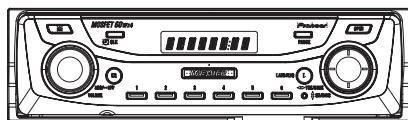


Service Manual



ORDER NO.
CRT3192

MULTI-CD CONTROL DSP HIGH POWER CD/MP3/WMA PLAYER WITH RDS TUNER
DEH-P9600MP /XN/EW

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

Model No.	Order No.	Mech.Module	Remarks
CX-3098	CRT3179	S10WMAcode2	CD Mech. Module:Circuit Description, Mech. Description, Disassembly



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

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan

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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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K-ZZU.FEB. 2004 printed in Japan

SAFETY INFORMATION



A ● CD Section Precaution

1. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
2. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY" on page 64.
3. After replacing the pickup unit, be sure to check the grating. (See p.60.)

B

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.

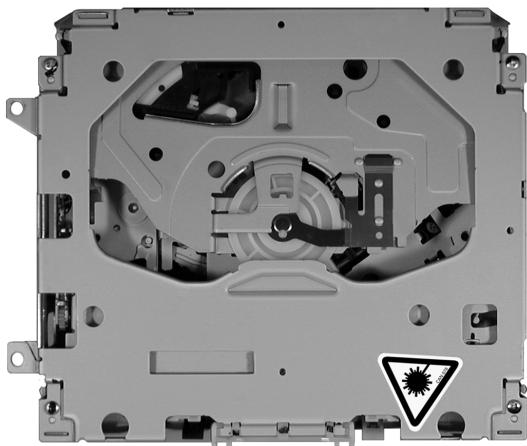
1. Safety Precautions for those who Service this Unit.

- When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

C

Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
2. During repair or tests, do not view laser beam for 10 seconds or longer.
2. A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.
3. The triangular label is attached to the mechanism unit frame.



D

4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.
Wavelength = 800 nanometers

F

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replaced only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer's instructions.

[Important symbols for good services]

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

1. Product safety



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

2. Adjustments



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

3. Cleaning



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

4. Shipping mode and shipping screws



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

5. Lubricants, glues, and replacement parts



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



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1. SPECIFICATIONS

General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	10.0 A
Backup current	5 mA or less
Dimensions (W × H × D):	
DIN	
Chassis	178 × 50 × 157 mm
Nose	188 × 58 × 28 mm
D	
Chassis	178 × 50 × 162 mm
Nose	170 × 44 × 23 mm
Weight	1.7 kg

Audio/DSP

Maximum power output	50 W × 4
Continuous power output ...	27 W × 4 (DIN 45324, +B=14.4 V)
Load impedance	4 Ω (4 – 8 Ω allowable)
Preout max output level/output impedance	6.5 V/100Ω
Loudness contour	+10 dB (100 Hz), +6.5 dB (10 kHz) (volume: -30 dB)
Equalizer (13-Band Graphic Equalizer):	
Frequency	50/80/125/200/315/500/800 Hz 1.25/2/3.15/5/8/12.5 kHz
Equalization range	±12 dB
Auto equalizer (just for standard mode):	
Frequency	50/80/125/200/315/500/800 Hz 1.25/2/3.15/5/8/12.5 kHz
Equalization range	+6 – 12 dB
Network (standard mode):	
HPF (Front/rear):	
Frequency	50/63/80/100/125/160/200 Hz
Slope	0 (Pass)/-6/-12 dB/oct
Gain	0 – 24 dB/Mute
Subwoofer:	
Frequency	50/63/80/100/125/160/200 Hz
Slope	-6/-12/-18 dB/oct
Gain	+6 – 24 dB
Phase	Normal/Reverse
Network (3-way network mode):	
High HPF:	
Frequency	1.6/2/2.5/3.15/4/5/6.3/8/10/ 12.5/16 kHz

Slope -6/-12/-18/-24 dB/oct

Gain 0 – 24 dB/Mute

Phase Normal/Reverse

Mid HPF/LPF:

Frequency (LPF) ... 1.6/2/2.5/3.15/4/5/6.3/8/10/
12.5/16 kHz

Frequency (HPF)

..... 31.5/40/50/63/80/100/125/
160/200 Hz

Slope 0 (Pass)/-6/-12/-18/-24 dB/
oct

Gain 0 – 24 dB/Mute

Phase Normal/Reverse

Low LPF:

Frequency 31.5/40/50/63/80/100/125/
160/200 Hz

Slope -12/-18/-24/-30/-36 dB/oct

Gain +6 – 24 dB/Mute

Phase Normal/Reverse

CD player

System Compact disc audio system

Usable discs Compact disc

Signal format:

Sampling frequency 44.1 kHz

Number of quantization bits

..... 16; linear

Frequency characteristics ... 5 – 20,000 Hz (±1 dB)

Signal-to-noise ratio 99 dB (1 kHz) (IEC-A network)

Dynamic range 95 dB (1 kHz)

Number of channels 2 (stereo)

MP3 decoding format MPEG-1 & 2 Audio Layer 3

WMA decoding format Ver. 7, 7.1, 8, 9 (2ch audio)

WAV signal format Linear PCM & MS ADPCM

FM tuner

Frequency range 87.5 – 108.0 MHz

Usable sensitivity 8 dBf (0.7 μV/75 Ω, mono,
S/N: 30 dB)

50 dB quieting sensitivity 10 dBf (0.9 μV/75 Ω, mono)

Signal-to-noise ratio 75 dB (IEC-A network)

Distortion 0.3 % (at 65 dBf, 1 kHz,
stereo)

0.1 % (at 65 dBf, 1 kHz,
mono)

Frequency response 30 – 15,000 Hz (±3 dB)

Stereo separation 45 dB (at 65 dBf, 1 kHz)

Selectivity 80 dB (±200 kHz)

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MW tuner

Frequency range 531 – 1,602 kHz (9 kHz)
Usable sensitivity 18 µV (S/N: 20 dB)
Signal-to-noise ratio 65 dB (IEC-A network)

LW tuner

Frequency range 153 – 281 kHz
Usable sensitivity 30 µV (S/N: 20 dB)
Signal-to-noise ratio 65 dB (IEC-A network)

**Note**

Specifications and the design are subject to possible modifications without notice due to improvements. ■

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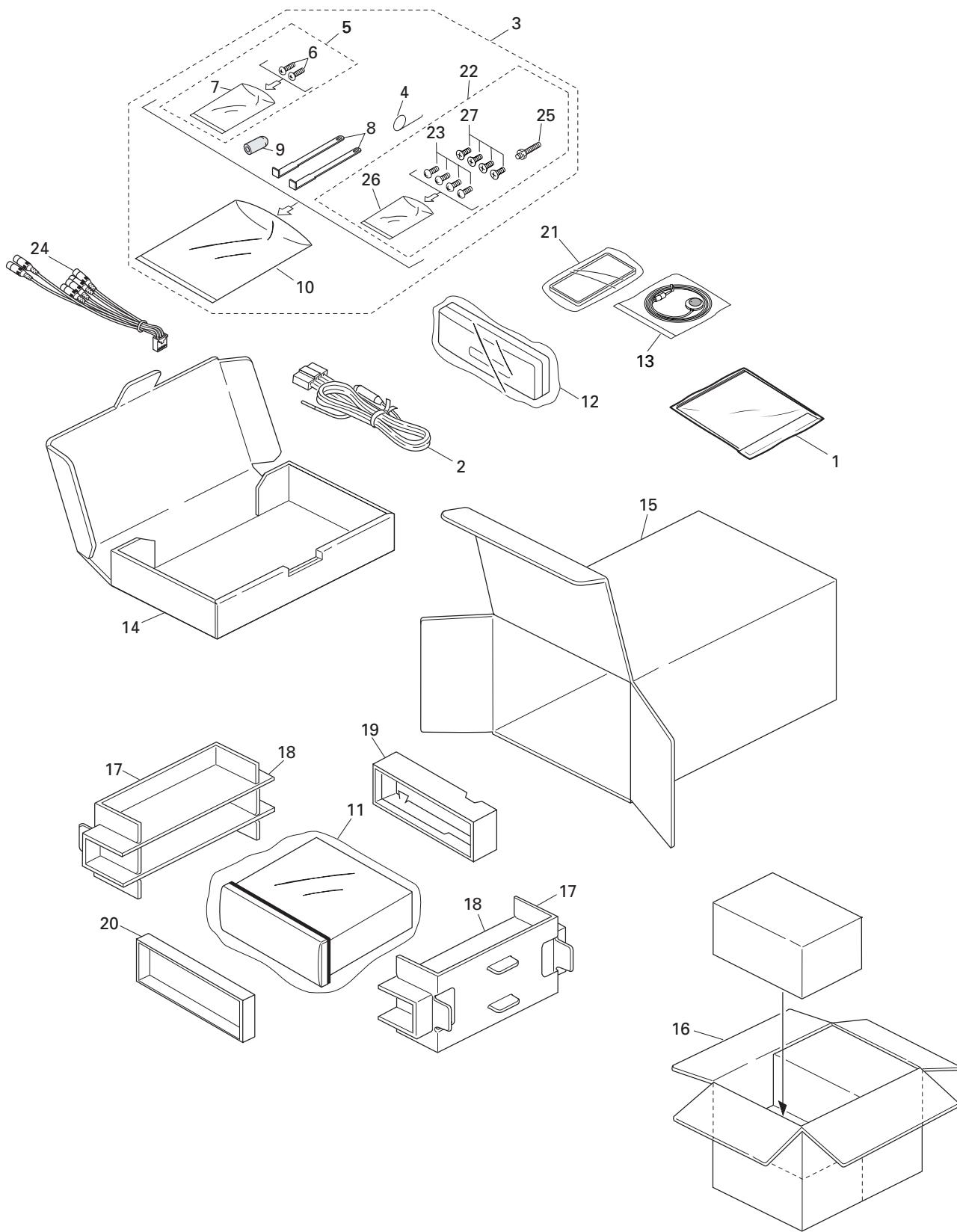
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2. EXPLODED VIEWS AND PARTS LIST

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

2.1 PACKING



PACKING SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1-1	Owner's Manual	CRD3813	12	Case Assy	CXB8574
1-2	Owner's Manual	CRD3814	13	Microphone Assy	CPM1054
1-3	Owner's Manual	CRD3815			A
1-4	Installation Manual	CRD3816	14	Sub Carton	CHA3258
*	1-5 Passport	CRY1013	15	Carton	CHG5202
			16	Contain Box	CHL5202
*	1-6 Warranty Card	CRY1157	17	Protector	CHP2538
	1-7 Polyethylene Bag	CEG1116	18	Protector	CHP2539
*	1-8 Caution Card	CRP1309			B
2	Cord Assy	CDE6562	19	Protector	CHP2541
3	Accessory Assy	CEA4111	20	Protector	CHP2546
			21	Remote Control Unit	CXC2665
4	Spring	CBH1650	22	Screw Assy	CEA4114
5	Screw Assy	CEA4117	23	Screw	BMZ50P060FTC
6	Screw	BPZ20P060FZK			
*	7 Polyethylene Bag	CEG-127	24	Cord Assy	CDE7436
*	8 Handle	CNC5395	25	Screw	CBA1650
			*	26 Polyethylene Bag	CEG-127
9	Bush	CNV3930	27	Screw	CMZ50P060FTC
*	10 Polyethylene Bag	CEG-158			
11	Polyethylene Bag	CEG1088			

Owner's Manual, Installation Manual

Part No.	Language
CRD3813	English,Spanish
CRD3814	German,French
CRD3815	Italian,Dutch
CRD3816	English,Spanish,German,French,Italian,Dutch

C

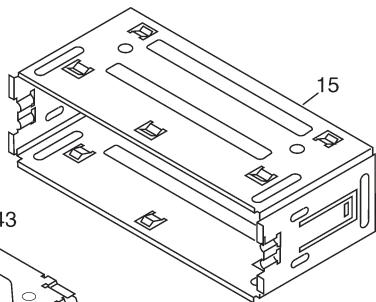
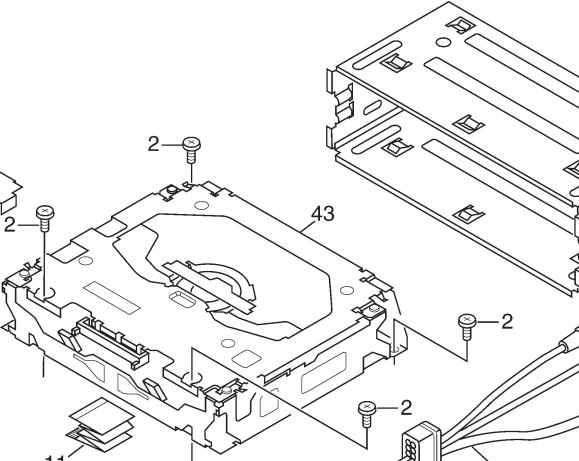
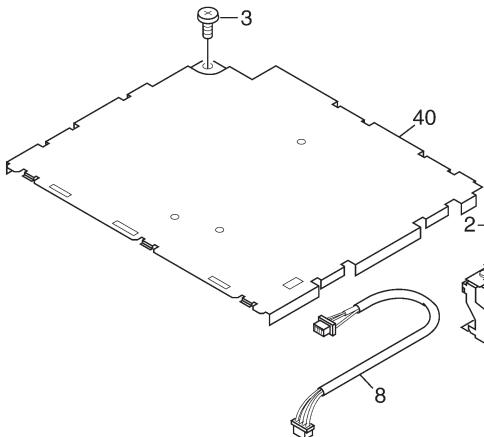
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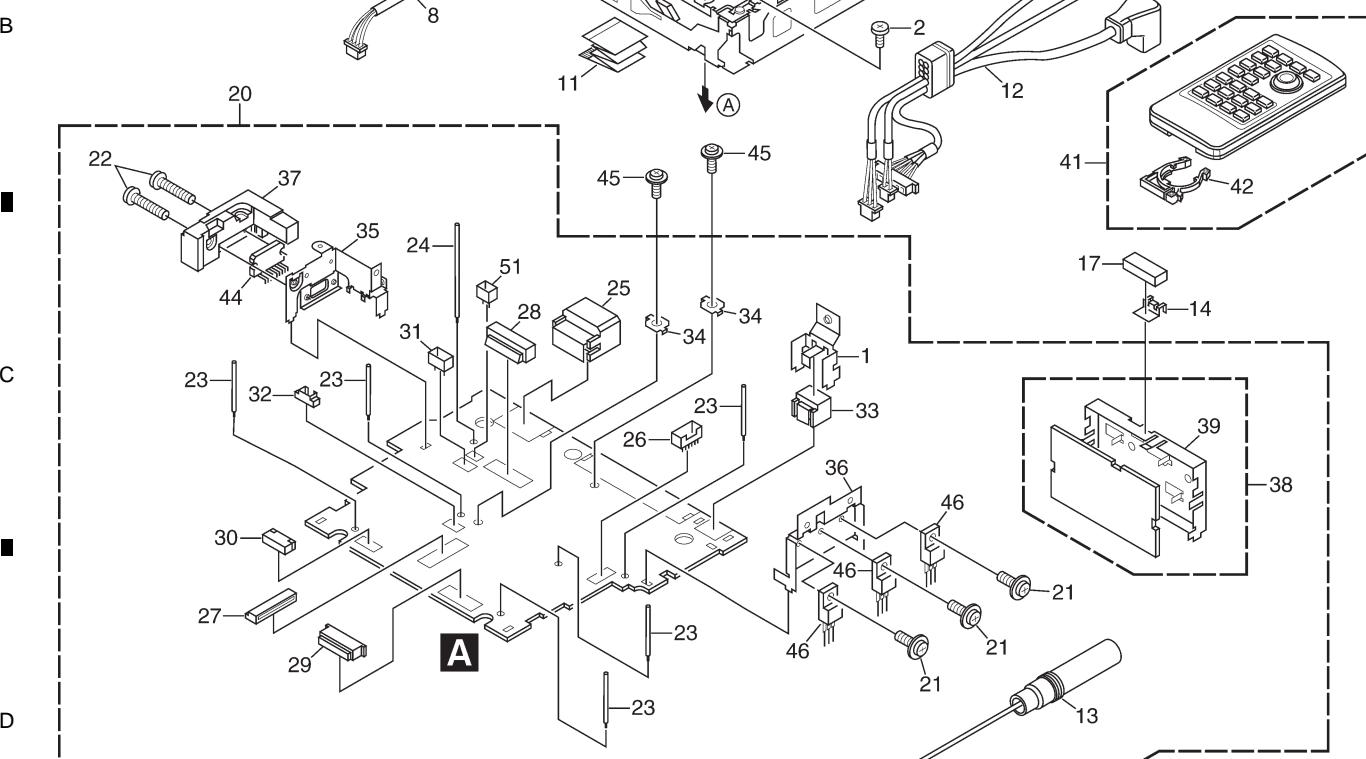
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2.2 EXTERIOR(1)

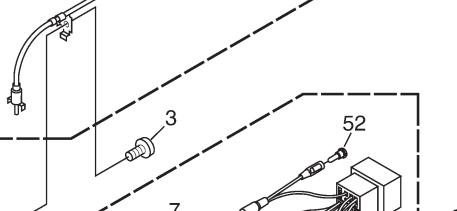
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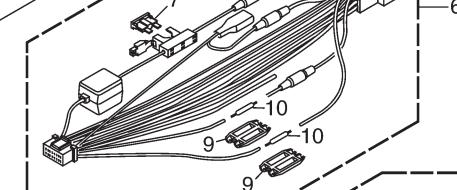
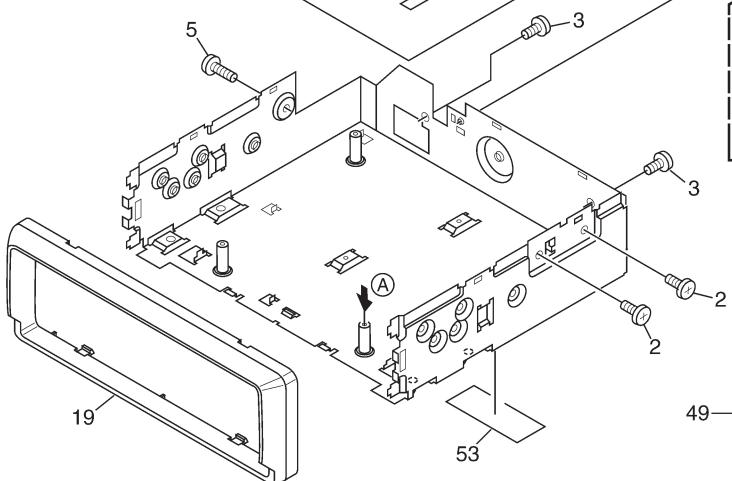
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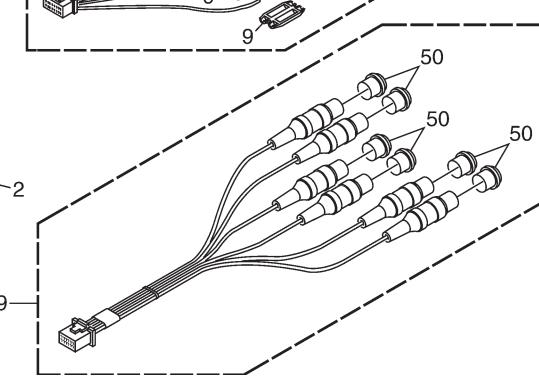
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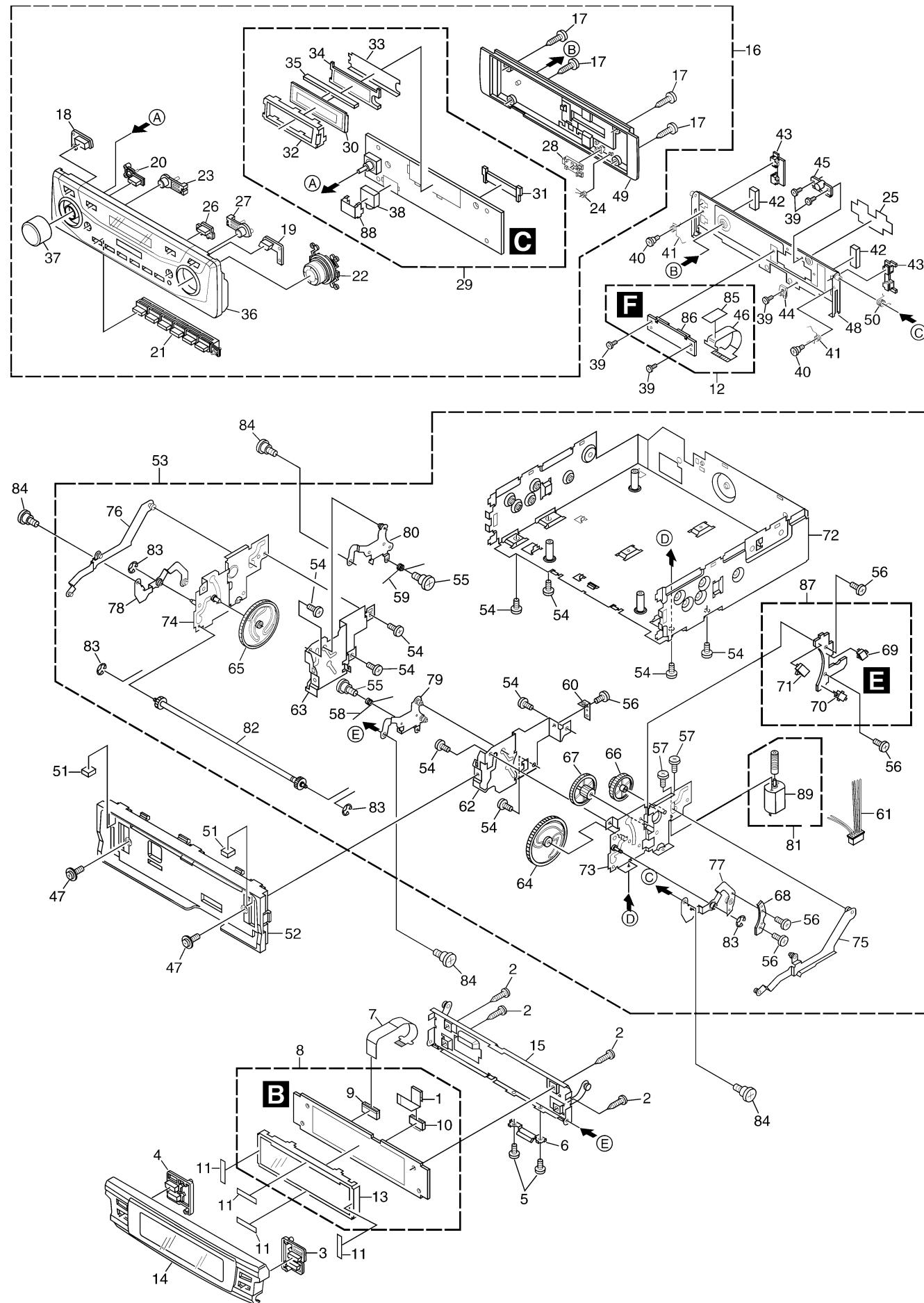
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EXTERIOR(1) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Holder	CND1979	51	Plug(CN761)	CKS1035
2	Screw	BSZ26P060FTC	52	Pin	CKX-003
3	Screw	BSZ30P050FTC	53	Lavel	VRW-329
4				
5	Screw	BSZ30P160FTC			
6	Cord Assy	CDE6562			
7	Fuse(10A)	CEK1136			
8	Cord Assy	CDE7439			
9	Cap	CNS1472			
10	Resistor	RS1/2PMF102J			
11	Flat Cable	CDE7440			
12	Cord Assy	CDE7433			
13	Antenna Cable(CN401)	CDH1336			
14	Holder	CNC6469			
15	Holder	CNC8659			
16				
17	Cushion	CNM8890			
18	Insulator	CNM8590			
19	Panel	CNS6863			
20	Tuner Amp Unit	CWM9184			
21	Screw	ASZ26P080FTC			
22	Screw	BMZ26P140FTC			
23	Clamper	CEF1035			
24	Clamper	CEF1036			
25	Plug(CN981)	CKM1278			
26	Plug(CN811)	CKS-787			
27	Connector(CN701)	CKS3837			
*	28	Plug(CN101)	CKS1058		
*	29	Connector(CN872)	CKS1082		
*	30	Connector(CN871)	CKS2211		
31	Connector(CN771)	CKS1036			
32	Connector(CN703)	CKS3126			
33	Connector(CN351)	CKM1389			
34	Holder	CNC5399			
35	Holder	CNC9711			
36	Holder	CNC9713			
37	Heat Sink	CNR1615			
38	FM/AM Tuner Unit	CWE1645			
39	Holder	CND1054			
40	Case Unit	CXB8524			
41	Remote Control Assy	CXC2665			
42	Cover	CZN5357			
43	CD Mechanism Module(S10WMACODE2)	CXK5676			
44	IC(IC301)	PAL007A			
45	Screw	ISS26P055FTC			
46	Transistor(Q742,901,921)	2SD2396			
47				
48				
49	Cord Assy	CDE7436			
50	Cap	CNV6727			

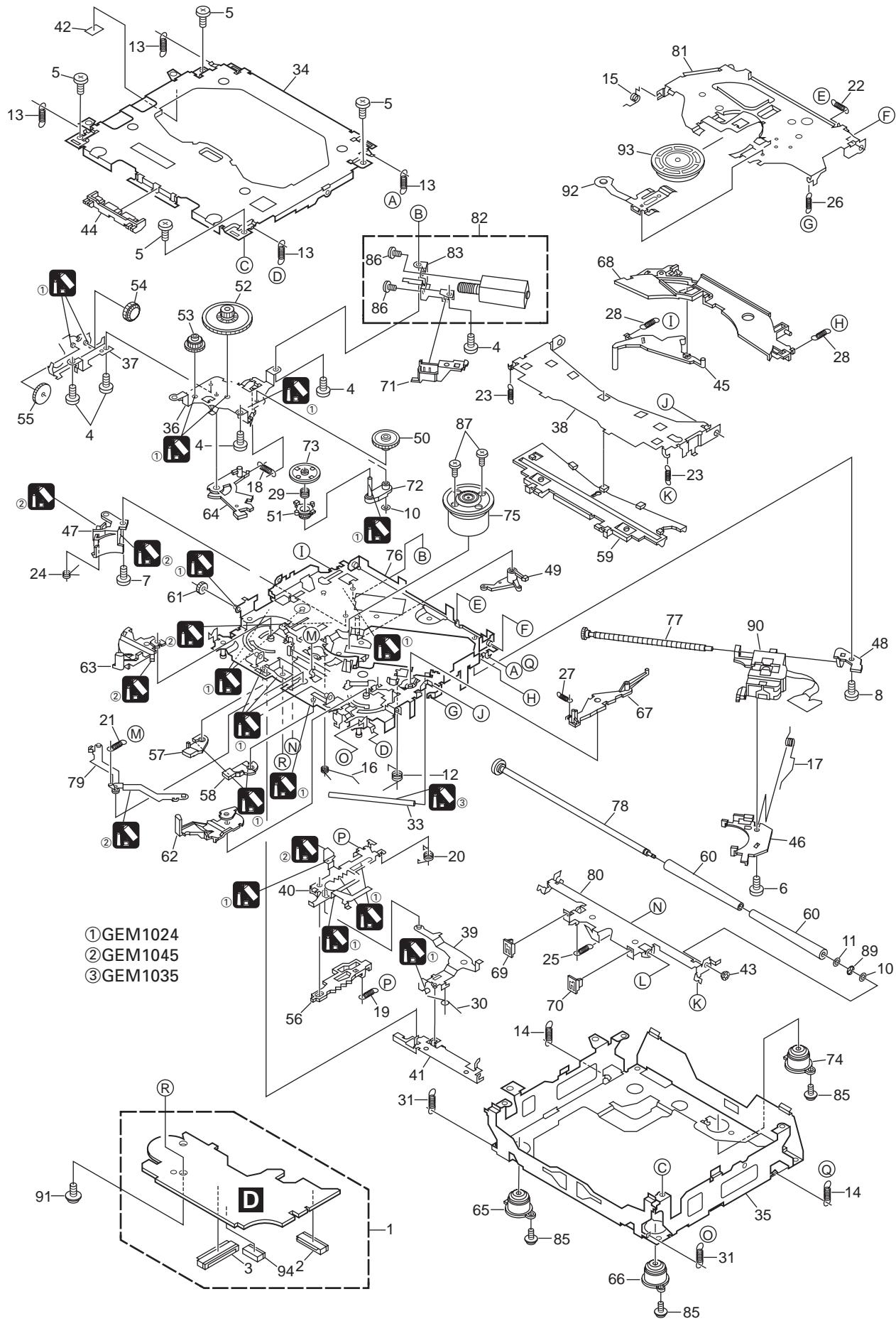
2.3 EXTERIOR(2)



EXTERIOR(2) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Cable	CDE7441	51	Cushion	CNM8894
2	Screw	BPZ20P080FZK	52	Panel Unit	CXB7953
3	Button(AUDIO, FUNC)	CAC8297	53	Drive Unit	CXC2514
4	Button(ENT, DISP)	CAC8298	54	Screw	BMZ26P040FTC
5	Screw(M2x2)	CBA1633	55	Screw(M2x1.4)	CBA1757
6	Holder	CNC9800	56	Screw(M2x2)	CBA1633
7	Flexible PCB	CNP6498	57	Screw	JFZ20P030FTC
8	Keyboard Unit(OEL)	CWM9191	58	Spring	CBH2752
9	Connector(CN1801)	CKS4175	59	Spring	CBH2753
10	Connector(CN1802)	CKS4792	60	Spring	CBL1658
11	Spacer	CNM8982	61	Cord	CDE7587
12	PCB Assy(Service)	CXX1799	62	Holder	CND2244
13	OEL Module	MXK8200	63	Holder	CND2245
14	Grille Unit	CXC2401	64	Gear	CNV8087
15	Case Unit	CXC2406	65	Gear	CNV8088
16	Detach Grille Assy	CXC3178	66	Gear	CNV8090
17	Screw	BPZ20P080FZK	67	Gear	CNV8091
18	Button(EJECT)	CAC8319	68	Lever	CNV8092
19	Button(OPEN)	CAC8320	69	Switch(S951)	CSN1051
20	Button(TA)	CAC8323	70	Spring Switch(S952)	CSN1052
21	Button(1-6)	CAC8317	71	Switch(S953)	CSN1058
22	Button Assy(CROSS)	CXC3687	72	Chassis Unit	CXC2454
23	Button Unit(EQ)	CXC2450	73	Holder Unit	CXC3023
24	Spring	CBH2543	74	Holder Unit	CXC3024
25	Insulator	CNM8897	75	Arm Unit	CXC3025
26	Button(TEXT)	CAC8324	76	Arm Unit	CXC3026
27	Button Unit(BAND)	CXC2451	77	Arm Unit	CXC3027
28	Arm	CNV6963	78	Arm Unit	CXC3028
29	Keyboard Unit(LCD)	CWM9194	79	Arm Unit	CXC3029
30	LCD(LCD1901)	CAW1704	80	Arm Unit	CXC3030
31	Connector(CN1901)	CKS4549	81	Motor Unit(M951)	CXC3190
32	Holder	CNC9648	82	Gear Unit	CXC3094
33	Sheet	CNM7512	83	Washer	YE15FTC
34	Lighting Conductor	CNV6914	84	Screw(M2x1.5)	CBA1559
35	Connector	CNV6915	85	Sheet	CNM7839
36	Grille Unit	CXC2452	86	PCB	CNX3607
37	Knob Unit	CXC3686	87	Switch Unit	CWS1370
38	Jack(CN1902)	CKN1016	88	Holder	CND1971
39	Screw(M2x2)	CBA1633	89	Motor	CXM1217
40	Screw	CBA1561			
41	Spring	CBH2530			
42	Cushion	CNM8895			
43	Arm	CNV6962			
44	Guide	CNV6968			
45	Guide	CNV6967			
46	Flexible PCB	CNP7913			
47	Screw	ISS26P055FTC			
48	Case Unit	CXB7968			
49	Cover Unit	CXC2453			
50	Spring	CBH2545			

2.4 CD MECHANISM MODULE



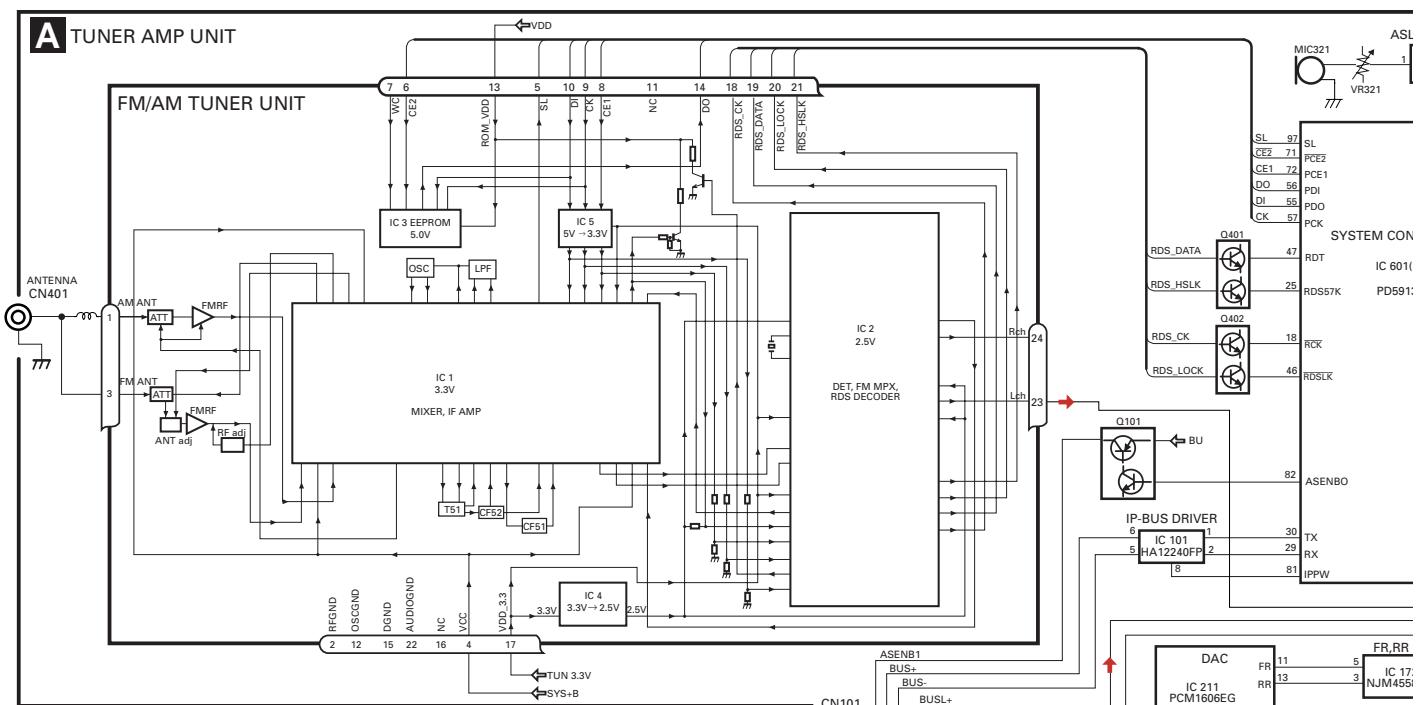
CD MECHANISM MODULE SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	CD Core Unit(S10WMACODE2)	CWX2953	51	Gear	CNV7208
2	Connector(CN101)	CKS4182	52	Gear	CNV7209
3	Connector(CN901)	CKS4017	53	Gear	CNV7210
4	Screw	BMZ20P035FTC	54	Gear	CNV7211
5	Screw	BSZ20P040FTC	55	Gear	CNV7212
6	Screw(M2x4)	CBA1362	56	Rack	CNV7214
7	Screw(M2x3)	CBA1511	57	Arm	CNV7215
8	Screw(M2x3)	CBA1527	58	Arm	CNV7216
9	****		59	Guide	CNV7217
10	Washer	CBF1038	60	Roller	CNV7218
11	Washer	CBF1060	61	Gear	CNV7219
12	Spring	CBH2390	62	Arm	CNV7221
13	Spring	CBH2606	63	Arm	CNV7220
14	Spring	CBH2607	64	Arm	CNV7222
15	Spring	CBH2608	65	Damper	CNV7313
16	Spring	CBH2609	66	Damper	CNV7314
17	Spring	CBH2610	67	Arm	CNV7341
18	Spring	CBH2735	68	Arm	CNV7342
19	Spring	CBH2612	69	Guide	CNV7360
20	Spring	CBH2613	70	Guide	CNV7361
21	Spring	CBH2614	71	Holder	CNV7437
22	Spring	CBH2615	72	Arm	CNV7805
23	Spring	CBH2616	73	Gear	CNV7595
24	Spring	CBH2617	74	Damper	CNV7618
25	Spring	CBH2620	75	Motor Unit(M1)	CXB6007
26	Spring	CBH2621	76	Chassis Unit	CXC2318
27	Spring	CBH2641	77	Screw Unit	CXB8729
28	Spring	CBH2642	78	Gear Unit	CXC2397
29	Spring	CBH2643	79	Arm Unit	CXC2316
30	Spring	CBH2659	80	Arm	CND1896
31	Spring	CBH2688	81	Arm	CND1894
32	****		82	Motor Unit(M2)	CXB8933
33	Shaft	CLA4441	83	Bracket	CNC9985
34	Frame	CNC9962	84	****	
35	Frame	CNC9963	85	Screw(M2x5)	EBA1028
36	Bracket	CNC9966	86	Screw	JFZ20P020FTC
37	Bracket	CND1895	87	Screw	JGZ17P022FTC
38	Arm	CNC9968	88	****	
39	Arm	CND1909	89	Washer	YE20FTC
40	Lever	CND2032	90	Pickup Unit(P10)(Service)	CXX1641
41	Lever	CNC9984	91	Screw	IMS26P030FTC
42	Sheet	CNM8134	92	Spring	CBL1635
43	Collar	CNV7798	93	Clamper	CNV7197
44	Guide	CNV7799	94	Connector(CN902)	CKS2193
45	Arm	CNV7800			
46	Rack	CNV7199			
47	Holder	CNV7201			
48	Holder	CNV7202			
49	Arm	CNV7203			
50	Gear	CNV7207			

