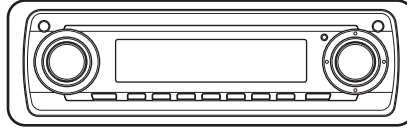


Service Manual



DEH-P860MP/XN/UC

ORDER NO.
CRT3217

MULTI-CD CONTROL DSP HIGH POWER CD/MP3/WMA PLAYER WITH FM/AM TUNER

DEH-P860MP

 /XN/UC

DEH-P8600MP

 /XN/UC

DEH-P8650MP

 /XN/ES

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".

SAFETY INFORMATION

CAUTION

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

WARNING

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

● CD Player Service Precautions



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 62.
3. After replacing the pickup unit, be sure to check the grating.(See p.58.)

[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

● DEH-P860MP/XN/UC

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 × 159 mm (7 × 2 × 6-1/4 in.)
Nose	188 × 58 × 29 mm (7-3/8 × 2-1/4 × 1-1/8 in.)
D	
Chassis	178 × 50 × 164 mm (7 × 2 × 6-1/2 in.)
Nose	170 × 45 × 24 mm (6-3/4 × 1-3/4 × 1 in.)
Weight	1.6 kg (3.5 lbs)

Audio/DSP

Continuous power output is 22 W per channel minimum into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.

Maximum power output	50 W × 4
Load impedance	4 Ω (4 – 8 Ω allowable)
Preout max output level/output impedance	6.5 V/100 Ω
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): (Front & rear & subwoofer 13 band graphic)	
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/Mute
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	100 dB (1 kHz) (IHF-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	87.9 – 107.9 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 (IHF-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)
Three-signal intermodulation (desired signal level)	30 dBf (two undesired signal level: 100 dBf)

AM tuner

Frequency range	530 – 1,710 kHz (10 kHz)
Usable sensitivity	18 μV (S/N: 20 dB)
Signal-to-noise ratio	65 dB (IHF-A network)

● DEH-P8600MP/XN/UC

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 × 159 mm (7 × 2 × 6-1/4 in.)
Nose	188 × 58 × 29 mm (7-3/8 × 2-1/4 × 1-1/8 in.)

D

Chassis	178 × 50 × 164 mm (7 × 2 × 6-1/2 in.)
Nose	170 × 45 × 24 mm (6-3/4 × 1-3/4 × 1 in.)

Weight	1.6 kg (3.5 lbs)
--------------	------------------

Audio/DSP

Continuous power output is 22 W per channel minimum into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.

Maximum power output	50 W × 4
Load impedance	4 Ω (4 – 8 Ω allowable)
Preout max output level/output impedance	4.0 V/100 Ω

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:

(Front & rear & subwoofer 13 band graphic)	
Frequency	50/80/125/200/315/500/800 Hz
.....	1.25/2/3.15/5/8/12.5 kHz

Equalization range +6 – –12 dB

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/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	100 dB (1 kHz) (IHF-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	87.9 – 107.9 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 (IHF-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)
Three-signal intermodulation (desired signal level)	30 dBf (two undesired signal level: 100 dBf)

AM tuner

Frequency range	530 – 1,710 kHz (10 kHz)
Usable sensitivity	18 μV (S/N: 20 dB)
Signal-to-noise ratio	65 dB (IHF-A network)



Note

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

● DEH-P8650MP/XN/ES

General

Rated power source 14.4 V DC
(allowable voltage range:
12.0 – 14.4 V DC)

Grounding system Negative type

Max. current consumption
..... 10.0 A

Backup current 5 mA or less

Dimensions (W × H × D):

DIN

Chassis 178 × 50 × 159 mm

Nose 188 × 58 × 29 mm

D

Chassis 178 × 50 × 164 mm

Nose 170 × 45 × 24 mm

Weight 1.6 kg

Audio/DSP

Continuous power output is 22 W per channel minimum
into 4 ohms, both channels driven 50 to 15,000 Hz with
no more than 5% THD.

Maximum power output 50 W × 4

Load impedance 4 Ω (4 – 8 Ω allowable)

Preout max output level/output impedance
..... 6.5 V/100 Ω

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):

(Front & rear & subwoofer 13 band graphic)

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/Mute

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 100 dB (1 kHz) (IEC-A net-
work)

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)

AM tuner

Frequency range 531 – 1,602 kHz (9 kHz)

530 – 1,640 kHz (10 kHz)

Usable sensitivity 18 μV (S/N: 20 dB)

Signal-to-noise ratio 65 dB (IEC-A network)

Infrared remote control

Wavelength 940 nm ±50 nm

Output typ; 12 mw/sr per Infrared
LED



Note

Specifications and the design are subject to pos-
sible modifications without notice due to im-
provements. □

2. EXPLODED VIEWS AND PARTS LIST

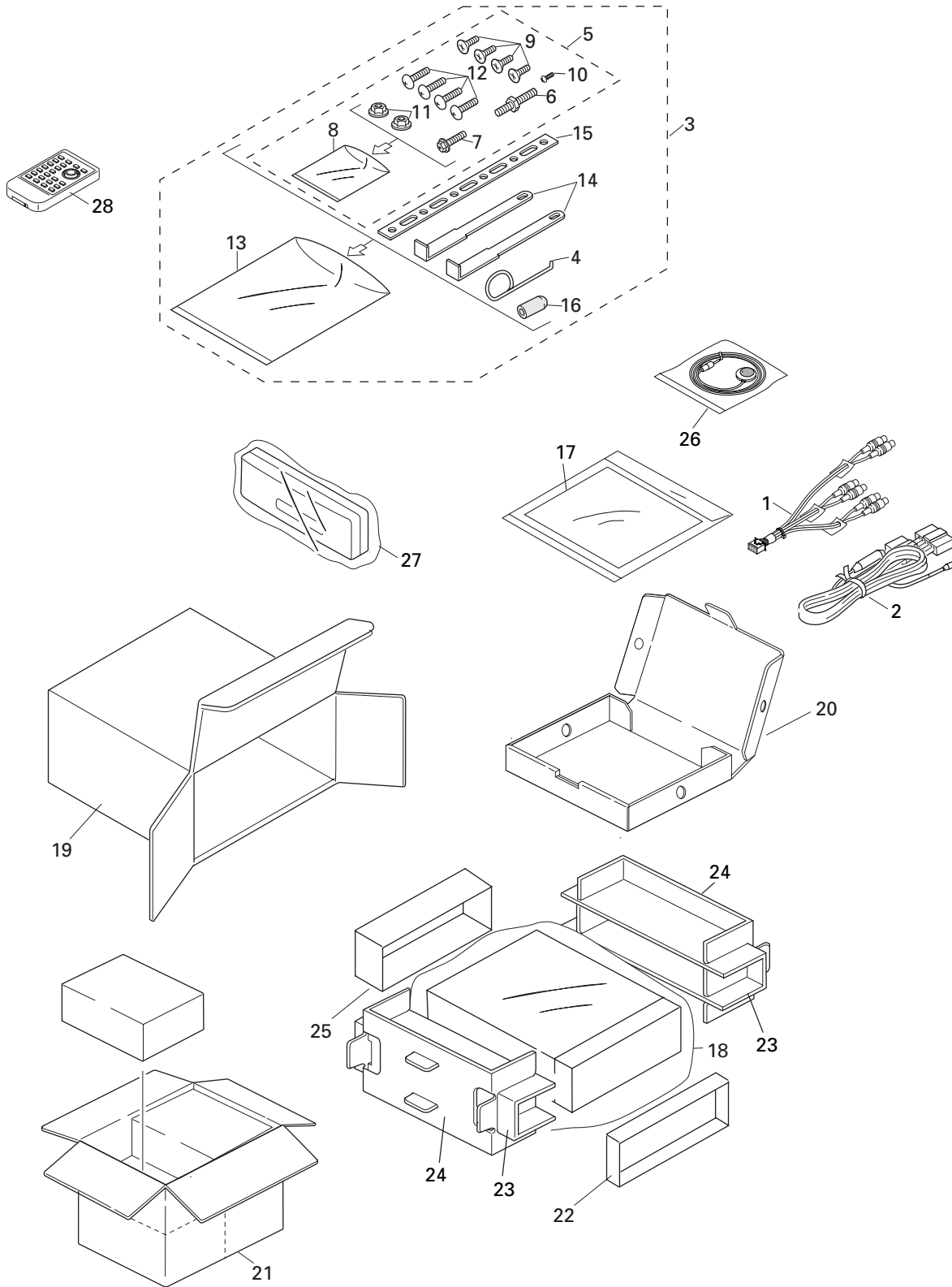
NOTES : • Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.

• 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(DEH-P860MP/XN/UC, DEH-P8600MP/XN/UC)



(1) PACKING(DEH-P860MP/XN/UC,DEH-P8600MP/XN/UC) 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	Cord Assy	See Contrast table(2)	17-2	Owner's Manual	See Contrast table(2)
2	Cord Assy	CDE7701	17-3	Installation Manual	See Contrast table(2)
3	Accessory Assy	CEA4302	* 17-4	Caution Card	CRP1308
4	Spring	CBH1650			
5	Screw Assy	CEA4303	17-5	Caution Card	CRP1310
			* 17-6	Warranty Card	See Contrast table(2)
6	Screw	CBA1650	* 17-7	Card	See Contrast table(2)
7	Bolt(M5x16)	CBA1783	18	Polyethylene Bag	CEG1173
* 8	Polyethylene Bag	CEG-127	19	Carton	See Contrast table(2)
9	Screw	CRZ50P090FTC			
10	Screw	JPZ20P060FZK	20	Sub Carton	CHG5195
			21	Contain Box	See Contrast table(2)
11	Nut	NF50FTC	22	Protector	CHP2546
12	Screw	TRZ50P080FTC	23	Protector	CHP2797
* 13	Polyethylene Bag	CEG-158	24	Protector	CHP2798
14	Handle	CNC5395			
15	Strap	CNC5402	25	Protector	CHP2812
			26	Microphone Assy	CPM1054
16	Bush	CNV3930	27	Case Assy	CXB3520
17-1	Polyethylene Bag	CEG1116	28	Remote Control Unit	CXC2665

(2) CONTRAST TABLE

DEH-P860MP/XN/UC and DEH-P8600MP/XN/UC are constructed the same except for the following:

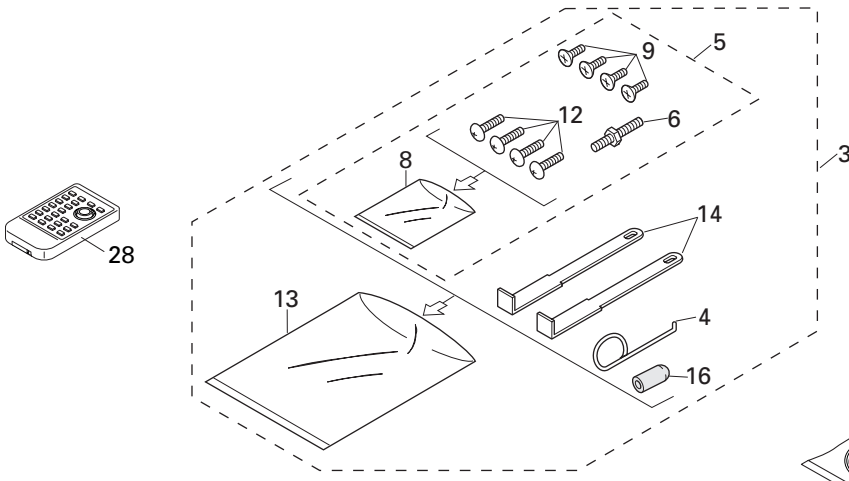
<u>Mark</u>	<u>NO</u>	<u>Description</u>	<u>DEH-P860MP/XN/UC</u>	<u>DEH-P8600MP/XN/UC</u>
	1	Cord Assy	CDE7436	CDE7437
	17-2	Owner's Manual	CRD3828	CRD3830
	17-3	Installation Manual	CRD3829	CRD3831
*	17-6	Warranty Card	CRY1070	Not used
*	17-7	Card	Not used	ARY1048
	19	Carton	CHG5194	CHG5193
	21	Contain Box	CHL5194	CHL5193

Owner's Manual,Installation Manual

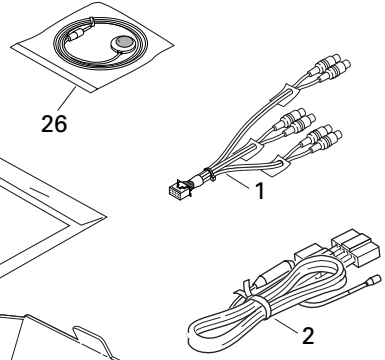
<u>Part No.</u>	<u>Language</u>
CRD3828	English, French
CRD3829	English, French
CRD3830	English, French
CRD3831	English, French

2.2 PACKING(DEH-P8650MP/XN/ES)

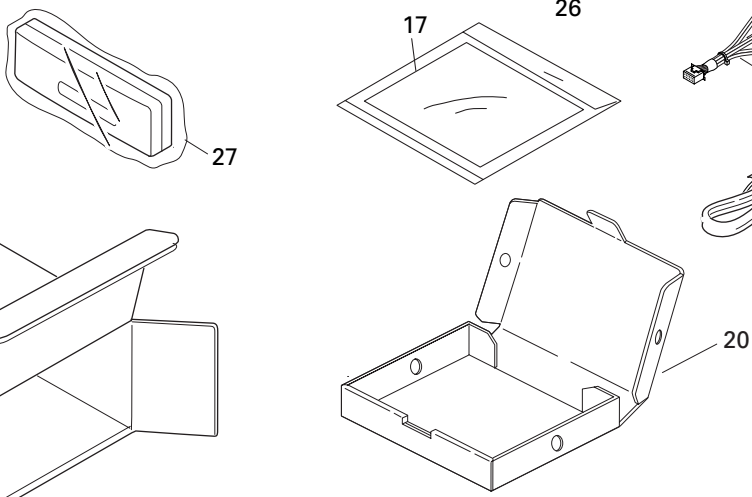
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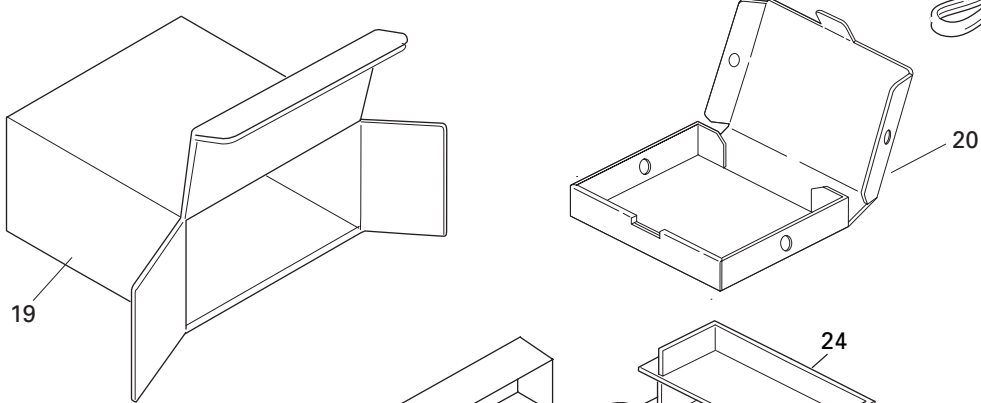
B



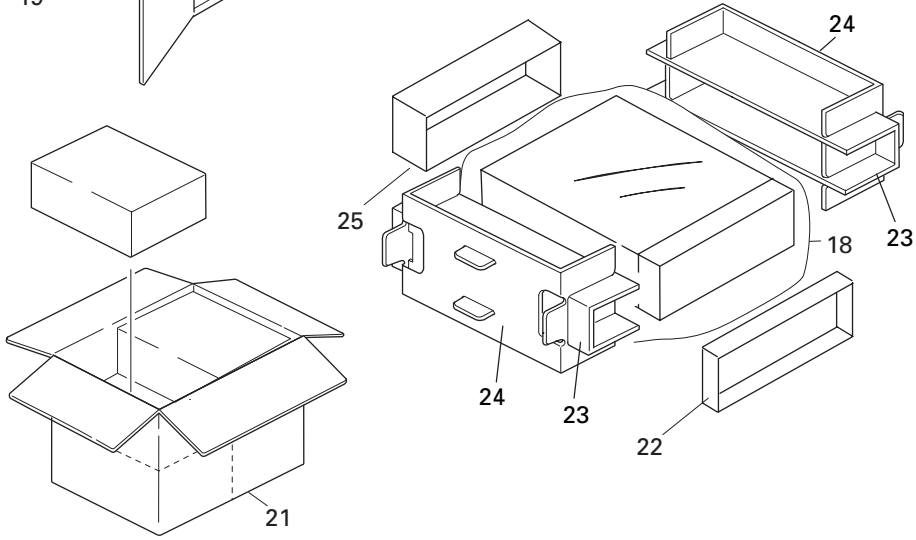
C



D



E



F

● PACKING(DEH-P8650MP/XN/ES) SECTION PARTS LIST

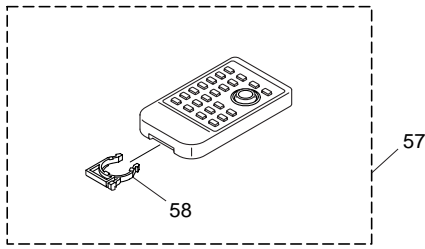
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	
1	Cord Assy	CDE7436	17-2	Owner's Manual	CRD3832	
2	Cord Assy	CDE7701	17-3	Owner's Manual	CRD3833	
3	Accessory Assy	CEA4301	17-4	Owner's Manual	CRB1902	
4	Spring	CBH1650				
5	Screw Assy	CEA3849	17-5	Installation Manual	CRD3834	
			*	17-6	Caution Card	CRP1308
6	Screw	CBA1650	17-7	Caution Card	CRP1310	
7	*****		18	Polyethylene Bag	CEG-162	
*	8	Polyethylene Bag	CEG-127	19	Carton	CHG5192
9	Screw	CRZ50P090FTC				
10	*****		20	Sub Carton	CHG5195	
			21	Contain Box	CHL5192	
11	*****		22	Protector	CHP2546	
12	Screw	TRZ50P080FTC	23	Protector	CHP2797	
*	13	Polyethylene Bag	CEG-158	24	Protector	CHP2798
14	Handle	CNC5395				
15	*****		25	Protector	CHP2812	
			26	Microphone Assy	CPM1054	
16	Bush	CNV3930	27	Case Assy	CXB3520	
17-1	Polyethylene Bag	CEG1116	28	Remote Control Unit	CXC2665	

● Owner's Manual,Installation Manual

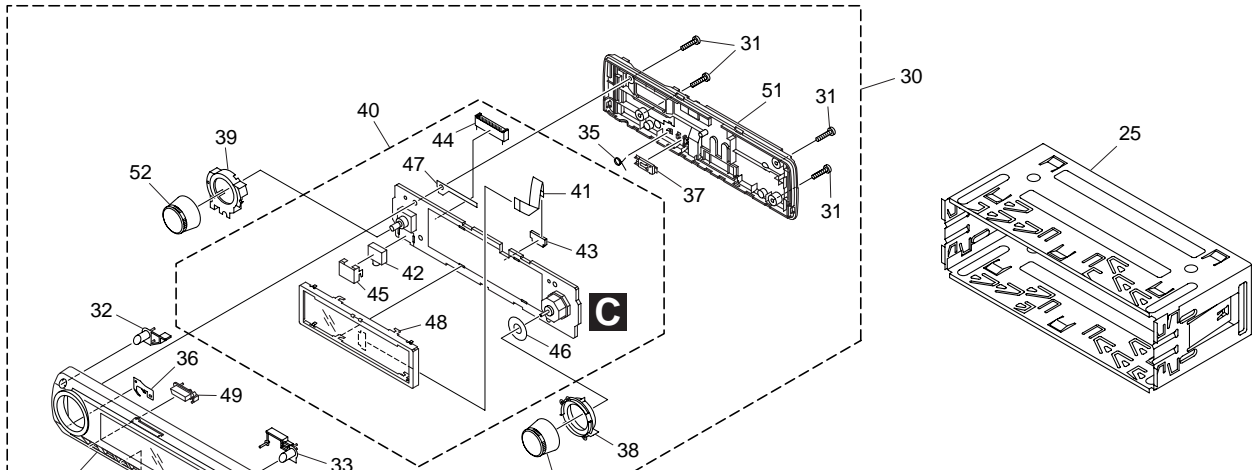
Part No.	Language
CRD3832	English, Spanish
CRD3833	Portuguese(B), Traditional Chinese
CRB1902	Arabic
CRD3834	English, Spanish, Portuguese(B), Traditional Chinese, Arabic

2.3 EXTERIOR(1)

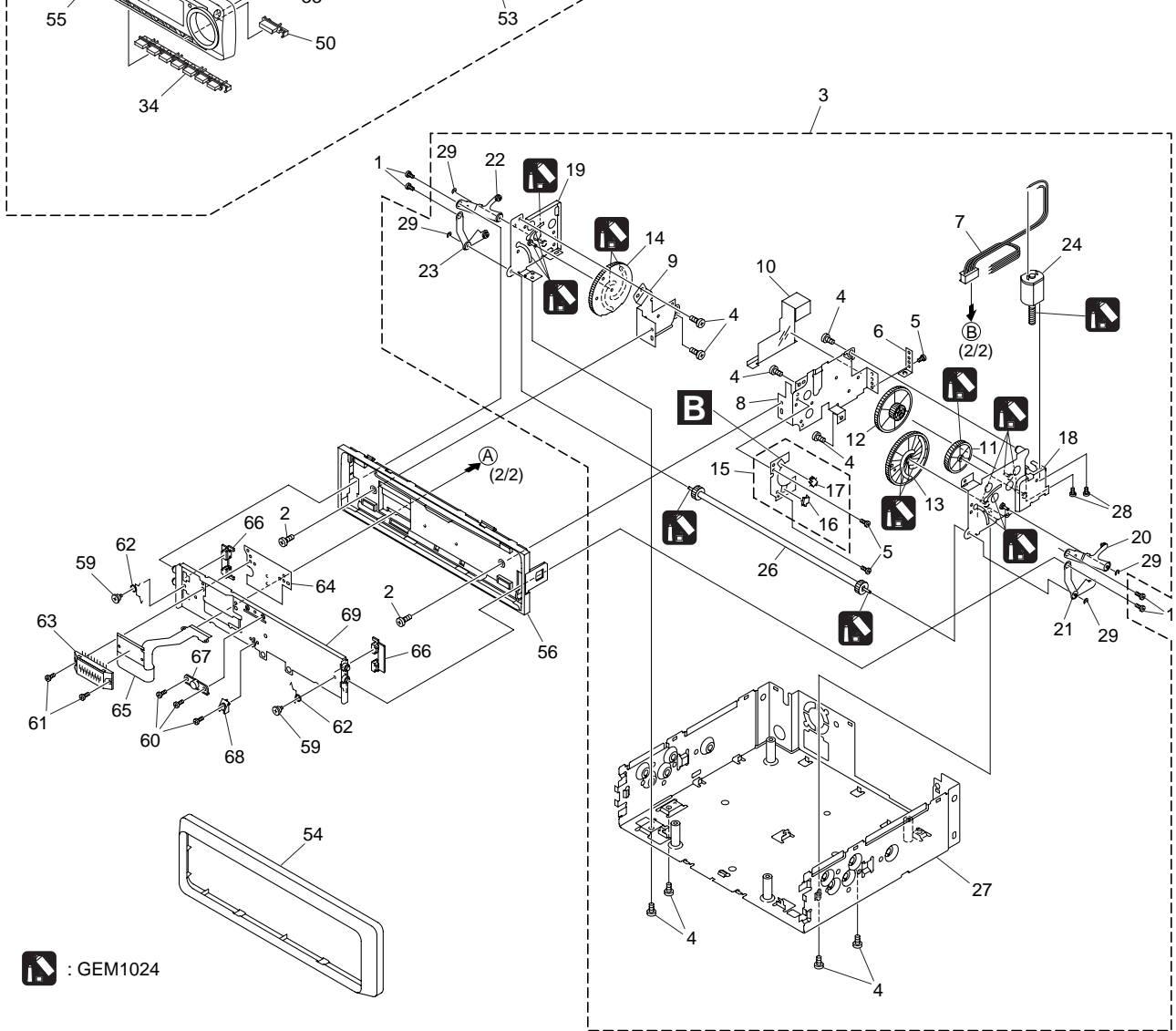
A



B



C



D

E

F

: GEM1024

(1) 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	Screw(M2x2.5)	CBA1641	36	Holder	CND2039
2	Screw(M2.6x4)	CBA1769	37	Arm	CNV6963
3	Drive Unit	See Contrast table(2)	38	Lighting Conductor	CNV7974
4	Screw	BMZ26P040FTC	39	Lighting Conductor	CNV7975
5	Screw	CBA1633	40	Keyboard Unit	CWM9270
6	Spring	CBL1632	41	Flat Cable	CDE7591
7	Cord	CDE7392	42	Jack(CN1902)	CKN1016
8	Holder	CND1848	43	Connector(CN1802)	CKS4792
9	Holder	CND1850	44	Connector(CN1903)	CKS4795
10	Insulator	CNM8797	45	Holder	CND1971
11	Gear	CNV7752	46	Sheet	CNM8658
12	Gear	CNV7753	47	Sheet	CNM9192
13	Gear	CNV7754	48	OEL Module	MXK8200
14	Gear	CNV7755	49	Button Unit(EQ)	CXC2684
15	Switch Unit	CWS1389	50	Button Unit(BAND/ESC)	CXC2685
16	Switch(S1)	CSN1051	51	Cover Unit	CXC2997
17	Spring Switch(S2)	CSN1052	52	Knob Unit	CXC3698
18	Holder Unit	CXC2196	53	Knob Unit	CXC3699
19	Holder Unit	CXC2197	54	Panel	CNS7795
20	Arm Unit	CXC2198	55	Sub Grille Assy	See Contrast table(2)
21	Arm Unit	CXC2199	56	Panel Unit	CXC2603
22	Arm Unit	CXC2200	57	Remote Control Unit	CXC2665
23	Arm Unit	CXC2201	58	Cover	CZN5357
24	Motor Unit(M571)	CXC2204	59	Screw(M2x2)	CBA1561
25	Holder	CNC8659	60	Screw(M2x2)	CBA1633
26	Gear Unit	CXC2205	61	Screw(M2x3.5)	CBA1754
27	Chassis Unit	See Contrast table(2)	62	Spring	CBH2530
28	Screw	JFZ20P025FTC	63	Connector	CKS4796
29	Washer	YE15FTC	64	Holder	CND2172
30	Detach Grille Assy	See Contrast table(2)	65	Flexible PCB	CNP7698
31	Screw	BPZ20P090FZK	66	Arm	CNV6962
32	Button(OPEN)	CAC8459	67	Guide	CNV6967
33	Button(RESET)	CAC8461	68	Guide	CNV8048
34	Button(1-6)	CAC8919	69	Case Unit	CXC2202
35	Spring	CBH2543			

(2) CONTRAST TABLE

DEH-P860MP/XN/UC DEH-P8600MP/XN/UC, and DEH-P8650MP/XN/ES are constructed the same except for the following:

<u>Mark</u>	<u>NO</u>	<u>Description</u>	<u>DEH-P860MP/XN/UC</u>	<u>DEH-P8600MP/XN/UC</u>	<u>DEH-P8650MP/XN/ES</u>
	3	Drive Unit	CXC3136	CXC3135	CXC3015
	27	Chassis Unit	CXC3134	CXC3133	CXC2998
	30	Detach Grille Assy	CXC2569	CXC2570	CXC2571
	55	Sub Grille Assy	CXC3738	CXC3737	CXC3736

2.4 EXTERIOR(2)

A

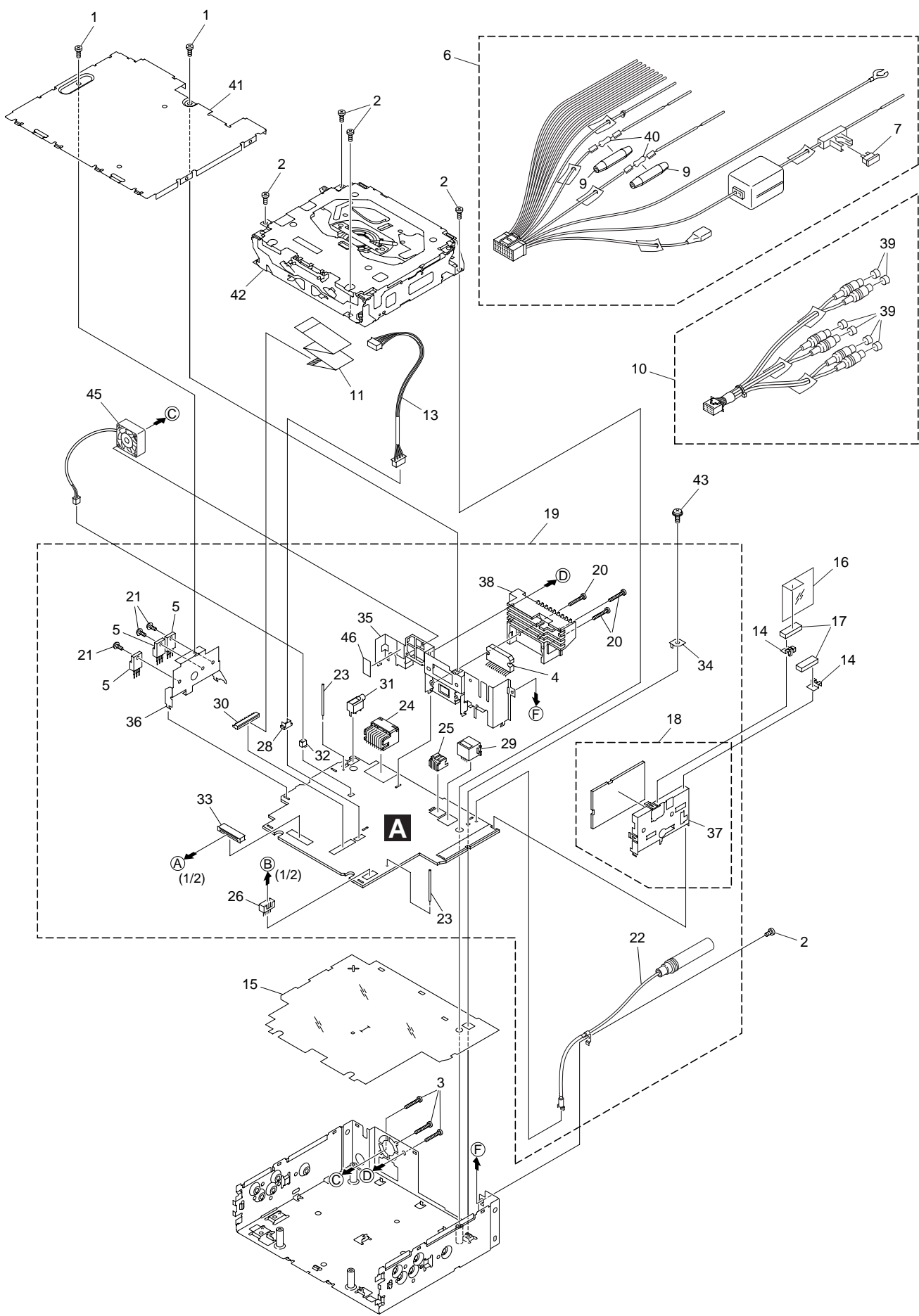
B

C

D

E

F



(1) 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	Screw	BMZ26P060FZK	25	Connector(CN351)	CKM1389
2	Screw	BSZ26P060FTC			
3	Screw(M2.6x14)	CBA1632	26	Plug(CN571)	CKS-786
4	IC(IC301)	PAL007A	27	•••••	
5	Transistor(Q742,861,871)	2SD2396	28	Connector(CN702)	CKS3126
			29	Connector(CN101)	CKS3408
6	Cord Assy	CDE7701	30	Connector(CN701)	CKS3837
7	Fuse(10A)	CEK1136			
8	•••••		31	Connector(CN931)	See Contrast table(2)
9	Cap	CNS1472	32	Connector(CN561)	CKS4571
10	Cord Assy	See Contrast table(2)	33	Connector(CN801)	CKS4811
			34	Holder(CN401)	CNC5399
11	Flat Cable	CDE7468	35	Holder	CND2040
12	•••••				
13	Cord Assy	CDE7626	36	Holder	CND2041
14	Earth Plate	CND2171	37	Holder	CND1054
15	Insulator	CNM8659	38	Heat Sink	CNR1729
			39	Cap	CNV6727
16	Insulator	CNM8790	40	Resistor	RS1/2PMF102J
17	Cushion	CNM9126			
18	FM/AM Tuner Unit	CWE1646	41	Case Unit	CXC3476
19	Tuner Amp Unit	See Contrast table(2)	42	CD Mechanism Module(S10CODE)CXXK5677	
20	Screw	BMZ26P200FTC	43	Screw	ISS26P055FTC
			44	•••••	
21	Screw	BSZ26P080FTC	45	Fan Motor(M561)	CXM1288
22	Antenna Cable(CN402)	CDH1336			
23	Clamper	CEF1033	46	Sheet	CNM8789
24	Plug(CN932)	CKM1278			

