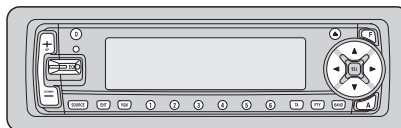


# Service Manual

Pioneer

DEH-P900R/UC



ORDER NO.  
CRT2324

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

# DEH-P900R

UC

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

# DEH-P9050

ES

COMPACT  
disc  
DIGITAL AUDIO

- See the separate manual CX-916(CRT2300) for the CD mechanism description, disassembly and circuit description.
- The CD mechanism employed in this model is one of S8 series.

## SERVICE PRECAUTION

In the first production, the following parts had been mounted temporarily to support the microcomputer <DEH-P900R/UC> IC601 (PD5483A): R591 (RS1/16S473J), R592 (RS1/16S102J), and IC591 (Non spare part).  
When replacing IC601 PD5483A, use PD5483B as IC601, and then remove the 3 parts listed above.  
<DEH-P9050/ES> IC601 (PD5484A): R591 (RS1/16S473J), R592 (RS1/16S102J), and IC591 (Non spare part).  
When replacing IC601 PD5484A, use PD5484B as IC601, and then remove the 3 parts listed above.

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**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan  
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**PIONEER ELECTRONICS ASIACENTRE PTE.LTD.** 253 Alexandra Road, #04-01, Singapore 159936

● **CD Player Service Precautions**

1. For pickup unit(CXX1285) handling, please refer to "Disassembly"(see page 62).  
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(Protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please check the grating after changing the service pickup unit(see page 56).

## 1. SAFETY INFORMATION

### CAUTION

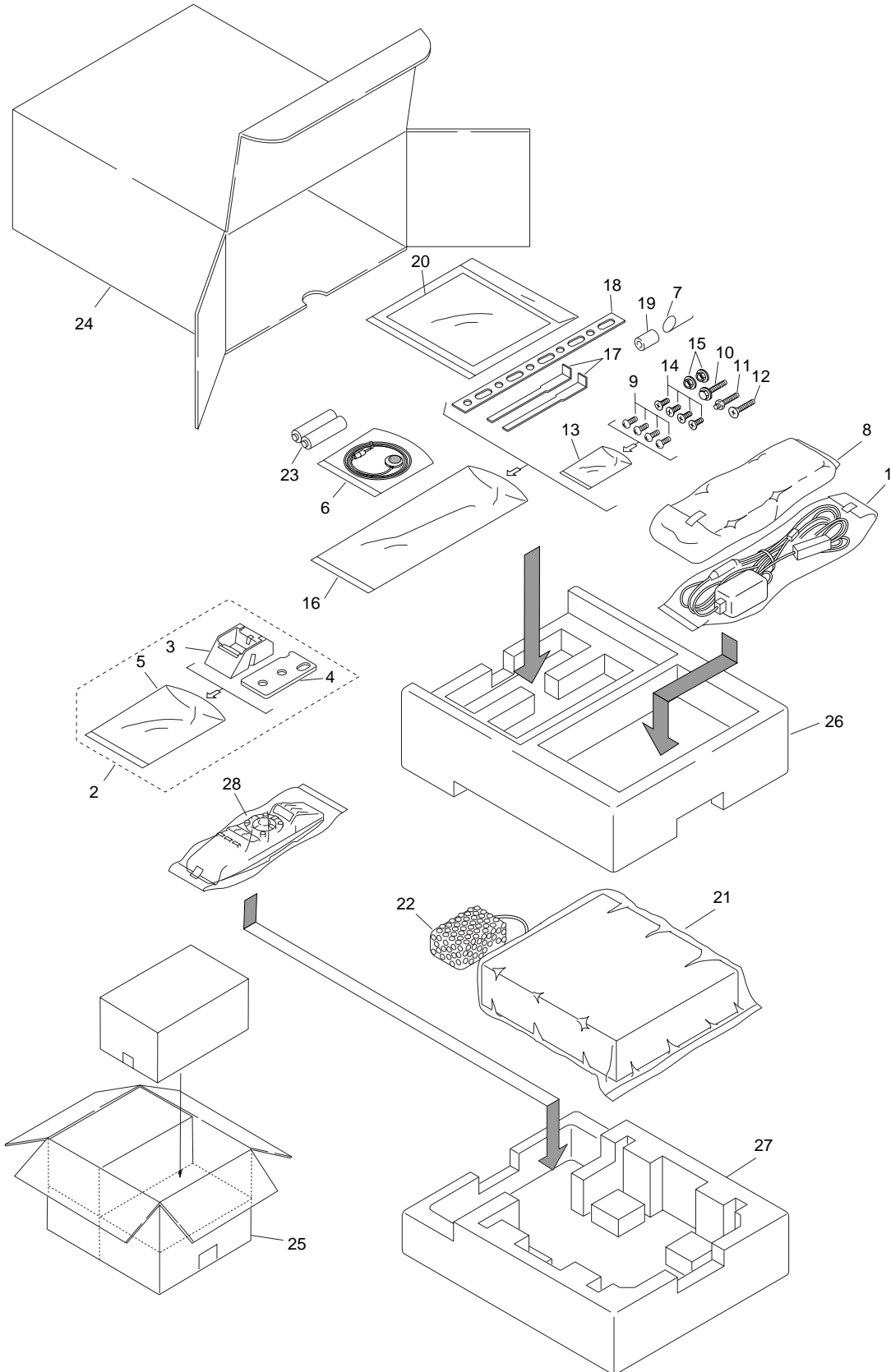
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly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

### WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.  
Health & Safety Code Section 25249.6 - Proposition 65

## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 PACKING



**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.

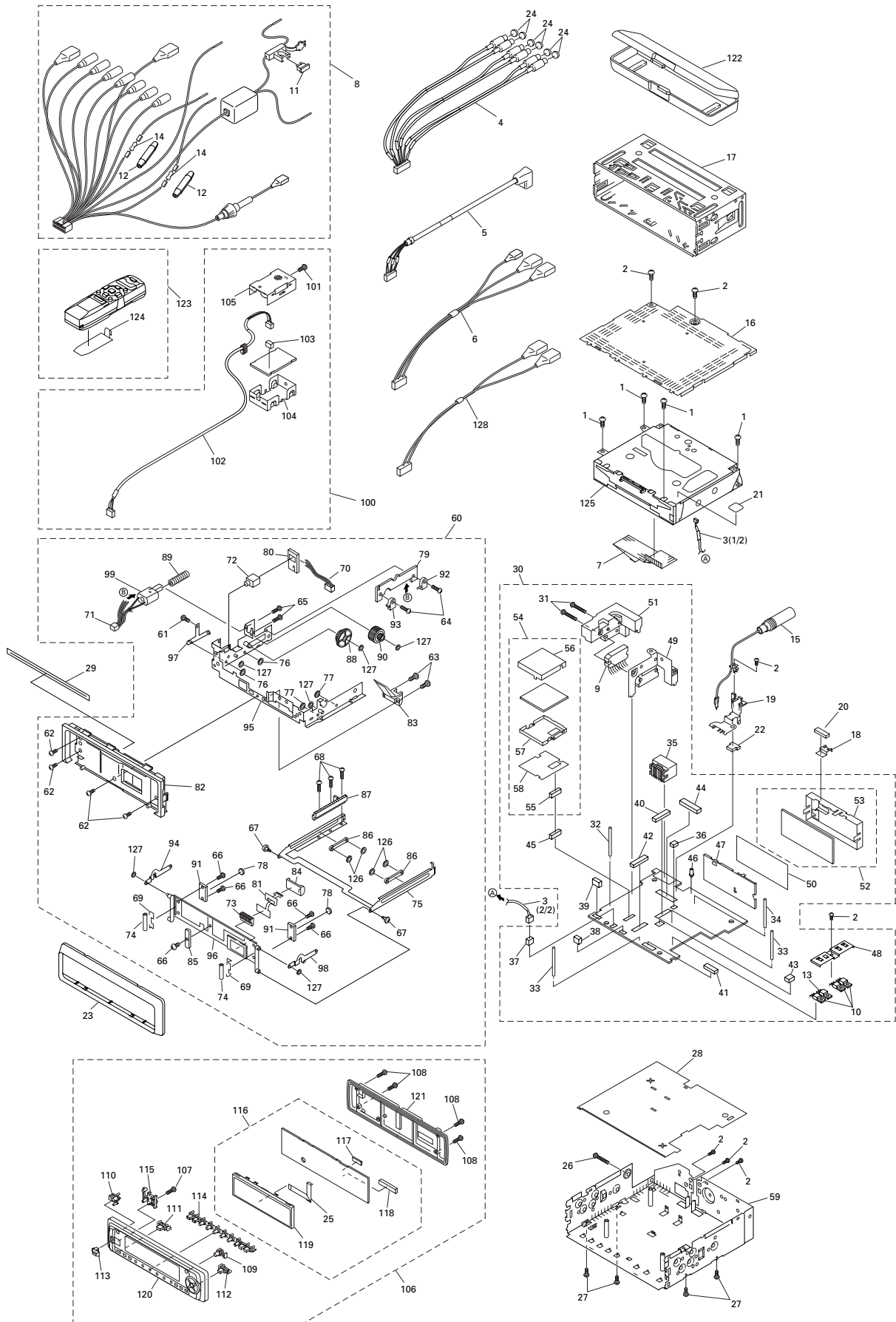
**● PACKING SECTION PARTS LIST**

Mark	No.	Description	Part No.	
			DEH-P900R/UC	DEH-P9050/ES
	1	Cord Assy	CDE5854	CDE5854
	2	Base Assy	CEA2426	CEA2426
*	3	Base	CNS5031	CNS5031
*	4	Sheet	CZA3371	CZA3371
	5	Polyethylene Bag	CZE3188	CZE3188
	6	Microphone Assy	CPM1022	CPM1022
	7	Spring	CBH-865	CBH-865
	8	Case Assy	CXB3520	CXB3520
	9	Screw	BMZ50P060FMC	BMZ50P060FMC
	10	Screw	CBA-102	Not used
	11	Screw	CBA1002	CBA1002
	12	Screw	CBA1120	CBA1120
*	13	Polyethylene Bag	CEG-127	CEG-127
	14	Screw	CMZ50P060FMC	CMZ50P060FMC
	15	Nut	NF50FMC	Not used
*	16	Polyethylene Bag	CEG-158	CEG-158
	17	Handle	CNC5395	CNC5395
	18	Strap	CNF-111	Not used
	19	Bush	CNV1917	CNV1917
	20-1	Polyethylene Bag	CEG1116	CEG1116
	20-2	Owner's Manual	CRD2965	CRD2971
	20-3	Owner's Manual	Not used	CRD2972
	20-4	Installation Manual	CRD2966	CRD2973
*	20-5	Caution Card	CRP1207	CRP1207
*	20-6	Warranty Card	CRY1070	Not used
*	20-7	Caution Card	CRP1209	CRP1210
	21	Polyethylene Bag	CEG1185	CEG1088(Cover)
	22	Air Cushioned Bag	CEG1192	CEG1192
	23	Battery	CEX1006	CEX1006
	24	Carton	CHG3772	CHG3770
	25	Contain Box	CHL3772	CHL3770
	26	Protector	CHP2032	CHP2032
	27	Protector	CHP2033	CHP2033
	28	Remote Control Assy	CXB3875	CXB3875

**● Owner's Manual, Installation Manual**

Model	Part No.	Language
DEH-P900R/UC	CRD2965	English, French
	CRD2966	English, French
DEH-P9050/ES	CRD2971	English, Spanish
	CRD2972	Portuguese, Arabic
	CRD2973	English, Spanish, Portuguese, Arabic

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P060FMC	51	Heat Sink	CNR1535
2	Screw	BSZ30P050FMC	52	FM/AM Tuner Unit	CWE1501
3	Cord	CDE5536	53	Holder	CNC7532
4	Cord Assy	CDE5840	54	DSP Unit	CWX2323
5	Cord Assy	CDE5842	55	Connector(CN3001)	CKS3782
6	Cord Assy	See Contrast table(2)	56	Case	CNC8166
7	Connector	CDE5846	57	Case	CNC8167
8	Cord Assy	CDE5854	58	Insulator	CNM6130
9	IC(IC301)	PAL005A	59	Chassis Unit	CXB3556
10	Transistor(Q803,921,998)	2SD2396	60	Panel Assy	CXB3578
11	Fuse(10A)	CEK1136	61	Screw	BMZ20P030FMC
12	Cap	CNS1472	62	Screw	CBA1154
13	IC(IC971)	NJM7805FA	63	Screw	BPZ20P060FMC
14	Resistor	RS1/2PMF102J	64	Screw	CBA1060
15	Antenna Cable	CDH1256	65	Screw	CBA1061
16	Case	CNB2426	66	Screw	CBA1082
17	Holder	CNC6798	67	Screw	CBA1430
18	Earth Terminal	See Contrast table(2)	68	Screw	CBA1454
19	Holder	CNC8170	69	Spring	CBH2130
20	Spacer	See Contrast table(2)	70	Cord	CDE5856
21	Cushion	CNM6065	71	Cord	CDE5960
22	Cushion	CNM6387	72	Mini Jack(CN4602)	CKN1015
23	Panel	See Contrast table(2)	73	Connector	CKS3997
24	Cap	CNV2680	74	Roller	CLA3583
* 25	PCB	CNP5508	75	Frame	CNC8201
26	Screw	BSZ30P200FMC	76	Spacer	CNM6155
27	Screw	CBA1447	77	Spacer	CNM6156
28	Insulator	CNM6135	78	Spacer	CNM6419
29	Cover	CNM6489	79	PCB	CNP5321
30	Tuner Amp Unit	See Contrast table(2)	80	PCB	CNP5341
31	Screw	BMZ26P160FMC	81	PCB	CNP5355
32	Clamper	CEF1004	82	Panel	CNS5232
33	Clamper	CEF1008	83	Lighting Conductor	CNV5605
34	Clamper	CEF1009	84	Cover	CNV5610
35	Plug(CN901)	CKM1278	85	Guide	CNV5672
36	Plug(CN141)	CKS-766	86	Guide	CNV5696
37	Plug(CN251)	CKS-783	87	Rack	CNV5697
38	Plug(CN131)	CKS-784	88	Gear	CNV5698
39	Plug(CN851)	CKS-786	89	Gear	CNV5761
* 40	Plug(CN101)	CKS1058	90	Torque Limiter Unit	CNV5762
41	Connector(CN801)	CKS1532	91	Holder	CNV5763
42	Connector(CN991)	CKS1960	92	Switch(S951)	CSN1012
43	Connector(CN681)	CKS3597	93	Switch(S952)	CSN1022
44	Connector(CN351)	CKS3606	94	Arm Unit	CXB3574
45	Connector(CN252)	CKS3781	95	Frame Unit	CXB3575
46	Mini Pin Jack(CN451)	CKX1046	96	Holder Unit	CXB3576
47	Holder	See Contrast table(2)	97	Bracket Unit	CXB3577
48	Holder	CNC8168	98	Arm Unit	CXB3866
49	Holder	CNC8169	99	Motor(M951)	CXM1085
50	Insulator	See Contrast table(2)	100	ASL Unit	CWX2322

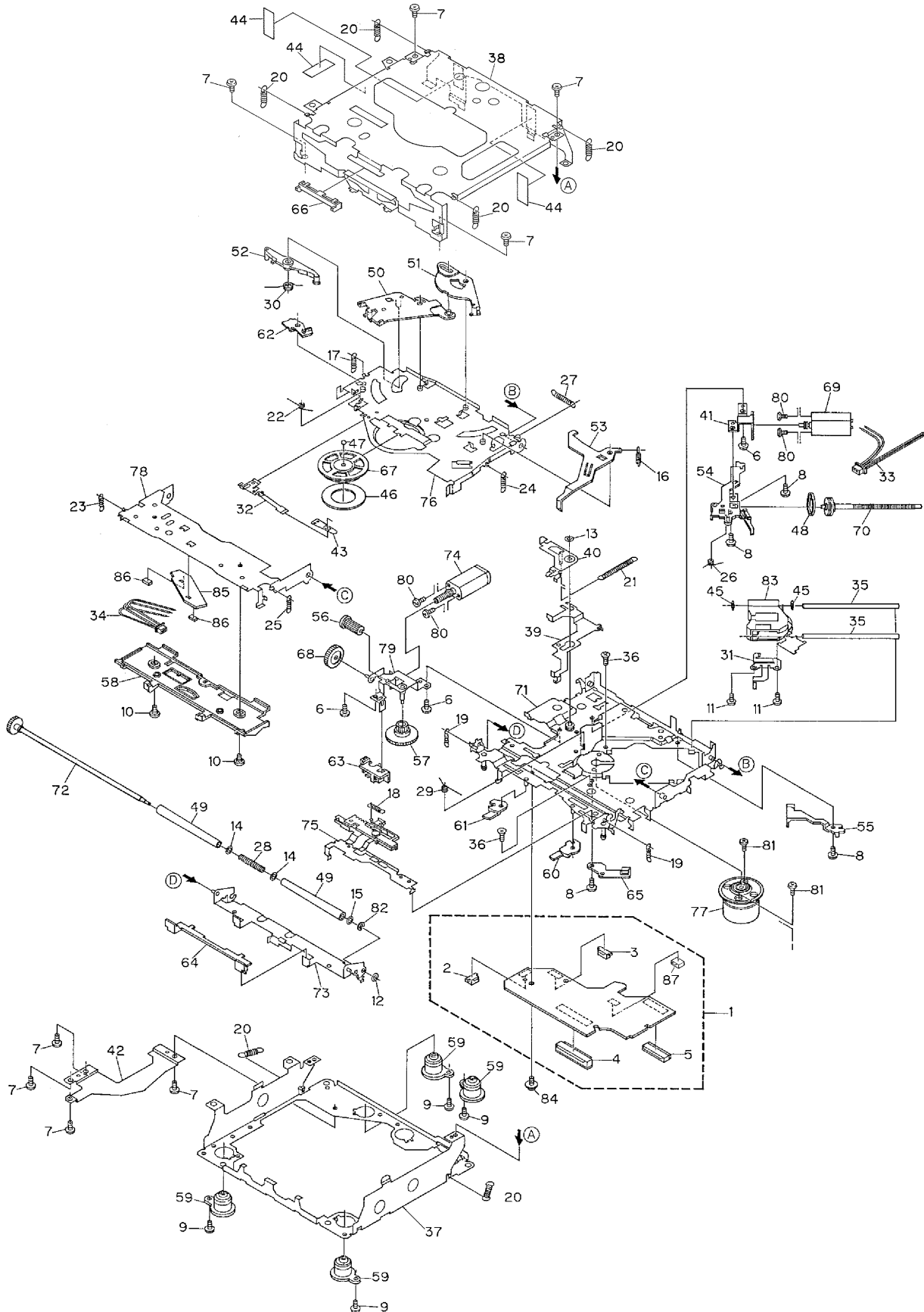
Mark No.	Description	Part No.	Mark No.	Description	Part No.
101	Screw	BSZ30P055FMC	116	Keyboard Unit	CWM6226
102	Cord Assy	CDE5845	117	Connector(CN1902)	CKS3995
103	Plug(CN4501)	CKS-784	118	Connector(CN1901)	CKS3996
104	Case	CNB2299	119	OEL Module	MXK8002
105	Case	CNB2300	120	Grille Unit	See Contrast table(2)
106	Detach Grille Assy	See Contrast table(2)	121	Cover Unit	See Contrast table(2)
107	Screw	BPZ20P060FMC	122	Case Assy	CXB3520
108	Screw	BPZ20P080FZK	123	Remote Control Assy	CXB3875
109	Button(≡)	See Contrast table(2)	124	Battery Cover	CNS5032
110	Button(D)	CAC5891	125	CD Mechanism Module(S8)	CXK5252
111	Button(SOURCE)	See Contrast table(2)	126	Washer	2-1816-0035-D2-00
112	Button(<▷)	See Contrast table(2)	127	Washer	2-1821-0045-D2-00
113	Button(EQ)	See Contrast table(2)	128	Cord Assy	See Contrast table(2)
114	Button(1-6)	See Contrast table(2)			
115	Housing	CNV5606			

**(2) CONTRAST TABLE**

DEH-P900R/UC and DEH-P9050/ES are constructed same except for the following:

Mark No.	Description	Part No.	
		DEH-P900R/UC	DEH-P9050/ES
6	Cord Assy	CDE5843	Not used
18	Earth Terminal	CNC7358	CNC6469(Holder)
20	Spacer	CNM6482	CNM4870(Cushion)
23	Panel	CNS5256	CSN5548
30	Tuner Amp Unit	CWM6214	CWM6216
47	Holder	CNC7533	Not used
50	Insulator	CNM5967	Not used
106	Detach Grille Assy	CXB3273	CXB3978
109	Button(≡)	CNC5890	CNC6126
111	Button(SOURCE)	CNC5892	CNC5901
112	Button(<▷)	CNC5893	CNC6045
113	Button(EQ)	CNC5894	CNC5899
114	Button(1-6)	CNC5896	CNC5911
120	Grille Unit	CXB3272	CXB3982
121	Cover Unit	CXB4309	CXB4310
128	Cord Assy	Not used	CDE5844

### 2.3 CD MECHANISM MODULE





## ● CD MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Control Unit	CWX2359	46	Sheet	CNM6215
2	Connector(CN802)	CKS2192	47	Ball	CNR1189
3	Connector(CN801)	CKS2193	48	Belt	CNT1086
4	Connector(CN701)	CKS2771	49	Roller	CNV4509
5	Connector(CN101)	CKS3486	50	Arm	CNV5246
6	Screw	BMZ20P030FZK	51	Arm	CNV5247
7	Screw	BSZ20P040FZK	52	Arm	CNV5248
8	Screw(M2×3)	CBA1077	53	Arm	CNV5249
9	Screw(M2×6)	CBA1489	54	Guide	CNV5254
10	Screw	CBA1243	55	Guide	CNV5255
11	Screw(M2×4)	CBA1362	56	Gear	CNV5257
12	Washer	CBF1037	57	Gear	CNV5256
13	Washer	CBF1038	58	Guide	CNV5869
14	Washer	CBF1060	59	Damper	CNV5266
* 15	Washer	CBF1075	60	Arm	CNV5359
16	Spring	CBH2079	61	Arm	CNV5360
17	Spring	CBH2117	62	Arm	CNV5361
18	Spring	CBH2278	63	Guide	CNV5509
19	Spring	CBH2110	64	Guide	CNV5510
20	Spring	CBH2282	65	Holder	CNV5578
21	Spring	CBH2114	66	Guide	CNV5751
22	Spring	CBH2115	67	Clamper	CNV5758
23	Spring	CBH2080	68	Gear	CNV5813
24	Spring	CBH2118	69	Motor Unit(M1)	CXB2190
25	Spring	CBH2161	70	Screw Unit	CXB2191
26	Spring	CBH2163	71	Chassis Unit	CXB2192
27	Spring	CBH2189	72	Gear Unit	CXB2193
28	Spring	CBH2249	73	Arm Unit	CXB2194
29	Spring	CBH2260	74	Motor Unit(M2)	CXB2195
30	Spring	CBH2262	75	Lever Unit	CXB2553
31	Spring	CBL1367	76	Arm Unit	CXB2554
32	Spring	CBL1369	77	Motor Unit(M3)	CXB2562
33	Connector	CDE5531	78	Arm Unit	CXB2795
34	Connector	CDE5532	79	Bracket Unit	CXB4071
35	Shaft	CLA3304	80	Screw	JFZ20P025FMC
36	Screw(M2.6×6)	CBA1458	81	Screw	JGZ17P025FZK
37	Frame	CNC7544	82	Washer	YE15FUC
38	Frame	CNC7545	83	Pickup Unit(Service)(P8)	CXX1285
39	Lever	CNC7546	84	Screw	IMS26P030FMC
40	Arm	CNC7739	* 85	PCB	CNX2982
41	Bracket	CNC7798	86	Photo-transistor(Q1, 2)	CPT230SX-TU
42	Plate	CNC8090	87	Connector(CN702)	CKS2191
43	Spacer	CNM3315			
44	Sheet	CNM6170			
45	Cushion	CNM6204			

### 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

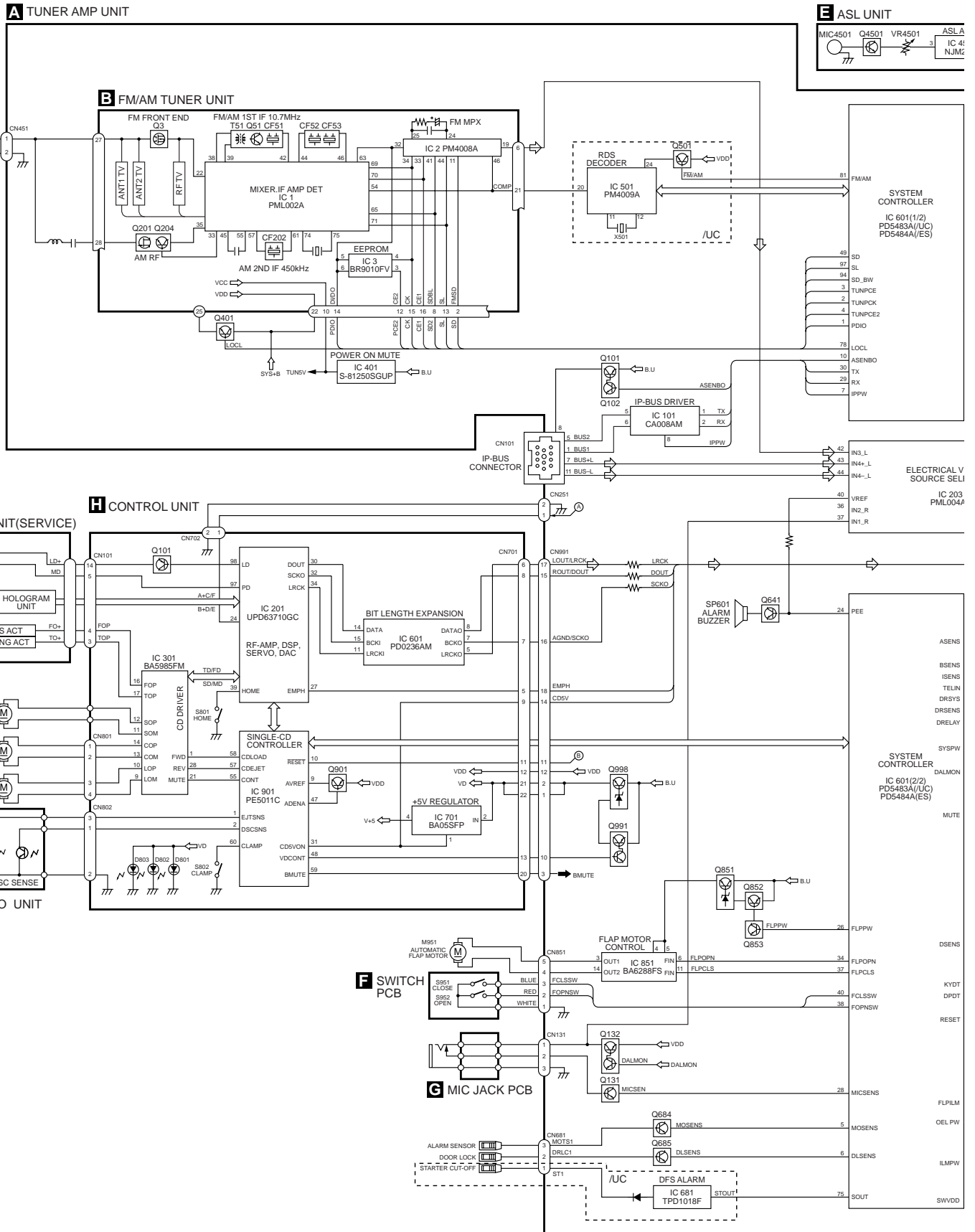
#### 3.1 BLOCK DIAGRAM

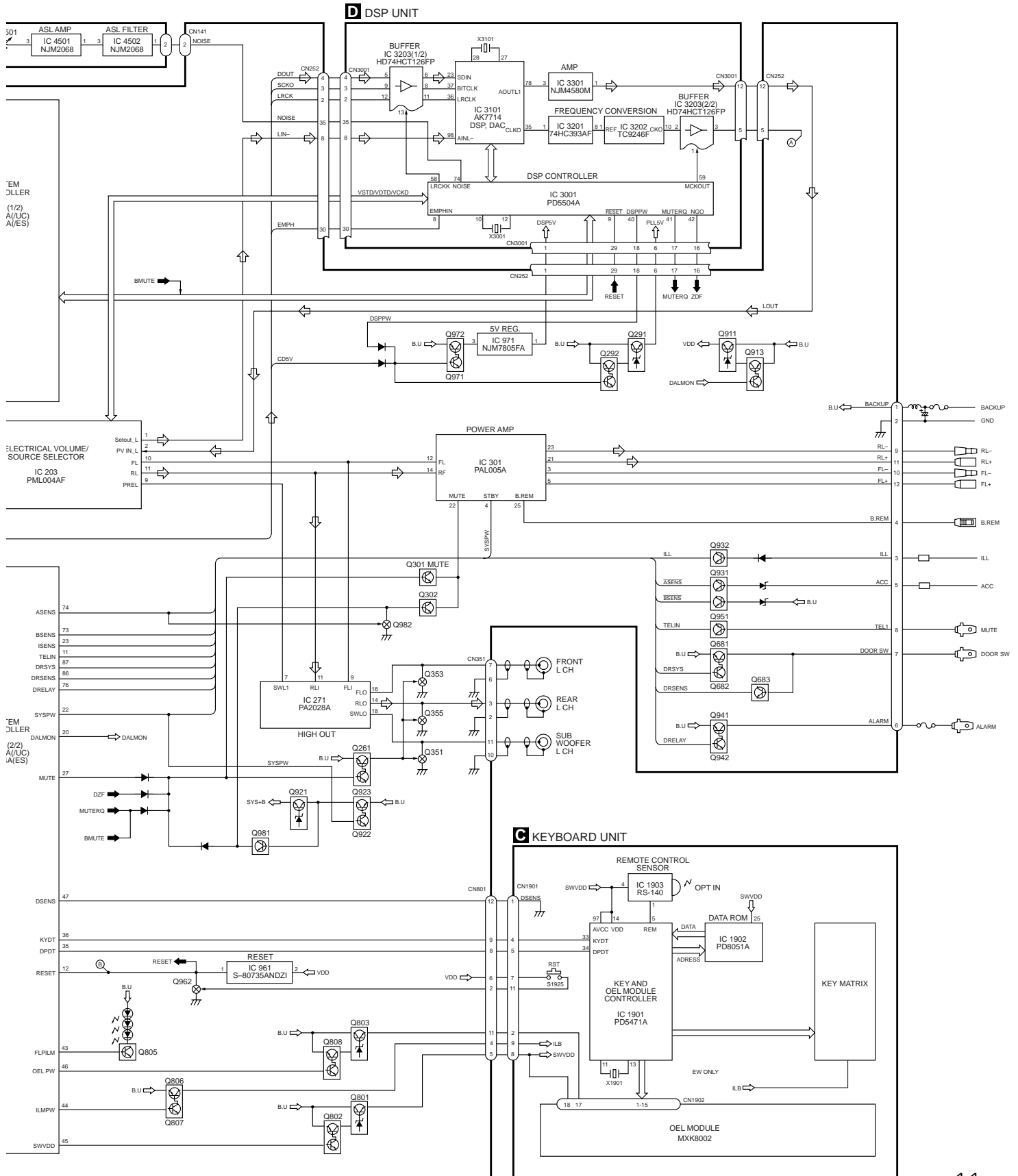
A

B

C

D





A

B

C

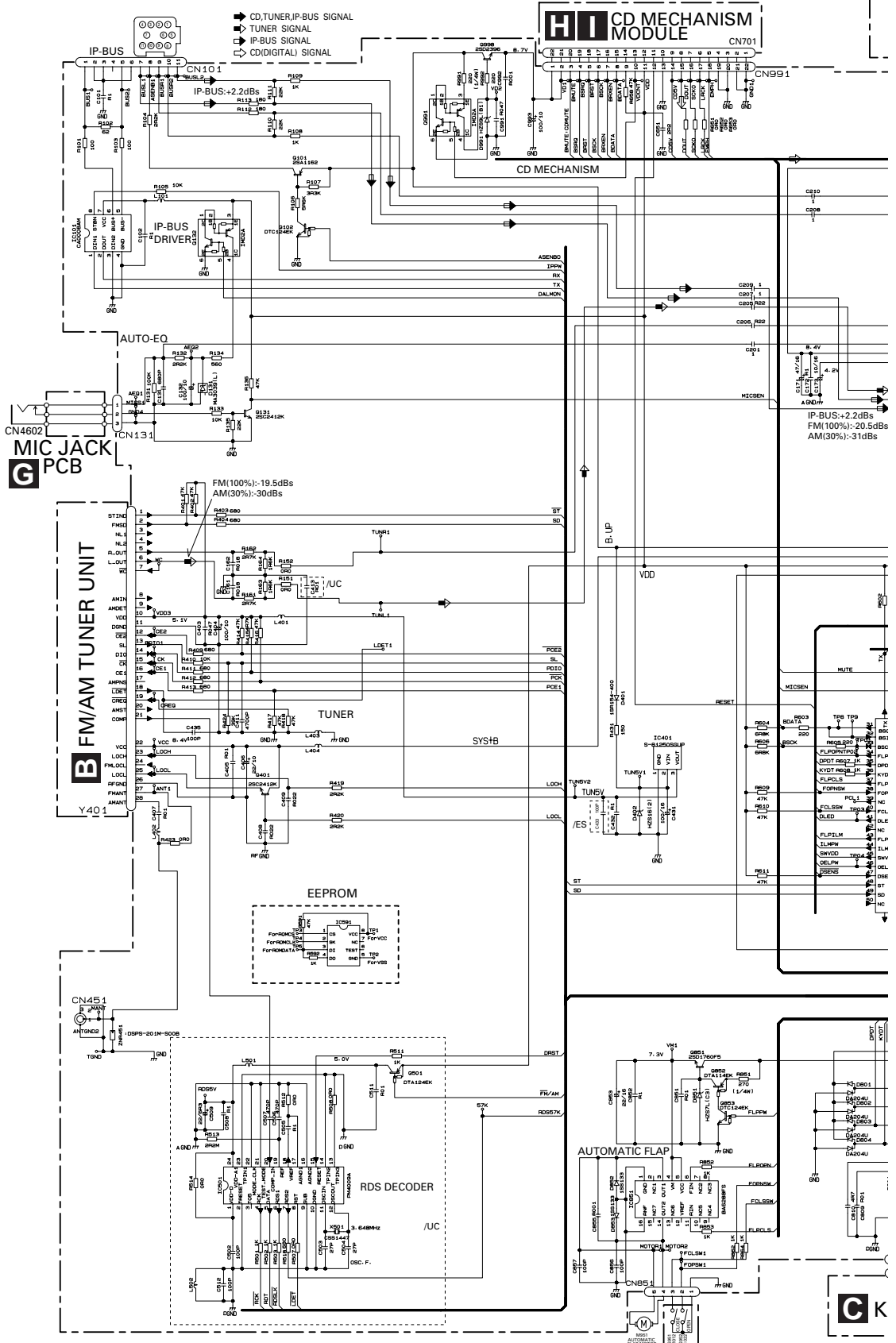
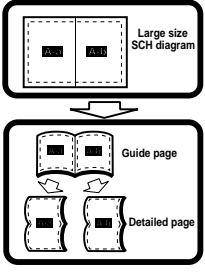
D

3.2 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-a

A



B

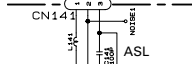
C

D

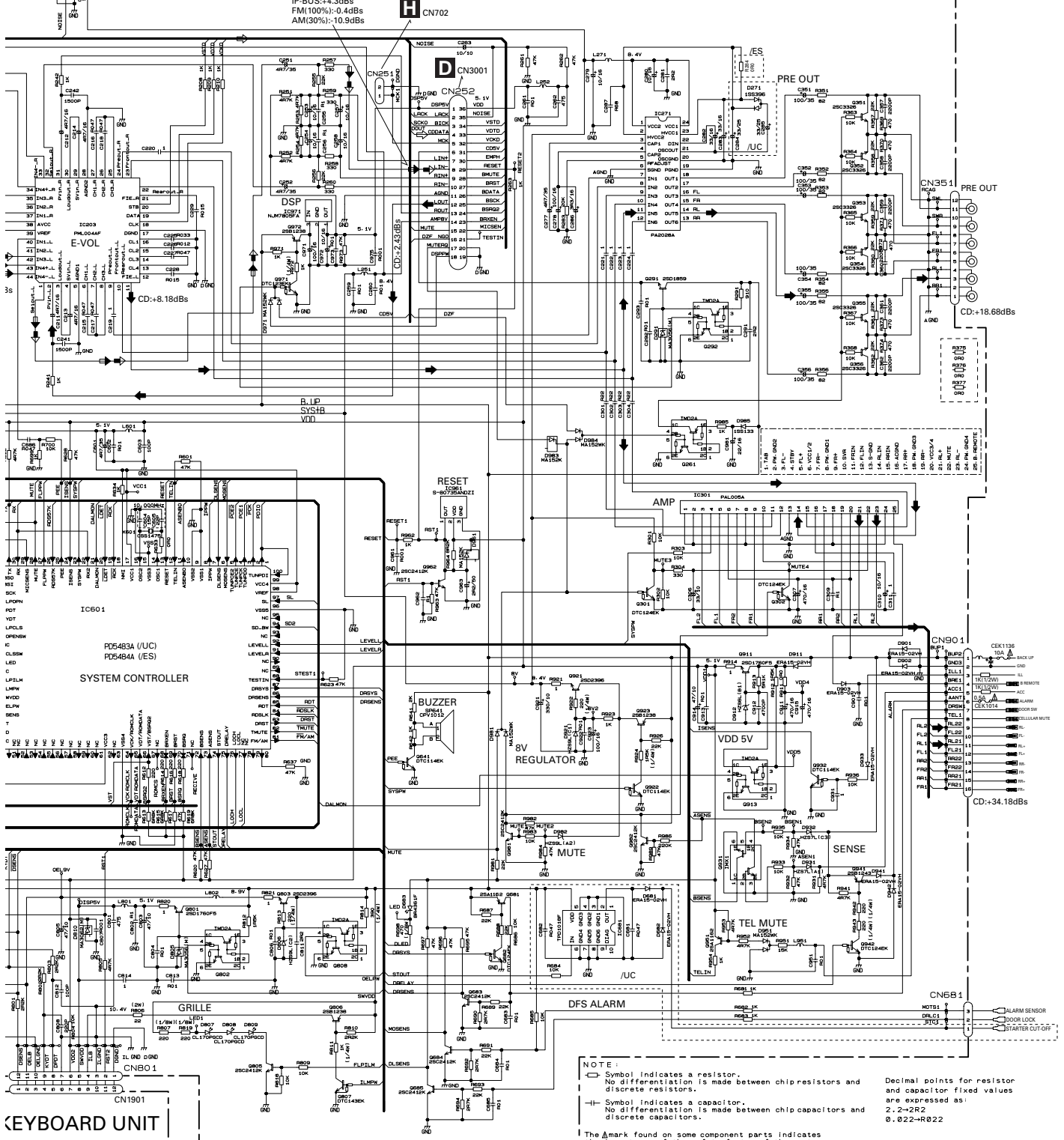


# A-b

## E ASL UNIT



## A TUNER AMP UNIT



## D KEYBOARD UNIT

**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.

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.

