


***Service  
Manual***

**TOYOTA**

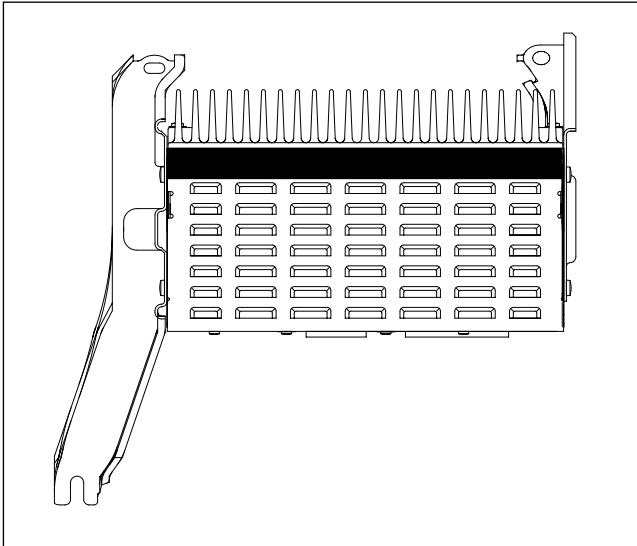
ORDER NO.  
**CRT3014**

 **LEXUS RX330**  
**AUDIO SYSTEM**  
**POWER AMPLIFIER**

VEHICLE	DESTINATION	PRODUCED AFTER	TOYOTA PART No.	ID No.	PIONEER MODEL No.
LEXUS RX330	Europe, Middle Near East, Australia, General Area	February 2003	86100-48010	—	GM-8337ZT/E
			86280-48070	—	GM-8337ZT-91/E
			86100-48010	—	GM-8337ZT-92/E



For details, refer to "Important symbols for good services".



GM-8337ZT/E

- Supplementally model is identical to the original except for the addition of following items.

\*: Non Spare Part

Description	Part No.	
	GM-8337ZT-91/E	GM-8337ZT-92/E
Cover	CEG1045(x2)	CEG1045(x3)
Polyethylene Bag	CEG1185	CEG1185
* Polyethylene Bag	Not used	CEG1185
Carton	CHG5005	CHG4865
Contain Box	CHL5095(x1/4)	CHL5085(x1/4)

## SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

### NOTE:



- When diagnosing a product, take care of its heated portion.

Power IC (IC802,803)

Power Supply IC (IC901,902)

DSP IC (IC201)

Heat Sink

IC Holder

### [ Important symbols for good services ]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

#### 1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

#### 2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

#### 3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

#### 4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

#### 5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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## 1. SPECIFICATIONS

Power source .....	13.2±0.1V(10.5-16.0V)
Grounding .....	Negative type
Backup current .....	.0.3mA or less
Dimensions(No Bracket) ...	.210mm(W)x51mm(H)x128mm(D)
Weight .....	.1,415g
Maximum output power ...	.39W or more(Front-Woofer)
	20W or more(Front-Squawker)
	20W or more(Rear)

# 2. EXPLODED VIEWS AND PARTS LIST

## 2.2 EXTERIOR

A

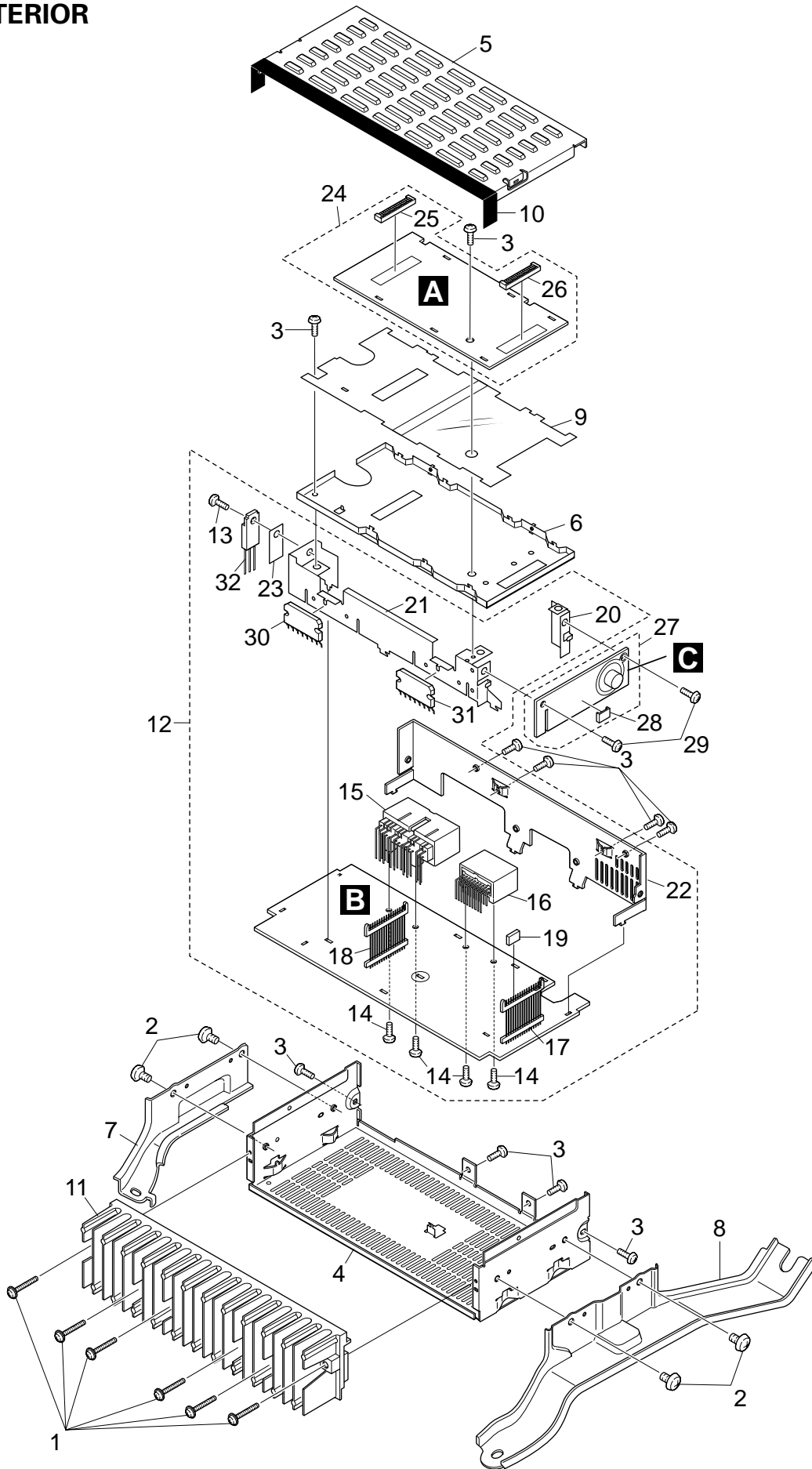
B

C

D

E

F



**NOTE:**

- Parts marked by "\*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.  
( In the case of no amount instructions, apply as you think it appropriate.)

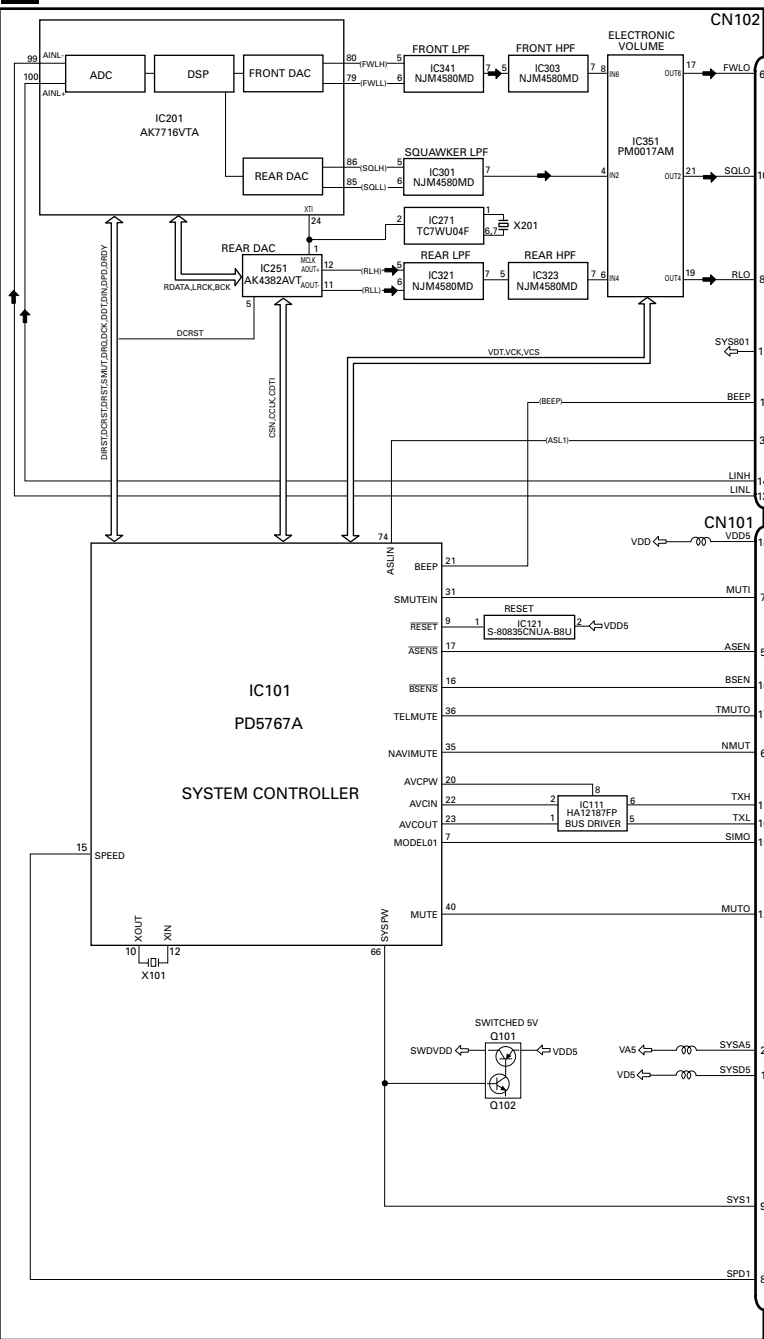
**● EXTERIOR SECTION PARTS LIST**

Mark No.	Description	Part No.
1	Screw	AMZ30P220FTC
2	Screw (GM-8337ZT/E, -92)	BMZ40P060FTC
3	Screw	BSZ26P060FTC
4	Chassis	CNA2538
5	Case	CNB2776
6	Shield Case	CNC9891
7	Bracket (GM-8337ZT/E, -92)	CND1244
8	Bracket (GM-8337ZT/E, -92)	CND1245
9	Insulator	CNM7683
10	Seal	CNM8060
11	Heat Sink	CNR1651
12	Amp Unit	CWM8303
13	Screw	BSZ26P060FTC
14	Screw(M3x6)	CBA1393
15	Connector(CN901)	CKM1363
16	Connector(CN902)	CKM1364
17	Plug(CN905)	CKS4569
18	Plug(CN906)	CKS4569
19	Connector(CN404)	CKS4639
20	Holder	CNC9893
21	Holder	CNC9894
22	Bracket	CND1109
23	Sheet	CNM7015
24	DSP Unit	CWM8304
25	Socket(CN101)	CKS4616
26	Socket(CN102)	CKS4616
27	ASL Unit	CWM8305
28	Connector(CN403)	CKS4605
29	Screw	IMS26P060FTC
30	IC(IC802)	PAL006A
31	IC(IC803)	TDA7384
32	IC(IC902)	BA178M05T

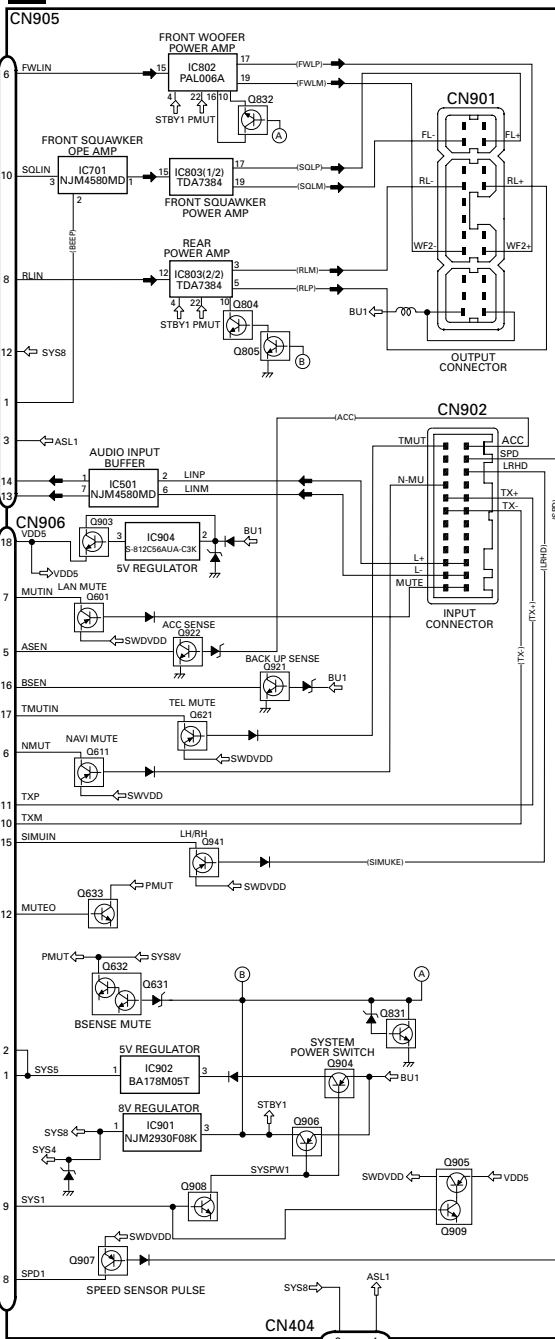
# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 3.1 BLOCK DIAGRAM

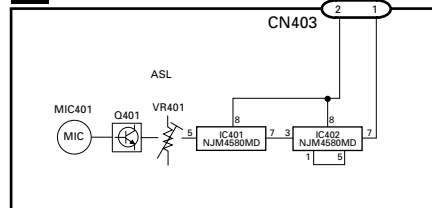
### A DSP UNIT



### B AMP UNIT



### C ASL UNIT



A

B

C

D

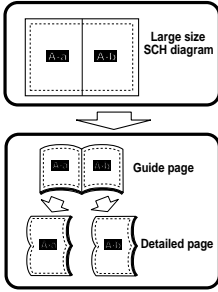
E

F

### 3.2 SCHEMATIC DIAGRAM (GUIDE PAGE)

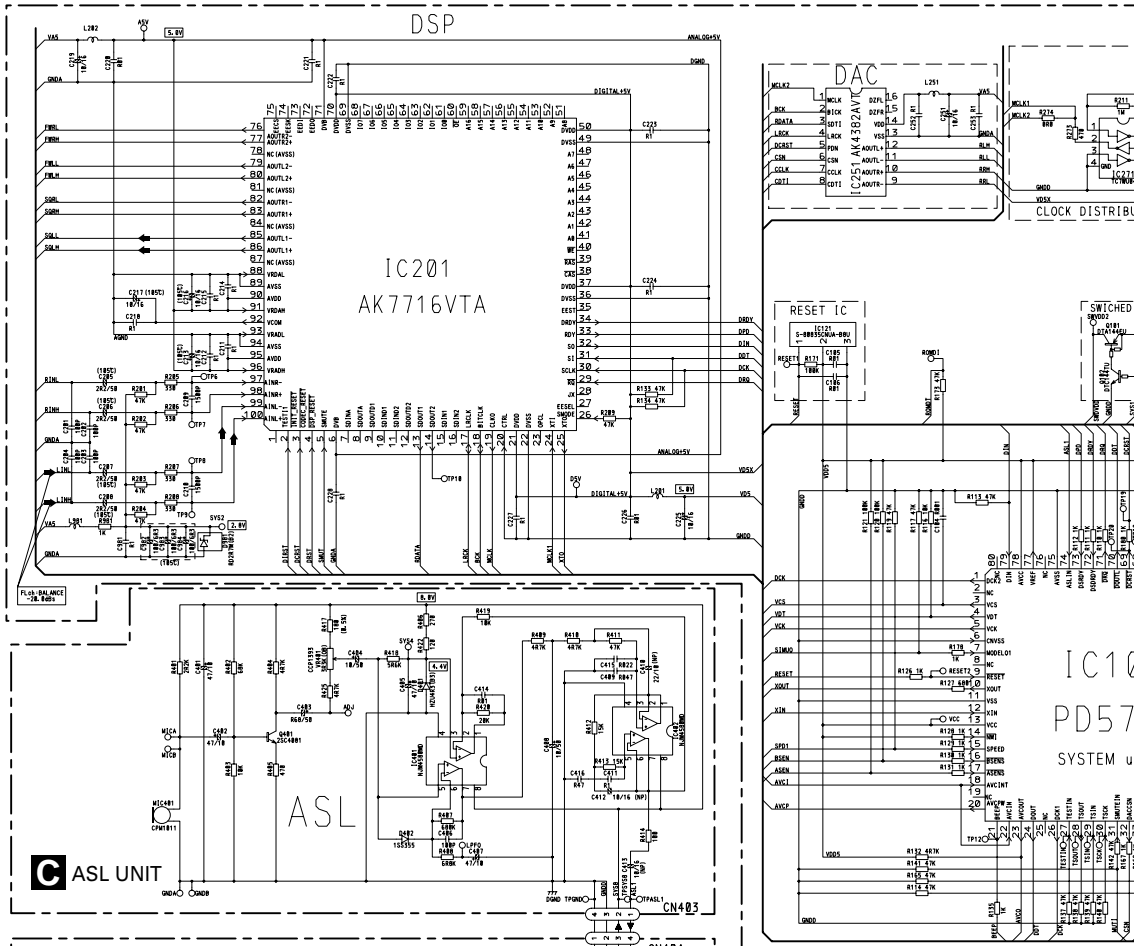
Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A



