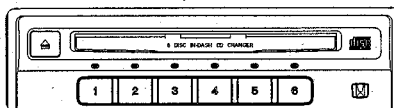


# Service Manual

# Pioneer

## HONDA

CDX-MG6346ZH/ES



ORDER NO.  
**CRT2407**

6 DISC IN-DASH CD CHANGER

# CDX-MG6346ZH ES

# CDX-MG6446ZH ES



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

Model No.	Order No.	Mech. Module	Remarks
CX-890	CRT2376	G1	CD Mechanism Module:Circuit Description, Mechanism Operation, Disassembly

VEHICLE	DESTINATION	PRODUCED AFTER	HONDA PART No.	ID No.	PIONEER MODEL No.
Not specified	THAILAND, AUSTRALIA	October 1999	08A06-3B5-300	—	CDX-MG6346ZH/ES
Not specified	THAILAND, AUSTRALIA	October 1999	08A06-3B5-310	—	CDX-MG6446ZH/ES

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		8. OPERATIONS AND SPECIFICATIONS .....	61

**PIONEER CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan  
**PIONEER ELECTRONICS SERVICE INC.** P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.  
**PIONEER ELECTRONIC [EUROPE] N.V.** Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium  
**PIONEER ELECTRONICS ASIACENTRE PTE.LTD.** 253 Alexandra Road, #04-01, Singapore 159936

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K-ZZB. OCT. 1999 Printed in Japan

## CDX-MG6346ZH, MG6446ZH

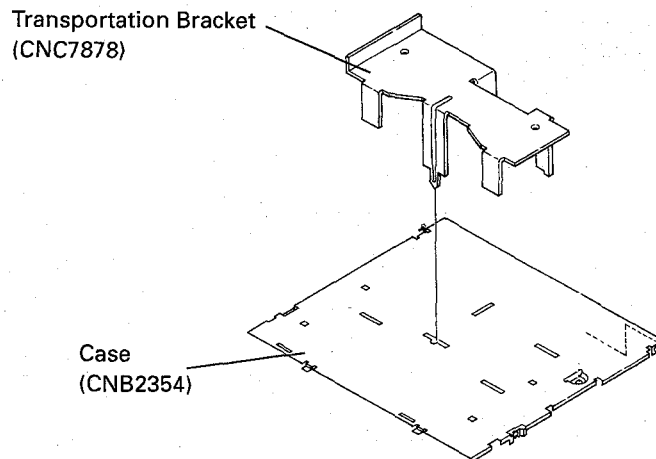
### ● CD Player Service Precautions

1. For pickup unit(CXX1311) handling, please refer to "Disassembly"(see page 52).  
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(Protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please check the grating after changing the service pickup unit(see page 46).

### ● When the Repair is Complete

When the repair is complete, make the CD mechanism ready for transportation implementing the following procedures:

1. Press the changer side 1 and 4 simultaneously to turn the ACC on.
2. As the ACC is turned on, the disc indicator blinks in red.
3. When the blinking is stopped, the mechanism is ready for the transportation.
4. Attach the Transportation Bracket (CNC7878). Now you can transport it.(See the figure below)



## 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.

# Service Manual

# Pioneer

## HONDA

ORDER NO.  
CRT2580

6 DISC IN-DASH CD CHANGER

# CDX-MG6156ZH

EW

COMPACT  
**disc**  
DIGITAL AUDIO

VEHICLE	DESTINATION	PRODUCED AFTER	PART No.	ID No.	PIONEER MODEL No.
CIVIC,CR-V,ACCORD	EUROPE	November 2000	08A06-3C6-500	831NT	CDX-MG6156ZH/EW

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

Model	Order No.	Mech. Module	Remarks
CDX-MG6346ZH/ES	CRT2407		
CX-890	CRT2376	G1	CD Mech. Module:Circuit Description,Mech. Operation,Disassembly

## EXPLODED VIEWS AND PARTS LIST

### PACKING (Page 3)

#### ● PACKING SECTION PARTS LIST

Mark No.	Description	Part No.	
		CDX-MG6346ZH/ES	CDX-MG6156ZH/EW
5	Owner's Manual	CRB1561	CRD3333
11	Carton	CHG3909	CHG4300
12	Contain Box	CHL3909	CHL4300

### EXTERIOR (Page 4)

#### ● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	
		CDX-MG6346ZH/ES	CDX-MG6156ZH/EW
27	Door	CAT2003	CAT2242
41	Grille Unit	CXB3409	CXB7115

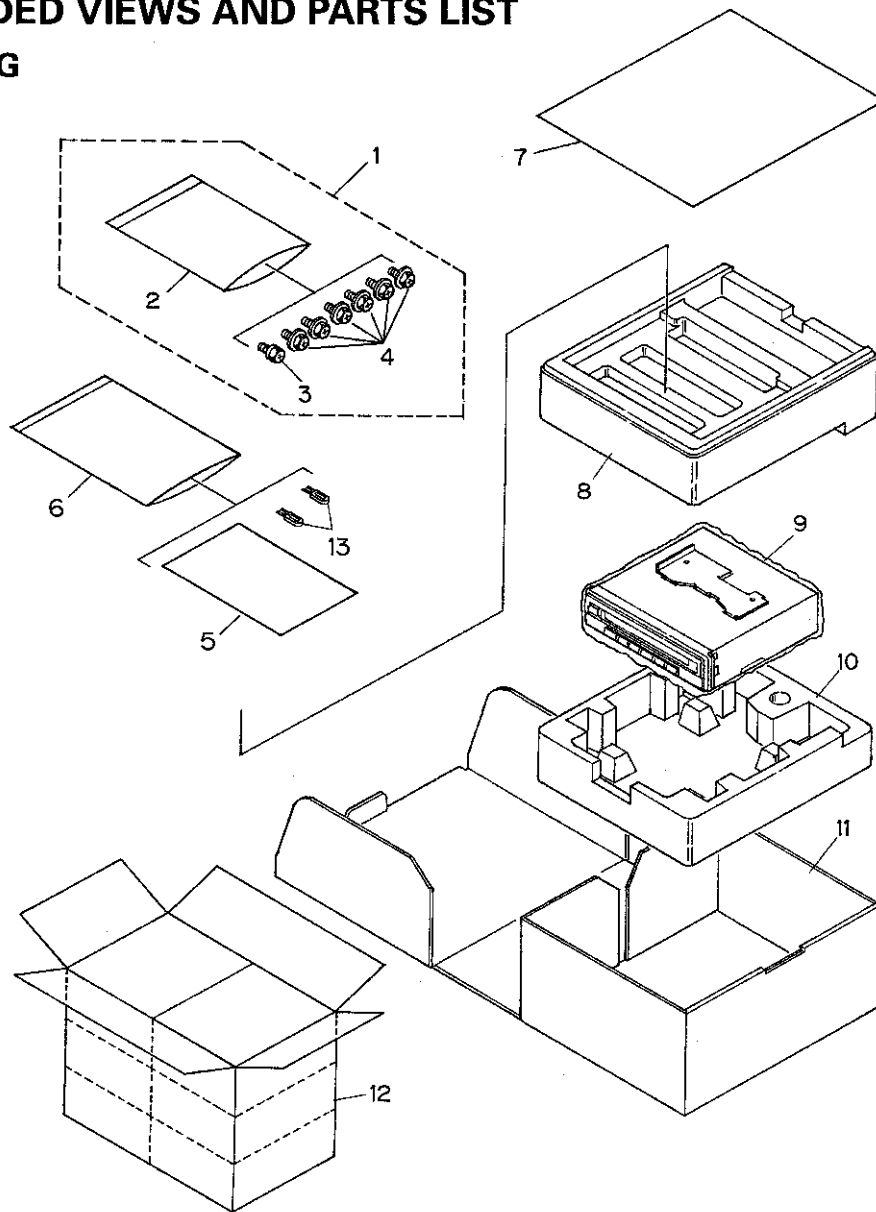
**PIONEER CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan  
**PIONEER ELECTRONICS SERVICE INC.** P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.  
**PIONEER EUROPE NV** Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium  
**PIONEER ELECTRONICS ASIACENTRE PTE.LTD.** 253 Alexandra Road, #04-01, Singapore 159936

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## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 PACKING



**NOTE:**

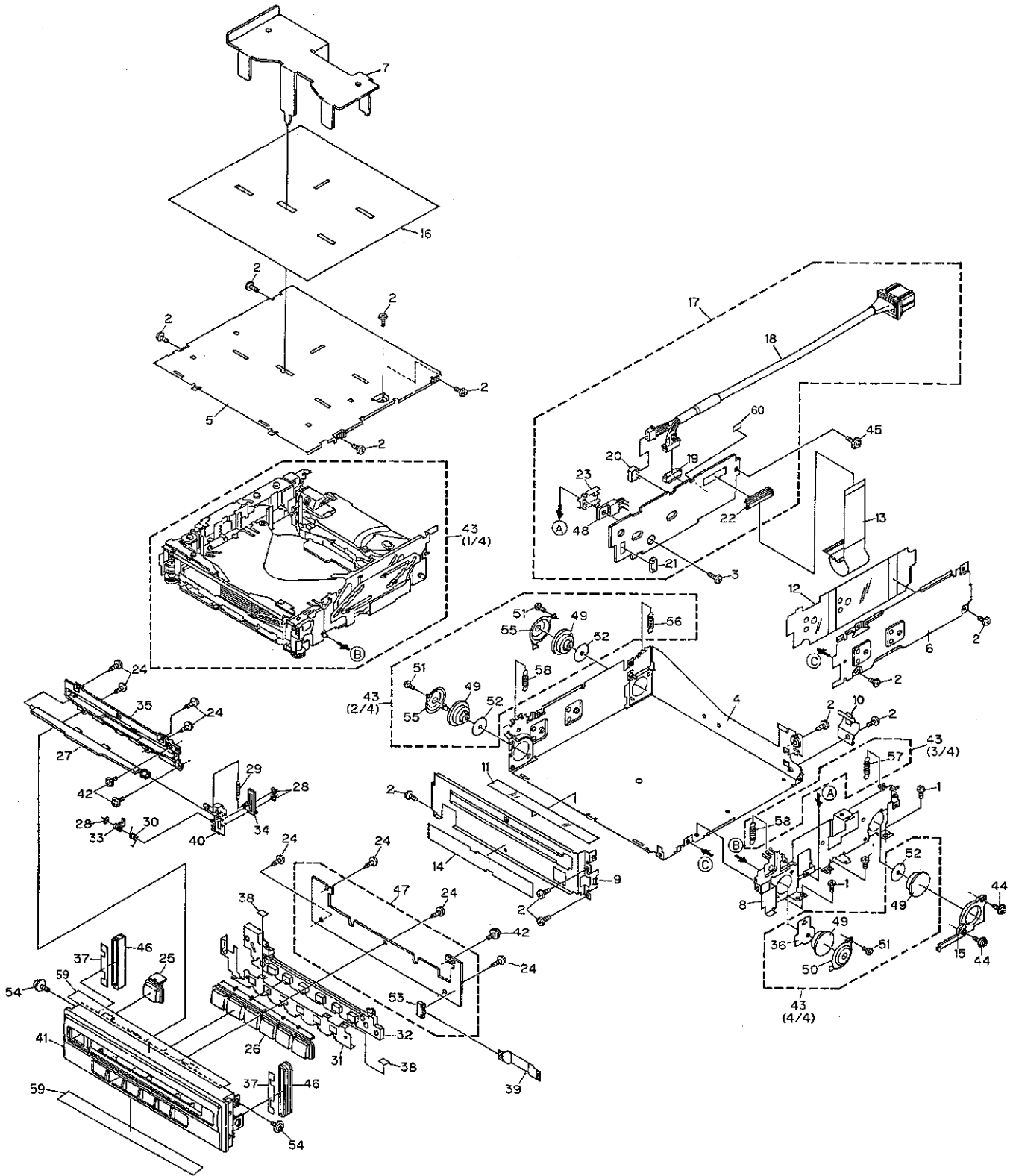
● Parts marked by "\*" are generally unavailable because they are not in our Master Spare Parts List.

● Screws adjacent to ▽ mark on the product are used for disassembly.

● **PACKING SECTION PARTS LIST**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	1 Screw Assy	CEA2537		11 Carton(CDX-MG6346ZH/ES)	CHG3909
*	2 Polyethylene Bag	CEG-127		Carton(CDX-MG6446ZH/ES)	CHG3991
	3 Screw	HMF40P060FZK	12	Contain Box(CDX-MG6346ZH/ES)	CHL3909
	4 Screw	HMF50P080FMC		Contain Box(CDX-MG6446ZH/ES)	CHL3991
	5 Owner's Manual(English)	CRB1561	*	13 Band	CNF-512
	6 Polyethylene Bag	CEG1116			
*	7 Sheet	CHW1402			
	8 Protector	CHP2123			
*	9 Polyethylene Bag	E36-609			
	10 Protector	CHP2124			

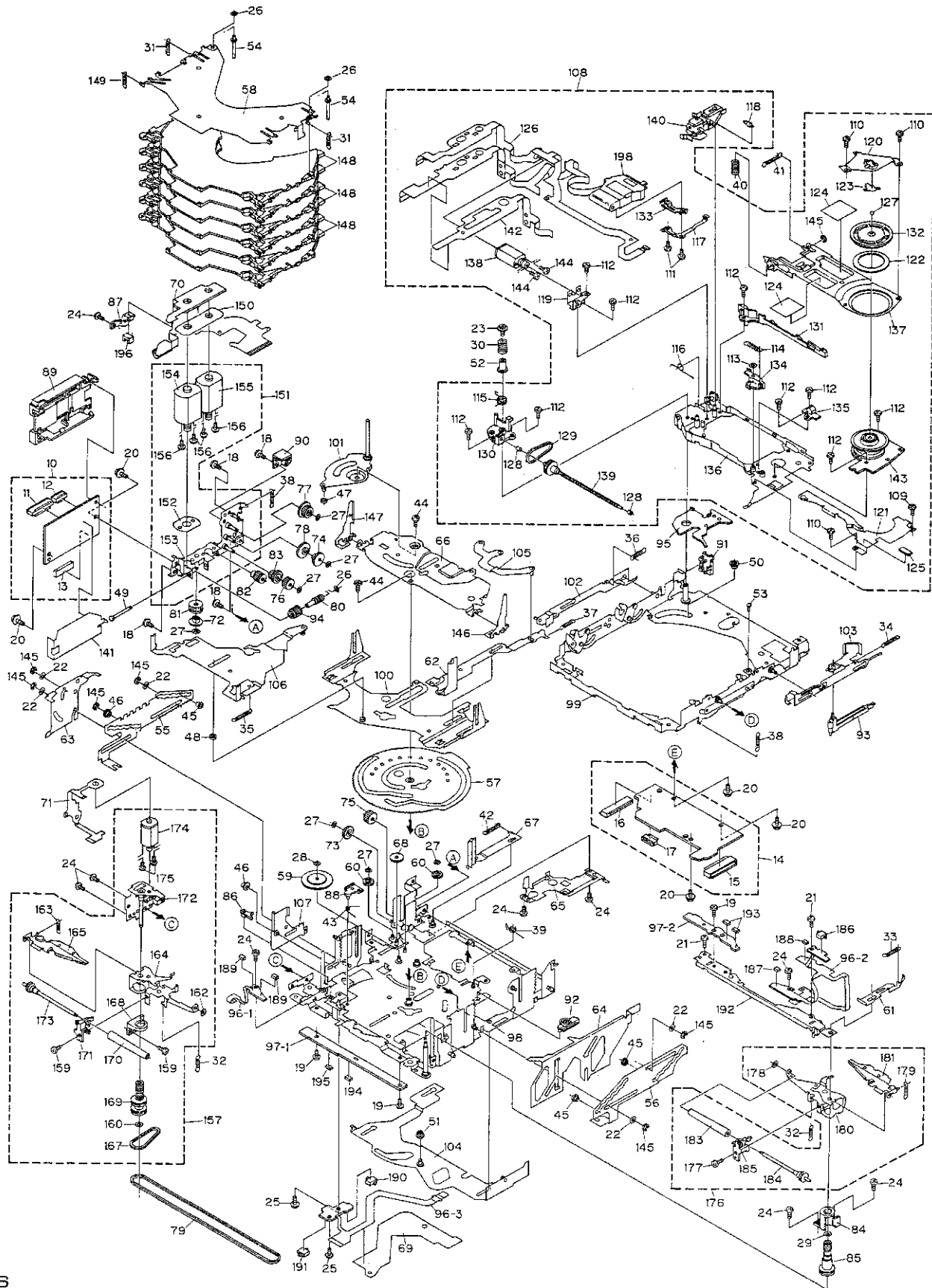
2.2 EXTERIOR



● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ20P020FMC	29	Spring	CBH2201
2	Screw	BMZ26P030FMC	30	Spring	CBH2200
3	Screw	BMZ26P060FMC	31	Conductor	CNC8051
4	Chassis Unit(CDX-MG6346ZH/ES)	CXB3407	32	Lighting Conductor	CNV5901
	Chassis Unit(CDX-MG6446ZH/ES)	CXB5581	33	Gear	CNV5547
5	Case	CNB2354	34	Arm	CNV5548
6	Side Frame	CNB2397	35	Guide	CNV5880
7	Bracket	CNC7878	36	Sheet	CNM6318
8	Bracket(CDX-MG6346ZH/ES)	CNC8026	37	Double Faced Tape	CNM6424
	Bracket(CDX-MG6446ZH/ES)	CNC8816	38	Insulator	CNM6512
9	Front Frame	CNC8110	39	PCB	CNP5373
10	Holder	CNC8111	40	Bracket Unit	CXB3111
11	Insulator	CNM5969	41	Grille Unit	CXB3409
12	Insulator	CNM6112	42	Screw	IMS20P040FMC
13	PCB	CNP5516	43	CD Mechanism Module(G1)	CXK4702
14	Insulator	CNM6409	44	Screw	IMS20P040FMC
15	Holder	CNV5543	45	Screw	IMS26P040FMC
* 16	Caution Label	CRP1200	46	Cushion	CNV5674
17	Extension Unit	CWM6677	47	Keyboard Unit	CWM6289
18	Cord	CDE6148	48	Transistor(Q708)	2SB1335A
19	Connector(CN102)	CKS2200	49	Damper	CNV5120
20	Connector(CN103)	CKS3597	50	Holder	CNC7826
21	Connector(CN701)	CKS3785	51	Screw	CBA1250
22	Connector(CN101)	CKS3989	52	Sheet	CNM5981
23	Holder	CNC8031	53	Connector(CN901)	CKS3785
24	Screw	BPZ20P060FMC	54	Screw	IMS26P030FZK
25	Button	CAC5864	55	Holder	CNC7477
26	Button	CAC5865	56	Spring(Left Rear)	CBH2365
27	Door	CAT2003	57	Spring(Right Rear)(Black)	CBH2361
28	Washer	CBF1038	58	Spring(Front)	CBH2360
			59	Spacer	CNM6658
			60	Spacer	CNM6626

2.3 CD MECHANISM



## ● CD MECHANISM SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1-9	●●●●●		54	Shaft	CLA3693
10	CD Core Unit(Servo Unit)	CWX2202	55	Steer	CNC7215
11	Connector(CN101)	CKS2764	56	Steer	CNC7216
12	Connector(CN301)	CKS3966	57	Cam	CNC7227
13	Connector(CN201)	CKS3991	*	58 Holder	CNC7235
14	CD Core Unit(STS Unit)	CWX2203	59	Gear	CNC7236
15	Connector(CN701)	CKS3989	60	Gear	CNC7238
16	Connector(CN801)	CKS3989	61	Lever	CNC7243
17	Connector(CN802)	CKS4054	62	Lever	CNC7244
18	Screw	CBA1037	63	Lever	CNC7245
19	Screw	CBA1041	64	Lever	CNC7246
20	Screw	CBA1076	65	Cover	CNC7441
21	Screw	CBA1250	66	Holder	CNC8613
22	Screw	CBA1405	67	Lever	CNC8024
23	Screw	CBA1452	68	Gear	CNC8140
24	Screw	CBA1453	69	Sheet	CNM5831
25	Screw	CBA1479	70	PCB	CNP5680
26	Washer	CBF1037	71	PCB	CNP5681
27	Washer	CBF1038	72	Gear	CNR1479
28	Washer	CBF1039	73	Gear	CNR1481
29	Washer	CBF1064	74	Gear	CNR1495
30	Spring	CBH2007	75	Gear	CNR1501
31	Spring	CBH2271	76	Gear	CNR1502
32	Spring	CBH2274	77	Gear	CNR1540
33	Spring	CBH2014	78	Gear	CNR1541
34	Spring	CBH2015	79	Belt	CNT1080
35	Spring	CBH2016	80	Worm Gear	CNV5046
36	Spring	CBH2017	81	Gear	CNV5047
37	Spring	CBH2290	82	Gear	CNV5048
38	Spring	CBH2019	83	Gear	CNV5049
39	Spring	CBH2064	84	Holder	CNV5056
40	Spring	CBH2195	85	Pulley	CNV5058
41	Spring	CBH2196	86	Arm	CNV5061
42	Spring	CBH2224	87	Spacer	CNV5066
43	Spring	CBH2250	88	Arm	CNV5189
44	Screw	CBA1082	89	Cover	CNV5207
45	Roller	CLA3154	90	Cover	CNV5424
46	Roller	CLA3157	91	Cover	CNV5425
47	Roller	CLA3159	92	Lever	CNV5427
48	Roller	CLA3160	93	Arm	CNV5491
49	Shaft	CLA3179	94	Gear	CNV5519
50	Spacer	CLA3194	95	Holder	CNV5648
51	Roller	CLA3248	96	Composite PCB	CNX3141
52	Bush	CLA3353	97	Composite PCB	CNX2989
* 53	Shaft	CLA3469	98	Chassis Unit	CXB4314



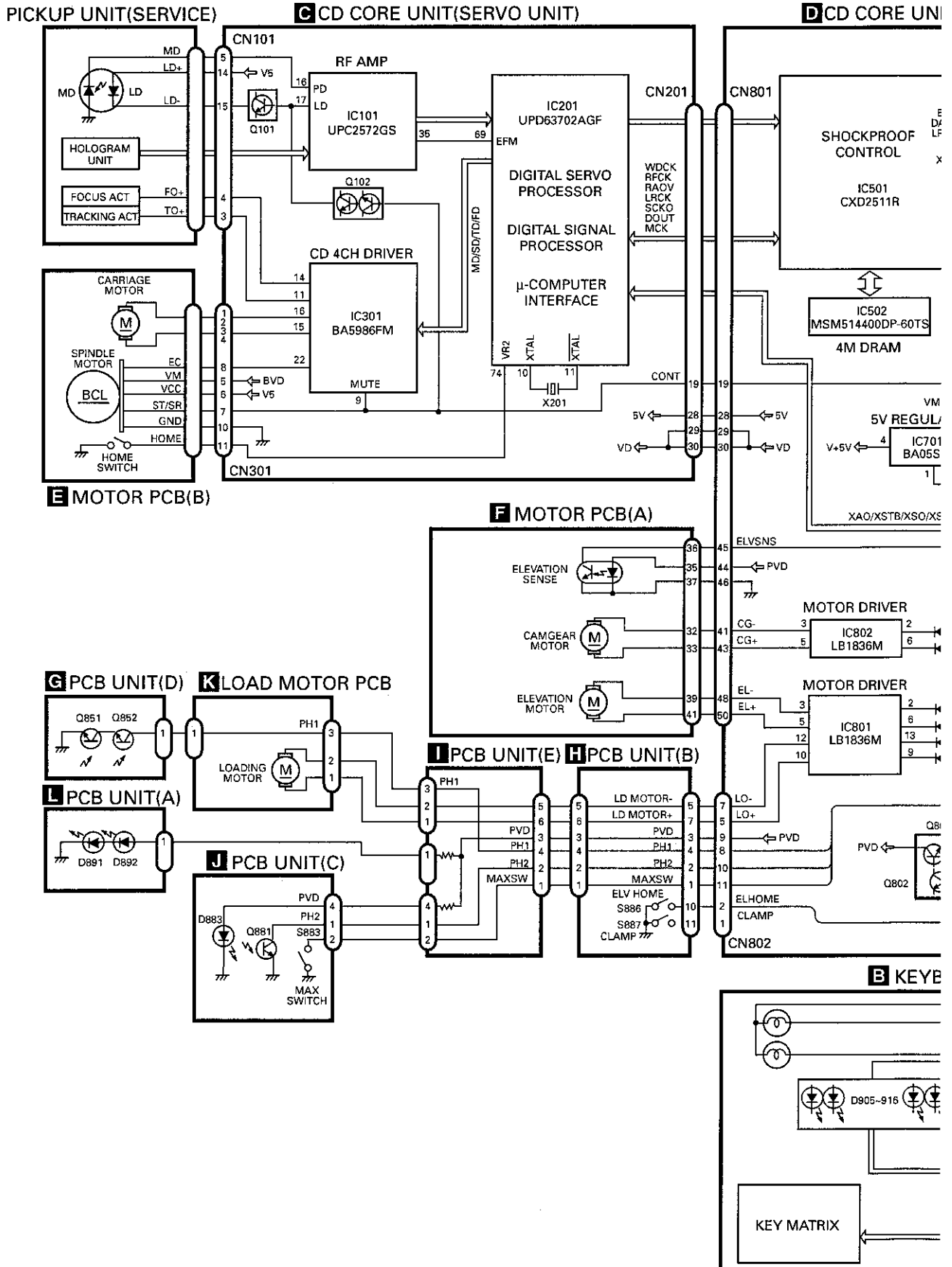
**CDX-MG6346ZH, MG6446ZH**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
99	Frame Unit	CXB2702	144	Screw	JFZ14P020FZK
100	Lever Unit	CXB2703	145	Washer	YE15FUC
101	Arm Unit	CXB2704	146	Arm Unit	CXB4953
102	Lever Unit	CXB2708	147	Arm Unit	CXB4954
103	Lever Unit	CXB2709	148	Tray Assy	CXB4307
104	Lever Unit	CXB2711	149	Spring	CBH2269
105	Arm Unit	CXB2712	150	Sheet	CNM6699
106	Lever Unit	CXB2713	151	Cam Motor Assy	CXB3170
107	Lever Unit	CXB2714	152	Spacer	CNC8289
108	Carriage Mechanism Unit(G1)	CXB5639	* 153	Bracket Unit	CXB4165
109	Screw	CBA1041	* 154	Motor Unit(M1 Cam Gear)	CXB3174
110	Screw	CBA1250	* 155	Motor Unit(M3 ELV)	CXB3175
111	Screw	CBA1362	156	Screw	JFZ20P025FMC
112	Screw	CBA1471	157	Loading Arm L Assy	CXB3171
113	Washer	CBF1038	158	*****	
114	Spring	CBH2008	159	Screw	CBA1453
115	Spring	CBH2009	160	Washer	CBF1038
116	Spring	CBH2010	161	*****	
117	Spring	CBL1335	162	Washer	CBF1074
118	Roller	CLA3707	163	Spring	CBH2136
* 119	Bracket	CNC7228	* 164	Arm	CNC7241
120	Guide Unit	CXB4417	* 165	Arm	CXB4449
121	Cover	CNC7628	166	*****	
122	Sheet	CNM6414	167	Belt	CNT1079
123	Sheet	CNM5378	168	Holder	CNV5055
124	Sheet	CNM5695	169	Pulley	CNV5057
125	Sheet	CNM5827	170	Roller	CNV5064
126	PCB	CNP4978	171	Guide	CNV5125
127	Ball	CNR1189	* 172	Bracket Unit	CXB4316
128	Bearing	CNR1423	173	Roller Gear Unit	CXB3176
129	Belt	CNT1079	* 174	Motor Unit(M2 LOAD)	CXB3177
130	Holder	CNV5037	175	Screw	JFZ14P020FMC
131	Guide	CNV5040	176	Loading Arm R Assy	CXB3172
132	Clamper	CNV5042	177	Screw	CBA1453
133	Rack	CNV5111	178	Washer	CBF1074
134	Arm	CNV5579	179	Spring	CBH2136
135	Holder	CNV5759	* 180	Arm	CNC7242
* 136	Chassis	CXB2698	* 181	Arm	CXB4448
137	Arm Unit	CXB2705	182	*****	
138	Motor Unit(M4 CARRIAGE)	CXB3178	183	Roller	CNV5064
139	Screw Unit	CXB3179	184	Roller Gear Unit	CXB3176
140	Lever Unit	CXB4450	185	Guide	CNV5126
141	Insulator	CNM6306	186	Switch(S885 MAX)	CSN1052
142	Spacer	CNM6345	187	LED(D883)	CL202IRXTU
143	Motor(M5 SPINDLE)	CXM1120	188	Photo-transistor(Q881)	CPT230SCTD(CD)