(2) CONTRAST TABLE

DEH-P860MP/XN/UC DEH-P8600MP/XN/UC, and DEH-P8650MP/XN/ES are constructed the same except for the following:

<u>Mark</u>	<u>NO</u>	<u>Description</u>	<u>DEH-P860MP/XN/UC</u>	<u>DEH-P8600MP/XN/UC</u>	<u>DEH-P8650MP/XN/ES</u>
	10	Cord Assy	CDE7436	CDE7437	CDE7436
	19	Tuner Amp Unit	CWM9266	CWM9267	CWM9268
	31	Connector(CN931)	CKS4124	CKS4124	Not used

2.5 CD MECHANISM MODULE

A

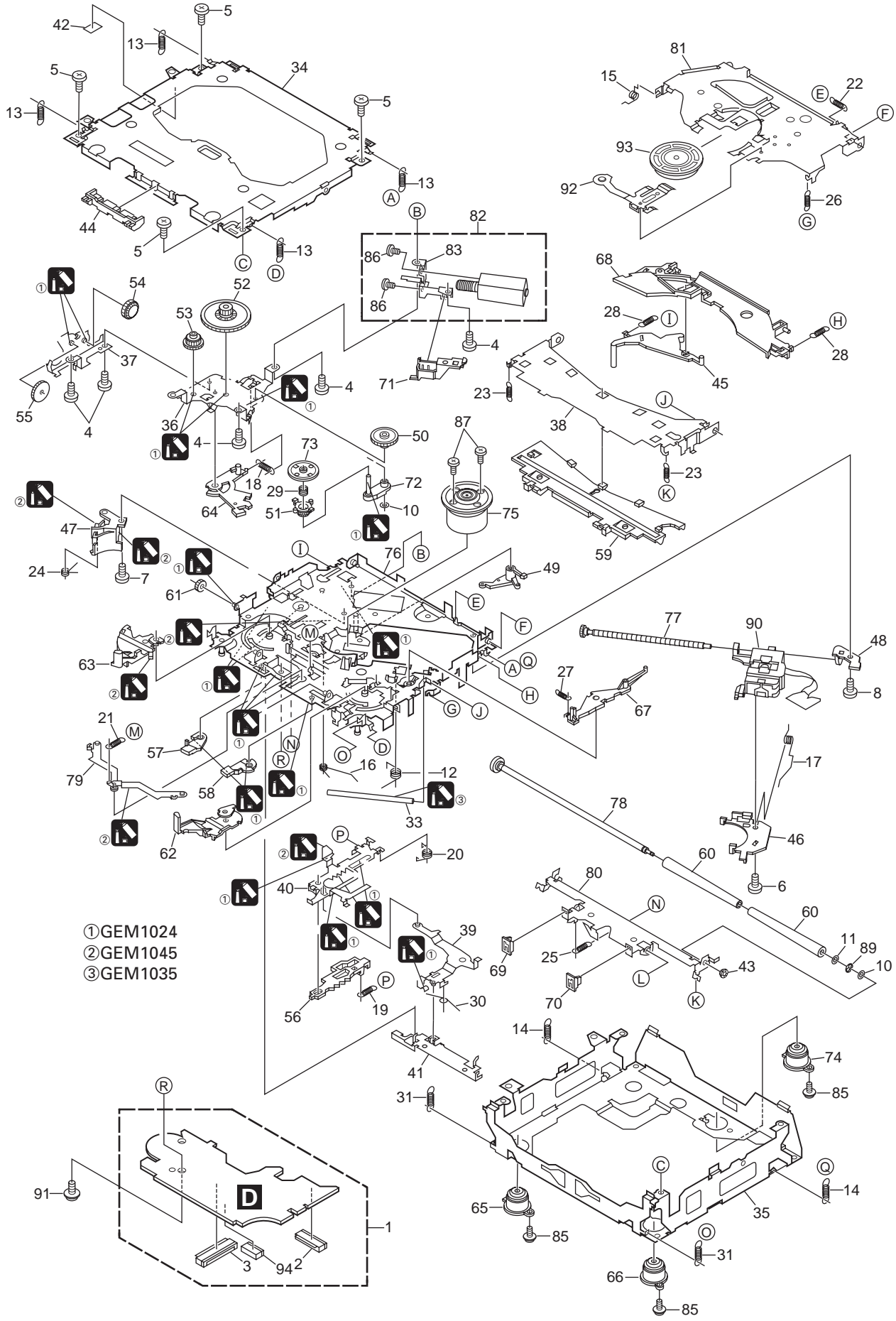
B

C

D

E

F

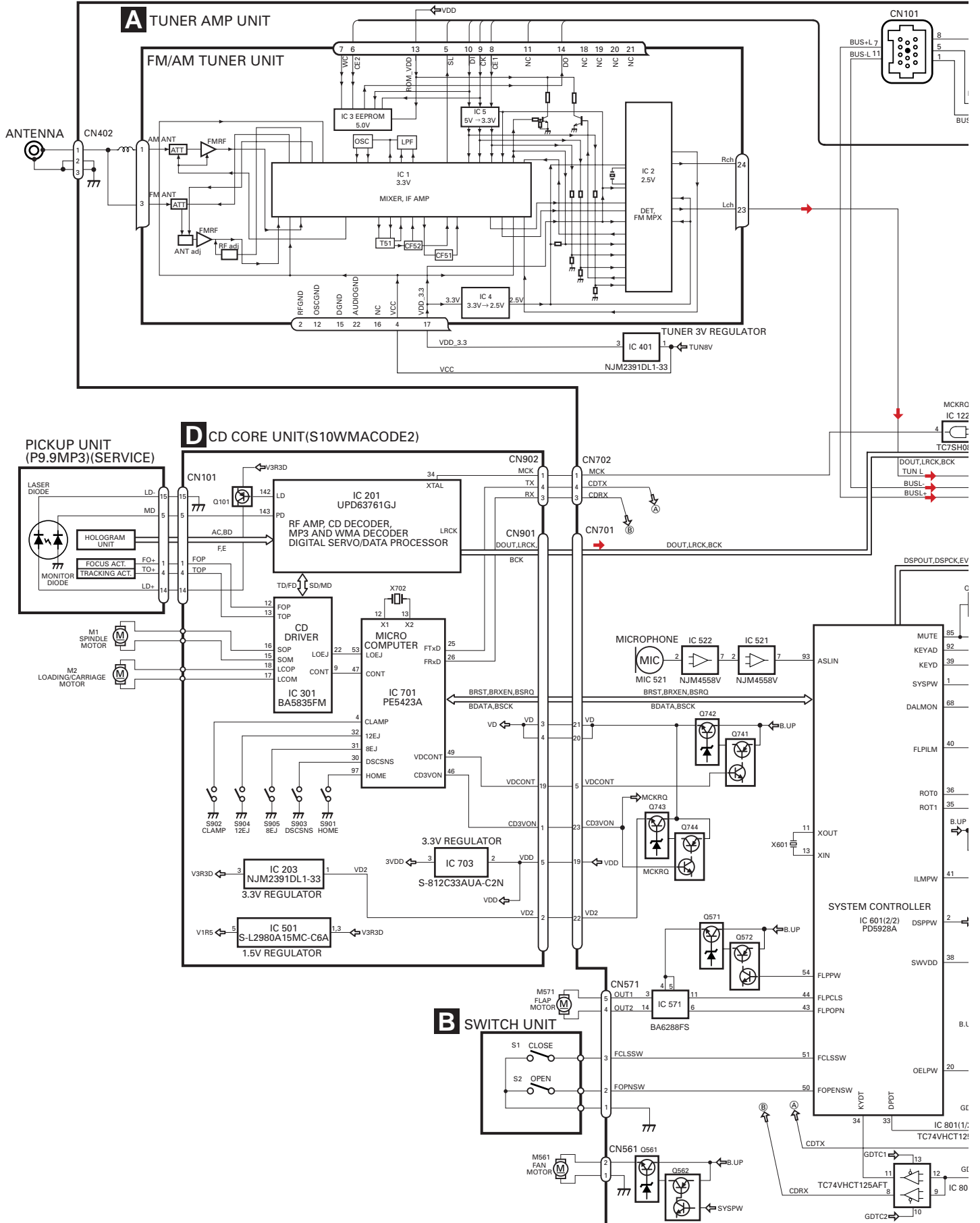


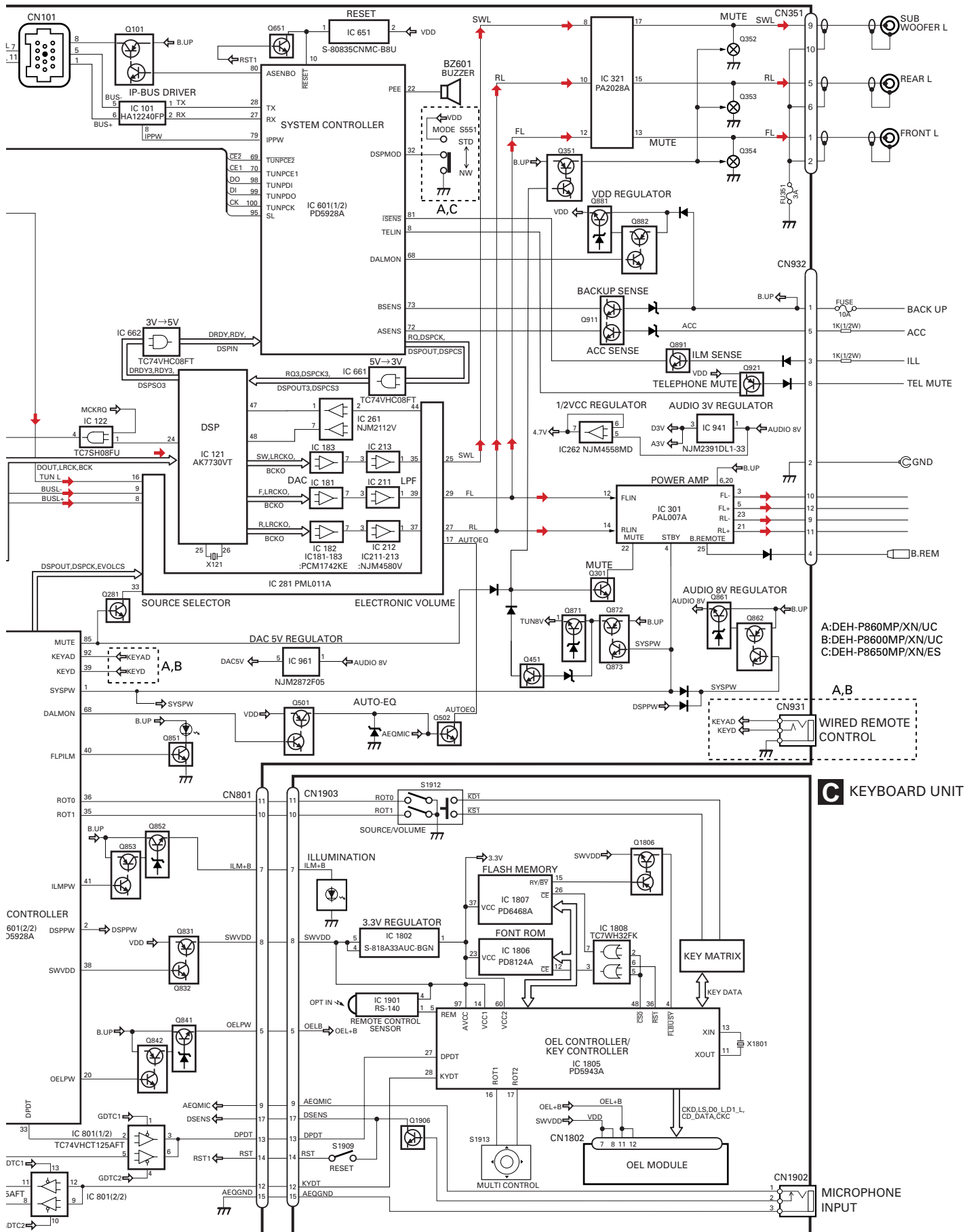
- ① GEM1024
- ② GEM1045
- ③ GEM1035

<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				
2	Connector(CN101)	CKS4182	51	Gear	CNV7208	
3	Connector(CN901)	CKS4017	52	Gear	CNV7209	A
4	Screw	BMZ20P035FTC	53	Gear	CNV7210	
5	Screw	BSZ20P040FTC	54	Gear	CNV7211	
			55	Gear	CNV7212	
6	Screw(M2x4)	CBA1362				
7	Screw(M2x3)	CBA1511	56	Rack	CNV7214	
8	Screw(M2x3)	CBA1527	57	Arm	CNV7215	
9	*****		58	Arm	CNV7216	
10	Washer	CBF1038	59	Guide	CNV7217	
			60	Roller	CNV7218	
11	Washer	CBF1060				
12	Spring	CBH2390	61	Gear	CNV7219	B
13	Spring	CBH2606	62	Arm	CNV7221	
14	Spring	CBH2607	63	Arm	CNV7220	
15	Spring	CBH2608	64	Arm	CNV7222	
			65	Damper	CNV7313	
16	Spring	CBH2609				
17	Spring	CBH2610	66	Damper	CNV7314	
18	Spring	CBH2735	67	Arm	CNV7341	
19	Spring	CBH2612	68	Arm	CNV7342	
20	Spring	CBH2613	69	Guide	CNV7360	
			70	Guide	CNV7361	C
21	Spring	CBH2614				
22	Spring	CBH2615	71	Holder	CNV7437	
23	Spring	CBH2616	72	Arm	CNV7805	
24	Spring	CBH2617	73	Gear	CNV7595	
25	Spring	CBH2620	74	Damper	CNV7618	
			75	Motor Unit(M1)	CXB6007	
26	Spring	CBH2621				
27	Spring	CBH2641	76	Chassis Unit	CXC2318	
28	Spring	CBH2642	77	Screw Unit	CXB8729	
29	Spring	CBH2643	78	Gear Unit	CXC2397	
30	Spring	CBH2659	79	Arm Unit	CXC2316	D
			80	Arm	CND1896	
31	Spring	CBH2688				
32	*****		81	Arm	CND1894	
33	Shaft	CLA4441	82	Motor Unit(M2)	CXB8933	
34	Frame	CNC9962	83	Bracket	CNC9985	
35	Frame	CNC9963	84	*****		
			85	Screw(M2x5)	EBA1028	
36	Bracket	CNC9966				
37	Bracket	CND1895	86	Screw	JFZ20P020FTC	
38	Arm	CNC9968	87	Screw	JGZ17P022FTC	
39	Arm	CND1909	88	*****		E
40	Lever	CND2032	89	Washer	YE20FTC	
			90	Pickup Unit(P9.9MP3)(Service)	CXX1805	
41	Lever	CNC9984				
42	Sheet	CNM8134	91	Screw	IMS26P030FTC	
43	Collar	CNV7798	92	Spring	CBL1635	
44	Guide	CNV7799	93	Clamper	CNV7197	
45	Arm	CNV7800	94	Connector(CN902)	CKS2193	
46	Rack	CNV7199				
47	Holder	CNV7201				
48	Holder	CNV7202				
49	Arm	CNV7203				
50	Gear	CNV7207				F

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM





A:DEH-P860MP/XN/UC
 B:DEH-P860MP/XN/UC
 C:DEH-P8650MP/XN/ES

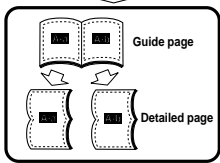
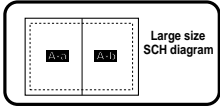
A,B

C KEYBOARD UNIT

3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

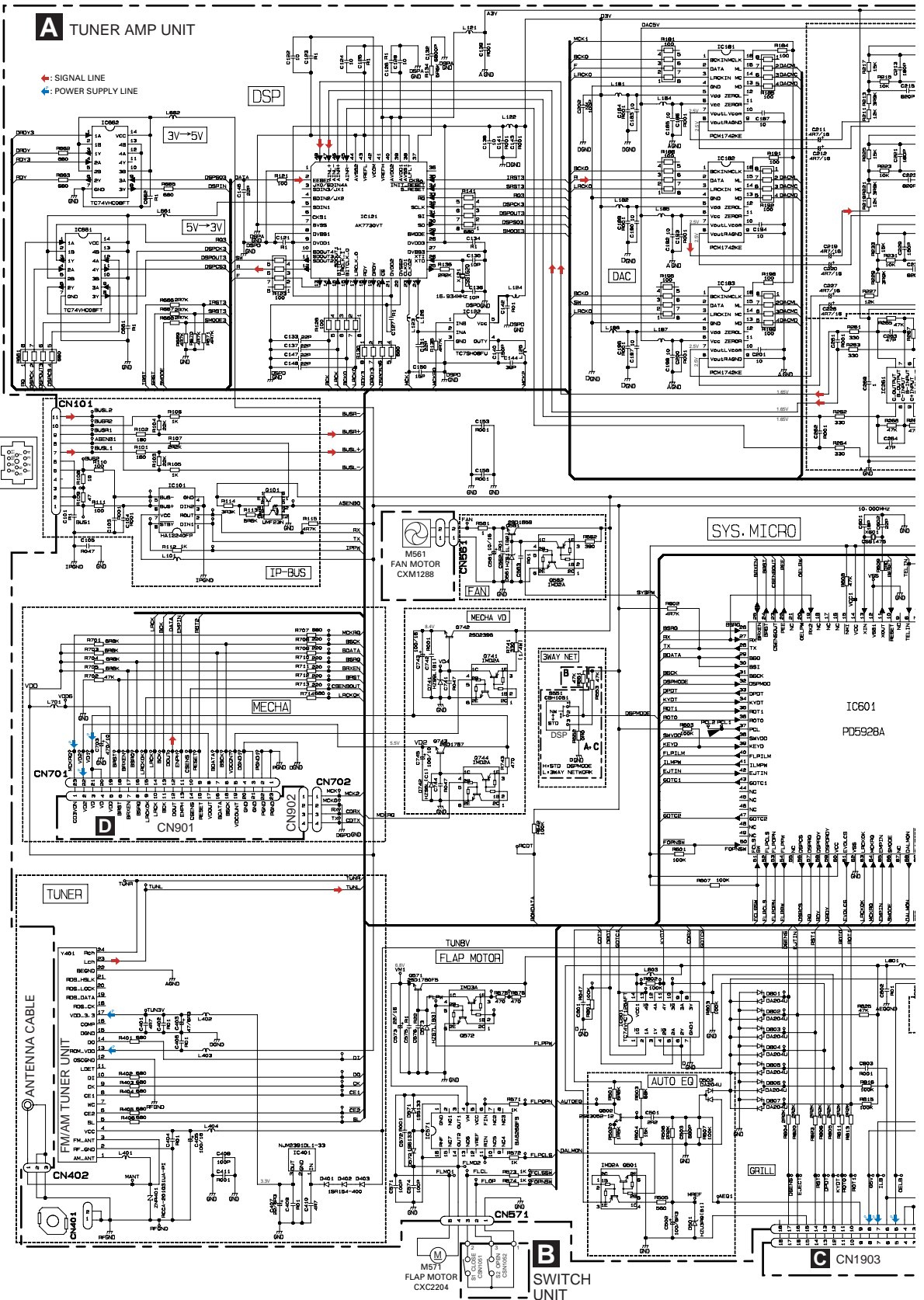
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A