# A-a

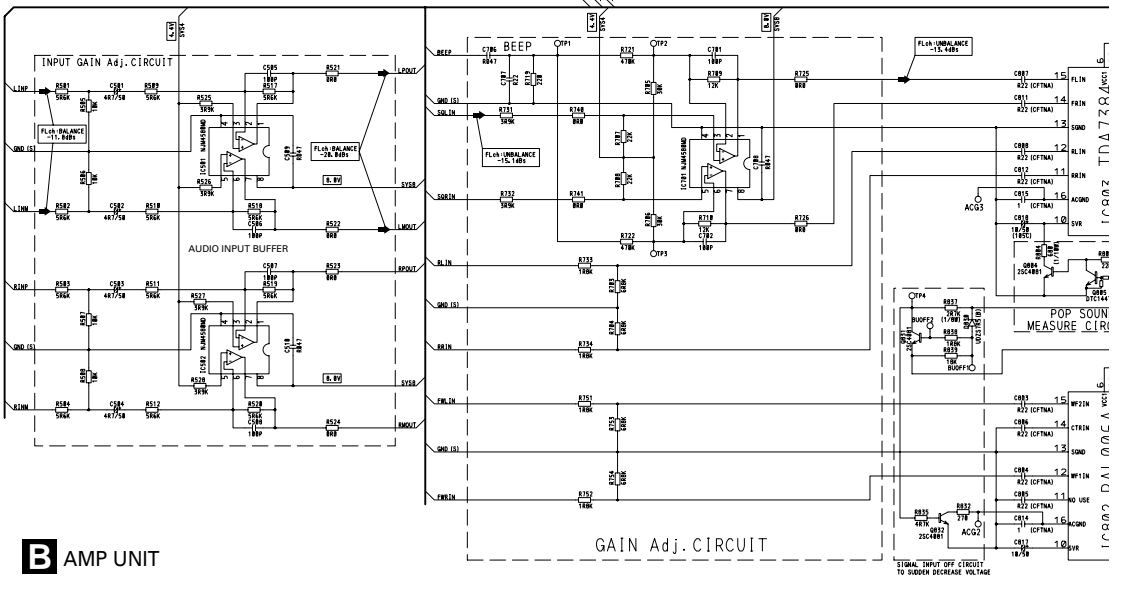
B



C

## C ASL UNIT

D



## B AMP UNIT

E

F

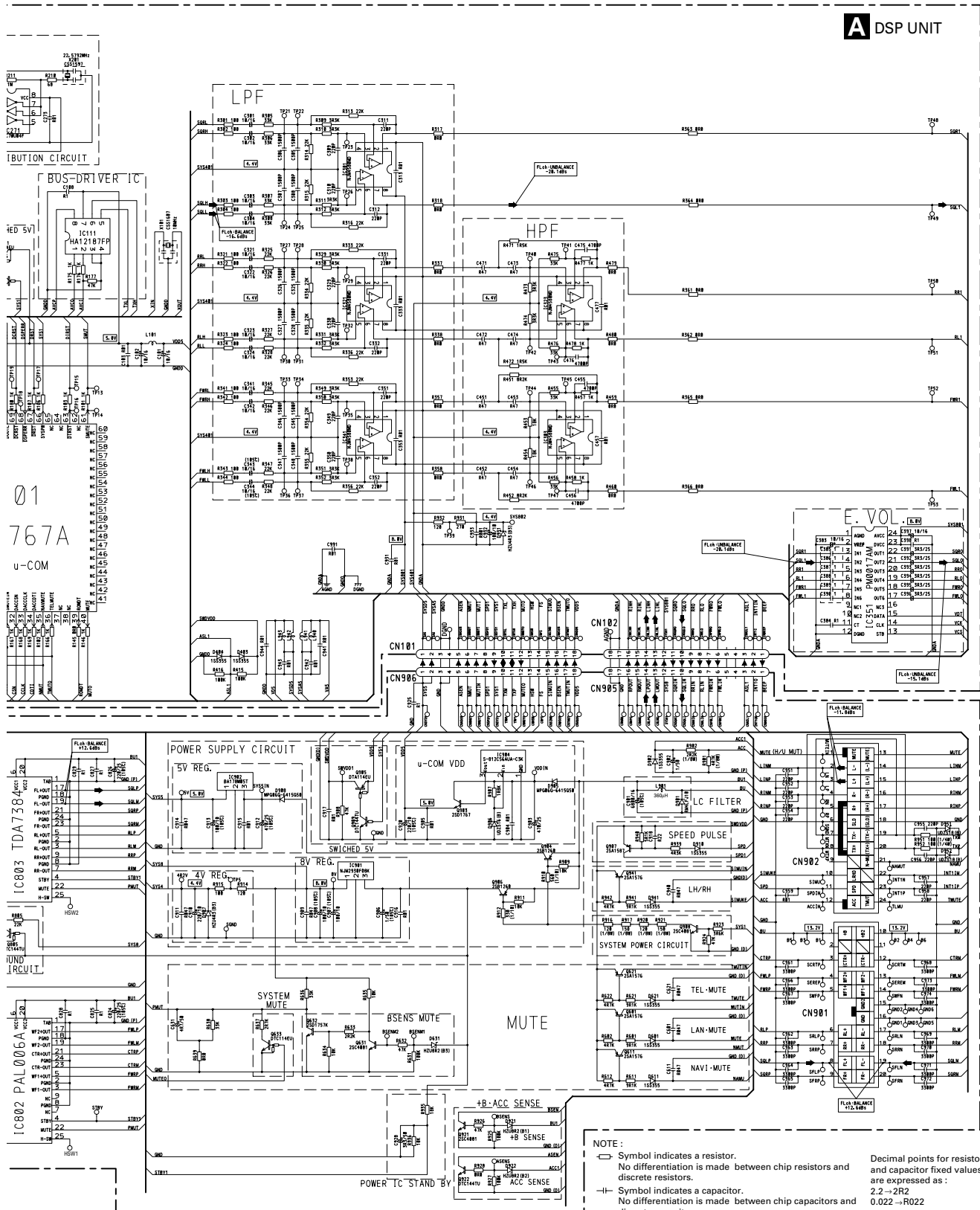
# A B C

B



# A-b

## A DSP UNIT



A

B

C

D

E

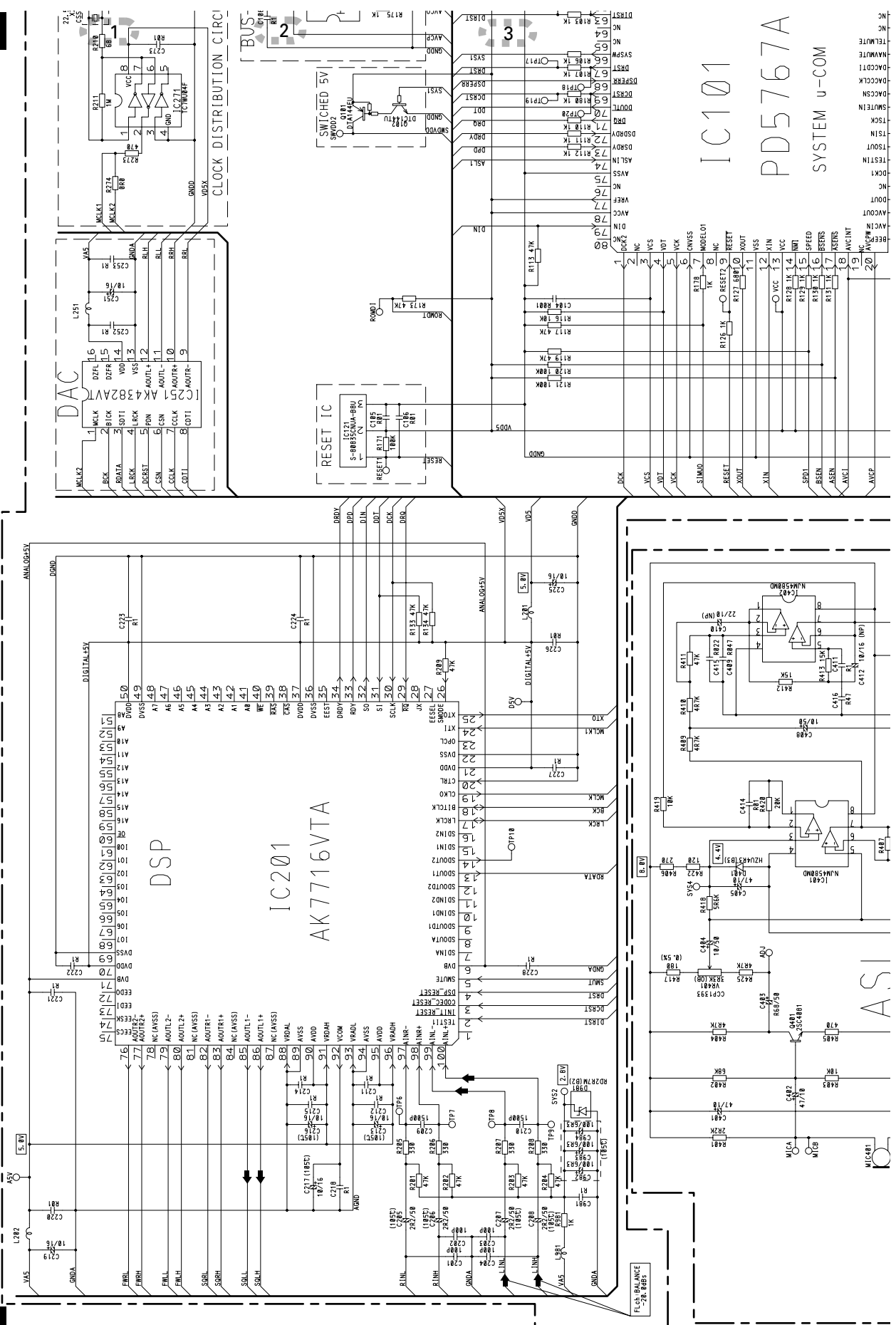
F

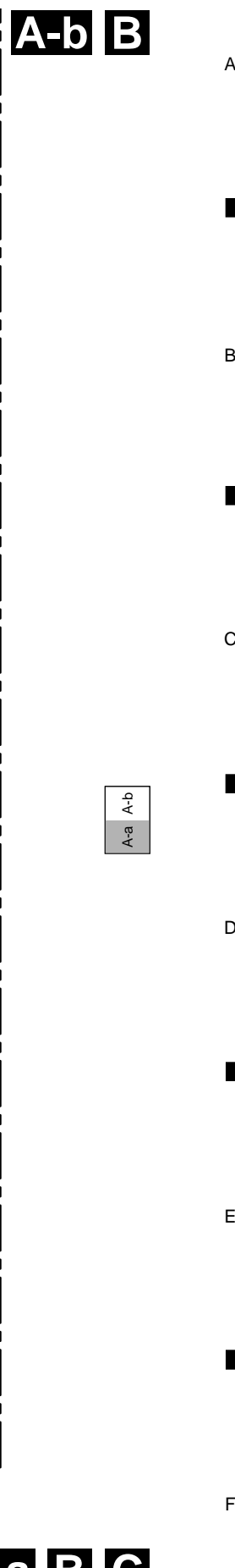
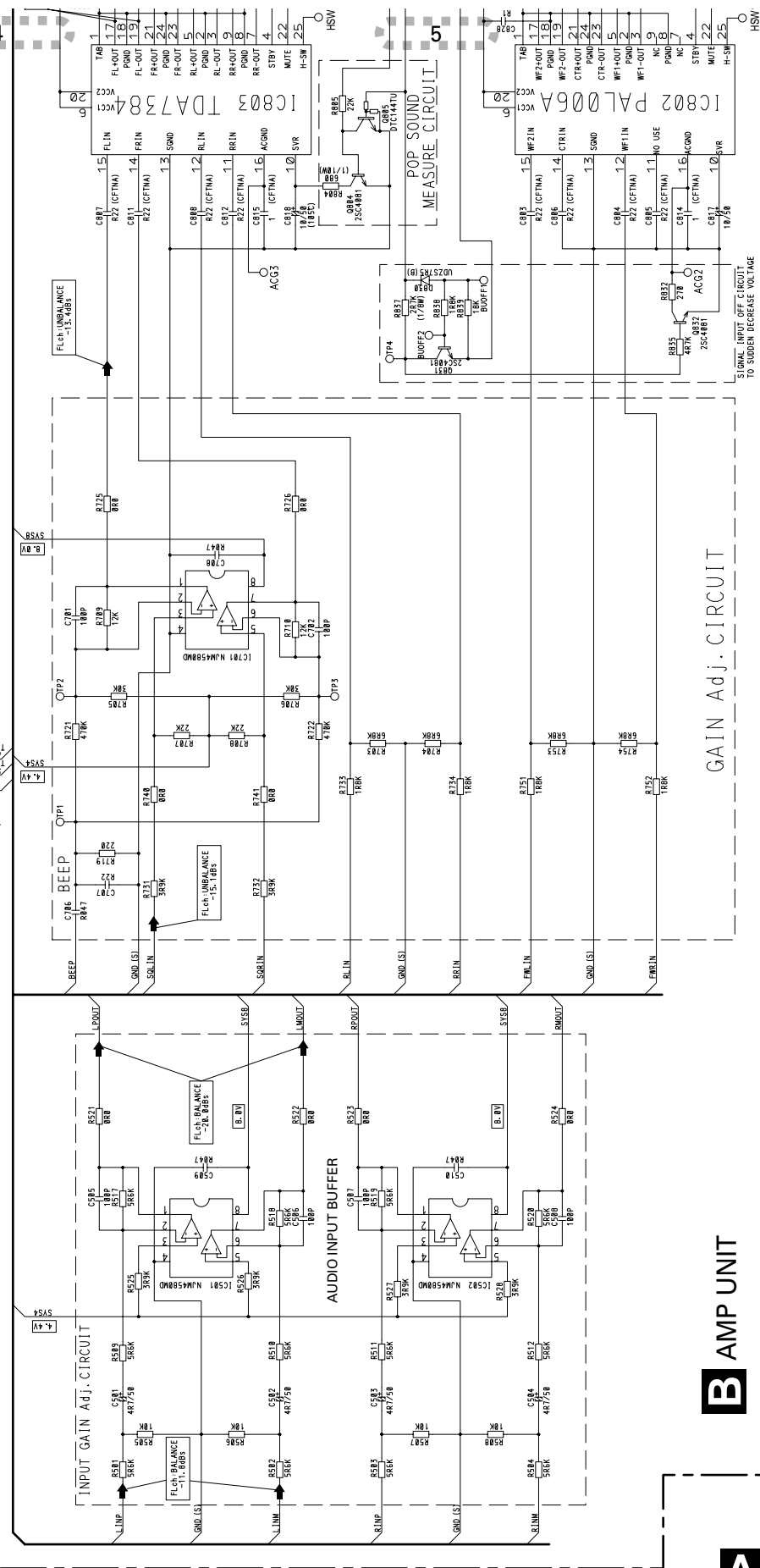
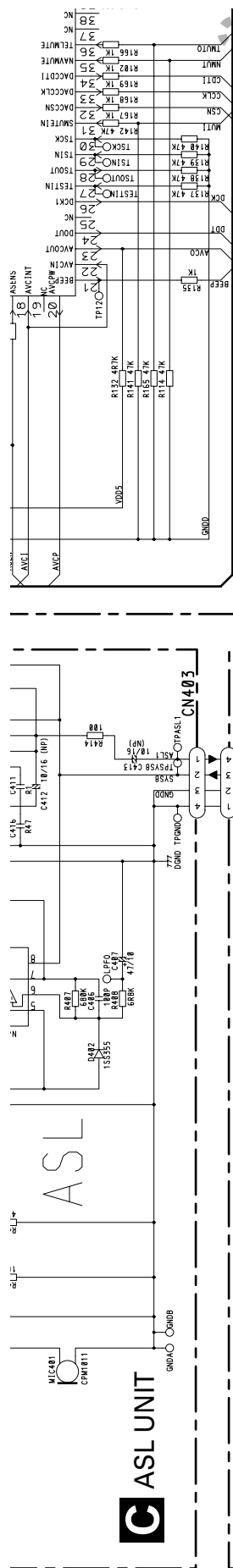
# A B