Mark No.	Description	Part No.
189	LED(D891,892)	CL202IRXTU
190	Switch(S887 CLAMP)	CSN1051
191	Switch(S886 ELV HOME)	CSN1052
192	Bracket Unit	CXB4306
193	Photo-transistor(Q851,852)	CPT230SCTD(CD)
194	Resistor(R856)	RS1/8S911J
195	Resistor(R857)	RS1/8S821J
196	Photo-interrupter(Q1)	RPI-221
197	•••••	
198	Pickup Unit(Service)(P8)	CXX1311

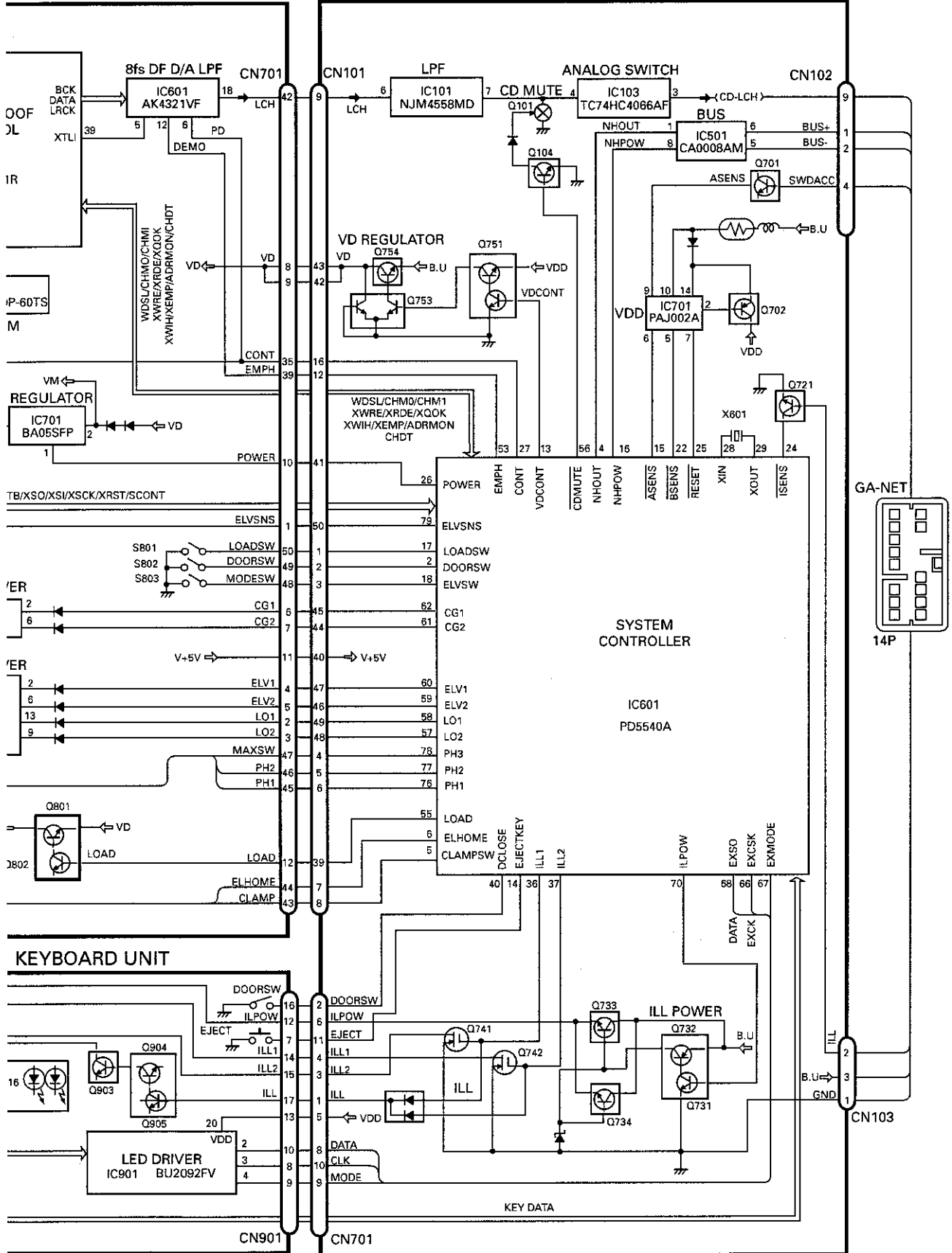
### 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

#### 3.1 BLOCK DIAGRAM



RE UNIT(STS UNIT)

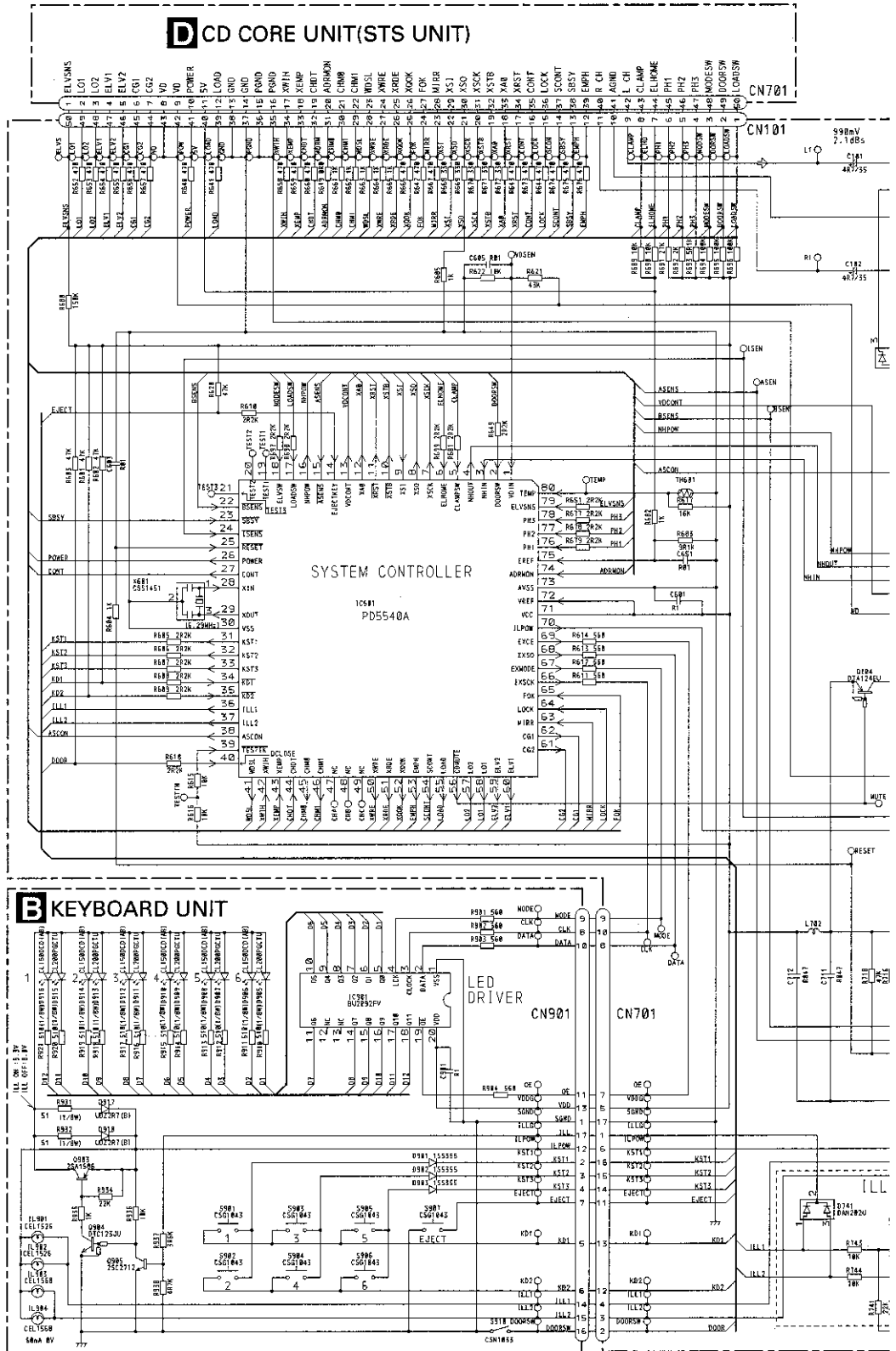
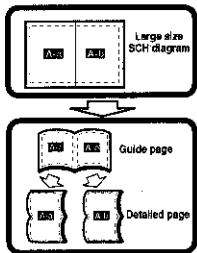
A EXTENSION UNIT



**3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)**

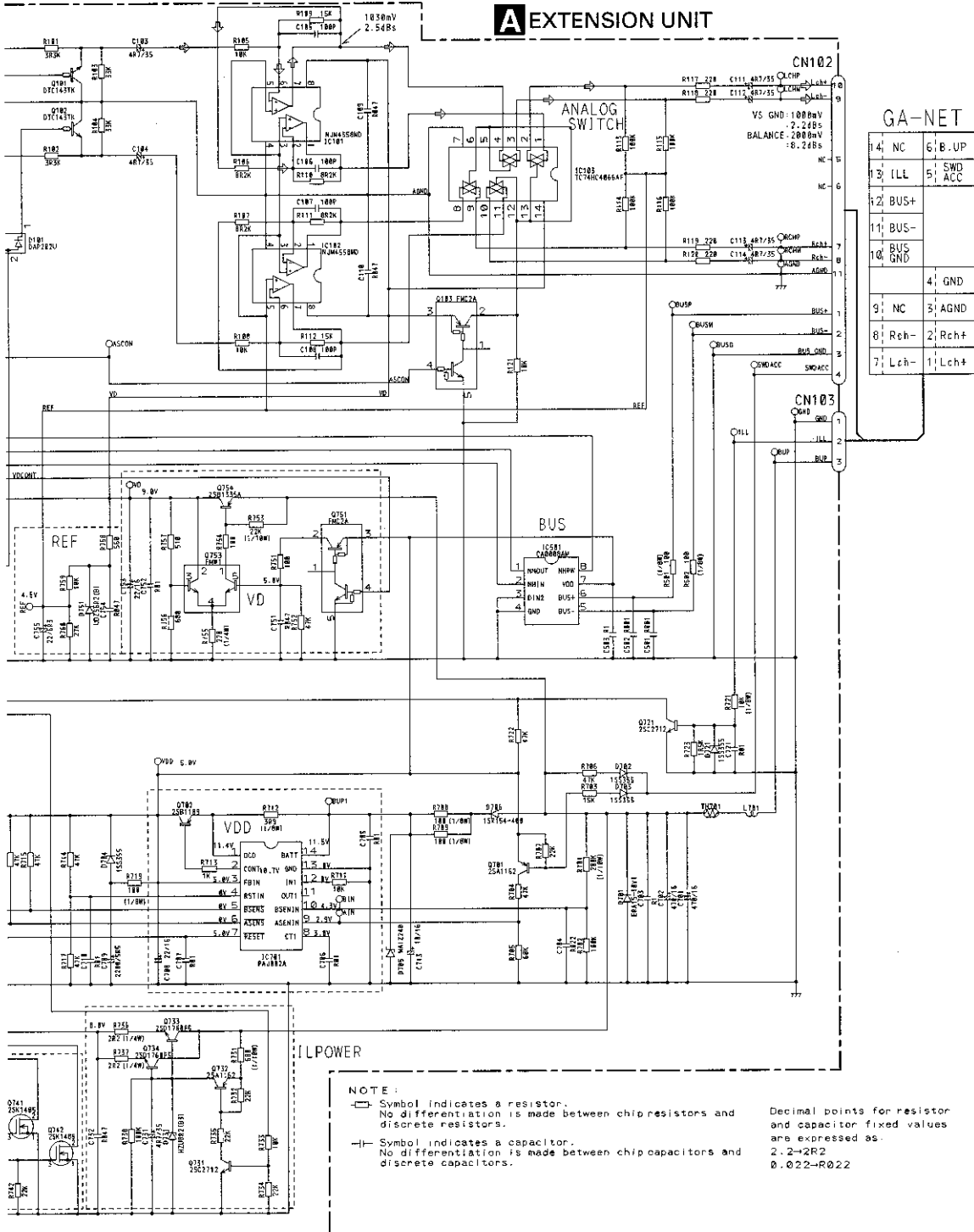
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

**A-a**

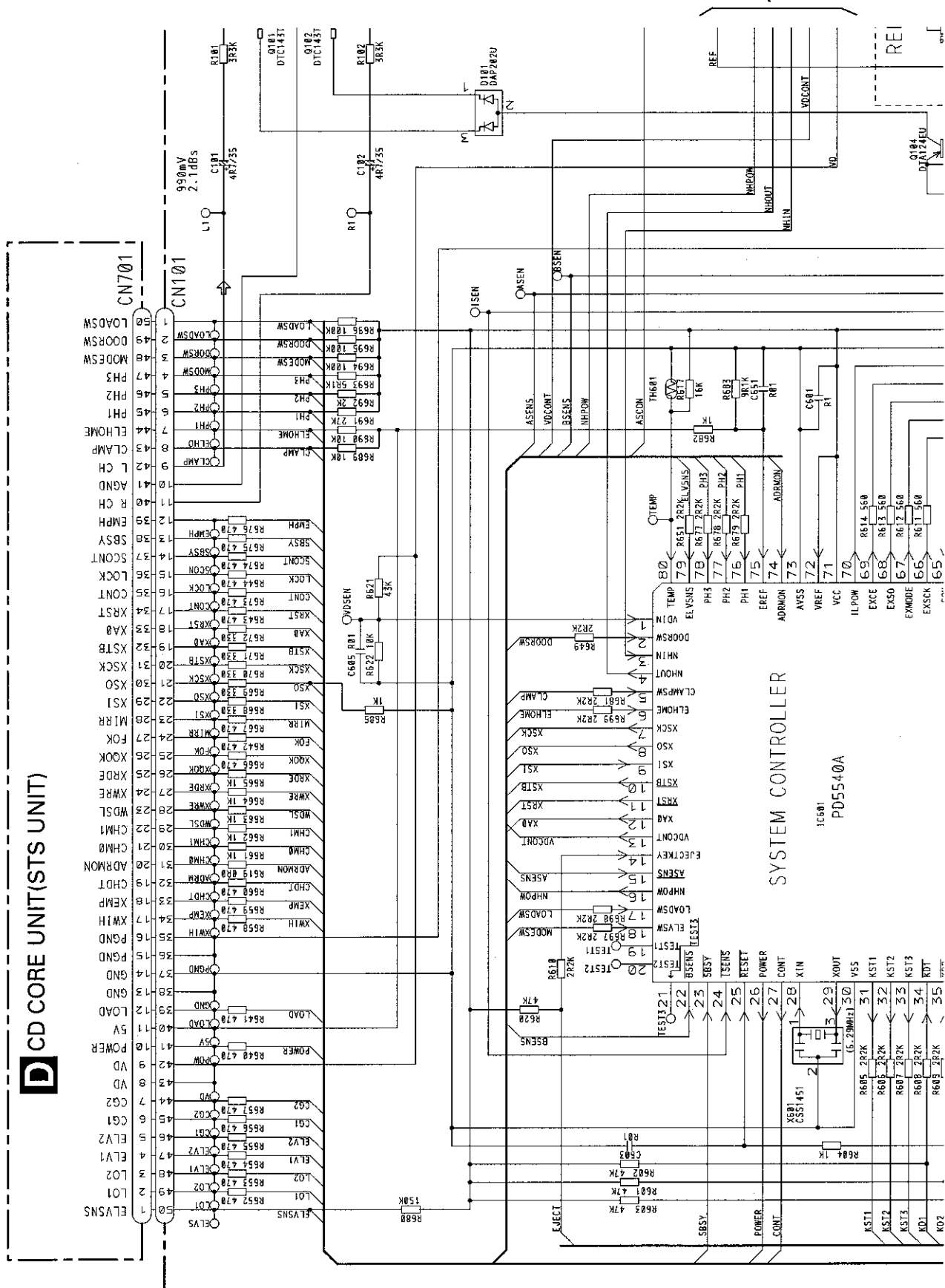


# A-b

## A EXTENSION UNIT



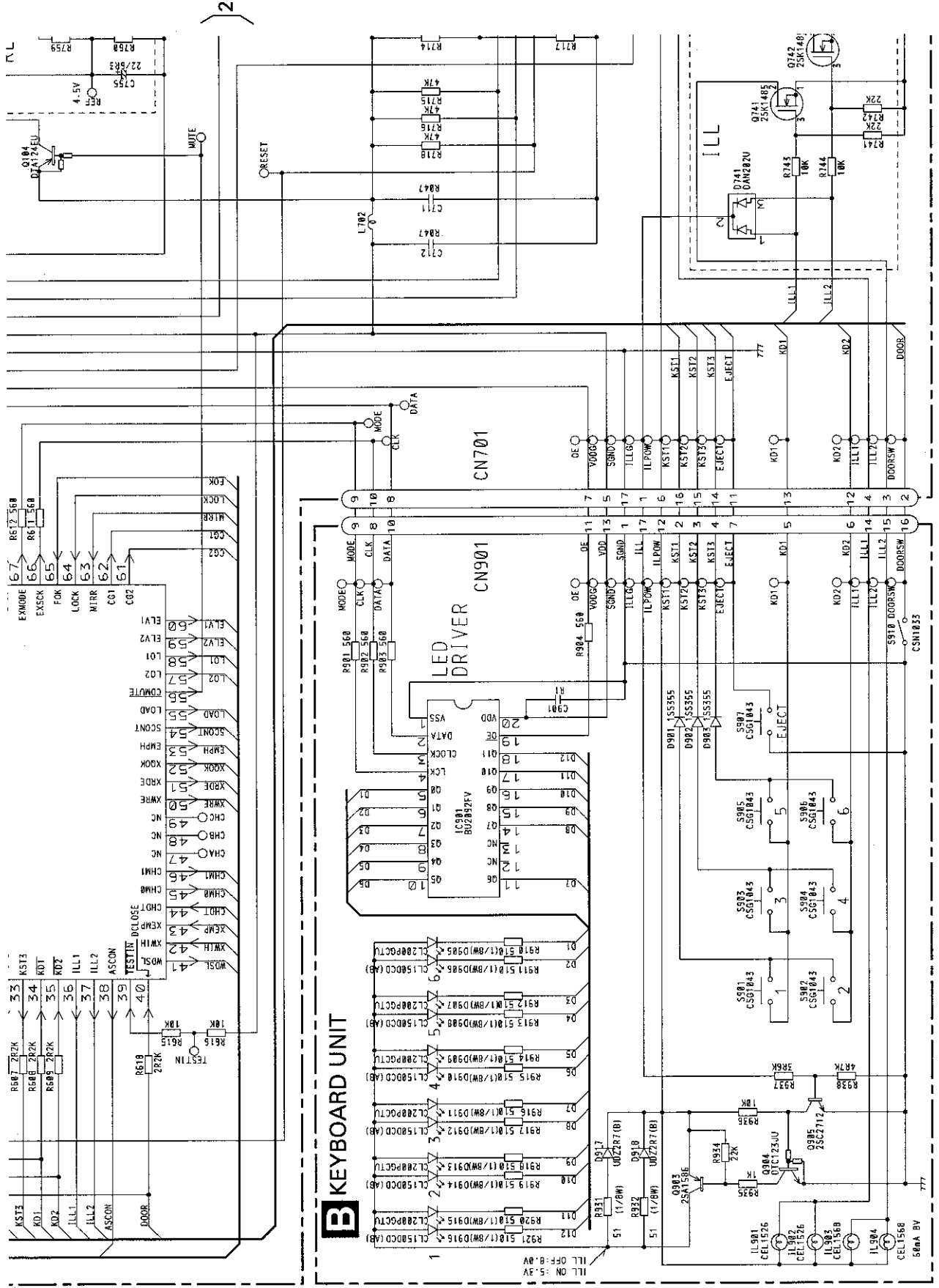
A-a  
A-b



CD CORE UNIT(STS UNIT)

SYSTEM CONTROLLER  
PD5540A

A-a



5

6

7

8

A-a B-b

A

B

C

D

A-a B

5

6

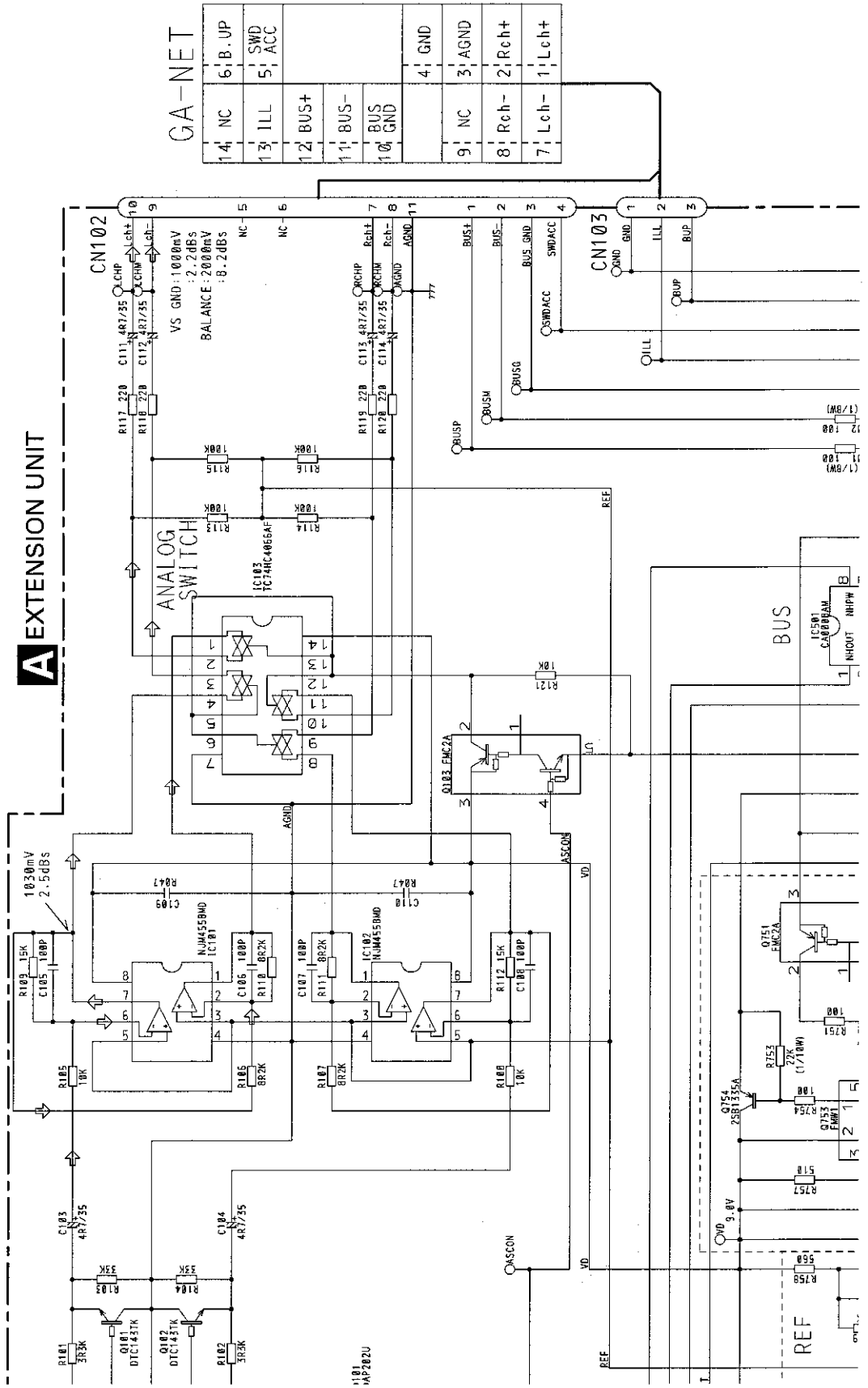
7

8



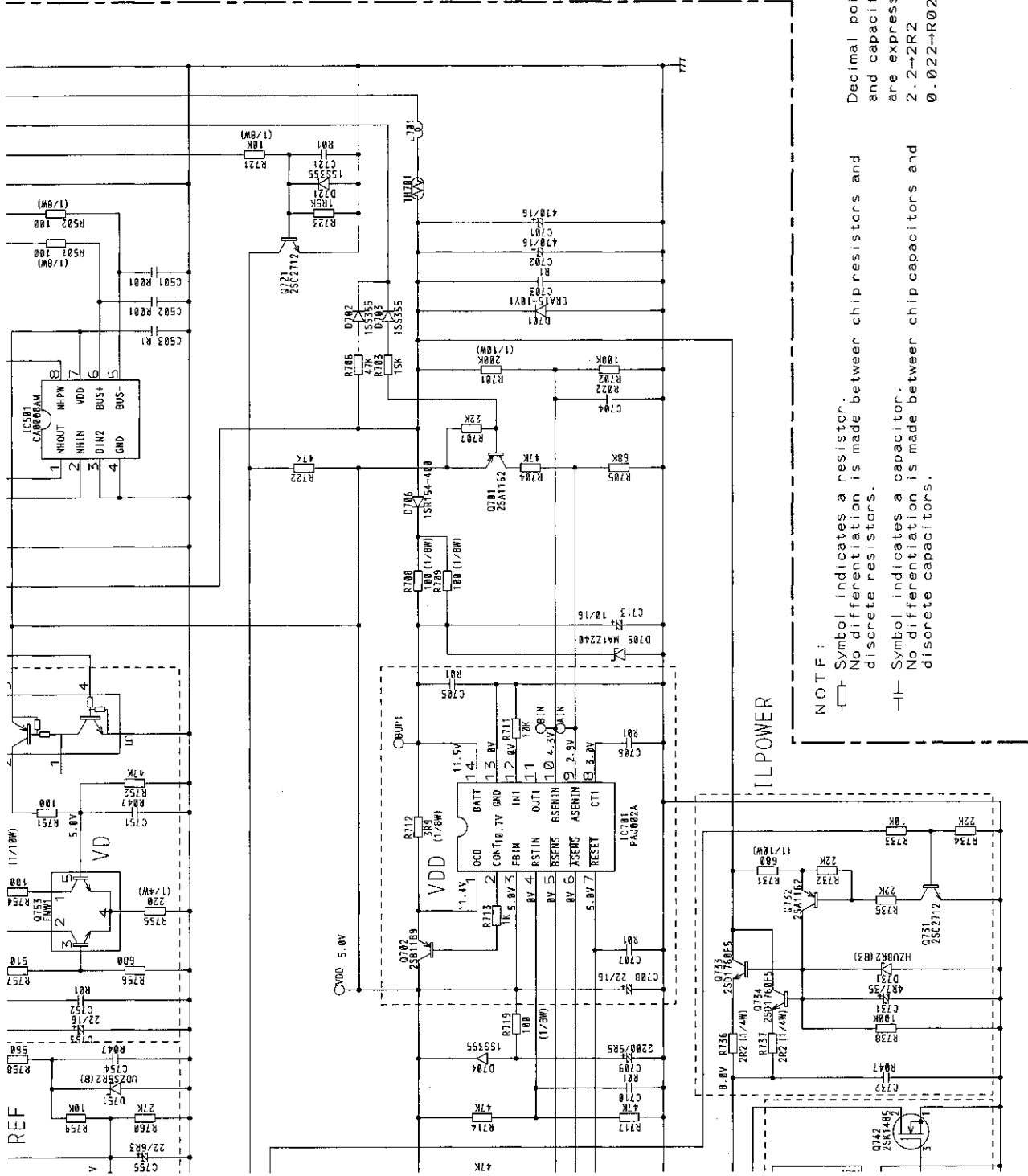
A-a A-b

**A** EXTENSION UNIT



GA-NET

14	NC	6	B. UP
13	ILL	5	SWD ACC
12	BUS+		
11	BUS-		
10	BUS GND		
9	NC	3	AGND
8	Rch-	2	Rch+
7	Lch-	1	Lch+
4	GND		



NOTE:

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

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

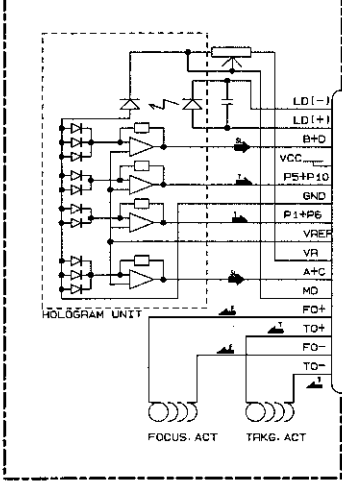
A-a

A-b

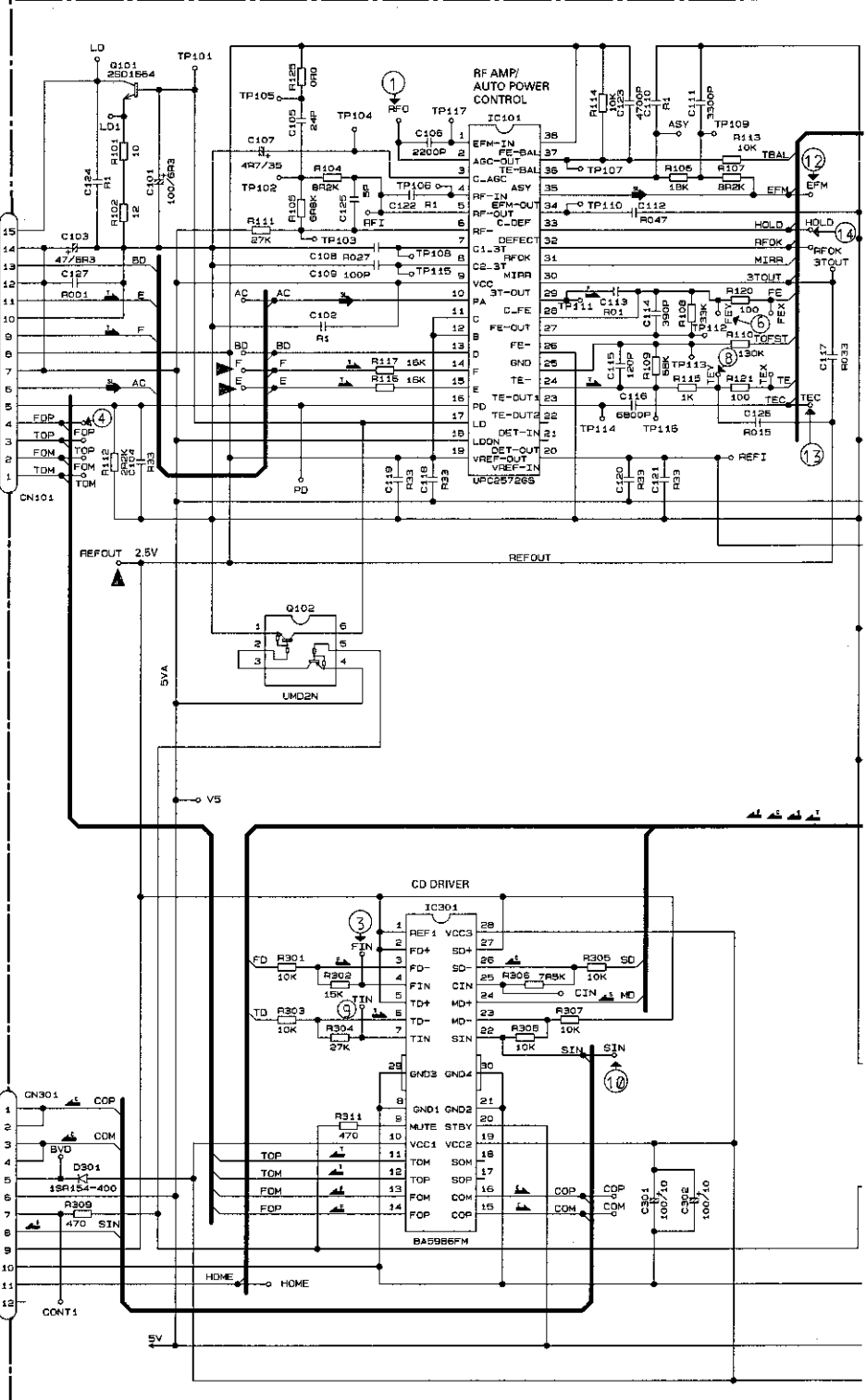
3.2 CD CORE UNIT(SERVO UNIT)

**C** CD CORE UNIT(SERVO UNIT)

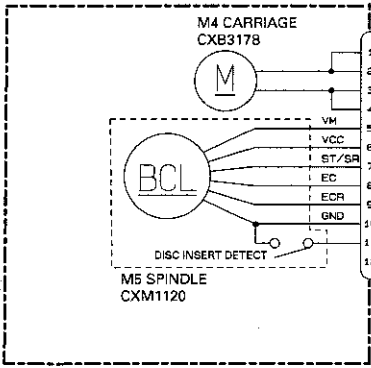
PICKUP UNIT (SERVICE)

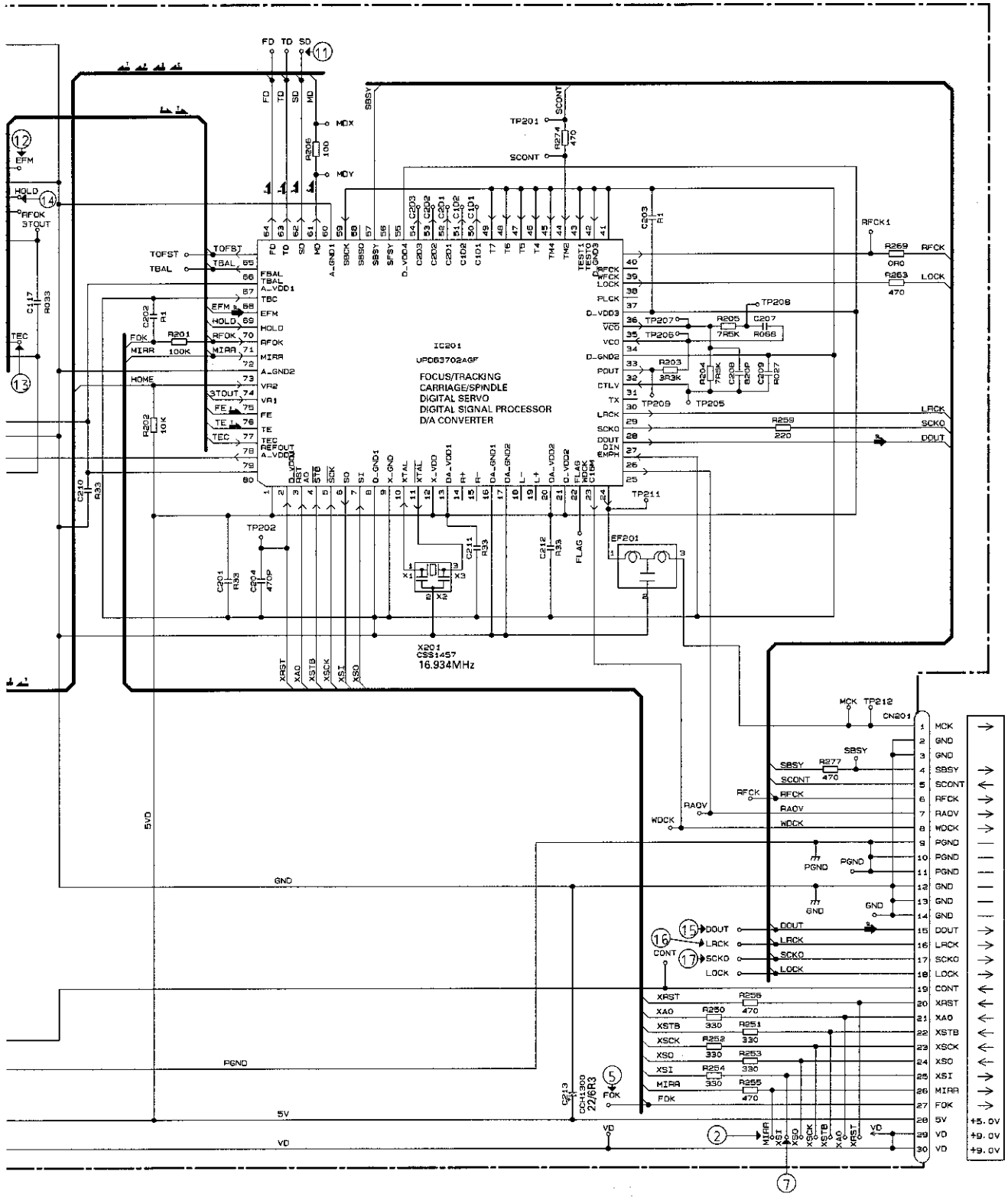


SIGNAL LINE  
 FOCUS SERVO LINE  
 TRACKING SERVO LINE  
 CARRIAGE SERVO LINE  
 SPINDLE SERVO LINE



**E** MOTOR PCB(B)





A

B

C

D

E

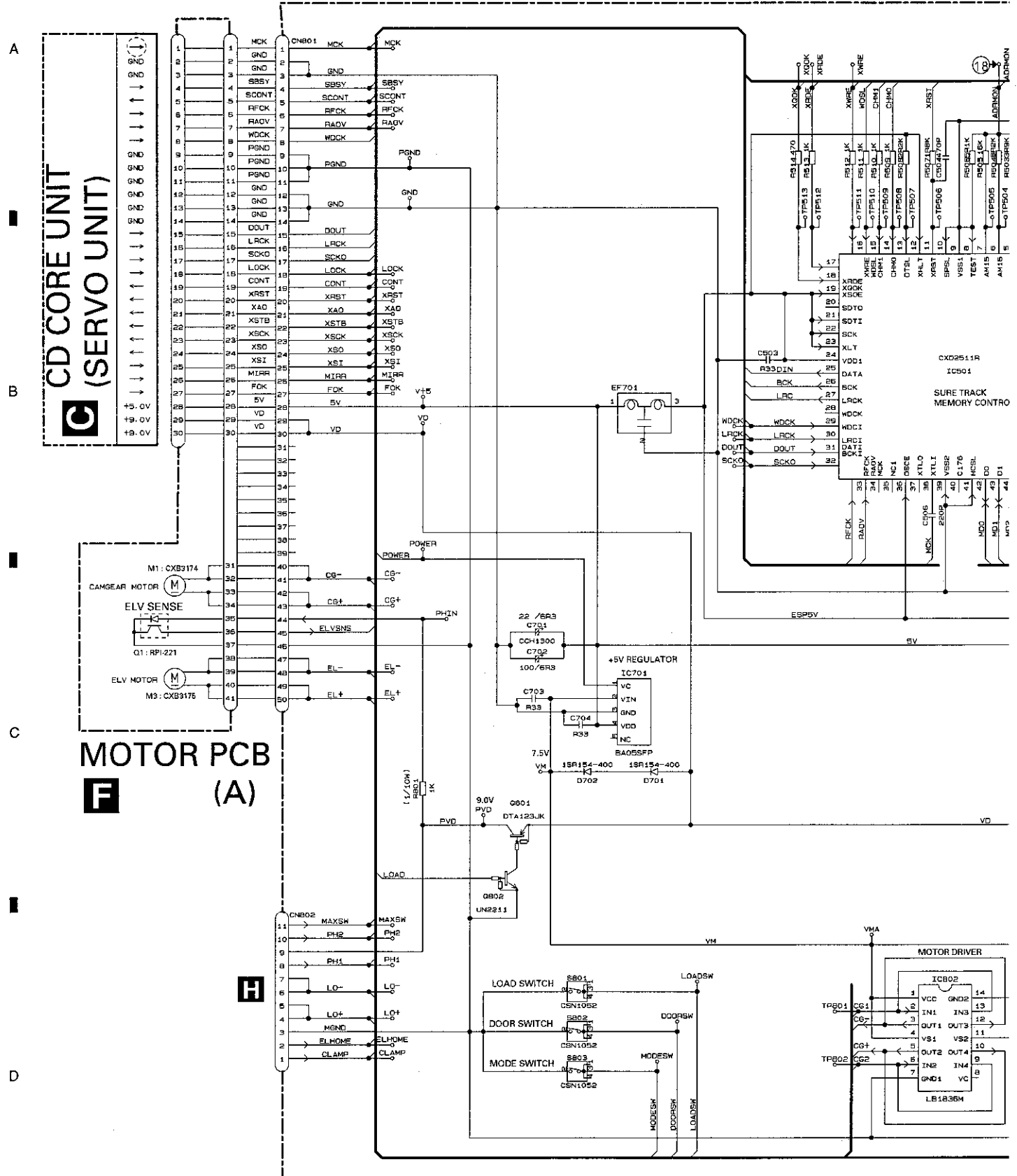
F

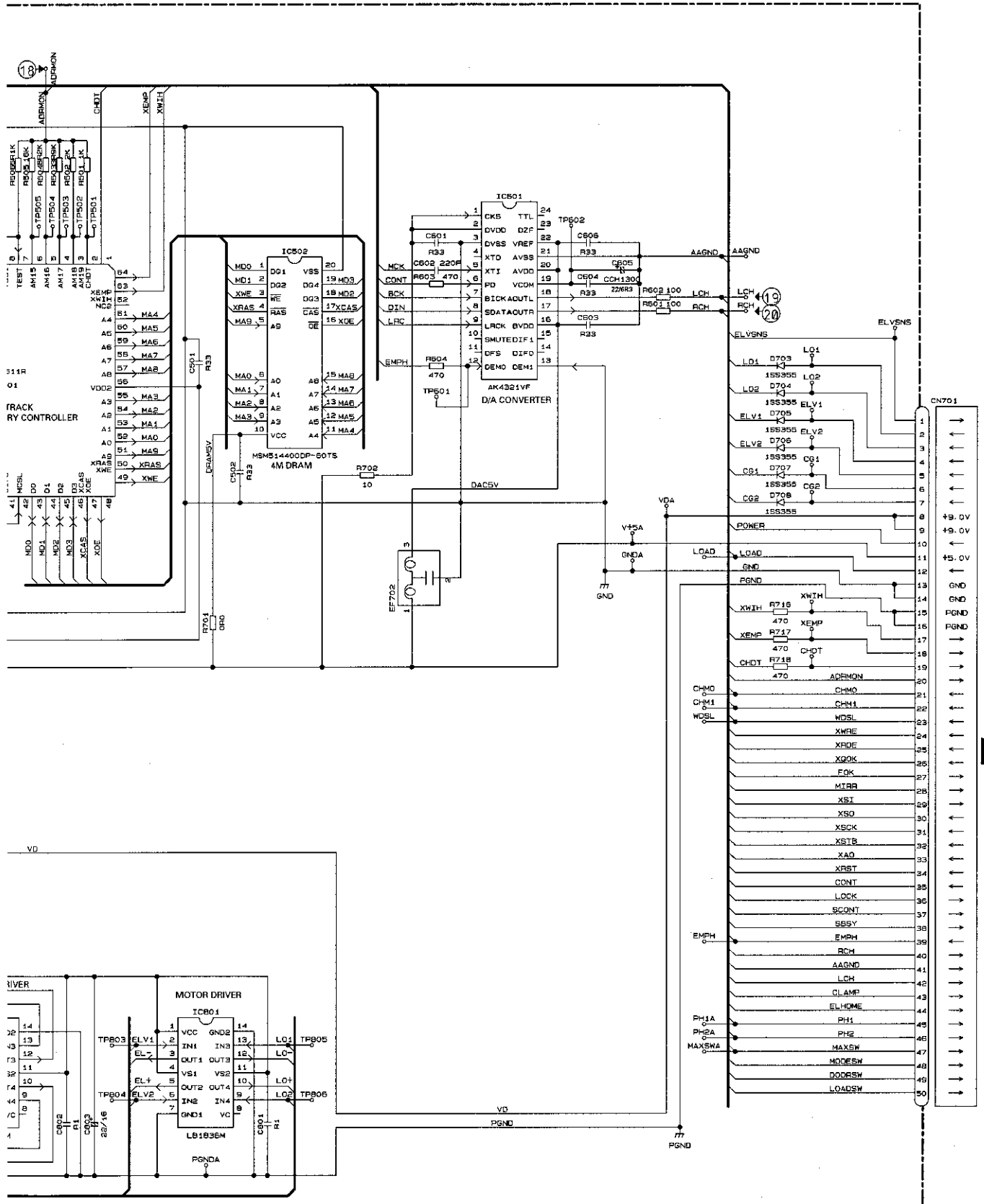
1 MCK  
2 GND  
3 GND  
4 SBSY  
5 SCONT  
6 RFCK  
7 RADV  
8 WOCK  
9 PGND  
10 PGND  
11 PGND  
12 GND  
13 GND  
14 GND  
15 DOUT  
16 LACK  
17 SCKO  
18 LOCK  
19 CONT  
20 XRST  
21 XAO  
22 XSTB  
23 XSCK  
24 XSO  
25 XSI  
26 MIRR  
27 FOK  
28 VD  
29 5V  
30 VD

15.0V  
+9.0V  
+9.0V

3.3 CD CORE UNIT(STS UNIT)

**D** CD CORE UNIT(STS UNIT)





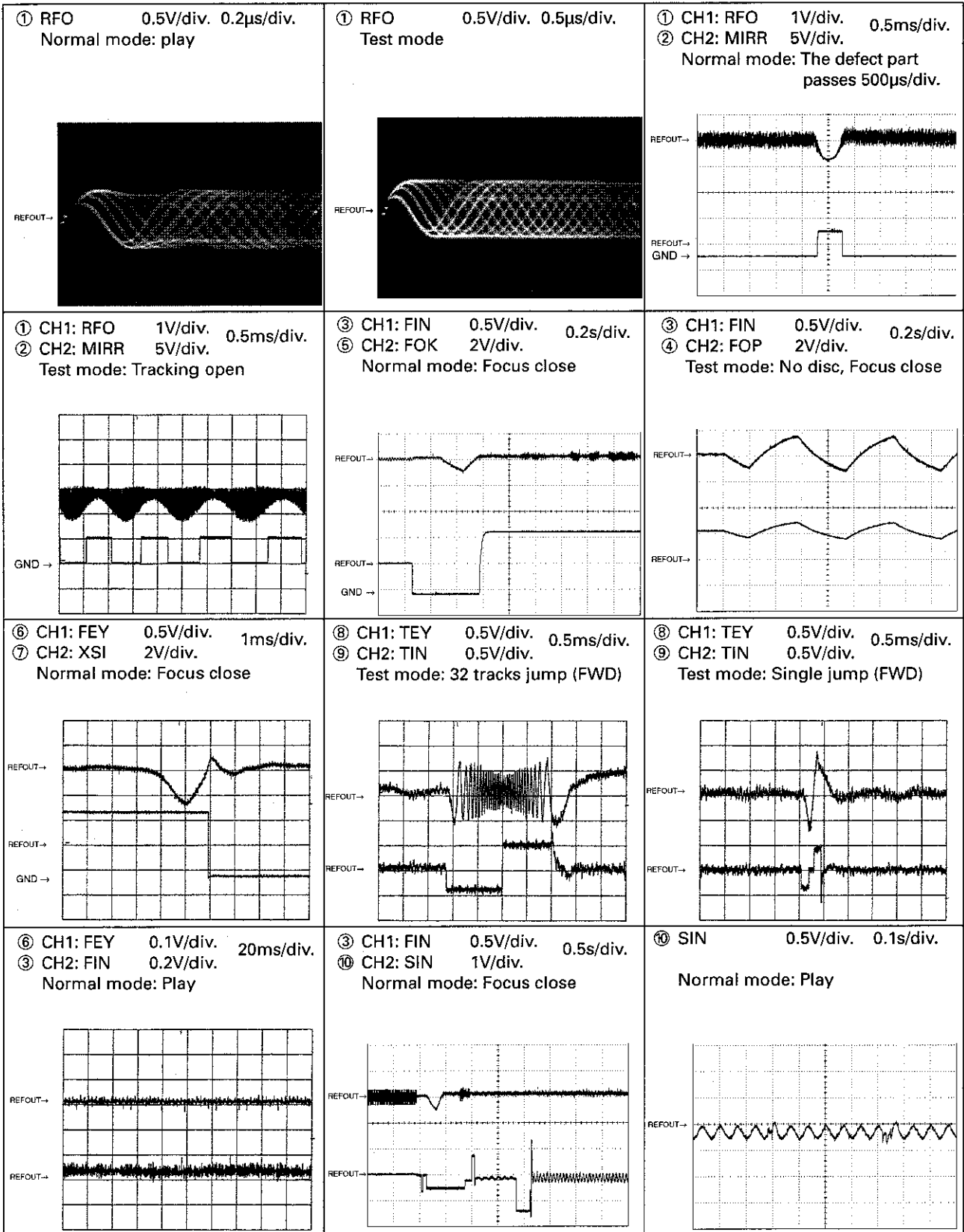
A CN101



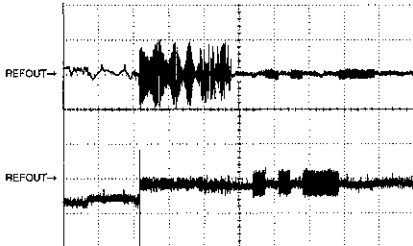
# CDX-MG6346ZH, MG6446ZH

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

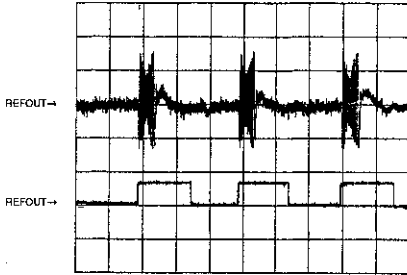
## ● Waveforms



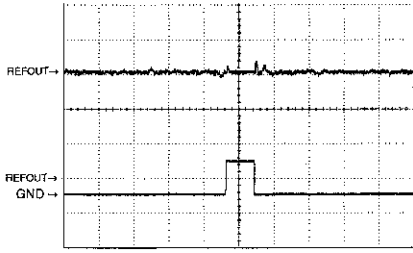
⑧ CH1: TEY 0.5V/div. 0.2s/div.  
 ⑥ CH2: FEY 0.1V/div.  
 Normal mode: AGC after focus close



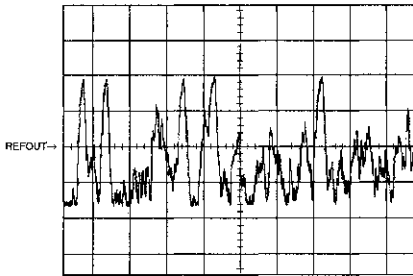
⑧ CH1: TEY 0.5V/div. 5ms/div.  
 ⑪ CH2: SD 0.5V/div.