A-a

B



C

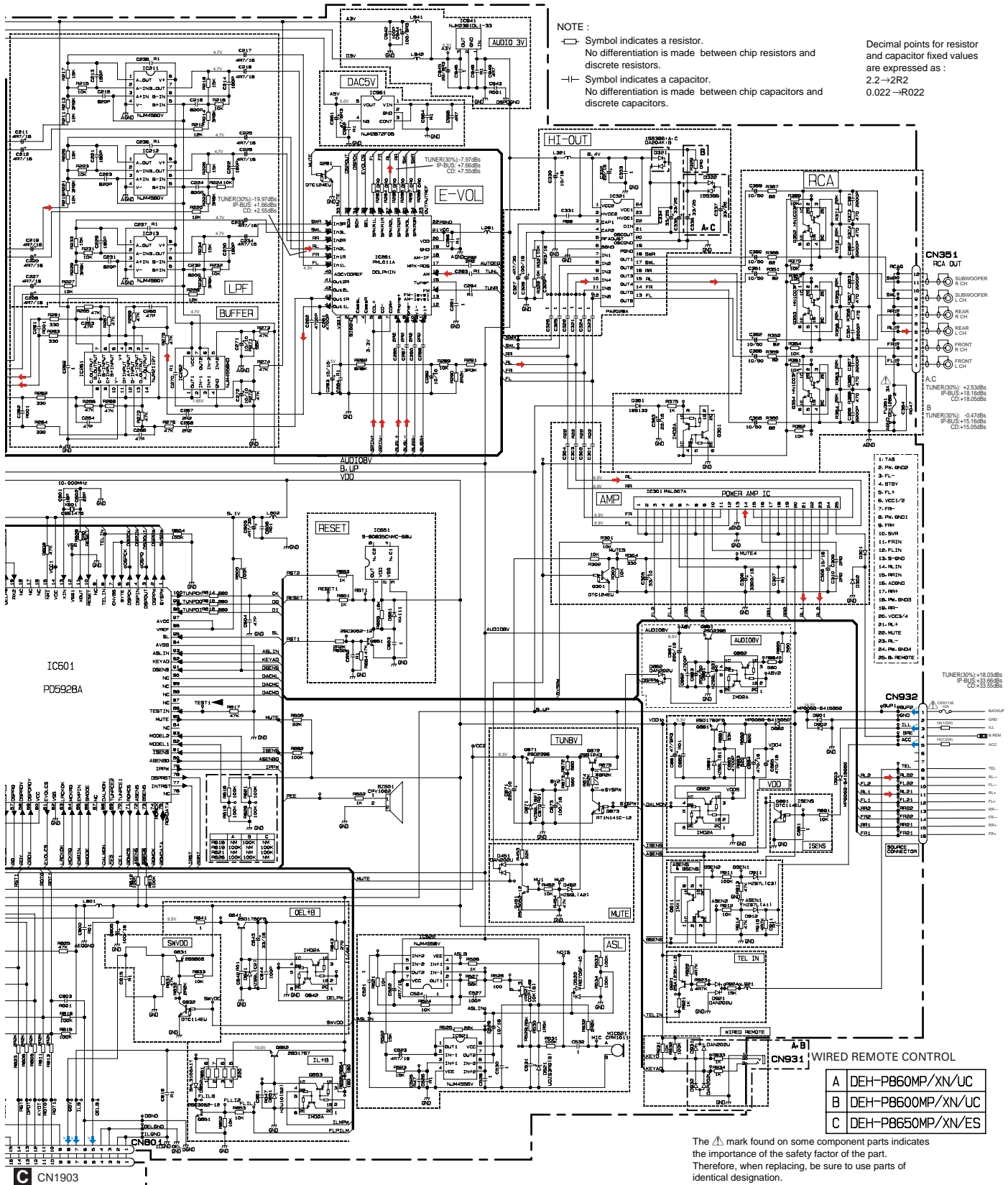
D

E

F

AB

A-b



A
B
C
D
E
F

A

B

C

D

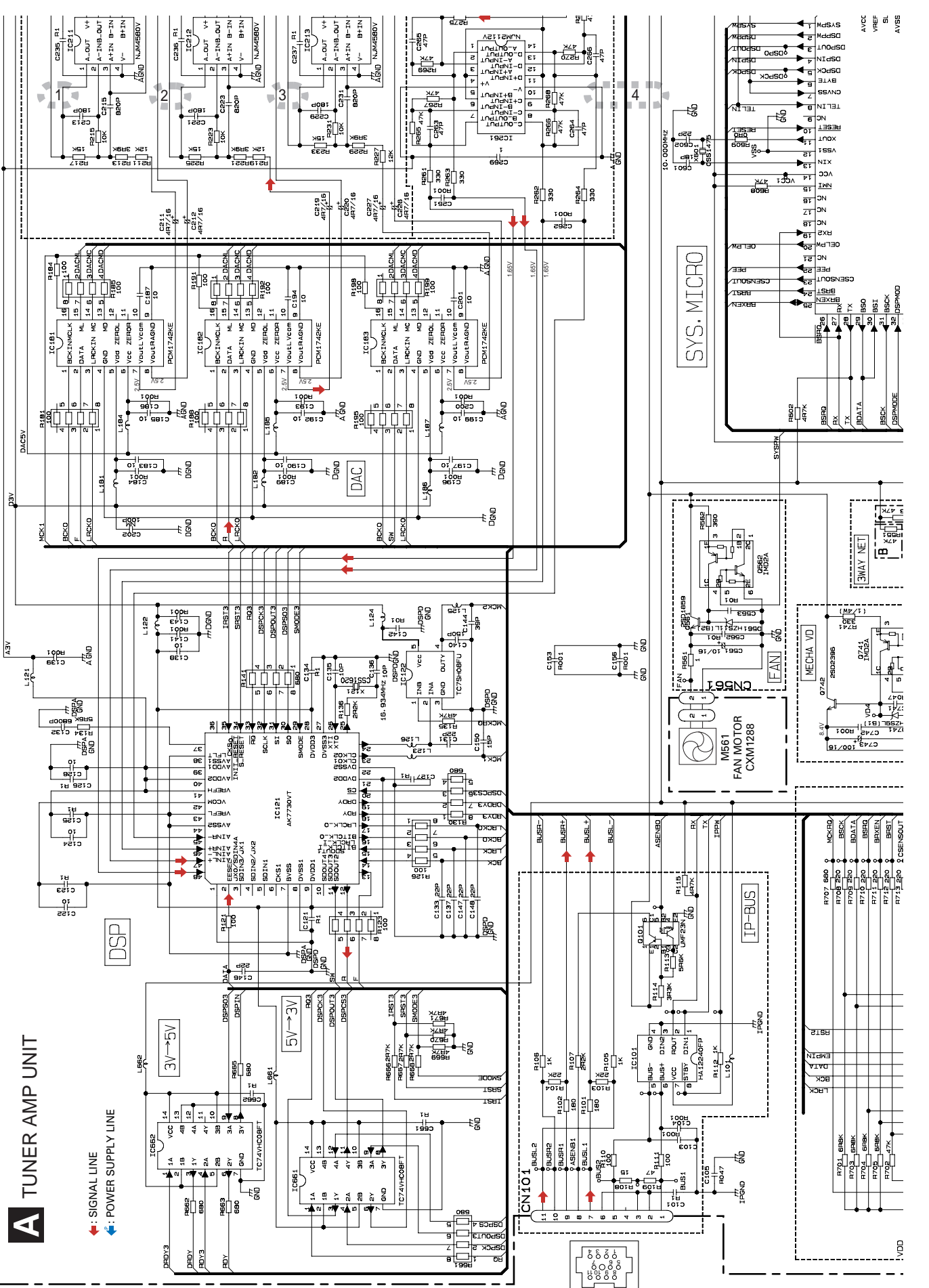
F

F

A-b

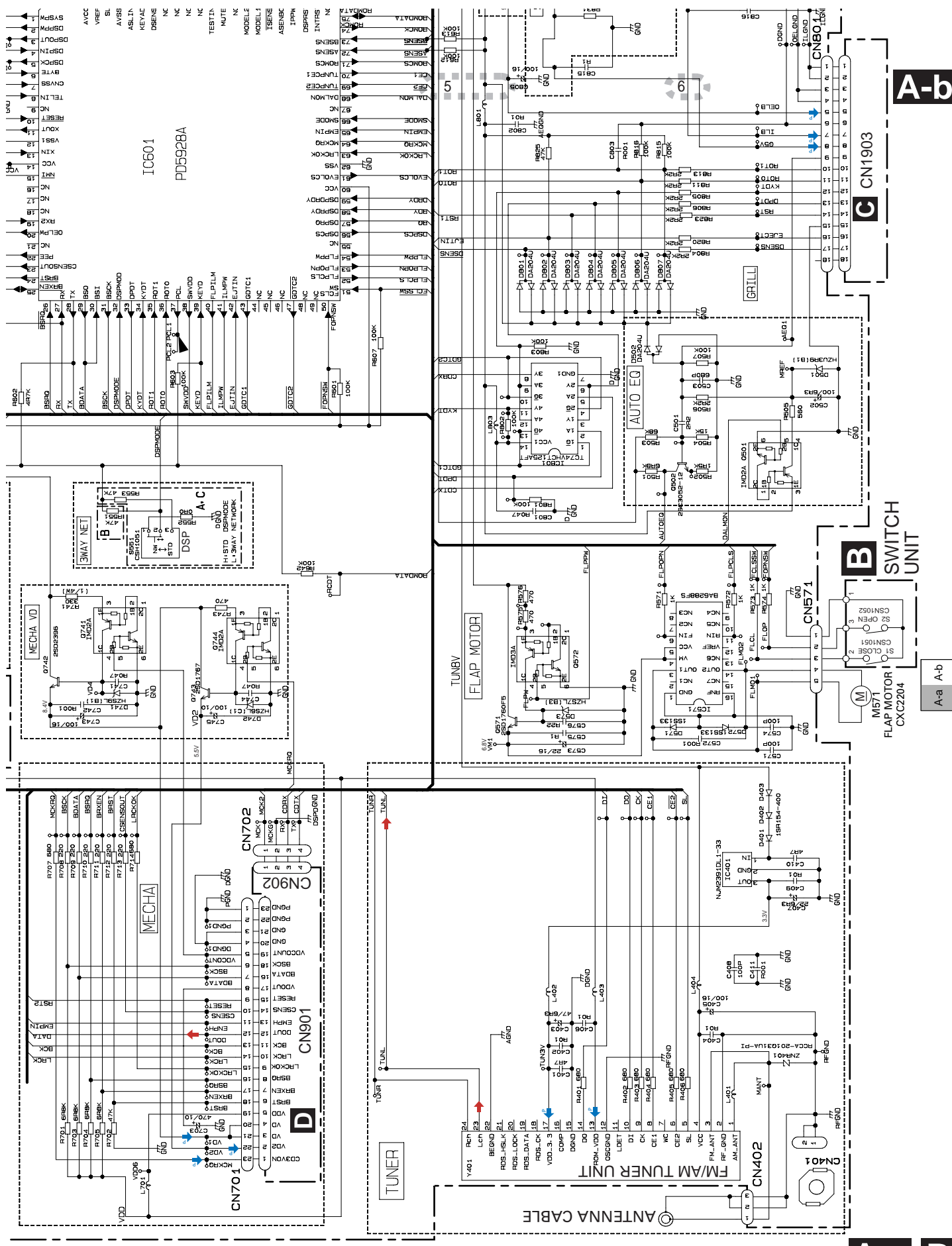
A-a A-b

A-a



A TUNER AMP UNIT

◀ : SIGNAL LINE
▶ : POWER SUPPLY LINE

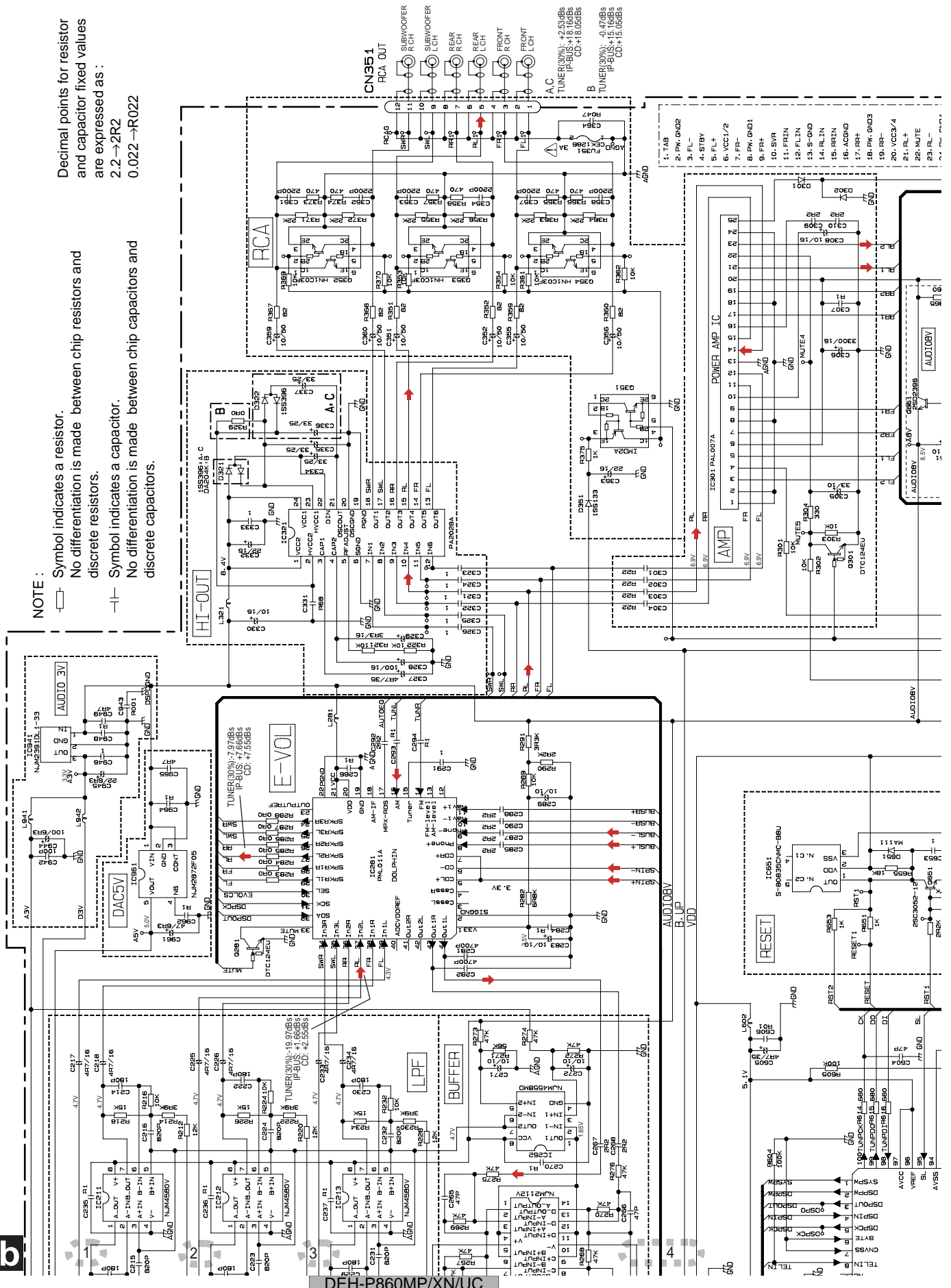


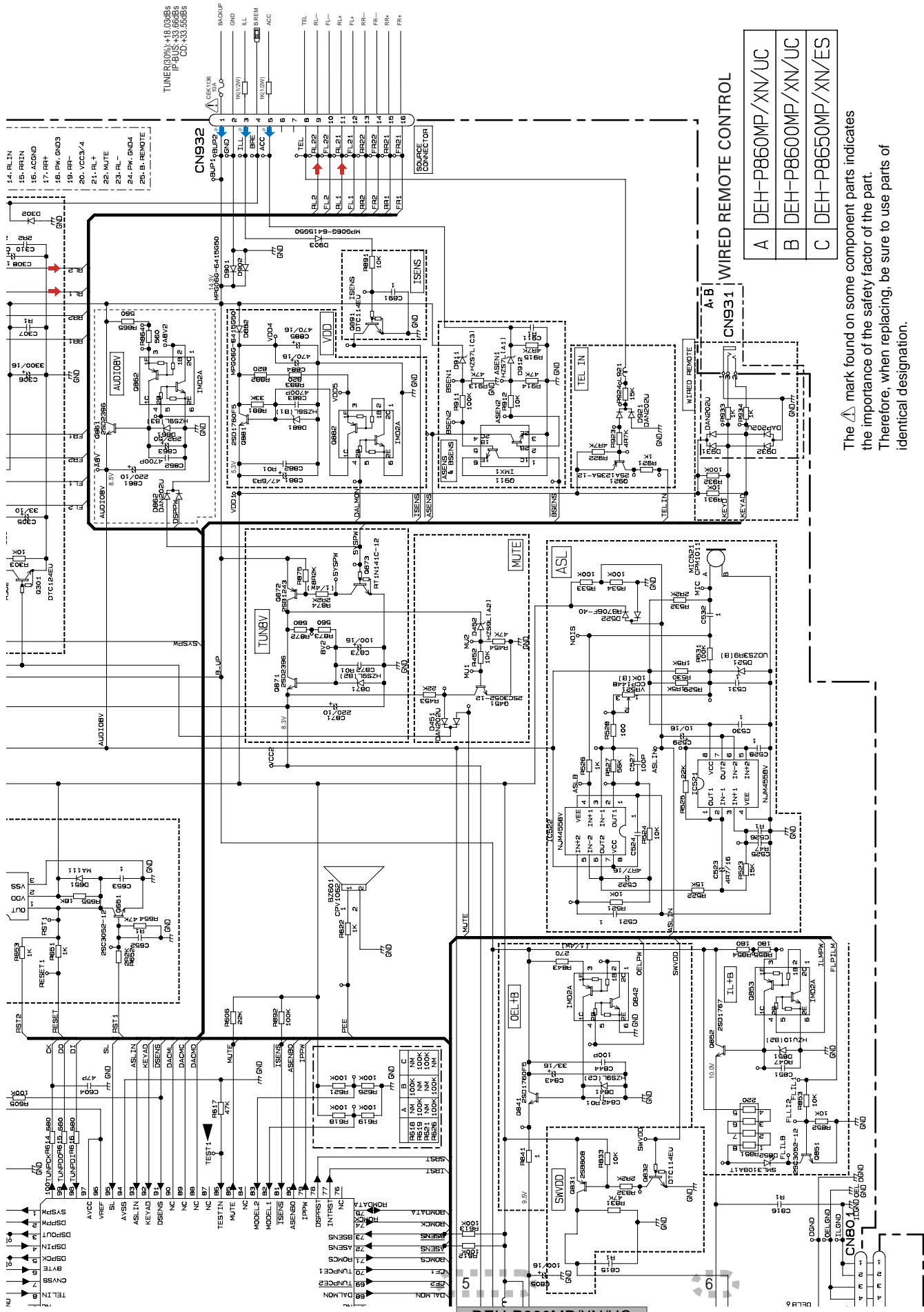
IC601
PD5928A

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

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

A-a A-b





A	DEH-P860MP/XN/UC
B	DEH-P8600MP/XN/UC
C	DEH-P8650MP/XN/ES

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

A-a A-b

3.3 KEYBOARD UNIT

A

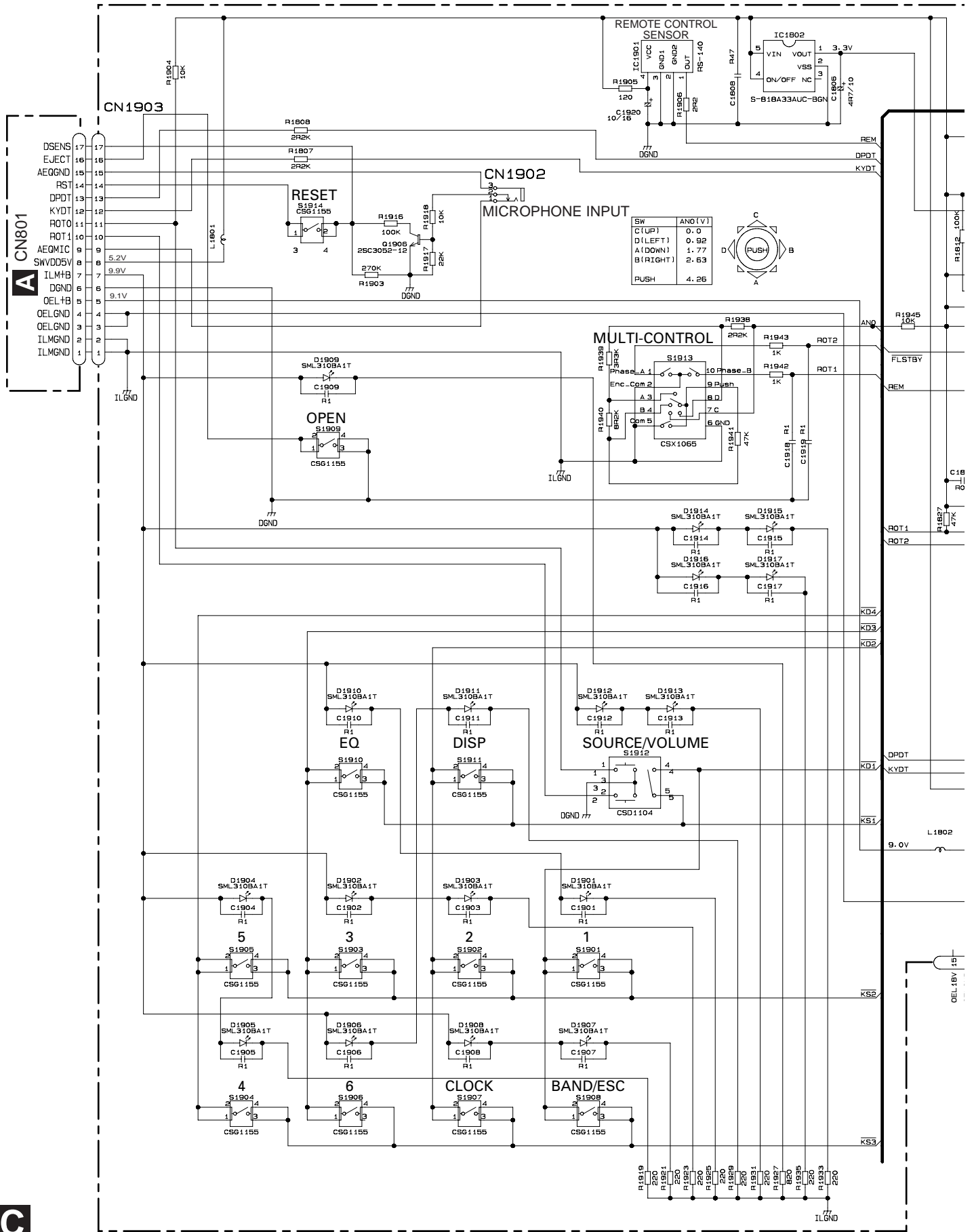
B

C

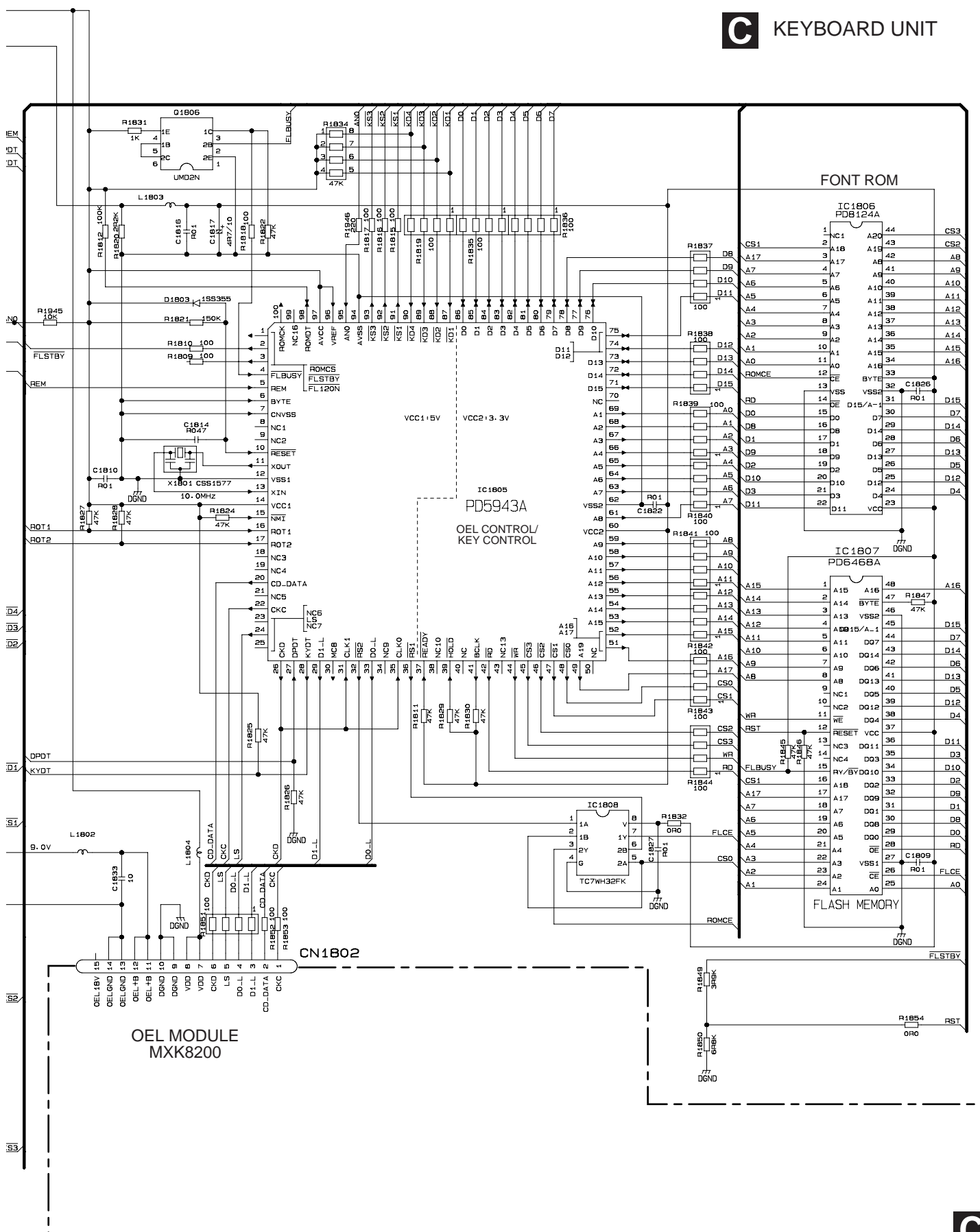
D

E

F



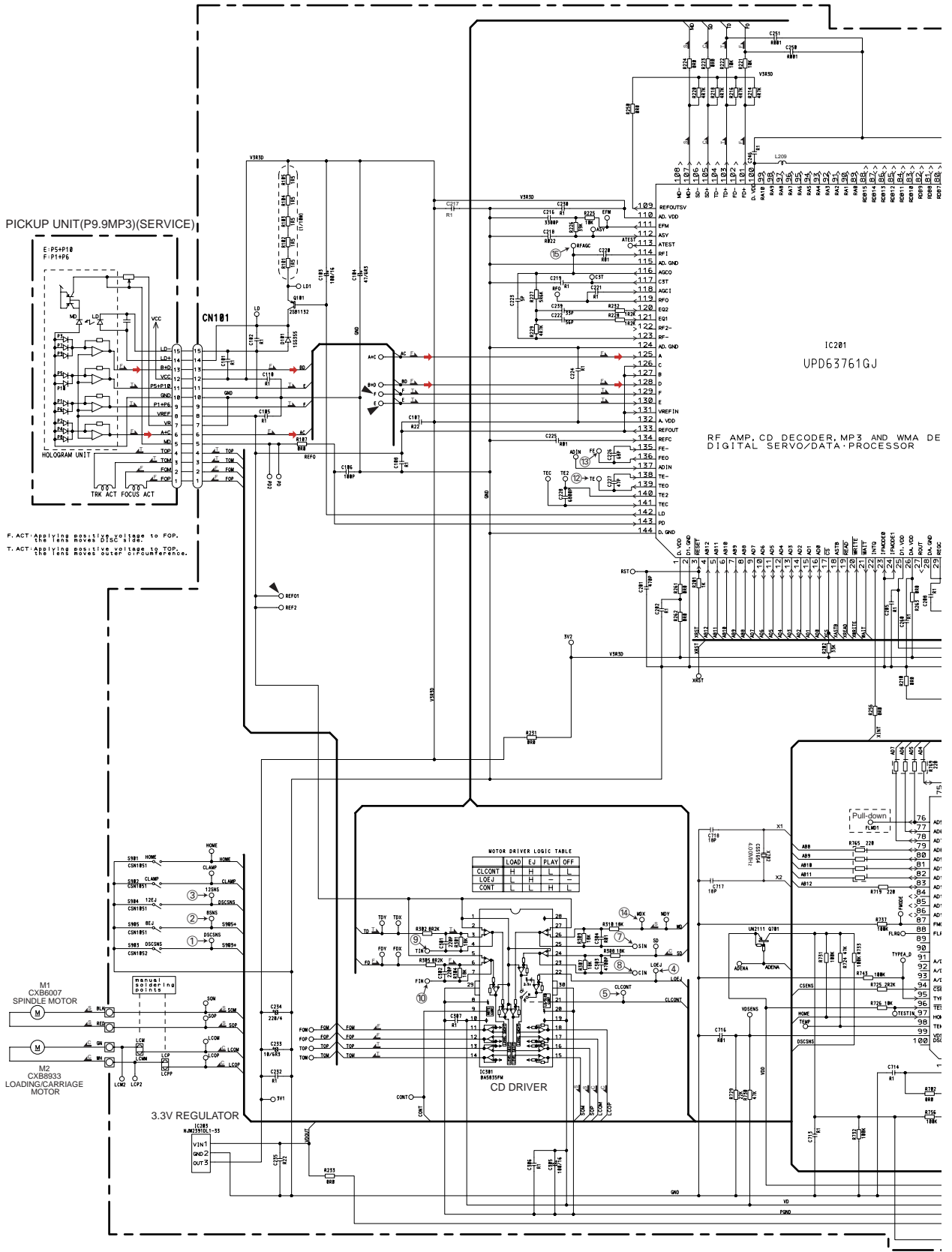
KEYBOARD UNIT



A
B
C
D
E
F

3.4 CD MECHANISM MODULE(GUIDE PAGE)

D-a



F. ACT Applying Resistor 10kΩ to FOP.
T. ACT Applying Resistor 10kΩ to FOP.

IC201
UPD63761GJ
RF AMP, CD DECODER, MP3 AND WMA DE
DIGITAL SERVO/DATA PROCESSOR

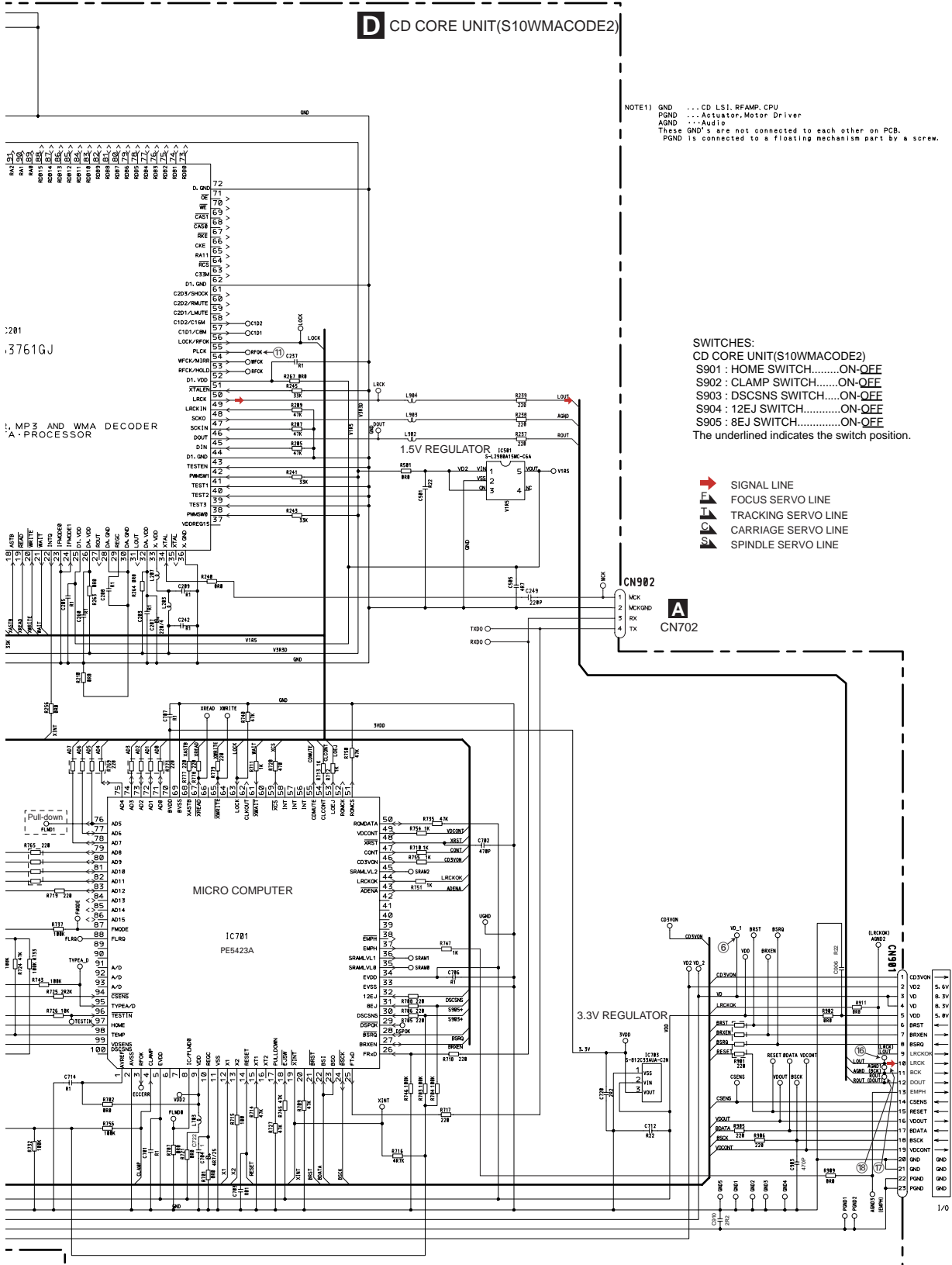
MOTOR DRIVER LOGIC TABLE

	LOAD	EJ	PLAY	OFF
CLOCK	H	H	L	L
LOAD	L	H	L	L
CONT	L	L	H	L

D

D-b

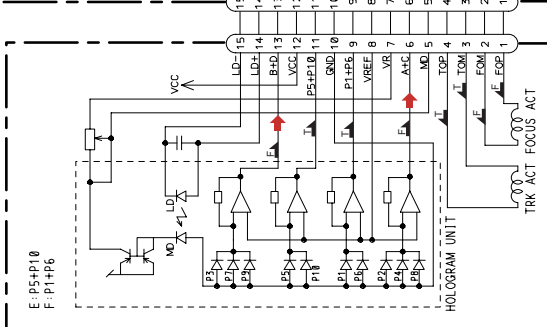
D CD CORE UNIT(S10WMACODE2)



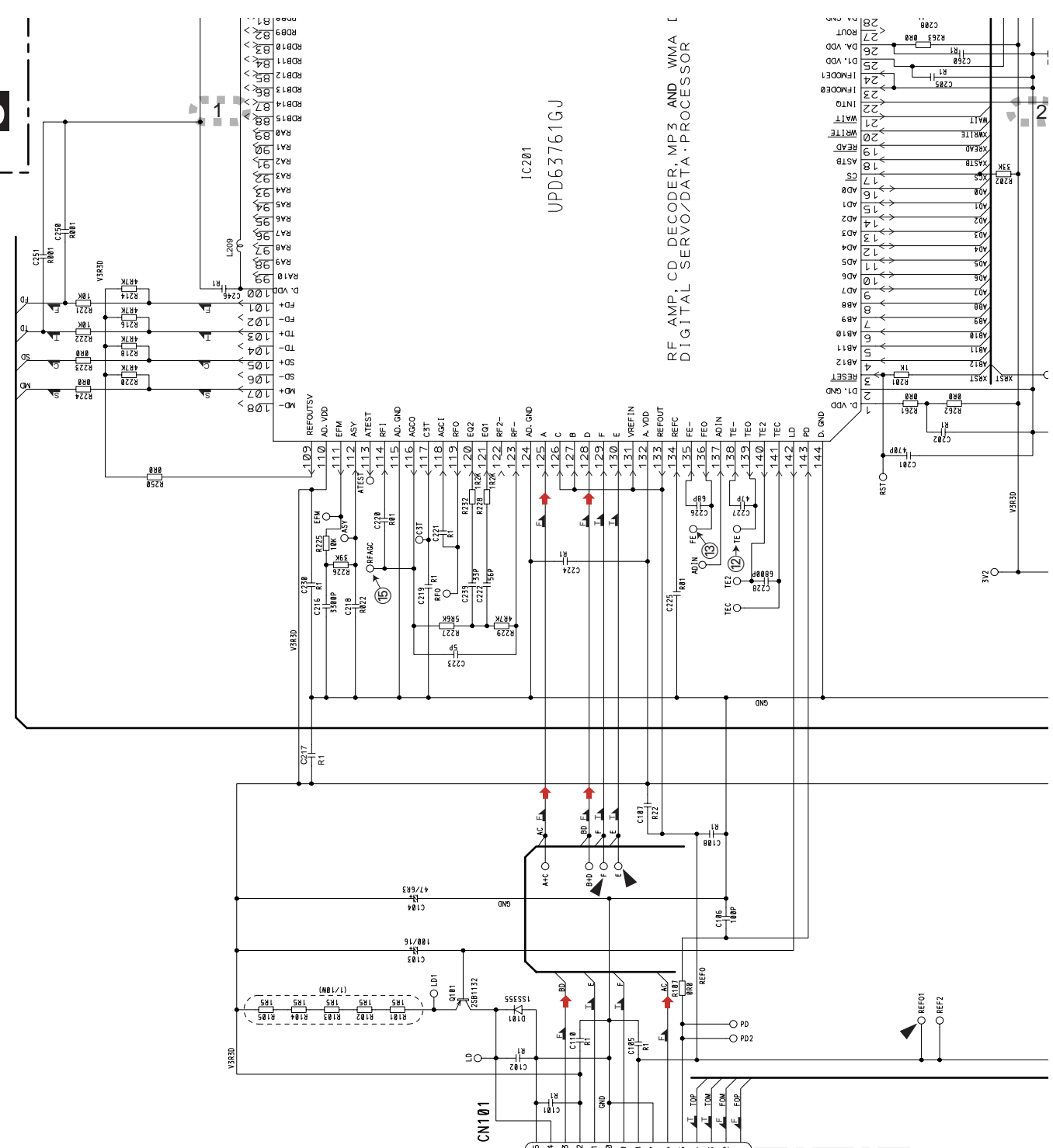
A
B
C
D
E
F

D

PICKUP UNIT(P9.9MP3)(SERVICE)



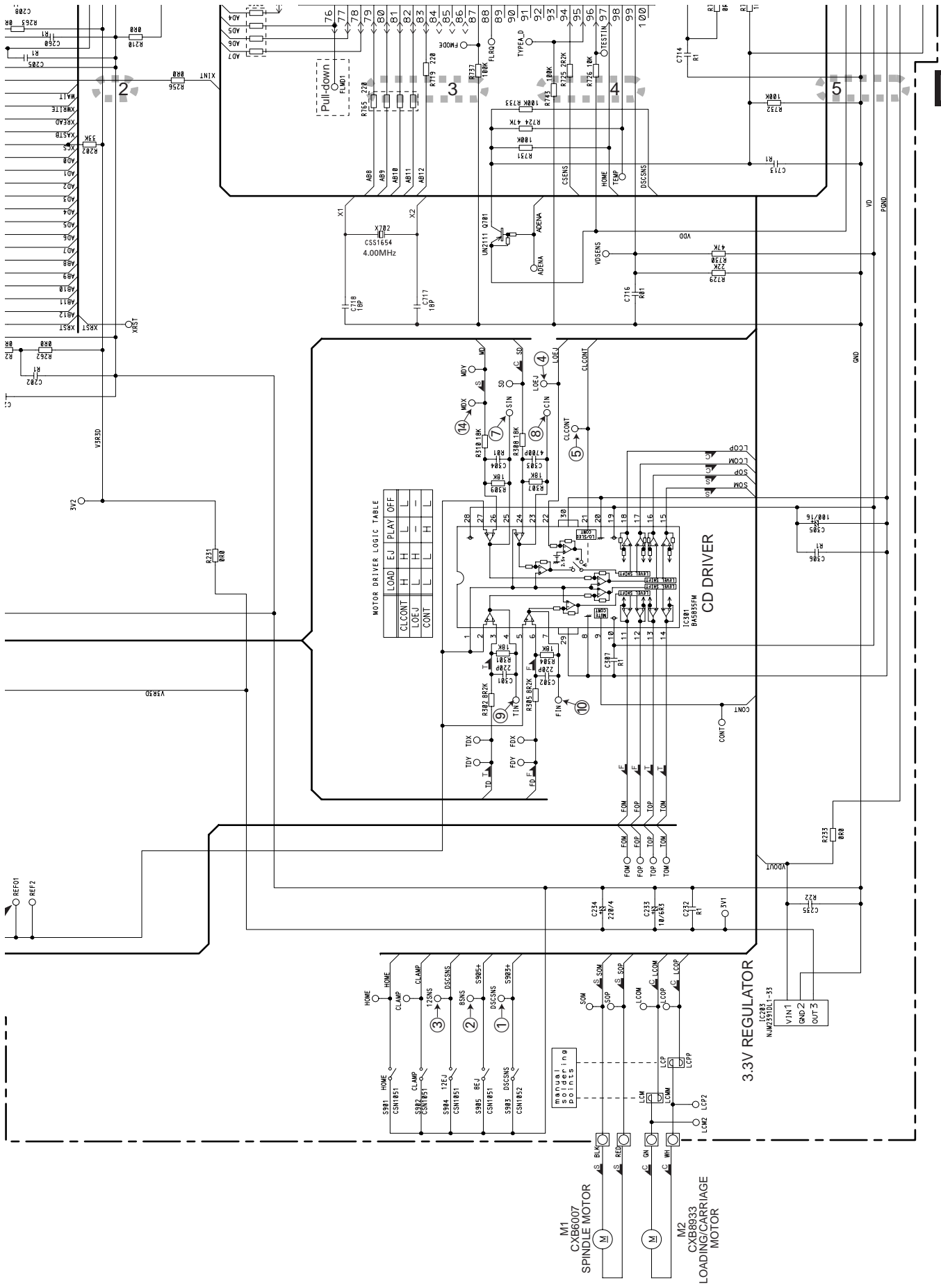
F. ACT: Applying positive voltage to FOP, the lens moves DISC side.
 T. ACT: Applying positive voltage to TOP, the lens moves outer circumference.



RF AMP, CD DECODER, MP3 AND WMA [DIGITAL SERVO/DATA PROCESSOR

A
B
C
D
E
F

1
2
3
4



D-b

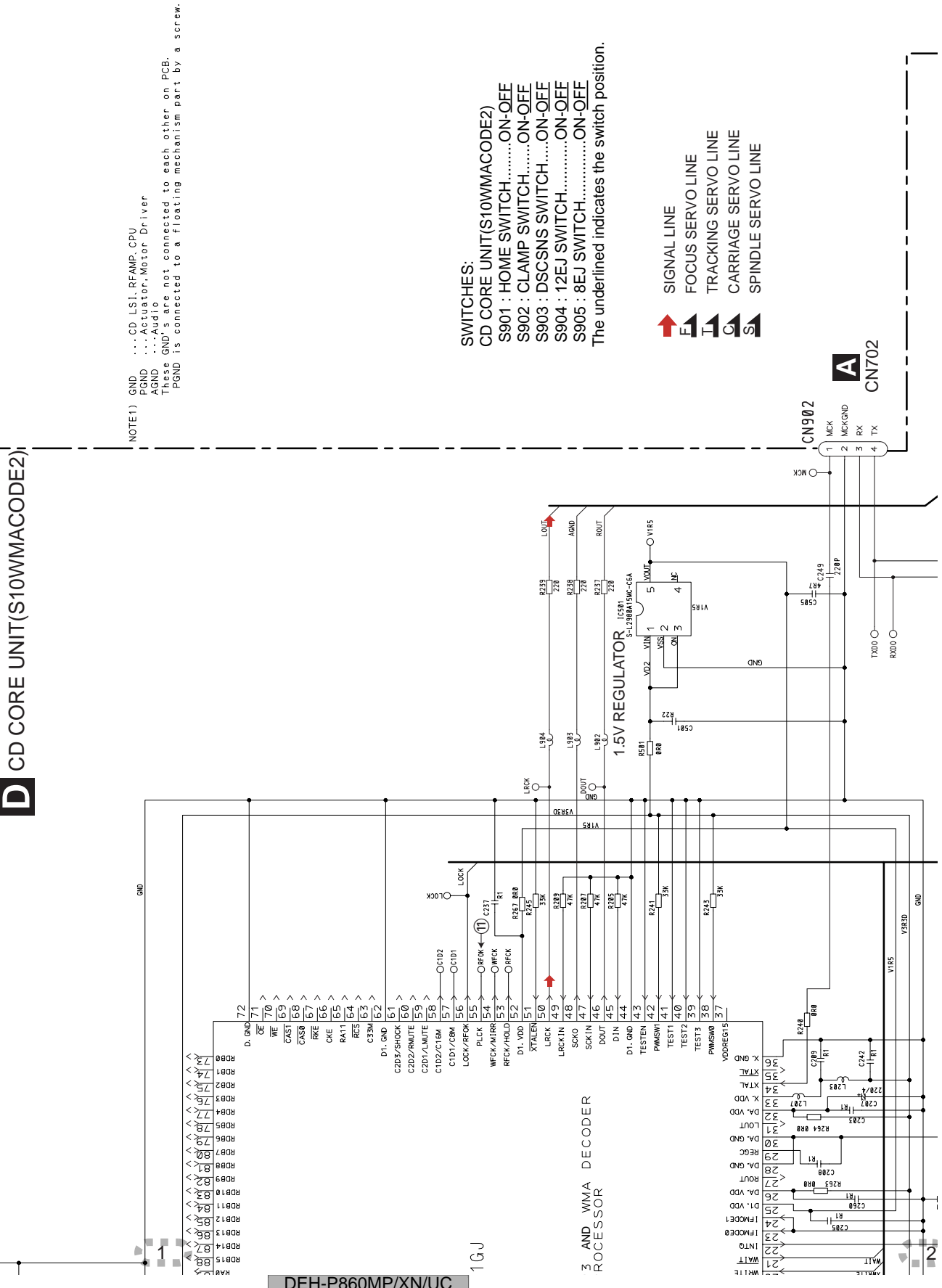
D-a D-b

D-a

D-a D-b

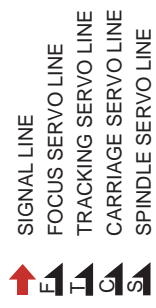
D-b

D CD CORE UNIT(S10WVMACODE2)



NOTE1) GND ...CD,LSI,RFAMP,CPU
 PGND ...Actuator, Motor Driver
 AGND ...Audio
 DEFGND ...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(S10WVMACODE2)
 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.