A-a C

A-a A-b

A-b B





A

B

C

D

E

F

1

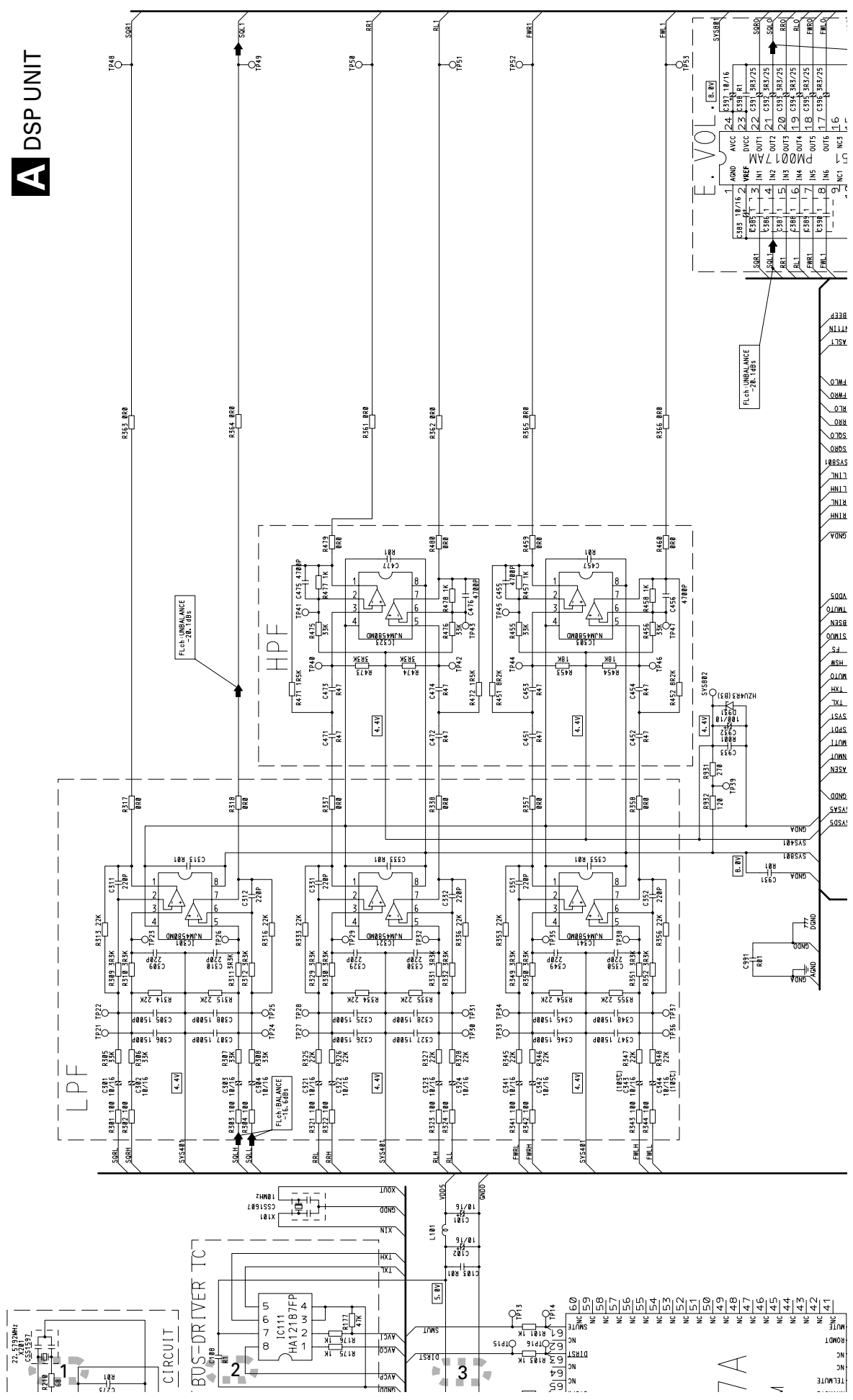
2

3

4

# A DSP UNIT

A-a A-b



**E.VOL** [E.VOL]

1	4000	AVCC	2.4	C391	18/16
2	1000	AVCC	2.3	C390	18/16
3	1000	AVCC	2.2	C389	18/16
4	1000	AVCC	2.1	C388	18/16
5	1000	AVCC	2.0	C387	18/16
6	1000	AVCC	1.9	C386	18/16
7	1000	AVCC	1.8	C385	18/16
8	1000	AVCC	1.7	C384	18/16
9	1000	AVCC	1.6	C383	18/16
10	1000	AVCC	1.5	C382	18/16
11	1000	AVCC	1.4	C381	18/16
12	1000	AVCC	1.3	C380	18/16
13	1000	AVCC	1.2	C379	18/16
14	1000	AVCC	1.1	C378	18/16
15	1000	AVCC	1.0	C377	18/16
16	1000	AVCC	0.9	C376	18/16
17	1000	AVCC	0.8	C375	18/16
18	1000	AVCC	0.7	C374	18/16
19	1000	AVCC	0.6	C373	18/16
20	1000	AVCC	0.5	C372	18/16
21	1000	AVCC	0.4	C371	18/16
22	1000	AVCC	0.3	C370	18/16
23	1000	AVCC	0.2	C369	18/16
24	1000	AVCC	0.1	C368	18/16

# A-b B

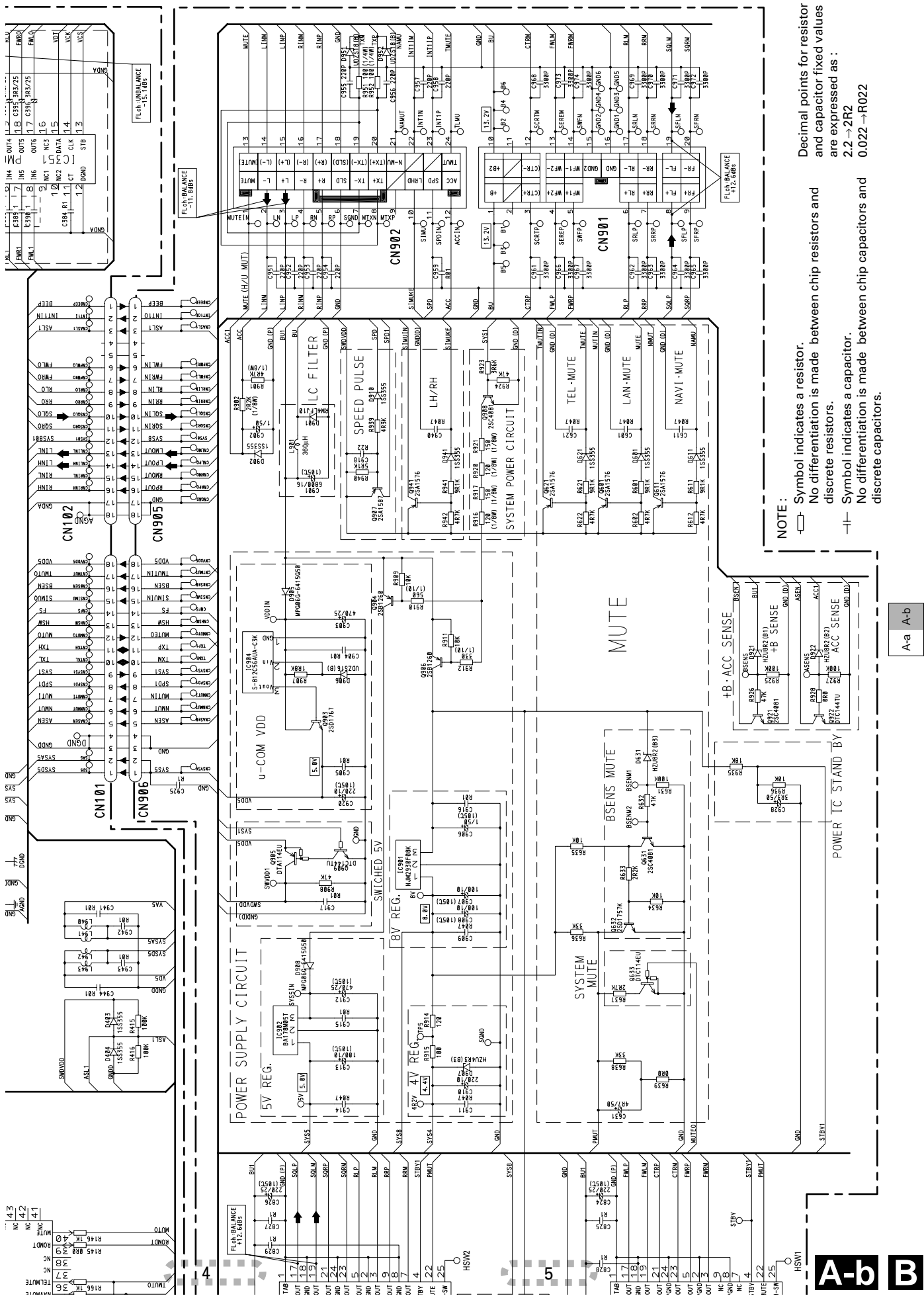
GM-833ZT/E

1

2

3

4



Connector Pinout Table (Top Left):

Pin	Signal
1	IN4
2	IN5
3	OUT1
4	OUT2
5	OUT3
6	OUT4
7	OUT5
8	OUT6
9	OUT7
10	OUT8
11	OUT9
12	OUT10
13	OUT11
14	OUT12
15	OUT13
16	OUT14
17	OUT15
18	OUT16
19	OUT17
20	OUT18
21	OUT19
22	OUT20
23	OUT21
24	OUT22
25	OUT23
26	OUT24
27	OUT25
28	OUT26
29	OUT27
30	OUT28
31	OUT29
32	OUT30
33	OUT31
34	OUT32
35	OUT33
36	OUT34
37	OUT35
38	OUT36
39	OUT37
40	OUT38
41	OUT39
42	OUT40
43	OUT41
44	OUT42
45	OUT43
46	OUT44
47	OUT45
48	OUT46
49	OUT47
50	OUT48
51	OUT49
52	OUT50
53	OUT51
54	OUT52
55	OUT53
56	OUT54
57	OUT55
58	OUT56
59	OUT57
60	OUT58
61	OUT59
62	OUT60
63	OUT61
64	OUT62
65	OUT63
66	OUT64
67	OUT65
68	OUT66
69	OUT67
70	OUT68
71	OUT69
72	OUT70
73	OUT71
74	OUT72
75	OUT73
76	OUT74
77	OUT75
78	OUT76
79	OUT77
80	OUT78
81	OUT79
82	OUT80
83	OUT81
84	OUT82
85	OUT83
86	OUT84
87	OUT85
88	OUT86
89	OUT87
90	OUT88
91	OUT89
92	OUT90
93	OUT91
94	OUT92
95	OUT93
96	OUT94
97	OUT95
98	OUT96
99	OUT97
100	OUT98
101	OUT99
102	OUT100

**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



# 4. PCB CONNECTION DIAGRAM

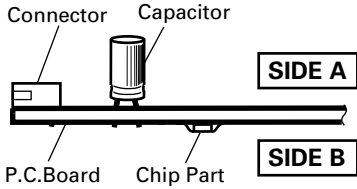
## 4.1 DSP UNIT

### NOTE FOR PCB DIAGRAMS

1.The parts mounted on this PCB include all necessary parts for several destination.

For further information for respective destinations, be sure to check with the schematic diagram.

2.Viewpoint of PCB diagrams



### A DSP UNIT

A

B

C

D

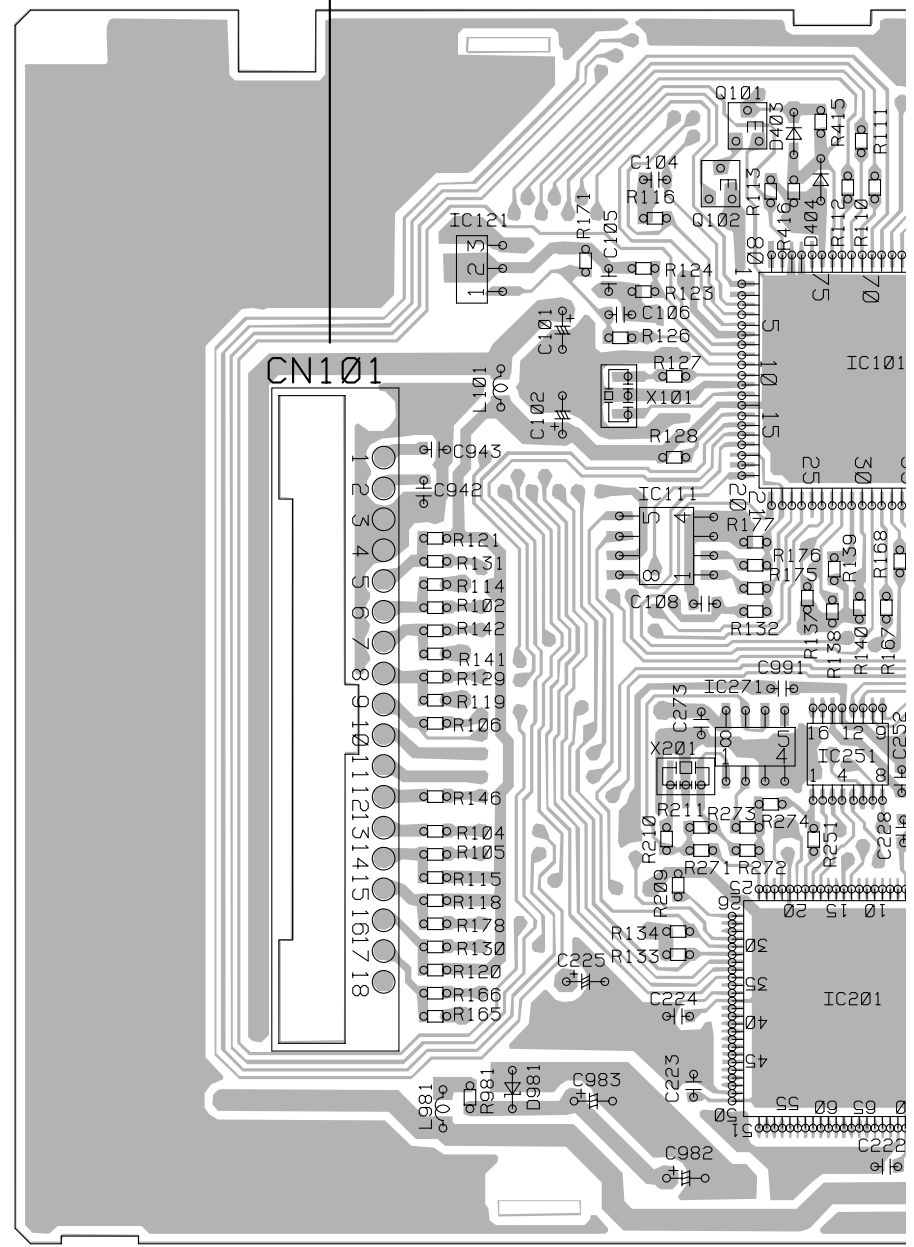
E

F

- IC, Q
- Q101
- IC121 Q102
- IC301 IC302
- IC351
- IC101
- IC111
- IC131
- IC321 IC323 IC322
- IC271
- IC251
- IC341 IC303
- IC201