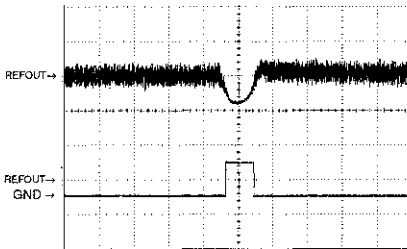
③ CH1: FIN 1V/div. 500μs/div.  
 ⑭ CH2: HOLD 5V/div.  
 Normal mode: The defect part passes 800μm



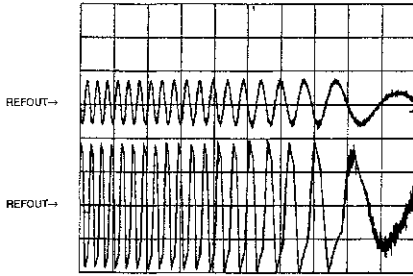
⑩ SIN 1V/div. 10ms/div.  
 Long Search



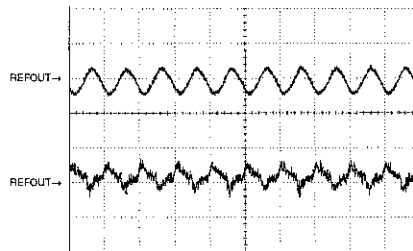
① CH1: RFO 1V/div. 500μs/div.  
 ⑭ CH2: HOLD 5V/div.  
 Normal mode: The defect part passes 800μm



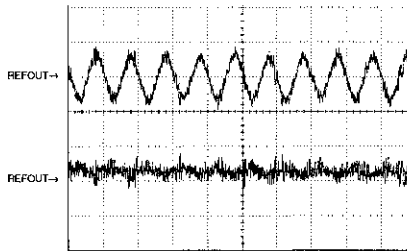
⑧ CH1: TEY 1V/div. 2ms/div.  
 ⑬ CH2: TEC 1V/div.  
 Test mode: Focus close  
 Tracking open



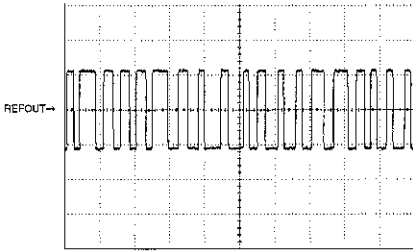
⑥ CH1: FEY 0.2V/div. 1ms/div.  
 ③ CH2: FIN 0.5V/div.  
 Normal mode: During AGC



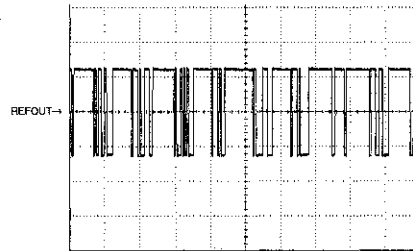
⑧ CH1: TEY 0.2V/div. 1ms/div.  
 ⑨ CH2: TIN 0.5V/div.  
 Normal mode: During AGC



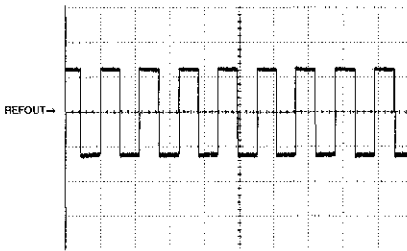
⑫ EFM 1V/div. 2μs/div.  
 Play



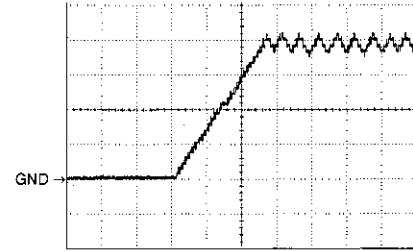
⑮ Dout 2V/div. 5μs/div.  
 Play



⑯ LRCK 2V/div. 10μs/div.

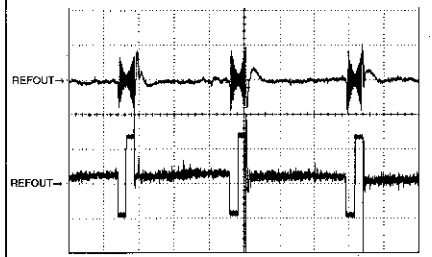
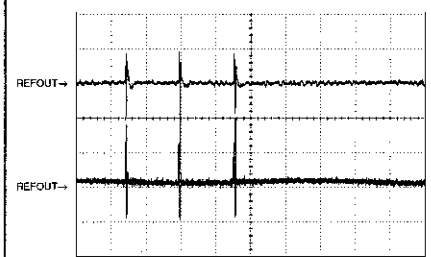
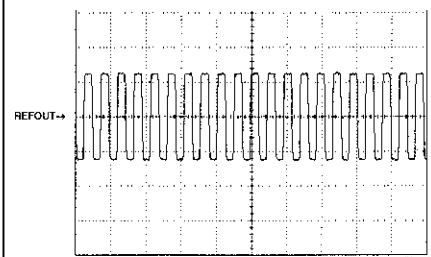
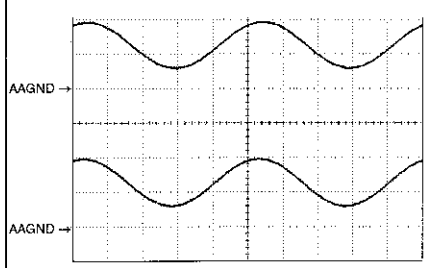


⑯ ADRMON 1V/div. 1s/div.  
 Normal mode: Starting play

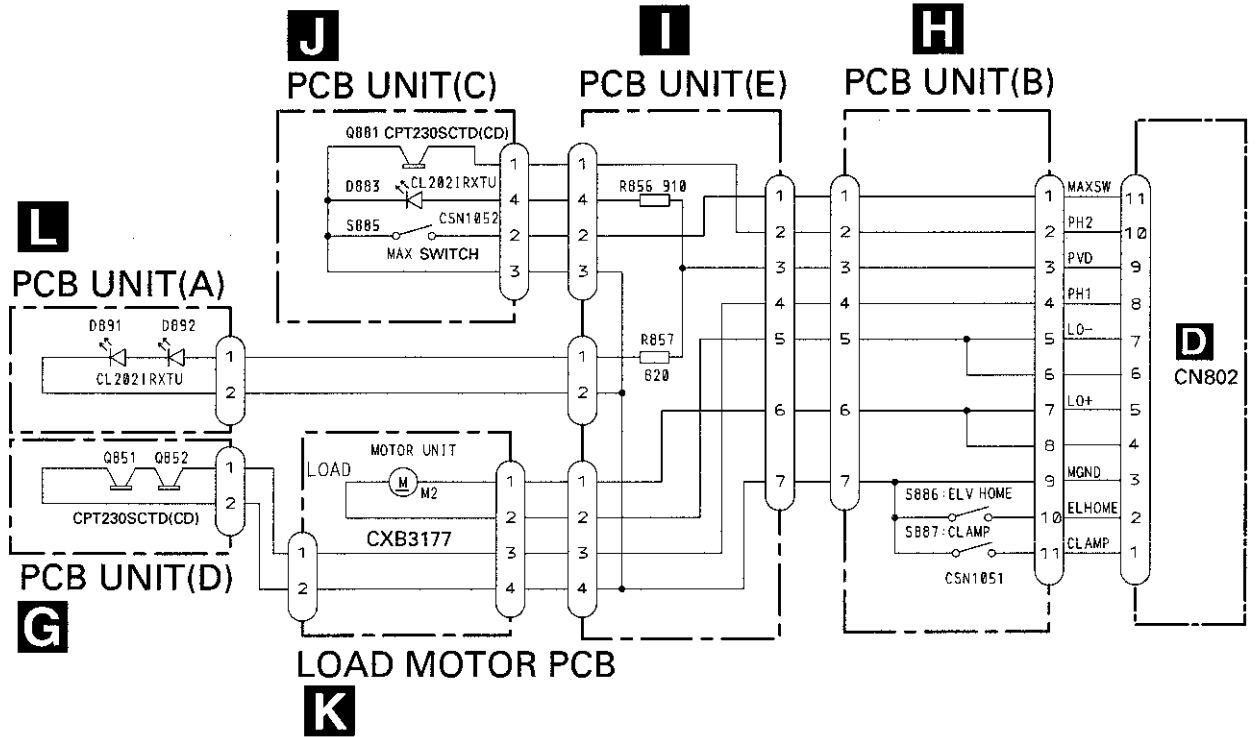




**CDX-MG6346ZH, MG6446ZH**

<p>⑧ CH1: TEY 0.5V/div. 5ms/div.          ⑨ CH2: TIN 0.5V/div. 5ms/div.          Test mode: 100 tracks jump(FWD)</p> 	<p>⑧ CH1: TEY 0.5V/div. 10ms/div.          ⑨ CH2: TIN 0.5V/div. 10ms/div.          Normal mode: Play</p> 	<p>⑰ SCKO 2V/div. 500ns/div.          Play</p> 
<p>⑳ CH1: RCH 2V/div. 200μs/div.          ㉑ CH2: LCH 2V/div. 200μs/div.          Normal mode: PLAY (0dB, 1kHz)</p> 		

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

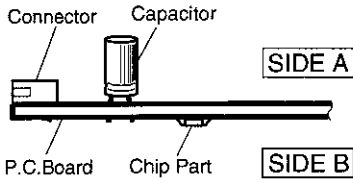


## 4. PCB CONNECTION DIAGRAM

### 4.1 EXTENSION UNIT

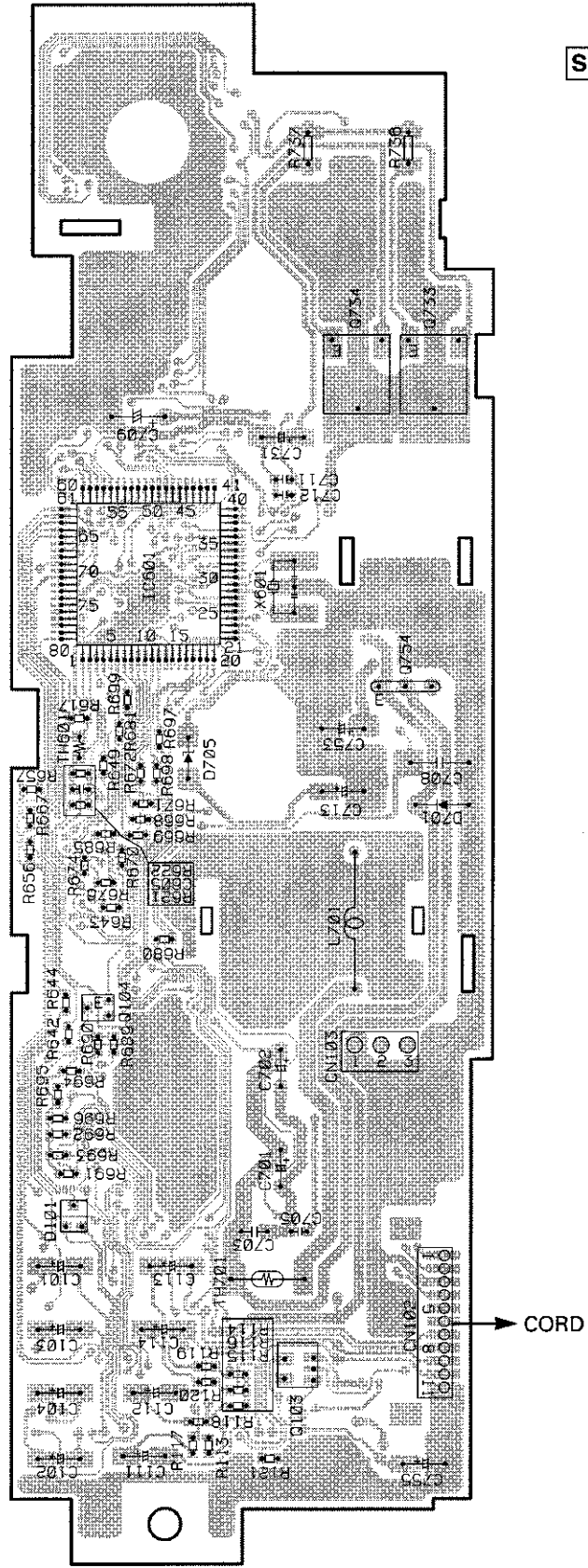
#### NOTE FOR PCB DIAGRAMS

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



SIDE A

**A** EXTENSION UNIT

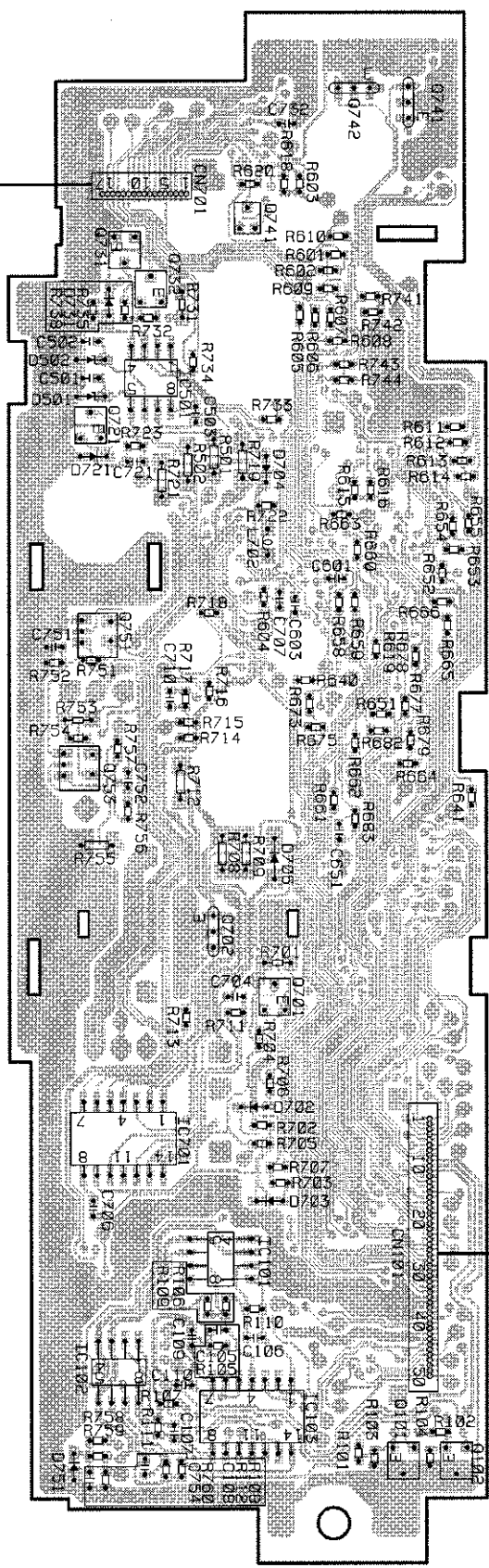


SIDE B

**B** CN901

**D** CN701

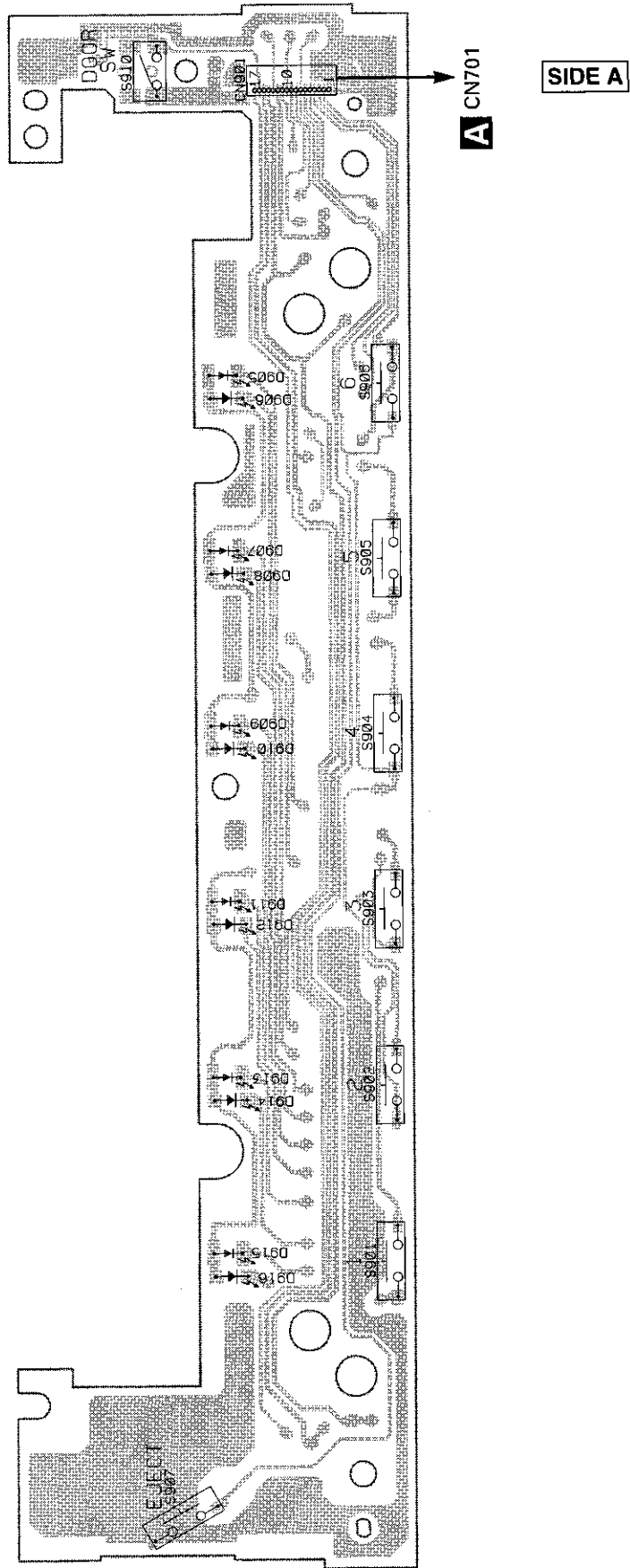
**A** EXTENSION UNIT



- IC.0
- 0102
- 0741
- 0101
- 0742
- IC103
- 0701
- IC101
- 0702
- 0105
- 0732 IC501
- IC701
- 0755
- 0721
- 0751
- IC102

**A**

### 4.2 KEYBOARD UNIT

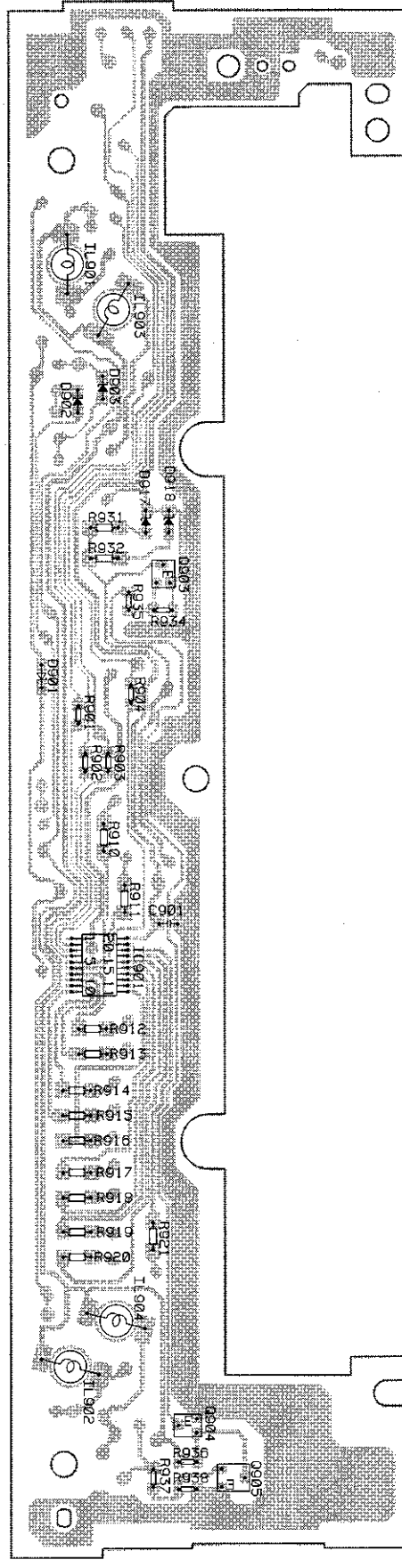


**B** KEYBOARD UNIT

**SIDE A**

**A** CN701

SIDE B



**B** KEYBOARD UNIT

IC 0  
 0905  
 0904  
 0903  
 IC901

**B**

A

B

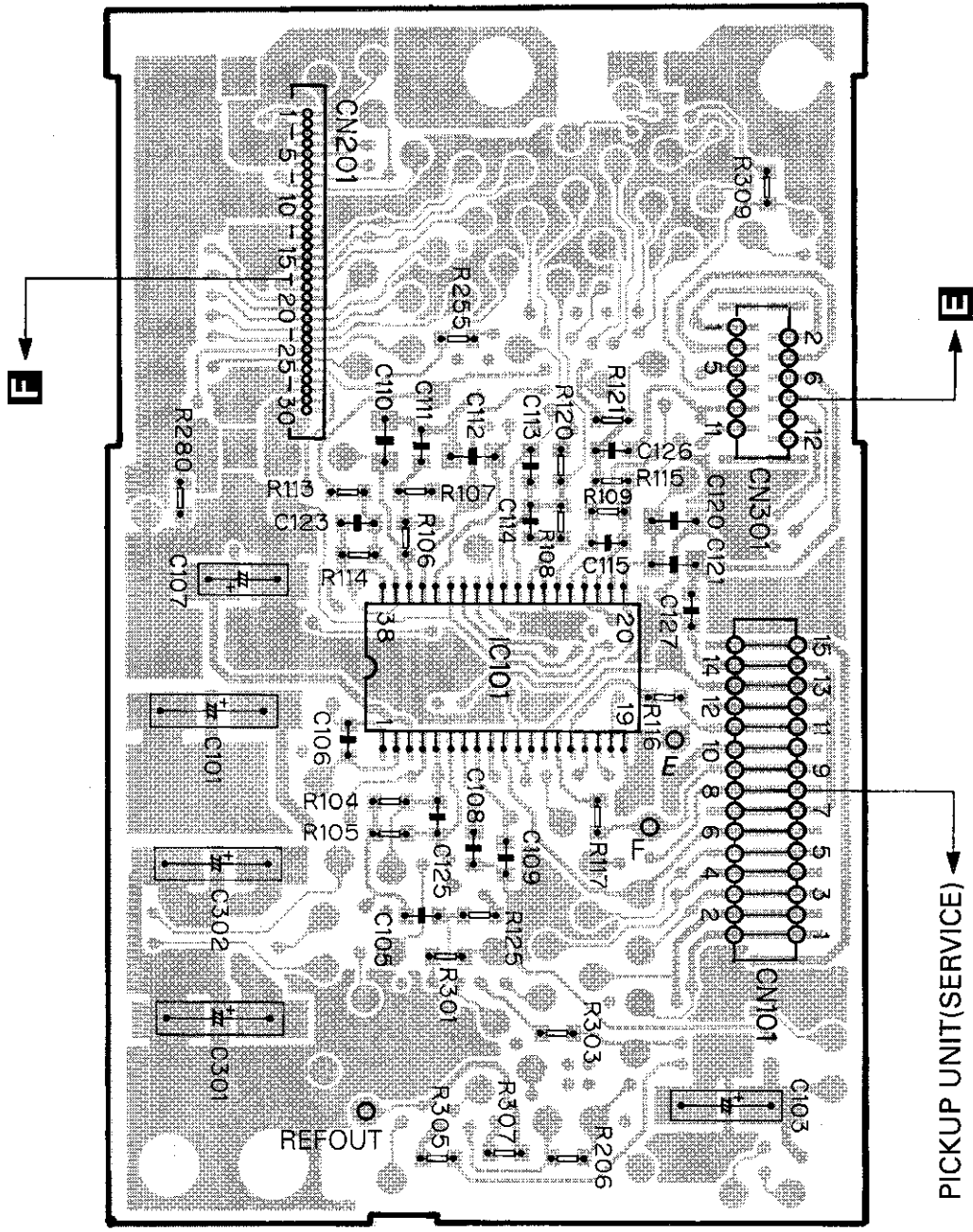
C

D

### 4.3 CD CORE UNIT(SERVO UNIT)

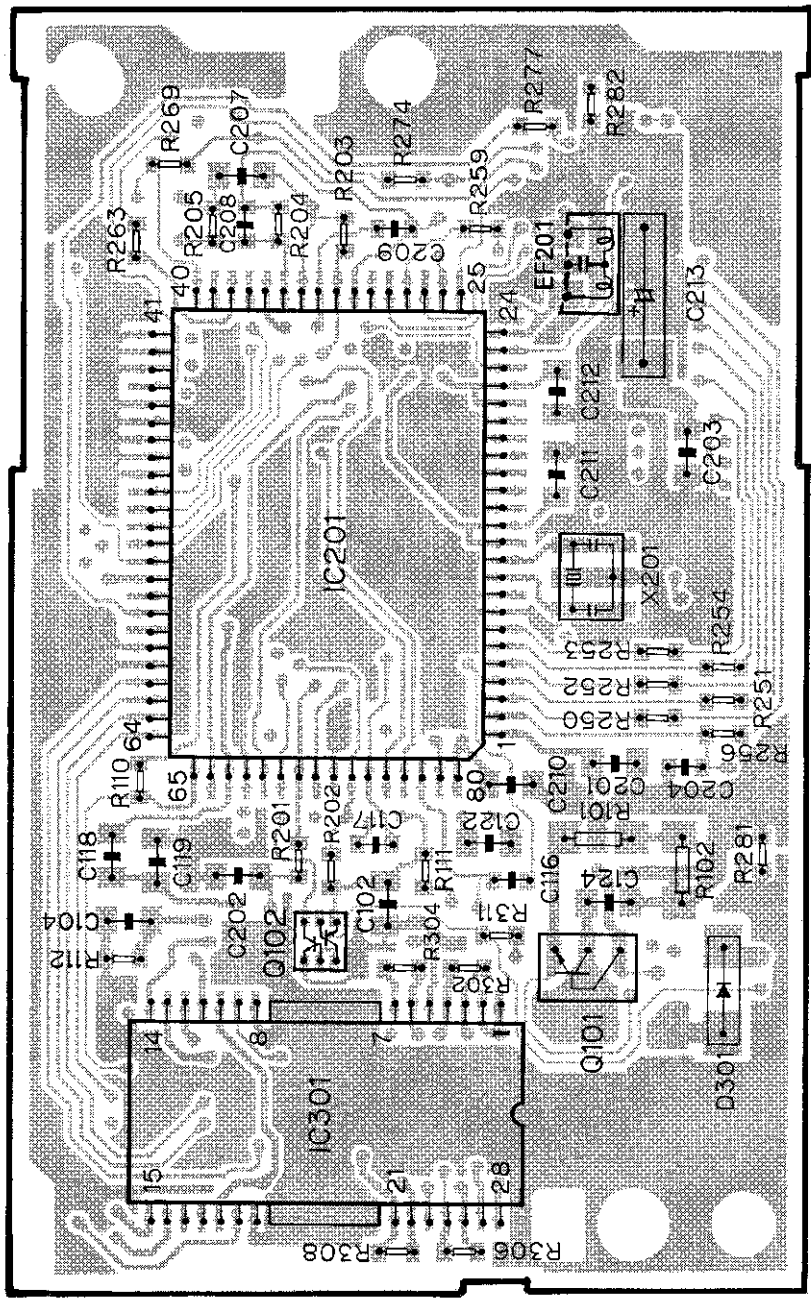
SIDE A

C CD CORE UNIT(SERVO UNIT)



C

**C** CD CORE UNIT(SERVO UNIT)



IC, Q  
 IC301  
 Q102  
 IC201  
 Q101

**SIDE B**



1                                  2                                  3                                  4