Decimal points for resistor and capacitor fixed values are expressed as:  
 2.2=22Ω  
 0.022=R022

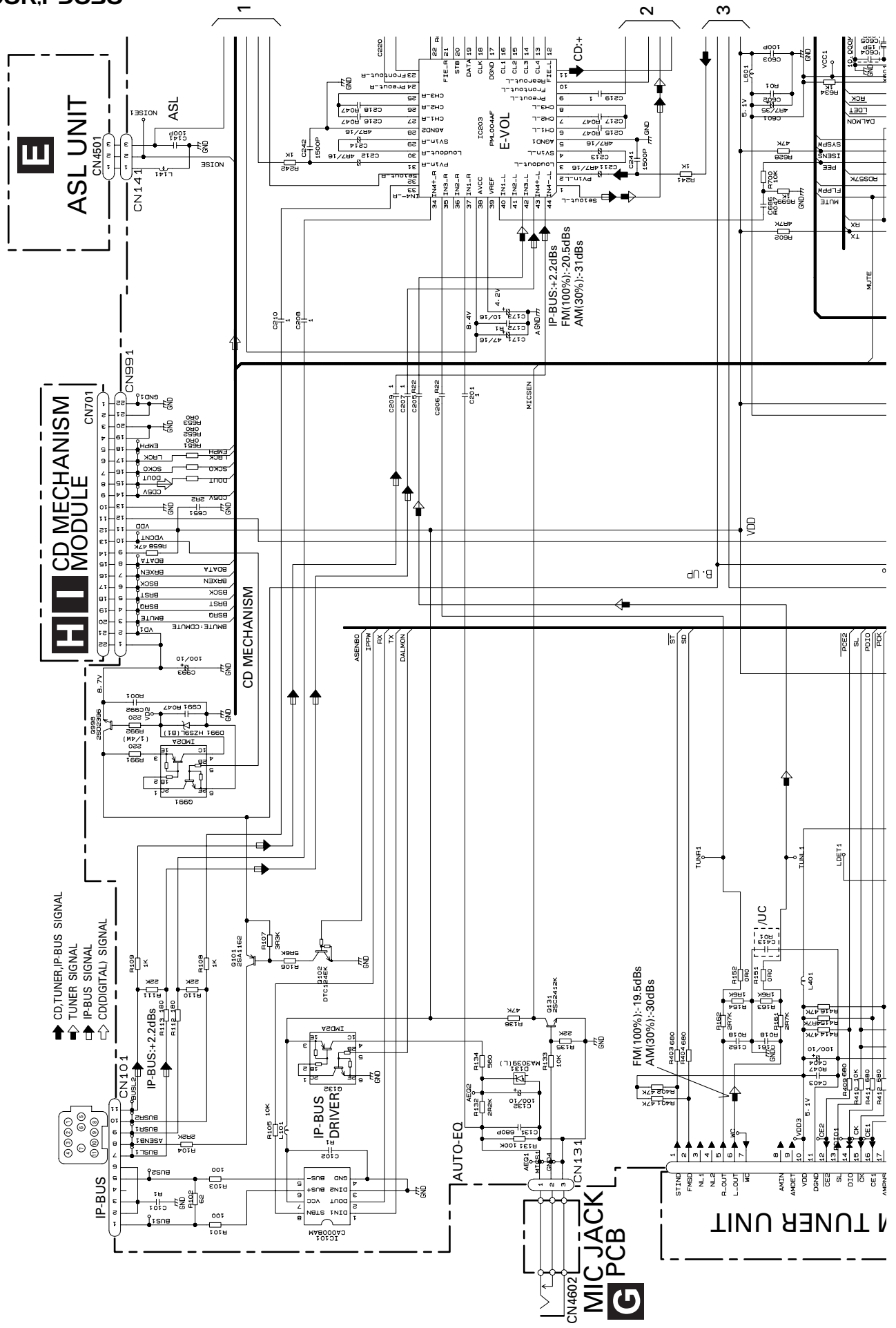
# A

A

B

C

D



A-a A-b

ASL UNIT

CD MECHANISM MODULE

CD MECHANISM

IP-BUS DRIVER

AUTO-EQ

MIC JACK PCB

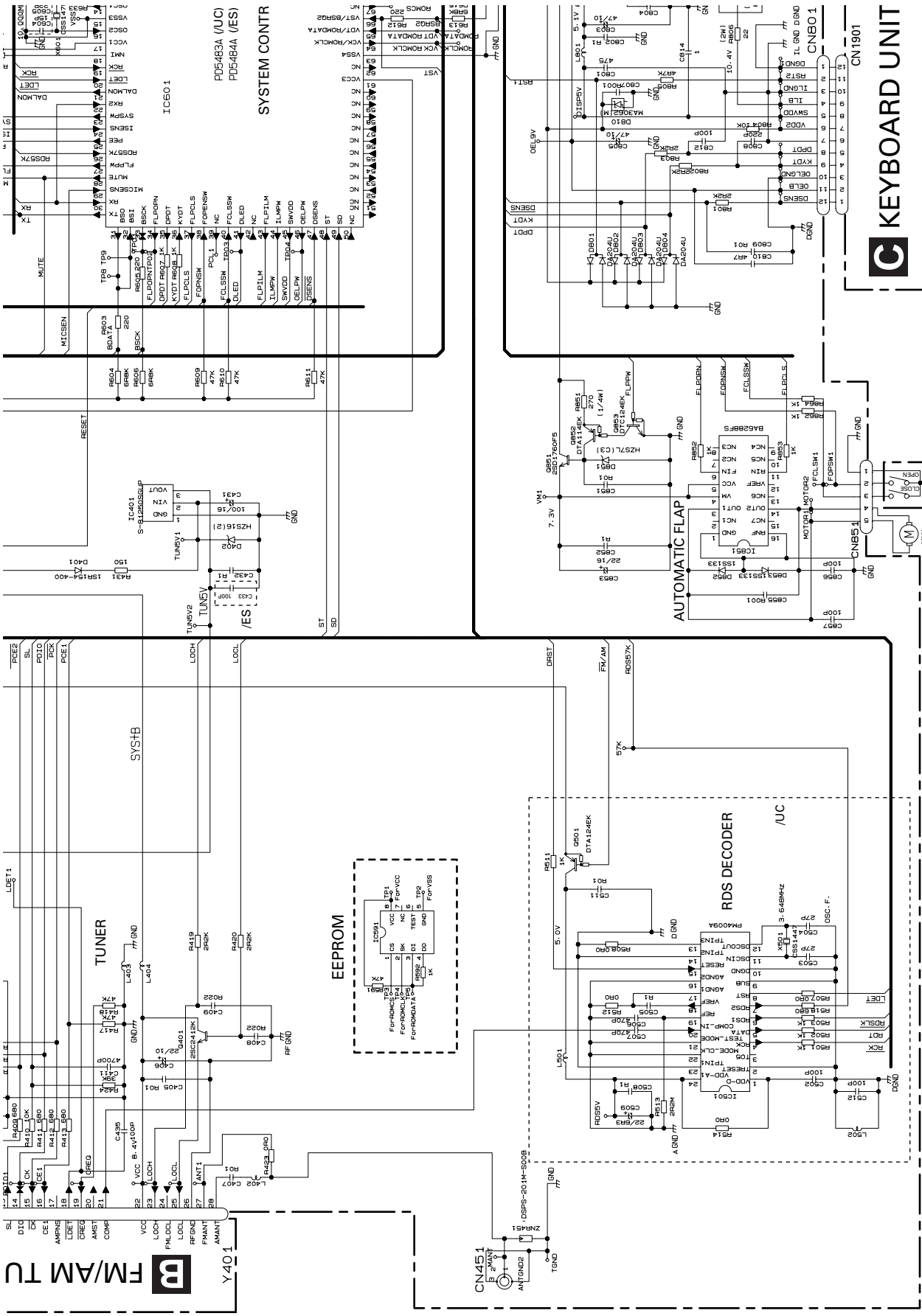
TUNER UNIT

A

B

C

D



**B** FM/AM TU

**TUNER**

**EEPROM**

**RDS DECODER /UC**

**AUTOMATIC FLAP**

**C** KEYBOARD UNIT

**SYSTEM CONTR**

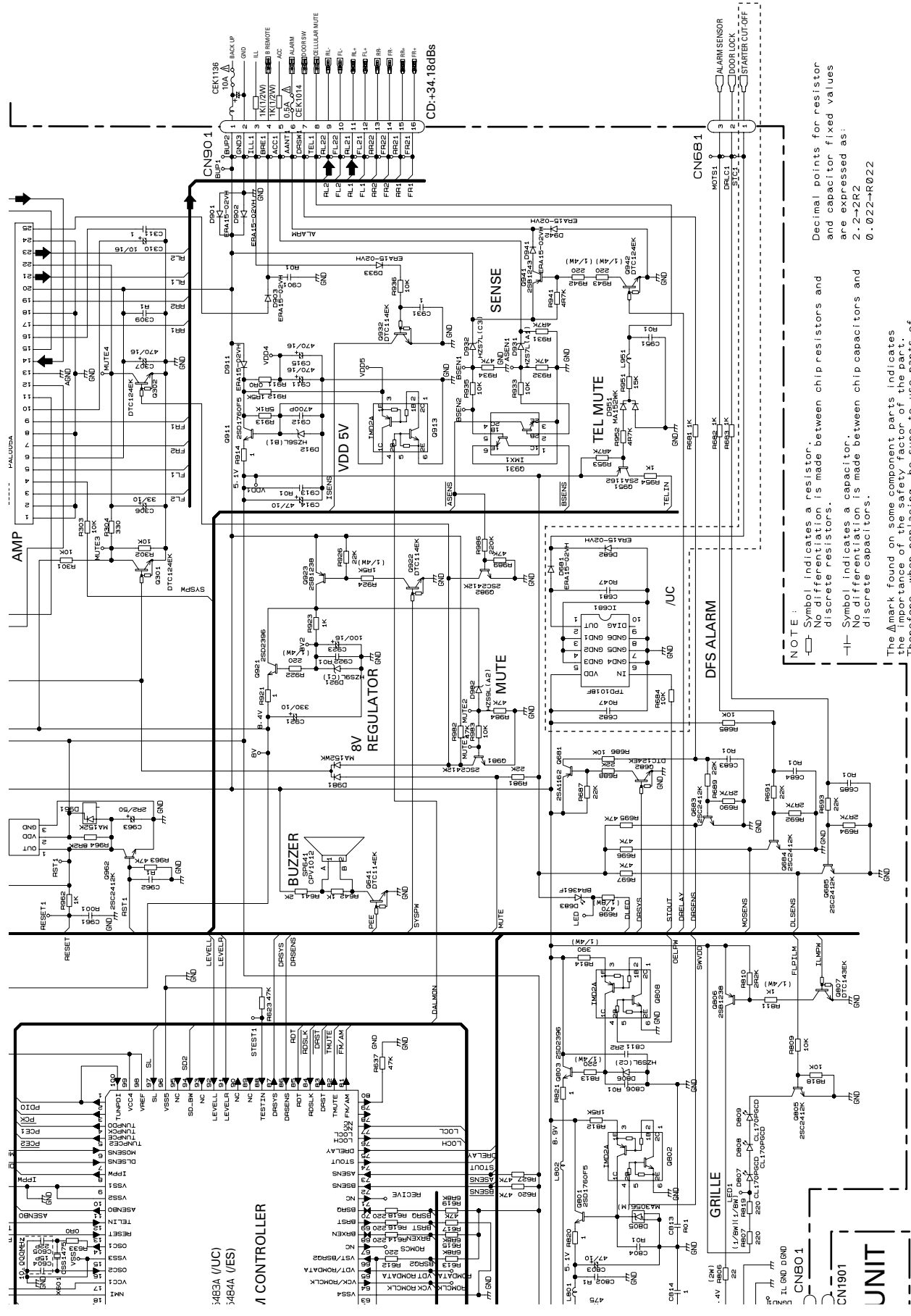
**F** SWITCH PCB

A-a A-b

A-a F







**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.

The  $\Delta$  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.

