

# *Service Manual*

*Pioneer*  
**TOYOTA**

ORDER NO.  
**CRT2680**

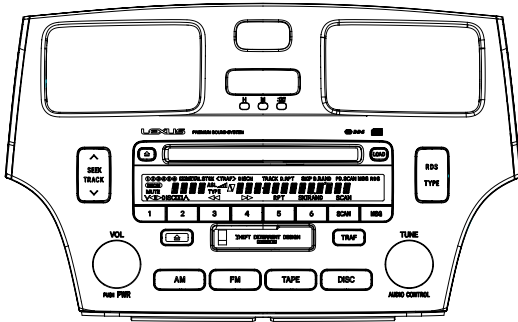
# **LEXUS ES300** **AUDIO SYSTEM** **HEAD UNIT**

VEHICLE	DESTINATION	PRODUCED AFTER	TOYOTA PART No.	ID No.	PIONEER MODEL No.
LEXUS ES300	U.S.A., CANADA	July 2001	86120-33510	P6816	FX-MG8517ZT/UC
LEXUS ES300	U.S.A., CANADA	July 2001	86120-33520	P6818	FX-MG8817ZT/UC

Manufactured for TOYOTA  
by PIONEER CORPORATION

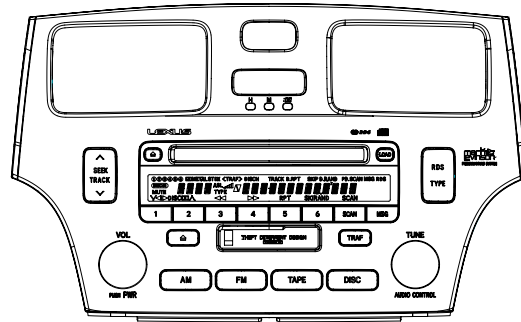
**PUB. NO. CRT2680**

FX-MG8517ZT/UC



ID No.P6816

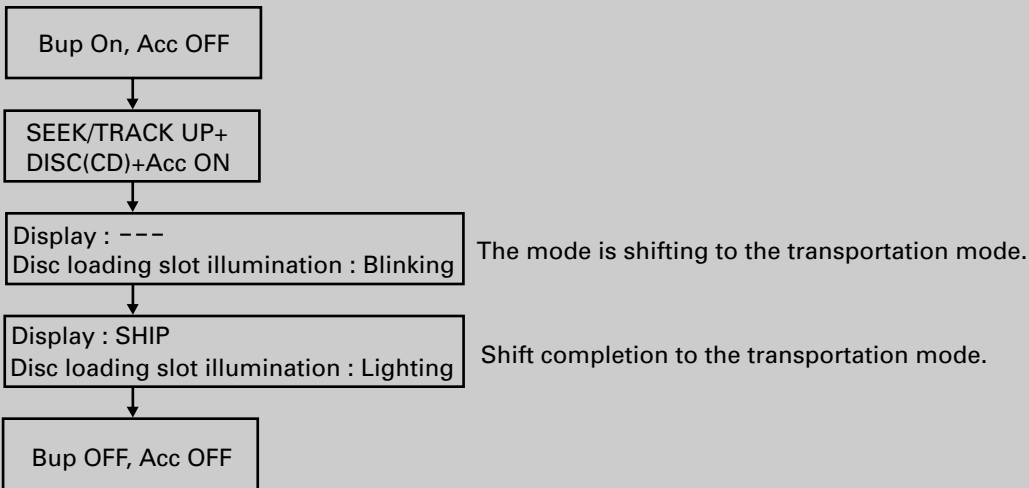
FX-MG8817ZT/UC



ID No.P6818

● **When the Repair is Complete**

When the repair is complete, make the CD mechanism ready for transportation.



● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-631	CRT1640	2L	Cassette Mech. Module:Mech.Description, Disassembly
CX-890	CRT2376	G1	CD Mech. Module:Circuit Description, Mech.Description, Disassembly

● **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.**  
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### ● CD Player Service Precautions

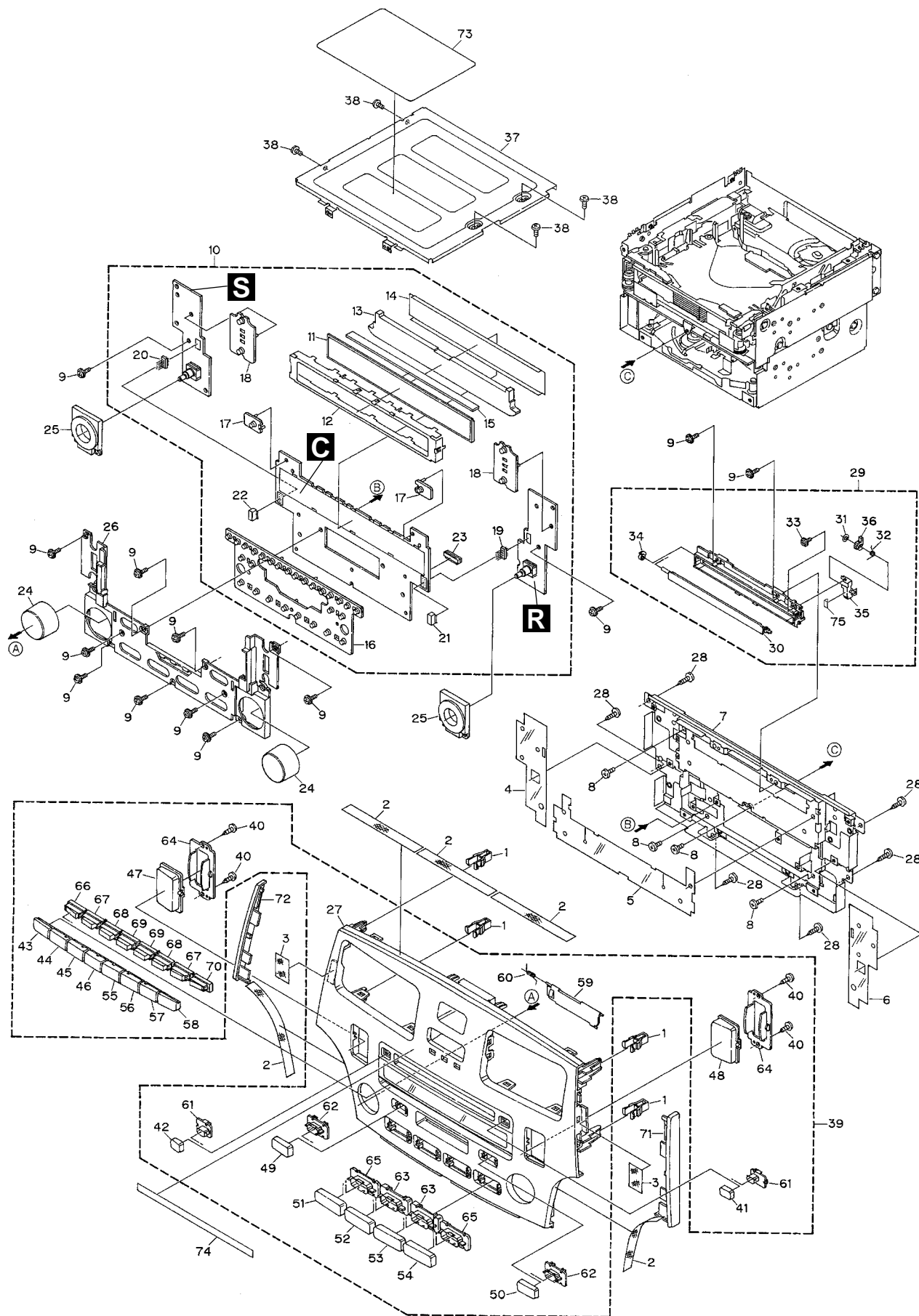
1. Never attempt to turn on this unit when the CD drive mechanism is upside down. Doing so could cause damage or malfunction to the drive mechanism.
2. For pickup unit(CXX1313) handling, please refer to "Disassembly"(see page 91).  
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(Protection by a short pin).
3. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
4. Please check the grating after changing the service pickup unit(see page 79).

## 1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 EXTERIOR(1/2)



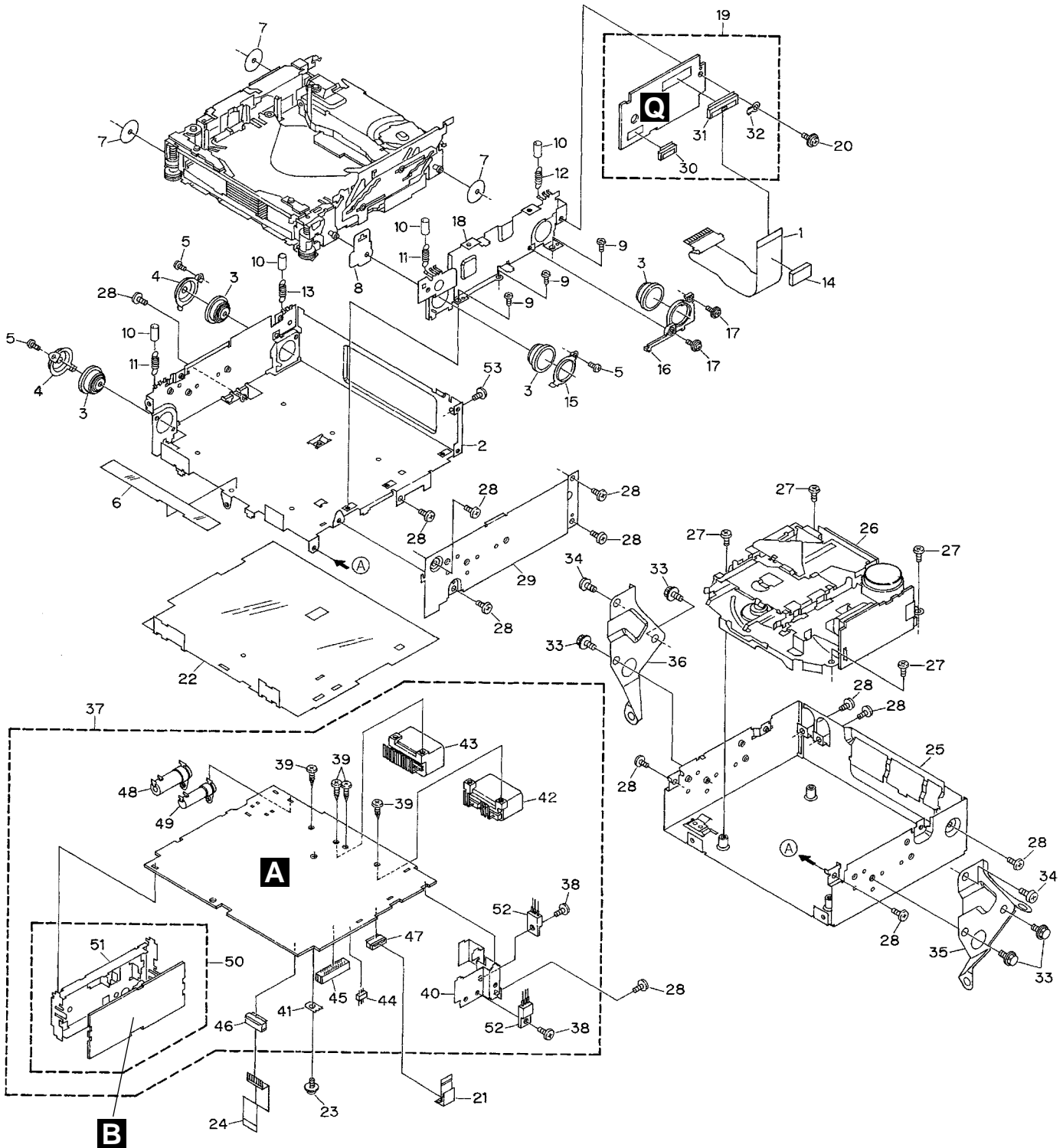
**NOTE:**

- 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.

**● EXTERIOR(1/2) SECTION PARTS LIST**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	90467-10203	CNV5641	40	Screw	BPZ26P080FMC
2	Seal	CNM7391	41	Button(LOAD)	CAC6781
3	Seal	CNM7390	42	Button(CD EJECT)	CAC6782
4	Insulator	CNM7452	43	Button(1)	CAC6783
5	Insulator	CNM7451	44	Button(2)	CAC6784
6	Insulator	CNM7453	45	Button(3)	CAC6785
7	Frame Unit	CXB6322	46	Button(4)	CAC6786
8	Screw	BMZ30P050FMC	47	Button(SEEK, TRACK)	CAC6787
9	Screw	IMS26P080FMC	48	Button(RDS, TYPE)	CAC6788
10	Keyboard Unit	CWM7359	49	Button(TAPE EJECT)	CAC6789
11	LCD(LCD1804)	CAW1636	50	Button(TRAF)	CAC6790
12	Holder	CNC9073	51	Button(AM)	CAC6791
13	Lighting Conductor	CNV6463	52	Button(FM)	CAC6792
14	Sheet	CNM7067	53	Button(TAPE)	CAC6793
15	Connector	CNV6465	54	Button(DISC)	CAC6794
16	Rubber	CNV6449	55	Button(5)	CAC6795
17	Rubber	CNV6546	56	Button(6)	CAC6799
18	Rubber	CNV6448	57	Button(SCAN)	CAC6800
19	Connector(CN1901)	CKS4395	58	Button(MSG)	CAC6801
20	Connector(CN1902)	CKS4395	59	Door(MG8517ZT)	CAT2189
21	Connector(CN1802)	CKS4396		Door(MG8817ZT)	CAT2211
22	Connector(CN1803)	CKS4396	60	Spring	CBH1371
23	Connector(CN1801)	CKS4361	61	Holder	CNV6459
24	Knob Unit	CXB6190	62	Holder	CNV6460
25	Lighting Conductor	CNV6450	63	Holder	CNV6461
26	Holder	CNV6469	64	Holder	CNV6462
27	Grille Unit(MG8517ZT)	CXB6189	65	Holder	CNV6491
	Grille Unit(MG8817ZT)	CXB6567	66	Holder	CNV6757
28	Screw	BPZ30P100FMC	67	Holder	CNV6758
29	Holder Unit	CXB8453	68	Holder	CNV6759
30	Door	CAT2190	69	Holder	CNV6760
31	Washer	CBF1037	70	Holder	CNV6761
32	Spring	CBH2494	*	71 55413-33020	CNS6678
33	Screw	IMS20P030FMC	*	72 55412-33220	CNS6679
*	34 Striker	CNV6563	73	Label	CRW1417
			74	Label	CRW1425
*	35 Bracket Unit	CXB6192	*	75 Sheet	CNM7624
*	36 Gear	CNV6466			
	37 Case	CNB2607			
	38 Screw	BMZ26P030FMC			
	39 Grille Assy(MG8517ZT)	CXB8325			
	Grille Assy(MG8817ZT)	CXB8328			

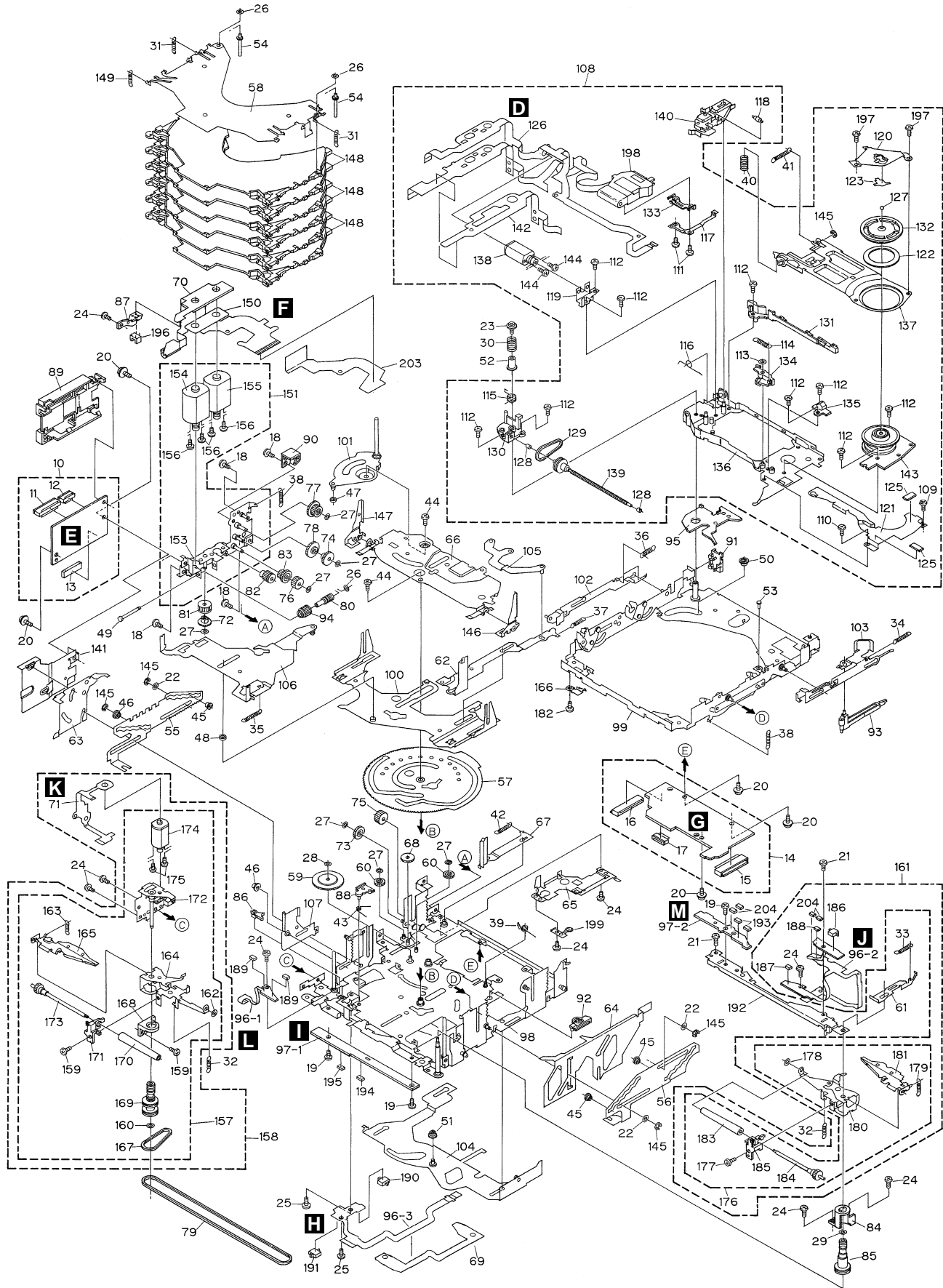
2.2 EXTERIOR(2/2)



## ● EXTERIOR(2/2) SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	PCB	CNP5516	40	Holder	CNC9092
2	Chassis	CNA2256	41	Terminal(CN800)	CKF1059
3	Damper	CNV5120	42	Plug(CN803)	CKM1221
4	Holder	CNC7477	43	Connector(CN801)	CKM1322
5	Screw(M2x2)	CBA1250	44	Plug(CN300)	CKS-291
6	Insulator	CNM5969	45	Connector(CN301)	CKS3568
7	Sheet	CNM5981	46	Connector(CN804)	CKS4361
8	Sheet	CNM6318	47	Connector(CN303)	CKS4376
9	Screw	BMZ20P020FMC	48	86146-48030(ANT1)	CKX1057
10	Tube	CDM1028	49	86146-48040(ANT2)	CKX1058
11	Spring	CBH2472	50	FM/AM Tuner Unit	CWE1543
12	Spring	CBH2478	51	Holder	CNC6774
13	Spring	CBH2473	52	Transistor(Q809,811)	2SB1185
14	Cushion	CNM7023	53	Transistor(Q809,811)	2SB1185
15	Holder	CNC7826	53	Screw	BMZ26P030FMC
16	Holder	CNV5543			
17	Screw	IMS20P040FMC			
18	Holder	CNC8701			
19	Control Unit	CWM7926			
20	Screw	PMB26P060FMC			
21	Connector	CDE6509			
22	Insulator	CNM7438			
23	Screw	IMS26P040FMC			
24	Connector	CDE6758			
25	Chassis Unit	CXB7767			
26	Cassette Mechanism Module	EXK3891			
27	Screw	BMZ26P050FMC			
28	Screw	BMZ30P050FMC			
29	Chassis	CNA2329			
30	Connector(CN702)	CKS4376			
31	Connector(CN701)	CKS3989			
32	Terminal(CN703)	CKF1064			
33	Screw(M5x8)	CBA1558			
34	Screw	BMZ50P080FMC			
35	86211-33180	CNC9644			
36	86212-33180	CNC9645			
37	Main Unit(MG8517ZT)	CWM7358			
	Main Unit(MG8817ZT)	CWM7474			
38	Screw	BMZ30P060FMC			
39	Screw(M3x6)	CBA1393			

## 2.3 CD MECHANISM





## ● CD MECHANISM SECTION PARTS LIST

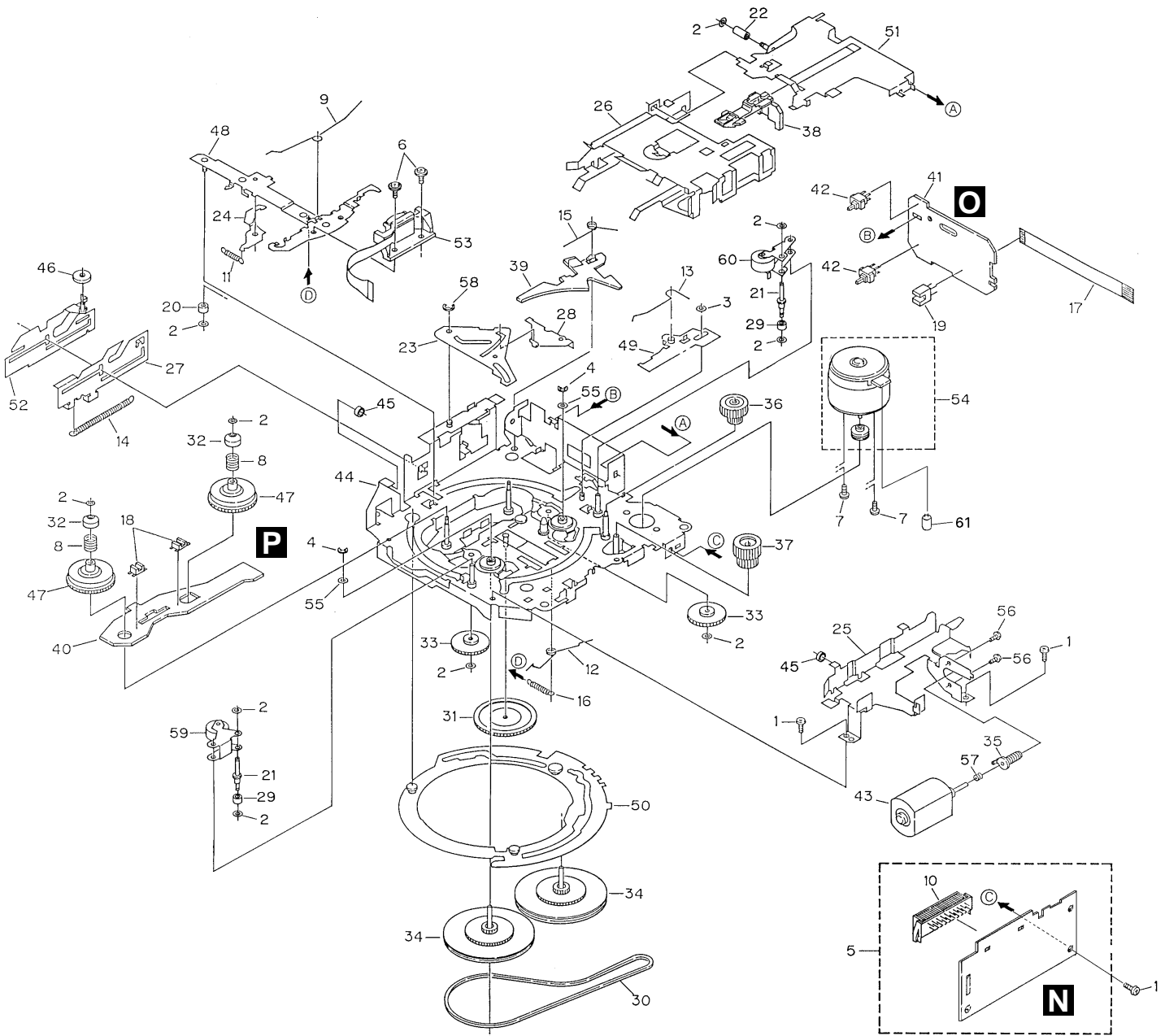
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1-9	●●●●●		59	Gear	CNC7236
10	CD Core Unit(Servo Unit)	CWX2421	60	Gear	CNC9512
11	Connector(CN101)	CKS2764	61	Lever	CNC7243
12	Connector(CN301)	CKS3966	62	Lever	CNC7244
13	Connector(CN201)	CKS3991	63	Lever	CNC7245
14	CD Core Unit(STS Unit)	CWX2422	64	Lever	CXB4944
15	Connector(CN701)	CKS3989	65	Cover	CNC7441
16	Connector(CN801)	CKS3989	66	Holder Unit	CXB4946
17	Connector(CN802)	CKS4054	67	Lever	CNC9088
18	Screw	CBA1037	68	Gear	CNC8140
19	Screw	CBA1041	69	Sheet	CNM6840
20	Screw	CBA1076	70	PCB	CNP5764
21	Screw	CBA1250	71	PCB	CNP6010
22	Washer	CBA1529	72	Gear	CNR1479
23	Screw	CBA1452	73	Gear	CNR1481
24	Screw	CBA1453	74	Gear	CNR1495
25	Screw	CBA1479	75	Gear	CNR1501
26	Washer	CBF1037	76	Gear	CNR1502
27	Washer	CBF1038	77	Gear	CNR1540
28	Washer	CBF1039	78	Gear	CNR1541
29	Washer	CBF1064	79	Belt	CNT1080
30	Spring	CBH2007	80	Worm Gear	CNV6807
31	Spring	CBH2271	81	Gear	CNV5047
32	Spring	CBH2274	82	Gear	CNV5048
33	Spring	CBH2014	83	Gear	CNV5049
34	Spring	CBH2015	84	Holder	CNV5056
35	Spring	CBH2016	85	Pulley	CNV5058
36	Spring	CBH2017	86	Arm	CNV5061
37	Spring	CBH2290	87	Spacer	CNV5066
38	Spring	CBH2366	88	Arm	CNV5189
39	Spring	CBH2064	89	Cover	CNV5207
40	Spring	CBH2195	90	Cover	CNV6808
41	Spring	CBH2196	91	Cover	CNV5425
42	Spring	CBH2224	92	Lever	CNV5427
43	Spring	CBH2250	93	Arm	CNV5491
44	Screw	CBA1082	94	Gear	CNV5519
45	Roller	CLA3154	95	Holder	CNV5648
46	Roller	CLA3157	* 96	Composite PCB	CNX3558
47	Roller	CLA3159	* 97	Composite PCB	CNX3502
48	Roller	CLA3160	98	Chassis Unit	CXB5940
49	Shaft	CLA3179	99	Frame Unit	CXB7801
50	Spacer	CLA3194	100	Lever Unit	CXB6026
51	Roller	CLA3248	101	Arm Unit	CXB7533
52	Bush	CLA3353	102	Lever Unit	CXB2708
* 53	Shaft	CLA3469	103	Lever Unit	CXB2709
54	Shaft	CLA3693	104	Lever Unit	CXB4949
55	Steer	CNC7215	105	Arm Unit	CXB2712
56	Steer	CNC7216	106	Lever Unit	CXB4948
57	Cam	CNC8774	107	Lever Unit	CXB2714
* 58	Holder	CNC7235	108	Carriage Mechanism Unit(G1)	CXB4941

# FX-MG8517ZT, MG8817ZT

Mark No.	Description	Part No.	Mark No.	Description	Part No.
109	Screw	CBA1041	159	Screw	CBA1453
110	Screw	CBA1250	160	Washer	CBF1038
111	Screw	CBA1362	161	Loading Arm R Assy(Service)	CXX1486
112	Screw	CBA1471	162	Washer	CBF1074
113	Washer	CBF1038	163	Spring	CBH2136
114	Spring	CBH2008	* 164	Arm	CNC7241
115	Spring	CBH2009	* 165	Arm	CXB6911
116	Spring	CBH2010	166	Holder	CBL1508
117	Spring	CBL1335	167	Belt	CNT1079
118	Roller	CLA3913	168	Holder	CNV5055
* 119	Bracket	CNC7228	169	Pulley	CNV5057
120	Guide Unit	CXB4417	170	Roller	CNV6209
121	Cover	CNC9504	171	Guide	CNV5125
122	Sheet	CNM6414	* 172	Bracket Unit	CXB5937
123	Sheet	CNM5378	173	Roller Gear Unit	CXB3176
124	•••••		* 174	Motor Unit(M2 LOAD)	CXB3177
125	Sheet	CNM5827	175	Screw	JFZ14P020FZK
126	PCB	CNP6164	176	Loading Arm R Assy	CXB5839
127	Ball	CNR1189	177	Screw	CBA1453
128	Bearing	CNR1423	178	Washer	CBF1074
129	Belt	CNT1079	179	Spring	CBH2136
130	Holder	CNV5037	* 180	Arm	CNC7242
131	Guide	CNV5040	* 181	Arm	CXB6912
132	Clamper	CNV5042	182	Screw	JFZ20P014FMC
133	Rack	CNV5111	183	Roller	CNV6209
134	Arm	CNV5579	184	Roller Gear Unit	CXB3176
135	Holder	CNV5759	185	Guide	CNV5126
136	Chassis	CXB7532	186	Switch(S885 MAX DETECT)	CSN1052
137	Arm Unit	CXB2705	187	LED(D883)	CL205IRXTU
138	Motor Unit(M4 CARRIAGE)	CXB3178	188	Photo-transistor(Q881)	CPT230SCTD
139	Screw Unit	CXB3179	189	LED(D891,892)	CL205IRXTU
140	Lever Unit	CXB4450	190	Switch(S887 CLAMP)	CSN1051
141	Bracket	CNC8584	191	Switch(S886 ELV HOME)	CSN1052
142	Spacer	CNM6345	192	Bracket Unit	CXB6086
143	Motor(M5 SPINDLE)	CXM1120	193	Photo-transistor(Q851,852)	CPT230SCTD
144	Screw	JFZ14P020FZK	194	Resistor(R856)	RS1/8S911J
145	Washer	YE15FUC	195	Resistor(R857)	RS1/8S821J
146	Arm Unit	CXB6052	196	Photo-interrupter(Q1)	RPI-221
147	Arm Unit	CXB6053	197	Screw	CBA1387
148	Tray Assy	CXB7656	198	Pickup Unit(Service)(P8)	CXX1313
149	Spring	CBH2269	199	Spring	CBL1467
150	Sheet	CNM7109	200-202	•••••	
151	Cam Motor Assy	CXB7809	203	Sheet	CNM7025
152	•••••		204	Inductor(L1,2,801,802)	LCYBR15J1608
* 153	Bracket Unit	CXB5201			
* 154	Motor Unit(M1 Cam Gear)	CXB6929			
* 155	Motor Unit(M3 ELV)	CXB3175			
156	Screw	JFZ20P025FMC			
157	Loading Arm L Assy	CXB6957			
158	Loading Arm L Assy(Service)	CXX1469			



## 2.4 CASSETTE MECHANISM MODULE

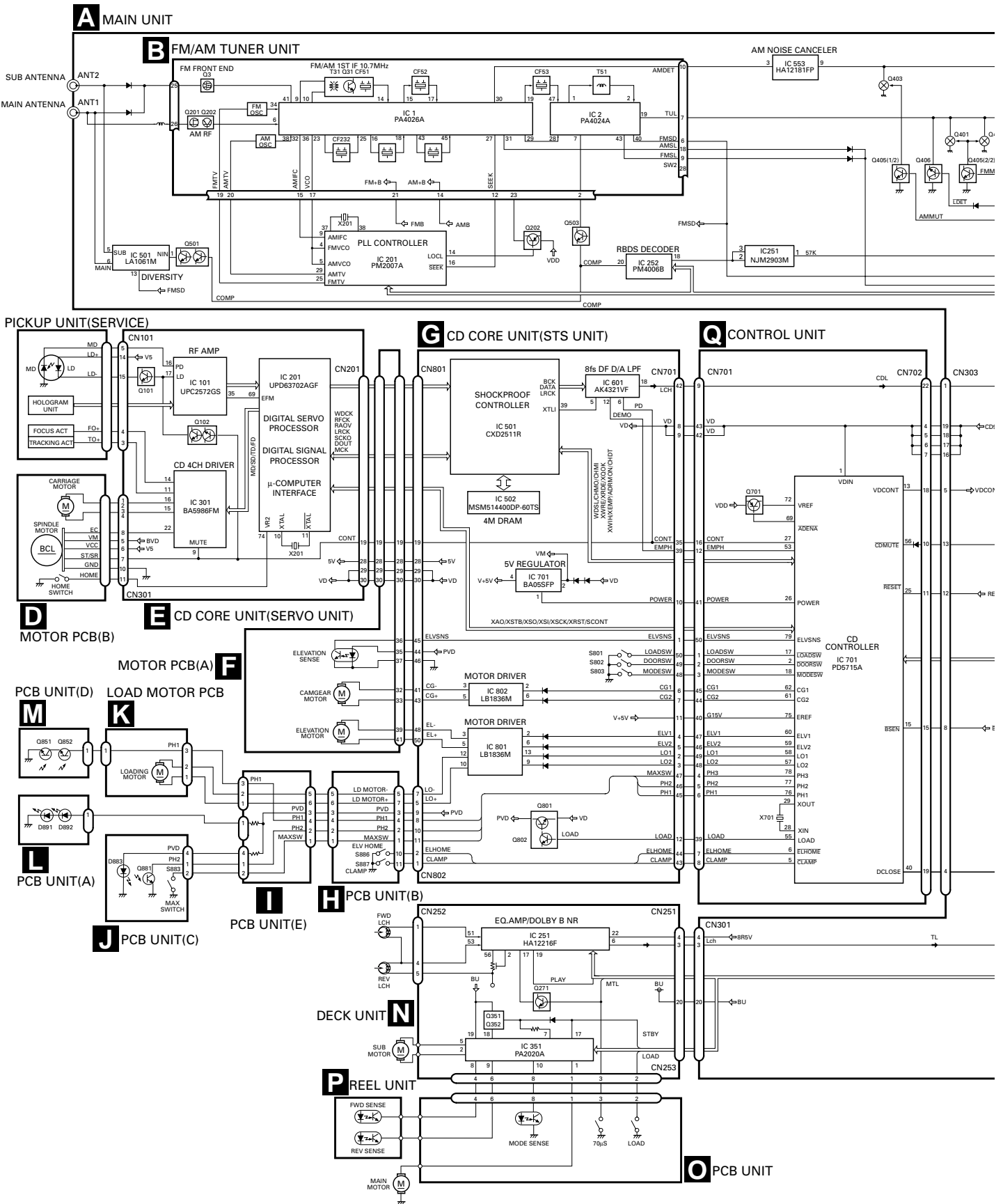


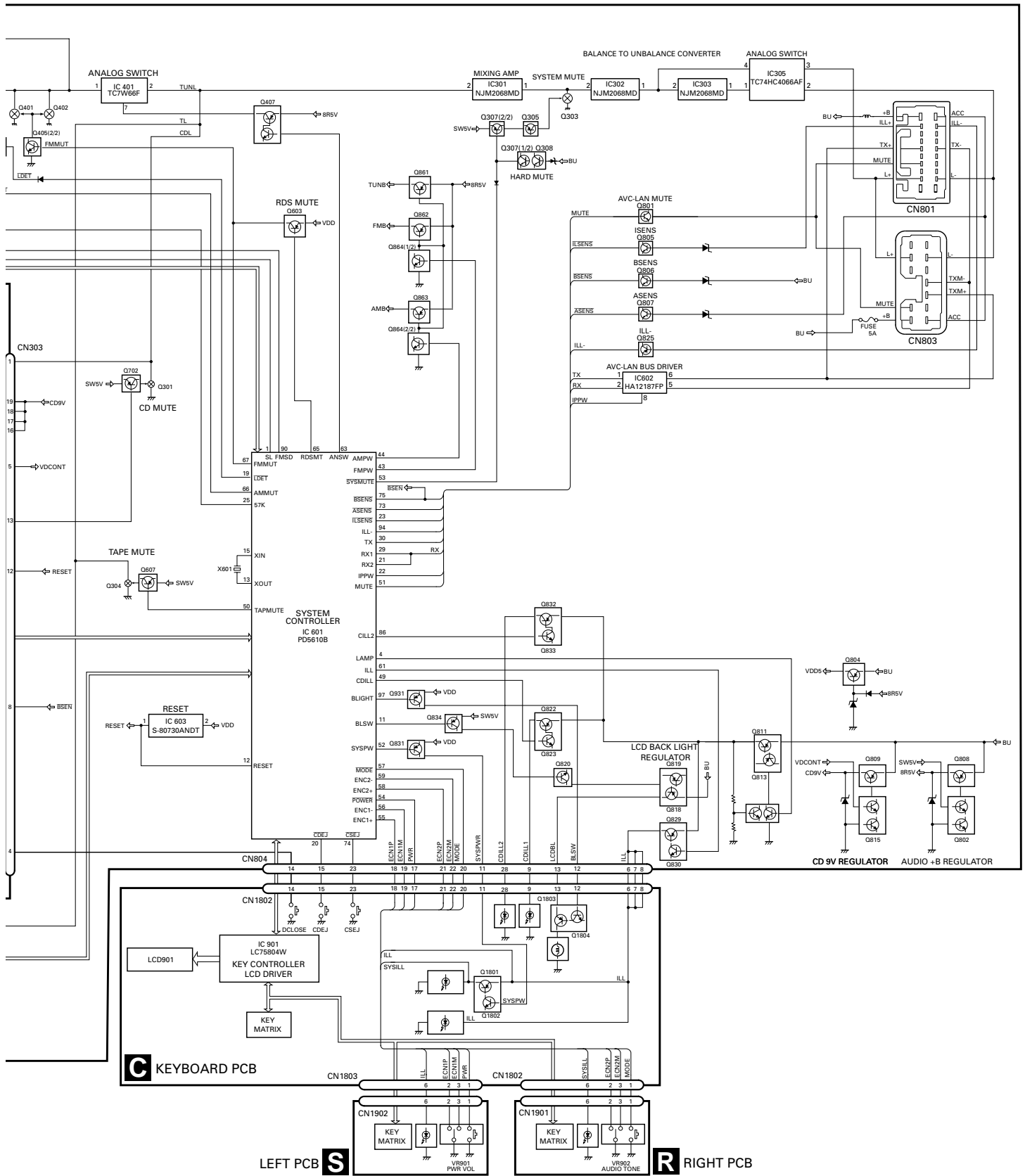
### ● CASSETTE MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC	31	Gear	ENV1347
2	Washer	CBF1037	32	Collar	ENV1508
3	Washer	CBF1038	33	Gear	ENV1350
4	Washer	CBG1003	34	Flywheel	ENV1500
5	Deck Unit	EWM1030	35	Worm Gear	ENV1439
6	Screw(M2x5)	EBA1028	36	Worm Wheel	ENV1440
7	Screw(M2x2.5)	CBA1037	37	Gear	ENR1037
8	Spring	EBH1531	38	Lever	ENV1533
9	Spring	EBH1589	39	Arm	ENV1525
10	Connector(CN251)	CKS3540	40	Gathering PCB	ENX1037
11	Spring	EBH1515	41	PCB	ENP1182
12	Spring	EBH1587	42	Switch(S1)(S2)	ESG1004
13	Spring	EBH1517	43	Motor Unit(M2)(SUB)	EXA1382
14	Spring	EBH1518	44	Chassis Unit	EXA1559
15	Spring	EBH1519	45	Tube	ENM1039
16	Spring	EBH1537	46	Roller	ENR1027
17	Cord	EDD1027	47	Reel Unit	EXA1560
18	Photo-interrupter(EGN2,3)	EGN1006	48	Head Base Unit	EXA1434
19	Photo-interrupter(EGN1)	EGN1005	49	Lever Unit	EXA1578
20	Roller	ENR1031	50	Gear Unit	EXA1545
21	Shaft	ELA1362	51	Frame Unit	EXA1476
22	Roller	ELA1348	52	Lever Unit	EXA1439
23	Arm	ENC1490	53	Head Assy(HD1)	EXA1594
24	Arm	ENC1397	54	Motor Unit(M1)(MAIN)	EXA1499
25	Guide	ENC1519	55	Washer	HBF-179
26	Holder	ENC1516	56	Screw	JGZ20P025FNI
27	Lever	ENC1448	57	Spring	EBH1545
28	Arm	ENC1488	58	Washer	YE20FUC
29	Roller	ENR1023	59	Pinch Roller Unit	EXA1533
30	Belt	ENT1027	60	Pinch Roller Unit	EXA1532
			61	Capacitor(C1)	CEAL4R7M35

### 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

#### 3.1 BLOCK DIAGRAM





A

B

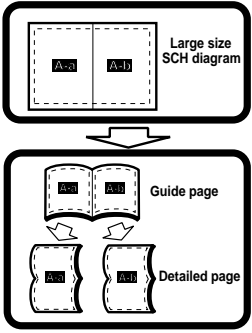
C

D

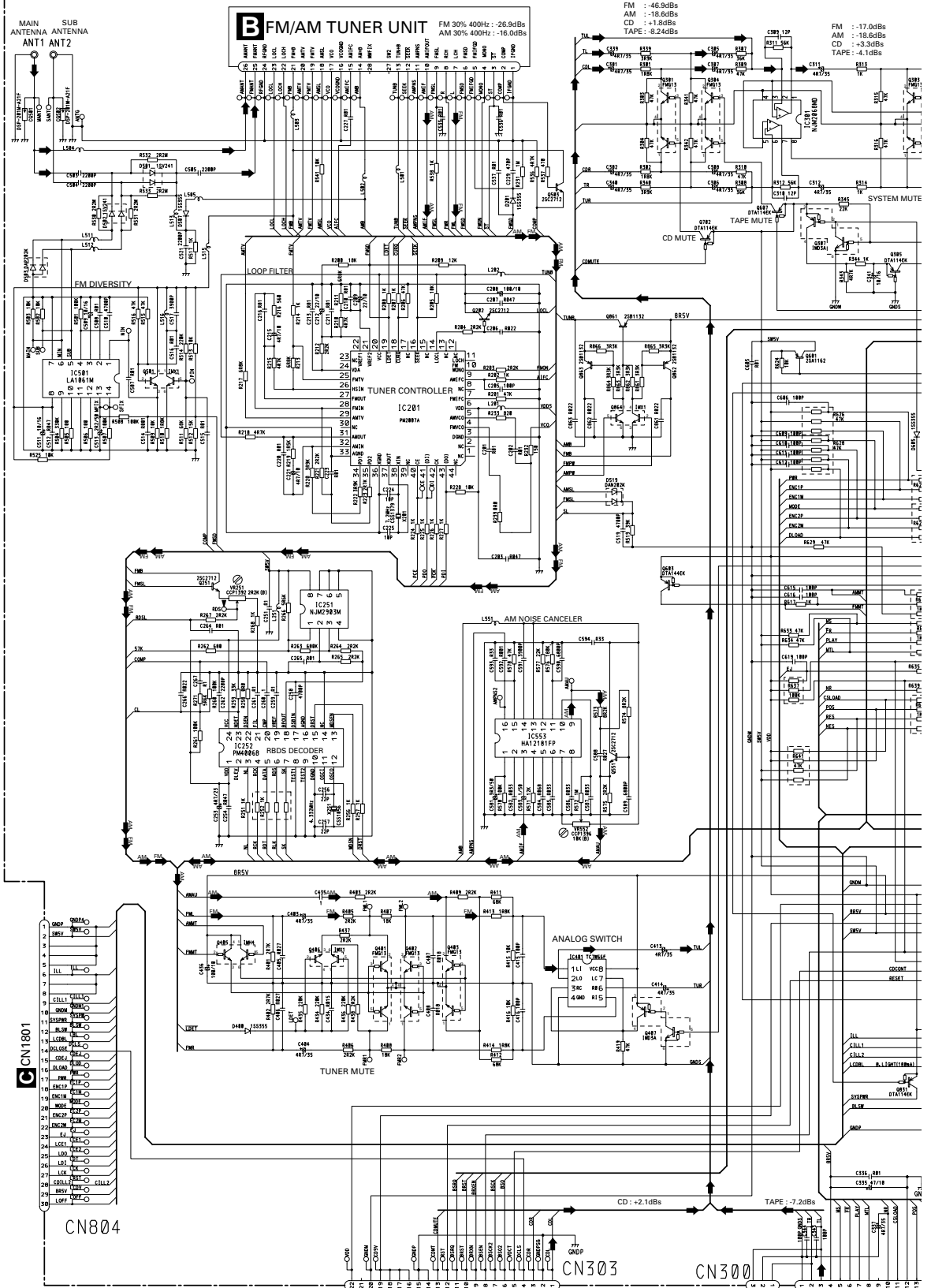
### 3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

**A-a**

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

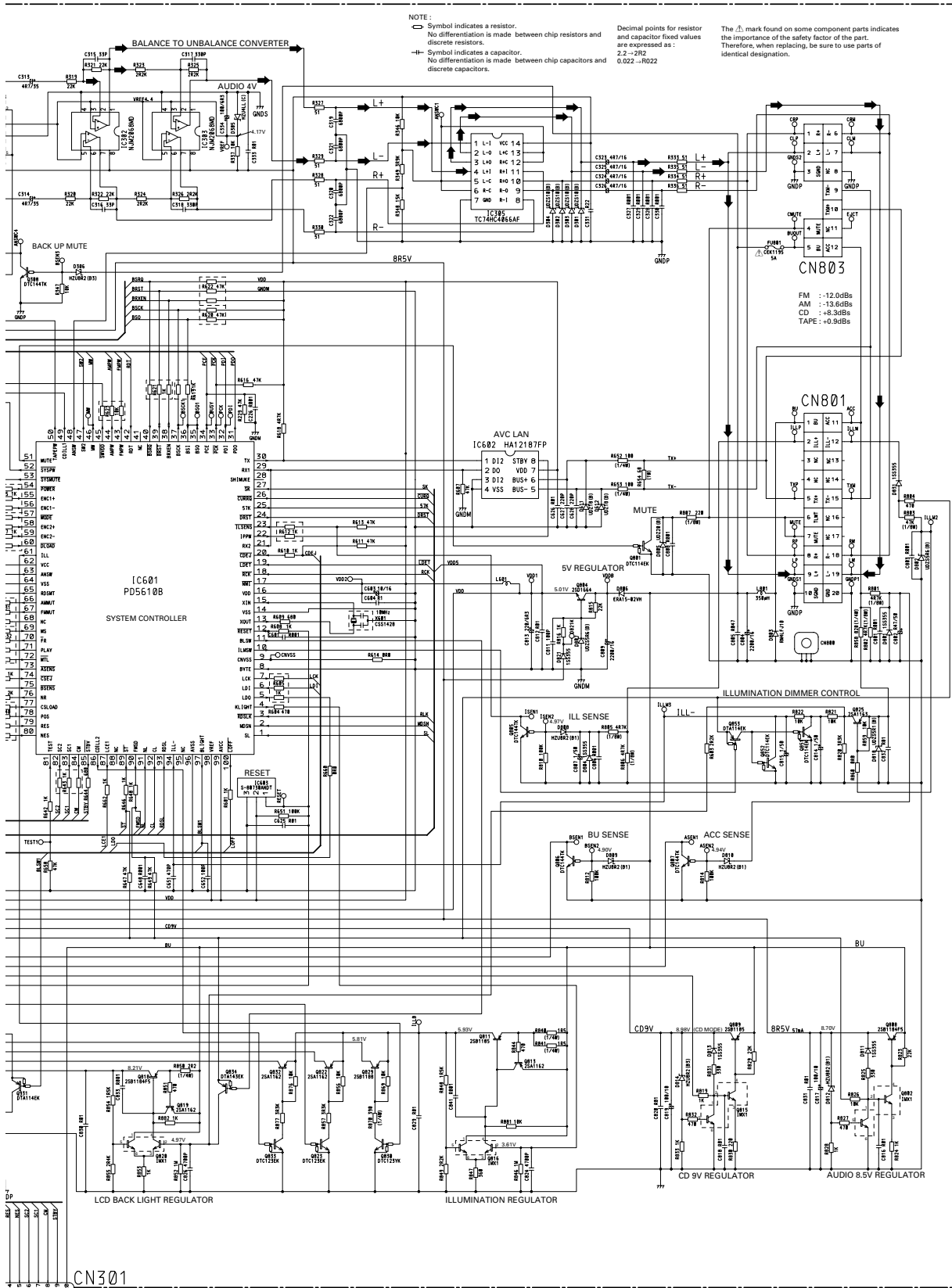


#### A MAIN UNIT





# A-b



NOTE:

