

# Service Manual

**PIONEER**  
The Art of Entertainment

KEH-P9750/ES



ORDER NO.  
CRT2197

MULTI-CD/MD/DAB CONTROL DSP HIGH POWER CASSETTE PLAYER WITH RDS TUNER

# KEH-P9700R **EW**

MULTI-CD CONTROL DSP HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

# KEH-P9750 **ES**

## NOTE:

- See the separate manual CX-631(CRT1640) for the cassette mechanism description.
- The cassette mechanism assy employed in this model is one of 2L series
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- This service manual does not describe the CD test mode.

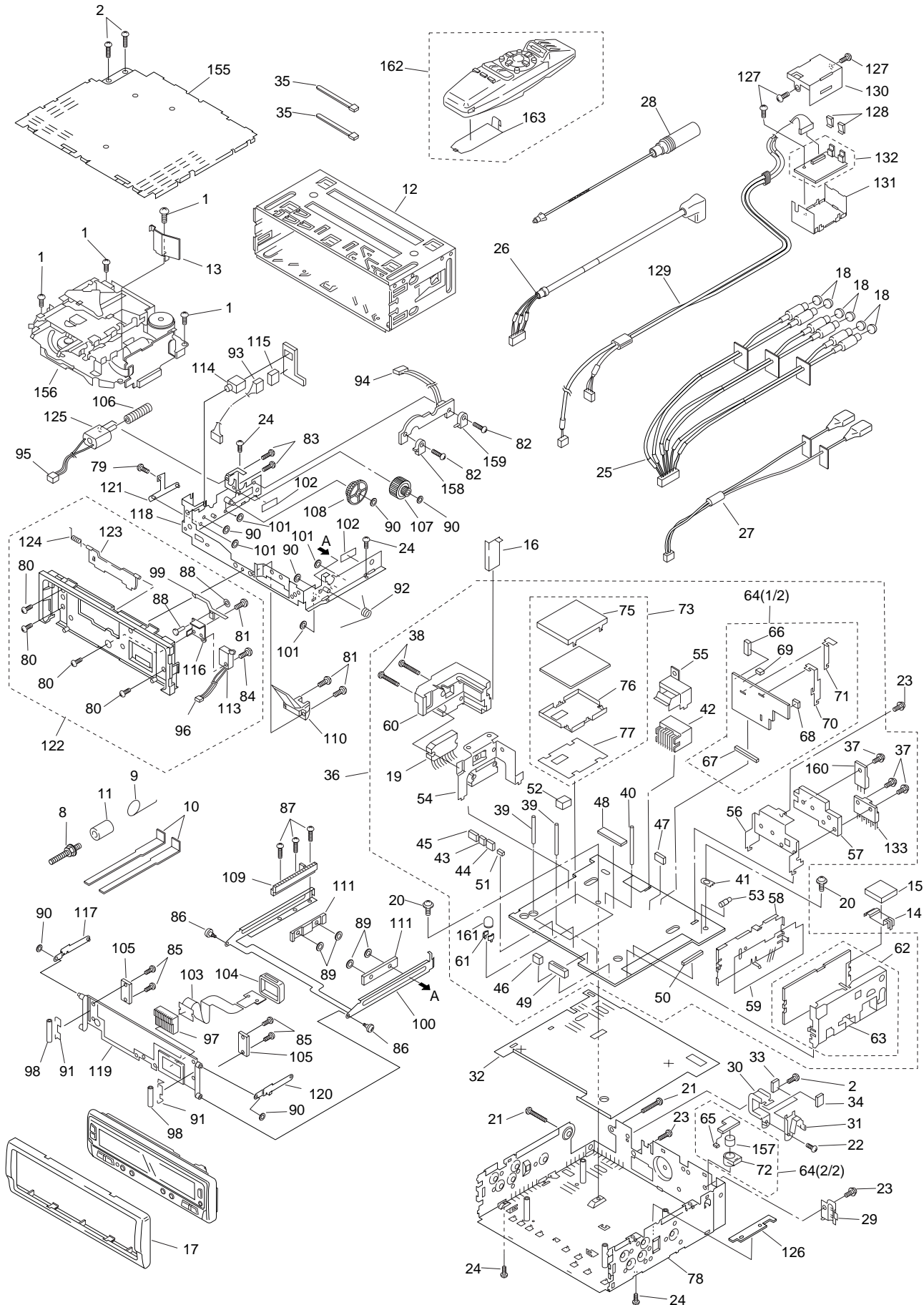
For the operations in the CD test mode, refer to the CD player's Service Manual.

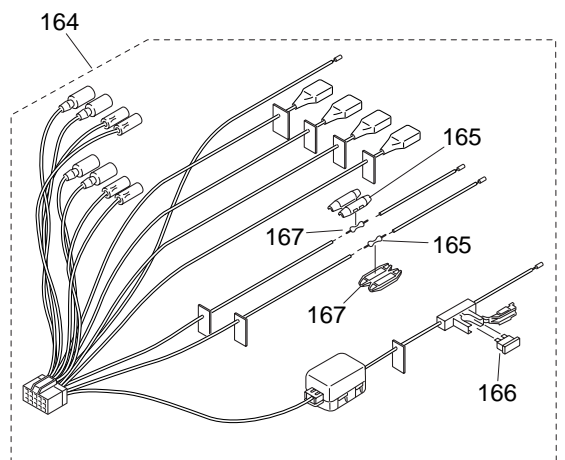
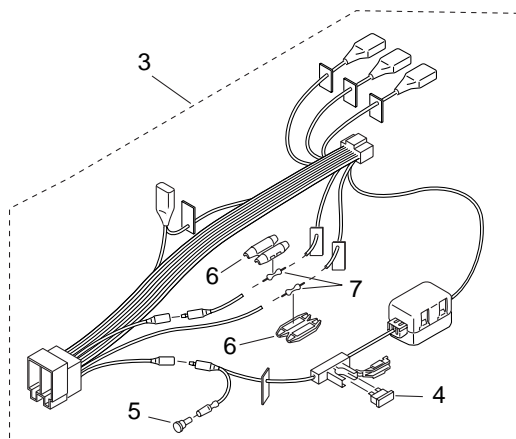
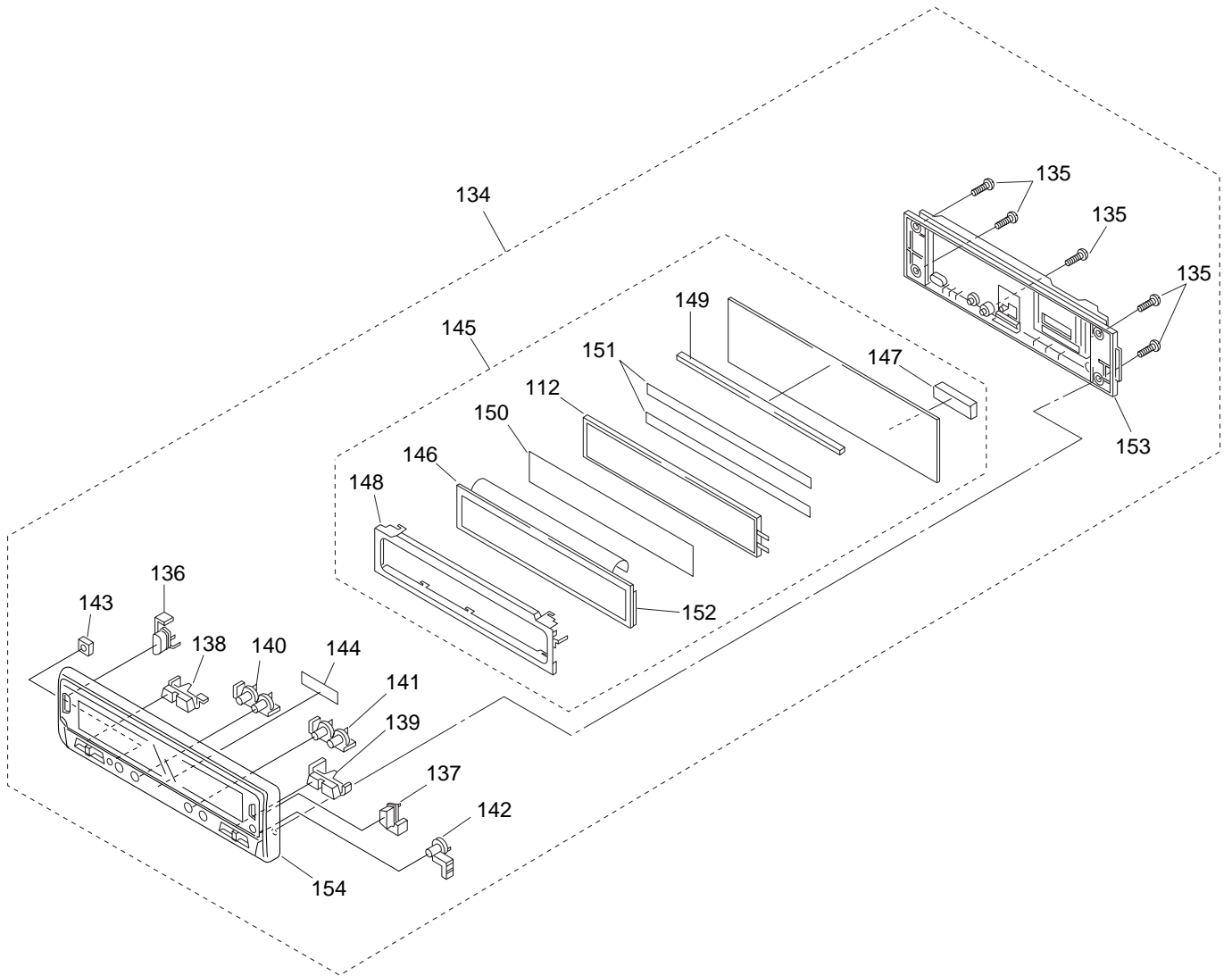
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PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 501 Orchard Road, #10-00, Wheelock Place, Singapore 238880

## 2.2 EXTERIOR





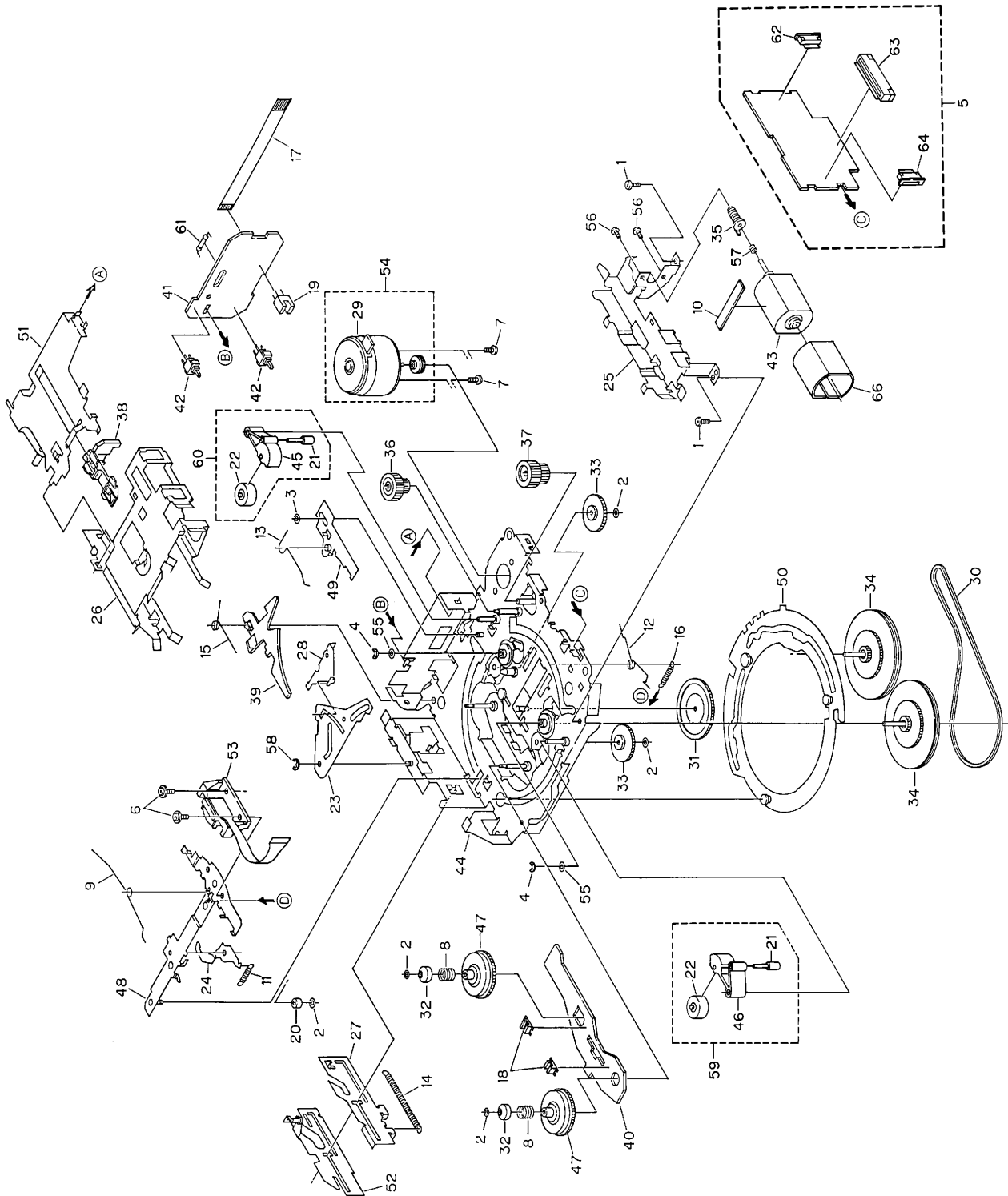
# KEH-P9700R,P9750

## ● Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	48	Plug(CN201)	CKS1246
2	Screw	BSZ30P055FMC	49	Connector(CN801)	CKS1564
3	Cord Assy(EW)	CDE5668	50	Connector(CN751)	CKS1730
4	Fuse 10A(EW)	CEK1136	51	Connector(CN953)	CKS3124
5	Cap(EW)	CKX-003	52	Connector(CN101)	CKS3781
6	Cap(EW)	CNS1472	53	Antenna Jack(CN401)	CKX1010
7	Resistor(EW)	RS1/2PMF102J	54	Holder	CNC7554
8	Screw	CBA1002	55	Holder	CNC8008
9	Spring	CBH-865	56	Holder	CNC8016
10	Handle	CNC5395	57	Heat Sink	CNC8020
11	Bush	CNV1917	58	Holder	CNC8021
12	Holder	CNC6798	59	Insulator	CNM4684
13	Shield	CNC7609	60	Heat Sink	CNR1468
14	Earth Terminal(EW)	CNC8019	61	Holder	CNV1906
	Earth Terminal(ES)	CNC7358	62	FM/AM Tuner Unit(EW)	CWE1416
15	Spacer	CNM4913		FM/AM Tuner Unit(ES)	CWE1485
16	Spacer	CNM6052	63	Holder	CNC6555
17	Panel(EW)	CNS4553	64	ASL Unit	CWM5783
	Panel(ES)	CNS4320	65	Connector(CN302)	CDE5667
18	Cap	CNV2680	* 66	Plug(CN701)	CKS1058
19	IC(IC251)	TDA7386	67	Plug(CN703)	CKS1624
20	Screw	ASZ26P055FUC	68	Connector(CN301)	CKS2191
21	Screw	BMZ30P180FMC	69	Connector(CN601)	CKS3582
22	Screw	BSZ26P080FMC	70	Holder	CNC6676
23	Screw	BSZ30P055FMC	71	Holder	CNC8017
24	Screw	CBA1447	72	Holder	CNV5375
25	Cord Assy	CDE5588	73	DSP Unit(EW)	CWX2237
26	Cord Assy	CDE5663		DSP Unit(ES)	CWX2238
27	Cord Assy	CDE5664	74	Connector(CN3001)	CKS3782
28	Antenna Cord	CDH1251	75	Case	CNC8014
29	Holder	CNC4963	76	Case	CNC8015
30	Holder	CNC7566	77	Insulator	CNM5626
31	Holder	CNC7753	78	Chassis Unit(EW)	CXB2231
32	Insulator	CNM5628		Chassis Unit(ES)	CXB2296
33	Cushion	CNM5811	79	Screw	BMZ20P030FMC
34	Cushion	CNM5812	80	Screw	BMZ20P030FZK
* 35	Lock Tie	CNV-754	81	Screw	BPZ20P060FMC
36	Tuner Amp Unit(EW)	CWM5781	82	Screw	CBA1060
	Tuner Amp Unit(ES)	CWM5782	83	Screw	CBA1061
37	Screw	ASZ26P100FMC	84	Screw	CBA1070
38	Screw	BMZ26P200FMC	85	Screw	CBA1082
39	Clamper	CEF1006	86	Screw	CBA1430
40	Clamper	CEF1009	87	Screw	CBA1454
41	Terminal(CN402)	CKF1059	88	Washer	CBF-046
42	Plug(CN251)	CKM1278	89	Washer	CBF1038
43	Plug(CN951)	CKS-783	90	Washer	CBF1039
44	Plug(CN952)	CKS-784	91	Spring	CBH2063
45	Plug(CN171)	CKS-786	92	Spring	CBH2086
46	Plug(CN803)	CKS1222	93	Cord	CDE5587
47	Plug(CN804)	CKS1225	94	Cord	CDE5712

Mark No.	Description	Part No.	Mark No.	Description	Part No.
95	Cord	CDE5713	142	Button(S)	CAC5504
96	Connector	CDE5738	143	Spacer	CNM5910
97	Socket	CKS2497	144	Spacer	CNM6021
98	Roller	CLA3458	145	Keyboard Unit(EW)	CWM5688
99	Arm	CNC1280		Keyboard Unit(ES)	CWM5689
100	Frame	CNC7548	* 146	LCD(LCD1901)	CAW1471
101	Spacer	CNM5808	147	Plug(CN1901)	CKS2496
102	Spacer	CNM5988	148	Holder	CNC7547
103	PCB	CNP5068	149	Spacer	CNM5622
104	Cover	CNS4841	150	Spacer	CNM5623
105	Holder	CNV2141	* 151	Spacer	CNM5894
106	Gear	CNV5271	152	PCB	CNP5063
107	Gear Unit	CNV5272	153	Cover Unit(EW)	CXB2208
108	Gear	CNV5273		Cover Unit(ES)	CXB2207
109	Rack	CNV5274	154	Grille Unit(EW)	CXB2223
110	Lighting Conductor	CNV5287		Grille Unit(ES)	CXB2224
111	Guide	CNV5356	155	Case Unit	CXB3114
112	EL(EL1901)	CEL1580	156	Cassette Mechanism Module	EXK3375
113	Switch	CSN-088	157	Microphone(MIC301)	CPM1011
114	Jack(CN4602)	CKN1015	158	Switch(S951)	CSN1012
115	Plug(CN4601)	CKS-786	159	Switch(S952)	CSN1022
116	Holder Unit	CXA8599	160	IC(IC902)	NJM7805FA
117	Arm Unit	CXB2215	161	Lamp(IL801)	CEL1359
118	Frame Unit	CXB2216	162	Remote Control Assy(EW)	CXB2659
119	Holder Unit	CXB2217		Remote Control Assy(ES)	CXB2656
120	Arm Unit	CXB2218	163	Battery Cover	CNS5032
121	Bracket Unit	CXB2598	164	Cord Assy(ES)	CDE5669
122	Panel Unit	CXB2678	165	Cap(ES)	CNS1472
	Panel Unit	CXB2679	166	Fuse 10A(ES)	CEK1136
123	Door	CAT1963	167	Resistor(ES)	RS1/2PMF102J
124	Spring	CBH2184			
125	Motor(M951)	CXM1085			
126	Guide Unit	CXB3234			
127	Screw	BSZ26P050FMC			
128	Clip	MBK9001			
129	Cord	MDE9019			
130	Holder	MNC9008			
131	Holder	MNC9009			
132	Inverter Unit	MWM9026			
133	IC(IC901)	PA2024A			
134	Detach Grille Assy(EW)	CXB2610			
	Detach Grille Assy(ES)	CXB2611			
135	Screw	BPZ20P080FZK			
136	Button(+,-)	CAC5486			
137	Button(EJECT)	CAC5488			
138	Button(EW)(S/A,CLOCK)	CAC5491			
	Button(ES)(S/A,CLOCK)	CAC5490			
139	Button(TRACK)	CAC5494			
140	Button(P,D)	CAC5498			
141	Button	CAC5499			

2.3 CASSETTE MECHANISM MODULE



## ● CASSETTE MECHANISM MODULE

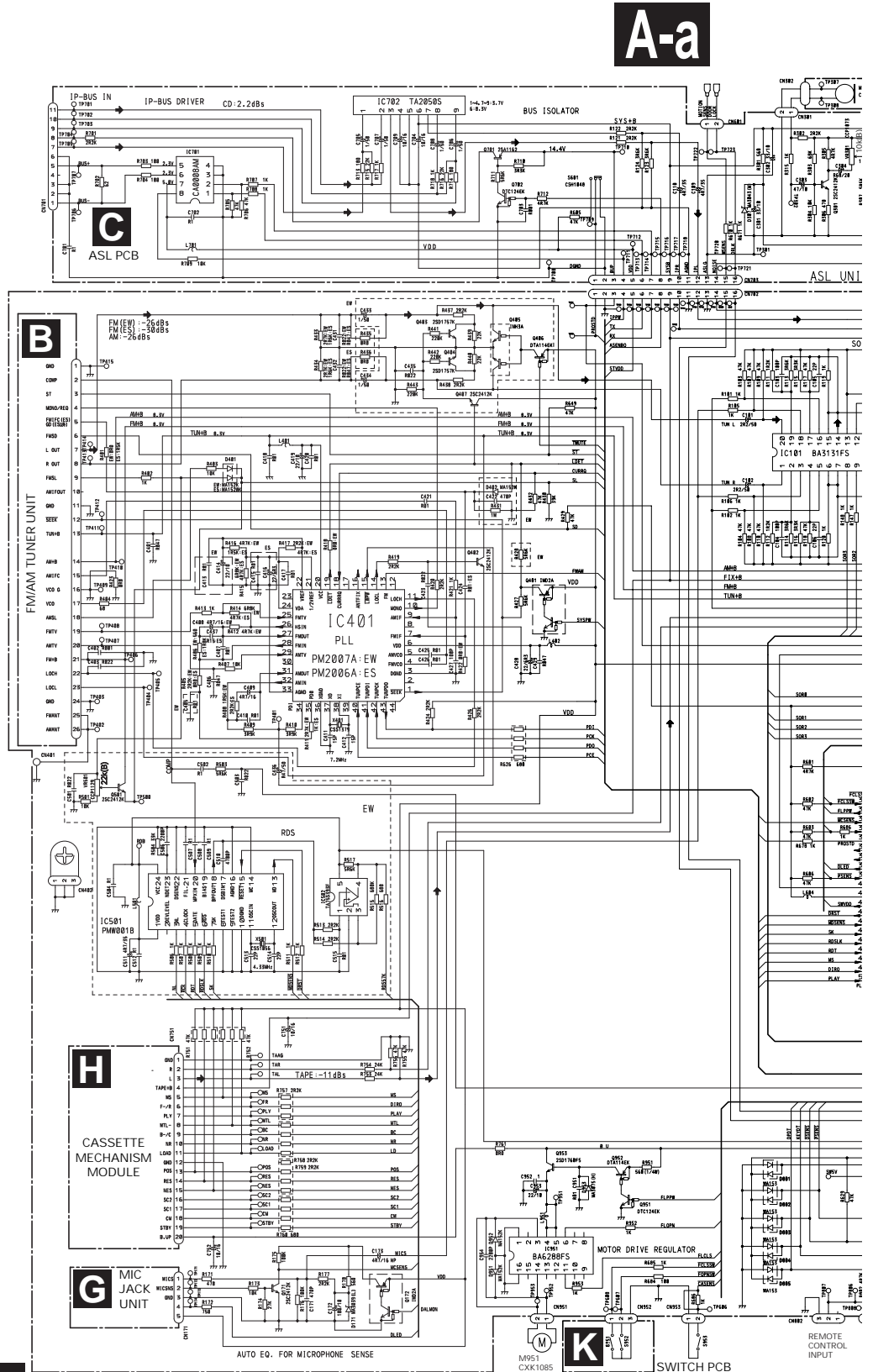
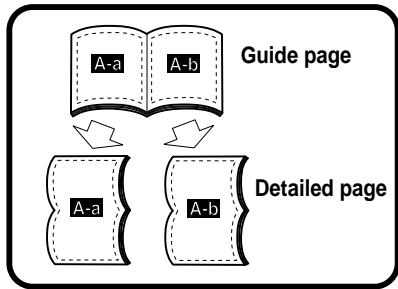
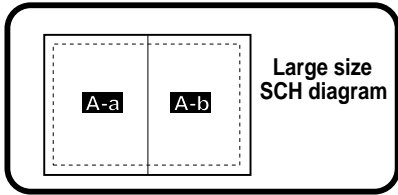
## ● PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC	36	Worm Wheel	ENV1440
2	Washer	CBF1037	37	Gear	ENR1028
3	Washer	CBF1038	38	Lever	ENV1442
4	Washer	CBG1003	39	Arm	ENV1525
5	Deck Unit	EWM1020	40	Gathering P.C.Board	ENX1037
6	Screw	EBA1028	41	P.C.Board	ENP1152
7	Screw	EBA1037	42	Switch(S1,S2)	ESG1004
8	Spring	EBH1531	43	Motor Unit(M2)	EXA1485
9	Spring	EBH1575	44	Chassis Unit	EXA1511
10	Cushion	EWM1034	45	Pinch Holder	ENV1485
11	Spring	EBH1515	46	Pinch Holder	ENV1486
12	Spring	EBH1587	47	Reel Unit	EXA1543
13	Spring	EBH1517	48	Head Base Unit	EXA1457
14	Spring	EBH1518	49	Lever Unit	EXA1438
15	Spring	EBH1519	50	Gear Unit	EXA1436
16	Spring	EBH1537	51	Frame Unit	EXA1458
17	Cord	EDD1015	52	Lever Unit	EXA1439
18	Photo-interrupter(EGN2,3)	EGN1006	53	Head Assy(HD1)	EXA1527
19	Photo-interrupter(EGN1)	EGN1005	54	Motor Unit(M1)	EXA1490
20	Roller	ENR1031	55	Washer	HBF-179
21	Shaft	ELA1373	56	Screw	BMZ20P022FMC
22	Pinch Roller	ENV1518	57	Spring	EBH1545
23	Arm	ENC1489	58	Washer	YE20FUC
24	Arm	ENC1397	59	Pinch Holder Unit	EXA1529
25	Guide	ENC1398	60	Pinch Holder Unit	EXA1528
26	Holder	ENC1417	61	Resistor(R1)	RD1/4PM181J
27	Lever	ENC1448	62	Connector(CN253)	CKS2129
28	Arm	ENC1488	63	Connector(CN251)	CKS1711
29	Motor	EXM1027	64	Connector(CN252)	CKS2127
30	Belt	ENT1027	65	.....	
31	Gear	ENV1347	66	Shield	ENC1410
32	Pulley	ENV1503			
33	Gear	ENV1350			
34	Flywheel	ENV1410			
35	Worm Gear	ENV1439			