A-a A-b

A-b

### 3.3 FM/AM TUNER UNIT

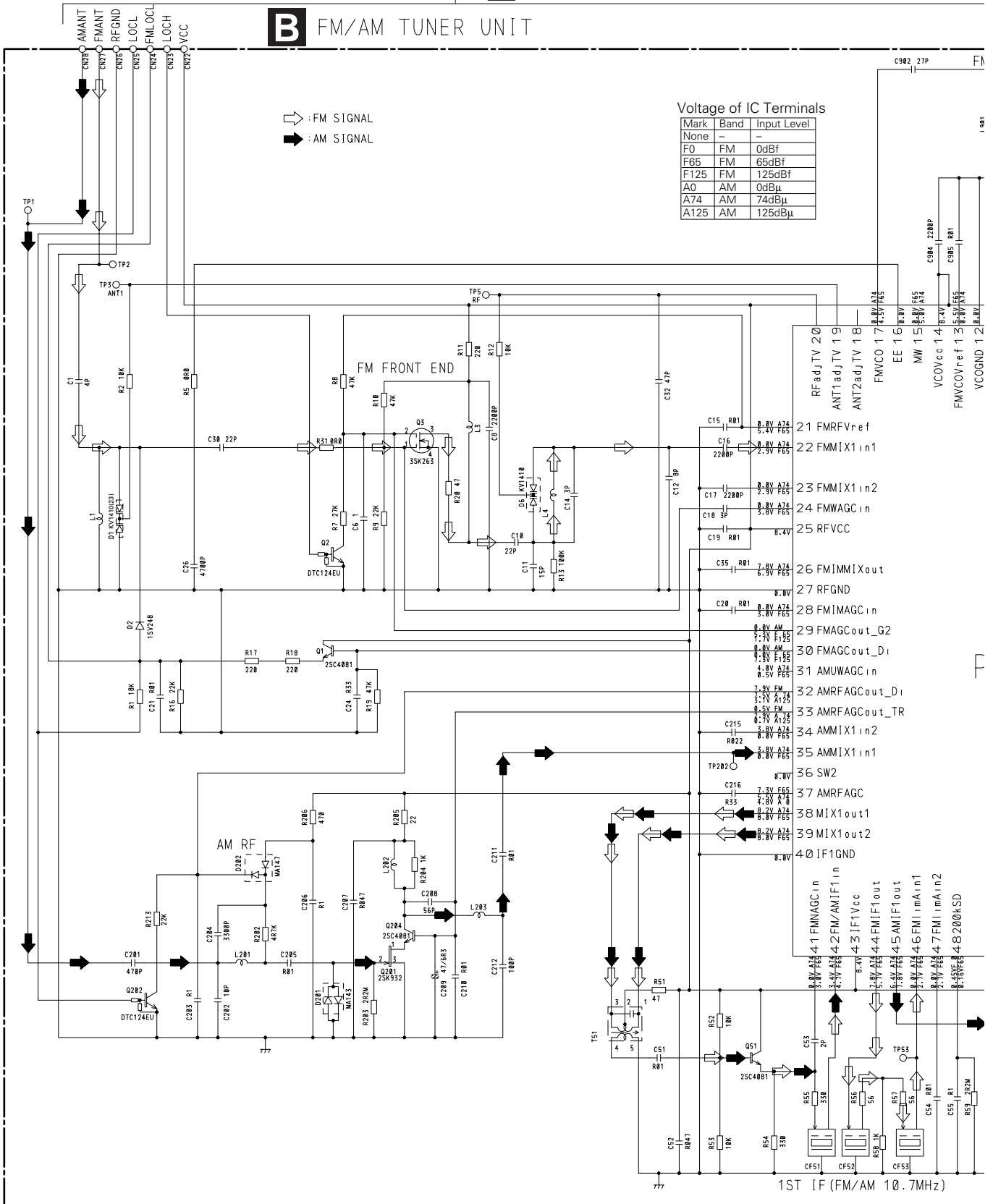
A

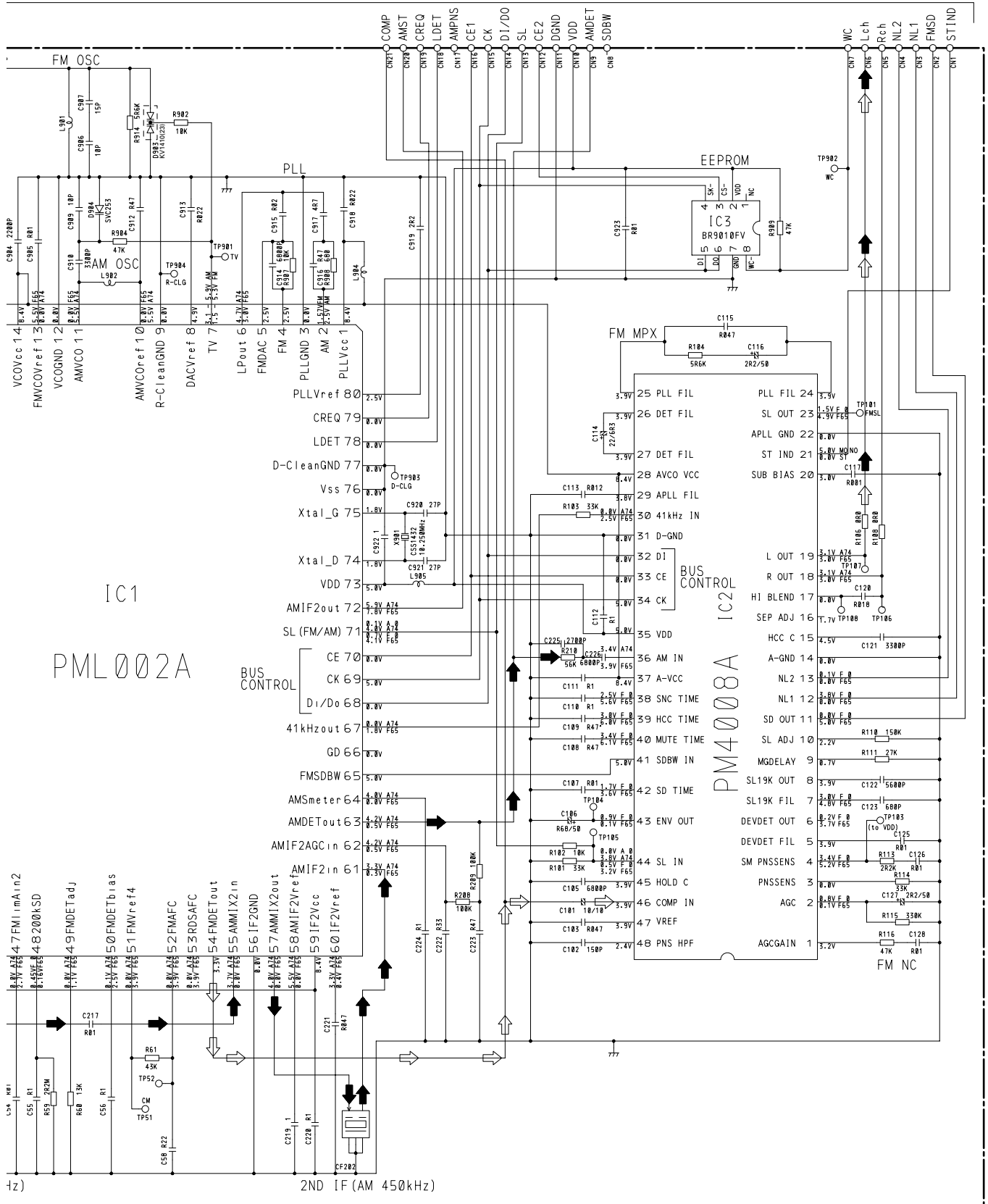
B

C

D

## B FM/AM TUNER UNIT





A  
B  
C  
D



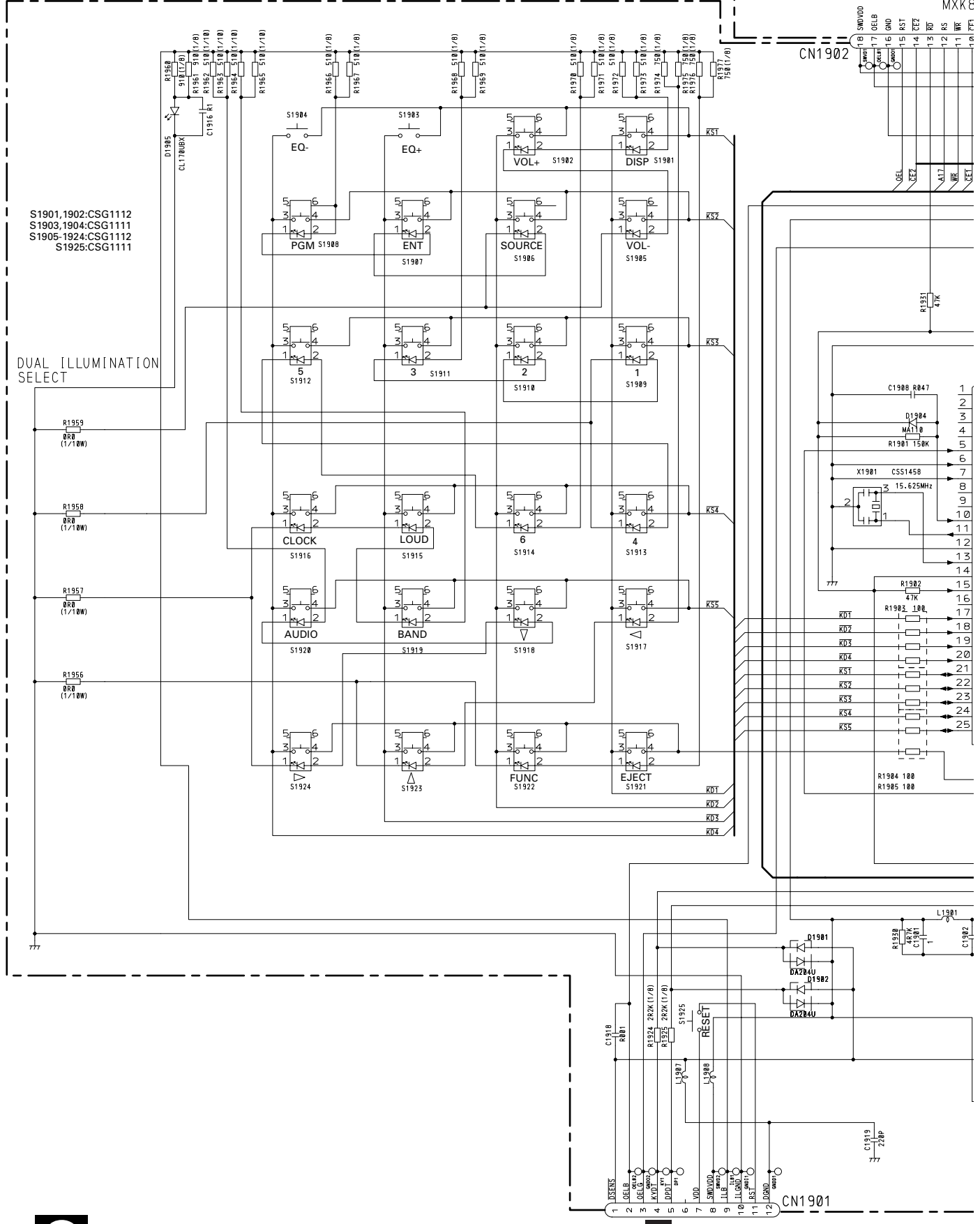
### 3.4 KEYBOARD UNIT

A

B

C

D



S1901,1902:CSG1112  
 S1903,1904:CSG1111  
 S1905-1924:CSG1112  
 S1925:CSG1111

DUAL ILLUMINATION  
 SELECT

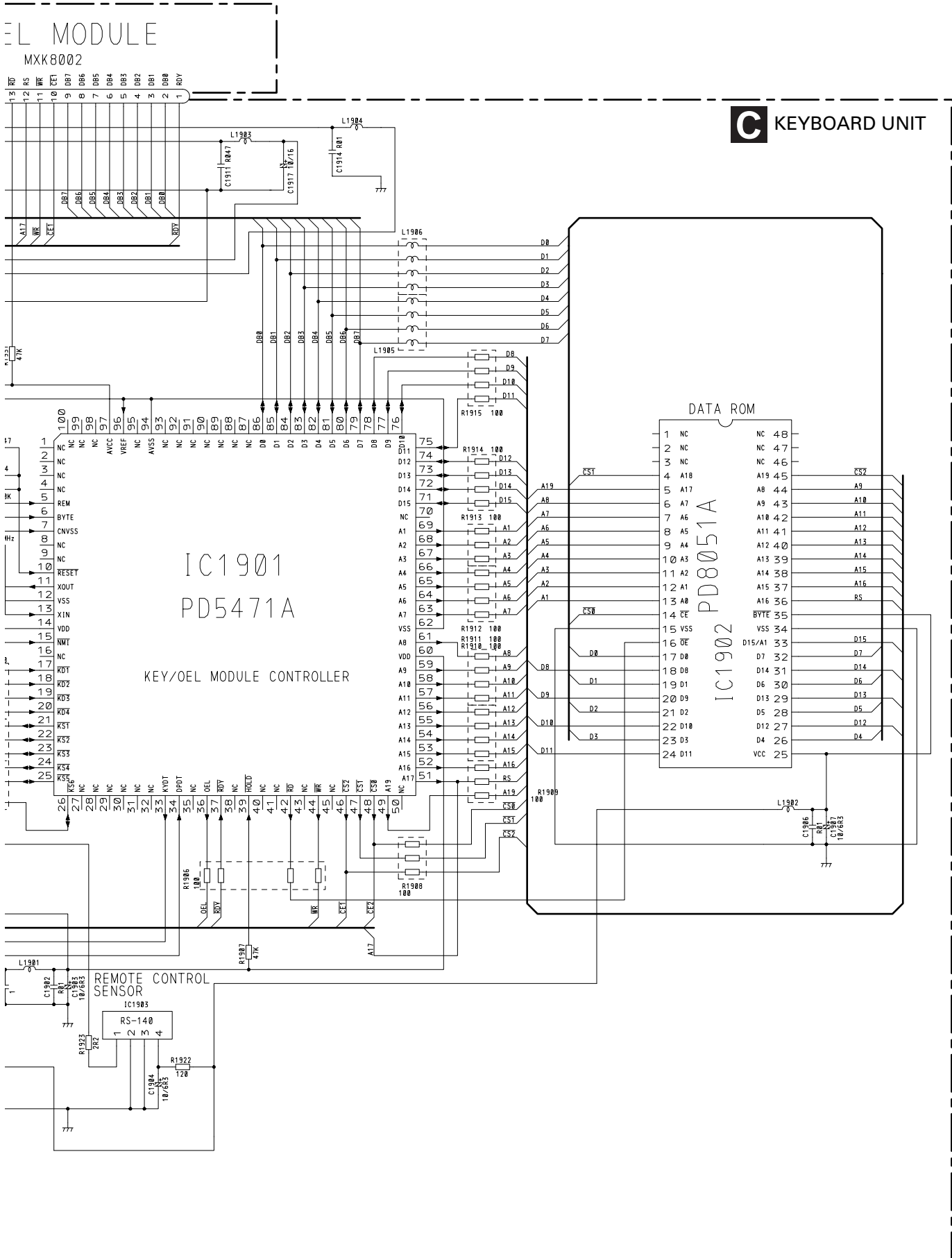


**A** CN801

OEL I  
 MXK E

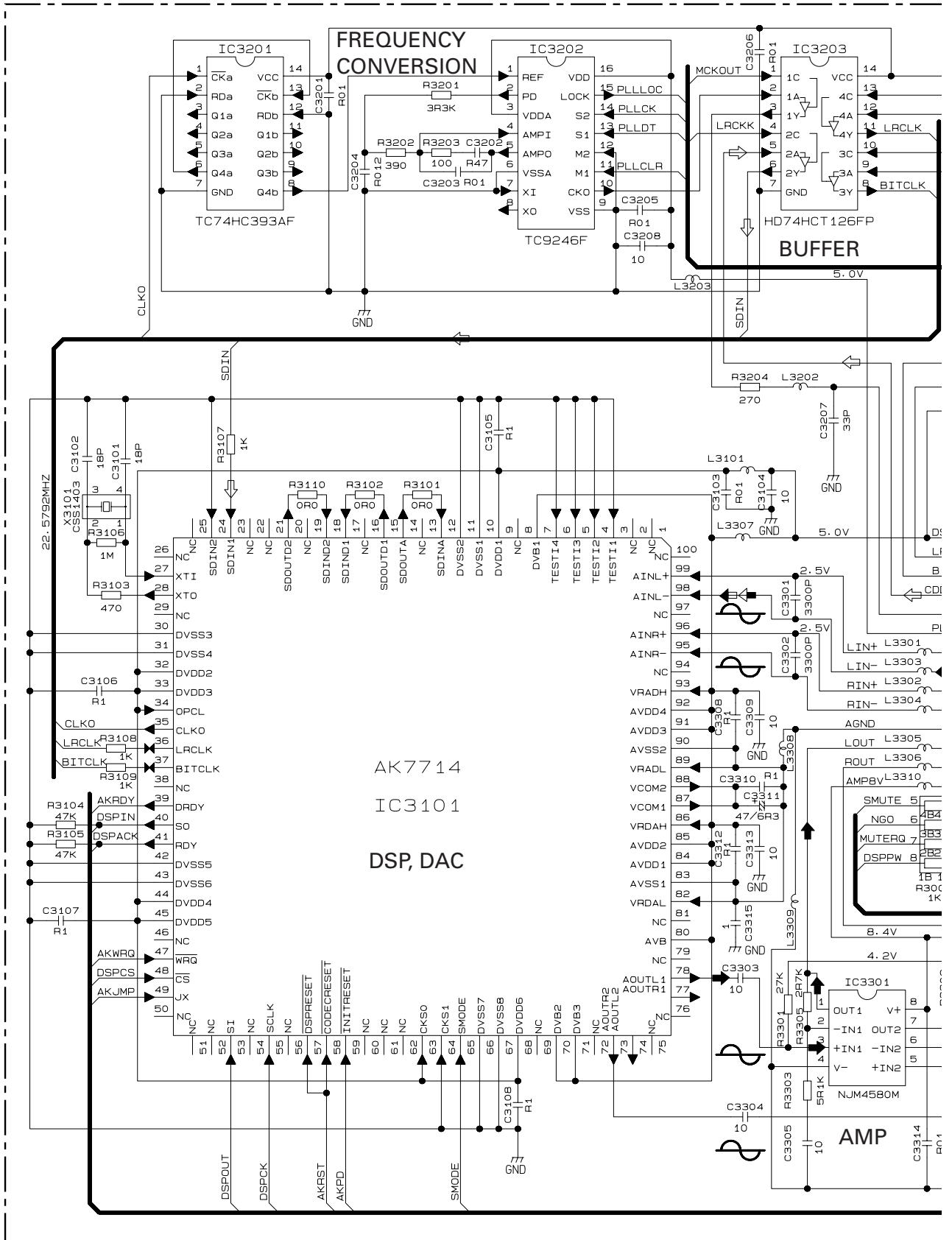
CN1902

CN1901

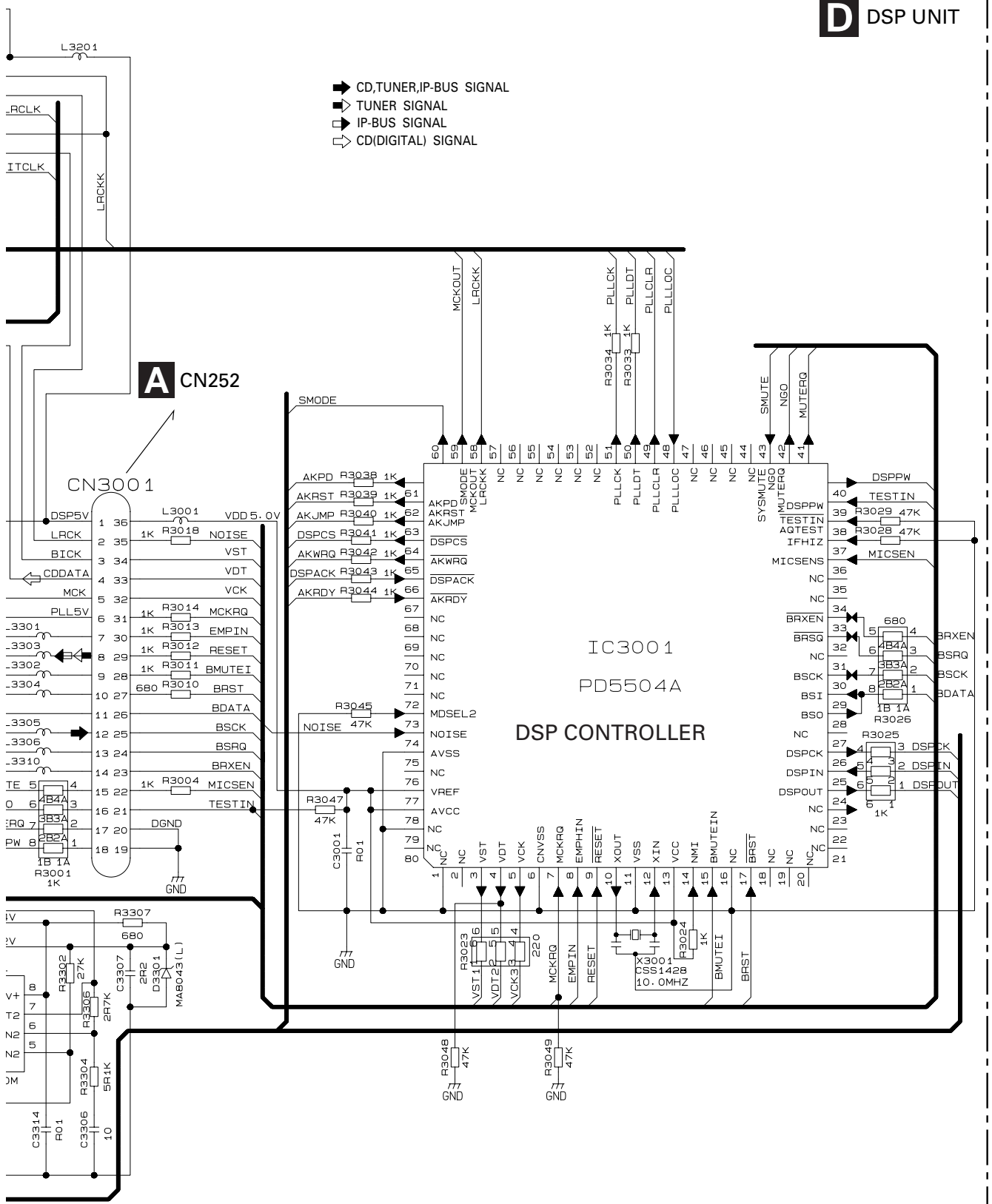


A  
B  
C  
D

3.5 DSP UNIT



D DSP UNIT

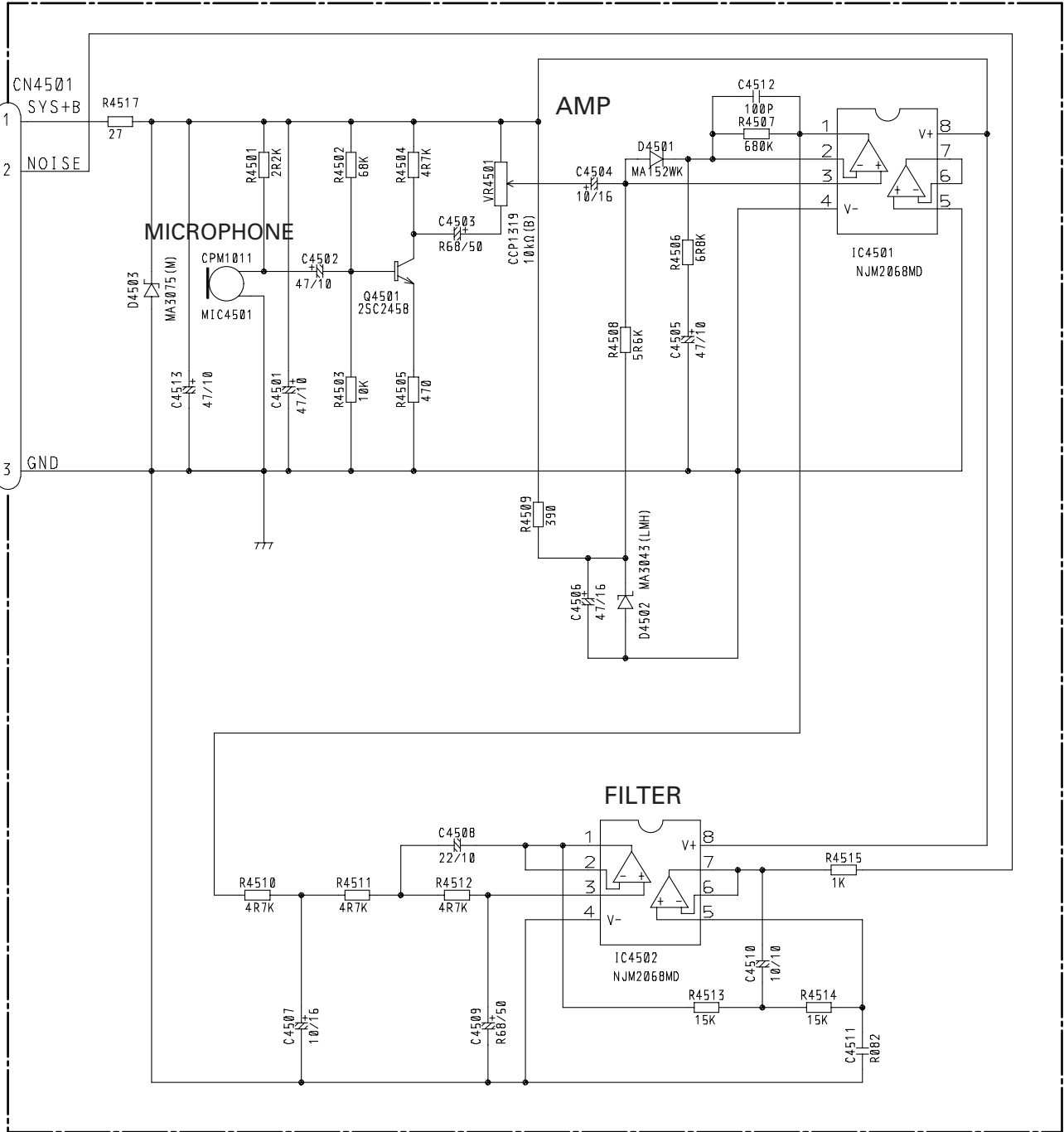


A  
B  
C  
D

### 3.6 ASL UNIT

#### **E** ASL UNIT

**A** CN141



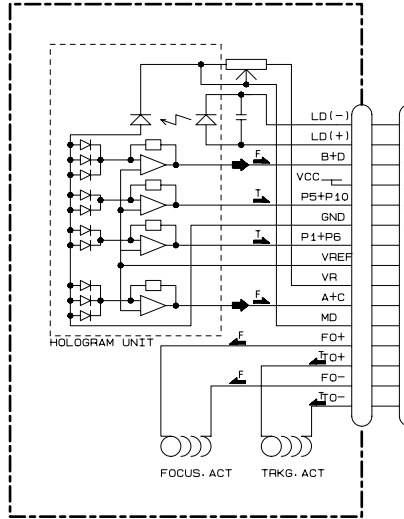




3.7 CD MECHANISM MODULE

CONTROL UNIT

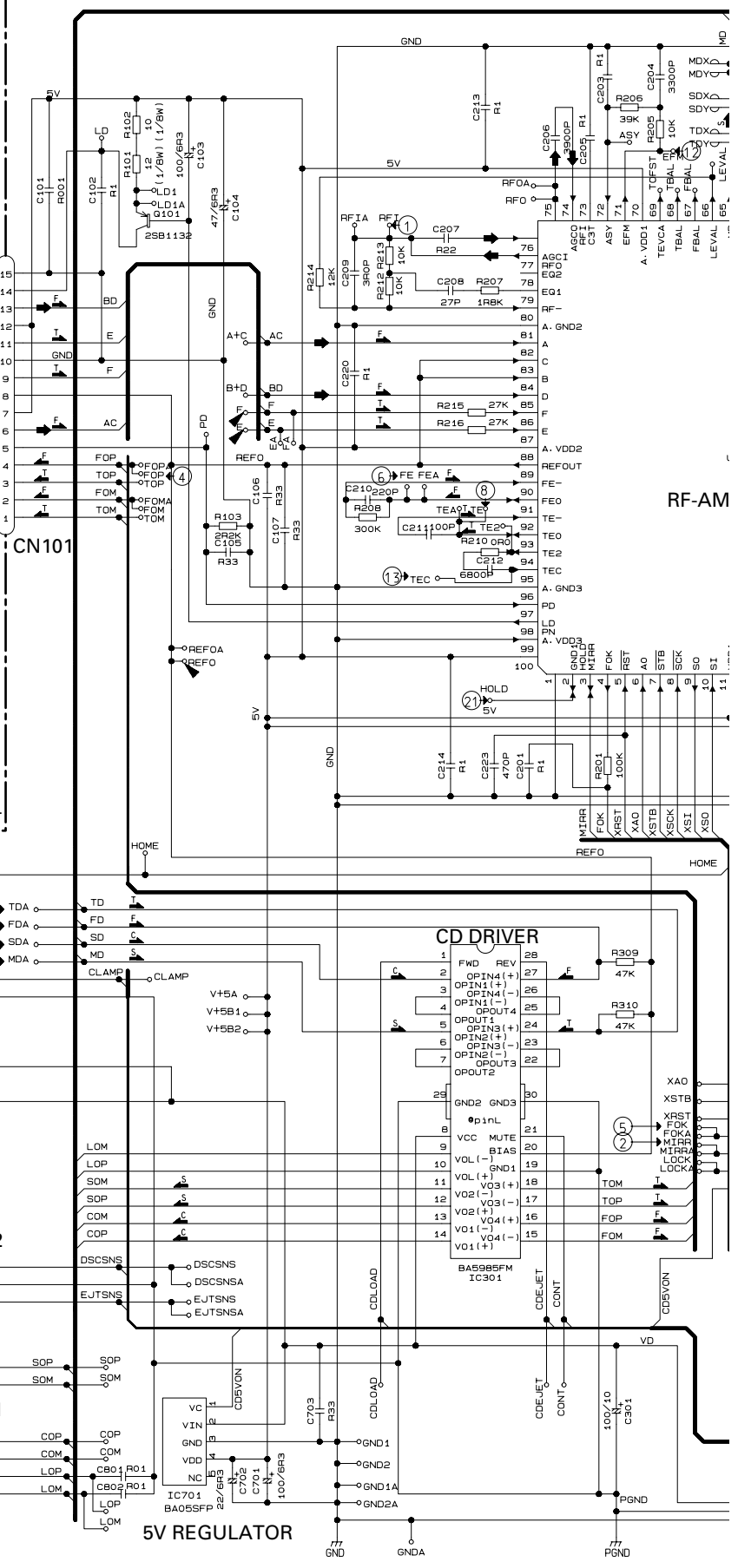
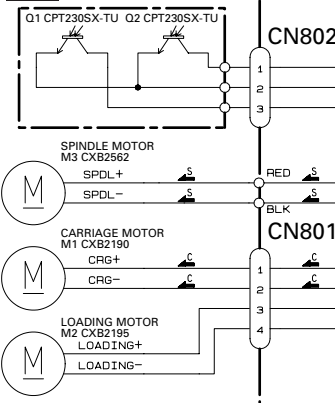
PICKUP UNIT(SERVICE)

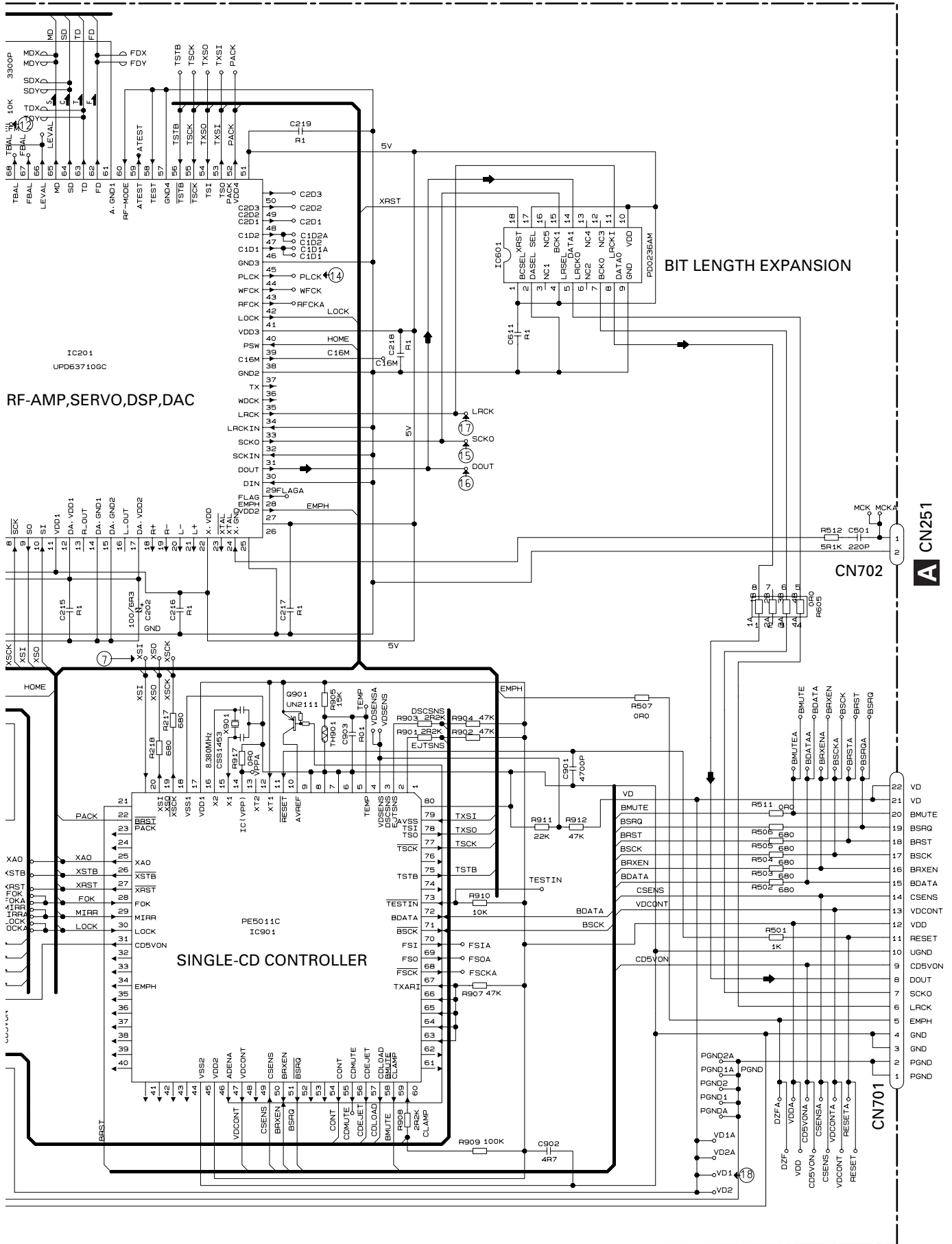


SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE

SWITCHES:
CONTROL UNIT
S801 : HOME SWITCH.....ON-OFF
S802 : CLAMP SWITCH.....ON-OFF
The underlined indicates the switch position.

PHOTO UNIT





RF-AMP, SERVO, DSP, DAC

BIT LENGTH EXPANSION

SINGLE-CD CONTROLLER

CN702

CN701

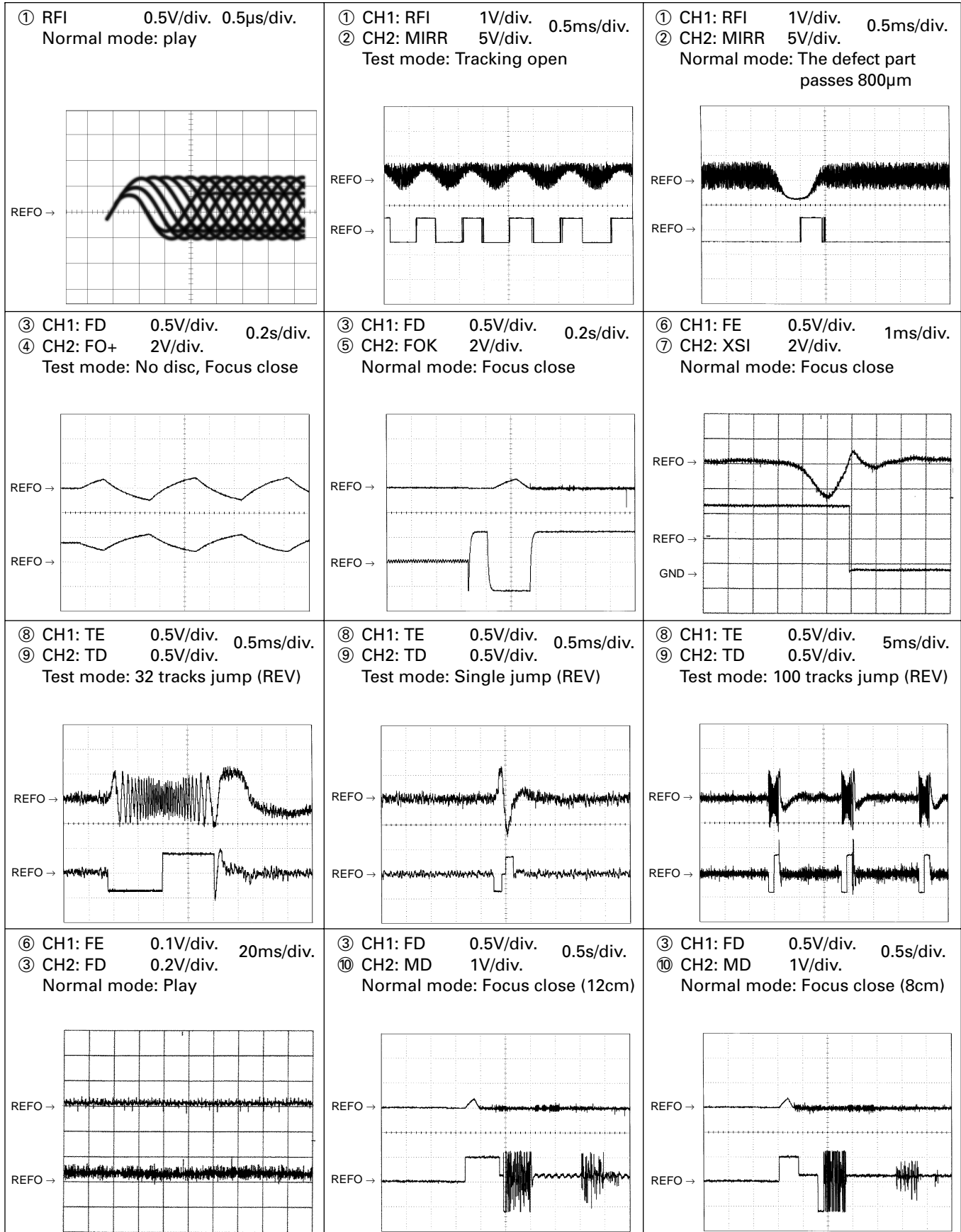
CN991

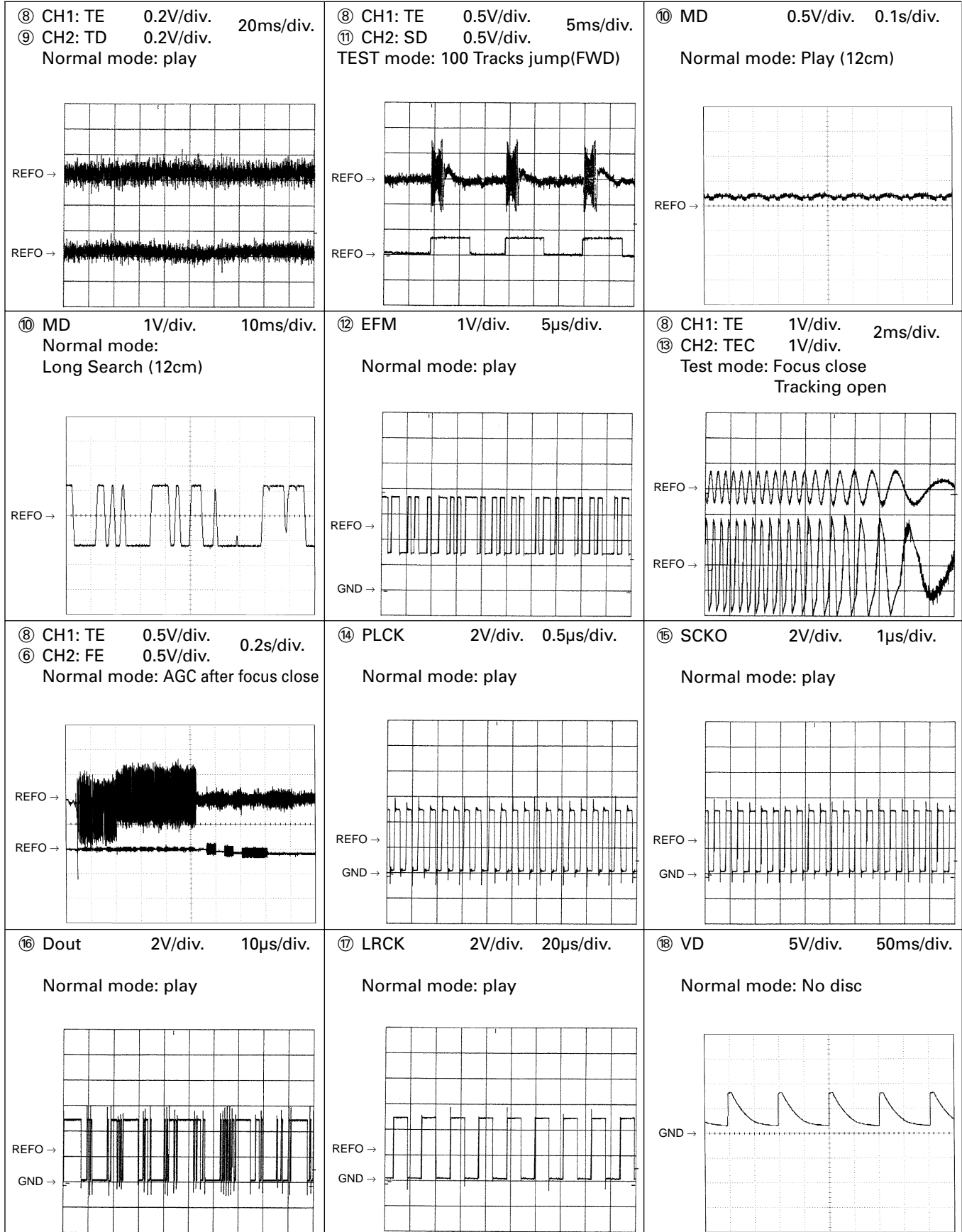
A  
B  
C  
D

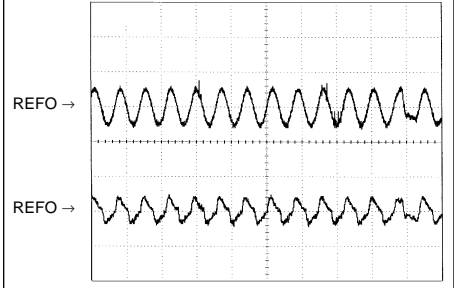
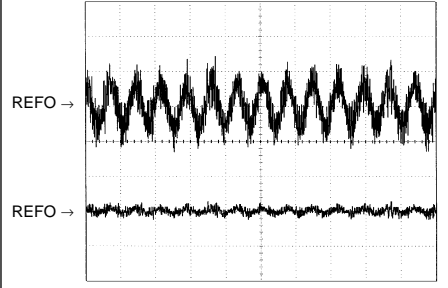
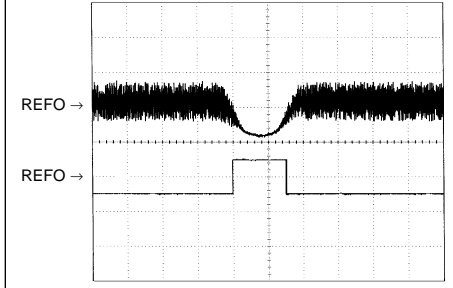
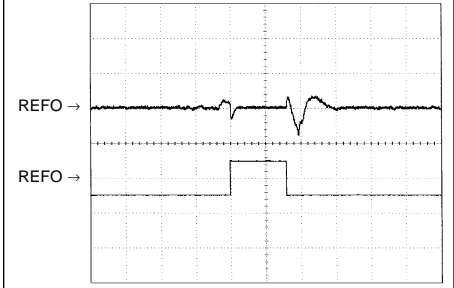
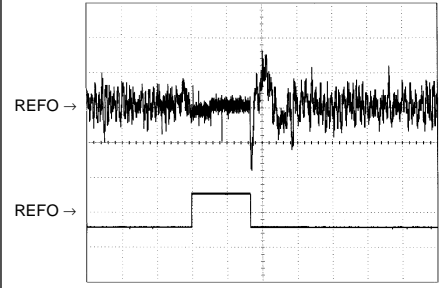


Note:1. The encircled numbers denote measuring points in the circuit diagram.  
 2. Reference voltage  
 REFO:2.5V

● Waveforms





	<p>⑥ CH1: FE 0.2V/div. 1ms/div.          ③ CH2: FD 0.5V/div.          Normal mode: During AGC</p> 	<p>⑧ CH1: TE 0.2V/div. 1ms/div.          ⑨ CH2: TD 0.5V/div.          Normal mode: During AGC</p> 
<p>① CH1: RFI 1V/div. 0.5ms/div.          ② CH2: HOLD 5V/div.          Normal mode: The defect part passes 800μm(B.D)</p> 	<p>③ CH1: FD 1V/div. 0.5ms/div.          ② CH2: HOLD 5V/div.          Normal mode: The defect part passes 800μm(B.D)</p> 	<p>⑨ CH1: TD 0.1V/div. 0.5ms/div.          ② CH2: HOLD 5V/div.          Normal mode: The defect part passes 800μm(B.D)</p> 

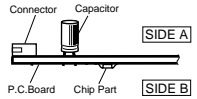


# 4. PCB CONNECTION DIAGRAM

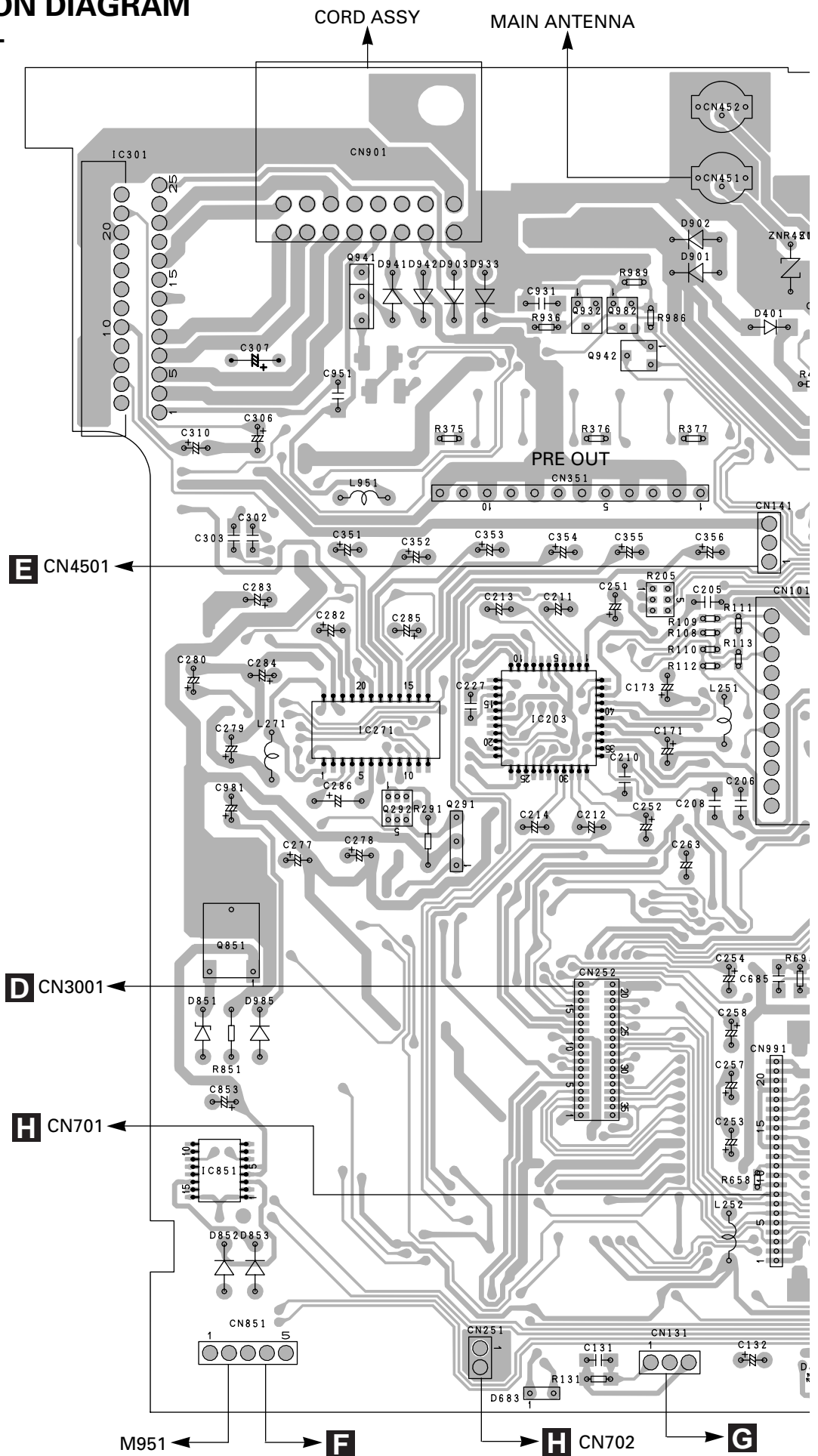
## 4.1 TUNER AMP UNIT

### 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

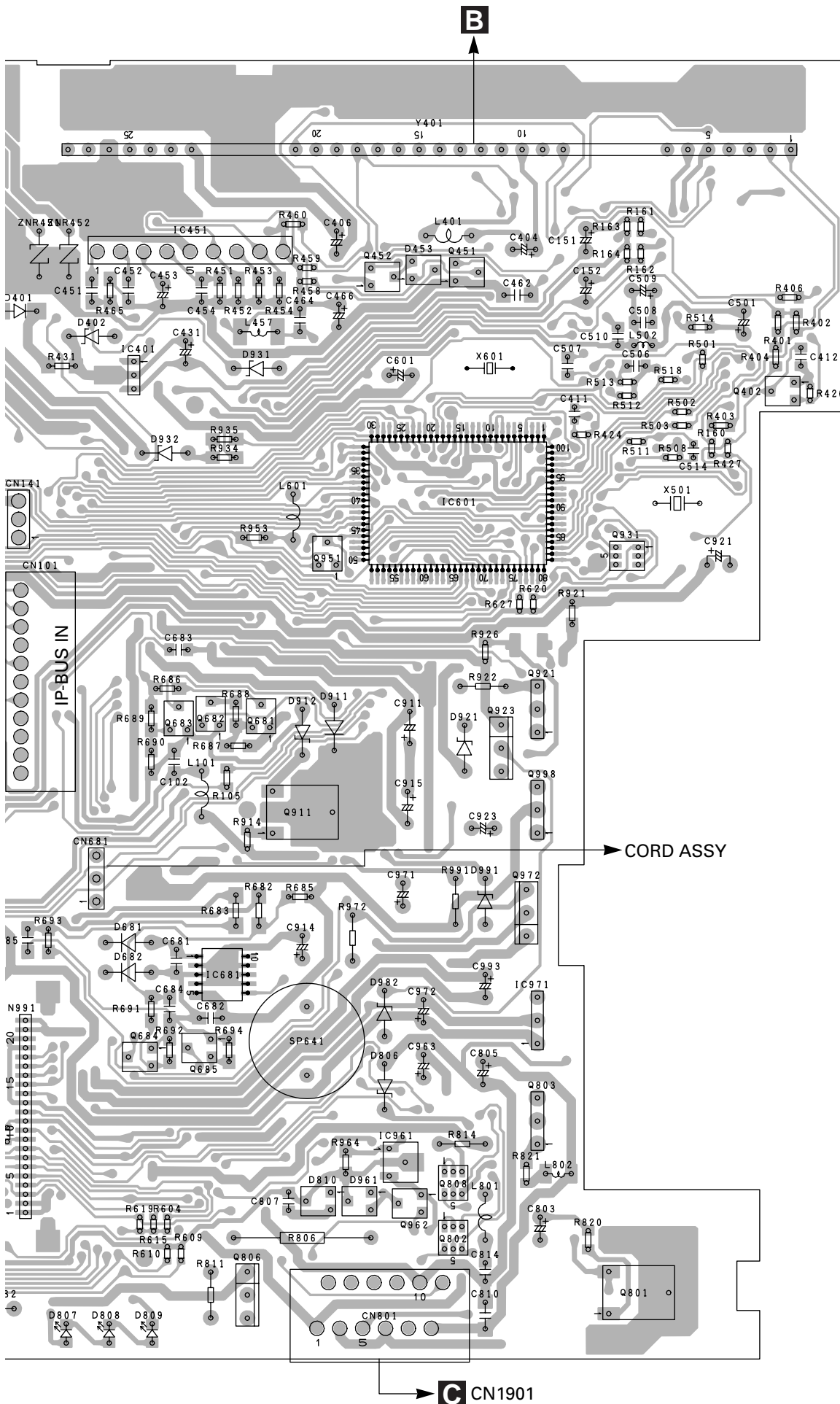


### A TUNER AMP UNIT





SIDE A



- IC301
- IC451
- Q941 Q451 Q452
- Q932 Q982
- Q942
- IC401
- Q402
- IC601
- Q931
- Q951
- Q921
- IC203 IC271
- Q923 Q682 Q681 Q683
- Q291 Q998 Q292
- Q911
- Q972
- Q851
- IC681
- IC971
- Q684
- Q685
- Q803
- IC851
- IC961
- Q808
- Q962
- Q802
- Q806
- Q801