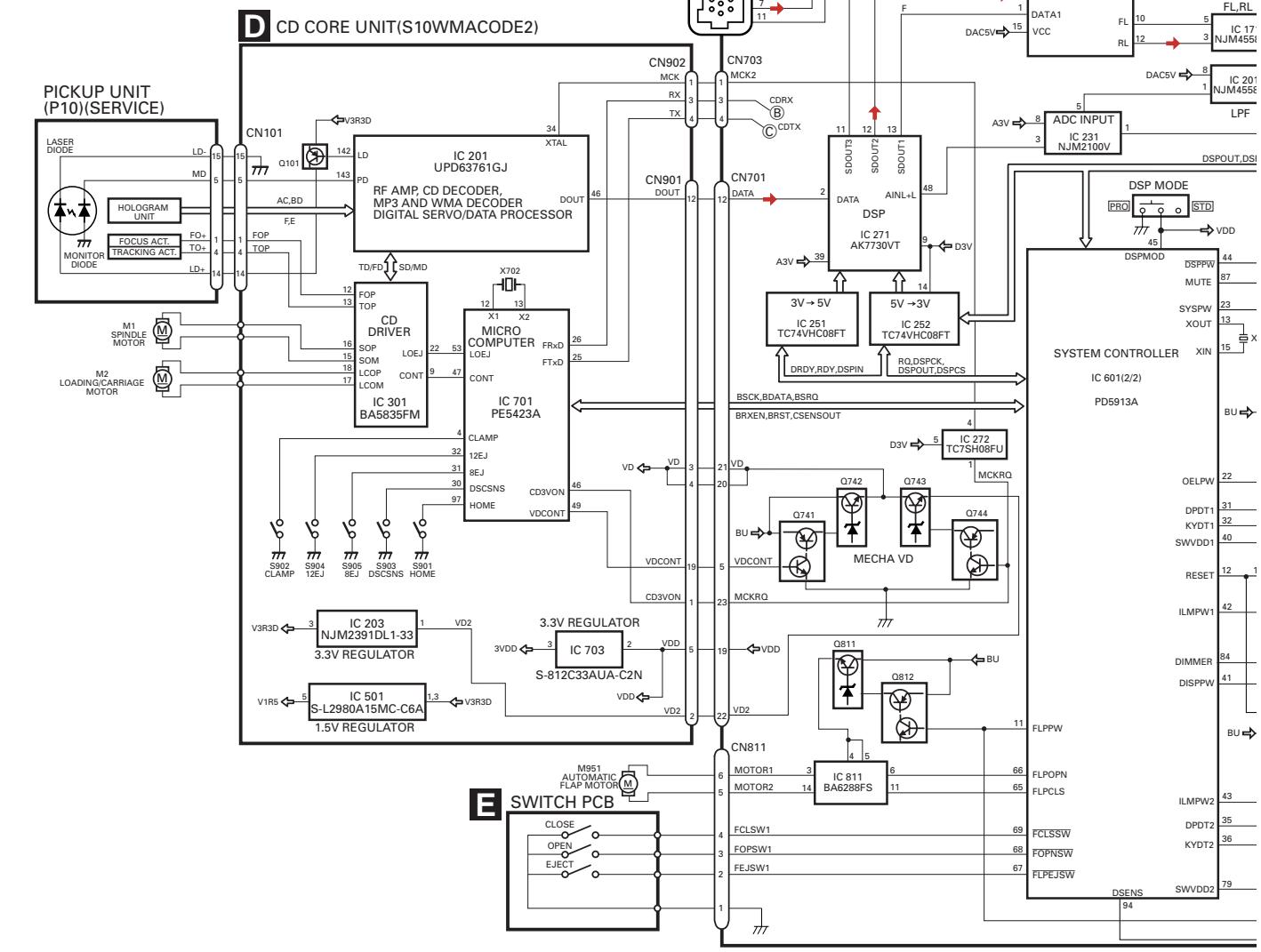
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

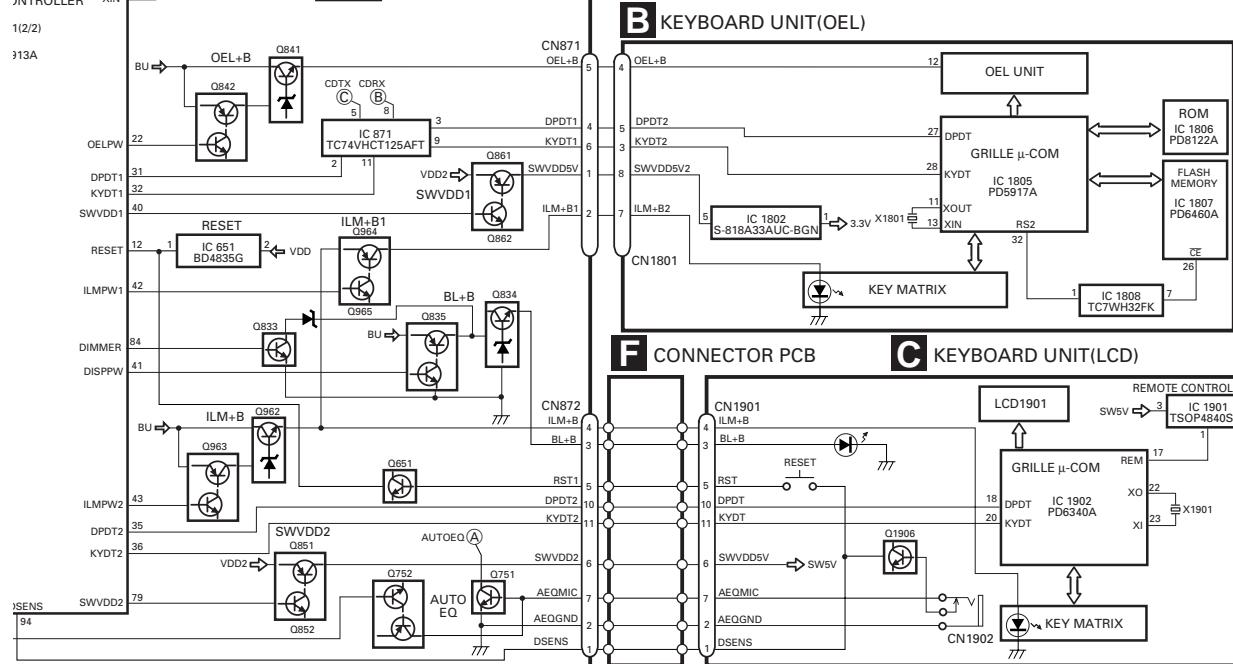
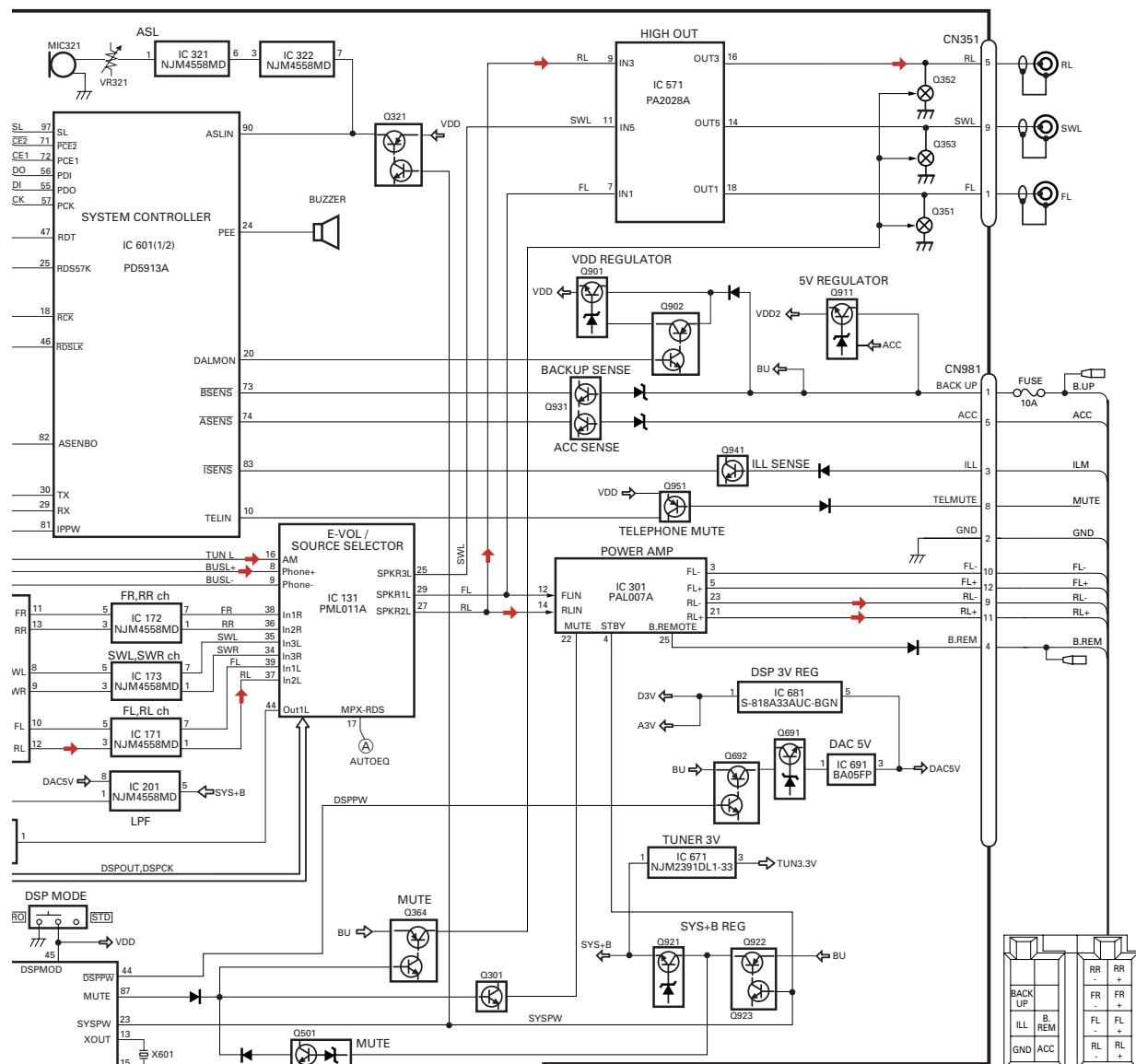
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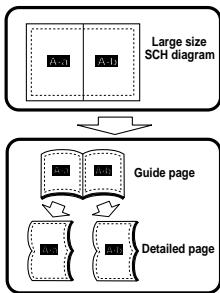


E

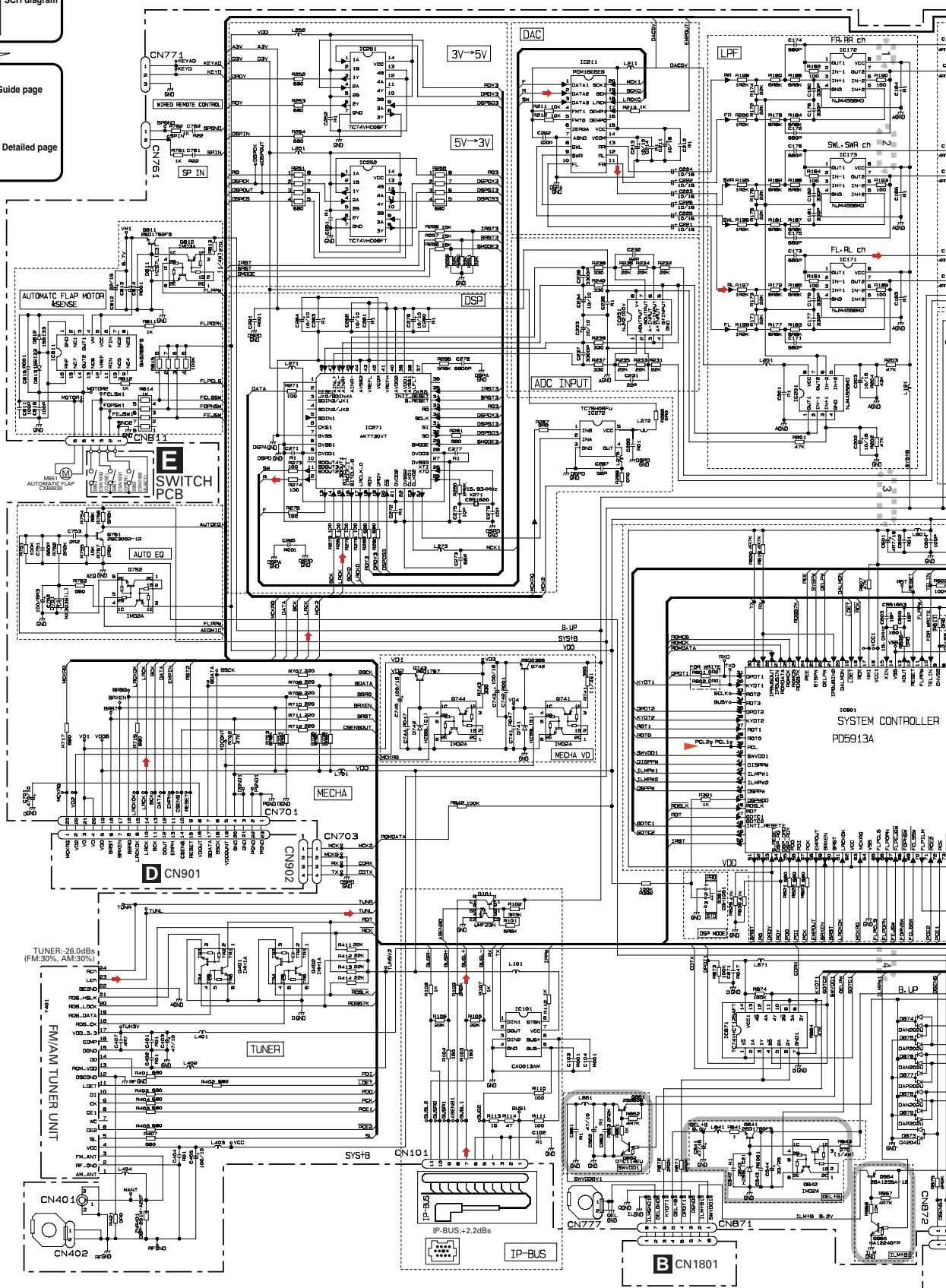


3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

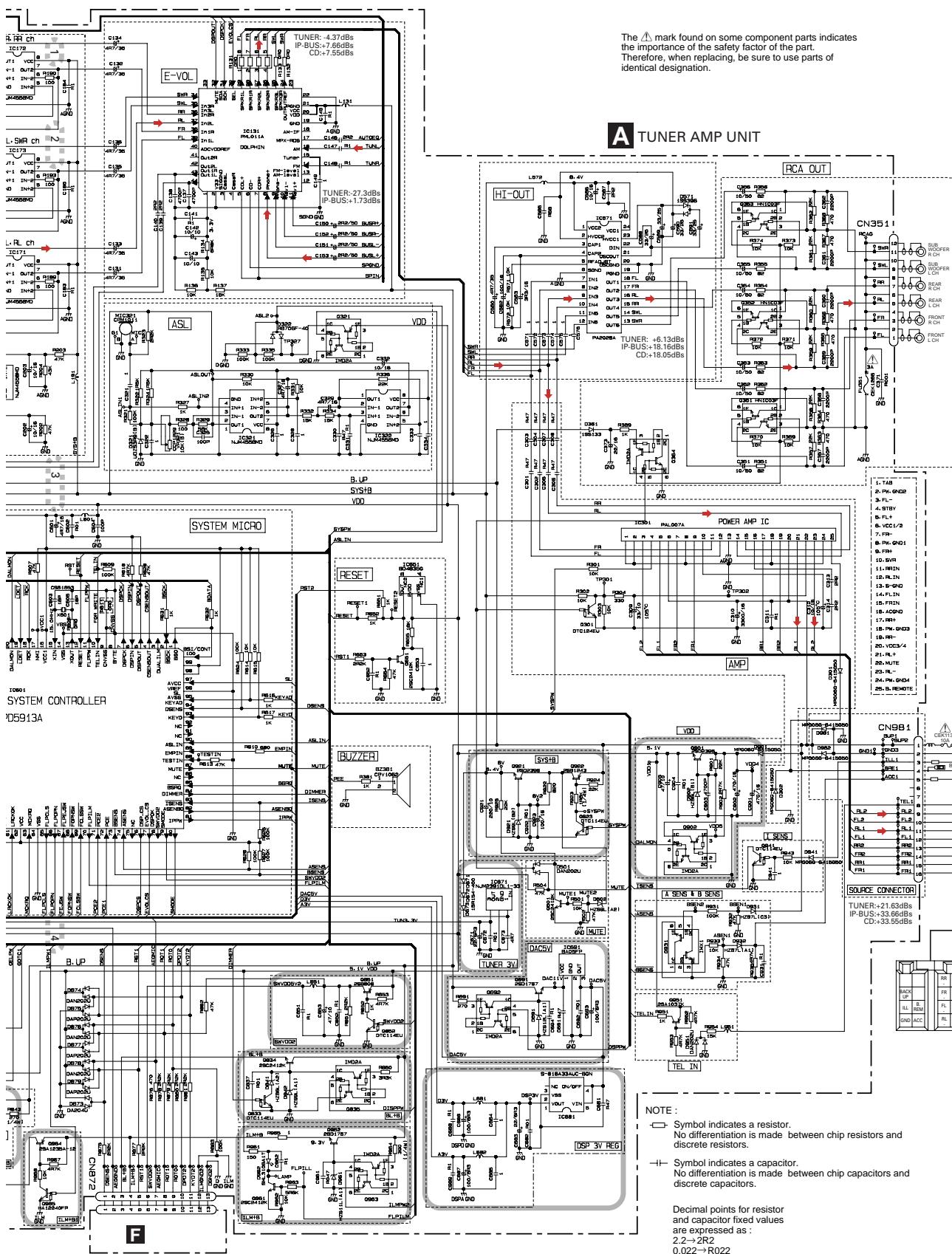
Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

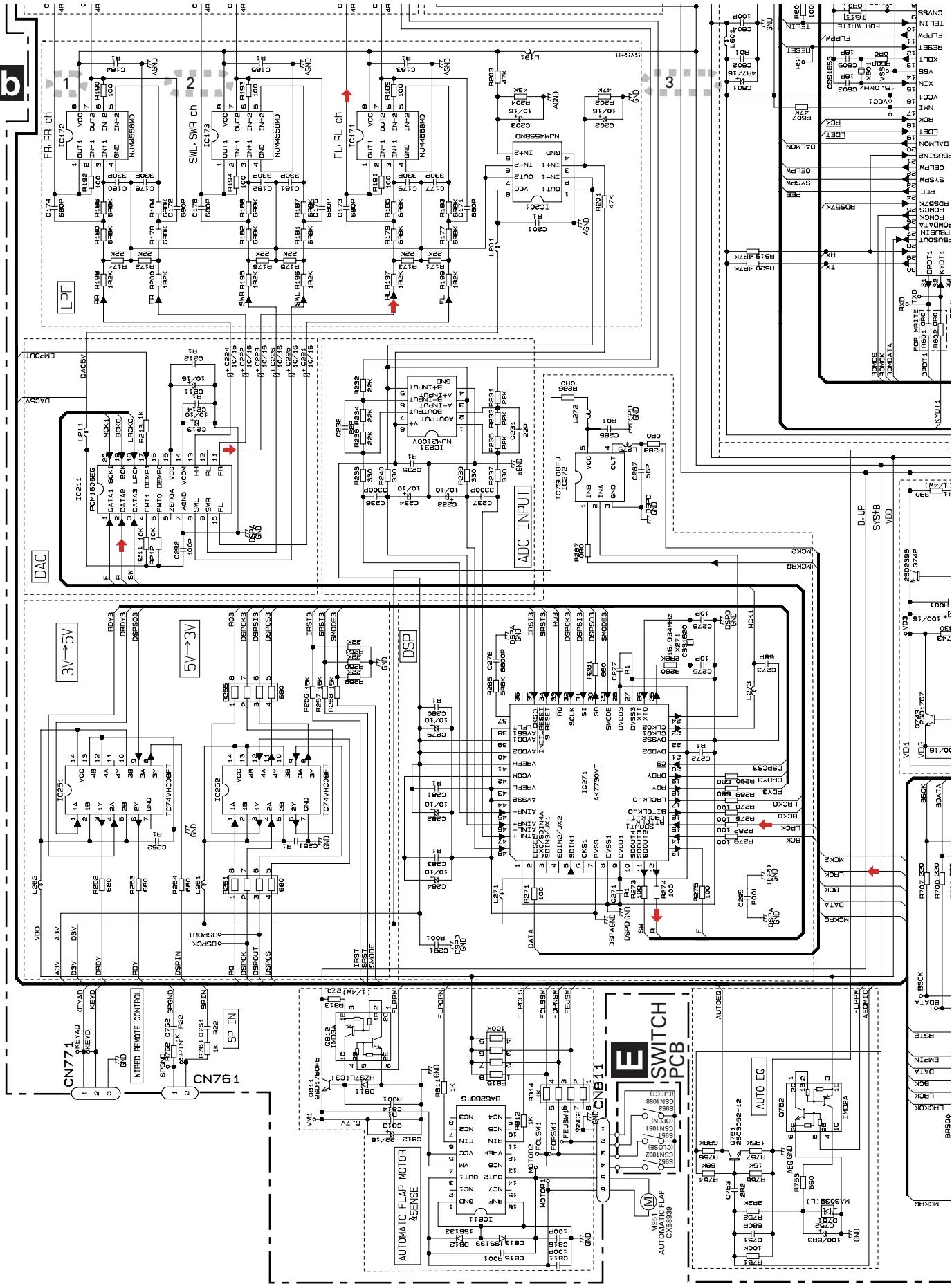


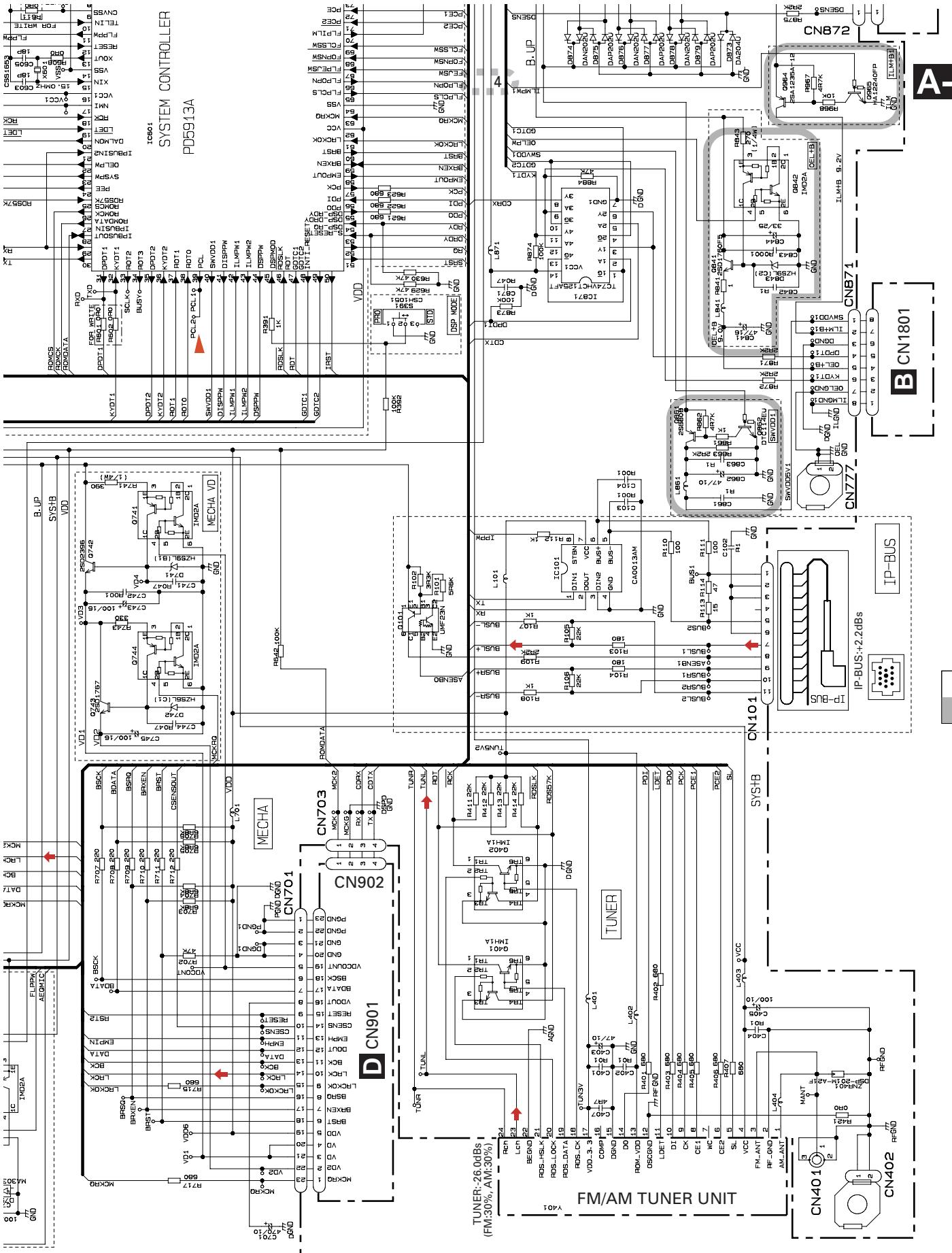
A-a



A E

A-b**A**

A-b**A-a A-b****A-a E**



A

B

C

D

E

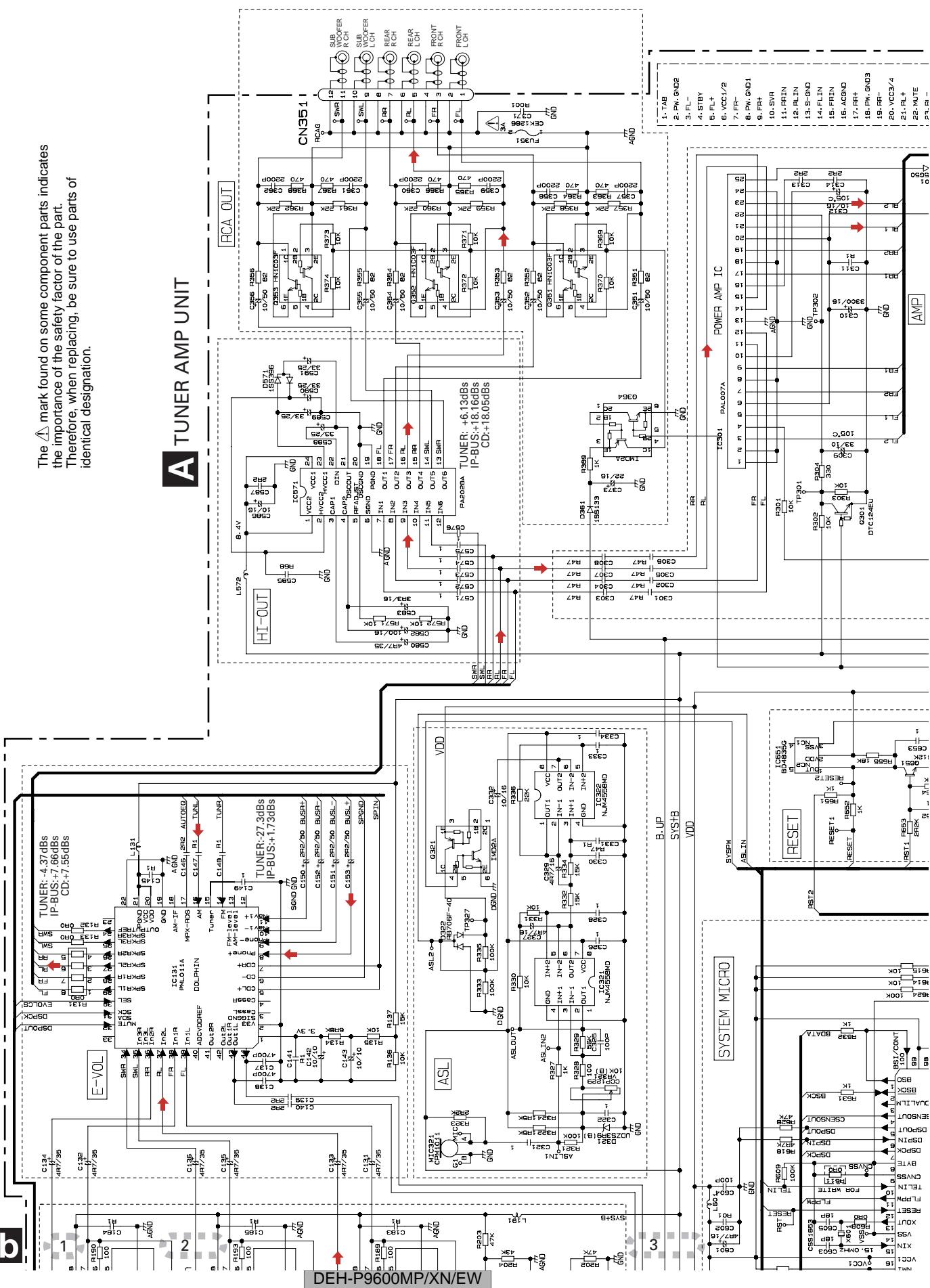
F

G

H

The \triangle 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.