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

Decimal points for resistor and capacitor fixed values are expressed as:  
 2.2 → 2R2  
 0.022 → 0022

The  $\Delta$  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 Ab

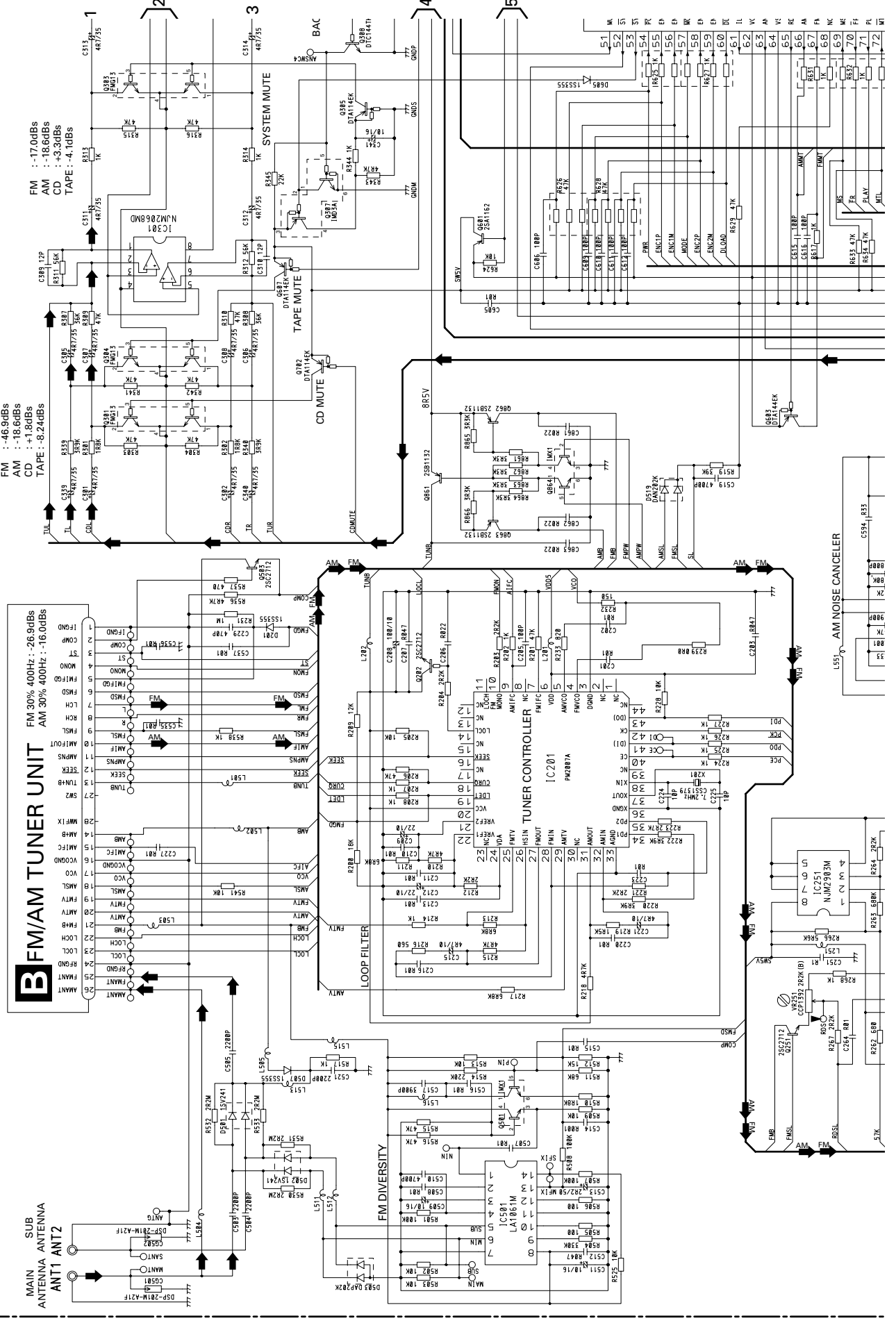
B

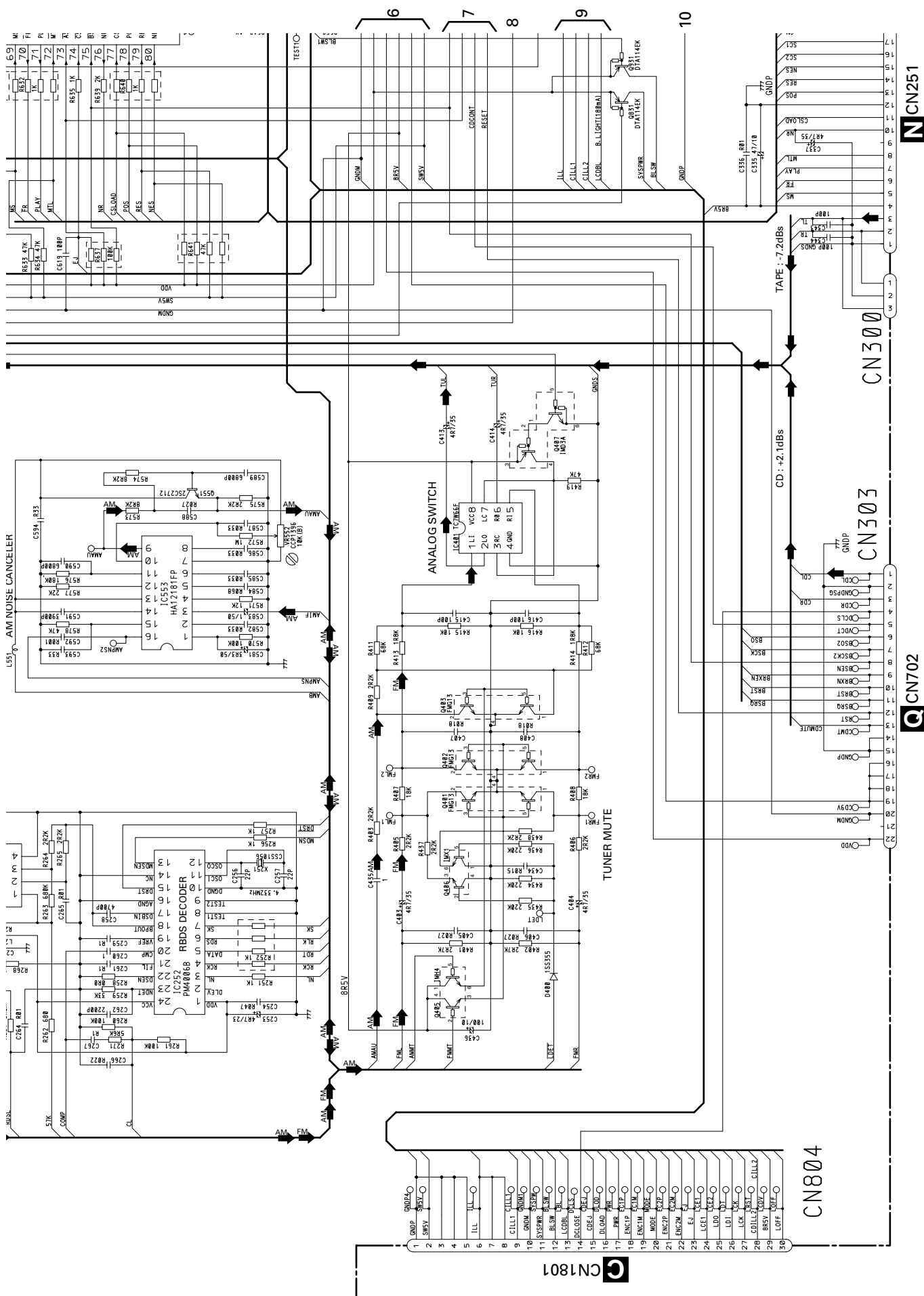
C

D

**A** MAIN UNIT

**A-a**





A-a A-b

N CN251

Q CN702

CN303

CN300

CN804

C CN1801

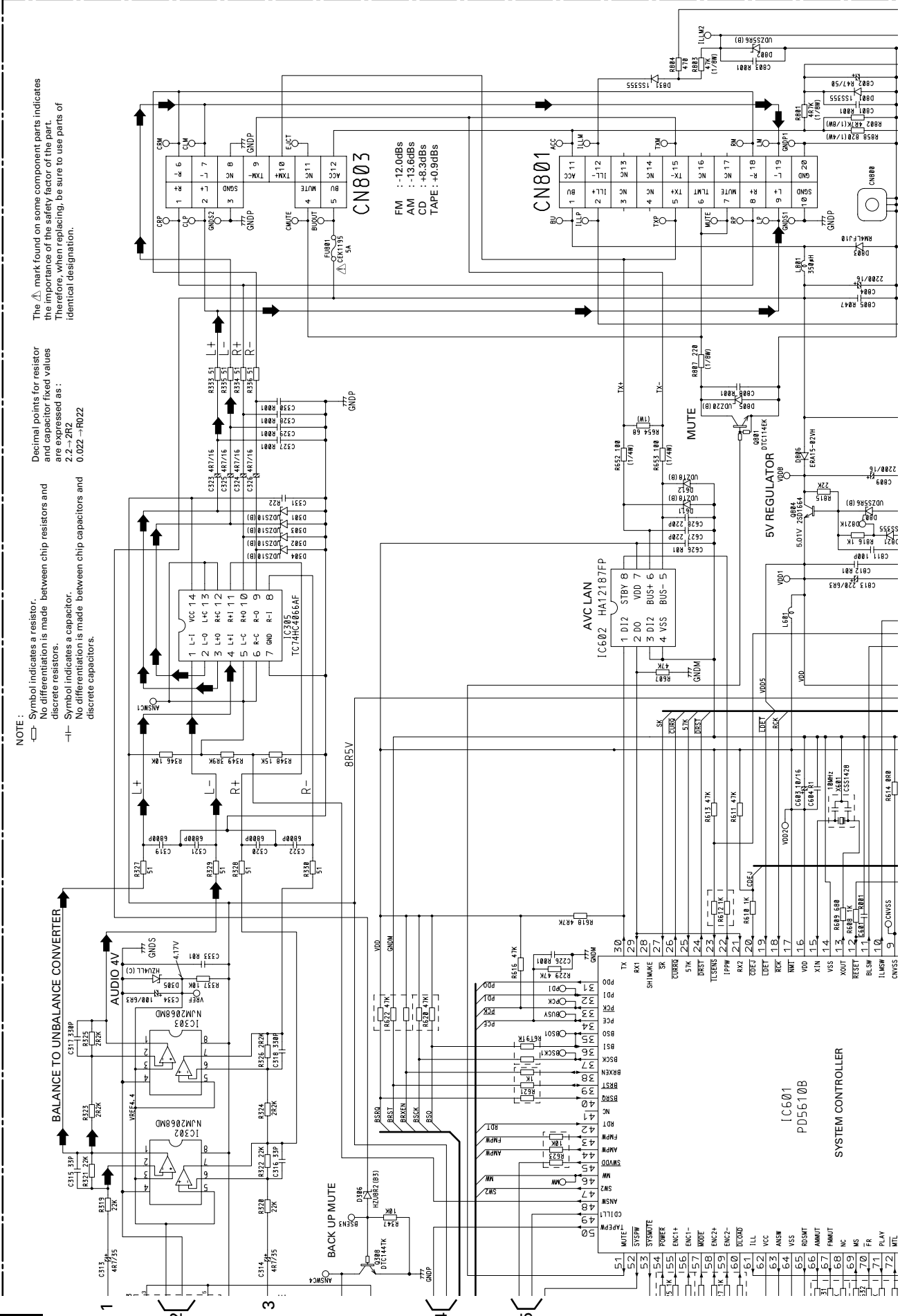
A-a

**NOTE :**

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

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

The  $\Delta$  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.

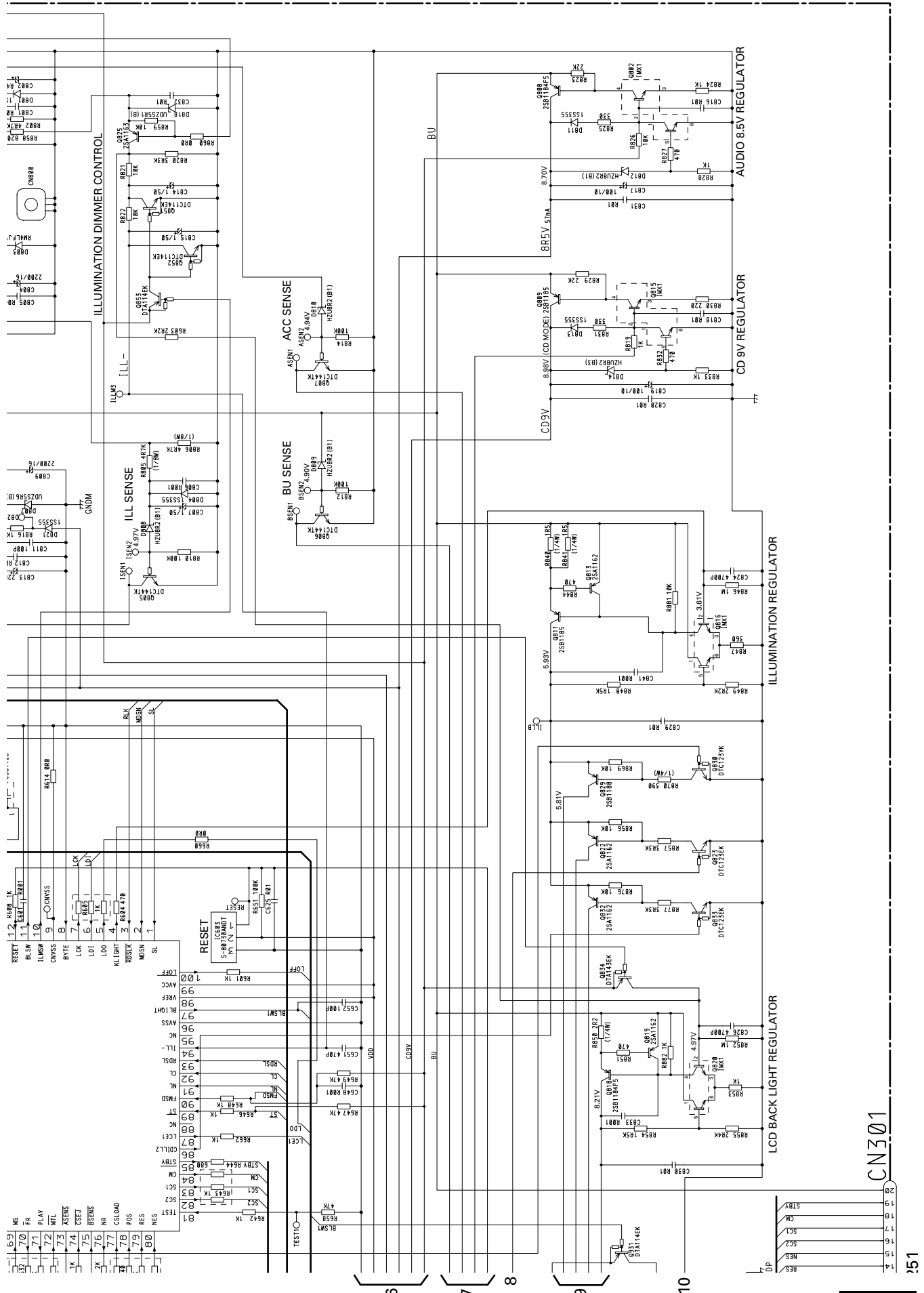


A

B

C

D



A-a A-b

A

B

C

D

CN301

151

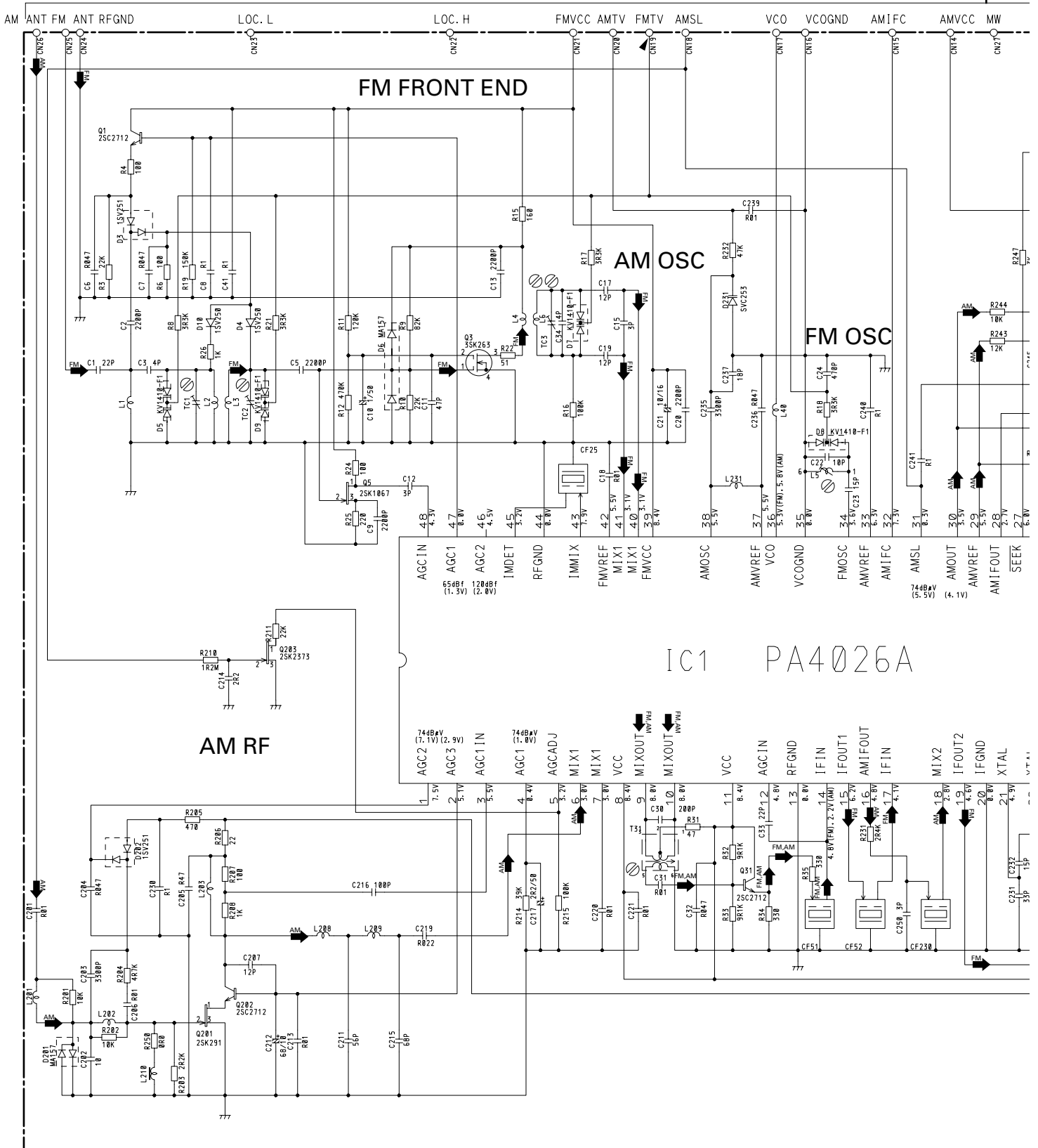
A-b

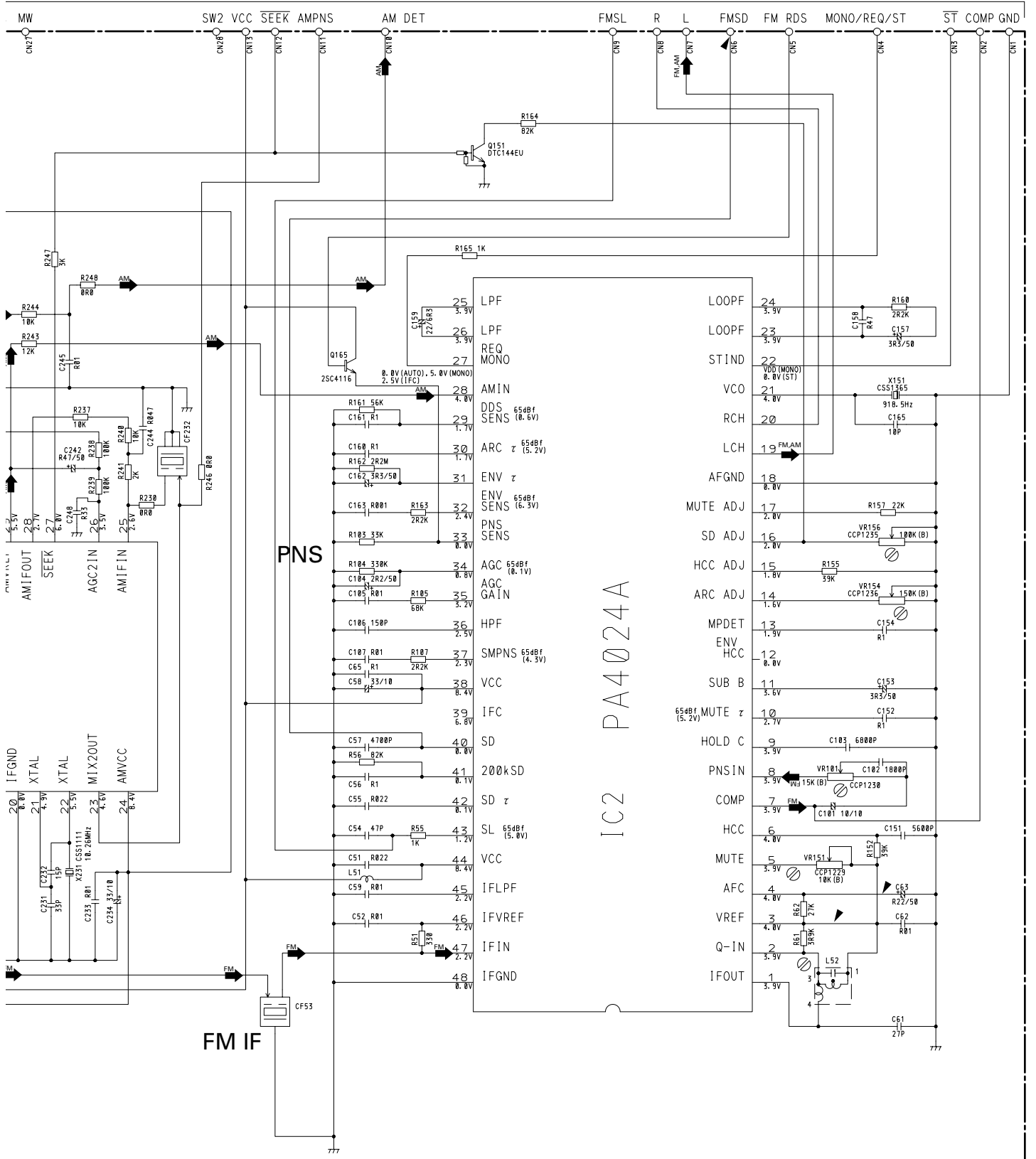
21

# FX-MG8517ZT, MG8817ZT

## 3.3 FM/AM TUNER UNIT

### B FM/AM TUNER UNIT





A

B

C

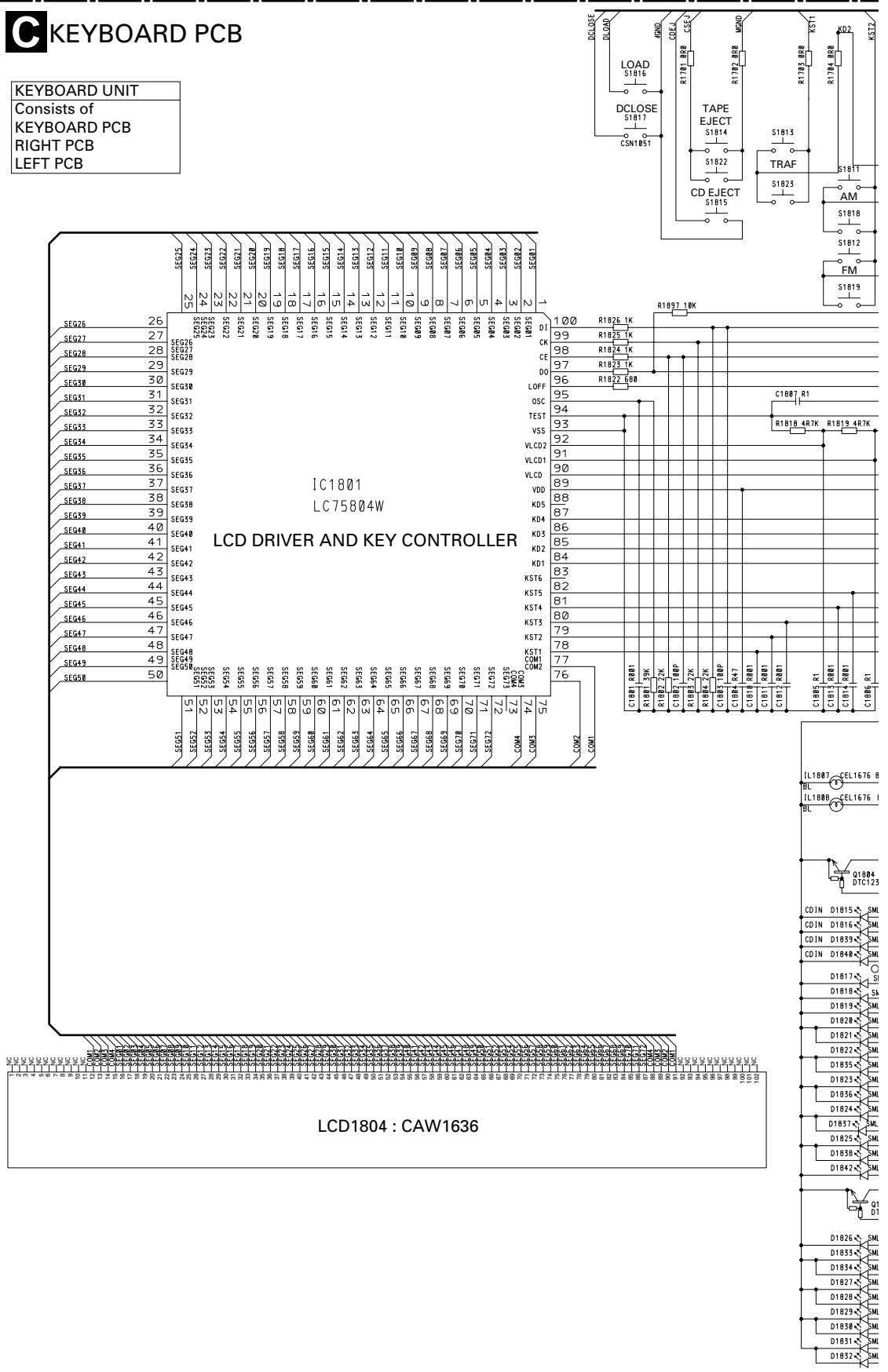
D



### 3.4 KEYBOARD UNIT

## **C** KEYBOARD PCB

**KEYBOARD UNIT**  
Consists of  
KEYBOARD PCB  
RIGHT PCB  
LEFT PCB

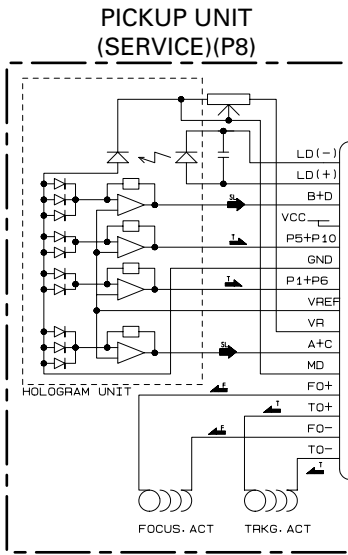




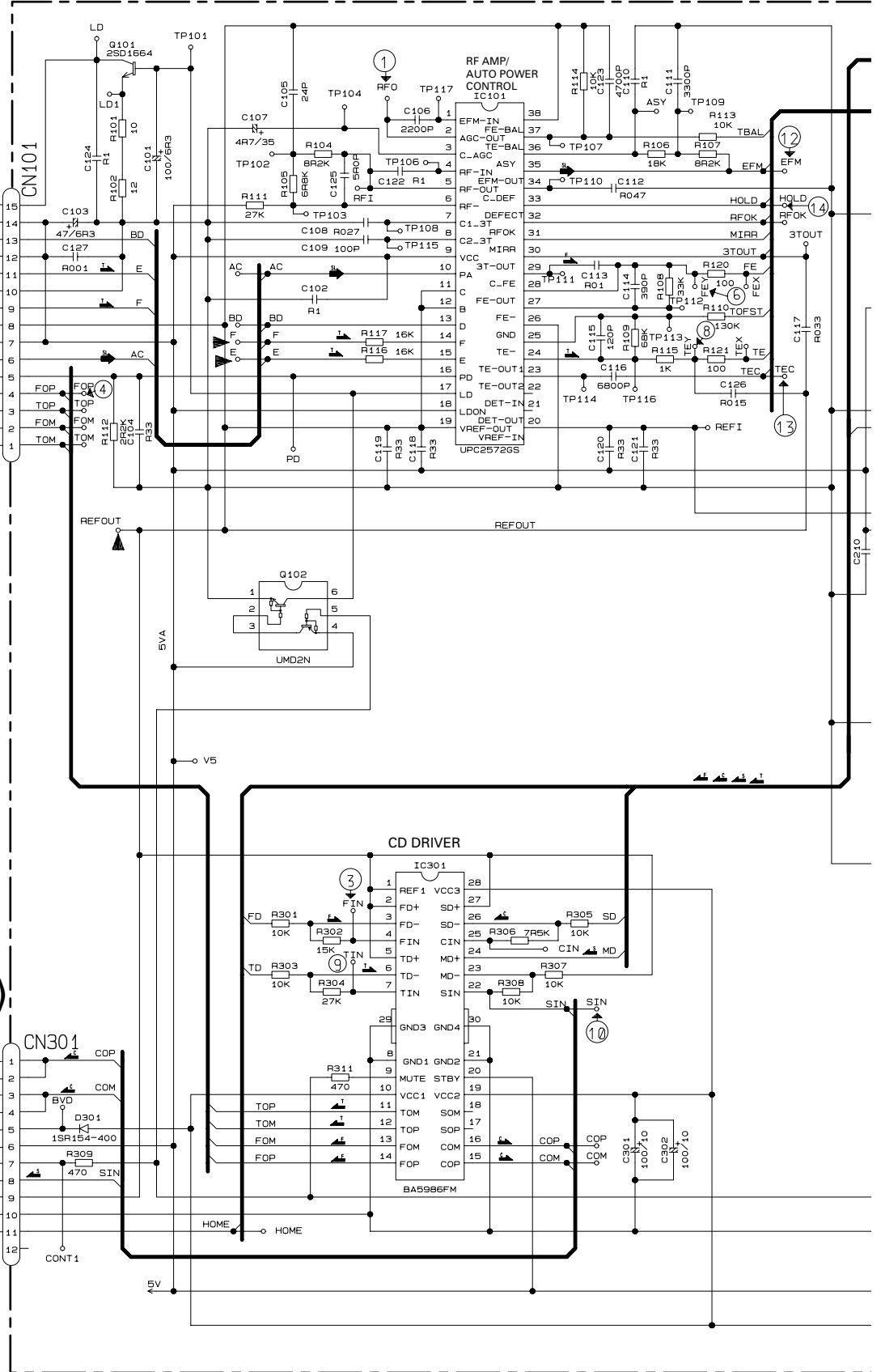


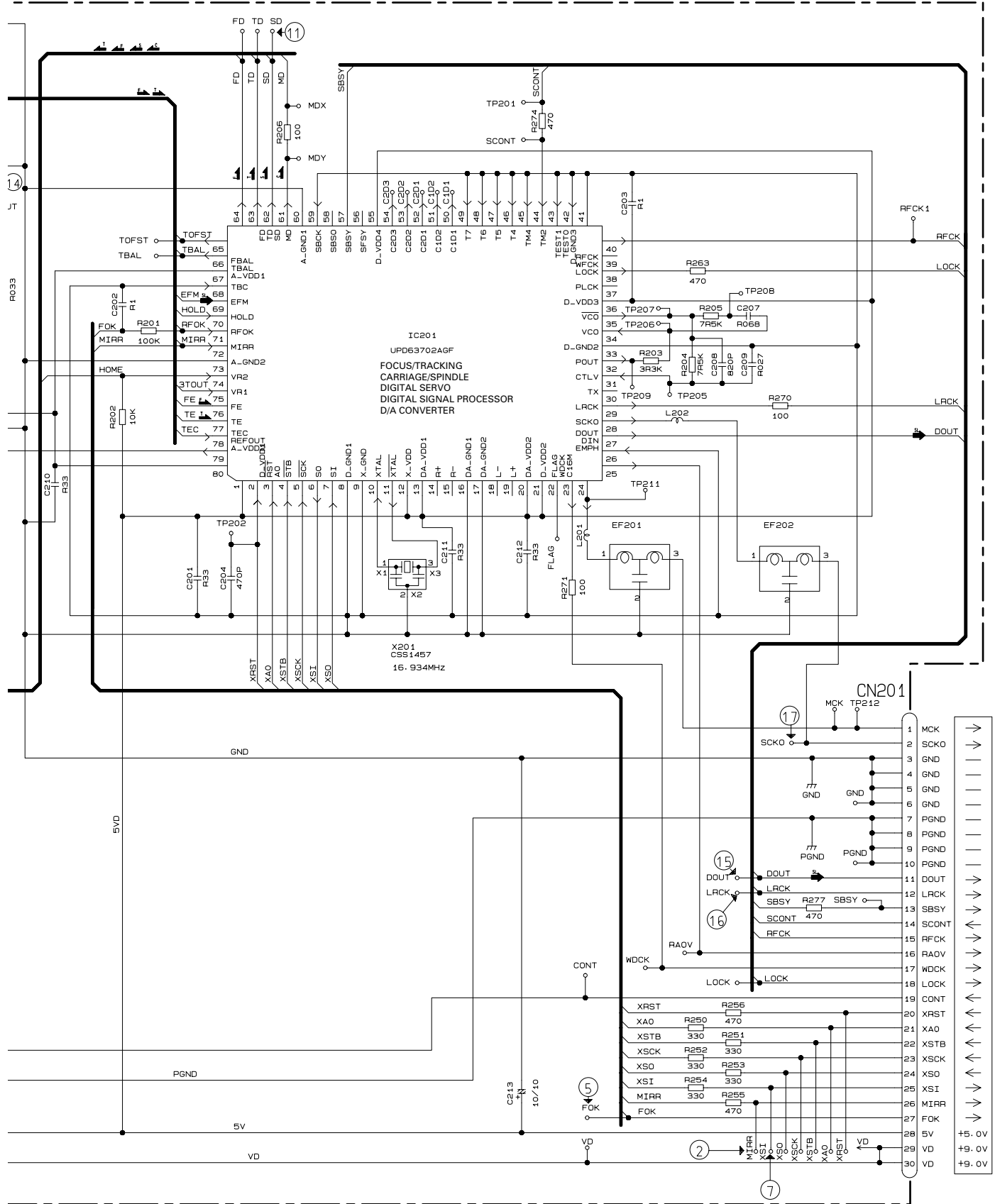
3.5 CD CORE UNIT(SERVO UNIT)

**E** CD CORE UNIT(SERVO UNIT)



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





A

B

C

D

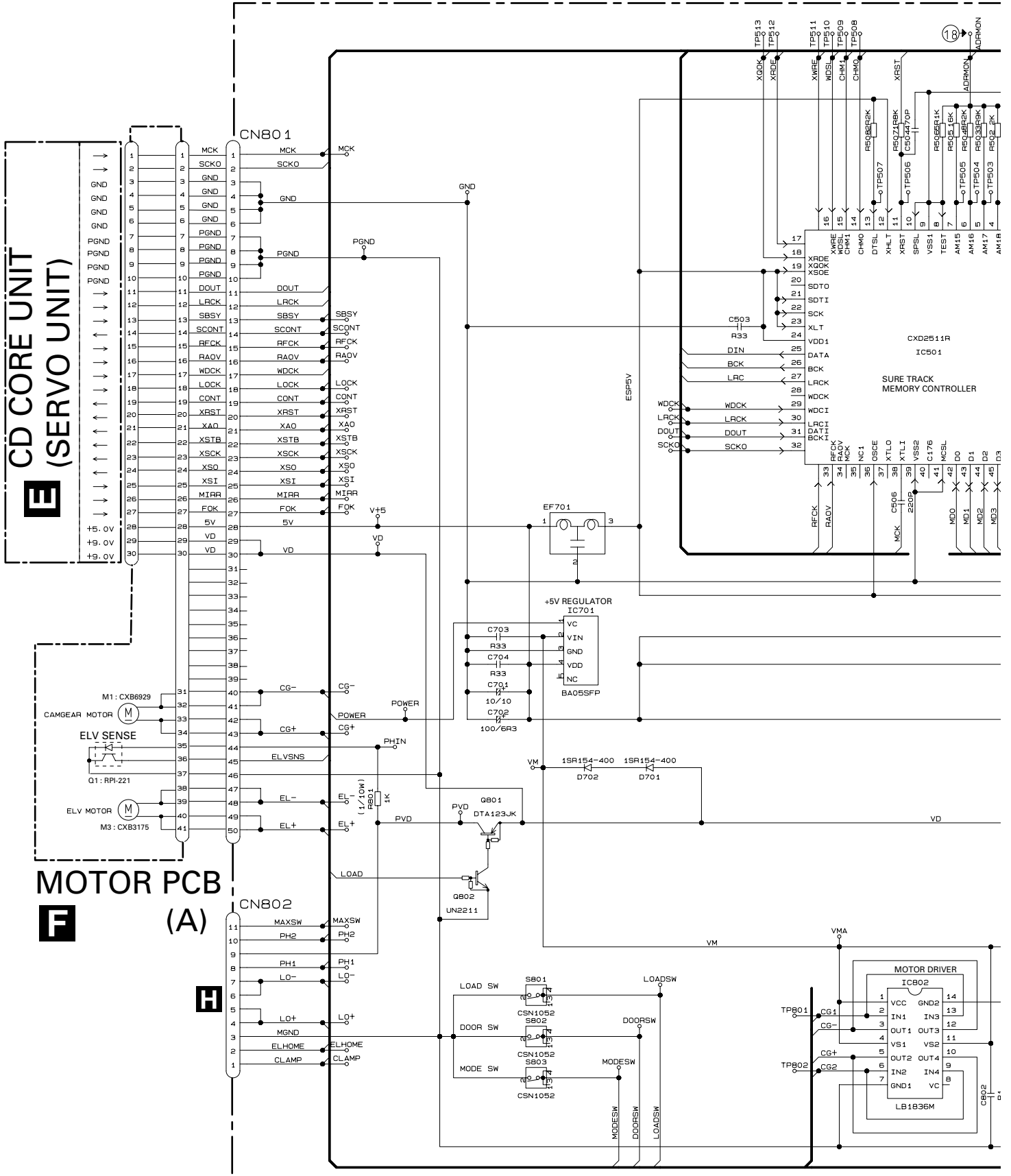
F

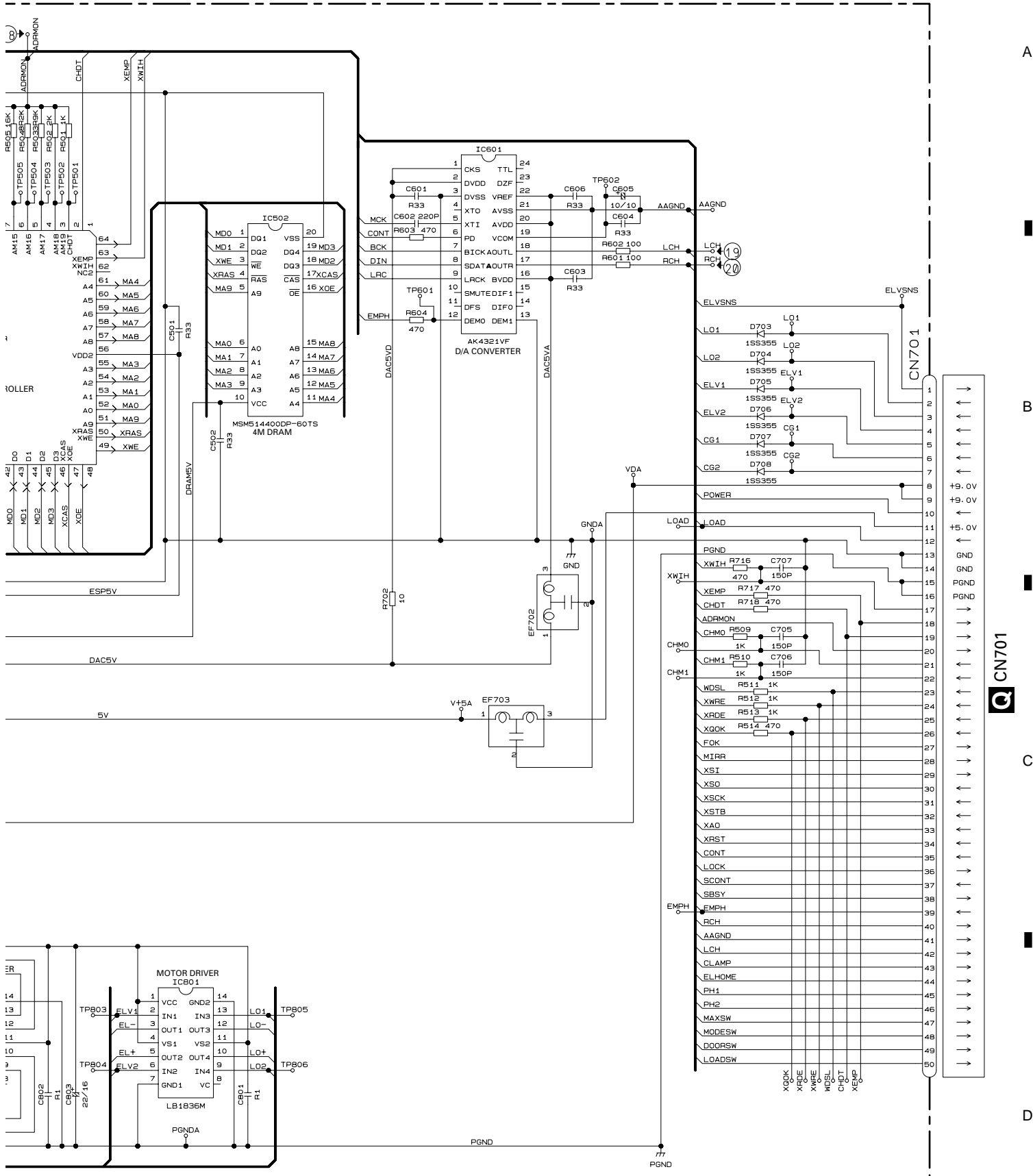


1 2 3 4

**FX-MG8517ZT, MG8817ZT**  
**3.6 CD CORE UNIT(STS UNIT)**

**G CD CORE UNIT(STS UNIT)**





A

B

C

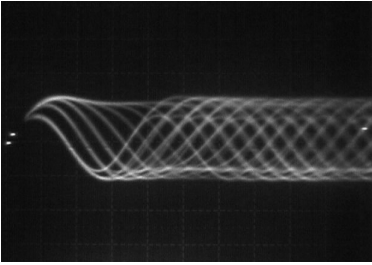
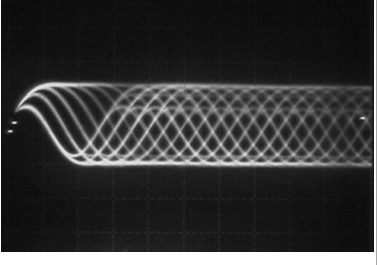
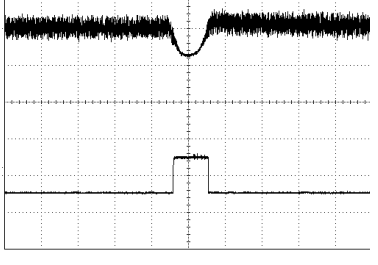
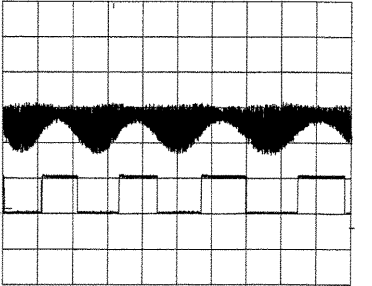
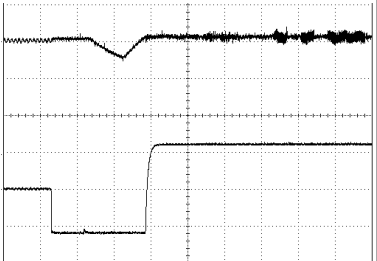
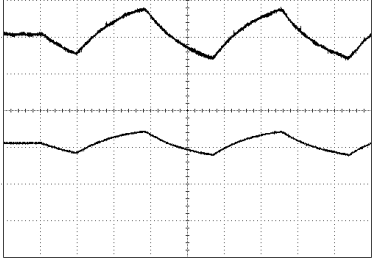
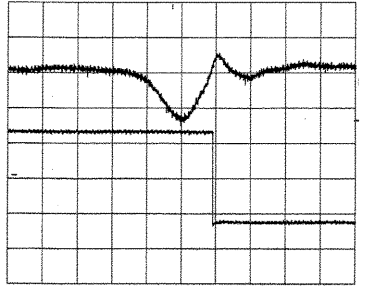
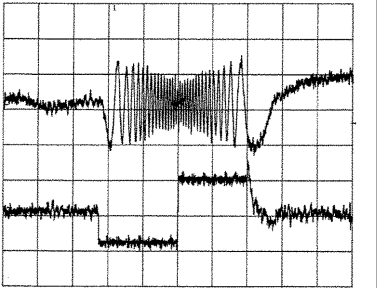
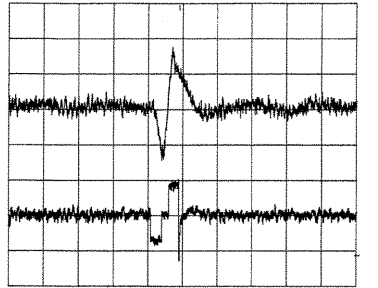
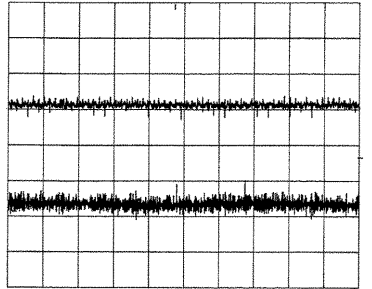
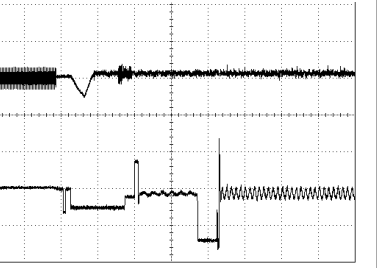
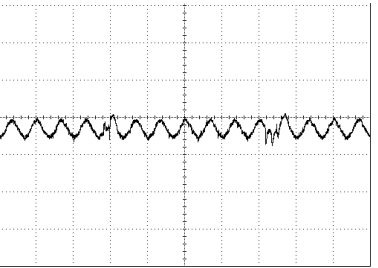
D