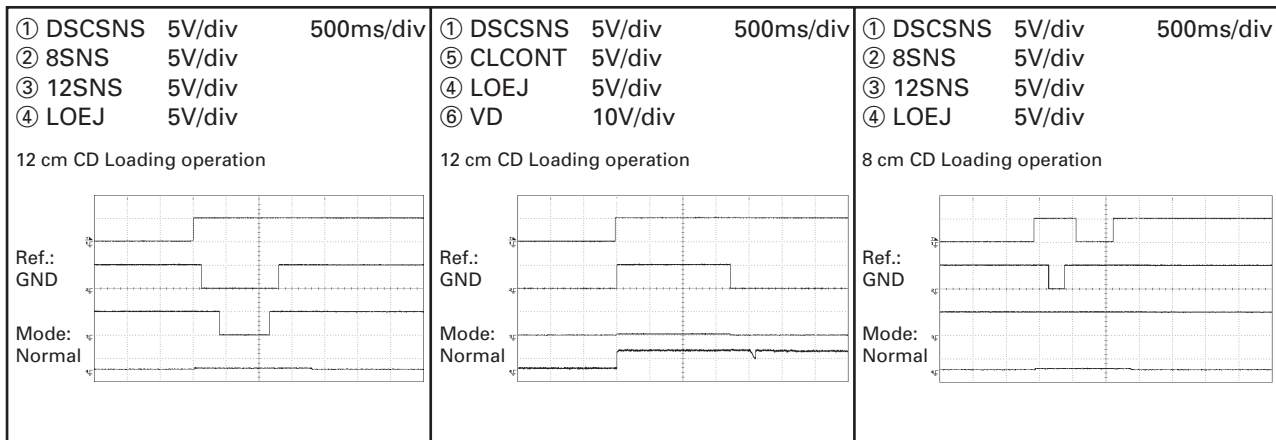
A CN702

CN902
 1 MCK
 2 MCKGND
 3 RX
 4 TX

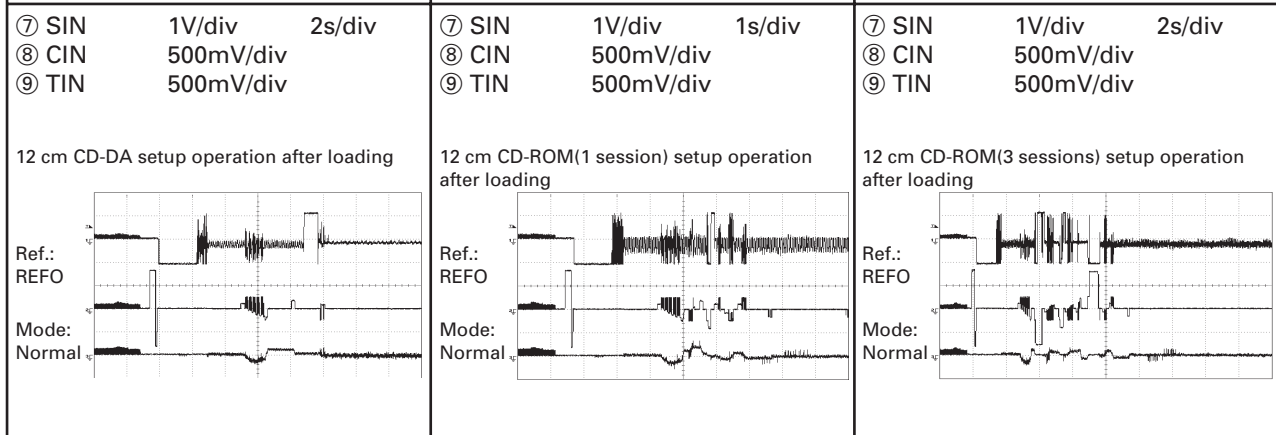
● Waveforms

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

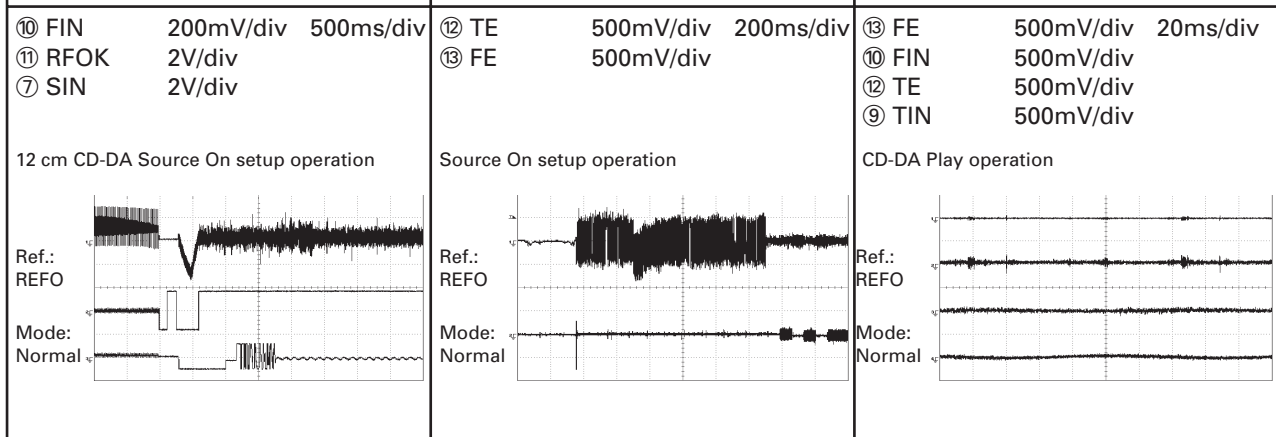
A



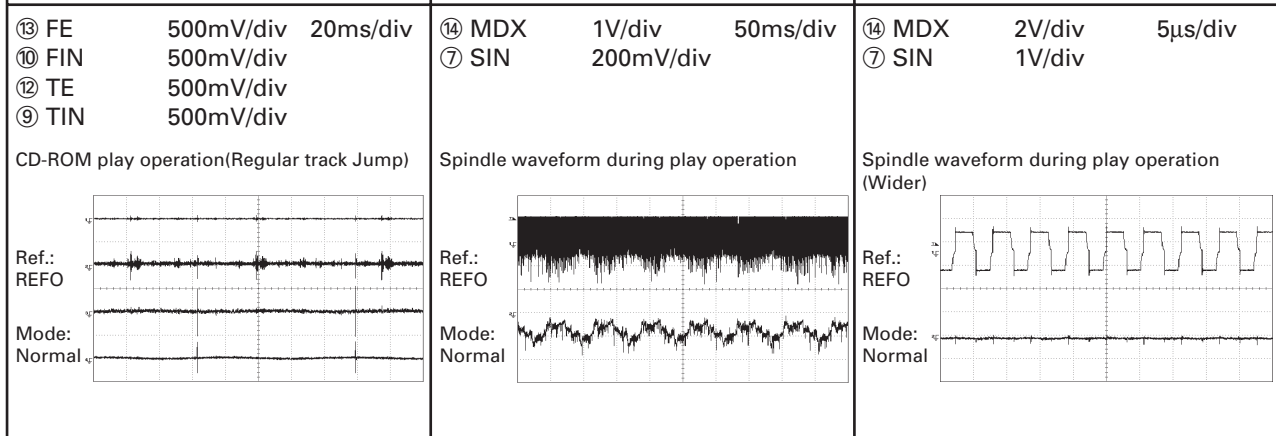
B



C

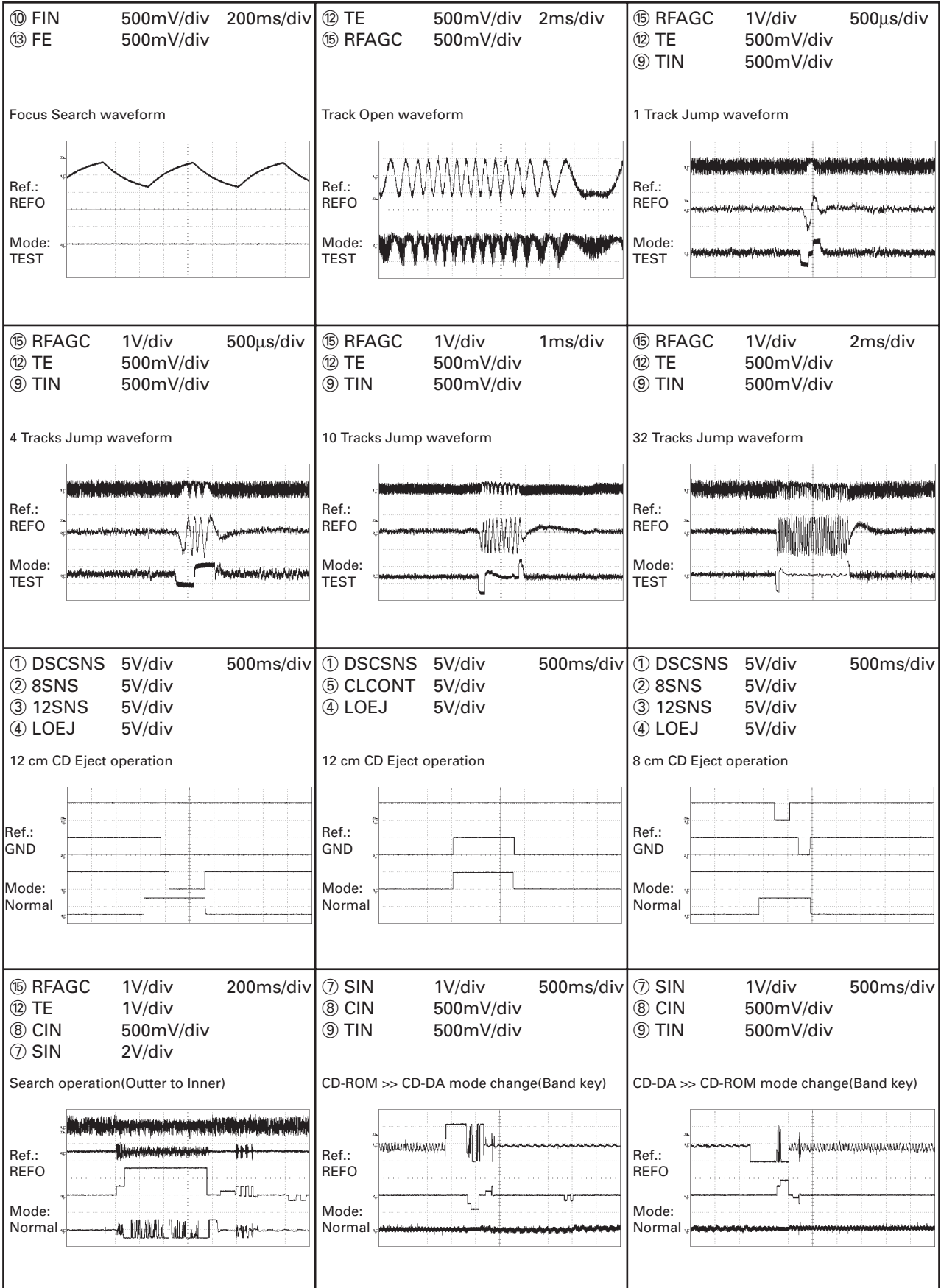


D

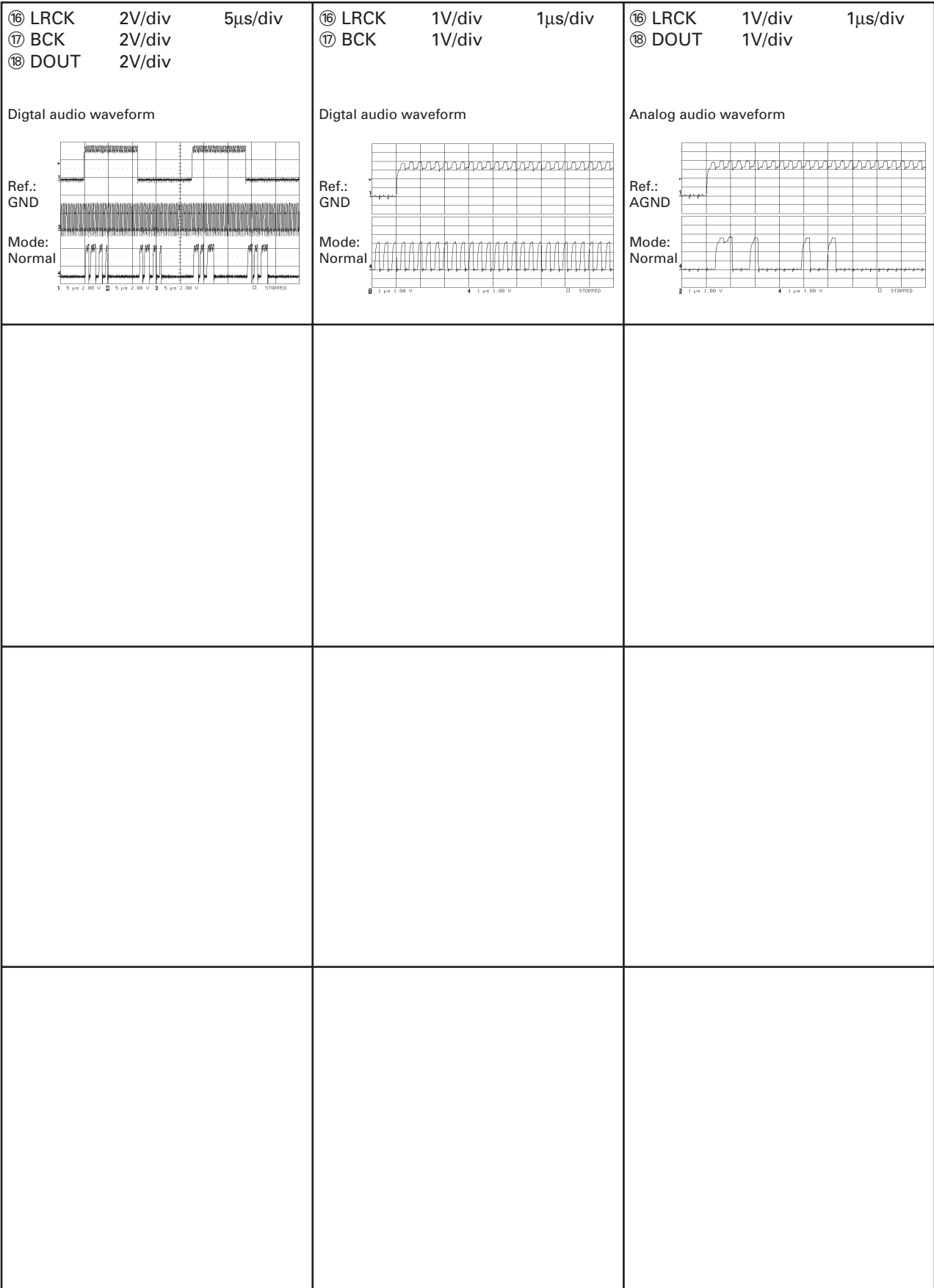


E

F



A
B
C
D
E
F



A

B

C

D

E

F

4. PCB CONNECTION DIAGRAM

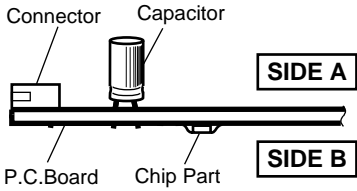
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

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

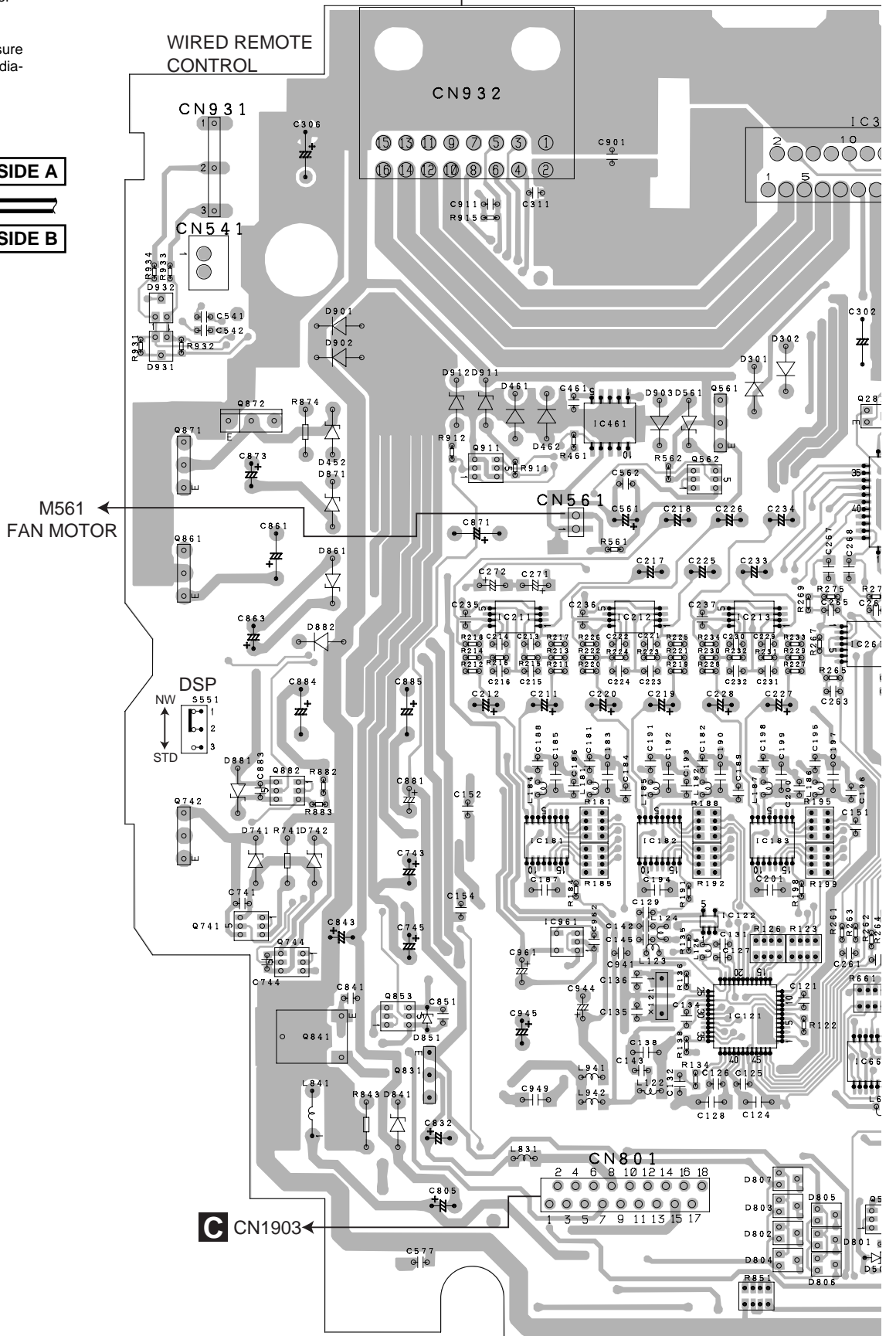
For further information for respective destinations, be sure to check with the schematic diagram.

2. Viewpoint of PCB diagrams



A TUNER AMP UNIT

CORD ASSY
(POWER SUPPLY, SPEAKER)

