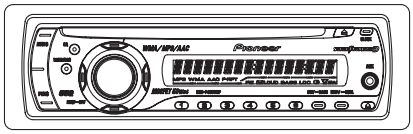
Pioneer sound.vision.soul

Service Manual



DEH-P4950MP/XU/CN5

ORDER NO.
CRT3817

CD RECEIVER

DEH-P4950MP/XU/CN5

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

Model No.	Order No.	Mech.Module	Remarks
CX-3195	CRT3815	S10.5COMP2	CD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly

For details, refer to "Important Check Points for Good Servicing".

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

K-ZZA. OCT. 2006 Printed in Japan

SAFETY INFORMATION

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

● **Safety Precautions for those who Service this Unit.**

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

Caution:

1. During repair or tests, minimum distance of 13 cm from the focus lens must be kept.
2. During repair or tests, do not view laser beam for 10 seconds or longer.

● **Service Precaution**

1. 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. 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.
3. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY".
4. After replacing the pickup unit, be sure to check the grating.
5. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.

COMPACT disc DIGITAL AUDIO

COMPACT disc DIGITAL AUDIO TEXT

Plays Windows Media™

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

1. SPECIFICATIONS

一般

额定电源 ..... 14.4 V DC
（容许电压范围：12.0－14.4 V DC）
接地系统 ..... 负极型
最大电流消耗 ..... 10.0 A
Backup current ..... 5 mA or less
尺寸（宽×高×深）：
DIN
机身 ..... 178×50×162 毫米
前端部分 ..... 188×58×14 毫米
D
机身 ..... 178×50×162 毫米
前端部分 ..... 170×46×14 毫米
重量 ..... 1.3 公斤

音频

最大输出功率 ..... 50 W × 4
50 W × 2/4 Ω + 70 W × 1/2 Ω（对于超低音扬声器）
连续功率输出 ..... 22 W × 4（50 Hz至15 000 Hz，5% THD，4 Ω 载荷，双声道驱动）
负载阻抗 ..... 4 Ω至8 Ω × 4
4 Ω至8 Ω × 2 + 2 Ω × 1
前输出最大输出电平 / 输出阻抗
..... 2.2 V / 1 kΩ
均衡器（3频带参量均衡器）：
低频
频率 ..... 40/80/100/160 Hz
Q因子 ..... 0.35/0.59/0.95/1.15（加强后+6 dB）
增益 ..... ±12 dB
中频
频率 ..... 200/500/1k/2k Hz
Q因子 ..... 0.35/0.59/0.95/1.15（加强后+6 dB）
增益 ..... ±12 dB
高频
频率 ..... 3.15k/8k/10k/12.5k Hz
Q因子 ..... 0.35/0.59/0.95/1.15（加强后+6 dB）
增益 ..... ±12 dB
响度等高线
低 ..... +3.5 dB（100 Hz），+3 dB（10 kHz）
中 ..... +10 dB（100 Hz），-6.5 dB（10 kHz）
高 ..... +11 dB（100 Hz），-11 dB（10 kHz）
（音量：-30 dB）
HPF：
频率 50/63/80/100/125Hz
斜率 ..... －12 dB/oct
超低音扬声器：
频率 50/63/80/100/125Hz
斜率 ..... -18 dB/oct
增益 ..... +6 dB至-24 dB
相位 ..... 正相 / 反相
低音增强：
增益 ..... +12 dB至0 dB

CD 播放机

系统 ..... CD音频系统
可用碟片 ..... CD
信号格式：
取样频率 ..... 44.1 kHz
量化比特数 ..... 16：线性
频率特征 ..... 5 Hz至20 000 Hz（±1 dB）
信噪比 ..... 94 dB（1 kHz）（IEC-A网络）
动态范围 ..... 92 dB（1 kHz）
声道数 ..... 2（立体声）
MP3解码格式 ..... MPEG-1 & 2 Audio Layer 3
WMA解码格式 ..... 第7、7.1、8、9、10版本（双声道音频）（Windows Media Player）
AAC解码格式 ..... MPEG-4 AAC（仅限iTunes®编码）
WAV信号格式 ..... 线性PCM&MS ADPCM