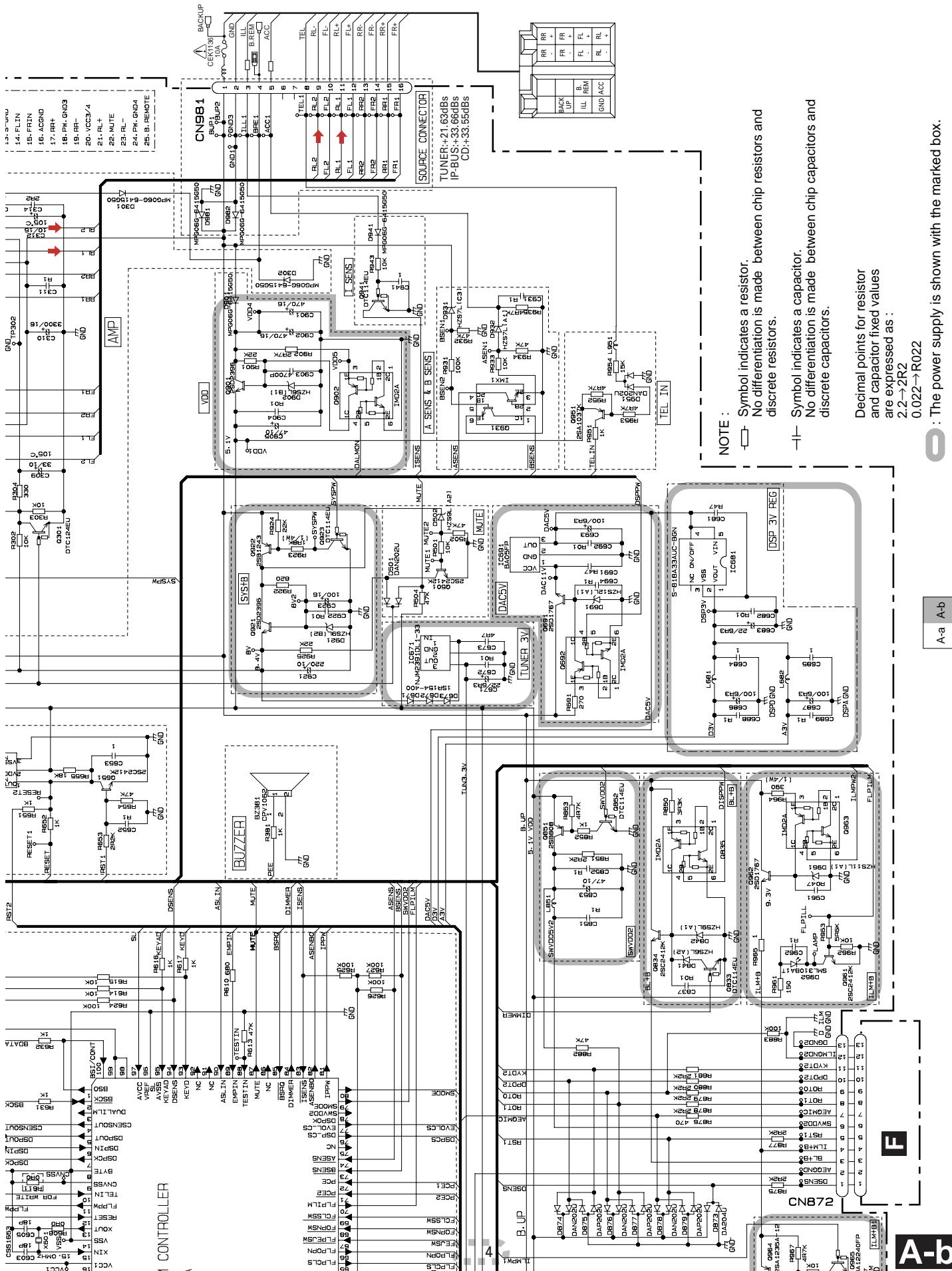
A TUNER AMP UNIT



A-b

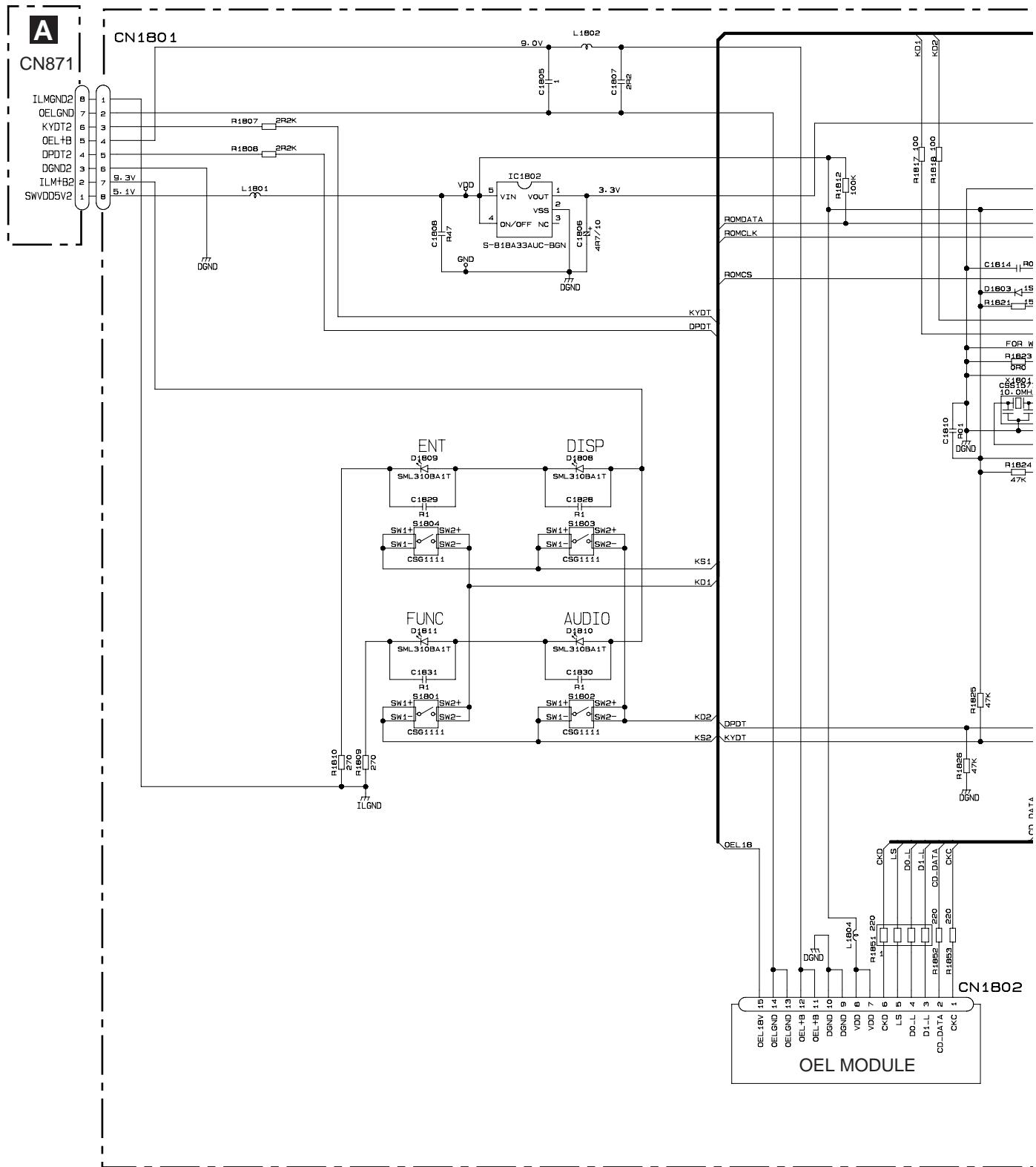
22

DEH-P9600MP/XN/EW

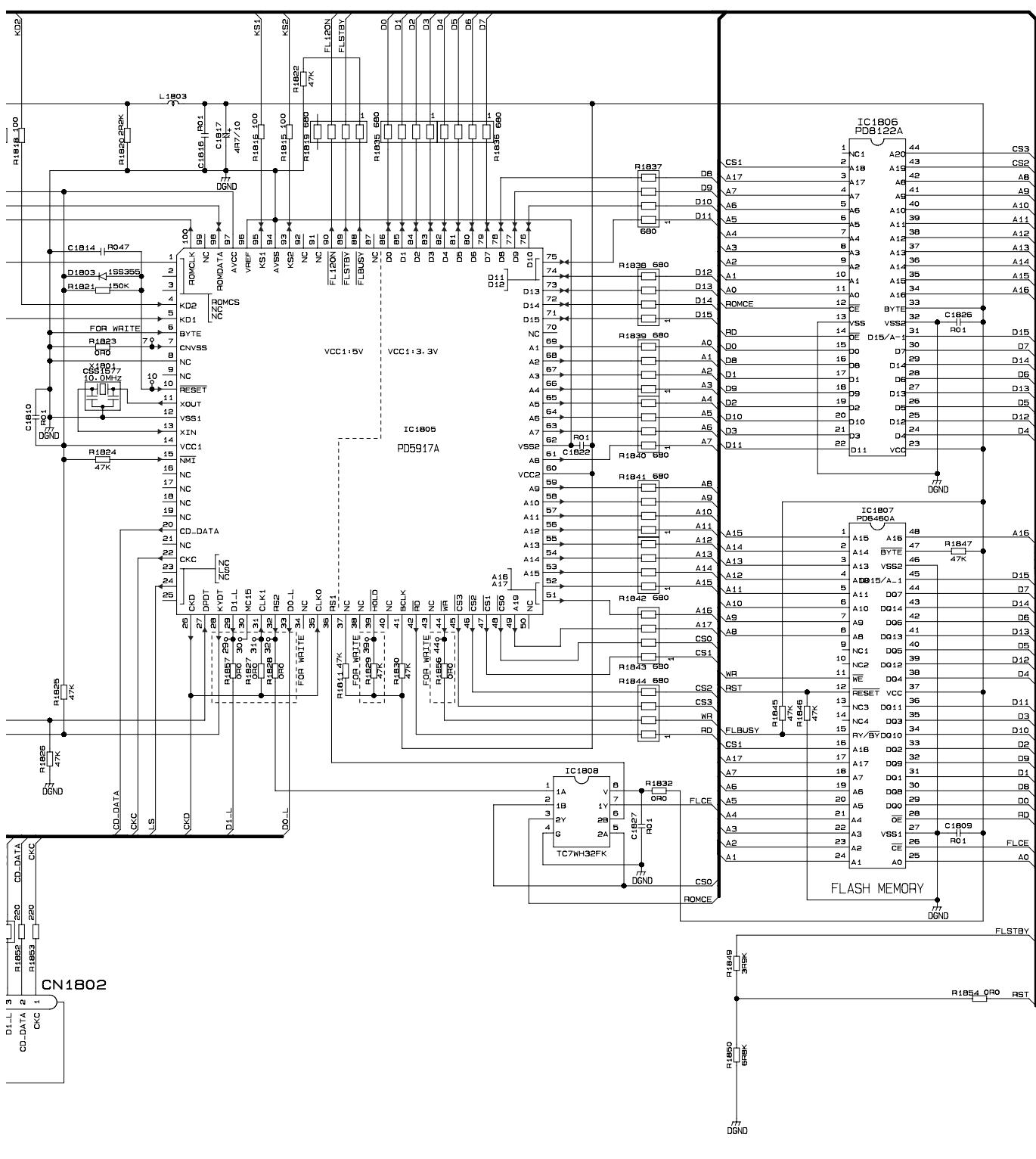


3.3 KEYBOARD UNIT(OEL)

A

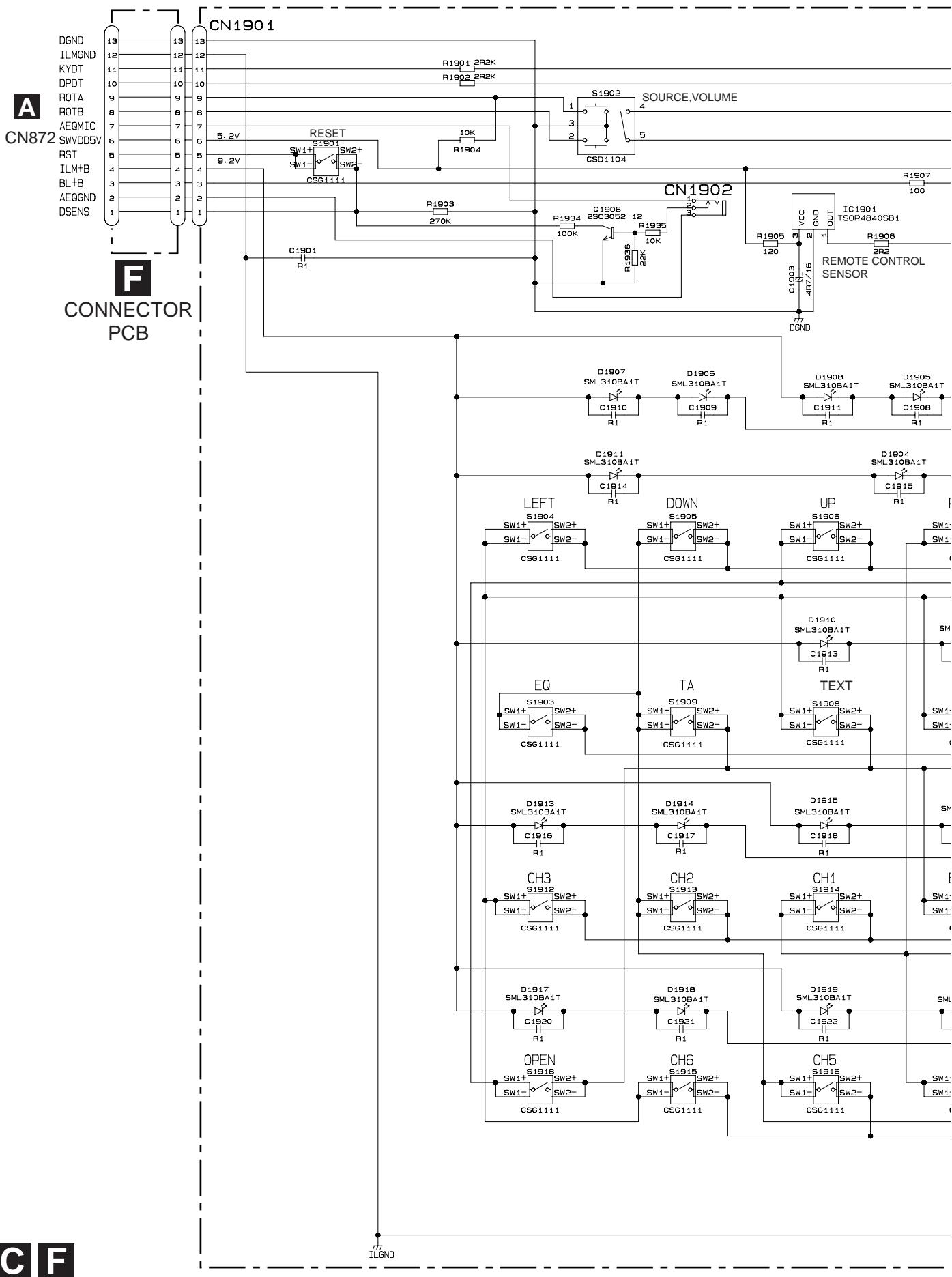
**B**

B KEYBOARD UNIT (OEL)

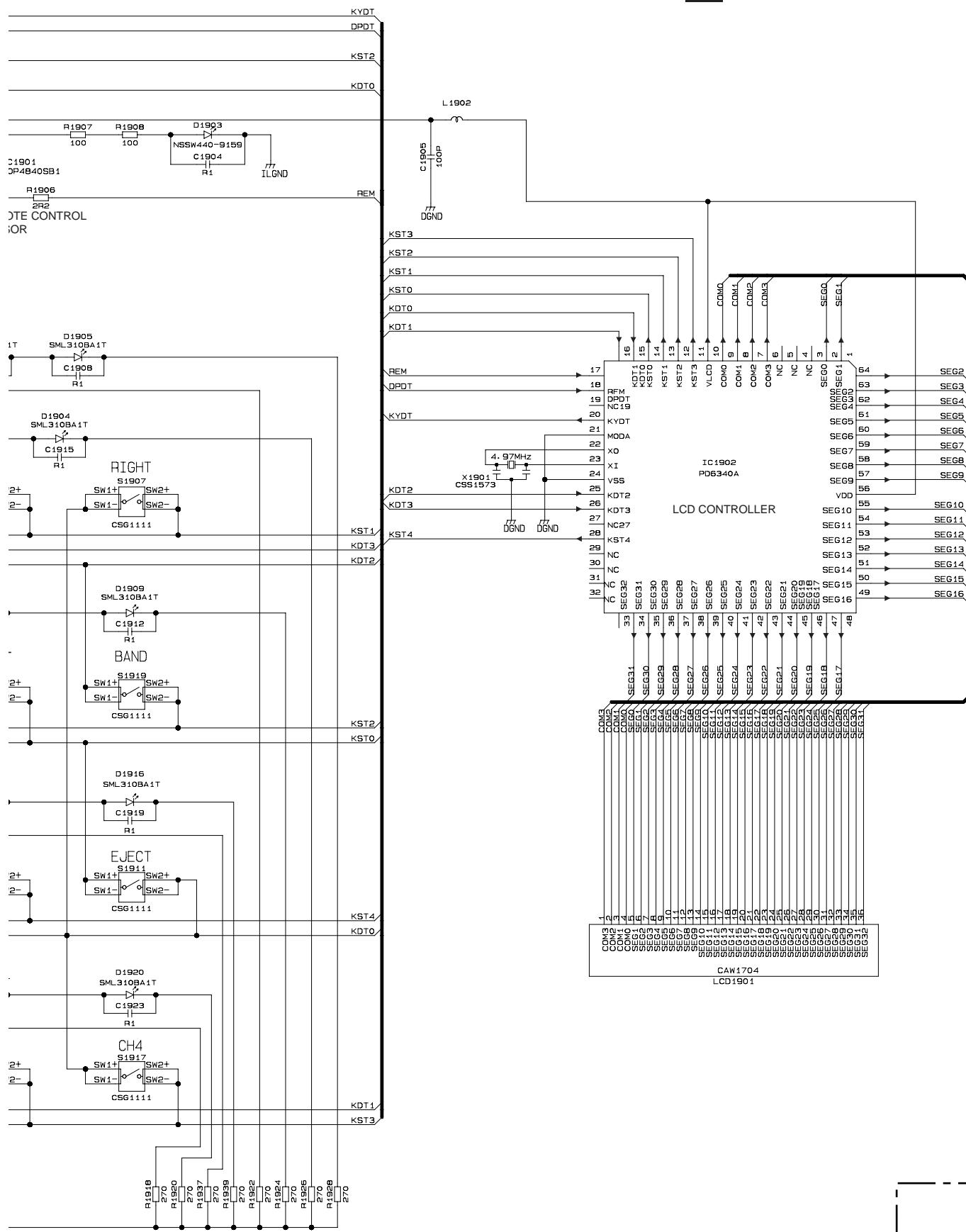


3.4 KEYBOARD UNIT(LCD)

A



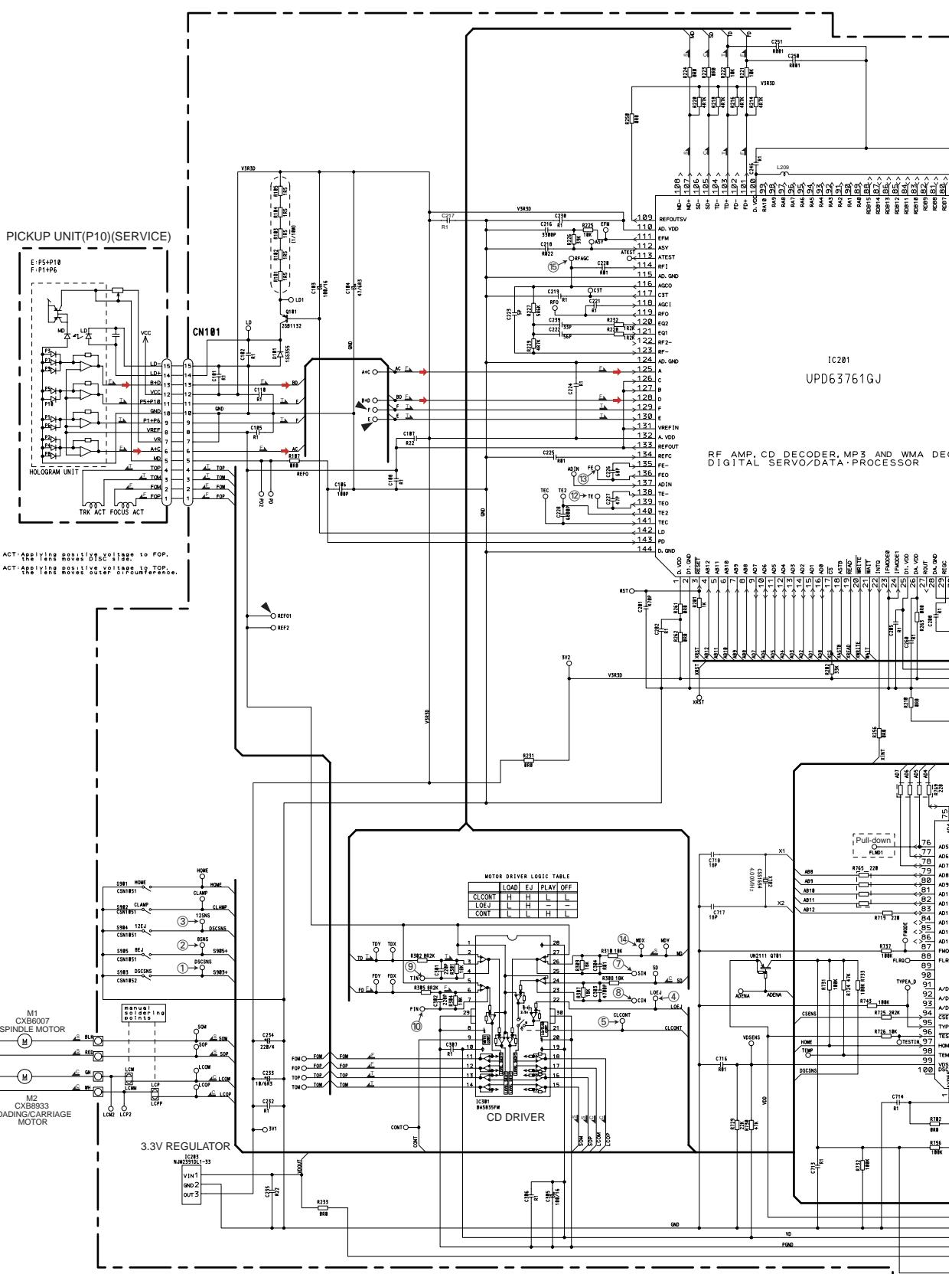
C KEYBOARD UNIT (LCD)



3.5 CD MECHANISM MODULE(GUIDE PAGE)

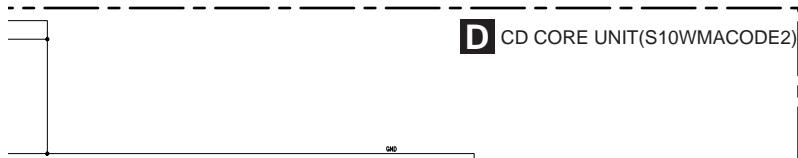
A

D-a



D

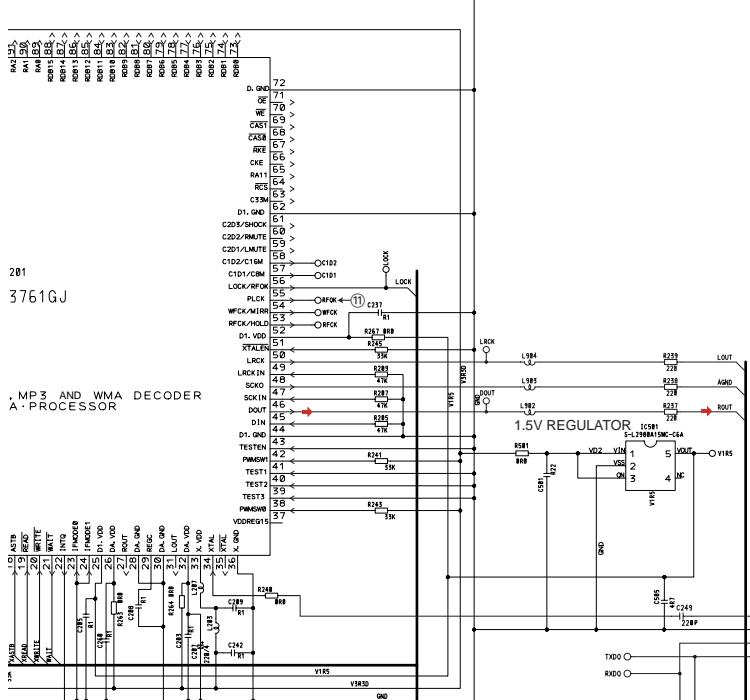
D-b



D CD CORE UNIT(S10WMACODE2)

281
3761GJ

MP3 AND WMA DECODER
A-PROCESSOR

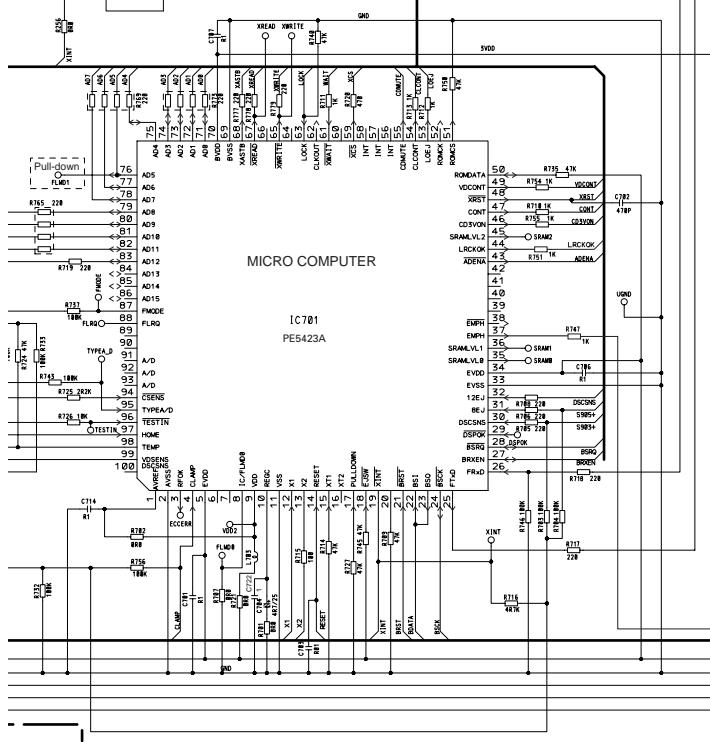


NOTE1) GND ... CD LS1, RFAMP, CPU
PGND ... Actuator, Motor Driver
AGND ... Audio
These GND's are not connected to each other on PCB.
PGND is connected to a floating mechanism part by a screw.

SWITCHES:
CD CORE UNIT(S10WMACODE2)
S901 : HOME SWITCH.....ON-OFF
S902 : CLAMP SWITCH.....ON-OFF
S903 : DSCSNS SWITCH.....ON-OFF
S904 : 12EJ SWITCH.....ON-OFF
S905 : 8EJ SWITCH.....ON-OFF
The underlined indicates the switch position.

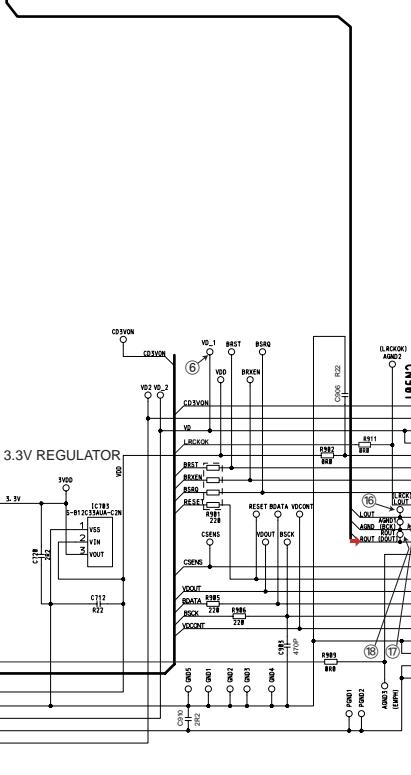
► SIGNAL LINE
■ FOCUS SERVO LINE
─ TRACKING SERVO LINE
□ CARRIAGE SERVO LINE
◎ SPINDLE SERVO LINE

A
CN703



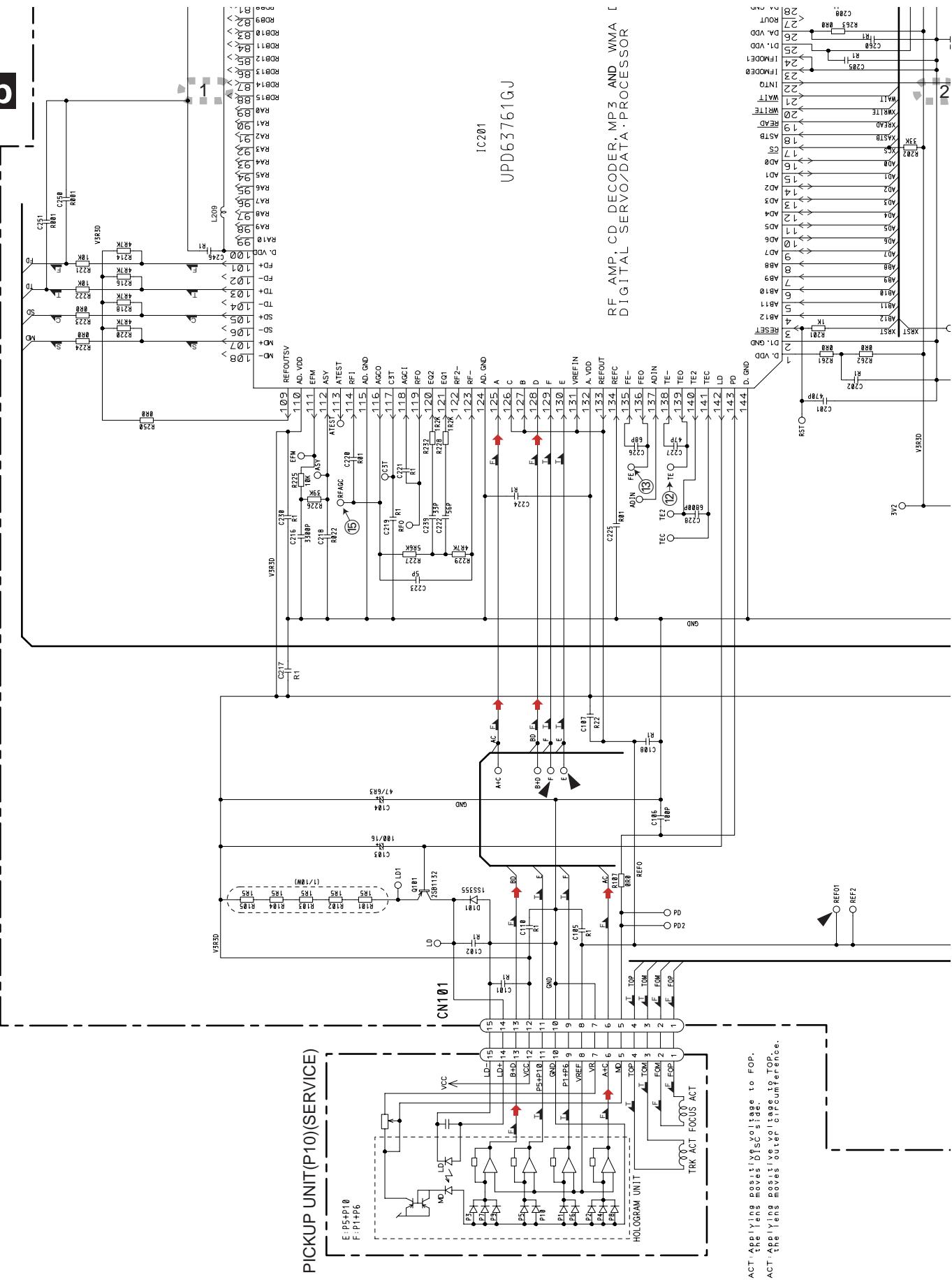
MICRO COMPUTER

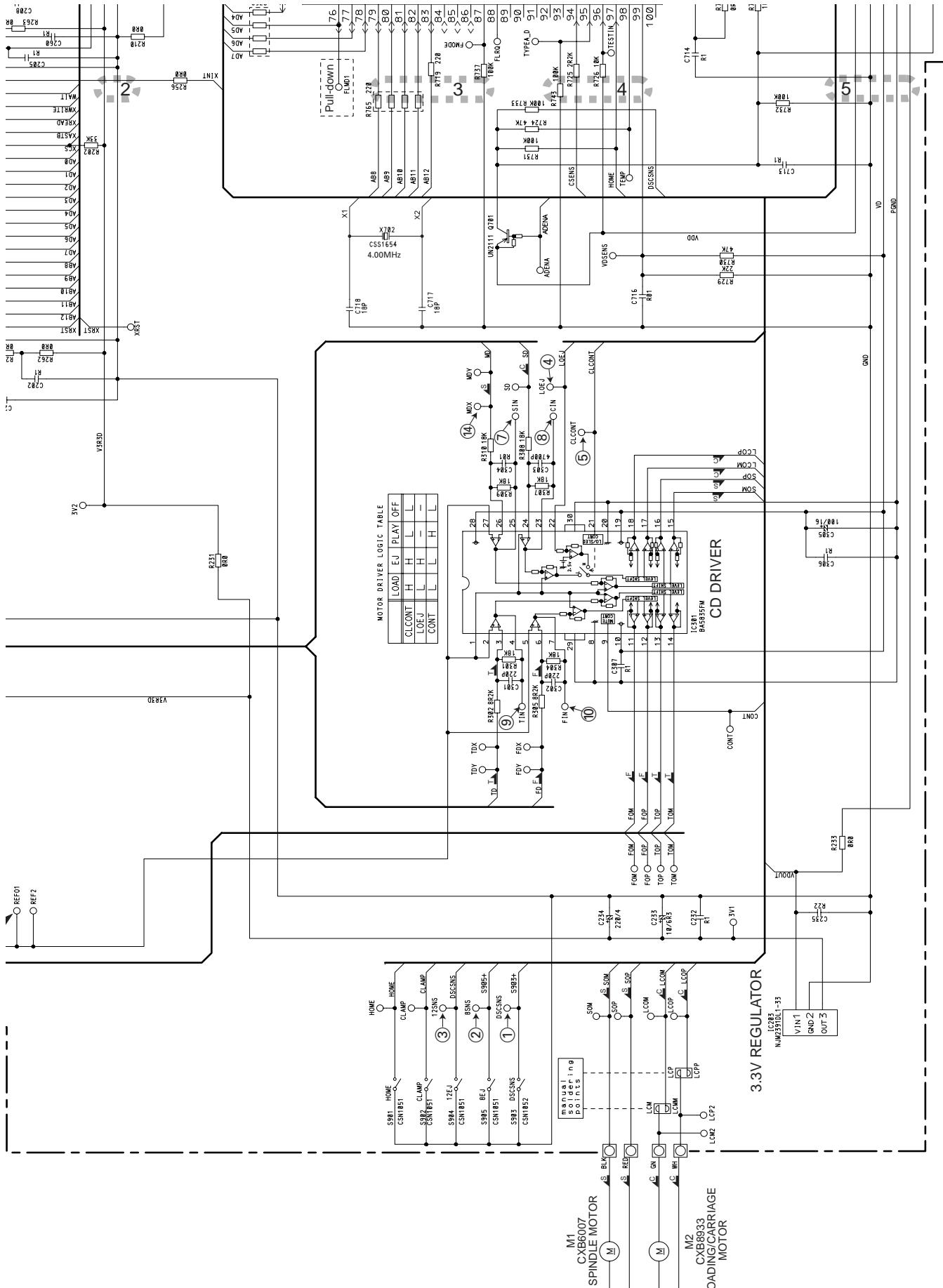
IC701
PE5423A



3.3V REGULATOR

A
CN701

D-b**D-a**



DEH-P9600MP/XN/EW

A

B

C

D

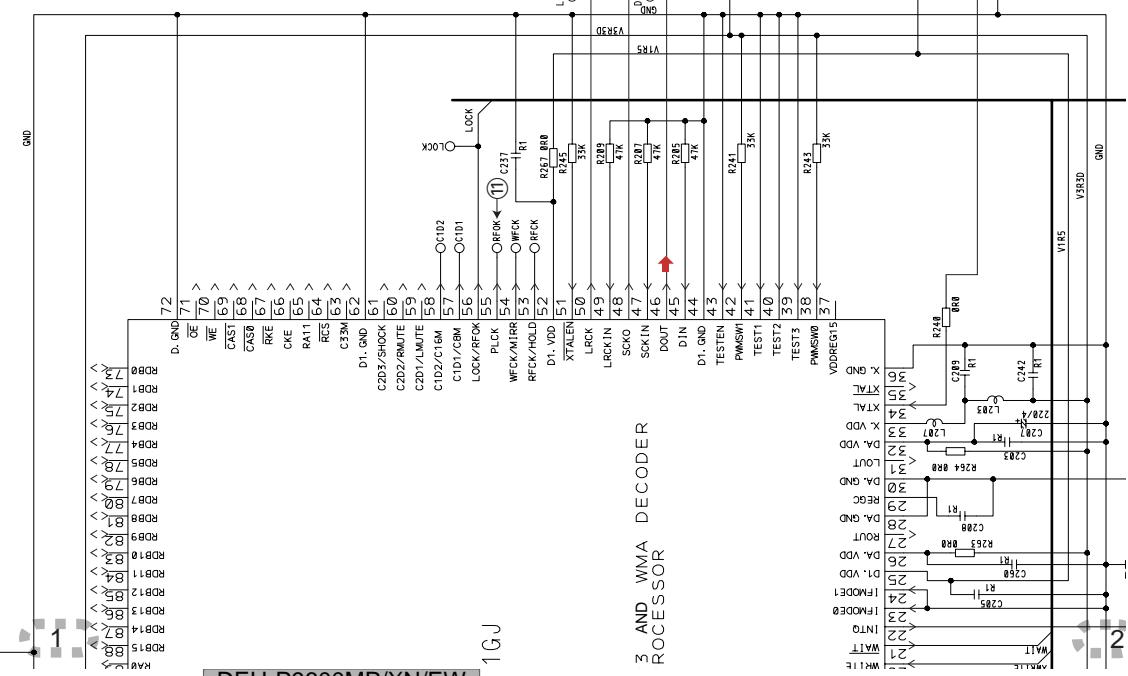
E

F

G

D CD CORE UNIT(S10W/MACODE2)

D-b



NOTE1) GND ...CD LSI, RFAMP, CPU
 PGND ...Actuator, Motor Driver
 AGND ...Audio
 These GND's are not connected to each other on PCB.
 PGND is connected to a floating mechanism part by a screw.

1

2

3

4

A
CN703

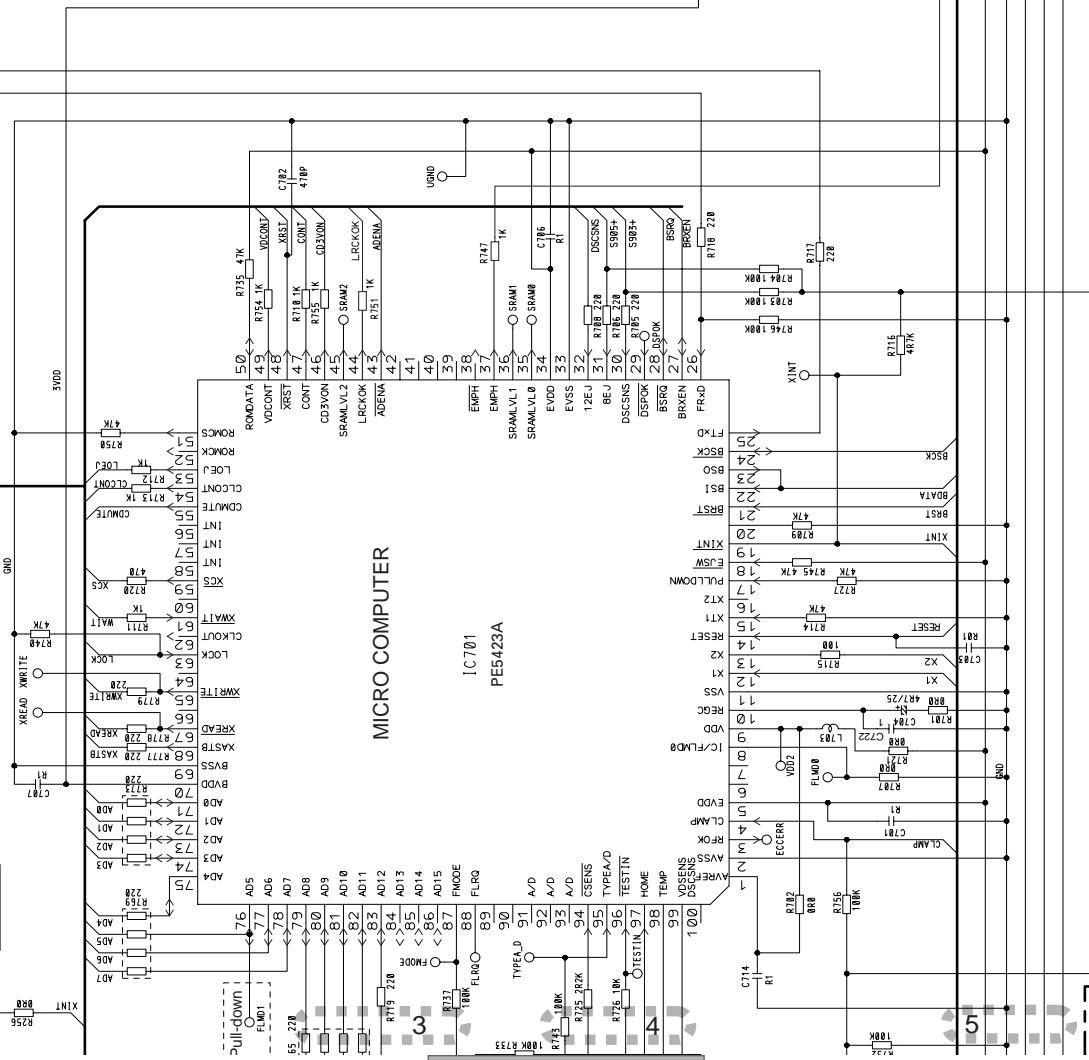
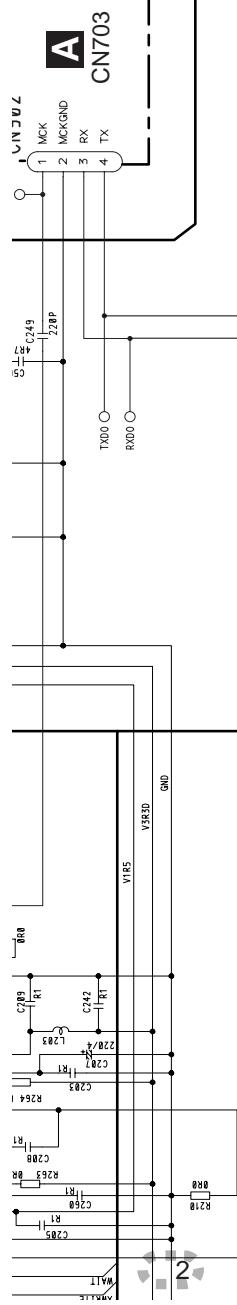
E SIGNAL LINE
T FOCUS SERVO LINE
T TRACKING SERVO LINE
C CARRIAGE SERVO LINE
S SPINDLE SERVO LINE