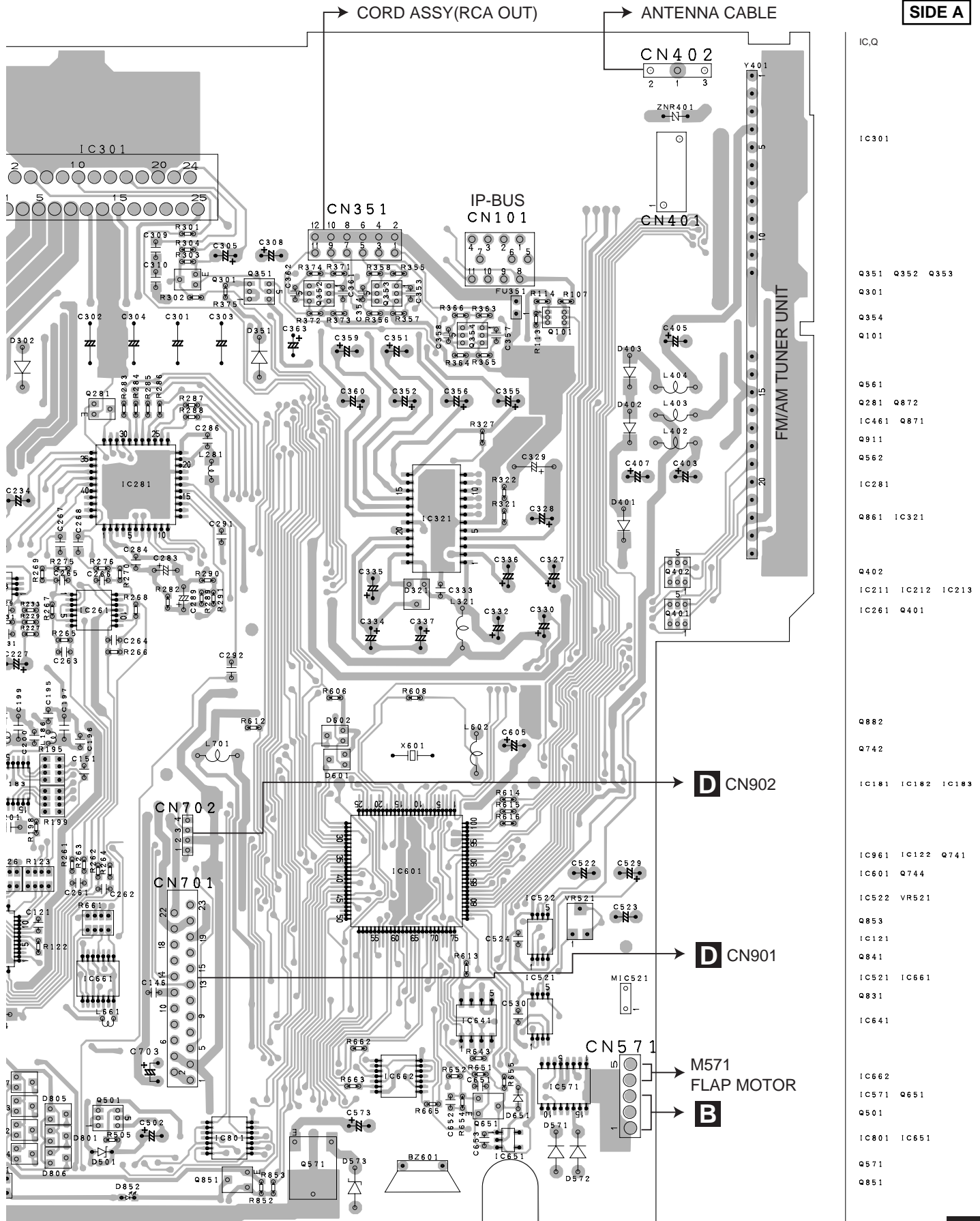


C CN1903

FRONT

A

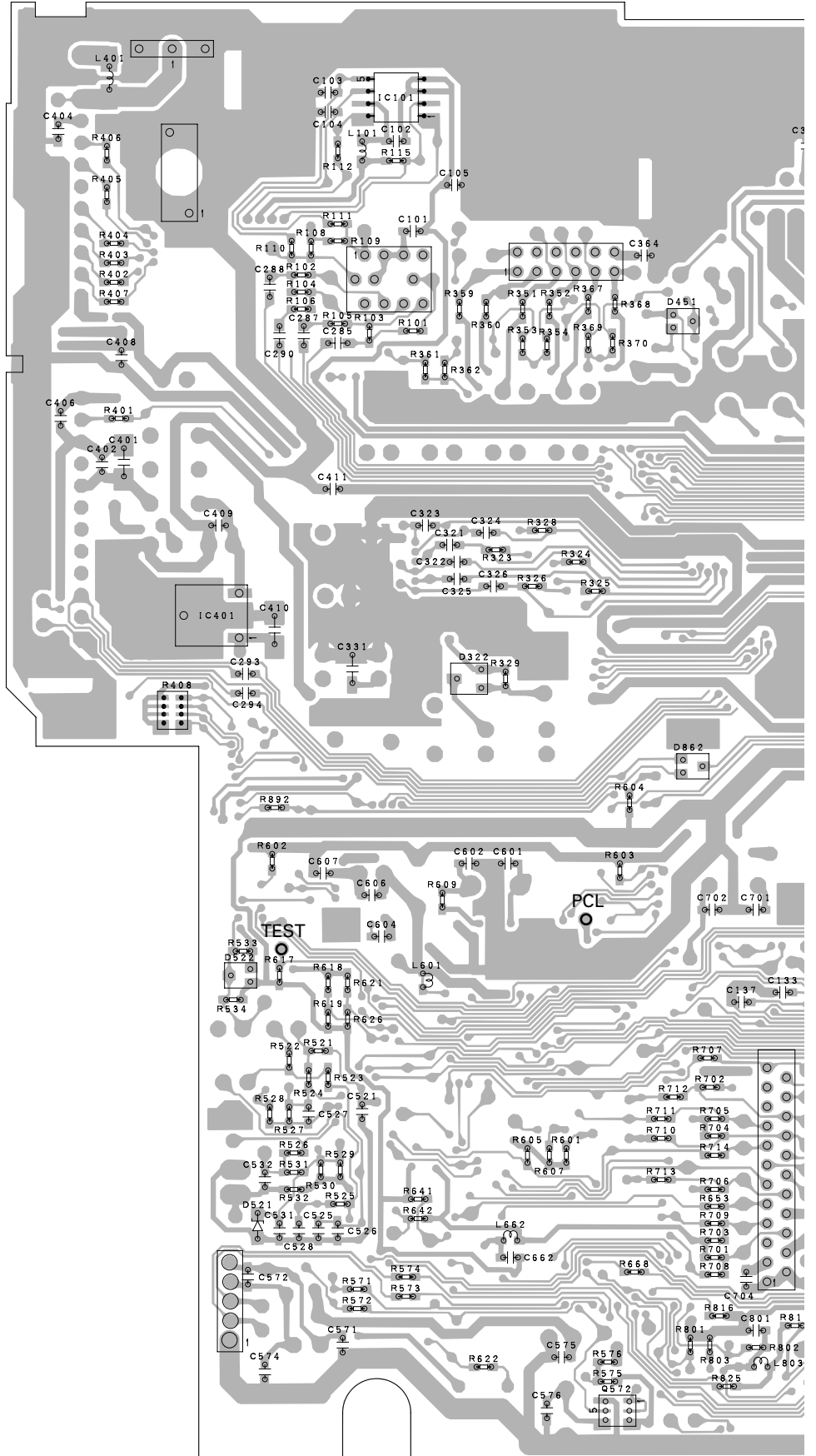
SIDE A



A

A TUNER AMP UNIT

IC,Q
 IC101
 Q873
 Q921
 Q891
 Q451
 IC401
 IC262
 Q862
 Q881
 Q743
 Q852
 Q842
 IC941
 Q832
 Q502
 Q572



B

C

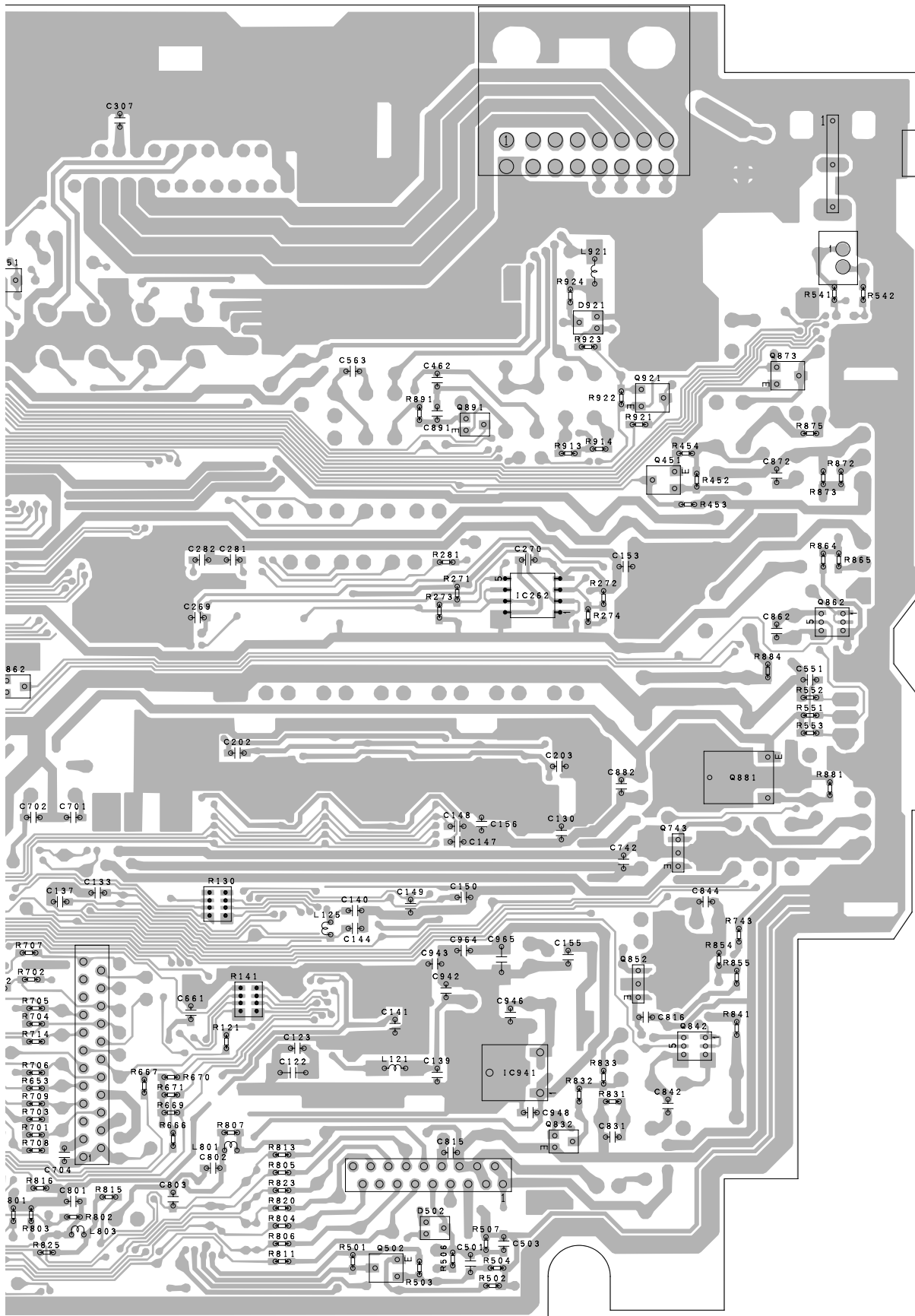
D

E

F

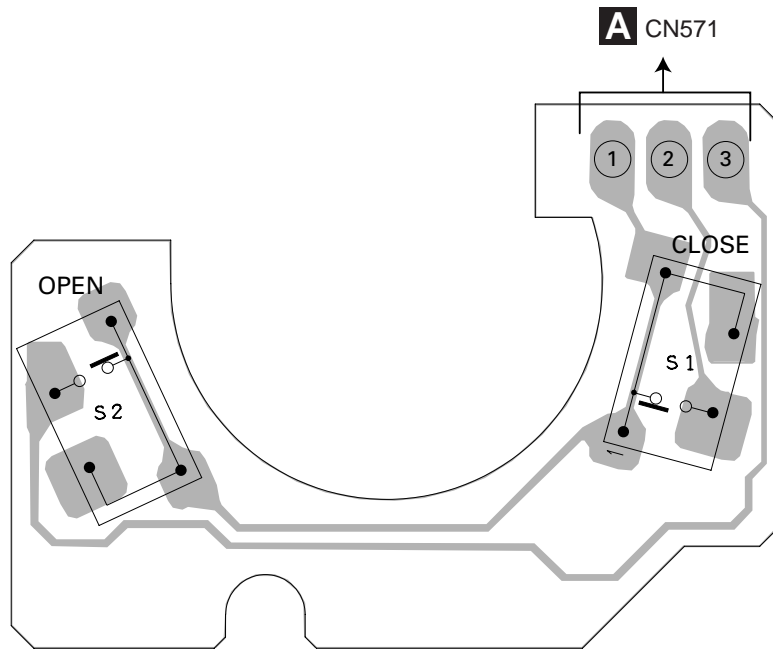
A

SIDE B



4.2 SWITCH UNIT

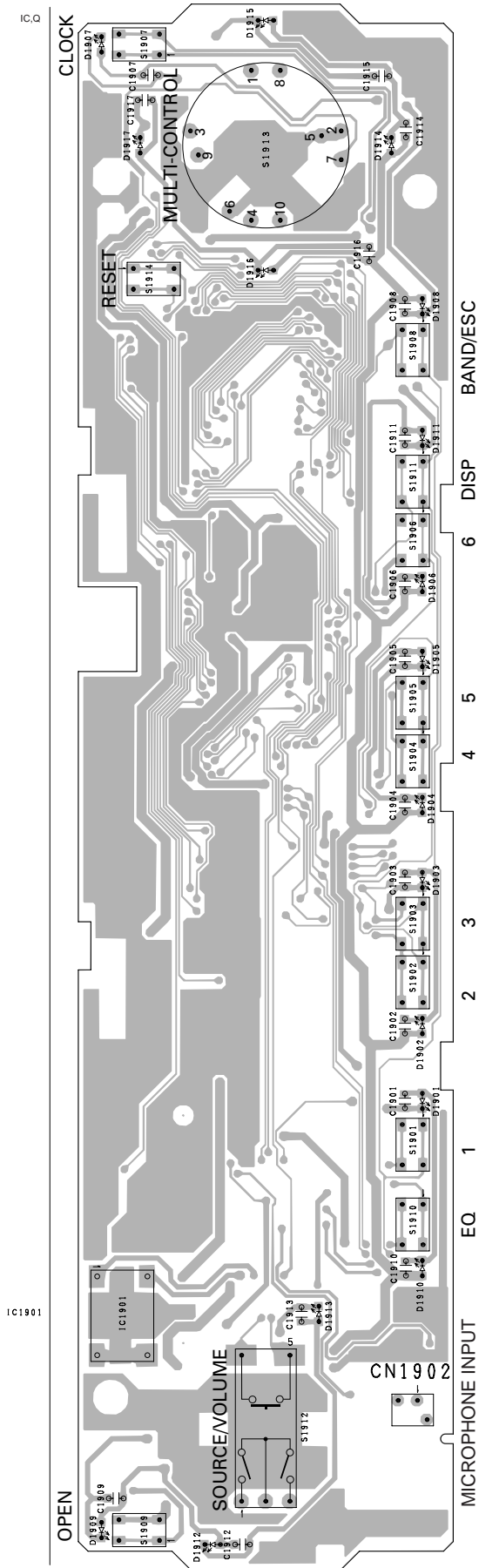
B SWITCH UNIT



4.3 KEYBOARD UNIT

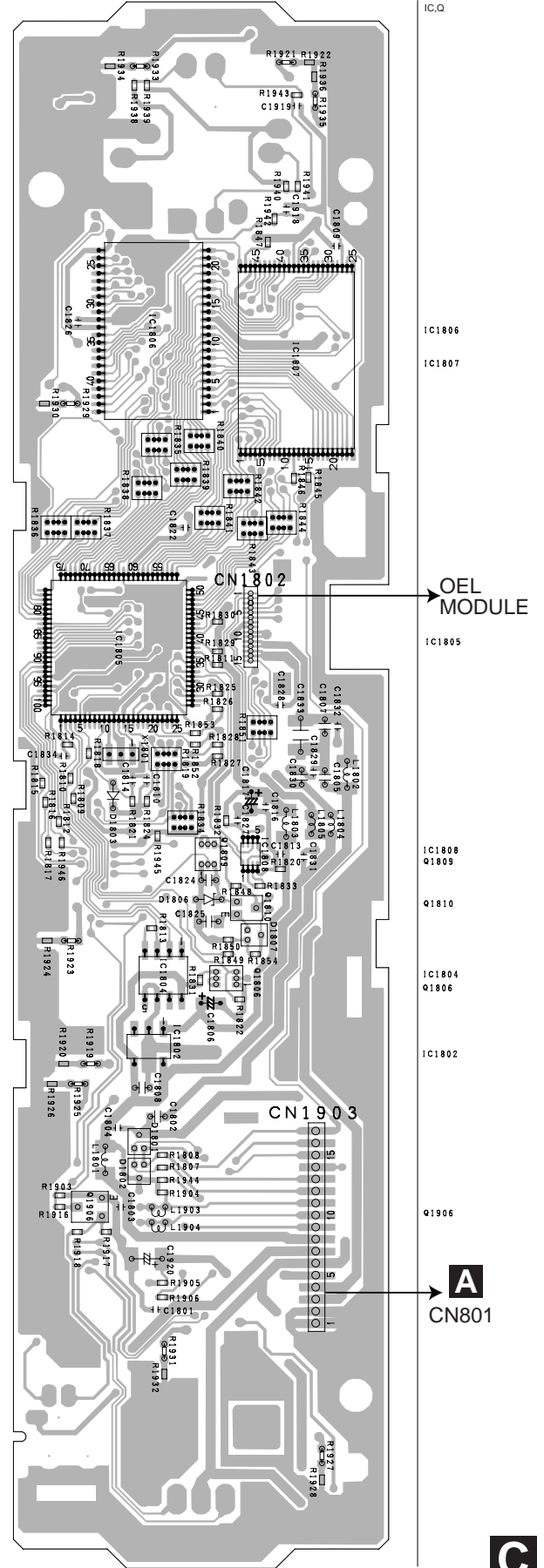
C KEYBOARD UNIT

SIDE A



C KEYBOARD UNIT

SIDE B



4.4 CD MECHANISM MODULE

D CD CORE UNIT(S10WMACODE2)

SIDE A

IC, Q

M2
LOADING
/CARRIAGE
MOTOR

IC301

M1
SPINDLE
MOTOR

A CN701

CN901

PICKUP UNIT(P9.9MP3)(SERVICE)

IC704

IC701

HOME

IC703

Q101

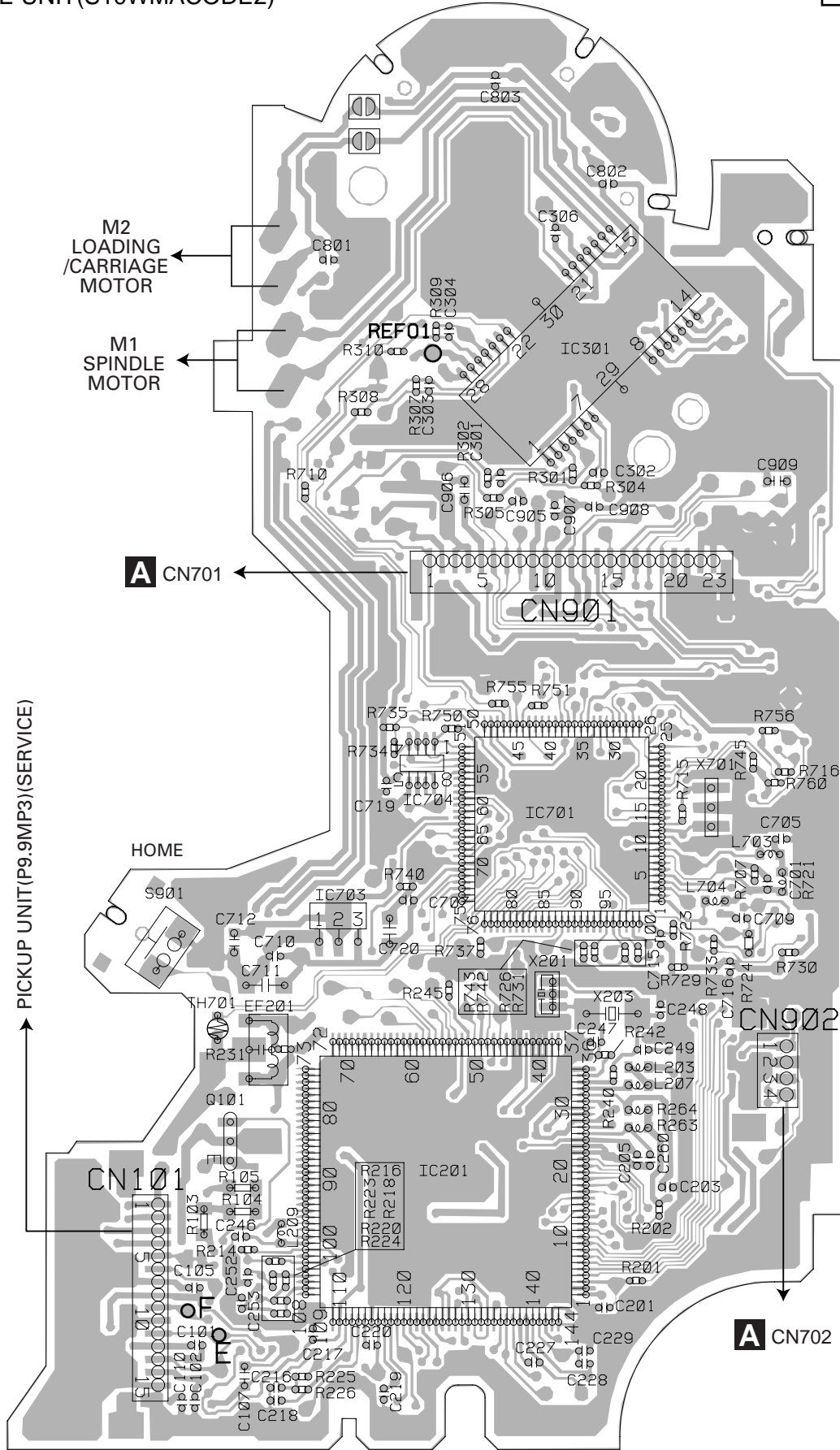
IC201

CN101

IC201

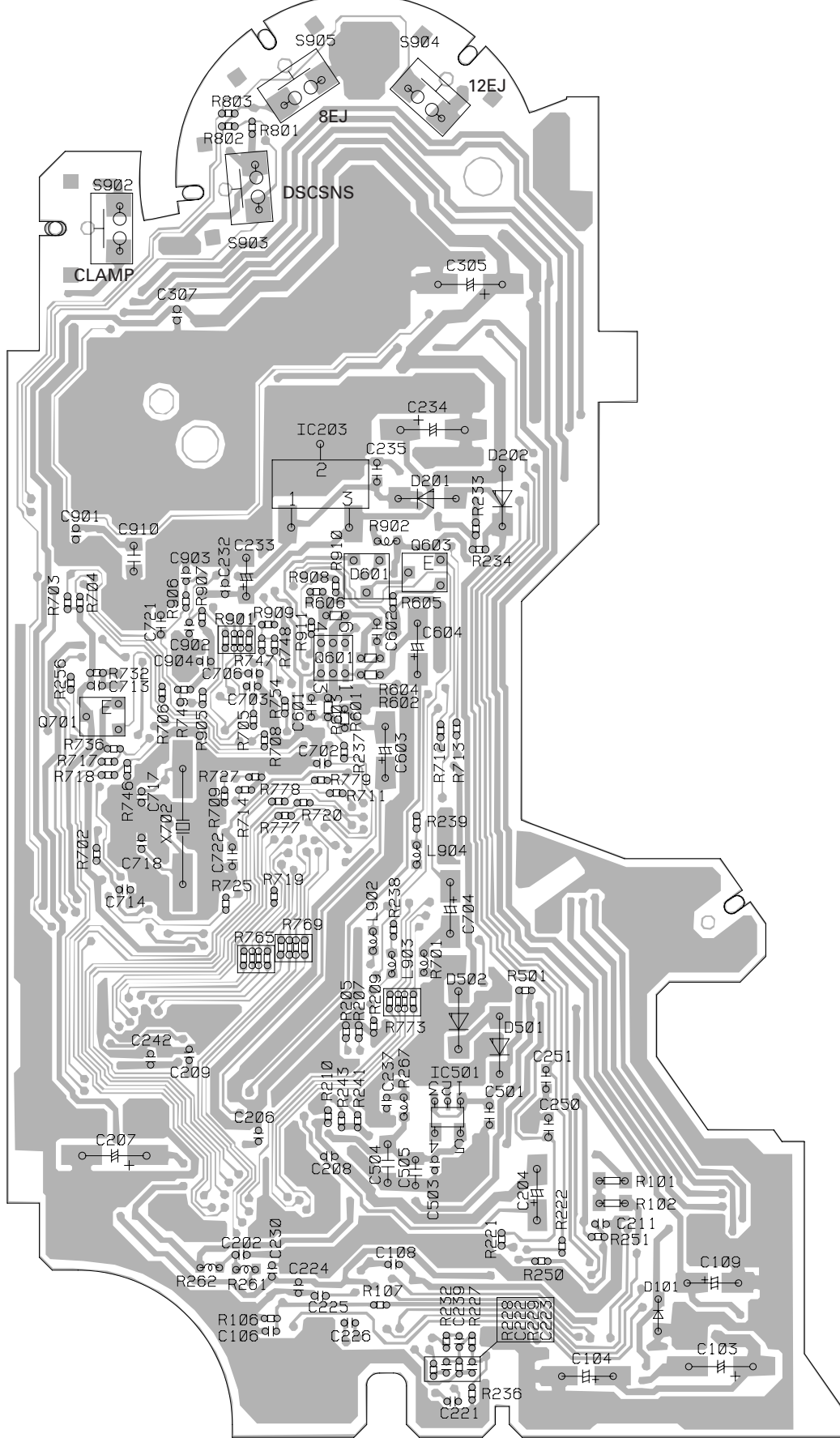
CN902

A CN702



D CD CORE UNIT(S10WMACODE2)

SIDE B



IC, Q

IC203

Q603

Q601

Q701

IC501

D

5. ELECTRICAL PARTS LIST

NOTE:

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

Chip Resistor

RS1/○○○○○J,RS1/○○○○○J

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

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

- 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.

Circuit Symbol and No.

Part No.

Circuit Symbol and No.

Part No.

Q 561	Transistor	2SD1859
Q 562	Transistor	IMD2A
Q 571	Transistor	2SD1760F5
Q 572	Transistor	IMD3A
Q 651	Transistor	2SC3052-12

Q 741	Transistor	IMD2A
Q 742	Transistor	2SD2396
Q 743	Transistor	2SD1767
Q 744	Transistor	IMD2A
Q 831	Transistor	2SB808

Q 832	Transistor	DTC114EU
Q 841	Transistor	2SD1760F5
Q 842	Transistor	IMD2A
Q 851	Transistor	2SC3052-12
Q 852	Transistor	2SD1767

Q 853	Transistor	IMD2A
Q 861	Transistor	2SD2396
Q 862	Transistor	IMD2A
Q 871	Transistor	2SD2396
Q 872	Transistor	2SB1243

Q 873	Transistor	RT1N141C-12
Q 881	Transistor	2SD1760F5
Q 882	Transistor	IMD2A
Q 891	Transistor	DTC114EU
Q 911	Transistor	IMX1

Q 921	Transistor	2SA1235A-12
D 301	Diode	MPG06G-6415G50
D 302	Diode	MPG06G-6415G50
D 321	Diode (P860MP,P8650MP)	1SS396
	Diode (P8600MP)	DA204K

D 322	Diode (P860MP,P8650MP)	1SS396
D 351	Diode	1SS133
D 401	Diode	1SR154-400
D 402	Diode	1SR154-400
D 403	Diode	1SR154-400

D 451	Diode	DAN202U
D 452	Diode	HZS9L(A2)
D 501	Diode	HZU3R9(B1)
D 502	Diode Network	DA204U
D 521	Diode	UDZS3R9(B)

D 522	Diode	RB706F-40
D 561	Diode	HZS11L(B2)
D 571	Diode	1SS133
D 572	Diode	1SS133
D 573	Diode	HZS7L(B3)

D 651	Diode	MA111
-------	-------	-------

A

Unit Number:CWM9266(P860MP)

Unit Number:CWM9267(P8600MP)

Unit Number:CWM9268(P8650MP)

Unit Name:Tuner Amp Unit

MISCELLANEOUS

IC 101	IC	HA12240FP
IC 121	IC	AK7730VT
IC 122	IC	TC7SH08FU
IC 181	IC	PCM1742KE
IC 182	IC	PCM1742KE
IC 183	IC	PCM1742KE
IC 211	IC	NJM4580V
IC 212	IC	NJM4580V
IC 213	IC	NJM4580V
IC 261	IC	NJM2112V
IC 262	IC	NJM4558MD
IC 281	IC	PML011A
IC 301	IC	PAL007A
IC 321	IC	PA2028A
IC 401	IC	NJM2391DL1-33
IC 521	IC	NJM4558V
IC 522	IC	NJM4558V
IC 571	IC	BA6288FS
IC 601	IC	PD5928A
IC 651	IC	S-80835CNMC-B8U
IC 661	IC	TC74VHC08FT
IC 662	IC	TC74VHC08FT
IC 801	IC	TC74VHCT125AFT
IC 941	IC	NJM2391DL1-33
IC 961	IC	NJM2872F05

Q 101	Transistor	UMF23N
Q 281	Transistor	DTC124EU
Q 301	Transistor	DTC124EU
Q 351	Transistor	IMD2A
Q 352	Transistor	HN1C03F

Q 353	Transistor	HN1C03F
Q 354	Transistor	HN1C03F
Q 451	Transistor	2SC3052-12
Q 501	Transistor	IMD2A
Q 502	Transistor	2SC3052-12

<u>Circuit Symbol and No.</u>		<u>Part No.</u>	<u>Circuit Symbol and No.</u>		<u>Part No.</u>
D 741	Diode	HZS9L(B1)	BZ601	Buzzer	CPV1062
D 742	Diode	HZS6L(C1)	Y 401	FM/AM Tuner Unit	CWE1646
D 801	Diode Network	DA204U	RESISTORS		
D 802	Diode Network	DA204U			
D 803	Diode Network	DA204U	R 101	RS1/16S181J	
D 804	Diode Network	DA204U	R 102	RS1/16S181J	
D 805	Diode Network	DA204U	R 103	RS1/16S223J	
D 806	Diode Network	DA204U	R 104	RS1/16S223J	
D 807	Diode Network	DA204U	R 105	RS1/16S102J	
D 841	Diode	HZS9L(C2)	R 106	RS1/16S102J	
D 851	Diode	HZU10(B2)	R 107	RS1/16S222J	
D 852	LED	SML310BA1T	R 108	RS1/16S150J	
D 861	Diode	HZS9L(B3)	R 109	RS1/16S470J	
D 862	Diode	DAN202U	R 110	RS1/16S101J	
D 871	Diode	HZS9L(B2)	R 111	RS1/16S101J	
D 881	Diode	HZS6L(B1)	R 112	RS1/16S102J	
D 882	Diode	MPG06G-6415G50	R 113	RS1/16S562J	
D 901	Diode	MPG06G-6415G50	R 114	RS1/16S332J	
D 902	Diode	MPG06G-6415G50	R 115	RS1/16S472J	
D 903	Diode	MPG06G-6415G50	R 121	RS1/16S101J	
D 911	Diode	HZS7L(C3)	R 123	RAB4C101J	
D 912	Diode	HZS7L(A1)	R 126	RAB4C101J	
D 921	Diode	DAN202U	R 130	RAB4C681J	
D 931	Diode (P860MP,P8600MP)	DAN202U	R 134	RS1/16S562J	
D 932	Diode (P860MP,P8600MP)	DAP202U	R 135	RS1/16S472J	
ZNR401	Surge Protector	RCCA-201Q31UA-PI	R 136	RS1/16S222J	
L 101	Inductor	LCTC4R7K2125	R 141	RAB4C681J	
L 121	Inductor	LCTA1R0J2520	R 181	RAB4C101J	
L 122	Inductor	LCTA1R0J2520	R 184	RS1/16S101J	
L 123	Inductor	CTF1379	R 185	RAB4C101J	
L 124	Inductor	CTF1379	R 188	RAB4C101J	
L 125	Inductor	CTF1389	R 191	RS1/16S101J	
L 126	Inductor	CTF1379	R 192	RAB4C101J	
L 181	Inductor	CTF1379	R 195	RAB4C101J	
L 182	Inductor	CTF1379	R 198	RS1/16S101J	
L 184	Inductor	CTF1379	R 199	RAB4C101J	
L 185	Inductor	CTF1379	R 211	RN1/16SE1202D	
L 186	Inductor	CTF1379	R 212	RN1/16SE1202D	
L 187	Inductor	CTF1379	R 213	RN1/16SE3901D	
L 281	Inductor	LCTA2R2J2520	R 214	RN1/16SE3901D	
L 321	Ferri-Inductor	LAU101J	R 215	RN1/16SE1002D	
L 401	Inductor	LCTA4R7J2520	R 216	RN1/16SE1002D	
L 402	Inductor	LAYU1R0K	R 217	RN1/16SE1502D	
L 403	Inductor	LAYU100K	R 218	RN1/16SE1502D	
L 404	Inductor	LAYU1R0K	R 219	RN1/16SE1202D	
L 602	Inductor	LAYU100K	R 220	RN1/16SE1202D	
L 661	Inductor	LCTC4R7K1608	R 221	RN1/16SE3901D	
L 662	Inductor	LCTC4R7K1608	R 222	RN1/16SE3901D	
L 701	Inductor	LAYU100K	R 223	RN1/16SE1002D	
L 801	Inductor	LCTC1R0K1608	R 224	RN1/16SE1002D	
L 803	Inductor	CTF1379	R 225	RN1/16SE1502D	
L 921	Inductor	CTF1530	R 226	RN1/16SE1502D	
L 941	Inductor	LCTA1R0J2520	R 227	RN1/16SE1202D	
L 942	Inductor	LCTA1R0J2520	R 228	RN1/16SE1202D	
X 121	Radiator 16.934MHz	CSS1620	R 229	RN1/16SE3901D	
X 601	Radiator 10.00MHz	CSS1475	R 230	RN1/16SE3901D	
S 551	Slide Switch(DSP) (P860MP,P8650MP)	CSH1051	R 231	RN1/16SE1002D	
VR521	Semi-fixed 10kΩ(B)	CCP1448	R 232	RN1/16SE1002D	
FU351	Fuse 3A Δ	CEK1286	R 233	RN1/16SE1502D	
MIC521	Microphone	CPM1011			

Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

R 234	RN1/16SE1502D	R 402	RS1/16S681J
R 261	RN1/16SE3300D	R 403	RS1/16S681J
R 262	RN1/16SE3300D	R 404	RS1/16S681J
R 263	RN1/16SE3300D	R 405	RS1/16S681J
R 264	RN1/16SE3300D	R 406	RS1/16S681J
R 265	RN1/16SE4702D	R 452	RS1/16S103J
R 266	RN1/16SE4702D	R 453	RS1/16S223J
R 267	RN1/16SE4702D	R 454	RS1/16S473J
R 268	RN1/16SE4702D	R 501	RS1/16S682J
R 269	RN1/16SE4702D	R 502	RS1/16S152J
R 270	RN1/16SE4702D	R 503	RS1/16S683J
R 271	RS1/16S563J	R 504	RS1/16S153J
R 272	RS1/16S473J	R 505	RS1/16S561J
R 273	RS1/16S473J	R 506	RS1/16S222J
R 274	RS1/16S473J	R 507	RS1/16S104J
R 275	RN1/16SE4702D	R 521	RS1/16S103J
R 276	RN1/16SE4702D	R 522	RS1/16S153J
R 282	RS1/16S682J	R 523	RS1/16S153J
R 283	RS1/16S0R0J	R 524	RS1/16S103J
R 284	RS1/16S0R0J	R 525	RS1/16S223J
R 285	RS1/16S0R0J	R 526	RS1/16S102J
R 286	RS1/16S0R0J	R 527	RS1/16S563J
R 287	RS1/16S0R0J	R 528	RS1/16S101J
R 288	RS1/16S0R0J	R 529	RS1/16S152J
R 289	RS1/16S103J	R 530	RS1/16S152J
R 290	RS1/16S222J	R 531	RS1/16S104J
R 291	RS1/16S332J	R 532	RS1/16S222J
R 301	RS1/16S103J	R 533	RS1/16S104J
R 302	RS1/16S103J	R 534	RS1/16S104J
R 303	RS1/16S103J	R 551	(P8600MP) RS1/16S473J
R 304	RS1/16S331J	R 552	(P860MP,P8650MP) RS1/16S0R0J
R 321	RS1/16S103J	R 553	(P860MP,P8650MP) RS1/16S473J
R 322	RS1/16S103J	R 561	RS1/16S1R0J
R 329	RS1/16S0R0J	R 562	RS1/16S391J
R 351	RS1/16S820J	R 571	RS1/16S102J
R 352	RS1/16S820J	R 572	RS1/16S102J
R 353	RS1/16S103J	R 573	RS1/16S102J
R 354	RS1/16S103J	R 574	RS1/16S102J
R 355	RS1/16S223J	R 575	RS1/16S471J
R 356	RS1/16S223J	R 576	RS1/16S471J
R 357	RS1/16S471J	R 601	RS1/16S104J
R 358	RS1/16S471J	R 602	RS1/16S472J
R 359	RS1/16S820J	R 603	RS1/16S104J
R 360	RS1/16S820J	R 604	RS1/16S104J
R 361	RS1/16S103J	R 605	RS1/16S104J
R 362	RS1/16S103J	R 606	RS1/16S223J
R 363	RS1/16S223J	R 607	RS1/16S104J
R 364	RS1/16S223J	R 608	RS1/16S473J
R 365	RS1/16S471J	R 609	RS1/16S0R0J
R 366	RS1/16S471J	R 612	RS1/16S104J
R 367	RS1/16S820J	R 613	RS1/16S104J
R 368	RS1/16S820J	R 614	RS1/16S681J
R 369	RS1/16S103J	R 615	RS1/16S681J
R 370	RS1/16S103J	R 616	RS1/16S681J
R 371	RS1/16S223J	R 617	RS1/16S473J
R 372	RS1/16S223J	R 618	(P8600MP) RS1/16S104J
R 373	RS1/16S471J	R 619	(P860MP,P8650MP) RS1/16S104J
R 374	RS1/16S471J	R 621	(P8650MP) RS1/16S104J
R 375	RS1/16S102J	R 622	RS1/16S102J
R 401	RS1/16S681J	R 626	(P860MP,P8600MP) RS1/16S104J

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
R 642	RS1/16S104J	R 881	RS1/16S333J
R 651	RS1/16S102J	R 882	RS1/16S821J
R 652	RS1/16S222J	R 883	RS1/16S821J
R 653	RS1/16S102J	R 891	RS1/16S103J
R 654	RS1/16S473J	R 892	RS1/16S104J
R 655	RS1/16S183J	R 911	RS1/16S104J
R 661	RAB4C681J	R 912	RS1/16S103J
R 662	RS1/16S681J	R 913	RS1/16S473J
R 663	RS1/16S681J	R 914	RS1/16S473J
R 665	RS1/16S681J	R 915	RS1/16S472J
R 666	RS1/16S272J	R 921	RS1/16S102J
R 667	RS1/16S272J	R 922	RS1/16S472J
R 668	RS1/16S272J	R 923	RS1/16S472J
R 669	RS1/16S472J	R 924	RS1/16S153J
R 670	RS1/16S472J	R 931	RS1/16S103J
R 671	RS1/16S472J	R 932	RS1/16S104J
R 701	RS1/16S682J	R 933	(P860MP,P8600MP)
R 702	RS1/16S473J	R 934	(P860MP,P8600MP)
R 703	RS1/16S682J		
R 704	RS1/16S682J		
		<u>CAPACITORS</u>	
R 705	RS1/16S682J	C 101	CKSRYB104K16
R 707	RS1/16S681J	C 103	CCSRCH102J50
R 708	RS1/16S221J	C 104	CCSRCH102J50
R 709	RS1/16S221J	C 105	CKSRYB473K50
R 710	RS1/16S221J	C 121	CKSRYB104K16
R 711	RS1/16S221J	C 122	CKSYB106K6R3
R 712	RS1/16S221J	C 123	CKSRYB104K16
R 713	RS1/16S221J	C 124	CKSYB106K6R3
R 714	RS1/16S681J	C 125	CKSRYB104K16
R 741	RD1/4PU331J	C 126	CKSRYB104K16
R 743	RS1/16S471J	C 127	CKSRYB104K16
R 801	RS1/16S104J	C 128	CKSYB106K6R3
R 802	RS1/16S104J	C 131	CCSRCH220J50
R 803	RS1/16S104J	C 132	CKSQYB682K50
R 804	RS1/16S222J	C 133	CCSRCH220J50
R 805	RS1/16S222J	C 134	CKSRYB104K16
R 806	RS1/16S222J	C 135	CCSRCH100D50
R 811	RS1/16S222J	C 136	CCSRCH100D50
R 813	RS1/16S222J	C 137	CCSRCH220J50
R 815	RS1/16S104J	C 138	CKSYB106K6R3
R 816	RS1/16S104J	C 139	CCSRCH102J50
R 820	RS1/16S222J	C 140	CCSRCH151J50
R 823	RS1/16S222J	C 141	CCSRCH102J50
R 825	RS1/16S473J	C 142	CKSRYB103K50
R 831	RS1/16S473J	C 143	CCSRCH102J50
R 832	RS1/16S222J	C 144	CCSRCH390J50
R 833	RS1/16S103J	C 146	CCSRCH220J50
R 841	RS1/10S1R0J	C 147	CCSRCH220J50
R 843	RD1/4PU271J	C 148	CCSRCH220J50
R 851	RAB4C221J	C 150	CCSRCH150J50
R 852	RS1/16S103J	C 153	CKSRYB102K50
R 853	RS1/16S103J	C 156	CCSRCH102J50
R 854	RS1/16S181J	C 183	CKSYB106K6R3
R 855	RS1/16S181J	C 184	CCSRCH102J50
R 864	RS1/16S561J	C 185	CKSYB106K6R3
R 865	RS1/16S561J	C 186	CCSRCH102J50
R 872	RS1/16S681J	C 187	CKSYB106K6R3
R 873	RS1/16S561J	C 189	CCSRCH102J50
R 874	RD1/4PU222J	C 190	CKSYB106K6R3
R 875	RS1/16S822J	C 192	CKSYB106K6R3

Circuit Symbol and No.Part No.Circuit Symbol and No.Part No.