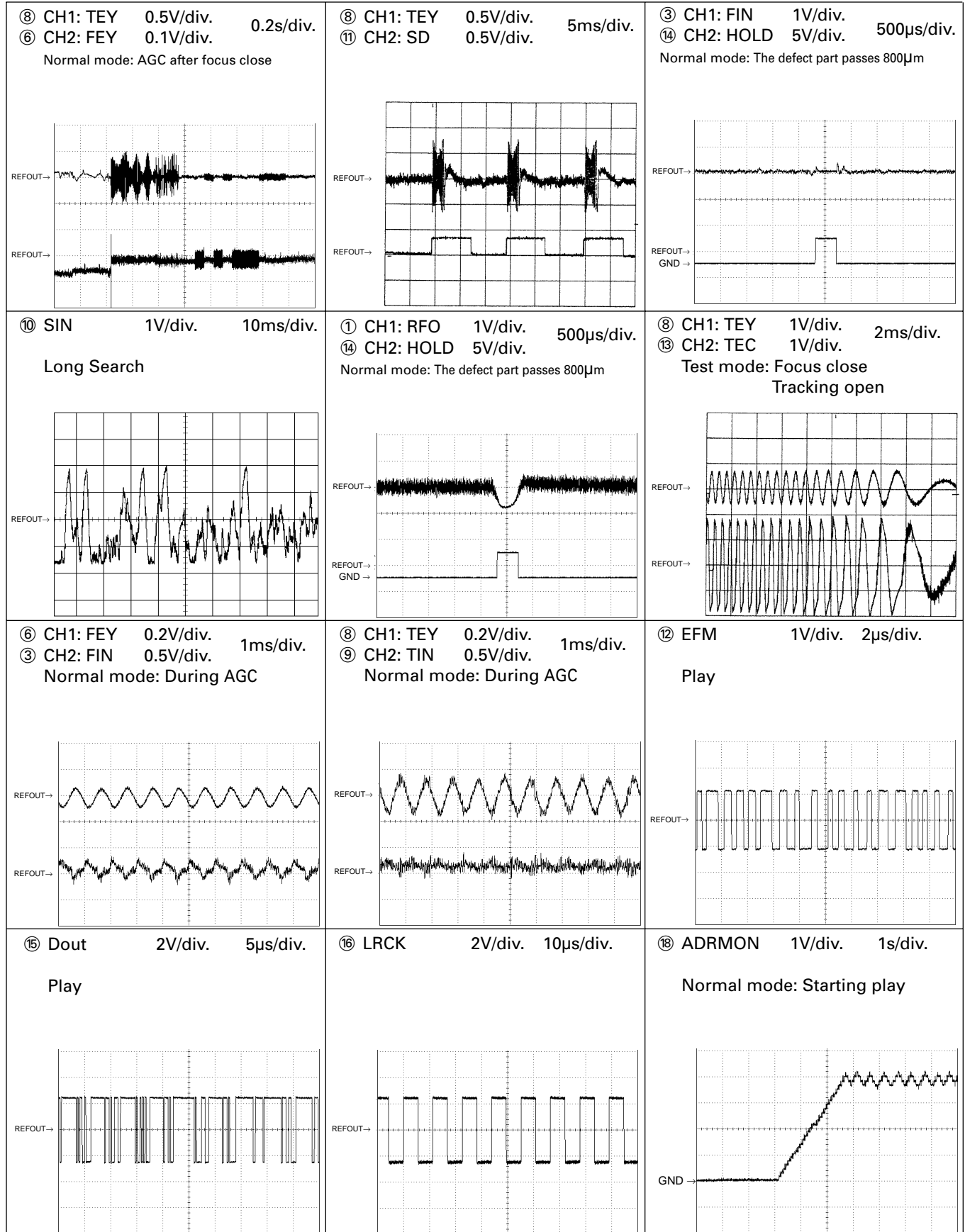
Q CN701

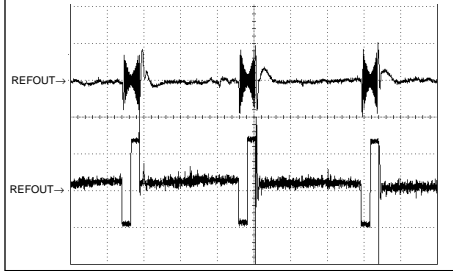
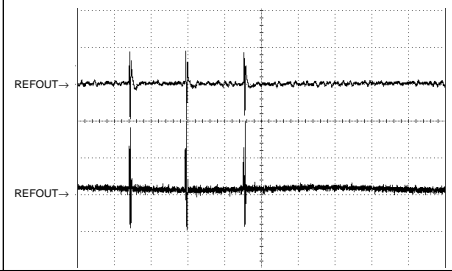
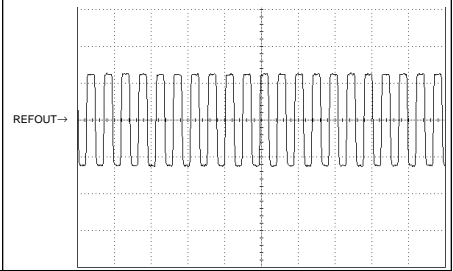
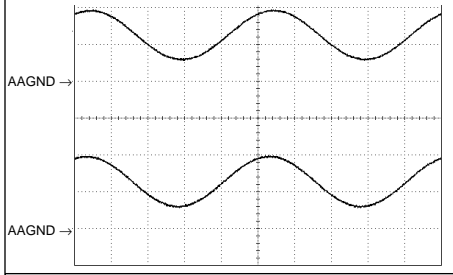


Note:1. The encircled numbers denote measuring pointes in the circuit diagram.  
 2. Reference voltage  
 REFOUT:2.5V

● **Waveforms**

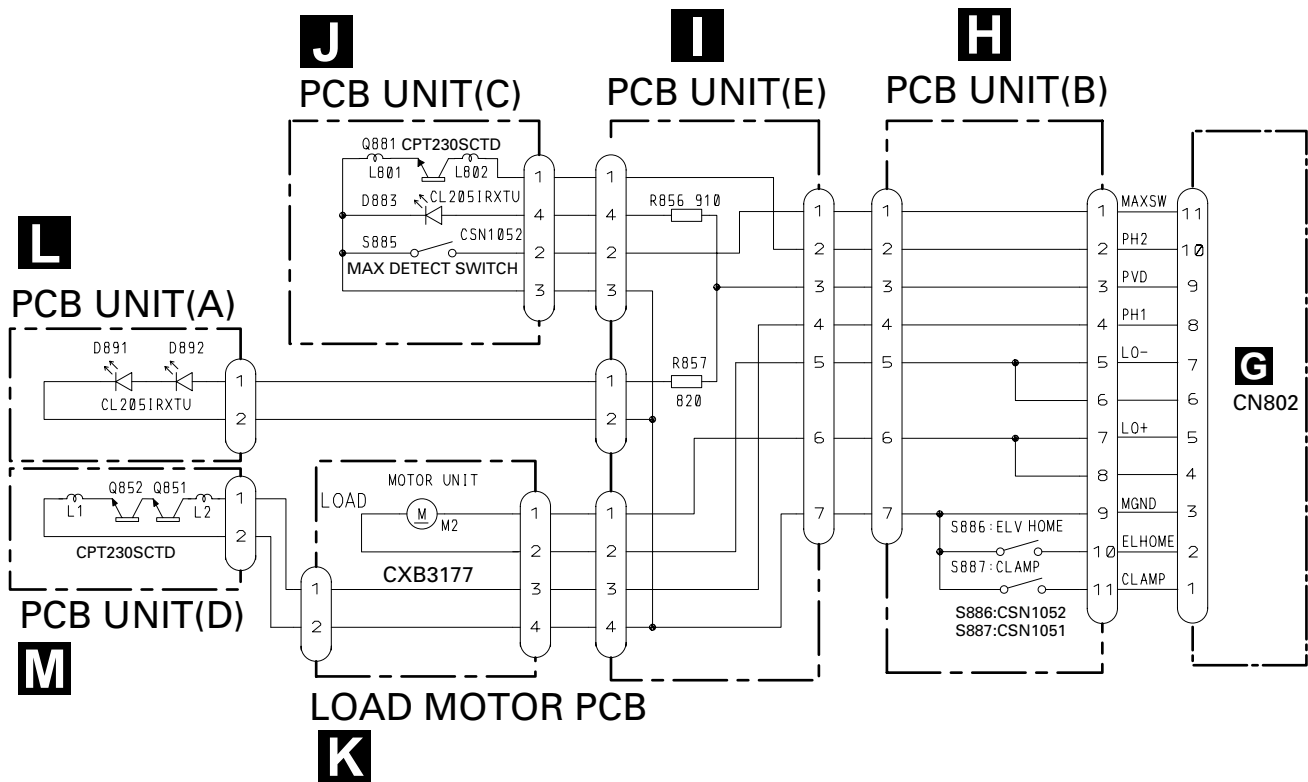
<p>① RFO 0.5V/div. 0.2μs/div. Normal mode: play</p> 	<p>① RFO 0.5V/div. 0.5μs/div. Test mode</p> 	<p>① CH1: RFO 1V/div. 0.5ms/div. ② CH2: MIRR 5V/div. Normal mode: The defect part passes 500μs/div.</p> 
<p>① CH1: RFO 1V/div. 0.5ms/div. ② CH2: MIRR 5V/div. Test mode: Tracking open</p> 	<p>③ CH1: FIN 0.5V/div. 0.2s/div. ⑤ CH2: FOK 2V/div. Normal mode: Focus close</p> 	<p>③ CH1: FIN 0.5V/div. 0.2s/div. ④ CH2: FOP 2V/div. Test mode: No disc, Focus close</p> 
<p>⑥ CH1: FEY 0.5V/div. 1ms/div. ⑦ CH2: XSI 2V/div. Normal mode: Focus close</p> 	<p>⑧ CH1: TEY 0.5V/div. 0.5ms/div. ⑨ CH2: TIN 0.5V/div. Test mode: 32 tracks jump (FWD)</p> 	<p>⑧ CH1: TEY 0.5V/div. 0.5ms/div. ⑨ CH2: TIN 0.5V/div. Test mode: Single jump (FWD)</p> 
<p>⑥ CH1: FEY 0.1V/div. 20ms/div. ③ CH2: FIN 0.2V/div. Normal mode: Play</p> 	<p>③ CH1: FIN 0.5V/div. 0.5s/div. ⑩ CH2: SIN 1V/div. Normal mode: Focus close</p> 	<p>⑩ SIN 0.5V/div. 0.1s/div. Normal mode: Play</p> 



<p>⑧ CH1: TEY 0.5V/div. 5ms/div.          ⑨ CH2: TIN 0.5V/div.          Test mode: 100 tracks jump(FWD)</p> 	<p>⑧ CH1: TEY 0.5V/div. 10ms/div.          ⑨ CH2: TIN 0.5V/div.          Normal mode: Play</p> 	<p>⑰ SCKO 2V/div. 500ns/div.          Play</p> 
<p>⑳ CH1: RCH 2V/div. 200μs/div.          ⑲ CH2: LCH 2V/div.          Normal mode: PLAY (0dB, 1kHz)</p> 		

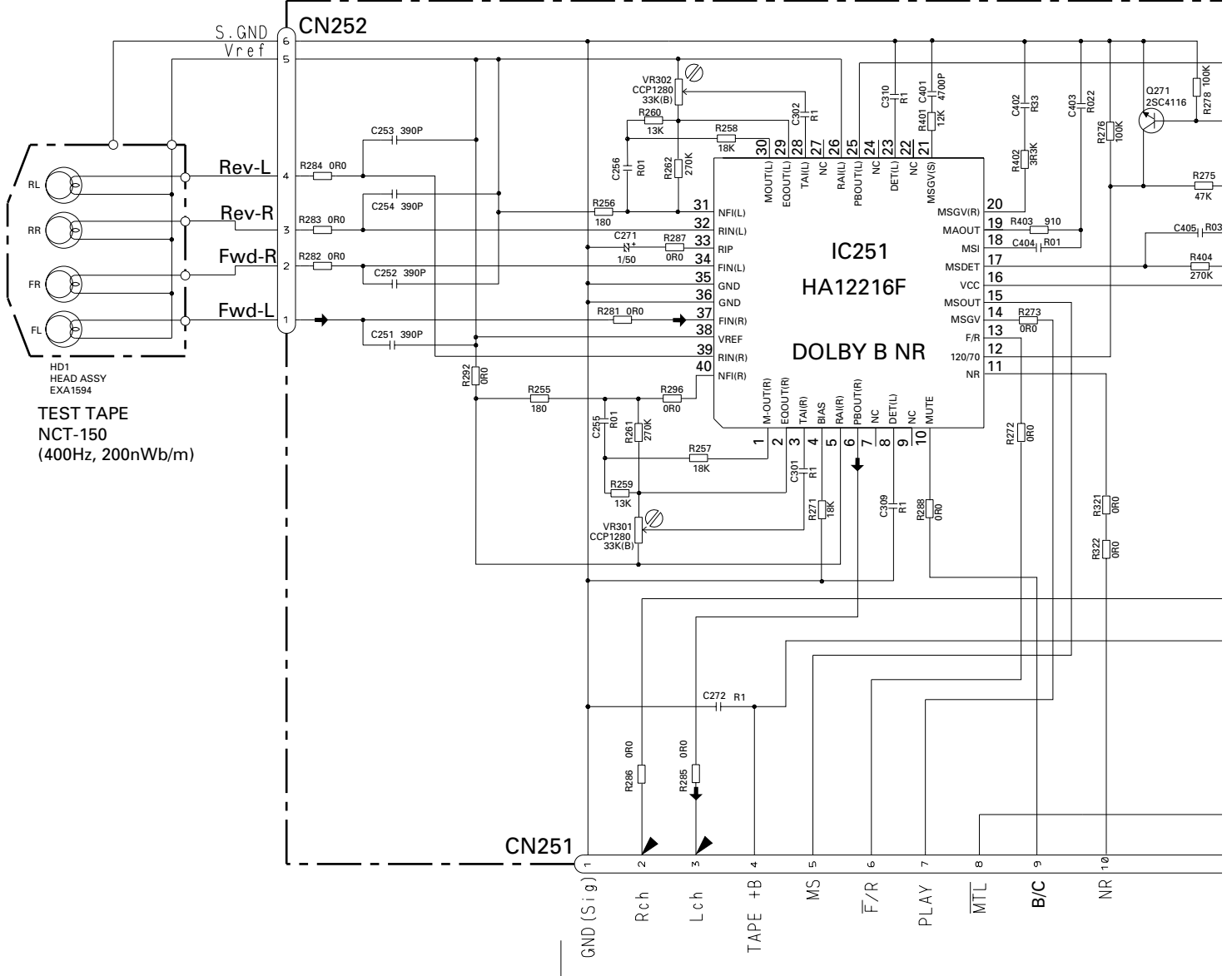


### 3.7 PCB UNIT(A,B,C,D,E), LOAD MOTOR PCB



### 3.8 CASSETTE MECHANISM MODULE

## N DECK UNIT



-8.24dBs(300mV)±1dB

**A** CN301

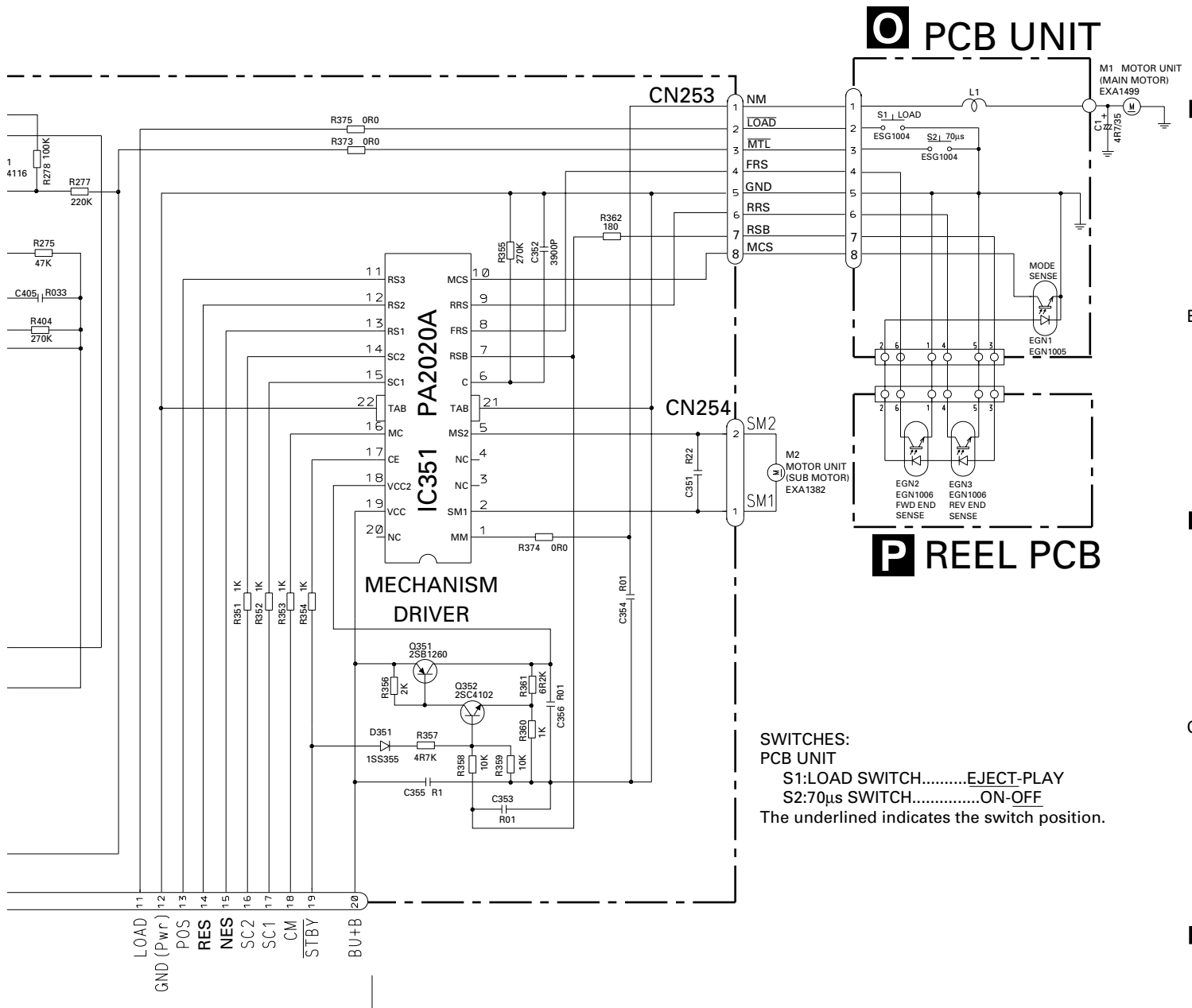


A

B

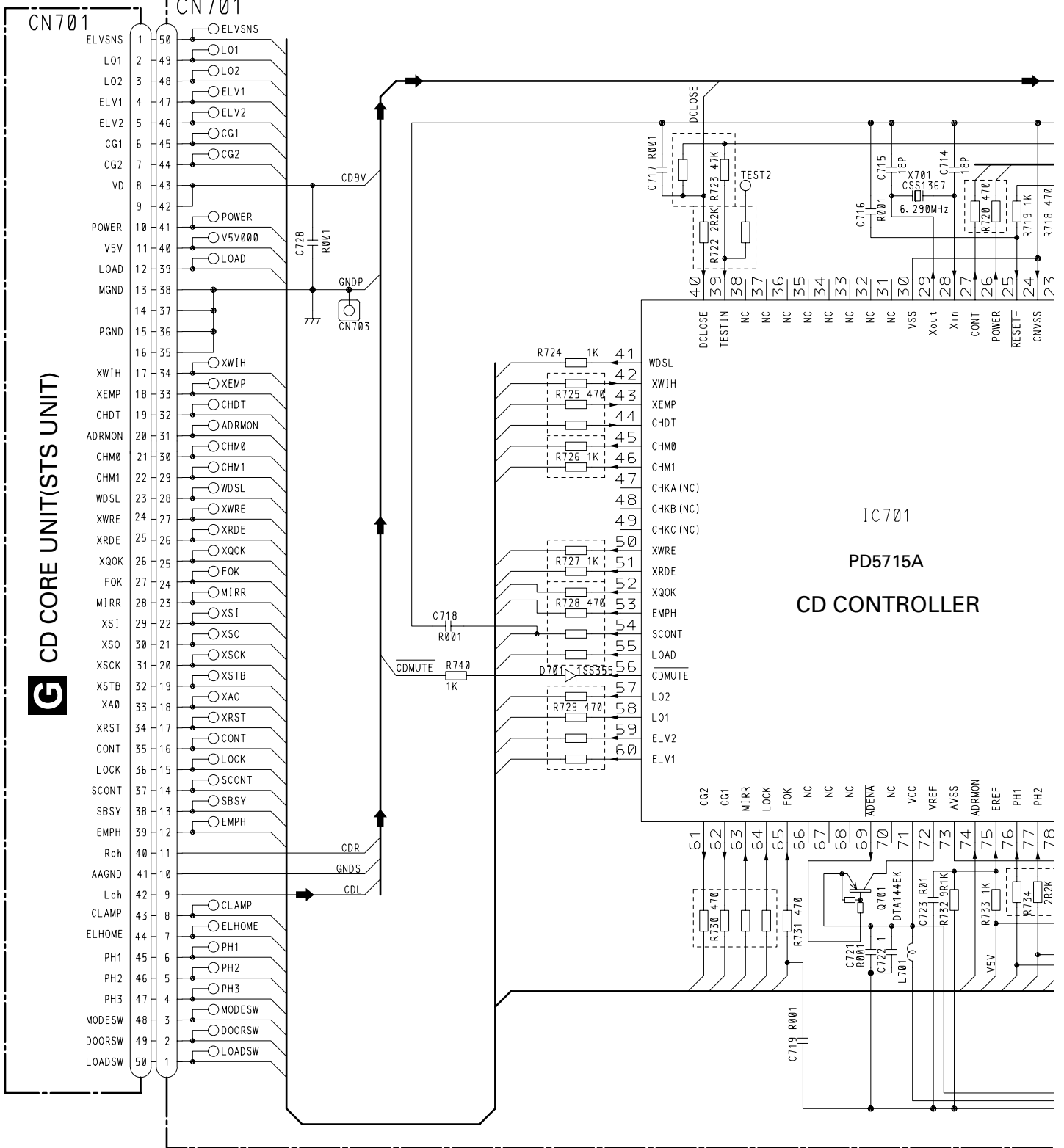
C

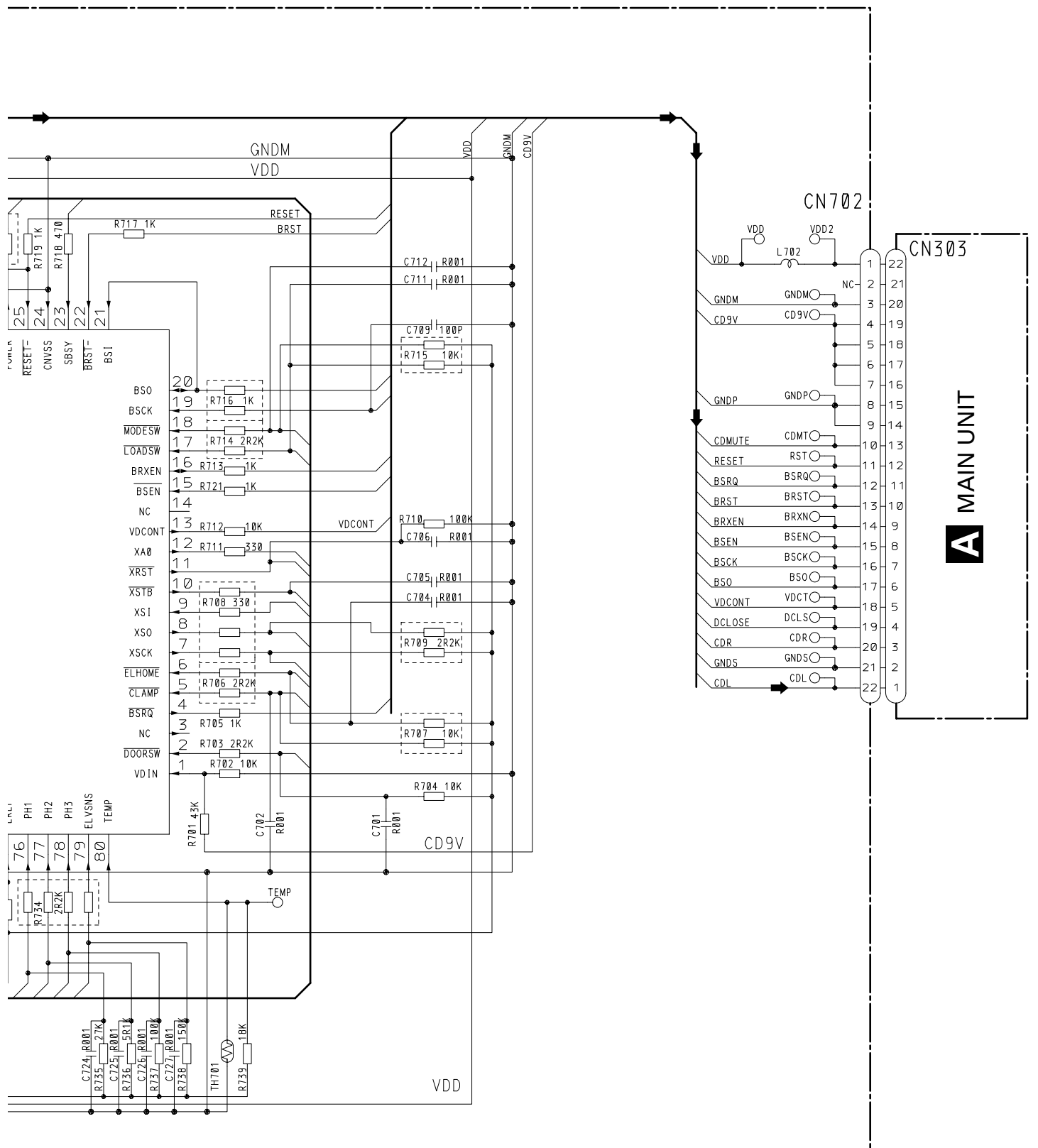
D



### 3.9 CONTROL UNIT

#### **Q** CONTROL UNIT





# 4. PCB CONNECTION DIAGRAM

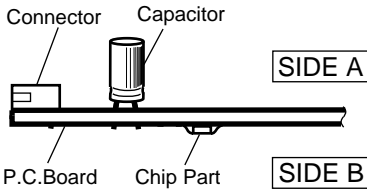
## 4.1 MAIN UNIT

### NOTE FOR PCB DIAGRAMS

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

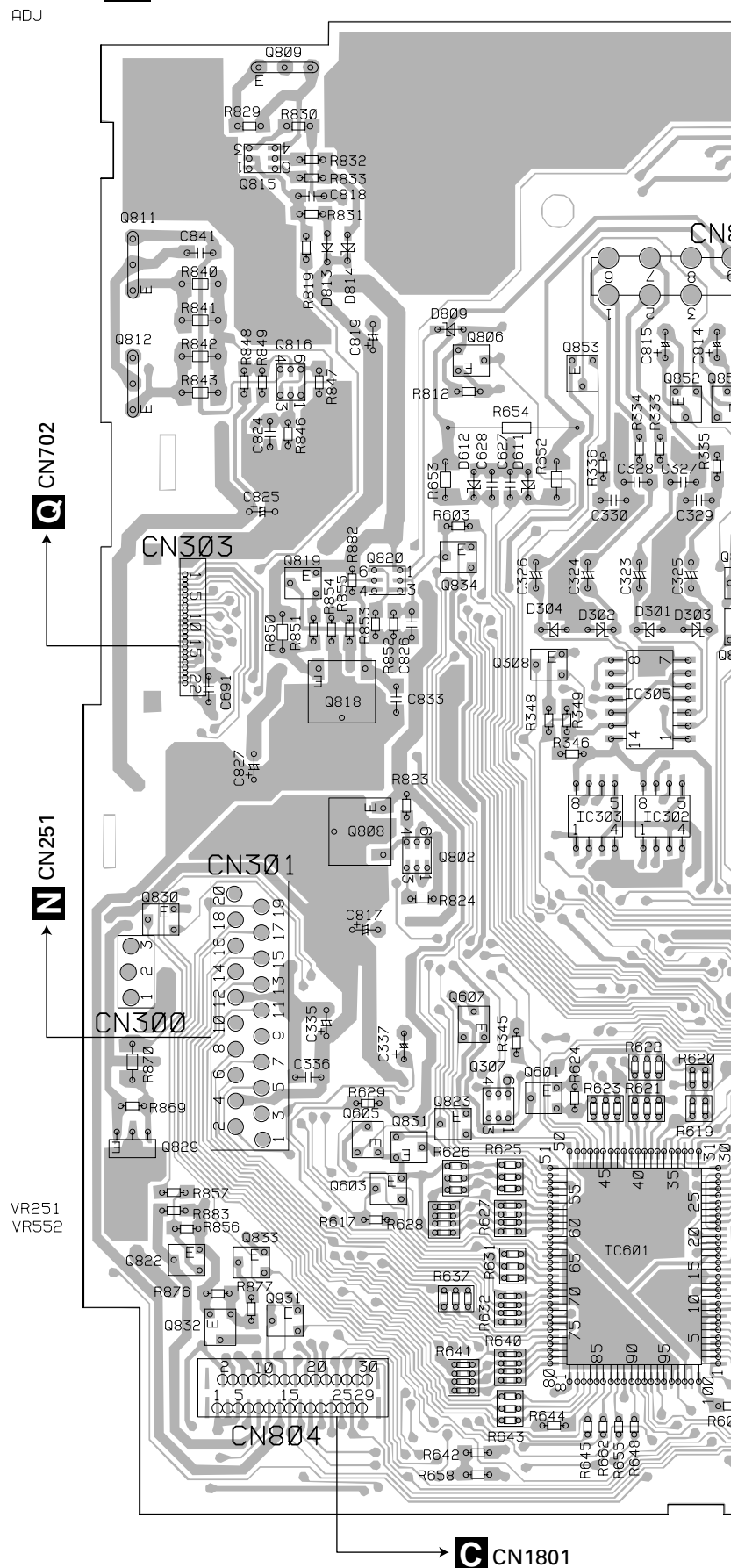
For further information for respective destinations, be sure to check with the schematic diagram.

### 2. Viewpoint of PCB diagrams

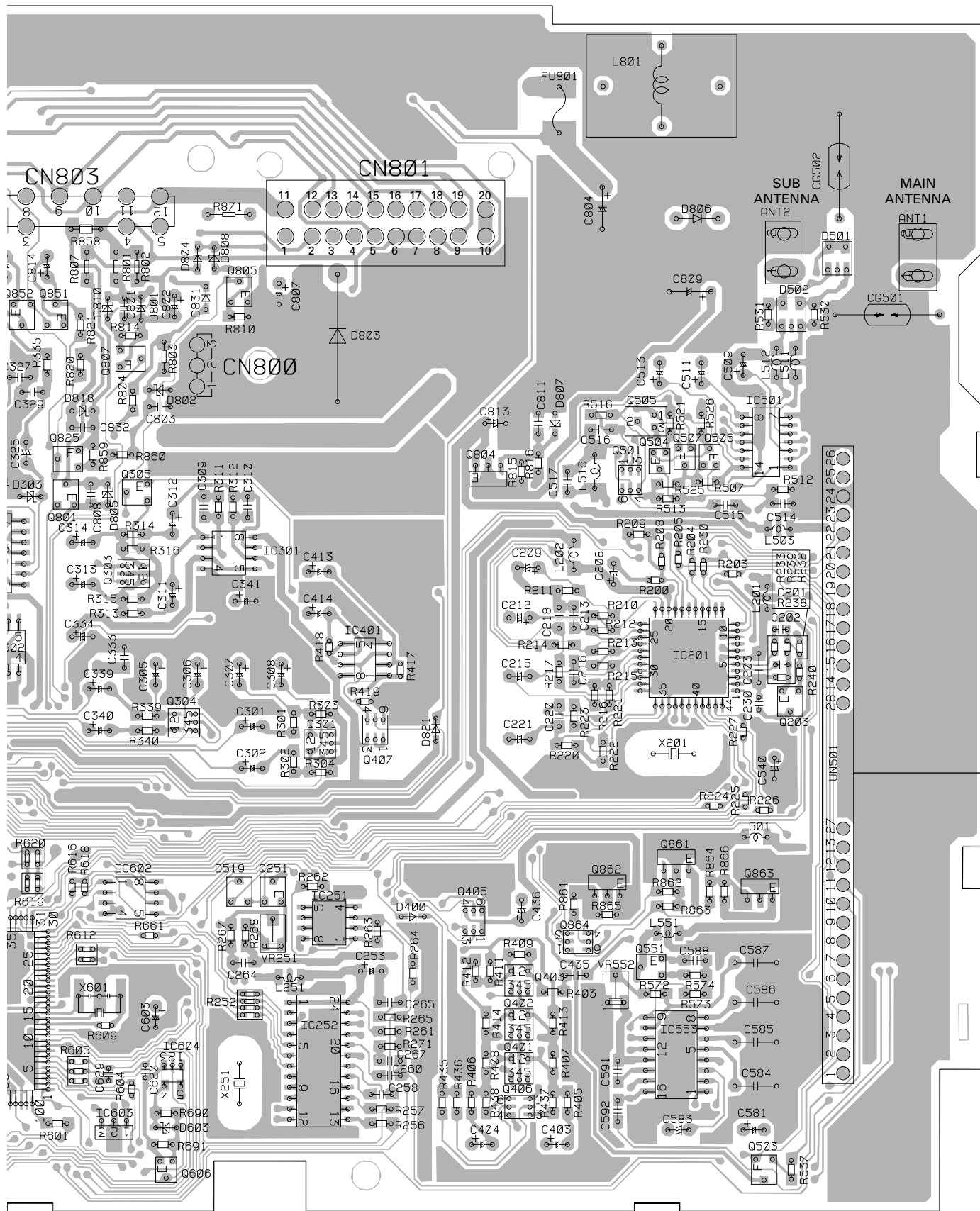


## A MAIN UNIT

IC. Q	ADJ
Q809	
Q815	
Q811	
Q806	
Q805	
Q812	
Q851	
Q807	
Q505	IC501
Q825	Q504
Q820	Q507
Q819	Q804
Q834	Q501
	Q305
Q308	Q801
IC305	IC301
	Q818
	Q303
IC401	
IC302	IC201
Q808	IC303
	Q802
	Q304
Q301	Q203
	Q830
Q407	
	Q607
	Q861
IC602	Q307
Q823	Q862
Q831	IC251
	Q405
	Q605
Q829	Q864
	Q603
	Q551
	Q403
	Q833
Q822	IC601
	Q402
	IC252
Q931	IC553
	Q401
	Q832
Q406	
IC603	
Q503	
Q606	



SIDE A



A

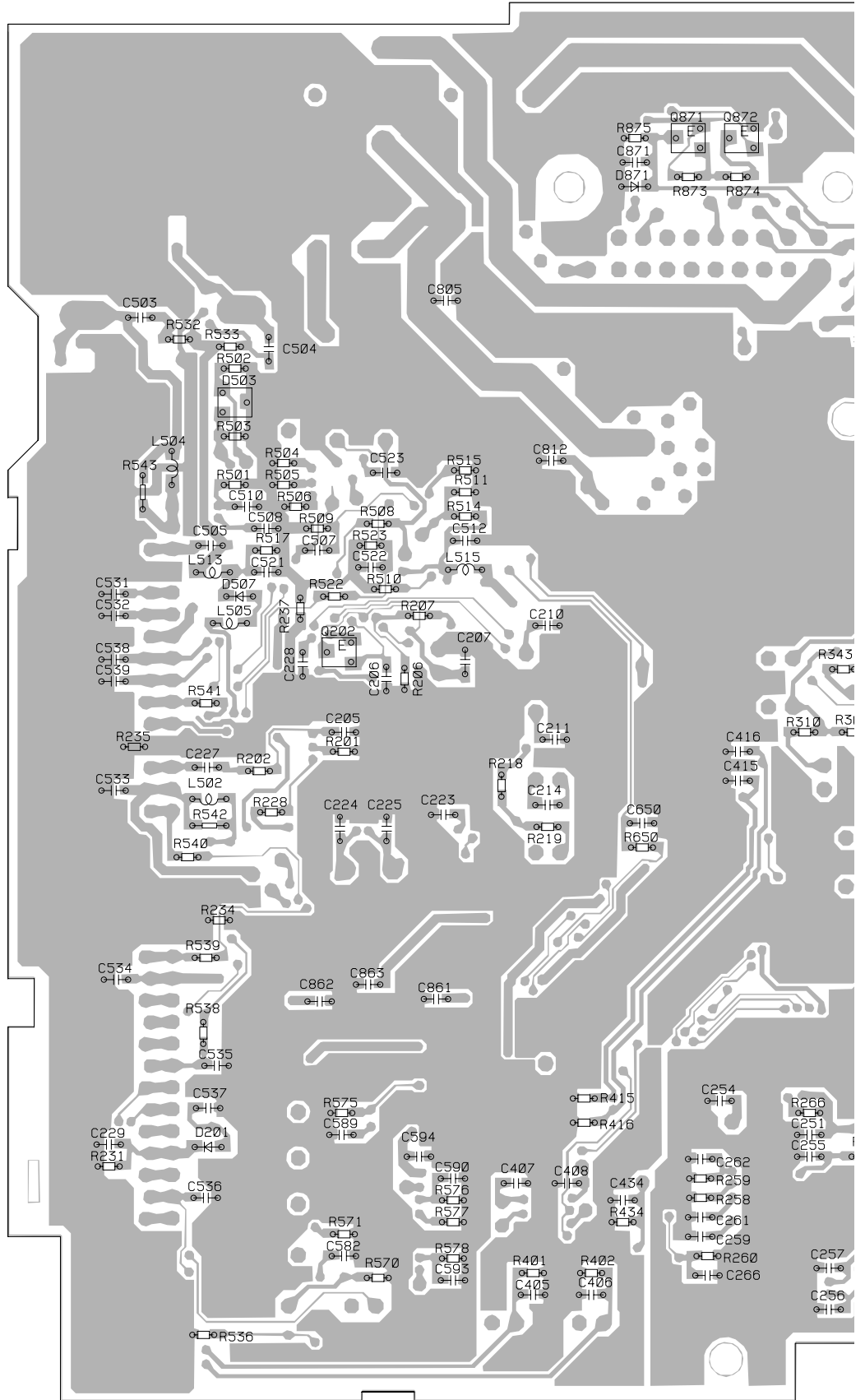
**A** MAIN UNIT

A

B

C

D



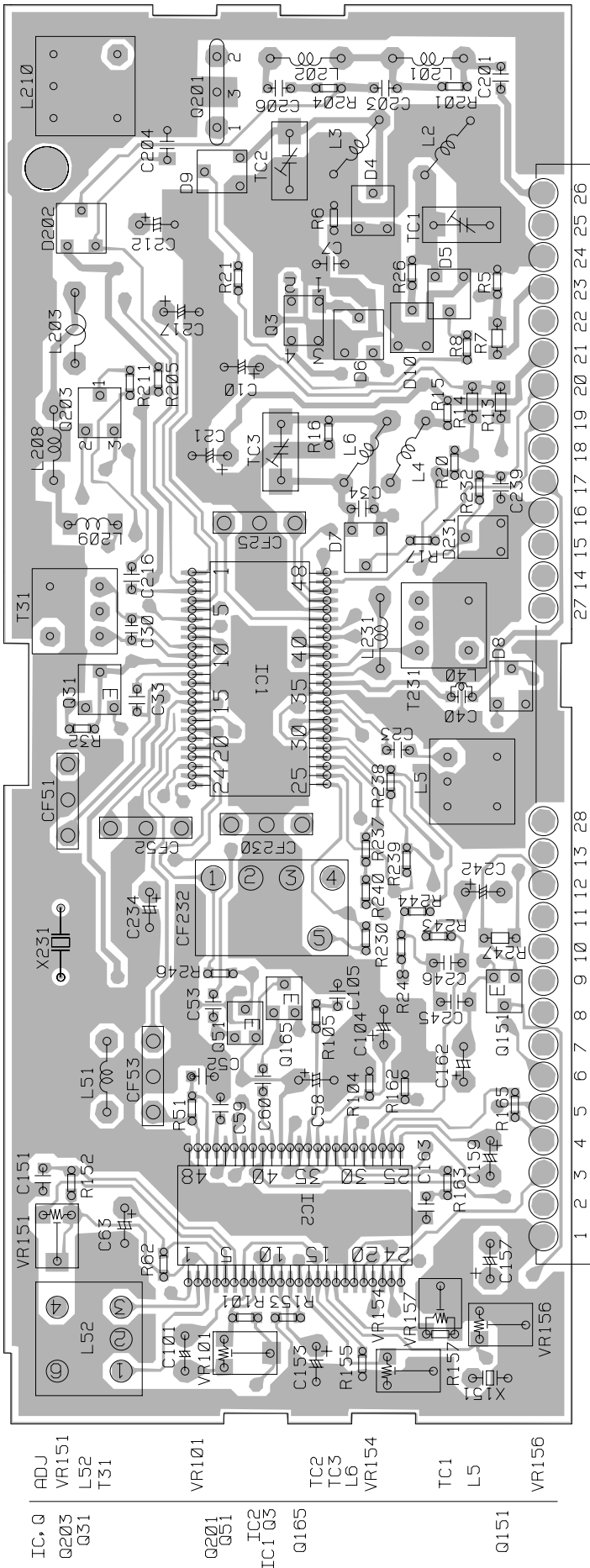




4.2 FM/AM TUNER UNIT

SIDE A

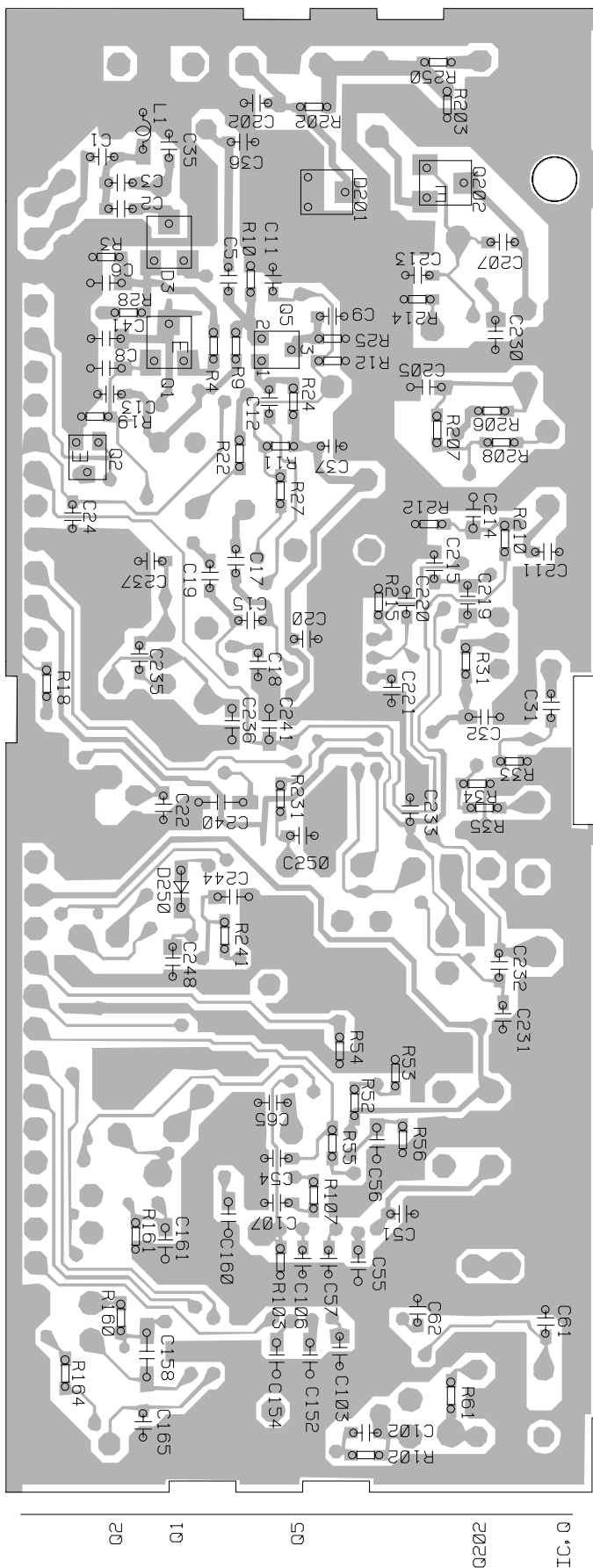
**B** FM/AM TUNER UNIT



- IC, Q
- Q205
- Q31
- Q201
- Q51
- IC1
- Q3
- Q165
- Q151
- VR151
- VR152
- L52
- T31
- VR101
- TC2
- TC3
- L6
- VR154
- TC1
- L5
- VR156