### 3. SCHEMATIC DIAGRAM

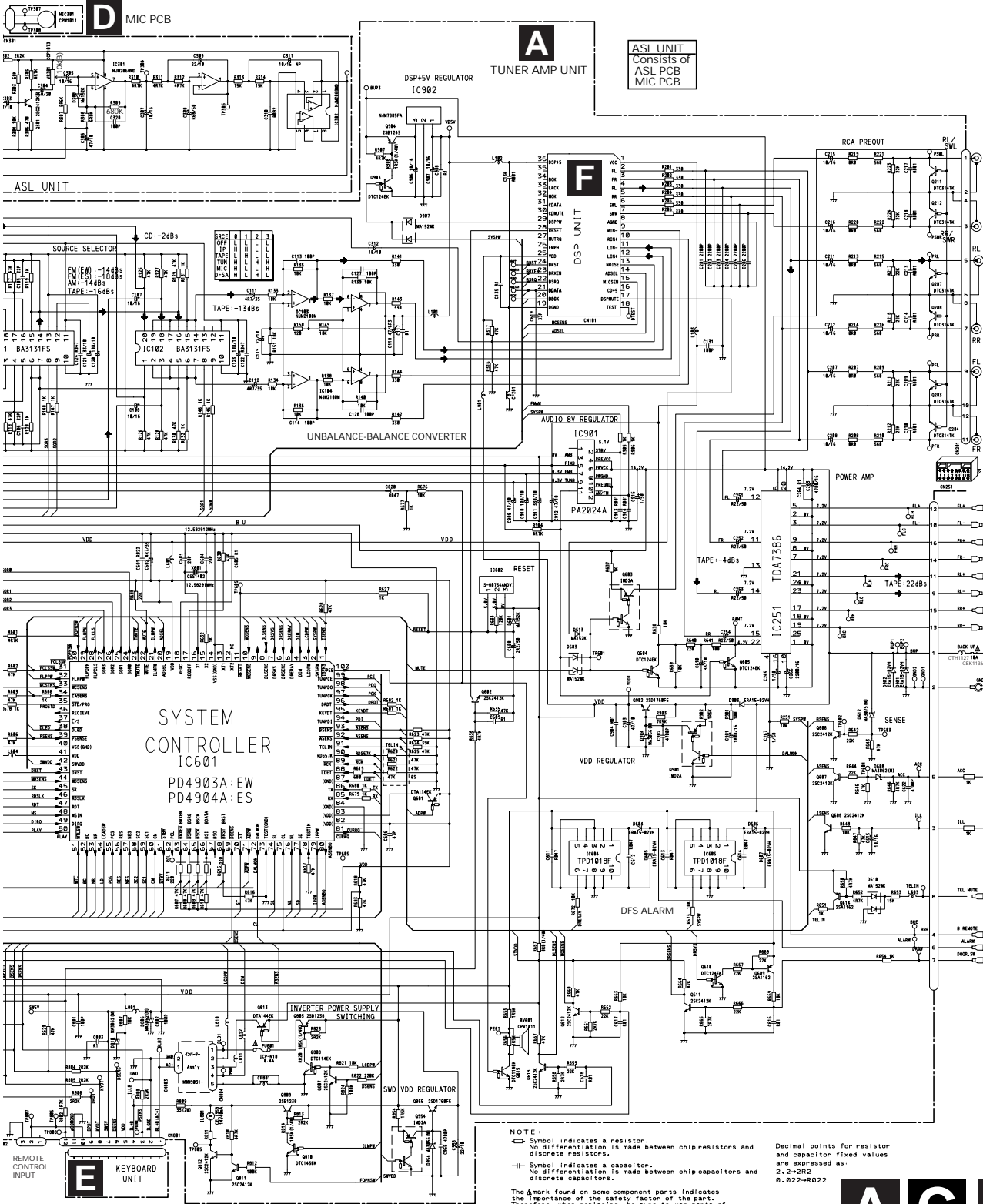
#### 3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".





# A-b

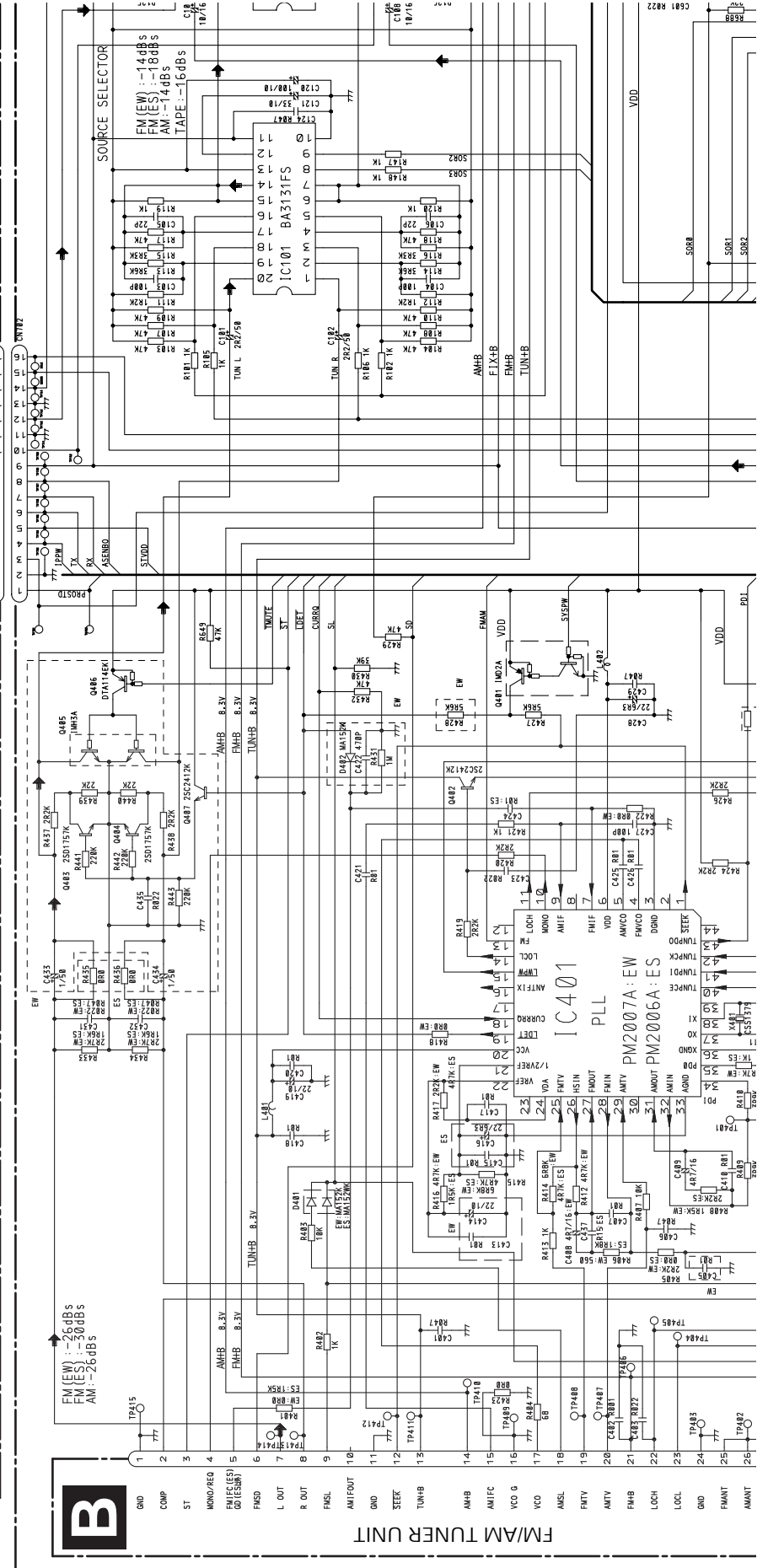
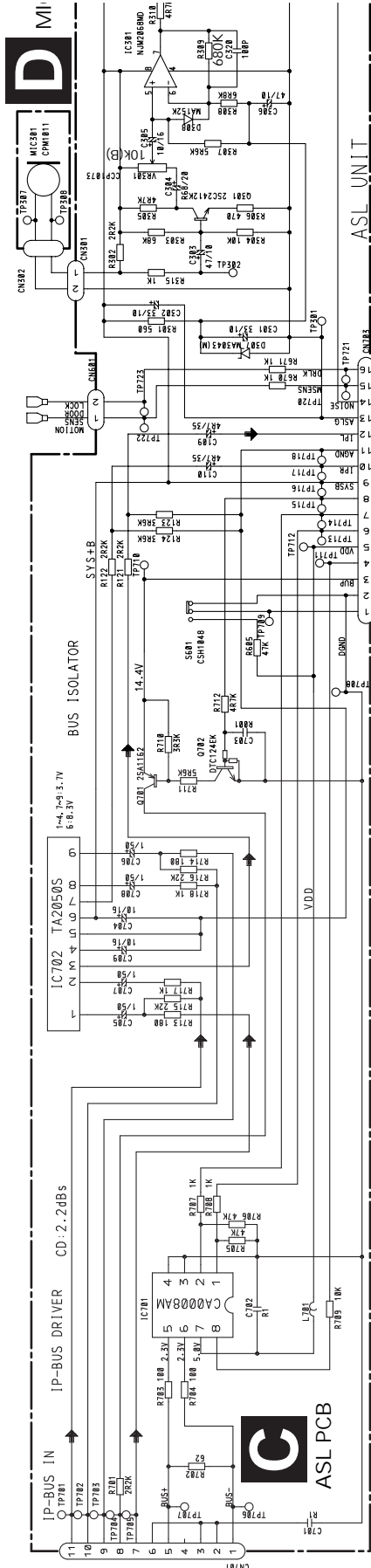


NOTE:  
 □ Symbol indicates a resistor.  
 No differentiation is made between chip resistors and discrete resistors.  
 □ Symbol indicates a capacitor.  
 No differentiation is made between chip capacitors and discrete capacitors.  
 Decimal points for resistor and capacitor fixed values are expressed as:  
 2.2=2R2  
 0.022=0022

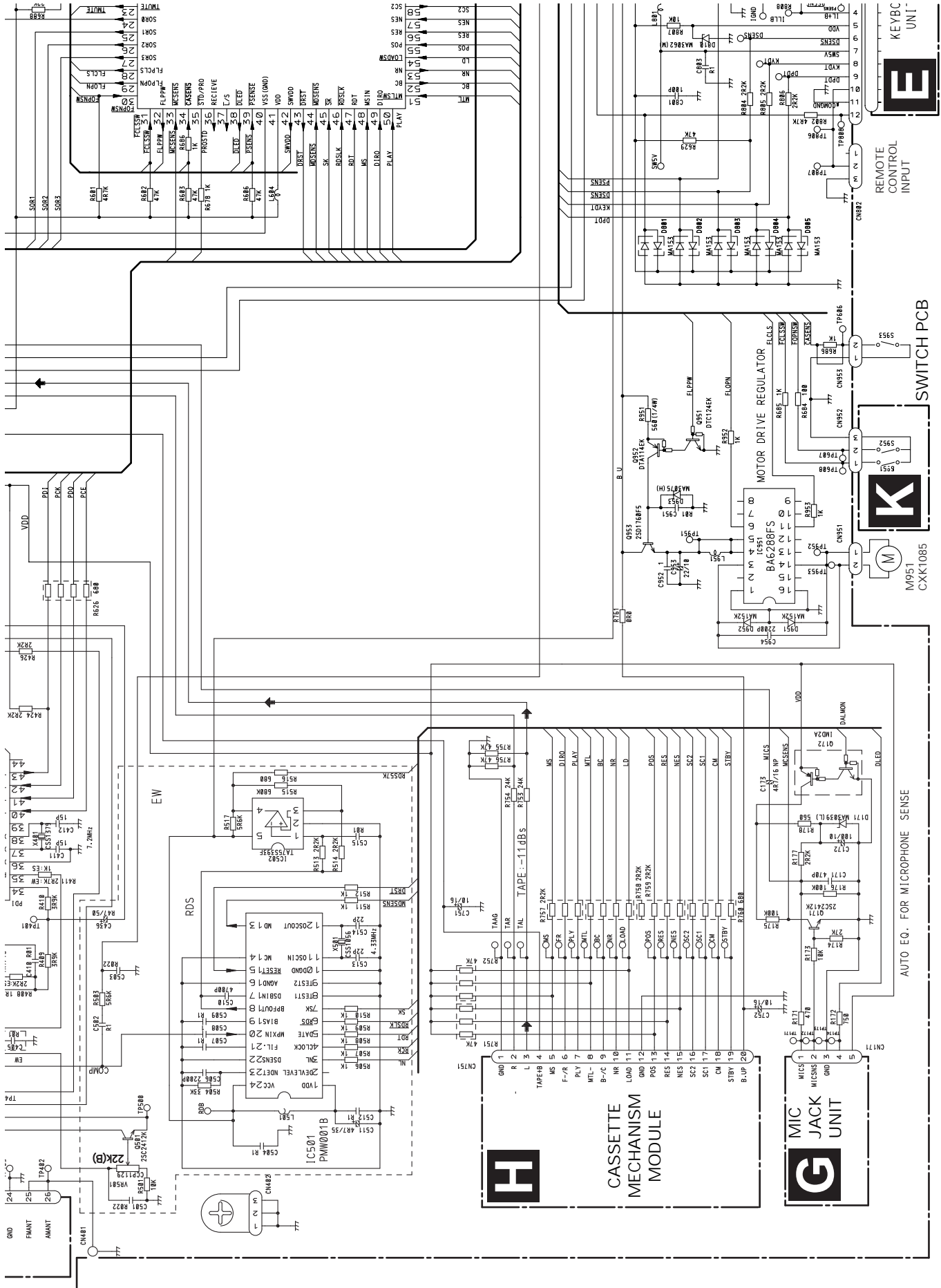
The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

# ACD

A-a Ab



A-a C D



A-a A-b

A

B

C

D

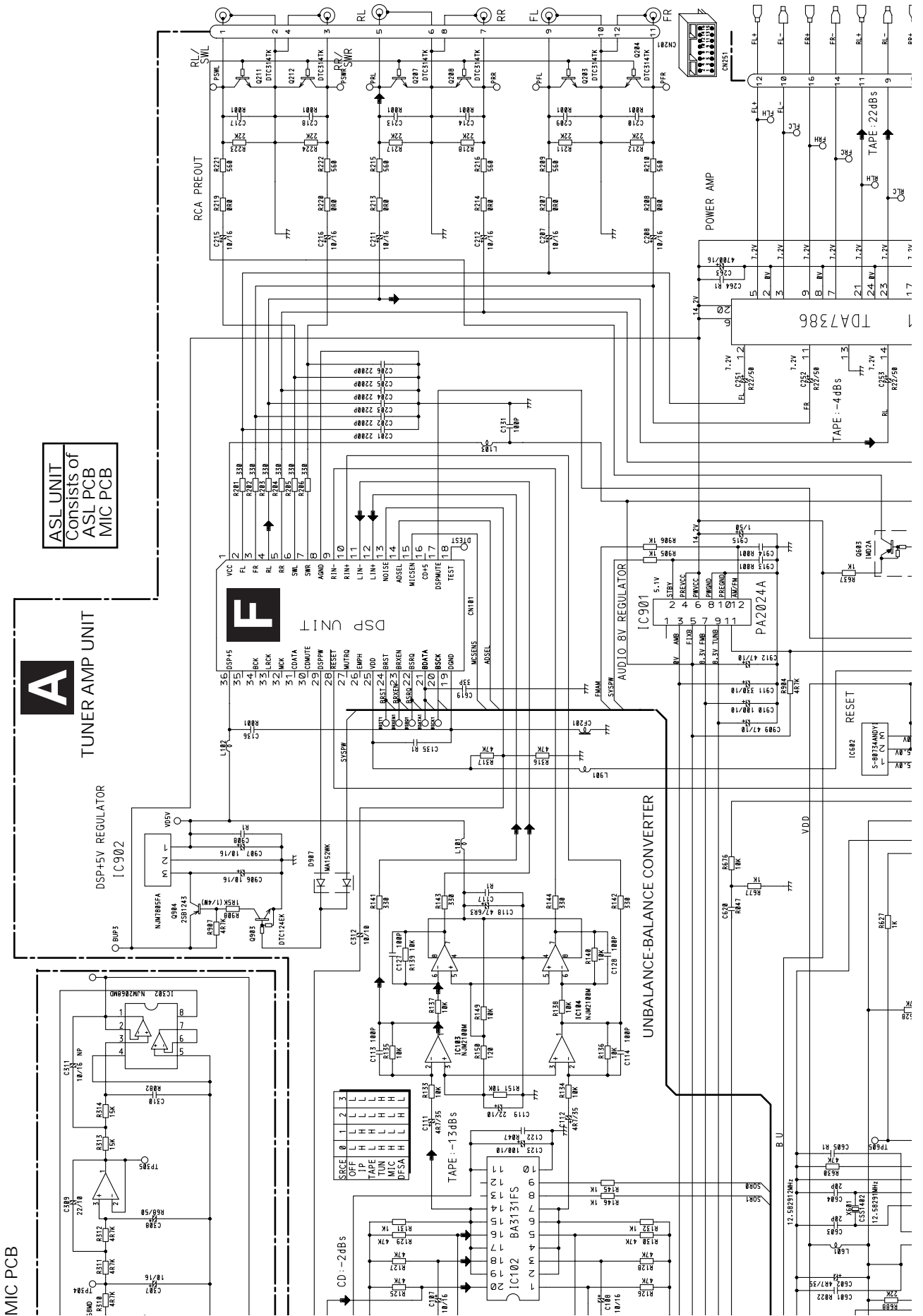
A-a K

A

B

C

D



**A** TUNER AMP UNIT

ASL UNIT Consists of ASL PCB MIC PCB

**F** DSP UNIT

UNBALANCE- BALANCE CONVERTER

POWER AMP

DSP+5V REGULATOR IC902

AUDIO 8V REGULATOR IC901

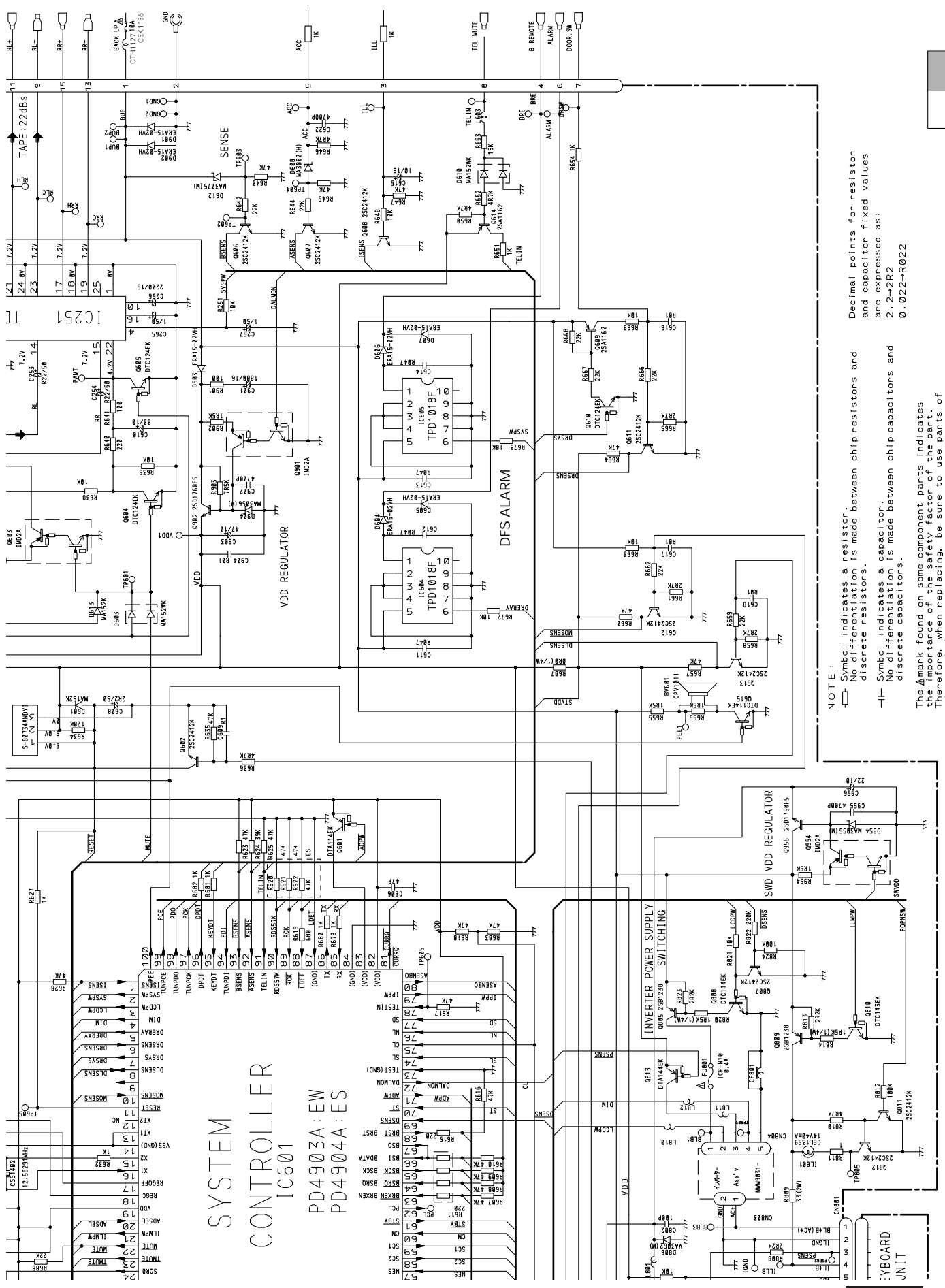
TAPE: -13dBs

CD: -24dBs

TAPE: -22dBs

TAPE: -4dBs

TDA7386



SYSTEM CONTROLLER IC601  
 PD4903A:EW  
 PD4904A:ES

NOTE :  
 Symbol indicates a resistor.  
 No differentiation is made between chip resistors and discrete resistors.  
 Symbol indicates a capacitor.  
 No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:  
 2.2-2R2  
 0.022-R022