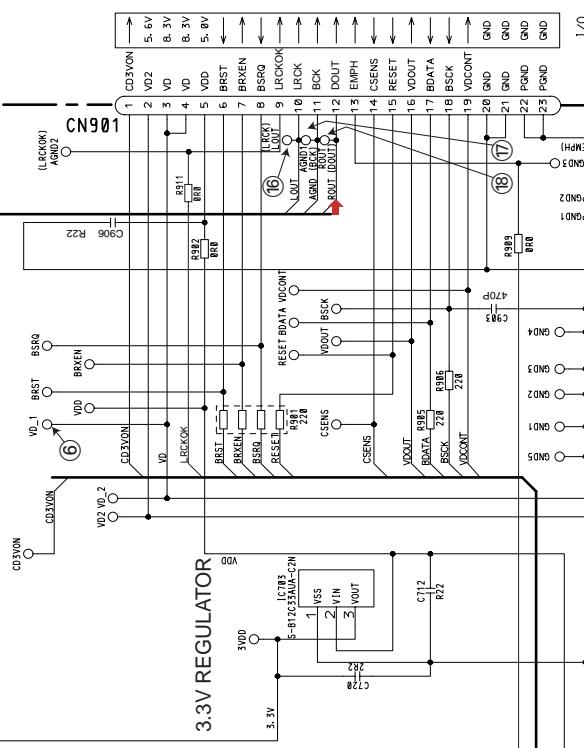
CN902

1 NCK
 2 MCK
 3 MCK GND
 4 RX
 TX

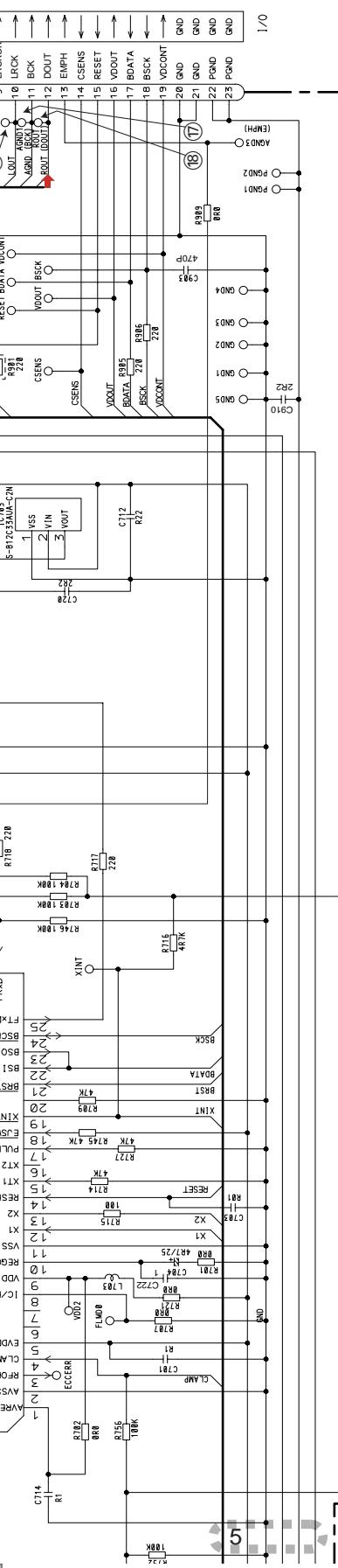
D-b



DEH-P9600MP/XN/EW

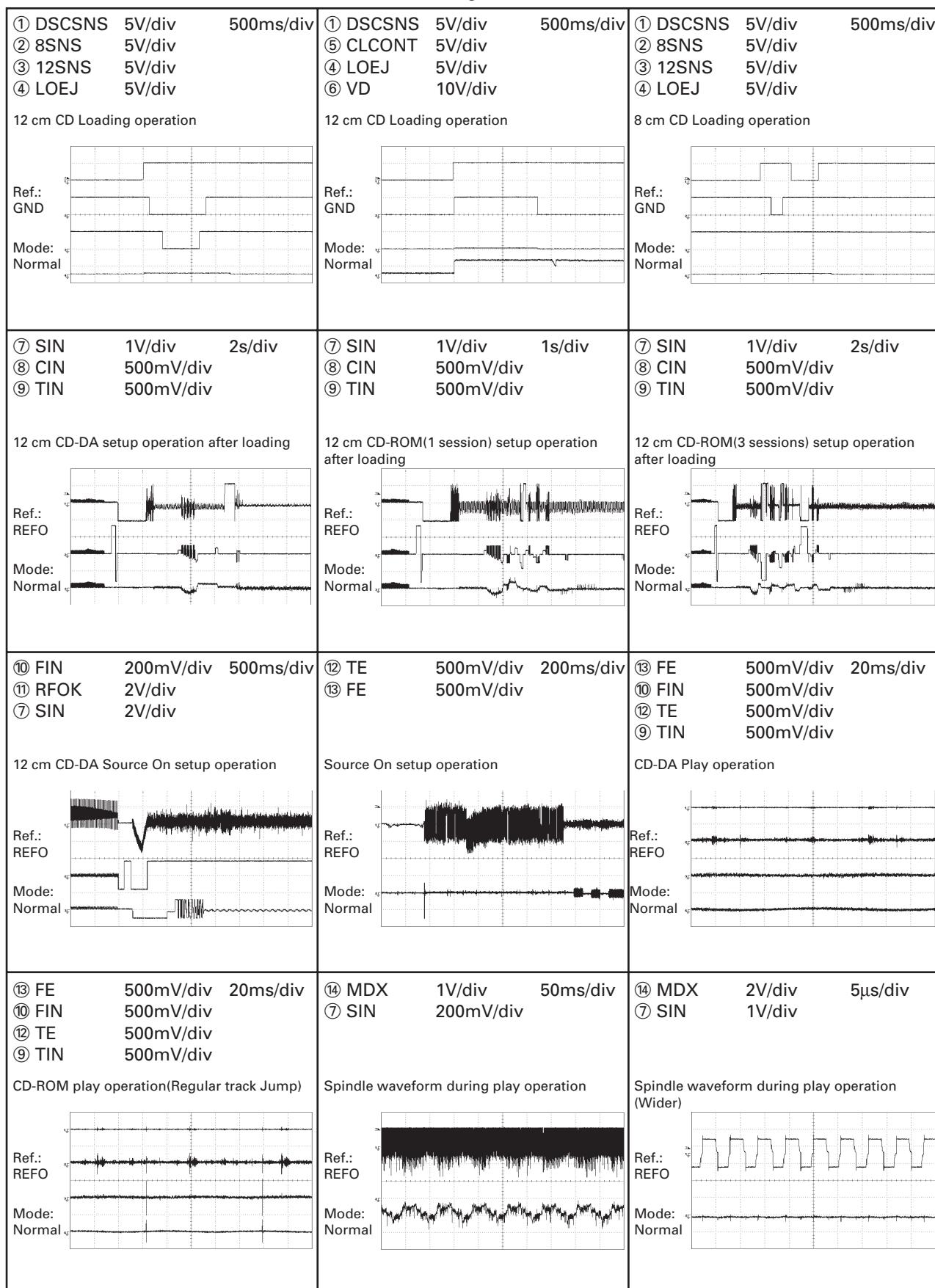
A
CN701

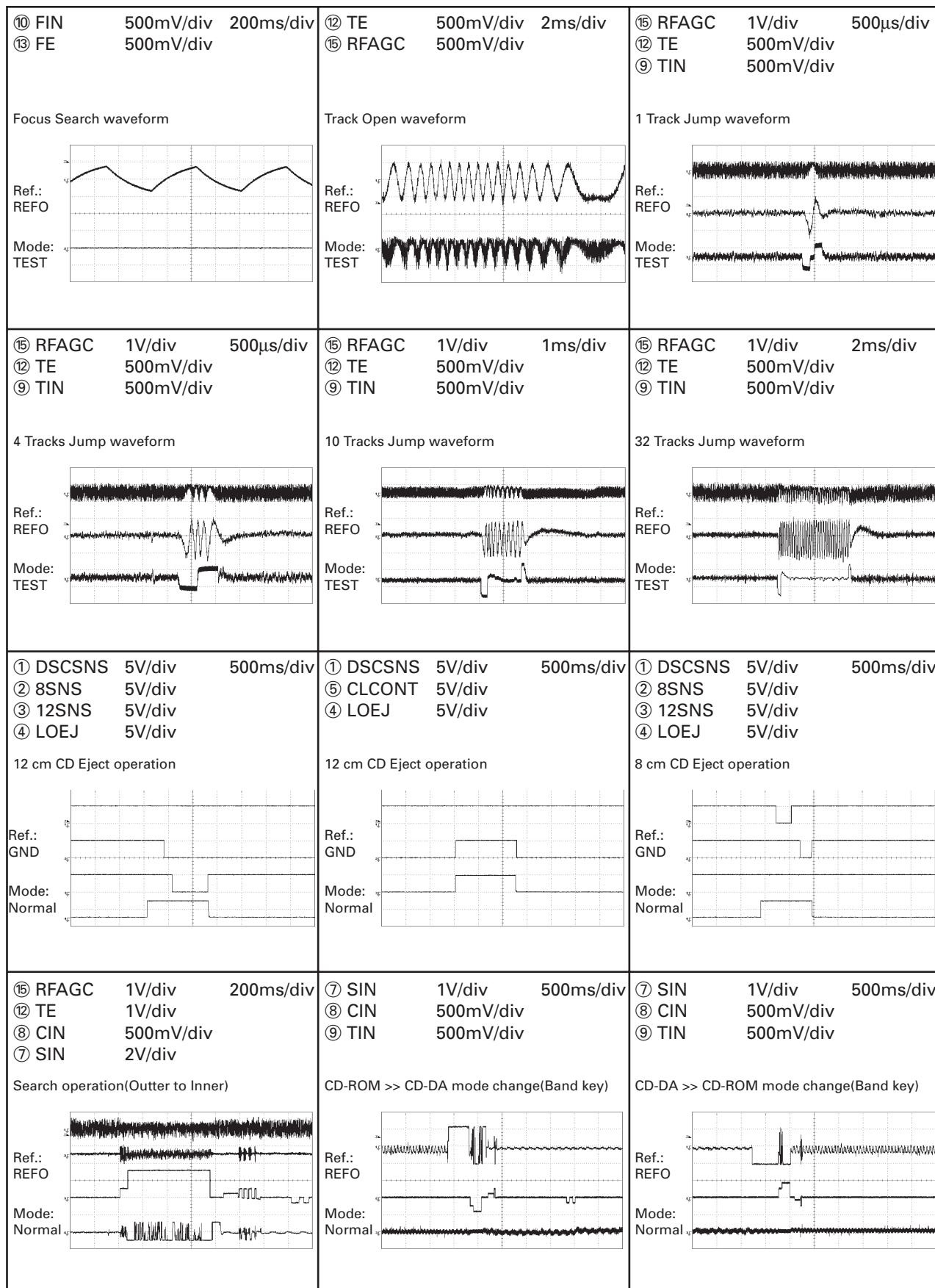
D-a D-b

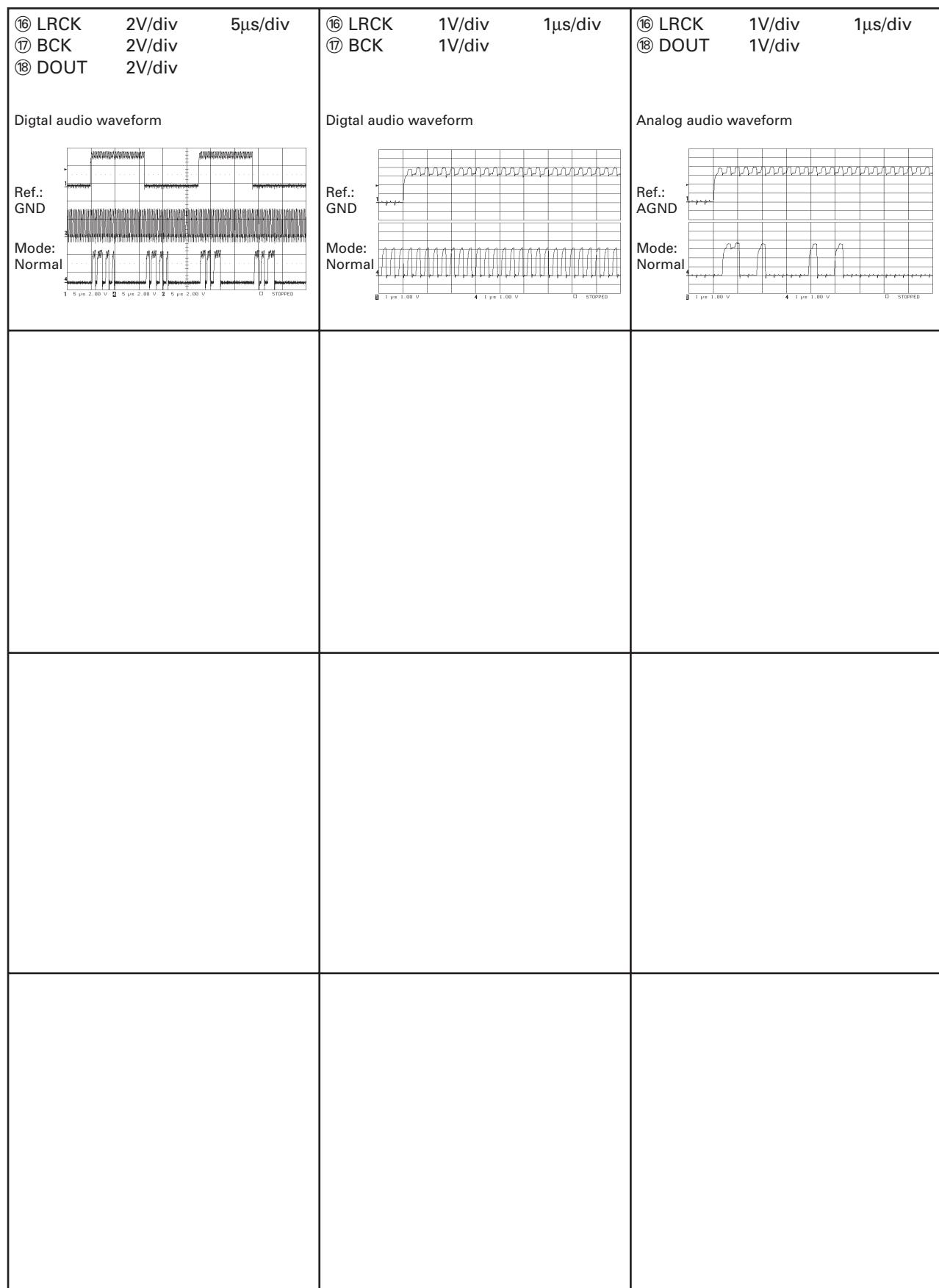
A
CN701

● Waveforms

Note : 1. The encircled numbers denote measuring points in the circuit diagram.
 2. Reference voltage REFO1(1.65V)







A

B

C

D

E

F

4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

A

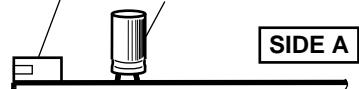
NOTE FOR PCB DIAGRAMS

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.

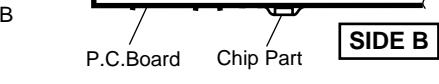
2.Viewpoint of PCB diagrams

Connector Capacitor



B

P.C. Board Chip Part



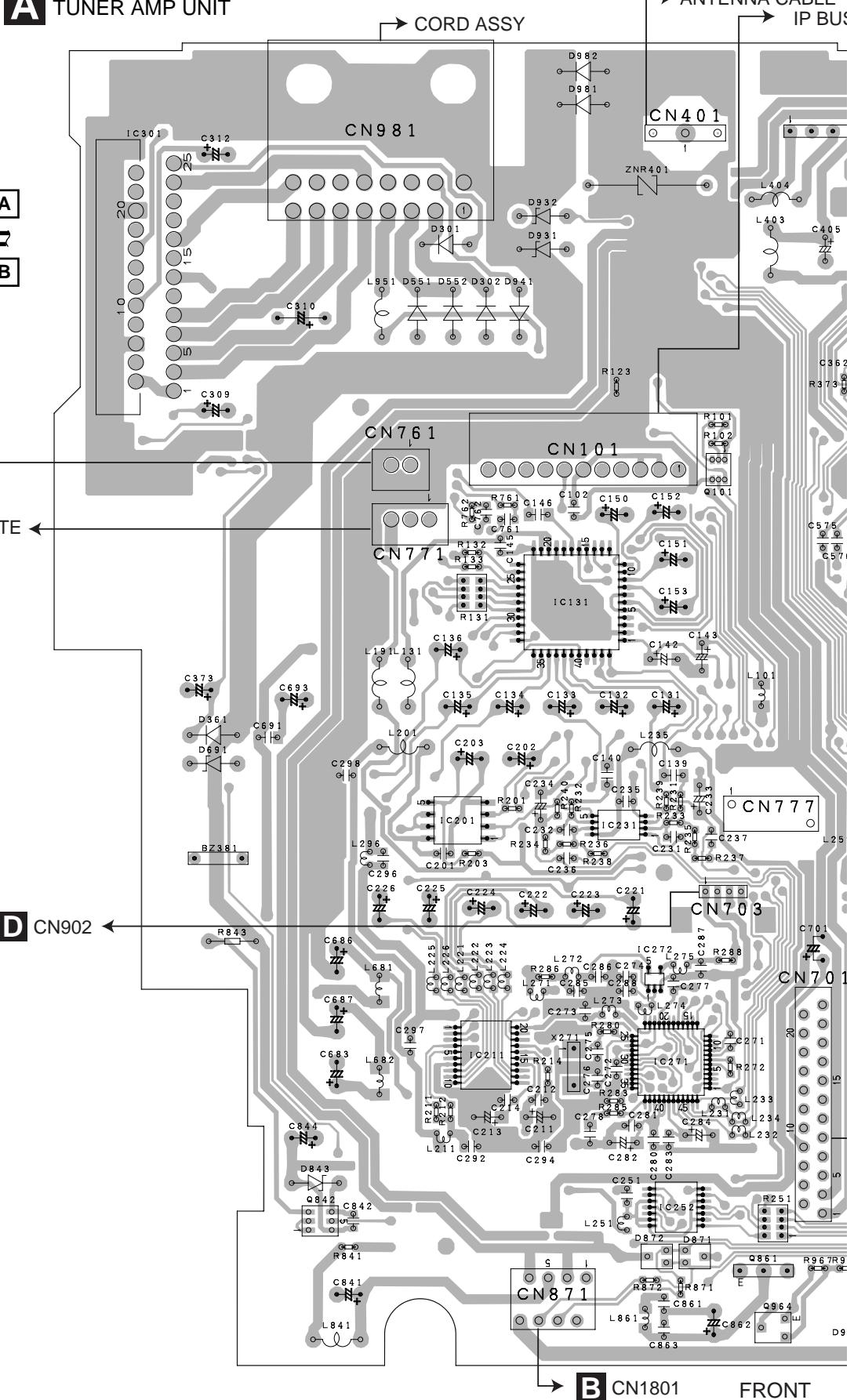
C

D

E

F

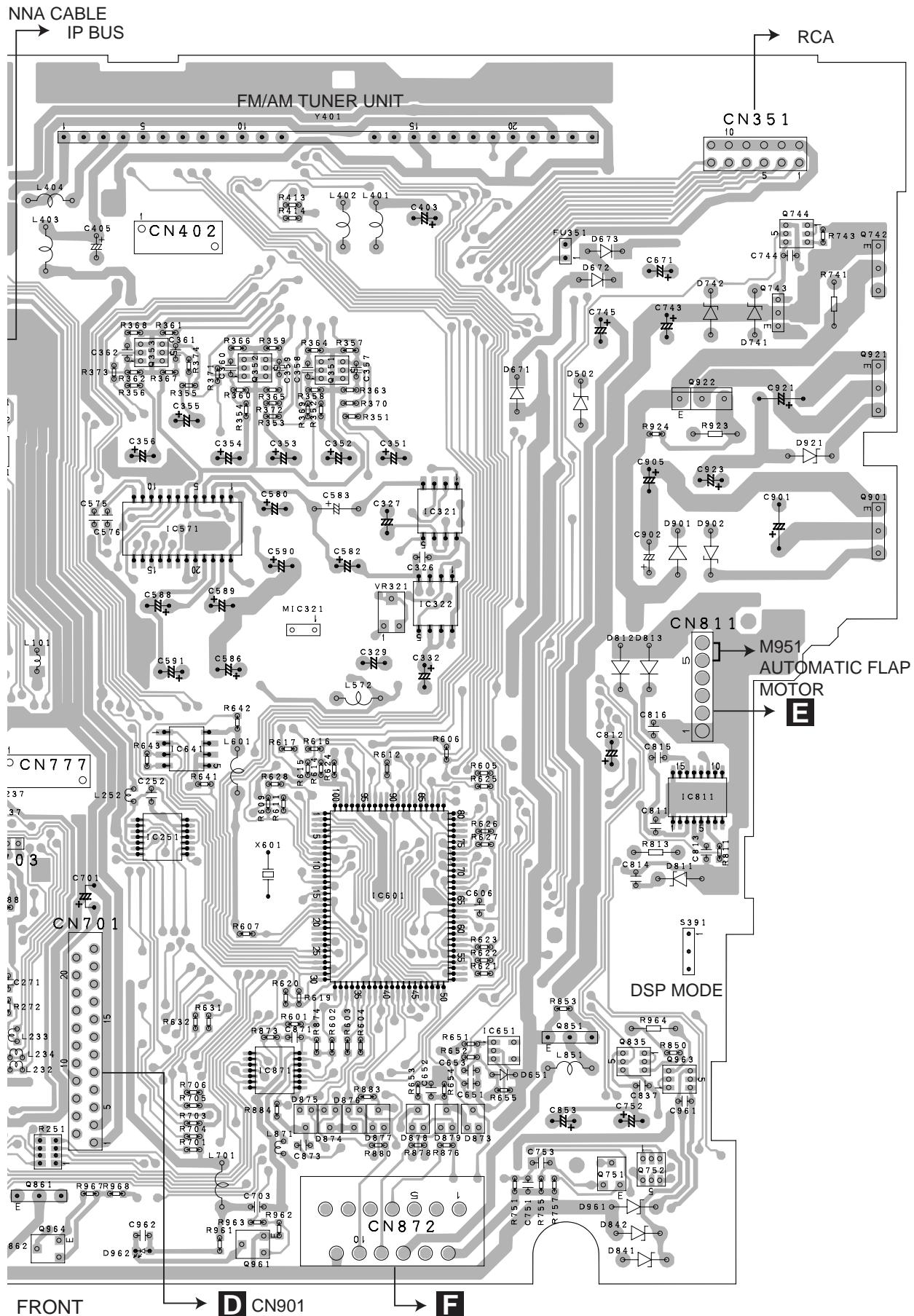
A TUNER AMP UNIT



A

B

FRONT



IC,Q

IC 301

Q 744

Q 742

Q 743

Q 352 Q 353

Q 921 Q 351

Q 922

Q 101

Q 901

IC 321

IC 571

IC 131

VR 321

IC 322

IC 641

IC 201 IC 231

IC 811

IC 251

IC 601 IC 272

IC 211

IC 271

Q 851 IC 651

Q 835 Q 963

IC 871

Q 842

IC 252

Q 752

Q 751 Q 861

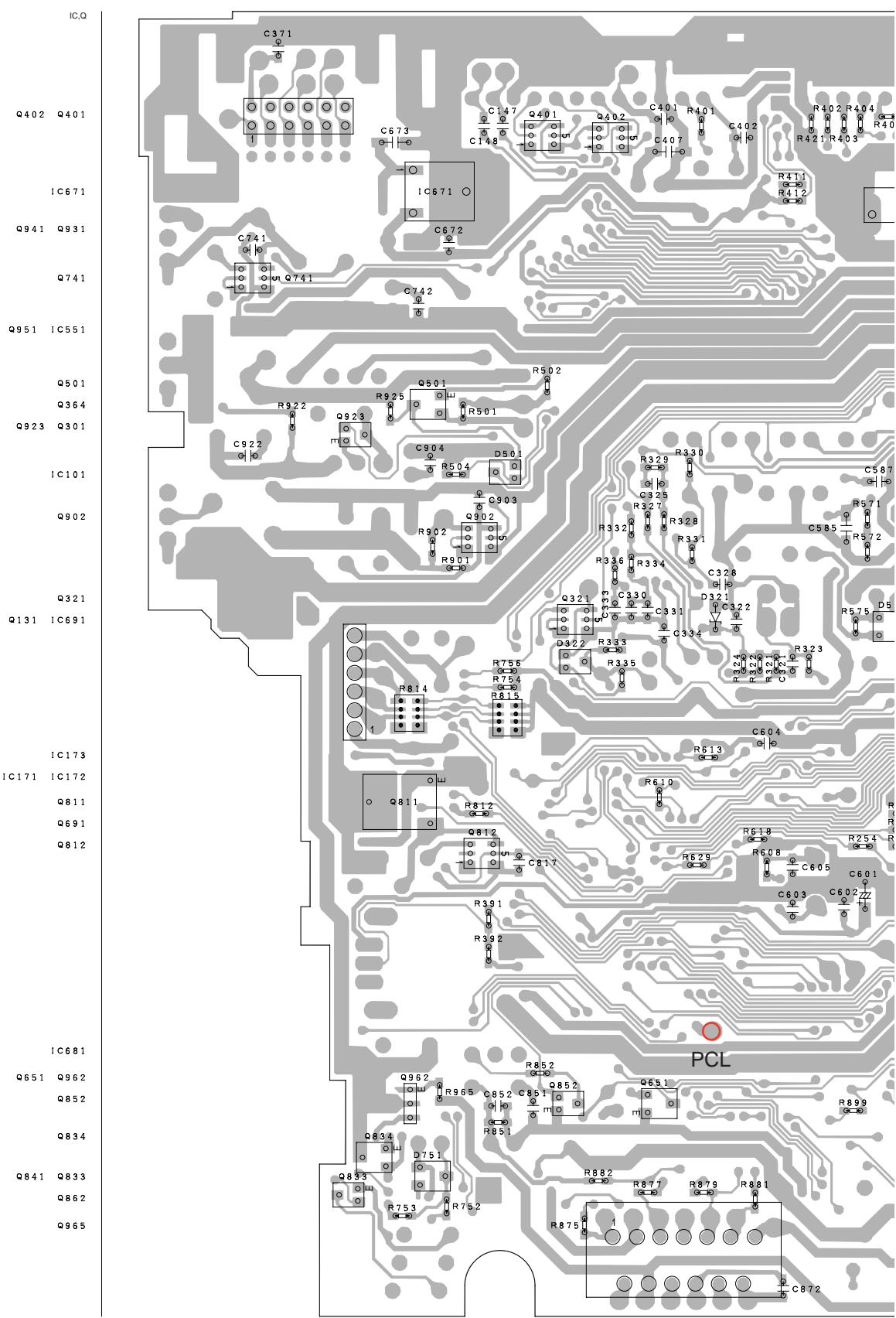
Q 964

Q 961

A

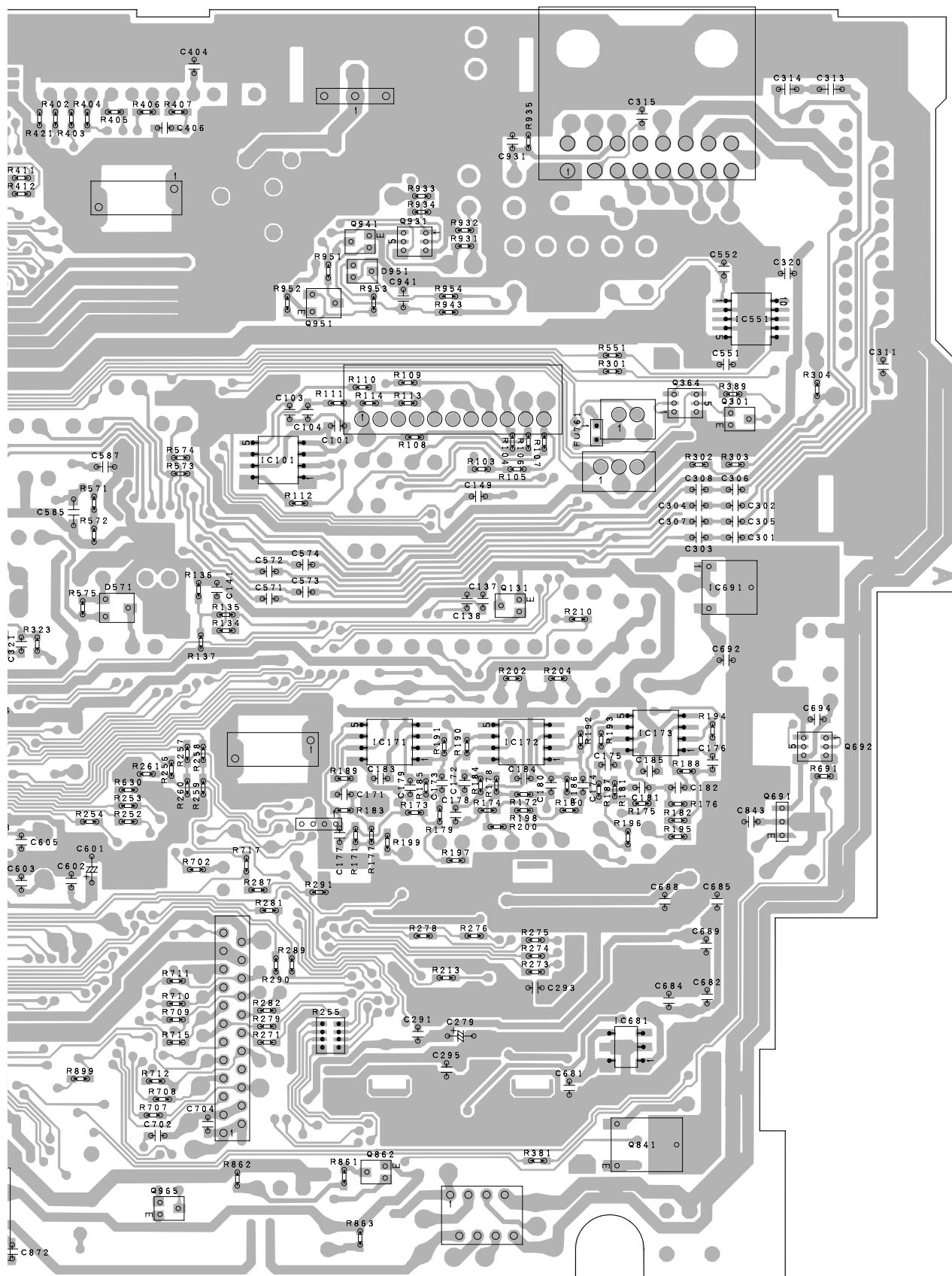
A

A TUNER AMP UNIT



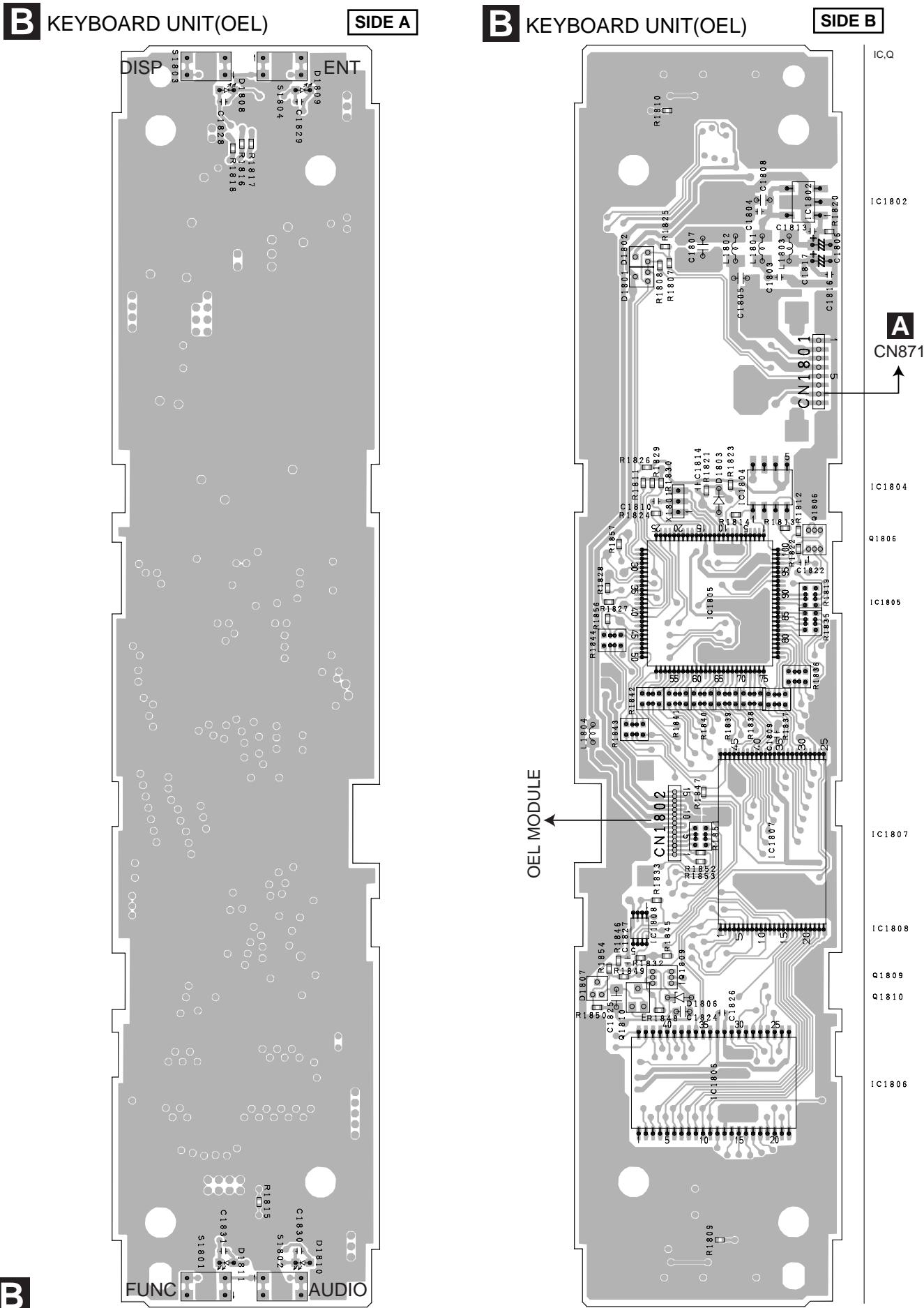
A

SIDE B



A

4.2 KEYBOARD UNIT(OEL)



A

B

C

D

E

F

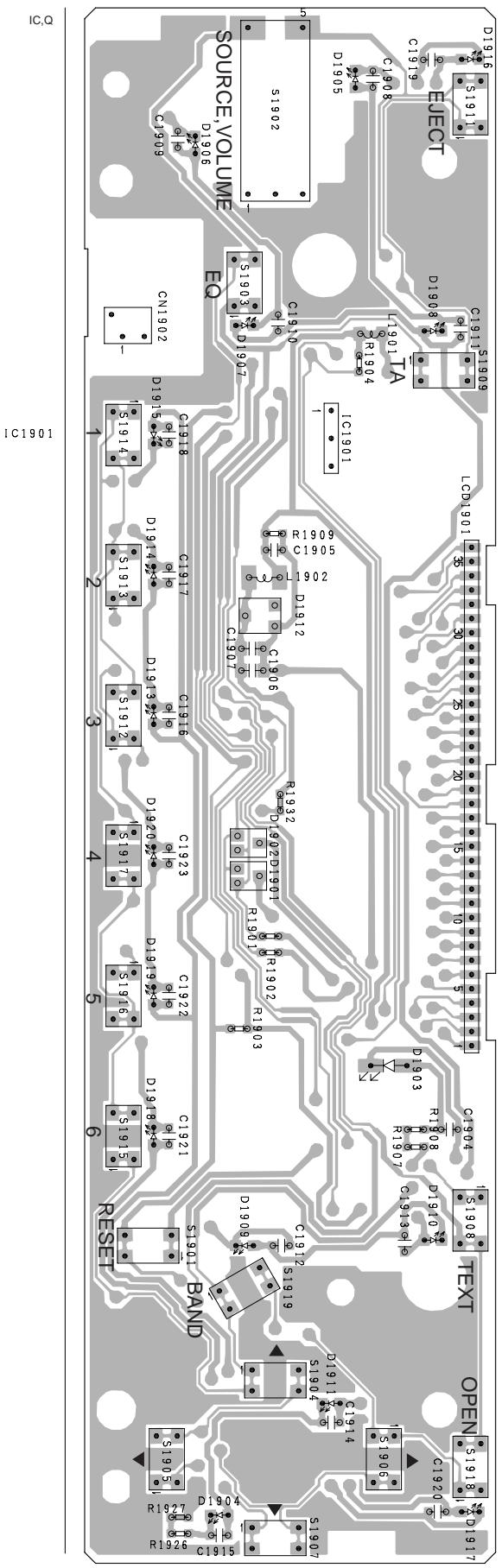
B

DEH-P9600MP/XN/EW

4.3 KEYBOARD UNIT(LCD)

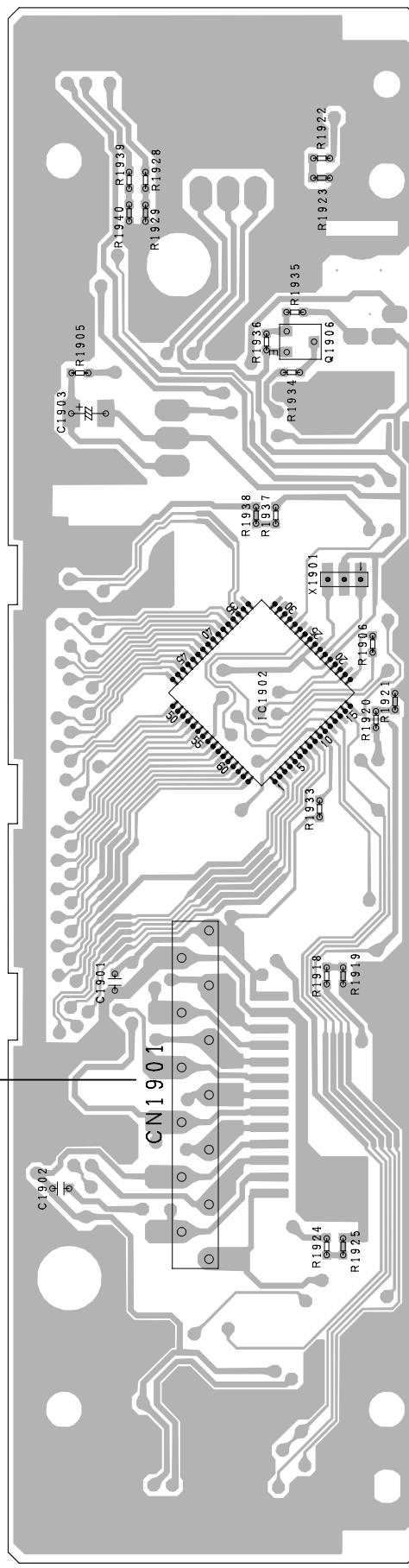
C KEYBOARD UNIT(LCD)