# CDX-MG6346ZH, MG6446ZH

## 4.4 CD CORE UNIT (STS UNIT)

**D** CD CORE UNIT (STS UNIT)

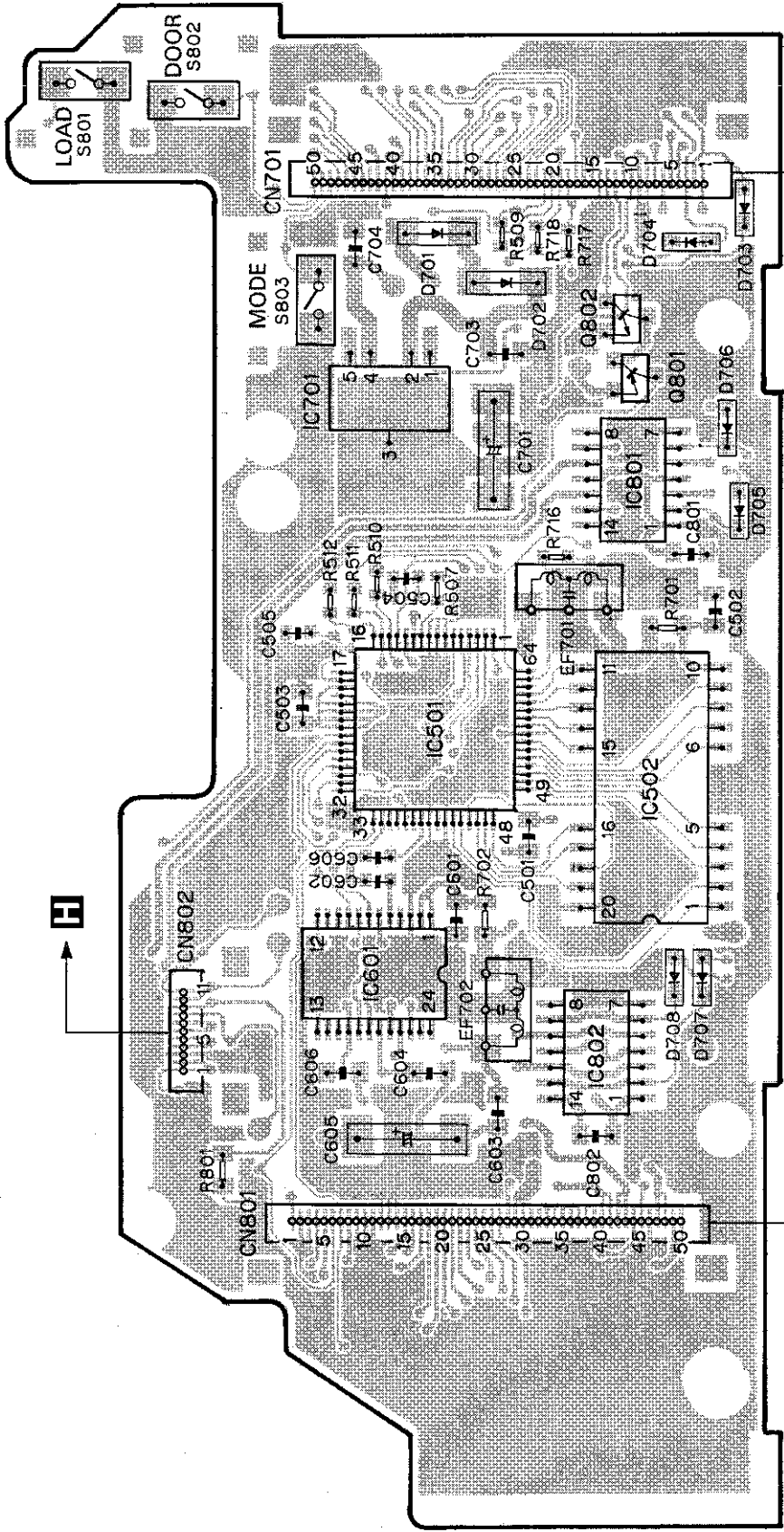
**SIDE A**

IC701  
IC801 Q801 Q802

IC501  
IC502

IC802 IC601

IC Q



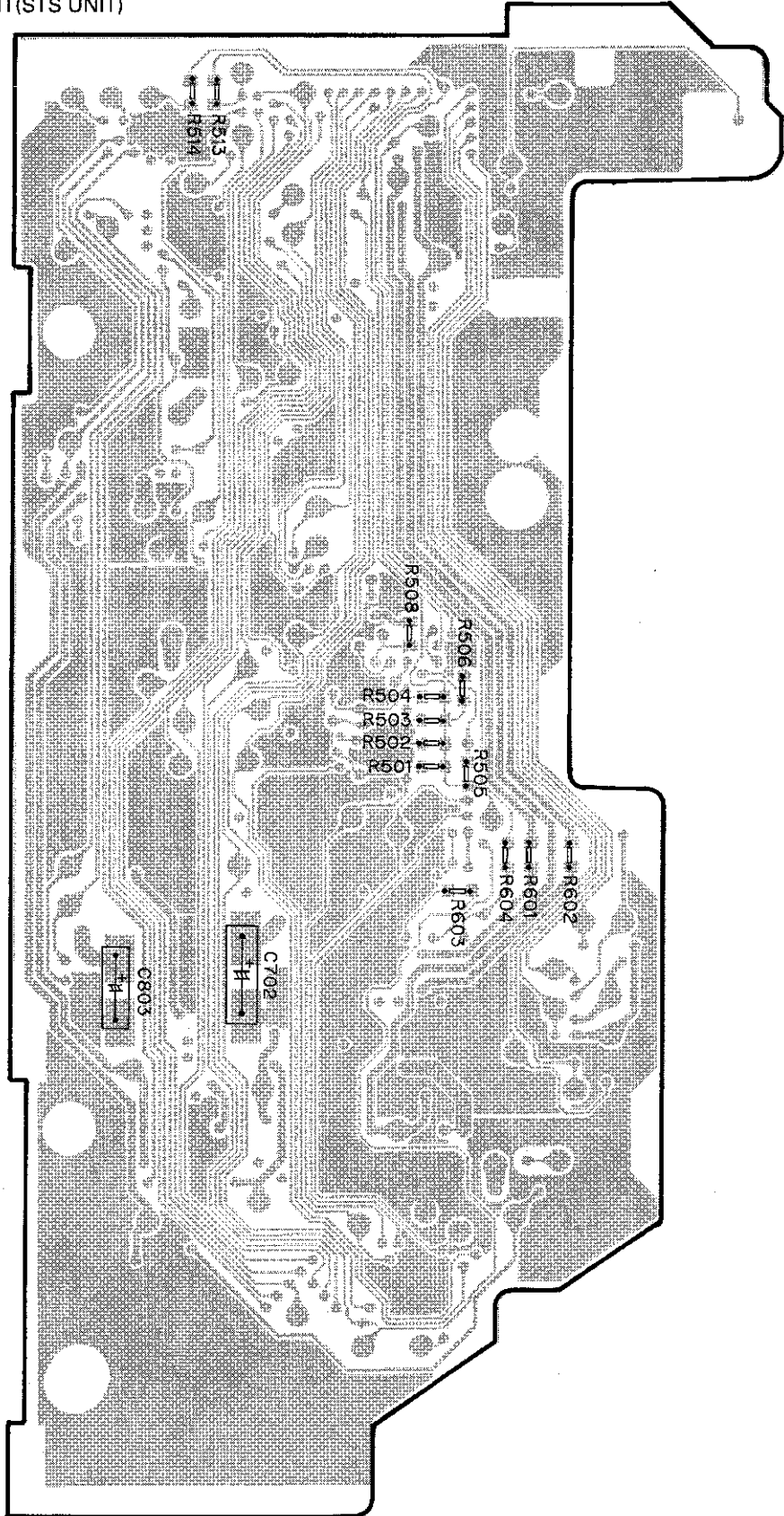
**A** CN101

**F**

**D**

**D** CD CORE UNIT(STS UNIT)

**SIDE B**



A

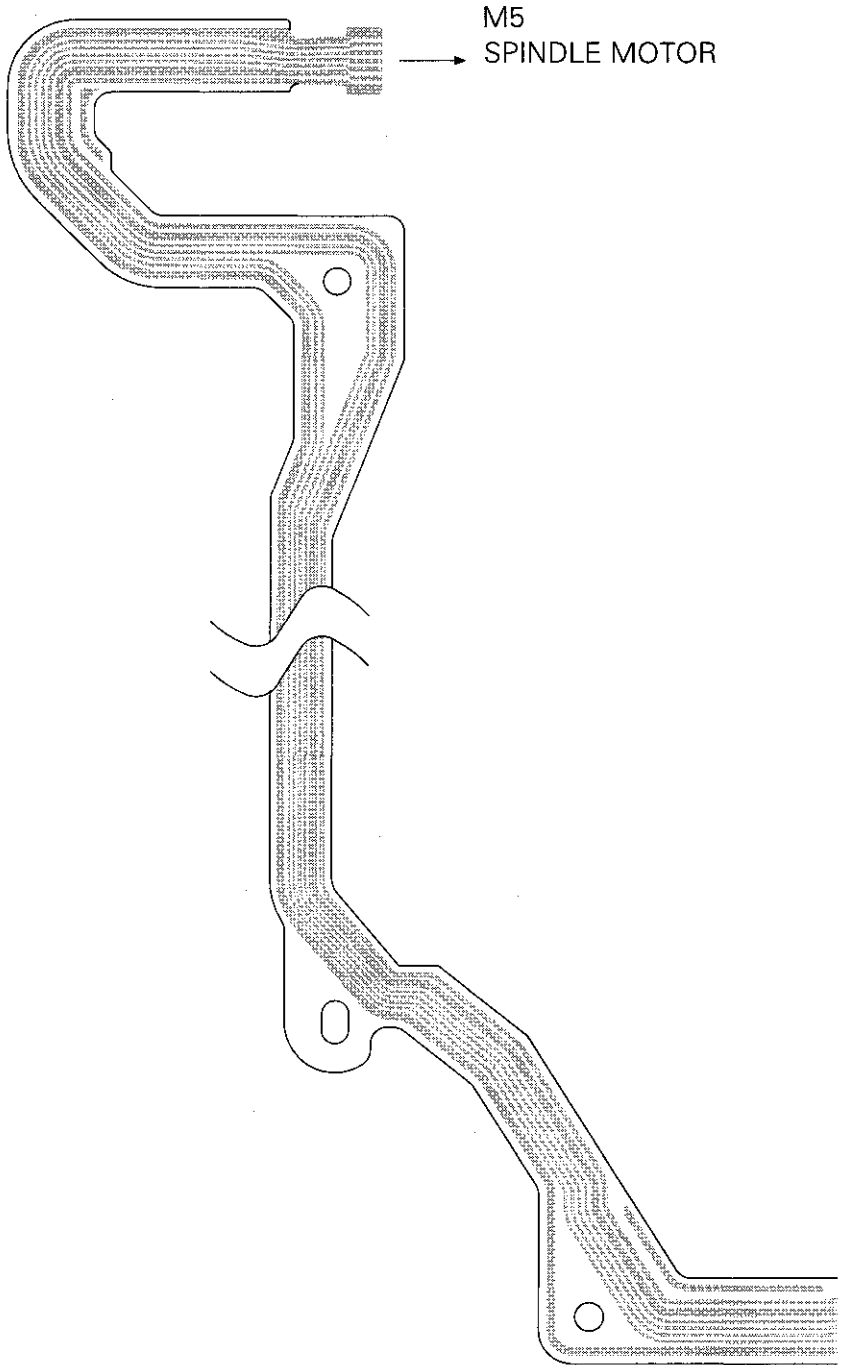
B

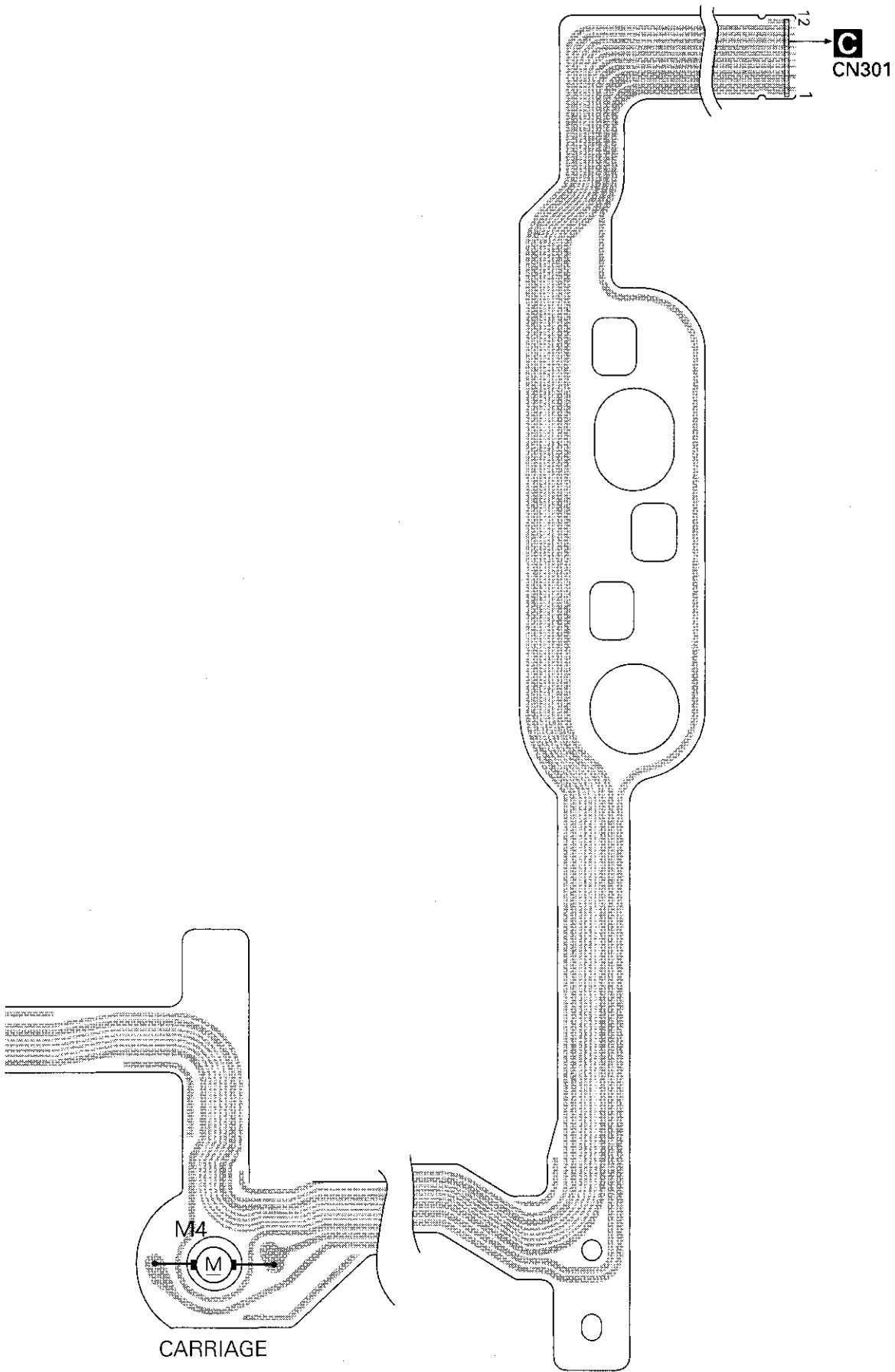
C

D

4.5 MOTOR PCB(B)

**E** MOTOR PCB(B)





A

B

C

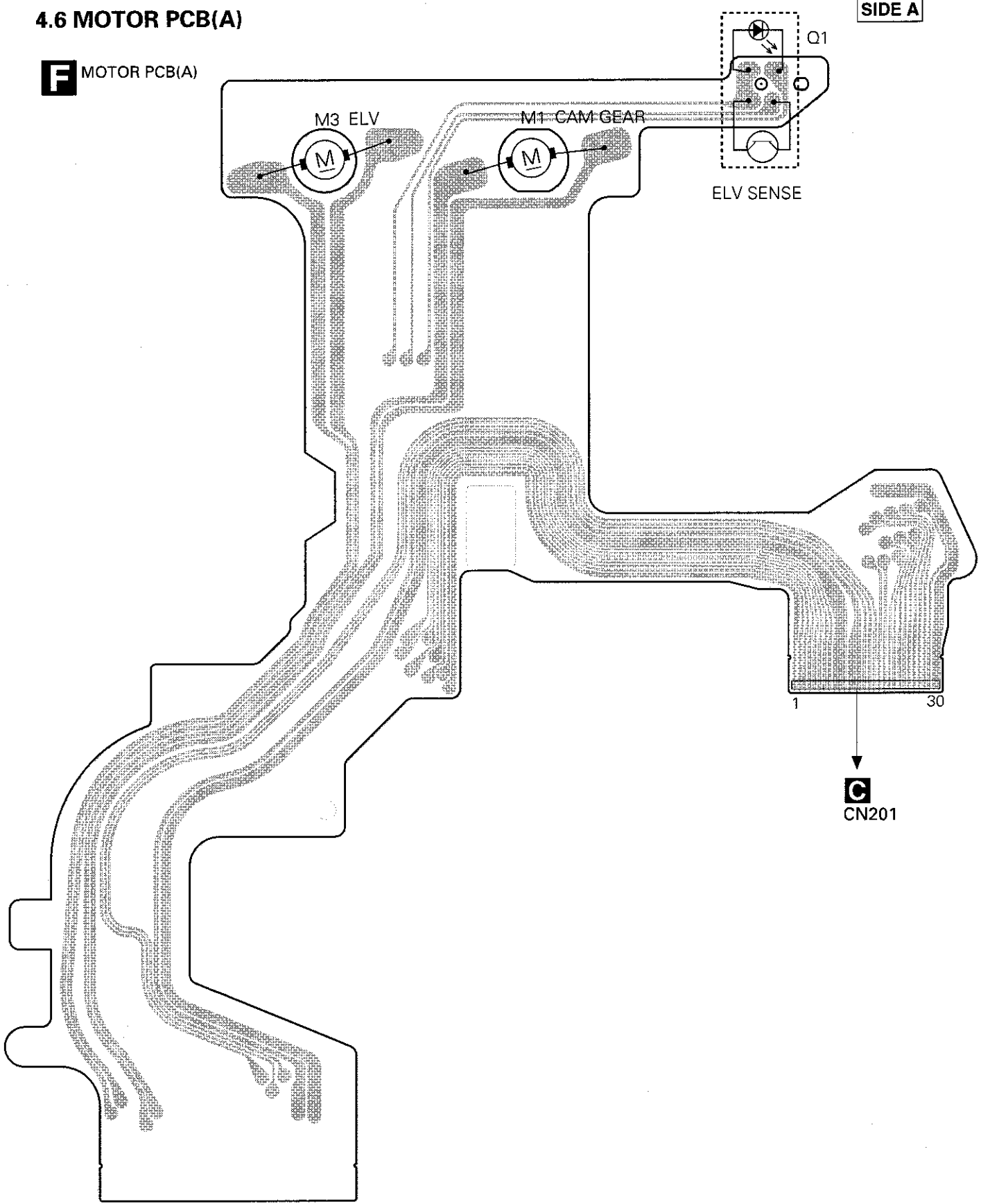
D



### 4.6 MOTOR PCB(A)

SIDE A

**F** MOTOR PCB(A)



**F**

1

2

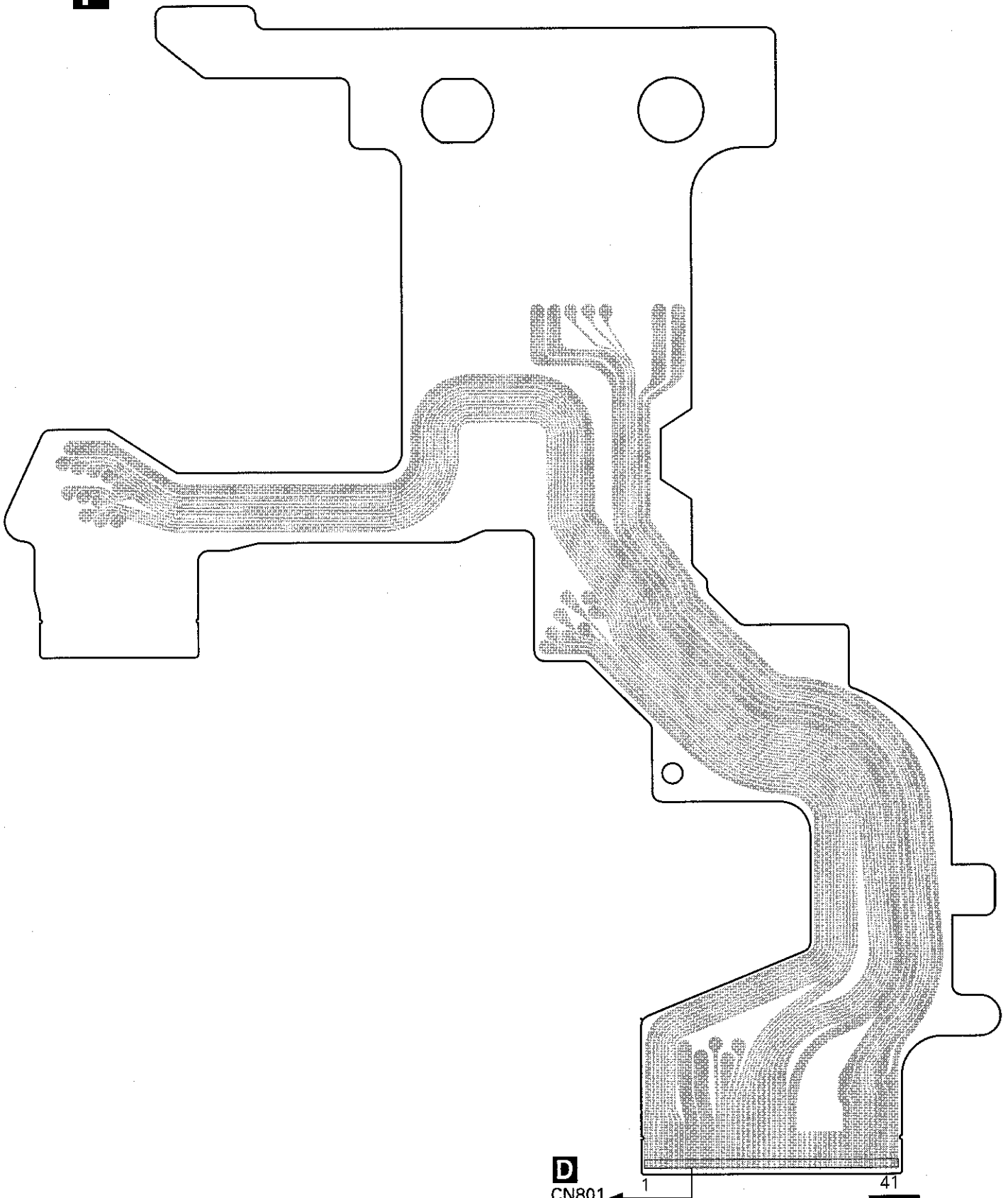
3

4

CDX-MG6346ZH, MG6446ZH

SIDE B

**F** MOTOR PCB(A)



**D**

CN801

1

41

**F**

37

1

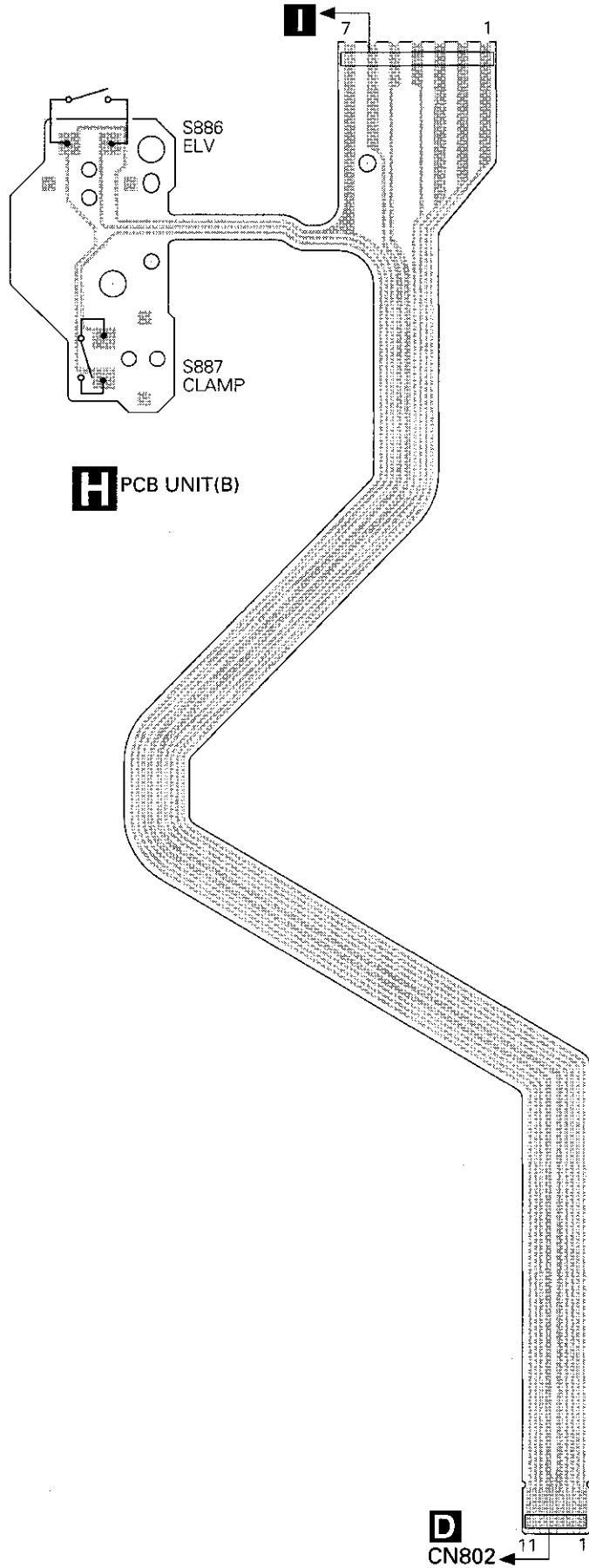
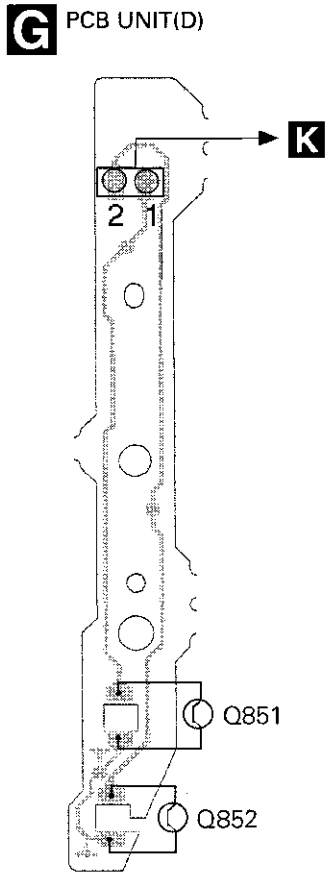
2