SIDE B

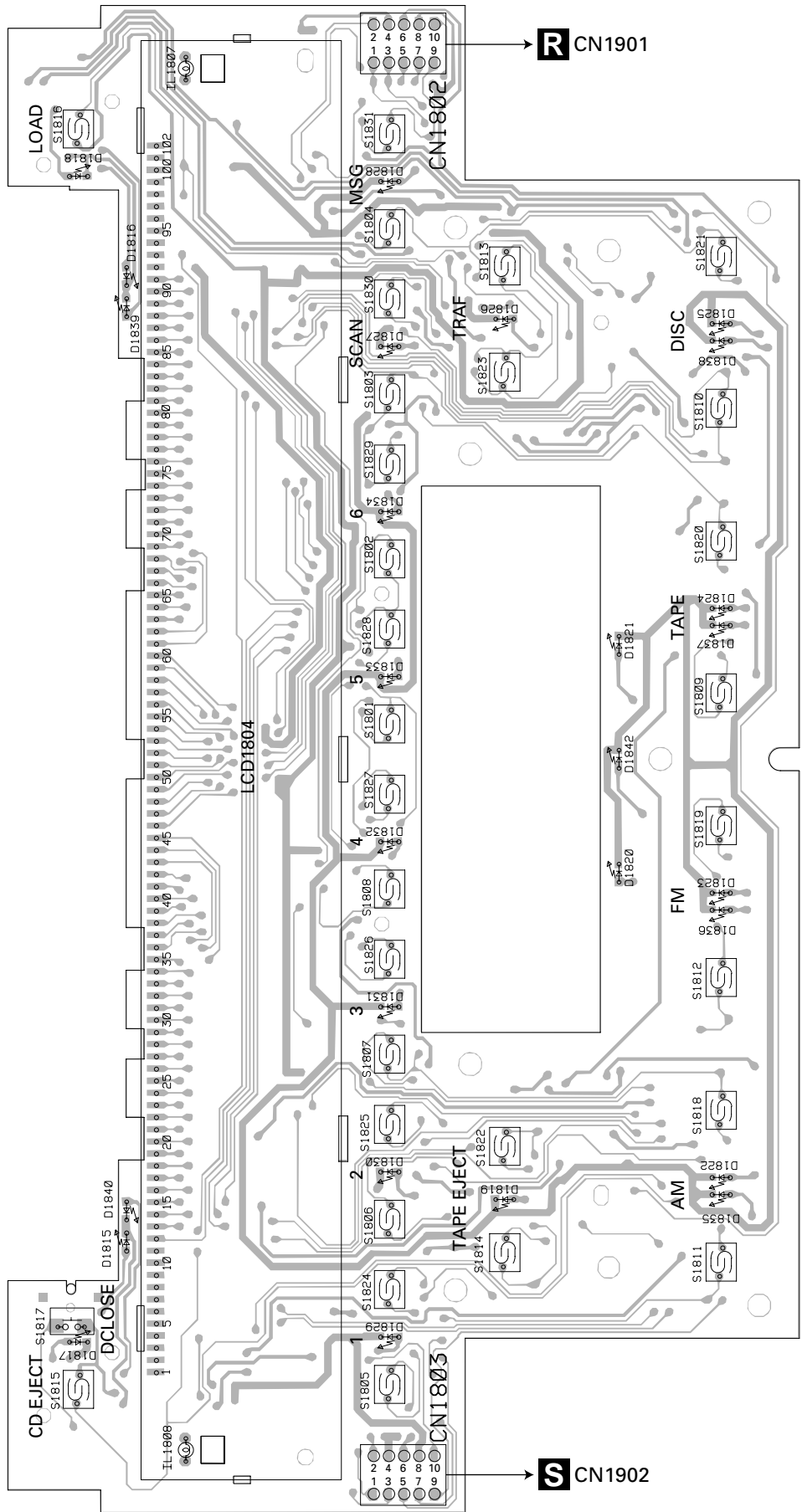


**B** FM/AM TUNER UNIT

**B**

4.3 KEYBOARD PCB

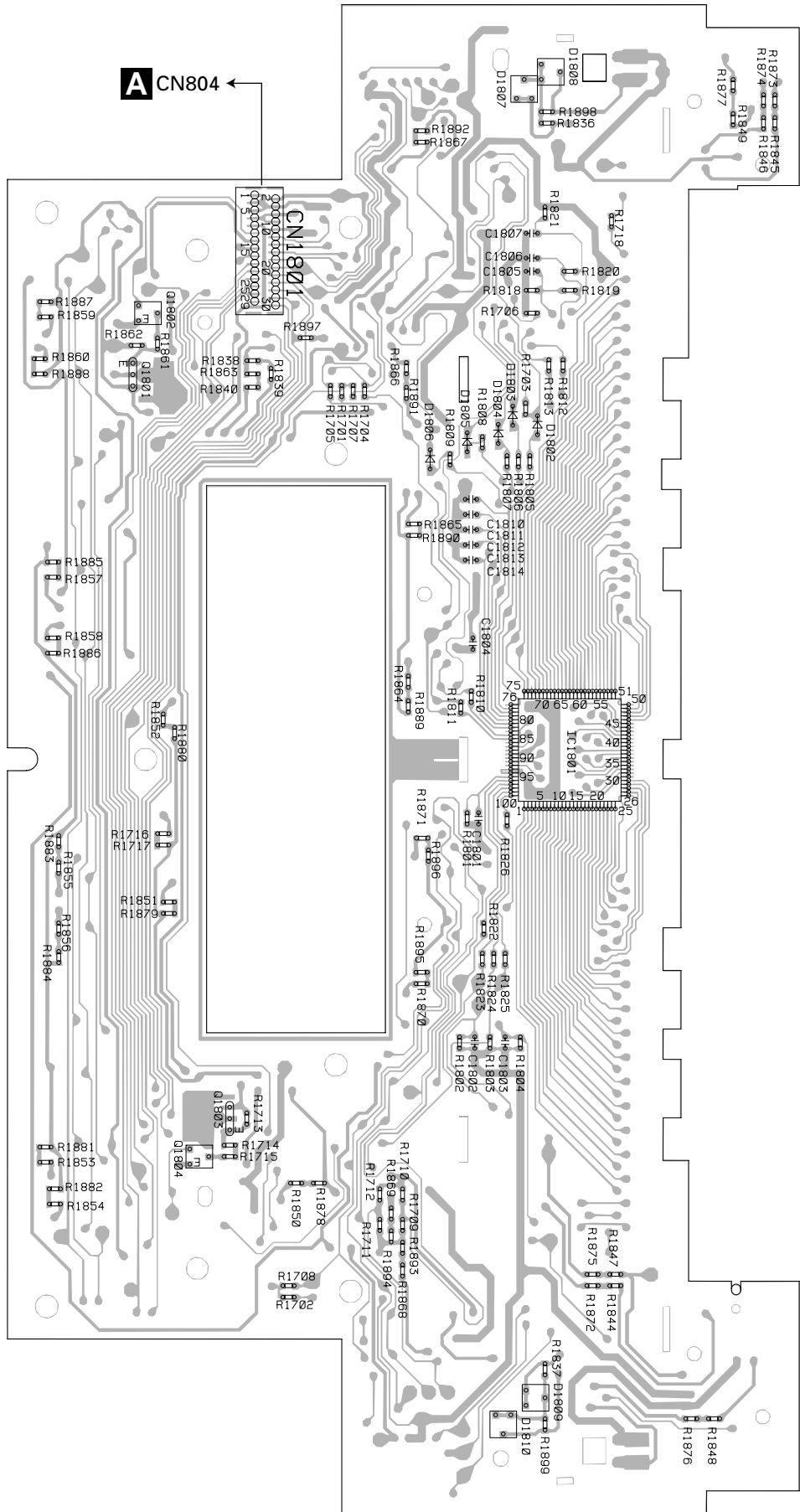
**C** KEYBOARD PCB



**SIDE A**



SIDE B



A CN804

CN1801

KEYBOARD PCB

IC: 0

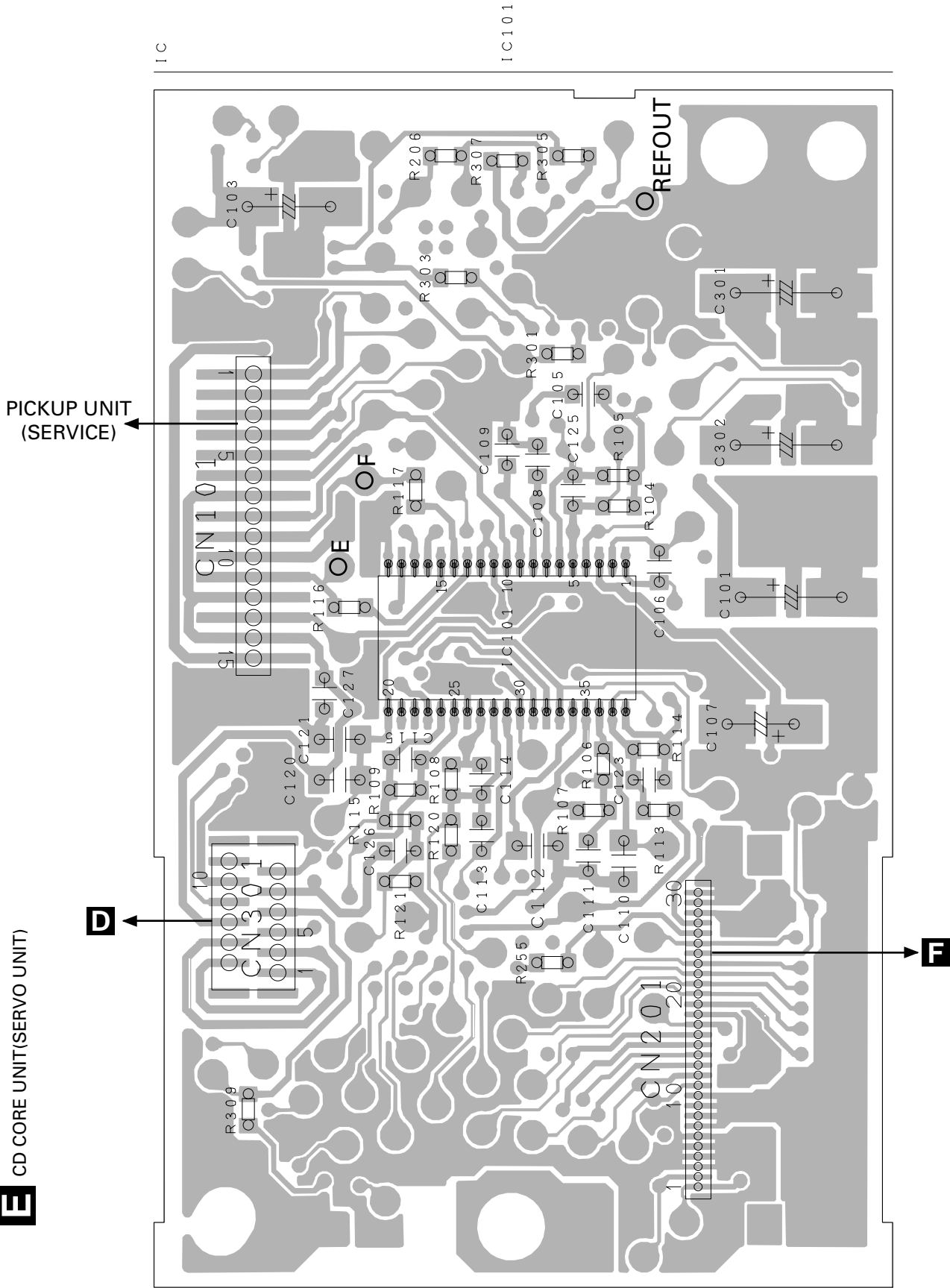
IC1801

01803  
01802 01804  
01801



### 4.4 CD CORE UNIT(SERVO UNIT)

SIDE A





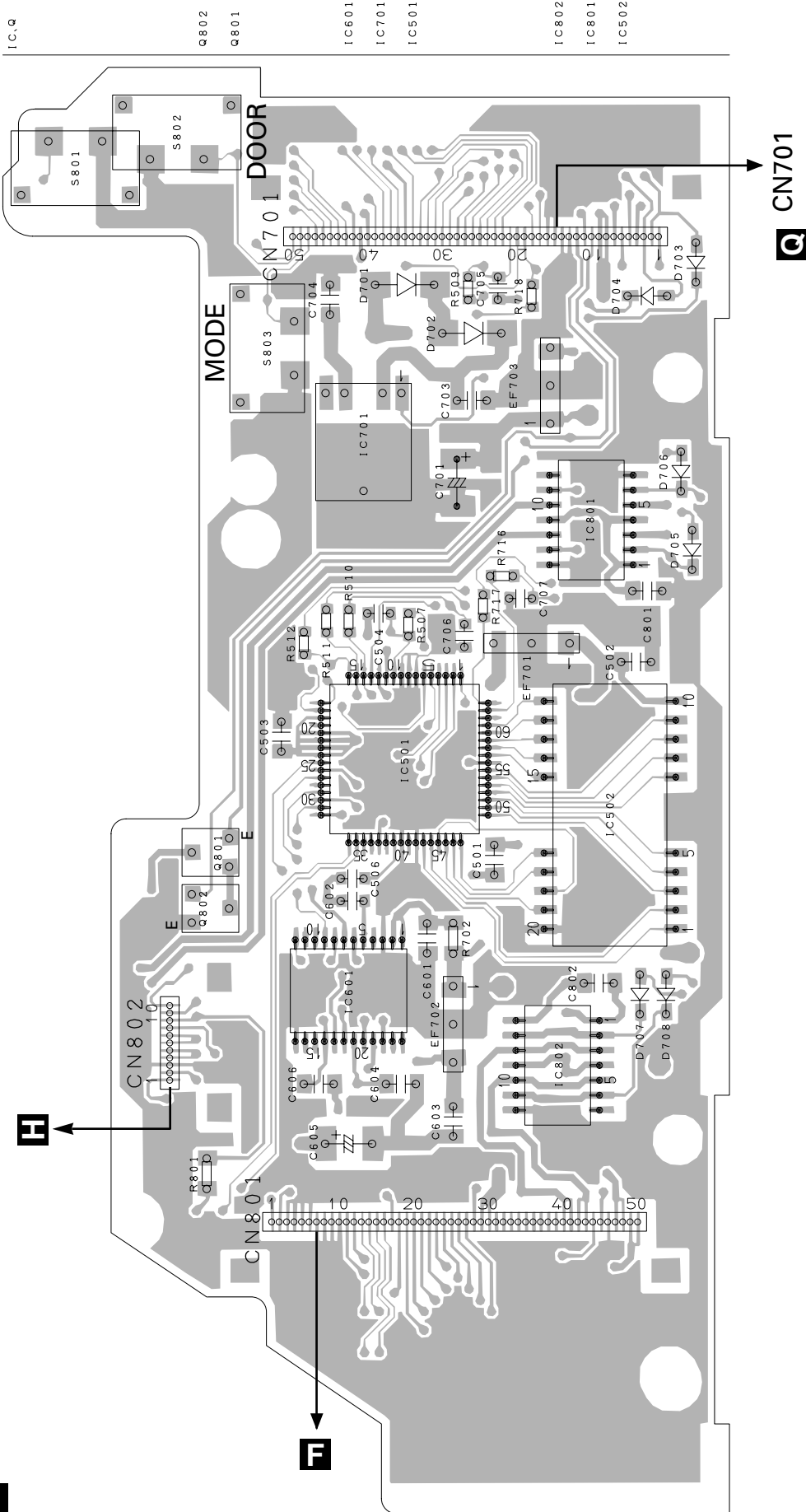
1 2 3 4

# FX-MG8517ZT, MG8817ZT

## 4.5 CD CORE UNIT (STS UNIT)

**G** CD CORE UNIT (STS UNIT)

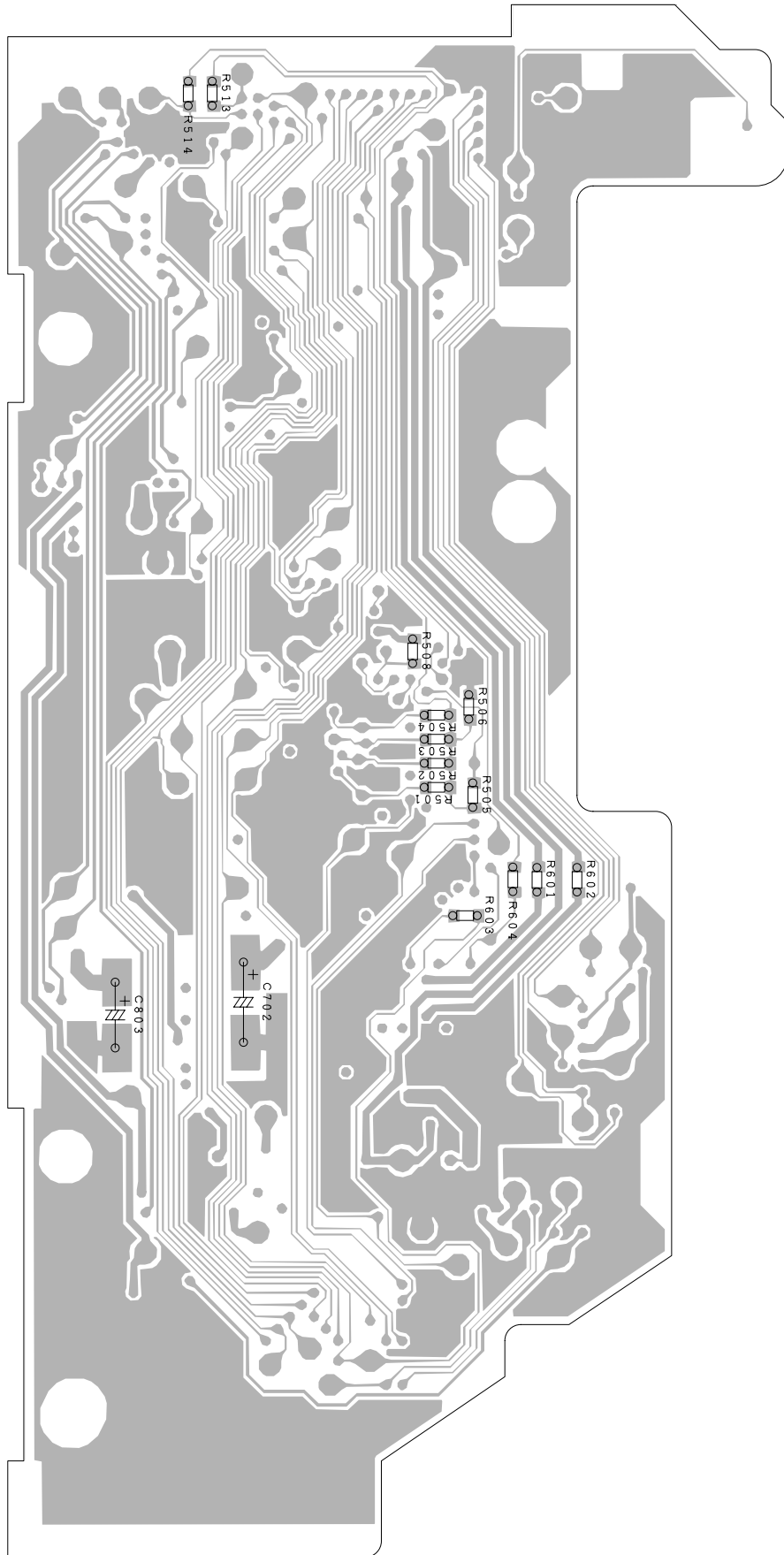
**SIDE A**





**G** CD CORE UNIT(STS UNIT)

**SIDE B**

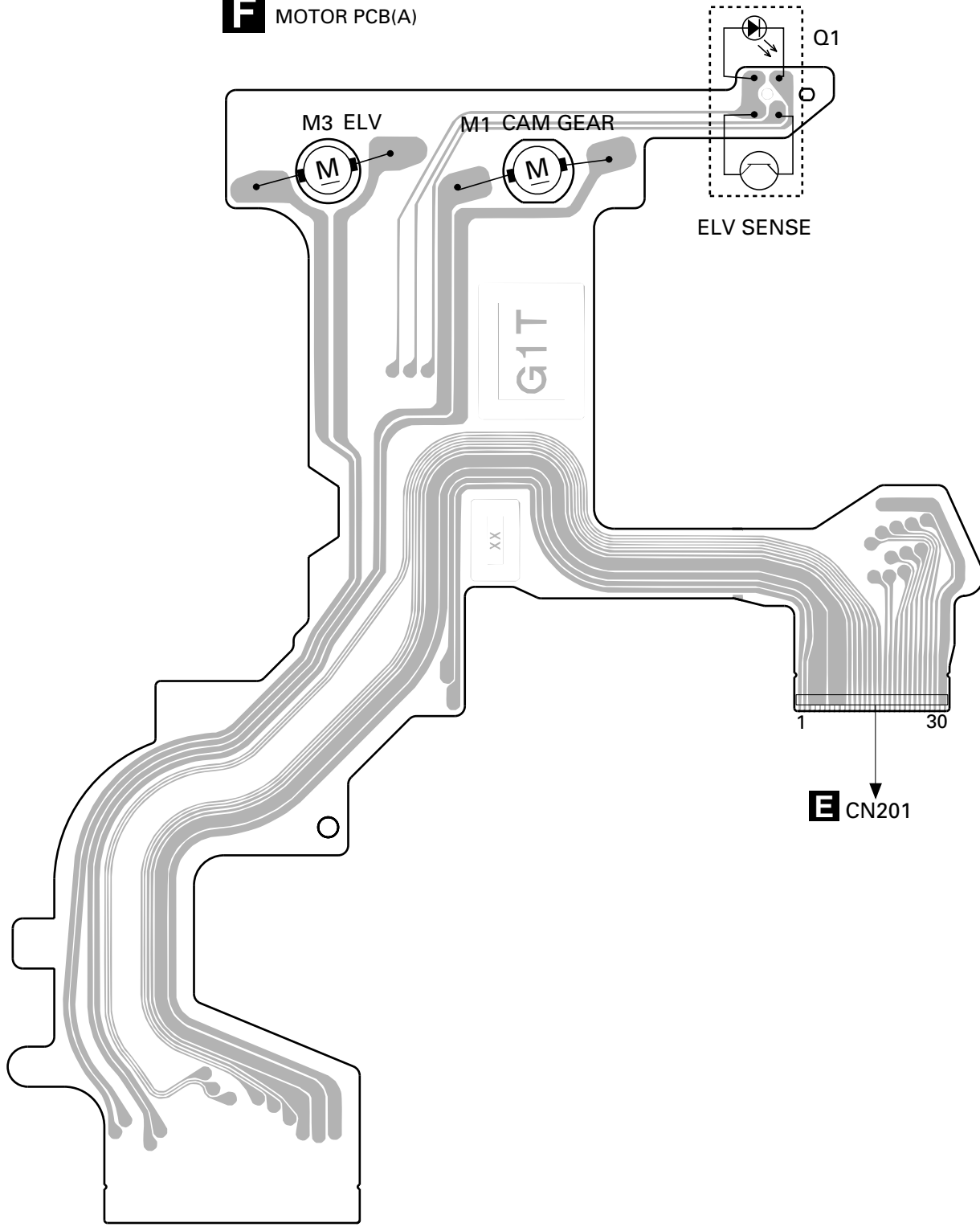


A  
B  
C  
D

### 4.6 MOTOR PCB(A)

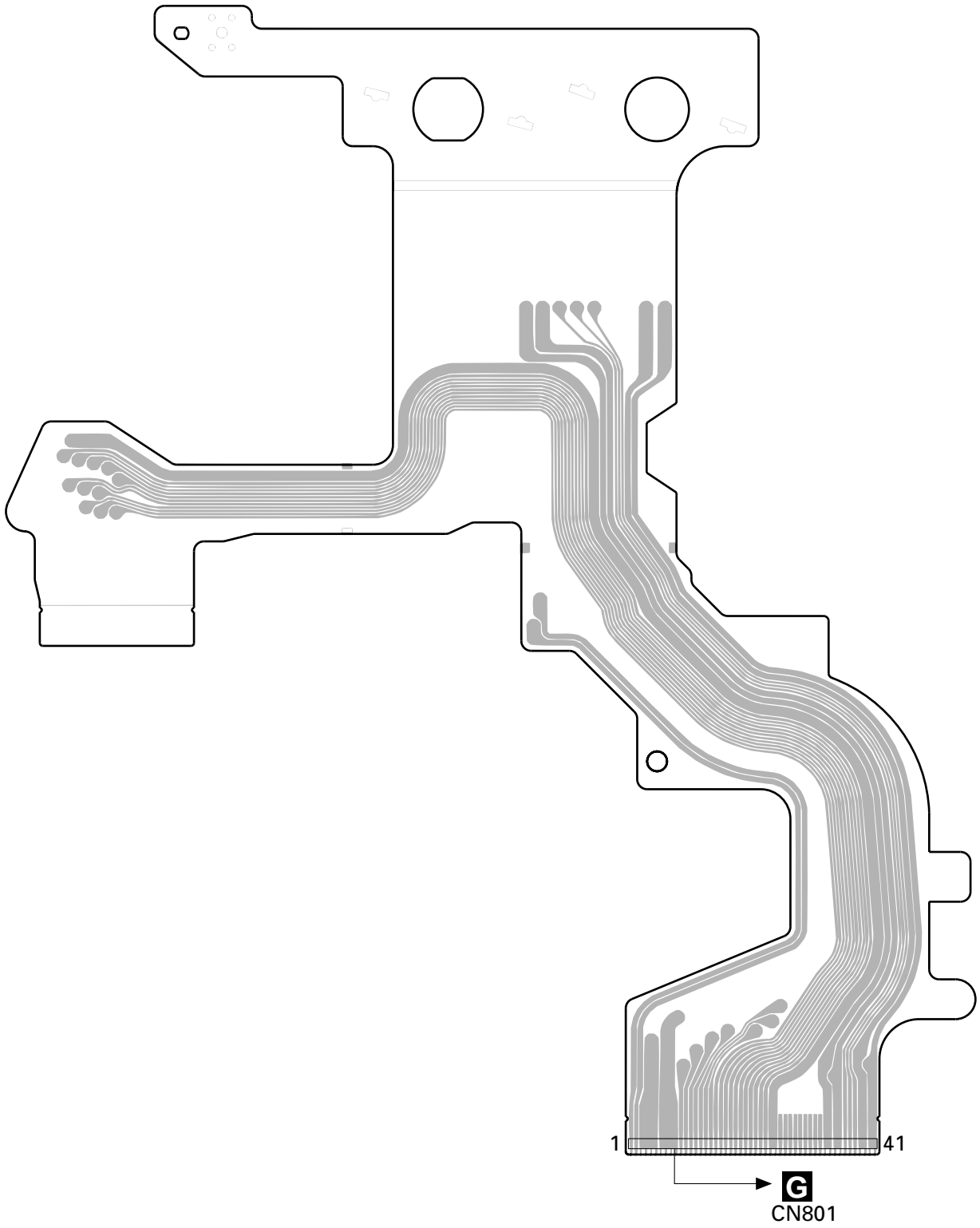
SIDE A

**F** MOTOR PCB(A)



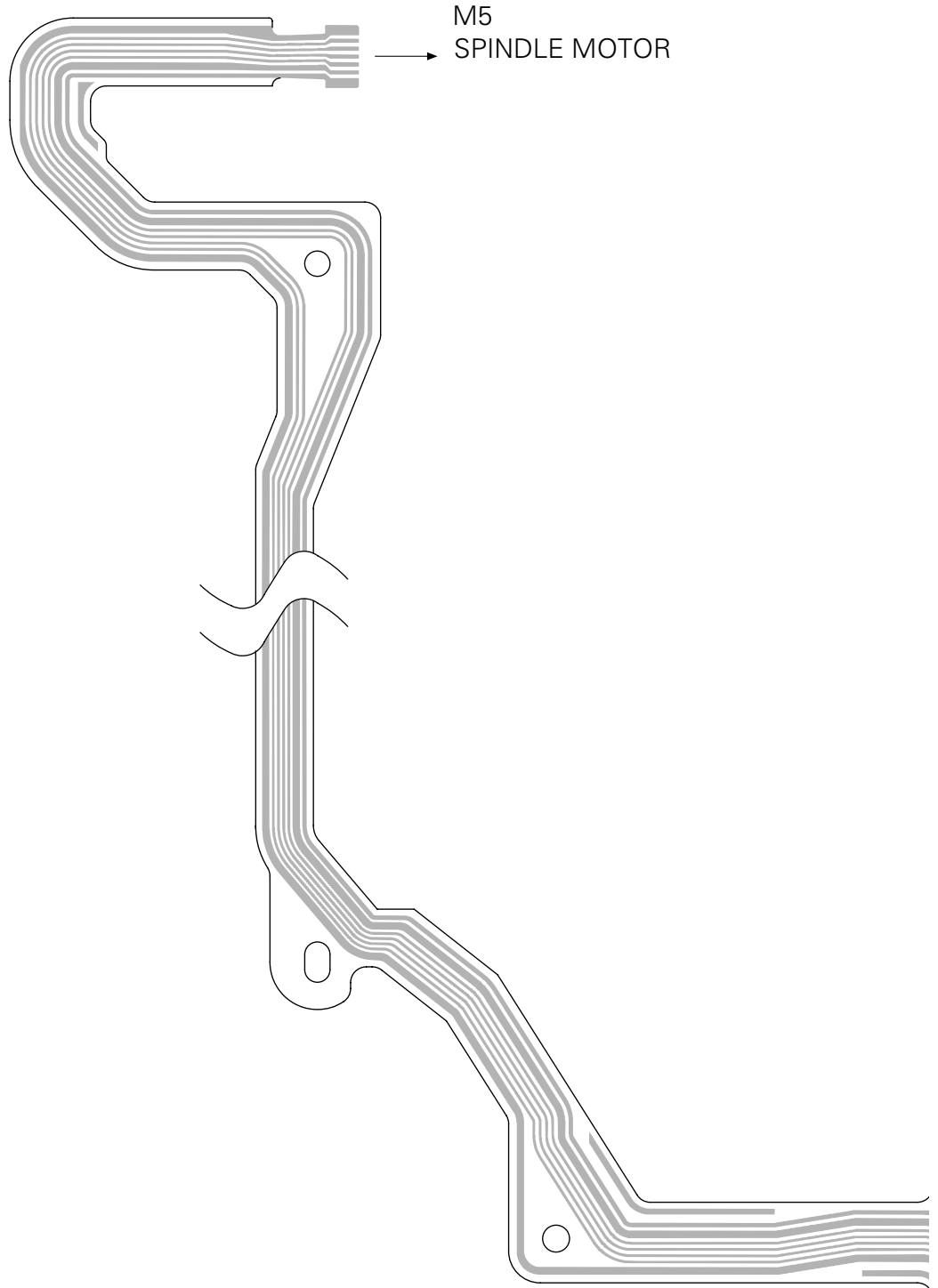
**F** MOTOR PCB(A)

**SIDE B**



### 4.7 MOTOR PCB(B)

**D** MOTOR PCB(B)



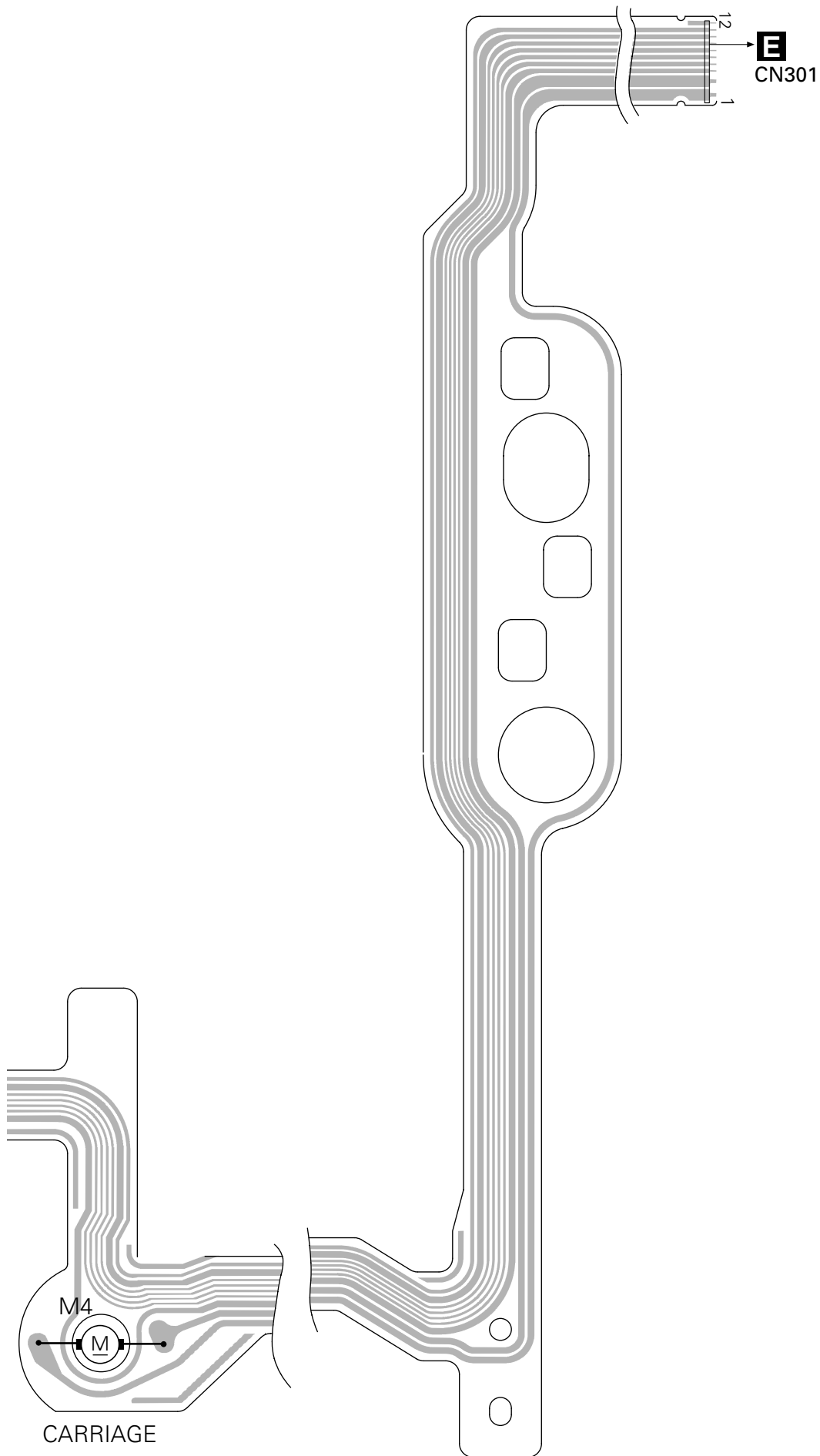
M5  
SPINDLE MOTOR

A

B

C

D



A

B

C

D

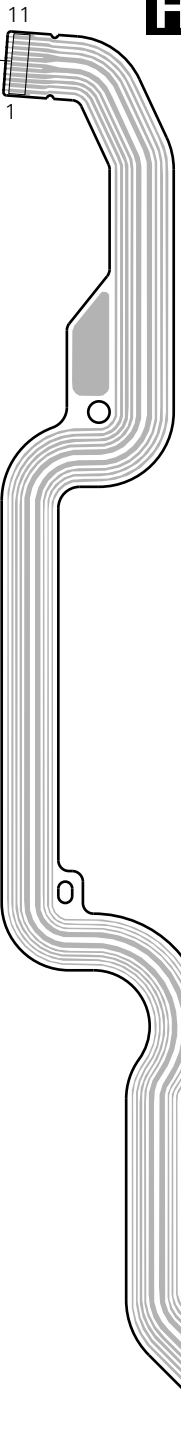
**D**

4.8 PCB UNIT(B)

4.8 PCB UNIT(D)

A

**G**  
CN802



**H** PCB UNIT(B)

B

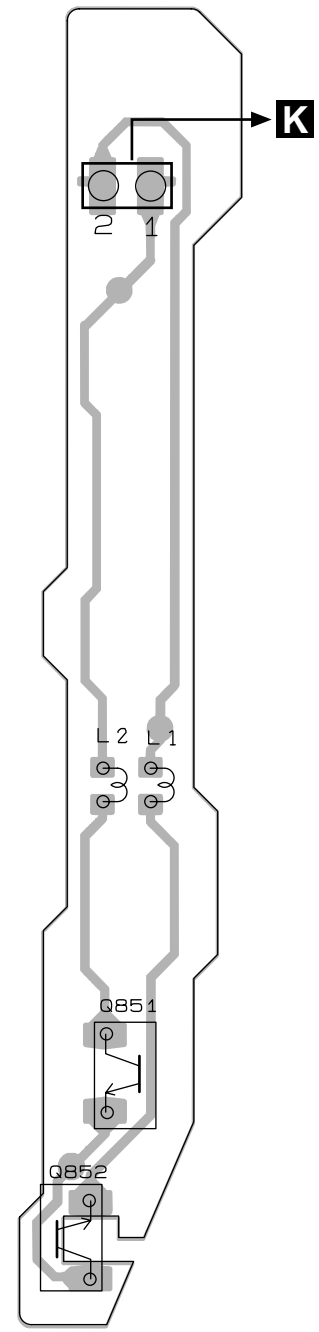
C

D

S887  
CLAMP

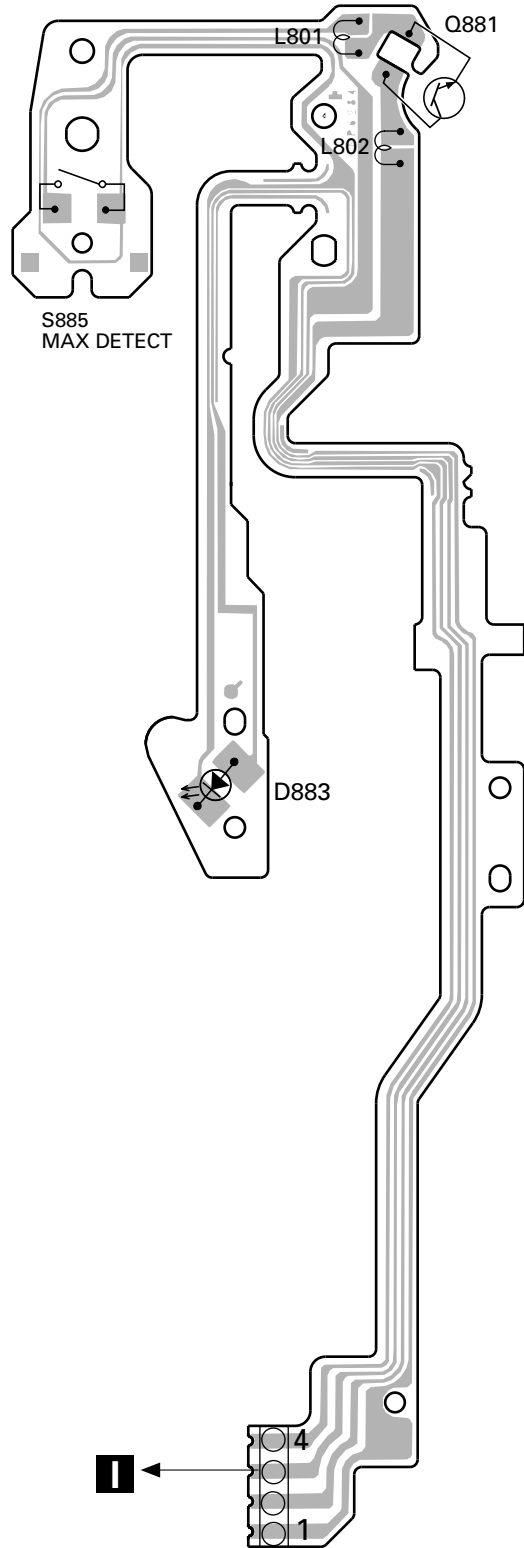
S886  
ELV HOME

**M** PCB UNIT(D)



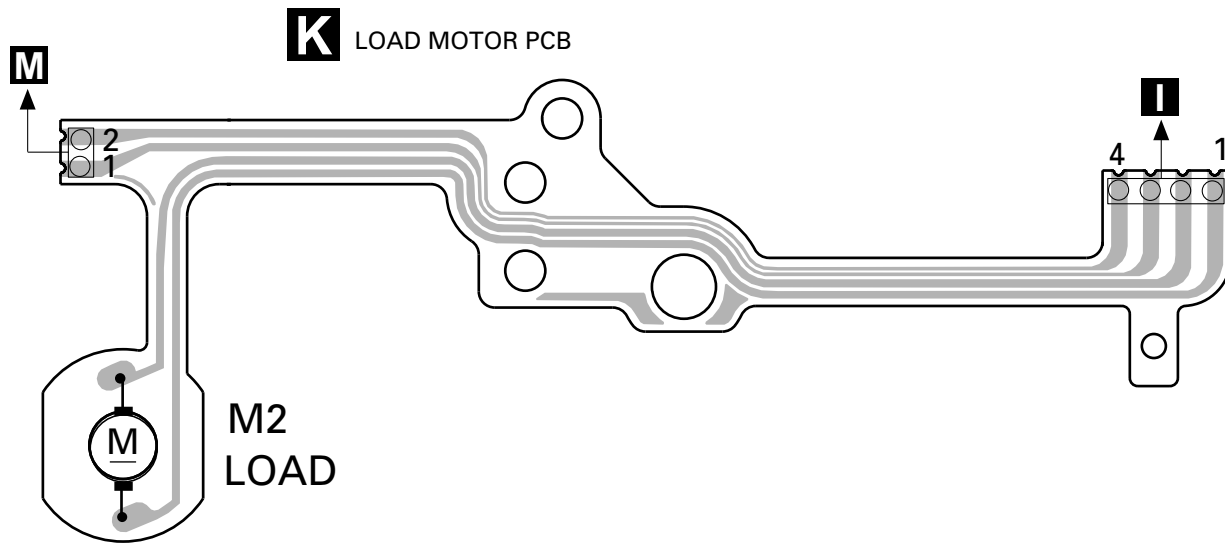
### 4.10 PCB UNIT(C)

**J** PCB UNIT(C)

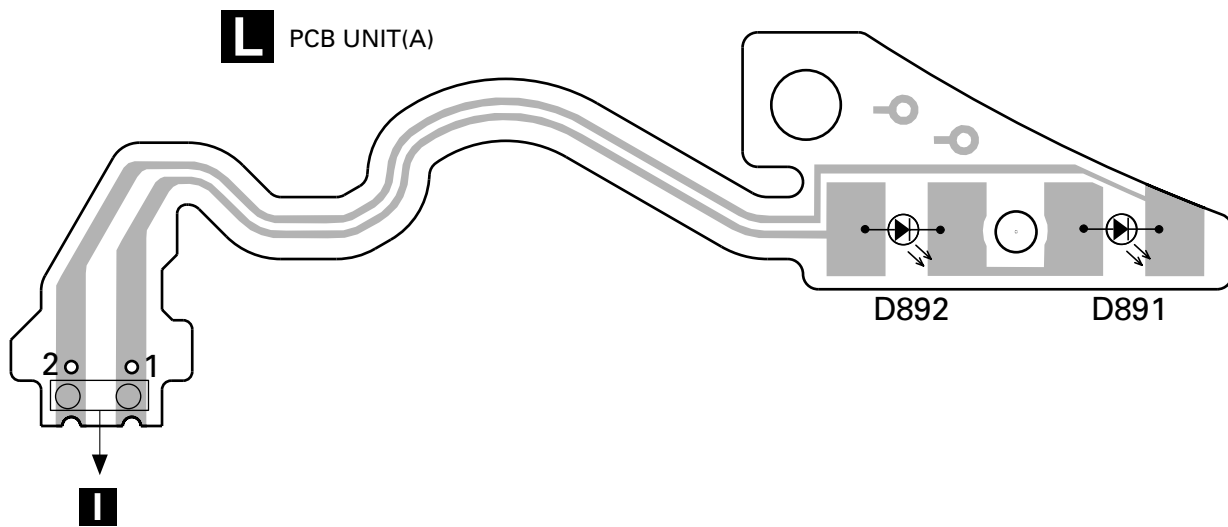


A  
B  
C  
D

### 4.11 LOAD MOTOR PCB



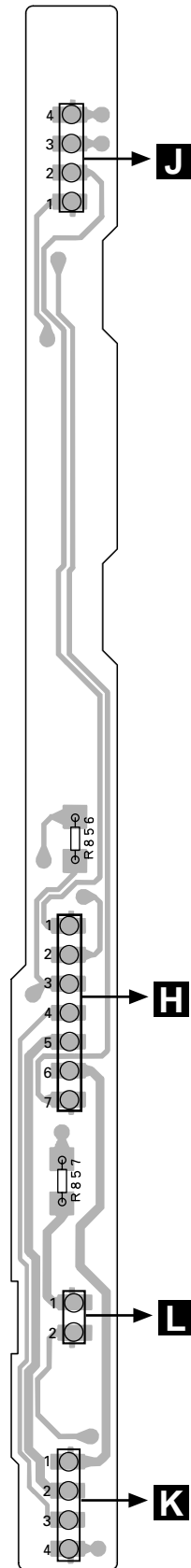
### 4.12 PCB UNIT(A)





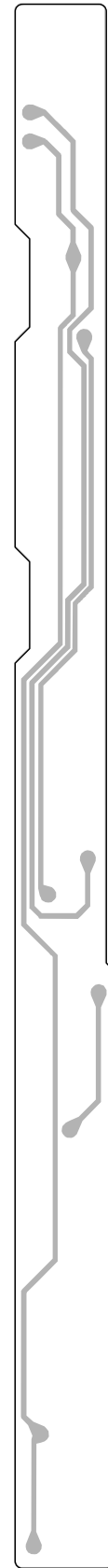
### 4.13 PCB UNIT(E)