SIDE A

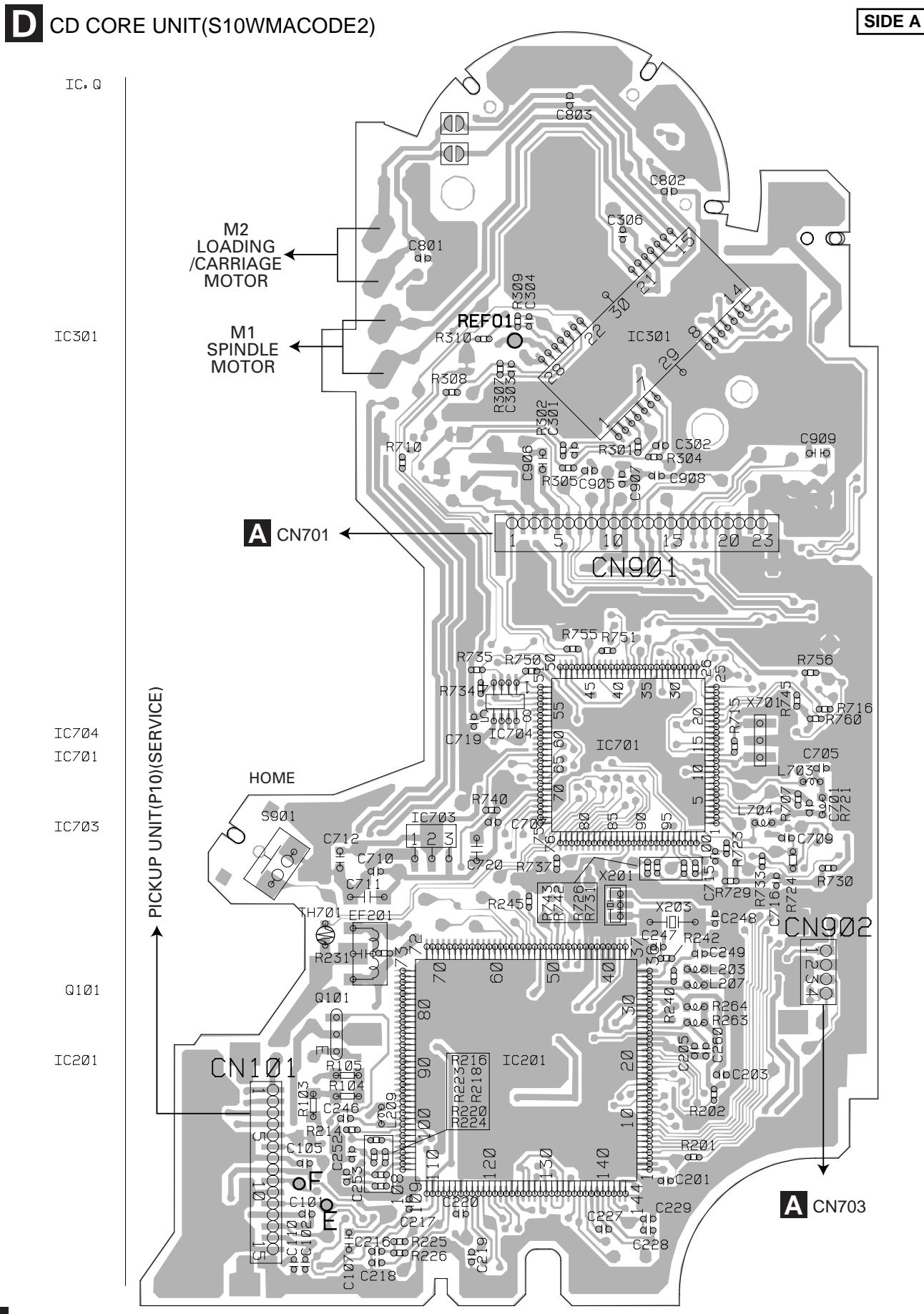


C KEYBOARD UNIT(LCD)

SIDE B

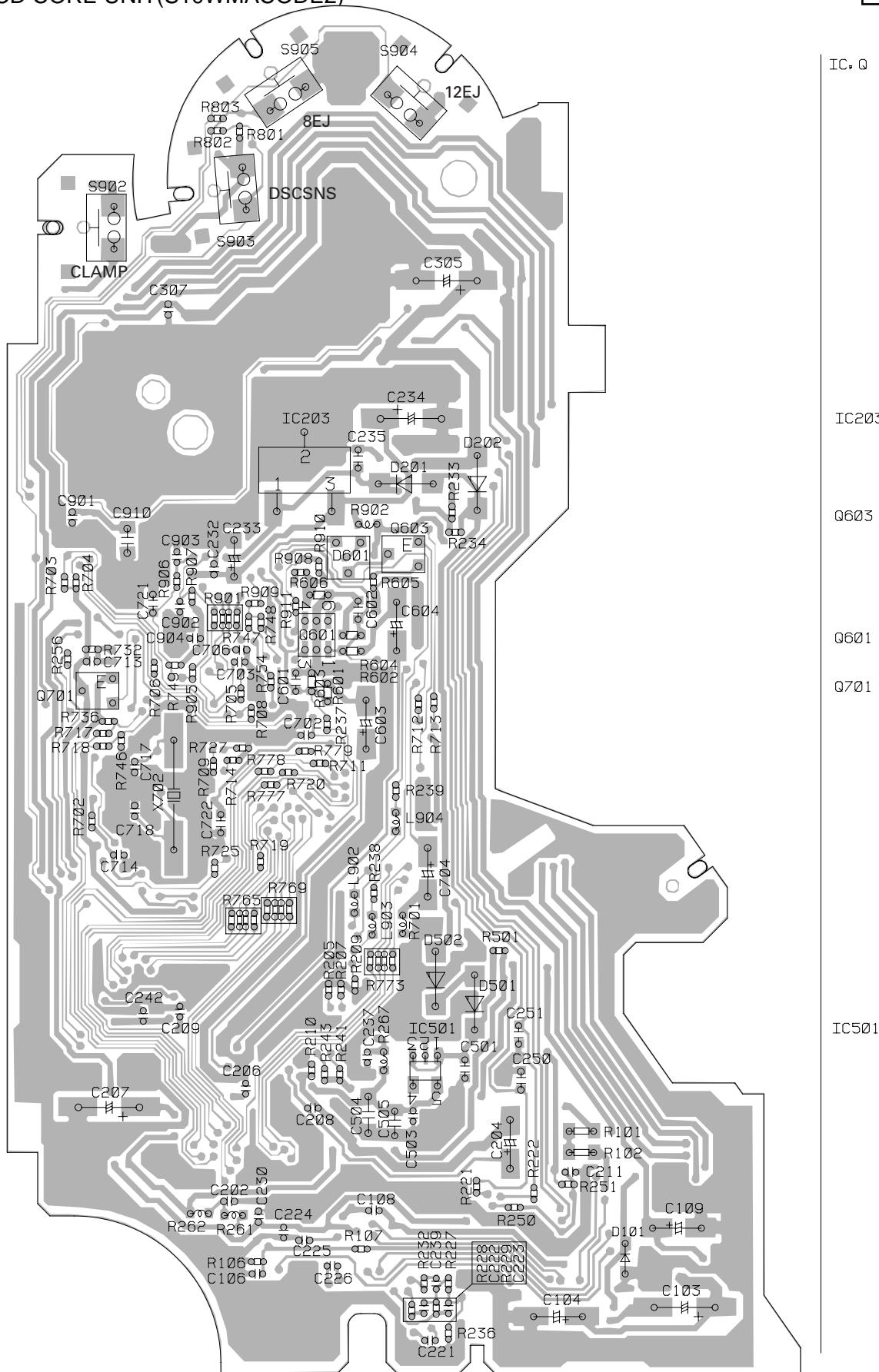


4.4 CD MECHANISM MODULE



D CD CORE UNIT(S10WMACODE2)

SIDE B



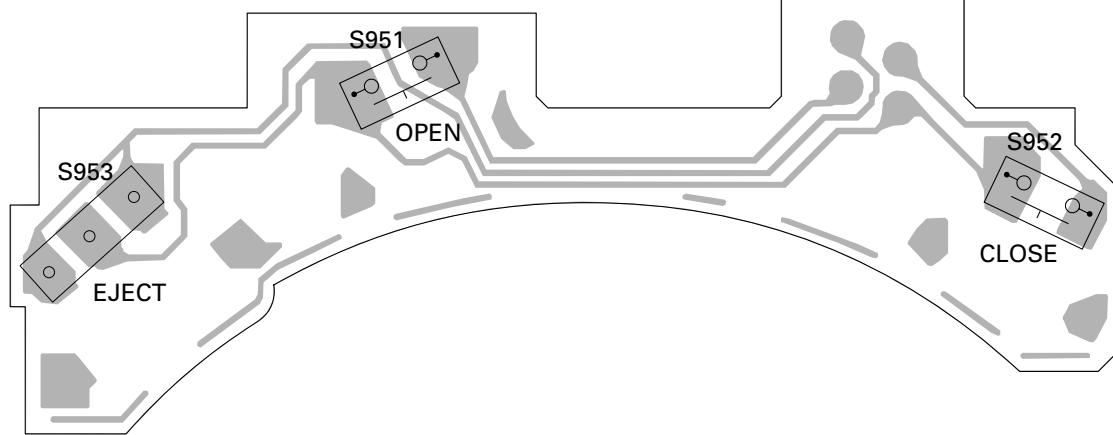
D

4.5 SWITCH PCB

A

E SWITCH PCB

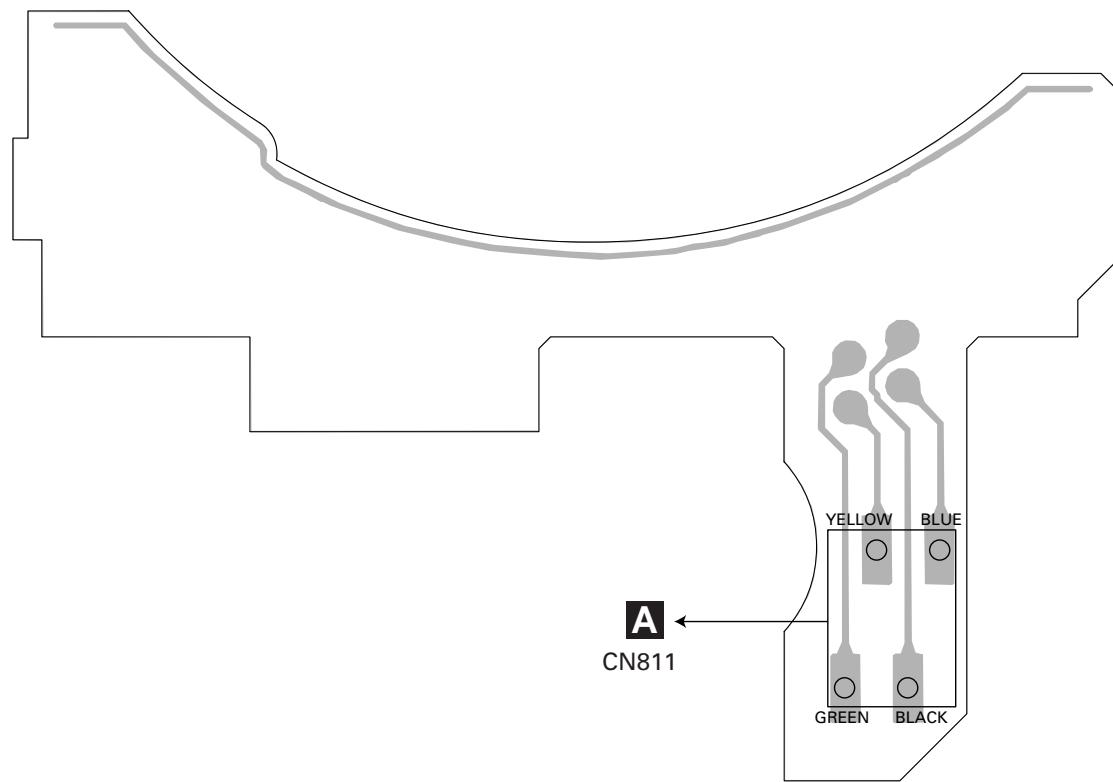
SIDE A



B

E SWITCH PCB

SIDE B



F

E

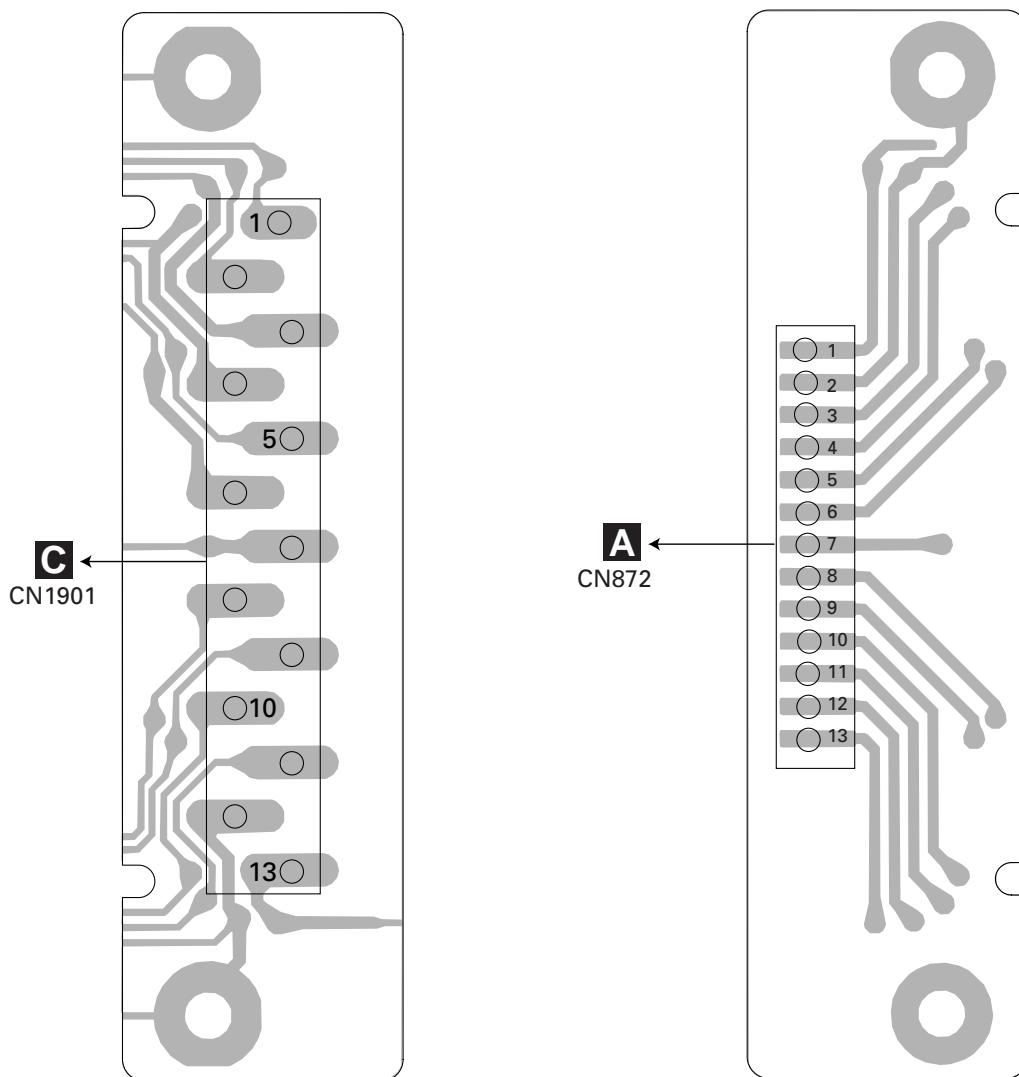
4.6 CONNECTOR PCB

F CONNECTOR PCB

SIDE A

F CONNECTOR PCB

SIDE B



5. ELECTRICAL PARTS LIST

A *NOTE:*

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

Chip Resistor

RS1/○S○○○J, RS1/○○S○○○J

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

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

<u>Circuit Symbol and No.</u>		<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
			Q 751	Transistor
			Q 752	Transistor
			Q 811	Transistor
			Q 812	Transistor
			Q 833	Transistor
			Q 834	Transistor
			Q 835	Transistor
			Q 841	Transistor
			Q 842	Transistor
			Q 851	Transistor
		HA12240FP		
	IC 101	IC		
	IC 131	IC	PML011A	
	IC 171	IC	NJM4558MD	
	IC 172	IC	NJM4558MD	
	IC 173	IC	NJM4558MD	
			Q 852	Transistor
			Q 861	Transistor
			Q 862	Transistor
			Q 901	Transistor
			Q 902	Transistor
		NJM4558MD		
	IC 201	IC		
	IC 211	IC	PCM1606EG	
	IC 231	IC	NJM2100V	
	IC 251	IC	TC74VHC08FT	
	IC 252	IC	TC74VHC08FT	
			Q 921	Transistor
			Q 922	Transistor
			Q 923	Transistor
			Q 931	Transistor
		AK7730VT		
	IC 271	IC		
	IC 272	IC	TC7SH08FU	
	IC 301	IC	PAL007A	
	IC 321	IC	NJM4558MD	
	IC 322	IC	NJM4558MD	
			Q 941	Transistor
			Q 951	Transistor
			Q 961	Transistor
			Q 962	Transistor
			Q 963	Transistor
		PA2028A		
	IC 571	IC		
	IC 601	IC	PD5913A	
	IC 651	IC	BD4835G	
	IC 671	IC	NJM2391DL1-33	
	IC 681	IC	S-818A33AUC-BGN	
			Q 964	Transistor
			Q 965	Transistor
			D 301	Diode
			D 302	Diode
			D 321	Diode
			D 322	Diode
		BA05FP		
	IC 691	IC		
	IC 811	IC	BA6288FS	
	IC 871	IC	TC74VHCT125AFT	
	Q 101	Transistor	UMF23N	
	Q 301	Transistor	DTC124EU	
			D 361	Diode
			D 501	Diode
			D 502	Diode
			D 571	Diode
			D 671	Diode
		IMD2A		
	Q 321	Transistor	HN1C03F	
	Q 351	Transistor	HN1C03F	
	Q 352	Transistor	HN1C03F	
	Q 353	Transistor	HN1C03F	
	Q 364	Transistor	IMD2A	
			D 672	Diode
			D 673	Diode
			D 691	Diode
			D 741	Diode
		IMH1A		
	Q 401	Transistor	IMH1A	
	Q 402	Transistor	IMH1A	
	Q 501	Transistor	2SC2412K	
	Q 651	Transistor	2SC2412K	
	Q 691	Transistor	2SD1767	
			D 751	Diode
			D 811	Diode
			D 812	Diode
			D 813	Diode
		IMD2A		
	Q 692	Transistor	IMD2A	
	Q 741	Transistor	IMD2A	
	Q 742	Transistor	2SD2396	
	Q 743	Transistor	2SD1767	
	Q 744	Transistor	IMD2A	
			D 841	Diode
			D 842	Diode
			D 843	Diode
			D 873	Diode Network
			D 874	Diode

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
D 875	Diode	DAP202U	R 108
			R 109
D 876	Diode	DAN202U	R 110
D 877	Diode	DAP202U	
D 878	Diode	DAN202U	R 111
D 879	Diode	DAP202U	R 112
D 901	Diode	MPG06G-6415G50	R 113
			R 114
D 902	Diode	HZS6L(B1)	R 131
D 921	Diode	HZS9L(B2)	
D 931	Diode	HZS7L(C3)	R 132
D 932	Diode	HZS7L(A1)	R 133
D 941	Diode	MPG06G-6415G50	R 134
			R 135
D 951	Diode	DAN202U	R 136
D 961	Diode	HZS11L(A1)	
D 962	LED	SML310BA1T	R 137
D 981	Diode	MPG06G-6415G50	R 171
D 982	Diode	MPG06G-6415G50	R 172
			R 173
ZNR401	Surge Protector	DSP-201M-A21F	R 174
L 101	Inductor	LCTA2R2J2520	
L 131	Inductor	LAYU2R2K	R 175
L 191	Inductor	LAYU2R2K	R 176
L 201	Inductor	LAYU2R2K	R 177
			R 178
L 211	Inductor	CTF1379	R 179
L 251	Inductor	CTF1379	
L 252	Inductor	CTF1379	R 180
L 271	Inductor	CTF1379	R 181
L 272	Inductor	CTF1389	R 182
			R 183
L 273	Inductor	CTF1389	R 184
L 275	Inductor	CTF1389	
L 401	Inductor	LAYU1R0K	R 185
L 402	Inductor	LAYU100K	R 186
L 403	Inductor	LAYU1R0K	R 187
			R 188
L 404	Inductor	LAYU4R7K	R 189
L 572	Ferri-Inductor	LAU101K	
L 601	Inductor	LAYU100K	R 190
L 681	Inductor	CTF1530	R 191
L 682	Inductor	CTF1530	R 192
			R 193
L 701	Inductor	LAYU100K	R 194
L 841	Inductor	LAYU2R2K	
L 851	Inductor	LAYU100K	R 195
L 861	Chip Felight Beads	CTF1399	R 196
L 871	Inductor	CTF1379	R 197
			R 198
L 951	Inductor	LAYU2R2K	R 199
X 271	Oscillator 16.934MHz	CSS1620	
X 601	Crystal Resonator 15.000MHz	CSS1653	R 200
S 391	Slide Switch(DSP MODE)	CSH1051	R 201
VR321	Semi-fixed 10kΩ(B)	CCP1229	R 202
			R 203
FU351	Fuse 3A	CEK1286	R 204
MIC321	Microphone	CPM1011	
BZ381	Buzzer	CPV1062	R 211
	FM/AM Tuner Unit	CWE1645	R 212
			R 213
			R 231
			R 232
RESISTORS			
R 101		RS1/16S562J	
R 102		RS1/16S332J	R 233
R 103		RS1/16S181J	R 234
R 104		RS1/16S181J	R 235
R 105		RS1/16S223J	R 236
			R 237
R 106		RS1/16S223J	
R 107		RS1/16S102J	R 238
			R 239

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
A R 240 R 251 R 252	RS1/16S331J RAB4C681J RS1/16S681J	R 365 R 366 R 367	RS1/16S471J RS1/16S471J RS1/16S471J
	R 253 R 254 R 255 R 256 R 257	RS1/16S681J RS1/16S681J RAB4C681J RS1/16S153J RS1/16S153J	RS1/16S471J RS1/16S103J RS1/16S103J RS1/16S103J RS1/16S103J
	R 258 R 259 R 260 R 261 R 271	RS1/16S153J RS1/16S223J RS1/16S223J RS1/16S223J RS1/16S101J	RS1/16S103J RS1/16S103J RS1/16S102J RS1/16S102J RS1/16S102J
	R 273 R 274 R 275 R 276 R 278	RS1/16S101J RS1/16S101J RS1/16S101J RS1/16S101J RS1/16S101J	RS1/16S104J RS1/16S681J RS1/16S681J RS1/16S681J RS1/16S681J
	R 279 R 280 R 281 R 282 R 285	RS1/16S101J RS1/16S222J RS1/16S681J RS1/16S101J RS1/16S562J	RS1/16S681J RS1/16S681J RS1/16S681J RS1/16S223J RS1/16S223J
C R 286 R 287 R 288 R 289 R 290	RS1/16S0R0J RS1/16S0R0J RS1/16S0R0J RS1/16S681J RS1/16S681J	R 413 R 414 R 421 R 501 R 502	RS1/16S223J RS1/16S223J RS1/16S0R0J RS1/16S103J RS1/16S473J
	R 301 R 302 R 303 R 304 R 321	RS1/16S103J RS1/16S103J RS1/16S103J RS1/16S331J RS1/16S104J	R 504 R 571 R 572 R 601 R 602
	R 322 R 323 R 324 R 327 R 328	RS1/16S152J RS1/16S222J RS1/16S152J RS1/16S102J RS1/16S101J	R 607 R 608 R 609 R 610 R 611
	R 329 R 330 R 331 R 332 R 333	RS1/16S563J RS1/16S103J RS1/16S103J RS1/16S153J RS1/16S104J	R 613 R 614 R 615 R 616 R 617
	R 334 R 335 R 336 R 351 R 352	RS1/16S153J RS1/16S104J RS1/16S223J RS1/16S820J RS1/16S820J	R 618 R 619 R 620 R 621 R 622
E R 353 R 354 R 355 R 356 R 357	RS1/16S820J RS1/16S820J RS1/16S820J RS1/16S820J RS1/16S223J	R 623 R 614 R 615 R 616 R 617	RS1/16S472J RS1/16S103J RS1/16S103J RS1/16S102J RS1/16S102J
	R 358 R 359 R 360 R 361 R 362	RS1/16S223J RS1/16S223J RS1/16S223J RS1/16S223J RS1/16S223J	R 628 R 629 R 630 R 631 R 632
	R 363 R 364	RS1/16S471J RS1/16S471J	R 642 R 651
			RS1/16S102J

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
R 652	RS1/16S102J	R 923	RD1/4PU182J
R 653	RS1/16S222J	R 924	RS1/16S223J
R 654	RS1/16S473J	R 925	RS1/16S223J
R 655	RS1/16S183J	R 931	RS1/16S104J
		R 932	RS1/16S473J
R 691	RS1/16S271J	R 933	A RS1/16S103J
R 702	RS1/16S473J	R 934	RS1/16S473J
R 703	RS1/16S682J	R 935	RS1/16S472J
R 704	RS1/16S682J	R 943	RS1/16S103J
R 705	RS1/16S682J	R 951	RS1/16S102J
R 706	RS1/16S682J	R 952	RS1/16S472J
R 707	RS1/16S221J	R 953	RS1/16S472J
R 708	RS1/16S221J	R 954	RS1/16S153J
R 709	RS1/16S221J	R 961	RS1/16S151J
R 710	RS1/16S221J	R 962	RS1/16S103J
R 711	RS1/16S221J	R 963	B RS1/16S562J
R 712	RS1/16S221J	R 964	RD1/4PU391J
R 715	RS1/16S681J	R 965	RS1/16S1R0J
R 717	RS1/16S681J	R 967	RS1/16S472J
R 741	RD1/4PU391J	R 968	RS1/16S103J
R 743	RS1/16S331J		
R 751	RS1/16S104J		
R 752	RS1/16S222J	CAPACITORS	
R 753	RS1/16S561J	C 102	CKSRYB104K25
R 754	RS1/16S683J	C 103	CKSRYB102K50
R 755	RS1/16S153J	C 104	CKSRYB102K50
R 756	RS1/16S682J	C 131	CEJQ4R7M35
R 757	RS1/16S152J	C 132	CEJQ4R7M35
R 761	RS1/16S102J	C 133	CEJQ4R7M35
R 762	RS1/16S102J	C 134	CEJQ4R7M35
R 811	RS1/16S102J	C 135	CEJQ4R7M35
R 812	RS1/16S102J	C 136	CEJQ4R7M35
R 813	RD1/4PU271J	C 137	CKSRYB472K50
R 814	RAB4C102J		
R 815	RAB4C104J	C 138	CKSRYB472K50
		C 139	CKSQYB225K10
R 841	RS1/16S1R0J	C 140	CKSQYB225K10
R 843	RD1/4PU271J	C 141	CKSRYB104K25
R 850	RS1/16S332J	C 142	CSZS100M10
R 851	RS1/16S222J	C 143	D CSZS100M10
R 852	RS1/16S102J	C 145	CKSRYB104K25
R 853	RS1/16S472J	C 146	CKSQYB225K10
R 861	RS1/16S102J	C 147	CKSRYB104K25
R 862	RS1/16S472J	C 148	CKSRYB104K25
R 863	RS1/16S222J	C 149	CSZS100M10
R 871	RS1/16S222J	C 150	CEJQ2R2M50
R 872	RS1/16S222J	C 151	CEJQ2R2M50
R 873	RS1/16S104J	C 152	E CEJQ2R2M50
R 874	RS1/16S104J	C 153	CEJQ2R2M50
R 875	RS1/16S222J		
R 876	RS1/16S471J	C 171	CCSRCH681J50
R 877	RS1/16S222J	C 172	CCSRCH681J50
		C 173	CCSRCH681J50
R 878	RS1/16S222J	C 174	CCSRCH681J50
R 879	RS1/16S222J	C 175	CCSRCH681J50
R 880	RS1/16S222J		
R 881	RS1/16S222J	C 176	F CCSRCH681J50
R 882	RS1/16S473J	C 177	CCSRCH331J50
		C 178	CCSRCH331J50
R 883	RS1/16S104J	C 179	CCSRCH331J50
R 884	RS1/16S473J	C 180	CCSRCH331J50
R 901	RS1/16S223J		
R 902	RS1/16S272J	C 181	CCSRCH331J50
R 922	RS1/16S821J	C 182	CCSRCH331J50

<u>Circuit Symbol and No.</u>		<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
A	C 183	CKSRYB104K25	C 325	CCSRCH101J50
	C 184	CKSRYB104K25	C 326	CKSRYB105K10
	C 185	CKSRYB104K25	C 327	CEALNP4R7M16
	C 201	CKSRYB104K25	C 328	CKSRYB105K10
	C 202	CEJQ100M16	C 329	CEALNP4R7M16
B	C 203	CEJQ100M16	C 330	CKSRYB474K10
	C 211	CSZS100M16	C 331	CKSRYB104K25
	C 212	CKSRYB104K25	C 332	CEAL100M16
	C 213	CSZS100M10	C 333	CKSRYB105K10
	C 214	CKSRYB104K25	C 334	CKSRYB105K10
C	C 221	CEJQ100M16	C 351	CEJQ100M50
	C 222	CEJQ100M16	C 352	CEJQ100M50
	C 223	CEJQ100M16	C 353	CEJQ100M50
	C 224	CEJQ100M16	C 354	CEJQ100M50
	C 225	CEJQ100M16	C 355	CEJQ100M50
D	C 226	CEJQ100M16	C 356	CEJQ100M50
	C 231	CCSRCH220J50	C 357	CKSRYB222K50
	C 232	CCSRCH220J50	C 358	CKSRYB222K50
	C 233	CSZS100M10	C 359	CKSRYB222K50
	C 234	CSZS100M10	C 360	CKSRYB222K50
E	C 235	CKSRYB104K25	C 361	CKSRYB222K50
	C 236	CKSRYB332K50	C 362	CKSRYB222K50
	C 237	CKSRYB332K50	C 371	CKSRYB102K50
	C 251	CKSRYB104K25	C 373	CEHAR220M16
	C 252	CKSRYB104K25	C 401	CKSRYB103K50
F	C 271	CKSRYB104K25	C 402	CKSRYB103K50
	C 272	CKSRYB104K25	C 403	CEJQ470M10
	C 273	CCSRCH680J50	C 404	CKSRYB103K50
	C 275	CCSRCH100D50	C 405	CEJQ101M10
	C 276	CCSRCH100D50	C 407	CKSYB475K10
G	C 277	CKSRYB104K25	C 571	CKSRYB105K10
	C 278	CKSQYB682K50	C 572	CKSRYB105K10
	C 279	CSZS100M10	C 573	CKSRYB105K10
	C 280	CKSRYB104K25	C 574	CKSRYB105K10
	C 281	CKSRYB104K25	C 575	CKSRYB105K10
H	C 282	CSZS100M10	C 576	CKSRYB105K10
	C 283	CKSRYB104K25	C 580	CEAL4R7M35
	C 284	CSZS100M10	C 582	CEJQ101M16
	C 286	CKSRYB103K50	C 583	CASAQ3R3M16
	C 287	CCSRCH560J50	C 585	CKSYB684K25
I	C 291	CKSRYB102K50	C 586	CEAL100M16
	C 292	CCSRCH101J50	C 587	CKSQYB225K10
	C 295	CKSRYB102K50	C 588	CEJQ330M25
	C 297	CCSRCH101J50	C 589	CEJQ330M25
	C 301	CKSRYB474K10	C 590	CEJQ330M25
J	C 302	CKSRYB474K10	C 591	CEJQ330M25
	C 303	CKSRYB474K10	C 601	CSZS4R7M16
	C 304	CKSRYB474K10	C 602	CKSRYB103K50
	C 305	CKSRYB474K10	C 603	CCSRCH180J50
	C 306	CKSRYB474K10	C 604	CCSRCH101J50
K	C 307	CKSRYB474K10	C 605	CCSRCH180J50
	C 308	CKSRYB474K10	C 652	CKSRYB104K25
	C 309	CEHAR330M10	C 653	CKSRYB105K10
	C 310	3300μF/16V	C 671	CEJQ220M6R3
	C 311	CCH1486		
L	C 312	CKSRYB104K25	C 672	CKSRYB103K50
	C 313	CEHAR100M16	C 673	CKSYB475K10
	C 314	CKSQYB225K10	C 681	CKSRYB474K10
	C 321	CKSRYB105K10	C 682	CKSRYB103K50
	C 322	CKSRYB105K10	C 683	CEJQ220M6R3
M				CKSRYB105K10

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
C 685	CKSRYB105K10	IC 1807	PD6460A
C 686	CEJQ101M6R3	IC 1808	TC7WH32FK
C 687	CEJQ101M6R3	D 1803	A Diode
C 688	CKSRYB104K25	D 1808	1SS355
C 689	CKSRYB104K25	D 1809	SML310BA1T
C 691	CKSQYB474K16	D 1810	SML310BA1T
C 692	CKSRYB103K50	D 1811	SML310BA1T
C 693	CEJQ101M6R3	L 1801	SML310BA1T
C 694	CKSRYB104K25	L 1802	CTF1530
C 701	470μF/10V	CCH1438	CTF1484
C 741	CKSRYB473K50	L 1803	CTF1530
C 742	CKSRYB102K50	L 1804	Chip Felight Beads
C 743	CEJQ101M16	X 1801	CTF1399
C 744	CKSRYB473K50	S 1801	Radiator 10.0MHz
C 745	CEJQ101M16	S 1802	CSS1577
C 751	CKSRYB681K50	S 1803	Push Switch
C 752	CEJQ101M6R3	S 1804	CSG1111
C 753	CKSQYB225K10	OEL Module	CSG1111
C 761	CKSRYB224K16		MXK8200
RESISTORS			
C 762	CKSRYB224K16	R 1807	RS1/16SS222J
C 811	CCSRCH101J50	R 1808	RS1/16SS222J
C 812	CEJQ220M16	R 1809	RS1/16SS271J
C 813	CKSRYB104K25	R 1810	RS1/16SS271J
C 814	CKSRYB102K50	R 1811	RS1/16SS473J
C 815	CKSRYB102K50	R 1812	C RS1/16SS104J
C 816	CCSRCH101J50	R 1815	RS1/16SS101J
C 837	CKSRYB103K50	R 1816	RS1/16SS101J
C 841	CEJQ470M16	R 1817	RS1/16SS101J
C 842	CKSRYB104K25	R 1818	RS1/16SS101J
C 843	CCSRCH101J50	R 1819	RAB4CQ681J
C 844	CEJQ330M25	R 1820	RS1/16SS222J
C 851	CKSRYB104K25	R 1821	RS1/16SS154J
C 852	CKSRYB104K25	R 1822	RS1/16SS473J
C 853	CEJQ470M10	R 1823	RS1/16SS0R0J
C 861	CKSRYB104K25	R 1824	D RS1/16SS473J
C 862	CEJQ470M10	R 1825	RS1/16SS473J
C 863	CKSRYB104K25	R 1826	RS1/16SS473J
C 871	CKSQYB473K50	R 1827	RS1/16SS0R0J
C 901	470μF/16V	CCH1331	RS1/16SS0R0J
C 902	470μF/16V	CCH1459	RS1/16SS473J
C 903		CKSRYB472K50	RS1/16SS473J
C 904		CKSRYB103K50	RS1/16SS0R0J
C 905		CEJQ470M10	RAB4CQ681J
C 921		CEJQ221M10	RAB4CQ681J
C 922		CKSRYB103K50	E RAB4CQ681J
C 923		CEJQ101M16	RAB4CQ681J
C 931		CKSRYB104K25	RAB4CQ681J
C 941		CKSQYB105K16	RAB4CQ681J
C 961		CKSRYB473K50	RAB4CQ681J
C 962		CKSRYB104K25	RAB4CQ681J
B			
Unit Number:CWM9191			
Unit Name:Keyboard Unit(OEL)			
MISCELLANEOUS			
IC 1802	IC	S-818A33AUC-BGN	F R 1847
IC 1805	IC	PD5917A	RS1/16SS392J
IC 1806	IC	PD8122A	RS1/16SS682J
			R 1849
			R 1850
			R 1851
			R 1852

	<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
A	R 1853	RS1/16SS221J	S 1911	Push Switch CSG1111
	R 1854	RS1/16SS0R0J	S 1912	Push Switch CSG1111
	R 1856	RS1/16SS0R0J	S 1913	Push Switch CSG1111
	R 1857	RS1/16SS0R0J	S 1914	Push Switch CSG1111
	CAPACITORS		S 1915	Push Switch CSG1111
	C 1805	CKSRYB105K10	S 1916	Push Switch CSG1111
	C 1806	CSZSP4R7M10	S 1917	Push Switch CSG1111
	C 1807	CKSQYB225K10	S 1918	Push Switch CSG1111
	C 1808	CKSRYB474K10	S 1919	Push Switch CSG1111
	C 1809	CKSSYB103K16	LCD1901	LCD CAW1704
B	C 1810	CKSSYB103K16	RESISTORS	
	C 1814	CKSSYB473K10	R 1901	RS1/16S222J
	C 1816	CKSSYB103K16	R 1902	RS1/16S222J
	C 1817	CSZSP4R7M10	R 1903	RS1/16S274J
	C 1822	CKSSYB103K16	R 1904	RS1/16S103J
	C 1826	CKSSYB103K16	R 1905	RS1/16S121J
	C 1827	CKSSYB103K16	R 1906	RS1/16S2R2J
	C 1828	CKSSYB104K10	R 1907	RS1/16S101J
	C 1829	CKSSYB104K10	R 1908	RS1/16S101J
	C 1830	CKSSYB104K10	R 1918	RS1/16S271J
C	C 1831	CKSSYB104K10	R 1920	RS1/16S271J
	C		R 1922	RS1/16S271J
	Unit Number:CWM9194		R 1924	RS1/16S271J
	Unit Name:Keyboard Unit(LCD)		R 1926	RS1/16S271J
			R 1928	RS1/16S271J
			R 1934	RS1/16S104J
MISCELLANEOUS				
	IC 1901	IC TSOP4840SB1	R 1935	RS1/16S103J
	IC 1902	IC PD6340A	R 1936	RS1/16S223J
	Q 1906	Transistor 2SC3052-12	R 1937	RS1/16S271J
	D 1903	LED NSSW440-9159	R 1939	RS1/16S271J
	D 1904	LED SML310BA1T	CAPACITORS	
D	D 1905	LED SML310BA1T	C 1901	CKSRYB104K25
	D 1906	LED SML310BA1T	C 1903	CSZSR4R7M16
	D 1907	LED SML310BA1T	C 1904	CKSRYB104K16
	D 1908	LED SML310BA1T	C 1905	CCSRCH101J50
	D 1909	LED SML310BA1T	C 1908	CKSRYB104K16
E	D 1910	LED SML310BA1T	C 1909	CKSRYB104K16
	D 1911	LED SML310BA1T	C 1910	CKSRYB104K16
	D 1913	LED SML310BA1T	C 1911	CKSRYB104K16
	D 1914	LED SML310BA1T	C 1912	CKSRYB104K16
	D 1915	LED SML310BA1T	C 1913	CKSRYB104K16
F	D 1916	LED SML310BA1T	C 1914	CKSRYB104K16
	D 1917	LED SML310BA1T	C 1915	CKSRYB104K16
	D 1918	LED SML310BA1T	C 1916	CKSRYB104K16
	D 1919	LED SML310BA1T	C 1917	CKSRYB104K16
	D 1920	LED SML310BA1T	C 1918	CKSRYB104K16
	L 1902	Inductor CTF1530	C 1919	CKSRYB104K16
	X 1901	Ceramic Resonator 4.97MHz CSS1573	C 1920	CKSRYB104K16
	S 1901	Push Switch CSG1111	C 1921	CKSRYB104K16
	S 1902	Encoder CSD1104	C 1922	CKSRYB104K16
	S 1903	Push Switch CSG1111	C 1923	CKSRYB104K16
F	S 1904	Push Switch CSG1111	E	
	S 1905	Push Switch CSG1111	Unit Number:	
	S 1906	Push Switch CSG1111	Unit Name:Switch PCB	
	S 1907	Push Switch CSG1111		
	S 1908	Push Switch CSG1111		
	S 1909	Push Switch CSG1111	MISCELLANEOUS	

