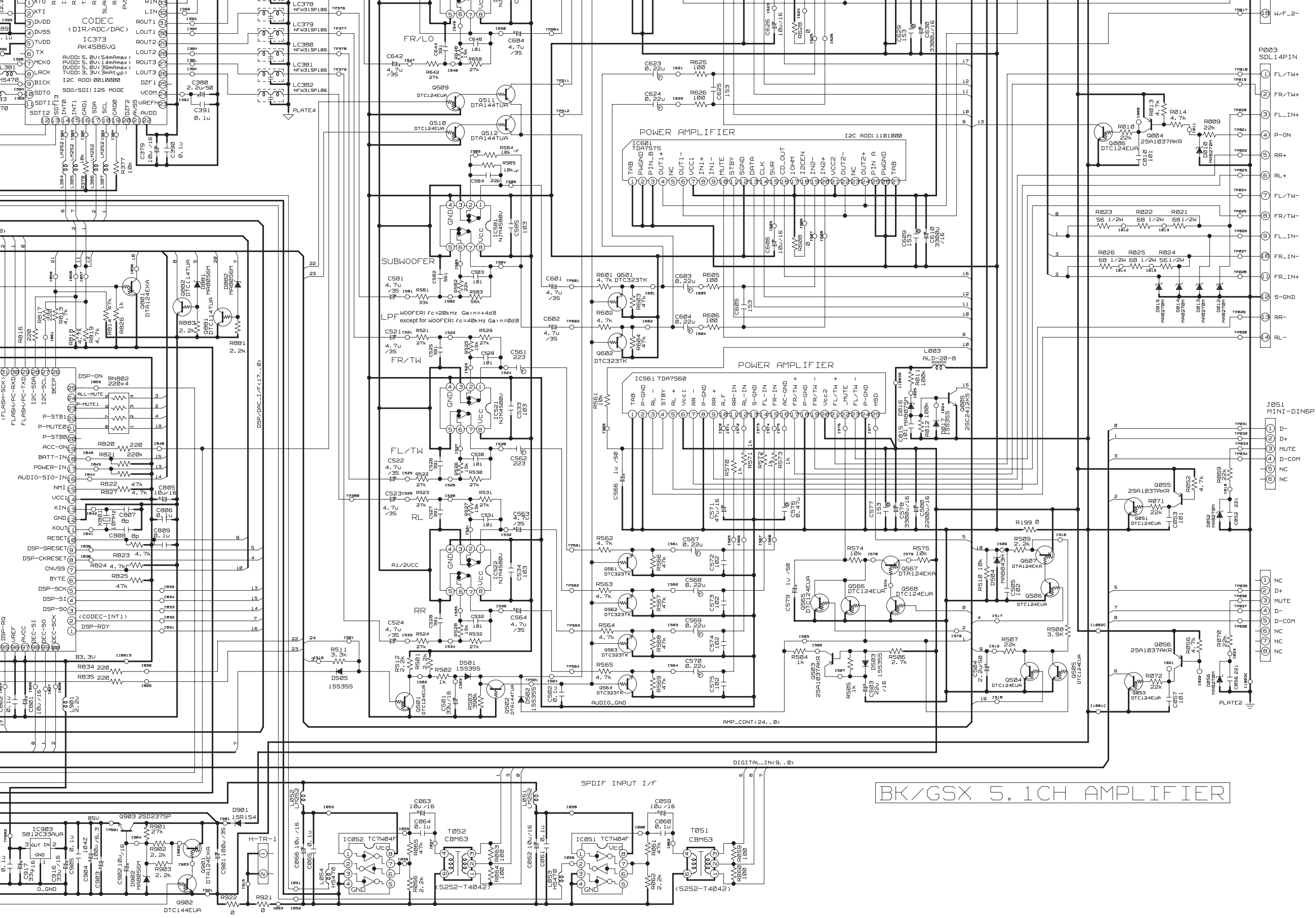


[illegible]

ANALOG_IN<3..0>



SCHEMATIC DIAGRAM PCB-AMP MODEL:CV-0MW7B51 Vol.4



VOLTAGE

MODEL : CV-0MW7B51

BATT:13.2V ACC:ON MODE:FM VOL:0 (Pin numbers are as measurement points.)