FM调谐器

频率范围 ..... 87.5 MHz－108.0 MHz
有效灵敏度 ..... 8 dBf（0.7 μV/75 Ω，单声道，S/N：30 dB）
信噪比 ..... 75 dB（IEC-A网络）
失真 ..... 0.3 %（65 dBf，1 kHz，立体声时）
0.1 %（65 dBf，1 kHz，单声道时）
频率响应 ..... 30 Hz－15 000 Hz（±3 dB）
立体声分离度 ..... 45 dB（65 dBf，1 kHz时）

AM调谐器

频率响应 ..... 531 kHz－1 602 kHz（9 kHz）
530 kHz－1 640 kHz（10 kHz）
有效灵敏度 ..... 18 μV（S/N：20 dB）
信噪比 ..... 65 dB（IEC-A网络）

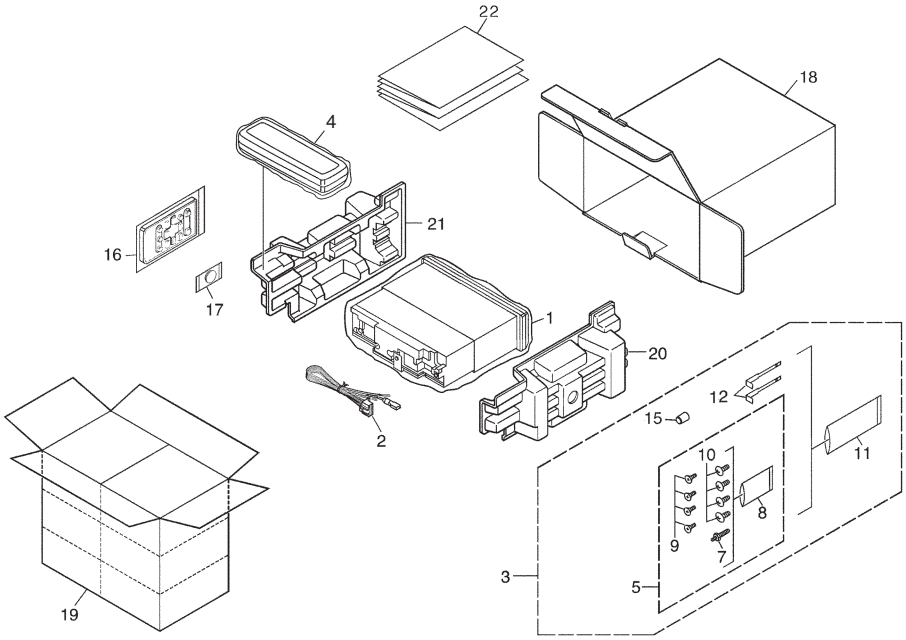
注意

因产品改进，规格和设计若有变更，恕不另行通知。■

2. EXPLODED VIEWS AND PARTS LIST

*NOTES : • Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
• Screw adjacent to▽mark on the product are used for disassembly.
• For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions,apply as you think it appropriate.)