B CN906

CN101

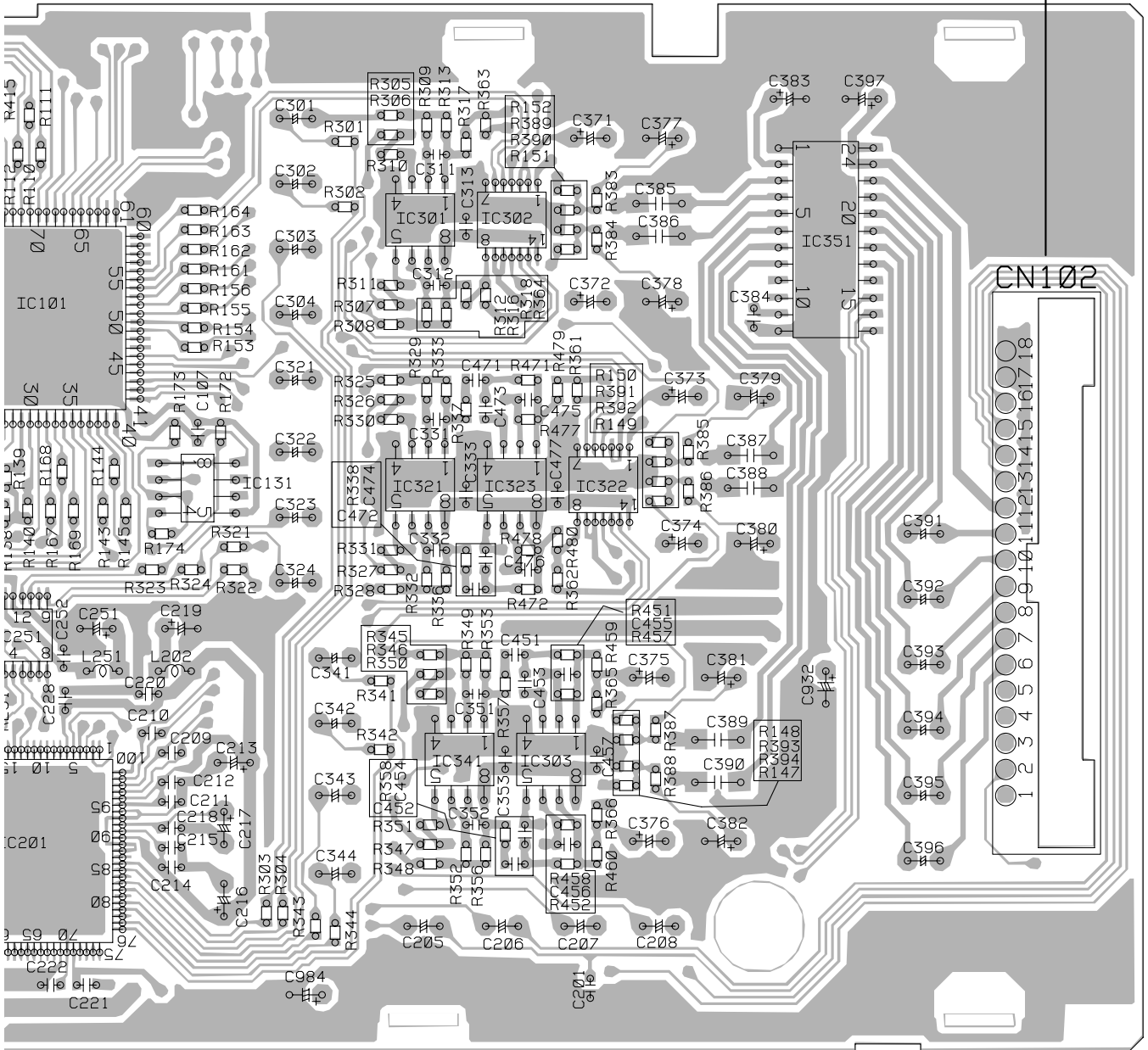


A

**SIDE A**

**B** CN905

CN102



**A**

A

# A DSP UNIT

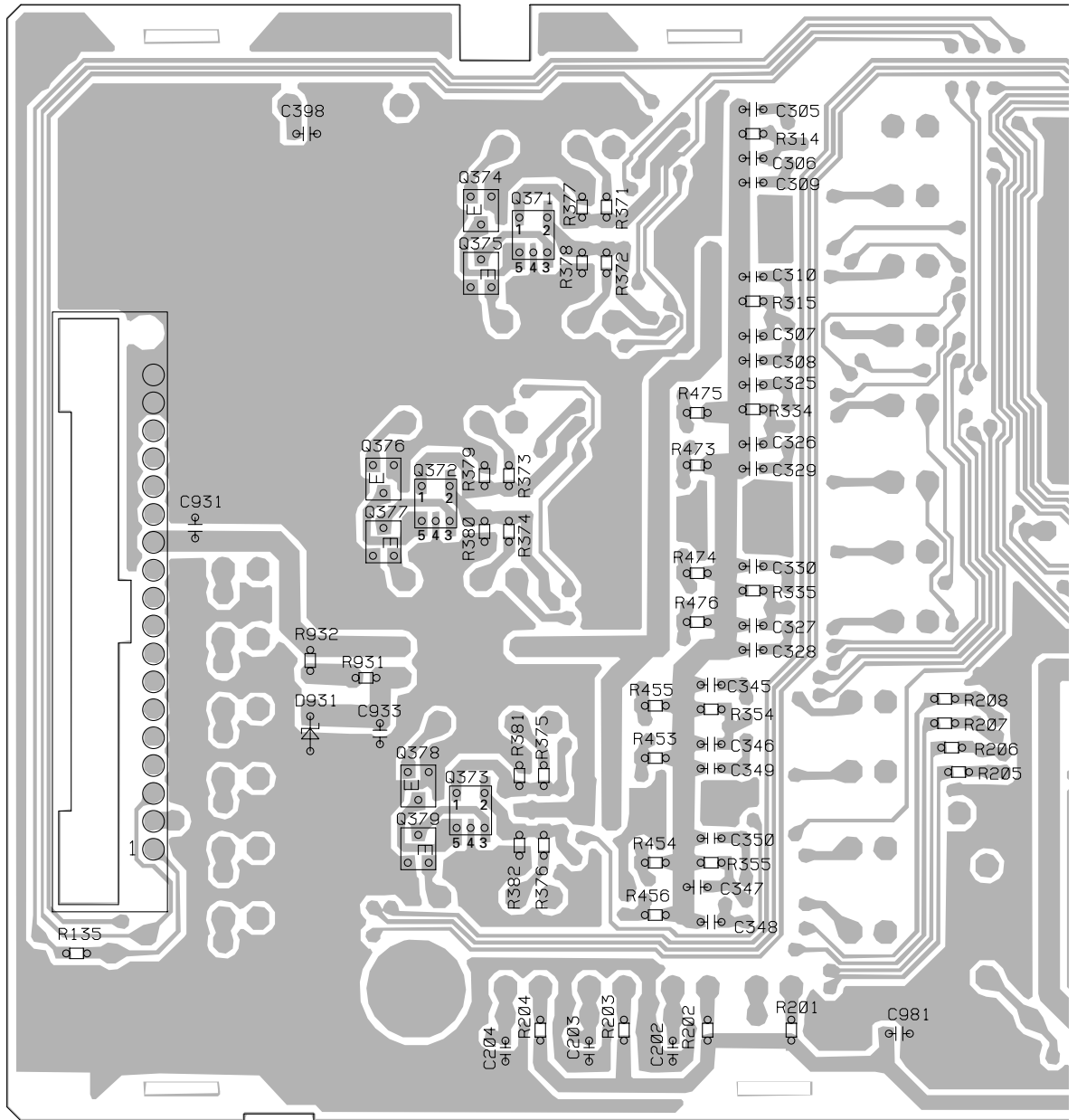
B

C

D

E

F

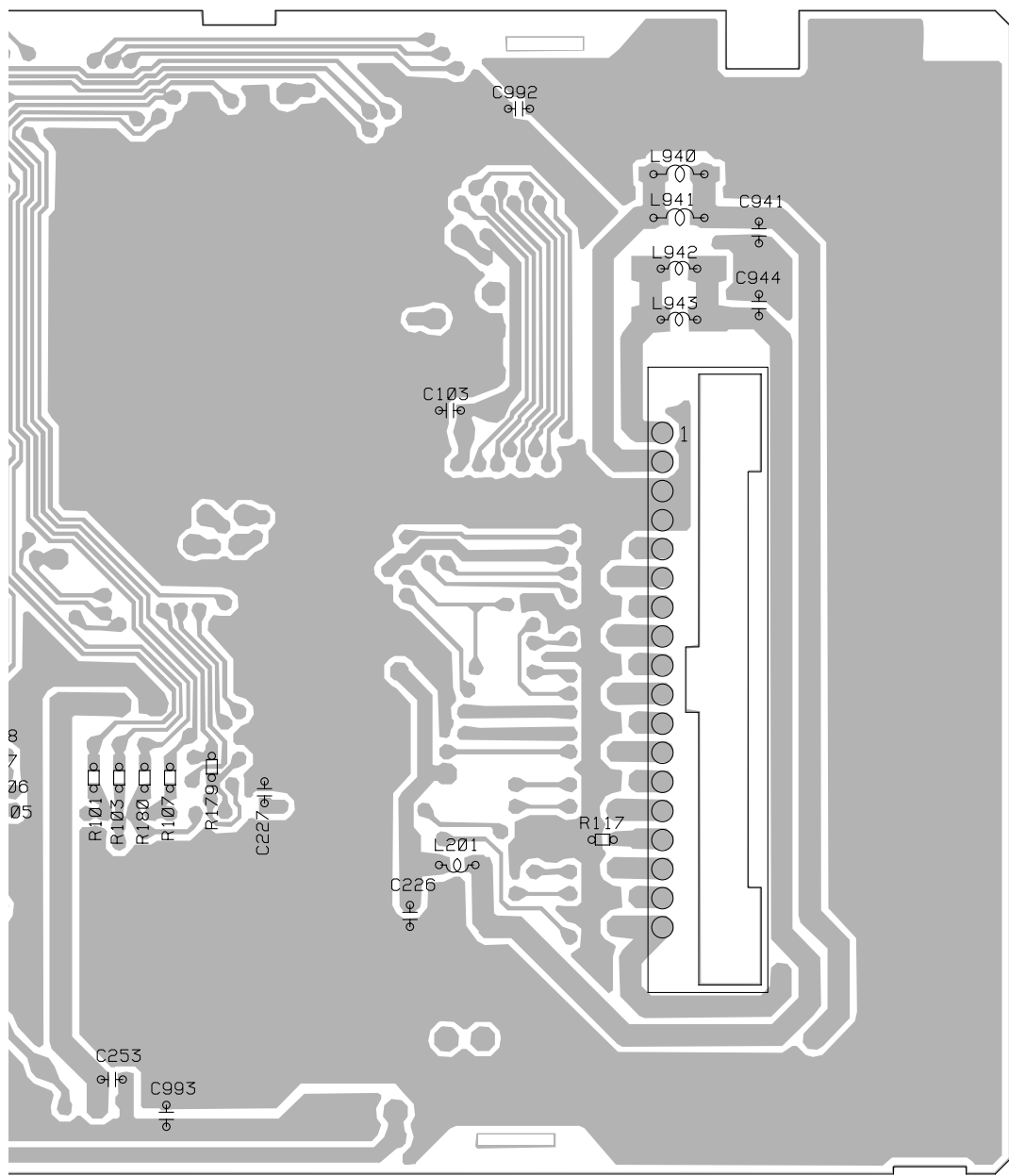




A

**SIDE B**

B



- IC, Q
- Q374
- Q371
- Q375
- Q376
- Q372
- Q377
- Q378
- Q373
- Q379

C

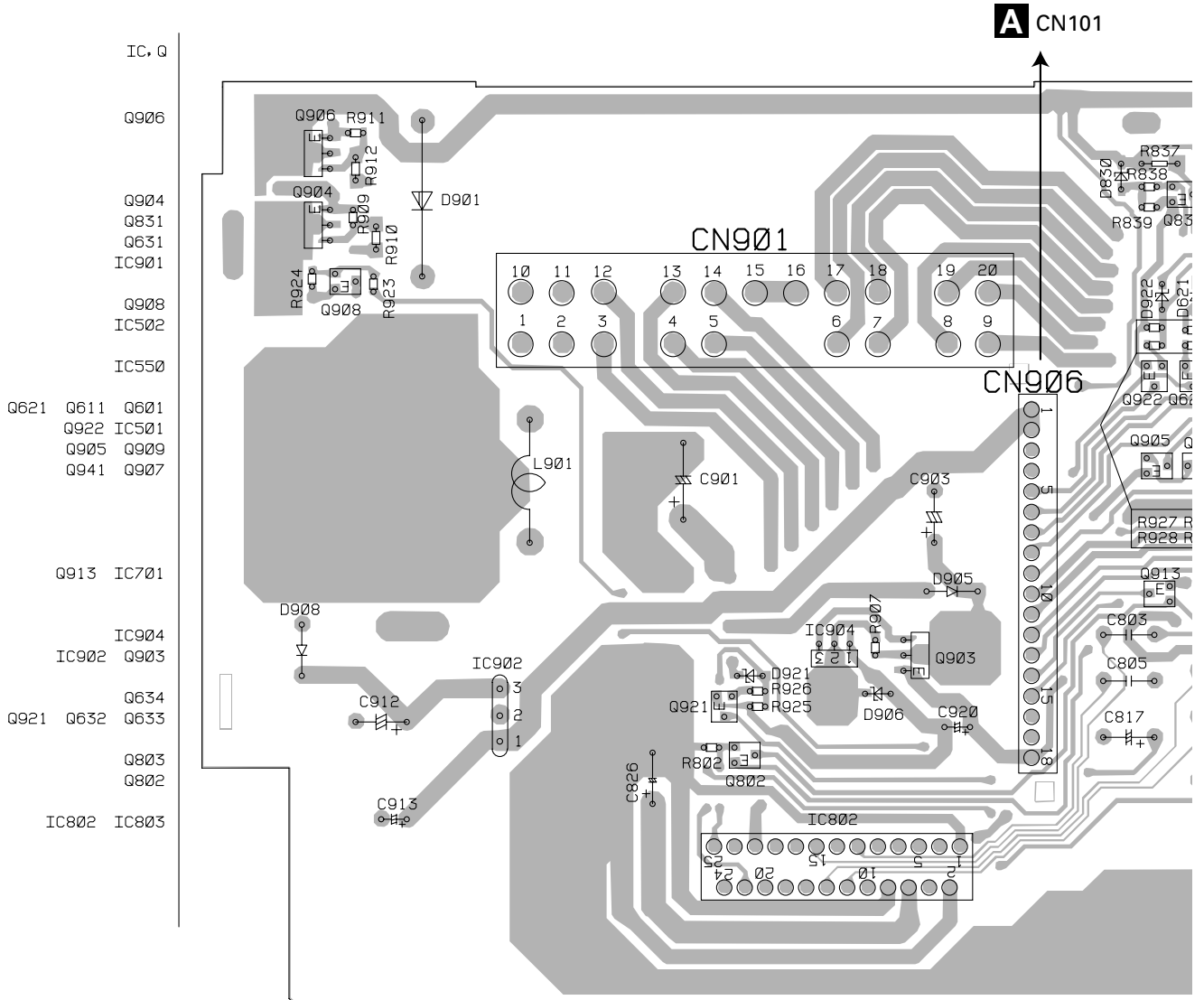
D

E

F

# 4.2 AMP UNIT

## B AMP UNIT



A

B

C

D

E

F

SIDE A

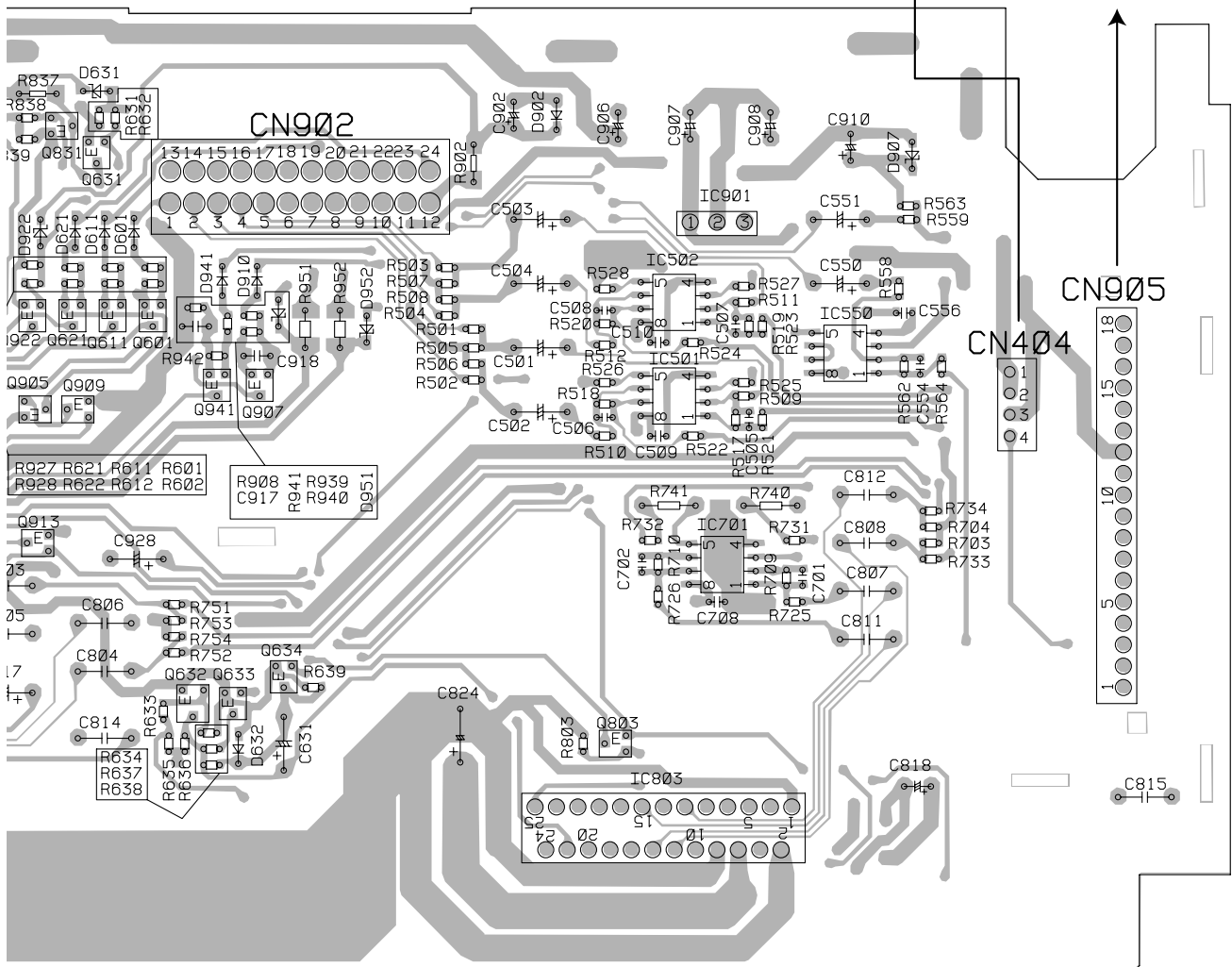
C CN403

A CN102

CN404

CN905

CN902



B

A

B

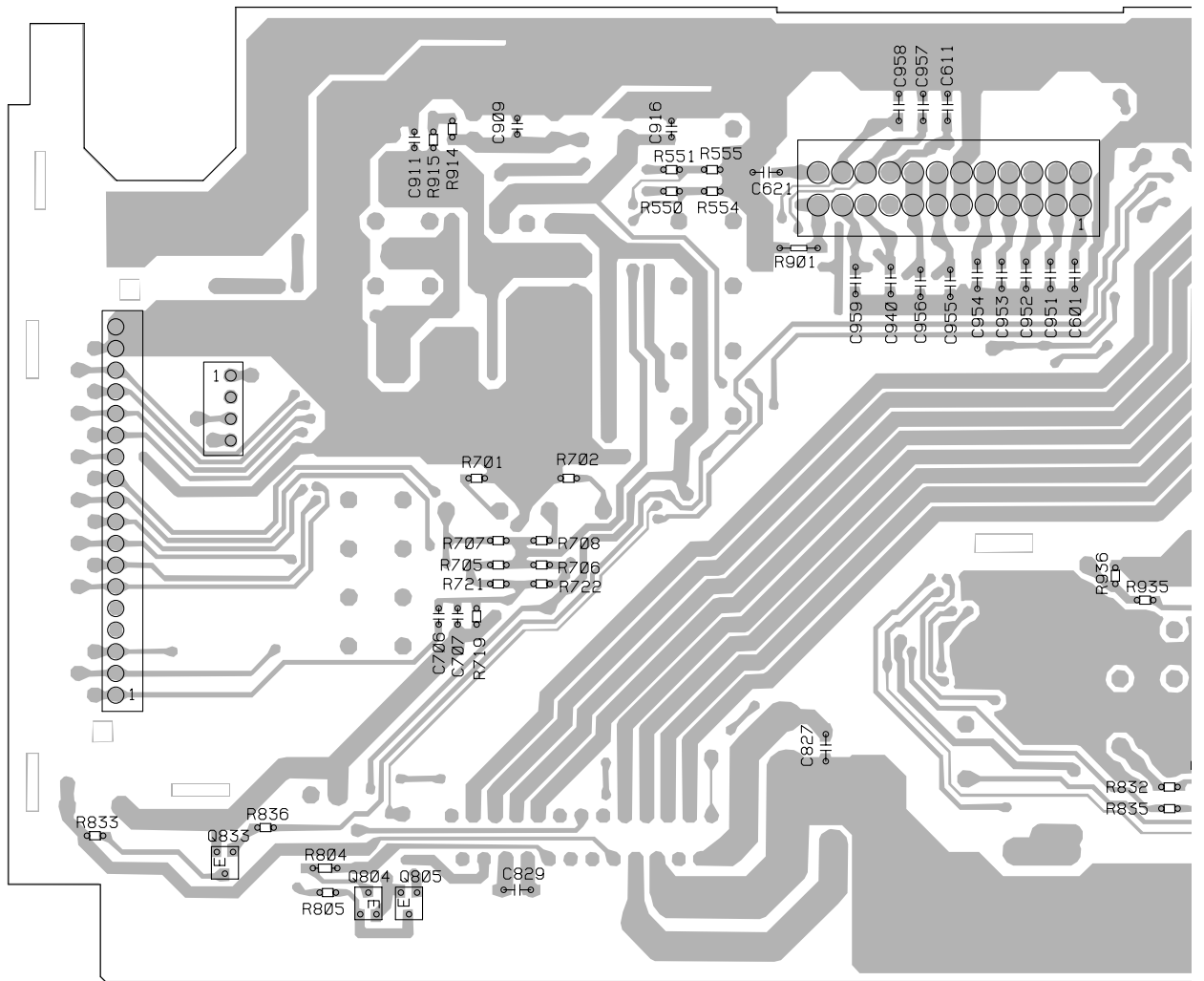
# B AMP UNIT

C

D

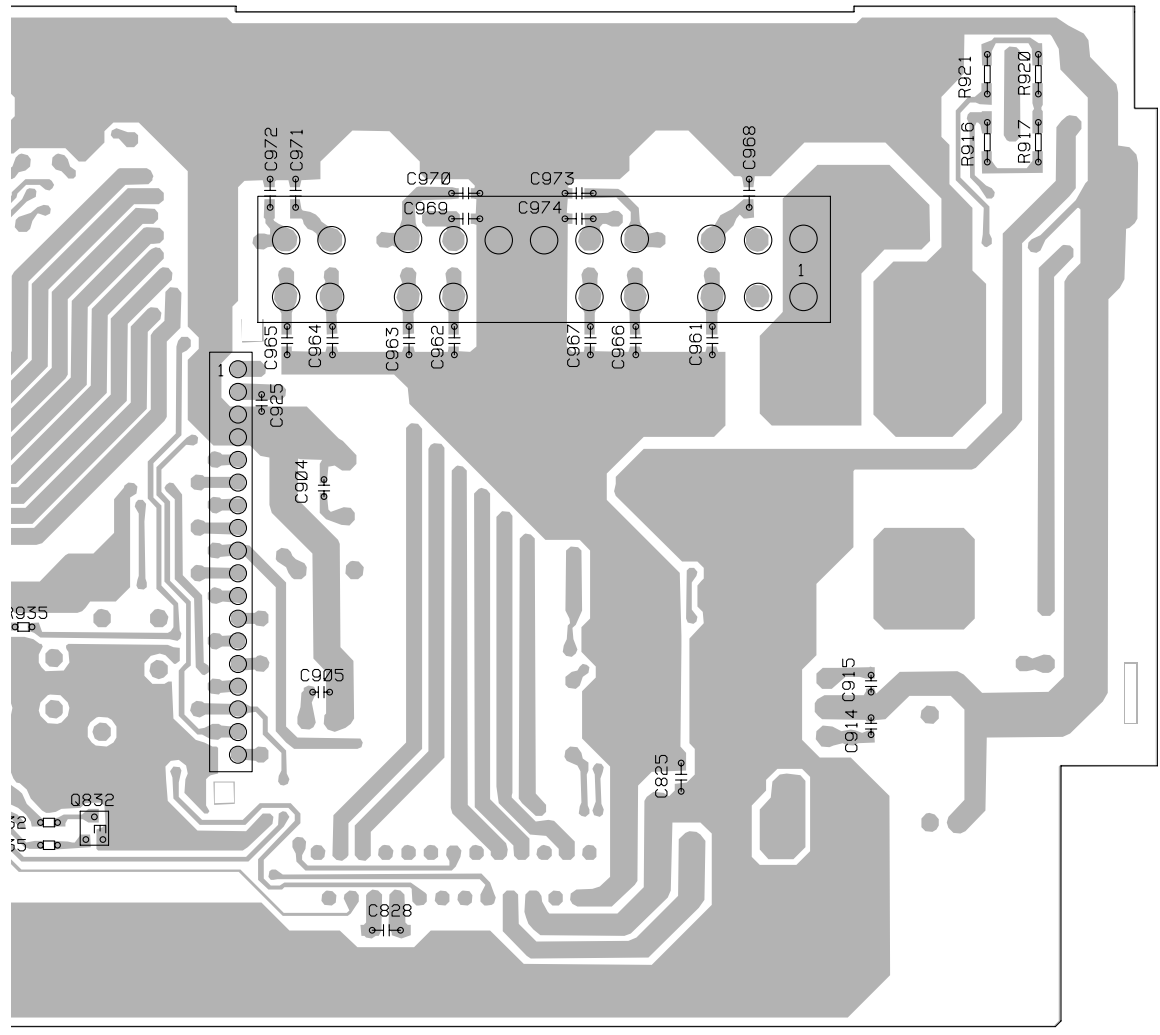
E

F



# B

**SIDE B**



IC, Q

- Q832
- Q833
- Q804 Q805

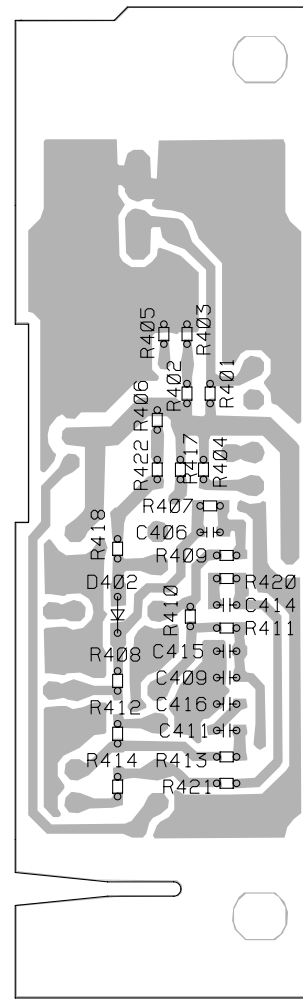
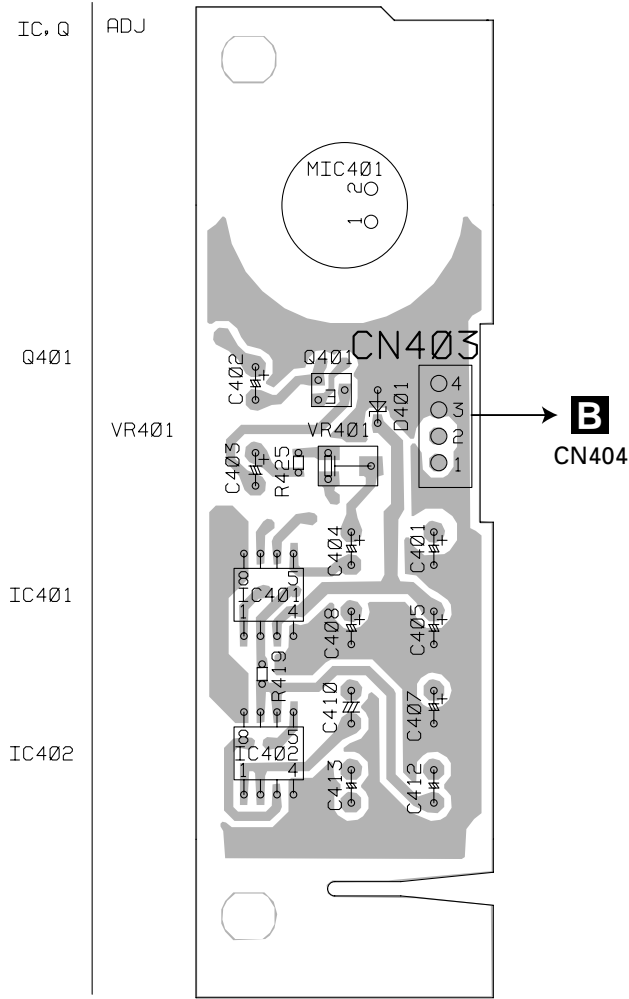
# 4.3 ASL UNIT

**C** ASL UNIT

**SIDE A**

**C** ASL UNIT

**SIDE B**



## 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/OSOOOJ,RS1/OOSOOOJ

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

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

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
<b>A</b> Unit Number : CWM8304		R 126	RS1/16S102J
Unit Name : DSP Unit		R 127	RS1/16S681J
		R 128	RS1/16S102J
		R 129	RS1/16S102J
		R 130	RS1/16S102J
<b>MISCELLANEOUS</b>			
IC 101 IC	PD5767A	R 131	RS1/16S102J
IC 111 IC	HA12187FP	R 132	RS1/16S472J
IC 121 IC	S-80835CNUA-B8U	R 133	RS1/16S473J
IC 201 IC	AK7716VTA	R 134	RS1/16S473J
IC 251 IC	AK4382AVT	R 135	RS1/16S102J
IC 271 IC	TC7WU04F	R 137	RS1/16S473J
IC 301 IC	NJM4580MD	R 138	RS1/16S473J
IC 303 IC	NJM4580MD	R 139	RS1/16S473J
IC 321 IC	NJM4580MD	R 140	RS1/16S473J
IC 323 IC	NJM4580MD	R 141	RS1/16S473J
IC 341 IC	NJM4580MD	R 142	RS1/16S473J
IC 351 IC	PM0017AM	R 145	RS1/16S0R0J
Q 101 Transistor	DTA144EU	R 146	RS1/16S102J
Q 102 Transistor	DTC144TU	R 165	RS1/16S473J
D 403 Diode	1SS355	R 166	RS1/16S102J
D 404 Diode	1SS355	R 167	RS1/16S102J
D 931 Diode	HZU4R3(B3)	R 168	RS1/16S102J
D 981 Diode	RD2R7M(B2)	R 169	RS1/16S102J
L 101 Inductor	LCTC1R0K2125	R 171	RS1/16S104J
L 201 Inductor	LCTC1R0K2125	R 173	RS1/16S473J
L 202 Inductor	LCTC1R0K2125	R 175	RS1/16S102J
L 251 Inductor	LCTC1R0K2125	R 176	RS1/16S102J
L 940 Inductor	LCTC1R0K3216	R 177	RS1/16S473J
L 941 Inductor	LCTC1R0K3216	R 178	RS1/16S102J
L 942 Inductor	LCTA2R2J2520	R 180	RS1/16S102J
L 943 Inductor	LCTA2R2J2520	R 201	RS1/16S473J
L 981 Inductor	LCTC4R7K2125	R 202	RS1/16S473J
X 101 Radiator 10.0MHz	CSS1607	R 203	RS1/16S473J
X 201 Radiator 22.579MHz	CSS1597	R 204	RS1/16S473J
		R 205	RS1/16S331J
<b>RESISTORS</b>			
R 101	RS1/16S102J	R 206	RS1/16S331J
R 102	RS1/16S102J	R 207	RS1/16S331J
R 103	RS1/16S102J	R 208	RS1/16S331J
R 106	RS1/16S102J	R 209	RS1/16S473J
R 107	RS1/16S102J	R 210	RS1/16S680J
R 110	RS1/16S102J	R 211	RS1/16S105J
R 111	RS1/16S102J	R 273	RS1/16S471J