The Mask found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

A-a

A

B

C

D

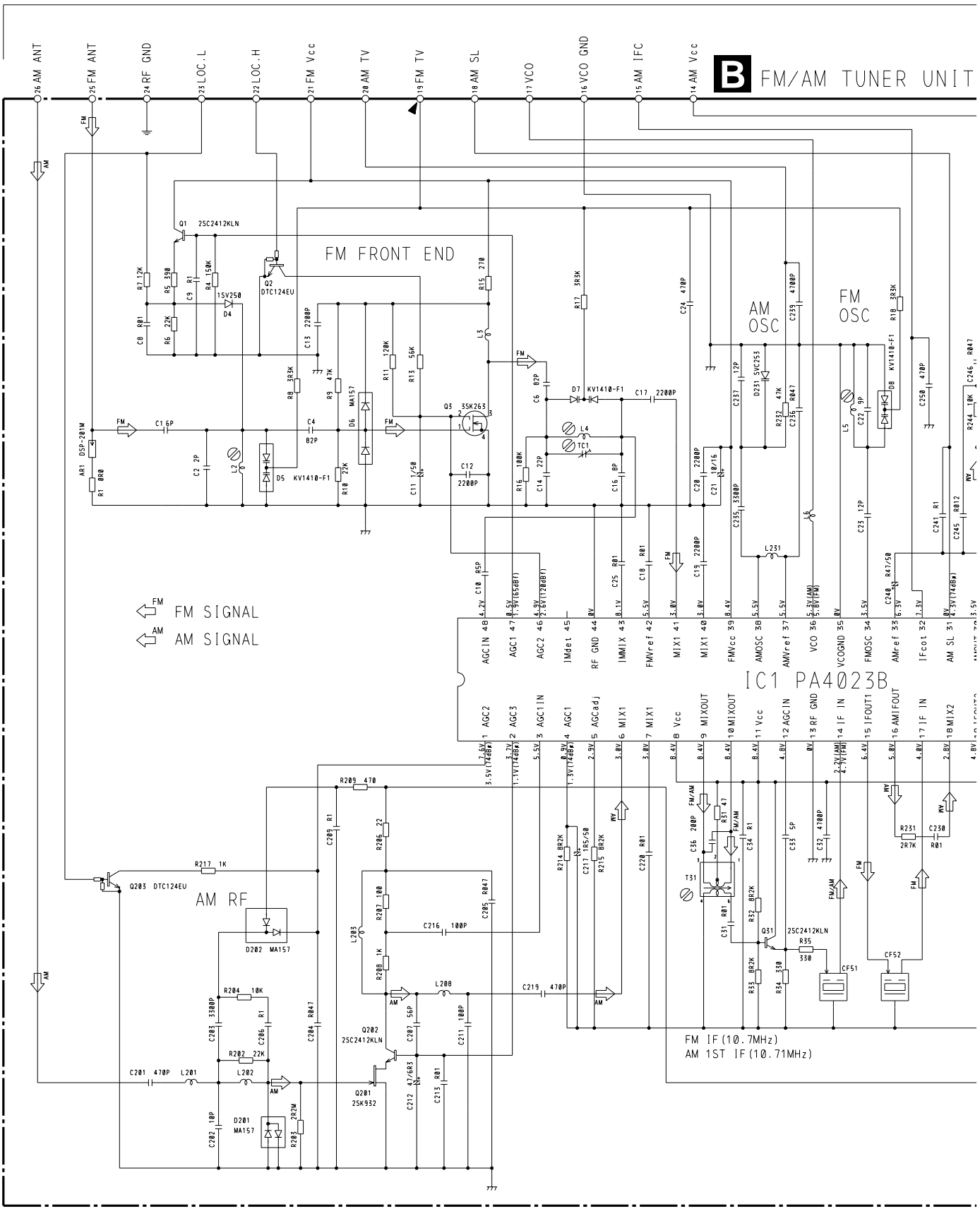
A-b

3.2 FM/AM TUNER UNIT

● KEH-P9700R/EW

**A**

**B** FM/AM TUNER UNIT



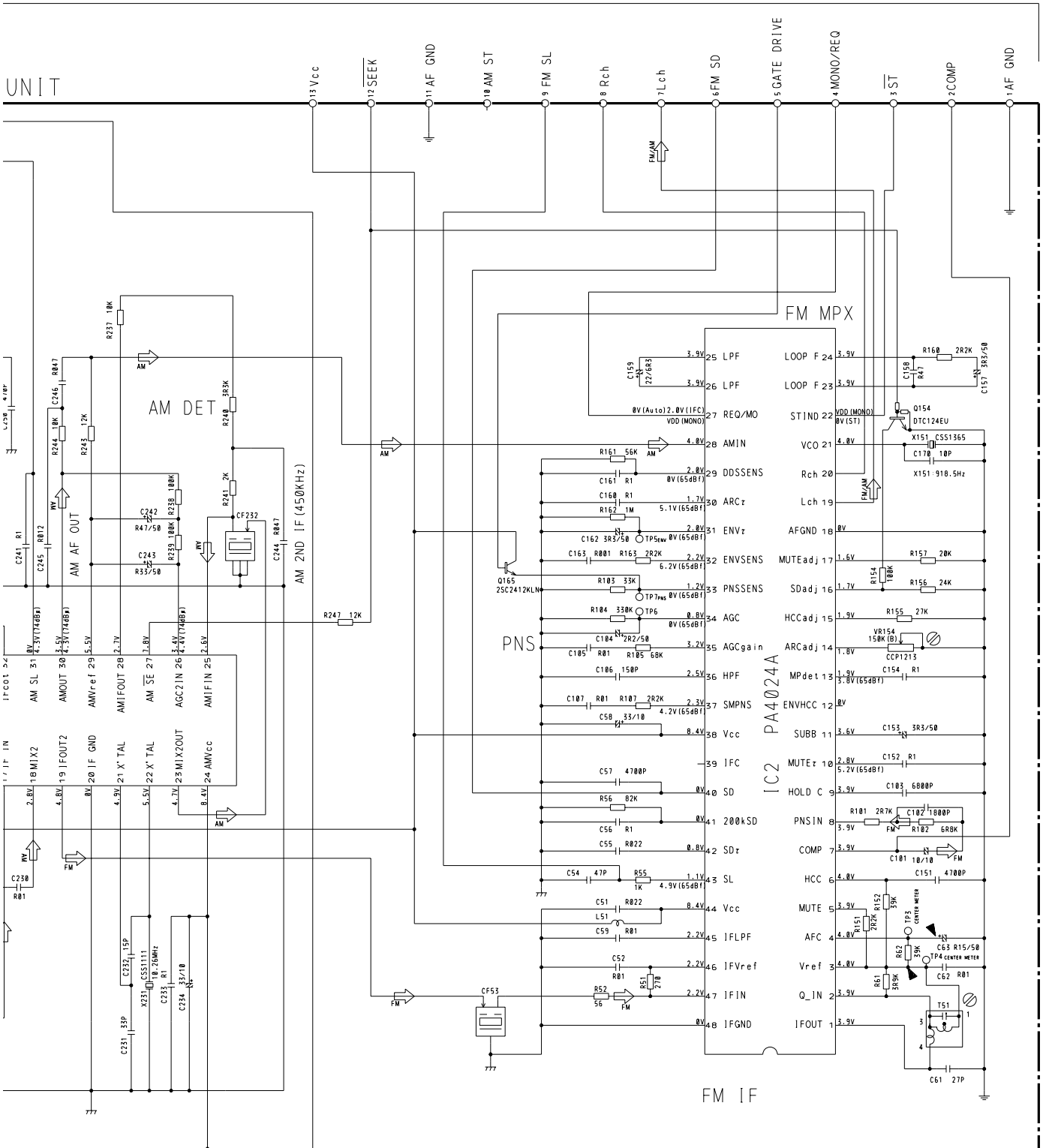
A

B

C

D

**B**



UNIT

FM IF

IC2 PA4024A

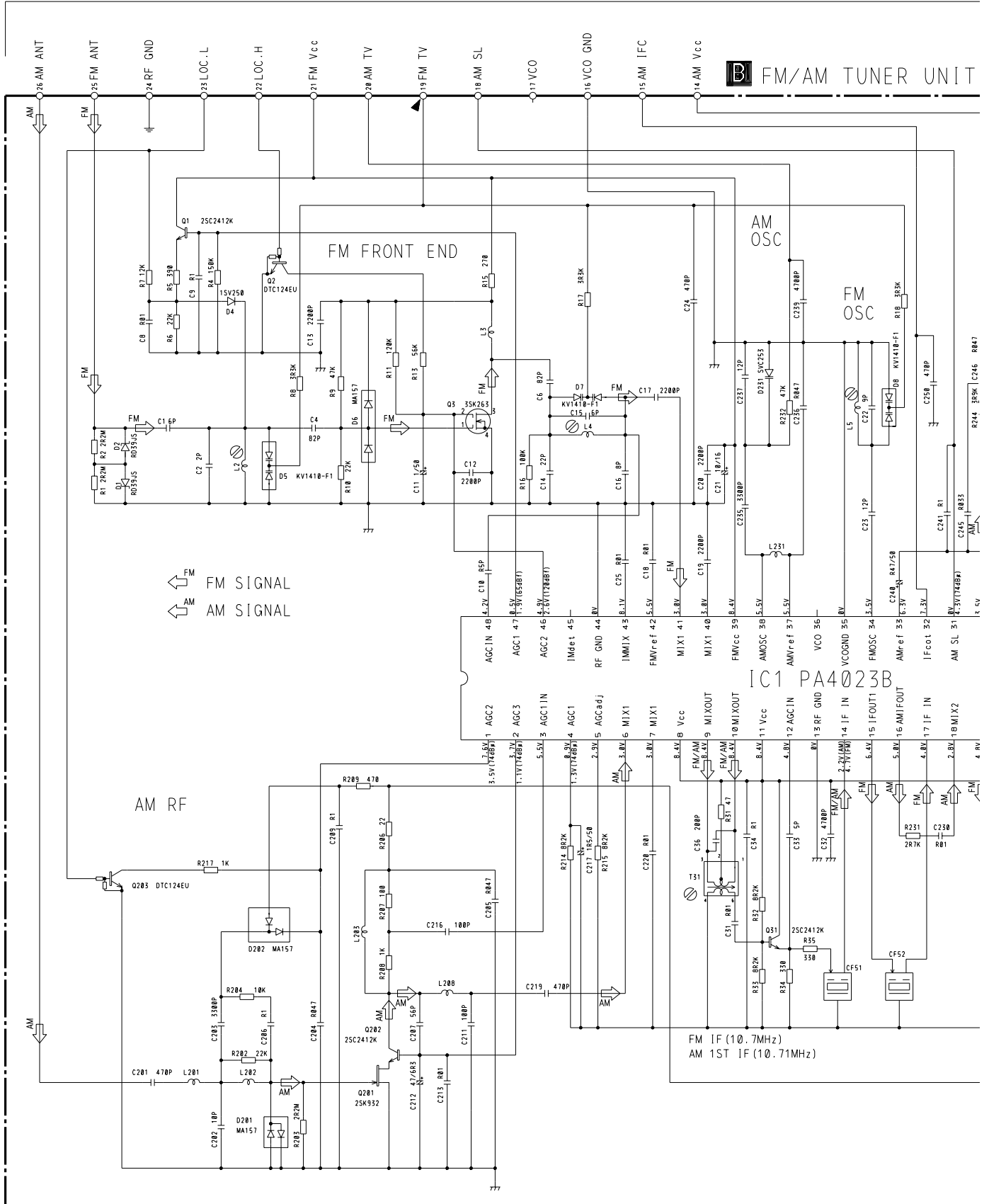
AM DET

PNS

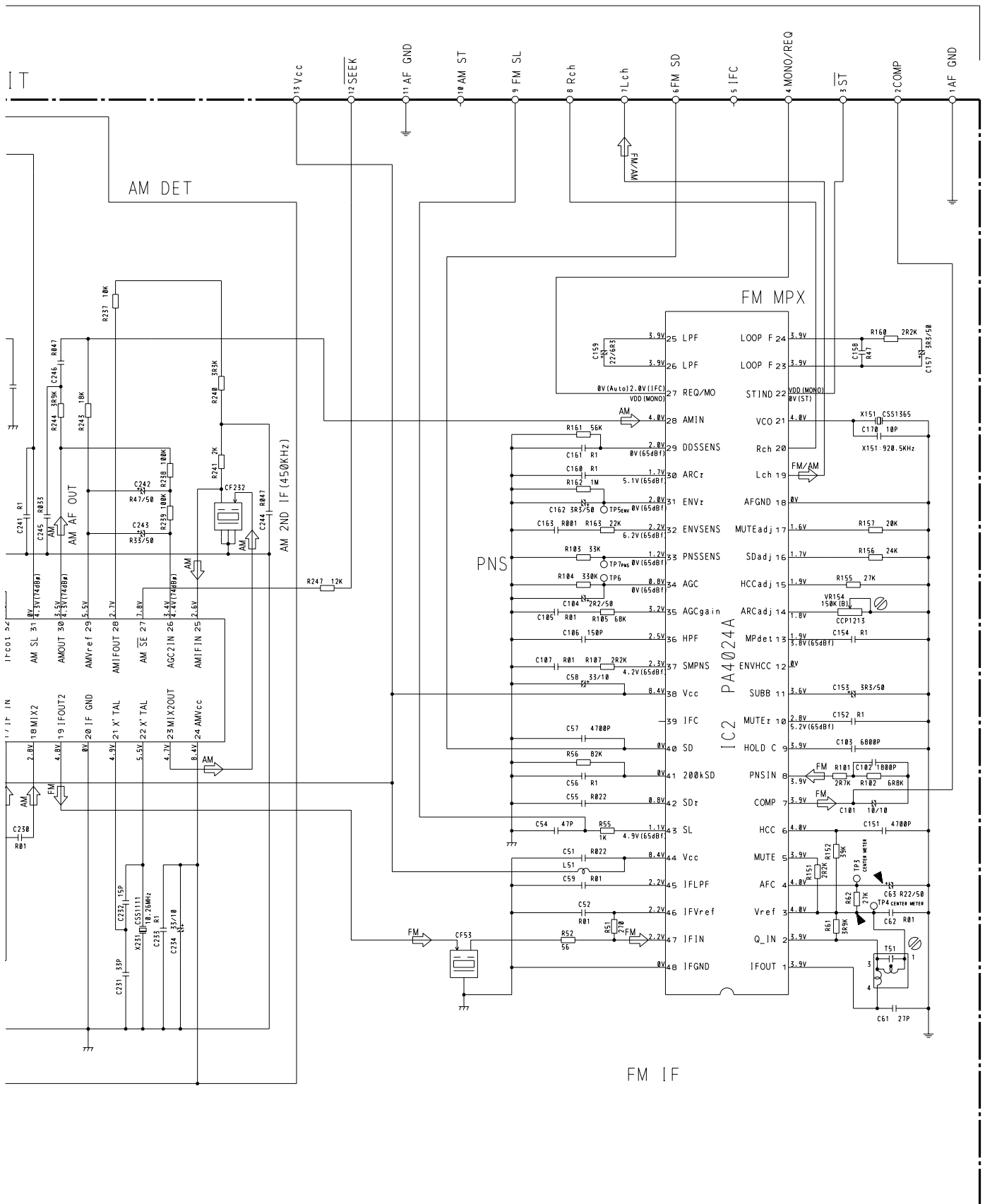
FM MPX

● KEH-P9750/ES

FM/AM TUNER UNIT







### 3.3 CASSETTE MECHANISM MODULE

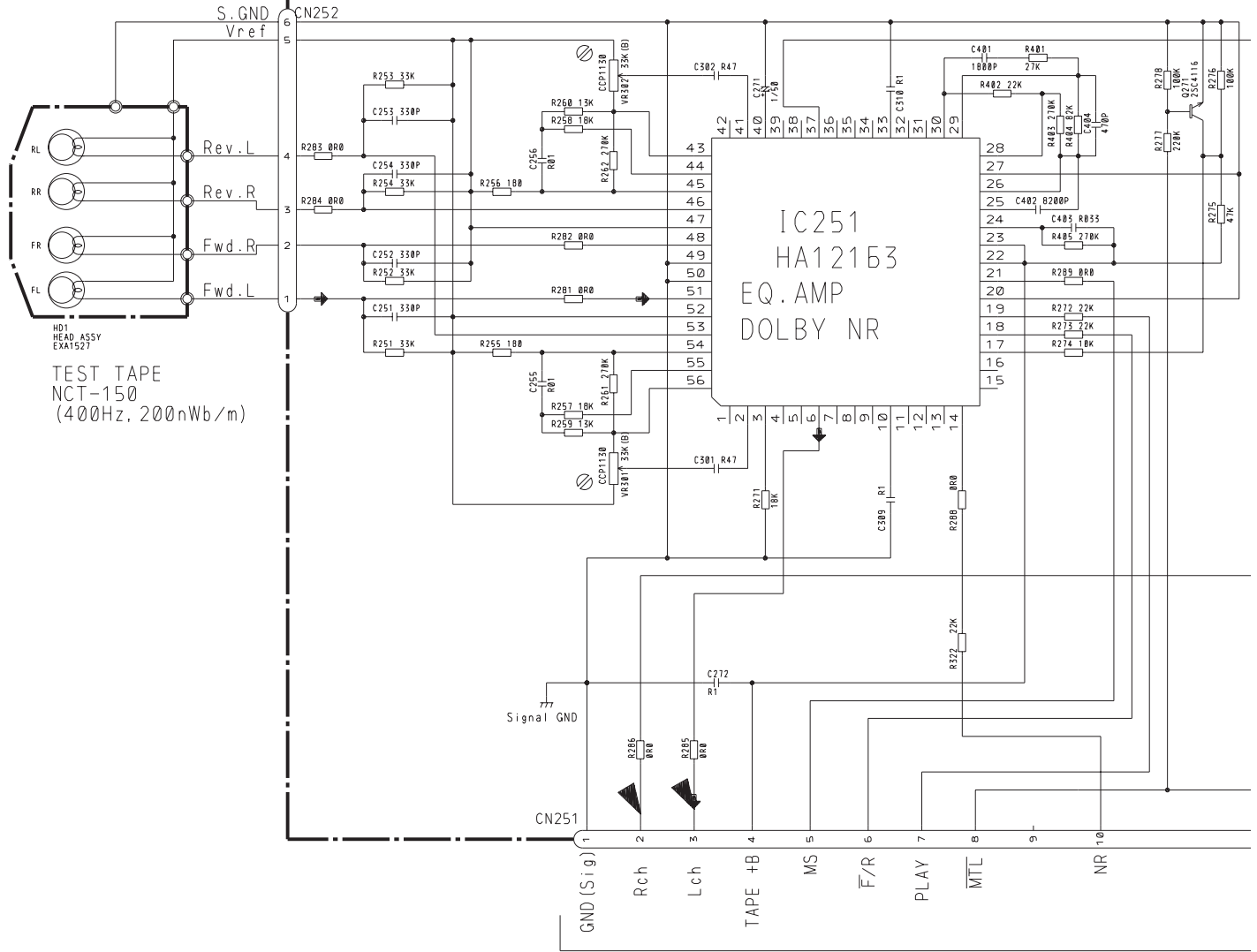
A

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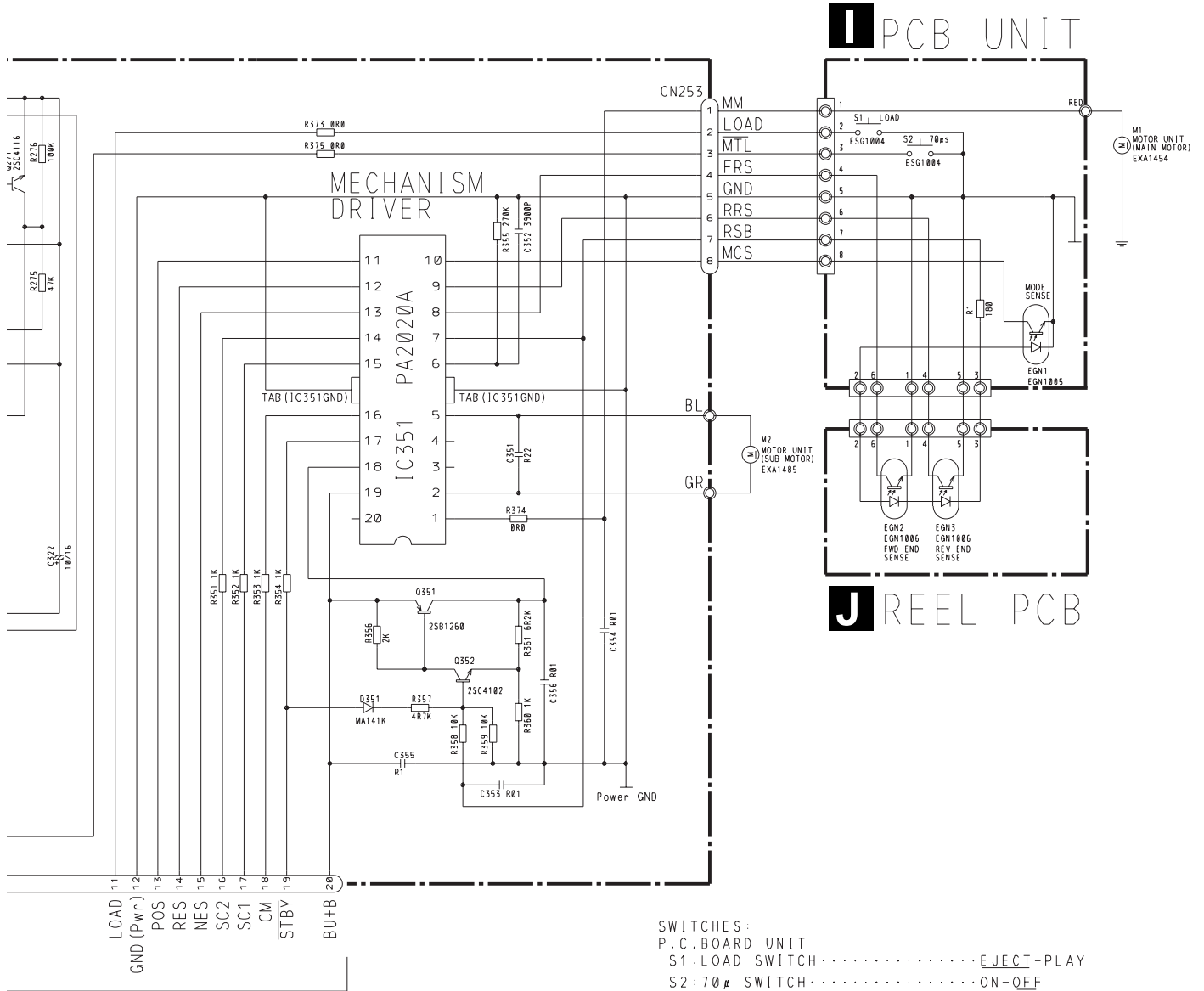
## H DECK UNIT



-8.24dBs (300mV) ±1dB

**A** CN751





SWITCHES :  
 P.C. BOARD UNIT  
 S1 : LOAD SWITCH ..... EJECT-PLAY  
 S2 : 70 μ SWITCH ..... ON-OFF  
 The underlined indicates the switch position.

3.4 KEYBOARD UNIT



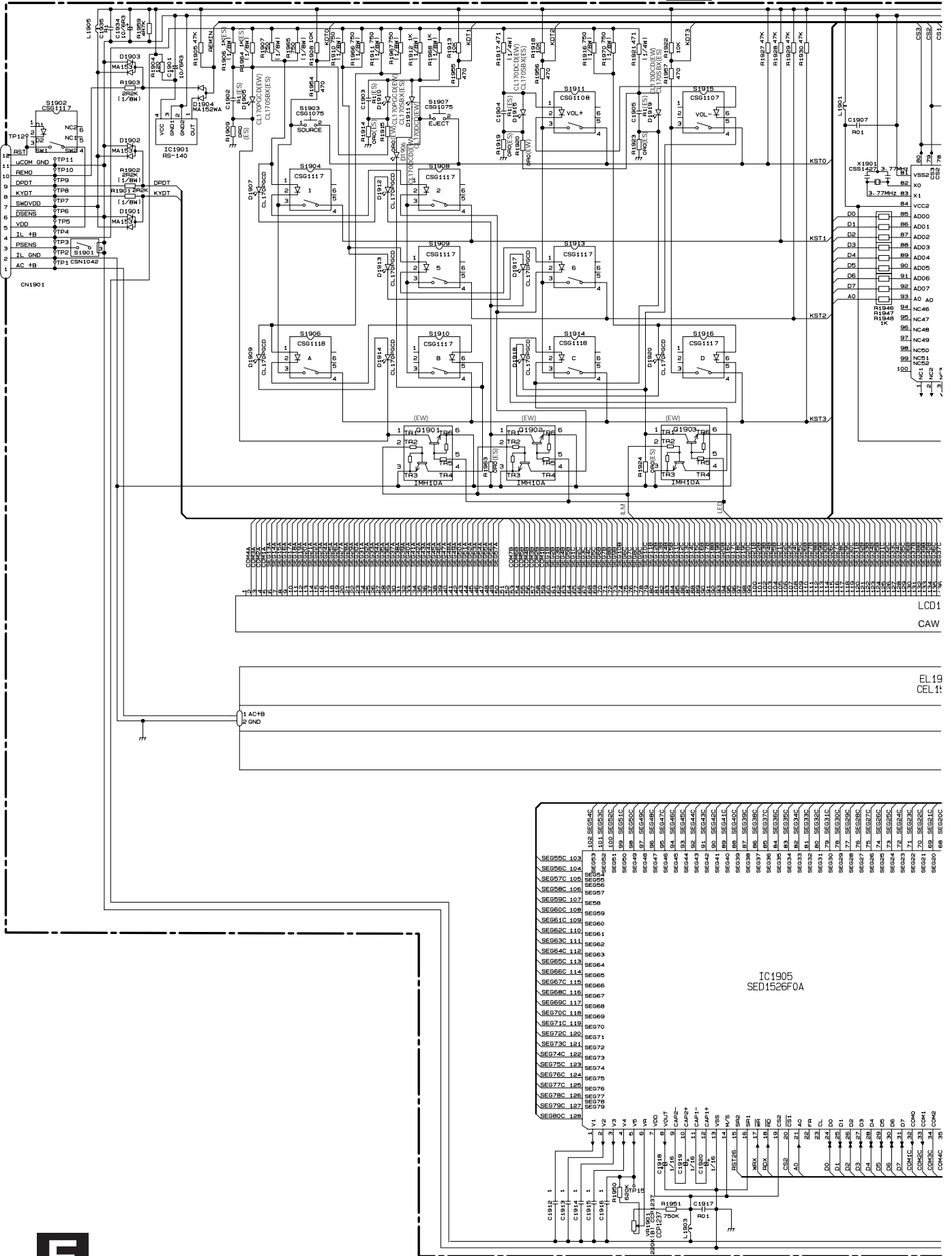
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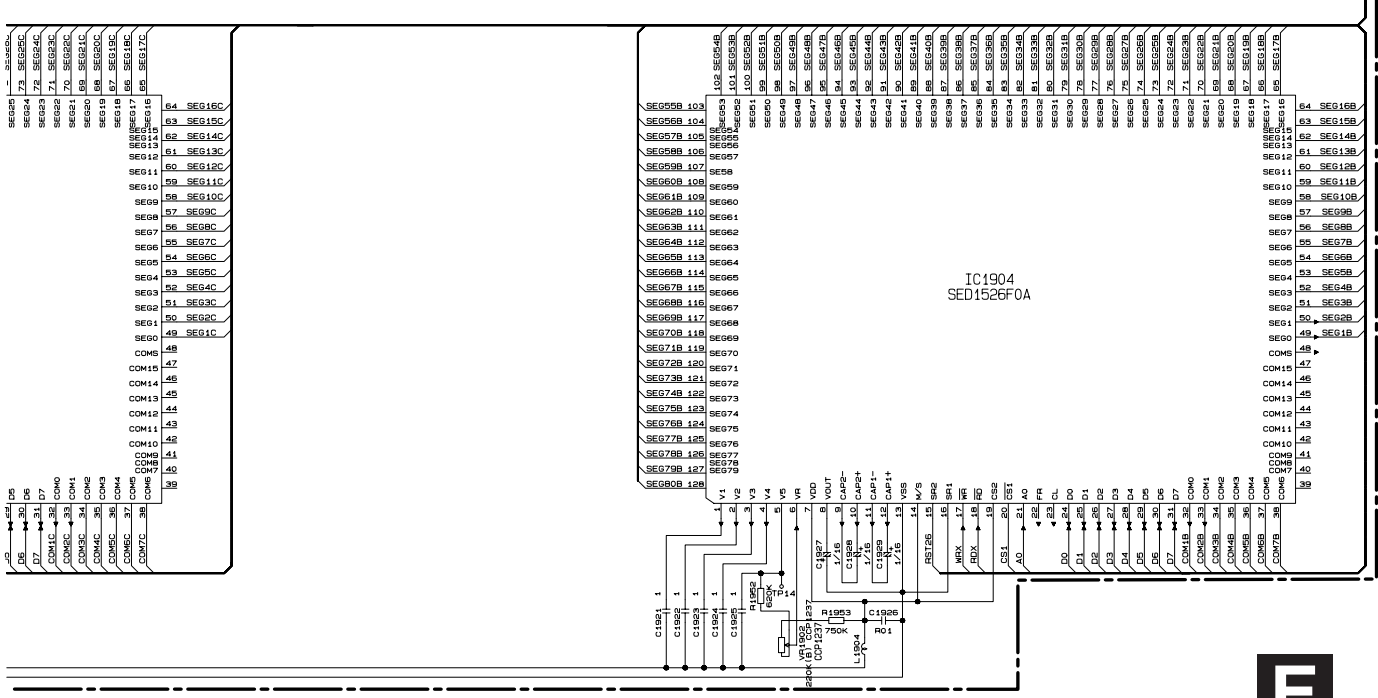
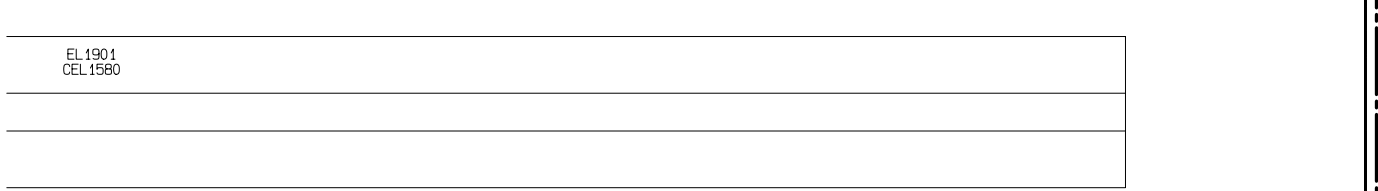
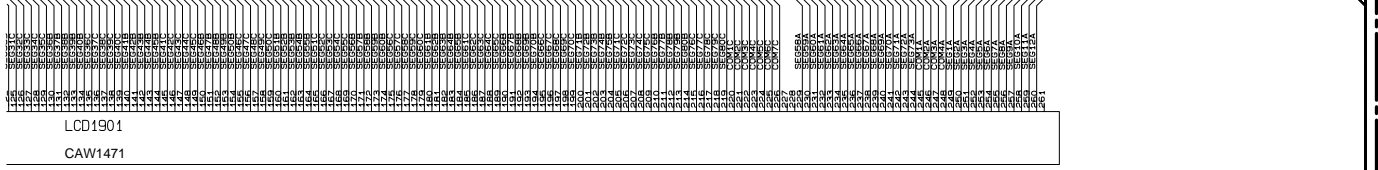
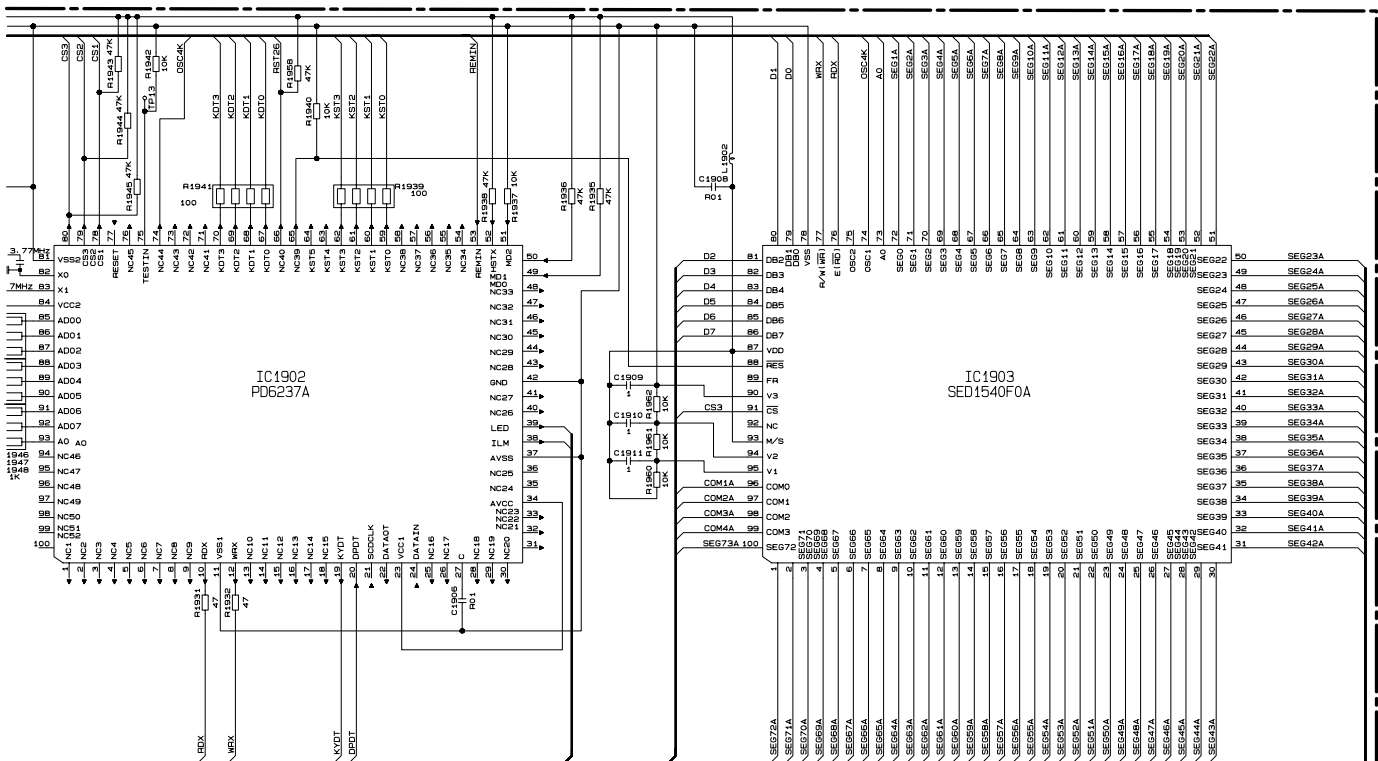
A CN801