A

B

C

D

C CN1901

A

**A** TUNER AMP UNIT

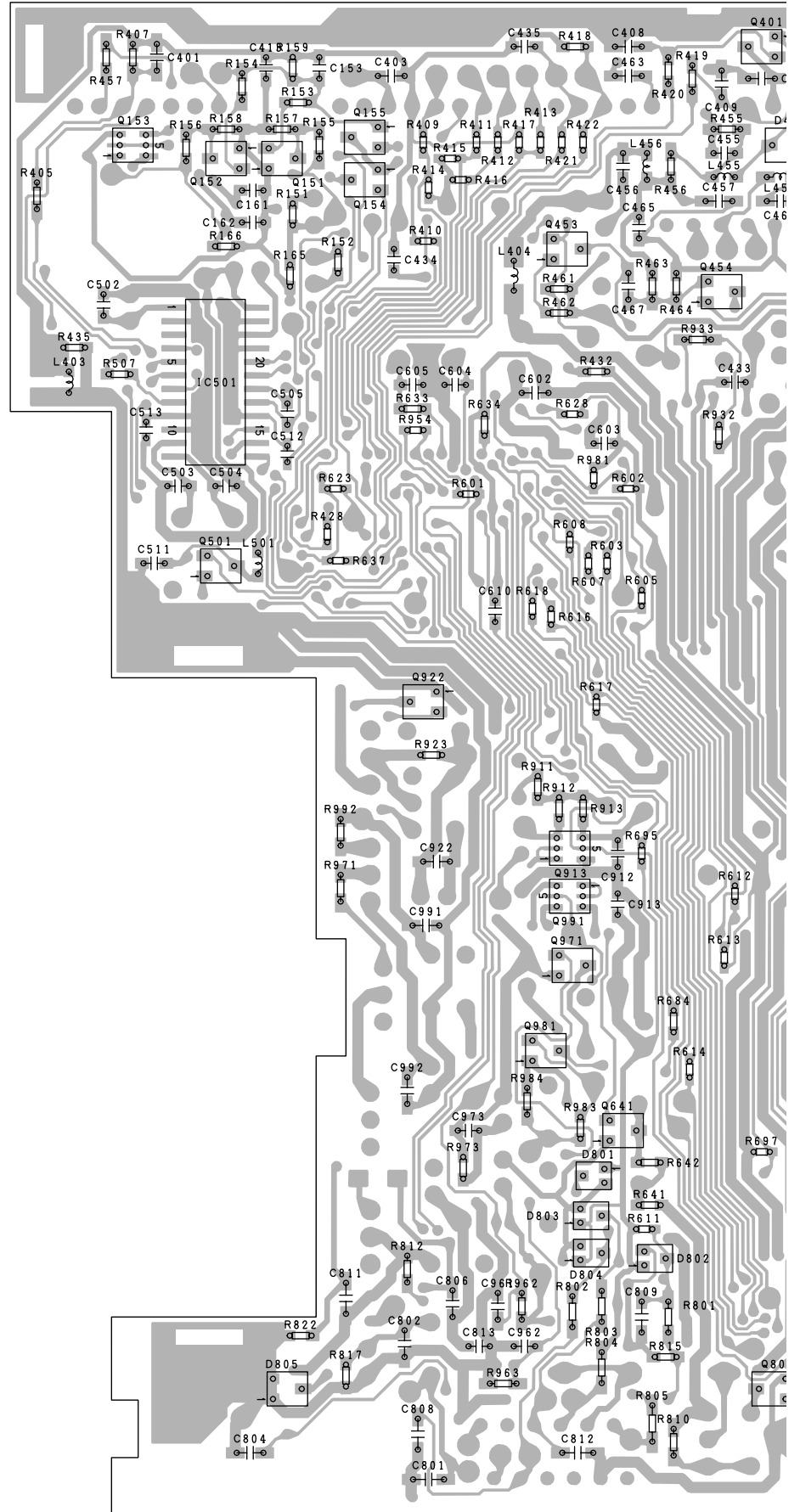
A

B

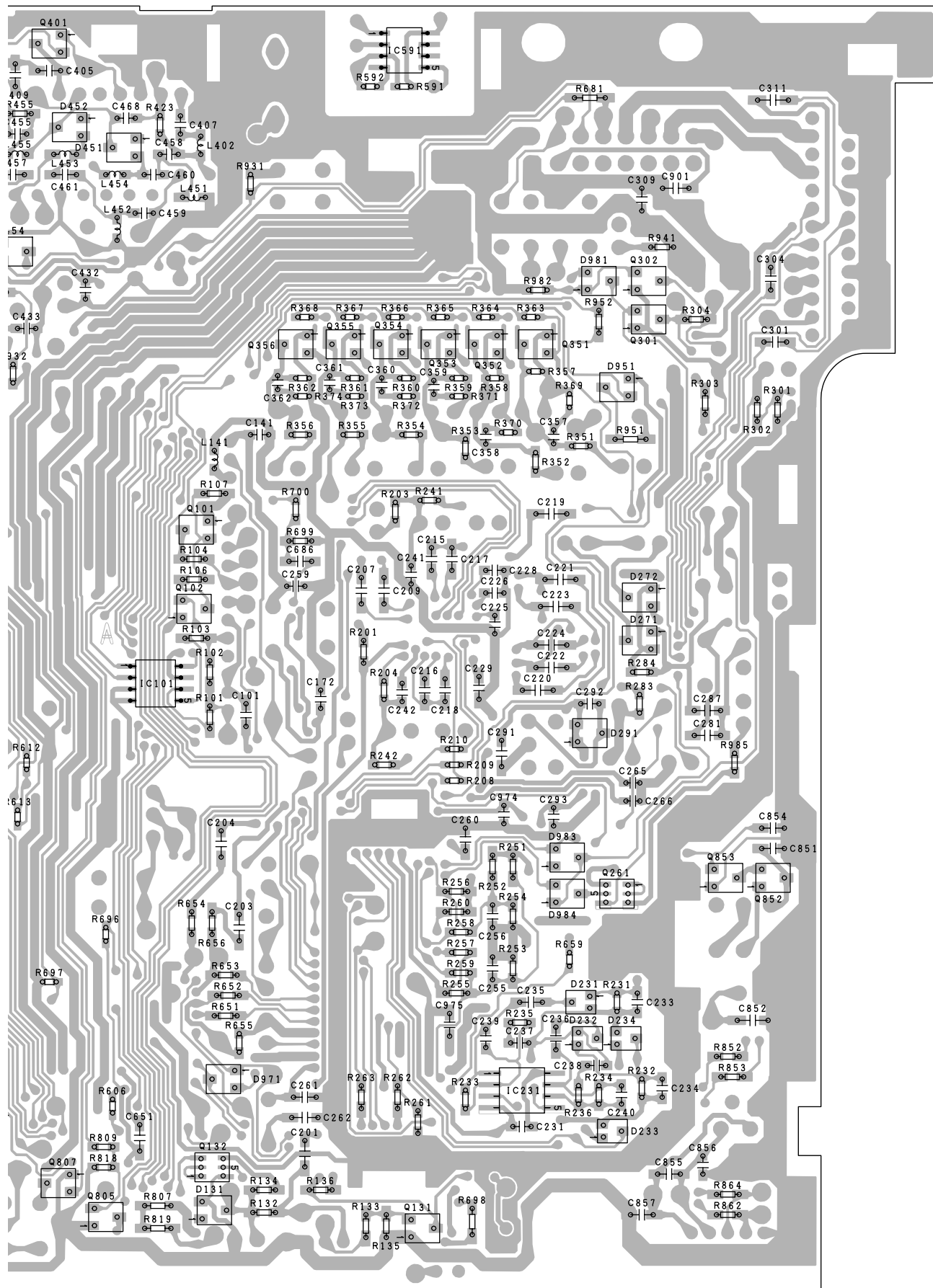
C

D

- Q401
- IC591
- Q153 Q155
- Q152 Q151
- Q154
- Q453
- Q454
- Q302
- IC501
- Q351 Q301
- Q356 Q355 Q354 Q353 Q352
- Q501
- Q101
- Q922
- Q102
- IC101
- Q913
- Q991
- Q971
- Q853
- Q981 Q261
- Q852
- Q641
- IC231
- Q132
- Q807
- Q805
- Q131



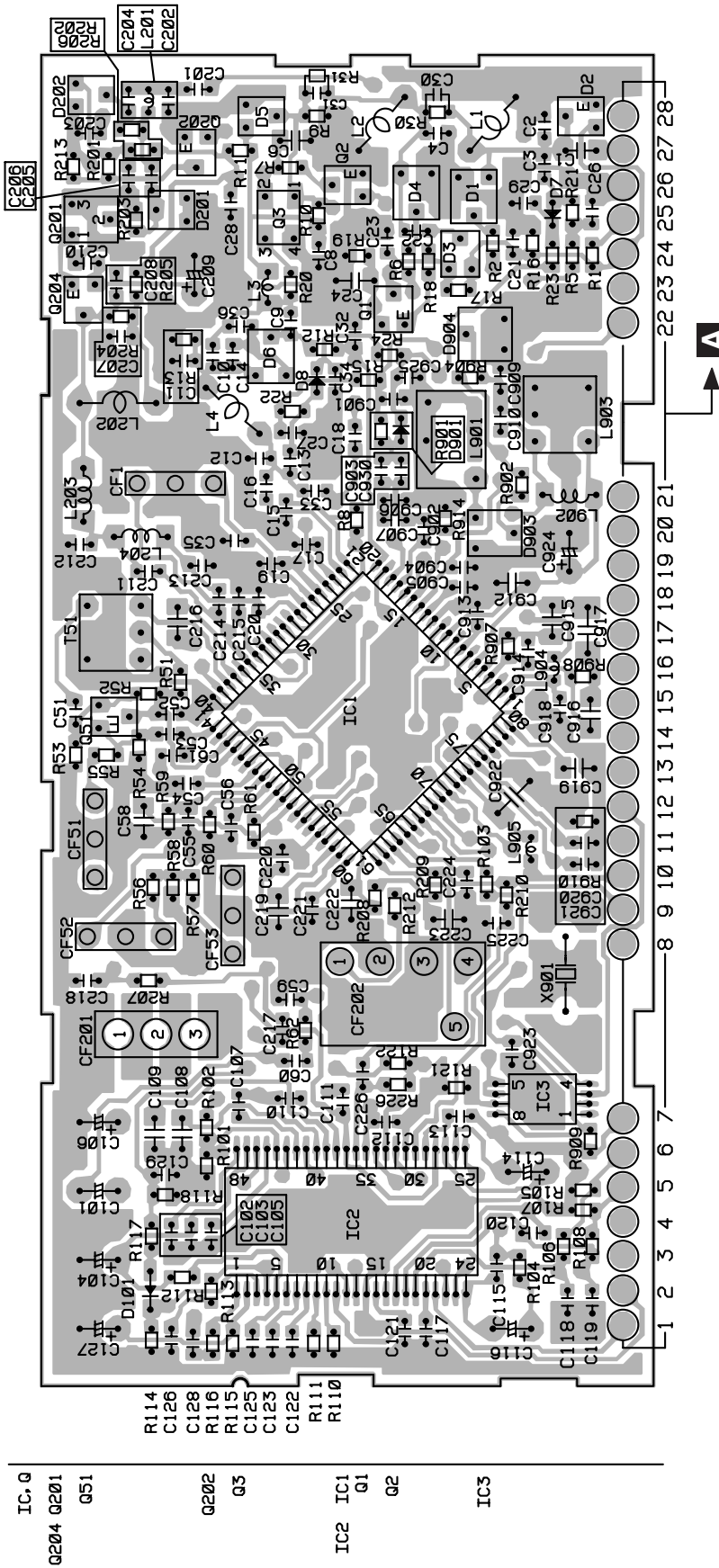
SIDE B



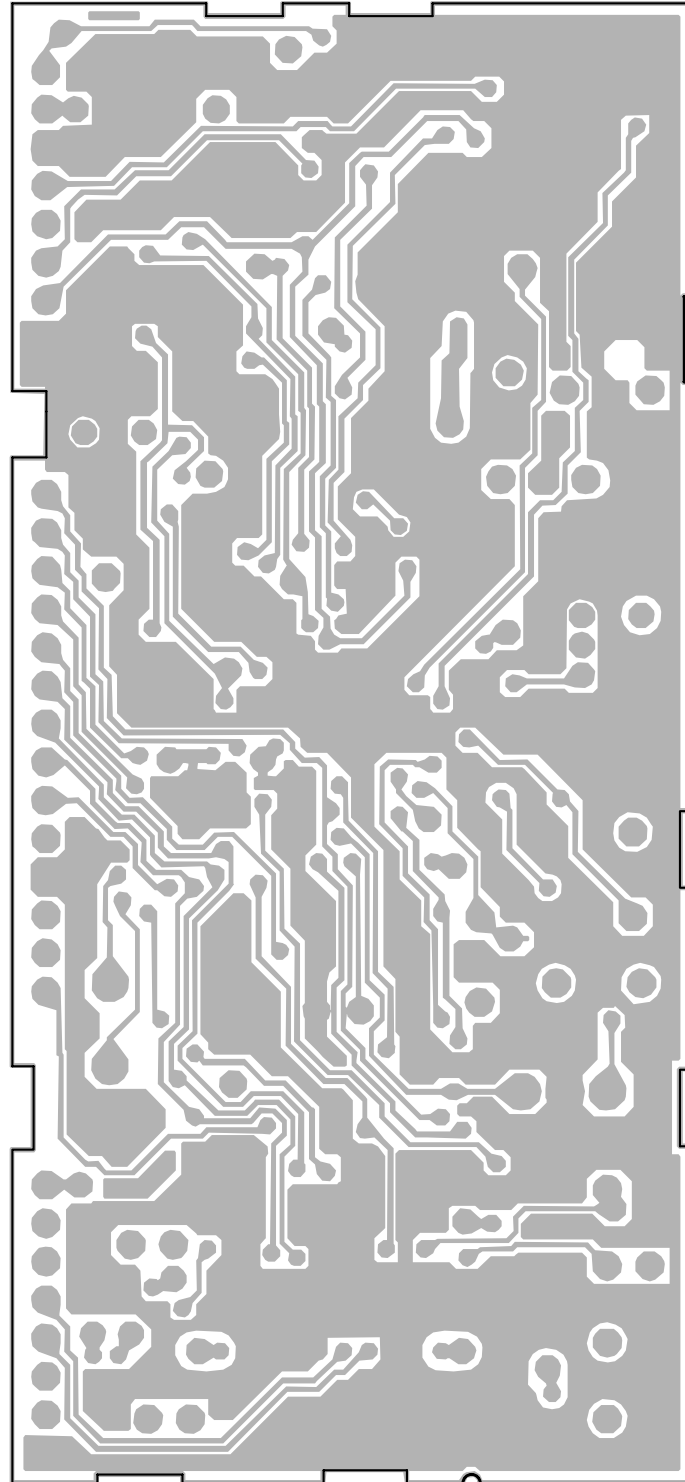
4.2 FM/AM TUNER UNIT

SIDE A

B FM/AM TUNER UNIT



SIDE B



**B** FM/AM TUNER UNIT

**B**

### 4.3 KEYBOARD UNIT

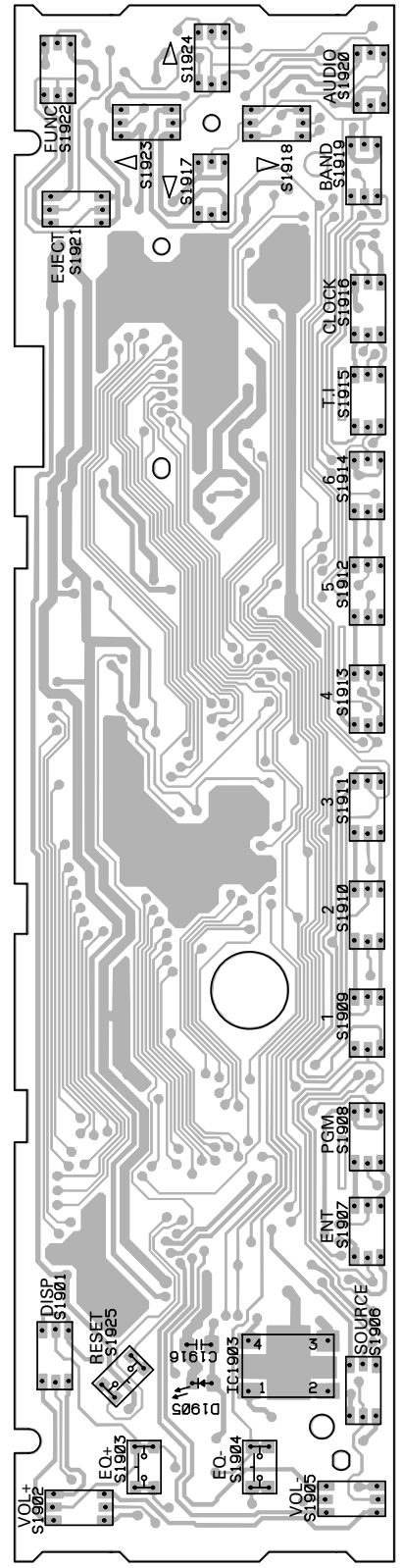
**C** KEYBOARD UNIT

A

B

C

D



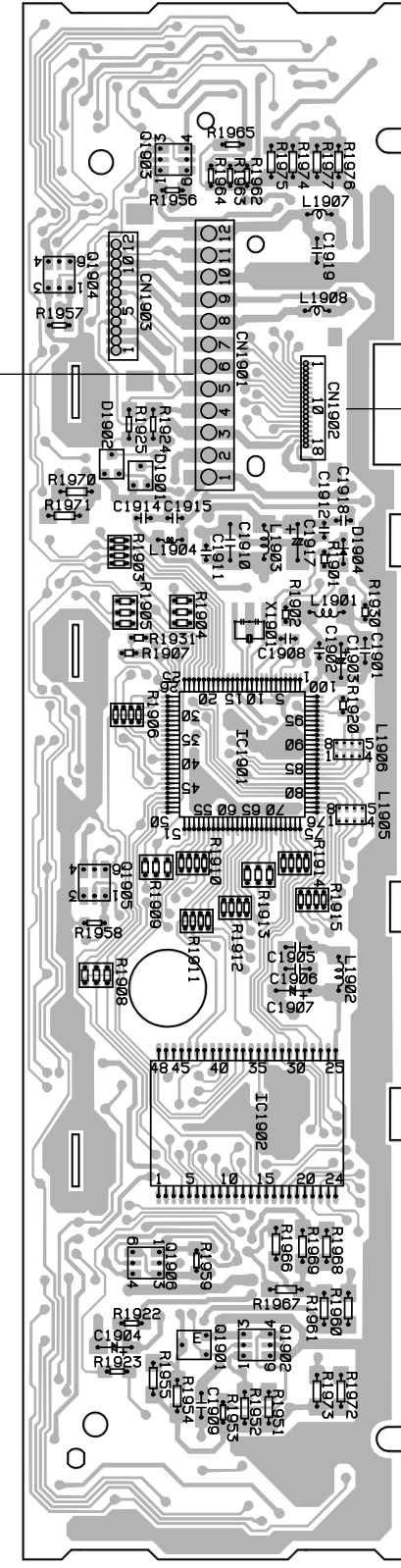
**SIDE A**

**C** KEYBOARD UNIT

**SIDE B**

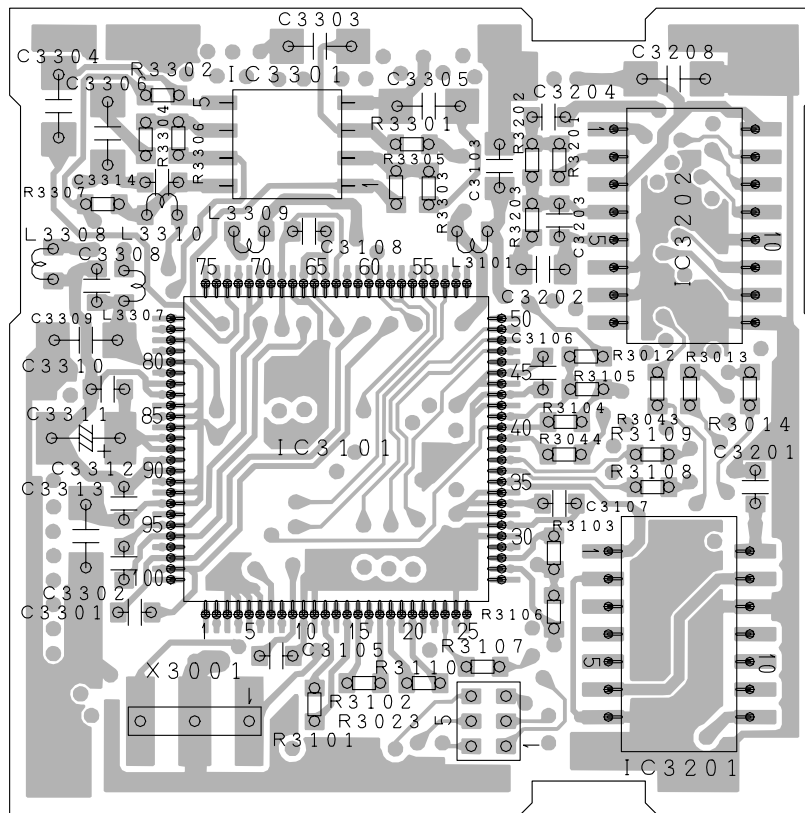
**A** CN801

OEL MODULE



### 4.4 DSP UNIT

#### D DSP UNIT



SIDE A

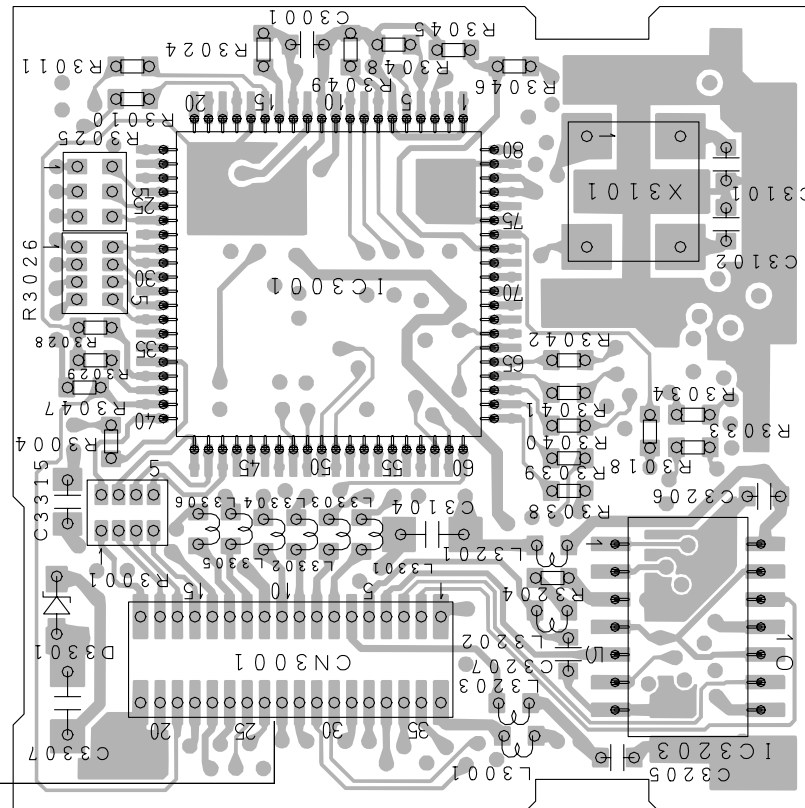
IC3301

IC3202

IC3101

IC3201

#### D DSP UNIT



SIDE B

IC3001

IC3203

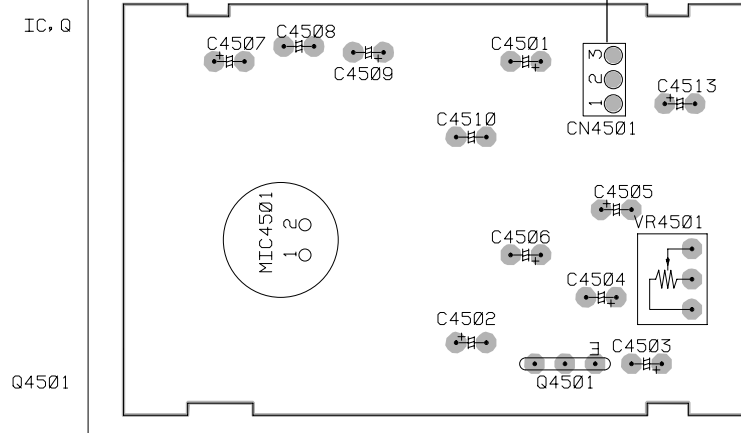
A CN252

### 4.5 ASL UNIT

**E** ASL UNIT

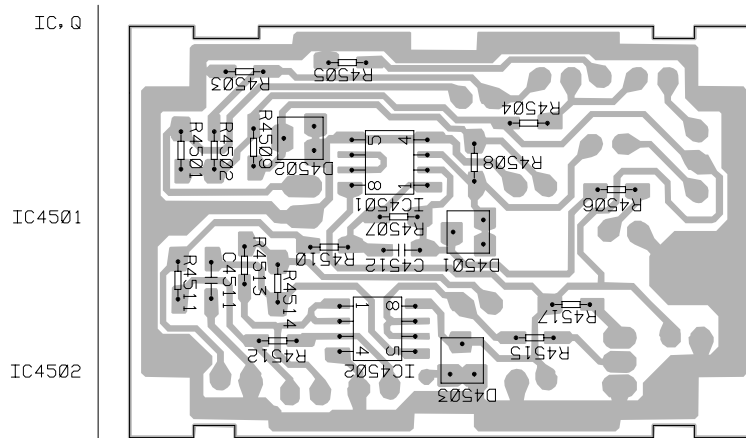
**A** CN141

**SIDE A**



**E** ASL UNIT

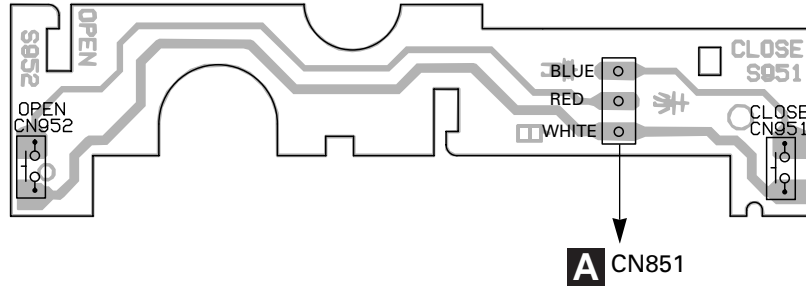
**SIDE B**





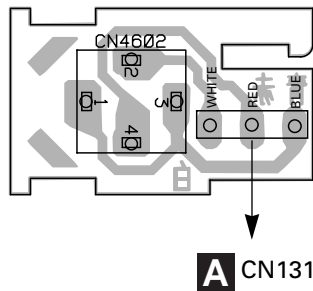
### 4.6 SWITCH PCB

#### **F** SWITCH PCB



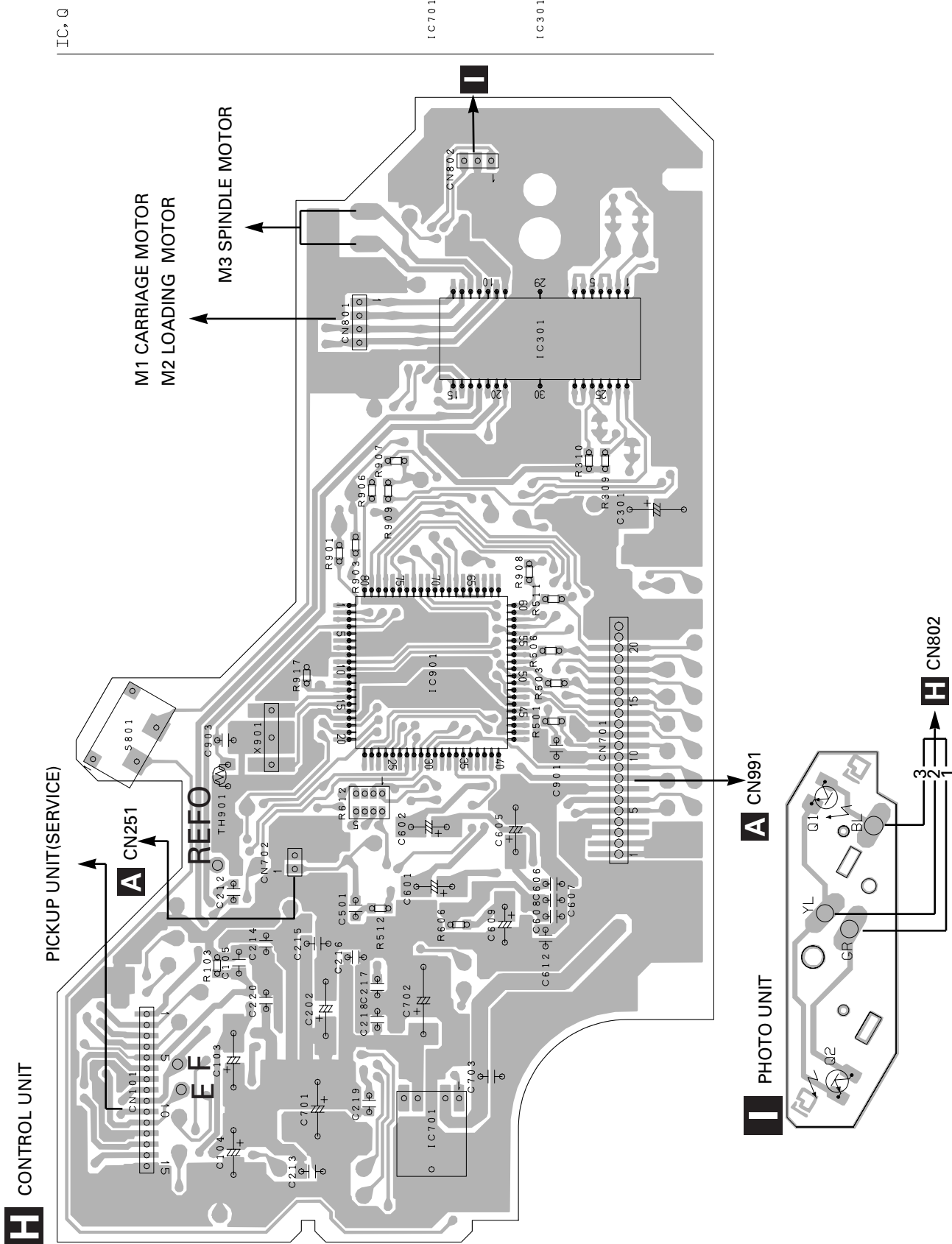
### 4.7 MIC JACK PCB

#### **G** MIC JACK PCB

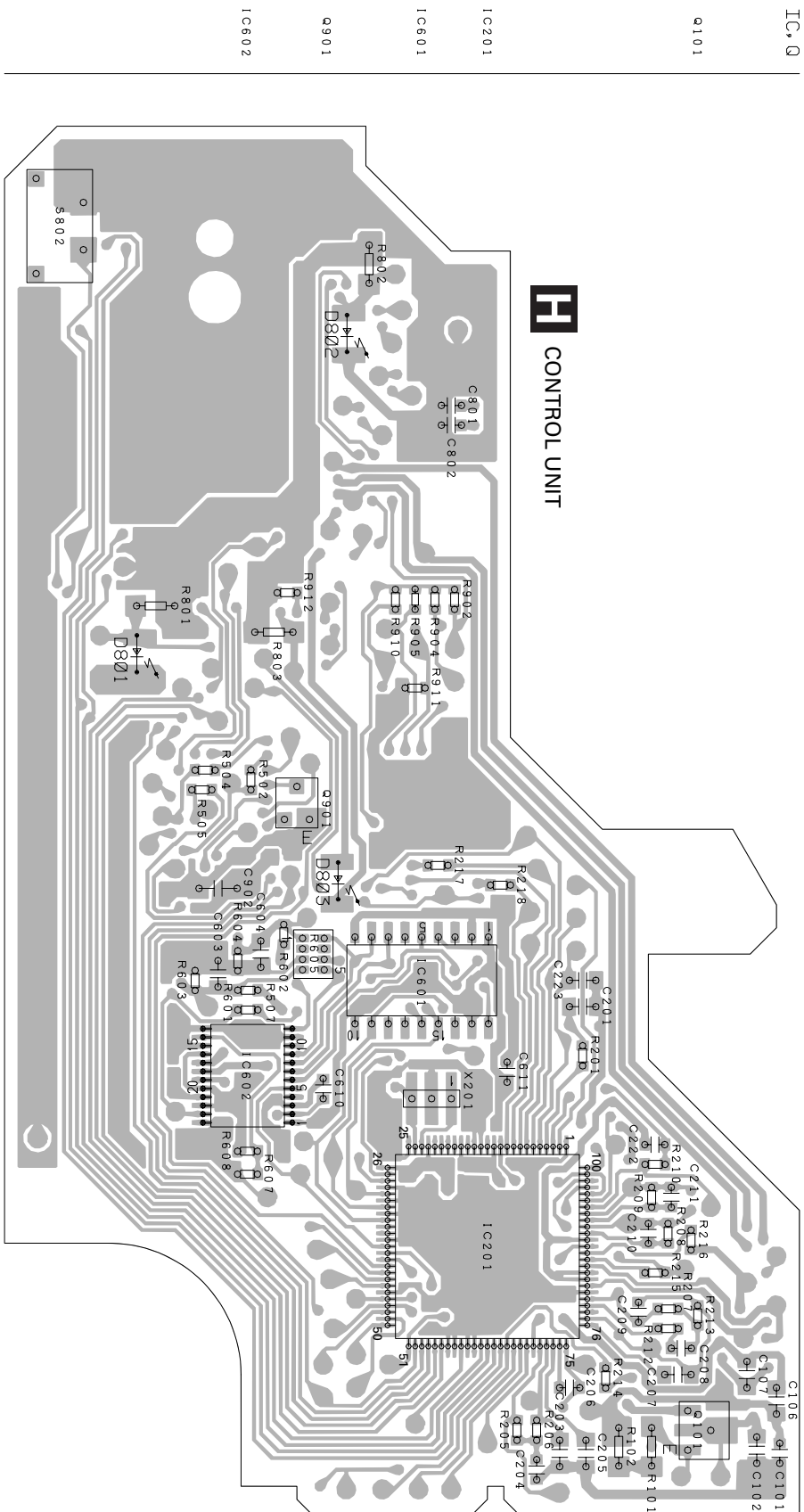


### 4.8 CD MECHANISM MODULE

SIDE A



SIDE B



**H** CONTROL UNIT

- IC\*Q
- Q101
- IC201
- IC601
- Q901
- IC602

A

B

C

D



## 5. ELECTRICAL PARTS LIST

**NOTES:**

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○○J,RS1/○○S○○○○J

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 : CWM6214(DEH-P900R/UC)		Q 932 Transistor	DTC114EK
Unit Number : CWM6216(DEH-P9050/ES)		Q 941 Transistor	2SB1243
Unit Name : Tuner Amp Unit		Q 942 Transistor	DTC124EK
		Q 951 Transistor	2SA1162
		Q 962 Transistor	2SC2412K
		Q 971 Transistor	DTC123EK
		Q 972 Transistor	2SB1238
		Q 981 Transistor	2SC2412K
		Q 982 Transistor	2SC2412K
		Q 991 Transistor	IMD2A
		Q 998 Transistor	2SD2396
		D 131 Diode	MA3039(L)
		D 271 Diode	See Contrast table
		D 291 Diode	MA3056(M)
		D 401 Diode	1SR154-400
		D 402 Diode	HZS16(2)
		D 681 Diode	See Contrast table
		D 682 Diode	See Contrast table
		D 683 LED	BR4361F
		D 801 Diode Network	DA204U
		D 802 Diode Network	DA204U
		D 803 Diode Network	DA204U
		D 804 Diode Network	DA204U
		D 805 Diode	MA3056(M)
		D 806 Diode	HZS9L(C2)
		D 807 LED	CL170PGCD
		D 808 LED	CL170PGCD
		D 809 LED	CL170PGCD
		D 810 Diode	MA3062(M)
		D 851 Diode	HZS7L(C3)
		D 852 Diode	1SS133
		D 853 Diode	1SS133
		D 901 Diode	ERA15-02VH
		D 902 Diode	ERA15-02VH
		D 903 Diode	ERA15-02VH
		D 911 Diode	ERA15-02VH
		D 912 Diode	HZS6L(B1)
		D 921 Diode	HZS9L(C1)
		D 931 Diode	HZS7L(A1)
		D 932 Diode	HZS7L(C3)
		D 933 Diode	ERA15-02VH
		D 941 Diode	ERA15-02VH
		D 942 Diode	ERA15-02VH
		D 951 Diode	MA152WK
		D 961 Diode	MA152K
		D 971 Diode	MA152WK
		D 981 Diode	MA152WK
		D 982 Diode	HZS9L(A2)
		D 983 Diode	MA152K
		D 984 Diode	MA152WK
		D 985 Diode	1SS133
		D 991 Diode	HZS9L(B1)
		ZNR 451 Surge Protector	DSPS-201M-S00B
		L 101 Inductor	LAU3R3K
		L 141 Inductor	CTF1420
IC 101 IC	CA0008AM		
IC 203 IC	PML004AF		
IC 271 IC	PA2028A		
IC 301 IC	PAL005A		
IC 401 IC	S-81250SGUP		
IC 501 IC	See Contrast table		
IC 601 IC	See Contrast table		
IC 681 IC	See Contrast table		
IC 851 IC	BA6288FS		
IC 961 IC	S-80735ANDZI		
IC 971 IC	NJM7805FA		
Q 101 Transistor	2SA1162		
Q 102 Transistor	DTC124EK		
Q 131 Transistor	2SC2412K		
Q 132 Transistor	IMD2A		
Q 261 Transistor	IMD2A		
Q 291 Transistor	2SD1859		
Q 292 Transistor	IMD2A		
Q 301 Transistor	DTC124EK		
Q 302 Transistor	DTC124EK		
Q 351 Transistor	2SC3326		
Q 352 Transistor	2SC3326		
Q 353 Transistor	2SC3326		
Q 354 Transistor	2SC3326		
Q 355 Transistor	2SC3326		
Q 356 Transistor	2SC3326		
Q 401 Transistor	2SC2412K		
Q 501 Transistor	See Contrast table		
Q 641 Transistor	DTC114EK		
Q 681 Transistor	2SA1162		
Q 682 Transistor	DTC124EK		
Q 683 Transistor	2SC2412K		
Q 684 Transistor	2SC2412K		
Q 685 Transistor	2SC2412K		
Q 801 Transistor	2SD1760F5		
Q 802 Transistor	IMD2A		
Q 803 Transistor	2SD2396		
Q 805 Transistor	2SC2412K		
Q 806 Transistor	2SB1238		
Q 807 Transistor	DTC143EK		
Q 808 Transistor	IMD2A		
Q 851 Transistor	2SD1760F5		
Q 852 Transistor	DTA114EK		
Q 853 Transistor	DTC124EK		
Q 911 Transistor	2SD1760F5		
Q 913 Transistor	IMD2A		
Q 921 Transistor	2SD2396		
Q 922 Transistor	DTC114EK		
Q 923 Transistor	2SB1238		
Q 931 Transistor	IMX1		