IC801(M30624FGPGP)

Pin NO.	Pin Name	Function	Voltage(DC)[V]
1	DSP-RDY	DSP-IC RDY input(AK7732)	3.2
2	CODEC-INT	CODEC-IC interrupt input 1(AK4586)	3.3
3	DSP-SO	DSP-IC serial data output(AK7732)	3.3
4	DSP-SI	DSP-IC serial data input(AK7732)	3.2
5	DSP-SCK	DSP-IC serial clock output(AK7732)	3.2
6	BYTE	3.3V pull-up	3.3
7	CNVSS	pull-down(for FLASH writing)	0.0
8	DSP-CKRESET	DSP1-IC CKRESET output(AK7732)	3.3
9	DSP-SRESET	DSP1-IC SRESET output(AK7732)	3.3
10	RESET	Reset pin connect to W/D-IC(MM1185)	3.3
11	XOUT	Crystal connection OUT	1.7
12	GND	GND	0.0
13	XIN	Crystal connection IN	1.4
14	VCC1	VCC	3.3
15	NMI	nonmaskable interrupt input(pull-up)	3.3
16	AUDIO-SIO-IN	Serial access signal from Audio(WakeUp)	3.3
17	POWER-IN	POWER-ON signal from Audio(WakeUp)	0.0
18	BATT-IN	BATT voltage detection	0.0
19	ACC-ON	Power supply ACC ON output	3.3
20	-	Not Used	0.0
21	POWER-MUTE0	POWER-IC MUTE output(TDA7575)	0.0
22	POWER-STB1	POWER-IC-STB Power supply output(TDA7560)	3.3
23	POWER-MUTE1	POWER-IC MUTE output(TDA7560)	0.0
24	ALL-MUTE	MUTE output	3.3
25	DEC-ON	5.1ch decoder power supply ON signal	3.3
26	BEEP	BEEP output	3.3
27	I2C-SCL	POWER-IC/DAC-IC I2C clock output	0.0
28	I2C-SDA	POWER-IC/DAC-IC I2C data in/output	3.3
29	TXD	PC communication(for FLASH writing)	3.3
30	RXD	PC communication(for FLASH writing)	3.3
31	SCLK	for PC communication	3.3
32	(FLASH-RTS)	(for FLASH writing)	0.0
33	AUDIO-SO	Serial communication to Audio	3.3
34	AUDIO-SI	Serial communication to Audio	3.3
35	PC-CTS	PC communication hand-shake	3.3
36	PC-RTS	PC communication hand-shake	3.3
37	-	Not Used	0.0
38	-	Not Used	0.0
39	(FLASH-EPM)	(for FLASH writing)	0.0
40	-	Not Used	0.0
41	OFFSET-IN1(HSD)	OFFSET detection input(TDA7560)	0.0
42	OFFSET-IN0(HSD)	OFFSET detection output(TDA7560)	0.0
43	OFFSET-OUT	OFFSET detection mode output(TDA7560)	0.0
44	(FLASH-CE)	(for FLASH writing)	0.0
45	CD-IN2(TAD7575)	CD input(TDA7575)	3.3
46	CD-IN1(TAD7575)	CD input(TDA7575)	3.3
47	CD-IN0(TAD7575)	CD input(TDA7575)	3.3
48	-	Not Used	0.0
49	BEEP-ATT2	BEEP volume decay output 2	0.0
50	BEEP-ATT1	BEEP volume decay output 1	3.3
51	INIT0	Default input	0.0
52	INIT1	Default input	0.0
53	INIT2	Default input	0.0
54	INIT3	Default input	0.0
55	-	Not Used	0.0
56	-	Not Used	0.0
57	-	Not Used	0.0
58	-	Not Used	0.0
59	-	Not Used	0.0
60	VCC2	VCC	3.3
61	-	Not Used	0.0
62	VSS	VSS	0.0
63	-	Not Used	0.0
64	-	Not Used	0.0
65	-	Not Used	0.0
66	-	Not Used	0.0
67	W/D-RCT	external W/D control signal(MM1185)	0.6
68	W/D-CK	external W/D clear pulse output(MM1185)	1.6
69	-	Not Used	0.0
70	-	Not Used	0.0
71	CODEC-INT1	CODEC-IC interrupt input 1(AK4586)	3.3
72	CODEC-INT0	CODEC-IC interrupt input 0(AK4586)	0.0
73	DEC-INT	DECODER-IC interrupt input(YSS944)	0.0
74	-	Not Used	0.0
75	-	Not Used	0.0
76	DEC-MUTE	DECODER-IC mute input(YSS943)	3.3
77	DEC-ZERO	DECODER-IC zero data detection inpout(YSS943)	0.0
78	DEC-RESET	DECODER-IC reset output(YSS943)	3.3
79	DEC-CS	DECODER-IC chip select input(YSS943)	3.3
80	DAC-CSN2	DAC-IC chip select 1(AK4384)	3.3
81	DAC-CSN1	DAC-IC chip select 2(AK4384)	3.3
82	DAC-SO	DAC-IC serial clock output(AK4384)	3.3
83	DAC-SCK	DAC-IC serial data output(AK4384)	3.3
84	CODEC-PDN	CODEC-IC power down output(AK4586)	3.3
85	DAC-PDN	DAC-IC power down output(AK4384)	3.3
86	-	Not Used	0.0
87	-	Not Used	3.3
88	-	Not Used	3.3
89	-	Not Used	3.3
90	-	Not Used	3.3
91	FRMUTE-EN	FRch MUTE enable output	0.0
92	FLMUTE-EN	FLch MUTE enable output	3.3
93	DSP-IRESET	DSP-IC IRESET output(AK7732)	3.3
94	AVSS	AVSS	0.0
95	DSP-RQ	DSP-IC RQ output(AK7732)	3.3
96	VREF	A/D, D/A reference voltage	3.3
97	AVCC	AVCC	3.3
98	DEC-SI	DECODER-IC serial data input(YSS943)	3.3
99	DEC-SO	DECODER-IC serial data output(YSS943)	0.0
100	DEC-SCK	DECODER-IC serial clock output(YSS943)	3.3