103	SE604C
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305	SE806

IC1905 SED1526F0A





A

B

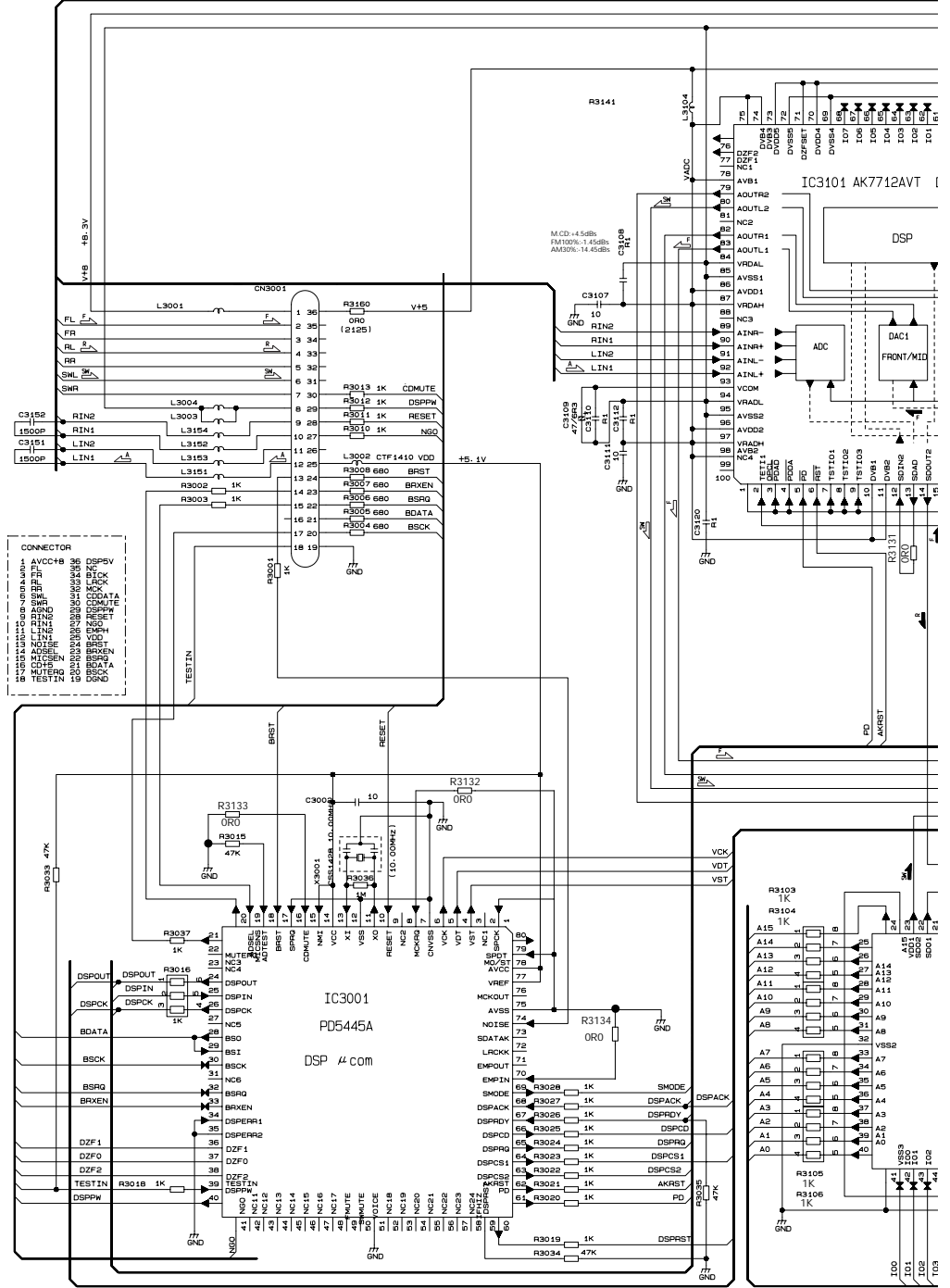
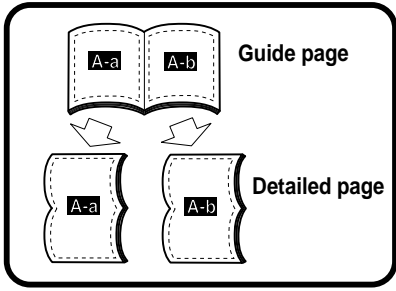
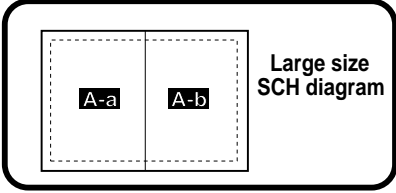
C

D











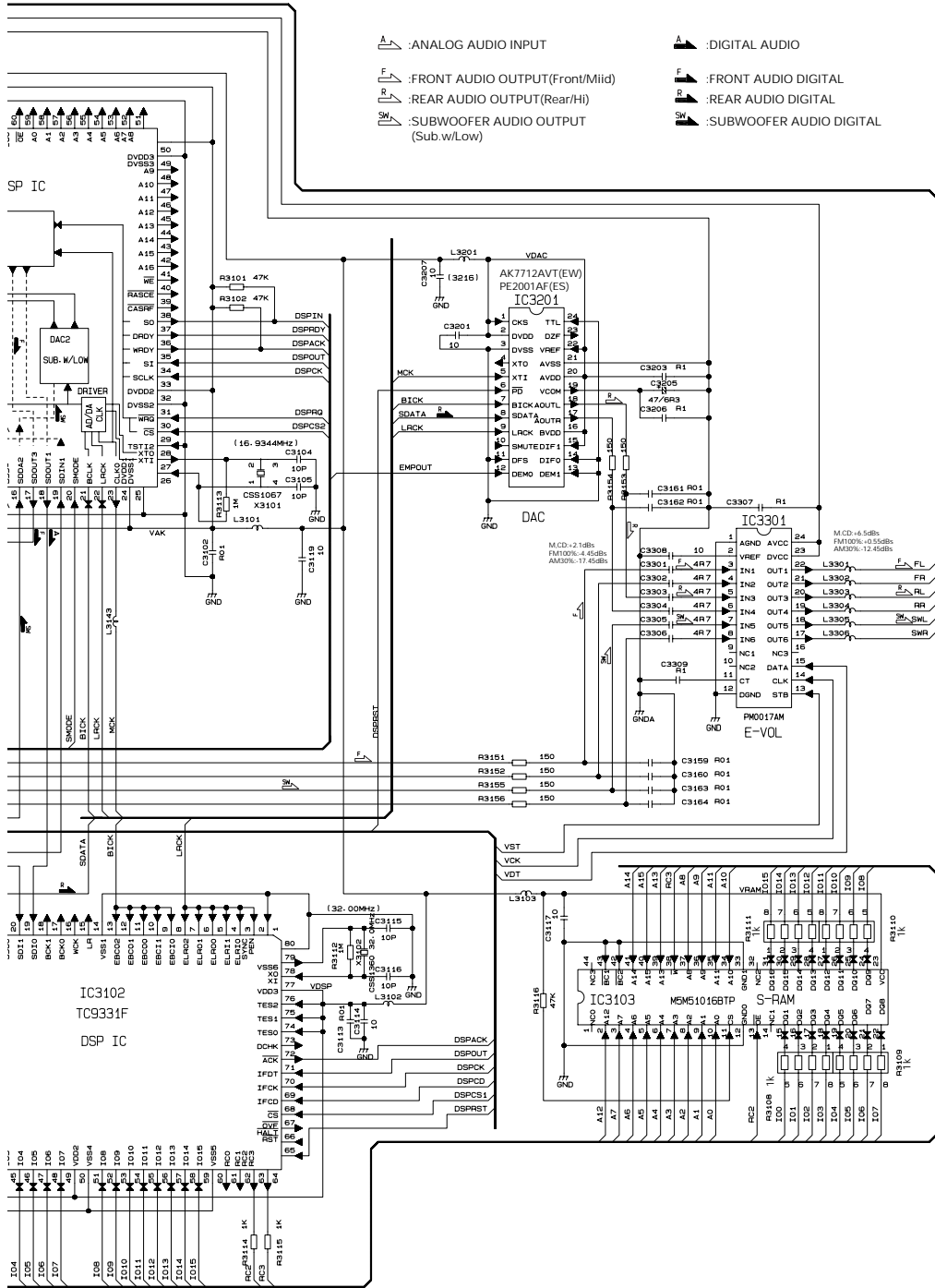
3.5 DSP UNIT(GUIDE PAGE)

F-a



# F-b

-  : ANALOG AUDIO INPUT
-  : DIGITAL AUDIO
-  : FRONT AUDIO OUTPUT(Front/MiId)
-  : FRONT AUDIO DIGITAL
-  : REAR AUDIO OUTPUT(Rear/Hi)
-  : REAR AUDIO DIGITAL
-  : SUBWOOFER AUDIO OUTPUT (Sub.w/Low)
-  : SUBWOOFER AUDIO DIGITAL



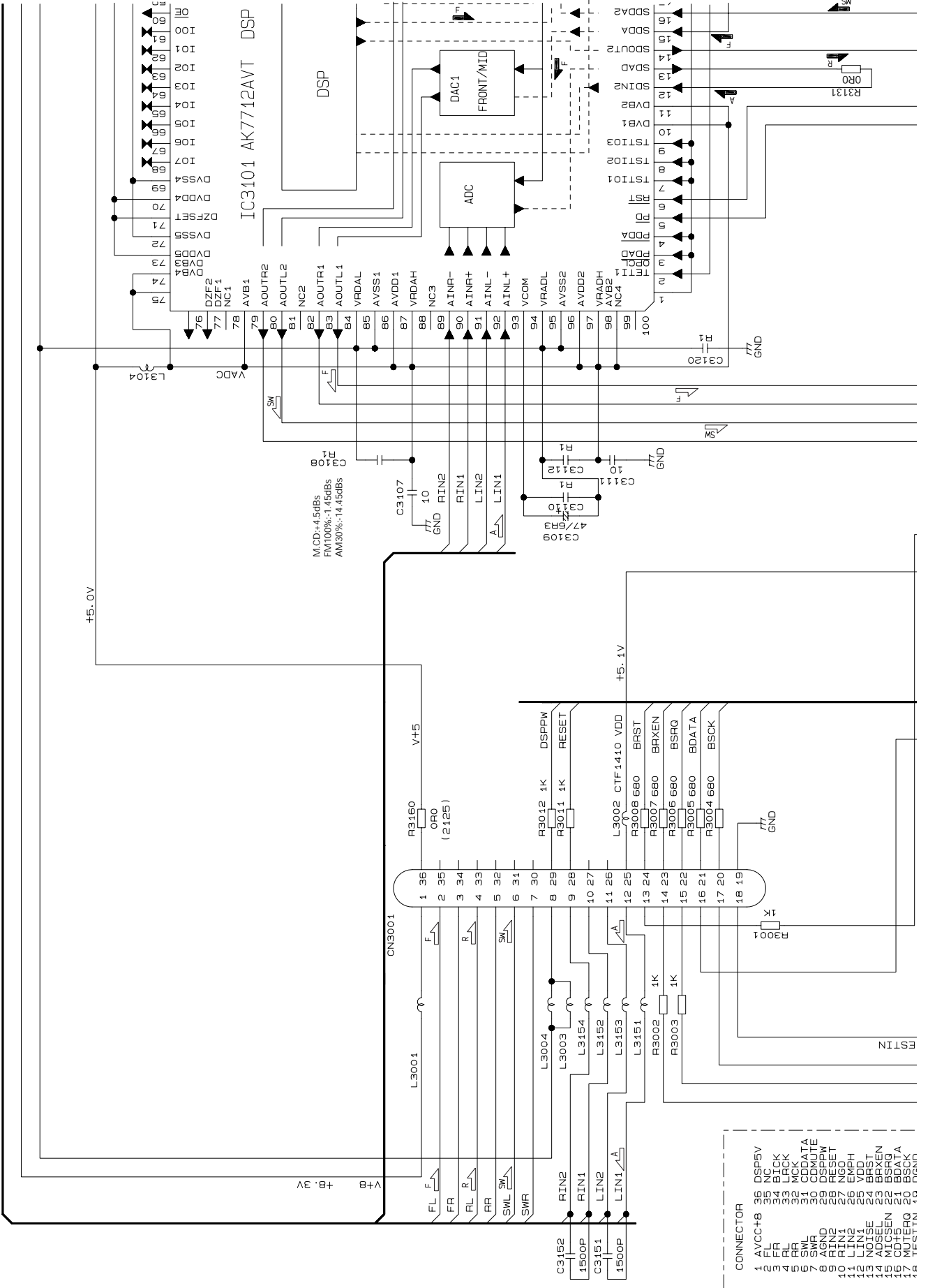
A

F-a F-b

B

C

D



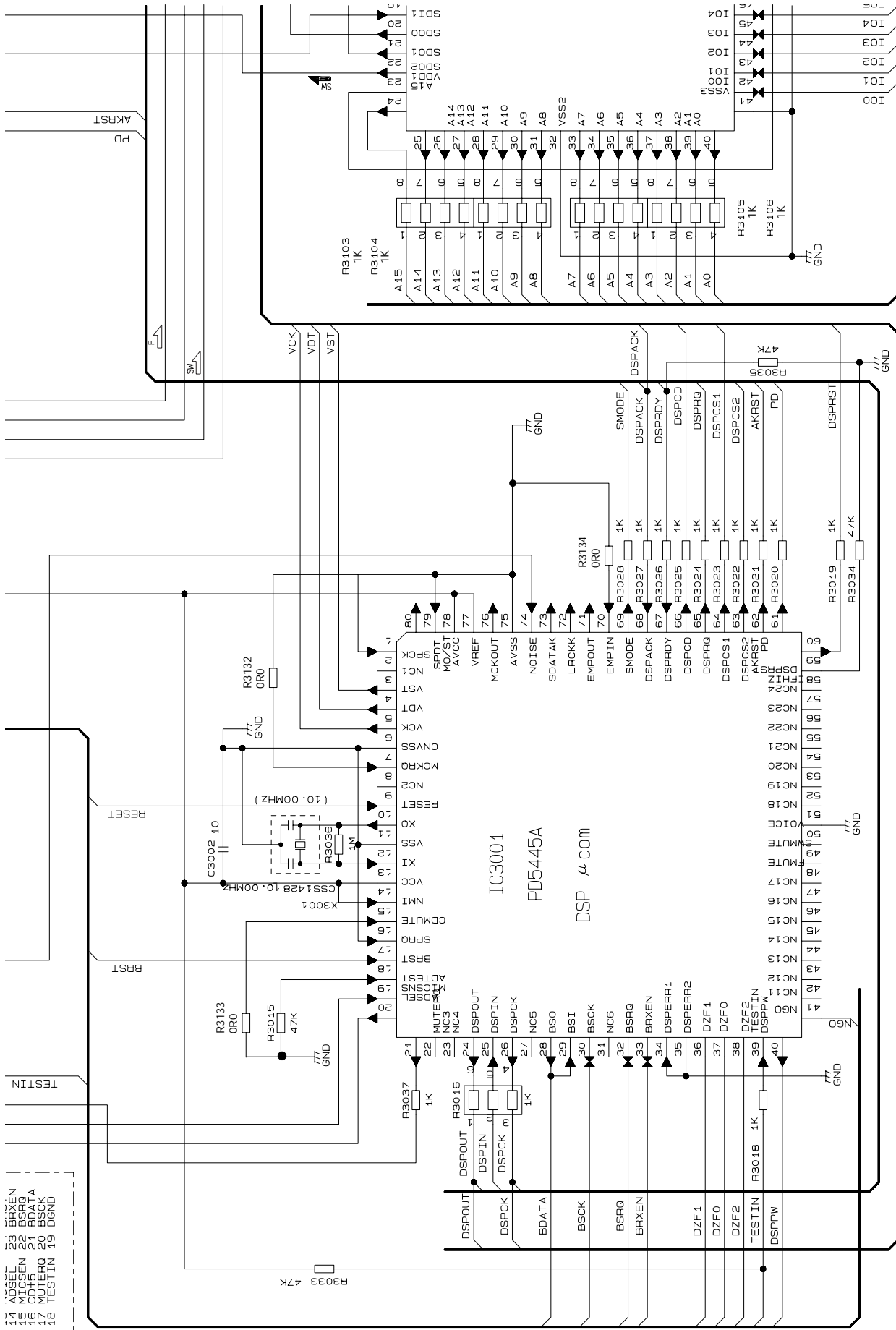
A

2

3

4





- 11 AISEL 23 BRXEN
- 12 MICSSEN 22 BSRQ
- 13 CDH5 21 BDATA
- 14 MUTE 20 BSCK
- 15 MUTEEN 19 DEND

A

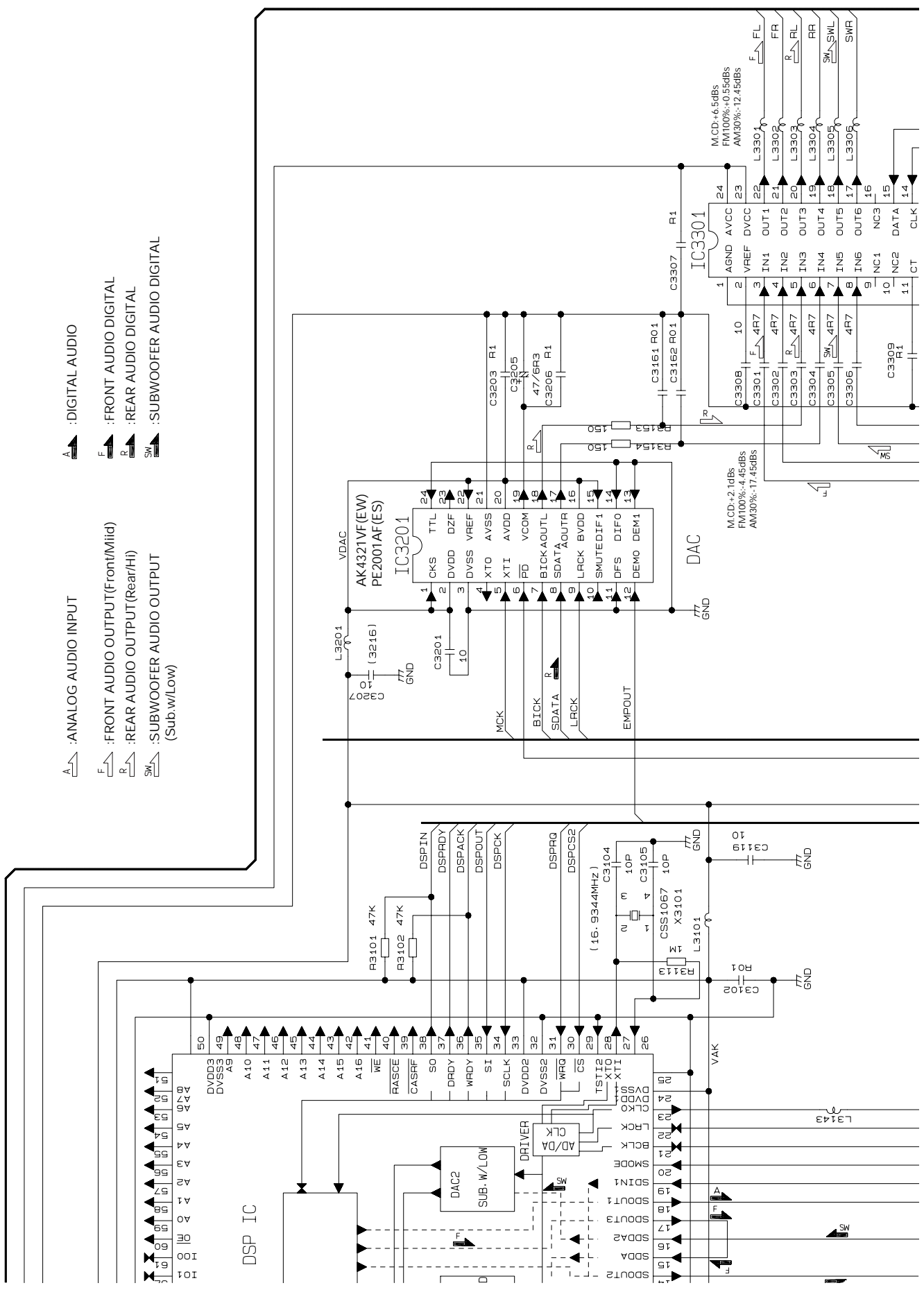
B

C

D

F-a F-b

- : ANALOG AUDIO INPUT
- : DIGITAL AUDIO
- : FRONT AUDIO OUTPUT(Front/Mid)
- : FRONT AUDIO DIGITAL
- : REAR AUDIO OUTPUT(Rear/Hi)
- : REAR AUDIO DIGITAL
- : SUBWOOFER AUDIO OUTPUT (Sub.w/Low)
- : SUBWOOFER AUDIO DIGITAL



1

2

3

4

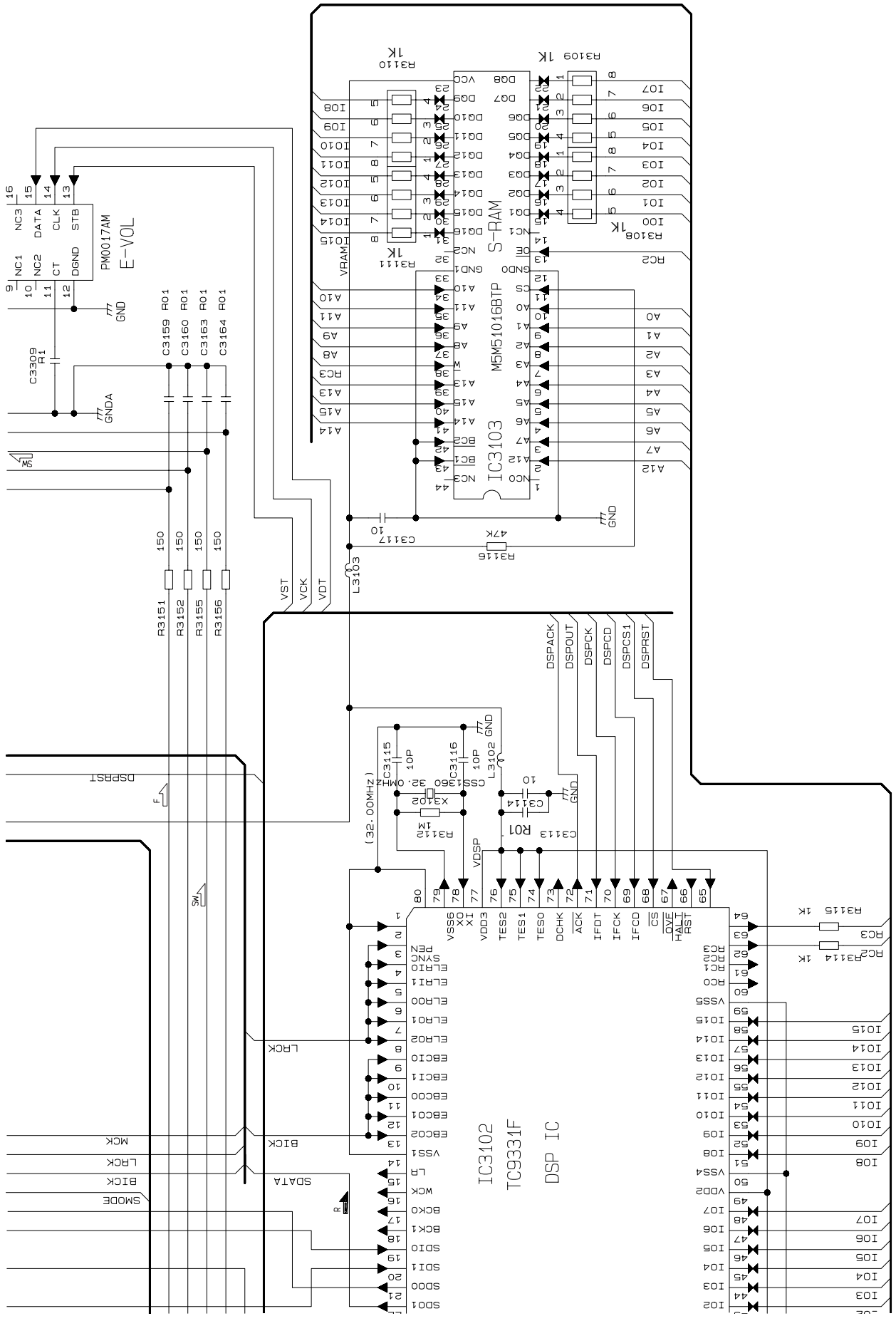
F-a F-b

A

B

C

D

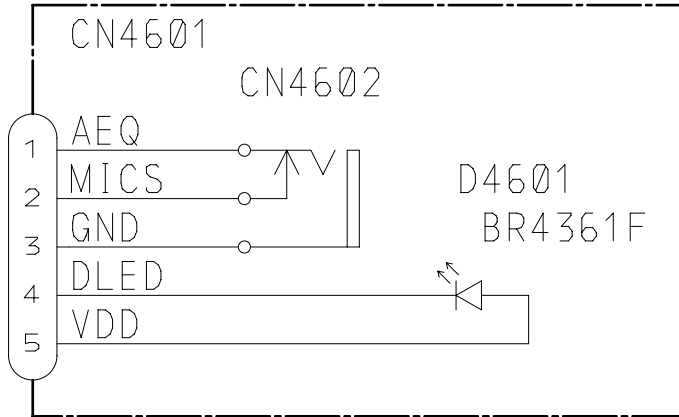


### 3.6 MIC JACK UNIT

A

## **G** MIC JACK UNIT

**A** CN171



B

C

D

## 5. ELECTRICAL PARTS LIST

## NOTE:

● Parts whose parts numbers are omitted are subject to being not supplied.