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
L 251 Ferri-Inductor	LAU2R2K	R 351	RS1/10S820J
L 252 Ferri-Inductor	LAU1R0M	R 352	RS1/10S820J
L 271 Ferri-Inductor	LAU101K	R 353	RS1/10S820J
L 401 Ferri-Inductor	LAU2R2K	R 354	RS1/10S820J
L 402 Inductor	LCTB4R7K2125	R 355	RS1/10S820J
L 403 Inductor	CTF1420	R 356	RS1/10S820J
L 404 Inductor	LCTA1R0J3225	R 357	RS1/16S223J
L 501 Inductor	See Contrast table	R 358	RS1/16S223J
L 502 Inductor	See Contrast table	R 359	RS1/16S223J
L 601 Inductor	LAU100K	R 360	RS1/16S223J
L 801 Inductor	LAU100K	R 361	RS1/16S223J
L 802 Inductor	CTF1484	R 362	RS1/16S223J
L 951 Ferri-Inductor	LAU2R2K	R 363	RS1/16S103J
X 501 Crystal Resonator 3.648MHz	See Contrast table	R 364	RS1/16S103J
X 601 Radiator 10.00MHz	CSS1475	R 365	RS1/16S103J
SP 641 Buzzer	CPV1012	R 366	RS1/16S103J
DSP Unit	CWX2323	R 367	RS1/16S103J
FM/AM Tuner Unit	CWE1501	R 368	RS1/16S103J
		R 369	RS1/16S471J
		R 370	RS1/16S471J
<b>RESISTORS</b>			
R 101	RS1/10S101J	R 371	RS1/16S471J
R 102	RS1/10S620J	R 372	RS1/16S471J
R 103	RS1/10S101J	R 373	RS1/16S471J
R 104	RS1/10S222J	R 374	RS1/16S471J
R 105	RS1/10S103J	R 375	RS1/10S0R0J
R 106	RS1/10S562J	R 376	RS1/10S0R0J
R 107	RS1/10S332J	R 377	RS1/10S0R0J
R 108	RS1/16S102J	R 401	RS1/10S473J
R 109	RS1/16S102J	R 402	RS1/10S473J
R 110	RS1/16S223J	R 403	RS1/10S681J
R 111	RS1/16S223J	R 404	RS1/10S681J
R 112	RS1/16S181J	R 409	RS1/16S681J
R 113	RS1/16S181J	R 410	RS1/16S103J
R 131	RS1/10S104J	R 411	RS1/16S681J
R 132	RS1/10S222J	R 412	RS1/16S681J
R 133	RS1/10S103J	R 413	RS1/16S681J
R 134	RS1/10S561J	R 414	RS1/16S473J
R 135	RS1/10S223J	R 415	RS1/16S472J
R 136	RS1/10S473J	R 416	RS1/16S473J
R 151	RS1/10S0R0J	R 417	RS1/16S473J
R 152	RS1/10S0R0J	R 418	RS1/10S473J
R 161	RS1/16S272J	R 419	RS1/10S222J
R 162	RS1/16S272J	R 420	RS1/10S222J
R 163	RS1/16S162J	R 423	RS1/10S0R0J
R 164	RS1/16S162J	R 424	RS1/16S393J
R 208	RS1/16S102J	R 431	RS1/8S151J
R 209	RS1/16S102J	R 501	See Contrast table
R 210	RS1/16S102J	R 502	See Contrast table
R 241	RS1/10S102J	R 503	See Contrast table
R 242	RS1/10S102J	R 507	See Contrast table
R 251	RS1/10S472J	R 508	See Contrast table
R 252	RS1/10S472J	R 511	See Contrast table
R 253	RS1/10S472J	R 512	See Contrast table
R 254	RS1/10S472J	R 513	See Contrast table
R 255	RS1/10S223J	R 514	See Contrast table
R 256	RS1/10S223J	R 518	See Contrast table
R 257	RS1/10S331J	R 591	RS1/16S473J
R 258	RS1/10S331J	R 592	RS1/16S102J
R 259	RS1/10S331J	R 601	RS1/16S473J
R 260	RS1/10S331J	R 602	RS1/16S472J
R 261	RN1/10SE4702D	R 603	RS1/16S221J
R 262	RN1/10SE4702D	R 604	RS1/16S682J
R 263	RS1/10S102J	R 605	RS1/16S221J
R 283	RS1/10S203J	R 606	RS1/16S682J
R 284	See Contrast table	R 607	RS1/16S102J
R 291	RD1/4PU911J	R 608	RS1/16S102J
R 301	RS1/10S103J	R 609	RS1/16S473J
R 302	RS1/10S103J	R 610	RS1/16S473J
R 303	RS1/10S103J	R 611	RS1/16S473J
R 304	RS1/10S331J	R 612	RS1/16S221J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 613	RS1/16S682J	R 914	RS1/10S1R0J
R 614	RS1/16S221J	R 921	RS1/10S1R0J
R 615	RS1/16S682J	R 922	RD1/4PU221J
R 616	RS1/16S221J	R 923	RS1/10S102J
R 617	RS1/16S473J	R 924	RS1/4S152J
R 618	RS1/16S221J	R 926	RS1/10S223J
R 619	RS1/16S682J	R 931	RS1/10S472J
R 620	RS1/16S473J	R 932	RS1/10S473J
R 623	RS1/16S473J	R 933	RS1/10S103J
R 627	RS1/16S473J	R 934	RS1/10S473J
R 628	RS1/16S473J	R 935	RS1/10S103J
R 633	RS1/10SOR0J	R 936	RS1/10S103J
R 634	RS1/10S102J	R 941	RS1/10S472J
R 637	RS1/16S473J	R 942	RS1/4S221J
R 641	RS1/10S202J	R 943	RS1/4S221J
R 642	RS1/10S102J	R 951	RS1/8S153J
R 651	RS1/10SOR0J	R 952	RS1/10S472J
R 652	RS1/10SOR0J	R 953	RS1/10S472J
R 653	RS1/10SOR0J	R 954	RS1/16S102J
R 658	RS1/16S473J	R 962	RS1/10S102J
R 681	RS1/8S102J	R 963	RS1/10S473J
R 682	RS1/8S102J	R 964	RS1/10S822J
R 683	RS1/8S102J	R 971	RS1/10S102J
R 684	See Contrast table	R 972	RD1/4PU102J
R 685	RS1/10S103J	R 973	RS1/10S473J
R 686	RS1/10S103J	R 981	RS1/16S223J
R 687	RS1/10S223J	R 982	RS1/10S473J
R 688	RS1/10S223J	R 983	RS1/10S103J
R 689	RS1/10S223J	R 984	RS1/10S473J
R 690	RS1/10S272J	R 985	RS1/10S102J
R 691	RS1/10S223J	R 986	RS1/10S224J
R 692	RS1/10S272J	R 989	RS1/10S473J
R 693	RS1/10S223J	R 991	RD1/4PU221J
R 694	RS1/10S272J	R 992	RS1/10S221J
R 695	RS1/16S473J		
R 696	RS1/16S473J		
R 697	RS1/16S473J		
R 698	RS1/8S471J		
R 699	RS1/10S102J		
R 700	RS1/10S103J		
R 801	RS1/8S222J		
R 802	RS1/8S222J		
R 803	RS1/8S222J		
R 804	RS1/8S103J		
R 805	RS1/8S472J		
R 806	RS2PMF220J		
R 807	RS1/8S221J		
R 809	RS1/10S103J		
R 810	RS1/10S222J		
R 811	RD1/4PU102J		
R 812	RS1/10S152J		
R 813	RS1/4S221J		
R 814	RD1/4PU391J		
R 818	RS1/10S103J		
R 819	RS1/8S221J		
R 820	RS1/10S1R0J		
R 821	RS1/10S1R0J		
R 851	RD1/4PU271J		
R 852	RS1/10S102J		
R 853	RS1/10S102J		
R 862	RS1/10S102J		
R 864	RS1/10S102J		
R 911	RS1/10SOR0J		
R 912	RS1/10S152J		
R 913	RS1/10S512J		
R 914	RS1/10S1R0J		
R 921	RS1/10S1R0J		
R 922	RD1/4PU221J		
R 923	RS1/10S102J		
R 924	RS1/4S152J		
R 926	RS1/10S223J		
R 931	RS1/10S472J		
R 932	RS1/10S473J		
R 933	RS1/10S103J		
R 934	RS1/10S473J		
R 935	RS1/10S103J		
R 936	RS1/10S103J		
R 941	RS1/10S472J		
R 942	RS1/4S221J		
R 943	RS1/4S221J		
R 951	RS1/8S153J		
R 952	RS1/10S472J		
R 953	RS1/10S472J		
R 954	RS1/16S102J		
R 962	RS1/10S102J		
R 963	RS1/10S473J		
R 964	RS1/10S822J		
R 971	RS1/10S102J		
R 972	RD1/4PU102J		
R 973	RS1/10S473J		
R 981	RS1/16S223J		
R 982	RS1/10S473J		
R 983	RS1/10S103J		
R 984	RS1/10S473J		
R 985	RS1/10S102J		
R 986	RS1/10S224J		
R 989	RS1/10S473J		
R 991	RD1/4PU221J		
R 992	RS1/10S221J		
CAPACITORS			
C 101	CKSQYB104K16		
C 102	CKSQYB104K16		
C 131	CKSQYB681K50		
C 132	CEJA101M10		
C 141	CCSQCH101J50		
C 161	CKSQYB183K25		
C 162	CKSQYB183K25		
C 171	CEJA470M16		
C 172	CKSQYB104K16		
C 173	CEJA100M16		
C 201	CKSYB105K16		
C 205	CKSYB224K16		
C 206	CKSYB224K16		
C 207	CKSYB105K16		
C 208	CKSYB105K16		
C 209	CKSYB105K16		
C 210	CKSYB105K16		
C 211	CEJANP4R7M16		
C 212	CEJANP4R7M16		
C 213	CEJANP4R7M16		
C 214	CEJANP4R7M16		
C 215	CKSQYB473K50		
C 216	CKSQYB473K50		
C 217	CKSQYB473K50		
C 218	CKSQYB473K50		
C 219	CKSYB105K16		
C 220	CKSYB105K16		
C 221	CKSYB105K16		
C 222	CKSYB105K16		
C 223	CKSYB105K16		

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 224	CKSYB105K16	C 503	See Contrast table
C 225	CKSQYB333K50	C 504	See Contrast table
C 226	CKSQYB123K50	C 505	See Contrast table
C 227	CKSQYB473K50	C 506	See Contrast table
C 228	CKSQYB153K50	C 507	See Contrast table
C 229	CKSQYB153K50	C 508	See Contrast table
C 241	CKSQYB152K50	C 509	See Contrast table
C 242	CKSQYB152K50	C 511	See Contrast table
C 251	CEJA4R7M35	C 512	See Contrast table
C 252	CEJA4R7M35	C 601	CEJA4R7M35
C 253	CEJA100M16	C 602	CKSQYB103K50
C 254	CEJA100M16	C 603	CCSQCH101J50
C 255	CKSQYB104K16	C 604	CCSQCH150J50
C 256	CKSQYB104K16	C 605	CCSQCH220J50
C 257	CEJA100M16	C 651	CKSYB225K16
C 258	CEJA100M16	C 681	See Contrast table
C 259	CKSQYB103K50	C 682	See Contrast table
C 260	CKSQYB103K50	C 683	CKSQYB103K50
C 261	CKSQYB103K50	C 684	CKSQYB103K50
C 262	CKSYB475K10	C 685	CKSQYB103K50
C 263	CEJANP100M10	C 686	CKSQYB473K16
C 277	CEJA4R7M35	C 801	CKSYB475K10
C 278	CEJA101M16	C 802	CKSQYB104K16
C 279	CEJA100M16	C 803	CEJA470M10
C 280	CEJA100M16	C 804	CKSQYB103K50
C 281	CKSYB225K16	C 805	CEJA470M10
C 282	CEJA330M25	C 806	CKSQYB103K50
C 283	CEJA330M25	C 807	CKSQYB102K50
C 284	See Contrast table	C 808	CKSYB221K50
C 285	See Contrast table	C 809	CKSYB103K50
C 286	CASAQ3R3M16	C 810	CKSYB475K10
C 287	CKSYB684K25	C 811	CKSYB225K16
C 291	CKSYB225K16	C 812	CCSCH101J50
C 292	CKSQYB103K50	C 813	CKSQYB103K50
C 293	CKSQYB103K50	C 814	CKSQYB105K10
C 301	CKSQYB224K16	C 851	CKSQYB103K50
C 302	CKSQYB224K16	C 852	CKSYB104K16
C 303	CKSQYB224K16	C 853	CEJA220M16
C 304	CKSQYB224K16	C 855	CKSQYB102K50
C 306	CEJA330M10	C 856	CCSQCH101J50
C 307	CCH1339	C 857	CCSQCH101J50
C 309	CKSQYB104K16	C 901	CKSYB103K50
C 310	CEJA100M16	C 911	CCH1183
C 311	CKSYB105K16	C 912	CKSQYB472K50
C 351	CEJA100M35	C 913	CKSQYB103K50
C 352	CEJA100M35	C 914	CEJA470M10
C 353	CEJA100M35	C 915	CCH1183
C 354	CEJA100M35	C 921	CCH1181
C 355	CEJA100M35	C 922	CKSQYB103K50
C 356	CEJA100M35	C 923	CEJA101M16
C 357	CKSRYB222K50	C 931	CKSYB105K16
C 358	CKSRYB222K50	C 951	CKSYB103K50
C 359	CKSRYB222K50	C 961	CKSQYB102K50
C 360	CKSRYB222K50	C 962	CKSQYB104K16
C 361	CKSRYB222K50	C 963	CEJA2R2M50
C 362	CKSRYB222K50	C 971	CEJA101M16
C 403	CKSQYB473K16	C 972	CEJA100M16
C 404	CEJA101M10	C 973	CKSQYB103K50
C 405	CKSQYB103K50	C 975	CKSQYB102K50
C 406	CEJA220M10	C 981	CEJA220M16
C 407	CKSQYB103K50	C 991	CKSQYB473K50
C 408	CKSQYB223K50	C 992	CKSQYB102K50
C 409	CKSQYB223K50	C 993	CEJA101M10
C 411	CKSRYB472K50		
C 413	See Contrast table		
C 431	CEJA101M16		
C 432	CKSQYB104K16		
C 433	See Contrast table		
C 435	CCSQCH101J50		
C 502	See Contrast table		

# DEH-P900R,P9050

## CONTRAST TABLE of TUNER AMP UNIT

DEH-P900R/UC and DEH-P9050/ES are constructed same except for the following:

Symbol and Description	Part No.	
	DEH-P900R/UC	DEH-P9050/ES
IC501 IC	PM4009A	Not used
IC601 IC	PD5483A	PD5484A
IC681 IC	TPD1018F	Not used
Q501 Transistor	DTA124EK	Not used
D271 Diode	1SS396	Not used
D681,682 Diode	ERA15-02VH	Not used
L501 Inductor	CTF1295	Not used
L502 Inductor	CTF1420	Not used
X501 Crystal Resonator 3.648MHz	CSS1447	Not used
R284	Not used	RS1/10S0R0J
R501,502,503,511	RS1/16S102J	Not used
R507	RS1/10S0R0J	Not used
R508,512	RS1/16S0R0J	Not used
R513	RS1/16S225J	Not used
R514	RS1/10S0R0J	Not used
R518	RS1/16S681J	Not used
R684	RS1/10S103J	Not used
C284,285	CEJA330M25	Not used
C413,511	CKSQYB103K50	Not used
C433	Not used	CCSQCH101J50
C502	CCSQCH101J50	Not used
C503,504	CCSQCH270J50	Not used
C505	CKSQYB104K16	Not used
C506,507	CKSQYB471K50	Not used
C508	CKSQYB104K16	Not used
C509	CEJA220M6R3	Not used
C512	CCSRCH101J50	Not used
C681,682	CKSQYB473K50	Not used



====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
<b>B</b> Unit Number : CWE1501		R 104	RS1/16S562J
Unit Name : FM/AM Tuner Unit		R 106	RS1/16S0R0J
MISCELLANEOUS		R 108	RS1/16S0R0J
IC 1 IC	PML002A	R 110	RS1/16S154J
IC 2 IC	PM4008A	R 111	RS1/16S273J
IC 3 IC	BR9010FV	R 113	RS1/16S222J
Q 1 Transistor	2SC4081	R 114	RS1/16S333J
Q 2 Transistor	DTC124EU	R 115	RS1/16S334J
		R 116	RS1/16S473J
		R 202	RS1/16S472J
Q 3 FET	3SK263	R 203	RS1/16S225J
Q 51 Transistor	2SC4081	R 204	RS1/16S102J
Q 201 FET	2SK932	R 205	RS1/16S220J
Q 202 Transistor	DTC124EU	R 206	RS1/16S471J
Q 204 Transistor	2SC4081	R 208	RS1/16S104J
D 1 Diode	KV1410(23)	R 209	RS1/16S104J
D 2 Diode	1SV248	R 210	RS1/16S563J
D 6 Diode	KV1410(23)	R 213	RS1/16S223J
D 201 Diode	MA143	R 902	RS1/16S103J
D 202 Diode	MA147	R 904	RS1/16S473J
D 903 Diode	KV1410(23)	R 907	RS1/16S103J
D 904 Diode	SVC253	R 908	RS1/16S681J
L 1 Coil	CTC1155	R 909	RS1/16S473J
L 3 Inductor	LCTB1R5K2125	R 914	RS1/16S562J
L 4 Coil	CTC1155		
L 201 Inductor	LCTB330K1608		
L 202 Inductor	CTF1287		
L 203 Inductor	LCTA121J3225		
L 901 Coil	CTC1154		
L 902 Inductor	LCTA3R3J3225		
L 904 Inductor	LCTBR47K1608		
L 905 Inductor	LCTBR47K1608		
T 51 Coil	CTE1132		
CF 51 Ceramic Filter	CTF1442		
CF 52 Ceramic Filter	CTF1442		
CF 53 Ceramic Filter	CTF1442		
CF 202 Ceramic Filter	CTF1476		
X 901 Crystal Resonator 10.250MHz	CSS1432		
RESISTORS			
R 1	RS1/16S183J		
R 2	RS1/16S103J		
R 5	RS1/16S0R0J		
R 7	RS1/16S273J		
R 8	RS1/16S473J		
R 9	RS1/16S223J		
R 10	RS1/16S473J		
R 11	RS1/16S221J		
R 12	RS1/16S103J		
R 13	RS1/16S104J		
R 16	RS1/16S223J		
R 17	RS1/16S221J		
R 18	RS1/16S221J		
R 19	RS1/16S473J		
R 20	RS1/16S470J		
R 31	RS1/16S0R0J		
R 51	RS1/16S470J		
R 52	RS1/16S103J		
R 53	RS1/16S103J		
R 54	RS1/16S331J		
R 55	RS1/16S331J		
R 56	RS1/16S560J		
R 57	RS1/16S560J		
R 58	RS1/16S102J		
R 59	RS1/16S225J		
R 60	RS1/16S133J		
R 61	RS1/16S433J		
R 101	RS1/16S333J		
R 102	RS1/16S103J		
R 103	RS1/16S333J		
		C 1	CCSQCH4R0C50
		C 6	CKSQYB105K10
		C 8	CKSQYB222K50
		C 10	CCSRCH220J50
		C 11	CCSRCH150J50
		C 12	CCSRCH8R0D50
		C 14	CCSRCH3R0C50
		C 15	CKSQYB103K50
		C 16	CKSQYB222K50
		C 17	CKSQYB222K50
		C 18	CCSRCH3R0C50
		C 19	CKSQYB103K50
		C 20	CKSQYB103K50
		C 21	CKSQYB103K50
		C 24	CKSQYB334K16
		C 26	CKSQYB472K50
		C 30	CCSRCH220J50
		C 32	CCSRCH470J50
		C 35	CKSQYB103K50
		C 51	CKSQYB103K50
		C 52	CKSQYB473K16
		C 53	CCSRCH2R0C50
		C 54	CKSQYB103K50
		C 55	CKSQYB104K16
		C 56	CKSQYB104K16
		C 58	CKSQYB224K16
		C 101	CEALNP100M10
		C 102	CCSRCH151J50
		C 103	CKSQYB473K16
		C 105	CKSQYB682K25
		C 106	CEALR68M50
		C 107	CKSQYB103K50
		C 108	CKSQYB474K16
		C 109	CKSQYB474K16
		C 110	CKSQYB104K16
		C 111	CKSQYB104K16
		C 112	CKSQYB104K16
		C 113	CKSQYB123K25
		C 114	CEAL220M6R3
		C 115	CKSQYB473K16

====Circuit Symbol and No.====Part Name

Part No.

====Circuit Symbol and No.====Part Name

Part No.

C	116	CEAL2R2M50
C	117	CKSRYB102K50
C	120	CKSRYB183K25
C	121	CKSRYB332K50
C	122	CKSRYB562K25

L	1904	Inductor	LCTA220J2520
L	1905	Inductor Array	CTF1421
L	1906	Inductor Array	CTF1421
L	1907	Inductor	CTF1295
L	1908	Inductor	CTF1295

C	123	CKSRYB681K50
C	125	CKSRYB103K50
C	126	CKSRYB103K50
C	127	CEAL2R2M50
C	128	CKSRYB103K50

X	1901	Ceramic Resonator 15.62MHz	CSS1458
S	1901	Push Switch	CSG1112
S	1902	Push Switch	CSG1112
S	1903	Push Switch	CSG1111
S	1904	Push Switch	CSG1111

C	201	CCSRCH471J50
C	202	CCSRCH100D50
C	203	CKSRYB104K16
C	204	CKSRYB332K50
C	205	CKSRYB103K50

S	1905	Push Switch	CSG1112
S	1906	Push Switch	CSG1112
S	1907	Push Switch	CSG1112
S	1908	Push Switch	CSG1112
S	1909	Push Switch	CSG1112

C	206	CKSRYB104K16
C	207	CKSRYB473K16
C	208	CCSRCH560J50
C	209	CEAL470M6R3
C	210	CKSRYB103K50

S	1910	Push Switch	CSG1112
S	1911	Push Switch	CSG1112
S	1912	Push Switch	CSG1112
S	1913	Push Switch	CSG1112
S	1914	Push Switch	CSG1112

C	211	CKSRYB103K50
C	212	CCSRCH101J50
C	215	CKSRYB223K25
C	216	CKSQYB334K16
C	217	CKSRYB103K50

S	1915	Push Switch	CSG1112
S	1916	Push Switch	CSG1112
S	1917	Push Switch	CSG1112
S	1918	Push Switch	CSG1112
S	1919	Push Switch	CSG1112

C	219	CKSQYB105K10
C	220	CKSRYB104K16
C	221	CKSRYB473K16
C	222	CKSQYB334K16
C	223	CKSQYB474K16

S	1920	Push Switch	CSG1112
S	1921	Push Switch	CSG1112
S	1922	Push Switch	CSG1112
S	1923	Push Switch	CSG1112
S	1924	Push Switch	CSG1112

C	224	CKSRYB104K16
C	225	CKSRYB272K50
C	226	CKSRYB682K25
C	902	CCSRCH270J50
C	904	CKSRYB223K25

S	1925	Push Switch	CSG1111
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RESISTORS

R	1901		RS1/16S154J
R	1902		RS1/16S473J
R	1903		RA4C101J
R	1904		RA3C101J
R	1905		RA3C101J

R	1906		RA4C101J
R	1907		RS1/16S473J
R	1908		RA3C101J
R	1909		RA3C101J
R	1910		RA4C101J

R	1911		RA4C101J
R	1912		RA4C101J
R	1913		RA3C101J
R	1914		RA4C101J
R	1915		RA4C101J

R	1922		RS1/10S121J
R	1923		RS1/10S2R2J
R	1924		RS1/8S222J
R	1925		RS1/8S222J
R	1930		RS1/16S472J

R	1931		RS1/16S473J
R	1956		RS1/10S0R0J
R	1957		RS1/10S0R0J
R	1958		RS1/10S0R0J
R	1959		RS1/10S0R0J

R	1960		RS1/8S911J
R	1961		RS1/8S911J
R	1962		RS1/10S511J
R	1963		RS1/10S511J
R	1964		RS1/10S511J

R	1965		RS1/10S511J
R	1966		RS1/8S511J
R	1967		RS1/8S511J
R	1968		RS1/8S511J
R	1969		RS1/8S511J

**C** Unit Number : CWM6226  
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	1901	IC	PD5471A
IC	1902	IC	PD8051A
IC	1903	HIC Module	RS-140
D	1901	Diode Network	DA204U
D	1902	Diode Network	DA204U
D	1904	Diode	MA110
D	1905	LED	CL170UBX
L	1901	Chip Inductor	LCTA2R2J3225
L	1902	Chip Inductor	LCTA2R2J3225
L	1903	Inductor	CTF1484

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 1970	RS1/8S511J	R 3034	RS1/16S102J
R 1971	RS1/8S511J	R 3038	RS1/16S102J
R 1972	RS1/8S511J	R 3039	RS1/16S102J
R 1973	RS1/8S511J	R 3040	RS1/16S102J
R 1974	RS1/8S751J	R 3041	RS1/16S102J
R 1975	RS1/8S751J	R 3042	RS1/16S102J
R 1976	RS1/8S751J	R 3043	RS1/16S102J
R 1977	RS1/8S751J	R 3044	RS1/16S102J
		R 3045	RS1/16S473J
		R 3047	RS1/16S473J
<b>CAPACITORS</b>			
C 1901	CKSQYB105K10	R 3048	RS1/16S473J
C 1902	CKSRYB103K25	R 3049	RS1/16S473J
C 1903	CSZS100M6R3	R 3101	RS1/16S0R0J
C 1904	CSZS100M6R3	R 3102	RS1/16S0R0J
C 1906	CKSQYB103K25	R 3103	RS1/16S471J
C 1907	CSZS100M6R3	R 3104	RS1/16S473J
C 1908	CKSRYB473K16	R 3105	RS1/16S473J
C 1911	CKSRYB473K16	R 3106	RS1/16S105J
C 1914	CKSRYB103K25	R 3107	RS1/16S102J
C 1916	CKSQYB104K25	R 3108	RS1/16S102J
C 1917	CSZSR100M16	R 3109	RS1/16S102J
C 1918	CKSRYB102K50	R 3110	RS1/16S0R0J
C 1919	CCSQCH221J50	R 3201	RS1/16S332J
		R 3202	RS1/16S391J
		R 3203	RS1/16S101J
		R 3204	RS1/16S271J
		R 3301	RS1/16S273J
		R 3302	RS1/16S273J
		R 3303	RS1/16S512J
		R 3304	RS1/16S512J
		R 3305	RS1/16S272J
		R 3306	RS1/16S272J
		R 3307	RS1/16S681J
		<b>CAPACITORS</b>	
		C 3001	CKSRYB103K50
		C 3101	CCSRCH180J50
		C 3102	CCSRCH180J50
		C 3103	CKSQYB103K50
		C 3104	CKSYB106K6R3
		C 3105	CKSRYB104K16
		C 3106	CKSRYB104K16
		C 3107	CKSRYB104K16
		C 3108	CKSRYB104K16
		C 3201	CKSRYB103K50
		C 3202	CKSQYB474K16
		C 3203	CKSRYB103K50
		C 3204	CKSRYB123K25
		C 3205	CKSRYB103K50
		C 3206	CKSRYB103K50
		C 3207	CCSRCH330J50
		C 3208	CKSYB106K6R3
		C 3301	CKSRYB332K50
		C 3302	CKSRYB332K50
		C 3303	CKSYB106K6R3
		C 3304	CKSYB106K6R3
		C 3305	CKSYB106K6R3
		C 3306	CKSYB106K6R3
		C 3307	CKSYB225K16
		C 3308	CKSRYB104K16
		C 3309	CKSYB106K6R3
		C 3310	CKSRYB104K16
		C 3311	CSZSR470M6R3
		C 3312	CKSRYB104K16
		C 3313	CKSYB106K6R3
		C 3314	CKSRYB103K50
		C 3315	CKSQYB105K10

**D** Unit Number : CWX2323  
 Unit Name : DSP Unit

**MISCELLANEOUS**

IC 3001	IC	PD5504A
IC 3101	IC	AK7714
IC 3201	IC	TC74HC393AF
IC 3202	IC	TC9246F
IC 3203	IC	HD74HCT126FP
IC 3301	IC	NJM4580M
D 3301	Diode	MA8043(L)
L 3001	High Loss Inductor	CTF1410
L 3101	High Loss Inductor	CTF1410
L 3201	High Loss Inductor	CTF1410
L 3202	Inductor	LCTB2R2K1608
L 3203	High Loss Inductor	CTF1410
L 3301	High Loss Inductor	CTF1410
L 3302	High Loss Inductor	CTF1410
L 3303	High Loss Inductor	CTF1410
L 3304	High Loss Inductor	CTF1410
L 3305	High Loss Inductor	CTF1410
L 3306	High Loss Inductor	CTF1410
L 3307	High Loss Inductor	CTF1410
L 3308	High Loss Inductor	CTF1410
L 3309	High Loss Inductor	CTF1410
L 3310	High Loss Inductor	CTF1410
X 3001	Radiator 10.00MHz	CSS1428
X 3101	Crystal Resonator 22.5792MHz	CSS1403

**RESISTORS**

R 3001	RA4C102J
R 3004	RS1/16S102J
R 3010	RS1/16S681J
R 3011	RS1/16S102J
R 3012	RS1/16S102J
R 3013	RS1/16S102J
R 3014	RS1/16S102J
R 3018	RS1/16S102J
R 3023	RA3C221J
R 3024	RS1/16S102J
R 3025	RA3C102J
R 3026	RA4C681J
R 3028	RS1/16S473J
R 3029	RS1/16S473J
R 3033	RS1/16S102J

====Circuit Symbol and No.====Part Name

**E** Unit Number : CWX2322  
Unit Name : ASL Unit

MISCELLANEOUS

IC 4501	IC	NJM2068MD
IC 4502	IC	NJM2068MD
Q 4501	Transistor	2SC2458
D 4501	Diode	MA152WK
D 4502	Diode	MA3043(LMH)
D 4503	Diode	MA3075(M)
VR 4501	Semi-fixed 10kΩ(B)	CCP1319
MIC4501	Microphone	CPM1011

RESISTORS

R 4501	RS1/8S222J
R 4502	RS1/8S683J
R 4503	RS1/8S103J
R 4504	RS1/8S472J
R 4505	RS1/8S471J
R 4506	RS1/8S682J
R 4507	RS1/8S684J
R 4508	RS1/8S562J
R 4509	RS1/8S391J
R 4510	RS1/8S472J
R 4511	RS1/8S472J
R 4512	RS1/8S472J
R 4513	RS1/8S153J
R 4514	RS1/8S153J
R 4515	RS1/8S102J
R 4517	RS1/8S270J

CAPACITORS

C 4501	CEJA470M10
C 4502	CEJA470M10
C 4503	CEJAR68M50
C 4504	CEJA100M16
C 4505	CEJA470M10
C 4506	CEJA470M16
C 4507	CEJA100M16
C 4508	CEJANP220M10
C 4509	CEJAR68M50
C 4510	CEJANP100M10
C 4511	CKSYB823K50
C 4512	CCSCH101J50
C 4513	CEJA470M10

**F** Unit Number :  
Unit Name : Switch PCB

S 951	Switch(CLOSE)	CSN1012
S 952	Switch(OPEN)	CSN1022

**H** Unit Number : CWX2359  
Unit Name : Control Unit

MISCELLANEOUS

IC 201	IC	UPD63710GC
IC 301	IC	BA5985FM
IC 601	IC	PD0236AM
IC 701	IC	BA05SFP
IC 901	IC	PE5011C
Q 101	Transistor	2SB1132
Q 901	Transistor	UN2111
D 801	LED	CL200IRX
D 802	LED	CL200IRX
TH 901	Thermistor	CCX1037

====Circuit Symbol and No.====Part Name

X 901	Radiator 8.380MHz	CSS1453
S 801	Spring Switch(HOME)	CSN1051
S 802	Spring Switch(CLAMP)	CSN1052

RESISTORS

R 101	RS1/8S120J
R 102	RS1/8S100J
R 103	RS1/16S222J
R 201	RS1/16S104J
R 205	RS1/16S103J
R 206	RS1/16S393J
R 207	RS1/16S182J
R 208	RS1/16S304J
R 210	RS1/16S0R0J
R 212	RS1/16S103J
R 213	RS1/16S123J
R 214	RS1/16S273J
R 215	RS1/16S273J
R 216	RS1/16S273J
R 217	RS1/16S681J
R 218	RS1/16S681J
R 309	RS1/16S473J
R 310	RS1/16S473J
R 501	RS1/16S102J
R 502	RS1/16S681J
R 503	RS1/16S681J
R 504	RS1/16S681J
R 505	RS1/16S681J
R 506	RS1/16S681J
R 507	RS1/16S0R0J
R 511	RS1/16S0R0J
R 512	RS1/16S512J
R 605	RA4C0R0J
R 801	RS1/8S751J
R 802	RS1/8S751J
R 901	RS1/16S222J
R 902	RS1/16S473J
R 903	RS1/16S222J
R 904	RS1/16S473J
R 905	RN1/16SE1502D
R 907	RS1/16S473J
R 908	RS1/16S222J
R 909	RS1/16S104J
R 910	RS1/16S103J
R 911	RS1/16S223J
R 912	RS1/16S473J
R 917	RS1/16S0R0J

CAPACITORS

C 101	CCSRCH102J25
C 102	CKSQYB104K16
C 103	CEV101M6R3
C 104	CEV470M6R3
C 105	CKSQYB334K16
C 106	CKSQYB334K16
C 107	CKSQYB334K16
C 201	CKSQYB104K16
C 202	CEV101M6R3
C 203	CKSQYB104K16
C 204	CKSRYB332K50
C 205	CKSQYB104K16
C 206	CKSRYB392K50
C 207	CKSQYB224K16
C 208	CCSRCH270J50
C 209	CCSRCJ3R0C50
C 210	CCSRCH221J50
C 211	CCSRCH101J50
C 212	CKSRYB682K25
C 213	CKSQYB104K16

====Circuit Symbol and No.====	====Part Name	Part No.
C 214		CKSRYP104K16
C 215		CKSQYB104K16
C 216		CKSRYP104K16
C 217		CKSRYP104K16
C 218		CKSRYP104K16
C 219		CKSRYP104K16
C 220		CKSRYP104K16
C 223		CKSQYB471K50
C 301		CEV101M10
C 501		CKSRYP221K50
C 611		CKSRYP104K16
C 701		CEV101M6R3
C 702	22 $\mu$ F/6.3V	CCH1300
C 703		CKSQYB334K16
C 801		CKSRYP103K25
C 802		CKSRYP103K25
C 901		CKSRYP472K50
C 902		CKSYB475K10
C 903		CKSRYP103K25

**I** Unit Number :  
Unit Name : Photo Unit

Q 1	Photo-transistor	CPT230SX-TU
Q 2	Photo-transistor	CPT230SX-TU

#### Miscellaneous Parts List

M	1	Pickup Unit(Service)(P8)	CXX1285
M	1	Motor Unit(CARRIAGE)	CXB2190
M	2	Motor Unit(LOADING)	CXB2195
M	3	Motor Unit(SPINDLE)	CXB2562
M	951	Motor (AUTO FLAP)	CXM1085

## 6. ADJUSTMENT

### 6.1 CD ADJUSTMENT

#### 1) Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.

If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.

Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
  - \*During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.
  - \*The unit will not load a disc.

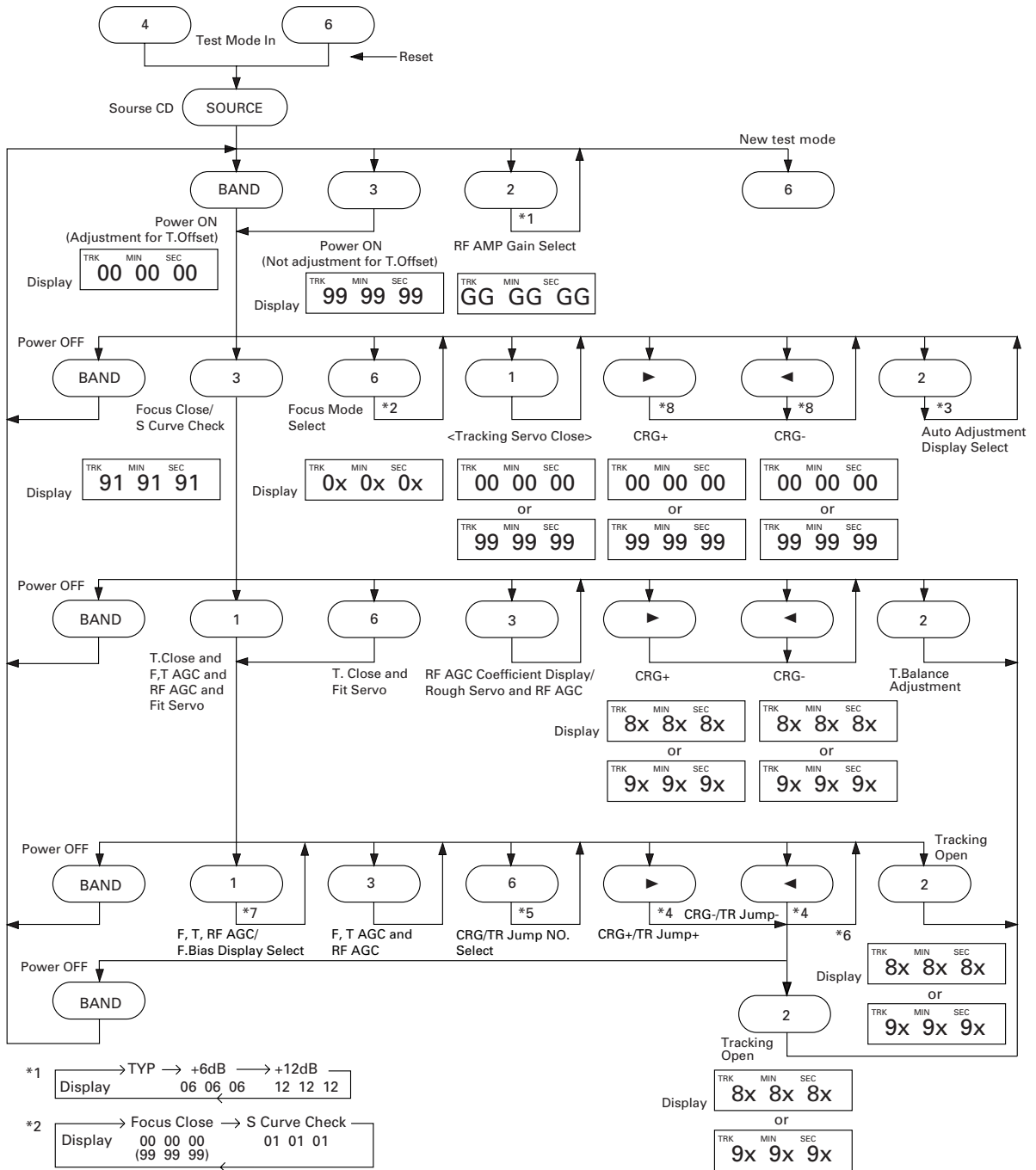
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

#### 2) Test Mode

This mode is used for adjusting the CD mechanism module of the device.

- Test mode starting procedure  
Reset while pressing the **4** and **6** keys together.
- Test mode cancellation  
Switch ACC, back-up OFF.
- After pressing the EJECT key, do not press any other key until the disk is completely ejected.
- If the ► or ◀ key is pressed while focus search is in progress, immediately turn the power off (otherwise the actuator may be damaged due to adhesion of the lenses).
- Jump operation of TRs other than 100TR continues after releasing the key. CRG move and 100TR jump operations are brought into the "Tracking close" status when the key is released.
- Powering Off/On resets the jump mode to "Single TR (91)", the RF AMP gain setting to 0 dB, and the automatic adjustment value to the initial value.

● Flow Chart



- \*1  $\rightarrow$  TYP  $\rightarrow$  +6dB  $\rightarrow$  +12dB  
 Display 06 06 06 12 12 12
- \*2  $\rightarrow$  Focus Close  $\rightarrow$  S Curve Check  
 Display 00 00 00 01 01 01  
 (99 99 99)
- \*3  $\rightarrow$  F.Offset Display  $\rightarrow$  RF.Offset Display  $\rightarrow$  F.Cansel Display  

$$[ \text{F.Cancel Value} = \{ \text{Top Rank 8bit of Set Value (7F [H] to 80 [H])} + 128 \} / 4 ]$$

$$= 63 [D] \text{ to } (32 [D]) \text{ to } 00 [D]$$
- \*4 Single TR/32TR/100TR
- \*5  $\rightarrow$  Single TR  $\rightarrow$  32TRK  $\rightarrow$  100TRK  $\rightarrow$  CRG Move  
 Display 9x(8x):91(81) 92(82) 93(83) 94(84)
- \*6 CRG Move, 100TR Jump Only
- \*7  $\rightarrow$  TRK, MIN, SEC  $\rightarrow$  F.AGC Gain  $\rightarrow$  T.AGC Gain  $\rightarrow$  RF AGC Gain  

$$(F,T.AGC Gain = (\text{Present Value}/\text{Initial Value}) \nabla 20)$$
- \*8 Voltage of CRG Motor = 2 [V]

## 6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

### • Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

### • Purpose :

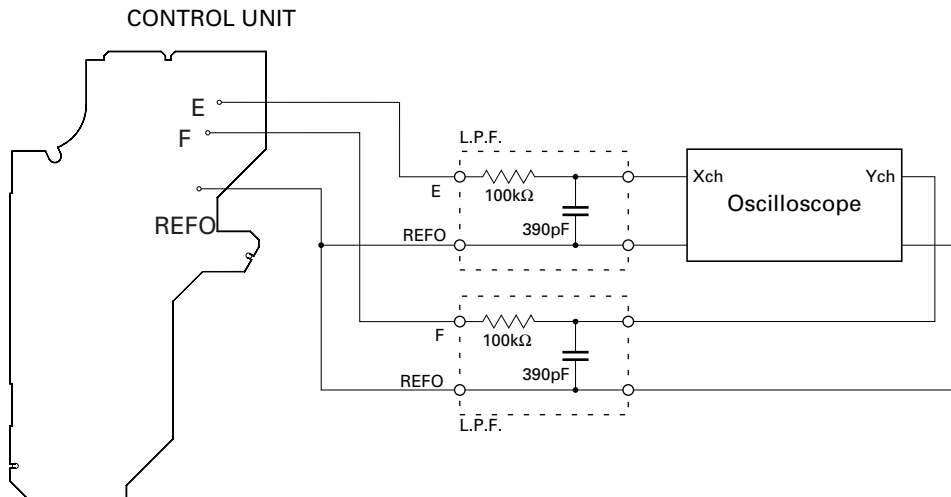
To check that the grating is within an acceptable range when the PU unit is changed.

### • Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

### • Method :

- |                       |                            |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points    | • E, F, REFO               |
| • Disc                | • ABEX TCD-784             |
| • Mode                | • TEST MODE                |



### • Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the ► and ◀ buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3 2 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

### • Note

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" ( the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

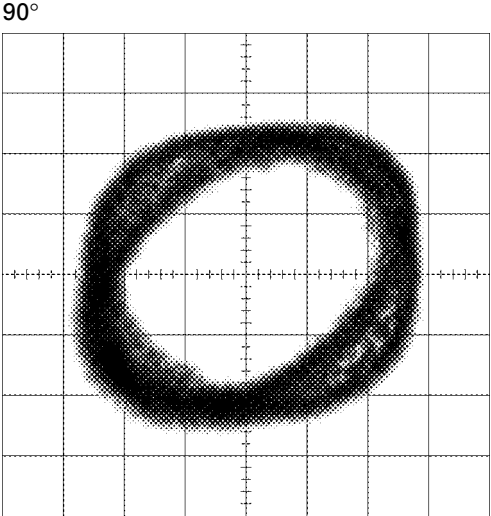
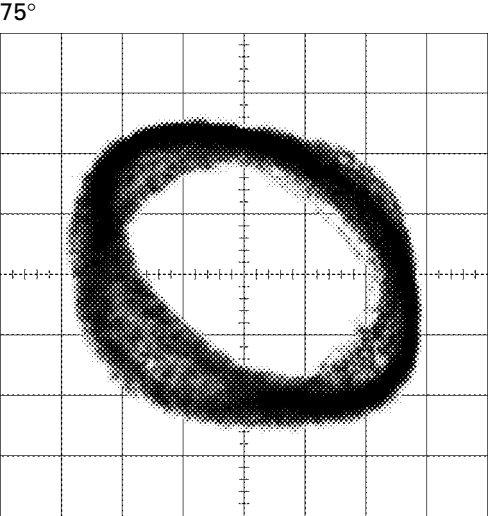
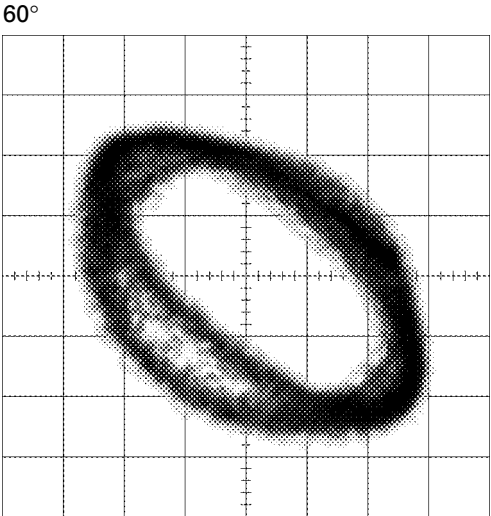
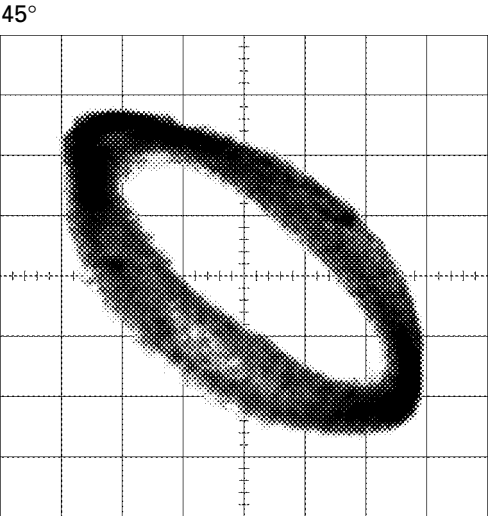
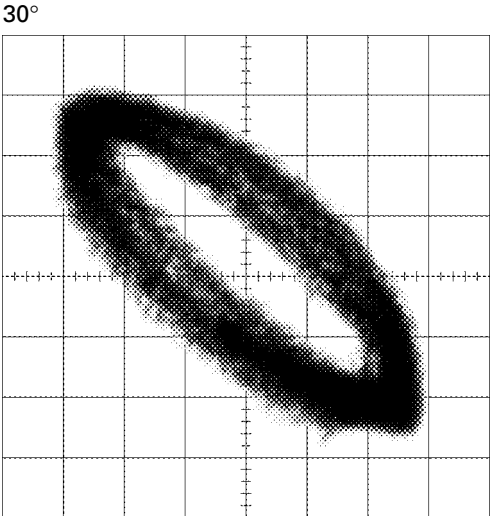
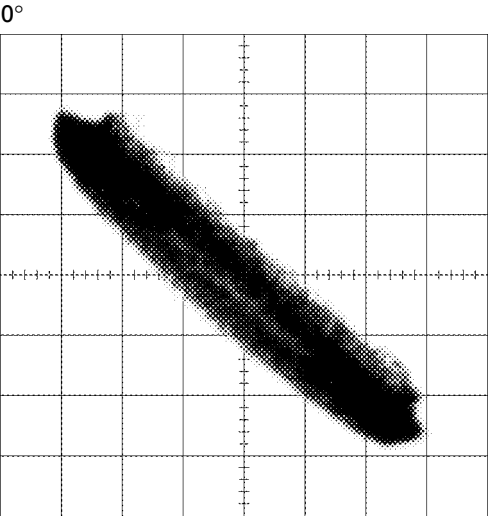
### • Hint

Reloading the disc changes the clamp position and may decrease the "wobble".



**Grating waveform**

Ech → Xch 20mV/div, AC  
Fch → Ych 20mV/div, AC



## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 TEST MODE

##### ● Error Messages

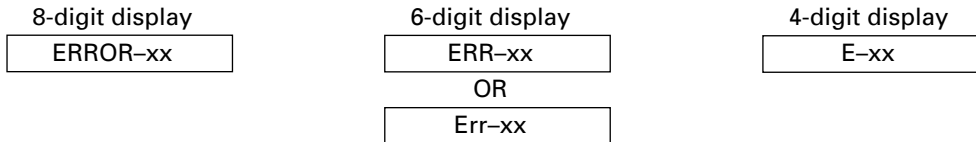
If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

##### (1) Basic Indication Method

1) When SERRORM is selected for the CSMOD (CD mode area for the system), error codes are written to DMIN (minutes display area) and DSEC (seconds display area). The same data is written to DMIN and DSEC. DTNO remains in blank as before.

##### 2) Main unit display examples

Depending on display capability of LCD used, display will vary as shown below. xx contains the error number.



##### (2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG	CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism.
11	Electricity	Focus Servo NG	Focusing not available. → Stains on rear side of disc or excessive vibrations on REWRITABLE.
12	Electricity	Spindle Lock NG	Spindle not locked. Sub-code is strange (not readable). → Failure on spindle, stains or damages on disc, or excessive vibrations.
		Subcode NG	A disc not containing CD-R data is found. Turned over disc are found, though rarely. → Failure on home switch or CRG move mechanism.
		RF AMP NG	An appropriate RF AMP gain can't be determined. → CD signal error.
17	Electricity	Setup NG	APC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations.
30	Electricity	Search Time Out	Failed to reach target address. → CRG tracking error or damages on disc.
A0	System	Power Supply NG	Power (VD) is ground faulted. → Failure on SW transistor or power supply (failure on connector).

Remarks: Mechanical errors are not displayed (because a CD is turned off in these errors).

Unreadable TOC does not constitute an error. An intended operation continues in this case.

A newly designed main unit must conform to the example given above.

Upper digits of an error code are subdivided as shown below:

1x: Setup relevant errors, 3x: Search relevant errors, 3x: Search relevant errors, Ax: Other errors.

## ● New Test Mode

S-CD plays the same way as before.

If an error such as off focus, spindle unlocking, unreadable sub-code, or sound skipping occurs after setup, its cause and time occurred (in absolute time) are displayed.

During setup, operational status of the control software (internal RAM: CPOINT) is displayed.

These displays and functions are prepared for enhancing aging in the servicing and efficiency of trouble analysis.

### (1) Shifting to the New Test Mode

- ① Turn on the current test mode by starting the reset from the key (it varies between the products).
- ② Select S-CD for the source through the specified procedure including use of the [SOURCE] key, and inserting the disc. Then, press the [ 6 ] key while maintaining the regulator turned off.
- ③ After the above operations, the new test mode remains on irrespective of whether the S-CD is turned on or off.  
You can reset the new test mode by turning on the reset start.

\* With some products, the new test mode can be reset through the same operations as that employed for shifting to the STBY mode (while maintaining the Acc turned off).

### (2) Key Correspondence

Key	Test mode		New test mode	
	Power Off	Power On	In-play	Error Production
BAND	To power on (offset adjustment performed)	To power off	–	Time/Err.No. switching
▶	–	FWD-Kick	FF/TR+	–
◀	–	REV-Kick	REV/TR-	–
1	–	T.Close (AGC performed) /parameter display switching	Scan	–
2	RF AMP gain switching	Parameter display switching /T.BAL adjustment/T.Open	Mode	–
3	To power on (offset adjustment not performed)	F.Close/RF AGC/F.T.AGC	–	–
6	–	F.Mode switching /T.Close (no AGC)/Jump switching	Auto/Manu	T.No./Time switching

Note: Eject and CD on/off is performed in the same procedure as that for the normal mode.

### (3) Cause of Error and Error Code

Code	Class	Contents	Description and cause
40	Electricity	Off focus detected.	FOK goes low. → Damages/stains on disc, vibrations or failure on servo.
41	Electricity	Spindle unlocked.	FOK = Low continued for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
42	Electricity	Sub-code unreadable.	Sub-code was unreadable for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
43	Electricity	Sound skipping detected.	Last address memory function was activated. → Damages/stains on disc, vibrations or failure on servo.

Note: Mechanical errors during aging are not displayed.

The error codes should be indicated in the same way as in the normal mode.

(4) Display of Operational Status (CPOINT) during Setup

Status No.	Contents	Protective action
00	CD+5V ON process in progress.	None
01	Servo LSI initialization (1/3) in progress.	None
02	Servo LSI CRAM initialization in progress.	None
03	Servo LSI initialization (2/3) in progress.	None
04	Offset adjustment (1/3) in progress.	None
05	Offset adjustment (2/3) in progress.	None
06	Offset adjustment (3/3) in progress.	None
07	FZD adjustment in progress.	None
08	Servo LSI initialization (3/3) in progress.	None
10	Carriage move to home position started.	None
11	Carriage move to home position started.	None
12	Carriage is moving toward inner diameter.	Specified 10 seconds has been passed or failure on home switch.
13	Carriage is moving toward outer diameter.	Specified 10 seconds has been passed or failure on home switch.
14	Carriage outer kick in progress.	None
15	Carriage outer diameter feed (1 second) in progress.	None
20	Servo close started.	None
21	Pre-processing for focus search started.	None
22	Spindle rotation and focus search started.	None
23	Waiting for focus close (XSI=Low).	Specified focus search time has been passed.
24	Standing by after focus close is over.	Specified focus search time has been passed.
25	Focus search preprocessing is in progress while setup protection is turned on.	None
26	Focus search preprocessing is in progress while focus recovery is turned on.	None
27	Wait time after focus close is set up.	Off focus.
28	Standing by after focus close is over.	Off focus.
29	Setup (1/2) before T balance adjustment is started.	Off focus.
30	Setup (2/2) before T balance adjustment is started.	Off focus.
31	T balance adjustment started.	Off focus.
32	T balance adjustment (1/2).	Off focus.
33	T balance adjustment (2/2).	Off focus.
34	Waiting for spindle rotation to end. Spindle rough servo.	Off focus.
35	Standing by after spindle rough servo is over.	Off focus.
36	RF AGC started.	Off focus.
37	RF AGC started.	Off focus.
38	RF AGC ending process in progress.	Off focus.
39	Tracking close in progress.	Off focus.
40	Standing by after tracking is closed. Carriage closing in progress.	Off focus.
41	Focus/tracking AGC started.	Off focus.
42	Focus AGC started.	Off focus.
43	Focus AGC in progress.	Off focus.
44	Tracking AGC in progress.	Off focus.
45	Standing by after focus/tracking AGC are over.	Off focus.
46	Spindle processes applicable servo.	Off focus.
47	Check for servo close is started.	Off focus.
48	Check of LOCK pin started.	Off focus or spindle not locked.
49	RF AGC started.	Off focus.
50	RF AGC in progress.	Off focus.
51	Standing by after RF AGC is over.	Off focus.

## (5) Display Examples

## 1) During Setup (When status no. = 11)

TRK No.	MIN.	SEC.
11	11'	11"

## 2) During Operation (TOC read, TRK search, Play, FF and REV)

The same as in the normal mode.

## 3) When a Protection Error Occurred

Switch to the following displays (A) and (B) using the [BAND] switch:

(A) Error occurrence timing display in absolute time.

An example: Error occurred in 12th tune at 34'56" in absolute time.

TRK No.	MIN.	SEC.
12	34'	56"

(B) Error No. display

An example: Error #40 (Off focus is detected)

ERROR-40

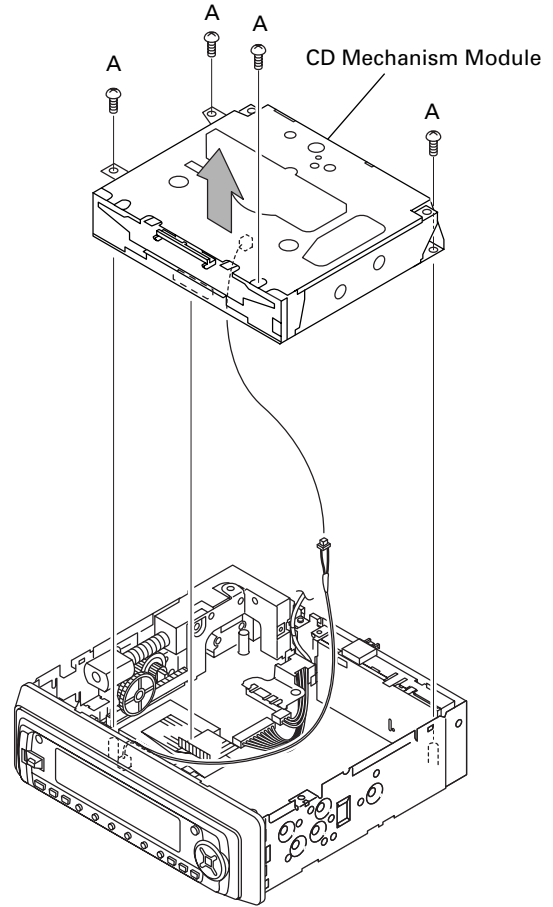
## 7.1.2 DISASSEMBLY

### ● Remove the Case (Not shown)

1. Remove the two screws, and then remove the Case.

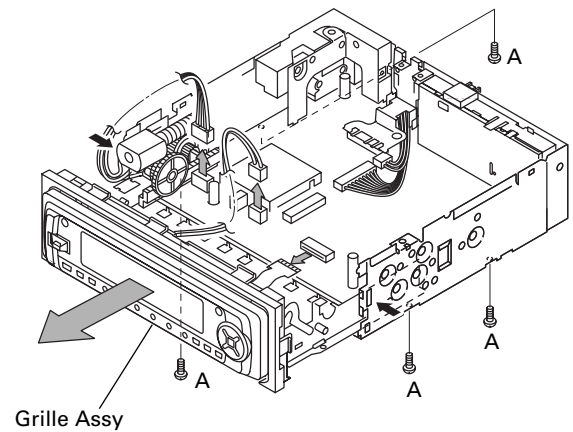
### ● Remove the CD Mechanism Module

1. Remove the four screws A.
2. Disconnect the two connectors, and then remove the CD Mechanism Module.



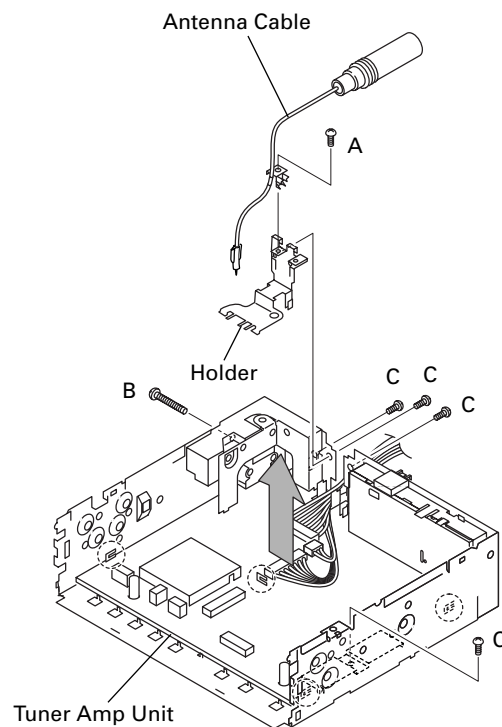
### ● Remove the Tuner Amp Unit (1/2)

1. Disconnect the three connectors.
2. Remove the four screws A.
3. Disconnect the two stoppers indicated by arrows, and then remove the Grille Assy.



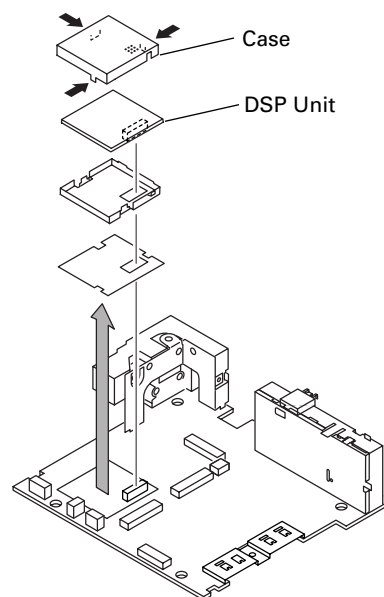
### ● Remove the Tuner Amp Unit (2/2)

1. Remove the screw A, four screws C, and then remove the Antenna Cable and Holder.
2. Remove the screw B.
3. Stretch the four tabs, and then remove the Tuner Amp Unit.



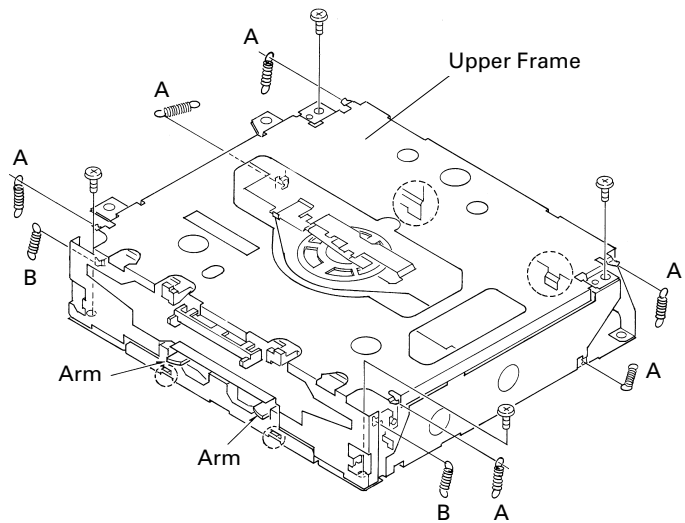
### ● Remove the DSP Unit

1. Remove the three solder tabs indicated by arrows, and then remove the Case.
2. Disconnect the connector, and then remove the DSP Unit.



● **Removing the Upper Frame**

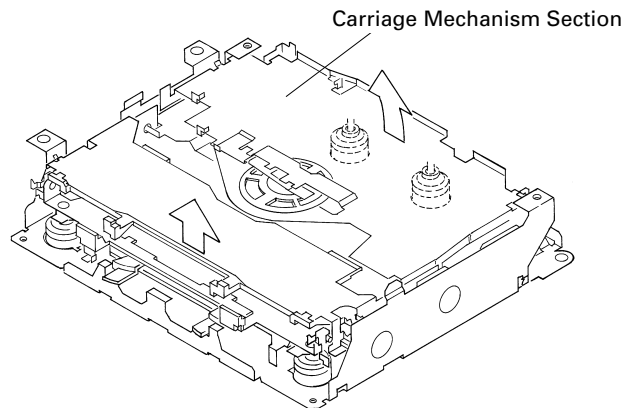
1. Remove six Springs A, two Springs B and four Screws.
2. Remove two Tabs situated on rear side of the Upper Frame, remove two Arms on the front side, then remove two Tabs on the front side.



● **Removing the Carriage Mechanism**

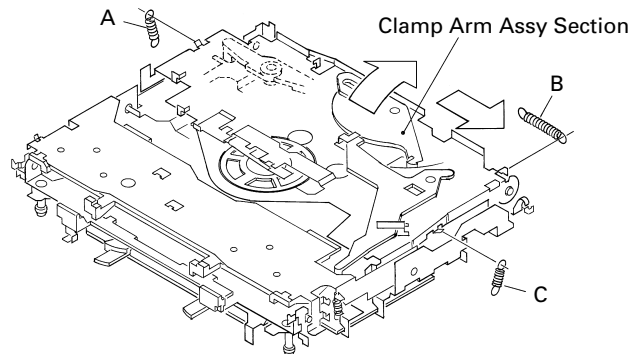
1. Disengage the Carriage Mechanism from the two dampers situated in the front side by driving it up, then disengage and remove the mechanism from the two dampers by driving it up aslant into front side direction.

Note : When assembling the Carriage Mechanism, coat the dampers with alcohol prior to the assembly.



● **Removing the Clamp Arm Assy**

1. Remove a Spring A, a B and a Spring C.
2. Drive the Clamp Arm Assy up into rear side direction, then disengage the arm from its current position. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward right side to remove it.

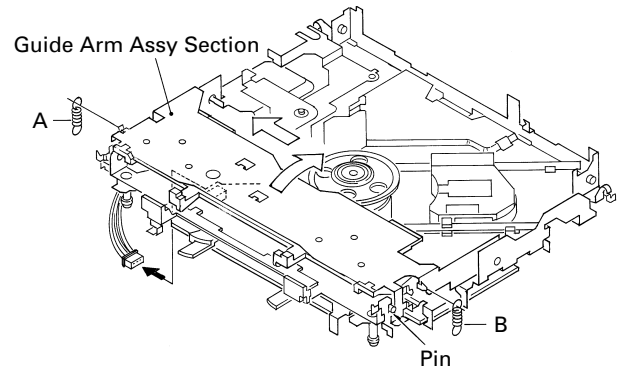




### ● Removing the Guide Arm Assy

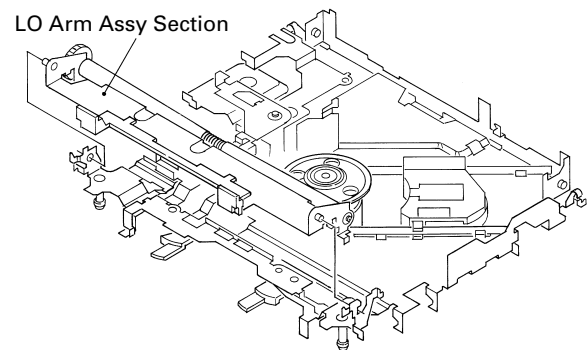
1. Remove a connector, a spring A and B
2. Drive the Guide Arm Assy up aslant into rear side direction, then remove it from a Pin. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward left side to remove it.

Note : When assembling the guide arm assembly, route the cord inside the assembly. In this operation, care must be exercised so that cord may be caught by the gear.



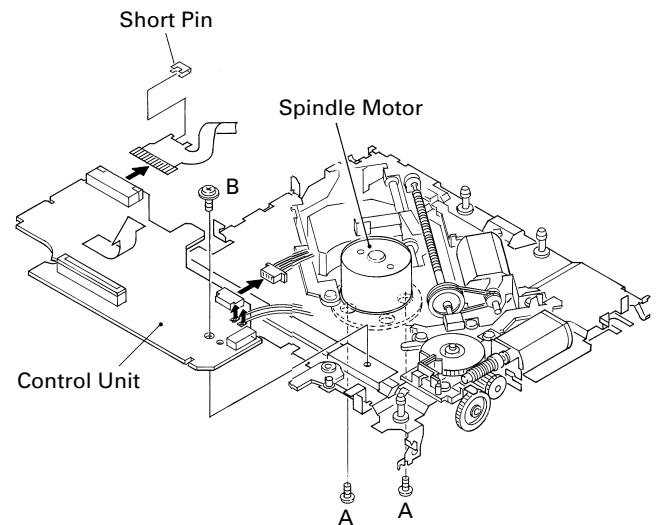
### ● Removing the LO Arm Assy

1. Remove two Pins to dismount the LO Arm Assy.



### ● Removing the Control Unit and the Spindle Motor

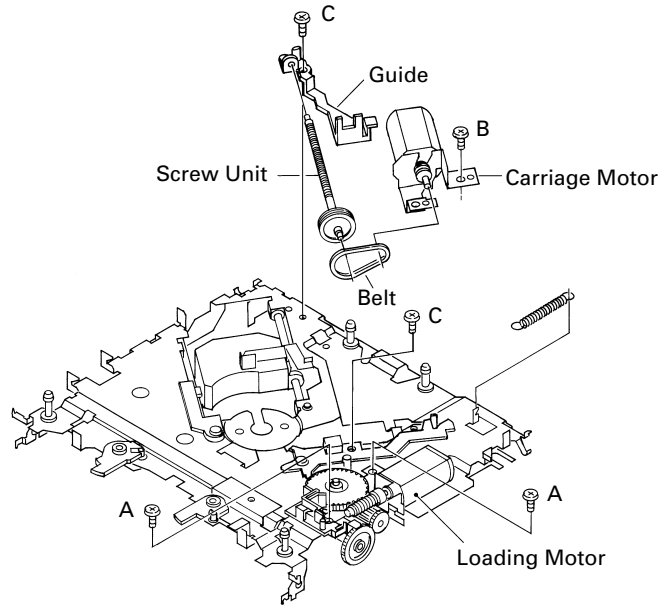
1. Remove from the connector after mounting the short pin on the flexible PCB of the pickup unit.
2. Remove two Soldered joints, then remove two Screws A.
3. Remove two connectors and a Screw B.
4. Disengage the Control Unit from two Tabs, then dismount the unit by sliding it toward left.
5. Dismount the Spindle Motor.



● **Removing the Loading Motor and Carriage Motor**

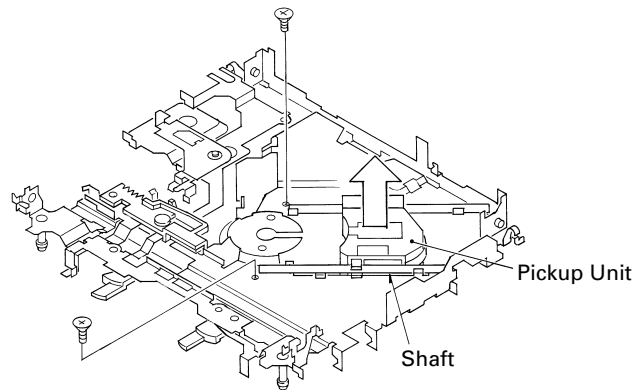
1. Remove the Spring and two Screws A.
2. Dismount the Loading Motor.
3. Remove the Belt, a Screw B, two Screws C, a Guide and a Screw Unit.
4. Dismount the Carriage Motor.

Note : When assembling the Belt, use care so that it may not be contaminated by grease.