**I** PCB UNIT(E)



SIDE A

**I** PCB UNIT(E)



SIDE B

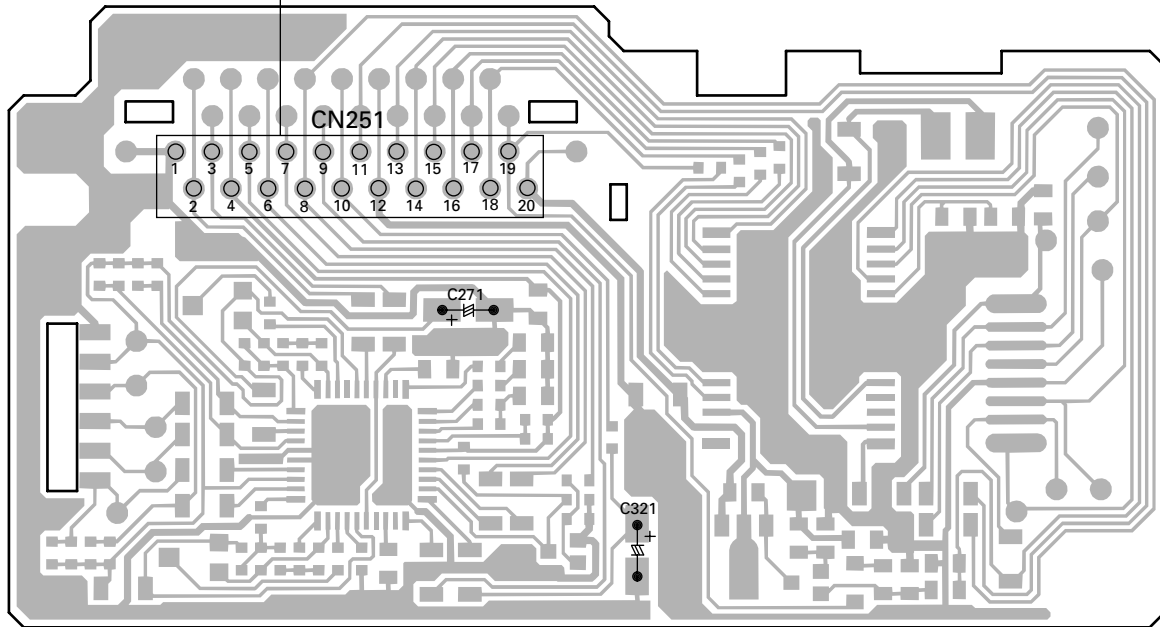
A  
B  
C  
D

### 4.14 DECK UNIT

**N** DECK UNIT

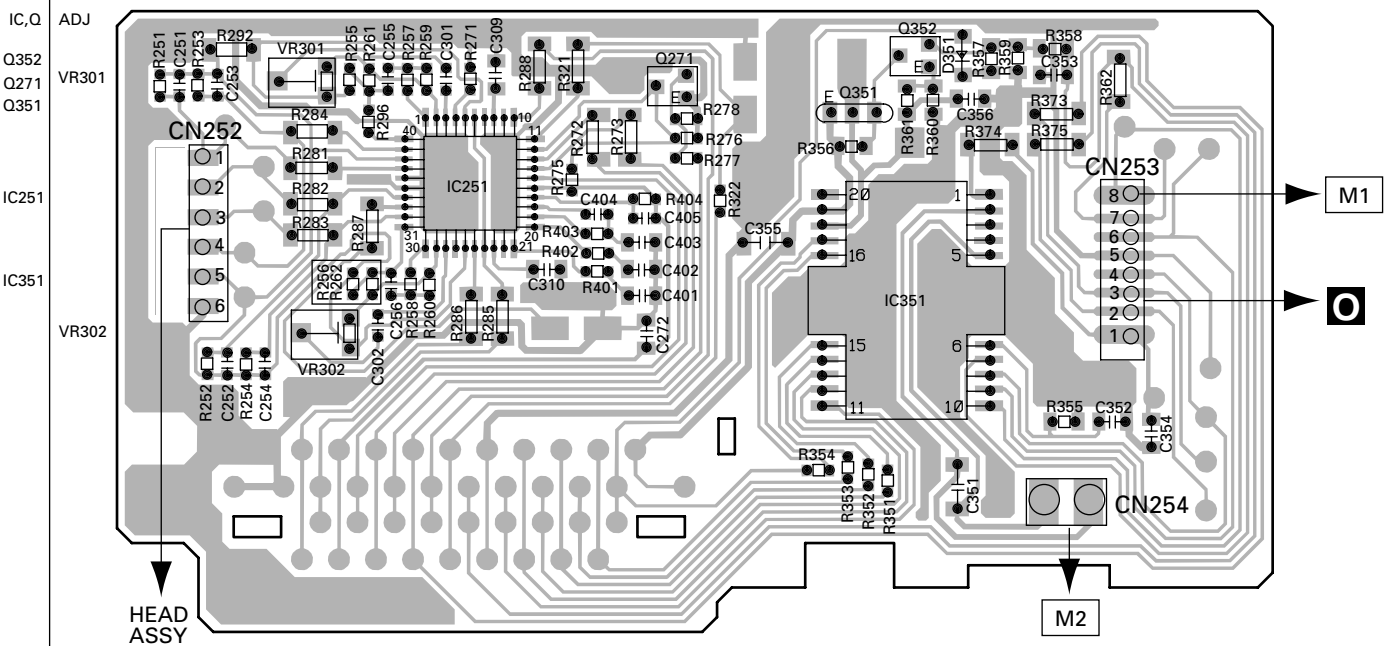
**A** CN301

**SIDE A**



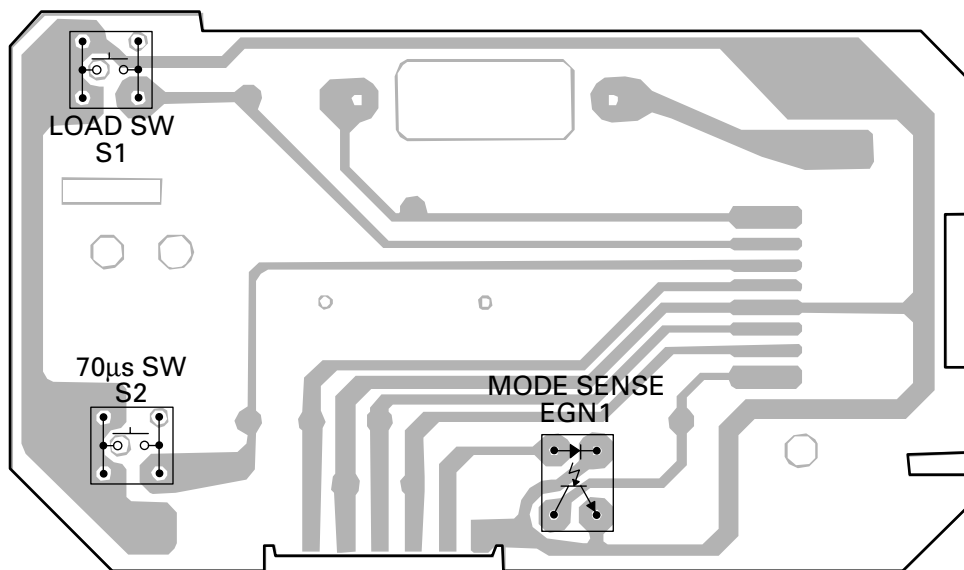
**N** DECK UNIT

**SIDE B**



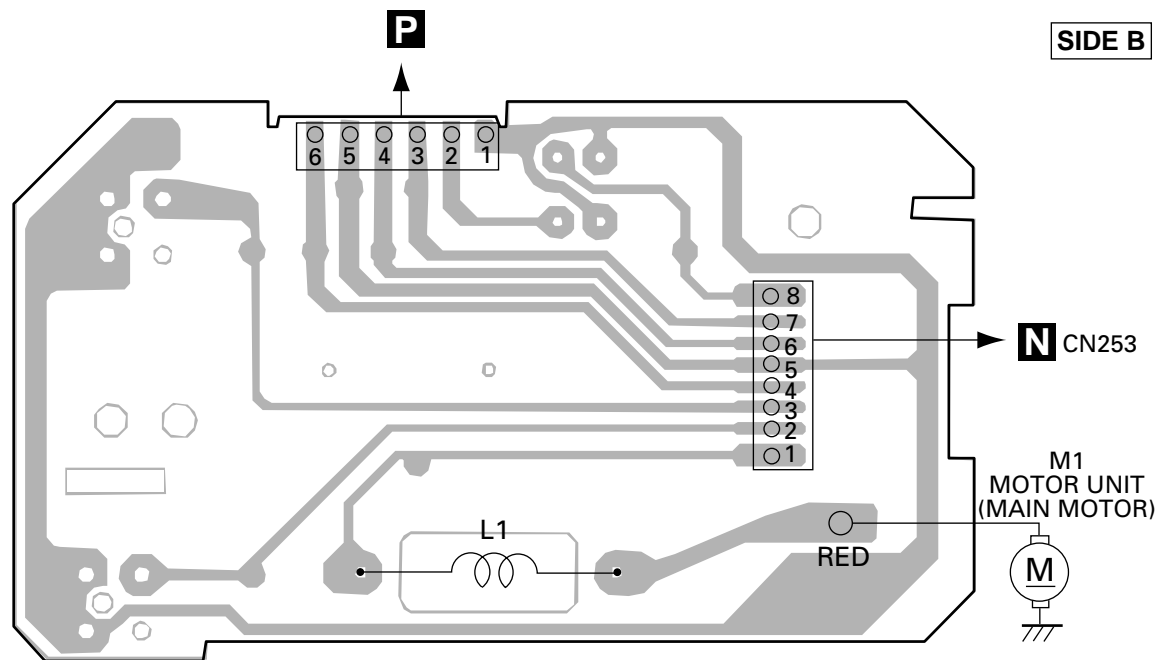
### 4.15 PCB UNIT

**O** PCB UNIT



**SIDE A**

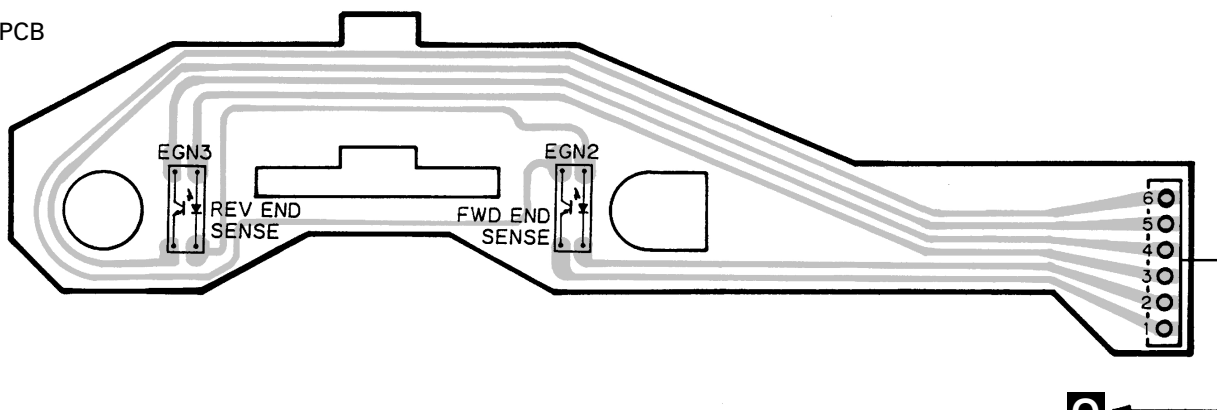
**O** PCB UNIT



**SIDE B**

### 4.16 REEL PCB

**P** REEL PCB

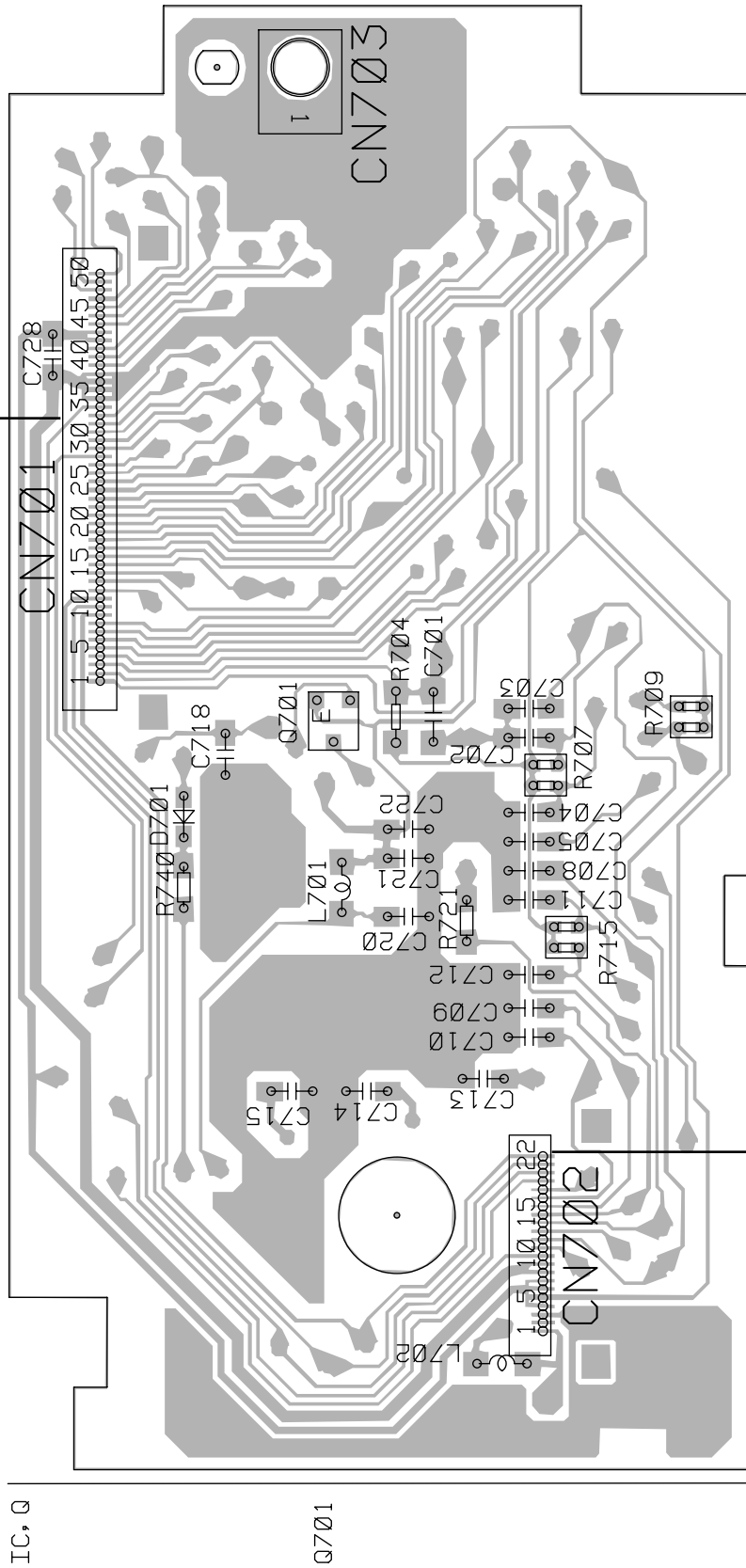


**O P**

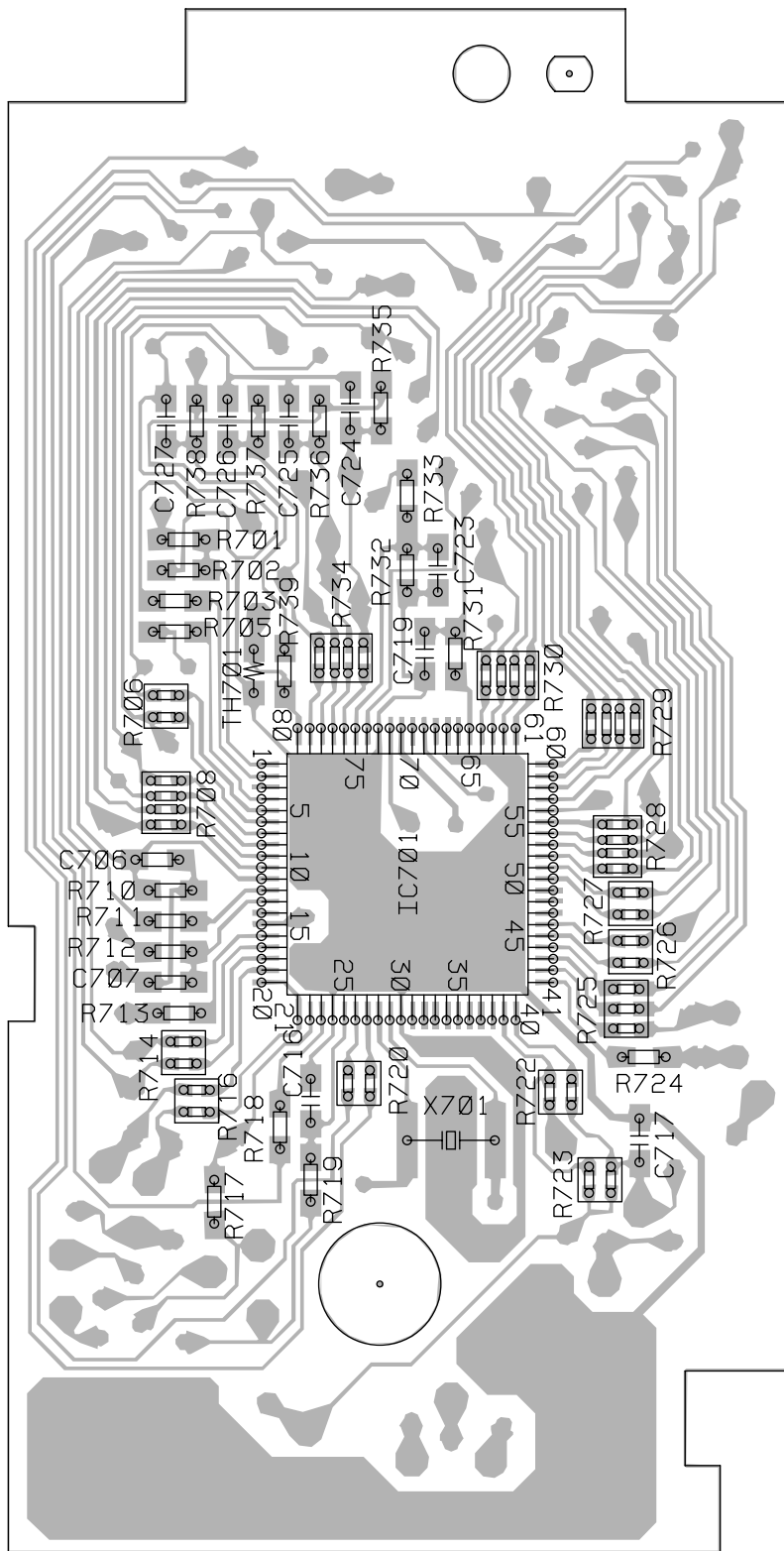
### 4.17 CONTROL UNIT

SIDE A

CONTROL UNIT



SIDE B



CONTROL UNIT



IC, Q

IC701

A

B

C

D

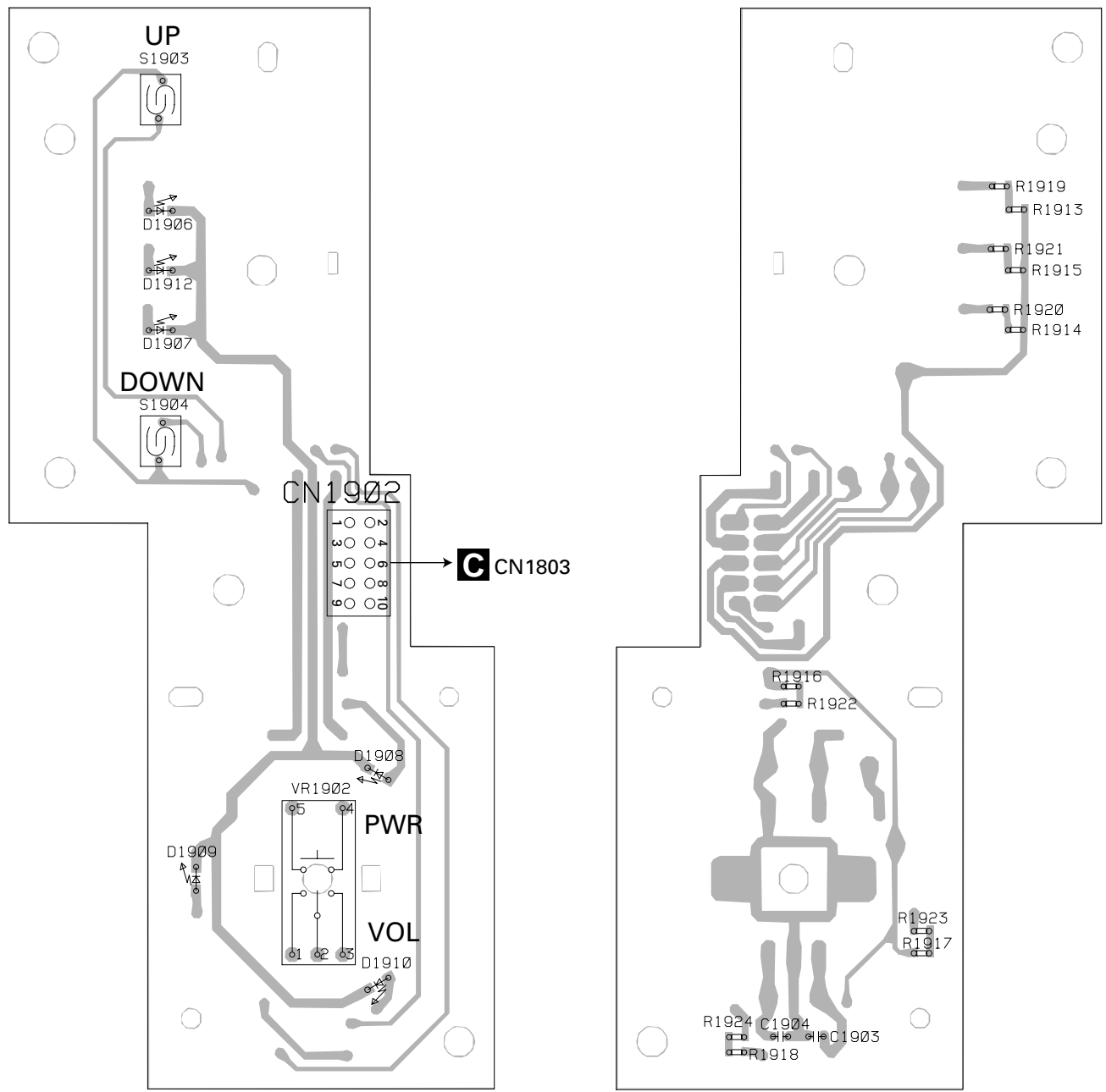


### 4.18 LEFT PCB

A

SIDE A

SIDE B



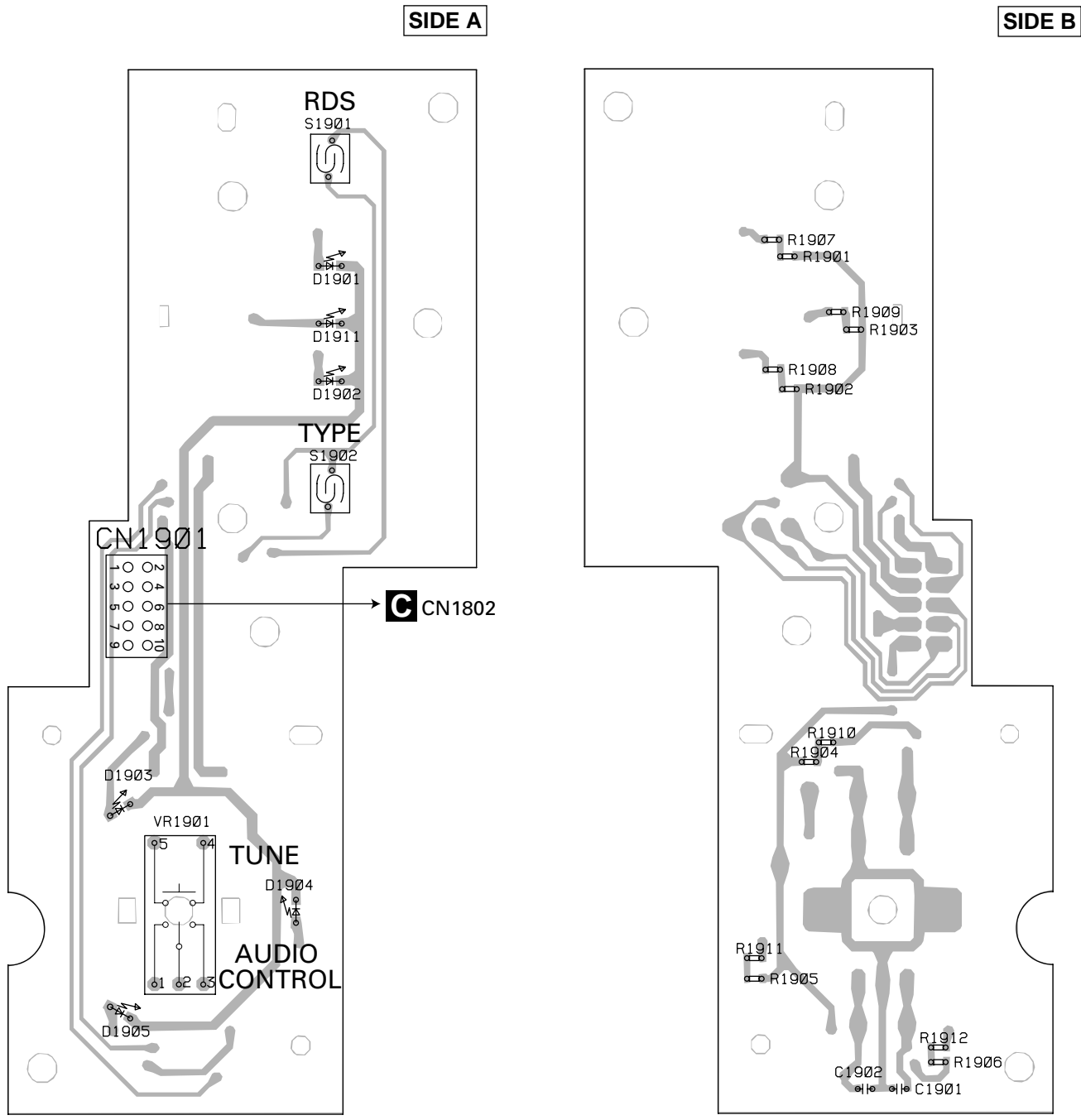
B

C

D



### 4.19 RIGHT PCB



## 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/OSOOOJ, RS1/OOSOOOJ

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

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

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
<b>B</b> Unit Number : CWE1543		VR 101 Semi-fixed 15kΩ(B)	CCP1230
Unit Name : FM/AM Tuner Unit		VR 151 Semi-fixed 10kΩ(B)	CCP1229
		VR 154 Semi-fixed 150kΩ(B)	CCP1236
		VR 156 Semi-fixed 100kΩ(B)	CCP1235

MISCELLANEOUS

IC 1	IC	PA4026A
IC 2	IC	PA4024A
Q 1	Chip Transistor	2SC2712
Q 3	FET	3SK263
Q 5	Transistor	2SK1067
Q 31	Chip Transistor	2SC2712
Q 151	Transistor	DTC144EU
Q 165	Transistor	2SC4116
Q 201	FET	2SK291
Q 202	Chip Transistor	2SC2712
Q 203	FET	2SK2373
D 3	Diode	1SV251
D 4	Diode	1SV250
D 5	Diode	KV1410-F1
D 6	Diode	MA157
D 7	Diode	KV1410-F1
D 8	Diode	KV1410-F1
D 9	Diode	KV1410-F1
D 10	Diode	1SV250
D 201	Diode	MA157
D 202	Diode	1SV251
D 231	Diode	SVC253
L 1	Inductor	LCTBR12K2125
L 2	Air-core Coil	CTC1152
L 3	Air-core Coil	CTC1152
L 4	Air-core Coil	CTC1151
L 5	Coil	CTC1147
L 6	Air-core Coil	CTC1153
L 40	Inductor	LCTBR15K1608
L 51	Ferri-Inductor	LAU150K
L 52	Coil	CTC1136
L 201	Ferri-Inductor	LAU4R7K
L 202	Ferri-Inductor	LAU330K
L 203	Inductor	CTF1371
L 208	Inductor	LAU390K
L 209	Inductor	LCTA680J3225
L 210	Coil	CTB1103
L 231	Inductor	LAU3R3J
T 31	Coil	CTE1116
TC 1	Trimmer	CCL1019
TC 2	Trimmer	CCL1019
TC 3	Trimmer	CCL1019
CF 25	Ceramic Filter	CTF1292
CF 51	Ceramic Filter	CTF1292
CF 52	Ceramic Filter	CTF1292
CF 53	Ceramic Filter	CTF1292
CF 230	Crystal Filter	CTF1262
CF 232	Ceramic Filter	CTF1348
X 151	Radiator 918.5Hz	CSS1365
X 231	Crystal Resonator 10.26MHz	CSS1111

RESISTORS

R 3	RS1/16S223J
R 4	RS1/16S101J
R 6	RS1/16S101J
R 8	RS1/16S332J
R 9	RS1/16S823J
R 10	RS1/16S223J
R 11	RS1/16S124J
R 12	RS1/16S474J
R 15	RS1/16S161J
R 16	RS1/16S104J
R 17	RS1/16S332J
R 18	RS1/16S332J
R 19	RS1/16S154J
R 21	RS1/16S332J
R 22	RS1/16S510J
R 24	RS1/16S101J
R 25	RS1/16S221J
R 26	RS1/16S102J
R 31	RS1/16S470J
R 32	RS1/16S912J
R 33	RS1/16S912J
R 34	RS1/16S331J
R 35	RS1/16S331J
R 51	RS1/16S331J
R 55	RS1/16S102J
R 56	RS1/16S823J
R 61	RS1/16S392J
R 62	RS1/16S273J
R 103	RS1/16S333J
R 104	RS1/16S334J
R 105	RS1/16S683J
R 107	RS1/16S222J
R 152	RS1/16S393J
R 155	RS1/16S393J
R 157	RS1/10S223J
R 160	RS1/16S222J
R 161	RS1/16S563J
R 162	RS1/16S225J
R 163	RS1/16S222J
R 164	RS1/16S823J
R 165	RS1/16S102J
R 201	RS1/16S103J
R 202	RS1/16S103J
R 203	RS1/16S225J
R 204	RS1/16S472J
R 205	RS1/16S471J
R 206	RS1/16S220J
R 207	RS1/16S101J
R 208	RS1/16S102J
R 210	RS1/16S125J





====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
Q 308 Transistor	DTC144TK	D 804 Diode	1SS355
Q 401 Transistor	FMG13	D 805 Diode	UDZ20(B)
Q 402 Transistor	FMG13	D 806 Diode	ERA15-02VH
Q 403 Transistor	FMG13	D 807 Diode	UDZS5R6(B)
Q 405	IMH4	D 808 Diode	HZU8R2(B1)
Q 406 Transistor	IMX1	D 809 Diode	HZU8R2(B1)
Q 407 Transistor	IMD3A	D 810 Diode	HZU8R2(B1)
Q 501 Transistor	IMX1	D 811 Diode	1SS355
Q 503 Chip Transistor	2SC2712	D 812 Diode	HZU8R2(B1)
Q 551 Chip Transistor	2SC2712	D 813 Diode	1SS355
Q 601 Transistor	2SA1162	D 814 Diode	HZU8R2(B3)
Q 603 Transistor	DTA144EK	D 818 Diode	UDZS5R1(B)
Q 607 Transistor	DTA114EK	D 821 Diode	1SS355
Q 702 Transistor	DTA114EK	D 831 Diode	1SS355
Q 801 Transistor	DTC114EK	L 201 Chip-Inductor	LCTA2R2J3225
Q 802 Transistor	IMX1	L 202 Inductor	LCTA4R7J3225
Q 804 Transistor	2SD1664	L 251 Inductor	LCTA101J3225
Q 805 Transistor	DTC144TK	L 501 Inductor	LCTA4R7J3225
Q 806 Transistor	DTC144TK	L 502 Inductor	LCTA4R7J3225
Q 807 Transistor	DTC144TK	L 503 Inductor	LCTA4R7J3225
Q 808 Transistor	2SB1184F5	L 504 Inductor	LCTB4R7K3216
Q 809 Transistor	2SB1185	L 505 Inductor	LCTA100J3225
Q 811 Transistor	2SB1185	L 511 Inductor	LCTB6R8K3216
Q 813 Transistor	2SA1162	L 512 Inductor	LCTB6R8K3216
Q 815 Transistor	IMX1	L 513 Inductor	LCTB6R8K3216
Q 816 Transistor	IMX1	L 515 Inductor	LCTA4R7J3225
Q 818 Transistor	2SB1184F5	L 516 Inductor	LCTA561J4532
Q 819 Transistor	2SA1162	L 551 Inductor	LCTA101J3225
Q 820 Transistor	IMX1	L 601 Inductor	LCTA100J3225
Q 822 Transistor	2SA1162	L 801 Coil 350µH	CTH1092
Q 823 Transistor	DTC123EK	CG 501 Surge Protector	DSP-201M-A21F
Q 825 Transistor	2SA1163	CG 502 Surge Protector	DSP-201M-A21F
Q 829 Transistor	2SB1188	X 201 Crystal Resonator 7.200MHz	CSS1379
Q 830 Transistor	DTC123YK	X 251 Crystal Resonator 4.332MHz	CSS1056
Q 831 Transistor	DTA114EK	X 601 Radiator 10.00MHz	CSS1428
Q 832 Transistor	2SA1162	VR 251 Semi-fixed 2.2kΩ(B)	CCP1392
Q 833 Transistor	DTC123EK	VR 552 Semi-fixed 10kΩ(B)	CCP1396
Q 834 Transistor	DTA143EK	FU 801 Fuse 5A	CEK1195
Q 851 Transistor	DTC114EK		FM/AM Tuner Unit
Q 852 Transistor	DTC114EK		CWE1543
Q 853 Transistor	DTA114EK		
Q 861 Transistor	2SB1132		
Q 862 Transistor	2SB1132		
Q 863 Transistor	2SB1132		
Q 864 Transistor	IMX1		
Q 931 Transistor	DTA114EK		
D 201 Diode	1SS355		
D 301 Diode	UDZS10(B)		
D 302 Diode	UDZS10(B)		
D 303 Diode	UDZS10(B)		
D 304 Diode	UDZS10(B)		
D 305 Diode	HZU4LL(C)		
D 306 Diode	HZU8R2(B3)		
D 400 Diode	1SS355		
D 501 Diode	1SV241		
D 502 Diode	1SV241		
D 503 Diode	DAP202K		
D 507 Diode	1SS355		
D 519 Diode	DAN202K		
D 605 Diode	1SS355		
D 611 Diode	UDZ18(B)		
D 612 Diode	UDZ18(B)		
D 801 Diode	1SS355		
D 802 Diode	UDZS5R6(B)		
D 803 Diode	RM4LFJ10		
		<b>RESISTORS</b>	
		R 200	RS1/16S183J
		R 201	RS1/10S473J
		R 202	RS1/10S102J
		R 203	RS1/16S222J
		R 204	RS1/16S222J
		R 205	RS1/16S103J
		R 206	RS1/10S473J
		R 207	RS1/10S102J
		R 208	RS1/16S102J
		R 209	RS1/10S123J
		R 210	RS1/10S472J
		R 211	RS1/10S682J
		R 212	RS1/10S222J
		R 213	RS1/10S682J
		R 214	RS1/10S102J
		R 215	RS1/10S472J
		R 216	RS1/10S561J
		R 217	RS1/10S682J
		R 218	RS1/10S472J
		R 219	RS1/10S152J
		R 220	RS1/10S392J
		R 221	RS1/10S222J
		R 222	RS1/10S392J
		R 223	RS1/10S272J
		R 224	RS1/16S102J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 225	RS1/16S102J	R 348	RS1/10S153J
R 226	RS1/16S102J	R 349	RS1/10S392J
R 227	RS1/16S102J	R 401	RS1/10S272J
R 228	RS1/10S103J	R 402	RS1/10S272J
R 229	RS1/10S473J	R 403	RS1/10S222J
R 231	RS1/10S105J	R 405	RS1/10S222J
R 232	RS1/16S151J	R 406	RS1/10S222J
R 233	RS1/16S821J	R 407	RS1/10S183J
R 239	RS1/16S0R0J	R 408	RS1/10S183J
R 251	RS1/10S102J	R 409	RS1/10S222J
R 252	1kΩ CCN1120	R 411	RS1/10S683J
R 256	RS1/10S102J	R 412	RS1/10S683J
R 257	RS1/10S102J	R 413	RS1/10S182J
R 258	RS1/10S0R0J	R 414	RS1/10S182J
R 259	RS1/10S333J	R 415	RS1/10S103J
R 260	RS1/10S104J	R 416	RS1/10S103J
R 261	RS1/10S104J	R 419	RS1/16S473J
R 262	RS1/10S681J	R 434	RS1/10S224J
R 263	RS1/10S684J	R 435	RS1/10S224J
R 264	RS1/10S222J	R 436	RS1/10S224J
R 265	RS1/10S222J	R 437	RS1/10S222J
R 266	RS1/10S562J	R 438	RS1/10S222J
R 267	RS1/10S222J	R 501	RS1/10S104J
R 268	RS1/10S102J	R 502	RS1/10S103J
R 271	RS1/10S562J	R 503	RS1/10S103J
R 301	RS1/10S182J	R 504	RS1/10S334J
R 302	RS1/10S182J	R 505	RS1/10S101J
R 303	RS1/10S473J	R 506	RS1/10S101J
R 304	RS1/10S473J	R 507	RS1/10S104J
R 307	RS1/10S363J	R 508	RS1/10S104J
R 308	RS1/10S363J	R 509	RS1/10S103J
R 309	RS1/10S473J	R 510	RS1/10S182J
R 310	RS1/10S473J	R 511	RS1/10S683J
R 311	RS1/10S563J	R 512	RS1/10S153J
R 312	RS1/10S563J	R 513	RS1/10S103J
R 313	RS1/10S102J	R 514	RS1/10S224J
R 314	RS1/10S102J	R 515	RS1/10S473J
R 315	RS1/10S473J	R 516	RS1/10S473J
R 316	RS1/10S473J	R 517	RS1/10S102J
R 319	RS1/10S223J	R 519	RS1/10S393J
R 320	RS1/10S223J	R 525	RS1/10S103J
R 321	RS1/10S223J	R 530	RS1/10S225J
R 322	RS1/10S223J	R 531	RS1/10S225J
R 323	RS1/10S222J	R 532	RS1/10S225J
R 324	RS1/10S222J	R 533	RS1/10S225J
R 325	RS1/10S222J	R 536	RS1/10S472J
R 326	RS1/10S222J	R 537	RS1/10S471J
R 327	RS1/10S510J	R 538	RS1/10S102J
R 328	RS1/10S510J	R 541	RS1/10S103J
R 329	RS1/10S510J	R 570	RS1/10S104J
R 330	RS1/10S510J	R 571	RS1/10S123J
R 333	RS1/10S510J	R 572	RS1/10S105J
R 334	RS1/10S510J	R 573	RS1/10S822J
R 335	RS1/10S510J	R 574	RS1/10S822J
R 336	RS1/10S510J	R 575	RS1/10S222J
R 337	RS1/10S103J	R 576	RS1/10S184J
R 339	RS1/10S392J	R 577	RS1/10S223J
R 340	RS1/10S392J	R 578	RS1/10S473J
R 341	RS1/10S473J	R 601	RS1/10S102J
R 342	RS1/10S473J	R 603	RS1/10S222J
R 343	RS1/10S472J	R 604	RS1/16S471J
R 344	RS1/10S102J	R 605	RA3C102J
R 345	RS1/10S223J	R 607	RS1/10S473J
R 346	RS1/10S103J	R 608	RS1/10S102J
R 347	RS1/10S104J	R 609	RS1/16S681J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 610	RS1/10S102J	R 830	RS1/10S221J
R 611	RS1/10S473J	R 831	RS1/10S331J
R 612	RA2CQ102J	R 832	RS1/10S471J
R 613	RS1/10S473J	R 833	RS1/10S102J
R 614	RS1/10S0R0J	R 840	RS1/4S1R5J
R 616	RS1/16S473J	R 841	RS1/4S1R5J
R 617	RS1/10S102J	R 844	RS1/10S471J
R 618	RS1/16S472J	R 846	RS1/10S105J
R 619	RA2CQ102J	R 847	RS1/10S361J
R 620	RA2CQ473J	R 848	RS1/10S152J
R 621	RA3C102J	R 849	RS1/10S222J
R 622	RA3C473J	R 850	RS1/4S2R2J
R 623	RA3C103J	R 851	RS1/10S471J
R 624	RS1/10S103J	R 852	RS1/10S105J
R 625	RA3C102J	R 853	RS1/10S102J
R 626	RA3C473J	R 854	RS1/10S152J
R 627 1kΩ	CCN1120	R 855	RS1/10S242J
R 628 47kΩ	CCN1131	R 856	RS1/10S103J
R 629	RS1/10S473J	R 857	RS1/10S332J
R 631	RA3C102J	R 858	RS1/4S821J
R 632 1kΩ	CCN1120	R 859	RS1/10S103J
R 633	RS1/10S473J	R 860	RS1/10S0R0J
R 634	RS1/10S473J	R 861	RS1/10S332J
R 635	RS1/10S102J	R 862	RS1/10S332J
R 637	RA3C104J	R 863	RS1/10S332J
R 639	RS1/10S223J	R 864	RS1/10S332J
R 640 1kΩ	CCN1120	R 865	RS1/10S332J
R 641 47kΩ	CCN1131	R 866	RS1/10S332J
R 642	RS1/10S102J	R 869	RS1/10S103J
R 643	RA3C102J	R 870	RS1/4S391J
R 644	RS1/10S681J	R 876	RS1/10S103J
R 646	RS1/10S102J	R 877	RS1/10S332J
R 647	RS1/10S473J	R 881	RS1/10S103J
R 648	RS1/16S102J	R 882	RS1/10S103J
R 649	RS1/10S473J		
R 651	RS1/10S104J	CAPACITORS	
R 652	RS1/4S101J	C 201	CKSRYB103K50
R 653	RS1/4S101J	C 202	CKSRYB103K50
R 654	RS1PMF680J	C 203	CKSYB473K50
R 658	RS1/10S473J	C 205	CCSQCH101J50
		C 206	CKSQYB223K50
R 660	RS1/10S0R0J		
R 662	RS1/16S102J	C 207	CKSQYB473K50
R 801	RS1/8S472J	C 208	CEJA101M10
R 802	RS1/8S472J	C 209	CEJA220M10
R 803	RS1/8S473J	C 210	CKSQYB103K50
		C 211	CKSQYB103K50
R 804	RS1/10S471J		
R 805	RS1/8S472J	C 212	CEJA220M10
R 806	RS1/8S472J	C 213	CKSQYB103K50
R 807	RS1/8S221J	C 215	CCH1280
R 810	RS1/10S104J	C 216	CKSQYB103K50
		C 220	CKSQYB103K50
R 812	RS1/10S104J		
R 814	RS1/10S104J	C 221	CCH1280
R 815	RS1/10S223J	C 223	CKSQYB103K50
R 816	RS1/10S102J	C 224	CCSQCH100D50
R 819	RS1/10S102J	C 225	CCSQCH100D50
		C 226	CKSQYB102K50
R 820	RS1/10S332J		
R 821	RS1/10S103J	C 227	CKSQYB103K50
R 822	RS1/10S103J	C 229	CKSQYB471K50
R 823	RS1/10S223J	C 251	CKSQYB104K50
R 824	RS1/10S102J	C 253	CEAL4R7M35
		C 254	CKSQYB473K50
R 825	RS1/10S331J		
R 826	RS1/10S103J	C 256	CCSQCH220J50
R 827	RS1/10S471J	C 257	CCSQCH220J50
R 828	RS1/10S102J	C 258	CKSQYB472K50
R 829	RS1/10S223J	C 259	CKSQYB104K50
		C 260	CKSQYB105K16

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 261	CKSQYB104K50	C 511	CEAL100M16
C 262	CKSQYB222K50	C 512	CKSQYB473K50
C 264	CKSQYB103K50	C 513	CEAL2R2M50
C 265	CKSQYB103K50	C 514	CKSQYB102K50
C 266	CKSQYB223K50	C 515	CKSQYB103K50
C 267	CKSQYB104K50	C 516	CKSQYB103K50
C 301	4.7µF/35V CCH1016	C 517	CKSQYB392K50
C 302	4.7µF/35V CCH1016	C 519	CKSQYB472K50
C 305	4.7µF/35V CCH1016	C 521	CKSQYB222K50
C 306	4.7µF/35V CCH1016	C 535	CKSQYB103K50
C 307	4.7µF/35V CCH1016	C 536	CKSQYB103K50
C 308	4.7µF/35V CCH1016	C 537	CKSQYB103K50
C 309	CCSQCH120J50	C 581	CEAL3R3M50
C 310	CCSQCH120J50	C 582	CKSQYB333K50
C 311	4.7µF/35V CCH1016	C 583	CEALNP1R0M50
C 312	4.7µF/35V CCH1016	C 584	CQMA683J50
C 313	4.7µF/35V CCH1016	C 585	CQMA333J50
C 314	4.7µF/35V CCH1016	C 586	CQMA333J50
C 315	CCSQCH330J50	C 587	CQMA333J50
C 316	CCSQCH330J50	C 588	CKSQYB273K50
C 317	CKSQYB331K50	C 589	CKSQYB682K50
C 318	CKSQYB331K50	C 590	CKSQYB682K50
C 319	CKSQYB682K50	C 591	CKSQYB392K50
C 320	CKSQYB682K50	C 592	CKSQYB102K50
C 321	CKSQYB682K50	C 593	CKSQYB334K16
C 322	CKSQYB682K50	C 594	CKSQYB334K16
C 323	CEALNP4R7M16	C 601	CKSQYB102K50
C 324	CEALNP4R7M16	C 603	CEAL100M16
C 325	CEALNP4R7M16	C 604	CKSQYB104K50
C 326	CEALNP4R7M16	C 605	CKSQYB103K50
C 327	CKSQYB102K50	C 606	CCSQCH101J50
C 328	CKSQYB102K50	C 609	CCSQCH101J50
C 329	CKSQYB102K50	C 610	CCSQCH101J50
C 330	CKSQYB102K50	C 611	CCSQCH101J50
C 331	CKSQYB224K16	C 612	CCSQCH101J50
C 333	CKSQYB103K50	C 615	CCSQCH101J50
C 334	CEAL101M6R3	C 616	CCSQCH101J50
C 335	CEJA470M10	C 619	CCSQCH101J50
C 336	CKSQYB103K50	C 625	CKSQYB103K50
C 337	CEAL4R7M35	C 626	CKSQYB103K50
C 339	4.7µF/35V CCH1016	C 627	CKSQYB221K50
C 340	4.7µF/35V CCH1016	C 628	CKSQYB221K50
C 341	CEAL100M16	C 648	CKSQYB102K50
C 343	CCSQCH101J50	C 651	CKSQYB471K50
C 344	CCSQCH101J50	C 652	CCSQCH101J50
C 403	4.7µF/35V CCH1016	C 801	CKSQYB102K50
C 404	4.7µF/35V CCH1016	C 802	CEALR47M50
C 405	CKSQYB273K50	C 803	CKSQYB102K50
C 406	CKSQYB273K50	C 804	CCH1186
C 407	CKSQYB183K50	C 805	CKSQYB473K50
C 408	CKSQYB183K50	C 806	CKSQYB102K50
C 413	4.7µF/35V CCH1016	C 807	CEAL1R0M50
C 414	4.7µF/35V CCH1016	C 808	CKSQYB102K50
C 415	CCSQCH101J50	C 809	CCH1186
C 416	CCSQCH101J50	C 811	CCSQCH101J50
C 434	CKSQYB153K50	C 812	CKSQYB103K50
C 435	CKSQYB105K16	C 813	CEJA221M6R3
C 436	CEJA101M10	C 814	CEAL1R0M50
C 503	CKSQYB222K50	C 815	CEAL1R0M50
C 504	CKSQYB222K50	C 816	CKSQYB103K50
C 505	CKSQYB222K50	C 817	100µF/10V CCH1402
C 507	CKSQYB103K50	C 818	CKSQYB103K50
C 508	CKSQYB103K50	C 819	100µF/10V CCH1282
C 509	CEAL100M16	C 820	CKSQYB103K50
C 510	CKSQYB472K50	C 824	CKSQYB472K50

====Circuit Symbol and No.====Part Name	Part No.
C 826	CKSQYB472K50
C 829	CKSQYB103K50
C 830	CKSQYB103K50
C 831	CKSQYB103K50
C 832	CKSQYB103K50
C 833	CKSQYB102K50
C 841	CKSQYB102K50
C 861	CKSQYB223K50
C 862	CKSQYB223K50
C 863	CKSQYB223K50

**Q** Unit Number : CWM7926  
Unit Name : Control Unit

**MISCELLANEOUS**

IC 701	IC	PD5715A
Q 701	Transistor	DTA144EK
D 701	Diode	1SS355
L 701	Inductor	LCTB100K3216
L 702	Inductor	LCTB100K3216
TH 701	Thermistor	CCX1036
X 701	Ceramic Resonator 6.290MHz	CSS1367

**RESISTORS**

R 701		RS1/10S433J
R 702		RS1/10S103J
R 703		RS1/10S222J
R 704		RS1/8S103J
R 705		RS1/10S102J
R 706		RA2CQ222J
R 707		RA2CQ103J
R 708	330Ω	CCN1116
R 709		RA2CQ222J
R 710		RS1/10S104J
R 711		RS1/10S331J
R 712		RS1/10S103J
R 713		RS1/10S102J
R 714		RA2CQ222J
R 715		RA2CQ103J
R 716		RA2CQ102J
R 717		RS1/10S102J
R 718		RS1/10S471J
R 719		RS1/10S102J
R 720		RA2CQ471J
R 721		RS1/10S102J
R 722		RA2CQ222J
R 723		RA2CQ473J
R 724		RS1/10S102J
R 725		RA3C471J
R 726		RA2CQ102J
R 727		RA2CQ102J
R 728	470Ω	CCN1117
R 729	470Ω	CCN1117
R 730	470Ω	CCN1117
R 731		RS1/10S471J
R 732		RS1/10S912J
R 733		RS1/10S102J
R 734	2.2kΩ	CCN1121
R 735		RS1/10S273J
R 736		RS1/10S512J
R 737		RS1/10S104J
R 738		RS1/10S154J
R 739		RS1/10S183J
R 740		RS1/10S102J

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

C 701	CKSYB102K50
C 702	CKSQYB102K50
C 704	CKSQYB102K50
C 705	CKSQYB102K50
C 706	CKSQYB102K50
C 709	CCSQCH101J50
C 711	CKSQYB102K50
C 712	CKSQYB102K50
C 714	CCSQCH180J50
C 715	CCSQCH180J50
C 716	CKSQYB102K50
C 717	CKSQYB102K50
C 718	CKSQYB102K50
C 719	CKSQYB102K50
C 721	CKSQYB102K50
C 722	CKSQYB105K10
C 723	CKSQYB103K50
C 724	CKSQYB102K50
C 725	CKSQYB102K50
C 726	CKSQYB102K50
C 727	CKSQYB102K50
C 728	CKSQYB102K50