3

4

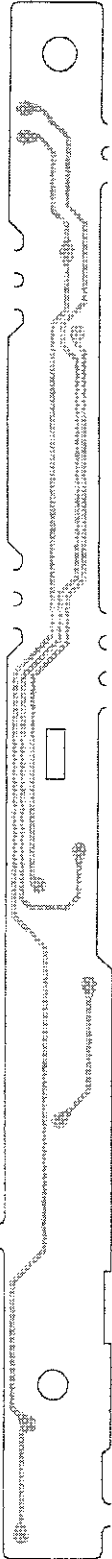
4.7 PCB UNIT(D)

4.8 PCB UNIT(B)



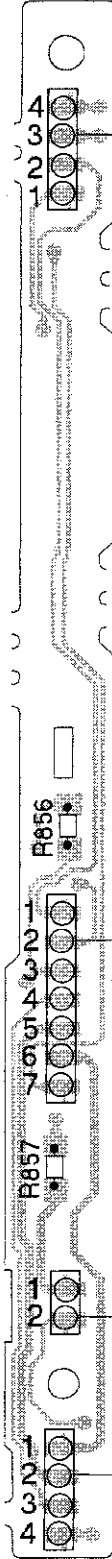
4.9 PCB UNIT(E)

**I** PCB UNIT(E)



**SIDE A**

**I** PCB UNIT(E)



**SIDE B**

A

B

C

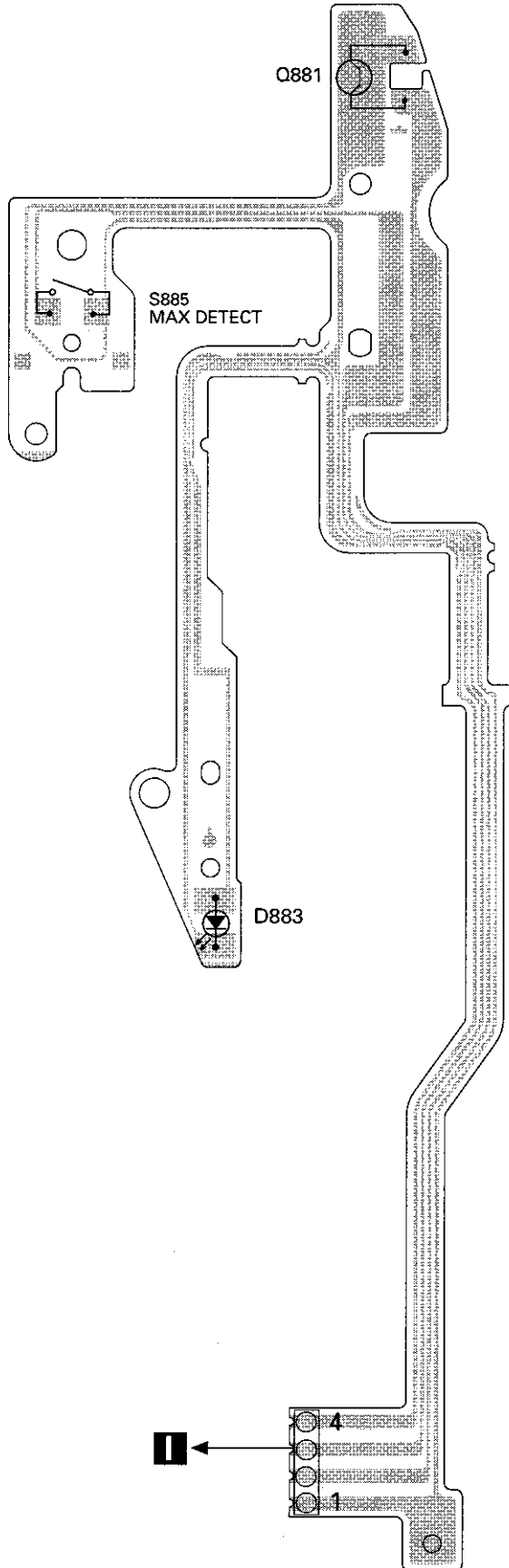
D



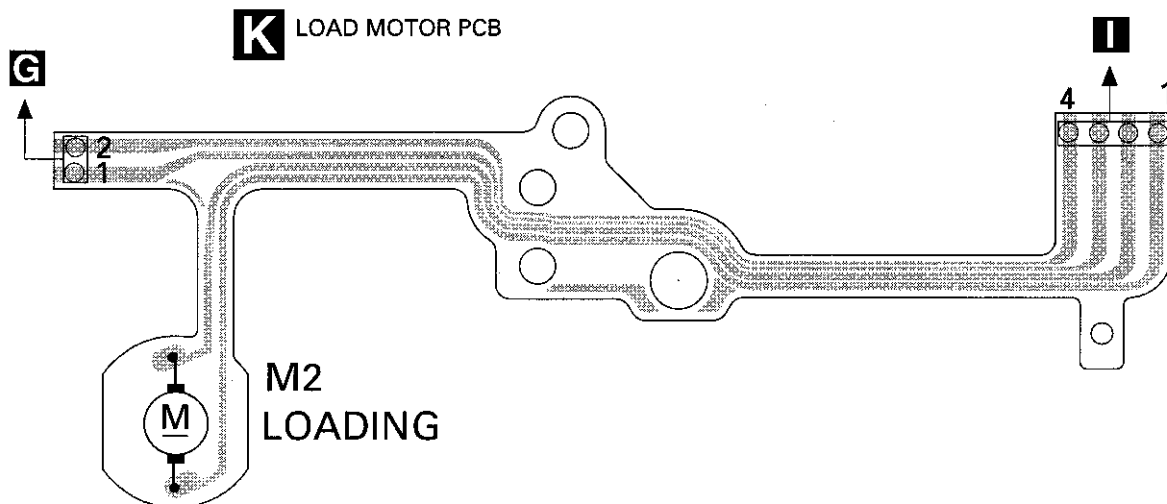


4.10 PCB UNIT(C)

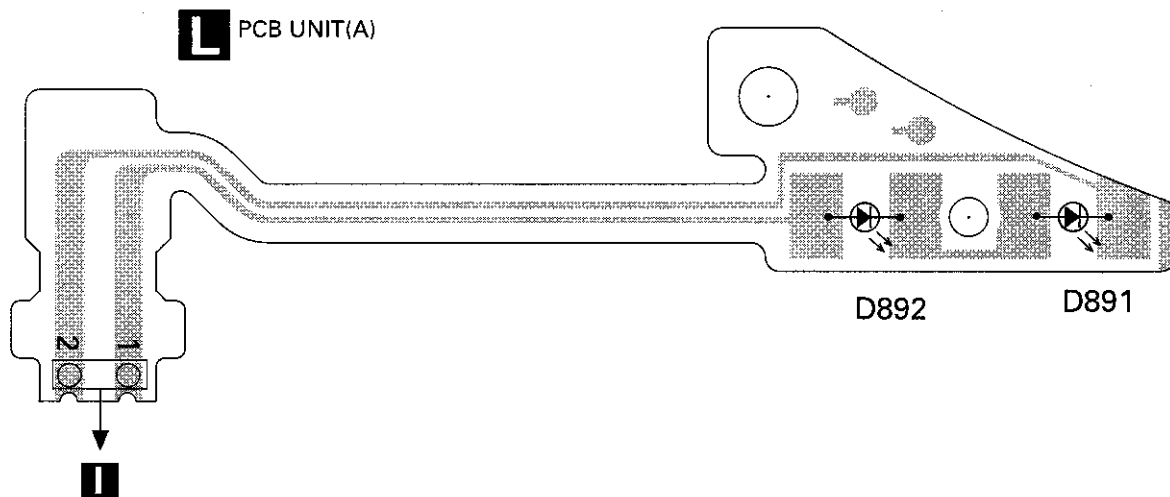
**J** PCB UNIT(C)



4.11 LOAD MOTOR PCB



4.12 PCB UNIT(A)



## 5. ELECTRICAL PARTS LIST

**NOTE:**

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

● The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ, RS1/OOSOOOJ

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

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

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
<b>A</b> Unit Number : CWM6677		R 111	RS1/16S822J
Unit Name : Extension Unit		R 112	RS1/16S153J
		R 113	RS1/16S104J
		R 114	RS1/16S104J
		R 115	RS1/16S104J
<b>MISCELLANEOUS</b>			
IC 101 IC	NJM4558MD	R 116	RS1/16S104J
IC 102 IC	NJM4558MD	R 117	RS1/16S221J
IC 103 IC	TC74HC4066AF	R 118	RS1/16S221J
IC 501 IC	CA0008AM	R 119	RS1/16S221J
IC 601 IC	PD5540A	R 120	RS1/16S221J
IC 701 IC	PAJ002A		
Q 101 Transistor	DTC143TK	R 121	RS1/16S103J
Q 102 Transistor	DTC143TK	R 501	RS1/8S101J
Q 103 Transistor	FMC2A	R 502	RS1/8S101J
Q 104 Transistor	DTA124EU	R 601	RS1/16S473J
		R 602	RS1/16S473J
Q 701 Transistor	2SA1162		
Q 702 Transistor	2SB1189	R 603	RS1/16S473J
Q 721 Transistor	2SC2712	R 604	RS1/16S102J
Q 731 Transistor	2SC2712	R 605	RS1/16S222J
Q 732 Transistor	2SA1162	R 606	RS1/16S222J
		R 607	RS1/16S222J
Q 733 Transistor	2SD1760F5		
Q 734 Transistor	2SD1760F5	R 608	RS1/16S222J
Q 741 Transistor	2SK1485	R 609	RS1/16S222J
Q 742 Transistor	2SK1485	R 610	RS1/16S222J
Q 751 Transistor	FMC2A	R 611	RS1/16S561J
		R 612	RS1/16S561J
Q 753 Transistor	FMW1		
Q 754 Transistor	2SB1335A	R 613	RS1/16S561J
D 101 Diode	DAP202U	R 614	RS1/16S561J
D 701 Diode	ERA15-10Y1	R 615	RS1/16S103J
D 702 Diode	1SS355	R 616	RS1/16S103J
		R 617	RS1/16S163J
D 703 Diode	1SS355		
D 704 Diode	1SS355	R 618	RS1/16S222J
D 705 Diode	MA1Z240	R 619	RS1/16S0R0J
D 706 Diode	1SR154-400	R 620	RS1/16S473J
D 721 Diode	1SS355	R 621	RS1/16S433J
		R 622	RS1/16S103J
D 731 Diode	HZU8R2(B3)		
D 741 Diode	DAN202U	R 640	RS1/16S471J
D 751 Diode	UDZS6R2(B)	R 641	RS1/16S471J
L 701 Coil	CTH1190	R 642	RS1/16S471J
L 702 Inductor	LCTB100K2125	R 643	RS1/16S471J
		R 644	RS1/16S471J
TH 601 Thermistor	CCX1032		
TH 701 Switch	CCX1047	R 649	RS1/16S222J
X 601 Radiator 6.290MHz	CSS1451	R 651	RS1/16S222J
		R 652	RS1/16S471J
		R 653	RS1/16S471J
		R 654	RS1/16S471J
<b>RESISTORS</b>			
R 101	RS1/16S332J		
R 102	RS1/16S332J	R 655	RS1/16S471J
R 103	RS1/16S333J	R 656	RS1/16S471J
R 104	RS1/16S333J	R 657	RS1/16S471J
R 105	RS1/16S103J	R 658	RS1/16S471J
		R 659	RS1/16S471J
R 106	RS1/16S822J		
R 107	RS1/16S822J	R 660	RS1/16S471J
R 108	RS1/16S103J	R 661	RS1/16S102J
R 109	RS1/16S153J	R 662	RS1/16S102J
R 110	RS1/16S822J	R 663	RS1/16S102J
		R 664	RS1/16S102J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 665	RS1/16S102J	R 757	RS1/16S511J
R 666	RS1/16S471J	R 758	RS1/16S561J
R 667	RS1/16S471J	R 759	RS1/16S103J
R 668	RS1/16S331J	R 760	RS1/16S273J
R 669	RS1/16S331J		
		<b>CAPACITORS</b>	
R 670	RS1/16S331J	C 101	CEV4R7M35
R 671	RS1/16S331J	C 102	CEV4R7M35
R 672	RS1/16S331J	C 103	CEV4R7M35
R 673	RS1/16S471J	C 104	CEV4R7M35
R 674	RS1/16S471J	C 105	CCSRCH101J50
		C 106	CCSRCH101J50
R 675	RS1/16S471J	C 107	CCSRCH101J50
R 676	RS1/16S471J	C 108	CCSRCH101J50
R 677	RS1/16S222J	C 109	CKSRYB473K16
R 678	RS1/16S222J	C 110	CKSRYB473K16
R 679	RS1/16S222J		
		C 111	CEV4R7M35
R 680	RS1/16S154J	C 112	CEV4R7M35
R 681	RS1/16S222J	C 113	CEV4R7M35
R 682	RS1/16S102J	C 114	CEV4R7M35
R 683	RS1/16S912J	C 501	CKSRYB102K50
R 685	RS1/16S102J		
		C 502	CKSRYB102K50
R 689	RS1/16S103J	C 503	CKSRYB104K16
R 690	RS1/16S103J	C 601	CKSRYB104K16
R 691	RS1/16S273J	C 603	CKSRYB103K50
R 692	RS1/16S202J	C 605	CKSRYB103K50
R 693	RS1/16S512J		
		C 651	CKSRYB103K50
R 694	RS1/16S104J	C 701	CEAT471M16
R 695	RS1/16S104J	C 702	CEAT471M16
R 696	RS1/16S104J	C 703	CKSQYB104K25
R 697	RS1/16S222J	C 704	CKSRYB223K25
R 698	RS1/16S222J		
		C 705	CKSRYB103K50
R 699	RS1/16S222J	C 706	CKSRYB103K50
R 701	RS1/10S204J	C 707	CKSRYB103K50
R 702	RS1/16S104J	C 708	CSZSC220M16
R 703	RS1/16S153J	C 709	CCL1049
R 704	RS1/16S473J		
		C 710	CKSRYB103K50
R 705	RS1/16S683J	C 711	CKSRYB473K16
R 706	RS1/16S473J	C 712	CKSRYB473K16
R 707	RS1/16S223J	C 713	CEV100M16
R 708	RS1/8S101J	C 721	CKSRYB103K50
R 709	RS1/8S101J		
		C 731	CEV4R7M35
R 711	RS1/16S103J	C 732	CKSRYB473K16
R 712	RS1/8S3R9J	C 751	CKSRYB473K16
R 713	RS1/16S102J	C 752	CKSRYB103K50
R 714	RS1/16S473J	C 753	CEV220M16
R 715	RS1/16S473J		
		C 754	CKSRYB473K16
R 716	RS1/16S473J	C 755	CEV220M6R3
R 717	RS1/16S473J		
R 718	RS1/16S473J		
R 719	RS1/8S101J		
R 721	RS1/8S103J		
R 722	RS1/16S473J		
R 723	RS1/16S152J		
R 731	RS1/10S681J		
R 732	RS1/16S223J		
R 733	RS1/16S103J		
R 734	RS1/16S223J		
R 735	RS1/16S223J		
R 736	RS1/4S2R2J		
R 737	RS1/4S2R2J		
R 738	RS1/16S104J		
R 741	RS1/16S223J		
R 742	RS1/16S223J		
R 743	RS1/16S103J		
R 744	RS1/16S103J		
R 751	RS1/16S101J		
R 752	RS1/16S473J		
R 753	RS1/10S223J		
R 754	RS1/16S101J		
R 755	RS1/4S221J		
R 756	RS1/16S681J		

**B** Unit Number : CWM6289  
Unit Name : Keyboard Unit

**MISCELLANEOUS**

IC 901	IC	BU2092FV
Q 903	Transistor	2SA1586
Q 904	Transistor	DTC123JU
Q 905	Chip Transistor	2SC2712
D 901	Diode	1SS355
D 902	Diode	1SS355
D 903	Diode	1SS355
D 905	LED	CL200PGCTU
D 906	LED	CL150DCD(AB)
D 907	LED	CL200PGCTU
D 908	LED	CL150DCD(AB)
D 909	LED	CL200PGCTU
D 910	LED	CL150DCD(AB)
D 911	LED	CL200PGCTU
D 912	LED	CL150DCD(AB)

**CDX-MG6346ZH.MG6446ZH**

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
D 913 LED	CL200PGCTU	R 112	RS1/16S222J
D 914 LED	CL150DCD(AB)	R 113	RS1/16S103J
D 915 LED	CL200PGCTU	R 114	RS1/16S103J
D 916 LED	CL150DCD(AB)	R 115	RS1/16S102J
D 917 Diode	UDZ2R7(B)	R 116	RS1/16S163J
D 918 Diode	UDZ2R7(B)	R 117	RS1/16S163J
S 901 Switch	CSG1043	R 120	RS1/16S101J
S 902 Switch	CSG1043	R 121	RS1/16S101J
S 903 Switch	CSG1043	R 125	RS1/16S0R0J
S 904 Switch	CSG1043	R 201	RS1/16S104J
S 905 Switch	CSG1043	R 202	RS1/16S103J
S 906 Switch	CSG1043	R 203	RS1/16S332J
S 907 Switch	CSG1043	R 204	RS1/16S752J
S 910 Spring Switch	CSN1033	R 205	RS1/16S752J
IL 901 Lamp 60mA 8V	CEL1526	R 206	RS1/16S101J
IL 902 Lamp 60mA 8V	CEL1526	R 250	RS1/16S331J
IL 903 Lamp 60mA 8V	CEL1568	R 251	RS1/16S331J
IL 904 Lamp 60mA 8V	CEL1568	R 252	RS1/16S331J
		R 253	RS1/16S331J
		R 254	RS1/16S331J
<b>RESISTORS</b>			
R 901	RS1/10S561J	R 255	RS1/16S471J
R 902	RS1/10S561J	R 256	RS1/16S471J
R 903	RS1/10S561J	R 259	RS1/16S221J
R 904	RS1/10S561J	R 263	RS1/16S471J
R 910	RS1/8S511J	R 269	RS1/16S0R0J
R 911	RS1/8S511J	R 274	RS1/16S471J
R 912	RS1/8S511J	R 277	RS1/16S471J
R 913	RS1/8S511J	R 301	RS1/16S103J
R 914	RS1/8S511J	R 302	RS1/16S153J
R 915	RS1/8S511J	R 303	RS1/16S103J
R 916	RS1/8S511J	R 304	RS1/16S273J
R 917	RS1/8S511J	R 305	RS1/16S103J
R 918	RS1/8S511J	R 306	RS1/16S752J
R 919	RS1/8S511J	R 307	RS1/16S103J
R 920	RS1/8S511J	R 308	RS1/16S103J
R 921	RS1/8S511J	R 309	RS1/16S471J
R 931	RS1/8S510J	R 311	RS1/16S471J
R 932	RS1/8S510J		
R 934	RS1/10S223J	<b>CAPACITORS</b>	
R 935	RS1/10S102J	C 101	CEV101M6R3
R 936	RS1/10S103J	C 102	CKSQYB104K16
R 937	RS1/10S362J	C 103	CEV470M6R3
R 938	RS1/10S472J	C 104	CKSQYB334K16
		C 105	CCSRCH240J50
<b>CAPACITORS</b>			
C 901	CKSQYB104K50	C 106	CKSRYB222K50
		C 107	CEV4R7M35
		C 108	CKSRYB273K25
		C 109	CCSRCH101J50
		C 110	CKSQYB104K16
<b>MISCELLANEOUS</b>			
IC 101 IC	UPC2572GS	C 111	CKSRYB332K50
IC 201 IC	UPD63702AGF	C 112	CKSQYB473K16
IC 301 IC	BA5986FM	C 113	CKSRYB103K25
Q 101 Transistor	2SD1664	C 114	CKSRYB391K50
Q 102 Transistor	UMD2N	C 115	CCSRCH121J50
D 301 Diode	1SR154-400	C 116	CKSRYB682K50
X 201 Ceramic Resonator 16.934MHz	CSS1457	C 117	CKSRYB333K16
EF 201 Filter	CCG1076	C 118	CKSQYB334K16
		C 119	CKSQYB334K16
		C 120	CKSQYB334K16
<b>RESISTORS</b>			
R 101	RS1/8S100J	C 121	CKSQYB334K16
R 102	RS1/8S120J	C 122	CKSQYB104K16
R 104	RS1/16S822J	C 123	CKSRYB472K50
R 105	RS1/16S682J	C 124	CKSQYB104K16
R 106	RS1/16S183J	C 125	CCSRCH5R0C50
R 107	RS1/16S822J	C 126	CKSRYB153K25
R 108	RS1/16S333J	C 127	CKSRYB102K50
R 109	RS1/16S683J	C 201	CKSQYB334K16
R 110	RS1/16S134J	C 202	CKSQYB104K16
R 111	RS1/16S273J	C 203	CKSQYB104K16

====Circuit Symbol and No.====	Part Name	Part No.
C 204		CKSRYPB471K50
C 207		CKSQYB683K16
C 208		CKSRYPB821K50
C 209		CKSRYPB273K25
C 210		CKSQYB334K16
C 211		CKSQYB334K16
C 212		CKSQYB334K16
C 213	22μF/6.3V	CCH1300
C 301		CEV101M10
C 302		CEV101M10

**D** Unit Number : CWX2203  
 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

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 701		RS1/10S0R0J
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

====Circuit Symbol and No.====	Part Name	Part No.
C 601		CKSQYB334K16
C 602		CCSRCH221J50
C 603		CKSQYB334K16
C 604		CKSQYB334K16
C 605	22μF/6.3V	CCH1300
C 606		CKSQYB334K16
C 701	22μF/6.3V	CCH1300
C 702		CEVL101M6R3
C 703		CKSQYB334K16
C 704		CKSQYB334K16
C 801		CKSQYB104K25
C 802		CKSQYB104K25
C 803		CEVL220M16

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

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

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

Q 1	Photo-interrupter	RPI-221
M 1	Motor Unit(Cam Gear)	CXB3174
M 3	Motor Unit(ELV)	CXB3175

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

Q 851	Photo-transistor	CPT230SCTD(CD)
Q 852	Photo-transistor	CPT230SCTD(CD)

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

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

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

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

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

Q 881	Photo-transistor	CPT230SCTD(CD)
D 883	Chip LED	CL202IRXTU
S 885	Spring Switch(MAX)	CSN1052

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

M 2	Motor Unit(Load)	CXB3177
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**L** Unit Number :  
 Unit Name : PCB Unit(A)

D 891	Chip LED	CL202IRXTU
D 892	Chip LED	CL202IRXTU

Miscellaneous Parts List

Pickup Unit(Service)(P8)	CXX1311
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## 6. ADJUSTMENT

### 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 :**

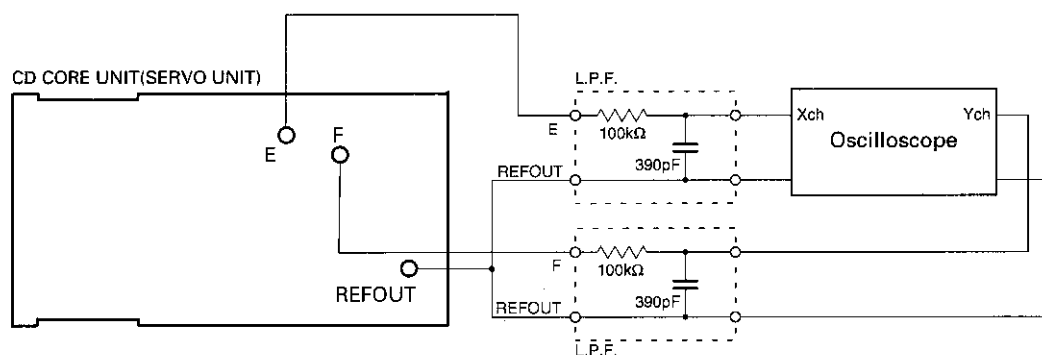
To check that the grating is within an acceptable range when the PU unit is changed.