● **Removing the Pickup Unit**

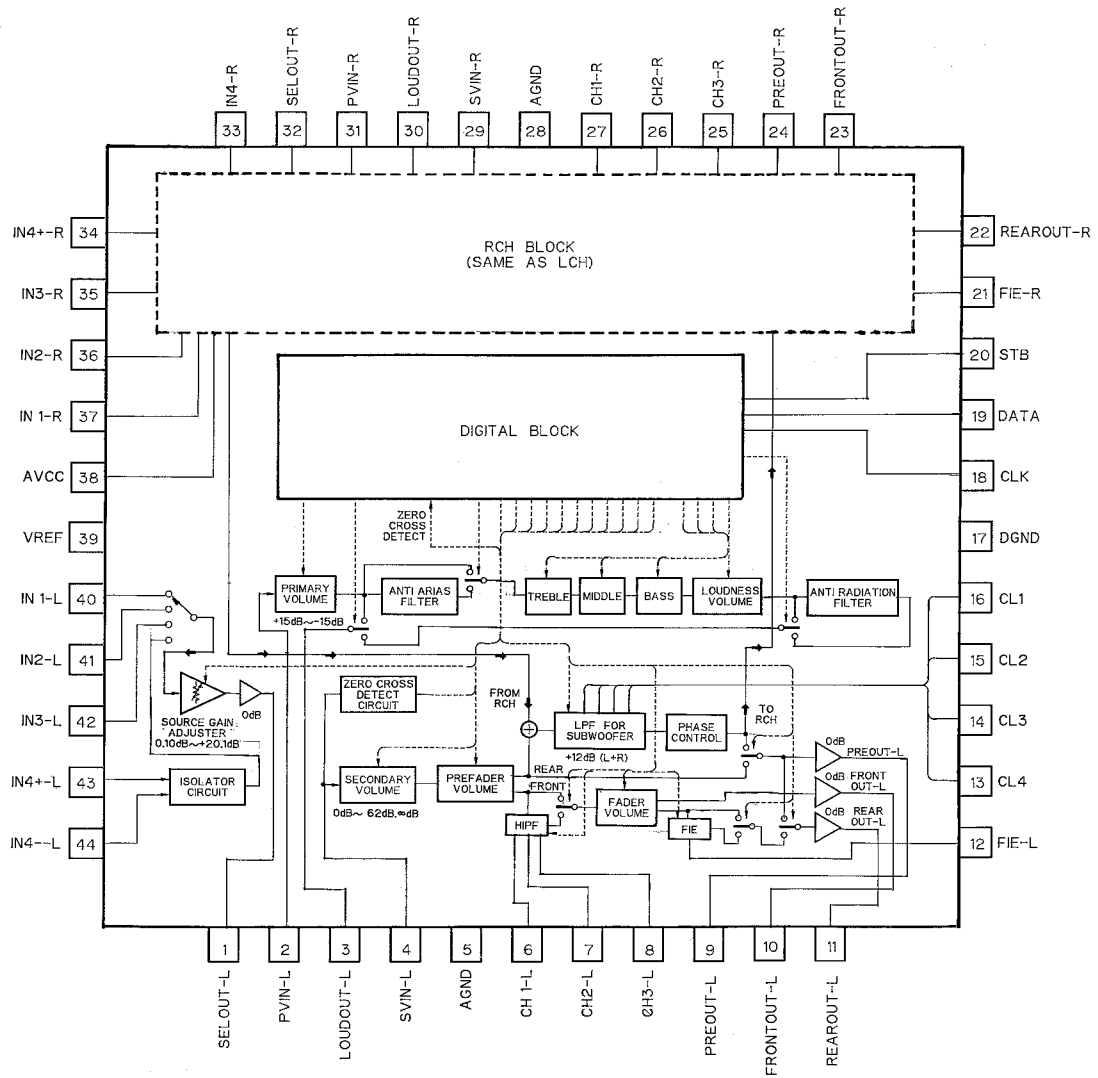
1. Remove two Screws and a Shaft.
2. Dismount the Pickup Unit.



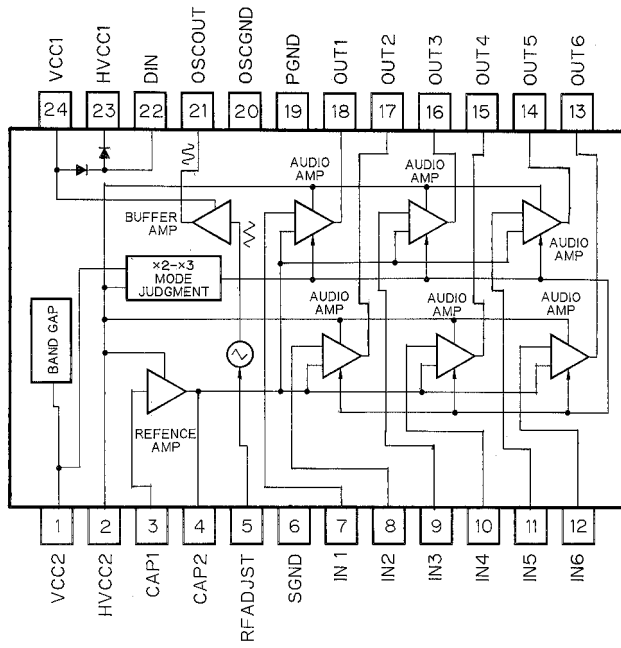
7.2 IC

PML004AF	PD5483A, PD5484A	PD5504A	NJM4580M
PA2028A	BA6288FS	AK7714	UPD63710GC
PAL005A	BR9010FV	TC74HC393AF	BA5985FM
S-81250SGUP	PD5471A	TC9246F	PD0236AM
PM4009A	PD8051A	HD74HCT126FP	PE5011C

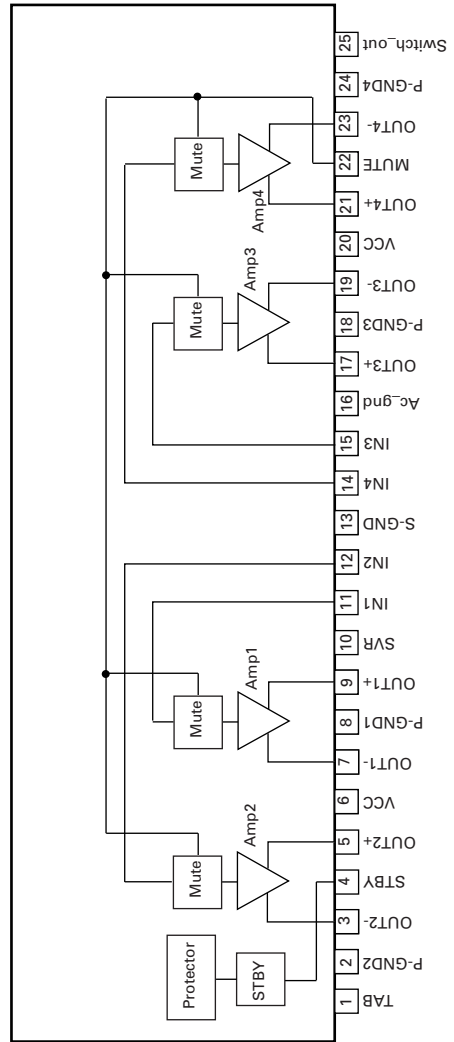
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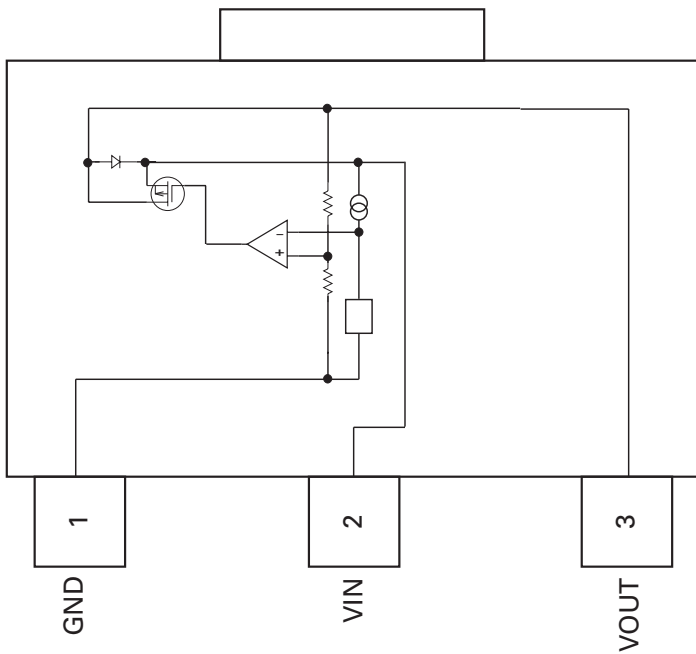
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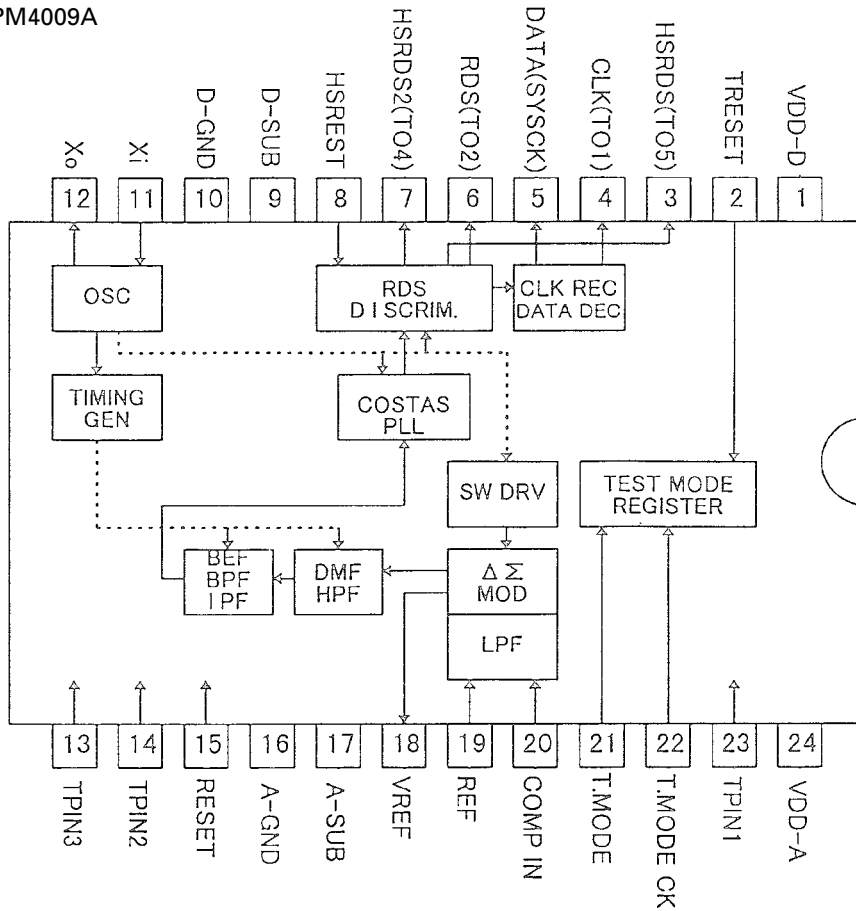
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S-81250SGUP



PM4009A

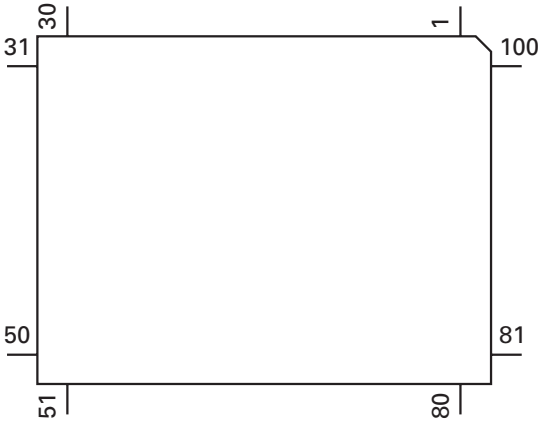


● Pin Functions (PD5483A, PD5484A)

Pin No.	Pin Name	I/O	Function and Operation
1	TUNPDO	O	PLL data output
2	TUNPCK	O	PLL clock output
3	TUNPCE	O	PLL chip enable output
4	TUNPCE2	O	PLL chip enable output 2
5	MOSENS	I	Motion/window damage sensor input
6	DLSSENS	I	Door lock sense input
7	IPPW	O	IP-BUS power supply control output
8,9	VSS1,2		GND
10	ASENBO	O	IP-BUS slave power supply control output
11	TELIN	I	Cellular mute input
12	RESET	I	Reset input
13	OSC1	O	Oscillator connection pin 1
14	VSS3		GND
15	OSC2	O	Oscillator connection pin 2
16	VCC1		5V
17	NMI		Pull up
18	RCK	I	RDS clock input
19	LDDET	I	PLL lock sense input
20	DALMON	O	DFS alarm output
21	RX2	I	IP-BUS data input 2
22	SYSPW	O	System power supply control output
23	ISENS	I	Illumination sense input
24	PEE	O	Beep tone output
25	RDS57K	I	57kHzBP-OUT sense input
26	FLPPW	O	Flap motor driver power ON/OFF output
27	MUTE	O	Mute output
28	MICSSENS	I	Microphone sense input
29	RX	I	IP-BUS data input
30	TX	O	IP-BUS data output

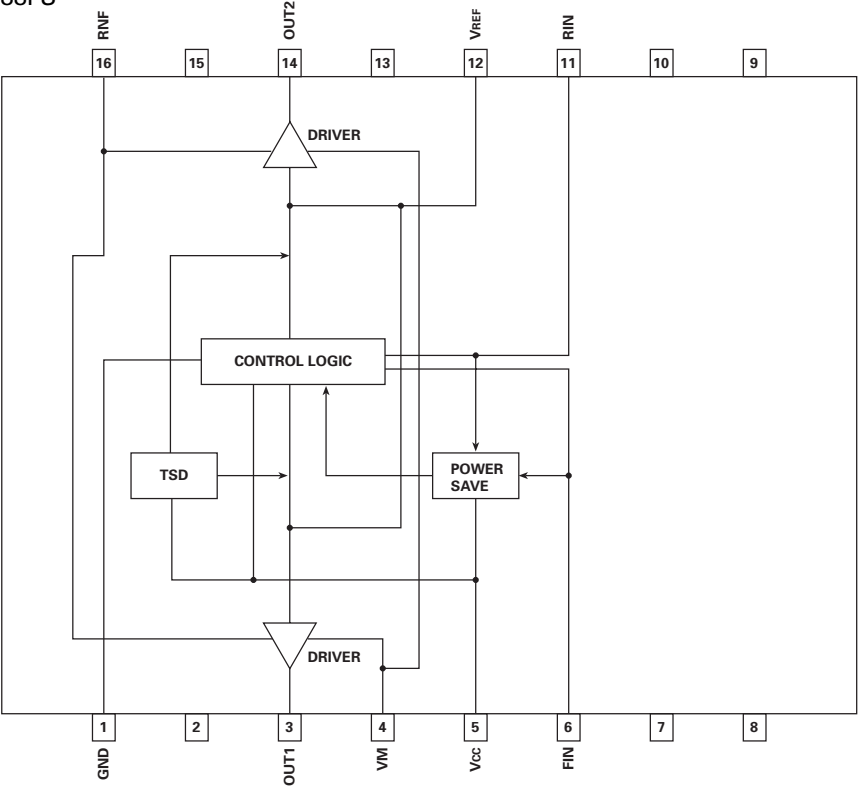
Pin No.	Pin Name	I/O	Function and Operation
31	BSO	O	P-BUS communication data output
32	BSI	I	P-BUS communication data input
33	BSCK	I/O	P-BUS serial clock input/output
34	FLPOPEN	O	Flap motor open output
35	DPDT	O	Display serial data output
36	KYDT	I	Display enable data input
37	FLPCLS	O	Flap motor close output
38	FOPENSW	I	Flap open switch input
39	NC		Not used
40	FCLSSW	I	Flap close switch input
41	DLED	O	Alarm LED output
42	NC		Not used
43	FLPILM	O	Inside of flap illumination output
44	ILMPW	O	Illumination power supply control output
45	SWVDD	O	Display chip select output
46	OELPW	O	OEL module power supply control output
47	DSSENS	I	Grille detach sense input
48	ST	I	FM stereo input
49	SD	I	SD input
50-61	NC		Not used
62	VCC3		5V
63	NC		Not used
64	VSS4		GND
65	VCK/ROMCLK	O	E-VOL clock output / ROM correction clock output
66	VDT/ROMDATA	O/I	E-VOL data output / ROM correction data input
67	VST/BSRQ2	O/I	E-VOL strobe pulse output / P-BUS communication input/output
68	NC		Not used
69	BRXEN	I/O	P-BUS communication input/output
70	BRST	O	P-BUS reset output
71	BSRQ	I/O	P-BUS communication request input/output
72	NC		Not used
73	BSSENS	I	Back up power sense input
74	ASENS	I	ACC power sense input
75	STOUT	O	Starter cut output
76	DRELAY	O	External relay output
77	LOCH	O	Local "H" output
78	LOCL	O	Local "L" output
79	NC		Not used
80	NC	O	Open
81	FM/AM	O	FM/AM power select output
82	TMUTE	O	Tuner mute output
83	DRST	O	RDS decoder reset output
84	RDSLK	I	RDS lock signal input
85	RDT	I	RDS data input
86	DRSENS	I	Door open/close sense input
87	DRSYS	O	Door system select output
88	TESTIN	I	Test mode IN/test enable
89,90	NC		Not used
91	LEVELR	I	Level meter "R" AD input
92	LEVELL	I	Level meter "L" AD input
93	NC		Not used
94	SD_BW	I	SD input
95	NC		Not used
96	VSS5		GND
97	SL	I	Signal level input
98	VREF		A/D converter reference voltage
99	VCC4		5V
100	TUNPDI	I	PLL data input

\*PD5483A, PD5484A

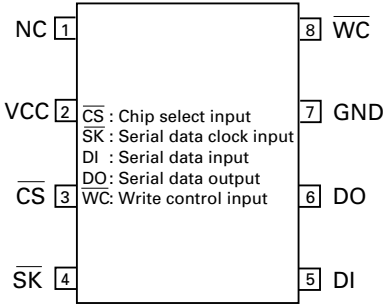


IC's marked by\* are MOS type.  
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

BA6288FS



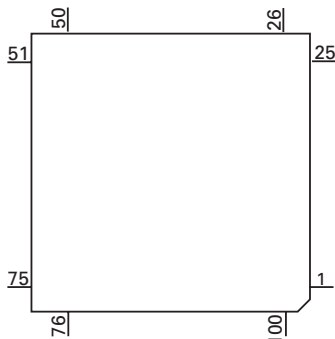
BR9010FV



● Pin Functions (PD5471A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1-4	NC			Not used
5	REM	I		Remote control reception
6	BYTE	I		External data BUS width select input
7	CNVSS	I		Processor mode select input
8,9	NC			Not used
10	RESET	I		Reset input
11	XOUT	O		Crystal oscillating element connection pin
12	VSS			GND
13	XIN	I		Crystal oscillating element connection pin
14	VDD			VDD
15	NMI	I		NMI input
16	NC			Not used
17-20	KD1-4	I		Key data 1-4
21-26	KS1-6	I/O		Key strobe input/output 1-6
27-31	NC			Not used
32	ILMD	O	C	Dual illumination
33	KYDT	O	C	Key data output
34	DPDT	I		Display data input
35	NC			Not used
36	OEL	O	C	OEL controller ON
37	RDY	I		OEL controller ready input
38	NC			Not used
39	HOLD	I		Hold input
40,41	NC			Not used
42	RD	O	C	Read strobe
43	NC			Not used
44	WR	O	C	Write strobe
45	NC			Not used
46	CS2	O	C	Bank address (High)
47	CS1	O	C	Bank address (Low)
48	CS0	O	C	External ROM chip select
49	A19	O	C	Address bus Output
50	NC			Not used
51-59	A17-9	O	C	Address bus Output
60	VDD			VDD
61	A8	O	C	Address bus Output
62	VSS			GND
63-69	A7-1	O	C	Address bus Output
70	NC			Not used
71-86	D15-0	I/O		Data bus input/output
87-93	NC			Not used
94	AVSS			Connect to VSS
95	NC			Not used
96	VREF			Connect to VSS
97	AVCC			Connect to VCC
98-100	NC			Not used

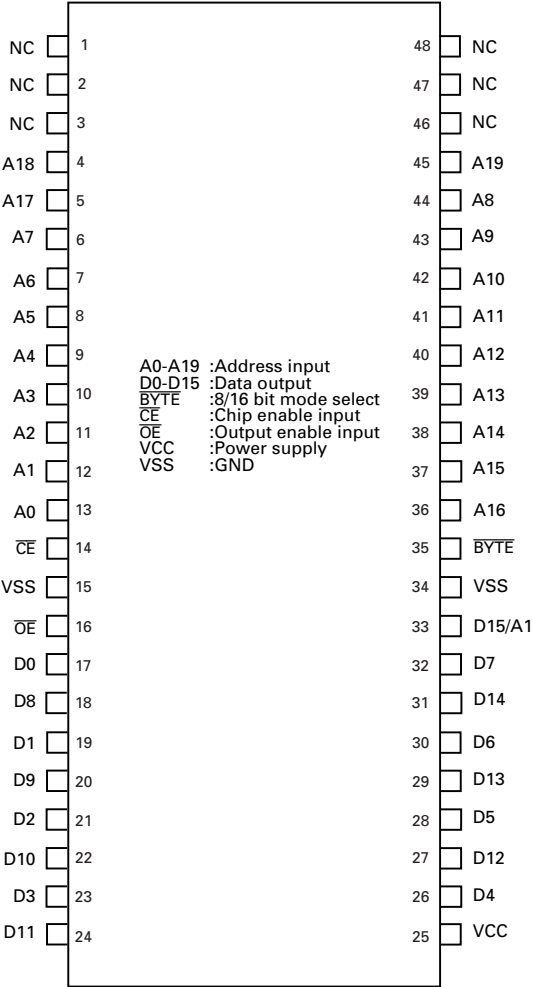
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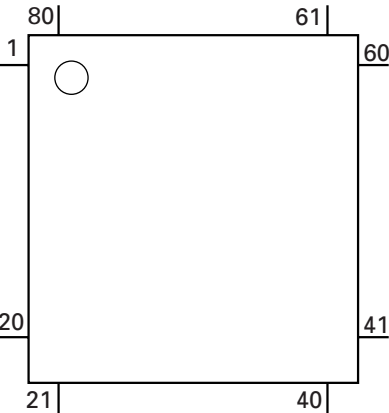
Format	Meaning
C	C MOS



PD8051A



\*PD5504A



## ● Pin Functions (PD5504A)

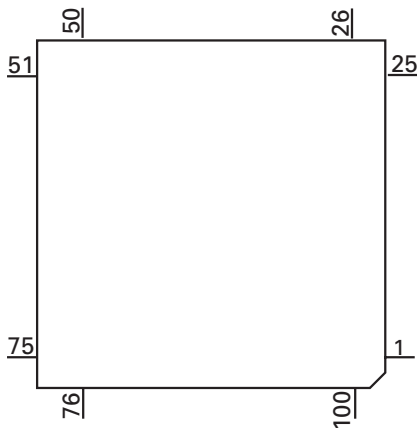
Pin No.	Pin Name	I/O	Format	Function and Operation
1	NC			VSS joint
2	NC			Not used
3	VST	O	C	Electronic volume strobe output
4	VDT	O	C	Electronic volume data output
5	VCK	O	C	Electronic volume clock output
6	CNVSS	I		VSS joint
7	MCKRQ	I		CD unit MCK request input
8	EMPHIN	I		CD unit emphasis data input
9	RESET	I		Reset input
10	XOUT	O	O	Crystal oscillating element connection pin
11	VSS			GND
12	XIN	I		Crystal oscillating element connection pin
13	VCC			5V
14	NMI	I		NML joint
15	BMUTEIN	I		CD unit LR clock supply input
16	NC			VSS joint
17	BRST	I		P-BUS reset input
18-23	NC			Not used
24	DSPOUT	O	C	DSP serial data output
25	DSPIN	I		DSP serial data input
26	DSPCK	O	C	DSP serial clock output
27	NC			Not used
28	BSO	O	C	P-BUS serial data output
29	BSI	I		P-BUS serial data input
30	BSCK	I/O		P-BUS serial clock input/output
31	NC			Not used
32	BSRQ	I/O		P-BUS service request output pin
33	BRXEN	I/O		Reception enable input/output
34,35	NC			Not used
36	MICSENS	I		A.EQ microphone connection data input
37	IFHIZ	I		DSP microcomputer port Hiz set input
38	AQTEST	I		A.EQ test mode start input
39	TESTIN	I		Test mode IN/test enable input
40	DSPPW	O	C	Power supply for DSP
41	MUTERQ	O	C	Hard mute output
42	NGO	O	C	Digital zero output
43	SYSMUTE	O	C	System mute output
44-47	NC			Not used
48	PLLLOC	I		PLL Lock supply data input
49	PLLCLR	O	C	PLL control clear output
50	PLLDI	O	C	PLL control data output
51	PLLCK	O	C	PLL control clock output
52-57	NC			Not used
58	LRCKK	O	C	LRCK/BCLK select control output
59	MCKOUT	O	C	CD MCLK gate control
60	SMODE	O	C	AK7714 master/slave select input
61	AKPD	O	C	AK7714 power down
62	AKRST	O	C	AK7714 reset
63	AKJMP	O	C	AK7714 condition jump
64	DSPCS	O	C	AK7714 chip select output
65	AKWRQ	O	C	AK7714 data output request
66	DSPACK	I		DSP data write ready supply input
67	AKRDY	I		AK7714 data ready
68-72	NC			Not used
73	MDSEL2	I		Model select input
74	NOISE	I		ASL noise input
75	AVSS	I		A/D GND
76	NC			Not used
77	VREF	I		A/D converter reference voltage input
78	AVCC			A/D VCC
79	NC			VSS joint
80	NC			Not used

## ● Pin Functions (AK7714)

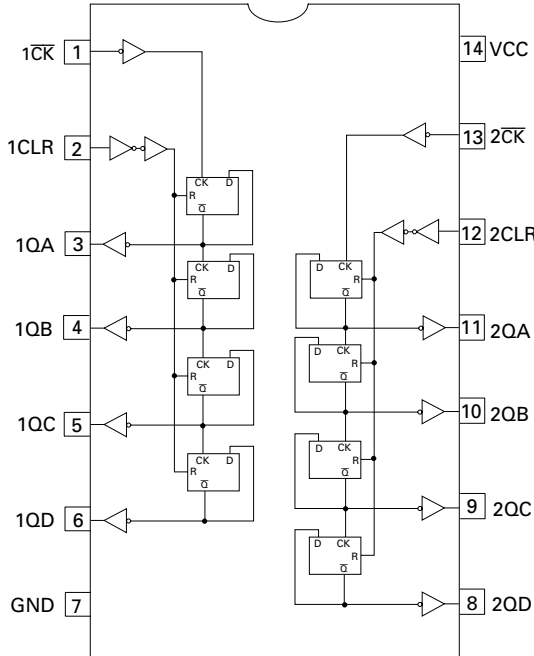
Pin No.	Pin Name	I/O	Function and Operation
1,2	NC		Not used
3-6	TEST	I	Test terminal 1-4
7	DVB		Power supply (5v)
8	NC		Not used
9	DVDD		Digital VDD (5V)
10,11	DVSS		Digital GND (0V)
12	SDINA	I	DSP serial data input
13	NC		Not used
14	SDOUTA	O	ADC serial data output
15	SDOUTD1	O	DSP serial data output
16	NC		Not used
17	SDINDI	I	DAC1 serial data input
18	SDIND2	I	DAC2 serial data input
19	NC		Not used
20	SDOUTD2	O	DSP serial data output
21,22	NC		Not used
23	SDIN1	I	DSP serial data input
24	SDIN2	I	DSP serial data input
25,26	NC		Not used
27	XTI	I	Oscillation input
28	XTO	O	Oscillation output
29	NC		Not used
30,31	DVSS		Digital GND (0V)
32,33	DVDD		Digital VDD (5V)
34	OPCL	I	ADC/DAC joint select input
35	CKO	O	Clock output
36	LRCLK	I/O	L/R channel select input/output
37	BITCLK	I/O	Serial bit clock input/output
38	NC		Not used
39	DRDY	O	Output data ready output for microcomputer interface
40	SO	O	Serial data output for microcomputer interface
41	RDY	O	Data write ready output for microcomputer interface
42,43	DVSS		Digital GND (0V)
44,45	DVDD		Digital VDD (5V)
46	NC		Not used
47	$\overline{WRQ}$	I	Write request input for microcomputer interface
48	$\overline{CS}$	I	Chip select input for microcomputer interface
49	JX	I	External condition Jump terminal
50-52	NC		Not used
53	SI	I	Serial data input for microcomputer interface
54	NC		Not used
55	SCLK	I	Serial data clock for microcomputer interface
56	NC		Not used
57	$\overline{DSP\ RESET}$	I	Reset
58	$\overline{CODE\ CRESET}$	I	Reset
59	$\overline{INITRESE}$	I	Reset
60-62	NC		Not used
63	CKS0	I	Clock select input
64	CKS1	I	Clock select input
65	SMODE	I	Slave mode/master mode select input
66,67	DVSS		Digital GND (0V)
68	DVDD		Digital VDD (5V)
69	NC		Not used
70,71	DVB		Power supply (5v)
72	NC		Not used
73	AOUTR2	O	DAC2 Rch analog output

Pin No.	Pin Name	I/O	Function and Operation
74	AOUTL2	O	DAC2 Lch analog output
75,76	NC		Not used
77	AOUTR1	O	DAC1 Rch analog output
78	AOUTL1	O	DAC1 Lch analog output
79	NC		Not used
80	AVB		Power supply (5V)
81	NC		Not used
82	VRDAL	I	DAC reference voltage input
83	AVSS		Analog GND (0V)
84,85	AVDD		Analog power supply (5V)
86	VRDAH	I	DAC reference voltage input
87,88	VCOM	O	Common voltage
89	VRADL	I	ADC reference voltage input
90	AVSS		Analog GND (0V)
91,92	AVDD		Analog power supply (5V)
93	VRADH	I	ADC reference voltage input
94	NC		Not used
95	AINR-	I	ADC Rch analog inverted input
96	AINR+	I	ADC Rch analog input
97	NC		Not used
98	AINR-	I	ADC Rch analog inverted input
99	AINR+	I	ADC Rch analog input
100	NC		Not used

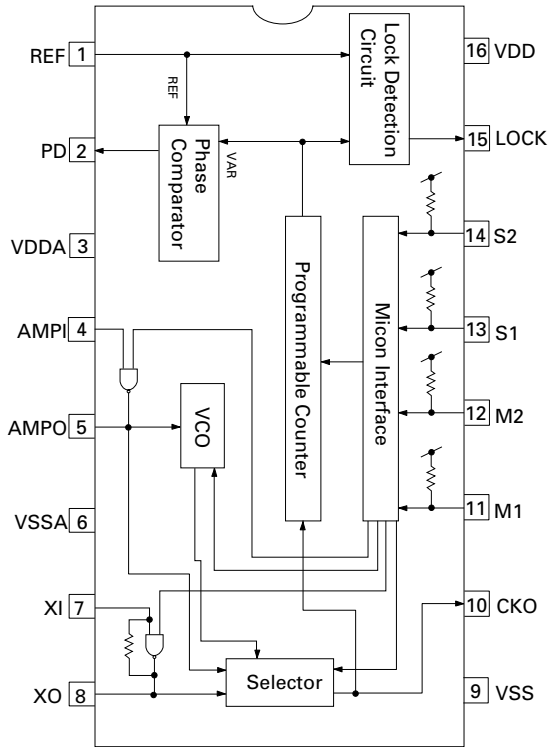
\*AK7714



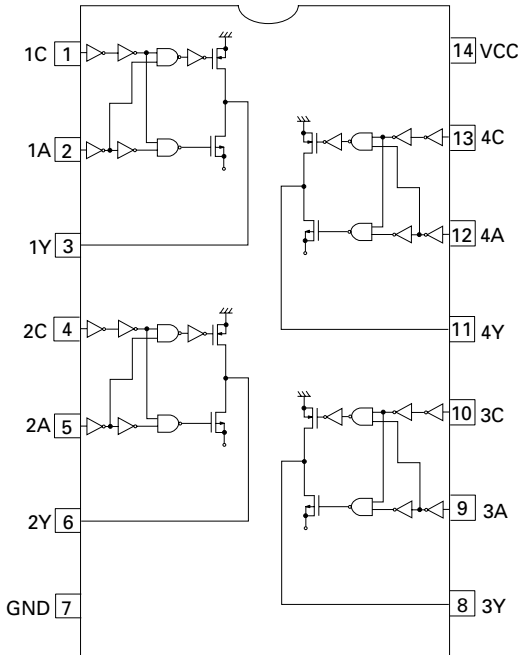
TC74HC393AF



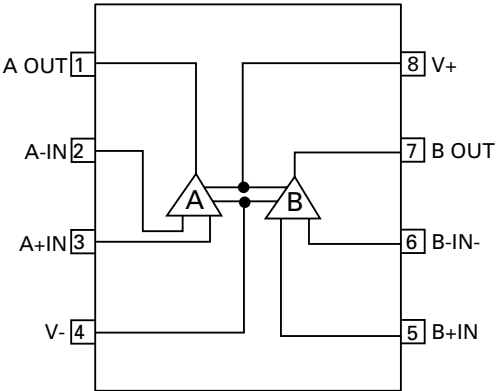
TC9246F



HD74HCT126FP



NJM4580M

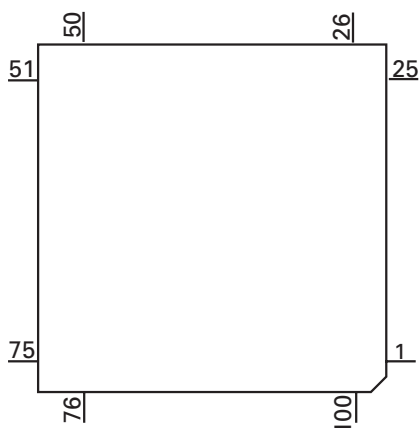


## ● Pin Functions (UPD63710GC)

Pin No.	Pin Name	I/O	Function and Operation
1	GND		Logic circuit GND
2	HOLD	I/O	Defect detection output
3	MIRR	I/O	MIRR output
4	FOK	O	RFOK signal output
5	RST	I	Reset signal input
6	A0	I	Command/parameter identification signal input
7	STB	I	Data strobe signal input
8	SCK	I	Clock signal input for serial data input/output
9	SO	O	Serial data and status signal output
10	SI	I	Serial data input
11	VDD		Positive power supply terminal to logic circuit
12	DA.VDD		Positive power supply terminal to D/A converter
13	NC		Not used
14, 15	DA.GND		D/A converter GND
16	NC		Not used
17	DA.VDD		Positive power supply terminal to D/A converter
18	R+	O	Right channel audio data output
19	R-	O	Right channel audio data output
20	L-	O	Left channel audio data output
21	L+	O	Left channel audio data output
22	X.VDD		Positive power supply terminal to crystal oscillation circuit
23	XTAL	O	Crystal oscillator connect pin
24	XTAL	I	Crystal oscillator connect pin
25	X.GND		Crystal oscillation circuit GND
26	VDD		Positive power supply terminal to logic circuit
27	EMPH	O	Output pin for the pre-emphasis data in the sub-Q code
28	FLAG	O	Flag output pin to indicate that audio data currently being output consists of noncorrectable data
29	DIN	I	Serial data input to internal DAC
30	DOUT	O	Serial audio data output
31	SCKIN	I	Serial clock input to internal DAC
32	SCKO	O	Audio data that is output from DOUT changes at rising edge of this clock
33	LRCKIN	I	LRCK signal input to internal DAC
34	LRCK	O	Signals to distinguish the right and left channels of the audio data output from DOUT
35	WDCK	O	Output double the frequency of LRCK
36	TX	O	Digital audio interface data output
37	GND		Logic circuit GND
38	C16M	O	Oscillator clock buffering output
39	LIMIT	I	Status of the pin is output at Bit 5 of the status output
40	VDD		Positive power supply terminal to logic circuit
41	LOCK	O	EFM synchronous detection signal
42	RFCK	O	Frame synchronous signal of XTAL-system
43	WFCK	O	Frame synchronous signal of PLL-system
44	PLCK	O	Monitor pin of bit clock
45	GND		Logic circuit GND
46	C1D1	O	Output pin for indicating the C1 error correction results
47	C1D2	O	Output pin for indicating the C1 error correction results
48	C2D1	O	Output pin for indicating the C2 error correction results
49	C2D2	O	Output pin for indicating the C2 error correction results
50	C2D3	O	Output pin for indicating the C2 error correction results
51	VDD		Positive power supply terminal to logic circuit
52	PACK	O	CD-TEXT PACK synchronous signal
53	TSO	O	CD-TEXT data serial output
54	TSI	I	CD-TEXT control parameter serial input
55	TSCK	I	CD-TEXT serial clock input
56	TSTB	I	CD-TEXT parameter strobe signal input
57	GND		Logic circuit GND
58	TEST	I	Test pin