<b>Keyboard Unit</b>
Consist of
Keyboard PCB
Right PCB
Left PCB

**C R S** Unit Number : CWM7359  
Unit Name : Keyboard Unit

**MISCELLANEOUS**

IC 1801	IC	LC75804W
Q 1801	Transistor	2SB1132
Q 1802	Transistor	DTC123YK
Q 1803	Transistor	2SB1132
Q 1804	Transistor	DTC123YK
D 1802	Diode	1SS355
D 1803	Diode	1SS355
D 1804	Diode	1SS355
D 1805	Diode	1SS355
D 1806	Diode	1SS355
D 1815	Chip LED	SML210FC(KL)
D 1816	Chip LED	SML210FC(KL)
D 1817	Chip LED	SML210FC(KL)
D 1818	Chip LED	SML210FC(KL)
D 1819	Chip LED	SML210FC(KL)
D 1820	Chip LED	SML210FC(KL)
D 1821	Chip LED	SML210FC(KL)
D 1822	Chip LED	SML210FC(KL)
D 1823	Chip LED	SML210FC(KL)
D 1824	Chip LED	SML210FC(KL)
D 1825	Chip LED	SML210FC(KL)
D 1826	Chip LED	SML210FC(KL)
D 1827	Chip LED	SML210FC(KL)
D 1828	Chip LED	SML210FC(KL)
D 1829	Chip LED	SML210FC(KL)
D 1830	Chip LED	SML210FC(KL)
D 1831	Chip LED	SML210FC(KL)
D 1832	Chip LED	SML210FC(KL)
D 1833	Chip LED	SML210FC(KL)
D 1834	Chip LED	SML210FC(KL)

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
D 1835	Chip LED	R 1848	RS1/16S121J
D 1836	Chip LED	R 1849	RS1/16S101J
D 1837	Chip LED	R 1850	RS1/16S121J
D 1838	Chip LED	R 1851	RS1/16S151J
D 1839	LED	R 1852	RS1/16S151J
D 1840	LED	R 1853	RS1/16S121J
D 1842	Chip LED	R 1854	RS1/16S121J
D 1901	Chip LED	R 1855	RS1/16S151J
D 1902	Chip LED	R 1856	RS1/16S151J
D 1903	Chip LED	R 1857	RS1/16S151J
D 1904	Chip LED	R 1858	RS1/16S151J
D 1905	Chip LED	R 1859	RS1/16S121J
D 1906	Chip LED	R 1860	RS1/16S121J
D 1907	Chip LED	R 1861	RS1/16S102J
D 1908	Chip LED	R 1862	RS1/16S103J
D 1909	Chip LED	R 1863	RS1/16S121J
D 1910	Chip LED	R 1864	RS1/16S101J
D 1911	Chip LED	R 1865	RS1/16S101J
D 1912	Chip LED	R 1866	RS1/16S101J
S 1817	Spring Switch(DCLOSE)	R 1867	RS1/16S101J
IL 1807	Lamp 8V 80mA	R 1868	RS1/16S101J
IL 1808	Lamp 8V 80mA	R 1869	RS1/16S151J
VR 1901	Encoder	R 1870	RS1/16S151J
VR 1902	Encoder	R 1871	RS1/16S151J
LCD1804	LCD	R 1872	RS1/16S151J
<b>RESISTORS</b>			
R 1701	RS1/16S0R0J	R 1873	RS1/16S151J
R 1702	RS1/16S0R0J	R 1874	RS1/16S151J
R 1703	RS1/16S0R0J	R 1875	RS1/16S151J
R 1704	RS1/16S0R0J	R 1876	RS1/16S121J
R 1709	RS1/16S0R0J	R 1877	RS1/16S121J
R 1712	RS1/16S0R0J	R 1878	RS1/16S121J
R 1713	RS1/16S103J	R 1879	RS1/16S151J
R 1714	RS1/16S221J	R 1880	RS1/16S151J
R 1715	RS1/16S221J	R 1881	RS1/16S271J
R 1716	RS1/16S151J	R 1882	RS1/16S271J
R 1717	RS1/16S151J	R 1883	RS1/16S151J
R 1801	RS1/16S393J	R 1884	RS1/16S151J
R 1802	RS1/16S223J	R 1885	RS1/16S151J
R 1803	RS1/16S223J	R 1886	RS1/16S151J
R 1804	RS1/16S223J	R 1887	RS1/16S271J
R 1805	RS1/16S102J	R 1888	RS1/16S271J
R 1806	RS1/16S102J	R 1889	RS1/16S151J
R 1807	RS1/16S102J	R 1890	RS1/16S151J
R 1808	RS1/16S102J	R 1891	RS1/16S151J
R 1809	RS1/16S102J	R 1892	RS1/16S181J
R 1810	RS1/16S102J	R 1893	RS1/16S181J
R 1811	RS1/16S102J	R 1894	RS1/16S101J
R 1812	RS1/16S102J	R 1895	RS1/16S101J
R 1813	RS1/16S102J	R 1896	RS1/16S101J
R 1818	RS1/16S472J	R 1897	RS1/16S103J
R 1819	RS1/16S472J	R 1898	RS1/16S4R7J
R 1820	RS1/16S472J	R 1899	RS1/16S4R7J
R 1821	RS1/16S301J	R 1901	RS1/16S121J
R 1822	RS1/16S681J	R 1902	RS1/16S121J
R 1823	RS1/16S102J	R 1903	RS1/16S121J
R 1824	RS1/16S102J	R 1904	RS1/16S151J
R 1825	RS1/16S102J	R 1905	RS1/16S151J
R 1826	RS1/16S102J	R 1906	RS1/16S151J
R 1836	RS1/16S4R7J	R 1907	RS1/16S121J
R 1837	RS1/16S4R7J	R 1908	RS1/16S121J
R 1840	RS1/16S101J	R 1909	RS1/16S121J
R 1844	RS1/16S151J	R 1910	RS1/16S151J
R 1845	RS1/16S151J	R 1911	RS1/16S151J
R 1846	RS1/16S151J	R 1912	RS1/16S151J
R 1847	RS1/16S151J	R 1913	RS1/16S121J

====Circuit Symbol and No.====Part Name	Part No.
R 1914	RS1/16S121J
R 1915	RS1/16S121J
R 1916	RS1/16S151J
R 1917	RS1/16S151J
R 1918	RS1/16S151J
R 1919	RS1/16S121J
R 1920	RS1/16S121J
R 1921	RS1/16S121J
R 1922	RS1/16S151J
R 1923	RS1/16S151J
R 1924	RS1/16S151J
<b>CAPACITORS</b>	
C 1801	CKSRYP102K50
C 1802	CCSRCH101J50
C 1803	CCSRCH101J50
C 1804	CKSRYP474K10
C 1805	CKSRYP104K16
C 1806	CKSRYP104K16
C 1807	CKSRYP104K16
C 1810	CKSRYP102K50
C 1811	CKSRYP102K50
C 1812	CKSRYP102K50
C 1813	CKSRYP102K50
C 1814	CKSRYP102K50

**E** Unit Number : CWX2421  
 Unit Name : CD Core Unit(Servo Unit)

<b>MISCELLANEOUS</b>		Part No.
IC 101	IC	UPC2572GS
IC 201	IC	UPD63702AGF
IC 301	IC	BA5986FM
Q 101	Transistor	2SD1664
Q 102	Transistor	UMD2N
D 301	Diode	1SR154-400
L 201	Inductor	LCYBR15J1608
L 202	Inductor	LCYBR15J1608
X 201	Ceramic Resonator 16.934MHz	CSS1457
EF 201	Filter	CCG1076
EF 202	Filter	CCG1076

<b>RESISTORS</b>		Part No.
R 101		RS1/8S100J
R 102		RS1/8S120J
R 104		RS1/16S822J
R 105		RS1/16S682J
R 106		RS1/16S183J
R 107		RS1/16S822J
R 108		RS1/16S333J
R 109		RS1/16S683J
R 110		RS1/16S134J
R 111		RS1/16S273J
R 112		RS1/16S222J
R 113		RS1/16S103J
R 114		RS1/16S103J
R 115		RS1/16S102J
R 116		RS1/16S163J
R 117		RS1/16S163J
R 120		RS1/16S101J
R 121		RS1/16S101J
R 201		RS1/16S104J
R 202		RS1/16S103J
R 203		RS1/16S332J
R 204		RS1/16S752J
R 205		RS1/16S752J
R 206		RS1/16S101J
R 250		RS1/16S331J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 251	RS1/16S331J	R 251	RS1/16S331J
R 252	RS1/16S331J	R 252	RS1/16S331J
R 253	RS1/16S331J	R 253	RS1/16S331J
R 254	RS1/16S331J	R 254	RS1/16S331J
R 255	RS1/16S471J	R 255	RS1/16S471J
R 256	RS1/16S471J	R 256	RS1/16S471J
R 263	RS1/16S471J	R 263	RS1/16S471J
R 270	RS1/16S101J	R 270	RS1/16S101J
R 271	RS1/16S101J	R 271	RS1/16S101J
R 274	RS1/16S471J	R 274	RS1/16S471J
R 277	RS1/16S471J	R 277	RS1/16S471J
R 301	RS1/16S103J	R 301	RS1/16S103J
R 302	RS1/16S153J	R 302	RS1/16S153J
R 303	RS1/16S103J	R 303	RS1/16S103J
R 304	RS1/16S273J	R 304	RS1/16S273J
R 305	RS1/16S103J	R 305	RS1/16S103J
R 306	RS1/16S752J	R 306	RS1/16S752J
R 307	RS1/16S103J	R 307	RS1/16S103J
R 308	RS1/16S103J	R 308	RS1/16S103J
R 309	RS1/16S471J	R 309	RS1/16S471J
R 311	RS1/16S471J	R 311	RS1/16S471J
<b>CAPACITORS</b>			
C 101	CEV101M6R3	C 101	CEV101M6R3
C 102	CKSQYB104K16	C 102	CKSQYB104K16
C 103	CEV470M6R3	C 103	CEV470M6R3
C 104	CKSQYB334K16	C 104	CKSQYB334K16
C 105	CCSRCH240J50	C 105	CCSRCH240J50
C 106	CKSRYP222K50	C 106	CKSRYP222K50
C 107	CEV4R7M35	C 107	CEV4R7M35
C 108	CKSRYP273K25	C 108	CKSRYP273K25
C 109	CCSRCH101J50	C 109	CCSRCH101J50
C 110	CKSQYB104K16	C 110	CKSQYB104K16
C 111	CKSRYP332K50	C 111	CKSRYP332K50
C 112	CKSQYB473K16	C 112	CKSQYB473K16
C 113	CKSRYP103K25	C 113	CKSRYP103K25
C 114	CKSRYP391K50	C 114	CKSRYP391K50
C 115	CCSRCH121J50	C 115	CCSRCH121J50
C 116	CKSRYP682K50	C 116	CKSRYP682K50
C 117	CKSRYP333K16	C 117	CKSRYP333K16
C 118	CKSQYB334K16	C 118	CKSQYB334K16
C 119	CKSQYB334K16	C 119	CKSQYB334K16
C 120	CKSQYB334K16	C 120	CKSQYB334K16
C 121	CKSQYB334K16	C 121	CKSQYB334K16
C 122	CKSQYB104K16	C 122	CKSQYB104K16
C 123	CKSRYP472K50	C 123	CKSRYP472K50
C 124	CKSQYB104K16	C 124	CKSQYB104K16
C 125	CCSRCH5R0C50	C 125	CCSRCH5R0C50
C 126	CKSRYP153K25	C 126	CKSRYP153K25
C 127	CKSRYP102K50	C 127	CKSRYP102K50
C 201	CKSQYB334K16	C 201	CKSQYB334K16
C 202	CKSQYB104K16	C 202	CKSQYB104K16
C 203	CKSQYB104K16	C 203	CKSQYB104K16
C 204	CKSRYP471K50	C 204	CKSRYP471K50
C 207	CKSQYB683K16	C 207	CKSQYB683K16
C 208	CKSRYP821K50	C 208	CKSRYP821K50
C 209	CKSRYP273K25	C 209	CKSRYP273K25
C 210	CKSQYB334K16	C 210	CKSQYB334K16
C 211	CKSQYB334K16	C 211	CKSQYB334K16
C 212	CKSQYB334K16	C 212	CKSQYB334K16
C 213	CCH1349	C 213	CCH1349
C 301	CEV101M10	C 301	CEV101M10
C 302	CEV101M10	C 302	CEV101M10

10µF/10V



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

**G** Unit Number : CWX2422  
Unit Name : CD Core Unit(STS Unit)

MISCELLANEOUS

IC 501 IC CXD2511R  
IC 502 IC MSM514400DP-60TS  
IC 601 IC AK4321VF  
IC 701 IC BA05SFP  
IC 801 IC LB1836M

IC 802 IC LB1836M  
Q 801 Transistor DTA123JK  
Q 802 Transistor UN2211  
D 701 Diode 1SR154-400  
D 702 Diode 1SR154-400

D 703 Diode 1SS355  
D 704 Diode 1SS355  
D 705 Diode 1SS355  
D 706 Diode 1SS355  
D 707 Diode 1SS355

D 708 Diode 1SS355  
S 801 Spring Switch(LOAD) CSN1052  
S 802 Spring Switch(DOOR) CSN1052  
S 803 Spring Switch(MODE) CSN1052  
EF 701 Filter CCG1051

EF 702 Filter CCG1051  
EF 703 Filter CCG1051

RESISTORS

R 501 RS1/16S102J  
R 502 RS1/16S202J  
R 503 RS1/16S392J  
R 504 RS1/16S822J  
R 505 RS1/16S163J

R 506 RS1/16S512J  
R 507 RS1/16S182J  
R 508 RS1/16S222J  
R 509 RS1/16S102J  
R 510 RS1/16S102J

R 511 RS1/16S102J  
R 512 RS1/16S102J  
R 513 RS1/16S102J  
R 514 RS1/16S471J  
R 601 RS1/16S101J

R 602 RS1/16S101J  
R 603 RS1/16S471J  
R 604 RS1/16S471J  
R 702 RS1/10S100J  
R 716 RS1/16S471J

R 717 RS1/16S471J  
R 718 RS1/16S471J  
R 801 RS1/10S102J

CAPACITORS

C 501 CKSQYB334K16  
C 502 CKSQYB334K16  
C 503 CKSQYB334K16  
C 504 CCSRCH471J50  
C 506 CCSRCH221J50

C 601 CKSQYB334K16  
C 602 CCSRCH221J50  
C 603 CKSQYB334K16  
C 604 CKSQYB334K16  
C 605 CSZSR100M10

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

C 606 CKSQYB334K16  
C 701 10µF/10V CCH1349  
C 702 CEVL101M6R3  
C 703 CKSQYB334K16  
C 704 CKSQYB334K16

C 705 CCSRCH151J50  
C 706 CCSRCH151J50  
C 707 CCSRCH151J50  
C 801 CKSQYB104K25  
C 802 CKSQYB104K25

C 803 CEVL220M16

**L** Unit Number :  
Unit Name : PCB Unit(A)

D 891 Chip LED CL205IRXTU  
D 892 Chip LED CL205IRXTU

**H** Unit Number :  
Unit Name : PCB Unit(B)

S 886 Spring Switch(ELV Home) CSN1052  
S 887 Spring Switch(Clamp) CSN1051

**J** Unit Number :  
Unit Name : PCB Unit(C)

Q 881 Photo-transistor CPT230SCTD  
D 883 Chip LED CL205IRXTU  
S 885 Spring Switch(MAX DETECT) CSN1052  
L 801 Inductor LCYBR15J1608  
L 802 Inductor LCYBR15J1608

**M** Unit Number :  
Unit Name : PCB Unit(D)

Q 851 Photo-transistor CPT230SCTD  
Q 852 Photo-transistor CPT230SCTD  
L 1 Inductor LCYBR15J1608  
L 2 Inductor LCYBR15J1608

**I** Unit Number :  
Unit Name : PCB Unit(E)

R 856 RS1/8S911J  
R 857 RS1/8S821J

**F** Unit Number :  
Unit Name : Motor PCB(A)

Q 1 Photo-interrupter RPI-221  
M 1 Motor Unit(Cam Gear) CXB6929  
M 3 Motor Unit(ELV) CXB3175

**D** Unit Number :  
Unit Name : Motor PCB(B)

M 4 Motor Unit(Carriage) CXB3178  
M 5 Motor(Spindle) CXM1120

**K** Unit Number :  
Unit Name : Load Motor PCB

M 2 Motor Unit(Load) CXB3177

**N** Unit Number : EWM1030  
Unit Name : Deck Unit

MISCELLANEOUS

IC 251 IC HA12216F  
IC 351 IC PA2020A  
Q 271 Transistor 2SC4116  
Q 351 Transistor 2SB1260  
Q 352 Transistor 2SC4102

====Circuit Symbol and No.====	Part Name	Part No.
D 351	Diode	1SS355
VR 301	Semi-fixed 33kΩ(B)	CCP1280
VR 302	Semi-fixed 33kΩ(B)	CCP1280

**RESISTORS**

R 255	RS1/16S181J
R 256	RS1/16S181J
R 257	RS1/16S183J
R 258	RS1/16S183J
R 259	RS1/16S133J
R 260	RS1/16S133J
R 261	RS1/16S274J
R 262	RS1/16S274J
R 271	RS1/16S183J
R 272	RS1/8S0R0J
R 273	RS1/8S0R0J
R 275	RS1/16S473J
R 276	RS1/16S104J
R 277	RS1/16S224J
R 278	RS1/16S104J
R 281	RS1/8S0R0J
R 282	RS1/8S0R0J
R 283	RS1/8S0R0J
R 284	RS1/8S0R0J
R 285	RS1/8S0R0J
R 286	RS1/8S0R0J
R 287	RS1/8S0R0J
R 288	RS1/8S0R0J
R 292	RS1/8S0R0J
R 296	RS1/16S0R0J
R 321	RS1/8S0R0J
R 322	RS1/16S0R0J
R 351	RS1/16S102J
R 352	RS1/16S102J
R 353	RS1/16S102J
R 354	RS1/16S102J
R 355	RS1/10S274J
R 356	RS1/10S202J
R 357	RS1/10S472J
R 358	RS1/10S103J
R 359	RS1/10S103J
R 360	RS1/10S102J
R 361	RS1/10S622J
R 362	RS1/8S181J
R 373	RS1/8S0R0J
R 374	RS1/8S0R0J
R 375	RS1/8S0R0J
R 401	RS1/16S123J
R 402	RS1/16S332J
R 403	RS1/16S911J
R 404	RS1/16S274J

**CAPACITORS**

C 251	CKSRYB391K50
C 252	CKSRYB391K50
C 253	CKSRYB391K50
C 254	CKSRYB391K50
C 255	CKSRYB103K50
C 256	CKSRYB103K50
C 271	CEV1R0M50
C 272	CKSQYB104K16
C 301	CKSRYB104K16
C 302	CKSRYB104K16
C 309	CKSQYB104K16
C 310	CKSQYB104K16
C 351	CKSYB224K25
C 352	CKSQYB392K50

====Circuit Symbol and No.====	Part Name	Part No.
C 353		CKSQYB103K50
C 354		CKSQYB103K50
C 355		CKSYB104K50
C 356		CKSQYB103K50
C 401		CKSQYB472K50
C 402		CKSQYB334K16
C 403		CKSQYB223K25
C 404		CKSRYB103K50
C 405		CKSRYB333K16

**O** Unit Number :  
Unit Name : PCB Unit

L 1	Inductor	ETH0002
S 1	Switch (LOAD)	ESG1004
S 2	Switch (70μs)	ESG1004
EGN 1	Photo-Interrupter	EGN1005

**P** Unit Number :  
Unit Name : Reel PCB

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

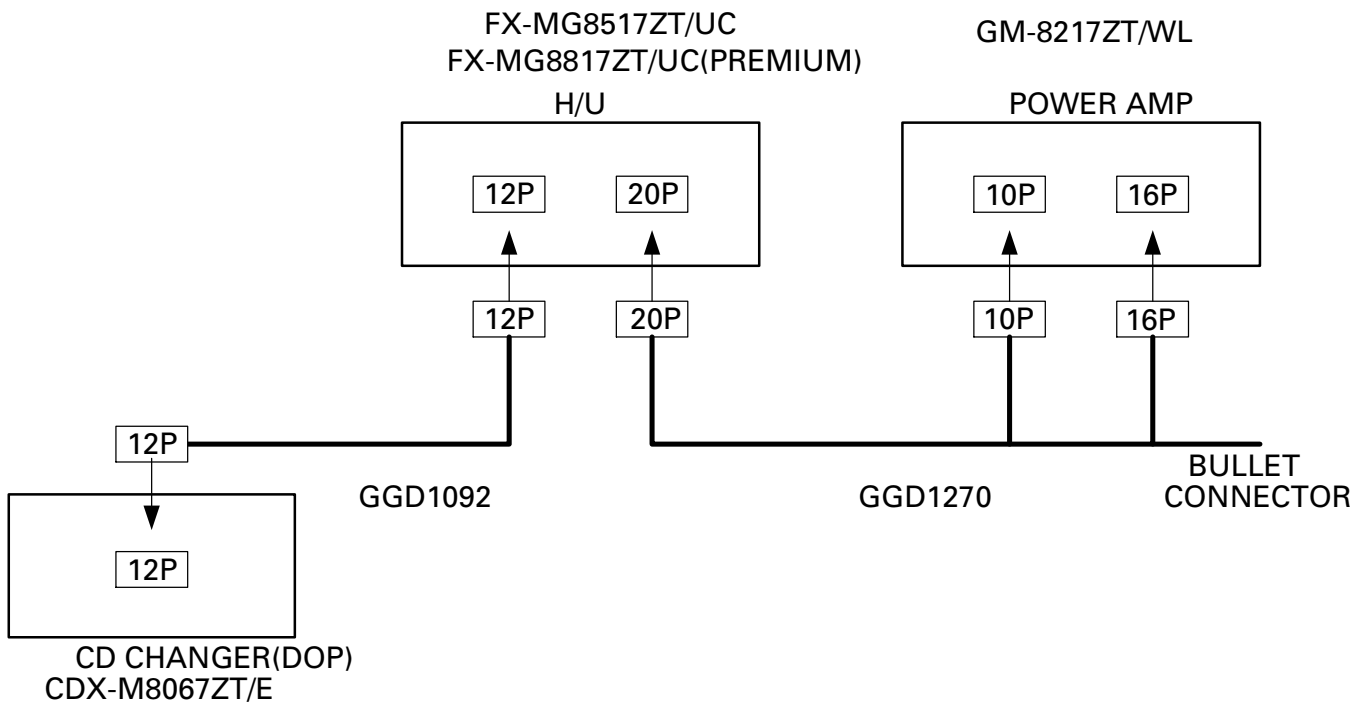
**Miscellaneous Parts List**

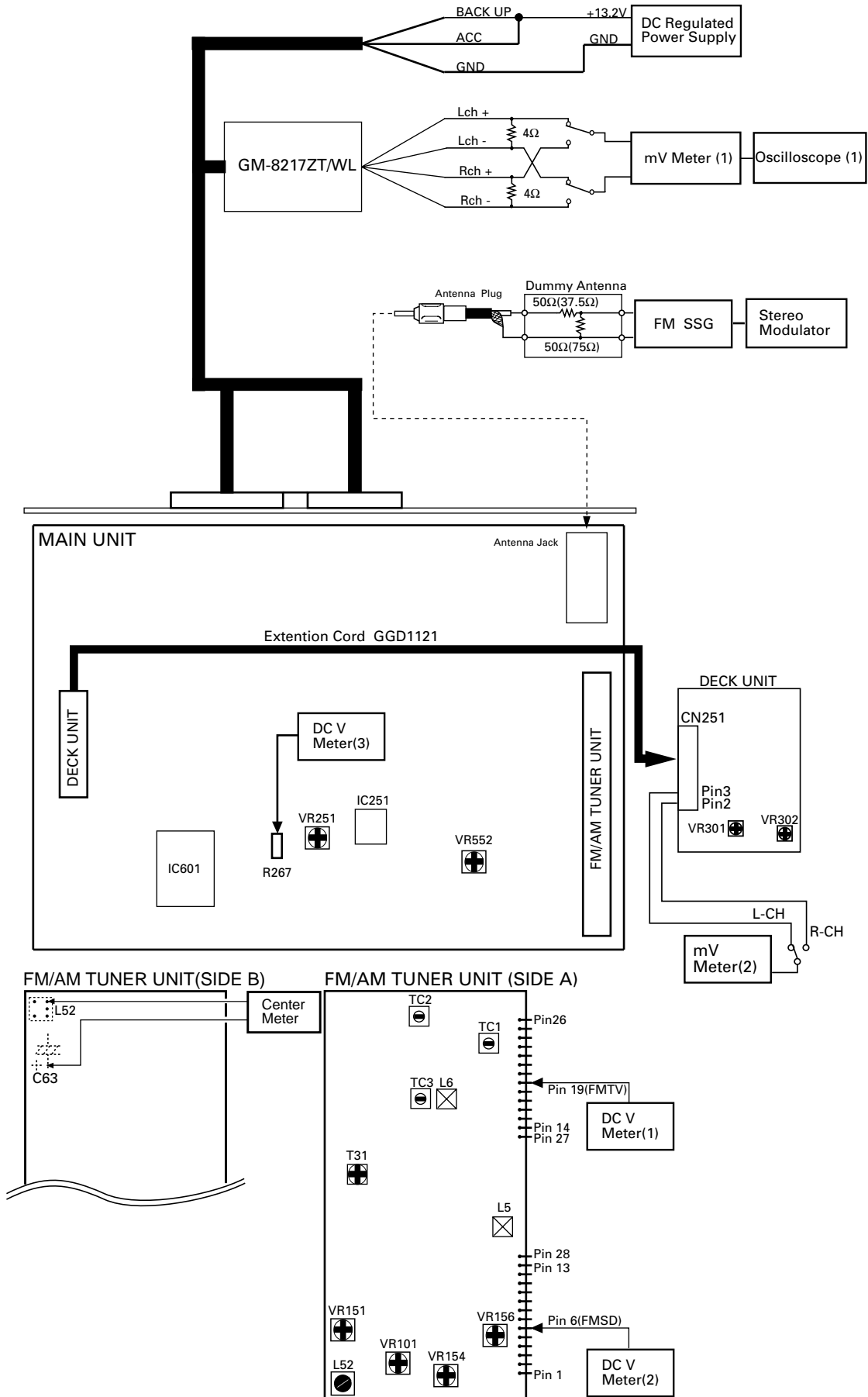
C 1		CEAL4R7M35
M 1	Motor Unit (Main)	EXA1499
M 2	Motor Unit (Sub)	EXA1382
HD 1	Head Assy	EXA1594
	Pickup Unit(Service)(P8)	CXX1313

## 6. ADJUSTMENT

### 6.1 TUNER, CASSETTE SECTION

● Connection Diagram





**FM ADJUSTMENT**

Modulation M: MONO MOD., 400Hz 30%(22.5kHz Dev.)  
 S1: STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)  
 S2: STEREO MOD., 1kHz, L or R=60%(40.5kHz+7.5kHz Dev.)

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

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	••••	••••	108.0	L5	DC V Meter(1) : 6.0V
Center Meter	1	98.1 M	65-85	98.1	L52	Center Meter : 0
IFT	1	98.1 M	5-15	98.1	T31	mV Meter(1) : Maximum
RF Trimmer	1	106.1 M	5-15	106.1	TC3	mV Meter(1) : Maximum
ANT Trimmer	1	98.1 M	5-15	98.1	TC1,TC2	mV Meter(1) : Maximum
RF Coil	1	89.9 M	5-15	89.9	L6	mV Meter(1) : Maximum
RF Trimmer	1	106.1 M	5-15	106.1	TC3	mV Meter(1) : Maximum
RF Coil	1	89.9 M	5-15	89.9	L6	mV Meter(1) : Maximum
RF Trimmer	1	106.1 M	5-15	106.1	TC3	mV Meter(1) : Maximum
Separation	1	98.1 S	65	98.1	VR101	mV Meter(1) : Maximum
ARC Separation	1	98.1 S	38	98.1	VR154	mV Meter(1) : Separation 5dB
Interstation	1	98.1 M	65	98.1	••••	mV Meter(1) : AdB
Noise	2	98.1 M	-∞	98.1	VR151	mV Meter(1) : A-20dB
Search	1	98.1 M	33	98.1	VR156	DC V Meter(2) : more than 3.5V
Sensitivity	2	98.1 M	32	98.1	VR156	DC V Meter(2) : 0V
	3	Repeat steps 1 and 2 until the adjustment standards are satisfied.				

**RBDS SL ADJUSTMENT**

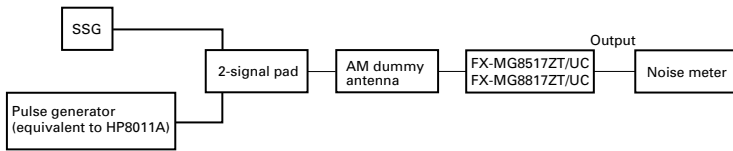
	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	104.1 S2	35	104.1	VR251	DC V Meter(3) : 1.75V+0.05V -0.35V

**DOLBY NR ADJUSTMENT**

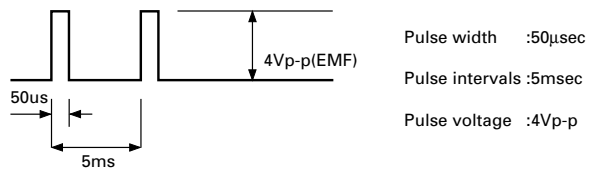
No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : -8.24dBm(300mV)±1dB (DOLBY NR Switch : OFF)

## AM NOISE CANCELER ADJUSTMENT

Connection:



Setting of the pulse generator (setting of superimposed pulse)



Adjustment:

1. Setting of SSG
  - Receiving frequency : 1,000 kHz
  - Percentage modulation : 30%
  - Modulation frequency : 400 Hz
  - Antenna input : 74 dBuV (EMF)
2. Set the system as shown in 1., then tune to a radio station.
3. Superimpose the pulse over signal to set modulation of SSG to OFF.
4. Use a noise meter to monitor output. Adjust VR552 to minimize the noise level.

## 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 :

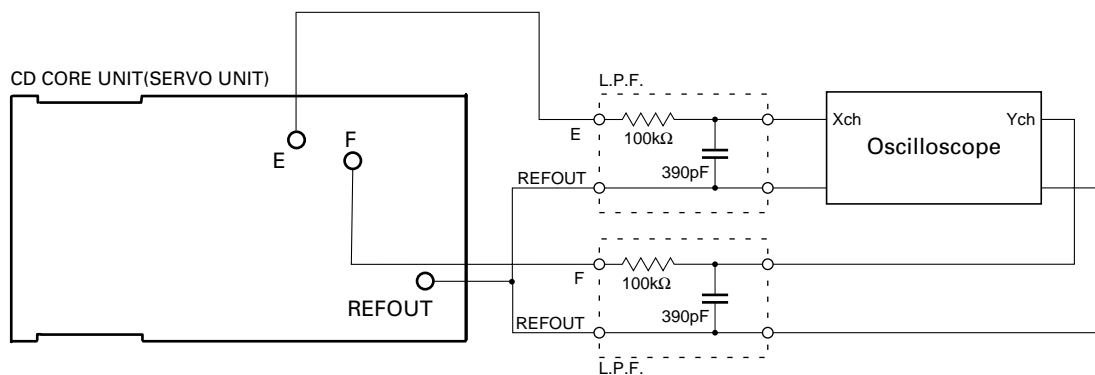
To check that the grating is within an acceptable range when the PU unit is changed.

### • 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, REFOUT             |
| • 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 SEEK UP and SEEK DOWN buttons, move the PU unit to the innermost track.
3. Press key **5** to close focus, the display should read "91". Press key **3** to implement the tracking balance adjustment the display should now read "81". Press key **5 4** 4 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  $75^\circ$ . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than  $75^\circ$  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  $75^\circ$  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

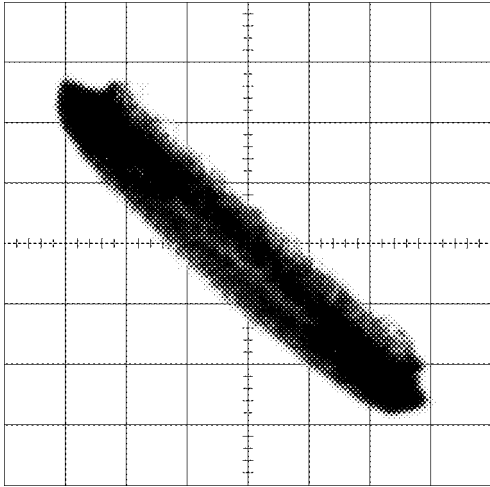
Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

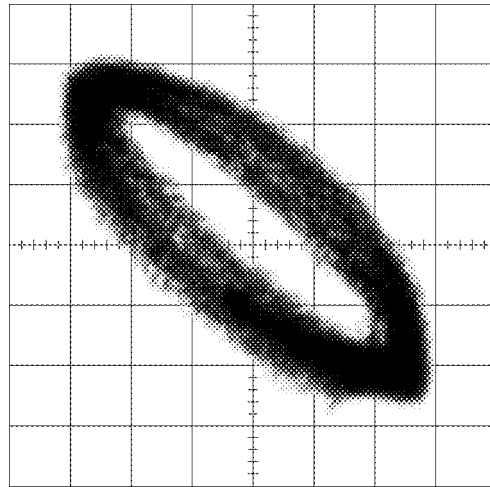
Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC

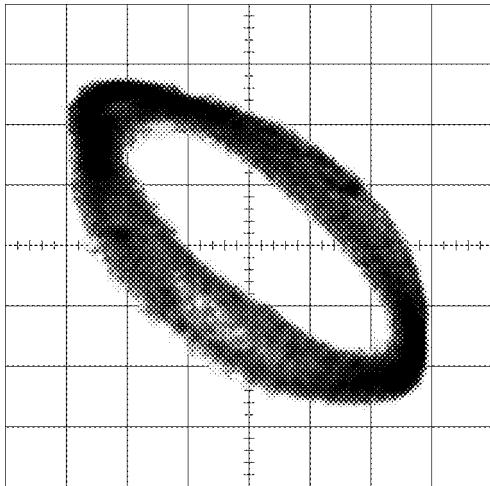
0°



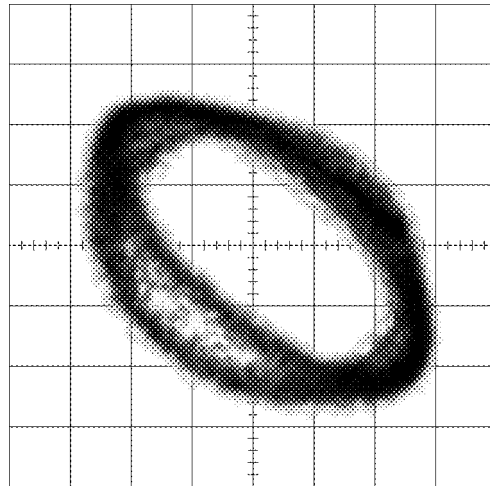
30°



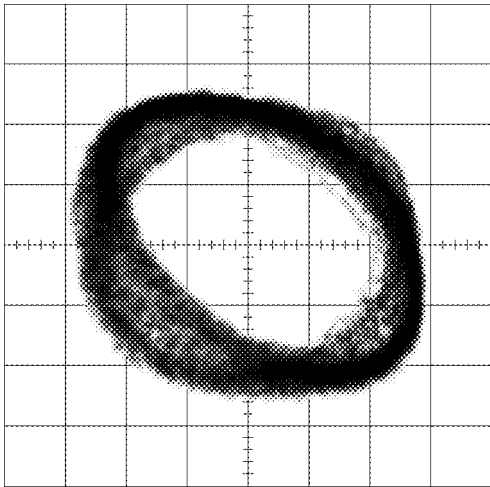
45°



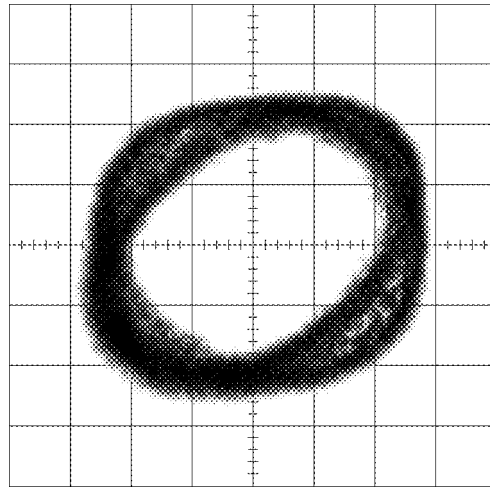
60°



75°



90°





## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 TEST MODE

##### ● CD Test Mode

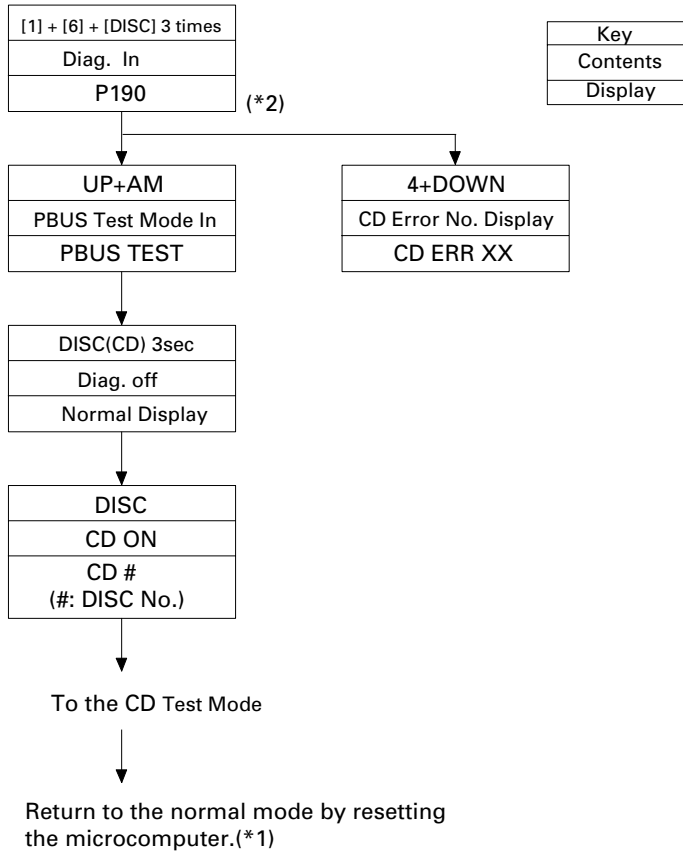
##### 1) Precautions on Adjustment

- The unit employs a single voltage (+5V) for the regulator, thus the reference potential of the signal is RFOUT (approximately 2.5V) rather than GND. Inadvertent contact of RFOUT and GND during adjustment can result not only in disabling normal potential measurement but also in exposing the pickup to strong impacts due to malfunctioning of the servo. Therefore, you are requested to observe the following precautions.
- Make sure that the negative probe of the measuring instrument is not connected to RFOUT or GND. Special care must be exercised so that the channel 1 negative probe may not be connected to the oscilloscope and the channel 2 negative probe to GND. Since the frame of the measuring instrument is usually at the same potential as the negative probe, the frame of the measuring instrument must be changed to floating status. When RFOUT is inadvertently connected to GND, you must immediately turn off the regulator or power supply.
- The regulator must be turned off before mounting or dismounting filters or wiring materials.
- You should not start adjustment or measurement immediately after the regulator is turned on. It is recommended to run the player for approximately one minute so that it may stabilize.
- When the test mode is turned on, various protective functions from the software become unavailable. Thus, you must make sure that undesirable electric or mechanical shocks are not be given to the system.
- This model employs a photo-transistor for detecting discs at their loading or ejection. Thus, if its outer case is removed during repair work and internal parts are exposed to light of strong intensity, malfunctions including the following can result:
  - \* The eject button becomes inoperable during play. Pressing the eject button does not eject a disc and play is continued.
  - \* Loading becomes unavailable.
 If a malfunction is recognized, appropriate remedial actions must be taken. Such actions include changing the light source position, changing the unit position and applying a cover to the photo-transistor.
- When you press the EJECT key to eject a disc, you must not touch any other key until the ejection is complete.
- If you press the SEEK UP or SEEK DOWN for the focus search in the test mode, you must turn the power off immediately. (Otherwise, the lens will be forced to stick to the top or bottom, potentially resulting in the burning of the actuator.)

##### 2) Description of the Test Mode

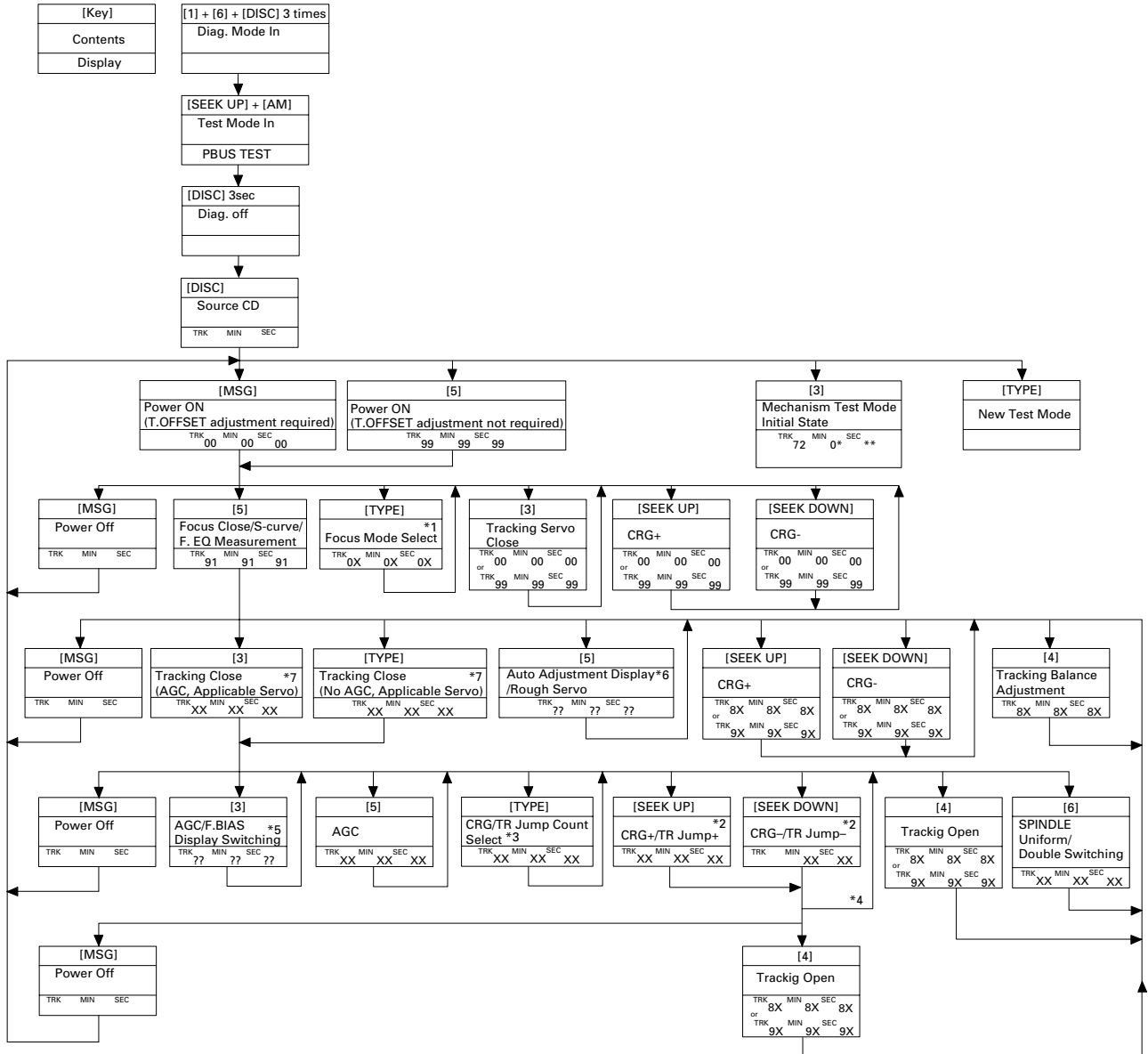
- Turning on the Test Mode  
See page 83.
- Ending the Test Mode  
Apply the reset (the reset will be applied two minutes after the power is turned from off).
- Operation of TR JUMPs (except 100TR) continues after your finger has left the key. CRG, MOVE and 100TR JUMP are forced to the tracking close mode as soon as the key is released.
- Turning the power on or off resets the JUMP MODE to the Single TR.

● How to enter the CD Test Mode



(\*1) For canceling test mode, reset the unit.  
 (\*2) No display unit connected

● CD Player Flow Chart



\*1) Switching must take place in the following sequence.  
 Focus Close → S.Curve Check → Focus EQ Measurement.  
 MIN\_SEC 00 01 02  
 (MIN\_SEC 99 )

\*2) Single TR /4TR / 10TR / 32TR / 100TR

\*3) Switching must take place in the following sequence.  
 Single TR → 4 TR → 10 TR → 32 TR → 100 TR → CRG Move  
 9X(8X):91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

\*4) It applies to the CRG Move and 100TR Jump alone.

\*5) Switching must take place in the following sequence.  
 Min/Sec (or Track No.) → F.AGC Gain → T.AGC Gain → F. BIAS Setting  
 (AGC Gain = (Current value/Initial value) x 20)

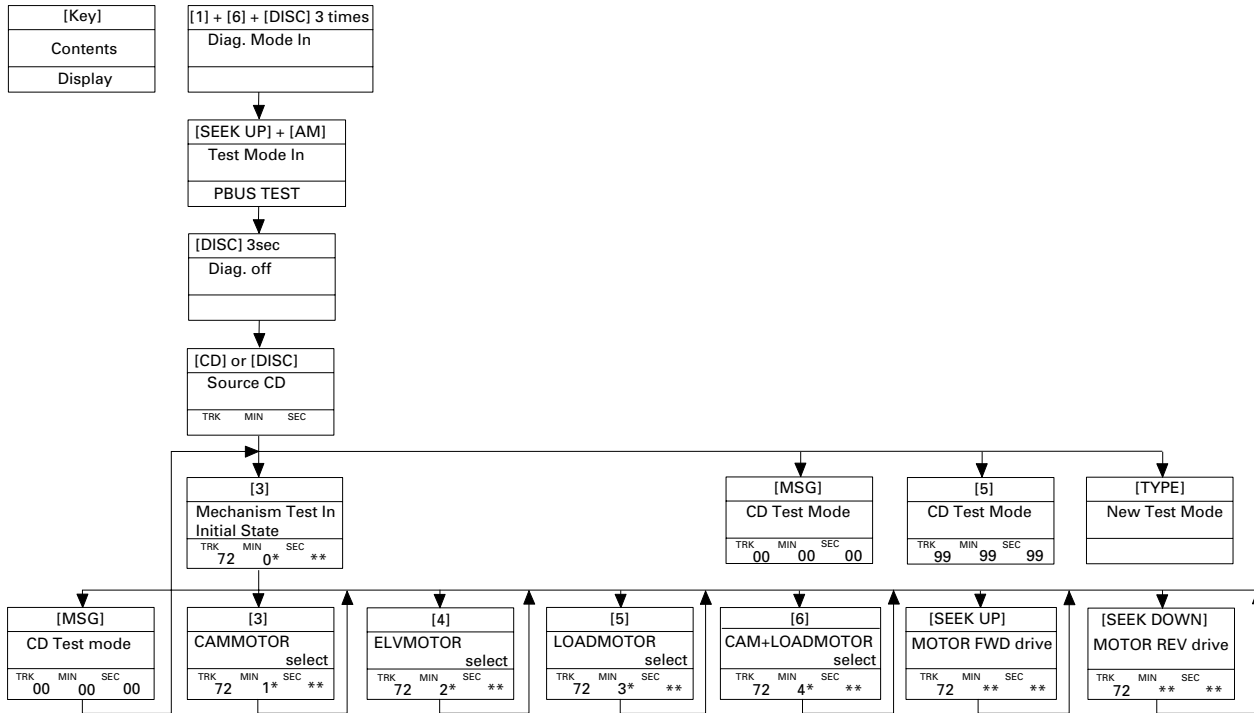
\*6) Switching must take place in the following sequence.  
 F.Cancel Display → T.Offset Display → T.Bal Display → Rough Servo.  
 (F.Bias value, F.Cancel value, T.Offset value, T.Bal value = (Upper 8 bits of the setting (7F[H] to 80[H] + 128)/4 = 63[D] to 32[D] to 00[D]).