IC331(AK7732VT)

Pin NO.	Pin Name	Voltage(DC)[V]
1	EECS	0.0
2	EESO	0.0
3	EECK	0.0
4	EESI	0.0
5	BVSS	0.0
6	DVSS	0.0
7	DVDD	3.2
8	RQ	3.3
9	RDY	3.2
10	SO	3.2
11	SI	0.1
12	DVSS	0.0
13	DVDD	3.2
14	SCK	3.3
15	SDA	0.0
16	CLKO2	0.0
17	STO	0.0
18	SDIN1	1.2
19	SDIN2	1.2
20	SDIN3	1.2
21	SDIN4	1.2
22	SDIN5A	0.0
23	DVDD	3.2
24	DVSS	0.0
25	BCKI	1.6
26	LRCKI	1.6
27	INIT-RESET	3.3
28	CK-RESET	3.3
29	S-RESET	3.3
30	CKM3	0.0
31	CKM2	3.2
32	CLKO1	0.0
33	SDOUT5	0.0
34	SDOUT4	0.0
35	SDOUT3	0.0
36	SDOUT2	0.0
37	SDOUT1	0.0
38	BCKO	1.6
39	LRCKO	1.6
40	DVDD	3.2
41	DVSS	0.0
42	XTO	1.6
43	XTI	1.6
44	DVSS	0.0
45	DVDD	3.2
46	BVSS	0.0
47	EESEL	0.0
48	I2CSEL	0.0
49	TEST2	0.0
50	CKM1	0.0
51	CKM0	0.0
52	TEST1	0.0
53	AVSS	0.0
54	AVDD	3.3
55	LFLT	1.3
56	AVDD	3.3
57	VREFH	3.3
58	VCOM	1.6
59	VREFL	0.0
60	AVSS	0.0
61	AINR-	1.6
62	AINR+	1.6
63	AINL-	1.6
64	AINL+	1.6

IC371(AK4384)

Pin NO.	Pin Name	Voltage(DC)[V]
1	MCK	1.6
2	BCK	1.6
3	SDTI	0.0
4	LRCK	1.6
5	PDN	3.3
6	CSN	3.3
7	CCLK	3.3
8	CDTI	3.3
9	P/S	0.0
10	ROUT	2.5
11	LOUT	2.5
12	VCOM	2.5
13	VSS	0.0
14	VDD	5.0
15	DZFR	0.0
16	DZFL	0.0

IC372(AK4384)

Pin NO.	Pin Name	Voltage(DC)[V]
1	MCK	1.6
2	BCK	1.6
3	SDTI	0.0
4	LRCK	1.6
5	PDN	3.3
6	CSN	3.3
7	CCLK	3.3
8	CDTI	3.3
9	P/S	0.0
10	ROUT	2.5
11	LOUT	2.5
12	VCOM	2.5
13	VSS	0.0
14	VDD	5.0
15	DZFR	0.0
16	DZFL	0.0