R 112	RS1/16S102J	R 274	RS1/16S0R0J
R 113	RS1/16S473J	R 301	RS1/16S101J
R 114	RS1/16S473J	R 302	RS1/16S101J
R 116	RS1/16S103J	R 303	RS1/16S101J
R 117	RS1/16S473J	R 304	RS1/16S101J
R 119	RS1/16S473J	R 305	RS1/16S333J
R 120	RS1/16S104J	R 306	RS1/16S333J
R 121	RS1/16S104J	R 307	RS1/16S333J

A	====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
	R 308	RS1/16S333J	R 471	RS1/16S152J
	R 309	RS1/16S332J	R 472	RS1/16S152J
	R 310	RS1/16S332J	R 473	RS1/16S332J
	R 311	RS1/16S332J	R 474	RS1/16S332J
	R 312	RS1/16S332J	R 475	RS1/16S333J
	R 313	RS1/16S223J	R 476	RS1/16S333J
	R 314	RS1/16S223J	R 477	RS1/16S102J
	R 315	RS1/16S223J	R 478	RS1/16S102J
	R 316	RS1/16S223J	R 479	RS1/16S0R0J
	R 317	RS1/16S0R0J	R 480	RS1/16S0R0J
	R 318	RS1/16S0R0J	R 931	RS1/16S271J
	R 321	RS1/16S101J	R 932	RS1/16S121J
B	R 322	RS1/16S101J	R 981	RS1/16S102J
	R 323	RS1/16S101J		
	R 324	RS1/16S101J		
	R 325	RS1/16S223J	C 101	CEJQ100M16
	R 326	RS1/16S223J	C 102	CEJQ100M16
	R 327	RS1/16S223J	C 103	CKSRYB103K50
	R 328	RS1/16S223J	C 104	CKSRYB102K50
	R 329	RS1/16S332J	C 105	CKSRYB103K50
	R 330	RS1/16S332J	C 106	CKSRYB103K50
	R 331	RS1/16S332J	C 108	CKSRYB104K25
	R 332	RS1/16S332J	C 201	CCSRCH101J50
	R 333	RS1/16S223J	C 202	CCSRCH101J50
	R 334	RS1/16S223J	C 203	CCSRCH101J50
C	R 335	RS1/16S223J	C 204	CCSRCH101J50
	R 336	RS1/16S223J	C 205	2.2μF/50V CCH1492
	R 337	RS1/16S0R0J	C 206	2.2μF/50V CCH1492
	R 338	RS1/16S0R0J	C 207	2.2μF/50V CCH1492
	R 341	RS1/16S101J	C 208	2.2μF/50V CCH1492
	R 342	RS1/16S101J	C 209	CKSRYB152K50
	R 343	RS1/16S101J	C 210	CKSRYB152K50
	R 344	RS1/16S101J	C 211	CKSRYB104K25
	R 345	RS1/16S223J	C 212	CKSRYB104K25
	R 346	RS1/16S223J	C 213	CEHAR100M16
	R 347	RS1/16S223J	C 214	CKSRYB104K25
	R 348	RS1/16S223J	C 215	CKSRYB104K25
	R 349	RS1/16S332J	C 216	CEHAR100M16
	R 350	RS1/16S332J	C 217	CEHAR100M16
D	R 351	RS1/16S332J	C 218	CKSRYB104K25
	R 352	RS1/16S332J	C 219	CEJQ100M16
	R 353	RS1/16S223J	C 220	CKSRYB103K50
	R 354	RS1/16S223J	C 221	CKSRYB104K25
	R 355	RS1/16S223J	C 222	CKSRYB104K25
	R 356	RS1/16S223J	C 223	CKSRYB104K25
	R 357	RS1/16S0R0J	C 224	CKSRYB104K25
	R 358	RS1/16S0R0J	C 225	CEJQ100M16
	R 361	RS1/16S0R0J	C 226	CKSRYB103K50
	R 362	RS1/16S0R0J	C 227	CKSRYB104K25
	R 363	RS1/16S0R0J	C 228	CKSRYB104K25
	R 364	RS1/16S0R0J	C 251	CEJQ100M16
	R 365	RS1/16S0R0J	C 252	CKSRYB104K25
E	R 366	RS1/16S0R0J	C 253	CKSRYB104K25
	R 415	RS1/16S1003D	C 273	CKSRYB103K50
	R 416	RS1/16S1003D	C 301	CEJQNP100M16
	R 451	RS1/16S822J	C 302	CEJQNP100M16
	R 452	RS1/16S822J	C 303	CEJQNP100M16
	R 453	RS1/16S183J	C 304	CEJQNP100M16
	R 454	RS1/16S183J	C 305	CKSRYB152K50
	R 455	RS1/16S333J	C 306	CKSRYB152K50
	R 456	RS1/16S333J	C 307	CKSRYB152K50
	R 457	RS1/16S102J	C 308	CKSRYB152K50
	R 458	RS1/16S102J	C 309	CCSRCH221J50
	R 459	RS1/16S0R0J	C 310	CCSRCH221J50
	R 460	RS1/16S0R0J	C 311	CCSRCH221J50
F				