● The part numbers shown below indicate chip components.

Chip Resistor

RS1/OS0000J,RS1/OOS000J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
<b>B</b> Unit Number : CWE1416(EW)		R 8	RS1/16S332J
Unit Name : FM/AM Tuner Unit		R 9	RS1/16S473J
MISCELLANEOUS		R 10	RS1/16S223J
IC 1 IC	PA4023B	R 11	RS1/16S124J
IC 2 IC	PA4024A	R 13	RS1/16S563J
Q 1 Transistor	2SC2412K	R 15	RS1/16S271J
Q 2 Transistor	DTC124EU	R 16	RS1/16S104J
Q 3 FET	3SK263	R 17	RS1/16S332J
		R 18	RS1/16S332J
		R 31	RS1/16S470J
Q 31 Transistor	2SC2412K		
Q 154 Transistor	DTC124EU	R 32	RS1/16S822J
Q 165 Transistor	2SC2412K	R 33	RS1/16S822J
Q 201 FET	2SK932	R 34	RS1/16S331J
Q 202 Transistor	2SC2412K	R 35	RS1/16S331J
		R 51	RS1/16S271J
Q 203 Transistor	DTC124EU		
D 4 Diode	1SV250	R 52	RS1/16S560J
D 5 Diode	KV1410-F1	R 55	RS1/16S102J
D 7 Diode	KV1410-F1	R 56	RS1/16S823J
D 8 Diode	KV1410-F1	R 61	RS1/16S392J
		R 62	RS1/16S393J
D 201 Diode	MA157		
D 202 Diode	MA157	R 101	RS1/16S272J
D 231 Diode	SVC253	R 102	RS1/16S682J
L 2 Coil	CTC1108	R 103	RS1/16S333J
L 3 Inductor	LCTB2R2K2125	R 104	RS1/16S334J
		R 105	RS1/16S683J
L 4 Coil	CTC1108		
L 5 Coil	CTC1107	R 107	RS1/16S222J
L 6 Inductor	LCTBR15K1608	R 151	RS1/16S222J
L 51 Ferri-Inductor	LAU150K	R 152	RS1/16S393J
L 201 Ferri-Inductor	LAU4R7K	R 154	RS1/16S104J
		R 155	RS1/16S273J
L 202 Ferri-Inductor	LAU330K		
L 203 Inductor	CTF1287	R 156	RS1/16S243J
L 208 Inductor	LAU121K	R 157	RS1/16S203J
L 231 Inductor	LCTA3R3J3225	R 160	RS1/16S222J
T 31 Coil	CTE1116	R 161	RS1/16S563J
		R 162	RS1/16S105J
T 51 Coil	CTC1136		
TC 1	CCL1046	R 163	RS1/16S222J
CF 51 Ceramic Filter	CTF1292	R 202	RS1/16S223J
CF 52 Ceramic Filter	CTF1292	R 203	RS1/16S225J
CF 53 Ceramic Filter	CTF1292	R 204	RS1/16S103J
		R 206	RS1/16S220J
CF 232 Ceramic Filter	CTF1348		
X 151 918.5Hz	CSS1365	R 207	RS1/16S101J
X 231 Crystal Resonator 10.26MHz	CSS1111	R 208	RS1/16S102J
VR 154 Semi-fixed 150kΩ(B)	CCP1213	R 209	RS1/16S471J
AR 1	DSP-201M	R 214	RS1/16S822J
		R 215	RS1/16S822J
RESISTORS		R 217	RS1/16S102J
		R 231	RS1/16S272J
R 1	RS1/16S0R0J	R 232	RS1/16S473J
R 4	RS1/16S154J	R 237	RS1/16S103J
R 5	RS1/16S391J	R 238	RS1/16S104J
R 6	RS1/16S223J		
R 7	RS1/16S123J	R 239	RS1/16S104J
		R 240	RS1/16S332J
		R 241	RS1/16S202J
		R 243	RS1/16S123J
		R 244	RS1/16S103J

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
R 247	RS1/16S123J	C 212	CEJA470M6R3
CAPACITORS		C 213	CKSRYB103K25
C 1	CCSQCH6R0D50	C 216	CCSRCH101J50
C 2	CCSRCK2R0C50	C 217	CEJA1R5M50
C 4	CCSRCH820J50	C 219	CCSRCH471J50
C 6	CCSRCH820J50	C 220	CKSRYB103K25
C 8	CKSRYB103K25	C 230	CKSRYB103K25
C 9	CKSQYB104K16	C 231	CCSRCH330J50
C 10	CCSRCKR50C50	C 232	CCSRCH150J50
C 11	CEJA1R0M50	C 233	CKSQYB104K16
C 12	CCSRCH100D50	C 234	CEJA330M10
C 13	CKSRYB222K50	C 235	CKSRYB332K50
C 14	CCSRCH220J50	C 236	CKSQYB473K16
C 16	CCSRCH8R0D50	C 237	CCSRCH120J50
C 17	CKSRYB222K50	C 239	CKSRYB472K50
C 18	CKSRYB103K25	C 240	CEJAR47M50
C 19	CKSRYB222K50	C 241	CKSQYB104K16
C 20	CKSRYB222K50	C 242	CEJAR47M50
C 21	CEJA100M16	C 243	CEJAR33M50
C 22	CCSRTH9R0D50	C 244	CKSQYB473K16
C 23	CCSRTH120J50	C 245	CKSRYB123K25
C 24	CCSRCH471J50	C 246	CKSQYB473K16
C 25	CKSRYB103K25	C 250	CCSRCH471J50
C 31	CKSRYB103K25	<b>B</b> Unit Number : CWE1485(ES)	
C 32	CKSQYB472K50	Unit Name : FM/AM Tuner Unit	
C 33	CCSRCH5R0C50	MISCELLANEOUS	
C 34	CKSQYB104K16	IC 1	IC PA4023B
C 36	CCSRRH201J50	IC 2	IC PA4024A
C 51	CKSRYB223K25	Q 1	Transistor 2SC2412KLN
C 52	CKSRYB103K25	Q 2	Transistor DTC124EU
C 54	CCSRCH470J50	Q 3	FET 3SK263
C 55	CKSQYB223K25	Q 31	Transistor 2SC2412KLN
C 56	CKSQYB104K16	Q 201	FET 2SK932
C 57	CKSRYB472K50	Q 202	Transistor 2SC2412KLN
C 58	CEJA330M10	Q 203	Transistor DTC124EU
C 59	CKSRYB103K25	D 1	Diode RD39JS
C 61	CCSRCH270J50	D 2	Diode RD39JS
C 62	CKSRYB103K25	D 4	Diode 1SV250
C 63	CEJAR15M50	D 5	Diode KV1410-F1
C 101	CEJANP100M10	D 6	Diode MA157
C 102	CKSRYB182K50	D 7	Diode KV1410-F1
C 103	CKSRYB682K25	D 8	Diode KV1410-F1
C 104	CEJA2R2M50	D 201	Diode MA157
C 105	CKSRYB103K25	D 202	Diode MA157
C 106	CCSRCH151J50	D 231	Diode SVC253
C 107	CKSRYB103K25	L 2	Coil CTC1108
C 151	CKSRYB472K50	L 3	Inductor LCTB2R2K2125
C 152	CKSQYB104K16	L 4	Coil CTC1108
C 153	CEJA3R3M50	L 5	Coil CTC1107
C 154	CKSQYB104K16	L 6	Inductor LCTBR15K1608
C 157	CEJA3R3M50	L 51	Ferri-Inductor LAU150K
C 158	CKSYB474K16	L 201	Ferri-Inductor LAU4R7K
C 159	CEJA220M6R3	L 202	Ferri-Inductor LAU330K
C 160	CKSQYB104K16	L 203	Inductor CTF1287
C 161	CKSQYB104K16	L 208	Inductor LAU121K
C 162	CEJA3R3M50	L 231	Inductor LCTA3R3J3225
C 163	CKSRYB102K50	T 31	Coil CTE1117-B-TX
C 170	CCSRCH100D50	T 51	Coil CTC1136-A-TX
C 201	CCSRCH471J50	CF 51	Ceramic Filter CTF1290
C 202	CCSRCH100D50	CF 52	Ceramic Filter CTF1290
C 203	CKSRYB332K50	CF 53	Ceramic Filter CTF1290
C 204	CKSQYB473K16	CF 232	Ceramic Filter CTF1348
C 205	CKSQYB473K16	X 151	918.5Hz CSS1365
C 206	CKSQYB104K16	X 231	Crystal Resonator 10.26MHz CSS1111
C 207	CCSRCH560J50	VR 154	Semi-fixed 150kΩ(B) CCP1213
C 209	CKSQYB104K16		
C 211	CCSRCH101J50		

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
<b>RESISTORS</b>		<b>CAPACITORS</b>	
R 1	RS1/16S225J	C 1	CCSQCH6R0D50
R 2	RS1/16S225J	C 2	CCSRCK2R0C50
R 4	RS1/16S154J	C 4	CCSRCH820J50
R 5	RS1/16S391J	C 6	CCSRCH820J50
R 6	RS1/16S223J	C 8	CKSRYB103K25
R 7	RS1/16S123J	C 9	CKSQYB104K16
R 8	RS1/16S332J	C 10	CCSRCKR50C50
R 9	RS1/16S473J	C 11	CEJA1R0M50
R 10	RS1/16S223J	C 12	CKSRYB222K50
R 11	RS1/16S124J	C 13	CKSRYB222K50
R 13	RS1/16S563J	C 14	CCSRCH220J50
R 15	RS1/16S271J	C 15	CCSRCH6R0D50
R 16	RS1/16S104J	C 16	CCSRCH8R0D50
R 17	RS1/16S332J	C 17	CKSRYB222K50
R 18	RS1/16S332J	C 18	CKSRYB103K25
R 31	RS1/16S470J	C 19	CKSRYB222K50
R 32	RS1/16S822J	C 20	CKSRYB222K50
R 33	RS1/16S822J	C 21	CEJA100M16
R 34	RS1/16S331J	C 22	CCSRTH9R0D50
R 35	RS1/16S331J	C 23	CCSRTH120J50
R 51	RS1/16S271J	C 24	CCSRCH471J50
R 52	RS1/16S560J	C 25	CKSRYB103K25
R 55	RS1/16S102J	C 31	CKSRYB103K25
R 56	RS1/16S823J	C 32	CKSQYB472K50
R 61	RS1/16S392J	C 33	CCSRCH5R0C50
R 62	RS1/16S273J	C 34	CKSQYB104K16
R 101	RS1/16S272J	C 36	CCSRRH201J50
R 102	RS1/16S682J	C 51	CKSRYB223K25
R 103	RS1/16S333J	C 52	CKSRYB103K25
R 104	RS1/16S334J	C 54	CCSRCH470J50
R 105	RS1/16S683J	C 55	CKSQYB223K25
R 107	RS1/16S222J	C 56	CKSQYB104K16
R 151	RS1/16S222J	C 57	CKSRYB472K50
R 152	RS1/16S393J	C 58	CEJA330M10
R 155	RS1/16S273J	C 59	CKSRYB103K25
R 156	RS1/16S243J	C 60	CKSRYB102K50
R 157	RS1/16S203J	C 61	CCSRCH270J50
R 160	RS1/16S222J	C 62	CKSRYB103K25
R 161	RS1/16S563J	C 63	CEJAR22M50
R 162	RS1/16S105J	C 101	CEJANP100M10
R 163	RS1/16S223J	C 102	CKSRYB182K50
R 202	RS1/16S223J	C 103	CKSRYB682K25
R 203	RS1/16S225J	C 104	CEJA2R2M50
R 204	RS1/16S103J	C 105	CKSRYB103K25
R 206	RS1/16S220J	C 106	CCSRCH151J50
R 207	RS1/16S101J	C 107	CKSRYB103K25
R 208	RS1/16S102J	C 151	CKSRYB472K50
R 209	RS1/16S471J	C 152	CKSQYB104K16
R 214	RS1/16S822J	C 153	CEJA3R3M50
R 215	RS1/16S822J	C 154	CKSQYB104K16
R 217	RS1/16S102J	C 157	CEJA3R3M50
R 231	RS1/16S272J	C 158	CKSYB474K16
R 232	RS1/16S473J	C 159	CEJA220M6R3
R 237	RS1/16S103J	C 160	CKSQYB104K16
R 238	RS1/16S104J	C 161	CKSQYB104K16
R 239	RS1/16S104J	C 162	CEJA3R3M50
R 240	RS1/16S332J	C 163	CKSRYB102K50
R 241	RS1/16S202J	C 170	CCSRCH100D50
R 243	RS1/16S183J	C 201	CCSRCH471J50
R 244	RS1/16S392J	C 202	CCSRCH100D50
R 247	RS1/16S123J	C 203	CKSRYB332K50
		C 204	CKSQYB473K16
		C 205	CKSQYB473K16
		C 206	CKSQYB104K16
		C 207	CCSRCH560J50





====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
L 604 Inductor	CTF1420	R 150	RS1/10S121J
L 801 Ferri-Inductor	LAU2R2K	R 151	RS1/10S103J
L 810 Inductor	CTF1420	R 171	RS1/10S471J
L 811 Inductor	CTF1420	R 172	RS1/8S751J
L 812 Inductor	CTF1420	R 173	RS1/10S103J
L 901 Inductor	LCTB2R2K3216	R 174	RS1/10S273J
CF 201 Filter	CTF1071	R 175	RS1/10S104J
X 401 Crystal Resonator 7.200MHz	CSS1379	R 176	RS1/10S104J
X 501 Crystal Resonator	See Contrast Table	R 177	RS1/10S222J
X 601 12.58291MHz	CSS1402	R 178	RS1/10S561J
IL 801 Lamp 14V40mA	CEL1359	R 201	RS1/10S331J
VR 501 Semi-fixed	See Contrast Table	R 202	RS1/10S331J
FU 801 Fuze 0.4A	ICP-N10	R 203	RS1/10S331J
BV 601 Buzzer	CPV1011	R 204	RS1/10S331J
	DSP Unit	R 205	RS1/10S331J
	ASL Unit	R 206	RS1/10S331J
	FM/AM Tuner Unit	R 207	RS1/10S0R0J
		R 208	RS1/10S0R0J
		R 209	RS1/10S561J
		R 210	RS1/10S561J
RESISTORS			
R 101	RS1/10S102J		
R 102	RS1/10S102J	R 211	RS1/10S223J
R 103	RS1/10S473J	R 212	RS1/10S223J
R 104	RS1/10S473J	R 213	RS1/10S0R0J
R 105	RS1/10S102J	R 214	RS1/10S0R0J
		R 215	RS1/10S561J
R 106	RS1/10S102J		
R 107	RS1/10S473J	R 216	RS1/10S561J
R 108	RS1/10S473J	R 217	RS1/10S223J
R 109	RS1/10S473J	R 218	RS1/10S223J
R 110	RS1/10S473J	R 219	RS1/10S0R0J
		R 220	RS1/10S0R0J
R 111	RS1/10S122J		
R 112	RS1/10S122J	R 221	RS1/10S561J
R 113	RS1/10S362J	R 222	RS1/10S561J
R 114	RS1/10S362J	R 223	RS1/10S223J
R 115	RS1/10S332J	R 224	RS1/10S223J
		R 251	RS1/10S103J
R 116	RS1/10S332J		
R 117	RS1/10S473J	R 316	RN1/10SE4702D
R 118	RS1/10S473J	R 317	RN1/10SE4702D
R 119	RS1/10S102J	R 401	See Contrast Table
R 120	RS1/10S102J	R 402	RS1/10S102J
		R 403	RS1/10S103J
R 125	RS1/10S473J		
R 126	RS1/10S473J	R 404	RS1/10S680J
R 127	RS1/10S473J	R 405	See Contrast Table
R 128	RS1/10S473J	R 406	See Contrast Table
R 129	RS1/10S473J	R 407	RS1/10S103J
		R 408	See Contrast Table
R 130	RS1/10S473J		
R 131	RS1/10S102J	R 409	RS1/10S392J
R 132	RS1/10S102J	R 410	RS1/16S392J
R 133	RS1/10S103J	R 411	See Contrast Table
R 134	RS1/10S103J	R 412	See Contrast Table
		R 413	RS1/10S102J
R 135	RS1/10S103J		
R 136	RS1/10S103J	R 414	See Contrast Table
R 137	RS1/10S103J	R 415	See Contrast Table
R 138	RS1/10S103J	R 416	See Contrast Table
R 139	RS1/10S103J	R 417	See Contrast Table
		R 418	See Contrast Table
R 140	RS1/10S103J		
R 141	RS1/10S331J	R 419	RS1/10S222J
R 142	RS1/10S331J	R 420	RS1/16S222J
R 143	RS1/10S331J	R 421	RS1/16S102J
R 144	RS1/10S331J	R 422	See Contrast Table
		R 423	RS1/10S0R0J
R 145	RS1/16S102J		
R 146	RS1/16S102J	R 424	RS1/16S222J
R 147	RS1/16S102J	R 426	RS1/16S222J
R 148	RS1/16S102J	R 427	RS1/16S562J
R 149	RS1/10S103J	R 428	See Contrast Table
		R 429	RS1/16S473J

# KEH-P9700R,P9750

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
R 430	RS1/16S393J	R 644	RS1/16S223J
R 431	See Contrast Table	R 645	RS1/16S473J
R 432	RS1/10S473J	R 646	RS1/10S472J
R 433	See Contrast Table	R 647	RS1/10S473J
R 434	See Contrast Table	R 648	RS1/10S103J
R 435	See Contrast Table	R 649	RS1/16S473J
R 436	See Contrast Table	R 650	RS1/16S472J
R 437	See Contrast Table	R 651	RS1/16S102J
R 438	See Contrast Table	R 652	RS1/16S472J
R 439	See Contrast Table	R 653	RS1/8S153J
R 440	See Contrast Table	R 654	RS1/10S102J
R 441	See Contrast Table	R 655	RS1/16S152J
R 442	RS1/16S224J	R 656	RS1/16S152J
R 443	See Contrast Table	R 657	RS1/16S473J
R 501	See Contrast Table	R 658	RS1/16S272J
R 503	See Contrast Table	R 659	RS1/16S223J
R 504	See Contrast Table	R 660	RS1/16S473J
R 506	See Contrast Table	R 661	RS1/16S272J
R 507	See Contrast Table	R 662	RS1/16S223J
R 508	See Contrast Table	R 663	RS1/16S103J
R 509	See Contrast Table	R 664	RS1/16S473J
R 510	See Contrast Table	R 665	RS1/16S272J
R 511	See Contrast Table	R 666	RS1/16S223J
R 512	See Contrast Table	R 667	RS1/16S223J
R 513	See Contrast Table	R 668	RS1/16S223J
R 514	See Contrast Table	R 669	RS1/16S103J
R 515	See Contrast Table	R 672	RS1/10S103J
R 516	See Contrast Table	R 673	RS1/10S103J
R 517	See Contrast Table	R 676	RS1/10S103J
R 601	RS1/16S472J	R 677	RS1/10S102J
R 602	RS1/16S473J	R 678	RS1/16S102J
R 603	RS1/10S473J	R 679	RS1/16S102J
R 606	RS1/16S473J	R 680	RS1/16S102J
R 607	RS1/16S473J	R 681	RS1/16S102J
R 608	RS1/16S473J	R 682	RS1/16S102J
R 609	RS1/16S473J	R 683	RS1/16S473J
R 610	RS1/16S473J	R 684	RS1/16S101J
R 611	RA4C221J	R 685	RS1/16S102J
R 615	RS1/16S221J	R 686	RS1/16S102J
R 616	RS1/16S473J	R 687	RS1/4S0R0J
R 617	RS1/16S473J	R 688	RS1/16S223J
R 618	RS1/16S473J	R 751	RA3C473J
R 619	RS1/16S681J	R 752	RA3C473J
R 620	See Contrast Table	R 753	RS1/10S243J
R 621	See Contrast Table	R 754	RS1/10S243J
R 622	See Contrast Table	R 755	RS1/10S473J
R 623	RS1/16S473J	R 756	RS1/10S473J
R 624	RS1/16S393J	R 757	RA3C222J
R 625	RS1/16S473J	R 758	RA4C222J
R 626	RA4C681J	R 759	RA4C222J
R 627	RS1/16S102J	R 760	RA4C681J
R 628	RS1/16S473J	R 761	RS1/10S0R0J
R 629	RS1/16S473J	R 802	RS1/8S472J
R 630	RS1/16S473J	R 804	RS1/8S222J
R 632	RS1/16S102J	R 805	RS1/8S222J
R 634	RS1/16S124J	R 806	RS1/8S222J
R 635	RS1/16S473J	R 807	RS1/16S103J
R 636	RS1/10S472J	R 808	RS1/8S222J
R 637	RS1/10S102J	R 809	RS2PMF330J
R 638	RS1/10S103J	R 810	RS1/10S472J
R 639	RS1/10S103J	R 811	RS1/10S1R0J
R 640	RS1/10S221J	R 812	RS1/10S104J
R 641	RS1/10S101J	R 813	RS1/10S222J
R 642	RS1/16S223J	R 814	RS1/4S152J
R 643	RS1/16S473J	R 820	RS1/4S152J

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
R 821	RS1/10S103J	C 218	CKSQYB102K50
R 822	RS1/10S224J	C 251	CEJAR22M50
R 823	RS1/10S222J	C 252	CEJAR22M50
R 824	RS1/10S104J	C 253	CEJAR22M50
R 901	RS1/10S101J	C 254	CEJAR22M50
R 902	RS1/10S152J	C 263	4700µF/16V
R 903	RS1/10S752J	C 264	CCH1178
R 904	RS1/16S472J	C 265	CKSQYB104K25
R 905	RS1/16S102J	C 266	CEJA1R0M50
R 906	RS1/16S102J	C 267	CEJA220M16
R 907	RS1/10S472J	C 312	CEJANP100M10
R 908	RS1/4S152J	C 401	CKSYB473K50
R 951	RS1/4S561J	C 402	CKSQYB102K50
R 952	RS1/10S102J	C 403	CKSQYB223K50
R 953	RS1/10S102J	C 405	See Contrast Table
R 954	RS1/10S152J	C 406	CKLSR473K16
		C 407	CKSQYB103K50
		C 408	See Contrast Table
		C 409	CCH1250
		C 410	CKSQYB103K50
CAPACITORS			
C 101	CEV2R2M50		
C 102	CEV2R2M50		
C 103	CCSQCH101J50	C 411	CCSQCH150J50
C 104	CCSQCH101J50	C 412	CCSQCH150J50
C 105	CCSQCH220J50	C 413	See Contrast Table
		C 414	See Contrast Table
		C 415	See Contrast Table
C 106	CCSQCH220J50		
C 107	CEJA100M16		
C 108	CEJA100M16	C 416	See Contrast Table
C 111	CEJA4R7M35	C 417	CKSRYB103K25
C 112	CEJA4R7M35	C 418	CKSQYB103K50
		C 419	CEJA220M10
		C 420	CKSQYB103K50
C 113	CCSQCH101J50		
C 114	CCSQCH101J50		
C 117	CKSQYB104K25	C 421	CKSQYB103K50
C 118	CEJA470M6R3	C 422	CKSQYB471K50
C 119	CEJA220M10	C 423	CKSQYB223K50
		C 424	See Contrast Table
		C 425	CKSRYB103K25
C 120	CEJA101M10		
C 121	CEJA330M10		
C 122	CKSQYB473K50	C 426	CKSRYB103K25
C 123	CEJA101M10	C 427	CCSRCH101J50
C 124	CKSQYB473K50	C 428	CEJA220M6R3
		C 429	CKSQYB473K50
		C 431	See Contrast Table
C 127	CCSQCH101J50		
C 128	CCSQCH101J50		
C 131	CCSQCH101J50	C 432	See Contrast Table
C 135	CKSQYB104K25	C 433	See Contrast Table
C 136	CKSQYB102K50	C 434	See Contrast Table
		C 435	See Contrast Table
		C 436	See Contrast Table
C 171	CKSQYB471K50		
C 172	CEJA101M10		
C 173	CEJANP4R7M16	C 437	See Contrast Table
C 201	CKSQYB222K50	C 501	See Contrast Table
C 202	CKSQYB222K50	C 502	See Contrast Table
		C 503	See Contrast Table
		C 504	See Contrast Table
C 203	CKSQYB222K50		
C 204	CKSQYB222K50		
C 205	CKSQYB222K50	C 506	See Contrast Table
C 206	CKSQYB222K50	C 507	See Contrast Table
C 207	CEJA100M16	C 508	See Contrast Table
		C 509	See Contrast Table
		C 510	See Contrast Table
C 208	CEJA100M16		
C 209	CKSQYB102K50		
C 210	CKSQYB102K50	C 511	See Contrast Table
C 211	CEJA100M16	C 512	See Contrast Table
C 212	CEJA100M16	C 513	See Contrast Table
		C 514	See Contrast Table
		C 515	See Contrast Table
C 213	CKSQYB102K50		
C 214	CKSQYB102K50		
C 215	CEJA100M16	C 601	CKSQYB223K50
C 216	CEJA100M16	C 602	CEJA4R7M35
C 217	CKSQYB102K50	C 603	CCSQCH200J50
		C 604	CCSQCH200J50
		C 605	CKSRYB104K16