IC373(AK4586VQ)

Pin NO.	Pin Name	Voltage(DC)[V]
1	XTO	2.4
2	XTI	2.1
3	DVDD	5.0
4	DVSS	0.0
5	TVDD	3.3
6	TX	3.6
7	MCKO	1.6
8	LRCK	1.6
9	BICK	1.6
10	SDTO	1.2
11	SDTI1	0.0
12	SDTI2	0.0
13	SDTI3	0.0
14	INT0	0.0
15	INT1	3.3
16	CAD1	0.0
17	SDA	3.3
18	SCL	3.3
19	CAD0	0.0
20	DZF2	0.0
21	AVSS	0.0
22	AVDD	5.0
23	VREFH	5.0
24	VCOM	2.5
25	DZF1	0.0
26	LOUT3	2.5
27	ROUT3	2.5
28	LOUT2	2.5
29	ROUT2	2.5
30	LOUT1	2.5
31	ROUT1	2.5
32	LIN	2.5
33	RIN	2.5
34	PVDD	5.0
35	R	1.2
36	PVSS	0.0
37	RX4	2.5
38	SLAVE	0.0
39	RX3	2.5
40	TST	0.0
41	RX2	3.6
42	I2C	5.0
43	RX1	3.6
44	PDN	3.3

IC401(YSS943)

Pin NO.	Pin Name	Voltage(DC)[V]	Pin NO.	Pin Name	Voltage(DC)[V]
1	AHVSS	0.0	73	MEMA16	0.0
2	AHVSSG	0.0	74	MEMA14	0.0
3	DVSS	0.0	75	MEMA12	0.0
4	DVDD	1.1	76	MEMA7	0.0
5	VDD2	1.1	77	VSS	0.0
6	VDD2	1.1	78	VSS	0.0
7	VSS	0.0	79	VDD2	1.1
8	VSS	0.0	80	VDD2	1.1
9	VDD1	3.3	81	MEMA6	0.0
10	STAT4	0.0	82	MEMA5	0.0
11	STAT5	0.0	83	MEMA4	0.0
12	STAT6	0.0	84	MEMA3	0.0
13	STAT7	0.0	85	VDD1	3.3
14	VSS	0.0	86	VSS	0.0
15	VDD2	1.1	87	VSS	0.0
16	TEST	0.0	88	VDD2	1.1
17	TEST	0.0	89	VDD2	1.1
18	XI	1.5	90	MEMA2	0.0
19	XO	1.6	91	MEMA1	0.0
20	VSS	0.0	92	MEMA0	0.0
21	VSS	0.0	93	VSS	0.0
22	VDD2	1.1	94	VSS	0.0
23	VDD2	1.1	95	VDD2	1.1
24	TEST	0.0	96	MEMD0	0.0
25	TEST	0.0	97	MEMD1	0.0
26	SDTI3	0.0	98	MEMD2	0.0
27	SDTI2	0.0	99	MEMD3	0.0
28	SDTI1	0.0	100	VDD1	3.3
29	SDTI0	1.2	101	MEMD4	0.0
30	LRCKI	1.6	102	MEMD5	0.0
31	BCKI	1.6	103	MEMD6	0.0
32	MCKI	0.0	104	MEMD7	0.0
33	VDD1	3.3	105	VSS	0.0
34	BCKO	1.6	106	VSS	0.0
35	VSS	0.0	107	VDD2	1.1
36	VDD2	1.1	108	VDD2	1.1
37	LRCKO	1.6	109	MEMCE	3.3
38	MCKO	0.0	110	MEMA10	0.0
39	SDO0	1.2	111	MEMOE	3.3
40	SDO1	1.2	112	MEMA16	0.0
41	VSS	0.0	113	STAT0	0.0
42	VSS	0.0	114	STAT1	0.0
43	SDO2	1.2	115	STAT2	0.0
44	SDO3	1.2	116	STAT3	0.0
45	VDD1	3.3	117	VSS	0.0
46	I/O0	2.4	118	VSS	0.0
47	I/O1	2.4	119	VDD2	1.1
48	VSS	0.0	120	VDD2	1.1
49	VSS	0.0	121	VDD1	3.3
50	VDD2	1.1	122	SO	3.2
51	VDD2	1.1	123	VSS	0.0
52	I/O2	2.4	124	SI	0.0
53	I/O3	2.4	125	SCK	3.3
54	I/O4	2.4	126	CS	3.3
55	I/O5	2.4	127	VDD2	1.1
56	I/O6	2.4	128	VDD2	1.1
57	I/O7	2.4	129	VSS	0.0
58	MEMA17	0.0	130	VSS	0.0
59	MEMA13	0.0	131	RESET	3.3
60	VDD1	3.3	132	TEST	0.0
61	VSS	0.0	133	ZERO	0.0
62	VSS	0.0	134	INT	0.0
63	VDD2	1.1	135	MUTE	3.3
64	VDD2	1.1	136	VDD1	3.3
65	MEMA8	0.0	137	VDD2	1.1
66	MEMA9	0.0	138	VDD2	1.1
67	MEMA11	0.0	139	VSS	0.0
68	MEMWE	0.0	140	VSS	0.0
69	VSS	0.0	141	AVSSR	0.0
70	VDD2	1.1	142	AVDDR	3.3
71	VDD2	1.1	143	AHVDD	3.3
72	MEMA15	0.0	144	AHVDDG	3.3