A	C 193	CCSRCH102J50	C 294		CKSRYB104K16
	C 194	CKSYB106K6R3	C 301		CFTNA224J50
	C 196	CCSRCH102J50	C 302		CFTNA224J50
	C 197	CKSYB106K6R3	C 303		CFTNA224J50
	C 199	CKSYB106K6R3	C 304		CFTNA224J50
	C 200	CCSRCH102J50	C 305		CEHAR330M10
	C 201	CKSYB106K6R3	C 306	3300 μ F/16V	CCH1486
	C 202	CCSRCH101J50	C 307		CKSRYB104K16
	C 211	CEAL4R7M16	C 308		CEHAR100M16
	C 212	CEAL4R7M16	C 309		CKSQYB225K10
	C 213	CCSRCH181J50	C 310		CKSQYB225K10
	C 214	CCSRCH181J50	C 321		CKSRYB105K10
B	C 215	CCSRCH821J50	C 322		CKSRYB105K10
	C 216	CCSRCH821J50	C 323		CKSRYB105K10
	C 217	CEALNP4R7M16	C 324		CKSRYB105K10
	C 218	CEALNP4R7M16	C 325		CKSRYB105K10
	C 219	CEAL4R7M16	C 326		CKSRYB105K10
	C 220	CEAL4R7M16	C 327		CEJQ4R7M35
	C 221	CCSRCH181J50	C 328		CEJQ101M16
	C 222	CCSRCH181J50	C 329		CASAQ3R3M16
	C 223	CCSRCH821J50	C 330		CEJQ100M16
	C 224	CCSRCH821J50	C 331		CKSYB684K16
	C 225	CEALNP4R7M16	C 332		CEJQ220M16
C	C 226	CEALNP4R7M16	C 333		CKSRYB105K10
	C 227	CEAL4R7M16	C 334		CEJQ330M25
	C 228	CEAL4R7M16	C 335		CEJQ330M25
	C 229	CCSRCH181J50	C 336	(P860MP,P8650MP)	CEJQ330M25
	C 230	CCSRCH181J50	C 337	(P860MP,P8650MP)	CEJQ330M25
	C 231	CCSRCH821J50	C 351		CEJQ100M50
	C 232	CCSRCH821J50	C 352		CEJQ100M50
	C 233	CEALNP4R7M16	C 353		CKSRYB222K50
	C 234	CEALNP4R7M16	C 354		CKSRYB222K50
	C 235	CKSRYB104K16	C 355		CEJQ100M50
	C 236	CKSRYB104K16	C 356		CEJQ100M50
D	C 237	CKSRYB104K16	C 357		CKSRYB222K50
	C 261	CCSRCH102J50	C 358		CKSRYB222K50
	C 262	CCSRCH102J50	C 359		CEJQ100M50
	C 263	CCSRCH470J50	C 360		CEJQ100M50
	C 264	CCSRCH470J50	C 361		CKSRYB222K50
	C 265	CCSRCH470J50	C 362		CKSRYB222K50
	C 266	CCSRCH470J50	C 363		CEJQ220M16
	C 267	CKSQYB225K10	C 364		CKSRYB473K50
	C 268	CKSQYB225K10	C 401		CKSYB475K10
	C 269	CKSRYB105K10	C 402		CKSRYB103K50
	C 270	CKSRYB104K16	C 403		CEJQ470M6R3
E	C 271	CSZS100M10	C 404		CKSRYB103K50
	C 272	CSZS100M10	C 405		CEJQ101M16
	C 281	CKSRYB472K50	C 406		CKSRYB103K50
	C 282	CKSRYB472K50	C 407		CEJQ220M6R3
	C 283	CSZS100M10	C 408		CCSRCH101J50
	C 284	CKSRYB104K16	C 409		CKSRYB103K50
	C 285	CKSQYB225K10	C 410		CKSYB475K10
	C 286	CKSRYB104K16	C 411		CCSRCH102J50
	C 287	CKSQYB225K10	C 501		CKSQYB225K10
	C 288	CKSQYB225K10	C 502		CEJQ101M6R3
F	C 289	CSZS100M10	C 503		CCSRCH681J50
	C 290	CKSQYB225K10	C 521		CKSRYB105K10
	C 291	CKSRYB105K10	C 522		CEALNP4R7M16
	C 292	CKSQYB225K10	C 523		CEALNP4R7M16
	C 293	CKSRYB104K16	C 524		CKSRYB105K10

Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

S 1909 Push Switch CSG1155
 S 1910 Push Switch CSG1155
 S 1911 Push Switch CSG1155
 S 1912 Encoder(SOURCE/VOLUME) CSD1104
 S 1913 Switch(MULTI-CONTROL) CSX1065
 S 1914 Push Switch CSG1155

R 1919 RS1/16S221J
 R 1921 RS1/16S221J
 R 1923 RS1/16S221J
 R 1925 RS1/16S221J
 R 1927 RS1/16S821J
 R 1929 RS1/16S221J
 R 1931 RS1/16S221J
 R 1933 RS1/16S221J
 R 1935 RS1/16S221J
 R 1938 RS1/16SS222J

RESISTORS

R 1807 RS1/16SS222J
 R 1808 RS1/16SS222J
 R 1809 RS1/16SS101J
 R 1810 RS1/16SS101J
 R 1811 RS1/16SS473J
 R 1812 RS1/16SS104J
 R 1815 RS1/16SS101J
 R 1816 RS1/16SS101J
 R 1817 RS1/16SS101J
 R 1818 RS1/16SS101J

R 1939 RS1/16SS332J
 R 1940 RS1/16SS822J
 R 1941 RS1/16SS4702D
 R 1942 RS1/16SS102J
 R 1943 RS1/16SS102J
 R 1945 RS1/16SS103J
 R 1946 RS1/16SS221J

CAPACITORS

R 1819 RAB4CQ101J
 R 1820 RS1/16SS222J
 R 1821 RS1/16SS154J
 R 1822 RS1/16SS473J
 R 1824 RS1/16SS473J

C 1806 CSZSP4R7M10
 C 1808 CKSRYB474K10
 C 1809 CKSSYB103K16
 C 1810 CKSSYB103K16
 C 1814 CKSSYB473K10

R 1825 RS1/16SS473J
 R 1826 RS1/16SS473J
 R 1827 RS1/16SS473J
 R 1828 RS1/16SS473J
 R 1829 RS1/16SS473J

C 1816 CKSSYB103K16
 C 1817 CSZSP4R7M10
 C 1822 CKSSYB103K16
 C 1826 CKSSYB103K16
 C 1827 CKSSYB103K16

R 1830 RS1/16SS473J
 R 1831 RS1/16SS102J
 R 1832 RS1/16SS0R0J
 R 1834 RAB4CQ473J
 R 1835 RAB4CQ101J

C 1833 10µF CCG1138
 C 1901 CKSRYB104K16
 C 1902 CKSRYB104K16
 C 1903 CKSRYB104K16
 C 1904 CKSRYB104K16

R 1836 RAB4CQ101J
 R 1837 RAB4CQ101J
 R 1838 RAB4CQ101J
 R 1839 RAB4CQ101J
 R 1840 RAB4CQ101J

C 1905 CKSRYB104K16
 C 1906 CKSRYB104K16
 C 1907 CKSRYB104K16
 C 1908 CKSRYB104K16
 C 1909 CKSRYB104K16

R 1841 RAB4CQ101J
 R 1842 RAB4CQ101J
 R 1843 RAB4CQ101J
 R 1844 RAB4CQ101J
 R 1845 RS1/16SS473J

C 1910 CKSRYB104K16
 C 1911 CKSRYB104K16
 C 1912 CKSRYB104K16
 C 1913 CKSRYB104K16
 C 1914 CKSRYB104K16

R 1846 RS1/16SS473J
 R 1847 RS1/16SS473J
 R 1849 RS1/16SS392J
 R 1850 RS1/16SS682J
 R 1851 RAB4CQ101J

C 1915 CKSRYB104K16
 C 1916 CKSRYB104K16
 C 1917 CKSRYB104K16
 C 1918 CKSSYB104K10
 C 1919 CKSSYB104K10

R 1852 RS1/16SS101J
 R 1853 RS1/16SS101J
 R 1854 RS1/16SS0R0J
 R 1903 RS1/16SS274J
 R 1904 RS1/16SS103J

C 1920 CSZSR100M16

R 1905 RS1/16SS121J
 R 1906 RS1/16SS2R2J
 R 1916 RS1/16SS104J
 R 1917 RS1/16SS223J
 R 1918 RS1/16SS103J

IC 201 IC UPD63761GJ
 IC 203 IC NJM2391DL1-33

D**Unit Number: CWX2953****Unit Name: CD CORE UNIT(S10WMACODE2)****MISCELLANEOUS**

<u>Circuit Symbol and No.</u>		<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
IC 301	IC	BA5835FM	R 261	RS1/16S0R0J
IC 501	IC	S-L2980A15MC-C6A	R 262	RS1/16S0R0J
IC 701	IC	PE5423A	R 263	RS1/16S0R0J
IC 703	IC	S-812C33AJA-C2N	R 264	RS1/16S0R0J
Q 101	Transistor	2SB1132	R 267	RS1/16S0R0J
Q 701	Transistor	UN2111	R 301	RS1/16SS183J
D 101	Diode	1SS355	R 302	RS1/16SS822J
L 203	Inductor	CTF1389	R 304	RS1/16SS183J
L 207	Inductor	CTF1389	R 305	RS1/16SS822J
L 209	Inductor	CTF1389	R 307	RS1/16SS183J
L 703	Inductor	CTF1389	R 308	RS1/16SS183J
L 902	Inductor	CTF1306	R 309	RS1/16SS183J
L 903	Inductor	CTF1306	R 310	RS1/16SS183J
L 904	Inductor	CTF1306	R 501	RS1/16SS0R0J
X 702	Resonator 4.00MHz	CSS1654	R 701	RS1/16S0R0J
S 901	Switch(HOME)	CSN1051	R 702	RS1/16SS0R0J
S 902	Switch(CLAMP)	CSN1051	R 703	RS1/16SS104J
S 903	Spring Switch(DSCSNS)	CSN1052	R 704	RS1/16SS104J
S 904	Switch(12EJ)	CSN1051	R 705	RS1/16SS221J
S 905	Switch(8EJ)	CSN1051	R 706	RS1/16SS221J
			R 707	RS1/16SS0R0J
			R 708	RS1/16SS221J
			R 709	RS1/16SS473J
RESISTORS				
R 101		RS1/10S1R5J		
R 102		RS1/10S1R5J	R 710	RS1/16SS102J
R 103		RS1/10S1R5J	R 711	RS1/16SS102J
R 104		RS1/10S1R5J	R 712	RS1/16SS102J
R 105		RS1/10S1R5J	R 713	RS1/16SS102J
			R 714	RS1/16SS473J
R 107		RS1/16SS0R0J		
R 201		RS1/16SS102J	R 715	RS1/16SS101J
R 202		RS1/16SS333J	R 716	RS1/16SS472J
R 205		RS1/16SS473J	R 717	RS1/16SS221J
R 207		RS1/16SS473J	R 718	RS1/16SS221J
			R 719	RS1/16SS221J
R 209		RS1/16SS473J		
R 210		RS1/16SS0R0J	R 720	RS1/16SS471J
R 214		RS1/16SS472J	R 721	RS1/16S0R0J
R 216		RS1/16SS472J	R 724	RS1/16S473J
R 218		RS1/16SS472J	R 725	RS1/16SS222J
			R 726	RS1/16SS103J
R 220		RS1/16SS472J		
R 221		RS1/16SS103J	R 727	RS1/16SS473J
R 222		RS1/16SS103J	R 729	RS1/16SS223J
R 223		RS1/16SS0R0J	R 730	RS1/16SS473J
R 224		RS1/16SS0R0J	R 731	RS1/16SS104J
			R 732	RS1/16SS104J
R 225		RS1/16SS103J		
R 226		RS1/16SS393J	R 733	RS1/16SS104J
R 227		RS1/16SS562J	R 735	RS1/16SS473J
R 228		RS1/16SS122J	R 737	RS1/16SS104J
R 229		RS1/16SS472J	R 740	RS1/16SS473J
			R 743	RS1/16SS104J
R 231		RS1/16SS0R0J		
R 232		RS1/16SS122J	R 745	RS1/16SS473J
R 233		RS1/16SS0R0J	R 746	RS1/16SS104J
R 237		RS1/16SS221J	R 747	RS1/16SS102J
R 238		RS1/16SS221J	R 750	RS1/16SS473J
			R 751	RS1/16SS102J
R 239		RS1/16SS221J		
R 240		RS1/16SS0R0J	R 754	RS1/16SS102J
R 241		RS1/16SS333J	R 755	RS1/16SS102J
R 243		RS1/16SS333J	R 756	RS1/16SS104J
R 245		RS1/16SS333J	R 765	RAB4CQ221J
			R 769	RAB4CQ221J
R 250		RS1/16SS0R0J		
R 256		RS1/16SS0R0J	R 773	RAB4CQ221J
			R 777	RS1/16SS221J

Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

R 778	RS1/16SS221J
R 779	RS1/16SS221J
R 901	RAB4CQ221J
R 902	RS1/16S0R0J
R 905	RS1/16SS221J
R 906	RS1/16SS221J
R 909	RS1/16SS0R0J
R 911	RS1/16SS0R0J

C 505	CKSQYB475K6R3
C 701	CKSSYB104K10
C 702	CKSSYB471K50
C 703	CKSSYB103K16
C 704	4.7μF/25V CCH1592
C 706	CKSSYB104K10
C 707	CKSSYB104K10
C 712	CKSRYB224K16
C 713	CKSSYB104K10
C 714	CKSSYB104K10

CAPACITORS

C 101	CKSSYB104K10
C 102	CKSSYB104K10
C 103	100μF/16V CCH1504
C 104	47μF/6.3V CCH1506
C 105	CKSSYB104K10

C 716	CKSSYB103K16
C 717	CCSSCH180J50
C 718	CCSSCH180J50
C 720	CKSQYB225K10
C 722	CKSRYB105K10

C 106	CCSSCH101J50
C 107	CKSRYB224K16
C 108	CKSSYB104K10
C 110	CKSSYB104K10
C 201	CKSSYB471K50

C 903	CKSSYB471K50
C 906	CKSRYB224K16
C 910	CKSQYB225K10

C 202	CKSSYB104K10
C 203	CKSSYB104K10
C 205	CKSSYB104K10
C 207	220μF/4V CCH1590
C 208	CKSSYB104K10

Miscellaneous Parts List

M 1	Pickup Unit(P9.9MP3)(Service)	CXX1805
M 2	Motor Unit(SPINDEL)	CXB6007
M 561	Motor Unit(LOADING/CARRIAGE)	CXB8933
M 571	Fan Motor	CXM1288
	Motor Unit(FLAP)	CXC2204

C 209	CKSSYB104K10
C 216	CKSSYB332K50
C 217	CKSSYB104K10
C 218	CKSSYB223K16
C 219	CKSSYB104K10

C 220	CKSSYB103K16
C 221	CKSSYB104K10
C 222	CCSSCH560J50
C 223	CCSSCH5R0C50
C 224	CKSSYB104K10

C 225	CKSSYB103K16
C 226	CCSSCH680J50
C 227	CCSSCH470J50
C 228	CKSSYB682K25
C 230	CKSSYB104K10

C 232	CKSSYB104K10
C 233	10μF/6.3V CCH1470
C 234	220μF/4V CCH1590
C 235	CKSRYB224K16
C 237	CKSSYB104K10

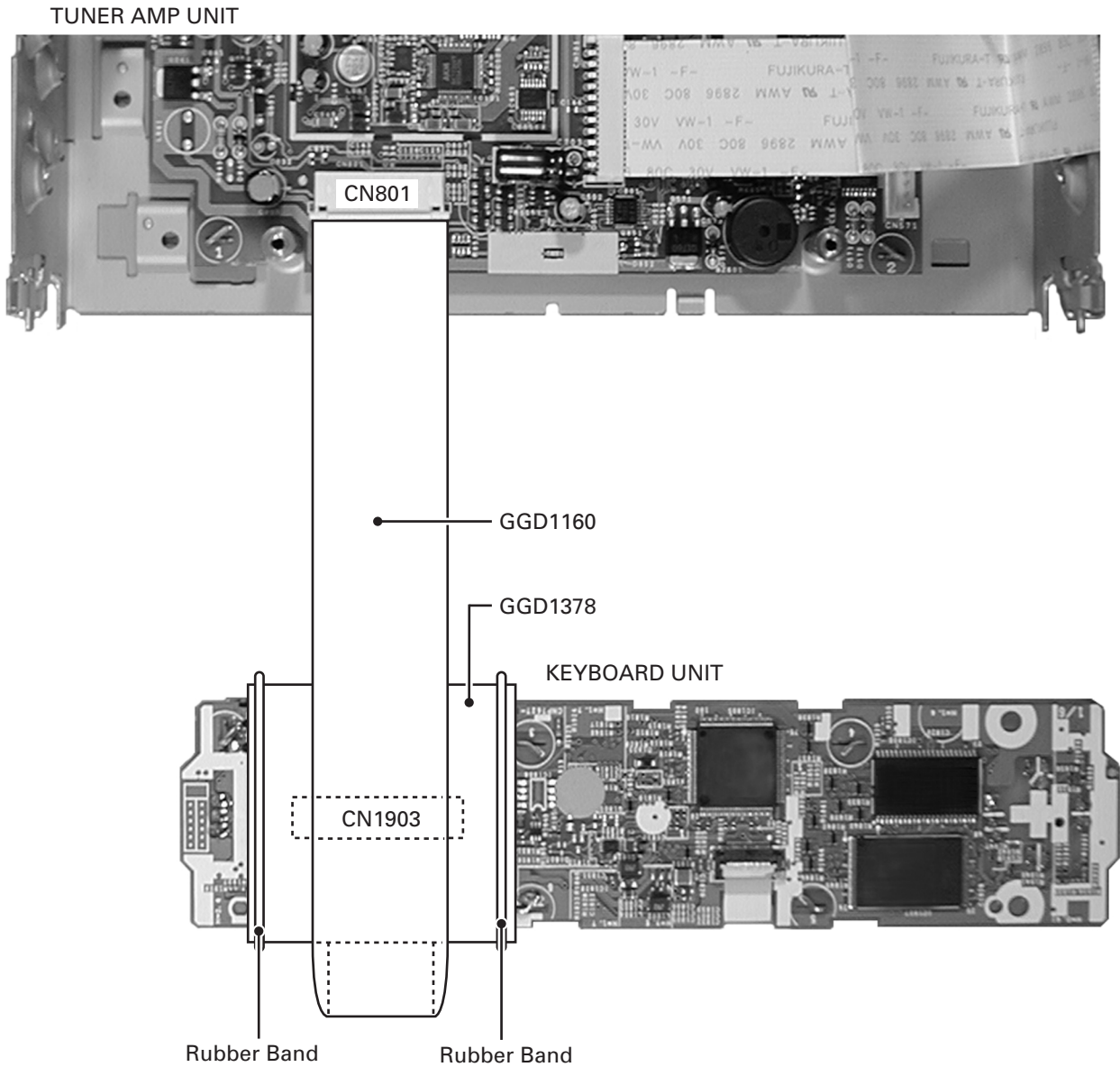
C 239	CCSSCH330J50
C 242	CKSSYB104K10
C 246	CKSSYB104K10
C 249	CKSSYB221K50
C 250	CKSRYB102K50

C 251	CKSRYB102K50
C 260	CKSSYB104K10
C 301	CKSSYB221K50
C 302	CKSSYB221K50
C 303	CKSSYB472K25

C 304	CKSSYB103K16
C 305	100μF/16V CCH1504
C 306	CKSSYB104K10
C 307	CKSSYB104K10
C 501	CKSRYB224K16

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.

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.

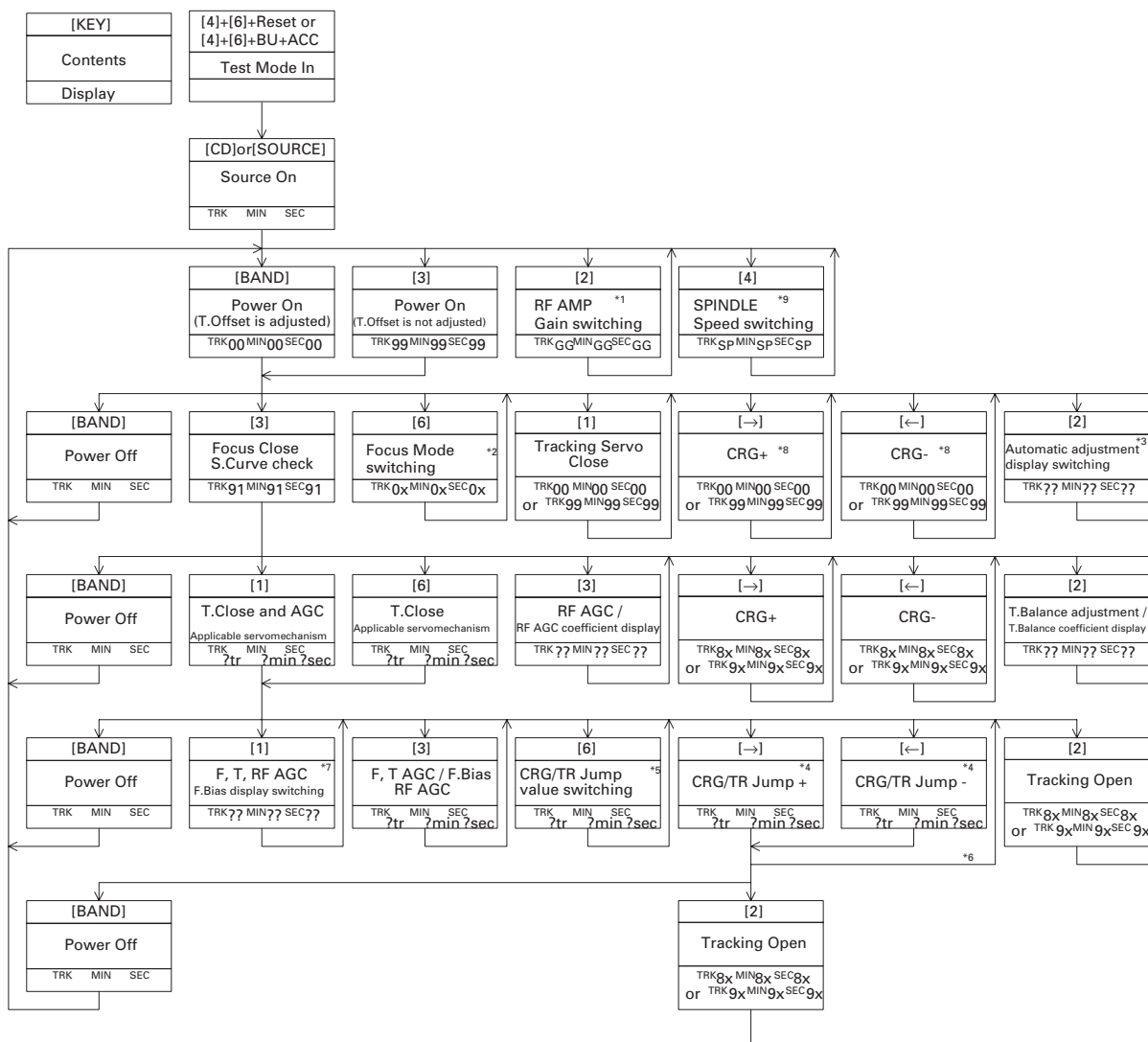
b. If you have pressed the (→) key or (←) key during focus search, turn off the power immediately to protect the actuator from damage caused by the lens stuck.

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 → -6dB → -12dB
 TRK MIN SEC → TRK 06 MIN 06 SEC 06 → TRK 12 MIN 12 SEC 12

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

*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) → 2X → 1X
 TRK MIN SEC → TRK 22 MIN 22 SEC 22 → TRK 11 MIN 11 SEC 11

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

TYP(2X) → 1X → 2X
 TRK MIN SEC → TRK 11 MIN 11 SEC 11 → TRK 22 MIN 22 SEC 22

[Key]	Operation
[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



• Note :

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

• Purpose :

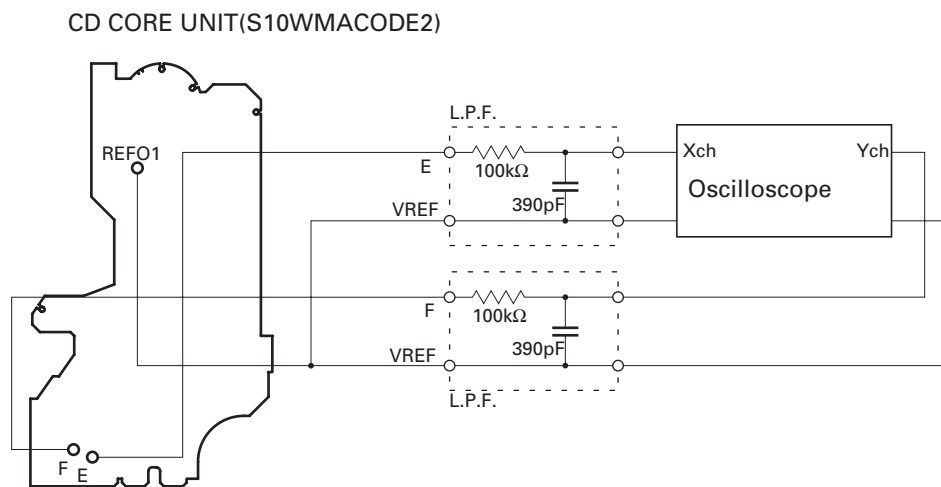
To check that the grating is within an acceptable range when the PU unit is changed.

• Symptoms of Mal-adjustment :

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

• Method :

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



• 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.

• Note

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

• Hint

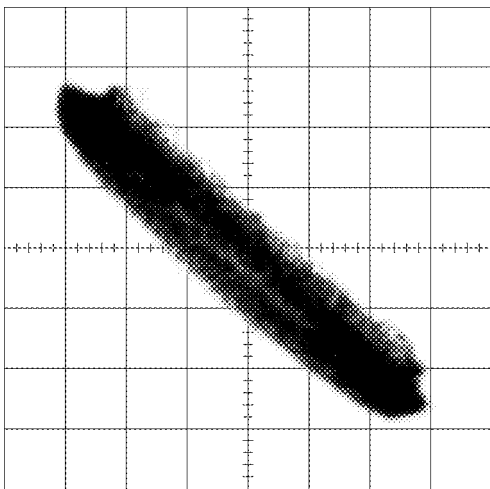
Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

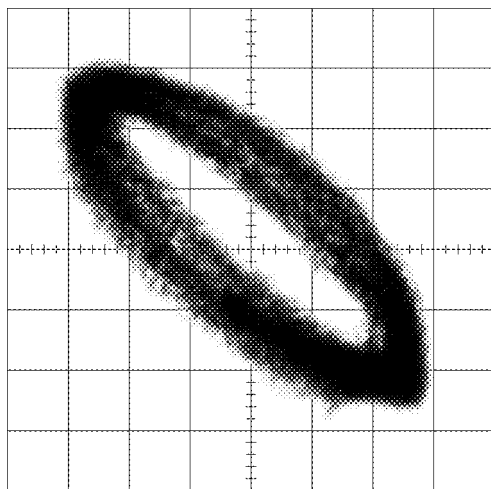
Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC

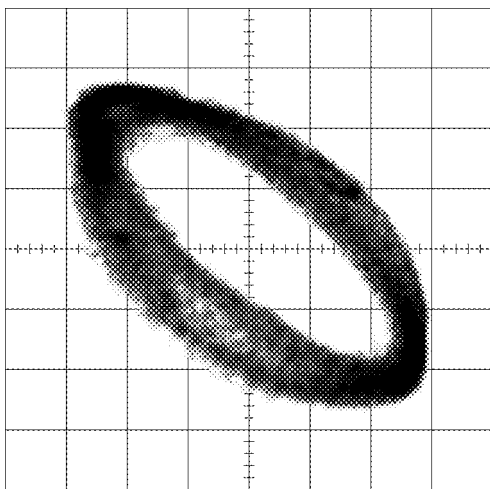
0°



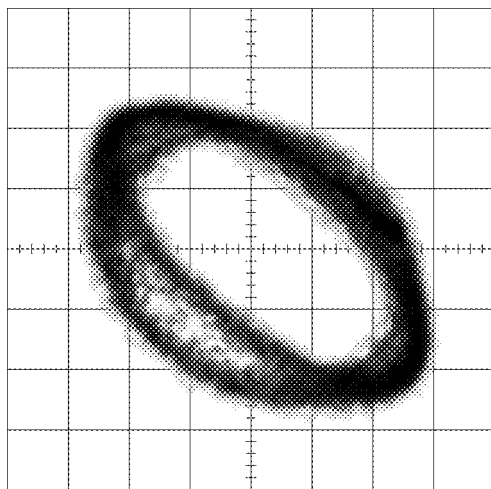
30°



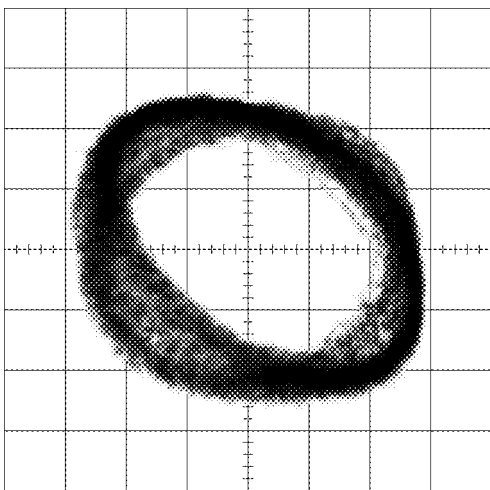
45°



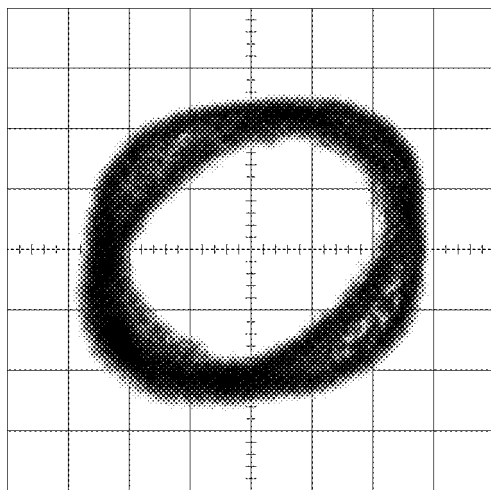
60°



75°



90°



A
B
C
D
E
F

6.4 ERROR MODE

● Error Messages

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

(1) Basic Indication Method

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

2) 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

(2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG SERVO LSI Com- munication 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).

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 OEL SCREENSAVER STUDIO LKA TO LKD APPLICATION

"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.

6.6 SYSTEM MICROCOMPUTER TEST PROGRAM



● PCL output

In the normal operation mode (with the detachable panel installed, the ACC switched ON, the standby mode cancelled), shift the TESTIN (Pin 86) terminal to H.

The clock signal is output from the PCL terminal (Pin 37).

The frequency of the clock signal is 312.500kHz that is one 32nd of the fundamental frequency.

The clock signal should be $312.500\text{kHz} \pm 13\text{Hz}$.

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

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● Removing the Case (not shown)

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

● Removing the CD Mechanism Module (Fig.1)

1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

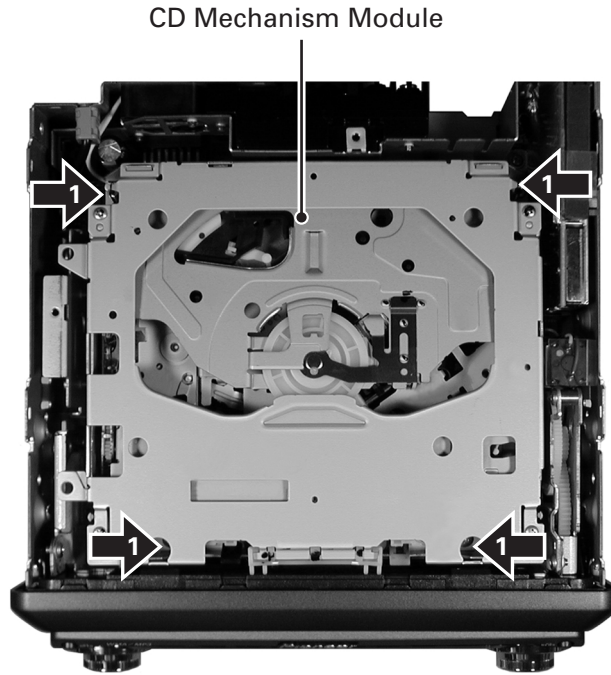


Fig.1

● Removing the Grille Assy (Fig.2)

1 Remove the four screws.

Disconnect the connector and then remove the Grille Assy.

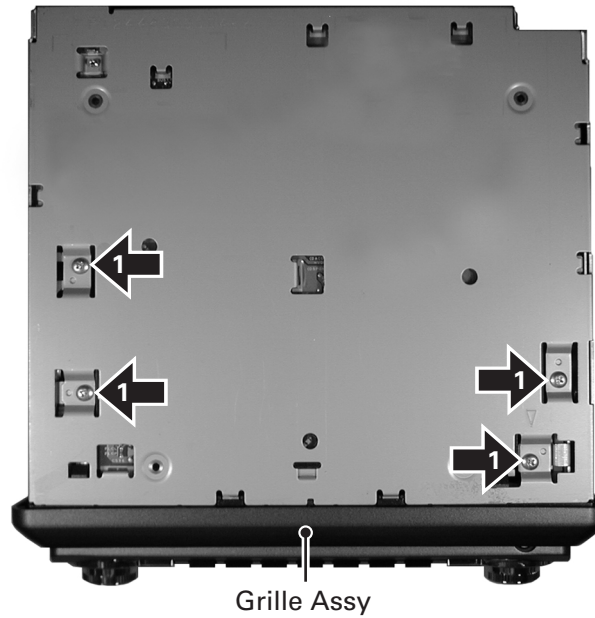
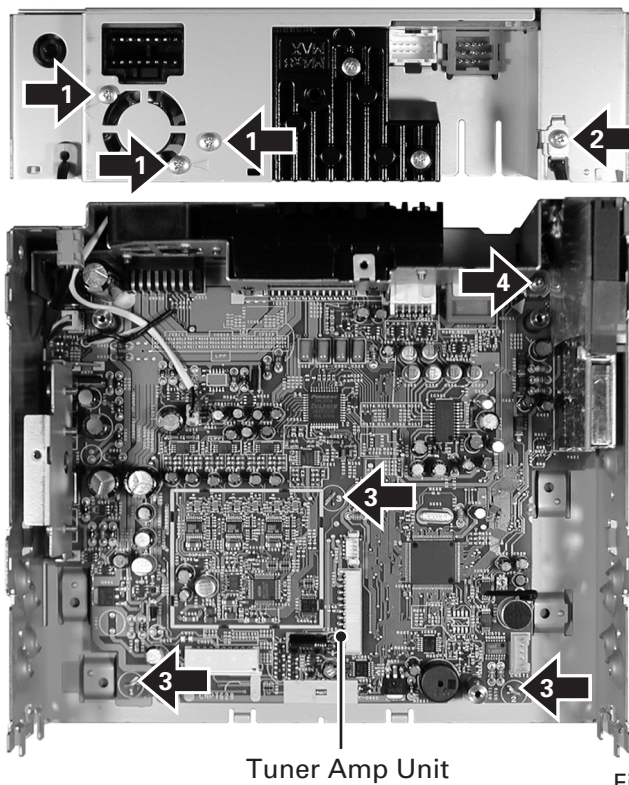


Fig.2

● Removing the Tuner Amp Unit (Fig.3)

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



Tuner Amp Unit

Fig.3

● Notes when assembling (Fig.4)

- ➡ 1 The Holder hook touches the Sub Grille Assy.
- ➡ 2 The hole ㉠ of Lighting Conductor is inserted in the portion shown by the arrow of Sub Grille Assy.
- ➡ 3 The hole ㉡ of Lighting Conductor is inserted in the portion shown by the arrow of Sub Grille Assy.
- ➡ 4 Please do not remove Knob as much as possible from Encoder.