# KEH-P9700R,P9750

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
C 606	CCSRCH470J50	C 901	1800µF/16V
C 608	CEJA2R2M50	C 902	
C 609	CKSRYB104K16	C 903	
C 610	CEJA330M10	C 904	
C 611	CKSQYB473K50	C 906	
C 612	CKSQYB473K50	C 907	
C 613	CKSQYB473K50	C 908	
C 614	CKSQYB473K50	C 909	
C 615	CEAL100M16	C 910	
C 616	CKSRYB103K25	C 911	330µF/10V
C 617	CKSRYB103K25	C 912	
C 618	CKSRYB103K25	C 913	
C 619	CSSRCH330J50	C 914	
C 620	CKSQYB473K50	C 915	
C 622	CKSQYB472K50	C 951	
C 751	CEJA100M16	C 952	
C 752	CEJA100M16	C 953	
C 801	CSSRCH101J50	C 954	
C 802	CSSQCH101J50	C 955	
C 803	See Contrast Table	C 956	
			CCH1313
			CKSRYB472K50
			CEJA470M10
			CKSRYB103K25
			CEJA100M16
			CEJA100M16
			CKSQYB104K25
			CEAS470M10
			CEJA101M10
			CCH1181
			CEAS470M10
			CKSQYB102K50
			CKSRYB102K50
			CEJA1R0M50
			CKSQYB103K50
			CKSYB105K16
			CEJA220M10
			CKSQYB222K50
			CKSRYB472K50
			CEJA220M10

## CONTRAST TABLE of TUNER AMP UNIT

KEH-P9700R/EW and KEH-P9750/ES have the same construction except for the following:

Symbol & Description	Part No.	
	KEH-P9700R/EW	KEH-P9750/ES
Tuner Amp Unit	CWM5781	CWM5782
IC401	PM2007A	PM2006A
IC501	PMW001B	Not Used
IC502	TA75S393F	Not Used
IC601	PD4903A	PD4904A
L501	LAU101K	Not Used
D401	MA152K	MA152WK
D402	MA152K	Not Used
Q403,Q404	2SD1757K	Not Used
Q405	IMH3A	Not Used
Q406	DTA114EK	Not Used
Q407	2SC2412K	Not Used
Q501	2SC2412K	Not Used
VR501	CCP1129 22kΩ(B)	Not Used
X501	CSS1056 4.332MHz	Not Used
FM/AM Tuner Unit	CWE1416	CWE1485
DSP Unit	CWX2237	CWX2238
C405	CKSRYB103K50	Not Used
C408	CCH1250 4.7µF/16V	Not Used
C413	CKSQYB103K50	Not Used
C414	CEJA220M6R3	Not Used
C415,C424	Not Used	CKSQYB103K50
C416	Not Used	CEJA220M6R3
C422	CKSQYB471K50	Not Used
C431,C432	CKSQYB223K50	CKSQYB473K50
C433,C434	CEJA1R0M50	Not Used
C435	CKSRYB223K50	Not Used
C436	CEJAR47M50	Not Used
C437	Not Used	CKSQYB154K16
C501	CKSRYB223K25	Not Used
C502,C504,C507,C512	CKSQYB104K25	Not Used
C503	CKSQYB223K50	Not Used
C506	CKSRYB222K50	Not Used
C508	CKSYB105K16	Not Used
C509	CKSRYB104K16	Not Used

Symbol & Description	Part No.	
	KEH-P9700R/EW	KEH-P9750/ES
C510	CKSQYB472K50	Not Used
C511	CEJA4R7M35	Not Used
C513,C514	CCSQCH220J50	Not Used
C515	CKSRYB103K25	Not Used
C803	CKSQYB104K25	CKSQYB104K16
R401	RS1/10S0R0J	RS1/10S152J
R405	RS1/16S222J	RS1/16S0R0J
R406	RS1/16S561J	RS1/16S182J
R408	RS1/10S152J	RS1/10S222J
R411	RS1/16S272J	RS1/16S102J
R412	RS1/16S472J	Not Used
R414	RS1/16S682J	RS1/16S472J
R415	RS1/10S682J	RS1/10S472J
R416	RS1/10S472J	RS1/10S152J
R417	RS1/10S222J	RS1/10S472J
R418,R422	RS1/10S0R0J	Not Used
R428	RS1/16S562J	Not Used
R431	RS1/10S105J	Not Used
R433,R434	RS1/10S272J	RS1/10S162J
R435,R436	Not Used	RS1/10S0R0J
R437,R438,R513,R514	RS1/16S222J	Not Used
R439,R440	RS1/16S223J	Not Used
R441-R443	RS1/16S224J	Not Used
R501	RS1/16S103J	Not Used
R503	RS1/10S562J	Not Used
R504	RS1/16S333J	Not Used
R506-R512	RS1/16S102J	Not Used
R515	RS1/10S684J	Not Used
R516	RS1/16S681J	Not Used
R517	RS1/16S562J	Not Used
R620-R622	Not Used	RS1/16S473J

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
ASL UNIT		R 302	RS1/10S222J
Consists of		R 303	RS1/10S683J
ASL PCB		R 304	RS1/10S103J
MIC PCB		R 305	RS1/10S472J
		R 306	RS1/10S471J
<b>CD</b> Unit Number : CWM5783		R 307	RS1/10S562J
Unit Name : ASL Unit		R 308	RS1/10S682J
MISCELLANEOUS		R 309	RS1/10S684J
IC 301 IC	NJM2068MD	R 310	RS1/10S472J
IC 302 IC	NJM2068MD	R 311	RS1/10S472J
IC 701 IC	CA0008AM	R 312	RS1/10S472J
IC 702 IC	TA2050S	R 313	RS1/10S153J
Q 301 Transistor	2SC2412K	R 314	RS1/10S153J
		R 315	RS1/10S102J
		R 605	RS1/10S473J
Q 701 Transistor	2SA1162		
Q 702 Transistor	DTC124EK	R 670	RS1/8S102J
D 307 Diode	MA3043(M)	R 671	RS1/8S102J
D 308 Diode	MA152K	R 701	RS1/10S222J
L 701 Inductor	LCTB3R3K2125	R 702	RS1/10S620J
		R 703	RS1/10S101J
S 601 Switch	CSH1048		
VR 301 Semi-fixed 10kΩ(B)	CCP1073	R 704	RS1/10S101J
MIC 301 Microphone	CPM1011	R 705	RS1/10S473J
		R 706	RS1/10S473J
RESISTORS		R 707	RS1/10S102J
		R 708	RS1/10S102J
R 121	RS1/10S222J		
R 122	RS1/10S222J	R 709	RS1/10S103J
R 123	RS1/10S362J	R 710	RS1/10S332J
R 124	RS1/10S362J	R 711	RS1/10S562J
R 301	RS1/10S561J	R 712	RS1/10S472J
		R 713	RS1/10S181J

# KEH-P9700R,P9750

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
R 714	RS1/10S181J	X 1901	Oscillator 3.77MHz
R 715	RS1/10S223J	S 1901	Switch
R 716	RS1/10S223J	S 1902	Switch
R 717	RS1/10S102J	S 1903	Switch
R 718	RS1/10S102J		
<b>CAPACITORS</b>			
C 109	CEJA4R7M35	S 1904	Switch
C 110	CEJA4R7M35	S 1906	Switch
C 301	CEAL330M10	S 1907	Switch
C 302	CEAL330M10	S 1908	Switch
C 303	CEJA470M10	S 1909	Switch
C 304	CSZSR68M20	S 1910	Switch
C 305	CEJA100M16	S 1911	Switch
C 306	CEJA470M10	S 1913	Switch
C 307	CEAL100M16	S 1914	Switch
C 308	CEJAR68M50	S 1915	Switch
C 309	CEJANP220M10	S 1916	Switch
C 310	CKSQYB823K25	VR 1901	Semi-fixed 220kΩ(B)
C 311	CEJANP100M16	VR 1902	Semi-fixed 220kΩ(B)
C 320	CCSQCH101J50	EL 1901	EL
C 701	CKSQYB104K25	LCD1901	LCD
C 702	CKSQYB104K25	<b>RESISTORS</b>	
C 703	CKSQYB102K50	R 1901	RS1/8S222J
C 704	CEJA100M16	R 1902	RS1/8S222J
C 705	CEJA1R0M50	R 1903	RS1/8S222J
C 706	CEJA1R0M50	R 1904	RS1/10S121J
C 707	CEJA1R0M50	R 1905	RS1/10S473J
C 708	CEJA1R0M50	R 1906	(ES) RS1/8S102J
C 709	CEJA100M16	R 1907	RS1/8S751J
		R 1908	RS1/10S103J
		R 1909	(ES) RS1/10S0R0J
		R 1910	RS1/8S751J
		R 1911	RS1/8S751J
		R 1912	RS1/8S102J
		R 1913	RS1/10S103J
		R 1914	(ES) RS1/10S0R0J
		R 1915	(EW) RS1/10S0R0J
		R 1916	RS1/8S751J
		R 1917	RS1/4S471J
		R 1918	RS1/10S103J
		R 1919	(ES) RS1/10S0R0J
		R 1920	(EW) RS1/10S0R0J
		R 1922	RS1/10S103J
		R 1923	(ES) RS1/10S0R0J
		R 1924	(ES) RS1/10S0R0J
		R 1927	RS1/10S473J
		R 1928	RS1/10S473J
		R 1929	RS1/10S473J
		R 1930	RS1/10S473J
		R 1931	RS1/16S470J
		R 1932	RS1/16S470J
		R 1935	RS1/10S473J
		R 1936	RS1/10S473J
		R 1937	RS1/10S103J
		R 1938	RS1/10S473J
		R 1939	RA4C101J
		R 1940	RS1/10S103J
		R 1941	RA4C101J
		R 1942	RS1/10S103J
		R 1943	RS1/10S473J
		R 1944	RS1/10S473J
		R 1945	RS1/10S473J
		R 1946	RA3C102J
		R 1947	RA3C102J
		R 1948	RA3C102J
		R 1950	RS1/10S624J
		R 1951	RS1/10S754J
		R 1952	RS1/10S624J
		R 1953	RS1/10S754J
		R 1954	RS1/10S471J
		R 1955	RS1/10S471J
		R 1956	RS1/10S471J
<b>MISCELLANEOUS</b>			
IC 1901 HIC	RS-140		
IC 1902 IC	PD6237C		
IC 1903 IC	SED1540F0A		
IC 1904 IC	SED1526F0A		
IC 1905 IC	SED1526F0A		
Q 1901 Transistor(EW)	IMH10A		
Q 1902 Transistor(EW)	IMH10A		
Q 1903 Transistor(EW)	IMH10A		
D 1901 Diode	MA153		
D 1902 Diode	MA153		
D 1903 Diode	MA153		
D 1904 Diode	MA152WA		
D 1905 LED(EW)	CL170PGCD		
D 1905 LED(ES)	CL170SBX		
D 1906 LED(EW)	CL170DCD		
D 1907 LED	CL170PGCD		
D 1909 LED	CL170PGCD		
D 1910 LED(EW)	CL170PGCD		
D 1910 LED(ES)	CL170SBX		
D 1911 LED(EW)	CL170DCD		
D 1912 LED	CL170PGCD		
D 1913 LED	CL170PGCD		
D 1914 LED	CL170PGCD		
D 1915 LED(EW)	CL170DCD		
D 1915 LED(ES)	CL170SBX		
D 1917 LED	CL170PGCD		
D 1918 LED	CL170PGCD		
D 1919 LED(EW)	CL170DCD		
D 1919 LED(ES)	CL170SBX		
D 1920 LED	CL170PGCD		
L 1901 Inductor	LCTA2R2J3225		
L 1902 Inductor	LCTB2R2K2125		
L 1903 Inductor	LCTB2R2K2125		
L 1904 Inductor	LCTB2R2K2125		
L 1905 Inductor	LCTA4R7J3225		

**E** Unit Number : CWM5688(EW)  
 Unit Name : Keyboard Unit

====Circuit Symbol & No.===Part Name		Part No.	====Circuit Symbol & No.===Part Name		Part No.	
R	1957	RS1/10S471J	L	3143	Inductor	CTF1420
R	1958	RS1/10S473J	L	3151	Inductor	CTF1410
R	1959	RS1/10S472J	L	3152	Inductor	CTF1410
R	1960	RS1/10S103J	L	3153	Inductor	CTF1410
R	1961	RS1/10S103J	L	3154	Inductor	CTF1410
R	1962	RS1/10S103J	L	3201	Inductor	CTF1410
R	1963	(ES) RS1/10S0R0J	L	3301	Inductor	CTF1410
R	1964	(ES) RS1/8S102J	L	3302	Inductor	CTF1410
R	1965	RS1/8S751J	L	3303	Inductor	CTF1410
R	1966	RS1/8S751J	L	3304	Inductor	CTF1410
R	1967	RS1/8S751J	L	3305	Inductor	CTF1410
R	1968	RS1/8S102J	L	3306	Inductor	CTF1410
R	1970	RS1/8S751J	X	3001	Osillator 10.0MHz	CSS1428
CAPACITORS			X	3101	Crystal Resonator 16.9344MHz	CSS1067
			X	3102	Crystal Resonator 32.0MHz	CSS1360
C	1901	CSZSR100M6R3	RESISTORS			
C	1902	(ES) CKSQYB104K50	R	3001		RS1/16S102J
C	1903	(ES) CKSQYB104K50	R	3002		RS1/16S102J
C	1904	(ES) CKSQYB104K50	R	3003		RS1/16S102J
C	1905	(ES) CKSQYB104K50	R	3004		RS1/16S681J
C	1906	CKSQYB103K50	R	3005		RS1/16S681J
C	1907	CKSQYB103K50				
C	1908	CKSQYB103K50	R	3006		RS1/16S681J
C	1909	CKSQYF105Z16	R	3007		RS1/16S681J
C	1910	CKSQYF105Z16	R	3008		RS1/16S681J
C	1911	CKSQYF105Z16	R	3011		RS1/16S102J
C	1912	CKSQYF105Z16	R	3012		RS1/16S102J
C	1913	CKSQYF105Z16	R	3015		RS1/16S473J
C	1914	CKSQYF105Z16	R	3016		RA3C102J
C	1915	CKSQYF105Z16	R	3018		RS1/16S102J
C	1916	CKSQYF105Z16	R	3019		RS1/16S102J
C	1917	CKSQYB103K50	R	3020		RS1/16S102J
C	1918	CSZS1R0M16	R	3021		RS1/16S102J
C	1919	CSZS1R0M16	R	3022		RS1/16S102J
C	1920	CSZS1R0M16	R	3023		RS1/16S102J
C	1921	CKSQYF105Z16	R	3024		RS1/16S102J
C	1922	CKSQYF105Z16	R	3025		RS1/16S102J
C	1923	CKSQYF105Z16	R	3026		RS1/16S102J
C	1924	CKSQYF105Z16	R	3027		RS1/16S102J
C	1925	CKSQYF105Z16	R	3028		RS1/16S102J
C	1926	CKSQYB103K50	R	3030		RS1/16S102J
C	1927	CSZS1R0M16	R	3031		RS1/16S102J
C	1928	CSZS1R0M16	R	3032		RS1/16S102J
C	1929	CSZS1R0M16	R	3033		RS1/16S473J
C	1934	CSZSR100M6R3	R	3034		RS1/16S473J
C	1935	CKSQYB104K16	R	3035		RS1/16S473J
C	1936	CSZSR100M6R3	R	3036		RS1/16S105J
			R	3037		RS1/16S102J
			R	3101		RS1/16S473J
			R	3102		RS1/16S473J
			R	3103		RA4C102J
			R	3104		RA4C102J
			R	3105		RA4C102J
			R	3106		RA4C102J
			R	3108		RA4C102J
			R	3109		RA4C102J
			R	3110		RA4C102J
			R	3111		RA4C102J
			R	3112		RS1/16S105J
			R	3113		RS1/16S105J
			R	3114		RS1/16S102J
			R	3115		RS1/16S102J
			R	3116		RS1/16S473J
			R	3131		RS1/16S0R0J
			R	3132		RS1/16S0R0J
			R	3133		RS1/16S0R0J
			R	3134		RS1/16S0R0J
			R	3141		RA3C103J
			R	3151		RSK1/16S151J
			R	3152		RSK1/16S151J
			R	3153		RSK1/16S151J
			R	3154		RSK1/16S151J
MISCELLANEOUS						
IC	3001	IC	PD5445A			
IC	3101	IC	AK7712AVT			
IC	3102	IC	TC9331F			
IC	3103	IC(M5M51016BTP-70LL)	GGC1325			
IC	3201	IC(EW)	AK4321VF			
IC	3201	IC(ES)	PE2001AF			
IC	3301	IC	PM0017AM			
L	3001	Inductor	CTF1410			
L	3002	Inductor	CTF1410			
L	3003	Inductor	CTF1410			
L	3004	Inductor	CTF1410			
L	3101	Inductor	CTF1410			
L	3102	Inductor	CTF1410			
L	3103	Inductor	CTF1410			
L	3104	Inductor	CTF1410			

**F** Unit Number : CWX2237(EW)  
 CWX2238(ES)  
 Unit Name : DSP Unit

# KEH-P9700R,P9750

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
R 3155	RSK1/16S151J	RESISTORS	
R 3156	RSK1/16S151J		
R 3160	RS1/10S0R0J		
CAPACITORS		R 251	RS1/16S333J
C 3002	CKSYB106K6R3	R 252	RS1/16S333J
C 3102	CKSOYB103K50	R 253	RS1/16S333J
C 3104	CCSRCH100D50	R 254	RS1/16S333J
C 3105	CCSRCH100D50	R 255	RS1/16S181J
C 3107	CKSYB106K6R3	R 256	RS1/16S181J
C 3108	CKSOYB104K16	R 257	RS1/16S183J
C 3109	CSZSR470M6R3	R 258	RS1/16S183J
C 3110	CKSOYB104K16	R 259	RS1/16S133J
C 3111	CKSYB106K6R3	R 260	RS1/16S133J
C 3112	CKSOYB104K16	R 261	RS1/16S274J
C 3113	CKSOYB103K50	R 262	RS1/16S274J
C 3114	CKSYB106K6R3	R 271	RS1/16S183J
C 3115	CCSQCH100J50	R 272	RS1/8S223J
C 3116	CCSQCH100J50	R 273	RS1/8S223J
C 3117	CKSYB106K6R3	R 274	RS1/8S103J
C 3119	CKSYB106K6R3	R 275	RS1/16S473J
C 3120	CKSOYB104K16	R 276	RS1/16S104J
C 3151	CKLSRB152K50	R 277	RS1/16S224J
C 3152	CKLSRB152K50	R 278	RS1/16S104J
C 3159	CKLSRR103K16	R 281	RS1/8S0R0J
C 3160	CKLSRR103K16	R 282	RS1/8S0R0J
C 3161	CKLSRR103K16	R 283	RS1/8S0R0J
C 3162	CKLSRR103K16	R 284	RS1/8S0R0J
C 3163	CKLSRR103K16	R 285	RS1/16S0R0J
C 3164	CKLSRR103K16	R 286	RS1/16S0R0J
C 3201	CKSYB106K6R3	R 288	RS1/16S0R0J
C 3203	CKSOYB104K16	R 289	RS1/16S0R0J
C 3205	CSZSR470M6R3	R 322	RS1/8S223J
C 3206	CKSOYB104K16	R 351	RS1/16S102J
C 3207	CKSYB106K6R3	R 352	RS1/16S102J
C 3301	CKSYB475K10	R 353	RS1/16S102J
C 3302	CKSYB475K10	R 354	RS1/16S102J
C 3303	CKSYB475K10	R 355	RS1/10S274J
C 3304	CKSYB475K10	R 356	RS1/10S202J
C 3305	CKSYB475K10	R 357	RS1/10S472J
C 3306	CKSYB475K10	R 358	RS1/10S103J
C 3307	CKSOYB104K16	R 359	RS1/10S103J
C 3308	CKSYB106K6R3	R 360	RS1/10S102J
C 3309	CKSOYB104K16	R 361	RS1/10S622J
<b>G</b> Unit Number : CWM5684		R 373	RS1/8S0R0J
Unit Name : MIC Jack Unit		R 374	RS1/8S0R0J
		R 375	RS1/8S0R0J
		R 401	RS1/16S273J
		R 402	RS1/16S223J
D 4601 LED	BR4361F	R 403	RS1/16S274J
		R 404	RS1/16S823J
		R 405	RS1/16S274J
<b>H</b> Unit Number : EWM1020		CAPACITORS	
Unit Name : Deck Unit		C 251	CKSRYB331K50
MISCELLANEOUS		C 252	CKSRYB331K50
IC 251 IC	HA12163	C 253	CKSRYB331K50
IC 351 IC	PA2020A	C 254	CKSRYB331K50
Q 271 Transistor	2SC4116	C 255	CKSRYB103K25
Q 351 Transistor	2SB1260	C 256	CKSRYB103K25
Q 352 Transistor	2SC4102	C 271	CKSRYB103K25
D 351 Diode	MA141K	C 272	CEV1R0M50
VR 301 Semi-fixed 33kΩ(B)	CCP1130	C 301	CKSOYB104K16
VR 302 Semi-fixed 33kΩ(B)	CCP1130	C 302	CKSYB474K16
		C 302	CKSYB474K16



====Circuit Symbol & No.====	Part Name	Part No.
C 309		CKSQYB104K16
C 310		CKSQYB104K16
C 351		CKSYB224K25
C 352		CKSQYB392K50
C 353		CKSQYB103K50
C 354		CKSQYB103K50
C 355		CKSYB104K50
C 356		CKSQYB103K50
C 401		CKSRYB182K50
C 402		CKSRYB822K25
C 403		CKSRYB333K16
C 404		CKSRYB471K50

**I** Unit Number :  
Unit Name : PCB Unit

S 1	Switch (Load)	ESG1004
S 2	Switch (70μS)	ESG1004
EGN 1	Photo-Interrupter	EGN1005
R 1	Resistor	RD1/4PM181J

**J** Unit Number :  
Unit Name : Reel PCB

EGN 2	Photo-Interrupter	EGN1006
EGN 3	Photo-Interrupter	EGN1006

**K** Unit Number :  
Unit Name : Switch PCB

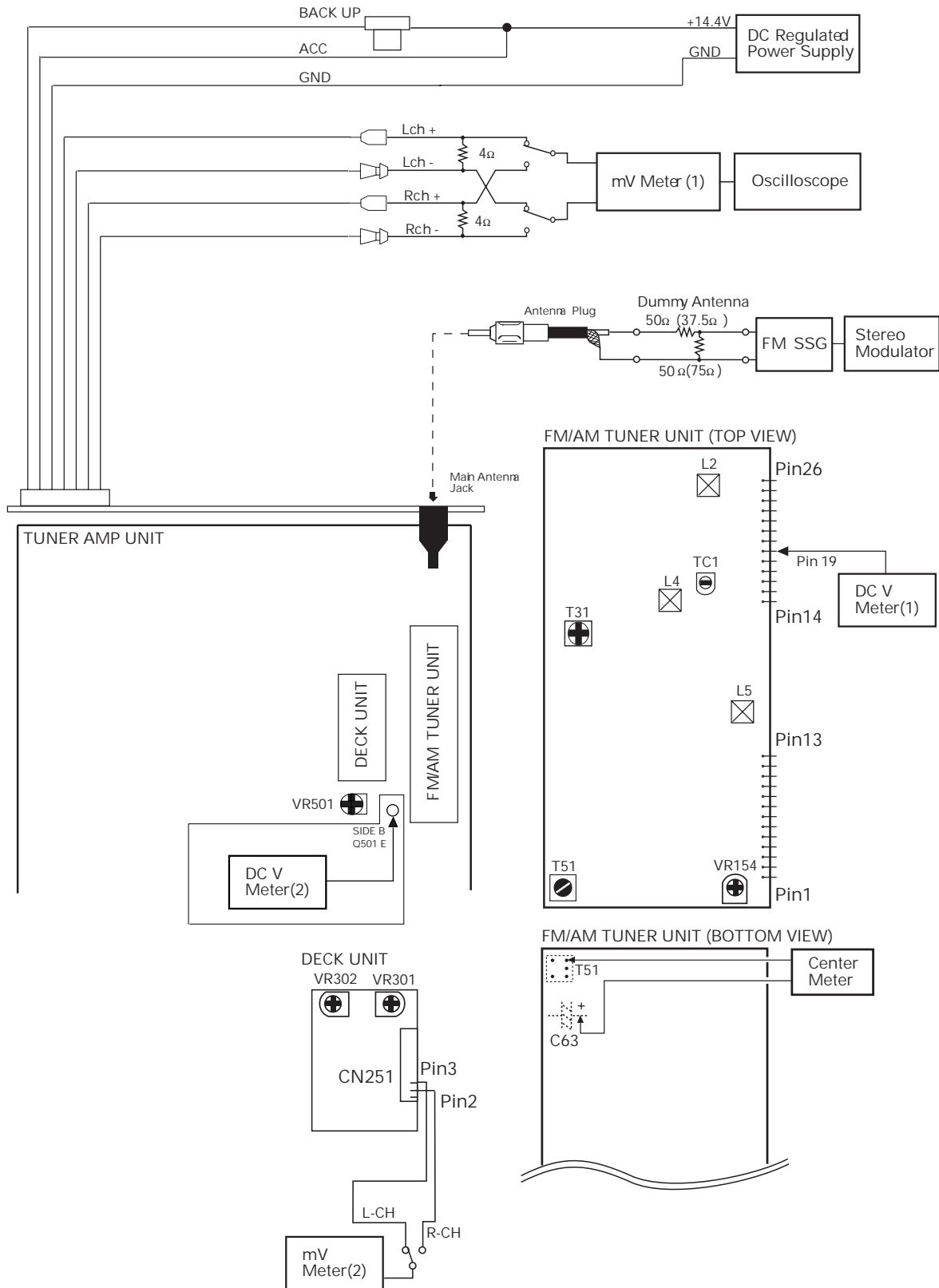
S 951	Switch	CSN1012
S 952	Switch	CSN1022

Miscellaneous Parts List

M 1	Motor Unit (Main)	EXA1454
M 2	Motor Unit (Sub)	EXA1485
HD 1	Head Assy	EXA1527
M 951	Motor	CXM1085

## 6. ADJUSTMENT

● Connection Diagram



Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.)