IC481(TDA7560)

Pin NO.	Pin Name	Voltage(DC)[V]
1	TAB	0.0
2	P-GND	0.0
3	(-)	6.3
4	STBY	4.3
5	(+)	6.3
6	Vcc1	13.2
7	CENTER-	6.3
8	P-GND	0.0
9	CENTER+	6.3
10	R.F	6.2
11	CENTER-IN	6.2
12	(IN)	6.2
13	S-GND	0.0
14	R/G-L-IN	6.2
15	R/G-R-IN	6.2
16	AC-GND	6.2
17	R/G-R+	6.3
18	P-GND	0.0
19	R/G-R-	6.3
20	Vcc2	13.2
21	R/G-L+	6.3
22	MUTE	4.3
23	R/G-L-	6.3
24	P-GND	0.0
25	HSD	13.2

WAVEFORM

MODEL : CV-0MW7B51

BATT:13.2V MODE:FM VOL:18 (Pin numbers are as measurement points.)

Signal Name	Measurement Point	Fig
SDOUT5	IC331(33pin)	Fig.1
SDOUT4	IC331(34pin)	
SDOUT3	IC331(35pin)	
SDOUT2	IC331(36pin)	Fig.2
SDOUT1	IC331(37pin)	Fig.3
XTO	IC373(1pin)	Fig.4
MCKO	IC373(7pin)	Fig.5
LRCK	IC373(8pin)	Fig.6
BICK	IC373(9pin)	
STO	IC373(10pin)	
SCL	IC373(18pin)	Fig.7
SDA	IC373(17pin)	Fig.8
XO	IC401(19pin)	Fig.9
XOUT	IC801(11pin)	
DATA	P002(13pin)	