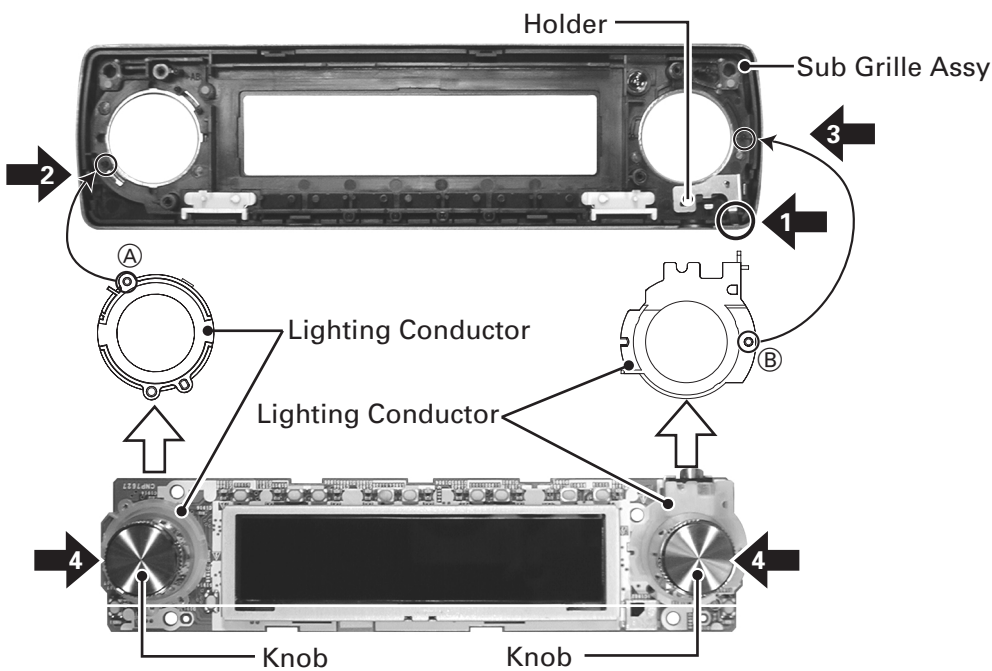
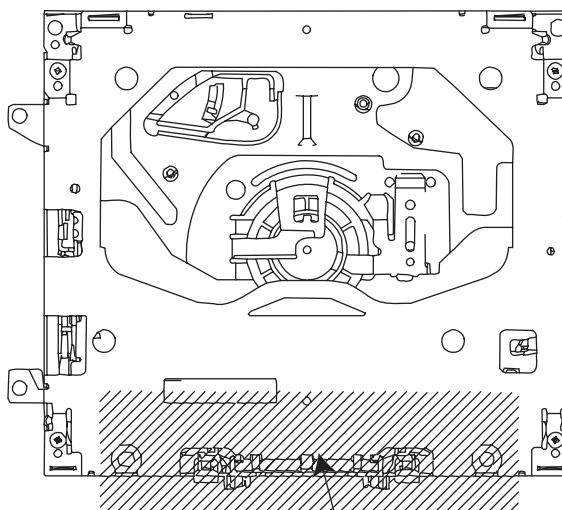


Fig.4

● **How to hold the Mechanism Unit**

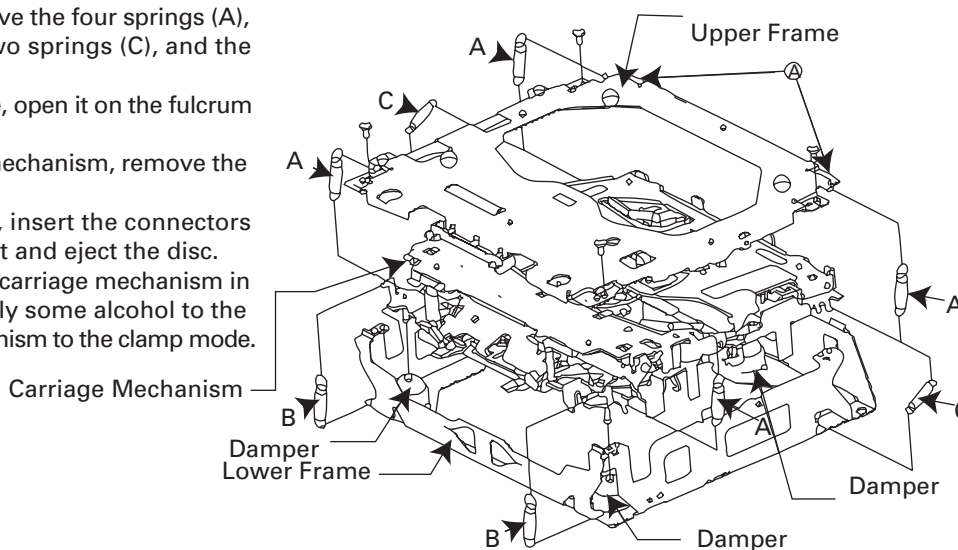
- 1. Hold the top and bottom frame.
- 2. Do not squeeze top frame's front portion too tight, because it is fragile.



Do not squeeze.

● **Removing the Upper and Lower Frames**

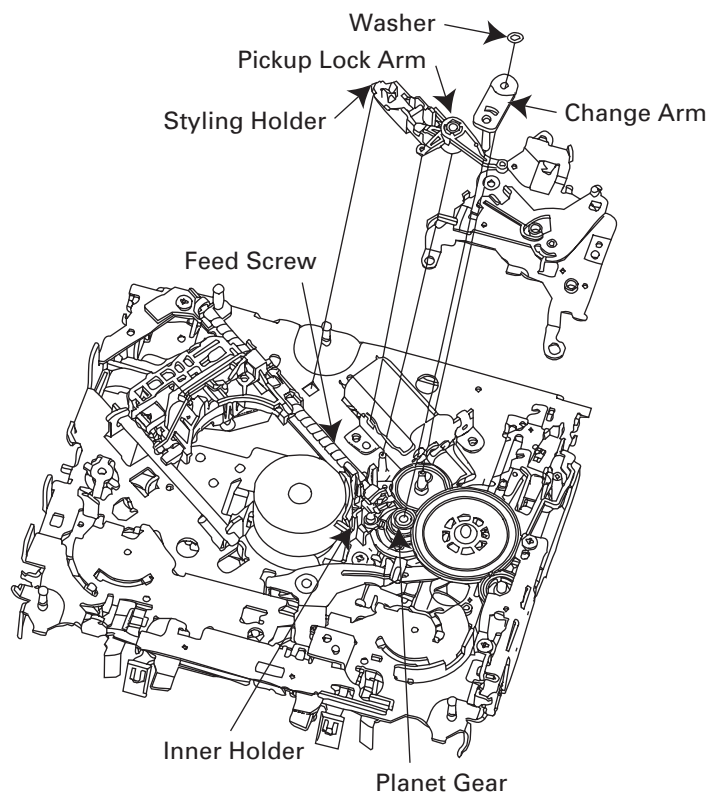
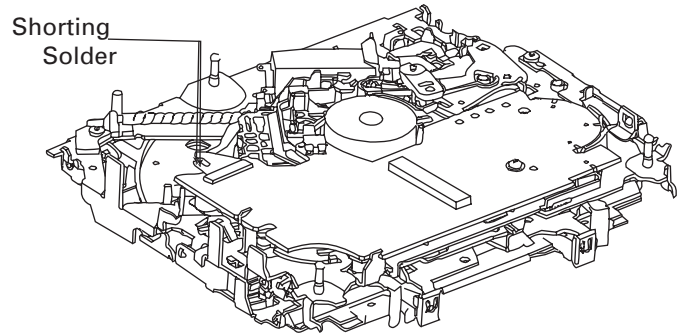
- 1. With a disc clamped, remove the four springs (A), the two springs (B), the two springs (C), and the four screws.
 - 2. To remove the upper frame, open it on the fulcrum A.
 - 3. While lifting the carriage mechanism, remove the three dampers.
 - 4. With the frames removed, insert the connectors coming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



● Removing the Pickup Unit

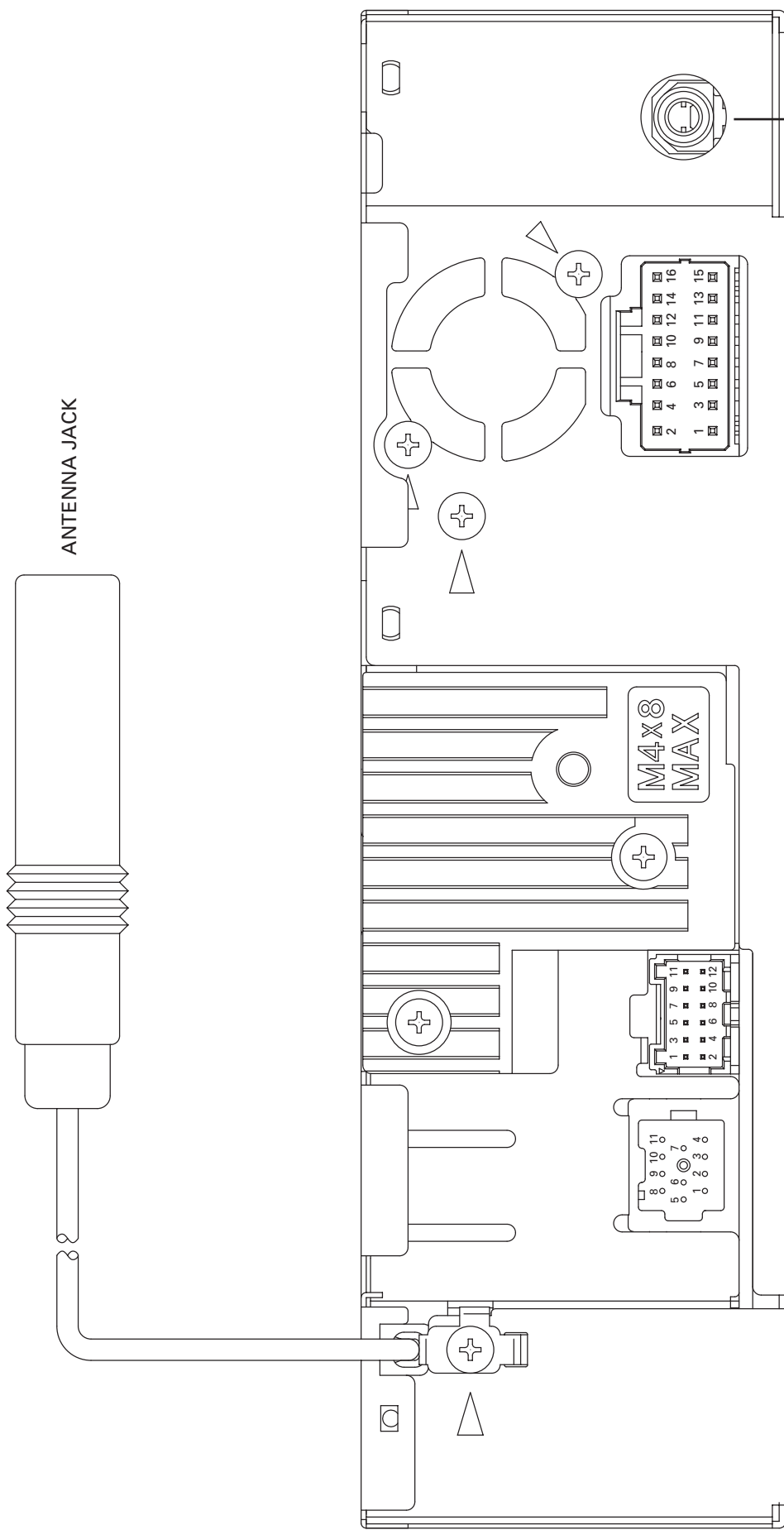
1. Apply shorting solder to the Pickup flexible cable.
Disconnect the cable.
2. Set the mechanism to the clamp mode.
3. Remove the lead wires from the inner holder.
4. Remove the washer, styling holder, change arm, and pickup lock arm.
5. While releasing from the hook of the inner holder, lift the end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



7.1.2 CONNECTOR FUNCTION DESCRIPTION

A
B
C
D
E
F



WIRED
REMOTE CONTROL
(DEH-P860MP/XN/UC;
DEH-P8600MP/XN/UC)

- | | |
|-------------|---------|
| 1. GND | 9. RL- |
| 2. ILL | 10. FL- |
| 3. B.REM | 11. RL+ |
| 4. ACC | 12. FL+ |
| 5. NC | 13. RR- |
| 6. TEL MUTE | 14. FR- |
| | 15. RR+ |
| | 16. FR+ |
-
- | |
|----------------|
| 1. FL OUTPUT |
| 2. GND |
| 3. FR OUTPUT |
| 4. GND |
| 5. RL OUTPUT |
| 6. GND |
| 7. RR OUTPUT |
| 8. GND |
| 9. SWL OUTPUT |
| 10. GND |
| 11. SWR OUTPUT |
| 12. GND |
-
- | |
|------------------|
| 1. BUS+ |
| 2. GND |
| 3. GND |
| 4. NC |
| 5. BUS- |
| 6. GND |
| 7. BUS L+ INPUT |
| 8. ASEN B |
| 9. BUS R+ INPUT |
| 10. BUS R- INPUT |
| 11. BUS L- INPUT |

7.2 IC

PD5928A
 NJM4580V
 PCM1742KE
 HA12240FP
 NJM2112V
 S-80835CNMC-B8U

NJM2872F05
 AK7730VT
 PD5943A
 PD8126A
 TC7WH32FK
 PD6468A

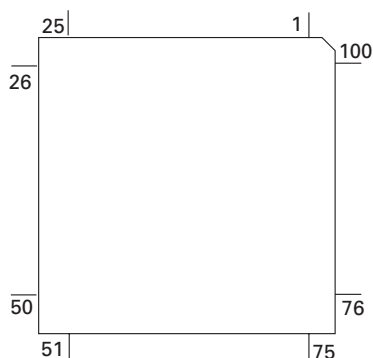
PE5423A
 UPD63761GJ
 S-812C33AUA-C2N
 BA5835FM
 S-L2980A15MC-C6A

● Pin Functions(PD5928A)

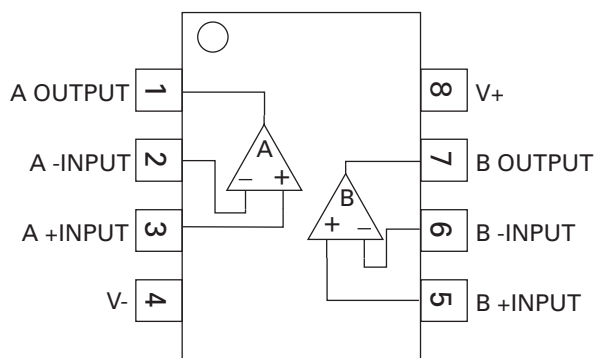
Pin No.	Pin Name	I/O	Function and Operation
1	SYSPW	O	System power control output
2	DSPPW	O	DSP : Power control output
3	DSPOUT	O	DSP : Data output
4	DSPIN	I	DSP : Data input
5	DSPCK	O	DSP : Clock output
6	BYTE		External data bus width change input
7	CNVSS		Processor mode change input
8	TELIN	I	Telephone mute input
9	NC		Not used
10	RESET	I	Reset input
11	XOUT	O	Clock output
12	VSS		GND
13	XIN	I	Clock input
14	VDD		Power supply input
15	NMI		Not used
16	NC		Not used
17	NC		Not used
18	NC		Not used
19	RX2	I	IP-BUS : Data input 2
20	OELPW	O	OEL power supply output
21	NC		Not used
22	PEE	O	PEE sound output
23	CSENSOUT	O	Flap open/close output
24	BRST	O	P-BUS : Reset output
25	BRXEN	I/O	P-BUS : Reception enable input / output
26	BSRQ	I	P-BUS : Service request input
27	RX	I	IP-BUS : Data input
28	TX	O	IP-BUS : Data output
29	BSO	O	P-BUS : Data output
30	BSI	I	P-BUS : Data input
31	BSCK	O	P-BUS : Clock output
32	DSPMOD	I	DSP : STD / NW select input
33	DPDT	O	Display data output
34	KYDT	I	Key data input
35, 36	ROT1, 0	I	Rotary encoder pulse input1, 0
37	PCL	O	Output for clock adjustment
38	SWVDD	O	GRILLE : Chip enable output
39	KEYD	I	Wired remote control input
40	FLPILM	O	Inside of flap illumination output
41	ILMPW	O	Illumination output
42	EJTIN	I	Eject key input
43	GDTC1	O	Picture rewriting output 1
44	NC		Not used
45	NC		Not used
46	NC		Not used
47	GDTC2	O	Picture rewriting output 2
48, 49	NC		Not used
50	FOPNSW	I	Flap open sense input
51	FCLSSW	I	Flap close sense input
52	FLPCLS	O	Flap motor close output
53	FLPOPEN	O	Flap motor open output

Pin No.	Pin Name	I/O	Function and Operation
54	FLPPW	O	Flap motor driver power ON/OFF output
55	NC		Not used
56	DSPCS	O	DSP : Interface chip select output
57	DSPRQ	O	DSP : Interface request output
58	DSPRDY	I	DSP : Data write ready signal input
59	DSPDRDY	I	DSP : Data read ready signal input
60	VCC		Power supply input
61	EVOLCS	O	Electronic volume chip select output
62	VSS		GND
63	LRCKOK	I	DSP : Clock stable information input
64	MCKRQ	I	Master clock request input
65	EMPIN	I	CD emphasis information input
66	SMODE	I	Slave / master select input
67	NC		Not used
68	DALMON	O	For consumption current reduction output
69	TUNPCE2	O	TUNER : Chip enable output(EEPROM)
70	TUNPCE1	O	TUNER : Chip enable output(PLL)
71	ROMCS	O	ROM correction chip select output
72	ASENS	I	ACC sense input
73	BSENS	I	Back up sense input
74	ROMCK	O	ROM correction clock output
75	ROMDATA	I/O	ROM correction data input/output
76	NC		Not used
77	INTRST	O	DSP : System reset output
78	DSPRST	O	DSP : Reset output
79	IPPW	O	IPBUS : Driver power supply control output
80	ASENBO	O	IPBUS : Slave ACC sense output
81	ISENS	I	Illumination sense input
82,83	MODEL1,2	I	Model select input
84	NC		Not used
85	MUTE	O	System mute output
86	TESTIN	I	Test program input
87-90	NC		Not used
91	DSSENS	I	Detach sense input
92	KEYAD	I	Wired remote control input
93	ASLIN	I	ASL input
94	AVSS		AD translation power supply input terminal
95	SL	I	TUNER : Signal level input
96	VREF		A/D converter reference voltage
97	AVCC		A/D converter power supply input terminal
98	TUNPDI	I	TUNER : PLL communication data input
99	TUNPDO	O	TUNER : Data output(PLL)
100	TUNPCK	O	TUNER : Clock output(PLL)

* PD5928A



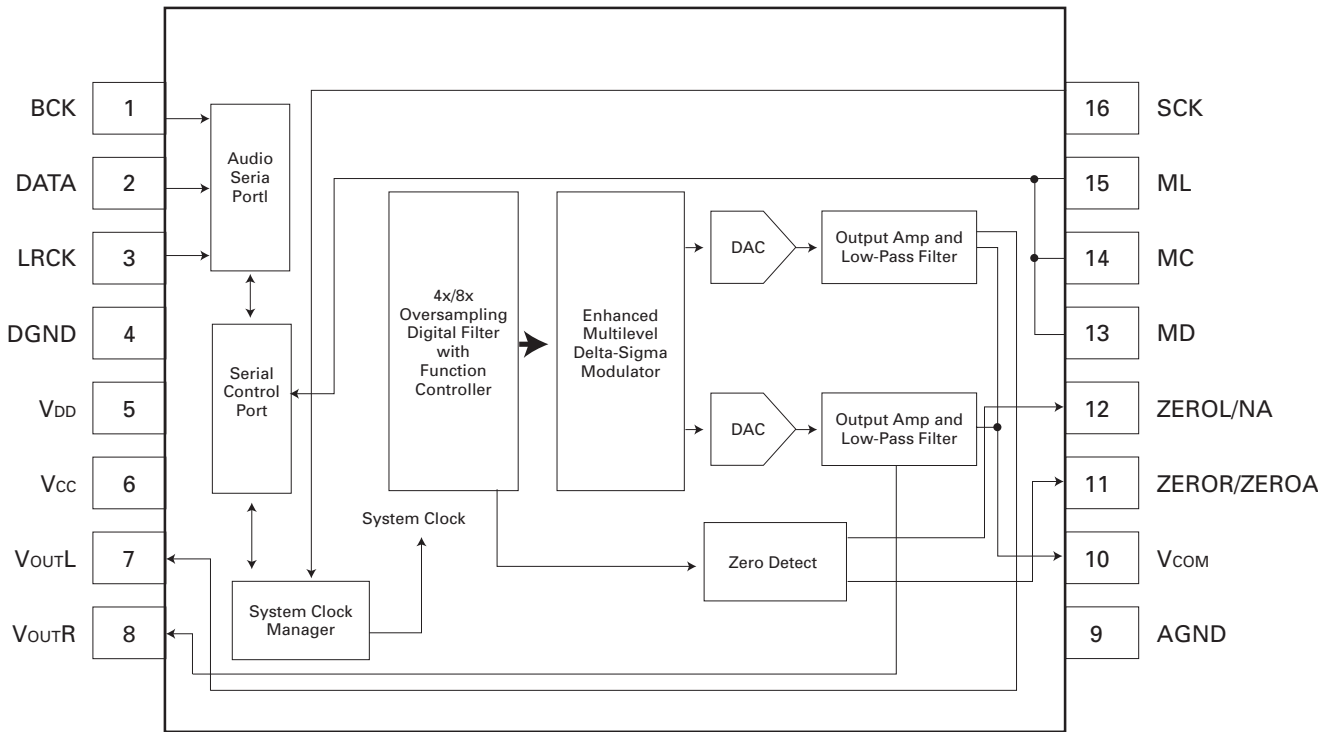
* NJM4580V



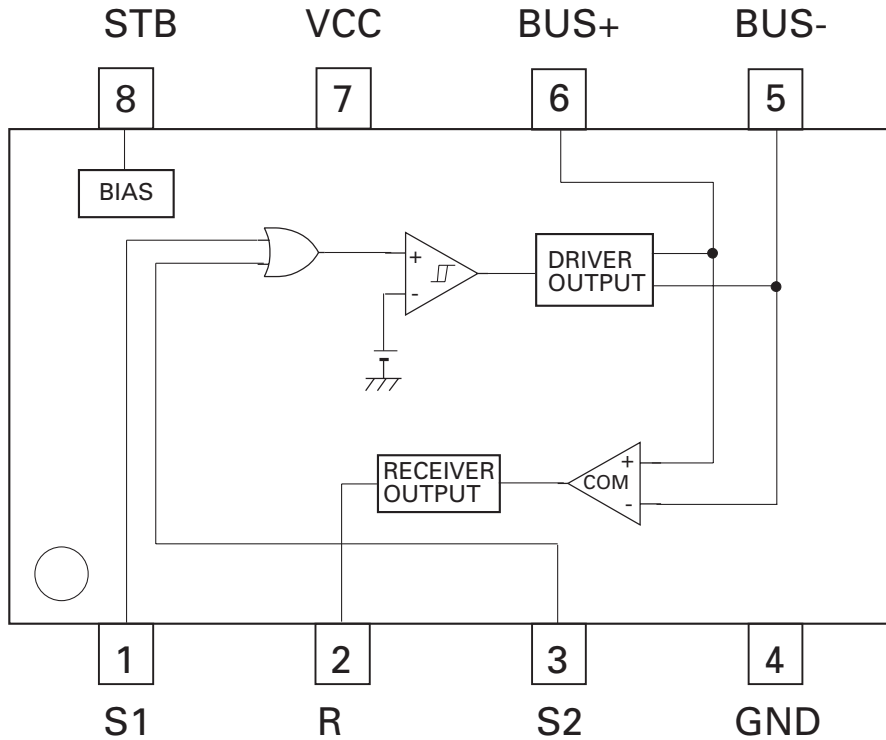
IC's marked by * are MOS type.

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

PCM1742KE



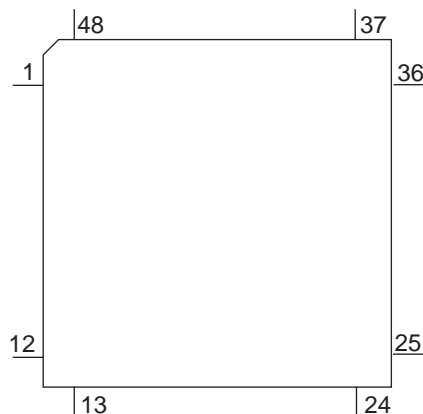
HA12240FP



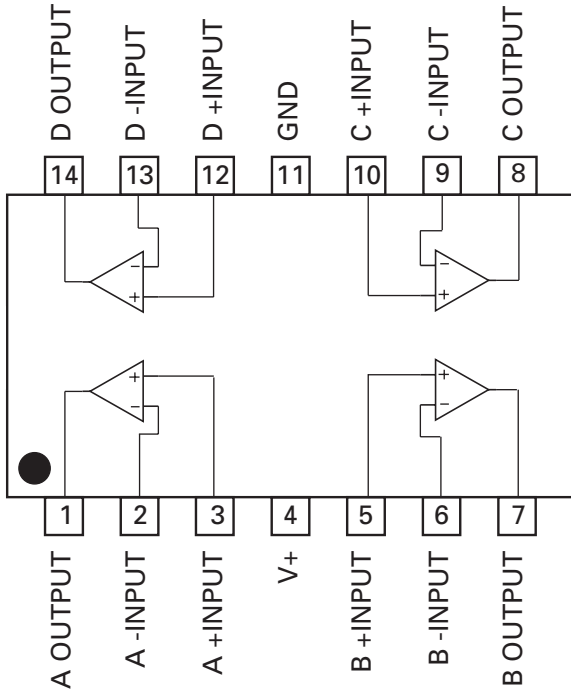
● Pin Functions(AK7730VT)

Pin No.	Pin Name	I/O	Function and Operation
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
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	\overline{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
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	\overline{RQ}	I	Microcomputer interface write request pin
34	$\overline{S_RESET}$	I	System Reset pin
35	$\overline{INIT_RESET}$	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
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

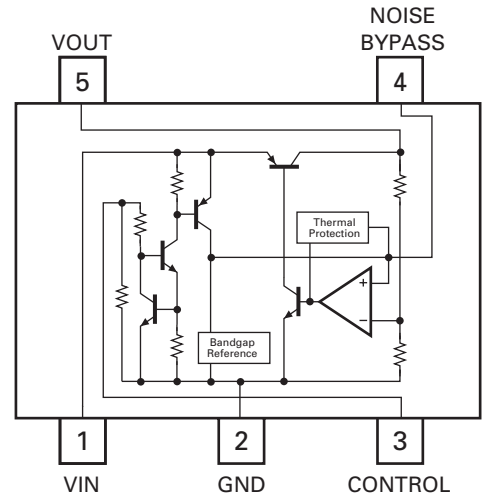
* AK7730VT



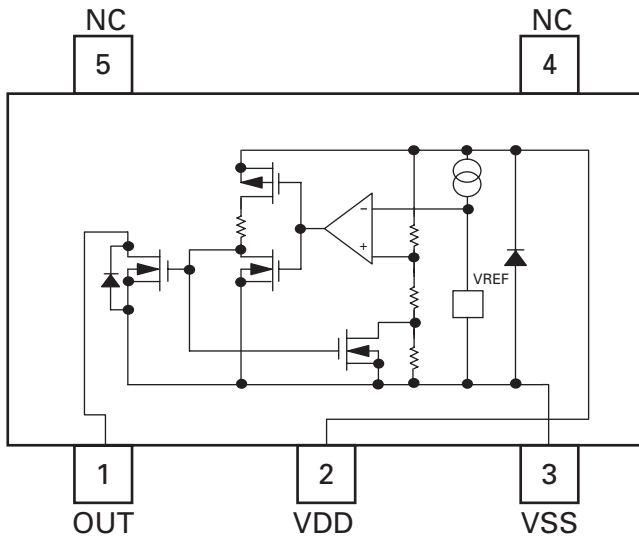
NJM2112V



NJM2872F05



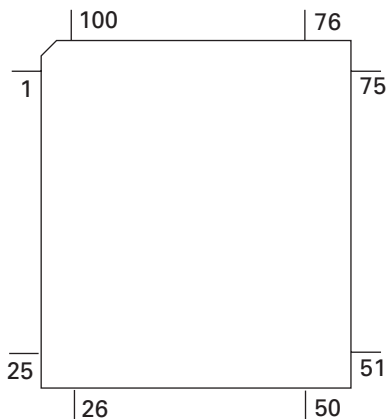
*S-80835CNMC-B8U



Pin Functions (PD5943A)

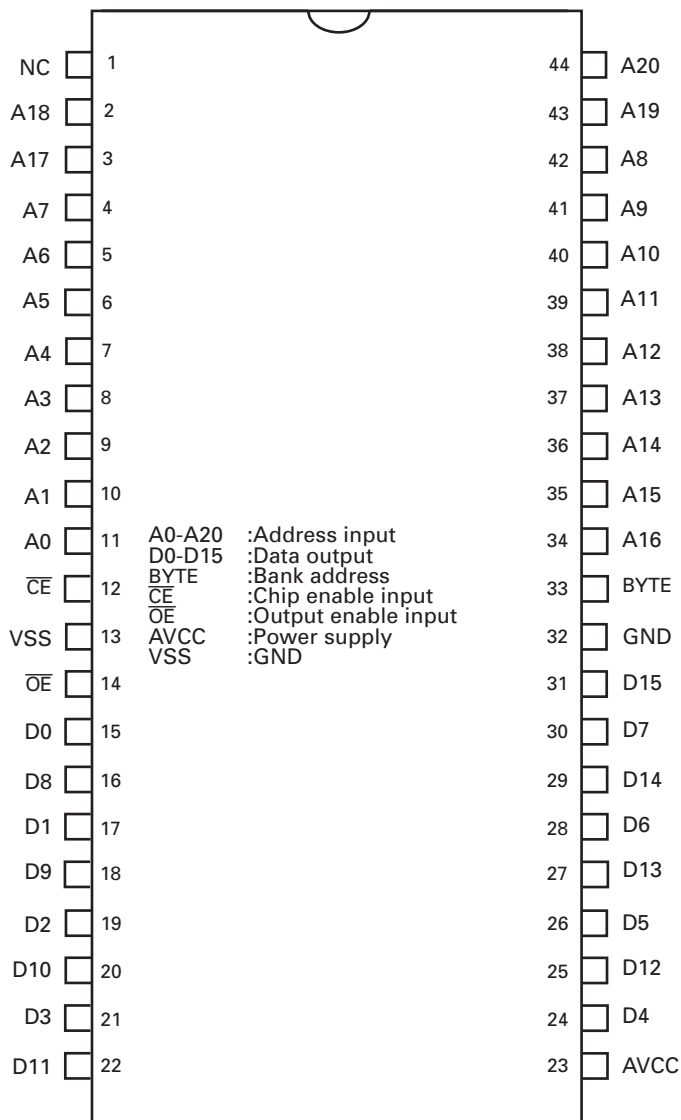
Pin No.	Pin Name	I/O	Format	Function and Operation
1	ROMCS	O		Not used OPEN
2	FLSTBY	O		Not used OPEN
3	FL120N	O		Not used OPEN
4	FLBUSY	I		Flash memory busy input
5	REM	I		Remote control reception input
6	BYTE	I		GND connection
7	CNVSS	I		GND connection
8,9	NC			Not used OPEN
10	RESET	I		Pull up
11	XOUT	O		Crystal oscillating element connection pin
12	VSS1			GND connection
13	XIN	I		Crystal oscillating element connection pin
14	VCC1			VDD connection
15	NMI	I		Pull up
16,17	ROT1,ROT2	I		Rotary encoder pulse input
18,19	NC			Not used
20	CD_DATA	O	C	Cathode driver pulse output
21	NC			Not used OPEN
22	CKC	O	C	Cathode driver pulse output
23	NC			Not used OPEN
24	LS	O	C	Line synchronous signal
25	NC			Not used OPEN
26	CKD	O	C	Data transfer and driver clock output
27	DPDT	I		Display data communication input
28	KYDT	O	N	Key data communication output
29	D1_L	O	C	Display data MSB output
30	NC			Not used
31	CLK1	I		UART1 clock input
32	ILMD	O	C	Dual illumination output
33	D0_L	O	C	Display data LSB output
34	NC			Not used
35	CLK0	I		UART0 clock input
36	NC	O		Not used OPEN
37	READY	I		Not used Pull up
38	NC			Not used OPEN
39	HOLD	I		Pull up
40	NC			OPEN
41	BCLK			Not used Pull up
42	RD	O	C	Read strobe output
43	NC			OPEN
44	WR	O	C	Not used OPEN
45-48	CS3-CS0	O	C	External ROM chip select output
49	A19	O	C	Address bus 19 output
50	NC	O	C	OPEN
51-59	A17-9	O	C	Address bus 17-9 output
60	VCC2			VDD connection
61	A8	O	C	Address bus 8 output
62	VSS2			GND connection
63-69	A7-1	O	C	Address bus 7-0 output
70	NC	O	C	OPEN
71-86	D15-0	I/O	C	Data bus 15-0 input / output
87-90	KD1-KD4	I	C	Key data input
91-93	KS1-KS3	O	C	Key strobe output
94	AVSS			GND connection
95	FL120N	O	C	Not used OPEN
96	VREF			GND connection
97	AVCC			VCC connection
98	ROMDT	I/O		Not used
99	NC			OPEN
100	ROMCK	O		Not used