S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

**FM ADJUSTMENT(EW model)**

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	.....	.....	108.0	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
Image	1	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

**FM ADJUSTMENT(ES model)**

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	.....	.....	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

**RDS SL ADJUSTMENT**

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
	1	106.1 M	52	106.1	VR501	DC V Meter(2) : 2.25V±0.05V

**DOLBY B NR ADJUSTMENT**

No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : -8.24dB±1.0dB (DOLBY NR Switch : OFF)

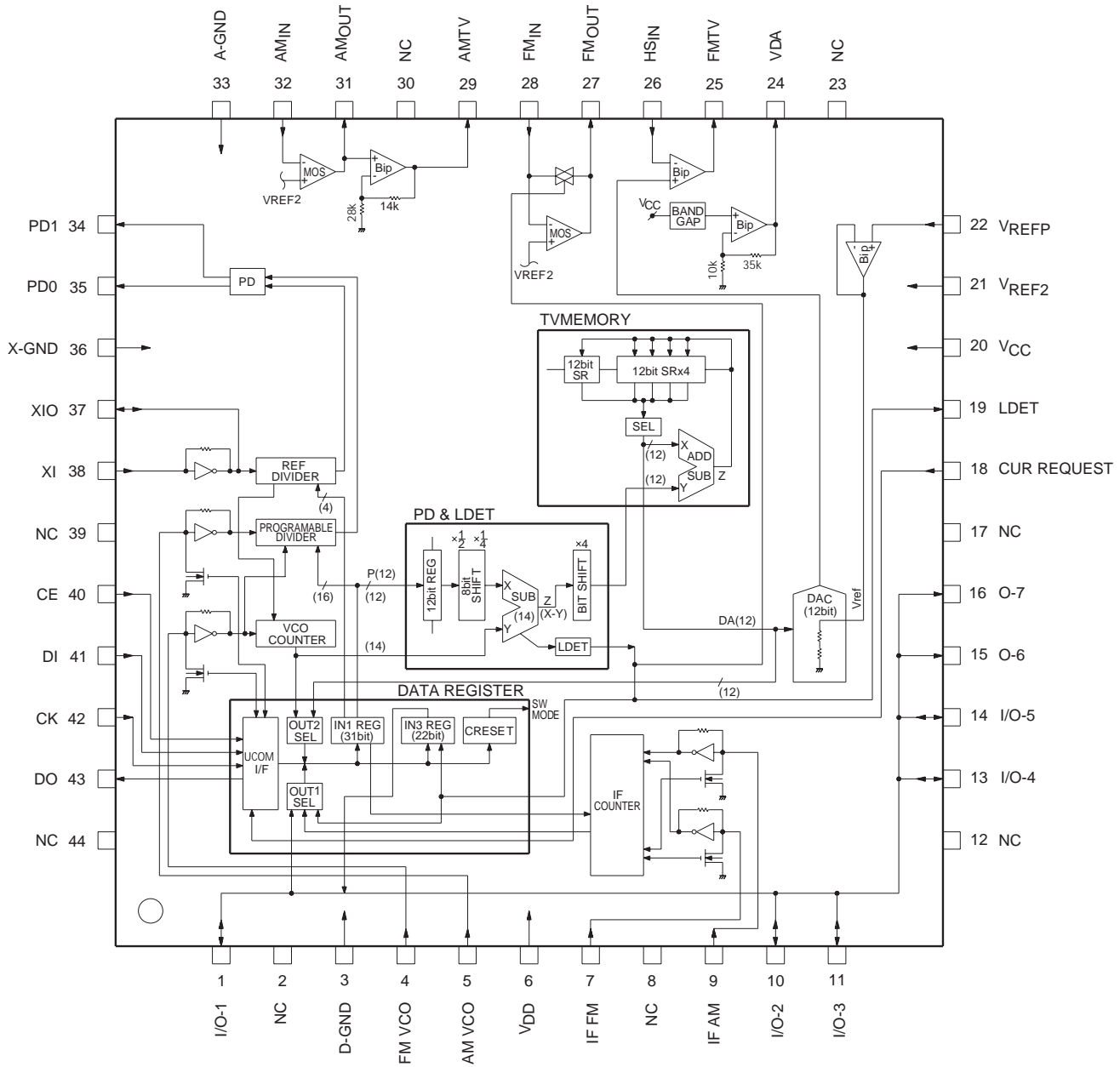
## 7. GENERAL INFORMATION

### 7.1 PARTS

#### 7.1.1 IC

PM2007A AK7712AVT  
 PD4903A GGC1325(M5M51016BTP-70LL)  
 PD6237C  
 SED1540F0A  
 SED1526F0A  
 PD5445C  
 PM0017AM  
 AK4321VF

PM2007A

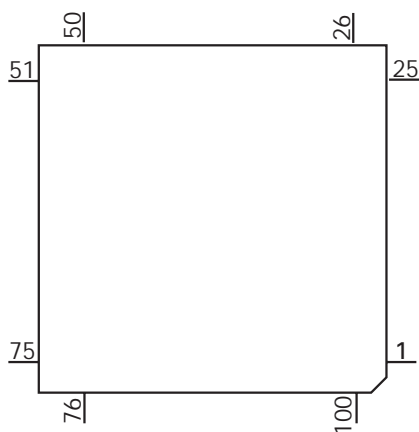


## ● Pin Functions (PD4903A)

Pin No.	Pin Name	I/O	Function and Operation
1	$\overline{\text{ISENS}}$	I	Illumination sense input
2	SYSPW	O	System power supply control output
3	LCDPW	O	CD power control
4	DIM	O	Dimmer select output
5	DRELAY	O	External relay output
6	DRSENS	I	Door open/close sense input
7	DRSYS	O	Door system select output
8	DLSENS	I	Door lock sense input
9	NC		Not used
10	$\overline{\text{MOSENS}}$	I	Motion/window damage sensor input
11	$\overline{\text{RESET}}$	I	Reset input
12	XT2		Not used
13	XT1		Connect to GND
14	VSS		GND
15	X2		Crystal oscillator connection pin
16	X1		Crystal oscillator connection pin
17	REGOFF		VDD
18	REGC		VDD
19	VDD		Power supply
20	ADSEL	I	Serial data audio source select input
21	ILMPW	O	Illumination power supply control output
22	$\overline{\text{MUTE}}$	O	Mute output
23	$\overline{\text{TMUTE}}$	O	Tuner mute output
24	SOR0	O	Source select output
25	SOR1	O	Source select output
26	SOR2	O	Source select output
27	SOR3	O	Source select output
28	FLPCLS	O	Flap motor close output
29	FLPOPN	O	Flap motor open output
30	$\overline{\text{FOPNSW}}$	I	Flap motor open switch input
31	$\overline{\text{FCLSSW}}$	I	Flap motor close switch put
32	FLPPW	O	Flap motor driver power ON/OFF output
33	$\overline{\text{MCSENS}}$	I	Microphone sennse input
34	$\overline{\text{CASENS}}$	I	Half load sense input
35	$\overline{\text{STD/PRO}}$	I	STD/PRO select input
36,37	NC		Not used
38	$\overline{\text{DLED}}$	O	Alarm LED output
39	$\overline{\text{PSENSE}}$	I	Grille button sense input
40	VSS		GND
41	VDD		Power supply
42	SWVDD	O	Grille power supply control output
43	$\overline{\text{DRST}}$	O	Reset output
44	$\overline{\text{MDSENS}}$	I	Modulation detect input
45	$\overline{\text{SK}}$	I	SK signal input
46	$\overline{\text{RDSLK}}$	I	RDS LK signal input
47	RDT	I	FROM data input
48	MSIN	I	MS sense
49	DIRO	O	Head F/R select output
50	PLAY	O	MS gain select output
51	$\overline{\text{MTLSW}}$	I	Metal sense input
52	BC	O	Dolby B/C select output
53	NR	O	NR output
54	$\overline{\text{LOADSW}}$	I	Tape loading input
55	POS	I	Position sense input
56	RES	I	Reverse end sense input
57	NES	I	Forward end sense input
58	SC2	O	Sub motor control output

Pin No.	Pin Name	I/O	Function and Operation
59	SC1	O	Sub motor control output
60	CM	O	Capstan motor control output
61	STBY	O	Stand-by output
62	PCL	O	Clock adjustment output
63	BRXEN	I/O	P-BUS reception enable input/output
64	BSRQ	O	P-BUS service request output pin
65	BSCK	I/O	P-BUS serial clock input/output
66	BSI	I	P-BUS serial data input
67	BSO	O	P-BUS output
68	BRST	O	P-BUS reset output
69	DSENS	I	Grille detach sense
70	ST	I	FM stereo input
71	ADPW	O	Control output for analog input reference power
72	DALMON	O	DFS alarm output
73	TEST	I	Test terminal
74	SL	I	SD level input from tuner
75	CL	I	Synchronizing signal input of display data latch
76	NL	I	Noise level input
77	SD	I	SD input
78	TESTIN	I	Test program mode input
79	IPPW	O	Power supply control output for IP BUS interface IC
80	ASENBO	O	Slave power supply control output
81	CURRQ	O	Tuner voltage FIX output
82,83	VDD		Power supply
84	GND		GND
85	RX	I	IP BUS data input
86	TX	O	Digital audio interface data output terminal
87	GND		GND
88	LDET	I	PLL lock sense input
89	RCK	I	FROM clock input
90	RDS57K	I	57kHzBP-OUT sense input
91	TELIN	I	Telephone mute input
92	ASENS	I	ACC power sense input
93	BSENS	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	KEYDT	I	Display data input
96	DPDT	O	Display data input
97	TUNPCK	O	PLL IC clock
98	TUNPDO	O	PLL IC data output
99	TUNPCE	O	PLL IC chip enable
100	PEE	O	Beep tone output

\*PD4903A



IC's marked by\* are MOS type.

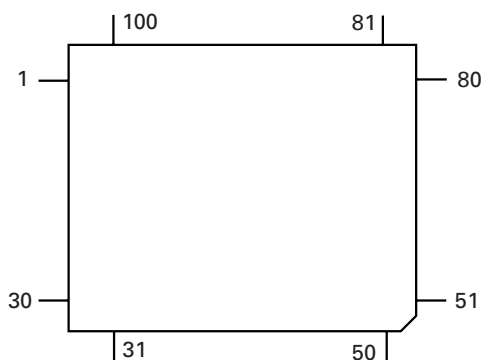
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

## ● Pin Functions (PD6237C)

Pin No.	Pin Name	I/O	Format	Function and Operation
1-9	NC	O	C	Not used
10	RDX	O	C	Address read strobe output
11	VSS	O	C	Digital GND
12	WRX	O	C	Address write strobe output
13-18	NC	O	C	Not used
19	KYDT	O	C	Key data for system micro-computer
20	DPDT	I		Display data from system micro-computer
21	SCDCLK	I		Test program clock
22	DATAOT	O	C	Test program data
23	Vcc			Digital GND
24	DATAIN	I		Test program data
25,26	NC	O	C	Not used
27	C		C	Reference voltage
28-33	NC	O		Not used
34	AVcc			Analog power supply
35,36	NC			Not used
37	AVSS			Analog GND
38	ILM1	O	C	Illumination control output 1
39	ILM2	O	C	Illumination control output 2
40,41	NC	O	C	Not used
42	GND			Digital GND
43-48	NC	O	C	Not used
49	MD0	I		mode pin 0 (PULL-UP)
50	MD1	I		mode pin 1 (PULL-UP)
51	MD2	I		mode pin 2 (PULL-DOWN)
52	HSTX	I		Hardware standby input (PULL-UP)
53	REMIN	I		Remote control pulse input
54-58	NC	O	C	Not used
59	KST0	O	C	Key scan output
60	KST1	O	C	Key scan output
61	KST2	O	C	Key scan output
62	KST3	O	C	Key scan output
63,64	NC	O	C	Not used
65	RES1	O	C	SED 1450 Reset output
66	RES2	O	C	SED 1526 Reset output
67	KDT0	I	C	Key data input
68	KDT1	I	C	Key data input
69	KDT2	I	C	Key data input
70	KDT3	I	C	Key data input
71-73	NC	O	C	Not used
74	OSC4K	O	C	SED 1540 Clock output
75,76	NC	O	C	Not used
77	NC	I		Not used
78	CS1	O	C	SED 1526 Chip select output
79	CS2	O	C	SED 1526 Chip select output
80	CS3	O	C	SED 1540 Chip select output
81	VSS			Digital GND
82	X0			Oscillator circuit
83	X1			Oscillator circuit
84	Vcc			Digital power supply
85	AD00	I/O	C	External data bus input/output
86	AD01	I/O	C	External data bus input/output
87	AD02	I/O	C	External data bus input/output
88	AD03	I/O	C	External data bus input/output
89	AD04	I/O	C	External data bus input/output
90	AD05	I/O	C	External data bus input/output
91	AD06	I/O	C	External data bus input/output
92	AD07	I/O	C	External data bus input/output
93	A0	O	C	External address output
94-100	NC	O	C	Not used

\*PD6237C

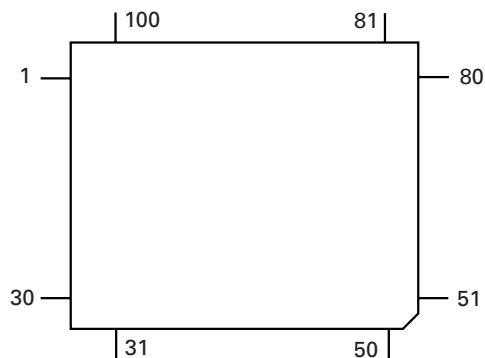
Format	Meaning
C	C MOS



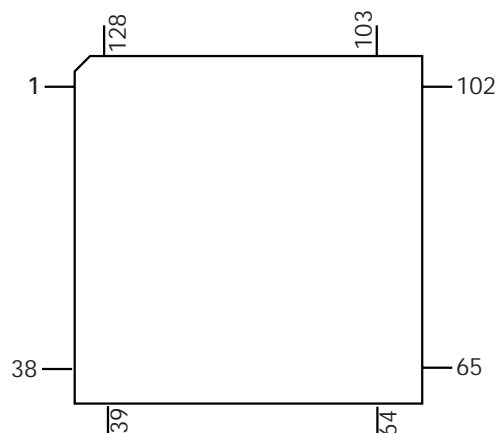
## ● Pin Functions (SED1540F0A)

Pin No.	Pin Name	I/O	Function and Operation
1-72	SEG71-0	O	Output for driving segment of LC
73	A0	I	Normally the lowest bit in the address bus of MPU is connected to distinguish between data and command.
74,75	OSC1,2		Terminal to connect resistor for internal oscillation
76	E(RD)	I	Enable clock input terminal of 68-system MPU Terminal to connect RD signal of 80-system MPU. While this signal is set to "L," data bus of SED1540 will be output.
77	R/W(WR)	I	Input terminal of read/write control signal Terminal to connect write signal of 80-system MPU
78	VSS		0V connect to system GND
79-86	DB0-7		8-bit duplex data bus to be connected to a data bus of 8-bit or 16-bit standard MPU
87	VDD		Connect to +5V power supply VDD
88	RES		Can be set to initial setting by setting RES to "L" when using 68-system MPU, or by setting RES to "H" when using 80-system MPU.
89	FR	I/O	Input/output terminal of LC alternating signal
90	V3		Multilevel power supply for driving LC
91	CS	I	Chip select signal. Normally, signal obtained by decoding address bus signal is input.
92	NC		Not used
93	M/S		Terminal to select between master and slave operation to SED1540. Connect to VDD or VSS.
94,95	V2,1		Multilevel power supply for driving LC
96-99	COM0-3	O	Output for LC common (low) driving
100	SEG72	I/O	Output for driving segment of LC

SED1540F0A



SED1526F0A

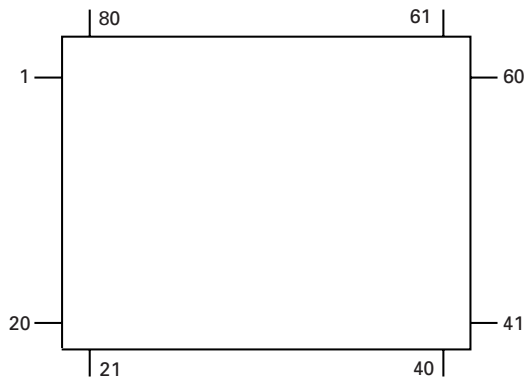




● Pin Functions (SED1526F0A)

Pin No.	Pin Name	I/O	Function and Operation
1-5	V1-V5		Multilevel power supply for driving LCD
6	VR	I	Voltage adjustment
7	VDD		+5V power supply
8	VOUT	O	Ascending voltage output
9	CAP2-	O	Ascending voltage capacitor connection
10	CAP2+	O	Not used
11	CAP1-	O	Ascending voltage capacitor connection
12	CAP2+	O	Ascending voltage capacitor connection
13	VSS		GND
14	M/S	I	IC master/slave operation select
15	SR2	I	MPU interface select, parallel/serial data input select and reset input
16	SR1	I	MPU interface select, parallel/serial data input select and reset input
17	WR	I	MPU WR signal connection
18	RD	I	MPU RD signal connection
19	CS2	I	Chip select signal
20	CS1	I	Chip select signal
21	A0	I	Data/command discrimination
22	FR	O	Not used
23	CL	O	Not used
24-31	D0-D7	I/O	Serial data bus
32-39	COM0-7	O	Output for LCD common driving
40-48	NC		Not used
49-110	SEG0-61	O	Output for driving segment of LCD
111-128	NC		Not used

\*PD5445C



Format	Meaning
C	C MOS

## ● Pin Functions (PD5445C)

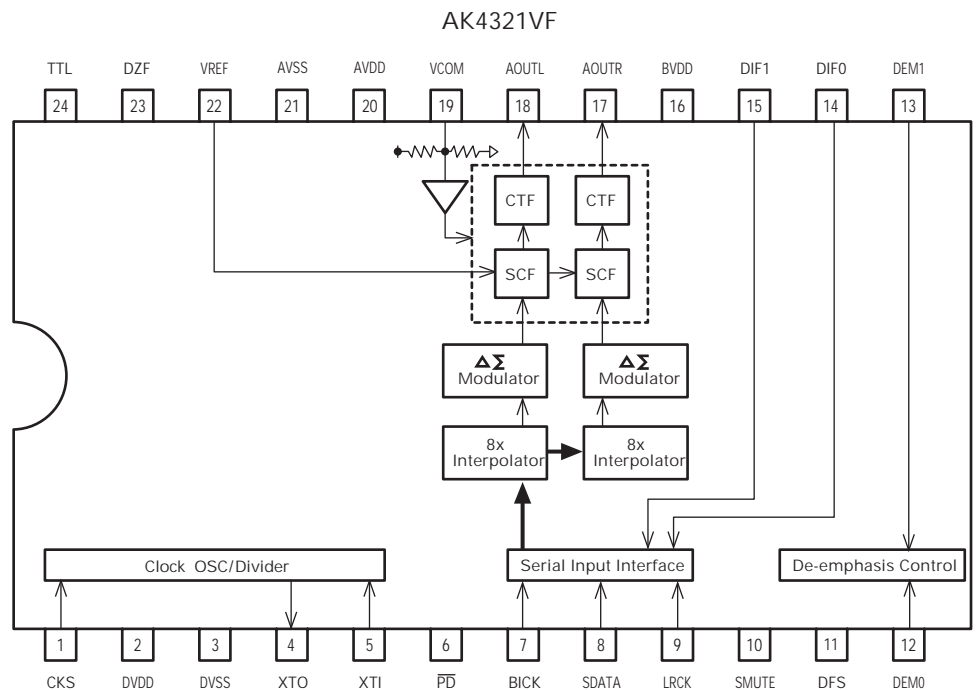
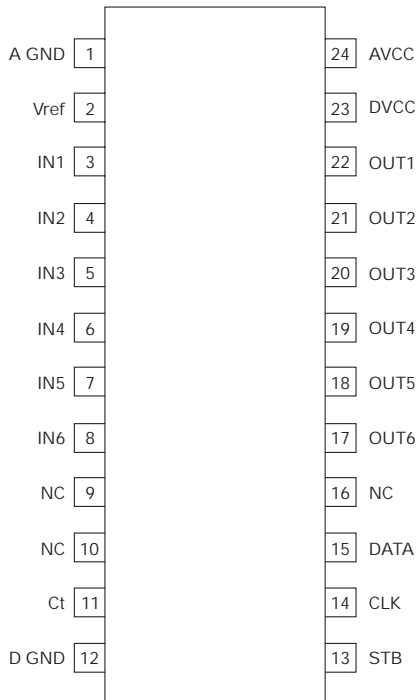
Pin No.	Pin Name	I/O	Format	Function and Operation
1	SPCK	I	C	Connect to GND
2	NC	O	C	Not used
3	VST	O	C	Electronic volume strobe output
4	VDT	O	C	Electronic volume data output
5	VCK	O	C	Electronic volume clock output
6	CNVss	I		Connect to Vss
7	MCKRQ	I	C	CD unit MCK request input
8	NC	O	C	Not used
9	RESET	I		Micro-computer hard reset input
10	Xout	O		System clock output
11	Vss	I		GND
12	Xin	I		System clock input
13	Vcc	I		Micro-computer power supply 5V
14	nmi	I	C	Connect to Vcc
15	BMUTEIN	I	C	CD unit LR clock supply data
16	SPRQ	I	C	Connect to GND
17	BRST	I	C	P-Bus reset input
18	ADTEST	I	C	A.EQ test mode start
19	MICSNS	I	C	A.EQ mic connection data
20	ADSEL	O	C	Signal/select input of A.EQ mic
21	MUTERQ	O	C	Hard mute output
22,23	NC	O	C	Not used
24	DSPOUT	O	C	DSP serial data output
25	DSPIN	I	C	DSP serial data input
26	DSPCK	O	C	DSP serial clock output
27	NC	O	C	Not used
28	BSO	O	C	P-BUS data output
29	BSI	I	C	P-BUS data input
30	BSCK	I/O	C	P-BUS serial clock input/output
31	NC	O	C	Not used
32	BSRQ	I/O	C	Service request input
33	BRXEN	I/O	C	Reception enable input
34,35	DSPERR1	I	C	Connect to GND
36	DZF1	I	C	Front digital 0 data input
37	DZF0	I	C	Rear digital 0 data input
38	DZF2	I	C	Sub woofer digital 0 data input
39	TESTIN	I	C	test program start/enable
40	DSPPW	O	C	DSP power supply switching
41	NGO	O	C	Noise gate ON/OFF
42-48	NC	O	C	Not used
49	FMUTE	O	C	Not used
50	SWMUTE	O	C	Not used
51	VOICE	I	C	Connect to GND
52-58	NC	O	C	Not used
59	IFHIZ	I	C	DSP micro-computer port Hi2 set (test mode port)
60	DSPRST	O	C	TC9331 hard reset
61	PD	O	C	AK7712 power down
62	AKRST	O	C	AK7712 reset
63	DSPCS2	O	C	AK7712 chip select
64	DSPCS1	O	C	TC9331 chip select
65	DSPRQ	O	C	AK7712 data output request
66	DSPCd	O	C	TC9331 command/data
67	DSPRDY	I	C	AK7712 data ready
68	DSPACK	I	C	DSP data write ready/ACK
69	SMODE	O	C	Ak7712 master/slave
70	EMPIN	I	C	CD unit emphasis data input
71	EMPOUT	O	C	DAC emphasis output
72	LRCK	O	C	LRCK/BCLK select

Pin No.	Pin Name	I/O	Format	Function and Operation
73	SDATAK	O	C	Audio data select:LRCKK inverted gate
74	NOISE	I		ASL noise input
75	AVss	I		Connect Vss
76	MCKOUT	O	C	CD MCLK gate control
77	Vref	I		AD select reference voltage input
78	AVcc	I		Connect to Vcc
79	MO/ST	I	C	Connect to GND
80	SPDT	O	C	Not used

● Pin Functions (PM0017AM)

Pin No.	Pin Name	Function and Operation
1	AGND	Analog GND
2	Vref	Reference voltage noise cut
3-8	IN1-6	CH1-6 input
9,10	NC	Note used
11	Ct	Terminal to set forced switching time
12	DGND	Digital GND
13	STB	Strobe input
14	CLK	Clock input
15	DATA	Data input
16	NC	Not used
17-22	OUT6-1	CH6-1 output
23	DVCC	Digital GND
24	AVCC	Analog GND

PM0017AM

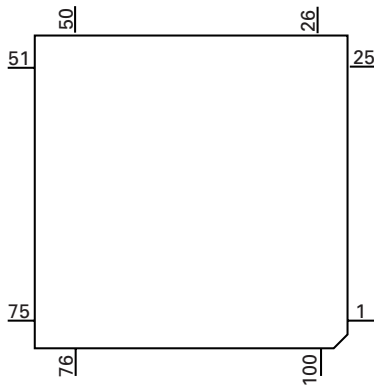


## ● Pin Functions (AK7712AVT)

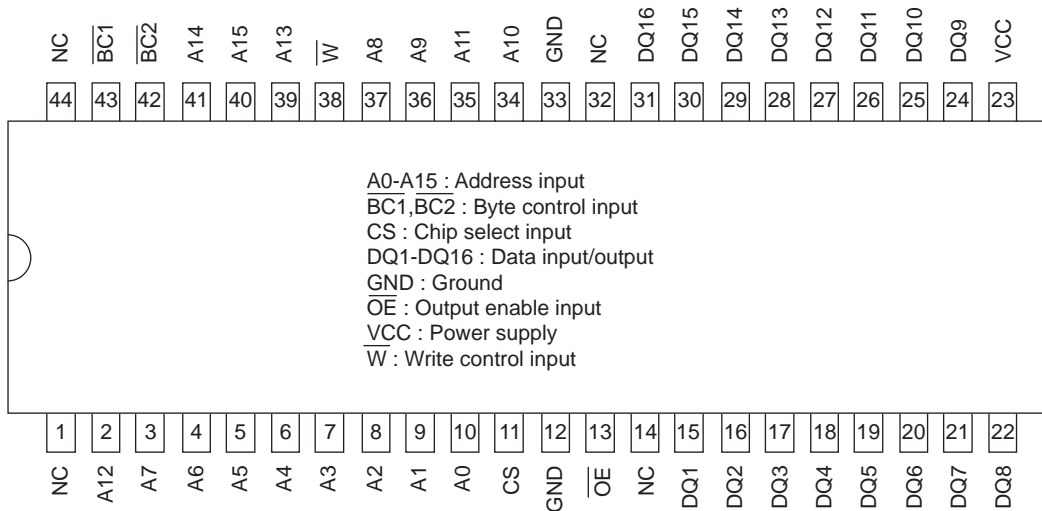
Pin No.	Pin Name	I/O	Function and Operation
1	TSTI1	I	Test input 1
2	OPCL	I	ADC,DAC connection select
3	$\overline{\text{PDAD}}$	I	AD reset control
4	$\overline{\text{PDDA}}$	I	DA reset control
5	$\overline{\text{PD}}$	I	Power down
6	$\overline{\text{RST}}$	I	Reset input
7	TSTIO1	I/O	Test input/output 1
8	TSTIO2	I/O	Test input/output 2
9	TSTIO3	I/O	Test input/output 3
10,11	DVB		Digital PCB power supply
12	SDIN2	I	Serial data input 2
13	SDAD	O	Serial data output 2
14	SDOUT2	O	Serial data output 3
15	SDDA	I	Serial data input 3
16	SDDA2	I	Serial data input 4
17	SDOUT3	O	Serial data output 4
18	SDOUT1	O	Serial data output 1
19	SDIN1	I	Serial data input 1
20	SMODE	I	Interface clock select
21	BCLK	I/O	Clock input/output for serial data input signal input/output
22	LRCK	I/O	L/R channel Identification Signal input/output
23	CLKO	O	Master clock output
24	DVDD		Digital power supply
25	DVSS		Digital GND
26	XTI	I	Clock input
27	XTO	O	Oscillator output
28	TSTI2	I	CLKO output control
29	$\overline{\text{CS}}$	I	Chip select input for micro-computer interface
30	$\overline{\text{WRQ}}$	I	Command register reset input for micro-computer interface
31	DVSS		Digital GND
32	DVDD		Digital power supply
33	SCLK	I	Serial data input clock input for micro-computer interface
34	SI	I	Serial data input for micro-computer interface
35	WRDY	O	Data write ready output for micro-computer interface
36	DRDY	O	Output data ready output for micro-computer interface
37	SO	O	Serial data output for micro-computer interface
38	$\overline{\text{CASRF}}$	O	External DRAM CAS/pseudo SRAM refresh
39	$\overline{\text{RASCE}}$	O	External DRAM RAS/pseudo SRAM-ce
40	$\overline{\text{WE}}$	O	External SRAM/pseudo SRAM/DRAM write signal output
41-48	A16-A9	O	External RAM address output
49	DVSS		Digital GND
50	DVDD		Digital power supply
51-59	A8-A0	O	External RAM address output
60	$\overline{\text{OE}}$	O	External SRAM/pseudo SRAM/DRAM output enable signal output
61-68	IO0-IO7	I/O	External RAM data input/output
69	DVSS		Digital GND
70	DVDD		Digital power supply
71	DZFSET	I	Zero position detect setup
72	DVSS		Digital GND
73	DVDD		Digital power supply
74,75	DVB		Digital PCB power supply
76	DZF2	O	Zero input detect (DAC2)
77	DZF1	O	Zero input detect (DAC1)
78	NC		Not used
79	AVB		Analog PCB power supply
80	AOUTR2	O	DAC2 Rch analog output 2
81	AOUTL2	O	DAC2 Lch analog output 2
82	NC		Not used