====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.	
C 312	CCSRCH221J50	C 981	CKSRYP104K25	A
C 313	CKSRYP103K50	C 982	CEHAR101M6R3	
C 321	CEJQNP100M16	C 983	CEHAR101M6R3	
C 322	CEJQNP100M16	C 984	CEHAR101M6R3	
C 323	CEJQNP100M16	C 991	CKSRYP103K50	
C 324	CEJQNP100M16	<b>C</b> Unit Number : CWM8305 Unit Name : ASL Unit		
C 325	CKSRYP152K50			
C 326	CKSRYP152K50	MISCELLANEOUS		
C 327	CKSRYP152K50	IC 401	IC	NJM4580MD
C 328	CKSRYP152K50	IC 402	IC	NJM4580MD
C 329	CCSRCH221J50	Q 401	Transistor	2SC4081
C 330	CCSRCH221J50	D 401	Diode	HZU4R3(B3)
C 331	CCSRCH221J50	D 402	Diode	1SS355
C 332	CCSRCH221J50	VR 401	Semi-fixed Resistor 3.3kΩ(OB)	CCP1393
C 333	CKSRYP103K50	MIC 401	Microphone	CPM1011
C 341	CEJQNP100M16	RESISTORS		
C 342	CEJQNP100M16	R 401		RS1/16S222J
C 343	CCH1493	R 402		RS1/16S683J
C 344	CCH1493	R 403		RS1/16S103J
C 345	CKSRYP152K50	R 404		RS1/16S472J
C 346	CKSRYP152K50	R 405		RS1/16S471J
C 347	CKSRYP152K50	R 406		RS1/16S271J
C 348	CKSRYP152K50	R 407		RS1/16S684J
C 349	CCSRCH221J50	R 408		RS1/16S682J
C 350	CCSRCH221J50	R 409		RS1/16S472J
C 351	CCSRCH221J50	R 410		RS1/16S472J
C 352	CCSRCH221J50	R 411		RS1/16S473J
C 353	CKSRYP103K50	R 412		RS1/16S153J
C 383	CEJQ100M16	R 413		RS1/16S153J
C 384	CKSRYP104K25	R 414		RS1/16S101J
C 385	CKSYB105K16	R 417		RS1/16S1800D
C 386	CKSYB105K16	R 418		RS1/16S562J
C 387	CKSYB105K16	R 419		RS1/16S1002D
C 388	CKSYB105K16	R 420		RS1/16S2002D
C 389	CKSYB105K16	R 422		RS1/16S121J
C 390	CKSYB105K16	R 425		RS1/16S472J
C 391	CEJQNP3R3M25	CAPACITORS		
C 392	CEJQNP3R3M25	C 401		CEJQ470M10
C 393	CEJQNP3R3M25	C 402		CEJQ470M10
C 394	CEJQNP3R3M25	C 403		CEALR68M50
C 395	CEJQNP3R3M25	C 404		CEJQ100M50
C 396	CEJQNP3R3M25	C 405		CEJQ470M10
C 397	CEJQ100M16	C 406		CCSRCH101J50
C 398	CKSRYP104K25	C 407		CEJQ470M10
C 451	CKSRYP474K10	C 408		CEJQ100M50
C 452	CKSRYP474K10	C 409		CKSRYP473K25
C 453	CKSRYP474K10	C 410		CEJQNP220M10
C 454	CKSRYP474K10	C 411		CKSRYP104K16
C 455	CKSRYP472K50	C 412		CEJQNP100M16
C 456	CKSRYP472K50	C 413		CEJQNP100M16
C 457	CKSRYP103K50	C 414		CKSRYP103K50
C 471	CKSRYP474K10	C 415		CKSRYP223K50
C 472	CKSRYP474K10	C 416		CKSRYP474K10
C 473	CKSRYP474K10			
C 474	CKSRYP474K10			
C 475	CKSRYP472K50			
C 476	CKSRYP472K50			
C 477	CKSRYP103K50			
C 931	CKSRYP103K50			
C 932	CEJQ101M10			
C 933	CKSRYP102K50			
C 941	CKSRYP103K50			
C 942	CKSRYP103K50			
C 943	CKSRYP103K50			
C 944	CKSRYP103K50			

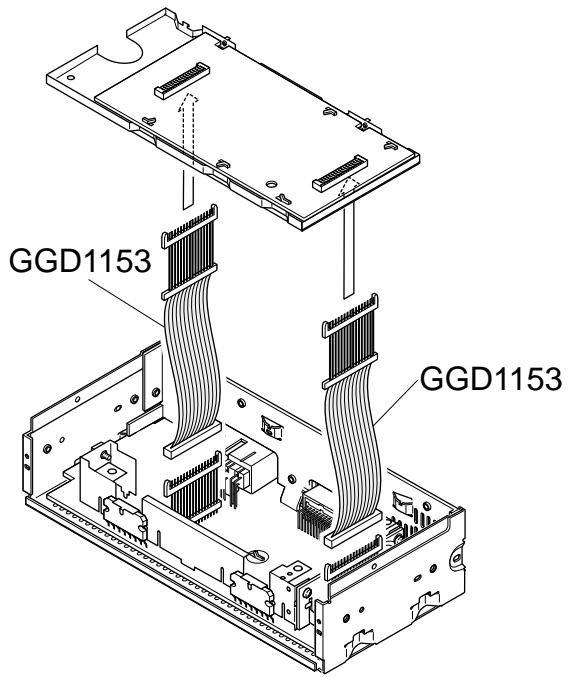
A	====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
	<b>B</b> Unit Number : CWM8303		R 520	RS1/16S562J
	Unit Name : Amp Unit		R 521	RS1/16S0R0J
	MISCELLANEOUS		R 522	RS1/16S0R0J
			R 523	RS1/16S0R0J
			R 524	RS1/16S0R0J
	IC 501 IC	NJM4580MD	R 525	RS1/16S392J
	IC 502 IC	NJM4580MD	R 526	RS1/16S392J
	IC 701 IC	NJM4580MD	R 527	RS1/16S392J
	IC 802 IC	PAL006A	R 528	RS1/16S392J
	IC 803 IC	TDA7384	R 601	RS1/16S912J
	IC 901 IC	NJM2930F08K	R 602	RS1/16S472J
	IC 902 IC	BA178M05T	R 611	RS1/16S912J
B	IC 904 IC	S-812C56AUA-C3K	R 612	RS1/16S472J
	Q 601 Transistor	2SA1576	R 621	RS1/16S912J
	Q 611 Transistor	2SA1576	R 622	RS1/16S472J
	Q 621 Transistor	2SA1576	R 631	RS1/16S104J
	Q 631 Transistor	2SC4081	R 632	RS1/16S473J
	Q 632 Transistor	2SD1757K	R 633	RS1/16S222J
	Q 633 Transistor	DTC114EU	R 634	RS1/16S103J
	Q 804 Transistor	2SC4081	R 635	RS1/16S103J
	Q 805 Transistor	DTC144TU	R 636	RS1/16S333J
	Q 831 Transistor	2SC4081	R 637	RS1/16S272J
	Q 832 Transistor	2SC4081	R 638	RS1/16S333J
	Q 903 Transistor	2SD1767	R 639	RS1/16S0R0J
	Q 904 Transistor	2SB1260	R 703	RS1/16S682J
	Q 905 Transistor	DTA114EU	R 704	RS1/16S682J
C	Q 906 Transistor	2SB1260	R 705	RS1/16S303J
	Q 907 Transistor	2SA1587	R 706	RS1/16S303J
	Q 908 Transistor	2SC4081	R 707	RS1/16S223J
	Q 909 Transistor	DTC144TU	R 708	RS1/16S223J
	Q 921 Transistor	2SC4081	R 709	RS1/16S123J
	Q 922 Transistor	DTC144TU	R 710	RS1/16S123J
	Q 941 Transistor	2SA1576	R 719	RS1/16S221J
	D 601 Diode	1SS355	R 721	RS1/16S474J
	D 611 Diode	1SS355	R 722	RS1/16S474J
	D 621 Diode	1SS355	R 725	RS1/16S0R0J
	D 631 Diode	HZU8R2(B3)	R 726	RS1/16S0R0J
	D 830 Diode	UDZS7R5(B)	R 731	RS1/16S392J
	D 901 Diode	RM4LFJ10	R 732	RS1/16S392J
D	D 902 Diode	1SS355	R 733	RS1/16S182J
	D 905 Diode	MPG06G-6415G50	R 734	RS1/16S182J
	D 906 Diode	UDZS16(B)	R 740	CCN1139
	D 907 Diode	HZU4R3(B3)	R 741	CCN1139
	D 908 Diode	MPG06G-6415G50	R 751	RS1/16S182J
	D 910 Diode	1SS355	R 752	RS1/16S182J
	D 921 Diode	HZU8R2(B1)	R 753	RS1/16S682J
	D 922 Diode	HZU8R2(B2)	R 754	RS1/16S682J
	D 941 Diode	1SS355	R 804	RS1/10S681J
	D 951 Diode	UDZS18(B)	R 805	RS1/16S223J
	D 952 Diode	UDZS18(B)	R 832	RS1/16S271J
	L 901 Choke Coil 360μH	CTH1268	R 835	RS1/16S472J
			R 837	RS1/8S272J
			R 838	RS1/16S182J
			R 839	RS1/16S183J
			R 901	RS1/8S472J
			R 902	RS1/8S222J
			R 907	RS1/16S182J
			R 908	RS1/16S473J
			R 909	RS1/16S103J
			R 910	RS1/10S561J
			R 911	RS1/16S103J
			R 912	RS1/10S331J
			R 914	RS1/16S121J
			R 915	RS1/16S101J
			R 916	RS1/8S121J
			R 916	
E	RESISTORS			
	R 501	RS1/16S562J		
	R 502	RS1/16S562J		
	R 503	RS1/16S562J		
	R 504	RS1/16S562J		
	R 505	RS1/16S103J		
	R 506	RS1/16S103J		
	R 507	RS1/16S103J		
	R 508	RS1/16S103J		
	R 509	RS1/16S562J		
	R 510	RS1/16S562J		
	R 511	RS1/16S562J		
	R 512	RS1/16S562J		
F	R 517	RS1/16S562J		
	R 518	RS1/16S562J		
	R 519	RS1/16S562J		

0Ω  
0Ω

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.	
R 917	RS1/8S151J	C 909		CKSRYB473K25		A
R 920	RS1/8S121J	C 910		CEAT221M10		
R 921	RS1/8S151J	C 911		CKSRYB473K25		
R 923	RS1/16S362J	C 912		CEHAT471M25		
R 924	RS1/16S473J	C 913	100µF/10V	CCH1282		
R 925	RS1/16S104J	C 914		CKSRYB473K25		
R 926	RS1/16S473J	C 915		CKSRYB103K50		
R 927	RS1/16S104J	C 916		CKSRYB103K50		
R 928	RS1/16S0R0J	C 917		CKSQYB103K50		
R 935	RS1/16S183J	C 918		CKSQYB224K25		
R 936	RS1/16S103J	C 920		CEHAT221M10		
R 939	RS1/16S432J	C 925		CKSRYB104K25		
R 940	RS1/16S512J	C 928		CEAT3R3M50		B
R 941	RS1/16S912J	C 940		CKSQYB473K25		
R 942	RS1/16S472J	C 951		CCSQCH221J50		
R 951	RS1/4S101J	C 952		CCSQCH221J50		
R 952	RS1/4S101J	C 953		CCSQCH221J50		
		C 954		CCSQCH221J50		
		C 955		CCSQCH221J50		
		C 956		CCSQCH221J50		
<b>CAPACITORS</b>						
C 501	CEAT4R7M50					
C 502	CEAT4R7M50	C 957		CCSQCH221J50		
C 503	CEAT4R7M50	C 958		CCSQCH221J50		
C 504	CEAT4R7M50	C 959		CKSQYB103K50		
C 505	CCSRCH101J50	C 961		CKSQYB332K50		
		C 962		CKSQYB332K50		
C 506	CCSRCH101J50					
C 507	CCSRCH101J50	C 963		CKSQYB332K50		C
C 508	CCSRCH101J50	C 964		CKSQYB332K50		
C 509	CKSRYB473K25	C 965		CKSQYB332K50		
C 510	CKSRYB473K25	C 966		CKSQYB332K50		
		C 967		CKSQYB332K50		
C 601	CKSQYB473K25					
C 611	CKSQYB473K25	C 968		CKSQYB332K50		
C 621	CKSQYB473K25	C 969		CKSQYB332K50		
C 631	CEAT4R7M50	C 970		CKSQYB332K50		
C 701	CCSRCH101J50	C 971		CKSQYB332K50		
		C 972		CKSQYB332K50		
C 702	CCSRCH101J50					
C 706	CKSRYB473K25	C 973		CKSQYB332K50		
C 707	CKSRYB224K10	C 974		CKSQYB332K50		
C 708	CKSRYB473K25					
C 803	CFTNA224J50					
C 804	CFTNA224J50					D
C 805	CFTNA224J50					
C 806	CFTNA224J50					
C 807	CFTNA224J50					
C 808	CFTNA224J50					
C 811	CFTNA224J50					
C 812	CFTNA224J50					
C 814	CFTNA105J50					
C 815	CFTNA105J50					
C 817	CEAT100M50					
C 818	CEHAT100M50					
C 824	CEHAT221M25					
C 825	CKSQYB104K25					
C 826	CEHAT221M25					E
C 827	CKSQYB104K25					
C 828	CKSQYB104K25					
C 829	CKSQYB104K25					
C 901	CCH1390					
C 902	CEAT1R0M50					
C 903	CEAT471M25					
C 904	CKSRYB103K50					
C 905	CKSRYB103K50					
C 906	CEHAT1R0M50					
C 907	CCH1282					
C 908	CCH1282					
						F

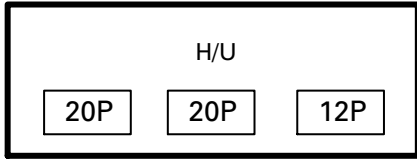
# 6. ADJUSTMENT

## ● Jigs

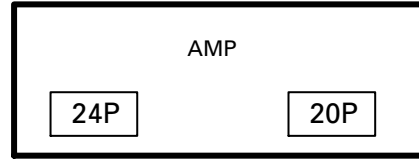


● STANDARD SYSTEM

FX-MG8227ZT/UC  
FX-M8427ZT/UC



GM-8337ZT/E



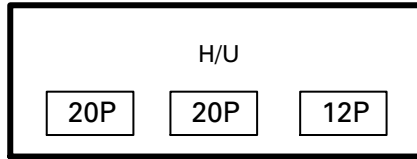
GGD1317

Bullet connector  
(To DC Regulated Power Supply)

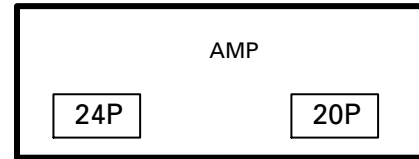
Bullet connector  
SP Line

● STANDARD SYSTEM

FX-MG8037ZT/EW  
FX-MG8237ZT/EW



GM-8337ZT/E



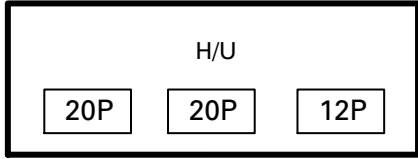
GGD1317

Bullet connector  
(To DC Regulated Power Supply)

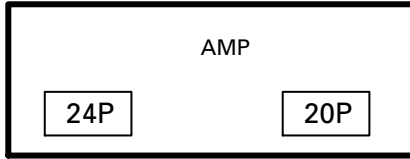
Bullet connector  
SP Line

A ● STANDARD SYSTEM

FX-MG8237ZT/ES



GM-8337ZT/E



GGD1317

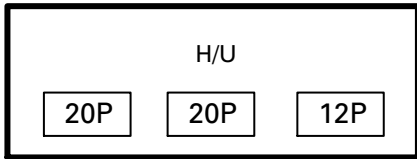
Bullet connector  
(To DC Regulated Power Supply)

Bullet connector  
SP Line

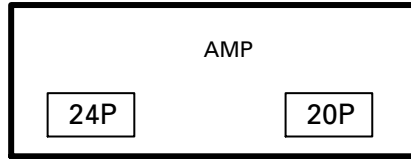
C

D ● STANDARD SYSTEM

FX-MG8037ZT/Q1



GM-8337ZT/E



GGD1317

Bullet connector  
(To DC Regulated Power Supply)

Bullet connector  
SP Line

E

F

## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 DISASSEMBLY

##### ● Removing the two Brackets (Fig.1)

- ➔ 1 Remove the four screws and then remove the two Brackets.

##### ● Removing the Case (Fig.1)

- ➔ 2 Remove the two screws and then remove the Case.

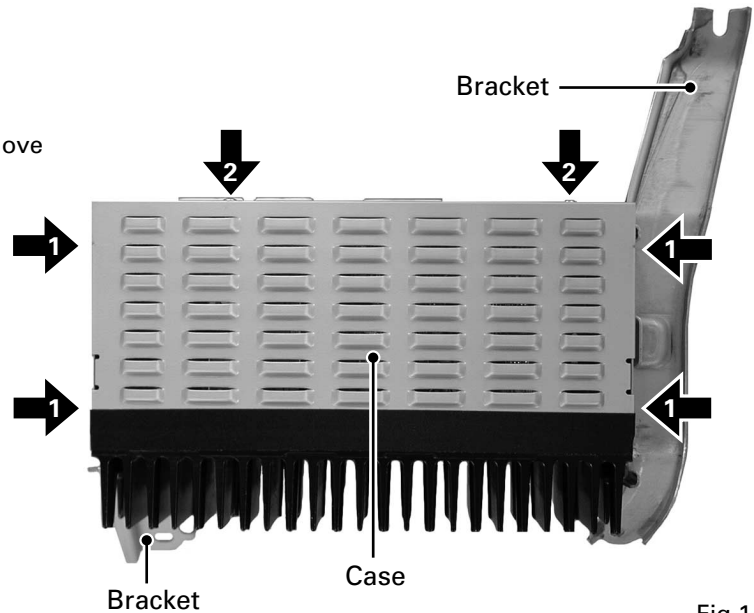


Fig.1

##### ● Removing the DSP Unit (Fig.2)

- ➔ 1 Remove the solder and then straighten the tab at location indicated.
- ➔ 2 Straighten the tabs at five locations indicated.
- ➔ 3 Remove the four screws and then remove the DSP Unit and the Shield together.

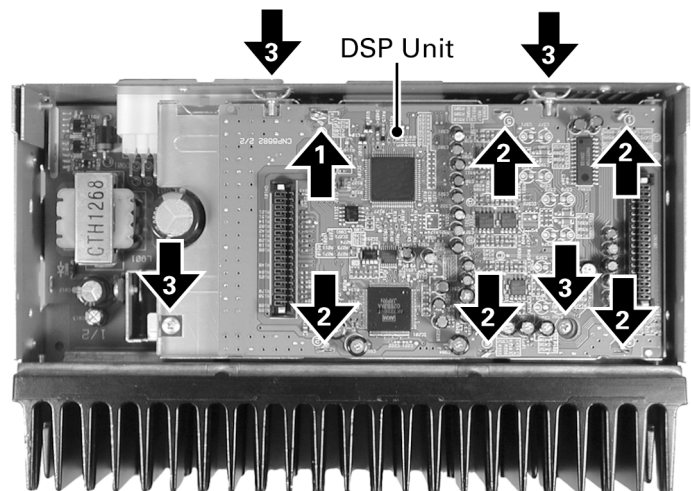


Fig.2

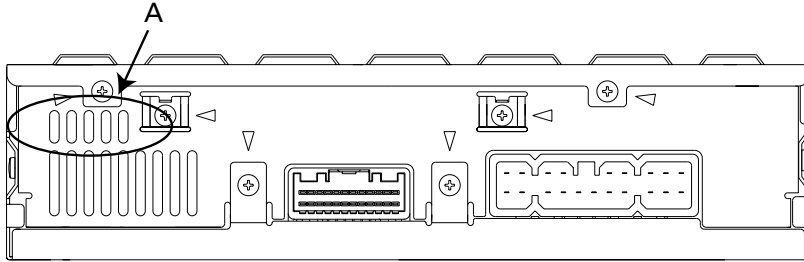
### < Cautions and Techniques for removing the DSP Unit >

In addition to the explanation on the previous page, there are some cautions and techniques for removing the DSP Unit.