**• 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 TRK+ and TRK- buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3 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°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

**• Note**

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

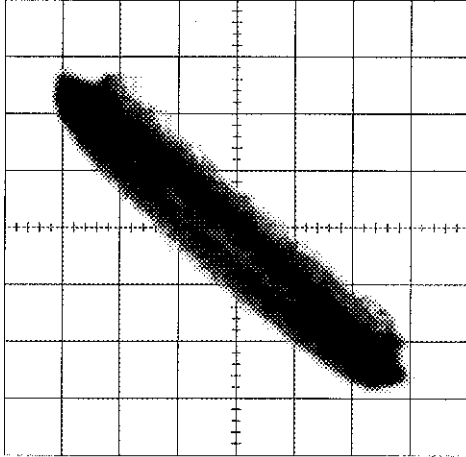
**• Hint**

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

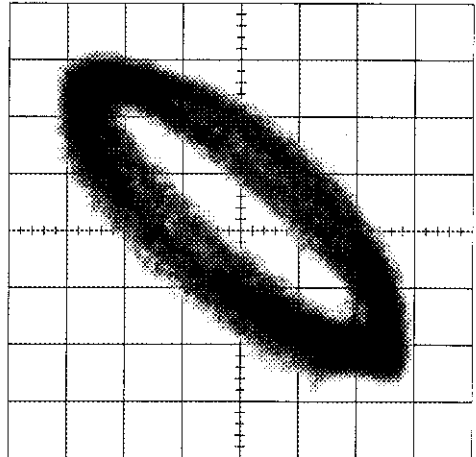
Grating waveform

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

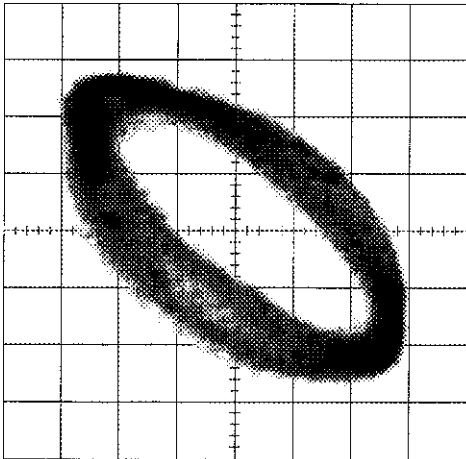
0°



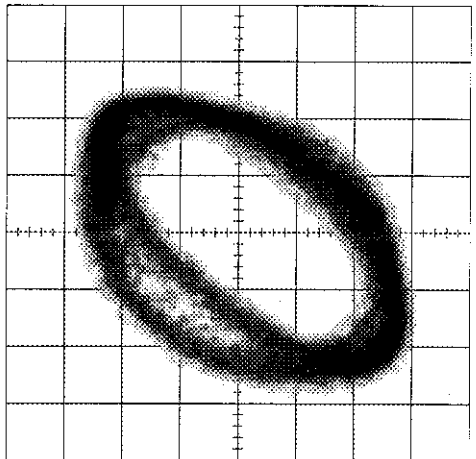
30°



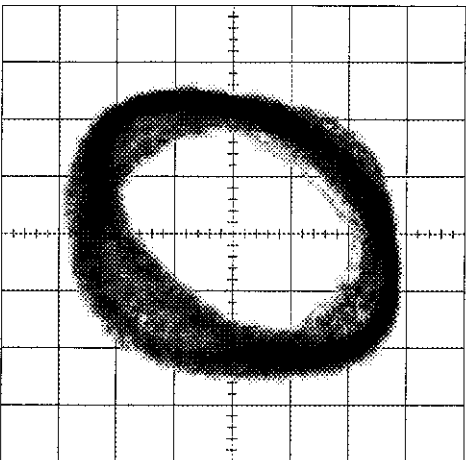
45°



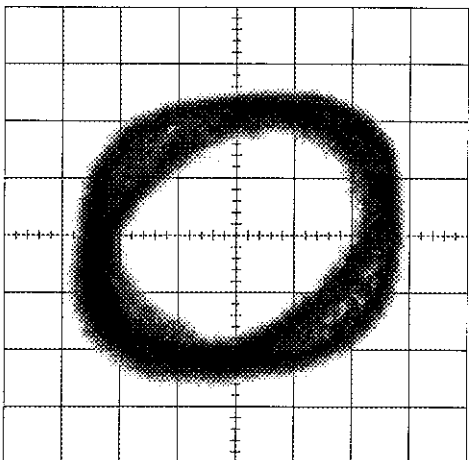
60°



75°



90°





## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 TEST MODE

##### ● CD Test Mode

##### 1) Precautions on Adjustment

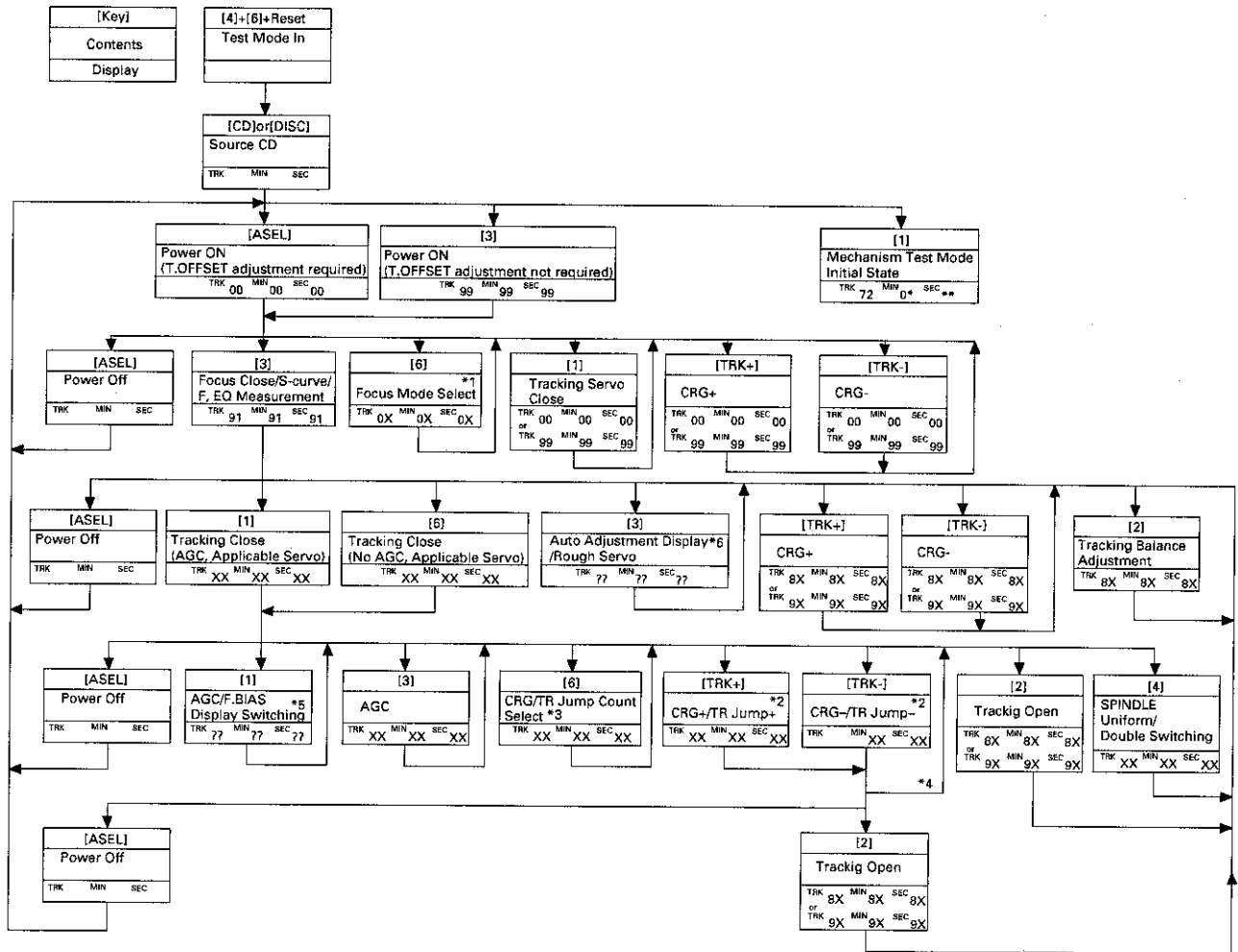
- The unit employs a single voltage (+5V) for the regulator, thus the reference potential of the signal is RFOUT (approximately 2.5V) rather than GND. Inadvertent contact of RFOUT and GND during adjustment can result not only in disabling normal potential measurement but also in exposing the pickup to 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 [TRK+] or [TRK-] 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

Adjustment of this unit is done in parallel with the CD control unit (DEH-M7126ZH or a head unit conforming to the GA-NET BUS specifications), thus key operations for adjustments are done from the unit. Taking the example of the DEH-M7126ZH, the following describes how to turn on the test mode and operate the keys. The keys referred to in the following are those used on the DEH-M7126ZH.

- Turning on the Test Mode  
Press the [4] and [6] keys simultaneously to turn on the ACC and the backup.
- Ending the Test Mode  
When ACC or Back up is off, the test mode is canceled.
- 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.

● CD Player Flowchart



\*1) Switching must take place in the following sequence.  
 Focus Close → S.Curve Check → Focus EQ Measurement.  
 TRK 00 MIN 00 SEC 00    TRK 00 MIN 00 SEC 00    TRK 00 MIN 00 SEC 00  
 ( TRK 99 MIN 99 SEC 99 )    ( TRK 99 MIN 99 SEC 99 )    ( TRK 99 MIN 99 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 → F.AGC Gain → F. BIAS Setting  
 (AGC Gain = (Current value/Initial value) x 20)

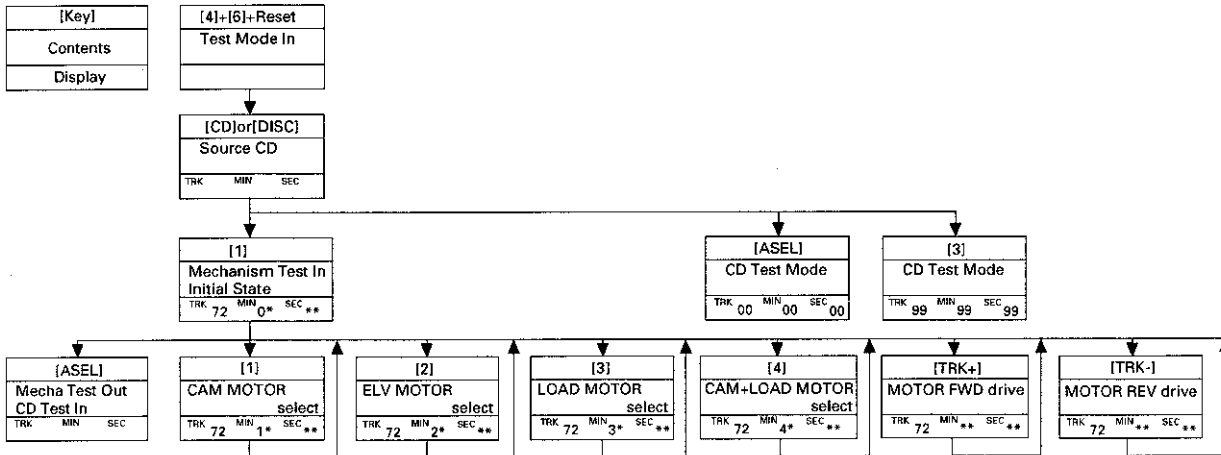
\*6) Switching must take place in the following sequence.  
 F.Cancel Display → T.Offset Display → T.Bal Display → Rough Servo.  
 (F.Bias value, F.Cancel value, T.Offset value, T.Bal value = (Upper 8 bits of the setting (7F[H] to 80[H] + 128)/4 = 63[D] to 32[D] to 00[D]).

[Key]	Operation
[ASEL]	Power ON/OFF
[TRK+]	CRG+/TR Jump+ (Toward outer perimeter)
[TRK-]	CRG-/TR Jump- (Toward inner perimeter)
[1]	Tracking Close/AGC gain, F.Bias adjustment value display switching
[2]	Auto Tracking Balance adjustment/ Tracking Open
[3]	Focus Close, S.Curve, F.EQ measurement/ Rough Servo/AGC
[4]	Focus Open /SpindleUniform/Double Switching
[5]	Jump Off
[6]	Focus Mode select/Tracking Close/ CRG,TR Jump Switching

- Operation of TR JUMPs other than 100TR is continued after your finger has left the key. CRG Move and 100TR Jump are forced to the Tracking Close Mode when the key is released.
- Powering on or off resets the Jump Mode to the Single TR (91).
- When ACC or Back up is off, the test mode is canceled.
- Note: The GA-NET BUS head unit(made by Pioneer) must be employed for controlling the test mode.
- Note: Sound is unavailable even after the tracking has been closed (this trouble results when the IC for the STS is not controlled in the test mode).
- Note: When you pressed the [TRK+] or [TRK-] key during the Focus Search, you must turn the power off immediately (otherwise, the lens can stick resulting in actuator damages).
- Note: To exchange CD's, insert or eject a CD, use numerical buttons 1 to 6 on the CD changer. (During the test mode, even when no disc is stored on a tray. If so, first press the EJECT button once.)

# CDX-MG6346ZH, MG6446ZH

## ● CD Changer Mechanism Flowchart



### <Screen Display during Mecha Test Mode>

**TRK**: 72

**MIN**: Upper (10th order):  
Type of motors selected

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

Lower (order of 1): State of DISC  
sensing phototransistor and switch

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

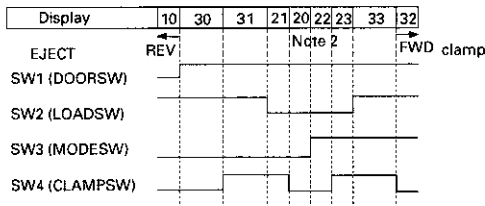
L: Phototransistor is OPEN and switch is ON.  
H: Phototransistor is CLOSE and switch is OFF.

[Key]	Operation
[ASEL]	Mechanism Test is initialized.
[TRK+]	Valid only when the motor selected (using the [1] to [3], [6] keys) is driven in FWD direction.
[TRK-]	Valid only when the motor selected (using the [1] to [3], [6] keys) is driven in REV direction.
[1]	CAM MOTOR is selected.
[2]	ELV MOTOR is selected.
[3]	LOAD MOTOR is selected.
[4]	CAM + LOAD MOTOR is selected.

### **SEC**: ① When ELV motor is selected, ELV position is displayed

- 01: ELV at home position (1st disc).
- 10: ELV at a position other than home (2nd to 6th).
- 11: ELV moving to a specified position. \* Note 1
- 00: Reserved (for an error)

- ② When CAM.LOAD motor is selected:  
Indicates CAMSW (CAM gear) status.



### ● Operating Procedures:

- 1) Turn on the CD Test Mode, then select the CD-CHANGER for the SOURCE.
- 2) Select the motor to be driven using the [1] to [3], [6] keys. (TRK 72 MIN X\* SEC \*\*)
- 3) Press the [TRK+] or [TRK-] in this state to drive the selected motor.

### ● Precautions

- \* While the CD mechanism is moving to exchange CDs, eject or insert a CD, never perform key operations for motor selection or drive operation.
- \* When driving the CAM MOTOR in 31 → 30 → 10 (in REV direction), the elevation position must be at the EJECT/LOAD position (the top position).  
Note 1: When the elevation is situated at the Note 1 position, move of any motor other than the REV is disabled.
- Note 2: Before performing the elevation, make sure that the CAM SW (switch) is set to a position between 22 and 20.  
As a rule, driving of the ELV MOTOR must be started immediately after the CAMSW indication has changed from 22 to 20.

● Operating Procedures for Ejecting a Clamped Disc

- ① Select CAM MOTOR using [1], then press the REV direction while the disc is being clamped (CAMSW state is 32).  
The CAMSW status indication sequentially changes through 32→33→23→22.
- ② When the disc to be ejected is not identical with the disc being clamped, select the [2] ELV MOTOR in the vicinity of where the display changes from 22 to 20, then match the elevation to the disc to be ejected according to the following procedures:  
After selecting ELV MOTOR, lower the elevation until the ELV position display becomes 01 (1st disc) using the REV direction. Drive the elevation up until the display is changed to 10. This is the elevation where the second disc is situated. The next display of 10 tells you the elevation of the 3rd disc. Repeating this operation allows you to establish an elevation matching each disc. (When the elevation is driven from the 1st through 6th disc, the status display changes as 01→11→10→11→10→11→10→11→10→11→10.)  
(When the disc to be ejected coincides with the disc being clamped, the above operations are not necessary.)
- ③ Select the [1] CAM MOTOR and then, using the REV direction, drive it until the display changes from 20 (or 22) to 21 and 31.
- ④ Select the [2] ELV MOTOR, then drive the tray of the disc to be ejected up to the EJECT/LOAD position (using the FWD direction).
- ⑤ Select the [4] CAM+LOAD MOTOR, then drive it in the REV direction until the display changes from 31 to 30 and 10.  
The door will open immediately before the display changes to 10 and part of the disc will be pushed out.
- ⑥ When 10 is displayed, select the [3] LOAD MOTOR, then drive it in REV direction until the disc is completely ejected.

### 7.1.2 DISASSEMBLY

● **Removing the upper case (not shown)**

1. Remove the five screws, then remove the upper case.

● **Removing the Extension Unit (Fig. 1)**

1. Remove the three screws B, then remove the side frame and holder.
2. Remove the screw C, screw D and PCB from the connector.
3. Straighten the three currently bent claws, then remove the extension unit.

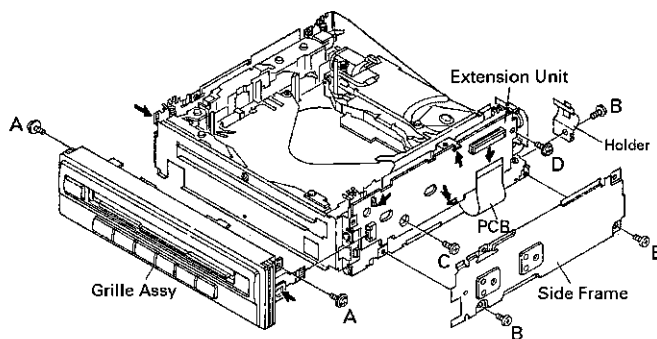


Fig. 1

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

1. Remove the two screws A and the connector, then remove the grille assy.

● **Removing the CD Mechanism Module (Fig. 2)**

1. Remove the three screws A, then remove the front frame.
2. Remove the three screws B and two screws C, then remove the damper and holder.
3. Remove the two spring ①s, spring ② and spring ③ from the hook, then remove the CD mechanism module.

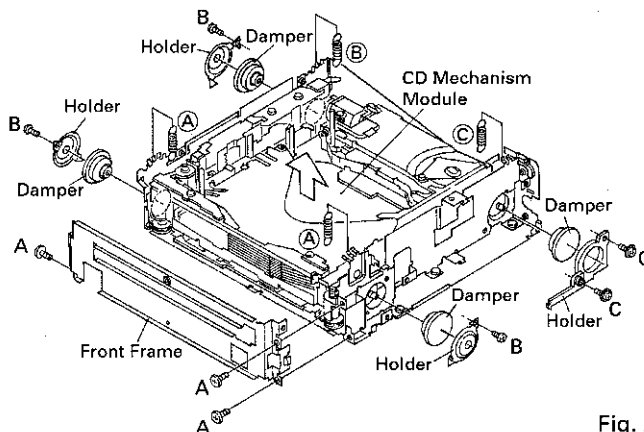


Fig. 2

– Precautions on Assembly –  
 Apply spring ③ (black) to the front side hook.  
 Remaining springs ① and ② are to be hung on the center hook.

● **Removing the Keyboard Unit (Fig. 3)**

1. Remove the screws A and four screws B, then remove the keyboard unit.
2. Remove the four screws C, then remove the guide.

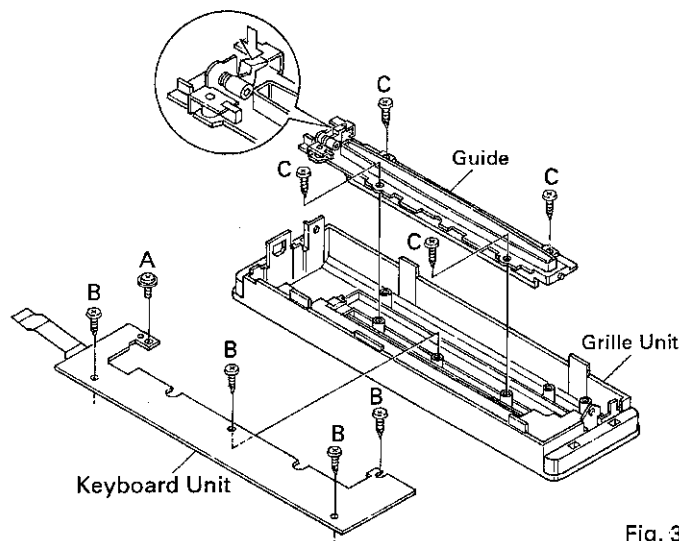


Fig. 3

● 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. 5.
5. 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.

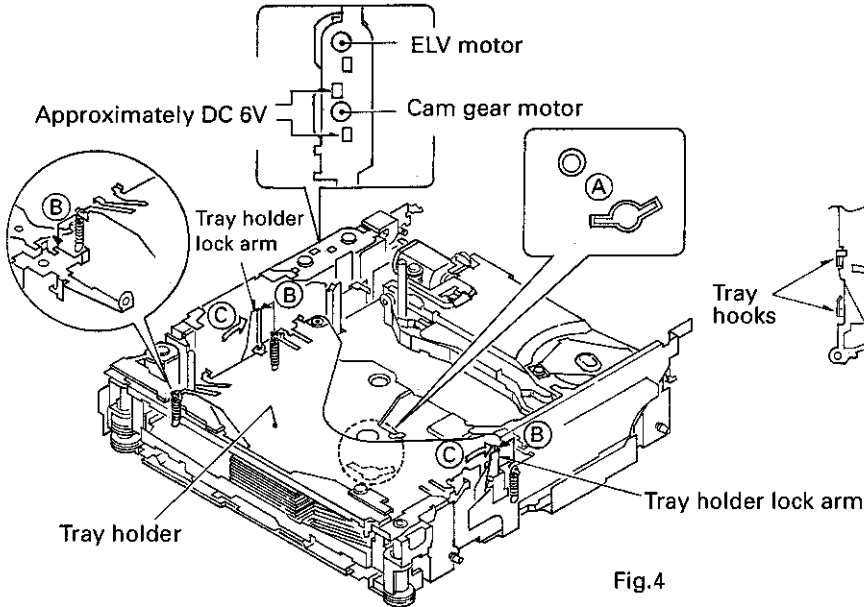


Fig. 4

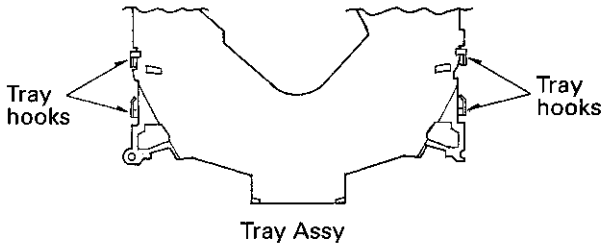


Fig. 5

● How to remove the Carriage Mech 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.7.)

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.
- \* 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".

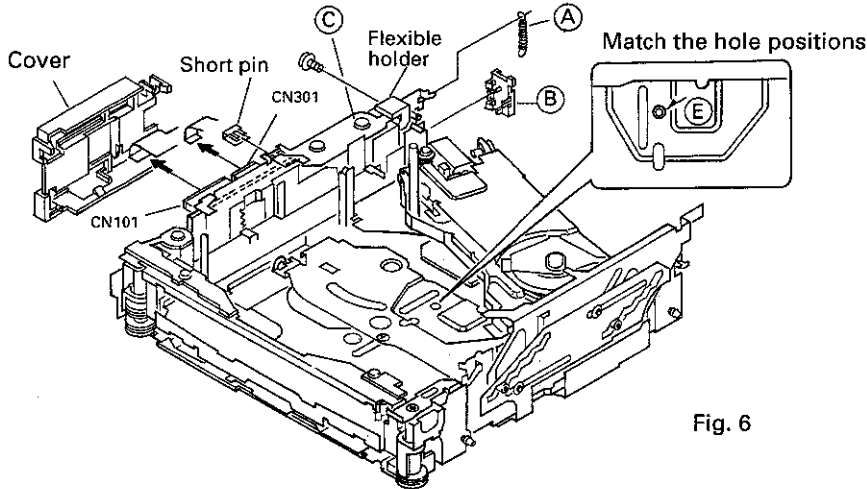


Fig. 6

- Remove the screw, pressure spring and collar. Lift up the Carriage mechanism assy to remove it.  
\* Screw tightening torque: 2.6kgfcm

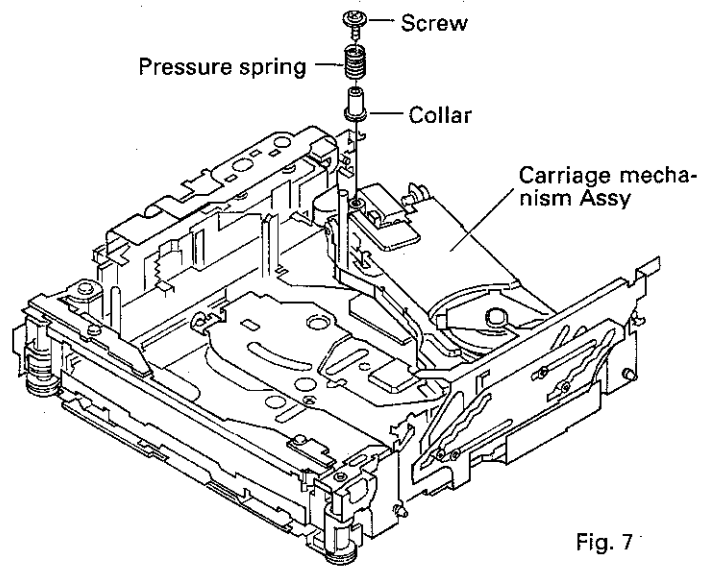


Fig. 7

● How to remove the Pickup unit

- 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.

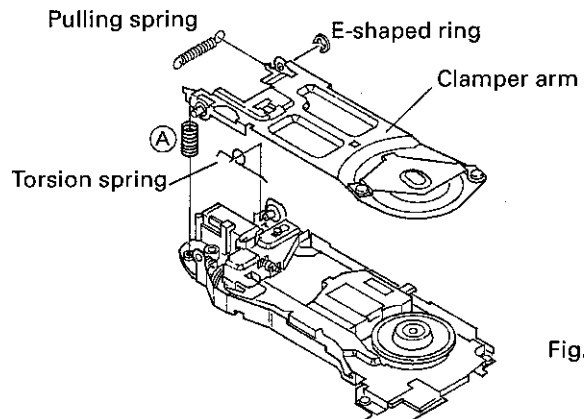


Fig. 8

- Slide the Clamp UP lever (B) to remove it.
- Loosen the 2 screws. Remove the feed-screw cover by sliding it.
- Remove the feed-screw pressure spring (D).
- Loosen the 2 screws. Remove the feed-screw holder (E).
- Remove the belt.

- 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.