Pin No.	Pin Name	I/O	Function and Operation
59	ATEST	I/O	Test pin
60	RFMODE	I	Use/not use select for internal RF amplifier
61	A.GND		Analog circuit GND
62	FD	O	Focus drive output
63	TD	O	Tracking drive output
64	SD	O	Sled drive output
65	MD	O	Spindle drive output
66	DACO	O	DAC output for adjustment
67	FBAL	O	DAC output for adjustment
68	TBAL	O	DAC output for adjustment
69	TEVCA	O	DAC output for adjustment
70	A.VDD		Power supply terminal to analog circuit
71	EFM	O	EFM signal output
72	ASY	I	EFM comparator reference voltage input
73	C3T		3T detection capacitor additional pin
74	RFI	I	RF signal input for EFM data regulation
75	AGCO	O	RF signal output of after gain adjustment
76	AGCI	I	RF-AGC amplifier input
77	RFO	O	RF summing amplifier output
78	EQ2		RF amplifier equalizer parts additional pin
79	EQ1		RF amplifier equalizer parts additional pin
80	RF-	I	RF summing amplifier inverted input
81	A.GND		Analog circuit GND
82	A	I	Photo detector A input
83	C	I	Photo detector C input
84	B	I	Photo detector B input
85	D	I	Photo detector D input
86	F	I	Photo detector F input
87	E	I	Photo detector E input
88	A.VDD		Positive power supply terminal to analog circuit
89	REFOUT	O	Reference electric potential output
90	FE-	I	Focus error amplifier inverted input
91	FEO	I/O	Focus error amplifier output
92	TE-	I	Tracking error amplifier inverted input
93	TEO	I/O	Tracking error amplifier output
94	TE2	I/O	Tracking error output of after amplification
95	TEC	I	Tracking comparator input
96	A.GND		Analog circuit GND
97	PD	I	PD detection signal input for LD output monitor
98	LD	O	LD control current output
99	PN	I	APC circuit control polarity set pin
100	A.VDD		Positive power supply terminal to analog circuit

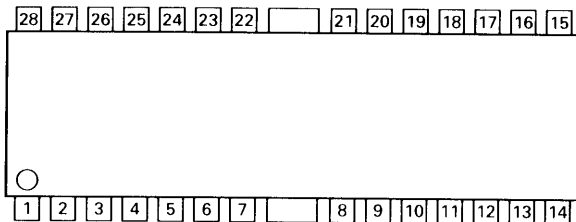
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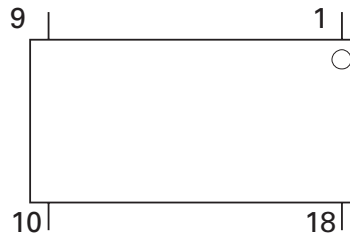
● Pin Functions (BA5985FM)

Pin No.	Pin Name	I/O	Function and Operation
1	FWD	I	Loading driver FWD input
2	OPIN1(+)	I	CH1 pre-amplifier input
3	OPIN1(-)	I	CH1 pre-amplifier inverted input
4	OPOUT1	O	CH1 pre-amplifier output
5	OPIN2(+)	I	CH2 pre-amplifier input
6	OPIN2(-)	I	CH2 pre-amplifier inverted input
7	OPOUT2	O	CH2 pre-amplifier output
8	VCC		Power supply
9	VOL(-)	O	Loading driver negative output
10	VOL(+)	O	Loading driver positive output
11	VO2(-)	O	Driver CH2 negative output
12	VO2(+)	O	Driver CH2 positive output
13	VO1(-)	O	Driver CH1 negative output
14	VO1(+)	O	Driver CH1 positive output
15	VO4(+)	O	Driver CH4 positive output
16	VO4(-)	O	Driver CH4 negative output
17	VO3(+)	O	Driver CH3 positive output
18	VO3(-)	O	Driver CH3 negative output
19	GND		GND
20	BIAS	I	Bias input
21	MUTE		Mute control
22	OPOUT3	O	CH3 pre-amplifier output
23	OPIN3(-)	I	CH3 pre-amplifier inverted input
24	OPIN3(+)	I	CH3 pre-amplifier input
25	OPOUT4	O	CH4 pre-amplifier output
26	OPIN4(-)	I	CH4 pre-amplifier inverted input
27	OPIN4(+)	I	CH4 pre-amplifier input
28	REV	I	Loading driver REV input

BA5985FM



PD0236AM



● Pin Functions (PD0236AM)

Pin No.	Pin Name	I/O	Function and Operation
1	BCSEL	I	Bit clock fs select
2	DASEL	I	Bit expand select
3	NC		Not used
4	LRSEL		LRCKO polarity select
5	LRCKO	O	LRCKO output
6	NC		Not used
7	BCKO	O	Bit clock output
8	DATAO	O	Data output
9	GND		GND
10	VDD		Power supply terminal
11	LRCKI	I	LRCKO input
12,13	NC		Not used
14	DATAI	I	Data input
15	BCKI	I	Bit clock input
16	NC		Not used
17	SEL	I	Bit expand/input data output select
18	XRST	I	Reset input



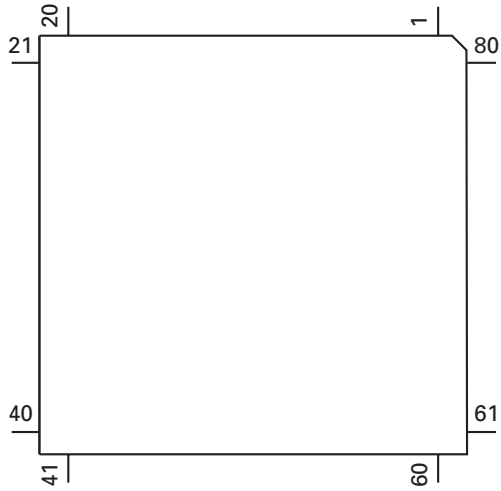
● Pin Functions(PE5011C)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	EJTSNS			Disc eject position sense input
2	DSCSNS			Disc insert position sense input
3	VDSNS			VD power supply short sense input
4	TEMP			Temperature sense input
5-8	NC			Not used VSS
9	AVREF			A/D reference voltage input
10	RESET	I		System reset input
11	XT1	I		VDD
12	XT2			Open
13	IC(VPP)			VSS
14	X1	I		Main clock radiator(8.38MHz)connection
15	X2			Main clock radiator(8.38MHz)connection
16	VDD			Power supply(+5V)
17	VSS			GND
18	X $\overline{\text{SCK}}$	O	C	CD LSI serial clock output
19	XSO	O	C	CD LSI serial data output
20	XSI	I		CD LSI serial data input
21	BRST			P-Bus reset input
22	PACK			CD-TEXT pack sync signal input
23, 24	NC			Not used Open
25	XA0	O	C	CD LSI data discrimination control signal output
26	XSTB	O	C	CD LSI strobe output
27	XRST	O	C	CD LSI reset output
28	FOK	I		Focus OK input
29	MIRR	I		Specular surface detection input
30	LOCK	I		Spindle lock input
31	CD5VON	O	C	CD +5V power supply control output
32, 33	NC			Not used Open
34	EMPH	O	C	Emphasis information output
35-44	NC			Not used Open
45	VSS			GND
46	VDD			Power supply(+5V)
47	A $\overline{\text{DNA}}$	O	C	A/D reference voltage supply control output
48	VDCONT	O	C	VD power supply control output
49	NC			Not used Open
50	CSENS	I		Flap close sense input
51	BRXEN	I/O	/C	Input/output by which P-Bus can be received
52	B $\overline{\text{SRQ}}$	O	C	P-Bus polling request output
53, 54	NC			Not used Open
55	CONT	O	C	Servo driver power supply control output
56	CDMUTE	O	C	CD mute control output
57	CDEJET	O	C	Load/Eject motor Eject control output
58	CDLOAD	O	C	Load/Eject motor Load control output
59	BMUTE	O	C	Bus mute output
60	C $\overline{\text{LAMP}}$	I		Disc clamp input
61, 62	NC			Not used Open
63-66	NC			Not used VDD or VSS
67	TXARI	I		Tx output set selection input
68	F $\overline{\text{SCK}}$	O	C	Flash writing clock input(Open)
69	FTXD	O	C	Flash writing data output(Open)
70	FRXD	O	C	Flash writing data input(Open)
71	B $\overline{\text{SCK}}$	I/O	/C	P-Bus serial clock input/output
72	B $\overline{\text{DATA}}$	I/O	/C	P-Bus serial data input/output
73	TESTIN	I		Test program start input
74	NC			Not used Open
75	TSTB	O	C	CD-TEXT strobe output
76	NC			Not used Open

# DEH-P900R,P9050

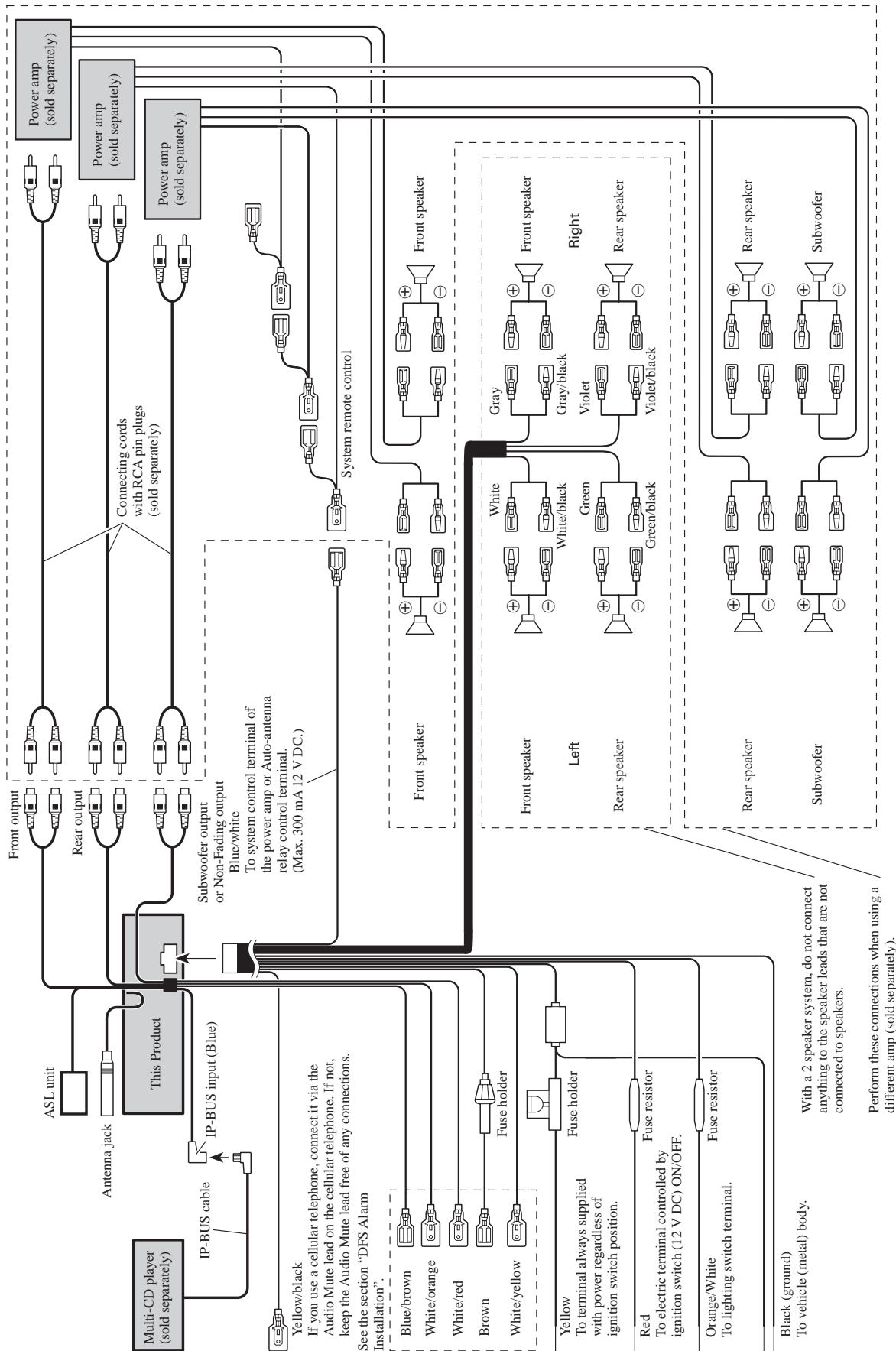
Pin No.	Pin Name	I/O	Format	Function and Operation
77	T $\overline{\text{SCK}}$	O	C	CD-TEXT serial clock output
78	TSO	O	C	CD-TEXT serial data output
79	TSI	I		CD-TEXT serial data input
80	AVSS			A/D GND

\*PE5011C

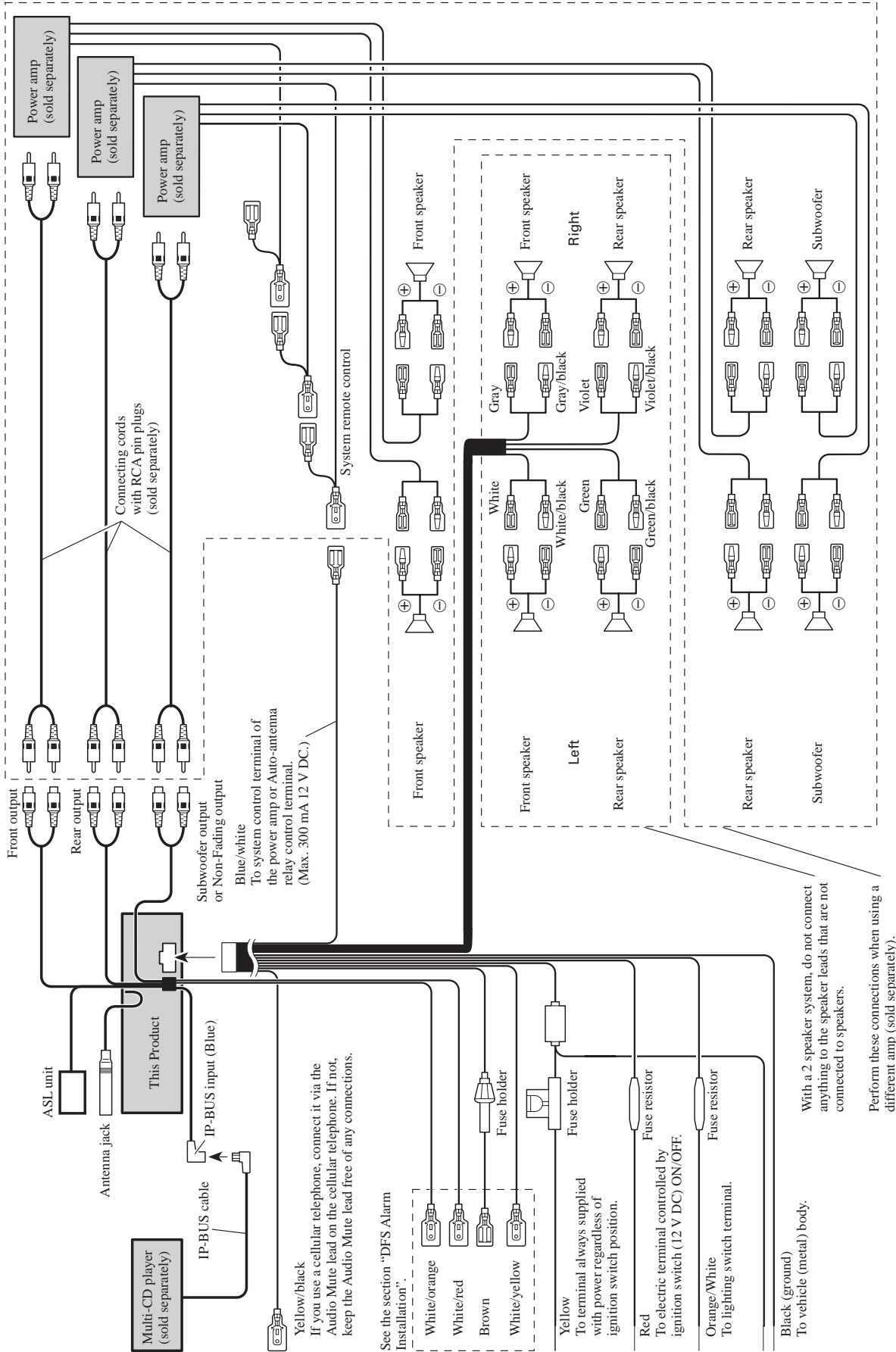


## 8. OPERATIONS AND SPECIFICATIONS

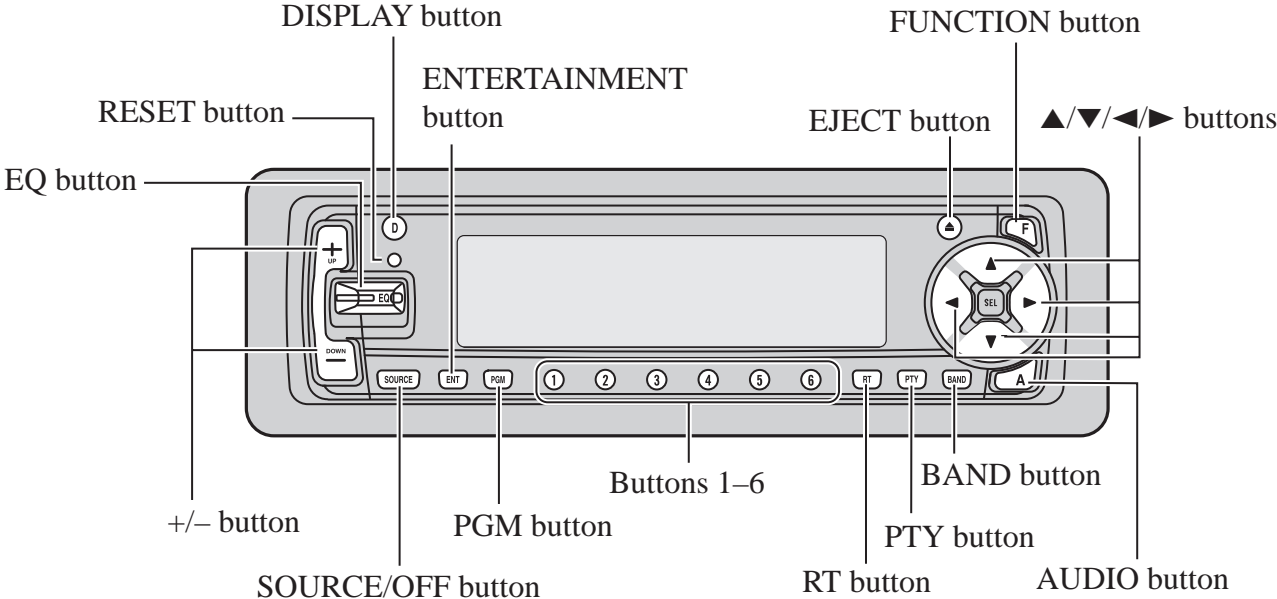
### ● Connection Diagram (DEH-P900R/UC)



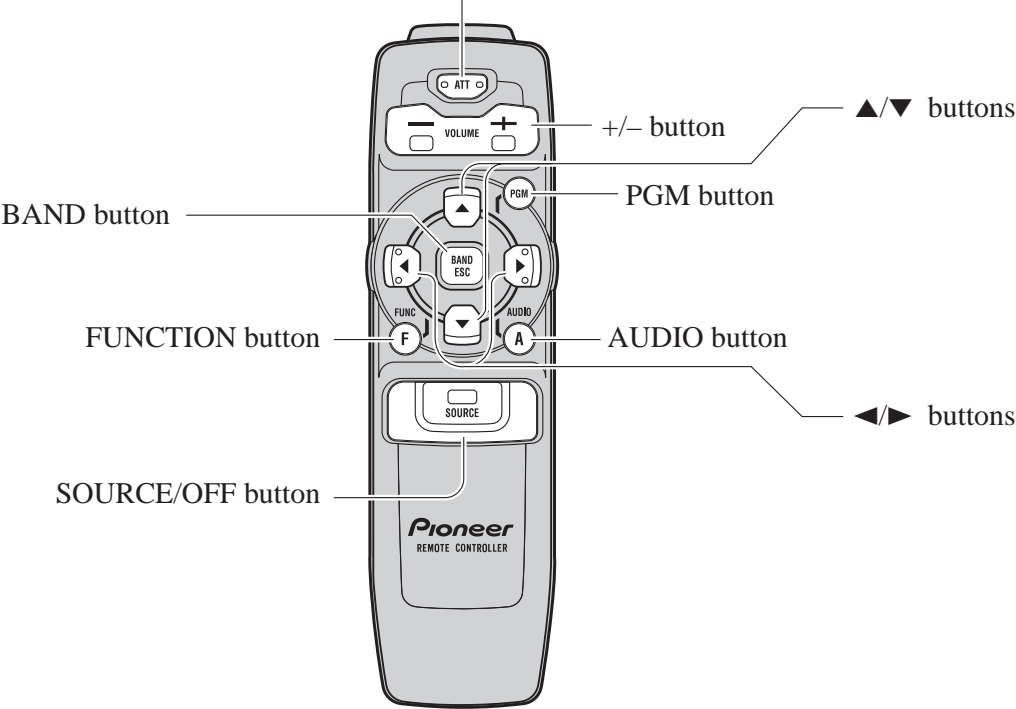
● Connection Diagram (DEH-P9050/ES)



8.1 OPERATIONS (DEH-P900R/UC))



**ATT button**  
 This lets you quickly lower volume level (by about 90%).  
 Press once more to return to the original volume level.



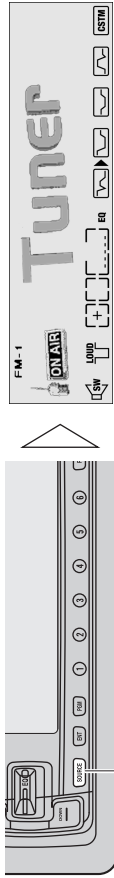
## To Listen to Music

The following explains the initial operations required before you can listen to music.

**Note:**

- Loading a disc in this product.

**1. Select the desired source (e.g. Tuner).**



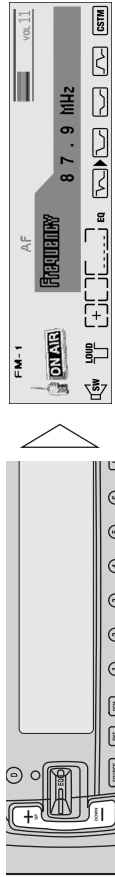
Each press changes the Source ...

Each press of the SOURCE/OFF button selects the desired source in the following order: Built-in CD player (Compact Disc) → TV (Television) → Tuner → DAB (Digital Audio Broadcasting) Tuner → Multi-CD player → AUX

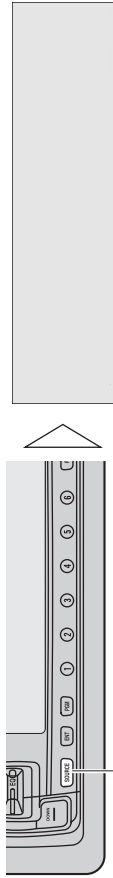
**Note:**

- In the following cases, the sound source will not change:
  - \* No TV tuner is connected to this product.
  - \* No Multi-CD player is connected to this product. (When "Multi-CD" display is OFF.
  - \* No DAB tuner is connected to this product.
  - \* No disc is set in this product.
  - \* No magazine is set in the Multi-CD player.
  - \* AUX (external input) is set to OFF.

**2. Raise or lower the volume.**



**3. Source OFF.**



Hold for 1 second or more

## Basic Operation of Tuner

### Manual and Seek Tuning

- You can select the tuning method by changing the length of time you press the ◀/▶ button.

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

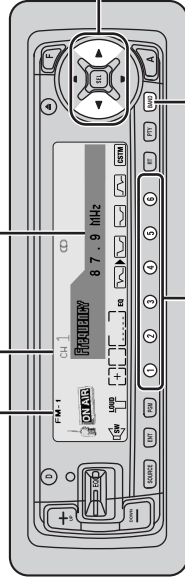
**Note:**

- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcast stations. Seek Tuning starts as soon as you stop pressing the button.
- "O" stereo indicator lights when a stereo station is selected.

**Preset Number Indicator**

**Band Indicator**

**Frequency Indicator**



### Preset Tuning

- You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

**Note:**

- Up to 18 FM stations (6 in FM-1, FM-2 and FM-3) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

FM-1 → FM-2 → FM-3  
→ AM

## Basic Operation of Built-in CD Player

### Switching the Display

Each press of the DISPLAY button changes the display in the following order:  
 Playback mode (Play Time)  
 → Disc Title

**Note:**

- If you switch a display when the disc title has not been input, "No Title" is displayed.

### Eject

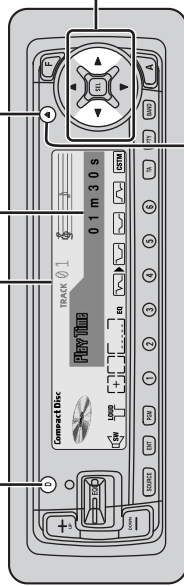
Press the EJECT button, and you can open the front panel before ejection.  
 In case of opening the front panel, you can just eject a CD.

**Note:**

- The CD function can be turned ON/OFF with the disc remaining in this product.
- Discs left partially inserted after ejection may incur damage or fall out.

### Play Time Indicator

### Track Number Indicator



### Switching the Display (only for CD TEXT Discs)

Each press of the DISPLAY button changes the display in the following order:

Playback mode (Play Time) → Disc Title → Disc Artist → Track Title → Track Artist

With text longer than 20 letters, you can scroll to see the rest of the text by pressing the DISPLAY button for 2 seconds or more.

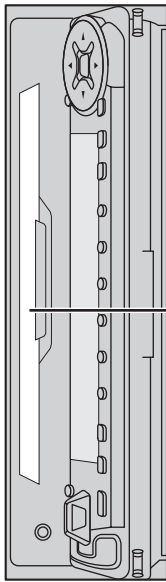
**Note:**

- A CD TEXT disc is a CD featuring recorded text information such as Disc Title, Artist Name and Track Title.
- If you switch a display when the disc title has not been input, "No Title" is displayed.
- If you switch a display when the disc artist has not been input, "No Artist Name" is displayed.
- If you switch a display when the track title has not been input, "No Title" is displayed.
- If you switch a display when the track artist has not been input, "No Artist Name" is displayed.

### Track Search and Fast Forward/Reverse

- You can select between Track Search or Fast Forward/Reverse by pressing the ◀/▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing



### Disc Loading Slot

If a CD is inserted, the front panel is closed automatically.  
 The Built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.

**Note:**

- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down. Push the EJECT button and check the disc for damage before reinserting it.
- If the Built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display.

### Open

Press the EJECT button for 1 second or more, and you can open the front panel without ejecting a CD.

In case of opening the front panel, you can close it.

**Note:**

- When opening the front panel, the 1 to 6 buttons are not available.



**WARNING:**

- Do not use with the front panel left open. If you do leave it open, it may result in injury in the event of an accident.

## Basic Operation of Multi-CD Player

This product can control a Multi-CD player. (With certain old type Multi-CD players, using a multiple connection adapter lets you connect multiple units which you can control with this product.)

### Track Search and Fast Forward/Reverse

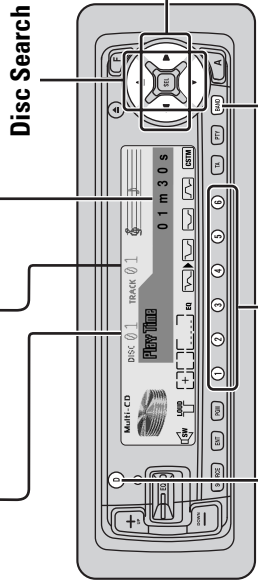
- You can select between **Track Search or Fast Forward/Reverse** by pressing the **◀/▶** button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing

### Track Number Indicator

#### Disc Number Indicator

#### Play Time Indicator



### Switching the Display

Each press of the **DISPLAY** button changes the display in the following order:  
 Playback mode (Play Time)  
 → Disc Title

#### Note:

- If you switch displays when disc titles have not been input, "No Title" is displayed.

### Switching the Multi-CD Player

When two or more Multi-CD players are connected using a multiple connection adapter, you can select the Multi-CD player by pressing the **BAND** button.

Magazine 1 → Magazine 2

→ Magazine 3  
 (Displayed about for 2 seconds.)

### Disc Number Search (for 6-Disc, 12-Disc types)

- You can select discs directly with the **1 to 6** buttons. Just press the number corresponding to the disc you want to listen to.

#### Note:

- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

### Disc Number Rough Search (for 50-Disc type only)

This handy function lets you select discs loaded in a 50-Disc Multi-CD Player using the 1 to 5 buttons. The 50 discs are divided into five blocks, with each of the 1 to 5 buttons assigned to a block.

- Select the desired block with the **1 to 5** buttons.

#### Note:

- After completing a rough search, use the **▲** and **▼** buttons to select a desired disc.

#### Note:

- The Multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- When a magazine is loaded into a 50-Disc type Multi-CD Player, information on all the discs in the magazine is read.  
 If you start playing a disc on a 50-Disc type Multi-CD Player before reading of information on all discs has been completed, reading of information stops part way through. This will prevent you from using the ITS function. (If you try and use this function, "Not Ready" is displayed.)  
 If this happens, reading of information begins again when you switch to a component other than the 50-Disc Type Multi-CD Player.
- If the Multi-CD player cannot operate properly, an error message such as "ERROR-14" is displayed. Refer to Multi-CD Player Owner's Manual.
- If there are no discs in the Multi-CD player magazine, "No Disc" is displayed.
- "LOADING" will be displayed in the following cases:
  - \* If the disc in the extra tray is selected.
  - \* If the disc is moved from the extra tray to the magazine.  
 (Refer to the 50-Disc Type Multi-CD Player Owner's Manual.)
- You cannot use the "Ejecting a Single Disc", "Frequency Play", "Music Group Play" or "ABC Disc Title Search" functions with this product.

### When playing a CD TEXT disc on a CD TEXT compatible Multi-CD Player such as the CDX-P656:

- You can use the following two functions. Refer to Multi-CD Player's Owner's Manual for operation details.
  - \* Title display switching
  - \* Title scroll
- You cannot switch to the Disc Title Input mode in the Detailed Setting Menu.



## Specifications (DEH-P900R/UC)

### General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)  
 Grounding system ..... Negative type  
 Max. current consumption ..... 10.0 A  
 Dimensions  
 (DIN) (chassis) ..... 178 (W) × 50 (H) × 155 (D) mm  
 [7 (W) × 2 (H) × 6-1/8 (D) in.]  
 (nose) ..... 188 (W) × 58 (H) × 20 (D) mm  
 [7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in.]  
 (D) (chassis) ..... 178 (W) × 50 (H) × 160 (D) mm  
 [7 (W) × 2 (H) × 6-1/4 (D) in.]  
 (nose) ..... 170 (W) × 46 (H) × 15 (D) mm  
 [6-3/4 (W) × 1-3/4 (H) × 5/8 (D) in.]  
 Weight ..... 1.8 kg (4.0 lbs)

### Audio/DSP

Continuous power output is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.  
 Maximum power output ..... 45 W × 4  
 45 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for Subwoofer)  
 Load impedance ..... 4 Ω (4 – 8 Ω [2 Ω for 1 ch] allowable)  
 Preout maximum output level/  
 Loudness contour ..... 6.5 V/100 Ω  
 (Low) ..... +3.5 dB (100 Hz), +3 dB (10 kHz)  
 (Mid) ..... +10 dB (100 Hz), +6.5 dB (10 kHz)  
 (High) ..... +11 dB (100 Hz), +11 dB (10 kHz)  
 Equalizer (13-Band Graphic Equalizer)  
 Frequency ..... 50/80/125/200/315/500/800 Hz  
 1.3/2/3.2/5/8/12.5 kHz  
 Equalization range ..... ±12 dB (2 dB)  
 Auto Equalizer (Front & Rear & Subwoofer 13-Band Graphic)  
 Frequency ..... 50/80/125/200/315/500/800 Hz  
 1.3/2/3.2/5/8/12.5 kHz  
 Equalization range ..... ±6 – –12 dB (2 dB)

Network  
 HPF  
 Frequency ..... 50/80/125 Hz  
 Slope ..... –12 dB/oct.  
 Subwoofer output  
 Frequency ..... 50/80/125 Hz  
 Slope ..... –18 dB/oct.  
 Gain ..... ±12 dB  
 Phase ..... Normal/Reverse

### CD player

System ..... Compact disc audio system  
 Usable discs ..... Compact disc  
 Signal format ..... Sampling frequency: 44.1 kHz  
 Number of quantization bits: 20; linear  
 Frequency characteristics ..... 5 – 20,000 Hz (±1 dB)  
 Signal-to-noise ratio ..... 110 dB (1 kHz) (IHF-A network)  
 Dynamic range ..... 94 dB (1 kHz)  
 Number of channels ..... 2 (stereo)

### FM tuner

Frequency range ..... 87.9 – 107.9 MHz  
 Usable sensitivity ..... 10 dBf  
 (0.9 μV/75 Ω, mono, S/N: 30 dB)  
 50 dB quieting sensitivity ..... 15 dBf (1.5 μV/75 Ω, mono)  
 Signal-to-noise ratio ..... 70 dB (IHF-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)  
 Selectivity ..... 70 dB (2ACA)  
 Three-signal intermodulation  
 (desired signal level) ..... 30 dBf  
 (two undesired signal level: 100 dBf)

### AM tuner

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

## Specifications (DEH-P9050/ES)

### General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)  
 Grounding system ..... Negative type  
 Max. current consumption ..... 10.0 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

### Audio/DSP

Continuous power output is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.  
 Maximum power output ..... 45 W × 4  
 45 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for Subwoofer)  
 Load impedance ..... 4 Ω (4 – 8 Ω [2 Ω for 1 ch] allowable)  
 Preout maximum output level/  
 output impedance ..... 4.0 V/100 Ω  
 Loudness contour  
 (Low) ..... +3.5 dB (100 Hz), +3 dB (10 kHz)  
 (Mid) ..... +10 dB (100 Hz), +6.5 dB (10 kHz)  
 (High) ..... +11 dB (100 Hz), +11 dB (10 kHz)  
 Equalizer (13-Band Graphic Equalizer)  
 Frequency ..... 50/80/125/200/315/500/800 Hz  
 1.3/2/3.2/5/8/12.5 kHz  
 Equalization Range ..... ±12 dB (2 dB)  
 Auto Equalizer (Front & Rear & Subwoofer 13-Band Graphic)  
 Frequency (F&R&SW) ..... 50/80/125/200/315/  
 500/800 Hz  
 Equalization Range ..... ±12 dB (2 dB)  
 1.3/2/3.2/5/8/12.5 kHz  
 Equalization Range ..... +6 – –12 dB (2 dB)

Network  
 HPF  
 Frequency ..... 50/80/125 Hz  
 Slope ..... –12 dB/oct.  
 Subwoofer output  
 Frequency ..... 50/80/125 Hz  
 Slope ..... –18 dB/oct.  
 Gain ..... ±12 dB  
 Phase ..... Normal/Reverse

### CD player

System ..... Compact disc audio system  
 Usable discs ..... Compact disc  
 Signal format ..... Sampling frequency: 44.1 kHz  
 Number of quantization bits: 20; linear  
 Frequency characteristics ..... 5 – 20,000 Hz (±1 dB)  
 Signal-to-noise ratio ..... 110 dB (1 kHz) (IEC-A network)  
 Dynamic range ..... 94 dB (1 kHz)  
 Number of channels ..... 2 (stereo)

### FM tuner

Frequency range ..... 87.5 – 108 MHz  
 Usable sensitivity ..... 10 dBf (0.9 μV/75 Ω, mono, S/N: 30 dB)  
 50 dB quieting sensitivity ..... 15 dBf (1.5 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

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)

### Note:

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

### Note:

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