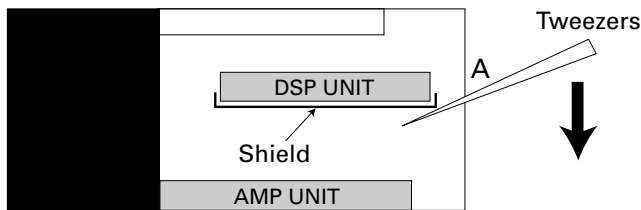
① Use a pair of tweezers as a lever.

Insert the tips into the upper side-slits (A in Rear View) and get the bottom side of the Shield.  
Push the tweezers down in the direction indicated by an arrow in Side View.

● Rear View



● Side View



② Now one of the 18-pin connectors gets disconnected from the DSP Unit by doing ① so that it becomes easier to detach the DSP Unit.

Lift and remove the DSP Unit and the Shield together.

Be careful not to give any stress to the 18-pin connectors on both sides when removing the DSP Unit and the Shield.



● Removing the Amp Unit (Fig.3)

- 1** Remove the six screws and then remove the Heat Sink.
- 2** Straighten the tab at location indicated.
- 3** Remove the four screws and then remove the Amp Unit.

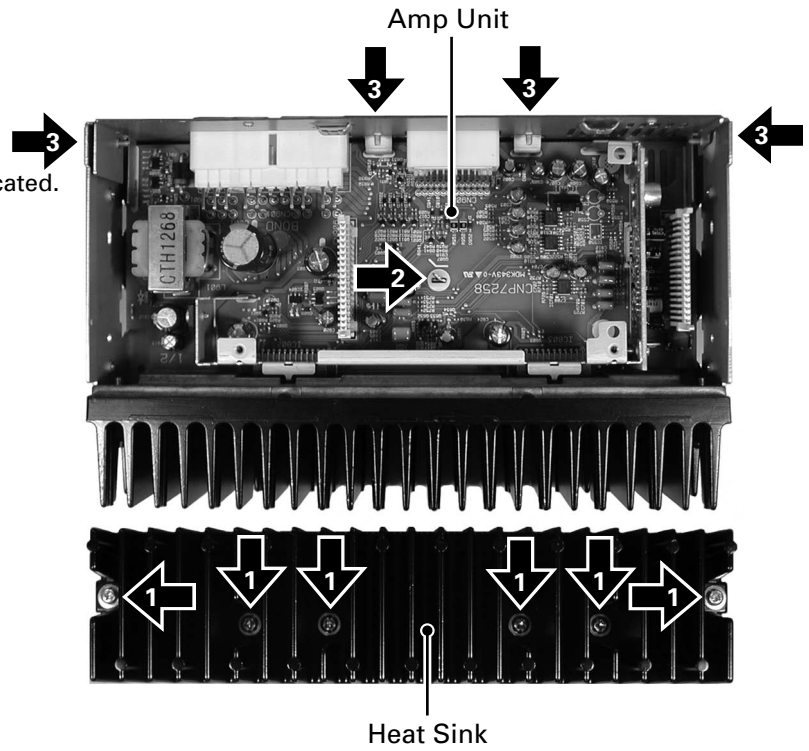
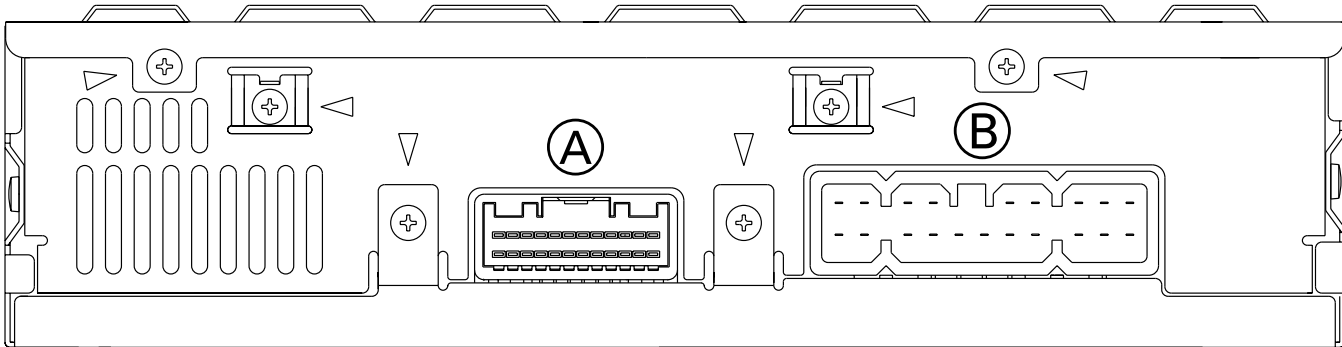


Fig.3

## 7.1.2 CONNECTOR FUNCTION DESCRIPTION



Ⓐ

ACC	SPD	LRHD	/	TX+	TX-	SLD	R+	R-	L+	L-	MUTE
TMUT	/	/	N-MU	(TX+)	(TX-)	(SLD)	(R+)	(R-)	(L+)	(L-)	(MUTE)

Ⓑ

FR+	FL+	RR+	RL+			WF1+	WF2+	(CTR+)	/	+B
FR-	FL-	RR-	RL-	GND	GND2	WF1-	WF2-	(CTR-)	/	+B2

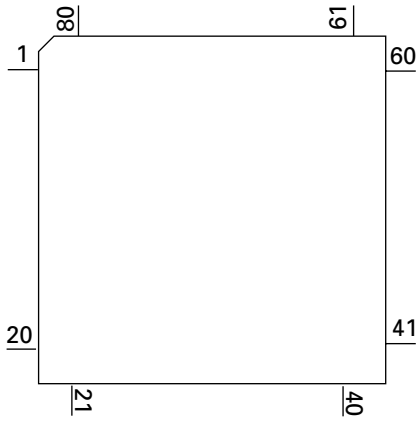
## 7.2 IC

### ● Pin Functions (PD5767A)

Pin No.	Pin Name	I/O	Function and Operation
1	DCK2	O	DSP I/F serial clock output 2
2	NC		Not used
3	VCS	O	Electronic volume strobe output
4	VDT	O	Electronic volume serial data output
5	VCK	O	Electronic volume serial clock output
6	CNVSS	I	Connect to GND
7	MODELO	I	R handle / L handle select input
8	NC		Not used
9	RESET	I	Reset input
10	XOUT	O	System clock output
11	VSS		GND
12	XIN	I	System clock input (10MHz)
13	VCC		Power supply (+5V)
14	NMI	I	Connect to VCC
15	SPEED	I	Speed sensor pulse input
16	BSSENS	I	Backup sense input
17	ASENS	I	ACC sense input
18	AVCINT	I	AVC-LAN data input
19	NC		Not used
20	AVCPW	O	AVC-LAN driver power output
21	BEEP	O	Beep pulse output
22	AVCIN	I	AVC-LAN data input
23	AVCOUT	O	AVC-LAN data output
24	DOUT	O	DSP I/F serial data output
25	NC		Not used
26	DCK1	O	DSP I/F serial clock output 1
27	TESTIN	I	Test program input
28	TSOUT	O	Test serial data output
29	TSIN	I	Test serial data input
30	TSCK	I	Test serial clock input
31	SMUTEIN	I	System mute input
32	DACCSN	O	CSN control for DAC soft mute
33	DACCCLK	O	CCLK control for DAC soft mute
34	DACCCTI	O	CDTI control for DAC soft mute
35	NAVMUTE	I	NAVI mute input
36	TELMUTE	I	TEL mute input
37,38	NC		Not used
39	ROMDT	I/O	ROM correction data output
40	MUTE	O	System mute output
41-60	NC		Not used
61	SMUTE	O	DSP soft mute output
62	NC		Not used
63	DIRST	O	DSP reset output
64,65	NC		Not used
66	SYSPW	O	System power output
67	DRST	O	DSP reset output (DSP)
68	DSPERR	I	DSP error detect input
69	DCRST	O	DSP reset output (CODEC)
70	DOUTL	O	DSP serial data output line (LOW)
71	DRQ	O	DSP request output
72	DSDRDY	I	DSP data ready input
73	DSRDY	I	DSP write in ready input
74	ASLIN	I	ASL noise input
75	AVSS		GND for microcomputer AD
76	NC		Not used
77	VREF	I	Reference input for microcomputer AD
78	AVCC		Power supply for microcomputer AD
79	DIN	I	DSP I/F serial data input
80	NC		Not used

A \* PD5767A

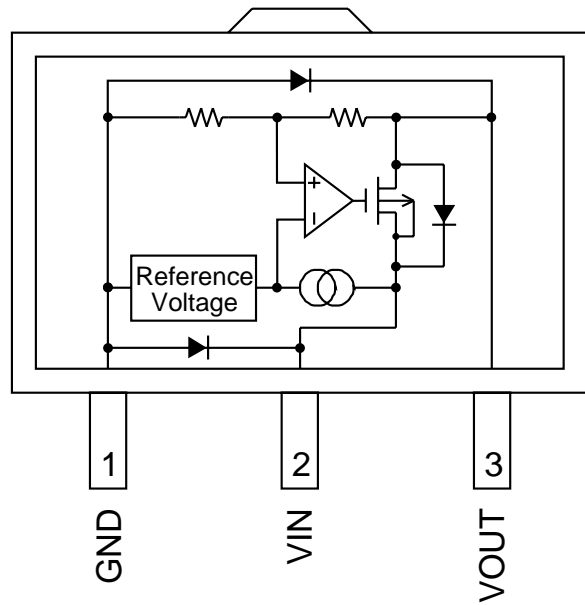
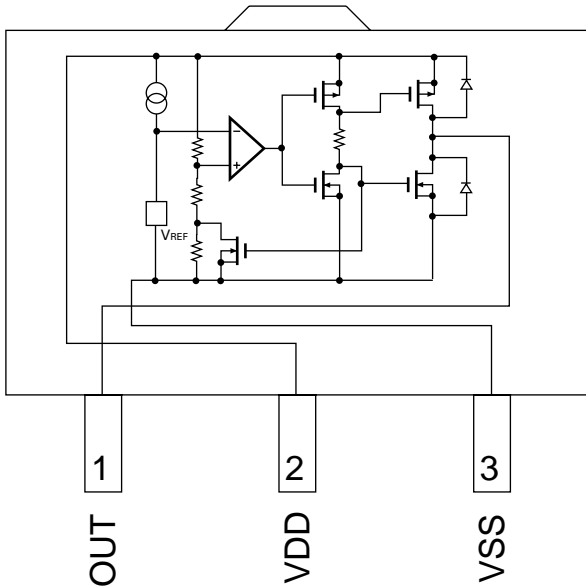
IC's marked by \* are MOS type.  
Be careful in handling them because they are very liable to be damaged by electrostatic induction.



S-80835CNUA-B8U

S-812C56AUA-C3K

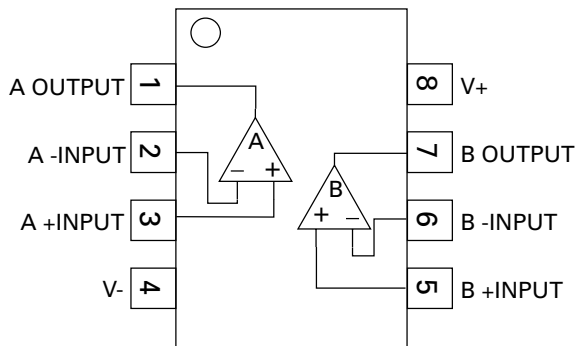
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NJM4580MD



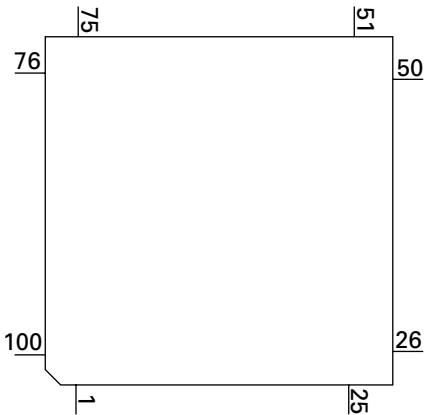
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### ● Pin Functions (AK7716VTA)

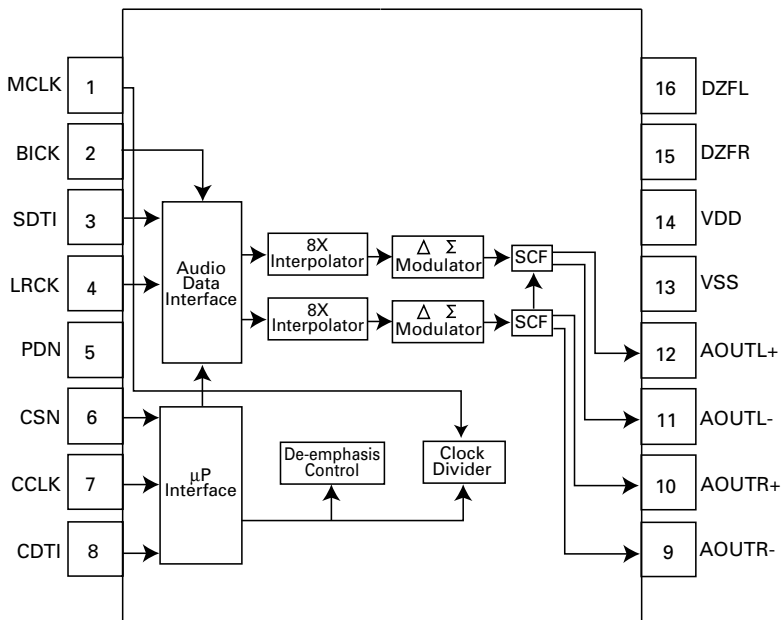
Pin No.	Pin Name	I/O	Function and Operation
1	TEST1	I	Test pin
2	INIT_RESET	I	Reset pin
3	CODEC_RESET	I	Reset pin
4	DSP_RESET	I	Reset pin
5	SMUTE	I	Soft mute pin
6	DVB		Power supply pin (5V)
7	SDINA	I	DSP serial data input pin
8	SDOUTA	O	ADC serial data output pin
9	SDOUTD1	O	DSP serial data output pin
10	SDIND1	I	DAC1 serial data input pin
11	SDIND2	I	DAC2 serial data input pin
12	SDOUTD2	O	DSP serial data output pin
13	SDOUT1	O	DSP serial data output pin
14	SDOUT2	O	DSP serial data output pin
15	SDIN1	I	DSP serial data input pin
16	SDIN2	I	DSP serial data input pin
17	LRCLK	I/O	L / R channel select pin
18	BITCLK	I/O	Serial bit clock pin
19	CLKO	O	Clock output pin
20	CTRL	I	Clock output control pin
21	DVDD		Digital : Power supply pin (5V)
22	DVSS		Digital : GND pin (0V)
23	OPCL	I	ADC, DAC connection select pin
24	XTI	I	Master clock input pin
25	XTO	O	Crystal oscillator output pin
26	SMODE	I	Slave / Master mode select pin
27	EESEL	I	EEPROM select pin
28	JX	I	Outside condition pin
29	RQ	I	Request pin for microcomputer interface
30	SCLK	I	Serial data clock pin for microcomputer interface
31	SI	I	Serial data input / Serial data output control pin for microcomputer interface
32	SO	O	Serial data output pin for microcomputer interface
33	RDY	O	Data write in ready output pin for microcomputer interface
34	DRDY	O	Output data ready for microcomputer interface
35	EEST	O	EEPROM write in status pin
36	DVSS		Digital : GND pin (0V)
37	DVDD		Digital : Power supply pin (5V)
38	CAS	O	Option DRAM : CAS pin
39	RAS	O	Option DRAM : RAS pin
40	WE	O	Outside SRAM / DRAM : Write enable pin
41-48	A0-7	O	Outside RAM : Address output pin
49	DVSS		Digital : GND pin (0V)
50	DVDD		Digital : Power supply pin (5V)
51-59	A8-16	O	Outside RAM : Address output pin
60	OE	O	Outside RAM : Output enable pin
61-68	IO0-7	I/O	Outside RAM : Data input / output pin
69	DVSS		Digital : GND pin (0V)
70	DVDD		Digital : Power supply pin (5V)
71	DVB		Power supply pin (5V)
72	EEDO	I	EEPROM serial data input pin
73	EEDI	O	EEPROM serial data output pin
74	EESK	O	EEPROM serial clock output pin
75	AVSS		GND for microcomputer AD
76	AOUTR2-	O	DAC2 Rch analogue inverting output pin
77	AOUTR2+	O	DAC2 Rch analogue non-inverting output pin
78	NC		Not used
79	AOUTL2-	O	DAC2 Lch analogue inverting output pin
80	AOUTL2+	O	DAC2 Lch analogue non-inverting output pin