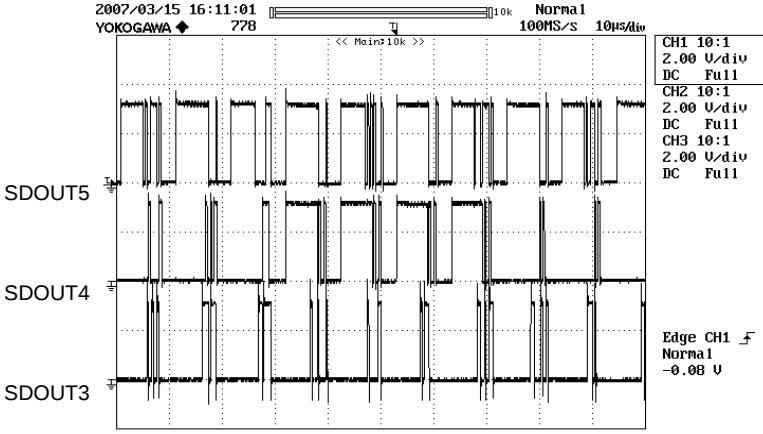


Fig.1

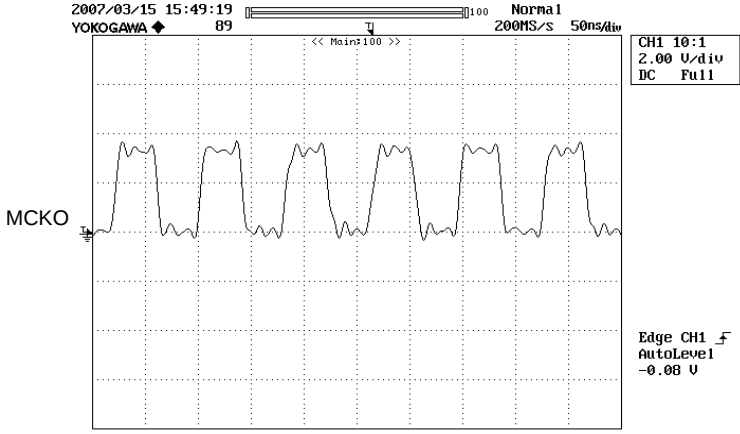


Fig.4

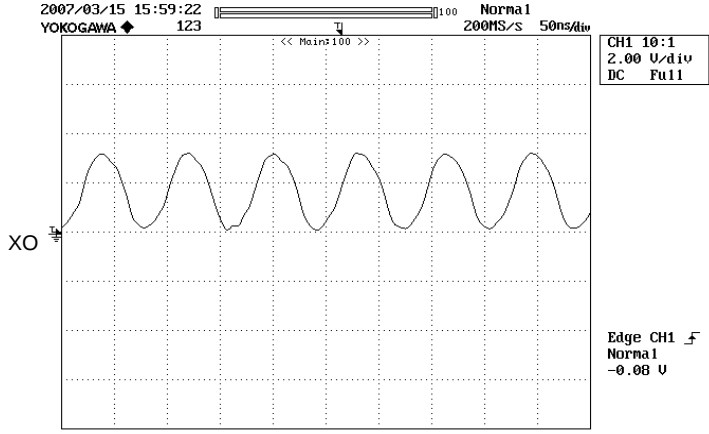


Fig.7

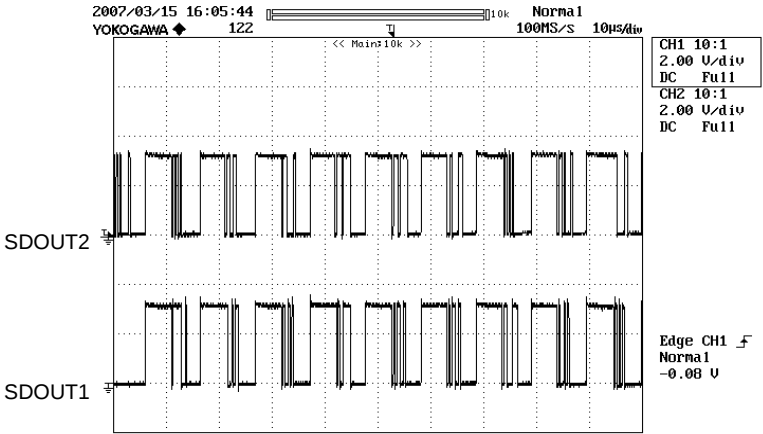


Fig.2

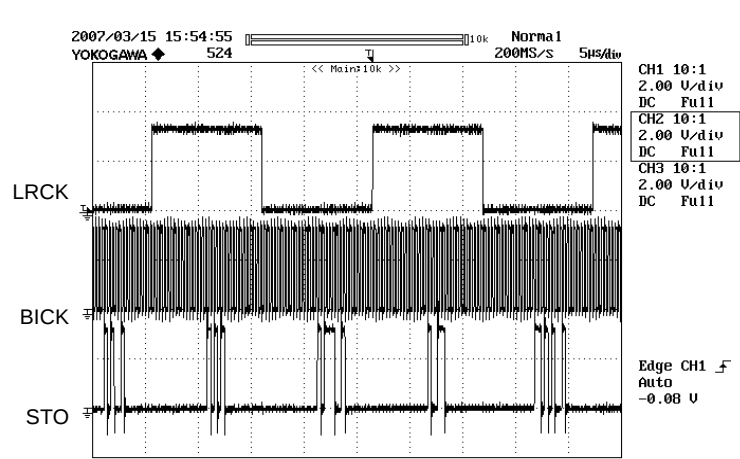