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
S 951	Switch(OPEN)	CSN1051	
S 952	Switch(CLOSE)	CSN1052	R 231
S 953	Switch(EJECT)	CSN1058	R 232
			R 233
			R 237
			R 238
			R 239
			R 240
			R 241
			R 243
			R 245
			R 250
			R 256
			R 261
			R 262
			R 263
			R 264
			R 267
			R 301
			R 302
			R 304
			R 305
			R 307
			R 308
			R 309
			R 310
			R 501
			R 701
			R 702
			R 703
			R 704
			R 705
			R 706
			R 707
			R 708
			R 709
R 101	RS1/10S1R5J	R 710	RS1/16SS102J
R 102	RS1/10S1R5J	R 711	RS1/16SS102J
R 103	RS1/10S1R5J	R 712	RS1/16SS102J
R 104	RS1/10S1R5J	R 713	RS1/16SS102J
R 105	RS1/10S1R5J	R 714	RS1/16SS473J
R 107	RS1/16SS0R0J	R 715	RS1/16SS101J
R 201	RS1/16SS102J	R 716	RS1/16SS472J
R 202	RS1/16SS333J	R 717	RS1/16SS221J
R 205	RS1/16SS473J	R 718	RS1/16SS221J
R 207	RS1/16SS473J	R 719	RS1/16SS221J
R 209	RS1/16SS473J	R 720	RS1/16SS471J
R 210	RS1/16SS0R0J	R 721	RS1/16S0R0J
R 214	RS1/16SS472J	R 724	RS1/16S473J
R 216	RS1/16SS472J	R 725	RS1/16SS222J
R 218	RS1/16SS472J	R 726	RS1/16SS103J
R 220	RS1/16SS472J	R 727	RS1/16SS473J
R 221	RS1/16SS103J	R 729	RS1/16SS223J
R 222	RS1/16SS103J	R 730	RS1/16SS473J
R 223	RS1/16SS0R0J	R 731	RS1/16SS104J
R 224	RS1/16SS0R0J	R 732	RS1/16SS104J
R 225	RS1/16SS103J	R 733	RS1/16SS104J
R 226	RS1/16SS393J	R 735	RS1/16SS473J
R 227	RS1/16SS562J	R 737	RS1/16SS104J
R 228	RS1/16SS122J	R 740	RS1/16SS473J
R 229	RS1/16SS472J	R 743	RS1/16SS104J

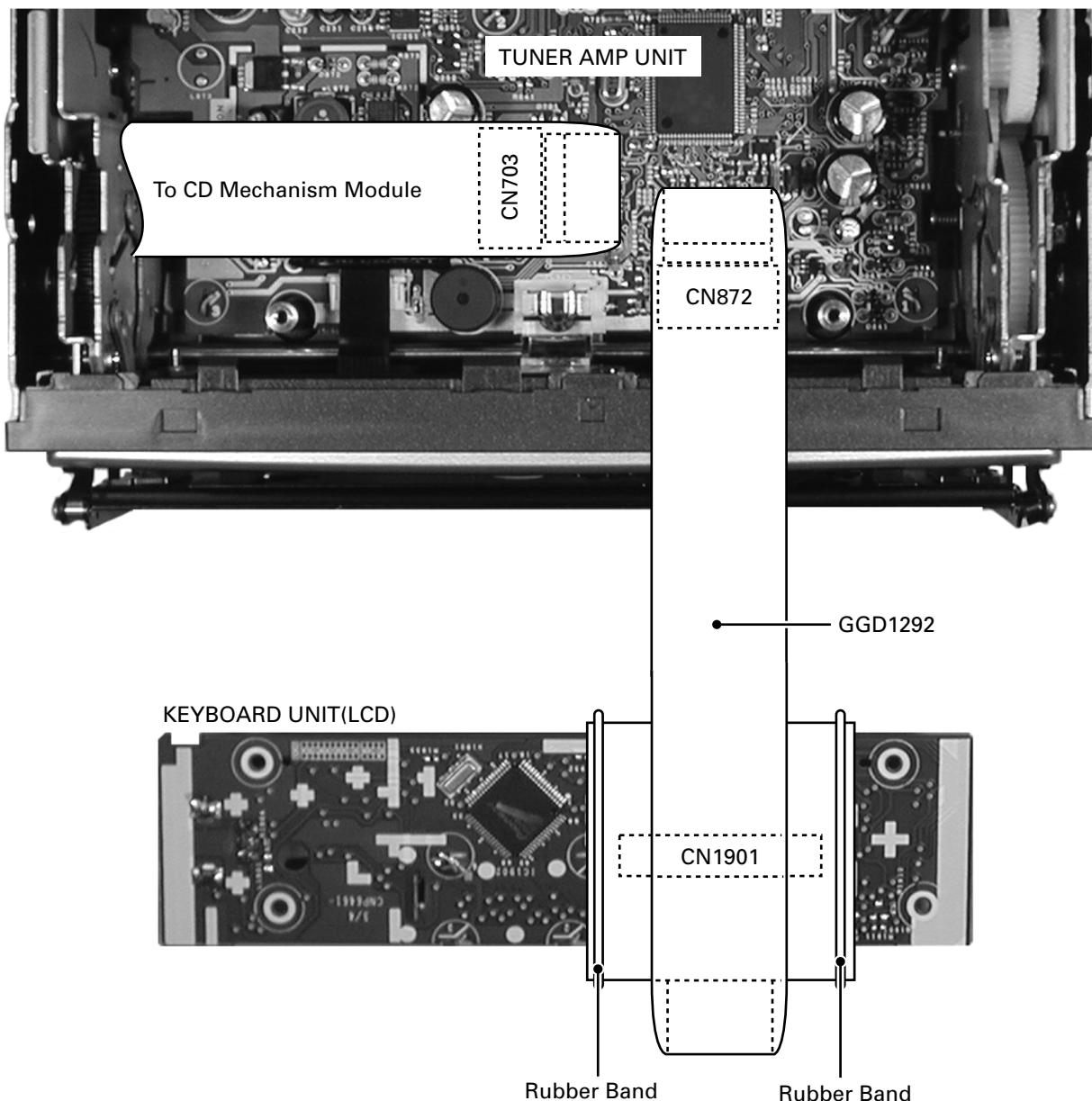
<u>Circuit Symbol and No.</u>		<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
A	R 745	RS1/16SS473J	C 246	CKSSYB104K10
	R 746	RS1/16SS104J	C 249	CKSSYB221K50
	R 747	RS1/16SS102J	C 250	CKSRYB102K50
	R 750	RS1/16SS473J	C 251	CKSRYB102K50
	R 751	RS1/16SS102J	C 260	CKSSYB104K10
	R 754	RS1/16SS102J	C 301	CKSSYB221K50
	R 755	RS1/16SS102J	C 302	CKSSYB221K50
	R 756	RS1/16SS104J	C 303	CKSSYB472K25
	R 765	RAB4CQ221J	C 304	CKSSYB103K16
	R 769	RAB4CQ221J	C 305	100µF/16V
B	R 773	RAB4CQ221J	C 307	CKSSYB104K10
	R 777	RS1/16SS221J	C 501	CKSRYB224K16
	R 778	RS1/16SS221J	C 505	CKSQYB475K6R3
	R 779	RS1/16SS221J	C 701	CKSSYB104K10
	R 901	RAB4CQ221J	C 702	CKSSYB471K50
	R 902	RS1/16S0R0J	C 703	CKSSYB103K16
	R 905	RS1/16SS221J	C 704	4.7µF/25V
	R 906	RS1/16SS221J	C 706	CKSSYB104K10
	R 909	RS1/16SS0R0J	C 707	CKSSYB104K10
	R 911	RS1/16SS0R0J	C 712	CKSRYB224K16
CAPACITORS			C 713	CKSSYB104K10
C	C 101	CKSSYB104K10	C 714	CKSSYB104K10
	C 102	CKSSYB104K10	C 716	CKSSYB103K16
	C 103	100µF/16V	C 717	CCSSCH180J50
	C 104	47µF/6.3V	C 718	CCSSCH180J50
	C 105	CKSSYB104K10	C 720	CKSQYB225K10
	C 106	CCSSCH101J50	C 722	CKSRYB105K10
	C 107	CKSRYB224K16	C 903	CKSSYB471K50
	C 108	CKSSYB104K10	C 906	CKSRYB224K16
	C 110	CKSSYB104K10	C 910	CKSQYB225K10
	C 201	CKSSYB471K50		
D	C 202	CKSSYB104K10		
	C 203	CKSSYB104K10		
	C 205	CKSSYB104K10	M 1	Pickup Unit(P10)(Service) CXX1641
	C 207	220µF/4V	M 2	Motor Unit(SPINDLE) CXB6007
	C 208	CKSSYB104K10	M 951	Motor Unit(LOADING/CARRIAGE)CXB8933
	C 209	CKSSYB104K10		Motor Unit(AUTOMATIC FLAP)CXC3190
E	C 216	CKSSYB332K50		
	C 217	CKSSYB104K10		
	C 218	CKSSYB223K16		
	C 219	CKSSYB104K10		
	C 220	CKSSYB103K16		
F	C 221	CKSSYB104K10		
	C 222	CCSSCH560J50		
	C 223	CCSSCH5R0C50		
	C 224	CKSSYB104K10		
	C 225	CKSSYB103K16		
G	C 226	CCSSCH680J50		
	C 227	CCSSCH470J50		
	C 228	CKSSYB682K25		
	C 230	CKSSYB104K10		
	C 232	CKSSYB104K10		
H	C 233	10µF/6.3V		
	C 234	220µF/4V		
	C 235	CKSRYB224K16		
	C 237	CKSSYB104K10		
	C 239	CCSSCH330J50		
I	C 242	CKSSYB104K10		

Miscellaneous Parts List

M 1	Pickup Unit(P10)(Service)	CXX1641
M 2	Motor Unit(SPINDLE)	CXB6007
M 951	Motor Unit(LOADING/CARRIAGE)CXB8933	
	Motor Unit(AUTOMATIC FLAP)CXC3190	

6. ADJUSTMENT

6.1 JIG CONNECTION DIAGRAM



6.2 CD ADJUSTMENT

A

1) Cautions on adjustments

- In this product the single voltage (3.3V) is used for the regulator. The reference voltage is the REFO1 (1.65V) instead of the GND.

If you should mistakenly short the REFO1 with the GND during adjustment, accurate voltage will not be obtained, and the servo's misoperation will apply excessive shock to the pickup. To avoid such problems:

- a. Do not mix up the REFO1 with the GND when connecting the (-) probe of measuring instruments.

Especially on an oscilloscope, avoid connecting the (-) probe for CH1 to the GND.

- b. In many cases, measuring instruments have the same potential as that for the (-) probe. Be sure to set the measuring instruments to the floating state.

- c. If you have mistakenly connected the REFO1 to the GND, turn off the regulator or the power immediately.

- Before mounting and removing filters or leads for adjustment, be sure to turn off the regulator.

- For stable circuit operation, keep the mechanism operating for about one minute or more after the regulator is turned on.

- In the test mode, any software protections will not work. Avoid applying any mechanical or electrical shock to the mechanism during adjustment.

- The RFI and RFO signals with a wide frequency range are easy to oscillate. When observing the signals, insert a resistor of 1k ohms in series.

- The load and eject operation is not guaranteed with the mechanism upside down. If the mechanism is blocked due to mistaken eject operation, reset the product or turn off and on the ACC to restore it.

B

C

D

E

F

2) Test mode

This mode is used to adjust the CD mechanism module.

- To enter the test mode.

While pressing the 4 and 6 keys at the same time, reset.

- To exit from the test mode.

Turn off the ACC and back up.

Notes:

- a. During ejection, do not press any other keys than the EJECT key until the loaded disc is ejected.

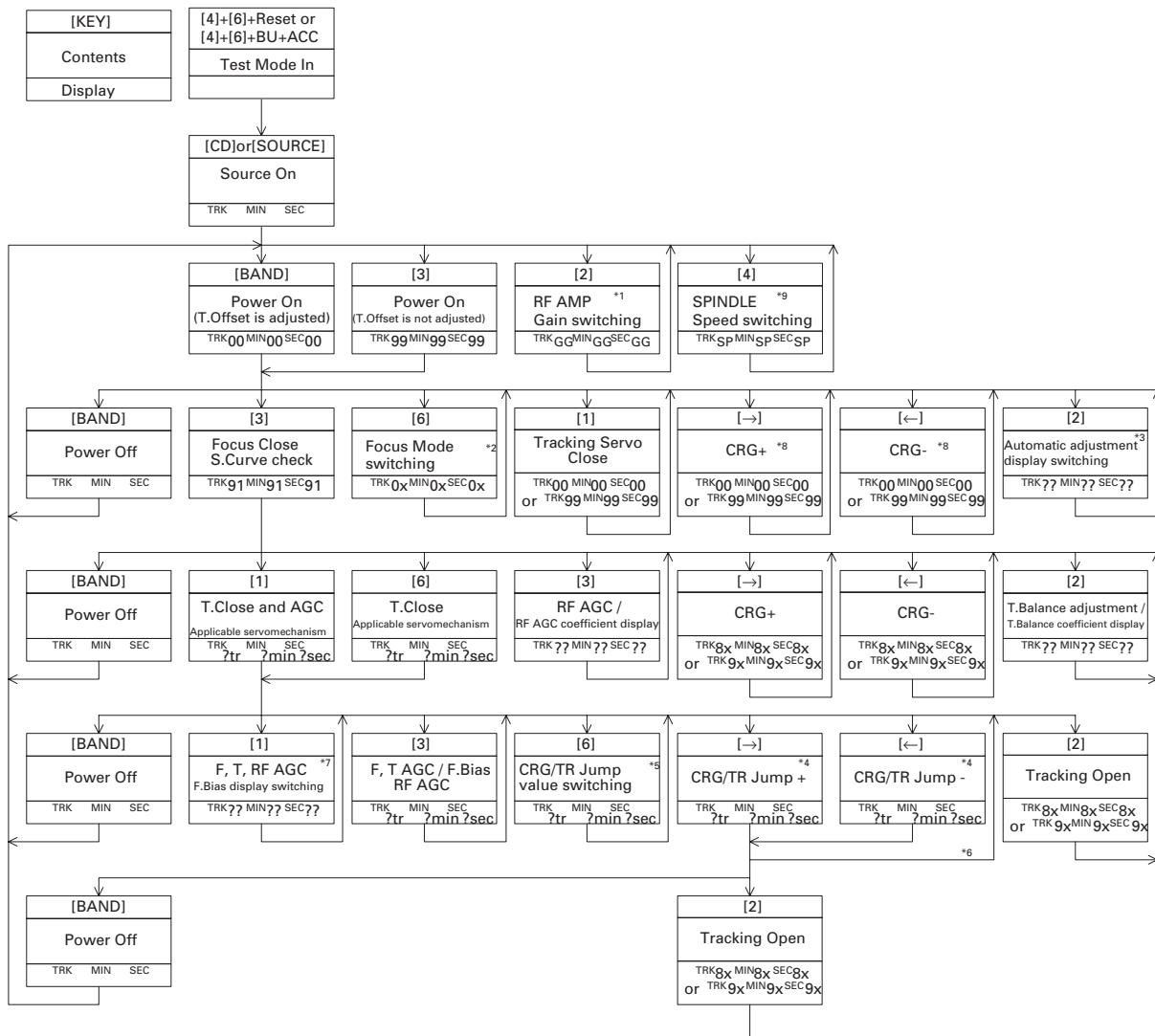
- b. If you have pressed the (→) key or (←) key during focus search, turn off the power immediately to protect the actuator from damage caused by the lens stuck.

- c. For the TR jump modes except 100TR, the track jump operation will continue even if the key is released.

- d. For the CRG move and 100TR jump modes, the tracking loop will be closed at the same time when the key is released.

- e. When the power is turned off and on, the jump mode is reset to the single TR (91), the RF amp gain is set to 0dB, and the auto-adjustment values are reset to the default settings.

● Flow Chart



*1) TYP
TRK MIN SEC → -6dB → -12dB
↑

*2) Focus Close → S.Curve check setting
TRK 00 MIN 00 SEC 00
(TRK 99 MIN 99 SEC 99) → F EQ measurement setting
TRK 01 MIN 01 SEC 01 → TRK 02 MIN 02 SEC 02

*3) F.Offset Display → T.Offset Display → Switch to the order of the original display
↑

*4) 1TR / 32TR / 100TR

*5) Single TR → 32TR → 100TR → CRG Move
9x(8x) : 91(81) 92(82) 93(83) 94(84)

*6) Only at the time of CRG Move, 100TR Jump

*7) TRK/MIN/SEC → F.AGC → T.AGC → F.Bias → RF AGC
↑

*8) CRG motor voltage = 2[V]

*9) TYP(1X)
TRK MIN SEC → 2X → 1X
↑

As for the double speed (2x), audio output cannot be supported.

TYP(2X) → 1X → 2X
↑

[Key]	Operation
	Test Mode
[BAND]	Power On/Off
[→]	CRG + / TR Jump + (Direction of the external surface)
[←]	CRG - / TR Jump - (Direction of the internal surface)
[1]	T.CLS and AGC and Applicable servomechanism / AGC, AGC display switching
[2]	RF Gain switching / Offset adjustment display / T.Balance adjustment / T.Open
[3]	F.Close, S.Curve / Rough Servo and RF AGC / F, T, RF AGC
[4]	SPDL 1X/2X switching As for the double speed (2x), audio output cannot be supported.
[5]	Error Rate measurement 1st-ON : ERR count beginning(30Sec) 2nd-ON : BER display data[%]
[6]	F. Mode switching / Tracking Close / CRG, TR Jump switching

6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT



A • 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.

B • Purpose :

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

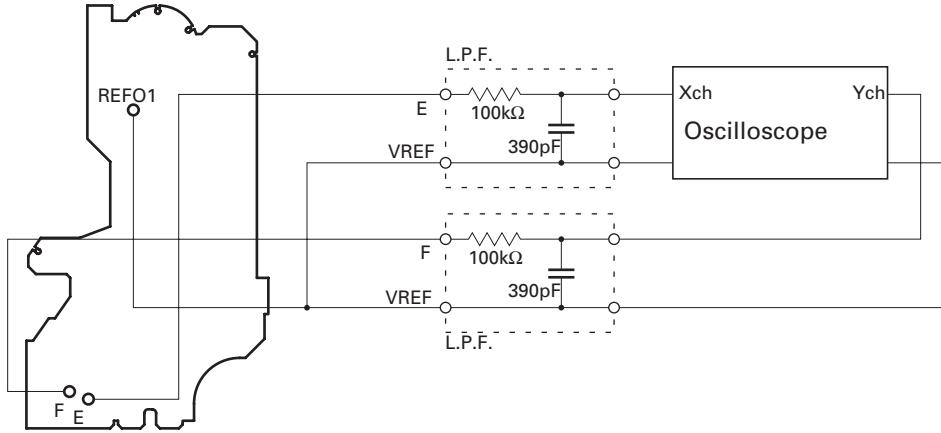
C • Symptoms of Mal-adjustment :

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.

D • Method :

- Measuring Equipment • Oscilloscope, Two L.P.F.
- Measuring Points • E, F, REFO1
- Disc • ABEX TCD-782
- Mode • TEST MODE

CD CORE UNIT(S10WMACODE2)



E • Checking Procedure

1. In test mode, load the disc and switch the 3V regulator on.
2. Using the → and ← buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3. 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.

F • 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.

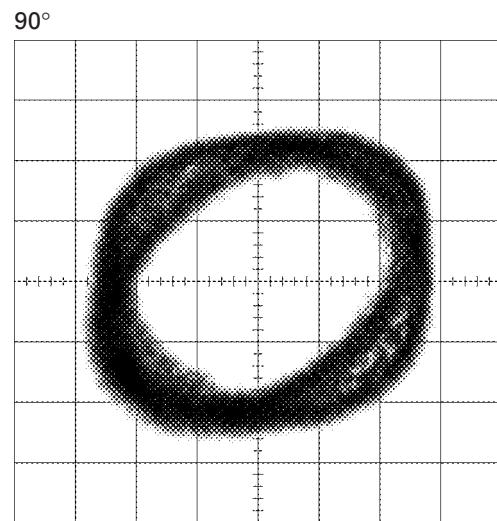
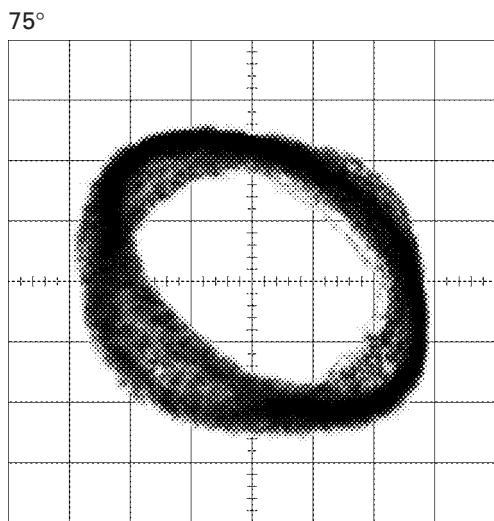
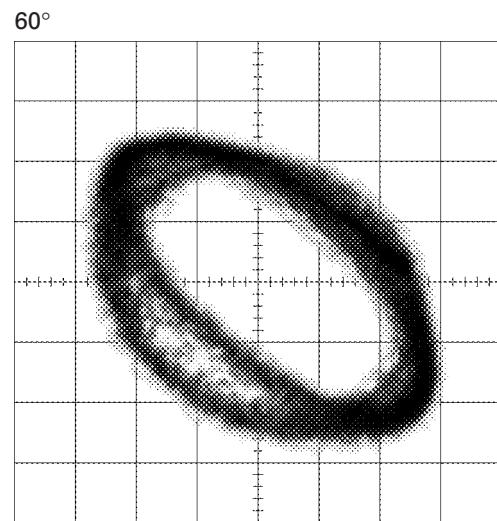
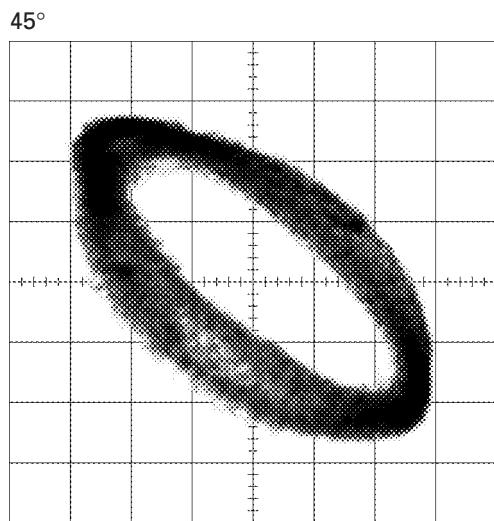
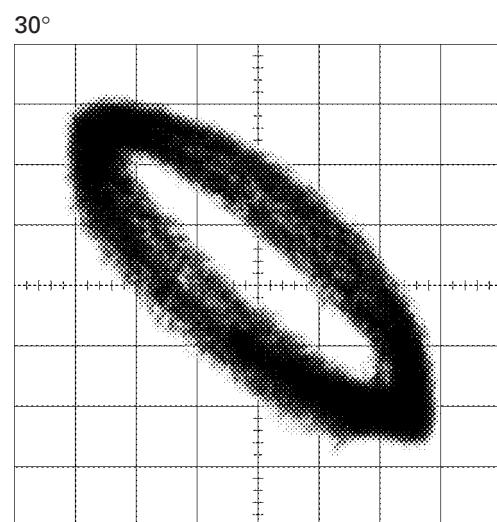
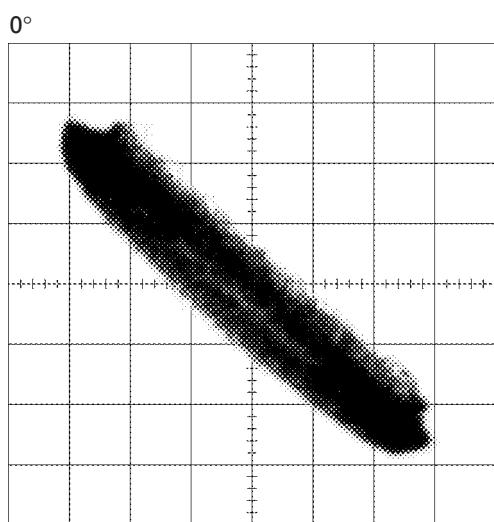
G • Hint

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

Grating waveform

Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC



A

B

C

D

E

F

6.4 ERROR MODE

A ● Error Messages

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

(1) Basic Indication Method

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

B 2) Head unit display examples

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

8-digit display	6-digit display	4-digit display
ERROR-xx	ERR-xx	E-xx

C (2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG SERVO LSI Communication Error	CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism. Communication error between microcomputer and SERVO LSI.
11	Electricity	Focus Servo NG	Focusing not available. → Stains on rear side of disc or excessive vibrations on REWRITABLE.
12	Electricity	Spindle Lock NG Subcode NG	Spindle not locked. Sub-code is strange (not readable). → Failure on spindle, stains or damages on disc, or excessive vibrations. A disc not containing CD-R data is found. Turned over disc are found, though rarely. CD signal error.
17	Electricity	Setup NG	AGC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations on REWRITABLE.
30	Electricity	Search Time Out	Failed to reach target address. → CRG tracking error or damages on disc.
44	Electricity	ALL Skip	Skip setting for all track. (CD-R/RW)
50	Mechanism	CD On Mech Error	Mechanical error during CD ON. → Defective loading motor, mechanical lock and mechanical sensor.
A0	System	Power Supply NG	Power (VD) is ground faulted. → Failure on SW transistor or power supply (failure on connector).

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

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

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

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

6.5 FREQUENCY CHECK FOR CLOCK



● PCL output

In the normal operation mode (with the detachable panel installed, the ACC switched ON, the standby mode cancelled), shift the TESTIN (Pin 88) terminal to H.

The clock signal is output from the PCL terminal (Pin 39).

The frequency of the clock signal is 468.5kHz that is one 32th of the fundamental frequency.

The clock signal should be $468.75\text{kHz} \pm 19\text{Hz}$.

If the clock signal is out of the range, the X'tal (X601) should be replaced with new one.

A

B

C

6.6 OEL SCREENSAVER STUDIO IKA TO LKD APPLICATION : GGV1168

"OEL Screensaver Studio" is an application to create OEL display image file. The customer write the image file on a CD-R disc and install it to car audio. This function is similar to PC link-kit (CD-PC1).

"OEL Screensaver Studio" is available to the public on the PIONEER Home Page.

This software (GGV1168) is added LKA to LKD file conversion function to original "OEL Screensaver Studio".

● How to check:

1. Set up GGV1168 application.
2. Confirm the LKA file (ent_disp.lka) is converted to LKD file correctly or not.

Please see a Readme.txt in the GGV1168 or help file of "OEL Screensaver Studio" for more information.

D

E

F

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● Removing the Case Unit (Fig.1)

- 1** Remove the screw and then remove the Case Unit.

*) Release the latches in order of the number indicated in Fig.1.

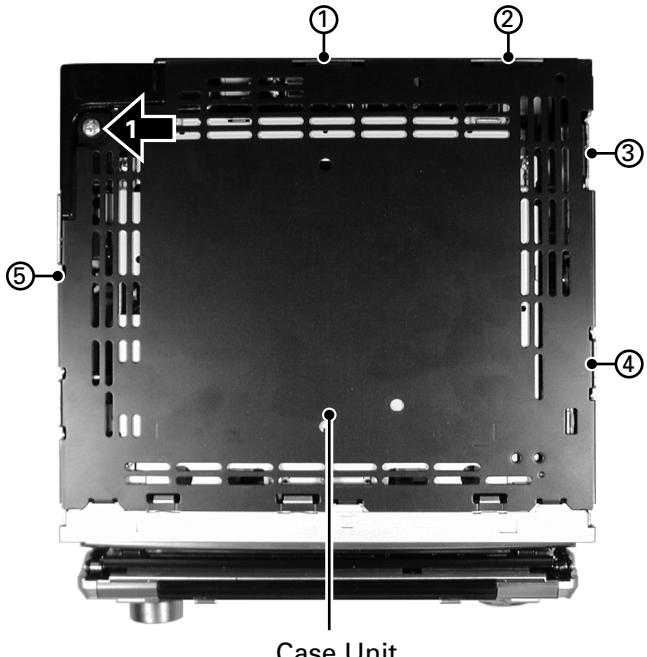


Fig.1

● Removing the CD Mechanism Module (Fig.2)

- 1** Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

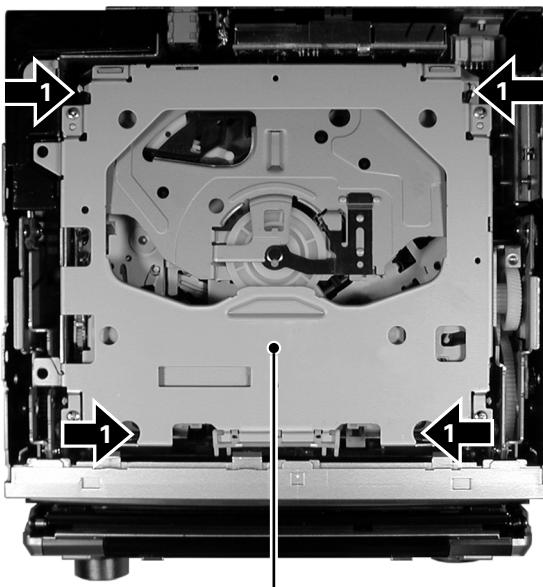


Fig.2

● Moving the Arm Unit position (Fig.3)

Use the finger. Rotate the gear in the direction indicated by arrow in Fig.3 until the Arm Unit moves to the 3 positions of a Fig.3.

*) There is a possibility of bending if load is added to the arm parts. It becomes the cause of defect of move of the grille parts. When you place a product, please go in the CLOSE POSITION.

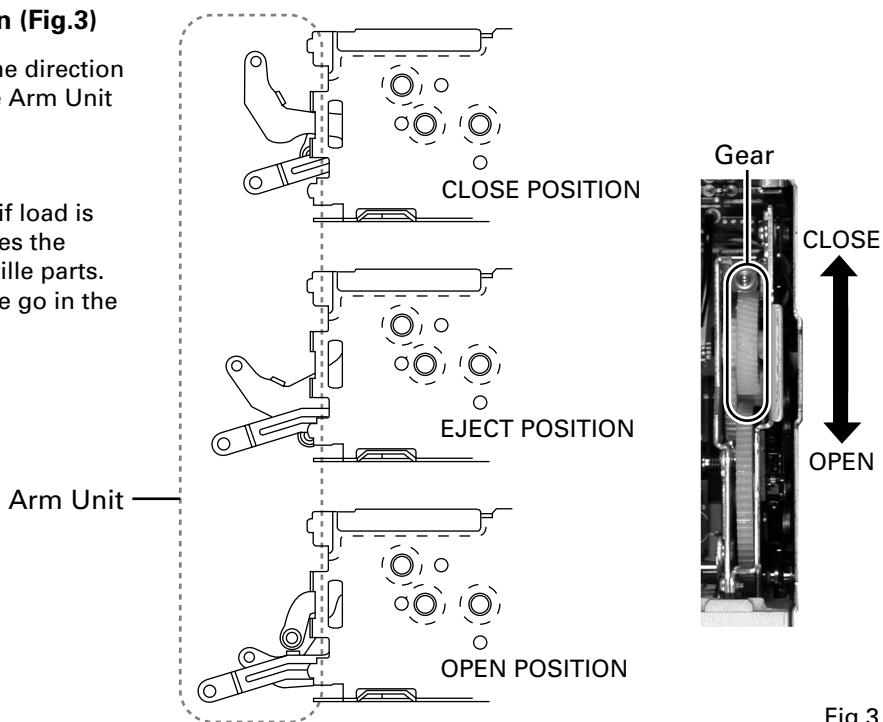


Fig.3

● Removing the Detach Grille Assy and Grille Assy

Move the Arm Unit to the OPEN POSITION. (Fig.3)

1 Remove the two screws. (Fig.4)

Disconnect the connector and then remove the Detach Grille Assy.

*) When installing the screws, please make sure that the spring is also installed.

2 Remove the two screws. (Fig.4)

Move the Arm Unit to the EJECT POSITION. (Fig.3)

Disconnect the connector and then remove the Grille Assy.

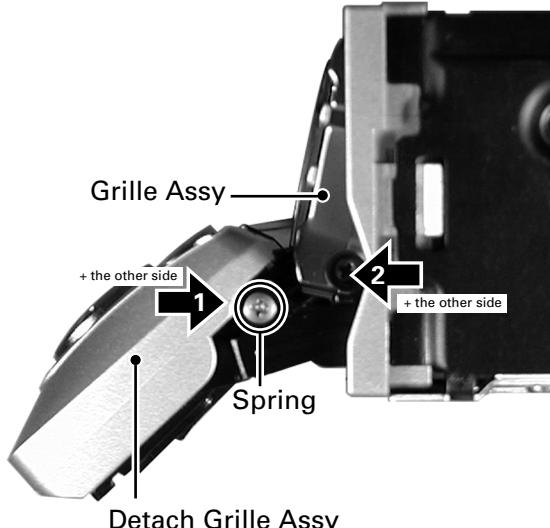


Fig.4

● Removing the Panel Unit

Move the Arm Unit to the OPEN POSITION. (Fig.3)

1 Remove the two screws and then remove the Panel Unit. (Fig.5)

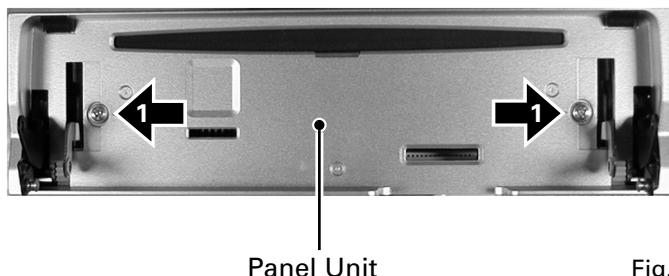


Fig.5

● Removing the Gear Unit

A Move the Arm Unit to the CLOSE POSITION. (Fig.3)

- 1** Remove the four screws and then remove the Gear Unit. (Fig.6)

*) When you remove or install the Gear Unit, do so with the Arm Unit in the CLOSE POSITION.

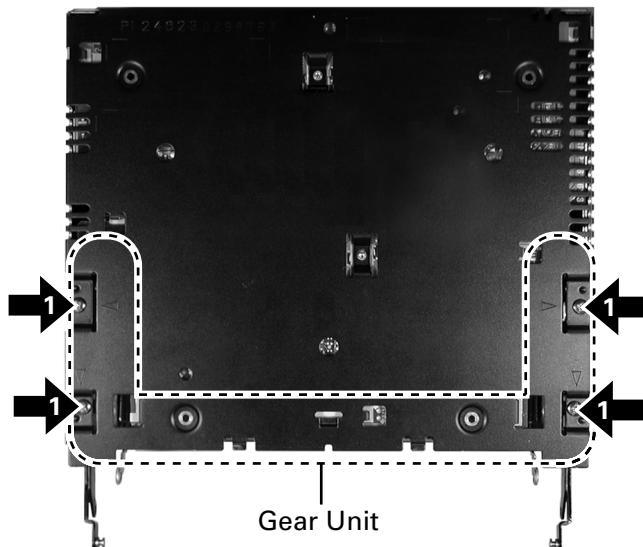
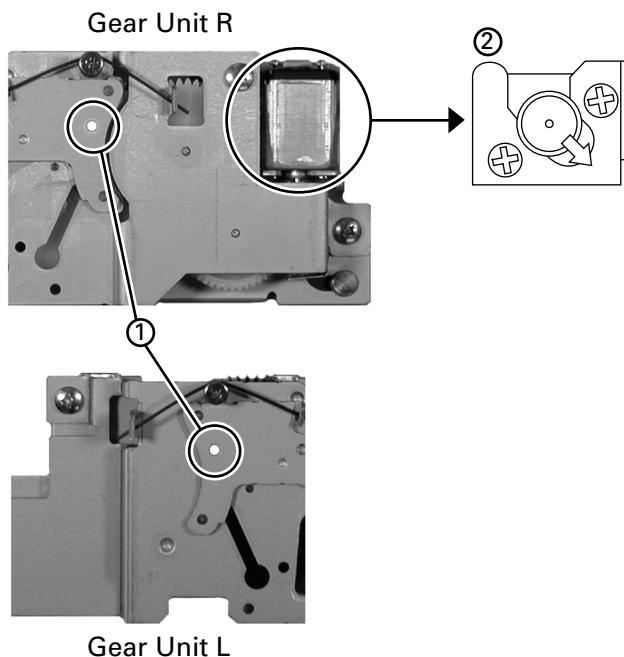


Fig.6

● Checkpoints for the Gear Unit

1. When you disassemble or assemble the Gear Unit, do so with the Arm Unit in the CLOSE POSITION.
Make sure that the Arm Unit is in the CLOSE POSITION by seeing the other side of the unit through the fully circular hole shown in the figure.
2. When you install the motor, fix the screws holding the motor in the direction of the arrow shown in the figure.



● Removing the Tuner Amp Unit (Fig.7)

There are two ways of removing the Tuner Amp Unit.