Pin No.	Pin Name	I/O	Function and Operation
83	AOUTR1	O	DAC1 Rch analog output 1
84	AOUTL1	O	DAC1 Lch analog output 1
85	VRDAL	I	DAC reference voltage input
86	AVSS		Analog GND
87	AVDD		Analog power supply
88	VRDAH	I	DAC reference voltage input
89	NC		Not used
90	AINR-	I	ADC Rch analog inverted input
91	AINR+	I	ADC Rch analog input
92	AINL-	I	ADC Lch analog inverted input
93	AINL+	I	ADC Lch analog input
94	VCOM	O	Common voltage
95	VRADL	I	ADC reference voltage input
96	AVSS		Analog GND
97	AVDD		Analog power supply
98	VRADH	I	ADC reference voltage input
99	AVB		Analog PCB power supply
100	NC		Not used

AK7712AVT



GGC1325(M5M51016BTP-70LL)



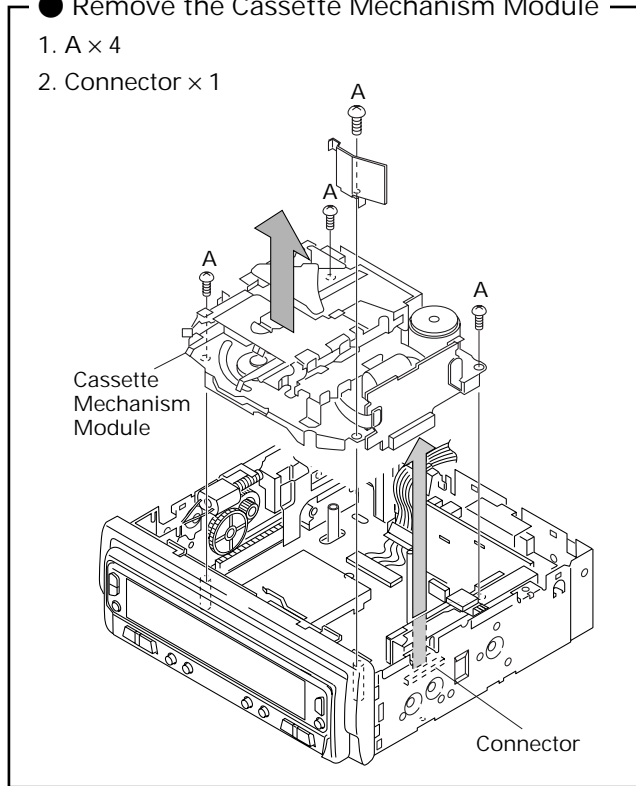
## 7.2 DIAGNOSIS

### 7.2.1 DISASSEMBLY

- Remove the Case (Not shown)

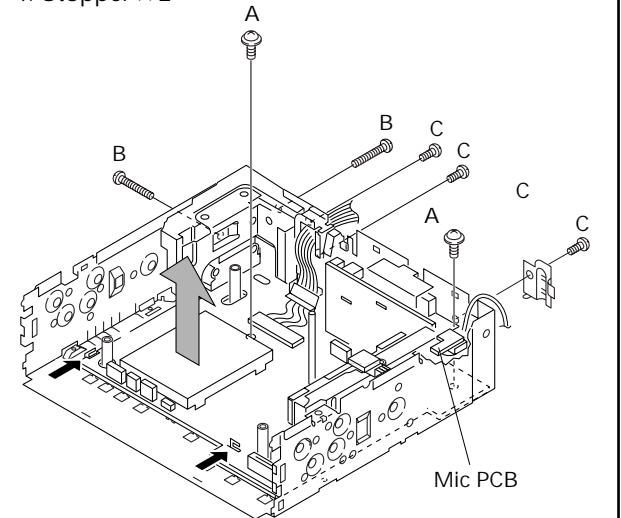
- Remove the Cassette Mechanism Module

1. A × 4
2. Connector × 1



- Remove the Tuner Amp Unit

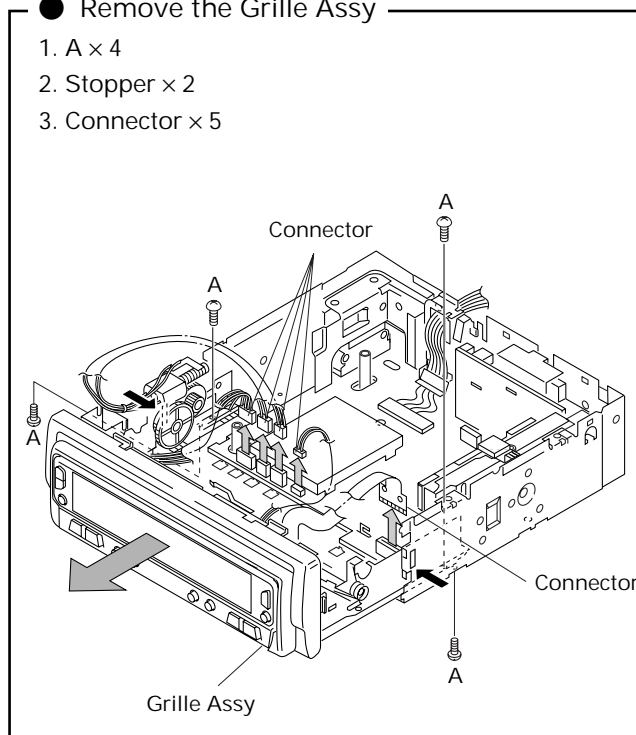
1. A × 2
2. B × 2
3. C × 4
4. Stopper × 2



Note : Pull up and remove with Mic PCB.  
(Be careful connecting for Connector.)

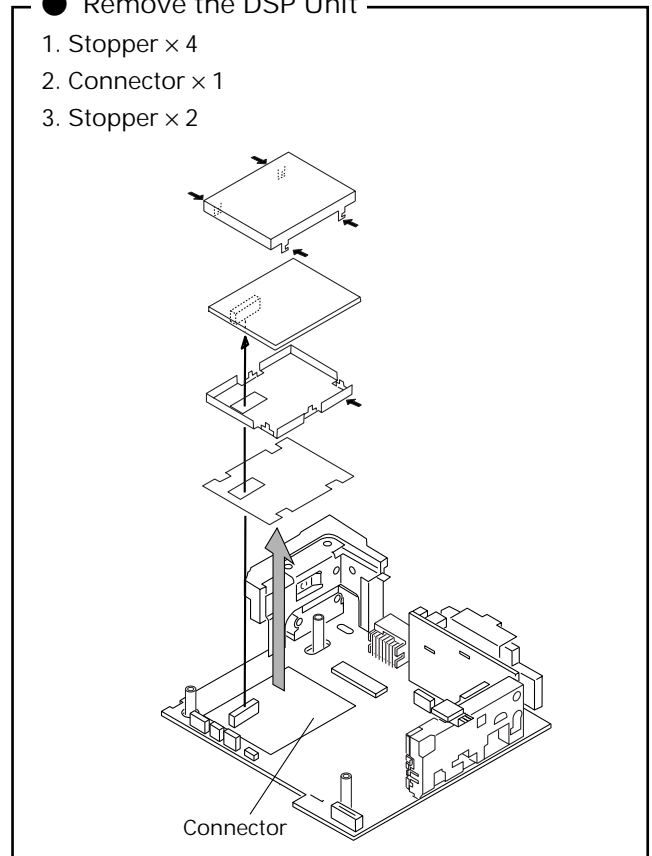
- Remove the Grille Assy

1. A × 4
2. Stopper × 2
3. Connector × 5



- Remove the DSP Unit

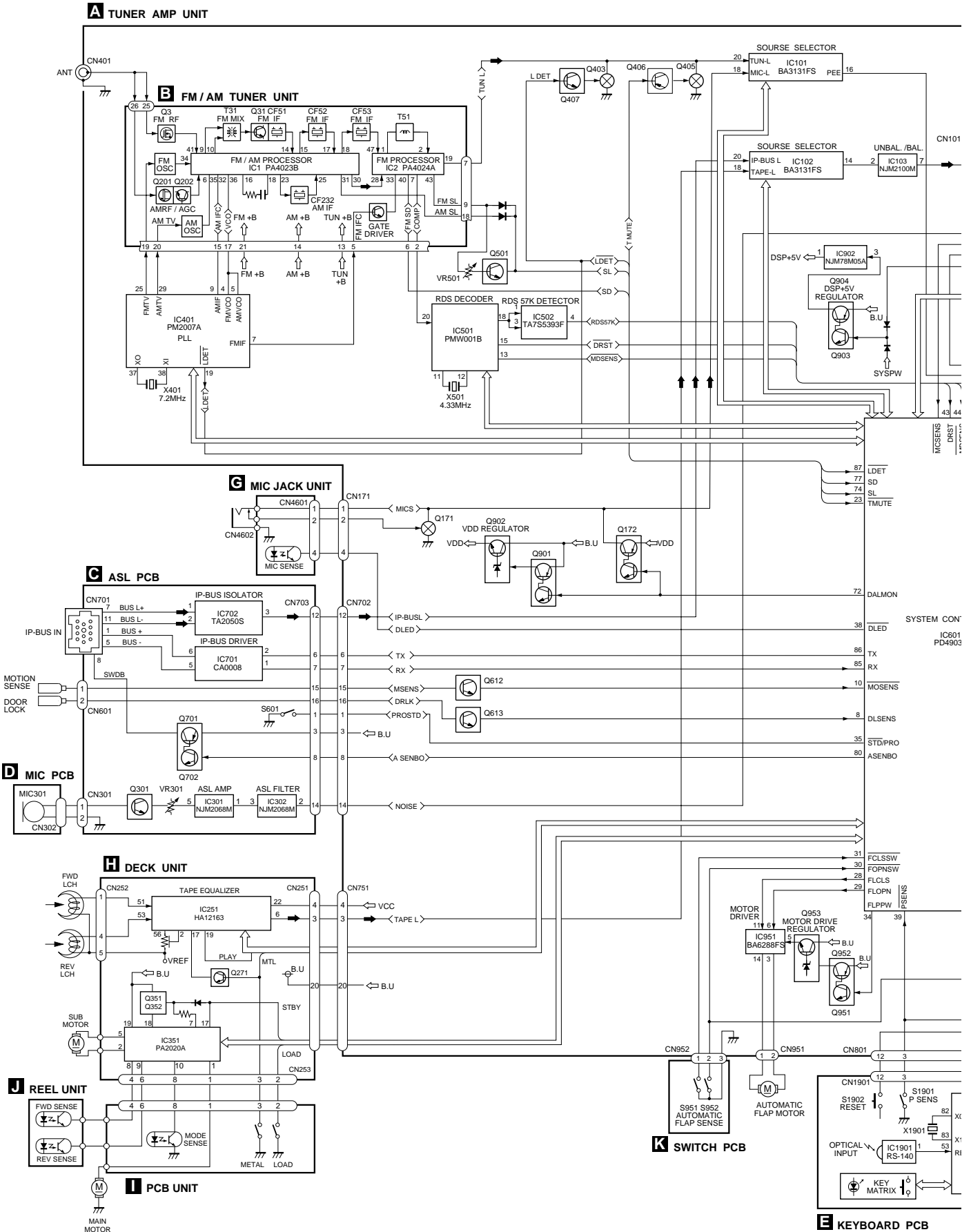
1. Stopper × 4
2. Connector × 1
3. Stopper × 2

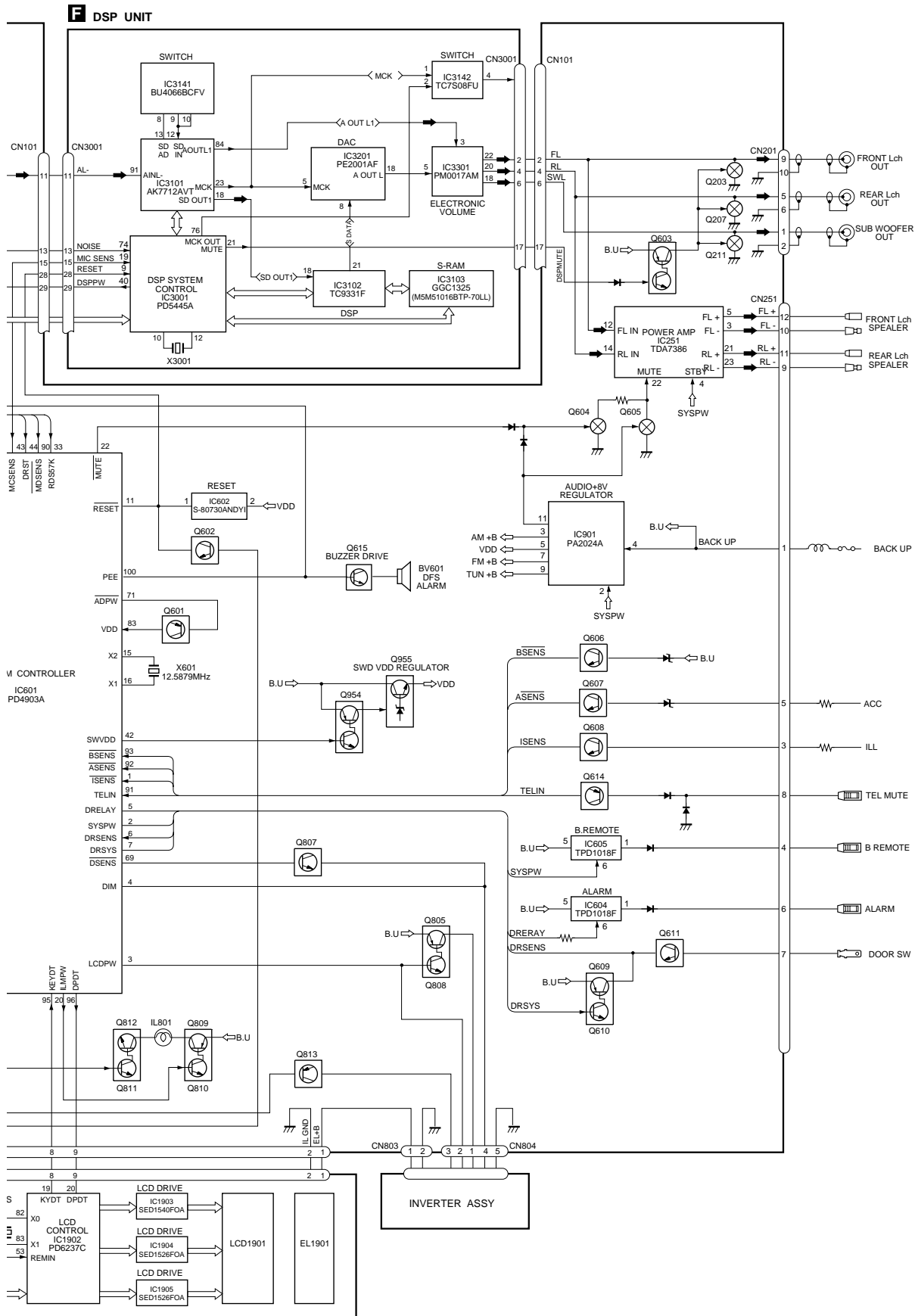


## 7.3 EXPLANATION

### 7.3.1 BLOCK DIAGRAM

● KEH-P9700R/EW

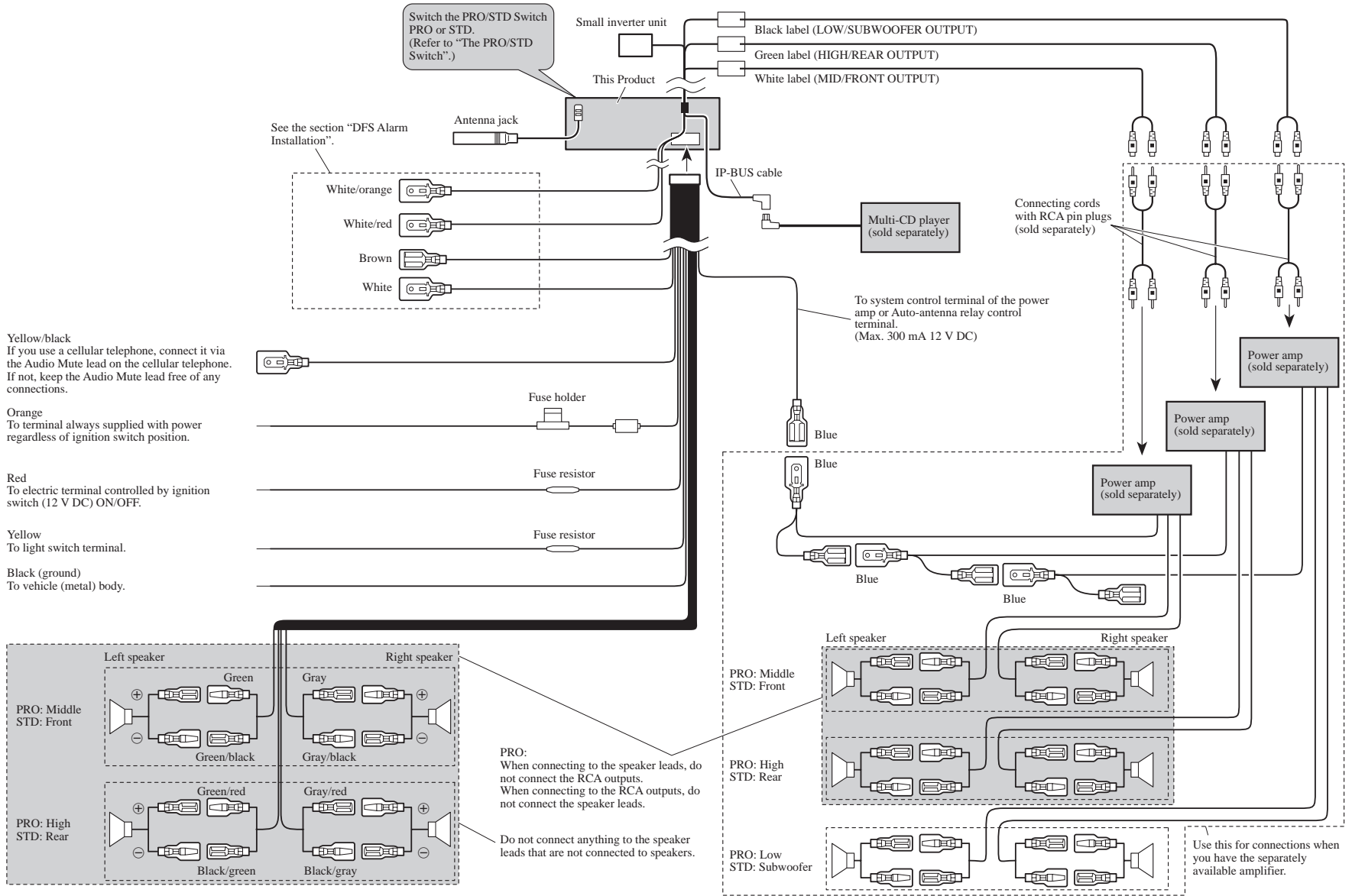






# Connecting the Units

## ● Connection Diagram



## Specifications

### General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)  
 Grounding system ..... Negative type  
 Max. current consumption..... 10 A  
 Dimensions  
   (DIN) (chassis) .... 178 (W) × 50 (H) × 155 (D) mm  
   (nose) ..... 188 (W) × 58 (H) × 20 (D) mm  
   (D) (chassis) ... 178 (W) × 50 (H) × 160 (D) mm  
   (nose) ..... 170 (W) × 46 (H) × 15 (D) mm  
 Weight ..... 1.8 kg

### Amplifier (KEH-P9700R/EW)

Maximum power output ..... 40 W × 4  
 Continuous power output ..... 25 W × 4  
   (DIN45324, +B =14.4 V)  
 Load impedance ..... 4 Ω (4 – 8 Ω allowable)  
 Preout output level/output impedance ..... 500 mV/1 kΩ

### Amplifier (KEH-P9750/ES)

Continuous power output is 20 W per channel  
 min. into 4 ohms, both channels driven 50 to  
 15,000 Hz with no more than 5% THD.  
 Maximum power output ..... 40 W × 4  
 Load impedance ..... 4 Ω (4 – 8 Ω allowable)  
 Preout output level/output impedance ..... 500 mV/1 kΩ

### Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)  
 Tape speed .... 4.76 cm/sec.(+0.14cm/sec.,-0.05cm/sec.)  
 Fast forward/rewinding time Approx. 100 sec. for C-60  
 Wow & flutter ..... 0.09% (WRMS)  
 Frequency response..... Metal: 30 – 22,000 Hz (±3 dB)  
 Stereo separation ..... 45 dB  
 Signal-to-noise ratio  
   .... Metal: Dolby B NR IN: 67 dB (IEC-A network)  
   Dolby NR OUT: 61 dB (IEC-A network)

### FM tuner

Frequency range ..... 87.5 – 108 MHz  
 Usable sensitivity  
   ..... 11 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB)  
 50 dB quieting sensitivity .. 16 dBf (1.7 μV/75 Ω, mono)  
 Signal-to-noise ratio ..... 70 dB (IEC-A network)  
 Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)  
 Frequency response ..... 30 – 15,000 Hz (±3 dB)  
 Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

### AM tuner (KEH-P9750/ES)

Frequency range ..... 531 – 1,602 kHz (9 kHz)  
   530 – 1,710 kHz (10 kHz)  
 Usable sensitivity ..... 18 μV (S/N: 20 dB)  
 Selectivity ..... 50 dB (±9 kHz)  
   50 dB (±10 kHz)

### MW tuner (KEH-P9700R/EW)

Frequency range ..... 531 – 1,602 kHz  
 Usable sensitivity ..... 18 μV (S/N: 20 dB)  
 Selectivity ..... 50 dB (±9 kHz)

### LW tuner (KEH-P9700R/EW)

Frequency range ..... 153 – 281 kHz  
 Usable sensitivity ..... 30 μV (S/N: 20 dB)  
 Selectivity ..... 50 dB (±9 kHz)

### DSP

Equalizer (13 Band Graphic Equalizer)  
 Frequency.....50, 80, 125, 200, 315, 500, 800,  
   1.25 k, 2 k, 3.15 k, 5 k, 8 k, 12.5 k (Hz)  
 Level ..... ± 12 dB (2 dB)  
 Auto Equalizer (STD Mode)  
 (Front & Rear & Subwoofer 13 band graphic +  
 Rear 2 band parametric)  
 Frequency (Front & Rear & Subwoofer)  
   ..... 50, 80, 125, 200, 315, 500, 800,  
   1.25 k, 2 k, 3.15 k, 5 k, 8 k, 12.5 k (Hz)  
 Frequency (Rear) ..... 100 Hz – 8 kHz (1/3 oct)  
 Level ..... +6 – –12 dB (2 dB)  
 Q Factor (Rear) ..... 1.2, 3.6  
 Auto Equalizer (PRO Mode)  
 (13 band graphic)  
 Frequency ..... 50, 80, 125, 200, 315, 500, 800,  
   1.25 k, 2 k, 3.15 k, 5 k, 8 k, 12.5 k (Hz)  
 Level ..... +6 – –12 dB (2 dB)  
 Network (STD Mode)  
 Front/Rear HPF frequency: 50, 80, 125, 200 (Hz)  
   Slope: 0, –6, –12 dB/oct  
   Level: 0 – –24 dB (1 dB)  
 Subwoofer (Mono)  
   ..... LPF frequency: 50, 63, 80, 100,  
   125, 160, 200 (Hz)  
   Slope: –6, –12, –18 dB/oct  
   Level: +6 – –24 dB (1 dB)  
   Phase: Normal/Reverse

### Network (PRO Mode)

High .. HPF frequency: 2 k, 2.5 k, 3.15 k, 4 k, 5 k,  
   6.3 k, 8 k, 10 k, 12.5 k (Hz)  
   Slope: –6, –12, –18, –24 dB/oct  
   Level: +6 – –24 dB (1 dB)  
   Phase: Normal/Reverse  
 Mid .... LPF frequency: 2 k, 2.5 k, 3.15 k, 4 k, 5 k,  
   6.3 k, 8 k, 10 k, 12.5 k (Hz)  
   HPF frequency: 40, 50, 63, 80, 100, 125,  
   160, 200, 250 (Hz)  
   Slope: 0, –6, –12, –18, –24 dB/oct  
   Level: 0 – –24 dB (1 dB)  
   Phase: Normal/Reverse  
 Low (Stereo/Mono)  
   ..... LPF frequency: 40, 50, 63, 80, 100,  
   125, 160, 200, 250 (Hz)  
   Slope: –12, –18, –24, –30, –36 dB/oct  
   Level: +6 – –24 dB (1 dB)  
   Phase: Normal/Reverse  
 Time Alignment ..... 0 – 400 cm (2 cm)  
   0 – 160 inch (0.5 inch)

### Note:

- Specifications and the design are subject to possible modification without notice due to improvements.