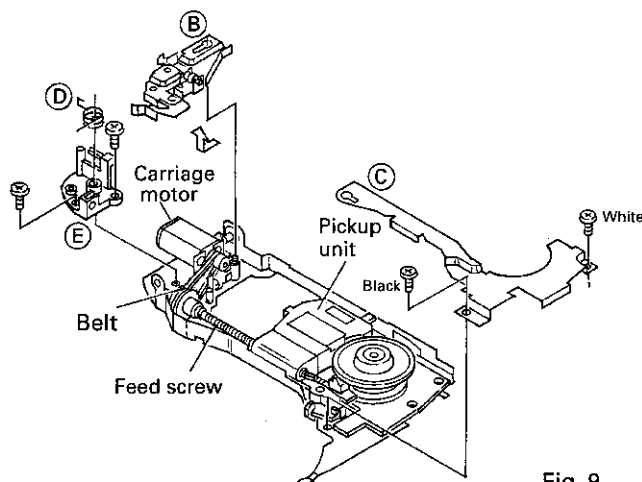


Fig. 9

8. Loosen the 2 screws. Remove the plate spring and the rack.
9. Pull out the feed screw from the Pickup unit.

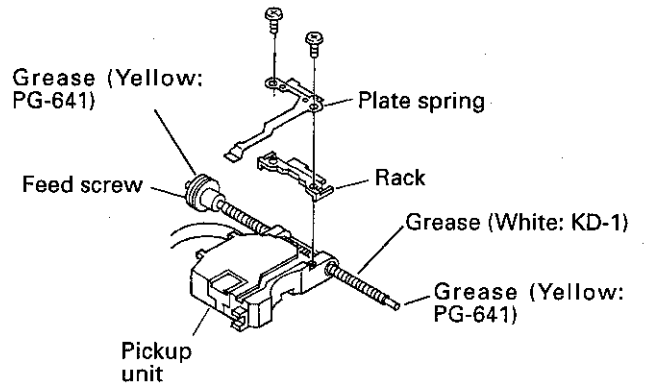
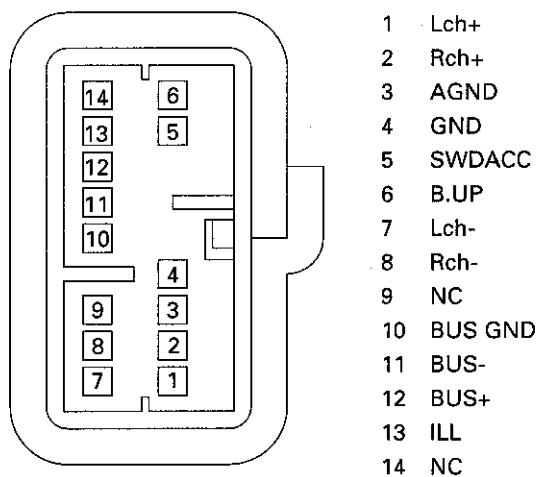
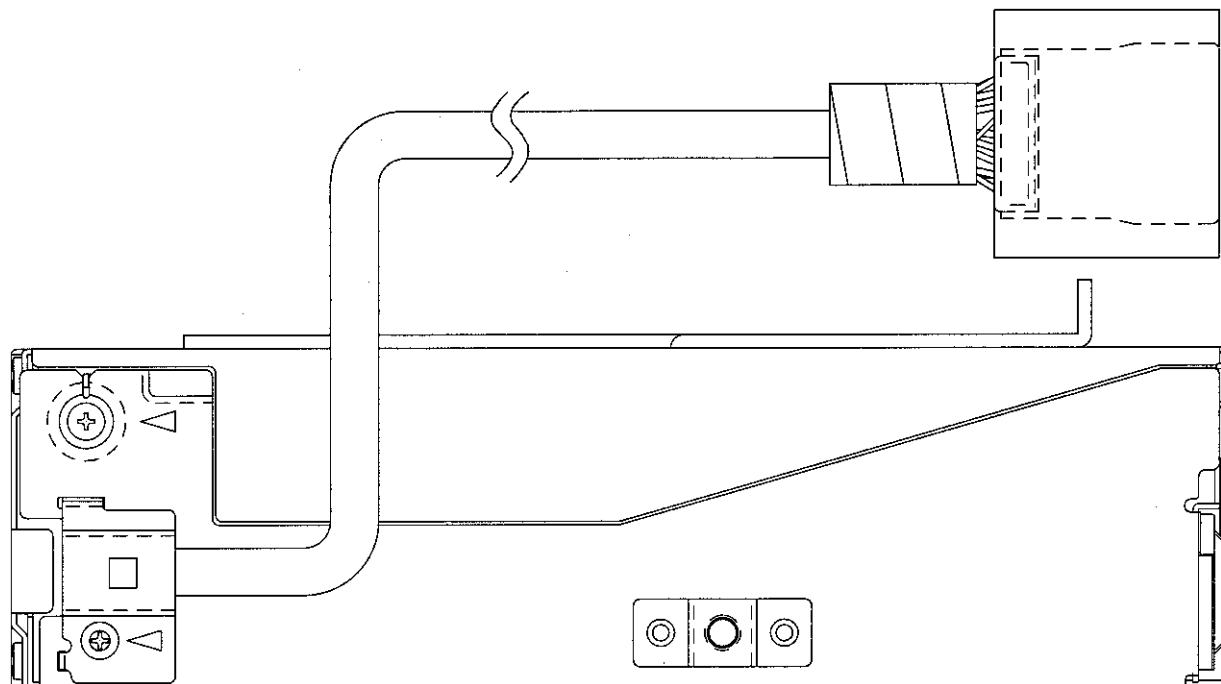


Fig. 10



7.1.3 CONNECTOR FUNCTION DESCRIPTION



## 7.2 IC

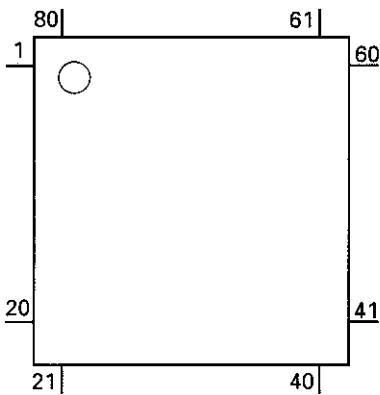
## ● Pin Functions (PD5540A)

Pin No.	Pin Name	I/O	Function and Operation
1	VDIN	I	VD power supply sensor input
2	DOORSW	I	Door open position sense input
3	NHIN	I	NH-BUS data input
4	NHOUT	O	NH-BUS data output
5	CLAMPSW	I	Disk clamp sense input
6	ELHOME	I	Elevation sense input
7	XSCK	O	LSI clock output
8	XSO	O	LSI data output
9	XSI	I	LSI data input
10	XSTB	O	LSI strobe output
11	XRST	O	LSI reset output
12	XAO	O	LSI data discernment control signal output
13	VDCONT	O	VD power supply control output
14	EJECTKEY	I	Eject key input
15	ASENS	I	ACC power sense input
16	NHPOW	O	NH-BUS data output
17	LOADSW	I	Loading sense input
18	ELVSW	I	Elevation OK input
19-21	TEST1-3		Not used
22	BSENS	I	Back up power sense input
23	SBSY	I	Signal indicating head of subcode block input
24	ISENS	I	Illumination sense input
25	RESET	I	Reset input
26	POWER	O	+5V power supply control output
27	CONT	O	Servo driver power supply control output
28	XIN	I	Crystal oscillating element connection pin
29	XOUT	O	Crystal oscillating element connection pin
30	VSS		GND
31-33	KST1-3	O	Key strobe output
34,35	KD1,2	I	Key data input
36,37	ILL1,2	O	Illumination output
38	ASCON	O	Analog switch control output
39	TESTIN	I	Test program mode input
40	DCLOSE	I	Door close sense input
41	WDSL	O	Data comparison designation output
42	XWIH	I	DRAM data white inhibit input
43	XEMP	I	DRAM data read inhibit input
44	CHDT	I	Data comparison mode monitor input
45,46	CHM0,1	O	Data comparison mode output
47-49	NC		Not used
50	XWRE	O	DRAM data white enable output L:enable
51	XRDE	O	DRAM data read enable output L:enable
52	XQOK	O	SUB-Q OK output L:SUBQ OK
53	EMPH	O	DAC EMPH output
54	SCONT	O	Double speed select output
55	LOAD	O	LED power supply control output
56	CDMUTE	O	Mute output
57,58	LO2,1	O	Load motor control output
59,60	ELV2,1	O	ELV motor control output
61,62	CG2,1	O	CAM motor control output
63	MIRR	I	Mirror detector input
64	LOCK	I	Spindle lock detector input
65	FOK	I	FOK signal input
66	XSCK	O	Shift clock output
67	EXMODE	O	Latch clock output
68	EXSO	O	Serial data output

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Pin No.	Pin Name	I/O	Function and Operation
69	EXCE	O	Chip enable output
70	ILPOW	O	Illumination power supply control output
71	VCC		Power supply terminal
72	VREF	I	A/D converter reference voltage input
73	AVSS	I	A/D converter GND
74	ADRMON	I	DRAM memory remaining monitor input
75	EREF	I	DRAM A/D converter reference voltage input
76-78	PH1-3	I	Disc photo sense input
79	ELVSNS	I	ELV position sense input
80	TEMP	I	Temperature detector input

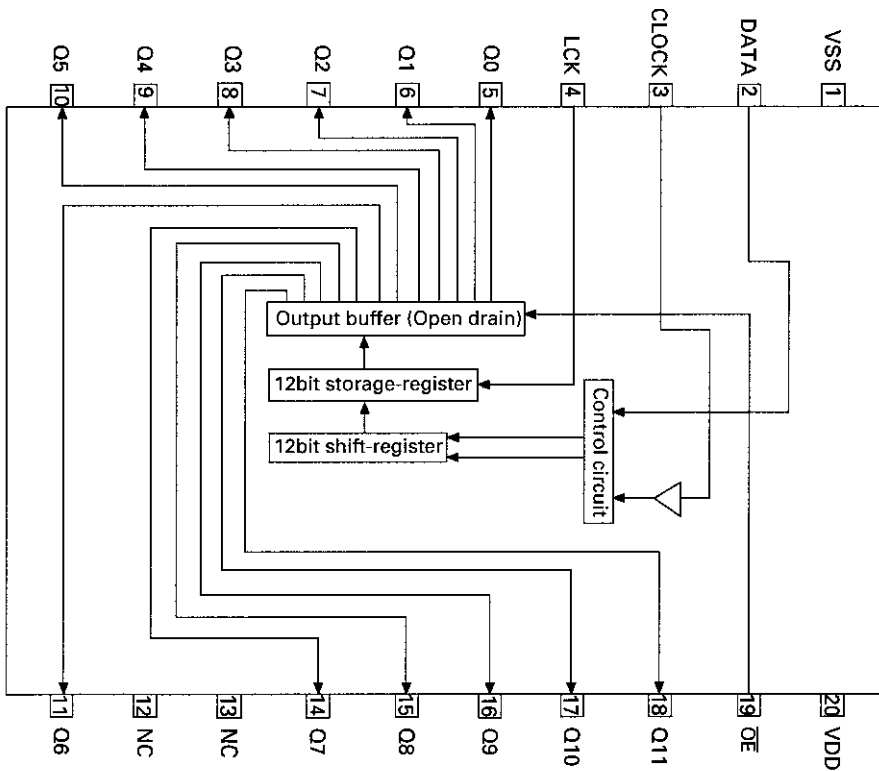
\*PD5540A



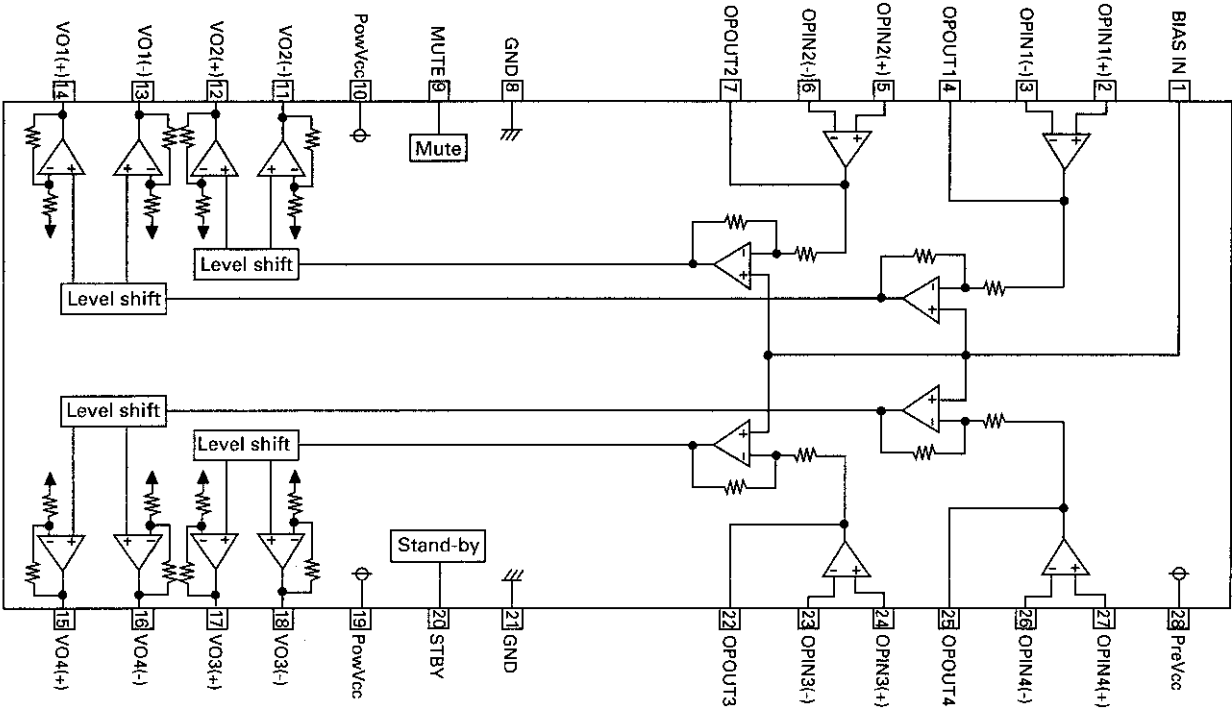
IC's marked by\* are MOS type.

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

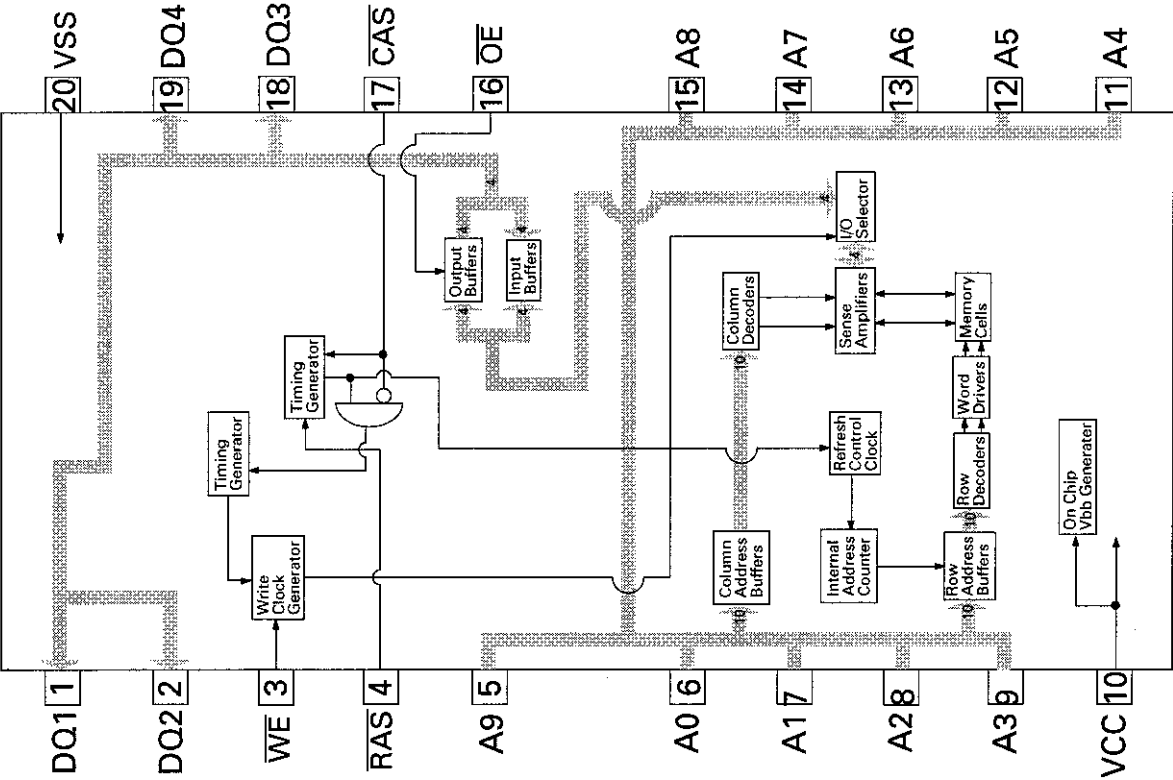
BU2092FV



BA5986FM

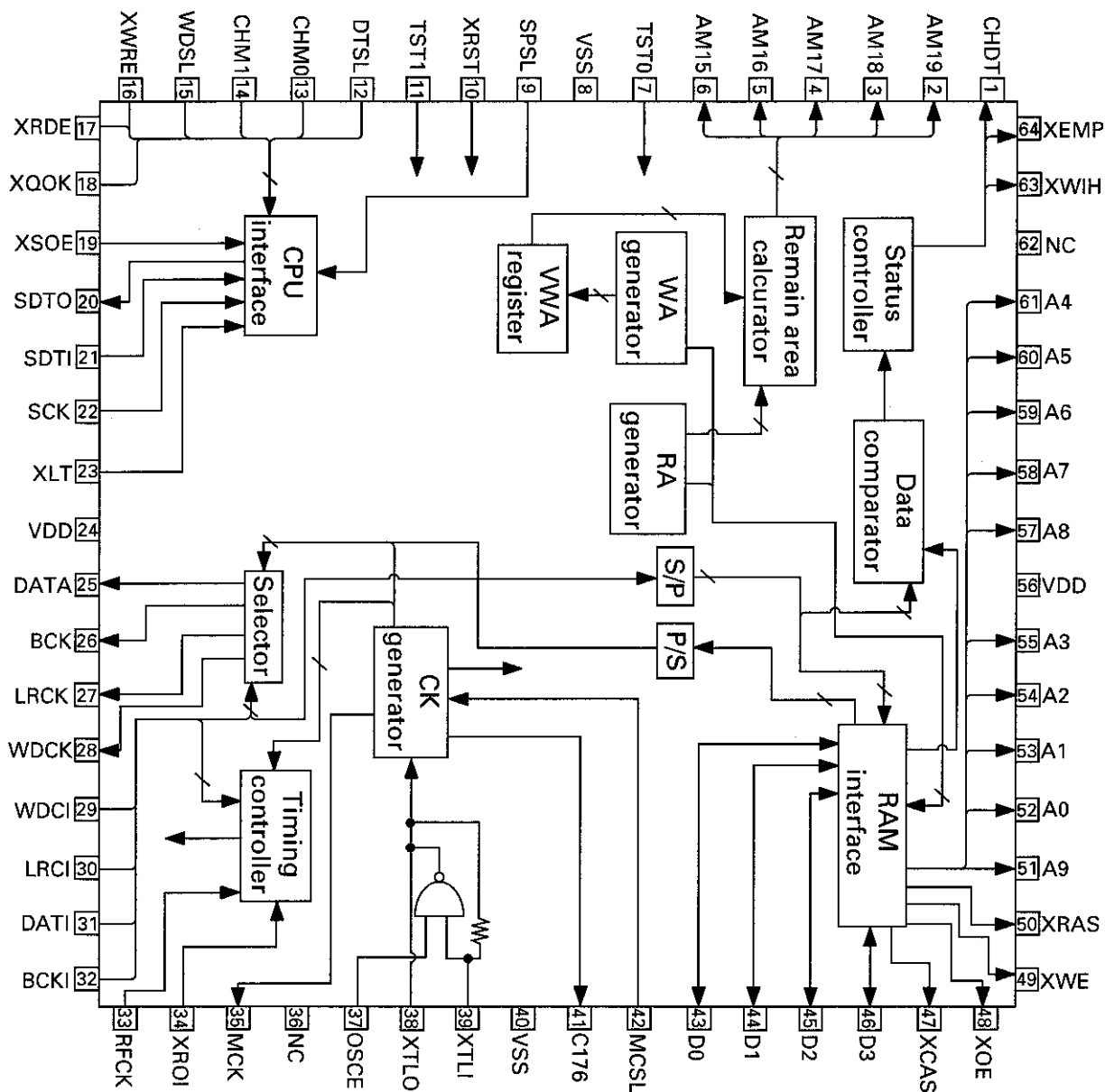


MSM514400DP-60TS



# CDX-MG6346ZH, MG6446ZH

CXD2511R



## 8. OPERATIONS AND SPECIFICATIONS

### 8.1 OPERATIONS

#### EXPLANATION OF THE HAND MARKS



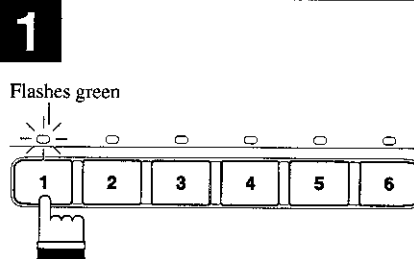
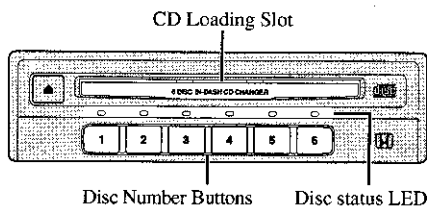
Press momentarily.



Press and hold for at least 3 seconds.

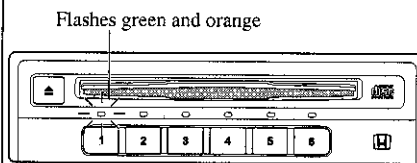
#### LOADING THE CD (1 of 2)

The CD Changer operates with the same controls used for the audio system. For operation, refer to the audio system section of the Owner's Manual for your radio.



Press one of the buttons (1–6) to select the desired disc number for the CD you want to load.

- LED flashes green.

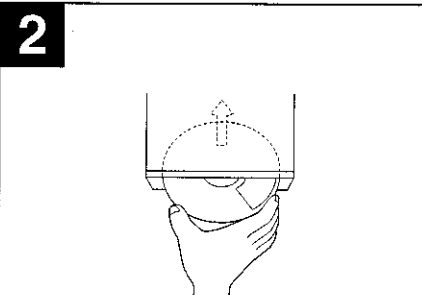
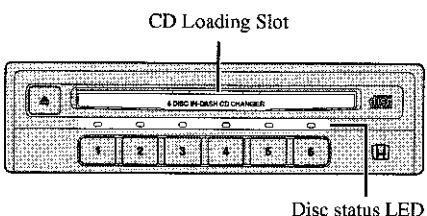


After a few seconds the CD loading slot door opens, and the LED flashes green and orange. (Green → Orange → Green → Orange)

- If you do not load a CD within about 15 seconds, the door will close. Pressing the same disc number button again or pressing the eject button will cause the door to close.

#### LOADING THE CD (con't)

You can load a CD under a selected disc number. The system will automatically playback when the CD is loaded.



Insert the CD with the label side up.

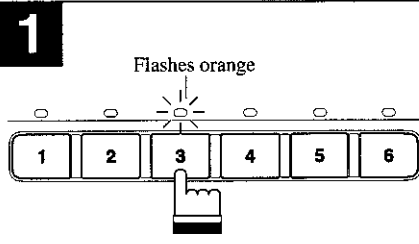
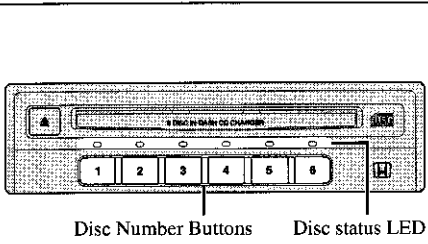
- When loading is complete, LED will stop flashing and remain lit.

Note: This unit is not designed to handle 8 cm CD's. Do not attempt to load it alone or with adapter. It may cause the unit to malfunction.

Notes:

- Repeat steps **1** and **2** to load CDs in other disc numbers.
- The unit may go into CD eject mode when it detects improper CD loading. Wait 2 seconds before inserting the CD for loading.

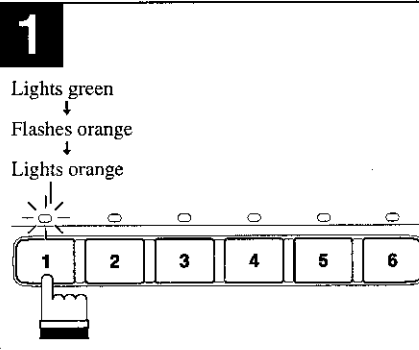
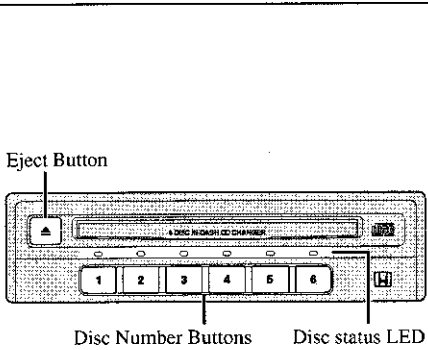
## SELECTING A CD



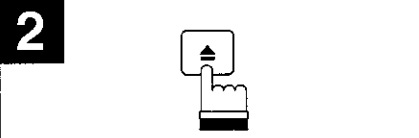
Press one of the buttons (1–6) to select a desired CD for play.

- Green LED indicates CDs are stored and orange LED indicates currently selected CD.
- While CDs are being changed, the LED flashes orange until CD changing has been completed, then it lights orange.
- You can also select a desired CD by using preset buttons or upward button on the radio.

## EJECTING THE CD (1 of 2)



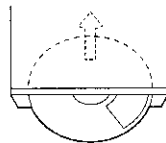
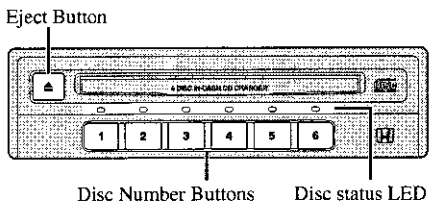
Press one of the buttons (1–6) to select the disc number for the CD you want to eject.



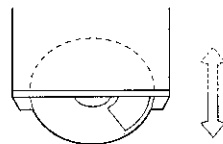
Then press eject button to eject the CD.

- The LED flashes green and the CD is ejected.

## EJECTING THE CD (con't)




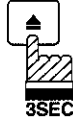
**Note:** If you do not remove the ejected CD from the CD loading slot within about 15 seconds, it is automatically reloaded. If you press the eject button, or press the ejected CD's disc number button (the Disc status LED that's flashing green), the CD is immediately reloaded.



**Note:** If you leave the ejected CD in the CD loading slot, and press the disc number button for a CD that's loaded (the Disc status LED is lit green), the ejected CD is reloaded and the CD loaded in the disc number you selected is ejected instead. This function is convenient when the ejected CD is different from the one you want to eject.

**Notes:**

- Pull the CD out. The LED flashes green and orange, and this product switches to the CD loading standby mode.
- You can eject CDs even if the ignition is switched OFF. In this case, you cannot perform step 1 to select a CD. When you press the eject button, the currently selected CD is ejected. Also, when you pull a CD out, the door immediately closes. (This unit does not switch to the CD loading standby mode.)

<h2>ILLUMINATION</h2>	<p>This product is equipped with two illumination colors, white and orange. You can select the desired illumination color.</p>	
<p>Eject Button</p> 	<p><b>1</b></p> 	<p>The illumination color changes each time you press and hold the eject button for 3 seconds or longer.</p>

## 8.2 SPECIFICATIONS

### General

Power source ..... 13.2 V DC (10.8 – 15.2 V allowable)  
 Grounding system ..... Negative type  
 Standby current ..... 2 mA or less  
 Rated current consumption ..... 600 mA max.  
 Maximum current consumption ..... 1.5 A max.  
 Dimensions (chassis size) .... 180 (W) x 50 (H) x 165 (D) mm  
 Weight ..... 1.6 kg

### CD player

System ..... Compact disc audio system  
 Usable discs ..... Compact disc  
 Signal format ..... Sampling frequency: 44.1 kHz  
 Number of quantization bits: 16; linear  
 Frequency characteristics ..... 5 – 20,000 Hz  
 Signal-to-noise ratio ..... 93 dB (1kHz) (IHF-A network)  
 Dynamic range ..... 92 dB (1kHz)  
 Number of channels ..... 2 (stereo)