\*7) No sound is reproduced even if Tracking Closes, because the STS IC is not controlled during the test mode.

[Key]	Operation	
	Test Mode	New Test Mode
[MSG] B0H	Power ON/OFF	Error occurrence time/ Cause display selection
[SEEK UP] B1H	CRG+/TR Jump+ (Toward the outer tracks)	Track+/FF
[SEEK DOWN] B2H	CRG-/TR Jump- (Toward the inner tracks)	Track-/REV
[3] B3H	Tracking Close/AGC gain, F.Bias adjustment value display selection	—
[4] B4H	Auto Tracking Balance adjustment/ Tracking Open	Mode
[5] B5H	Focus Close, S.Curve, F.EQ measurement/ Rough Servo/AGC	—
[6] B6H	Focus Open	RANDOM
[TYPE] B8H	Focus Mode select/Tracking Close/ CRG+TR Jump selection	Auto/Manual selection
[2] A8H	DISC UP	DISC UP
[1] A9H	DISC DOWN	DISC DOWN
[EJECT] D1-D6	DISC Eject	DISC Eject
[LOAD] 61-66	DISC Load	DISC Load

- Note:
- If [SEEK UP] or [SEEK DOWN] key is pressed during Focus search, turn off the power immediately to prevent the actuator's damage caused by the lens stuck.
  - For all TR jumps (except for 100TR jump), the track jump operation continues even after the key is released. For the CRG Move and 100TR jump, the tracking closes at the same time when the key is released.
  - With the Power Off/On, the Jump Mode is reset to the Single TR(91).
  - To exit from the test mode, reset the unit. (All modes are completely reset about 2 minutes after the Power is turned off.)

● CD Mechanism Test Mode Flow Chart



< Display in the Mechanism Test Mode >

**[TRK]**: 72

**[MIN]**: Upper (10th order): Type of motors selected  
 Lower (order of 1): State of DISC sensing phototransistor and switch

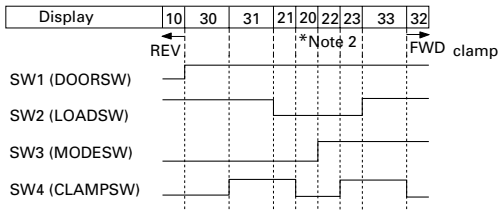
- 1\* : CAM motor
- 2\* : ELV motor
- 3\* : LOAD motor
- 4\* : CAM+LOAD motors

PH1	PH2	MAXSW	Display
L	L	L	*0
H	L	L	*1
L	H	L	*2
H	H	L	*3
L	L	H	*4
H	L	H	*5
L	H	H	*6
H	H	H	*7

L: Phototransistor is OPEN and switch is ON.  
 H: Phototransistor is CLOSE and switch is OFF.

**[SEC]**: ① When ELV motor is selected, ELV position is indicated.  
 01: ELV home position (Disc 1).  
 10: Each Disc position (Disc 2 to 6).  
 11: Between Positions  
 (The other operations except for ELV are impossible) \* Note 1  
 00: Not used (Abnormal condition)

② When CAM and LOAD motors selected, the state of the CAM SW (or the CAM gear) is indicated.



[Key]	Operation
[MSG] B0H	To the Mech Test initial state
[SEEK UP] B1H	Drives the motor selected by [F.7] to [F.10] in the FWD direction. Operative only while the key is pressed.
[SEEK DOWN] B2H	Drives the motor selected by [F.7] to [F.10] for the REV direction. Operative only while the key is pressed.
[3] B3H	Selects the CAM MOTOR.
[4] B4H	Selects the ELV MOTOR.
[5] B5H	Selects the LOAD MOTOR.
[6] B6H	Selects the CAM + LOAD motors.
[2] A8H	DISC UP
[1] A9H	DISC DOWN
[EJECT] 43H	DISC Eject
[LOAD] 60H	DISC Load

□ Cautions

- \* During the mech operation, each key input is ignored.
- \* When the ELV position is '11'(\*Note 1), the other motors cannot be moved.
- \* For elevation, the CAMSW should be at the state \*Note 2 as shown above. Basically, right after the display for the CAM SW changes from 22 to 20, drive the ELV MOTOR.)
- \* When the CAM MOTOR is moved in the REV mode (31 → 30 → 10), the Elevation should be at the EJECT/LOAD position.

□ Operating Procedures:

- 1) Enter the DIAG mode, turn the CD TEST MODE On, exit from the DIAG mode, then switch the SOURCE to CD.
- 2) Press the [3] key to enter the MECH TEST MODE.  
 TRK MIN SEC  
 72\* X\* \*\*
- 3) Press one of the [3] to [6] keys to select the motor to be driven.  
 TRK MIN SEC  
 72\* X\* \*\*
- 4) When the [SEEK UP] or [SEEK DOWN] is pressed, the motor selected at Step 3) is driven.

○ Operation steps from CLAMP to EJECT

- ① Press the [3] key to select the CAM MOTOR, and drive the CAM MOTOR from the CLAMP position (CAMSW:32) for the REV direction. The CAMSW display changes as 32→33→23→22.
- ② If the disc clamped is not the disc to be ejected, around the shifting point between 22 and 20, press the [4] key to select the ELV MOTOR and to position the elevation to the disc to be ejected. After selecting the ELV MOTOR, first be sure to move the Elevation down (in the REV direction) till the ELV position display shows 01 (Disc 1). When the Elevation is moved upward (in the FWD direction), the first indication of 10 shows the position of Disc 2, and the second indication of 10 shows that of Disc 3. Therefore, you can detect the position of the elevation by counting the number of the indication '10'. (Ex: When the elevation moves from Disc 1 to Disc 6, the display changes as follows:01→11→10→11→10→11→10→11→10→11→10.) (If the disc to be ejected has been clamped, step ② is not necessary.)
- ③ Press the [3] key to select the CAM MOTOR, drive the CAM MOTOR in the REV direction till the indication changes from 20 (or 22) to the shifting point between 21 and 31.
- ④ Press the [4] key to select the ELV MOTOR, and move the tray for the disc to be ejected to the EJECT/LOAD position (in the FWD direction). (When the elevation is positioned at the top after moving in the FWD direction (the indication: 10), this is called the EJECT/LOAD position.)
- ⑤ Press the [6] key to select the CAM+LOAD MOTORS, and move the motor in the REV direction until the display changes from 31 to the shifting point between 30 and 10. When the display becomes 10, the door opens and the disc is slightly pushed out.
- ⑥ When the display becomes 10, press the [5] key to select the LOAD MOTOR. Drive the motor in the REV direction to eject the disc completely.

● Error No. Display

The error mode is turned on if a CD player becomes not playable or is forced to halt due to an error. Cause(s) of an error will be indicated with numerical characters. The error-number-display function is intended to facilitate the error analysis and resulting repair work.

(1) Error Code

Error code	Category	Troubles	Description/Cause(s)
10	Electricity	Carriage home error	Unable to move to or from inner perimeter → Failure on home switch or carriage move trouble.
11	Electricity	Focus search error	Unable to set a focus → Scratches or stains on backside of the disc, severe vibrations, CD-R is not written to the disc (it can happen on the backside of the disc).
12	Electricity	Spindle lock error Sub-code error	Spindle lock unavailable, sub-code unreadable → Failure on spindle, scratches on the disc, stains or strong vibrations.
14	Electricity	Mirror error	MIRR signal error continues for 500 msec or more → Stains on the disc or strong vibrations.
17	Electricity	Setup error	AGC protection cannot be turned on in time or focus can be easily lost → Scratches or stains on the disc or strong vibrations.
19	Electricity	Tracking Balance error	Tracking error level is low or tracking balance adjustment is unavailable → Failure on the pickup or tracking-error circuit.
30	Electricity	Search time-out	Target address can't be reached → Failure on the carriage/tracking or scratches on the disc.
A0	System	Error on power supply	Ground fault of power supply (VD) → Failure on switching transistor or failure of power supply.

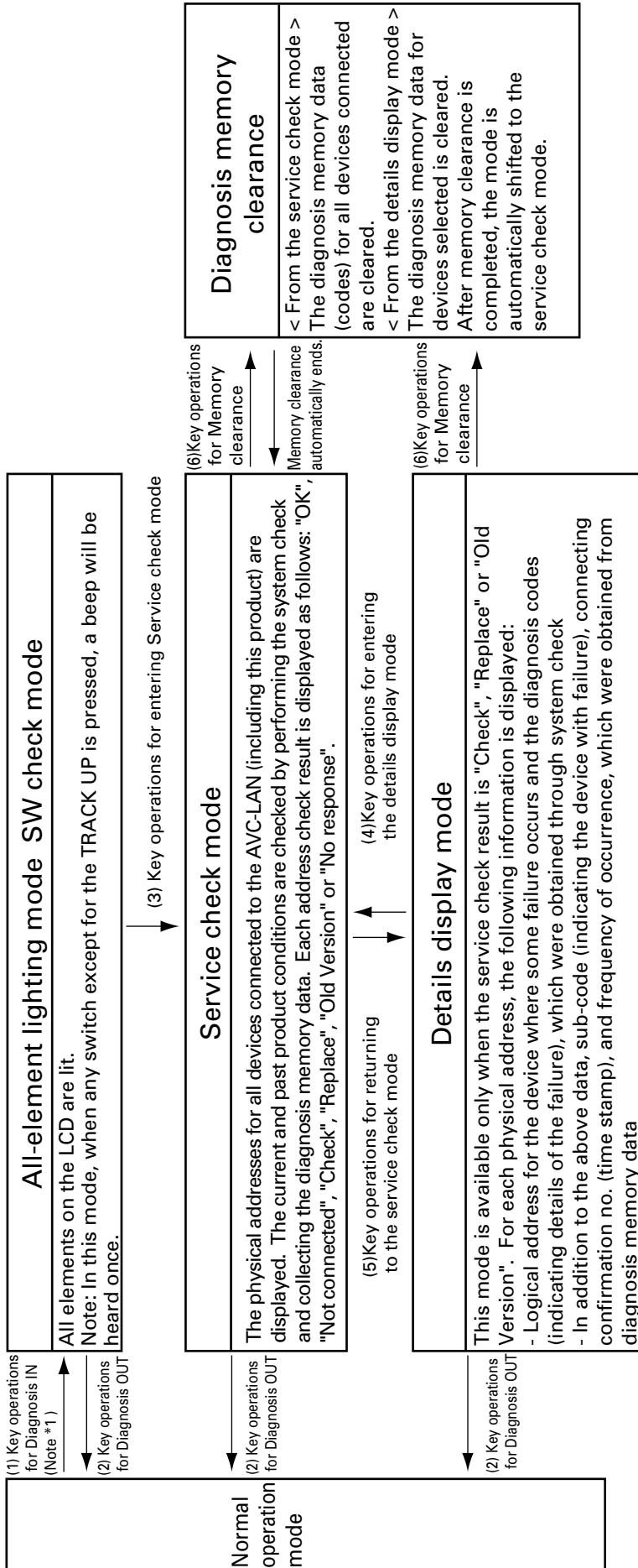
Error code	AVC-LAN Error code
11, 12, 14, 17, 19, 30	ERROR1
10	ERROR3
A0	ERROR4

Code	Name	Description
20	Door OPENING	While the mechanism is in operation, should have been closed a door was opened.
21	Roller OFF time-out	4 seconds have elapsed before completing the roller OFF (the cam gear has not been rotated to the roller-OFF end position).
22	Roller SET time-out (Roller OFF time-out)	4 seconds have elapsed before completing the roller SET. (During the roller OFF operation, 4 seconds have elapsed while the cam gear is rotating in REV direction.)
23	Door CLOSING	Door can't be closed when the roller OFF has ended.
24	Cam started from invalid position	The cam gear attempted to do roller OFF/roller SET from an invalid position.
26	Foreign substance on photo-transistor (before closing the door)	Foreign substance was found on the photo-transistor when closing the door after the loading is complete. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.
29	Roller being caught	Although the cam gear has been rotated up to the roller OFF end position, the roller can't be moved to the standby position.
41	Lift DOWN time-out	4 seconds have elapsed before completing the lift DOWN operation.
42	Lift UP time-out (Lift DOWN time-out)	4 seconds have elapsed before completing the lift UP operation. (During the lift DOWN operation, 4 seconds have passed with the cam gear rotating in REV direction.)
45	Lift DOWN cam displacement	The lift DOWN complete cam gear has been displaced from its specified position.
52	EJECT time-out	8 seconds have elapsed before completing the EJECT operation. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.
57	Photo-transistor being caught after forced EJECT	When forced eject was employed for the Bup failure during loading or ejection, an error will be indicated if the disk is still caught by the photo-transistor after 4 seconds of forced eject.
61	CRGIN time-out (CRGOUT time-out)	10 seconds have elapsed before completing CRGIN operation. (During CRGOUT operation, 10 seconds have elapsed with the cam gear rotating in REV direction.)
62	CRGOUT time-out	10 seconds have elapsed before completing the CRGOUT operation.
65	CRGOUT cam displacement	Position of the CRGOUT complete cam gear has been displaced.
71	ELVUP time-out	2 seconds have elapsed before completing 1-stage UP.
72	ELVDN time-out	2 seconds have elapsed before completing 1-stage DOWN.
74	ELV displacement	At the start of ELV, ELVSNS was not set to low. (In case of starting from the 1st floor, ELHOME was not set to low.)
75	ELV counting error	HLHOME was set to low though not on the 1st floor. (There is a conflict between the floor number stored on the microcomputer and the actual floor number.)
91	LOAD time-out	8 seconds have elapsed before completing the LOAD. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.
96	Settlement of foreign substance	Unauthorized foreign substance such as 8 cm disc has been loaded. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.

\* AVC-LAN Error code : ERROR3

## 7.1.2 SELF-DIAGNOSTIC FUNCTION

- AVC-LAN DIAGNOSIS MODE
- Operations and functions



Note \*1: To enter the diagnosis IN mode, use the buttons on the head unit.

- Key operations

(1) Diagnosis IN With three times of beep sound, the mode change operation completes.	While pressing the CH1 and CH6 buttons simultaneously, press the DISC button three times.
(2) Diagnosis OUT	Keep the DISC button pressed for 3 seconds or more and turn the ACC switch OFF.
(3) Entering the Service check mode. With a beep sound, the mode change completes.	Press the TRACK UP button.
(4) Entering the Details display mode.	Press the CH2 button.
(5) Returning to the service check mode.	Press the CH3 button.
(6) Clearing the Memory data	Keep the CH5 button pressed for 1.7 seconds or more.
Change the display (forward)	Press the TRACK UP button.
Change the display (backward)	Press the TRACK DOWN button.

● Diagnosis mode display

Service check mode

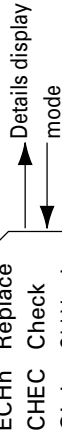
After system check completes, the check results for the devices connected to the AVC-LAN are displayed in turn in order of physical address number as follows:

- ◆ "Physical address"  
...The smallest physical address number is displayed first, whose check result will follow it.

Ex. P190  
Physical address number (radio cassette)

- ◆ "Check result"  
...The check result is displayed.

Ex. good Normal (OK)  
Replace  
CHEC Check  
OLd Old Version



- ◆ "Physical address"  
...The next physical address number is displayed.

- ◆ "Connecting confirmation no. (current)"  
...The AVC-LAN time stamp is displayed.

Ex. no01  
The connecting confirmation number is displayed.  
The current connecting confirmation number (expressed in the hexadecimal number system by using 00 to FF)

The number increases by one each time one minute passes. When 256 minutes pass, the indication returns to 00.

Details display mode (only in case of "Replace", "Check", or "Old Version")

This mode is available only when the service check result is "Replace", "Check" or "Old Version". To select this mode, press the CH2 key.

- ◆ "Physical address (for selected devices)"

The physical address number is displayed, whose check result details will follow it.  
Ex. P360  
Physical address number (CD-CH)

- ◆ "Diagnosis data source"  
The detailed items depend on the data source.

Ex. Sys The data was obtained from system check.

- ◆ "Logical address"  
The logical address number for the device with failure is displayed.

Ex. 1L\_63  
Logical address number (CD-CH)  
The logical address is displayed.  
Serial number

- ◆ "Diagnosis code"  
The diagnosis code indicates what problem occurs.

Ex. 1d\_45  
Diagnosis code (abnormal EJECT)  
The diagnosis code is displayed.

Ex. COdE The data was obtained from diagnosis memory data.

- ◆ "Logical address" ... The same as that for the Sys data
- ◆ "Diagnosis code" ... The same as that for the Sys data
- ◆ "Sub code" ... This code indicates the device with failure.  
Ex. 1P\_190  
The sub code is displayed.

- ◆ "Connecting confirmation number (when some failure occurs)" ... AVC-LAN time stamp

Ex. no01  
The connecting confirmation number (expressed in the hexadecimal number system by using 00 to FF)  
The connecting confirmation number is displayed.

- ◆ "Frequency of occurrence"  
...The frequency of failures occurred  
Ex. 1c\_15  
The frequency of occurrence expressed in the decimal number system.  
The frequency of occurrence is displayed.

If there are two or more diagnosis codes, the diagnosis data display will continue.



Physical address allocation

①	②	③	4	5	6	7	8	9	A	B	C	D	E	F
①	0	M.DISP computer												
0	1	New EMV												
2	2	New device with AV												
4	3	New MM ECU	device with AV											
6	4													
8	5	New 1-DIN TV	Europe navigation DISP.M/U											
C	6													
E	7													
1-3,5,7, 9-B,D,F	8													
	9													
	A													
	B													
	C													
	D													
	E													
	F													

Display P①②③  
Ex-P190  
Physical address

①	0	Navigation computer												
2	1	ATIS												
0	2	VICS												
8	3	TV tuner												
1-7, 9-F	4		H/W CD-CH	H/W DVD-CH	TEL information ECU		Camera controller							
	5			DVD deck										
	6													
	7													
	8													
	9													
	A													
	B													
	C													
	D													
	E													
	F													

①	0	Radio												
3	1													
0	2	Cassette												
8	3	Radio cassette with no CH controller	CD-P											
1-7, 9-F	4													
	5													
	6													
	7													
	8													
	9													
	A													
	B													
	C													
	D													
	E													
	F													

①	0	Equalizer												
4	1													
0	2		DSP											
1-F	3													
	4													
	5													
	6													
	7													
	8													
	9													
	A													
	B													
	C													
	D													
	E													
	F													

①	0	GFS receiver/ATIS decoder												
5	1													
0	2	FM multiplex decoder	CD-CH											
8	3	Radio wave beacon												
C	4	Optical beacon												
1-7,9-8,D-F	5													
	6													
	7													
	8													
	9													
	A													
	B													
	C													
	D													
	E													
	F													

①	0	A/C computer												
6	1													
0	2													
1-F	3													
	4													
	5													
	6													
	7													
	8													
	9													
	A													
	B													
	C													
	D													
	E													
	F													

Diagnosis code table

Logical address name	Logical address	Diagnosis code	Diagnosis details
Communication control	01H	00	No diagnosis
		01	Abnormal reset
		10	Abnormal +B
		11	Abnormal ACC
		12	Abnormal MUTE
		13	Fuse broken
		20	Microcomputer - abnormal
		21	ROM - abnormal
		22	RAM - abnormal
		23	Bus - abnormal
		24	F-ROM - abnormal
		25	V-RAM - abnormal
		26	Gate array abnormal
		27	Paint controller abnormal
		28	Backup memory abnormal
		29	Voice output controller abnormal
		2A	Internal power supply abnormal
		30	Sync signal abnormal (input)
		31	Sync signal abnormal (output)
		D0	ECU not connected
		D1	Transmission abnormal
		D2	Connecting confirmation: abnormal
		D4	Connecting confirmation: no response
		D5	Registered device data missing (History of registered devices)
		D6	Master unavailable
		D7	Connecting confirmation: abnormal
		D8	Connecting confirmation: no response
		D9	Last mode abnormal
		DA	Command/order: no response
		DB	Mode status abnormal
		DC	Transmission fault
		DD	Master reset
		DE	Slave reset
		DF	Master abnormal
		E0	Registration completion acknowledgement error
		E1	Voice processor ON abnormal
		E2	ON/OFF command or parameter abnormal
		E3	Registration command transmission
		E4	Multiple frames intermit
		FF	Diagnosis - no response

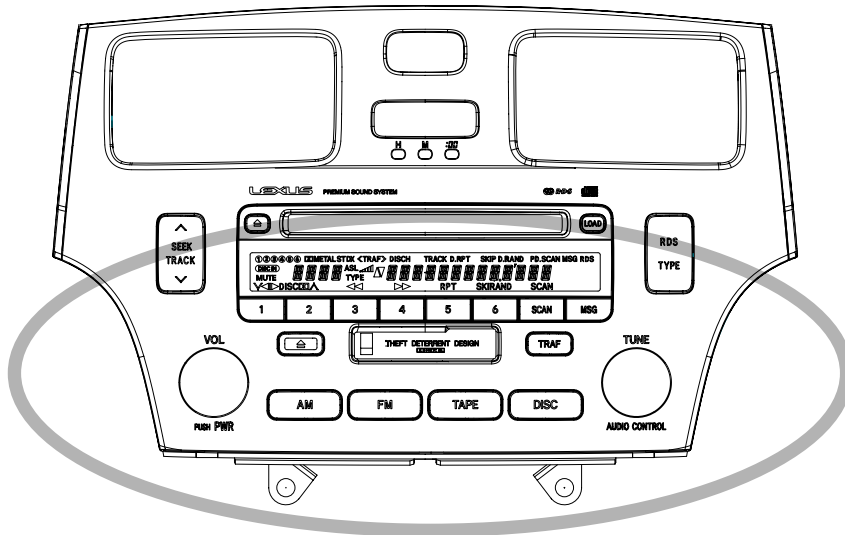
Logical address name	Logical address	Diagnosis code	Diagnosis details		
Radio	60H	10	AM tuner PLL unlocked		
		11	FM tuner PLL unlocked		
		40	No antenna connected		
		41	Antenna power supply abnormal		
		42	Tuner power supply abnormal		
		43	AM tuner abnormal		
		44	FM tuner abnormal		
		45	SW tuner abnormal		
		10	TV tuner PLL unlocked		
		11	FRONTEND abnormal		
TV tuner	40H	40	TV divergence shifting error		
		41	TV - no reception		
		42	VNR screen error		
		43	No antenna connected		
		44	Antenna power supply abnormal		
		45	SEL +B current - small		
46	SEL +B current - large				
Cassette tape	61H	10	Belt broken		
		40	Mechanical failure or cassette broken		
		41	EJECT failure		
		42	TAPE jamming		
		43	Dirty head		
		44	Mech power supply abnormal		
		CD	43H 62H 63H	10	CD Mech abnormal
				11	CD loading/unloading abnormal
				12	CD lead-in abnormal
				40	No disc loaded
41	Incorrect disc				
42	Disc unreadable				
43	CD-ROM abnormal				
44	CD abnormal				
45	EJECT abnormal				
46	Scratches or non-recorded side				
MD	64H 65H	47	CD high temperature detected		
		48	Excessive current detected		
		50	Tray IN/OUT abnormal		
		51	Elevator abnormal		
		52	Clamp abnormal		
		10	MD mech abnormal		
		11	MD IN/OUT abnormal		
		12	MD lead-in abnormal		
		40	No disc loaded		
		41	Incorrect disc		
MD-CH	65H	42	Disc unreadable		
		43	MD-ROM abnormal		
		44	MD abnormal		
		45	EJECT error		
		46	Scratches or non-recorded side		
		47	MD high temperature detected		
		48	Excessive current detected		
		50	Tray IN/OUT abnormal		
		51	Elevator abnormal		
		52	Clamp abnormal		

Logical address name	Logical address	Diagnosis code	Diagnosis details		
Navigation/GPS	58H 80H	10	Gyroscope abnormal		
		11	GPS receiver abnormal		
		12	RTC abnormal		
		13	SS section abnormal		
		14	No Time updating		
		15	TCXO abnormal		
		16	PLL lock abnormal		
		40	GPS antenna abnormal		
		41	GPS antenna power supply abnormal		
		42	Map disc reading abnormal		
		43	SPD signal abnormal		
		44	Player abnormal		
		45	High temperature abnormal		
		41	Antenna power supply abnormal		
		45	Radio wave beacon - no antenna connected		
46	Optical beacon - no antenna connected				
47	No FM antenna connected				
4A	FM receiver abnormal				
4B	Radio wave beacon abnormal				
4C	Optical beacon abnormal				
Voice control	85H	40	Voice-control activation SW abnormal		
		41	Voice-control Microphone abnormal		
		Extended communication	02H	40	Multi-CD-CH (optical cable) abnormal
				41	Multi-CD-CH (optical cable) not connected
				42	Multi-CD-CH (CarNet) abnormal
				43	Multi-CD-CH (CarNet) not connected
				50	HIT64 communication not connected
				51	HIT64 communication abnormal
				52	HIT64 BRQ disconnection
				53	HIT64 BRQ short-circuit
54	HIT64 disconnection				
55	CarNet communication not connected				
56	CarNet communication abnormal				
57	CarNet periodical communication abnormal				
Information display/front monitors	32H 34H	10	Video circuit abnormal		
		11	Back light abnormal (with no current)		
		12	Back light abnormal (with excessive current)		
		13	Panel open/close mechanical operation abnormal		
		40	Front seat monitor abnormal		
		41	Heater abnormal		
		SW, Audio SW, SW shifting, Command SW	21H 23H 24H 25H	10	Panel SW abnormal
				11	Touch SW failure
TEL ECU, TEL	57H 68H	10	TEL ECU abnormal		
		40	Communication serial lines abnormal		
		41	Wireless PWR lines abnormal		

### 7.1.3 DISASSEMBLY

Note)

Never hold this figure's upper part such as transfer grille, hazard switch. Hold within the hatchingline part, lower of the illustration.



Note)

For the installation position is fixed as the factory setting position, never disassemble the bracket which is showed at Fig. 4 and 5. If the position is changed, it is impossible to maintain the installation accuracy to customer's vehicle.

#### ● Removing the Grille Assy (Fig.1)

- ➔ 1 Remove the six screws and then remove the Grille Assy.

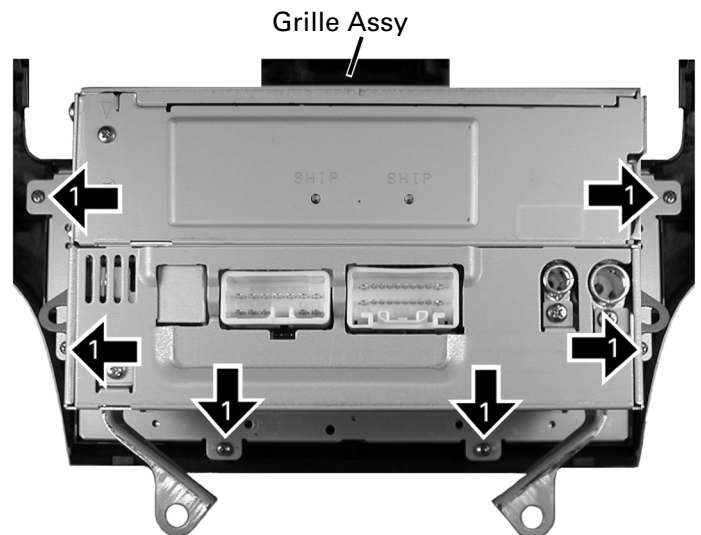
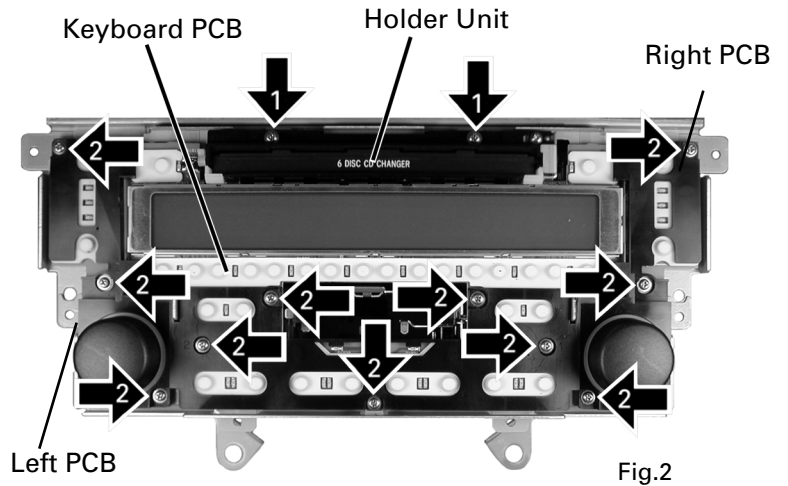


Fig.1

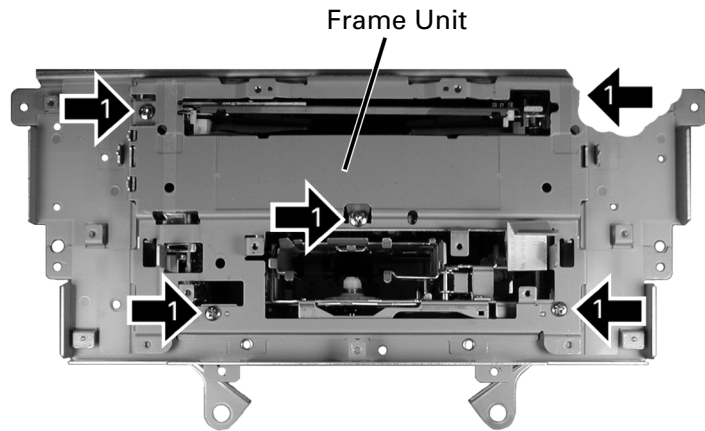
● **Removing the Keyboard PCB, Right PCB and Left PCB (Fig.2)**

- ➡ **1** Remove the two screws and then remove the Holder Unit.
- ➡ **2** Remove the eleven screws and then remove the Keyboard PCB, Right PCB and Left PCB.



● **Removing the Frame Unit (Fig.3)**

- ➡ **1** Remove the five screws and then remove the Frame Unit.



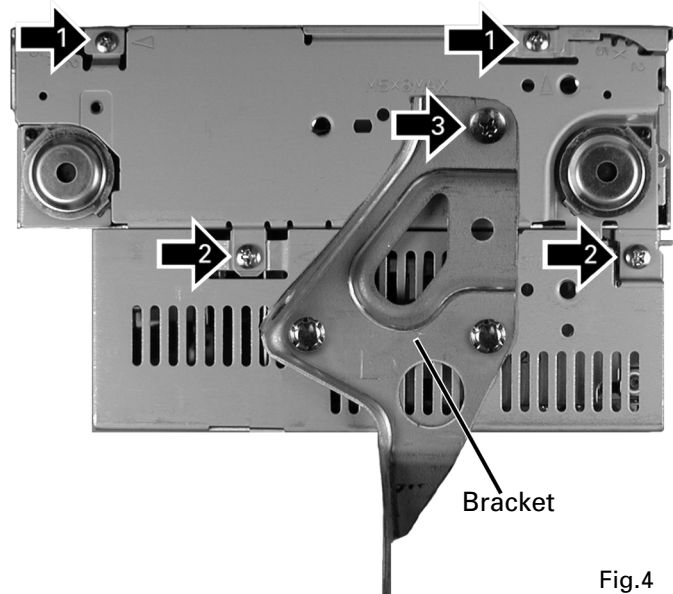
● **Removing the Case (Fig.4 and Fig.5)**

- ➡ **1** Remove the four screws and then remove the Case.

● **Removing the Chassis (Fig.4, Fig.5 and Fig.6)**

- ➡ **2** Remove the nine screws.
- ➡ **3** Remove the two screws and then remove the Chassis.

Note)  
As the installation positions of the left and right brackets are fixed, never remove them.



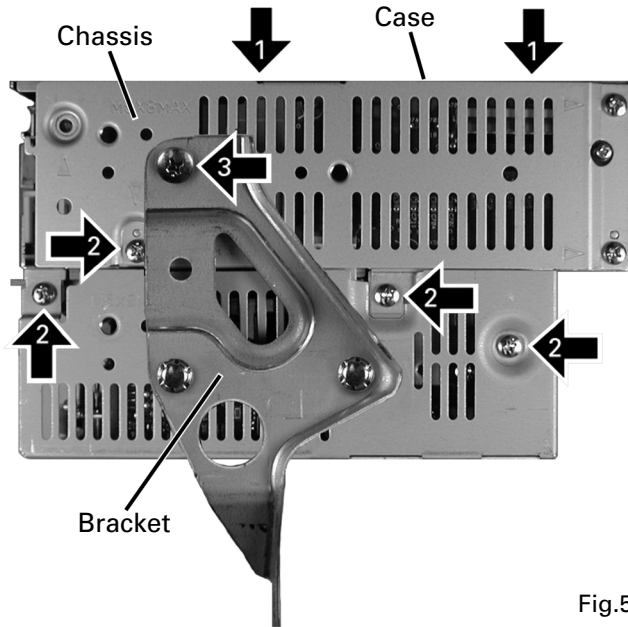


Fig.5

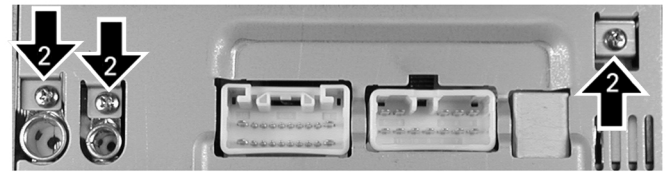


Fig.6

● **Removing the Control Unit (Fig.7)**

1. Unbend the tabs at two locations indicated by arrows until straight.
2. Remove the screw F.
3. Disconnect the two connectors, and then remove the Control Unit.

● **Removing the Mechanism Unit (Fig.7)**

1. Remove the five screws G, and then remove the four Holders and four Dampers.
2. Remove the two springs A, spring B spring C, and four tubes from the hook.
3. Remove the Mechanism Unit from the Chassis.

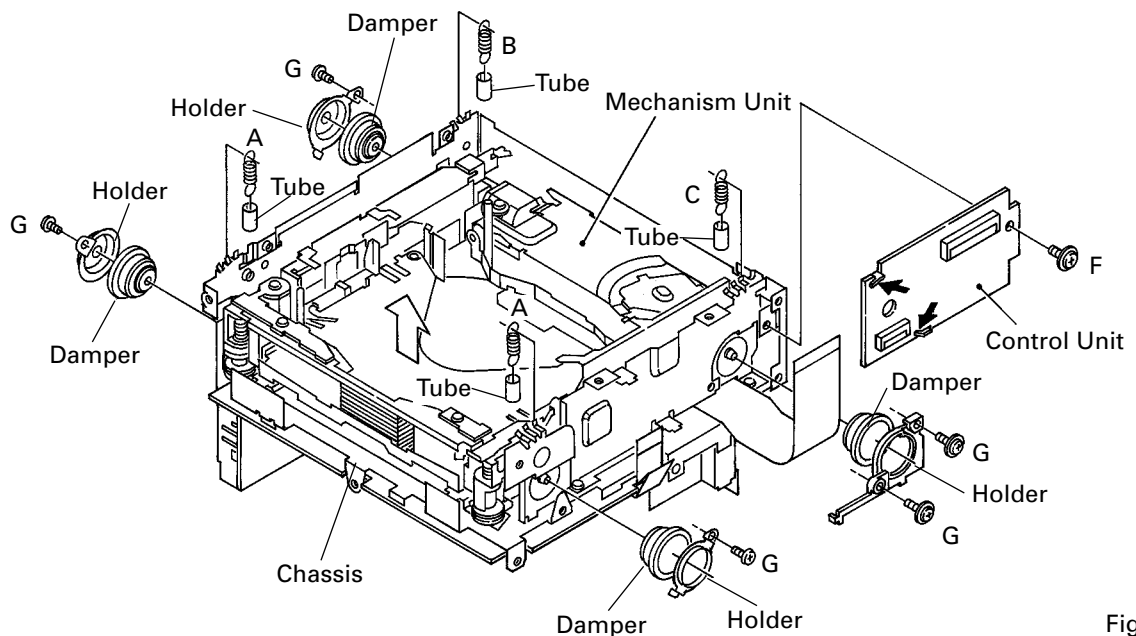


Fig.7

● **Removing the Main Unit (Fig.8)**

- ➡ **1** Straighten the tabs at four locations indicated.
- ➡ **2** Remove the screw and then remove the Main Unit.

● **Removing the Cassette Mechanism Module (not shown)**

1. Remove the four screws and then remove the Cassette Mechanism Module.

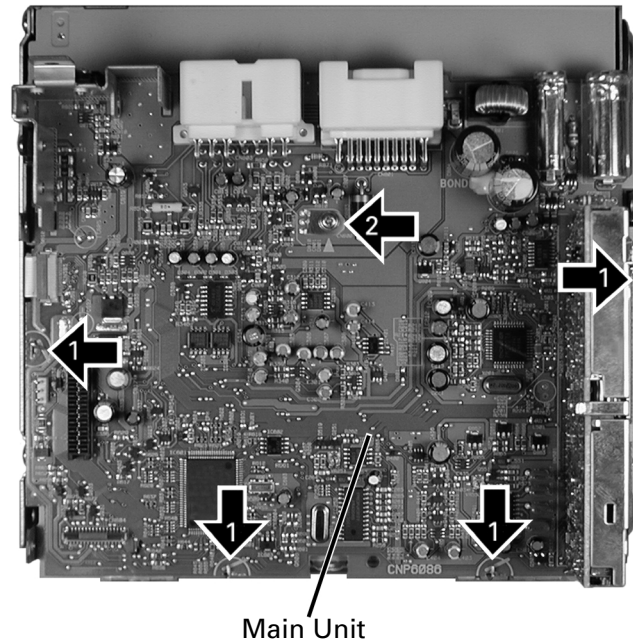


Fig.8

● **How to remove the Tray Assy**

1. Apply about 6V current to the Cam gear motor until all holes match at the position (A) (elevation OK position).
2. Hook the three springs B temporarily as shown in Fig. 6. While pushing the Tray holder lock arms (right and left) in the direction (C), remove the Tray holder.
3. Lift up the Tray assy to remove it.  
\* Be careful not to remove the Tray hooks from the Tray assy.

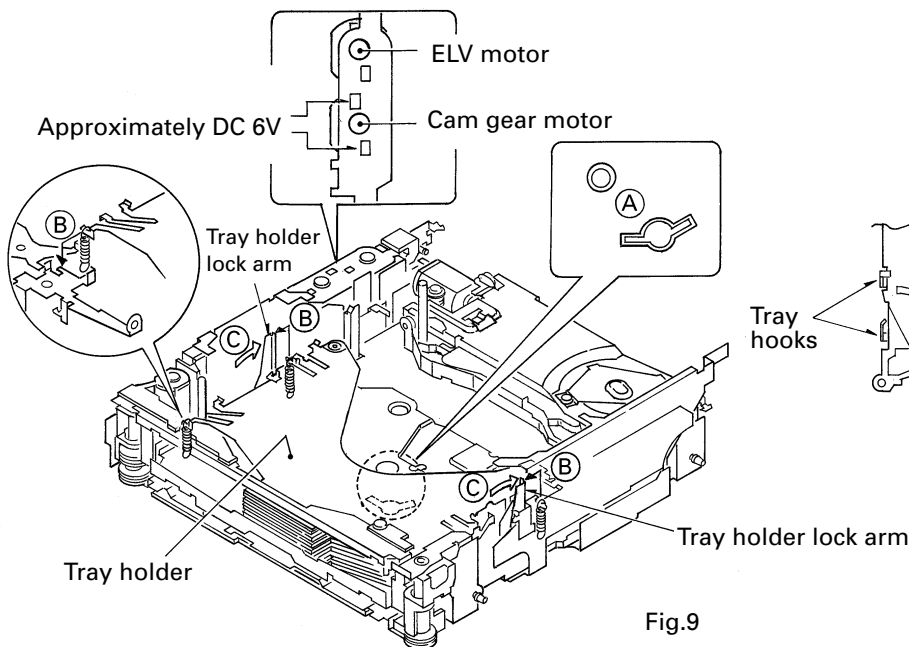


Fig.9

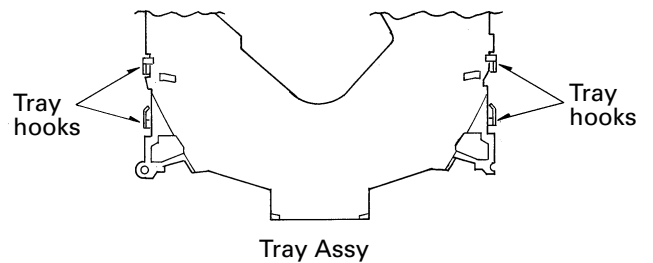


Fig. 10

### ● How to remove the Carriage Mechanism Assy

1. Insert a short pin into the flexible PCB of the Pickup unit.
2. While opening the resin hooks, remove the cover from the Servo unit.
3. Disconnect the flexible PCBs from the connectors CN101 and CN301.
4. Remove the Tray holder and the Tray assy. (See above)
5. Rotate the Cam gear motor until the positions of all holes (E) match, then stop the motor.  
(The Carriage Mech assy will stop as shown in the Fig.8.)

- \* When the positions of all holes match, they will be completely covered by the Carriage mech assy.
  - \* To rotate the Cam Gear motor, see "How to remove the Tray assy".
6. Unhook the spring A.
  7. Remove the flexible holder B (while opening the hooks).
  8. Remove the flexible PCB (C) from the motor. (The flexible PCB (C) has been stuck on the motor with double-sided adhesive tape.)
  9. Loosen the fixing screw and remove the flexible holder.

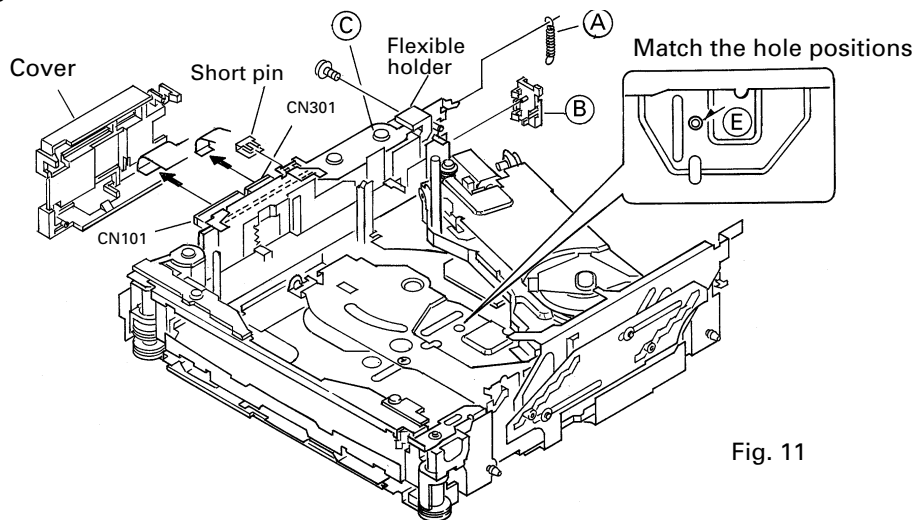


Fig. 11

10. Remove the screw, pressure spring and collar. Lift up the Carriage mechanism assy to remove it.

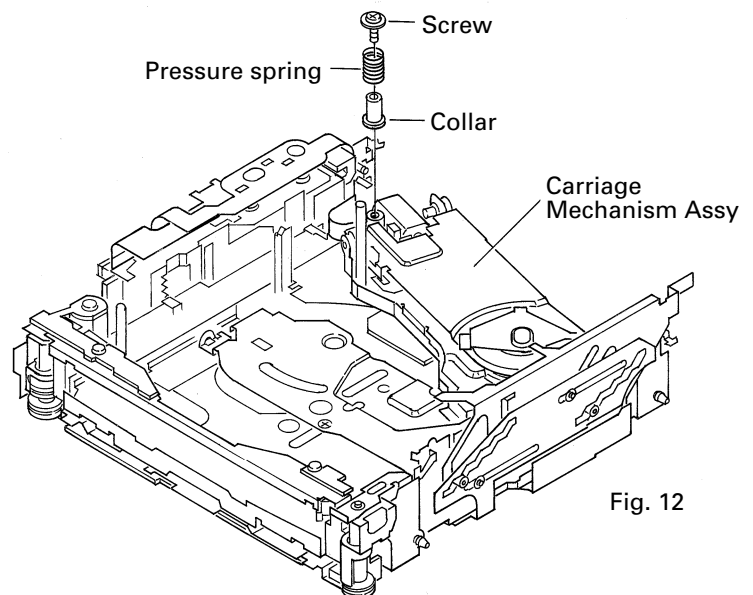


Fig. 12

● **How to remove the Pickup unit**

1. Remove the pulling spring, torsion spring and E-shaped ring. Then remove the Clamper arm.

\* The spring (A) will be removed with the Clamper arm.

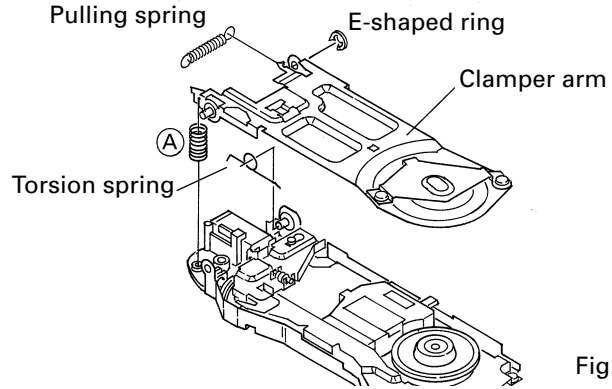


Fig. 13

2. Slide the Clamp UP lever (B) to remove it.

3. Loosen the 2 screws. Remove the feed-screw cover by sliding it.

4. Remove the feed-screw pressure spring (D).

5. Loosen the 2 screws. Remove the feed-screw holder (E).

6. Remove the belt.

7. Remove the Pickup unit together with the feed screw.

\* Be careful not to lose the shaft holders at the both ends of the feed screw.

\* Be careful not to damage the 2 flexible PCBs (for the Pickup and motor) when separating them. The flexible PCBs have been stuck each other with double-sided adhesive tape.