One is to remove the Gear Unit (Fig.6), then Tuner Amp Unit, and the other is to remove the Panel Unit (Fig.5), then Tuner Amp Unit.

- 1 Remove the three screws.
- 2 Remove the screw.
- 3 Remove the two screws.
- 4 Straighten the tabs at two locations indicated.
- 5 Remove the two screws and then remove the Tuner Amp Unit.

*) The Tuner Amp Unit may appear slightly different to the unit shown at right.

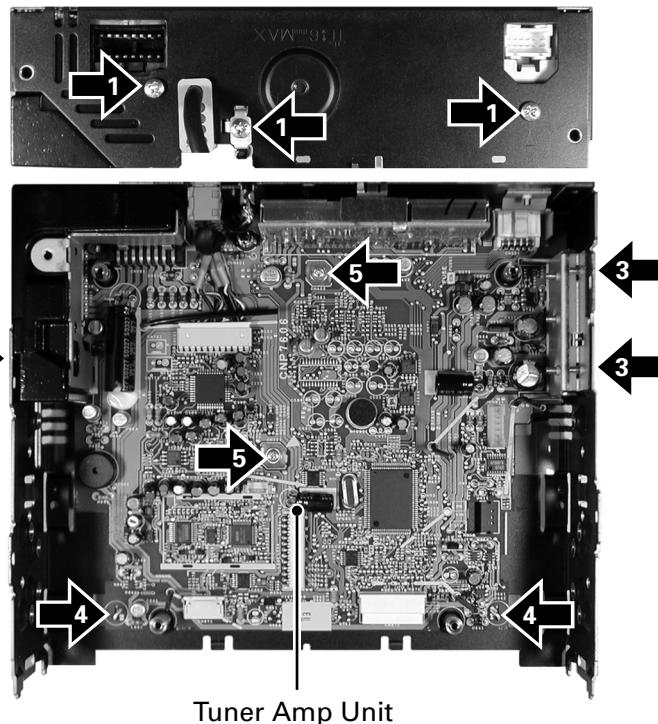
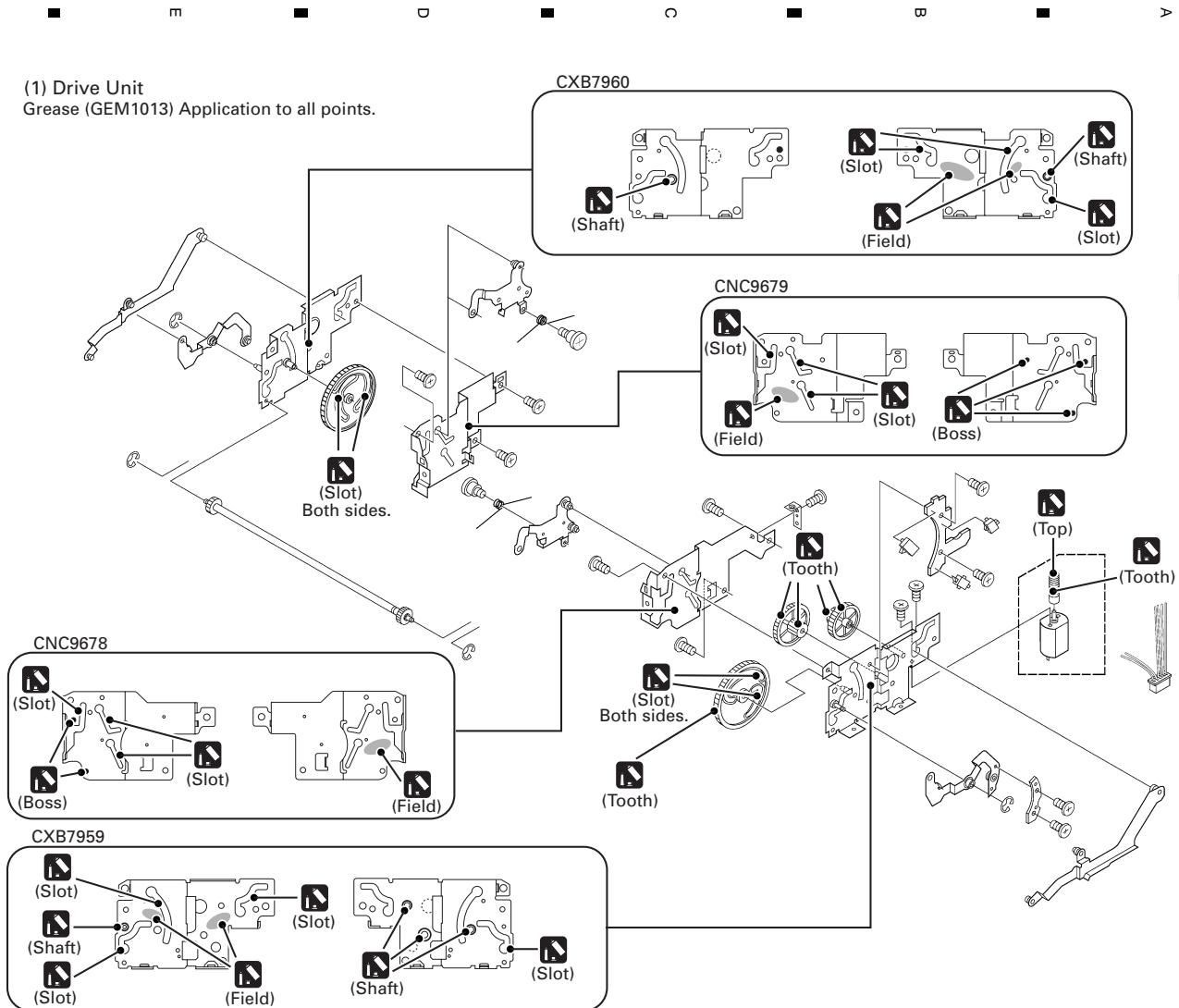


Fig.7

● Lubricants Points



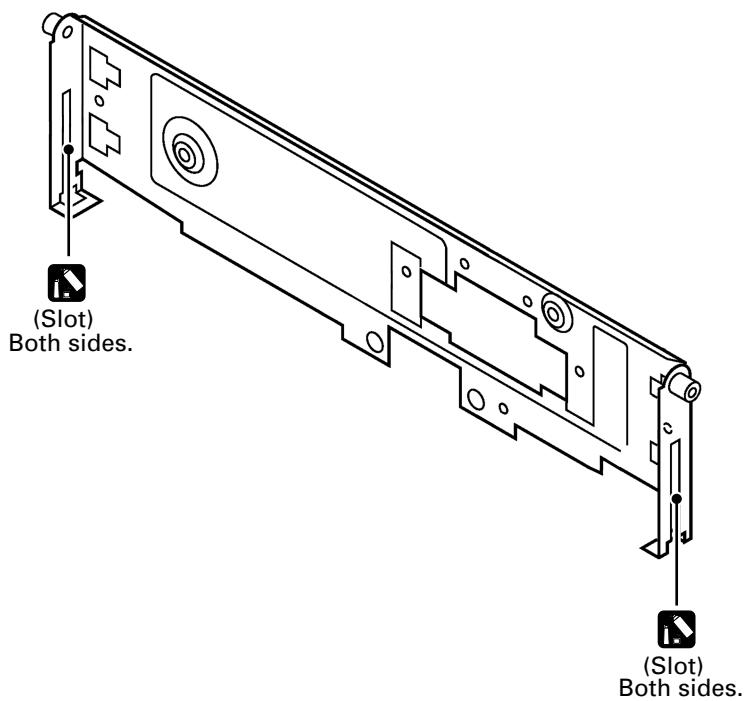
(1) Drive Unit
Grease (GEM1013) Application to all points.



(2) Case Unit (CXC2406)

Lubricants (GEM1056) Application to all points.

A



B

C

D

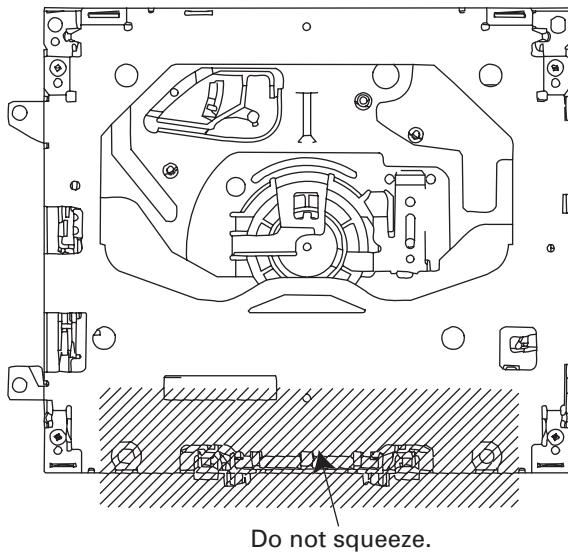
E

F

A

● How to hold the Mechanism Unit

1. Hold the top and bottom frame.
2. Do not squeeze top frame's front portion too tight, because it is fragile.

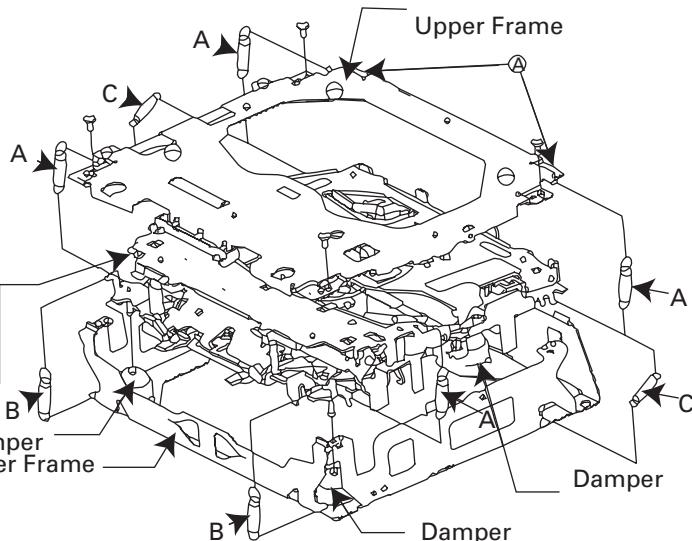


B

● Removing the Upper and Lower Frames

1. With a disc clamped, remove the four springs (A), the two springs (B), the two springs (C), and the four screws.
2. To remove the upper frame, open it on the fulcrum A.
3. While lifting the carriage mechanism, remove the three dampers.
4. With the frames removed, insert the connectors coming from the main unit and eject the disc.

Caution: Before installing the carriage mechanism in the frames, be sure to apply some alcohol to the dampers and set the mechanism to the clamp mode.



C

D

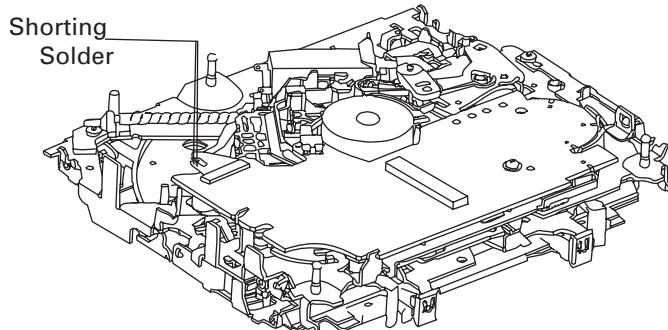
E

F

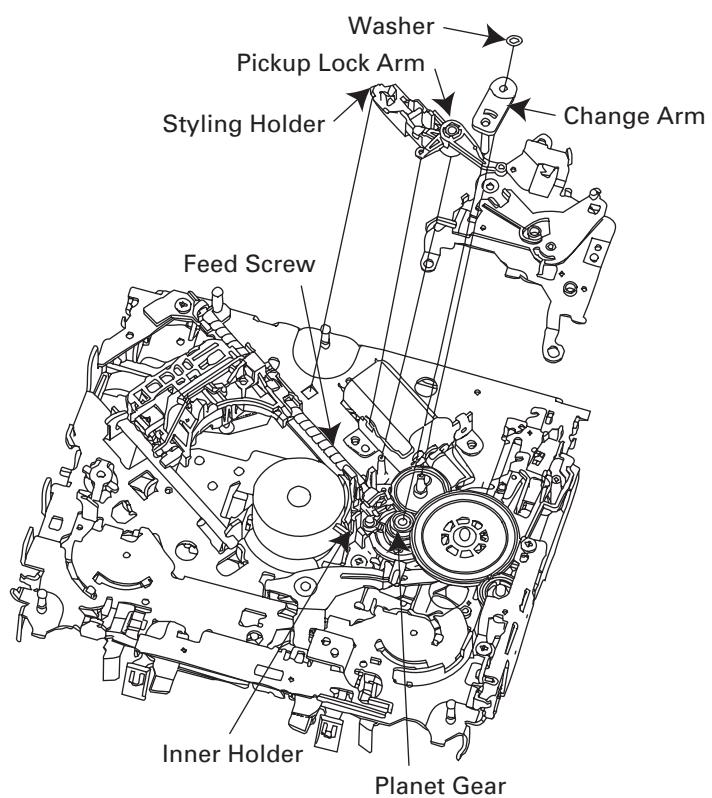
● Removing the Pickup Unit

1. Apply shorting solder to the Pickup flexible cable.
Disconnect the cable.
2. Set the mechanism to the clamp mode.
3. Remove the lead wires from the inner holder.
4. Remove the washer, styling holder, change arm, and pickup lock arm.
5. While releasing from the hook of the inner holder, lift the end of the feed screw.

Caution: In assembling, move the planet gear to the load/eject position before setting the feed screw in the inner holder.



A



C

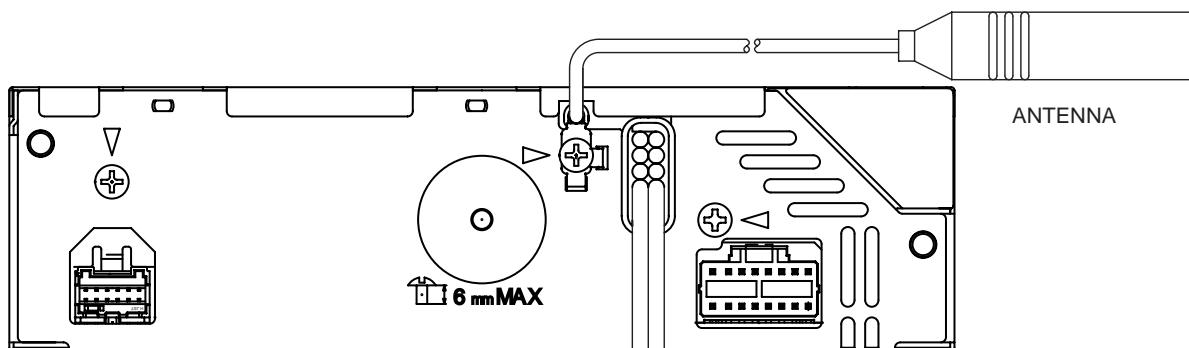
D

E

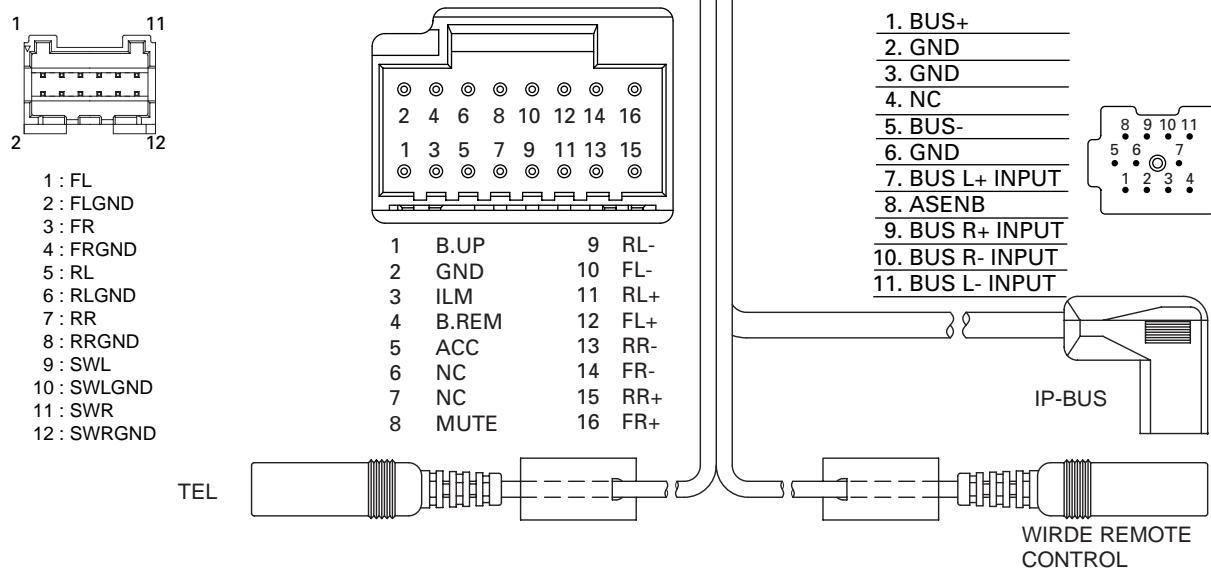
F

7.1.2 CONNECTOR FUNCTION DESCRIPTION

A



B



C

D

E

F

7.2 PARTS

7.2.1 IC

PD5913A	PD5917A	S-812C33AUA-C2N
BD4835G	PD6340A	S-L2980A15MC-C6A
PCM1606EG	PD8122A	BA5835FM
AK7730VT	PD6460A	
HA12240FP	UPD63761GJ	
TC7WH32FK	PE5423A	

● Pin Functions(PD5913A)

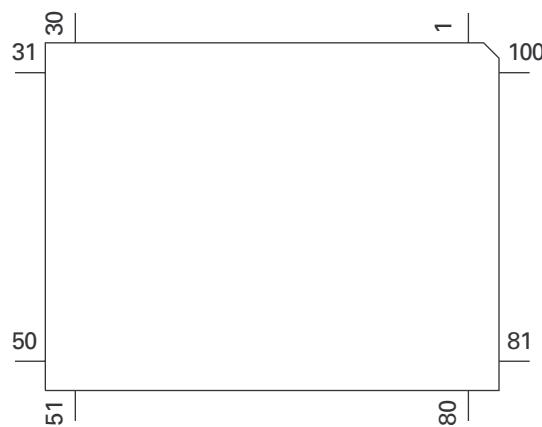
Pin No.	Pin Name	I/O	Function and Operation
1	BSO	O	P-BUS data output
2	BSCK	I/O	P-BUS clock input/output
3	DUALILM	O	LCD illumination select output
4	CSENSOUT	O	CDS eject sense output
5	DSPOUT	O	DSP output
6	DSPIN	I	DSP input
7	DSPCK	O	DSP clock output
8	BYTE		VSS
9	CNVSS		VSS
10	TELIN	I	TEL mute input
11	FLPPW	O	Auto flap motor control output
12	RESET	I	Reset input
13	XOUT	O	Crystal oscillating element connection output
14	VSS		GND
15	XIN	I	Crystal oscillating element connection input
16	VCC1		Power supply
17	NMI		(Pull up)
18	RCK	I	RDS clock input
19	LDET	I	RDS PLL lock detection input
20	DALMON	O	For consumption low-current output
21	IPBUSIN2	I	IP-BUS input
22	OELPW	O	OEL power supply control output
23	SYSPW	O	System power output
24	PEE	O	PEE output
25	RDS57K	I	RDS 57kHz pulse count input
26	ROMCS	O	ROM collection chip select output
27	ROMCK	O	ROM collection clock output
28	ROMDATA	I/O	ROM collection data input/output
29	IPBUSIN	I	IP-BUS input
30	IPBUSOUT	O	IP-BUS output
31	DPDT1	O	OEL display microcomputer communicator data output
32	KYDT1	I	OEL display microcomputer communicator data input
33,34	NC		Not used
35	DPDT2	O	LCD display microcomputer communicator data output
36	KYDT2	I	LCD display microcomputer communicator data input
37,38	ROT1, 0	I	Rotary encoder input
39	PCL	O	Clock adjustment output
40	SWVDD1	O	OEL display microcomputer power output
41	DISPPW	O	LCD power supply control output
42	ILMPW 1	O	OEL illumination power output
43	ILMPW 2	O	LCD illumination power output
44	DSPPW	O	DSP power output

A

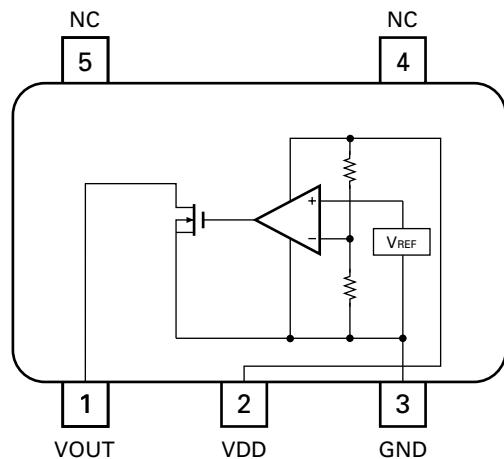
Pin No.	Pin Name	I/O	Function and Operation
45	DSPMOD	I	DSP mode input
46	RDSLK	I	RDS lock signal input
47	RDT	I	RDS data input
48,49	GDTC2,1	O	GDTC output
50	INTI_RESET	O	Initialize reset output
51	S_RESET	O	S reset output
52	DSP_RQ	O	DSP request output
53	DSP_DRDT	I	DSP data ready input
54	DSP_RDY	I	DSP IF ready/Busy input
55	PDO	O	PLL data output
56	PDI	I	PLL data input
57	PCK	O	PLL clock output
58	EMPOUT	O	Emphasis information output
59	BRXEN	I/O	P-BUS communication input/output
60	BRST	O	P-BUS reset output
61	LRCKOK	I	LRCK OK input
62	VCC		Power supply
63	MCKRQ	I	Master clock request input
64	VSS		GND
65	FLPCLS	O	Auto flap close output
66	FLPOPN	O	Auto flap open output
67	FLPEJSW	I	Auto flap eject sense input
68	FOPNSW	I	Auto flap open sense input
69	FCLSSW	I	Auto flap close sense input
70	FLPILM	O	Disc loading slot illumination output
71	PCE2	I	PLL chip enable input
72	PCE	I	PLL chip enable input
73	BSENS	I	Back up sense input
74	ASENS	I	ACC sense input
75	NC		Not used
76	DSP_CS	O	DSP chip select input
77	EVOL_CS	O	EVOL chip select input
78	NC		Not used
79	SWVDD2	O	LCD display microcomputer power supply output
80	SMODE	O	S-MODE output
81	IPPW	O	IP-BUS driver power supply control output
82	ASENBO	O	ACC sense output
83	ISENS	I	Illumination sense input
84	DIMMER	O	LCD dimmer output
85	BSRQ	I	P-BUS communication request input
86	NC		Not used
87	MUTE	O	Mute output
88	TESTIN	I	Test program input
89	EMPIN	I	Emphasis information input
90	ASLIN	I	ASL input
91,92	NC		Not used
93	KEYD	I	Key data input
94	DSENS	I	Detach sense input
95	KEYAD	I	Remote control key input
96	AVSS		A/D converter power supply input
97	SL	I	Tuner signal level input
98	VREF		A/D converter reference voltage
99	AVCC		A/D converter power supply input
100	BSI	I	P-BUS data input

F

*PD5913A



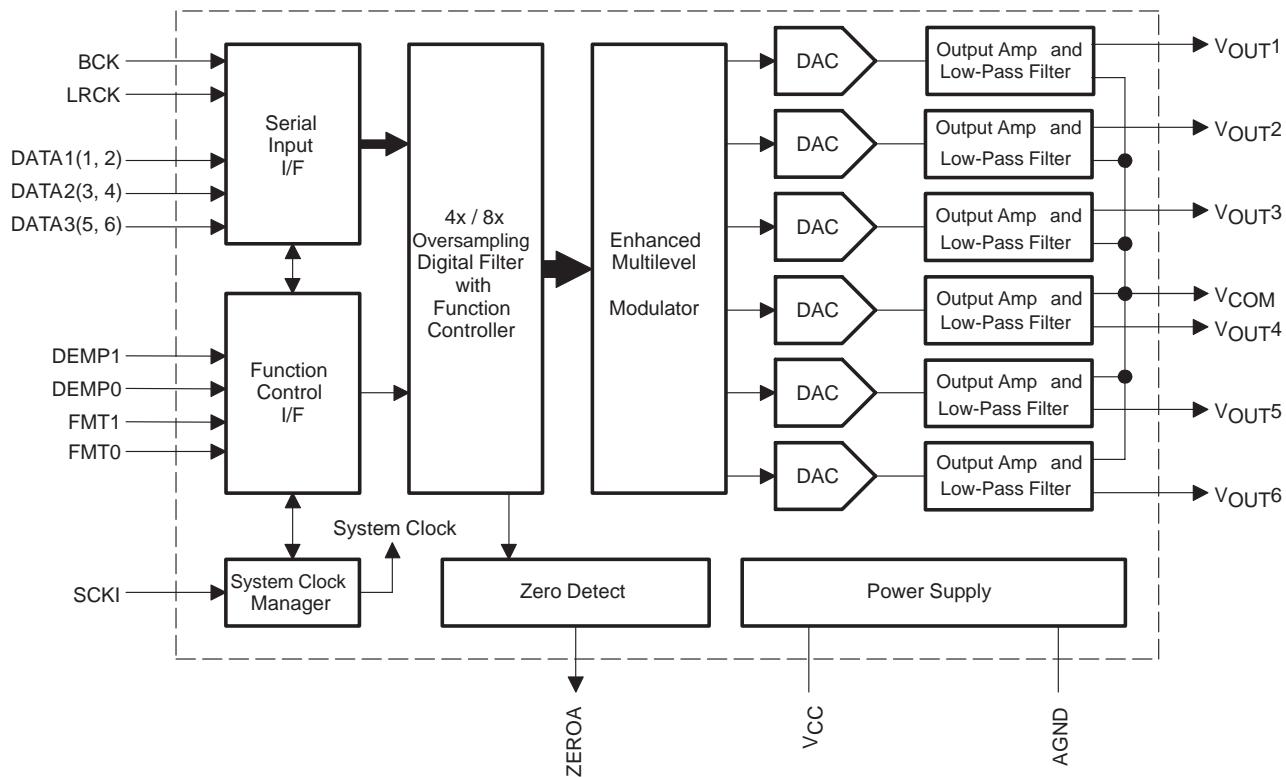
BD4835G



IC's marked by * are MOS type.

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

*PCM1606EG

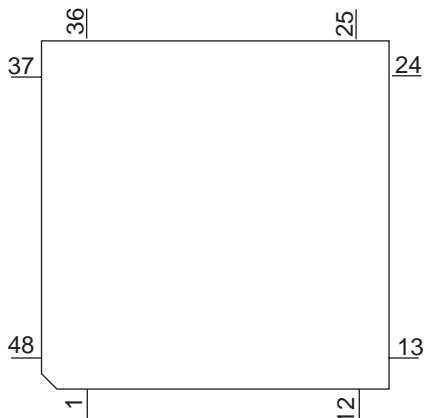


DATA1	1	20	SCKI
DATA2	2	19	BCK
DATA3	3	18	LRCK
FMT1	4	17	DEMP1
FMT0	5	16	DEMP0
ZEROA	6	15	VCC
AGND	7	14	VCOM
VOUT5	8	13	VOUT4
VOUT6	9	12	VOUT3
VOUT1	10	11	VOUT2

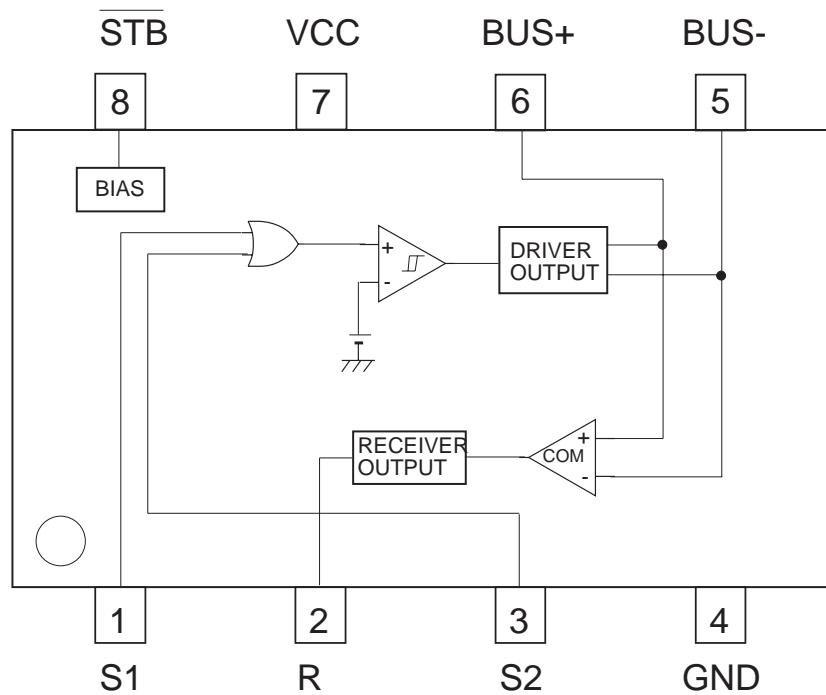
● Pin Functions(AK7730VT)

	Pin No.	Pin Name	I/O	Function and Operation
A	1	EESEL	I	Control Mode select pin (Pull down)
	2	JX0/SDIN4A	I	External conditional jump pin / DSP serial data input pin (Pull down)
	3, 4	SDIN3, 2/JX1, 2	I	DSP serial data input pin / External condition jump pin (Pull down)
	5	SDIN1	I	DSP serial data input pin (Pull down)
	6	CKS1	I	Master clock (XTI) select pin (Pull down)
	7	BVSS		Silicon substrate potential 0V
	8	DVSS		Ground pin for digital section 0.0V
	9	DVDD		Power supply pin for digital section 3.3V (typ)
	10-13	SDOUT4-1	O	DSP Serial data output pin
	14	BITCLK_I	I	Serial bit clock input pin
	15	LRCLK_I	I	LR channel select clock input pin
B	16	BITCLK_O	O	Serial bit clock output pin
	17	LRCLK_O	O	LR channel select clock output pin
	18	RDY	O	Data write ready output pin for microcomputer interface
	19	DRDY	O	Output data ready pin for Microcomputer interface
	20	CS	I	Chip select pin for Microcomputer interface (pull down)
	21	DVDD		Power supply pin for digital section 3.3V (typ)
	22	DVSS		Ground pin for digital section 0V
C	23, 24	CLKO1, 2	O	Clock output pin
	25	XTO	O	Crystal oscillator output pin
	26	XTI	I	Master clock input pin
	27	DVSS		Ground pin for digital section 0V
	28	DVDD		Power supply pin for digital section 3.3V (typ)
	29	SMODE	I	Slave / Master mode selector pin
	30	SO	O	Serial data output pin for Microcomputer interfaces
	31	SI	I	Microcomputer interface serial data input and serial data output control pin
	32	SCLK	I	Microcomputer interface serial data clock pin
	33	RQ	I	Microcomputer interface write request pin
	34	S_RESET	I	System Reset pin
	35	INIT_RESET	I	Reset pin (for initialization)
	36	CKS0	I	Master clock (XTI) select pin (pull down)
	37	LFLT		Filter connection pin for PLL
	38	AVSS		Analog ground 0V
D	39, 40	AVDD		Power supply pin for analog section 3.3V (typ)
	41	VREFH	I	Analog reference voltage input pin
	42	VCOM	O	Common voltage
	43	VREFL	I	Analog reference voltage input pin for low-level
	44	AVSS		Analog ground 0V
	45	AINR-	I	ADC Rch analog inverted input pin
	46	AINR+	I	ADC Rch analog non-inverted input pin
	47	AINL-	I	ADC Lch analog inverted input pin
	48	AINL+	I	ADC Lch analog non-inverted input pin

* AK7730VT

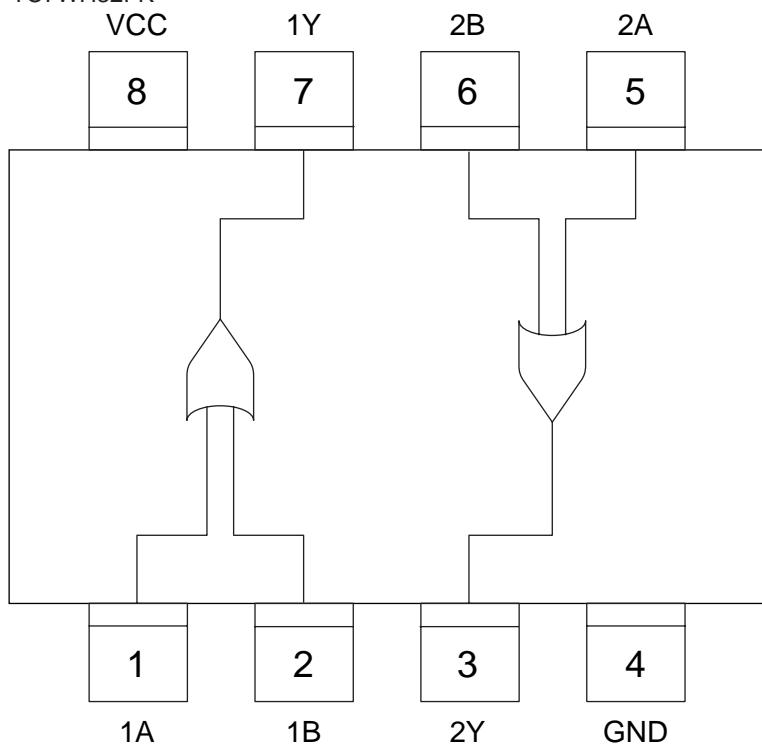


*HA12240FP



A

*TC7WH32FK



C

D

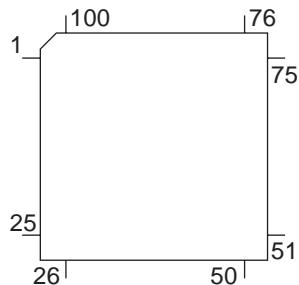
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● Pin Functions (PD5917A)

Pin No.	Pin Name	I/O	Function and Operation
1	ROMCS		ROM chip select
2,3	NC		Not used
4,5	KD2,1	I	Key data input
6	BYTE	I	GND
7	CNVSS	I	GND
8,9	NC		Not used
10	RESET	I	Reset input
11	XOUT	O	Crystal oscillating element output
12	VSS1		GND
13	XIN	I	Crystal oscillating element input
14	VCC1		VCC
B	NMI	I	NMI input
16-19	NC		Not used
20	CD_DATA	O	CD data output
21	NC		Not used
22	CKC	O	Fixed pulse output for cathode driver output
23	NC		Not used
24	LS	O	Line sink signal output
25	NC		Not used
26	CKD	O	Data transport / Driver clock output
27	DPDT	I	Display data input
28	KYDT	O	Key data output
29	D1_L	O	Display data MSB output
C	MC15		Not used
31	CLK1	I	Clock input
32	RS2	O	Read signal output
33	D0_L	O	Display data LSB output
34	NC		Not used
35	CLK0	I	Clock input
36	RS1		Read signal
37,38	NC		Not used
39	HOLD		(Pull up)
40	NC		Not used
41	BCLK		(Pull up)
D	RD	O	Read strobe output
43	NC		Not used
44	wr	O	Write output
45-48	CS3-0	O	ROM chip select output
49	A19	O	Address bus output
50	NC		Not used
51-59	A17-9	O	Address bus output
60	VCC2		VCC
61	A8	O	Address bus output
62	VSS		GND
63-69	A7-1	O	Address bus output
70	NC		Not used
E	D15-0	I/O	Data bus input/output
87	NC		Not used
88	FLBUSY	O	Flash memory busy output
89	FLSTBY	O	Flash memory stand by output
90	FL12ON	O	Flash memory selector protect output
F	NC		Not used
93	KS2	I/O	Key strobe input/output
94	AVSS		VSS
95	KS1	I/O	Key strobe input/output
96	VREF		VSS
97	AVCC		VCC
98	ROMDATA	I/O	ROM data input output
99	NC		Not used
100	ROMCLOCK	O	ROM clock output