* PD5943A

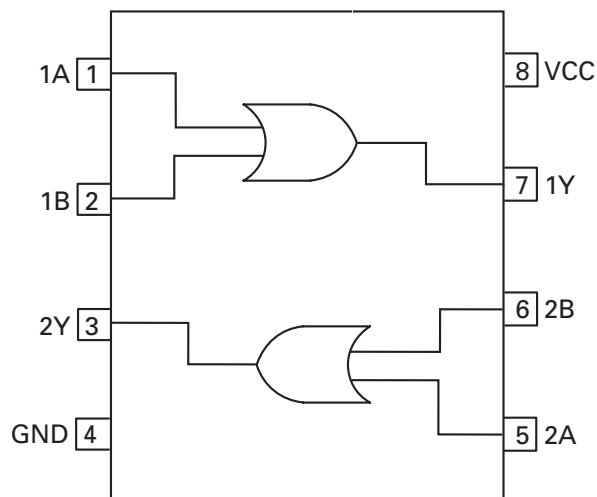


Format	Meaning
C	CMOS
N	Nch open drain

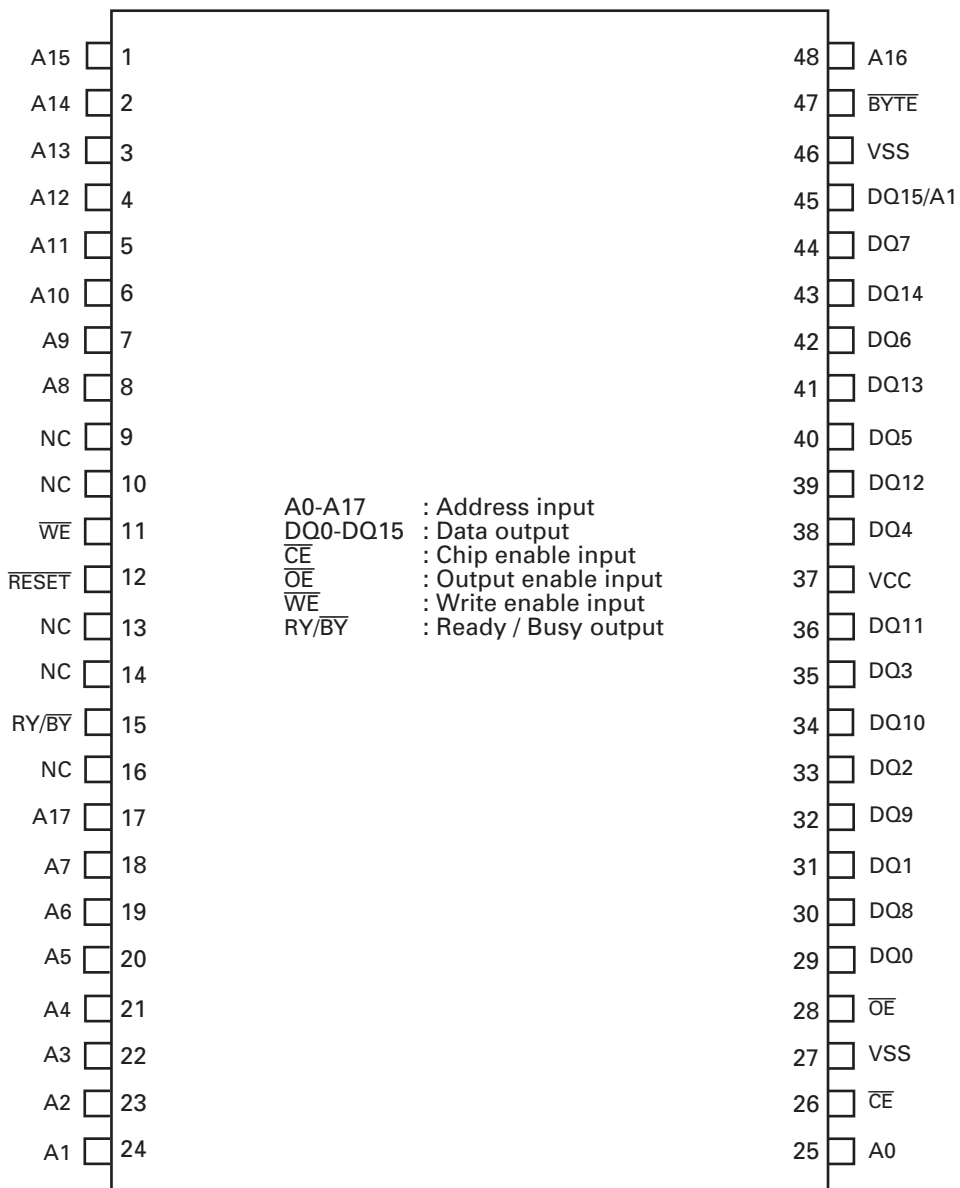
* PD8124A



* TC7WH32FK



* PD6468A



● 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

A

B

C

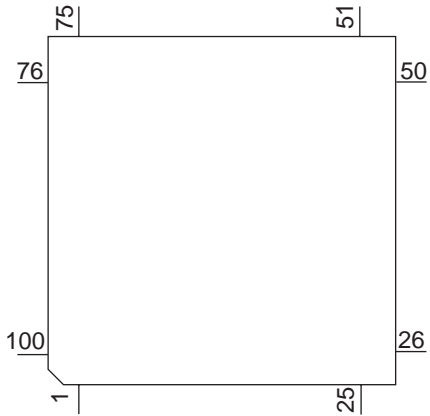
D

E

F

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



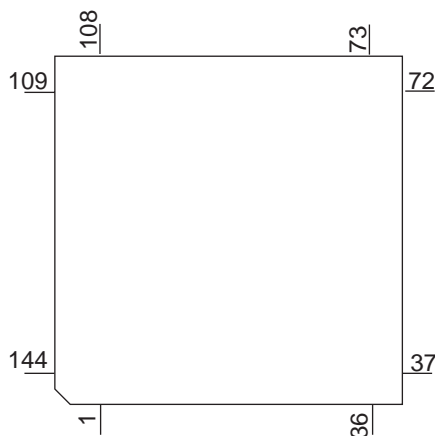
Format	Meaning
C	CMOS

● Pin Functions(UPD63761GJ)

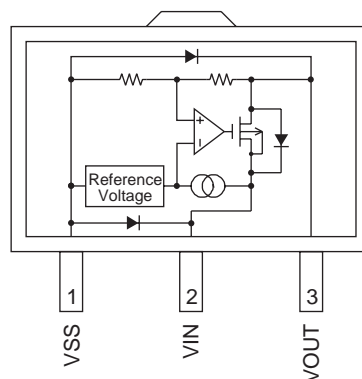
Pin No.	Pin Name	I/O	Function and Operation
1	D.VDD		Power supply for digital circuits
2	D1.GND		GND for 1.6V digital circuits
3	RESET	I	Input of reset
4-8	AB12-8	I	Address bus 12-8 from the microcomputer
9-16	AD7-0	I/O	Address/data bus 7-0 to the microcomputer
17	\overline{CS}	I	Chip selection
18	ASTB	I	Address strobe
19	\overline{READ}	I	Control signals(read)
20	\overline{WRITE}	I	Control signals(write)
21	\overline{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	\overline{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	\overline{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 \overline{CS}
65	RA11	O	Output of DRAM address 11
66	(CKE)	O	Output of DRAM CKE
67	\overline{RAS}	O	Output of DRAM \overline{RAS}
68	$\overline{CAS0}$ (LDQM)	O	Output of DRAM lower \overline{CAS} (LDQM)
69	$\overline{CAS1}$ (UDQM)	O	Output of DRAM upper \overline{CAS} (UDQM)
70	\overline{WE}	O	Output of DRAM \overline{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	AATEST	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



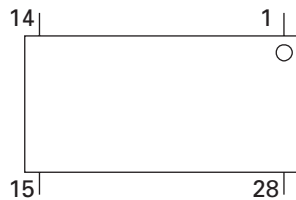
* S-812C33AUA-C2N



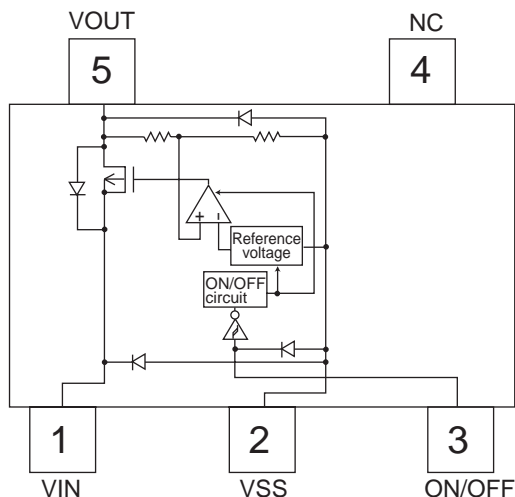
● Pin Functions(BA5835FM)

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

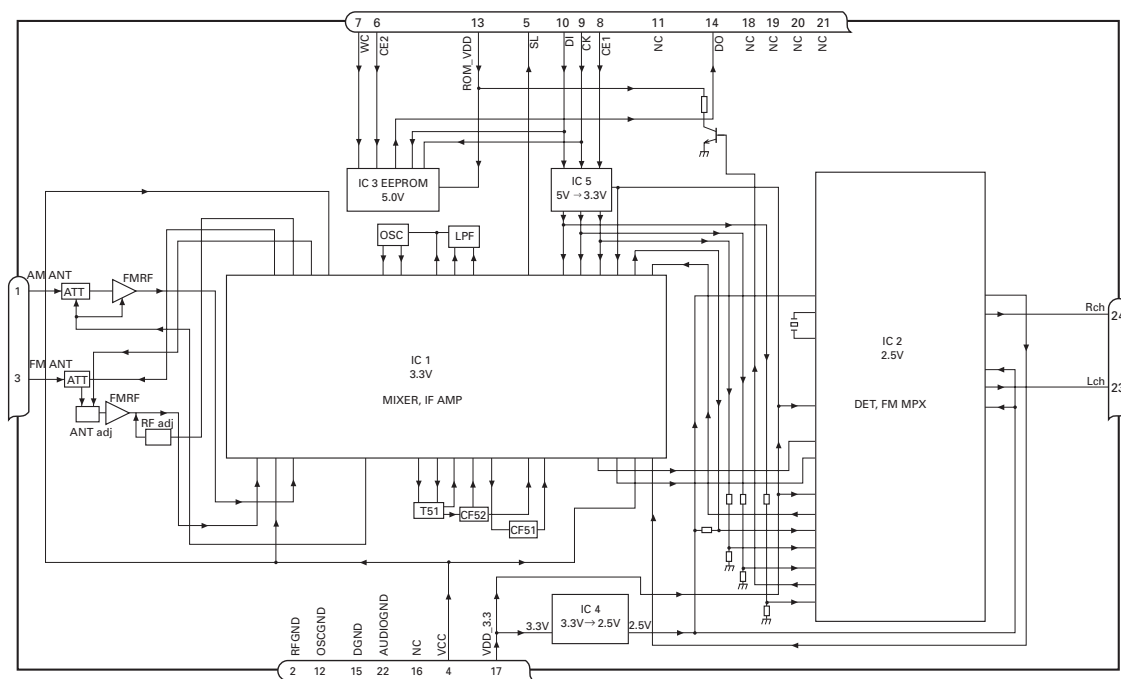
BA5835FM



* S-L2980A15MC-C6A

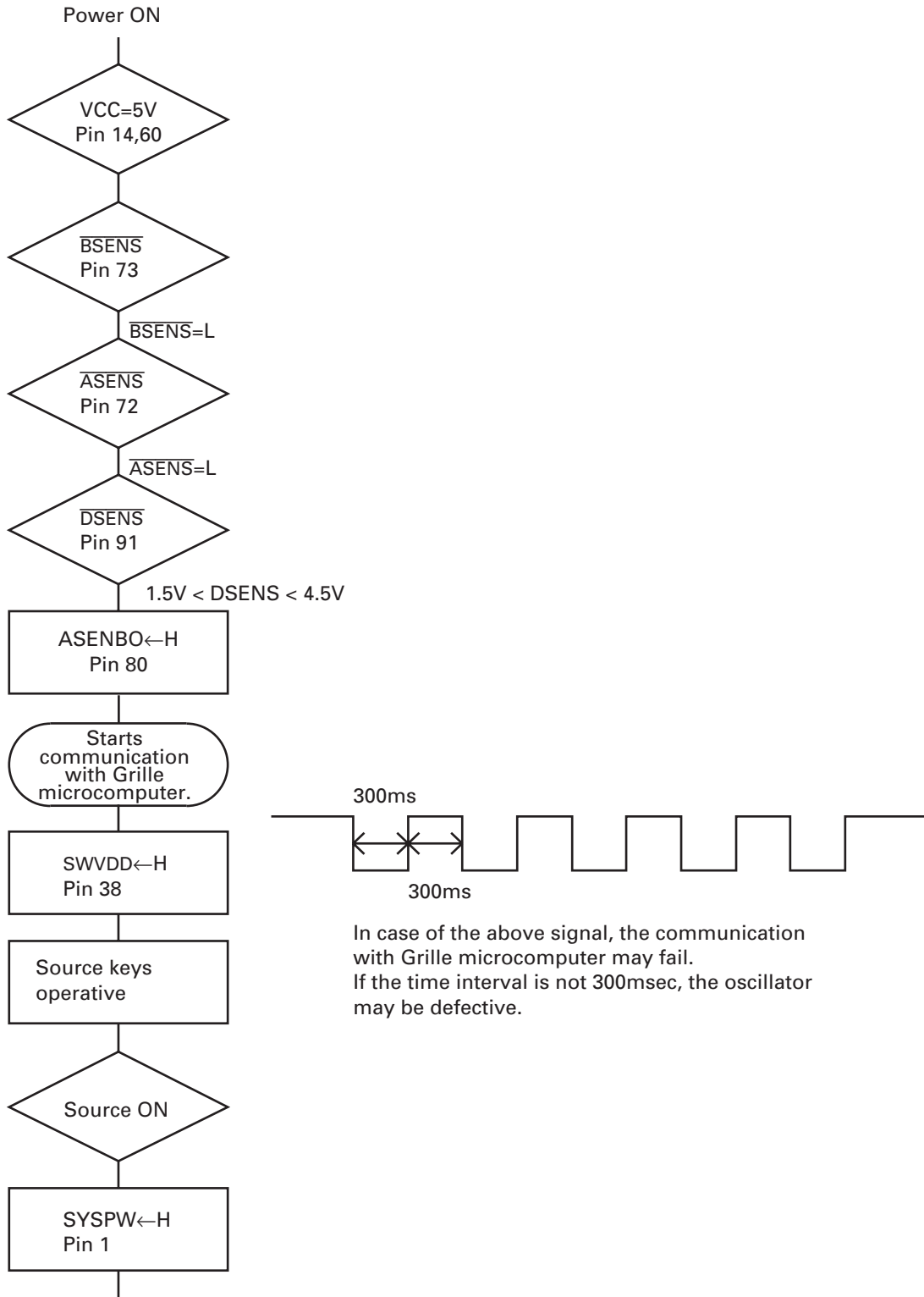


FM/AM Tuner Unit



No.	Symbol	I/O	Explain
1	AMANT	I	AM antenna input 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 Ground of antenna block
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	NC		non connection Not used
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	NC		non connection Not used
19	NC		non connection Not used
20	NC		non connection Not used
21	NC		non connection Not used
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

7.3 OPERATIONAL FLOW CHART



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

7.4 CLEANING

A



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

Portions to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

B

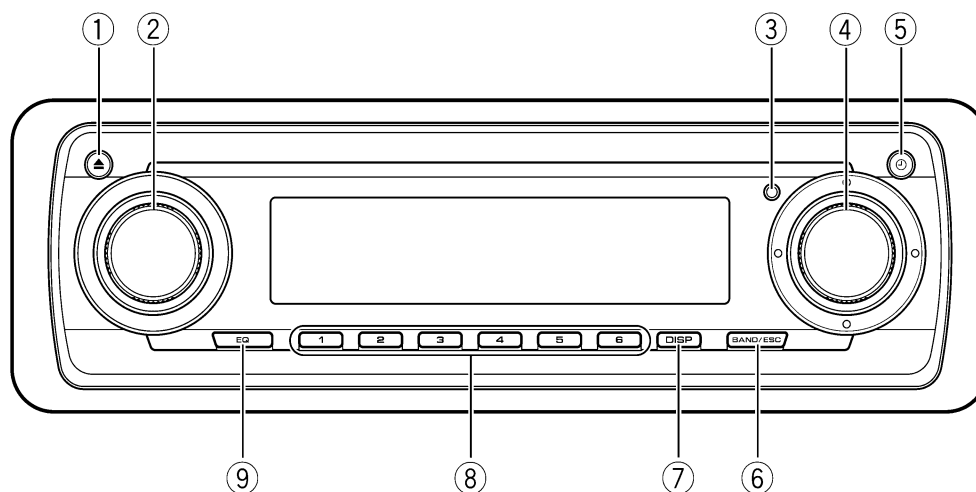
C

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E

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8. OPERATIONS



Head unit

① EJECT button

Press to eject a CD from your built-in CD player.
Press and hold to open or close the front panel.

② 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.

③ RESET button

Press to return to the factory settings (initial settings).

④ MULTI-CONTROL

Push up, down, left or right to do manual seek tuning, fast forward, reverse and track search controls. Also used for controlling functions.

⑤ CLOCK button

Press to change to the clock display.

⑥ BAND/ESC button

Press to select among three FM bands and one AM band and to cancel the control mode of functions.

⑦ DISPLAY button

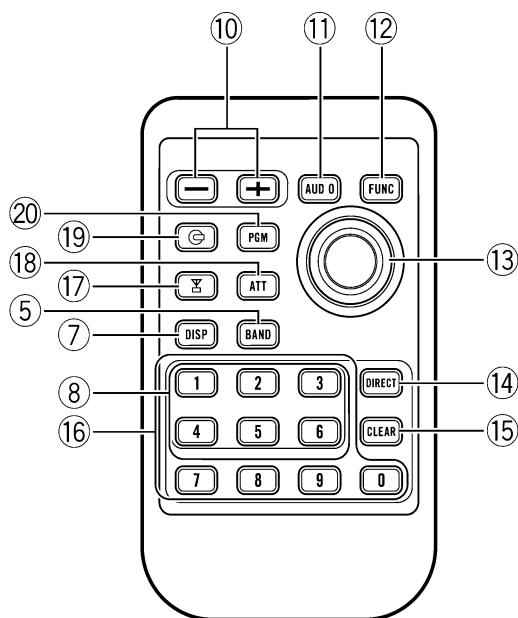
Press to select different displays.

⑧ 1-6 buttons

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

⑨ EQ button

Press to select various equalizer curves. ■



Remote control

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

⑩ VOLUME buttons

Press to increase or decrease the volume.

⑪ AUDIO button

Press to select various sound quality controls.

⑫ FUNCTION button

Press to select functions.

⑬ Joystick

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

- You can perform same operation as **MULTI-CONTROL** on the head unit, except the turning operation.

⑭ DIRECT button

Press to directly select the desired track.

⑮ CLEAR button

Press to cancel the input number when **0–9** are used.

⑯ 0–9 buttons

Press to directly select the desired track, preset tuning or disc. Buttons **1–6** can operate the preset tuning for the tuner or disc number search for the multi-CD player.

⑰ TUNER button

Press to select the tuner as the source.

⑱ ATT button

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

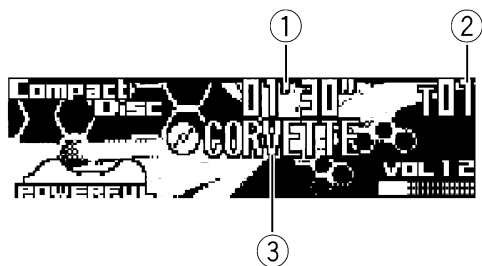
⑲ CD button

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

⑳ PGM button

Press to operate the preprogrammed functions for each source.

Playing a CD



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

① Play time indicator

Shows the elapsed playing time of the current track.

② Track number indicator

Shows the track currently playing.

③ Disc title indicator

Shows the title of the currently playing disc.

- If no title has been entered for the currently playing disc, nothing is displayed.

1 Press SOURCE to select the built-in CD player.

Press **SOURCE** until you see **Compact Disc** displayed.

- If no disc is loaded in the unit, you cannot select **Compact Disc** (built-in CD player). Insert a disc in the unit.

2 To perform fast forward or reverse, push and hold MULTI-CONTROL left or right.

- If you select **ROUGH**, pushing and holding **MULTI-CONTROL** left or right enables you to search every 10 tracks in the current disc.

3 To skip back or forward to another track, push MULTI-CONTROL left or right.

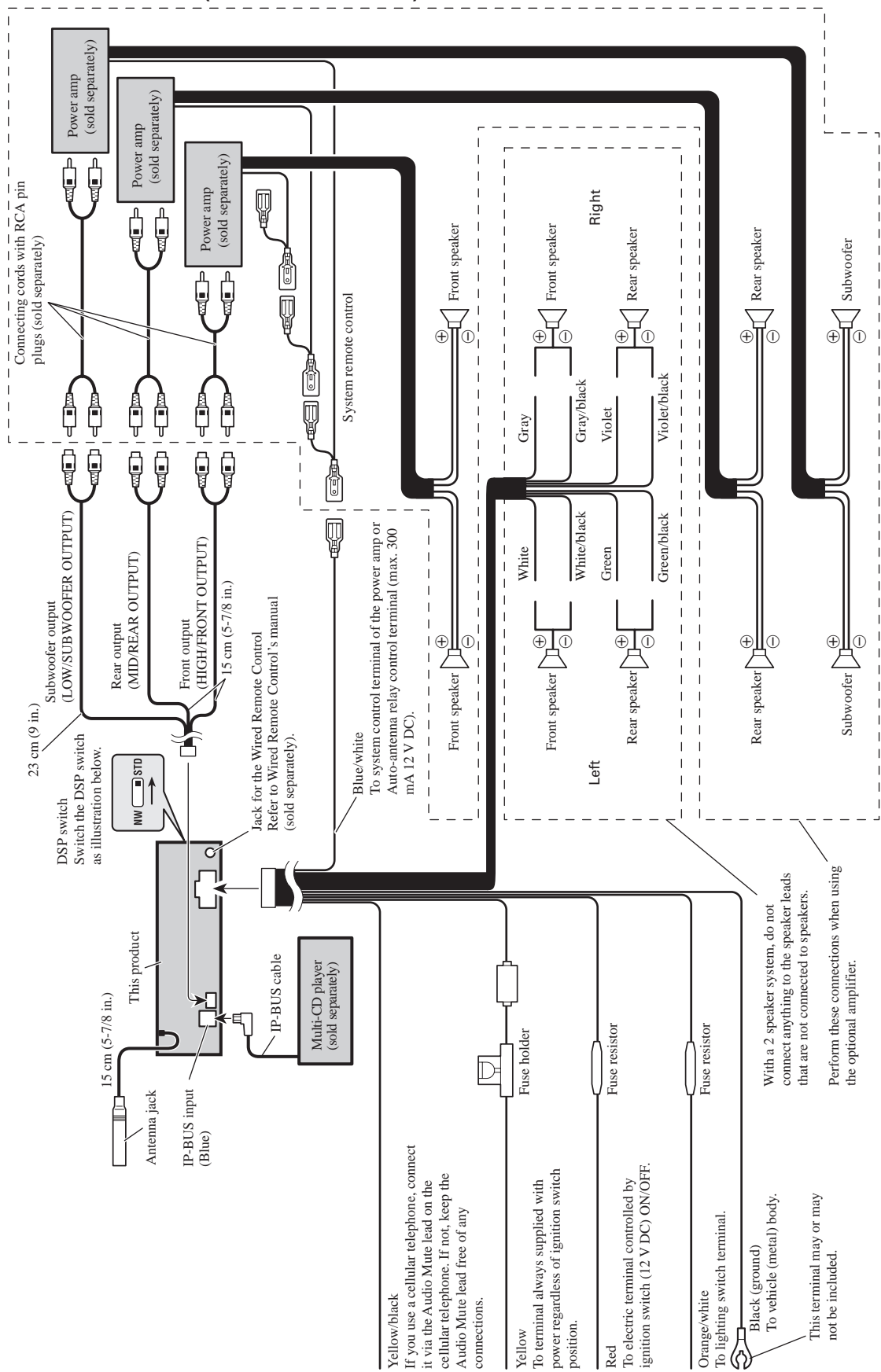
Pushing **MULTI-CONTROL** right skips to the start of the next track. Pushing **MULTI-CONTROL** left once skips to the start of the current track. Pushing again will skip to the previous track.



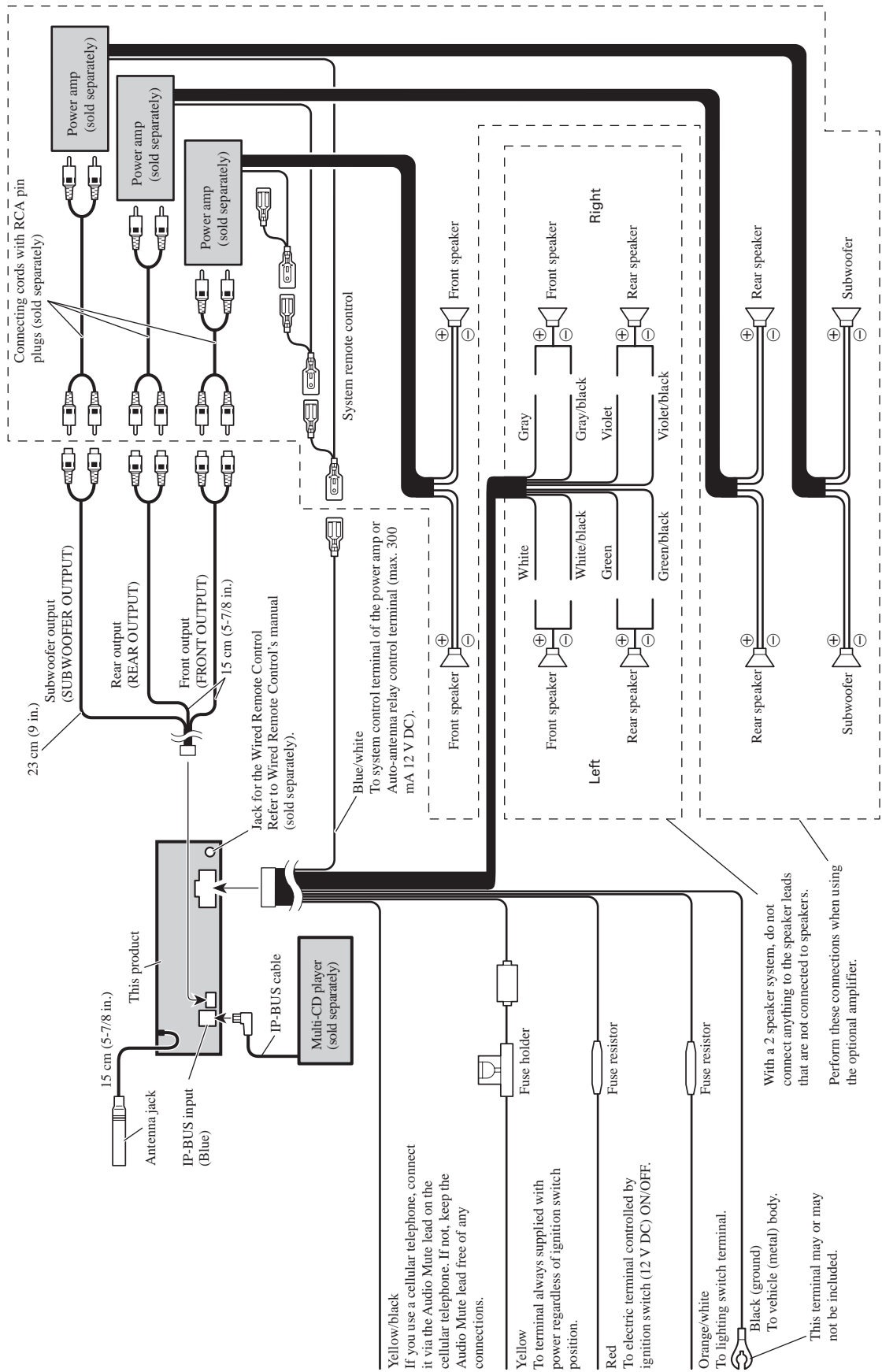
Note

When a disc is inserted, the disc and track titles automatically begin to scroll in the display. When Ever Scroll is set to ON at the initial setting, the disc and track titles scroll continuously.

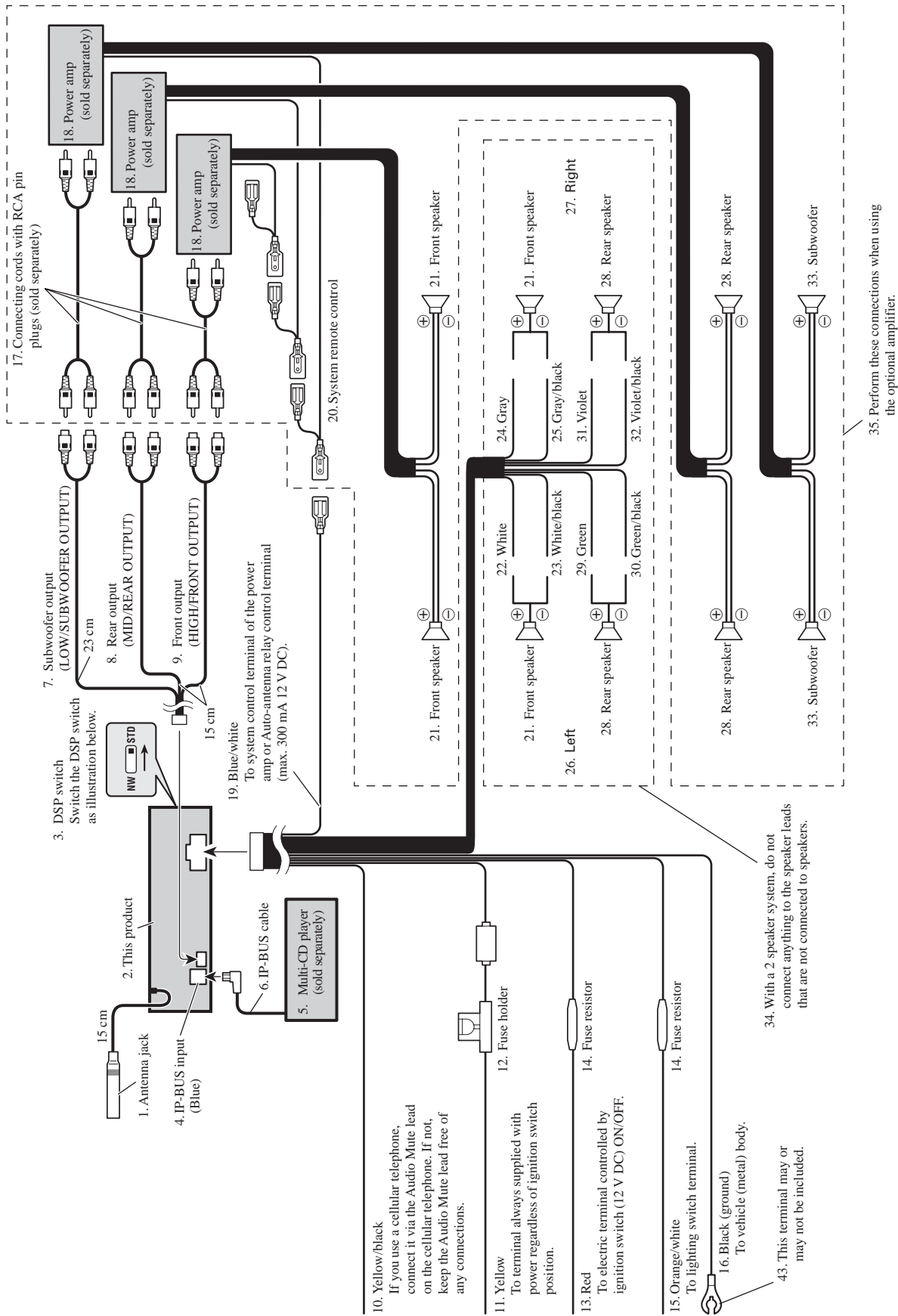
CONNECTION DIAGRAM(DEH-P860MP/XN/UC)



CONNECTION DIAGRAM(DEH-P8600MP/XN/UC)



CONNECTION DIAGRAM (DEH-P8650MP/XN/ES)



A

B

C

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Jigs List

Name	Jig No.	Remarks
Test Disc	TCD-782	Checking the grating
L.P.F.		Checking the grating (Two pieces)
Extension Cable	GGD1160	Checking the keyboard unit
Extension PCB	GGD1378	Checking the keyboard unit
CD-ROM	GGV1168	OEL screensaver studio lka to lkd application
Cleaning liquid	GEM1004	Cleaning CD pickup lenses
Cleaning paper	GED-008	Cleaning CD pickup lenses