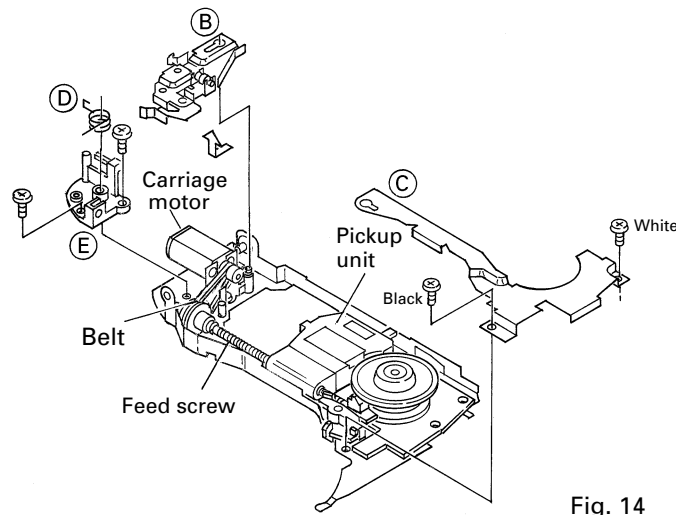


Fig. 14

8. Loosen the 2 screws. Remove the plate spring and the rack.

9. Pull out the feed screw from the Pickup unit.

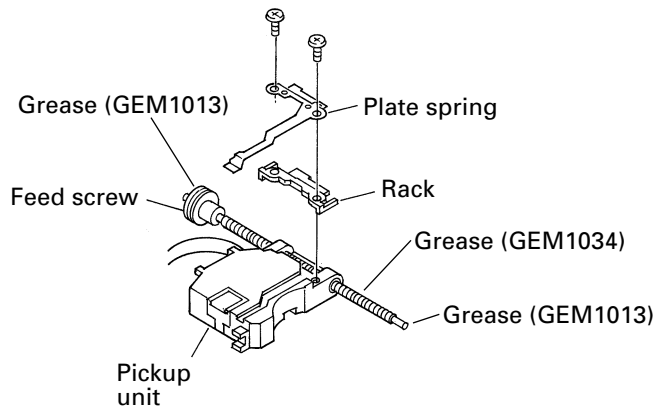
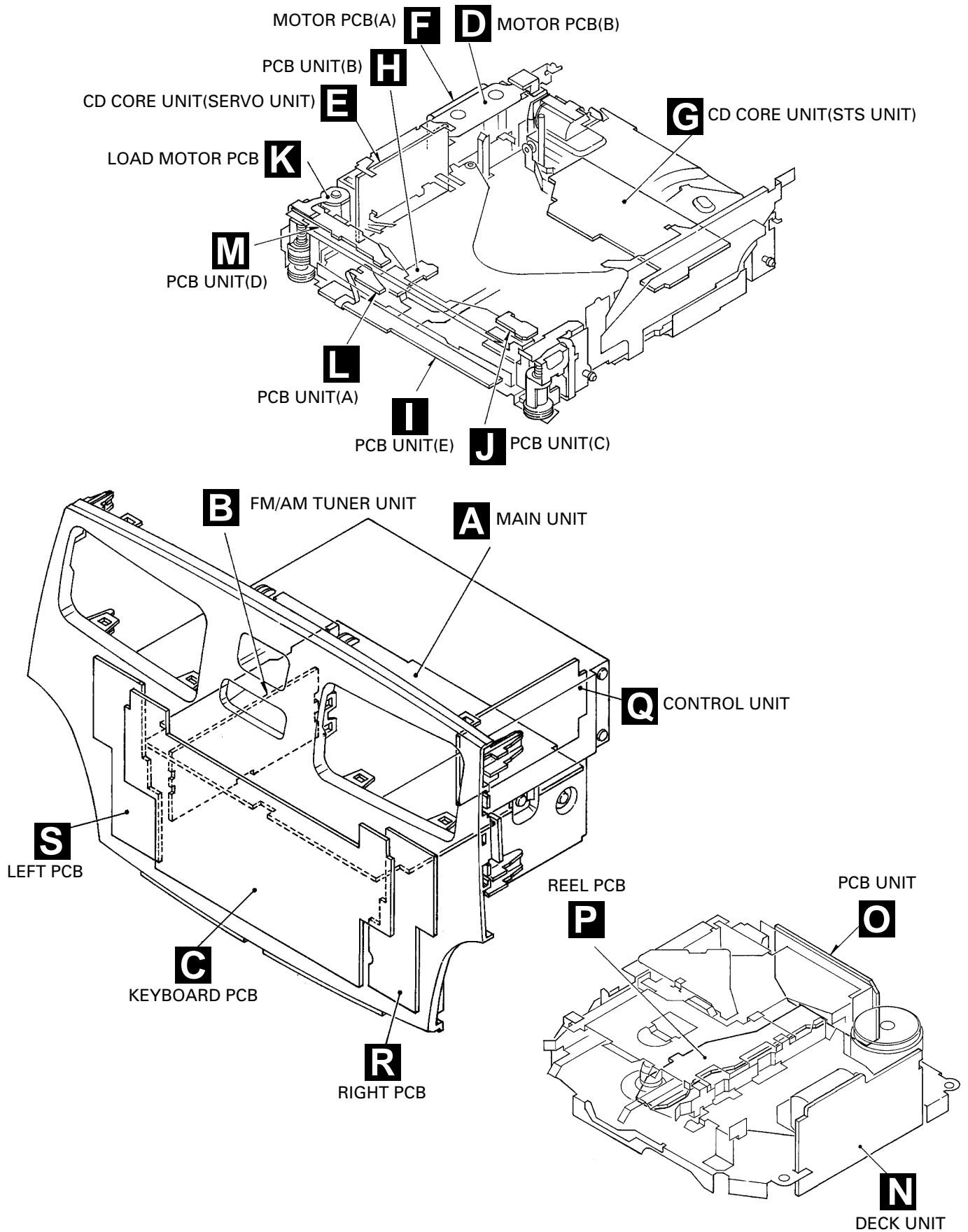


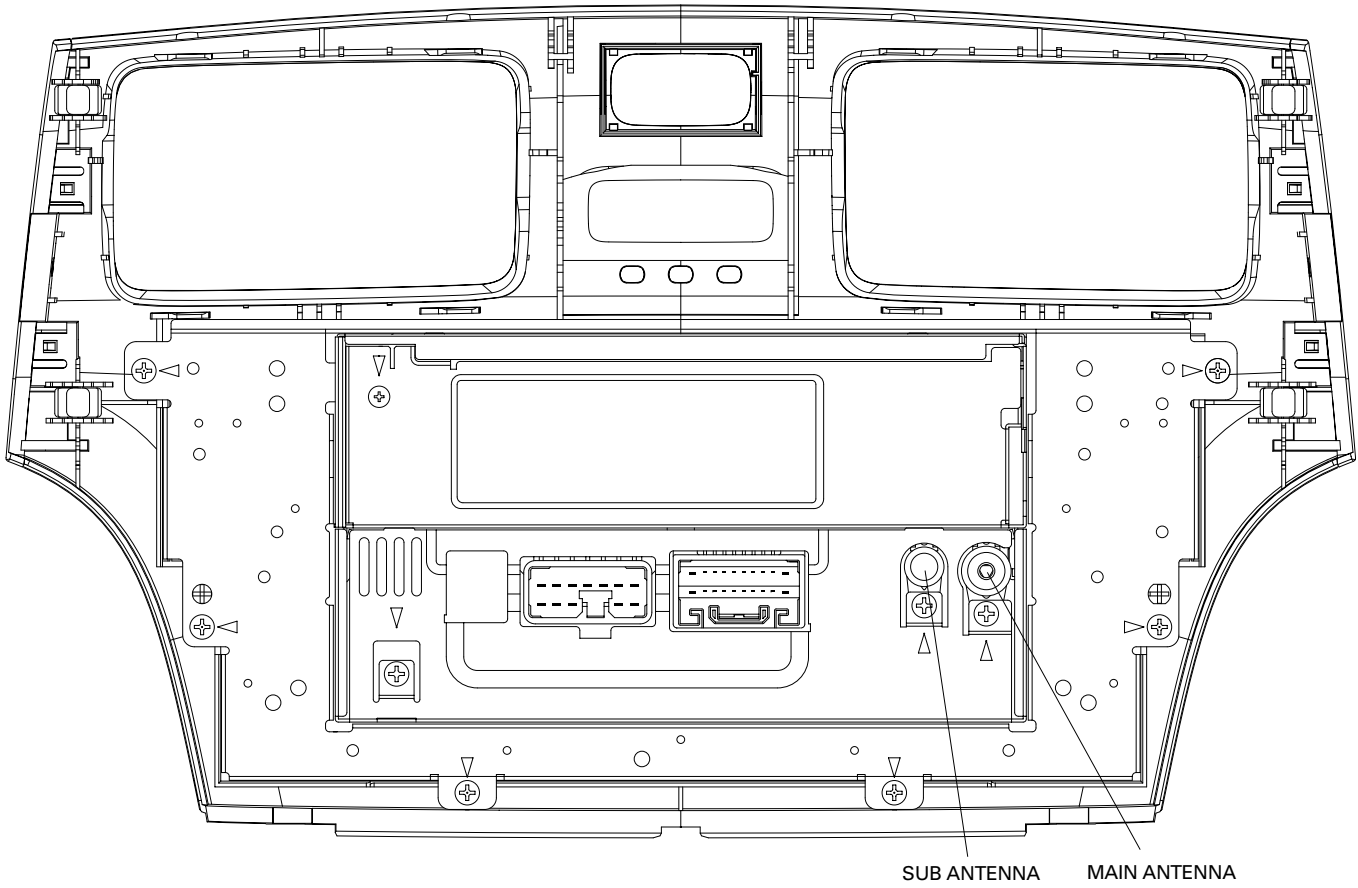
Fig. 15



### 7.1.4 PCB LOCATIONS



### 7.1.5 CONNECTOR FUNCTION DESCRIPTION



R-	L-	GND	TXM-	TXM+	ACC
R+	L+	SGND			MUTE +B

ACC	ILL-	TX-	R-	L-	GND
+B	ILL+	TX+	TLMT	MUTE	R+ L+ SGND

## 7.2 PARTS

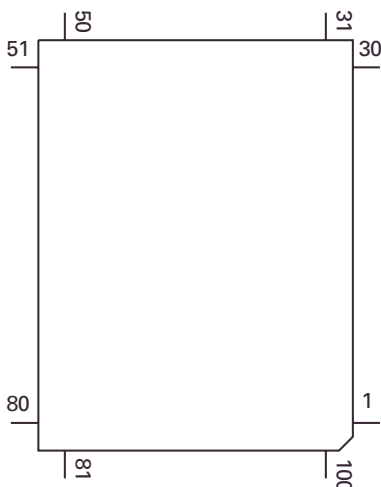
### 7.2.1 IC

#### ● Pin Functions (PD5610B)

Pin No.	Pin Name	I/O	Function and Operation
1	SL	I	Signal level input
2	MDSN	I	Modulation level input
3	RDSLK	I	RDS signal input
4	KLIGHT	O	Lamp power supply control output
5	LDO	O	LCD driver data output
6	LDI	I	LCD driver data input
7	LCK	O	LCD driver clock output
8	BYTE	I	Connect to VSS
9	CNVSS	I	Connect to VSS
10	ILMSW	O	Illumination power supply control 2 output
11	BLSW	O	Illumination power supply control 3 output
12	RESET	I	Reset input
13	XOUT	O	Crystal oscillating element connection pin
14	VSS		GND
15	XIN	I	Crystal oscillating element connection pin
16	VDD		Power supply terminal
17	NMI		Connect to VDD
18	RCK	I	RDS clock input
19	LDET	I	PLL lock signal input
20	CDEJ	I	CD eject key sense input
21	RX2	I	BUS data input
22	IPPW	O	BUS driver power supply output
23	ILSENS	I	Illumination sense input
24	DRST	O	RDS decoder reset output
25	57K	I	RDS57kHz sense input
26	CURRQ	O	Current request
27	SK	I	SK signal input
28	SHIMUKE	I	Model select input
29	RX1	I	BUS data input
30	TX	O	BUS data output
31	PDO	O	Data output for PLL IC
32	PDI	I	Data input from PLL IC
33	PCK	O	Data clock output for PLL IC
34	PCE	O	Chip enable output for PLL IC
35	BSO	O	P-BUS data output
36	BSI	I	P-BUS data input
37	BCLK	O	P-BUS data clock output
38	BRXEN	I/O	P-BUS reception enable input/output
39	BRST	I/O	P-BUS reset input
40	BSRQ	I	P-BUS service request input
41	NC	O	Not used
42	RDT	I	RDS demodulation data input
43	FMPW	O	FM power supply control output
44	AMPW	O	AM power supply control output
45	SWVDD	O	SWVDD power supply control output
46	MW	O	MW/LW select output
47	SW2	O	SW select output
48	ANSW	O	Analog switch control output
49	CDILL1	O	CD illumination control output
50	TAPMUTE	O	TAPE mute control output
51	MUTE	O	BUS mute output
52	SYSPW	O	System power control output
53	SYSMUTE	O	System mute output
54	POWER	I	POWER key input
55	ENC1+	I	VOL encoder(+)input
56	ENC1-	I	VOL encoder(-)input
57	MODE	I	AUDIO mode key input

Pin No.	Pin Name	I/O	Function and Operation
58	ENC2+	I	AUD encoder(+)input
59	ENC2-	I	AUD encoder(-)input
60	DLOAD	I	CDM load key input
61	ILL	O	Illumination power supply control output
62	VCC		Power supply terminal
63	ANSW	O	TUNER audio analog switch
64	VSS		GND
65	RDSMT	O	RDS mute output
66	AMMUT	O	AM mute output
67	FMMUT	O	FM mute output
68	NC	O	Not used
69	MS	I	Music sense input
70	FR	O	Cassette mechanism head forward/reverse select output
71	PLAY	O	MS gain select output
72	MTL	I	Cassette mechanism tape select input
73	ASENS	I	ACC power sense input
74	CSEJ	I	Tape eject sense input
75	BSENS	I	Back up power sense input
76	NR	O	Dolby NR ON/OFF select output
77	CSLOAD	I	Tape loading detect input
78	POS	I	Cassette mechanism position sense input
79	RES	I	Cassette mechanism reverse end sense input
80	NES	I	Cassette mechanism forward end sense input
81	TEST	I	Test mode input
82	SC2	O	Cassette mechanism sub motor control2 output
83	SC1	O	Cassette mechanism sub motor control1 output
84	CM	O	Cassette mechanism capstan motor control output
85	STBY	O	Cassette mechanism driver stand-by output
86	CDILL2	O	CD illumination output
87	LCE1	O	Chip enable output pin for LCD driver
88	NC	O	Not used
89	ST	I	FM stereo input
90	FMSD	I	FM SD input
91	NL	I	Noise level input
92	CL	I	RDS tune off sense input
93	RDSL	I	RDS signal level
94	ILL-	I	Illumination power supply control input
95	NC	O	Not used
96	AVSS		A/D GND
97	BLIGHT	O	Back light power supply ON/OFF output
98	VREF		A/D converter reference voltage input
99	AVCC		A/D converter power supply
100	LOFF	O	LCD driver reset output

\*PD5610B



IC's marked by \* are MOS type.

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

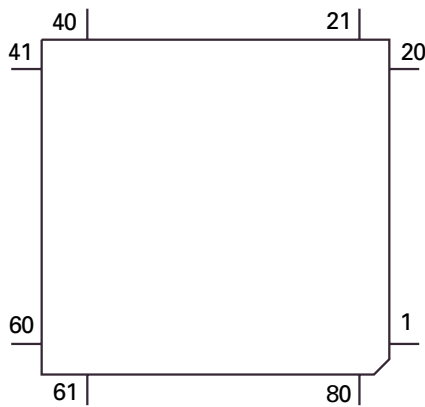
Format	Meaning
C	C MOS

● Pin Functions (PD5715A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	VDIN	I		Power supply short sensor input
2	DOORSW	I		Door open position SW input
3	NC			Not used
4	BSRQ	O	C	P-BUS service request output
5	CLAMP	I		DISC clamp SW input
6	ELHOME	I		ELV reset position SW input
7	XSCK	O	C	CD LSI clock output
8	XSO	O	C	CD LSI data output
9	XSI	I		CD LSI data input
10	XSTB	O	C	CD LSI strobe output
11	XRST	O	C	CD LSI reset output
12	XA0	O	C	Control signal distinguishing data from microcomputer
13	VDCONT	O	C	VD control output
14	NC			Not used
15	BSENS	I		Back up power sense input
16	BRXEN	I/O	C	P-BUS reception enable input/output
17	LOADSW	I		Loading position SW input
18	MODESW	I		ELV OK position SW input
19	BCK	I/O	C	P-BUS serial clock input/output
20	BSO	O	C	P-BUS serial data output
21	BSI	I		P-BUS serial data input
22	BRST	I		P-BUS reset input
23	SBSY	I		Signal indicating head of subcode block
24	CNVSS	I		GND
25	RESET	I		Reset input
26	POWER	O	C	Servo/Mechanism power supply control output
27	CONT	O	C	Servo driver output control
28	Xin	I		Crystal oscillating element connection pin
29	Xout	O	C	Crystal oscillating element connection pin
30	VSS			GND
31-38	NC			Not used
39	TESTIN	I		Chip check program mode input
40	DCLOSE	I		Door close sense input
41	WDSL	O	C	Data comparison area specification signal output
42	XWIH	I		Data write inhibit input
43	XEMP	I		Data read inhibit input
44	CHDT	I		Data comparison mode monitor input
45	CHM0	O	C	Data comparison mode output 0
46	CHM1	O	C	Data comparison mode output 1
47-49	NC			Not used
50	XWRE	O	C	DRAM WRT ENBL
51	XRDE	O	C	DRAM READ ENBL
52	XQOK	O	C	SUB-Q OK output
53	EMPH	O	C	DAC emphasis output
54	SCONT	O	C	Mode select output
55	LOAD	O	C	PHOT power supply control
56	CDMUTE	O	C	CD mute output
57	LO2	O	C	LOAD motor control terminal output 2
58	LO1	O	C	LOAD motor control terminal output 1
59	ELV2	O	C	ELV motor control terminal output 2
60	ELV1	O	C	ELV motor control terminal output 1
61	CG2	O	C	CAM motor control terminal output 2
62	CG1	O	C	CAM motor control terminal output 1
63	MIRR	I		CD LSI mirror detector input
64	LOCK	I		CD LSI spindle lock detector input
65	FOK	I		CD LSI FOK signal input
66-68	NC			Not used
69	ADENA	O	C	A/D reference voltage output

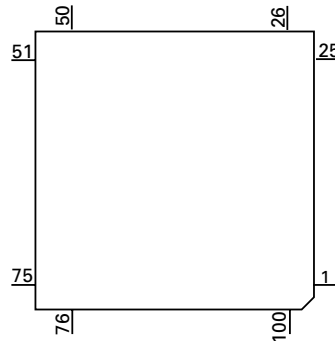
Pin No.	Pin Name	I/O	Format	Function and Operation
70	NC			Not used
71	VCC			VDD
72	VREF	I		A/D converter reference voltage input
73	AVSS			A/D GND
74	ADRMON	I		The remainder amount address monitor input
75	EREF			DRAM A/D reference voltage output
76	PH1	I		Disc photo sense input 1
77	PH2	I		Disc photo sense input 2
78	PH3	I		Disc photo sense input 3
79	ELVSNS	I		ELV position photo sense input
80	TEMP	I		Temperature detector input

\*PD5715A



Format	Meaning
C	C MOS

\*LC75804W



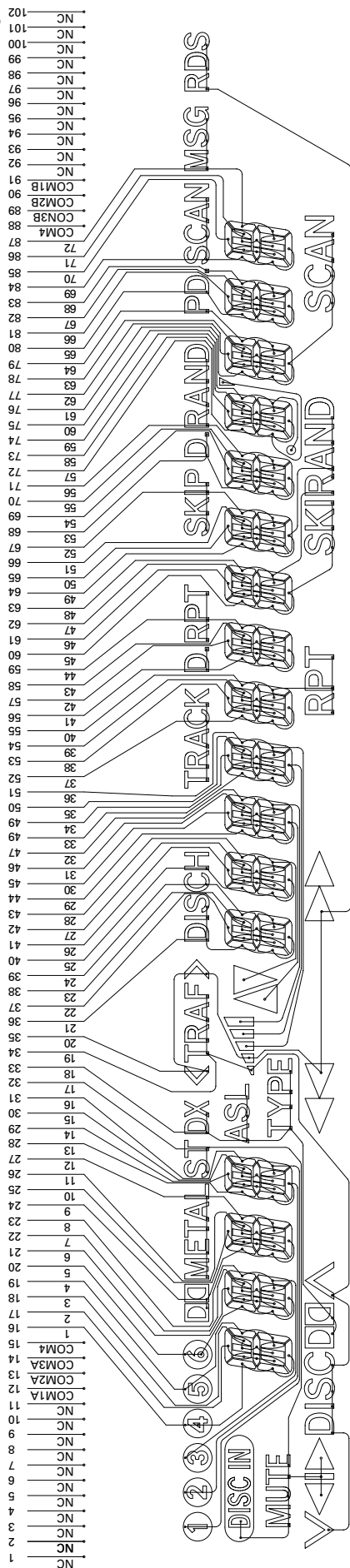
● Pin Functions (LC75804W)

Pin No.	Pin Name	I/O	Function and Operation
1-73	SEG01-73	O	LCD segment signal output
74-77	COM4-1	O	LCD common signal output
78,79	SEG75,76		Not used
80-83	KS3-6		Not used
84-88	KI1-5	I	Key scan input
89	VDD		Power supply
90	VLCD		Power supply for LCD driver
91	VLCD1	I	LCD drive bias impressed voltage (2/3) input
92	VLCD2	I	LCD drive bias impressed voltage (1/3) input
93	VSS		GND
94	TEST		GND
95	OSC	I/O	Oscillator terminal
96	RES	I	Reset signal input
97	DO		Not used
98	CE	I	Chip enable input
99	CL	I	Synchronizing clock input
100	DI	I	Transfer data input

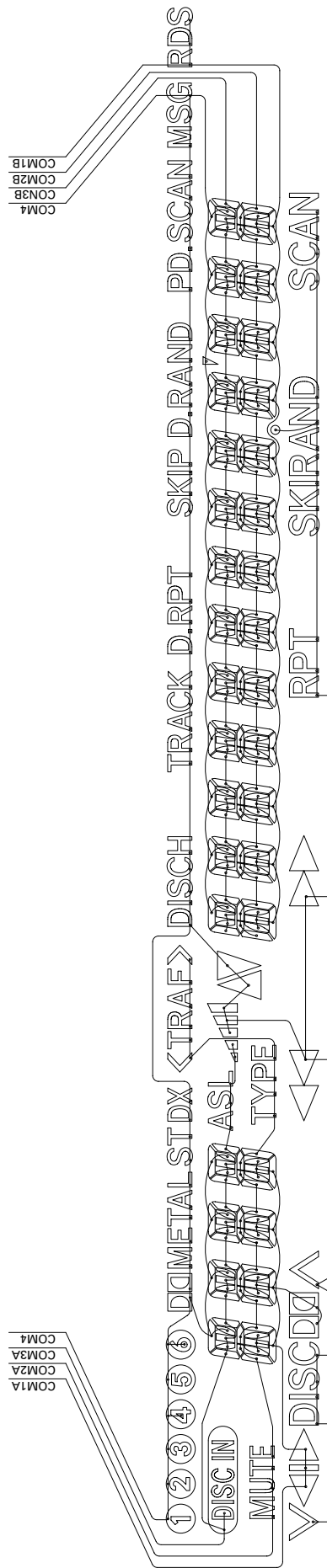
### 7.2.2 DISPLAY

● CAW1636

SEGMENT

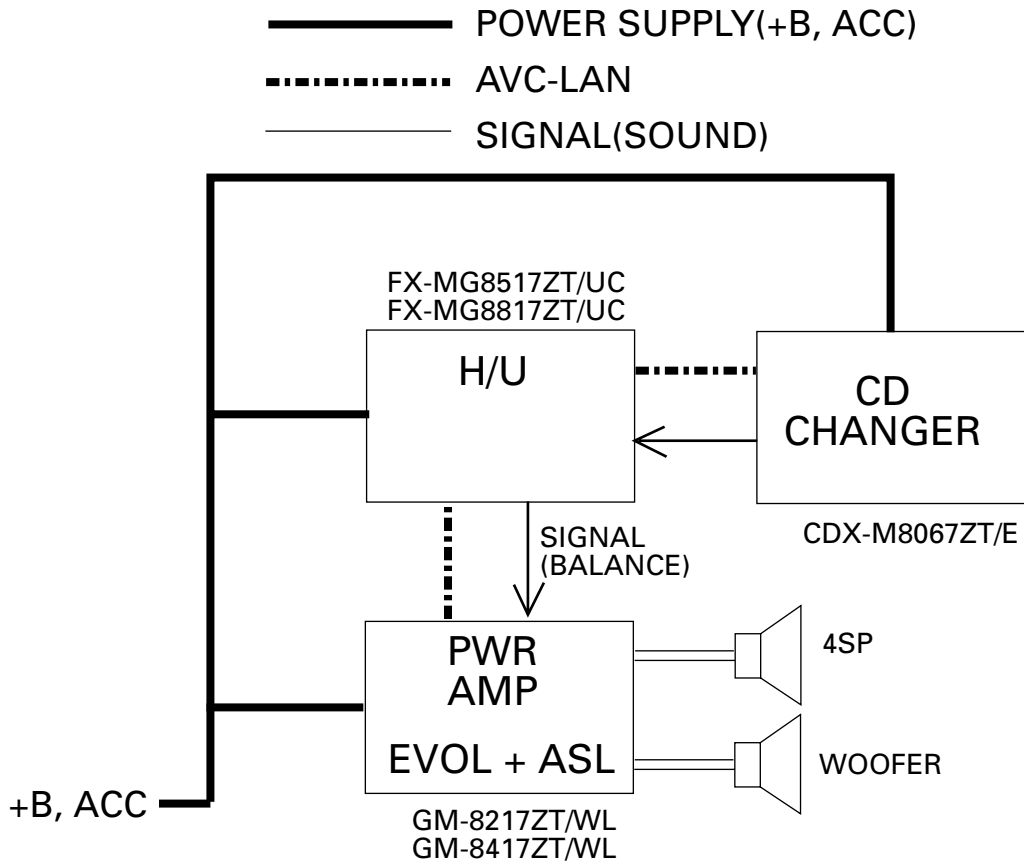


COMMON



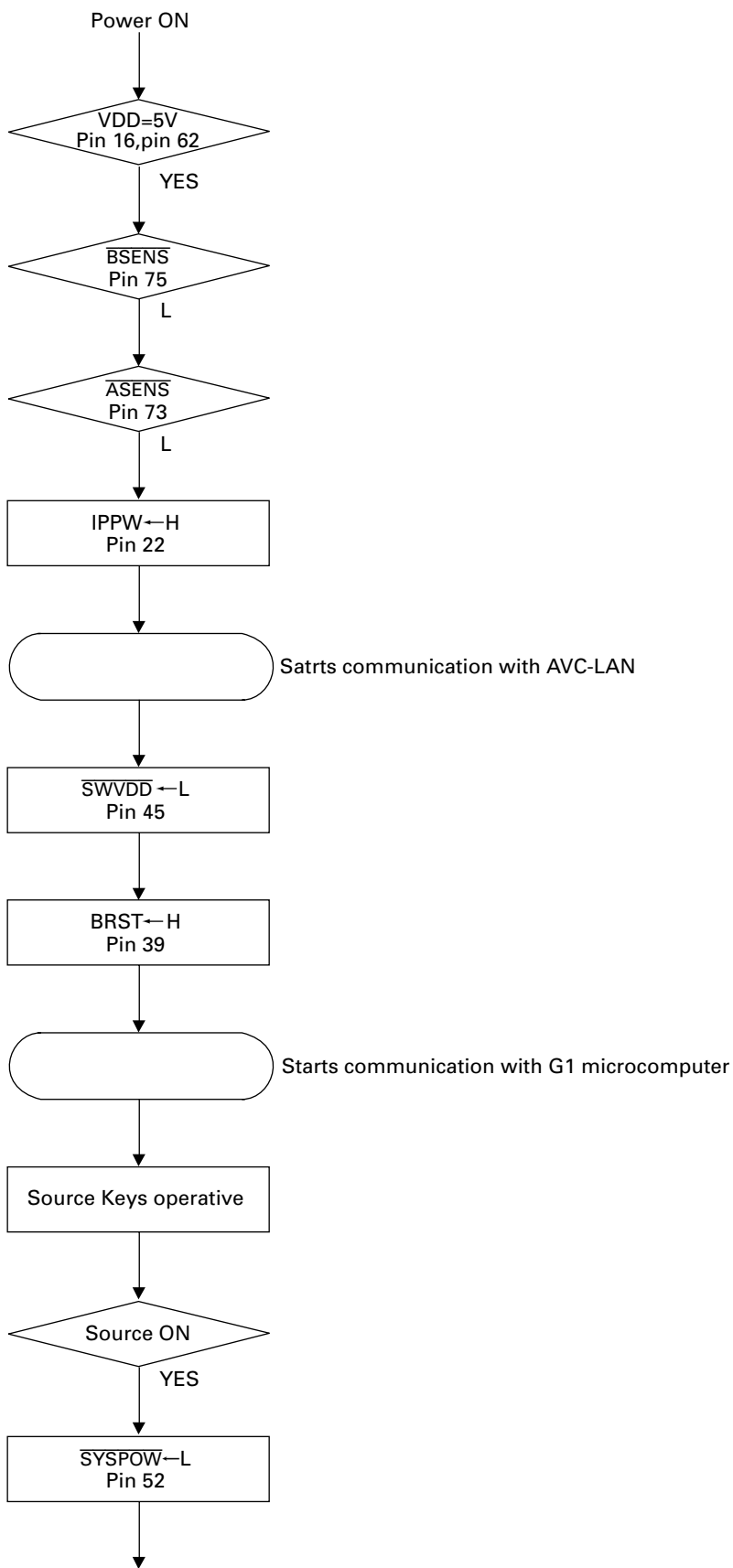
### 7.3 EXPLANATION

#### 7.3.1 SYSTEM BLOCK DIAGRAM





### 7.3.2 OPERATIONAL FLOW CHART

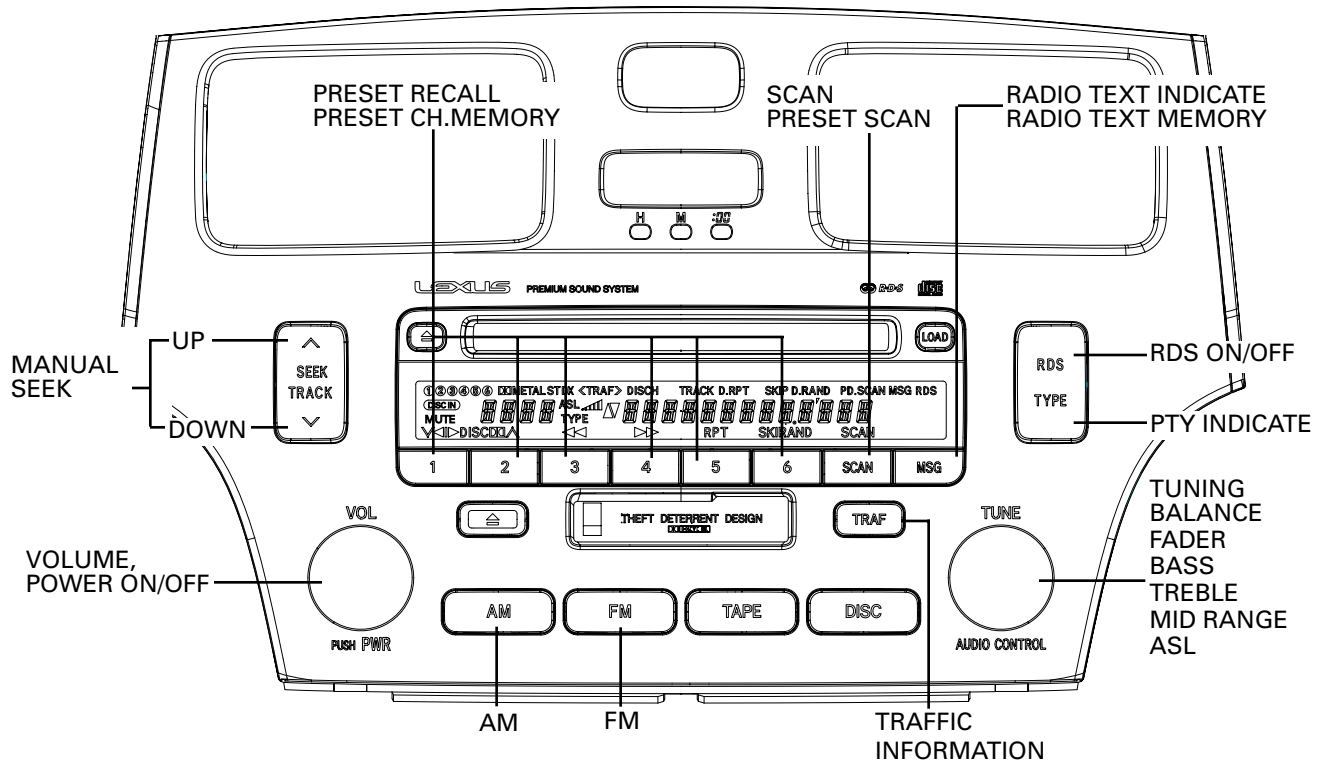


Completes power-on operation.  
(After that, proceed to each source operation.)

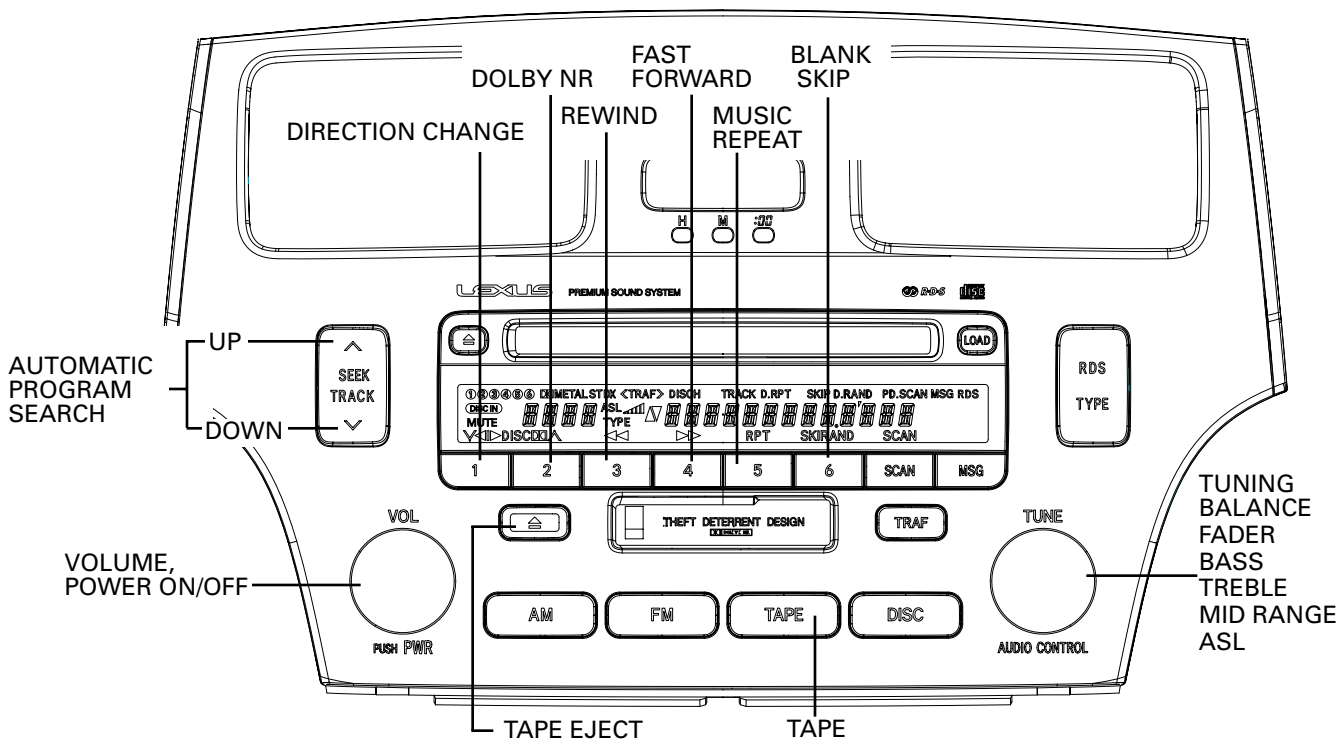
## 8. OPERATIONS AND SPECIFICATIONS

### 8.1 OPERATIONS

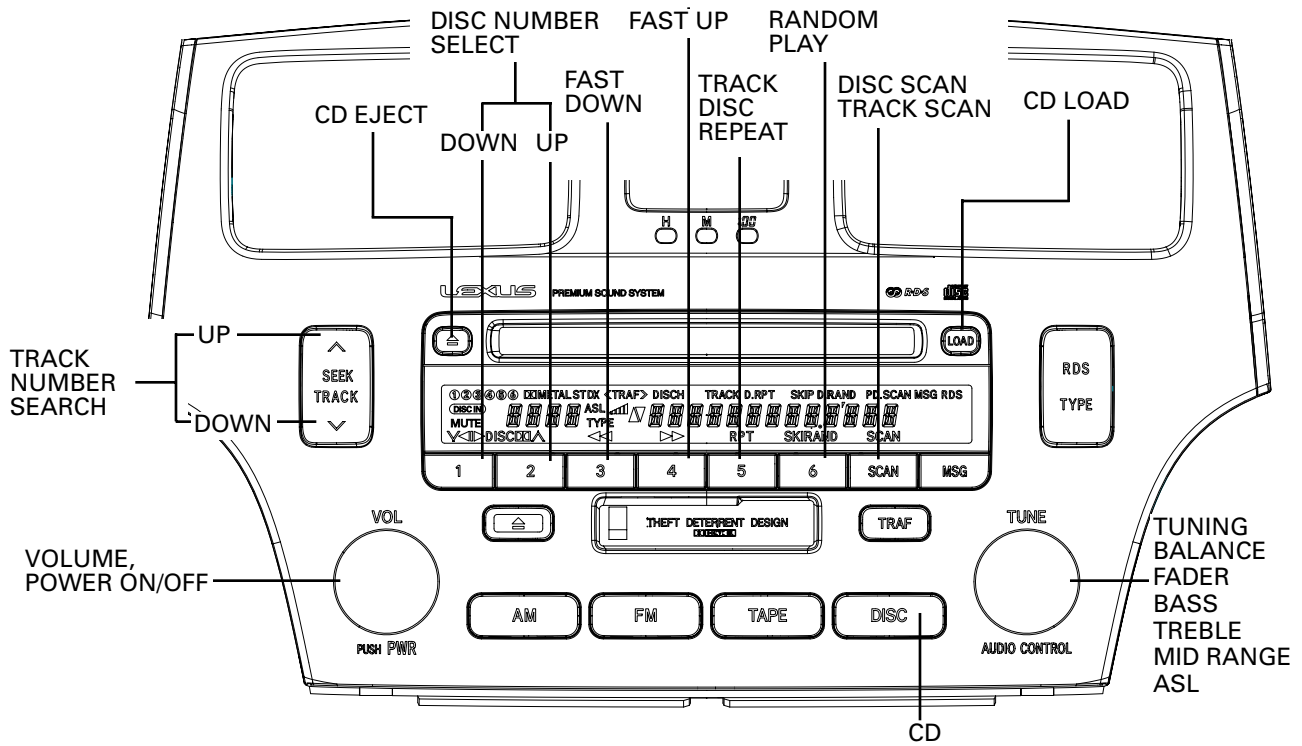
#### ● RADIO



#### ● TAPE



● CD



## 8.2 SPECIFICATIONS

Power source.....13.2V(10.5V-16.0V allowable) DC  
Backup current.....1.2mA or less  
Grounding system.....Negative type  
Dimensions(Chassis).....178(W)x100(H)x158(D)mm  
(Grille).....347(W)x214(H)x75(D)mm  
Weight.....3.1kg

### Cassette player

Tape.....Compact cassette tape(C30-C90)  
Tape speed.....4.76 cm/sec.(+0.14 cm/sec.,-0.05 cm/sec.)  
Wow and flutter.....0.2% or less(WRMS)  
Crosstalk.....40dB or less  
Stereo Separation.....30dB or more  
S/N.....41dB or more  
Distortion.....3% or less

### CD player

System.....Compact disc audio system  
Usable discs.....Compact disc  
Signal format.....Sampling frequency : 44.1kHz  
Number of quantization : 16;linear  
S/N.....70dB or more  
Distortion.....0.2% or less

### FM tuner

Frequency.....87.75, 87.9-107.9 MHz  
S/N(MONO).....46dB or more  
Distortion(30% MOD.).....1.5% or less  
IF interference.....64dB or more  
Image interference.....35dB or more  
Stereo Separation.....25dB or more(1kHz)

### AM tuner

Frequency.....530-1710 kHz  
Selectivity.....20dB or more( $\pm 10$ kHz)  
S/N.....42dB or more  
Distortion(30% MOD.).....1.5% or less  
IF interference.....40dB or more  
Image interference.....45dB or more

# *Service Manual*

*Pioneer*  
**TOYOTA**

ORDER NO.  
**CRT2736**

# **LEXUS ES300** **AUDIO SYSTEM** **HEAD UNIT**

VEHICLE	DESTINATION	PRODUCED AFTER	TOYOTA PART No.	ID No.	PIONEER MODEL No.
LEXUS ES300	U.S.A., CANADA	July 2001	86230-33030	—	FX-MG8517ZT-91/UC

Manufactured for TOYOTA  
by PIONEER CORPORATION

PUB. NO. **CRT2736**

- This service manual should be used together with the manual(s) listed below.  
For the parts numbers, adjustments, etc. which are not shown in this manual, refer to the following manual(s).

Model No.	Order No.	Mech. Module	Remarks
FX-MG8517ZT/UC	CRT2680		
CX-631	CRT1640	2L	Cassette Mech. Module:Mech.Description, Disassembly
CX-890	CRT2376	G1	CD Mech. Module:Circuit Description, Mech.Description, Disassembly

## EXPLODED VIEWS AND PARTS LIST

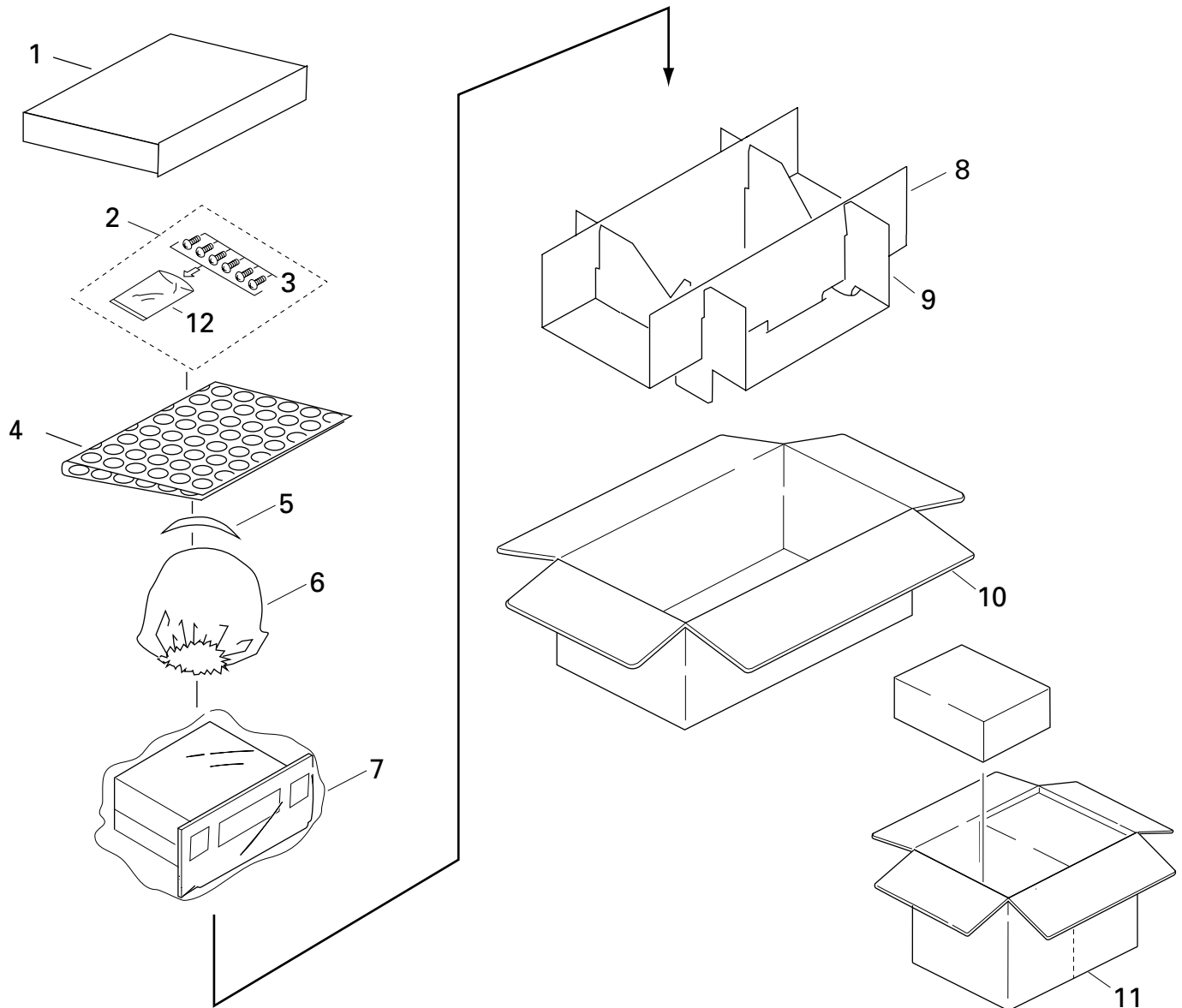
### EXTERIOR(1/2)(Page 4)

#### ● EXTERIOR SECTION PARTS LIST

\*: Non Spare Part

Mark No.	Symbol and Description	Part No.	
		FX-MG8517ZT/UC	FX-MG8517ZT-91/UC
1	90467-10203	CNV5641	Not used
2	Seal	CNM7391	Not used
3	Seal	CNM7390	Not used
27	Grille Unit	CXB6189	Not used
28	Screw	BPZ30P100FMC	Not used
39	Grille Assy	CXB8325	Not used
40	Screw	BPZ26P080FMC	Not used
41	Button(LOAD)	CAC6781	Not used
42	Button(CD EJECT)	CAC6782	Not used
43	Button(1)	CAC6783	Not used
44	Button(2)	CAC6784	Not used
45	Button(3)	CAC6785	Not used
46	Button(4)	CAC6786	Not used
47	Button(SEEK,TRACK)	CAC6787	Not used
48	Button(RDS,TYPE)	CAC6788	Not used
49	Button(TAPE EJECT)	CAC6789	Not used
50	Button(TRAF)	CAC6790	Not used
51	Button(AM)	CAC6791	Not used
52	Button(FM)	CAC6792	Not used
53	Button(TAPE)	CAC6793	Not used
54	Button(DISC)	CAC6794	Not used
55	Button(5)	CAC6795	Not used
56	Button(6)	CAC6799	Not used
57	Button(SCAN)	CAC6800	Not used
58	Button(MSG)	CAC6801	Not used
59	Door	CAT2189	Not used
60	Spring	CBH1371	Not used
61	Holder	CNV6459	Not used
62	Holder	CNV6460	Not used
63	Holder	CNV6461	Not used
64	Holder	CNV6462	Not used
65	Holder	CNV6491	Not used
66	Holder	CNV6757	Not used
67	Holder	CNV6758	Not used
68	Holder	CNV6759	Not used
69	Holder	CNV6760	Not used
70	Holder	CNV6761	Not used
*	71 55413-33020	CNS6678	Not used
*	72 55412-33220	CNS6679	Not used
	74 Label	CRW1425	Not used

**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.	Mark No.	Description	Part No.
	1 Protector	CHP2492		6 Cover	CEG1307
	2 Screw Assy	CEA3044		7 Polyethylene Bag	CEG1174
	3 Screw	BPZ30P100FMC		8 Protector	CHP2490
*	4 Air Cap	CEG1308		9 Protector	CHP2491
	5 Label	CRW1430		10 Carton	CHG4518
				11 Contain Box	CHL4518
			*	12 Polyethylene Bag	CEG1158

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