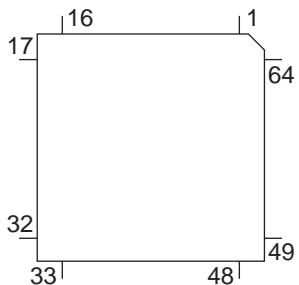
*PD5917A

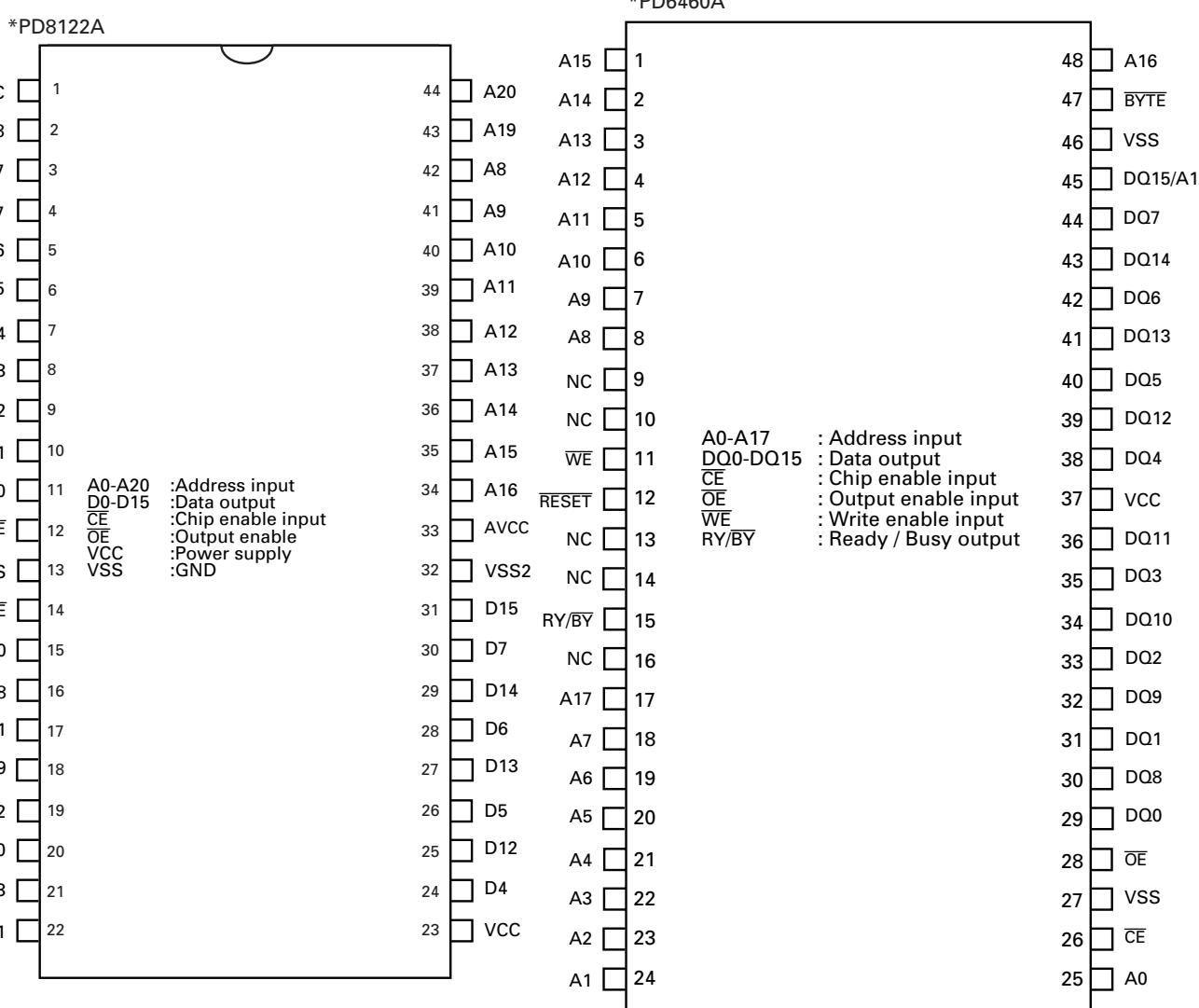


● Pin Functions (PD6340A)

Pin No.	Pin Name	I/O	Function and Operation
1,2	SEG1,0	O	LCD segment signal output
3-5	NC		Not used
6-9	COM3-0	O	LCD common signal output
10	VLCD		LCD driver power supply
11-14	KST3-0	O	Key strobe output
15,16	KDT0,1	I	Key data input(Analog)
17	REM	I	Remote control data input
18	DPDT	I	Display data input
19	NC		Not used
20	KYDT	O	Key data output
21	MODA		GND
22	X0		Crystal oscillating element connection pin
23	X1		Crystal oscillating element connection pin
24	VSS		GND
25,26	KDT2,3	I	Key data input
27	NC		Not used
28	KST4	O	Key strobe output
29-33	NC		Not used
34-55	SEG31-10	O	LCD segment signal output
56	VDD		Power supply
57-64	SEG9-2	O	LCD segment signal output

*PD6340A





A

B

C

D

E

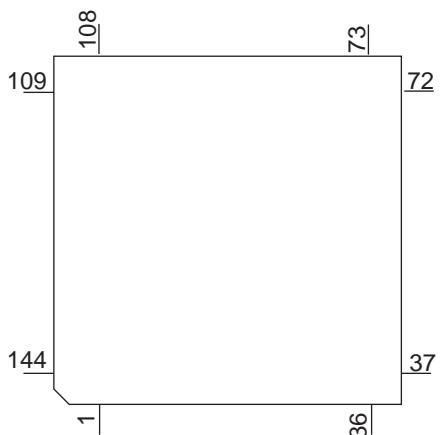
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● Pin Functions(UPD63761GJ)

Pin No.	Pin Name	I/O	Function and Operation
1	D.VDD		Power supply for digital circuits
2	D1.GND		GND for 1.6V digital circuits
3	RESET	I	Input of reset
4-8	AB12-8	I	Address bus 12-8 from the microcomputer
9-16	AD7-0	I/O	Address/data bus 7-0 to the microcomputer
17	CS	I	Chip selection
18	ASTB	I	Address strobe
19	READ	I	Control signals(read)
20	WRITE	I	Control signals(write)
21	WAIT	O	Control signals(wait)
22	INTQ	O	Interruption signals to the external microcomputer
23, 24	IFMODE0, 1	I	Switching the microcomputer I/F 0, 1
25	D1.VDD		Power supply for 1.6V digital circuits
26	DA.VDD		Power supply for DAC
27	ROUT	O	Output of audio for the right channel
28	DA.GND		GND for DAC
29	REGC		Connected to the capacitor for band gap
30	DA.GND		GND for DAC
31	LOUT	O	Output of audio for the left channel
32	DA.VDD		Power supply for DAC
33	X.VDD		Power supply for the crystal oscillator
34	XTAL	I	Connected to the crystal oscillator(16.9344MHz)
35	XTAL	O	Connected to the crystal oscillator(16.9344MHz)
36	X.GND		Ground for the crystal oscillator
37	VDDREG15		Control of 1.6V regulator
38	PWMSW0	I	Setup 0 for PWM output(SD, MD)
39-41	TEST3-1	I	Connected to GND
42	PWMSW1	I	Setup 1 for PWM output(FD, TD)
43	TESTEN	I	Connected to GND
44	D1.GND		GND for 1.6V digital circuits
45	DIN	I	Input of audio data
46	DOUT	O	Output of audio data
47	SCKIN	I	Clock input for audio data
48	SCKO	O	Clock output for audio data
49	LRCKIN	I	Input of LRCK for audio data
50	LRCK	O	Output LRCK for audio data
51	XTALEN	I	Permission to oscillate 16.9344MHz
52	D1.VDD		Power supply for 1.6V digital circuits
53	RFCK/HOLD	O	Output of RFCK/HOLD signal
54	WFCK/MIRR	O	Output of WFCK/MIRR signal
55	PLCK	O	Output of PLCK
56	LOCK/RFOK	O	Output of LRCK/Output of RFOK
57	C1D1/C8M	O	Information on error correction/C8M : 8MHz
58	C1D2/C16M	O	Information on error correction/C16M : 16MHz
59	C2D1/RMUTE	O	Information on error correction/Mute for Rch
60	C2D2/LMUTE	O	Information on error correction/Mute for Lch
61	C2D3/SHOCK	O	Information on error correction/Detection of vibration
62	D1.GND		GND for 1.6V digital circuits
63	C33M	O	Output of 33.8688MHz(CLK for SDRAM)
64	(RCS)	O	DRAM CS
65	RA11	O	Output of DRAM address 11
66	(CKE)	O	Output of DRAM CKE
67	RAS	O	Output of DRAM RAS
68	CAS0(LDQM)	O	Output of DRAM lower CAS(LDQM)
69	CAS1(UDQM)	O	Output of DRAM upper CAS(UDQM)
70	WE	O	Output of DRAM WE
71	OE(CAS)	O	Output of DRAM OE(CAS)
72	D.GND		Ground for digital circuits
73-88	RDB0-15	I/O	Input/output of DRAM data0-15
89-99	RA0-10	O	Output of DRAM address0-10

Pin No.	Pin Name	I/O	Function and Operation
100	D.VDD		Power supply for digital circuits
101	FD+	O	Output of focus drive PWM +
102	FD-	O	Output of focus drive PWM -
103	TD+	O	Output of tracking drive PWM +
104	TD-	O	Output of tracking drive PWM -
105	SD+	O	Output of thread drive PWM +
106	SD-	O	Output of thread drive PWM -
107	MD+	O	Output of spindle drive PWM +
108	MD-	O	Output of spindle drive PWM -
109	REFOUTSV	O	REFOUT for servo
110	AD.VDD		Power supply for ADC
111	EFM	O	Output of EFM signals
112	ASY	I	Input of asymmetry
113	ATEST	O	Analog tests
114	RFI	I	Input of RF
115	AD.GND		Ground for the analog system
116	AGCO	O	Output of RF
117	C3T	O	Connection to the capacitor for detecting 3T
118	AGCI	I	Input of AGC
119	RFO	O	Output of RF(AGC)
120, 121	EQ2, 1	I	Equalizer 2, 1
122	RF2-	I	Reversal input of RF2
123	RF-	I	Reversal input of RF
124	A.GND		Ground for the analog system
125	A	I	Input of A
126	C	I	Input of C
127	B	I	Input of B
128	D	I	Input of D
129	F	I	Input of F
130	E	I	Input of E
131	VREFIN	I	Input of reference voltage
132	A.VDD		Power supply for the analog system
133	REFOUT	O	Output of reference voltage
134	REFC	I	Connected to the capacitor for output of REFOUT
135	FE-	I	Reversal input of FE
136	FEO	O	Output of FE
137	ADIN	I	Input of FE, TE A/D converter
138	TE-	I	Reversal input of TE
139	TEO	O	Output of TE
140	TE2	O	TE2
141	TEC	I	TEC
142	LD	O	Output of LD
143	PD	I	Input of PD
144	D.GND		Ground for digital circuits

*UPD63761GJ

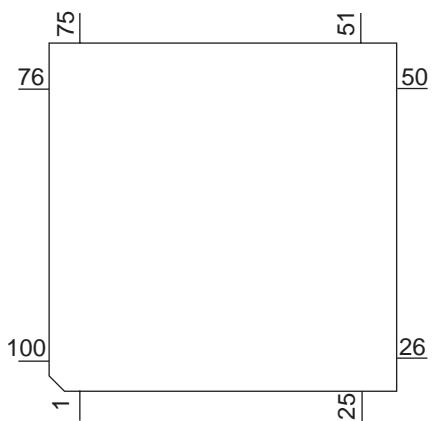


● Pin Functions(PE5423A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	AVREF			A power supply Positive power supply(5V)
2	AVSS			A power supply GND
3	RFOK	O	C	Output of state of RFOK
4	CLAMP	I	C	CLAMP SW sense input
5	EVDD			E power supply Positive power supply
6	PWM			For changer(PWM)
7	NC			Not used
8	IC/FLMD0			IC : VSS direct connection/FLMOD0 : Pull-down
9	VDD			Positive power supply(5V)
10	REGC			Connected to the capacity stabilizing output of the regulator
11	VSS			GND
12	X1	I		Oscillator connection for mainclock
13	X2			Oscillator connection for mainclock
14	RESET	I		System reset input
15	XT1	I		Connected to the oscillator for subclock (connected to VSS via the resistor)
16	XT2			Connected to the oscillator for subclock(Open)
17	PULLDOWN	I		Connected to EVDD or EVSS via the resistor
18	EJSW	I	C	Eject key input
19	XINT		C	CD LSI interruption signal input
20	NC			Not used
21	BRST	I		P-Bus reset input
22	BSI	I		P-Bus serial data input
23	BSO	O	C	P-Bus serial data output
24	BSCK	I/O	/C	P-Bus serial clock input/output
25	FTXD	O	C	For flash rewriting(transmitted signal)
26	FRXD	I		For flash rewriting(received signal)
27	BRXEN	I/O	/C	It is possible to receive P-Bus
28	BSRQ	I/O	/C	P-Bus service request demand
29	DSPOK	I		DSP microcomputer initialization OK input
30	DSCSNS(S903)	I		Disc state sense input
31	8EJ(S905)	I		Input of detection of 8 cm disc ejection
32	12EJ(S904)	I		Input of detection of 12 cm disc ejection
33	EVSS			E power supply GND
34	EVDD			E power supply Positive power supply
35, 36	SRAMLEVEL0, 1	O	C	SRAM level meter output
37	EMPH	O	C	Emphasis information output
38	EMPH	O	C	Emphasis information output
39-42	NC			Not used
43	ADENA	O	C	A/D reference voltage supply control output
44	LRCKOK	O	C	(DOUT mute output)
45	SRAMLEVEL2	O	C	SRAM level meter output
46	CD3VON	O	C	CD +3.3V power supply control output
47	CONT	O	C	Servo driver power supply control output
48	XRST	O	C	CD LSI reset control output
49	VDCONT	O	C	VD power supply control output
50	ROMDATA	I/O	/C	E2PROM data input/output
51	ROMCS	O	C	E2PROM chip selection output
52	ROMCK	O	C	E2PROM clock output
53	LOEJ	O	C	The direction change output of LOAD/EJECT
54	CLCONT	O	C	Driver input change output
55	CDMUTE	O	C	CD mute control output
56-58	INT			For changer(Interruption at the edge)
59	XCS	O	C	CD LSI chip selection output
60	NC			Not used
61	XWAIT	I		CD LSI write control signal output
62	CLKOUT	O	C	Internal system clock output(Open)
63	LOCK	I		Spindle lock input
64	NC			Not used
65	XWRITE	O		CD LSI write control signal output

Pin No.	Pin Name	I/O	Format	Function and Operation
66	NC			Not used
67	XREAD	O		CD LSI read control signal output
68	XASTB	O		CD LSI address strobe output
69	BVSS			B power supply GND
70	BVDD			B power supply Positive power supply
71-86	AD0-15	I/O	/C	Address/data Bus 0-15
87-90	NC			Not used
91-93	A/D			For changer(A/D)
94	CSENS	I		Flap closing sense input
95	TYPE_A/D	I		CD-DA analog/digital output change setup
96	TESTIN	I		Chip check test program starting input
97	HOME	I		Home SW sense input
98	TEMP			Temperature information sense input
99	VDSENS			VD power supply short sense input
100	NC			Not used

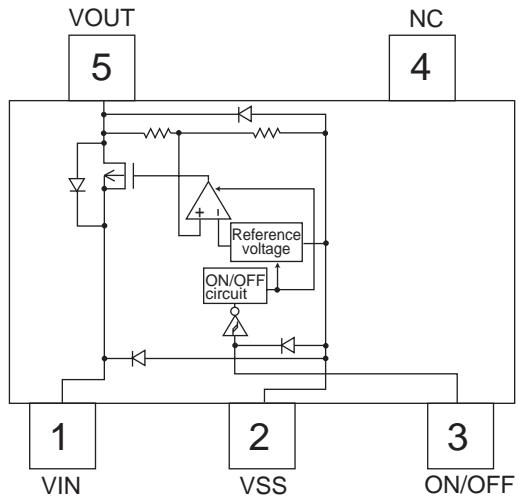
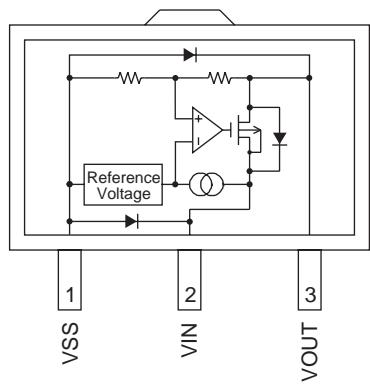
*PE5423A



Format	Meaning
C	CMOS

*S-L2980A15MC-C6A

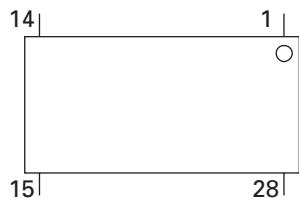
*S-812C33AUA-C2N



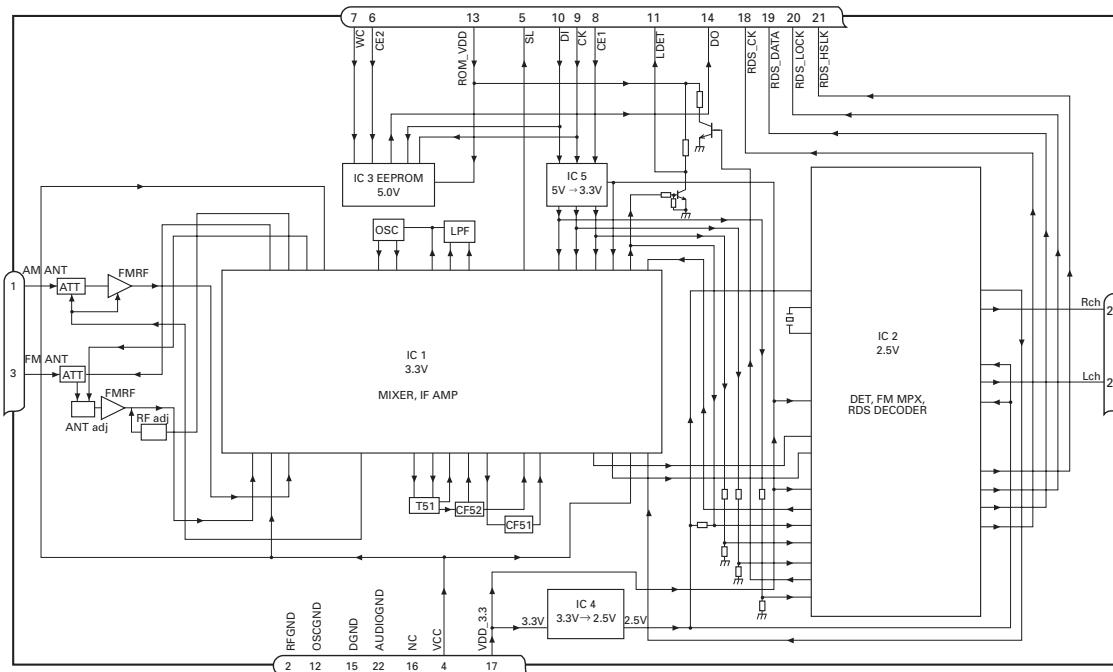
● Pin Functions(BA5835FM)

Pin No.	Pin Name	Function and Operation
1	VR	Input pin for reference voltage
2	OPIN2(+)	Input pin for non-inverting input for CH2 preamplifier
3	OPIN2(-)	Input pin for inverting input for CH2 preamplifier
4	OPOUT2	Output pin for CH2 preamplifier
5	OPIN1(+)	Input pin for non-inverting input for CH1 preamplifier
6	OPIN1(-)	Input pin for inverting input from CH1 preamplifier
7	OPOUT1	Output pin for CH1 preamplifier
8	GND	Ground pin
9	MUTE	Mute control pin
10	POWVCC1	Power supply pin for CH1, CH2, and CH3 at "Power" stage
11	VO1(-)	Driver CH1 - Negative output
12	VO1(+)	Driver CH2 - Positive output
13	VO2(-)	Driver CH2 - Negative output
14	VO2(+)	Driver CH2 - Positive output
15	VO3(+)	Driver CH2 - Positive output
16	VO3(-)	Driver CH2 - Negative output
17	VO4(+)	Driver CH4 - Positive output
18	VO4(-)	Driver CH4 - Negative output
19	POWVCC2	Power supply pin for CH4 at "Power" stage
20	GND	Ground pin
21	CNT	Control pin
22	LDIN	Loading input
23	OPOUTSL	Output pin for preamplifier for thread
24	OPINLSL	Input pin for preamplifier for thread
25	OPOUT3	CH3 preamplifier output pin
26	OPIN3(-)	Input pin for inverting input for CH3 preamplifier
27	OPIN3(+)	Input pin for non-inverting input for CH3 preamplifier
28	PREVCC	PreVcc

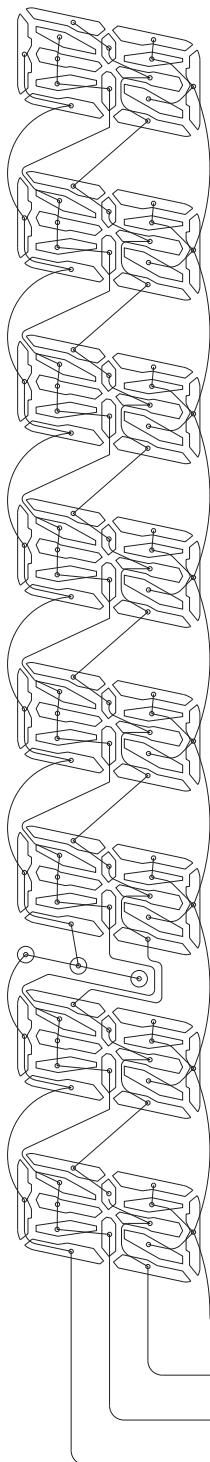
BA5835FM



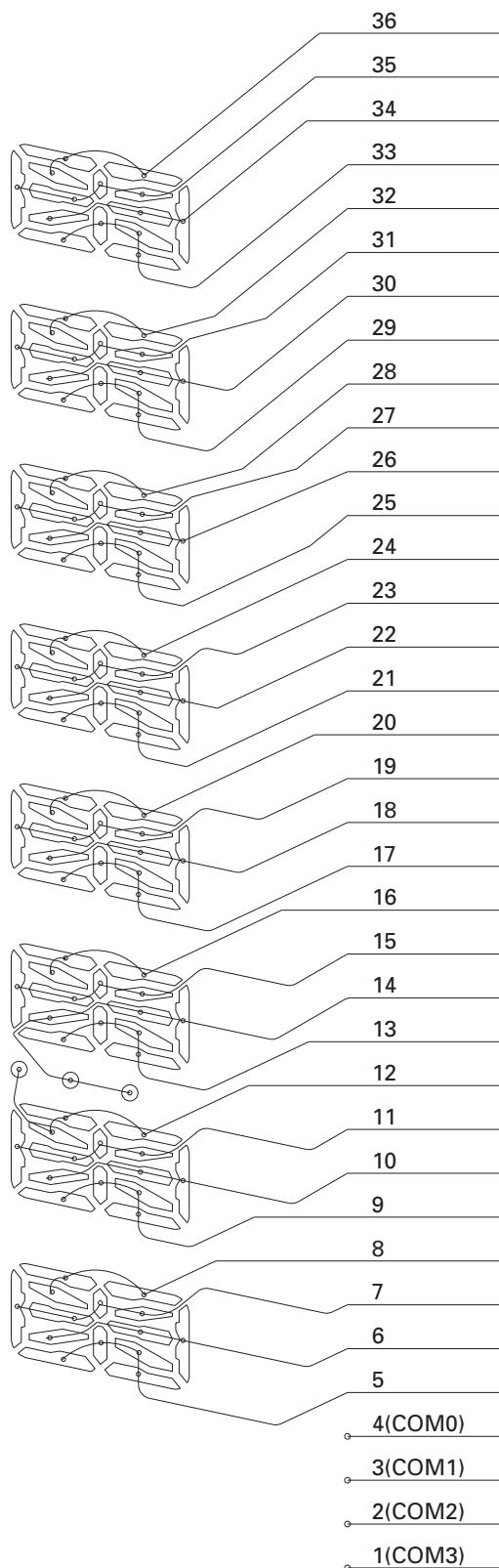
● FM/AM Tuner Unit



No.	Symbol	I/O	Explain
1	AMANT	I	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7μH. (LAU type inductor) A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the hum of power transmission line.
2	RFGND		RF ground
3	FMANT	I	FM antenna input Input of FM antenna 75Ω Surge absorber(DSP-201M-S00B) is necessary.
4	VCC		power supply The power supply for analog block. D.C 8.4V ± 0.3V
5	SL	O	signal level Output of FM/AM signals level
6	CE2	I	chip enable-2 Chip enable for EEPROM "Low" active
7	WC	I	write control You can write EEPROM, when EEPROM write control is "Low". Ordinary non connection
8	CE1	I	chip enable-1 Chip enable for AF•RF "High" active
9	CK	I	clock Clock
10	DI	I	data in Data input
11	LDET	O	lock detector "Low" active
12	OSCGND		osc ground Ground of oscillator block
13	ROM_VDD		power supply Power supply for EEPROM pin 13 is connected with a power supply of micro computer.
14	DO	O	data out Data output
15	DGND		digital ground Ground of digital block
16	NC		non connection Not used
17	VDD_3.3		power supply The power supply for digital block. 3.3V ± 0.2V
18	RDS_CK	O	RDS clock Output of RDS clock(2.5V)
19	RDS_DATA	O	RDS data Output of RDS data(2.5V)
20	RDS_LOCK	O	RDS lock Output unit "High" active(2.5V) (RDS_LOCK turns over by the external transistor. "Low" active)
21	RDS_HSLK	O	RDS high speed lock Output unit "High" active(2.5V)(RDS_HSLK turns over by the external transistor. "Low" active)
22	AUDIOGND		audio ground Ground of audio block
23	L ch	O	L channel output FM stereo "L-ch" signal output or AM audio output
24	R ch	O	R channel output FM stereo "R-ch" signal output or AM audio output



COMMON

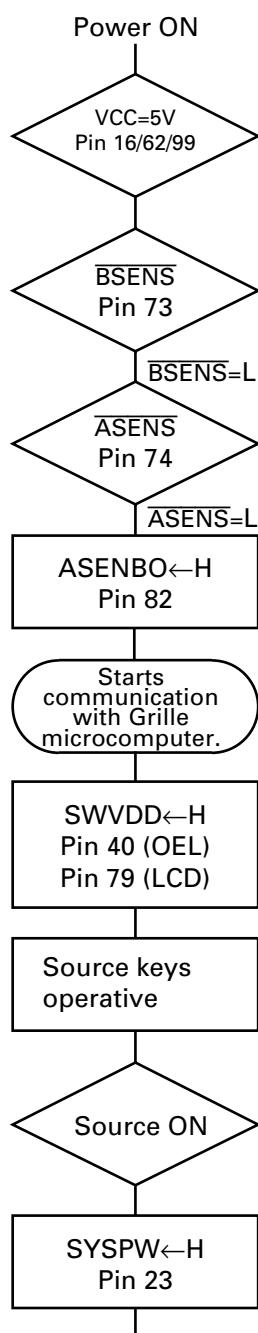


● CAW1704

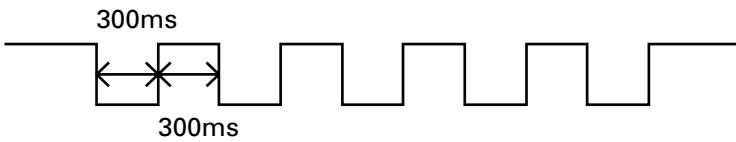
7.2.2 DISPLAY

7.3 OPERATIONAL FLOW CHART

A



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



In case of the above signal, the communication with Grille microcomputer may fail.
If the time interval is not 300msec, the oscillator may be defective.

B

C

D

E

F

7.4 CLEANING



Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
CD pickup lenses	Cleaning liquid : GEM1004
	Cleaning paper : GED-008

A

B

C

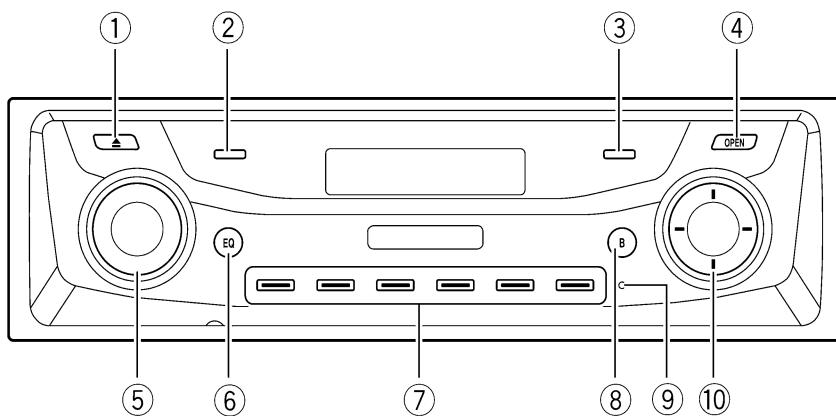
D

E

F

8. OPERATIONS

A



B

Head unit (front panel close)

① EJECT button

Press to eject a CD from your built-in CD player.

② TA button

Press to turn traffic announcements function on or off.
Press and hold to turn NEWS function on or off.

③ TEXT button

Press to turn radio text function on or off.

④ OPEN button

Press to open or close the front panel.
When you want to operate buttons inside the front panel, press **OPEN** to open the front panel.

⑤ SOURCE button, VOLUME

This unit is turned on by selecting a source.
Press to cycle through all the available sources.
Rotate it to increase or decrease the volume.

⑥ EQ button

Press to select various equalizer curves.

⑦ 1–6 buttons

Press for preset tuning and disc number search when using a multi-CD player.

⑧ BAND button

Press to select among three FM bands and MW/LW bands and to cancel the control mode of functions.

⑨ RESET button

Press to reset the microprocessor.

⑩ ▲/▼/◀/▶ buttons

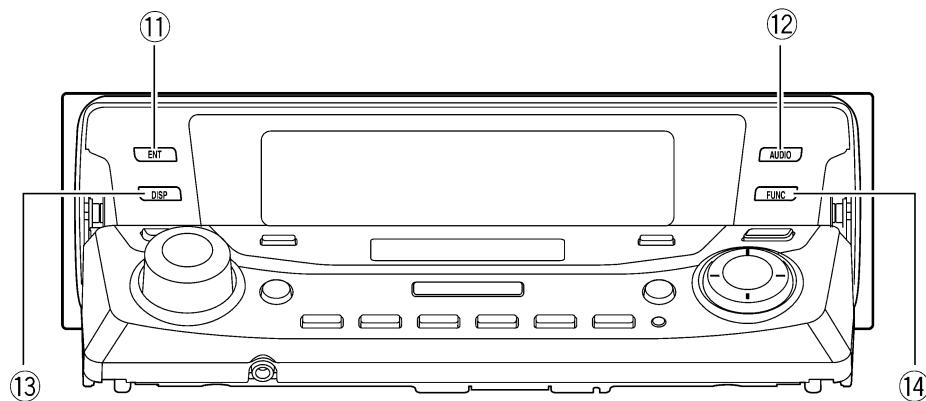
Press to do manual seek tuning, fast forward, reverse and track search controls.
Also used for controlling functions.

C

D

E

F



Head unit (front panel open)

These buttons listed below can be operated only when the front panel opened.

⑪ ENTERTAINMENT button

Press to change to the entertainment display.

Press and hold to change the display form.

⑫ AUDIO button

Press to select various sound quality controls.

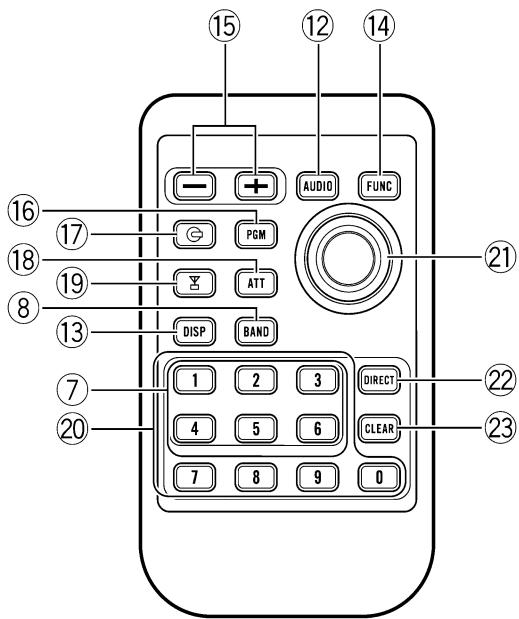
⑬ DISPLAY button

Press to select different displays.

⑭ FUNCTION button

Press to select functions.

A



B

C

Remote control

Operation is the same as when using the buttons on the head unit.

⑯ VOLUME buttons

Press to increase or decrease the volume.

⑯ PGM button

Press to operate the preprogrammed functions for each source.

⑯ CD button

Press to select the built-in or multi-CD player as the source.

⑯ ATT button

Press to quickly lower the volume level, by about 90%. Press once more to return to the original volume level.

⑯ TUNER button

Press to select the tuner as the source.

㉐ NUMBER buttons

Press to enter the number for selecting a desired track in direct track select mode.

㉑ Joystick

Move to do manual seek tuning, fast forward, reverse and track search controls. Also used for controlling functions. Functions are the same as ▲/▼/◀/▶ buttons.

㉒ DIRECT button

Press to directly select the desired track.

㉓ CLEAR button

Press to cancel the input number when **NUMBER** are used. ■

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Playing a CD



These are the basic steps necessary to play a CD with your built-in CD player.

① Track number indicator

Shows the track currently playing.

② Play time indicator

Shows the elapsed playing time of the current track.

1 Press EJECT.

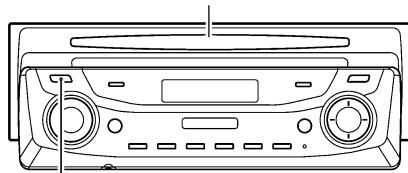
CD loading slot appears.

- After a CD has been inserted, press **SOURCE** to select the built-in CD player.

2 Insert a CD into the CD loading slot.

Playback will automatically start.

CD loading slot



EJECT button

- You can eject a CD by pressing **EJECT**.
- If the front panel is in the eject position (shown above), buttons other than **EJECT**, **VOLUME**, **OPEN**, and **ATT** (on the remote control) do not operate.

3 Use VOLUME to adjust the sound level.

Rotate it to increase or decrease the volume.

4 To perform fast forward or reverse, press and hold ▲ or ▼.

- If you select **Rough search**, pressing and holding ▲ or ▼ enables you to search every 10 tracks in the current disc.

5 To skip back or forward to another track, press ▲ or ▼.

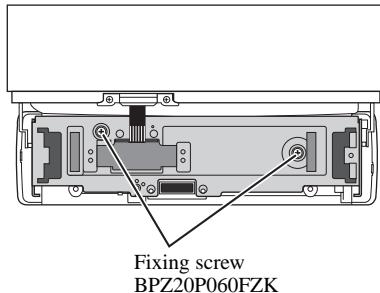
Pressing ▼ skips to the start of the next track. Pressing ▲ once skips to the start of the current track. Pressing again will skip to the previous track.

Notes

- The built-in CD player plays one, standard, 12-cm or 8-cm (single) CD at a time. Do not use an adapter when playing 8-cm CDs.
- Do not insert anything other than a CD into the CD loading slot.
- There is sometimes a delay between starting up CD playback and the sound being issued. When being read in, **Format read** is displayed.
- If you cannot insert a disc completely or if after you insert a disc the disc does not play, check that the label side of the disc is up. Press **EJECT** to eject the disc, and check the disc for damage before inserting it again.
- If the built-in CD player does not operate properly, an error message such as **ERROR-11** may be displayed.
- You can eject the CD by pressing and holding **EJECT** with eject position when the CD loading or ejecting cannot operate properly. □

Fixing the front panel

A If you do not operate the removing and attaching the front panel function, use the supplied fixing screws to fix the front panel to this unit.



B

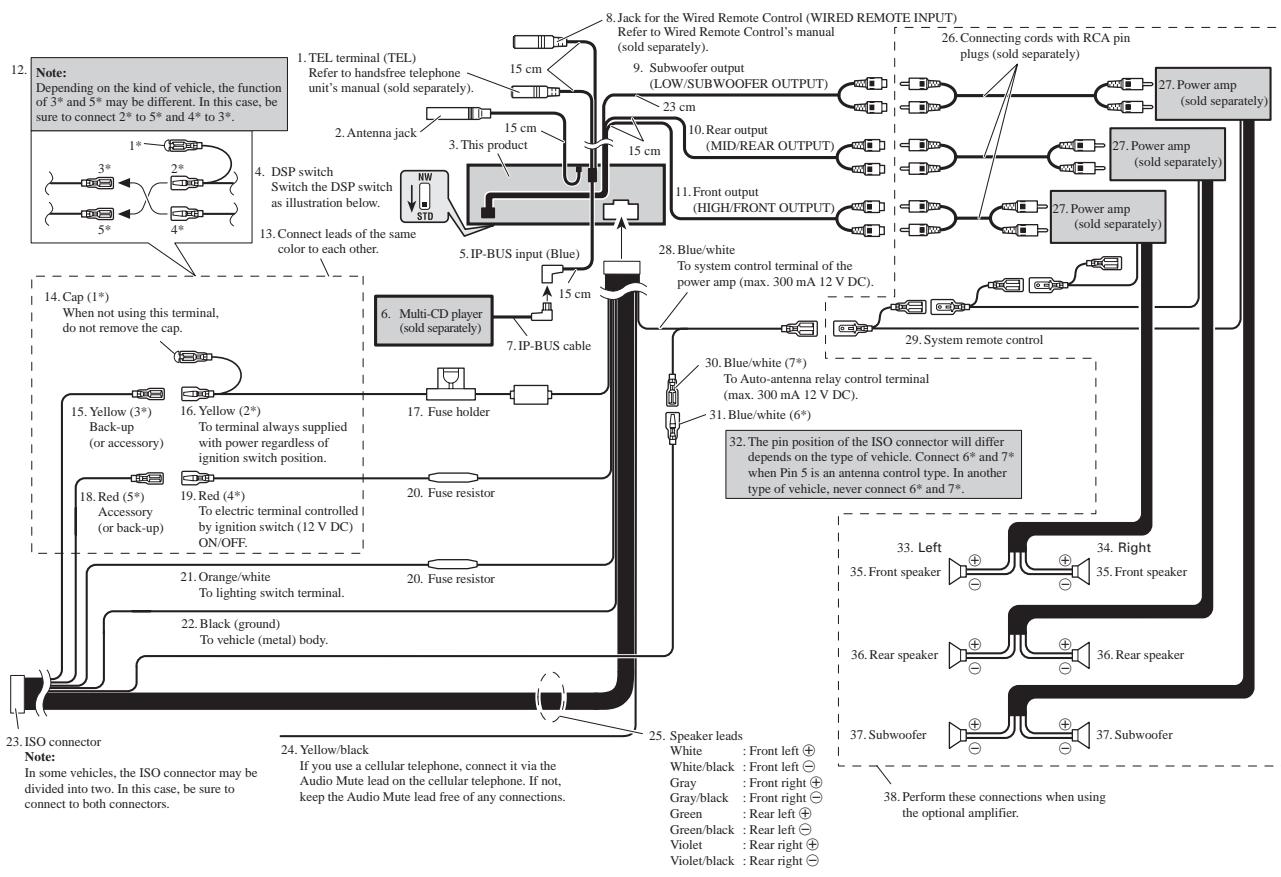
C

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● CONNECTION DIAGRAM



● Jigs list

A Disc : ABEX TCD-782
Cleaning liquid : GEM1004
Cleaning paper : GED-008
Cord : GGD1292

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