Fig.5

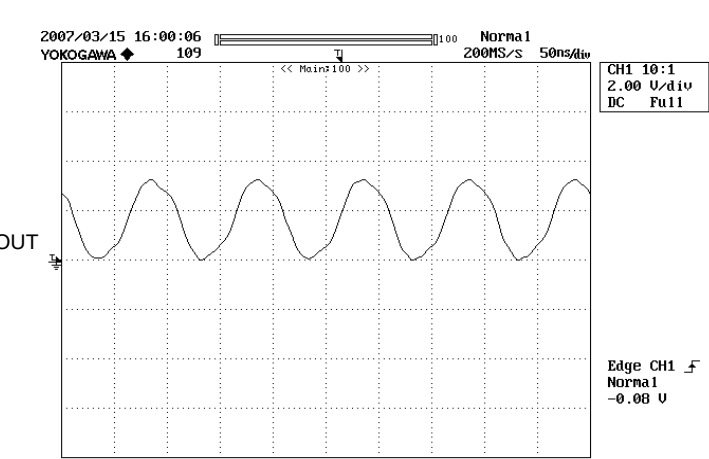


Fig.8

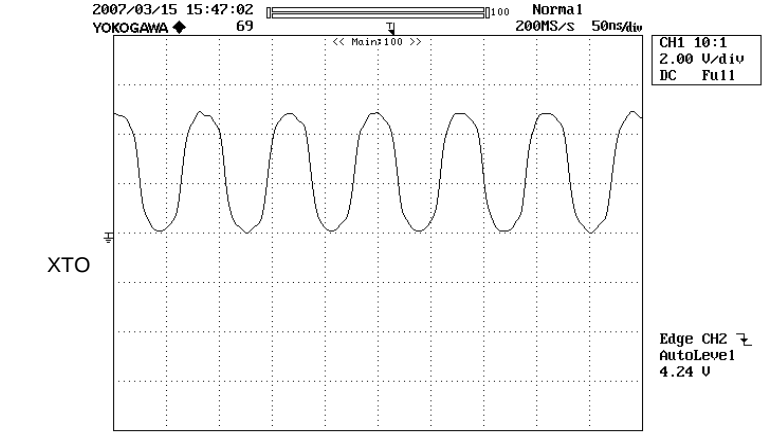


Fig.3

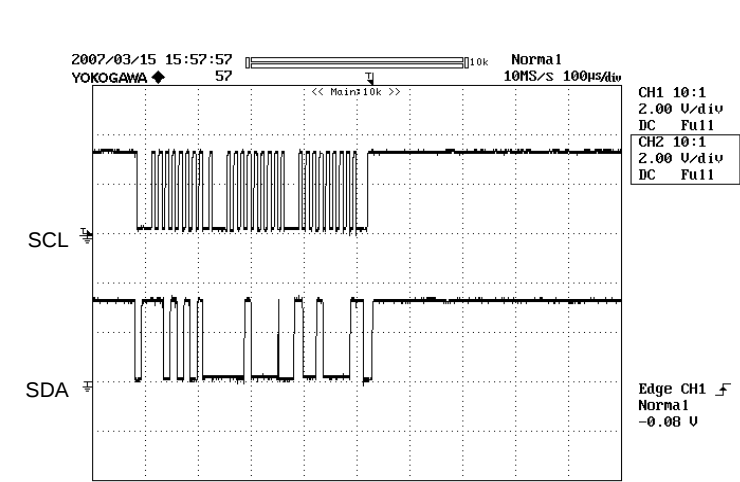


Fig.6

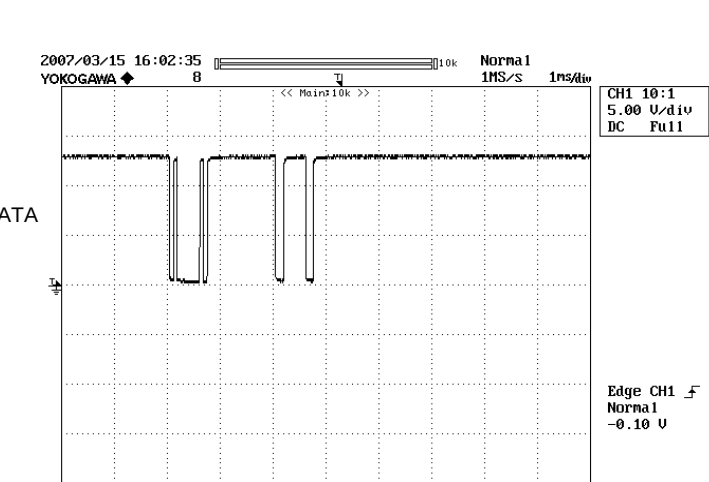


Fig.9