Pin No.	Pin Name	I/O	Function and Operation
81	NC		Not used
82	AOUTR1-	O	DAC1 Rch analogue inverting output pin
83	AOUTR1+	O	DAC1 Rch analogue non-inverting output pin
84	NC		Not used
85	AOUTL1-	O	DAC1 Lch analogue inverting output pin
86	AOUTL1+	O	DAC1 Lch analogue non-inverting output pin
87	NC		Not used
88	VRDAL	I	DAC standard voltage input pin
89	AVSS		Analogue : GND pin (0V)
90	AVDD		Analogue : Power supply pin (5V)
91	VRDAH	I	DAC standard voltage input pin
92	VCOM	O	Analogue common voltage pin
93	VRADL	I	ADC standard voltage input pin
94	AVSS		Analogue : GND pin (0V)
95	AVDD		Analogue : Power supply pin (5V)
96	VRADH	I	ADC standard voltage input pin
97	AINR-	I	ADC Rch analogue inverting input pin
98	AINR+	I	ADC Rch analogue non-inverting input pin
99	AINL-	I	ADC Lch analogue inverting input pin
100	AINL+	I	ADC Lch analogue non-inverting input pin

\* AK7716VTA

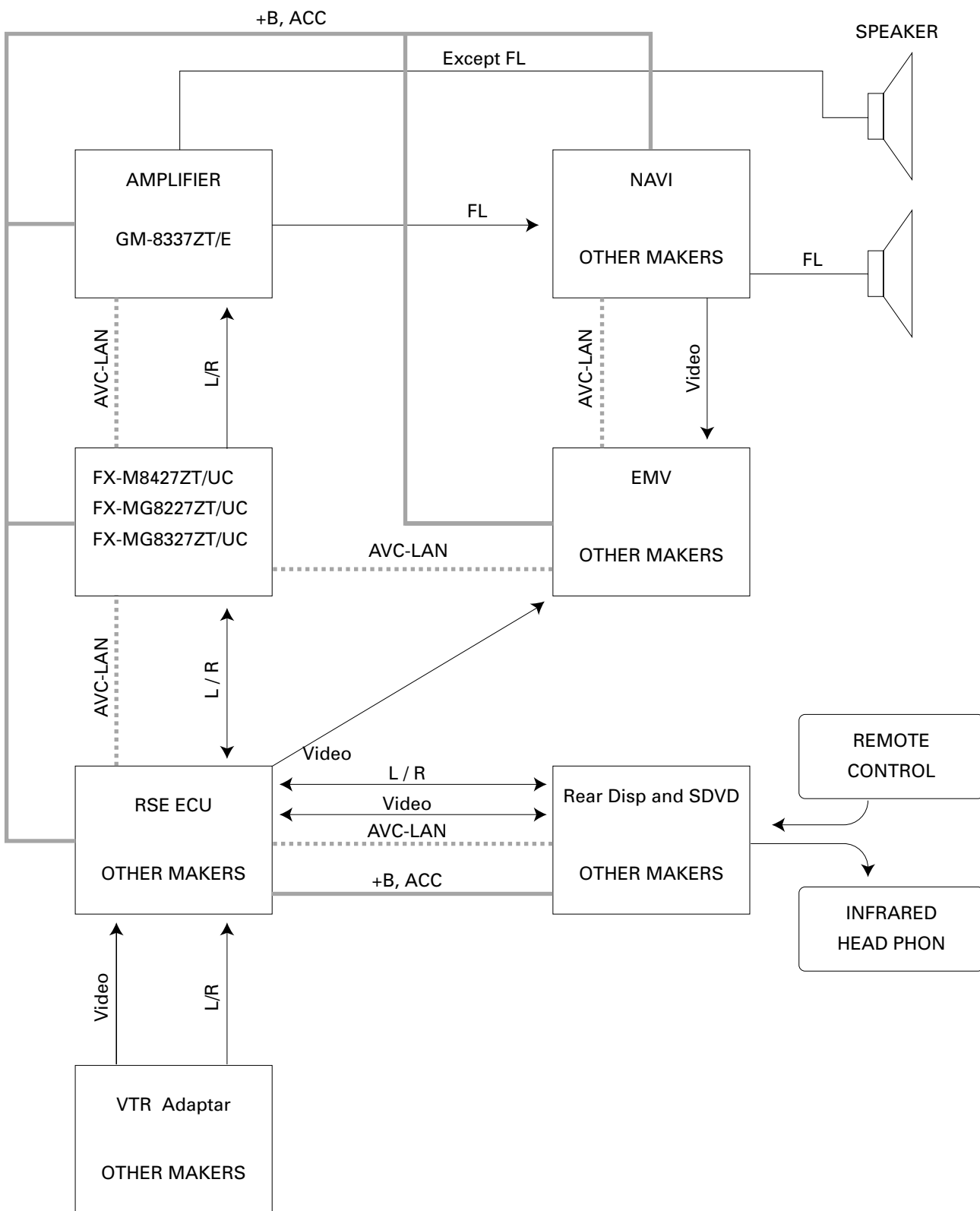


AK4382AVT



### 7.3 EXPLANATION

#### 7.3.1 SYSTEM BLOCK DIAGRAM



A

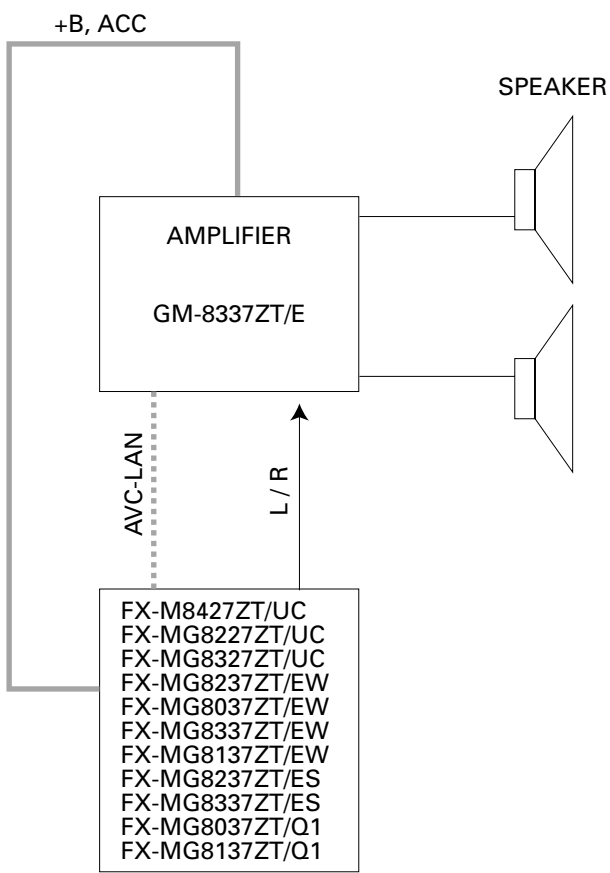
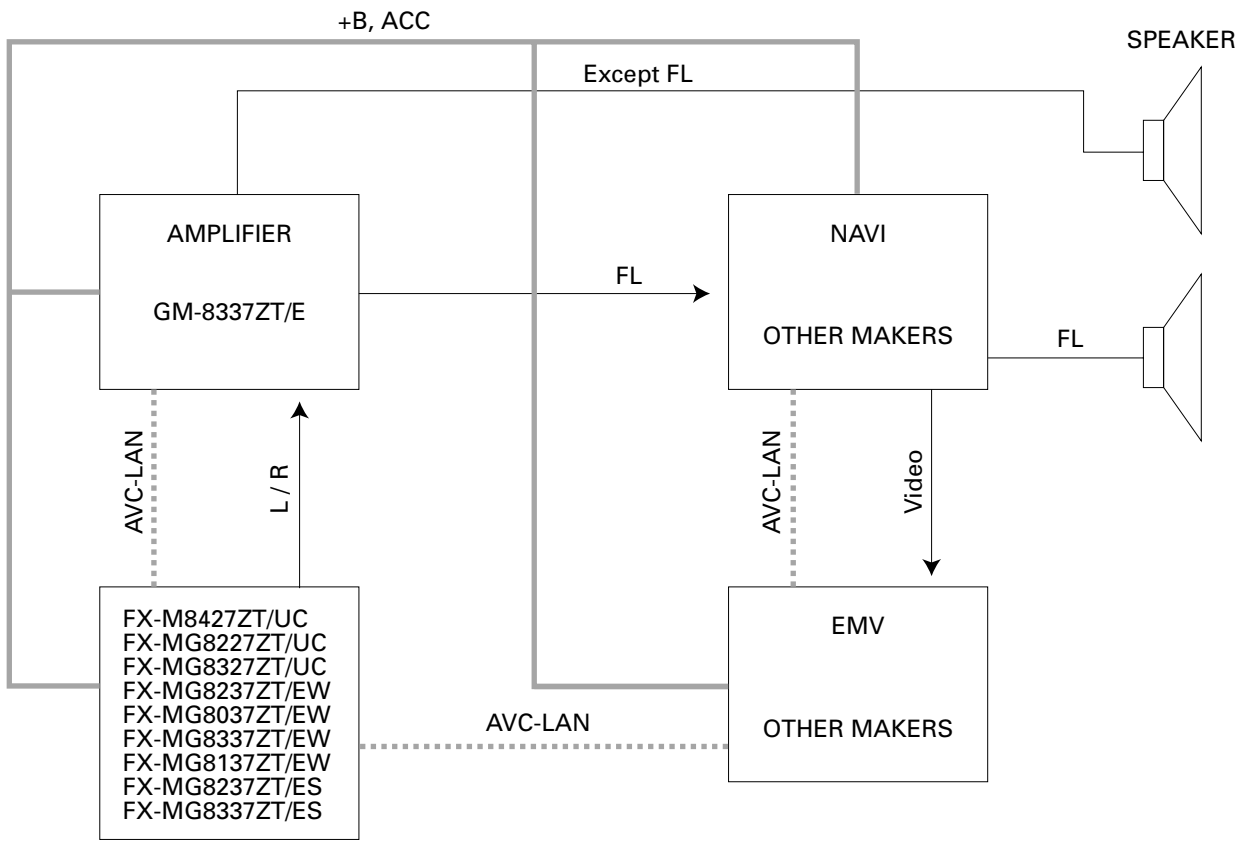
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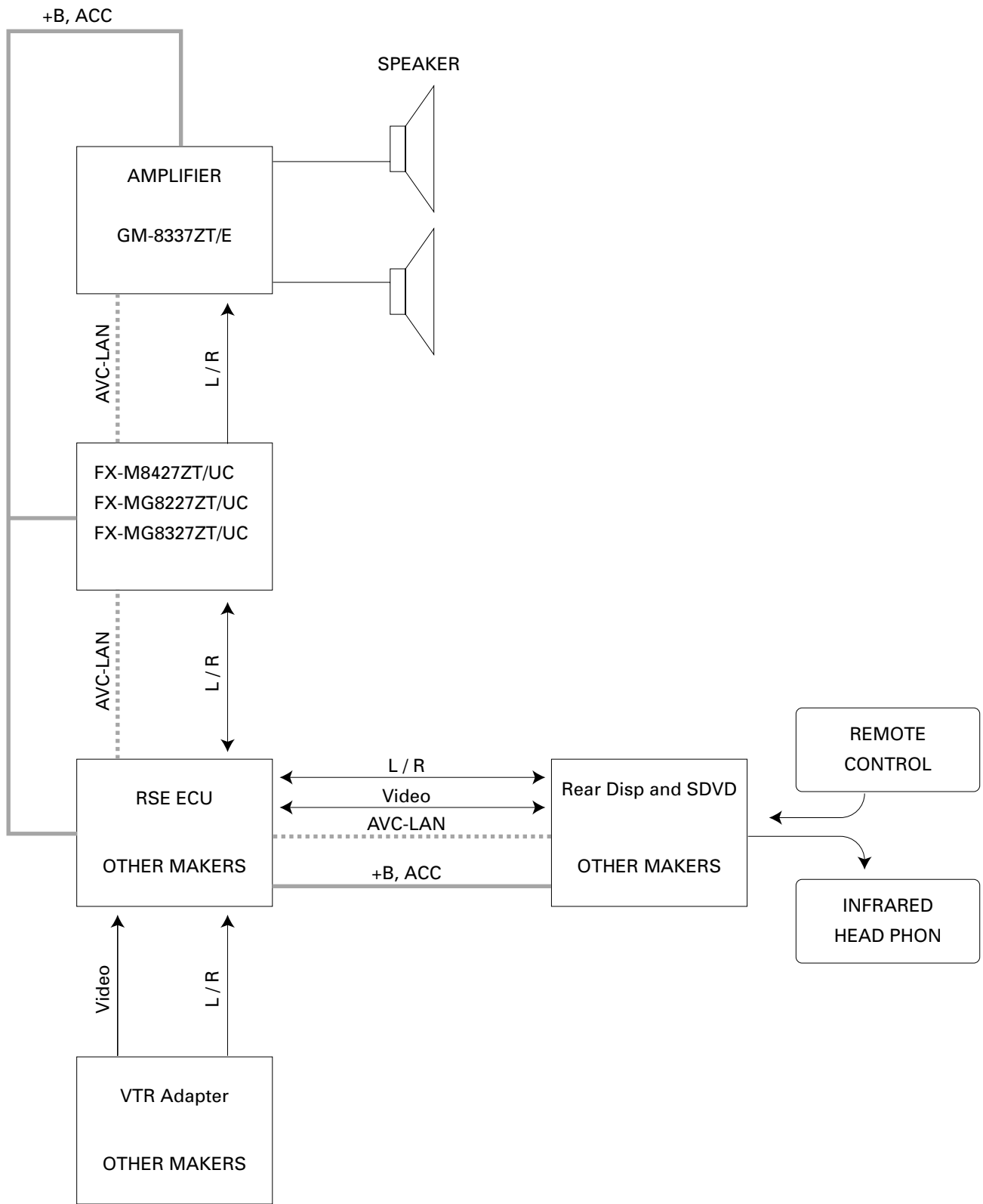
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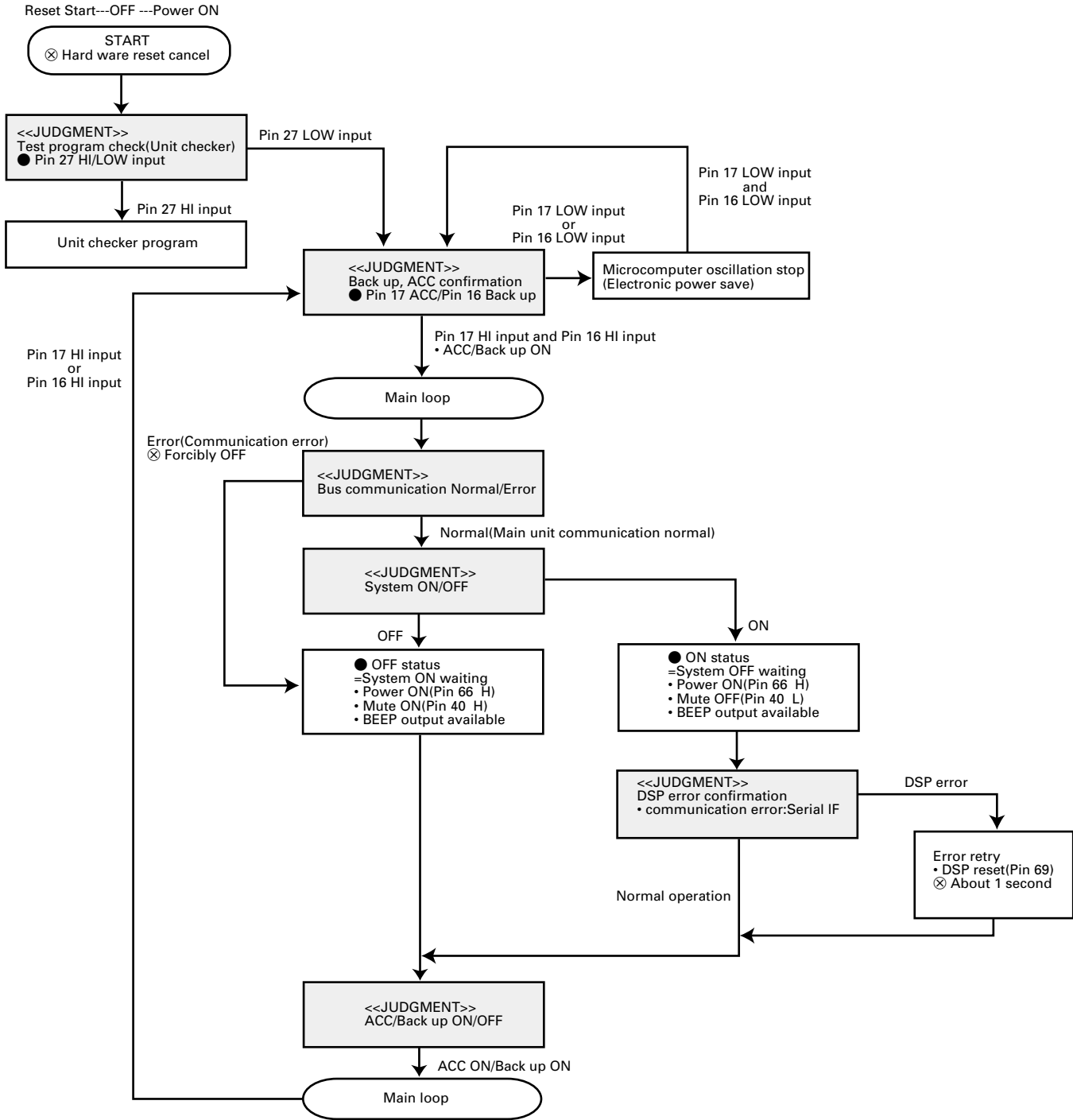
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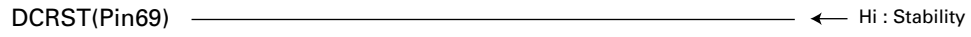
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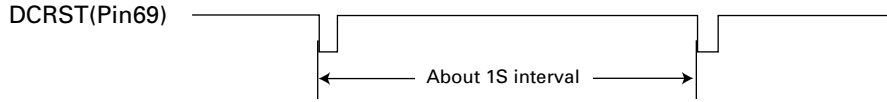
### 7.3.2 OPERATIONAL FLOW CHART



● DSP error check (Normal)



● DSP error check ---Error continuation



## 8. OPERATIONS

There is no information to be shown in this chapter.

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