2.1 PACKING



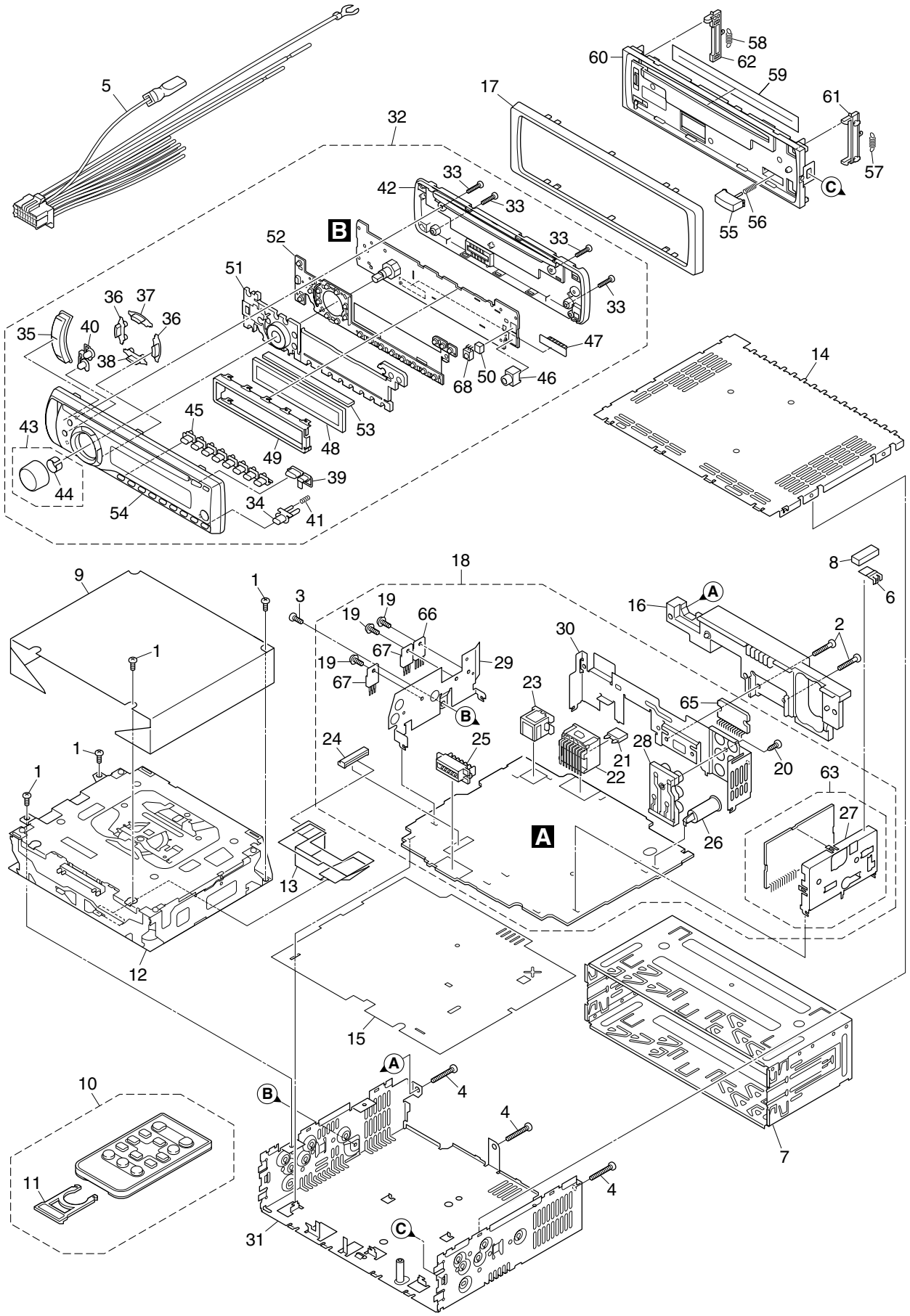
PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Polyethylene Bag	CEG-162
	2	Cord Assy	CDP1017
	3	Accessory Assy	YEA5013
	4	Case Assy	CXB3520
	5	Screw Assy	CEA3849
	6	•••••	
	7	Screw	CBA1650
*	8	Polyethylene Bag	CEG-127
	9	Screw	CRZ50P090FTC
	10	Screw	TRZ50P080FTC
*	11	Polyethylene Bag	CEG-158
	12	Handle	CND3707
	13	•••••	
	14	•••••	
	15	Bush	CNV3930
	16	Remote Control Assy	CXC5719
*	17	Battery	CEX1065
	18	Carton	YHG5110
	19	Contain Box	YHL5098
	20	Protector	YHP5008
	21	Protector	YHP5009
	22-1	Owner's Manual	YRB5029
	22-2	Installation Manual	YRB5030
	22-3	Caution Card	CRP1310
*	22-4	Warranty Card	ARY7046

Owner's Manual,Installation Manual

Part No.	Language
YRB5029, YRB5030	Simplified Chinese

2.2 EXTERIOR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C
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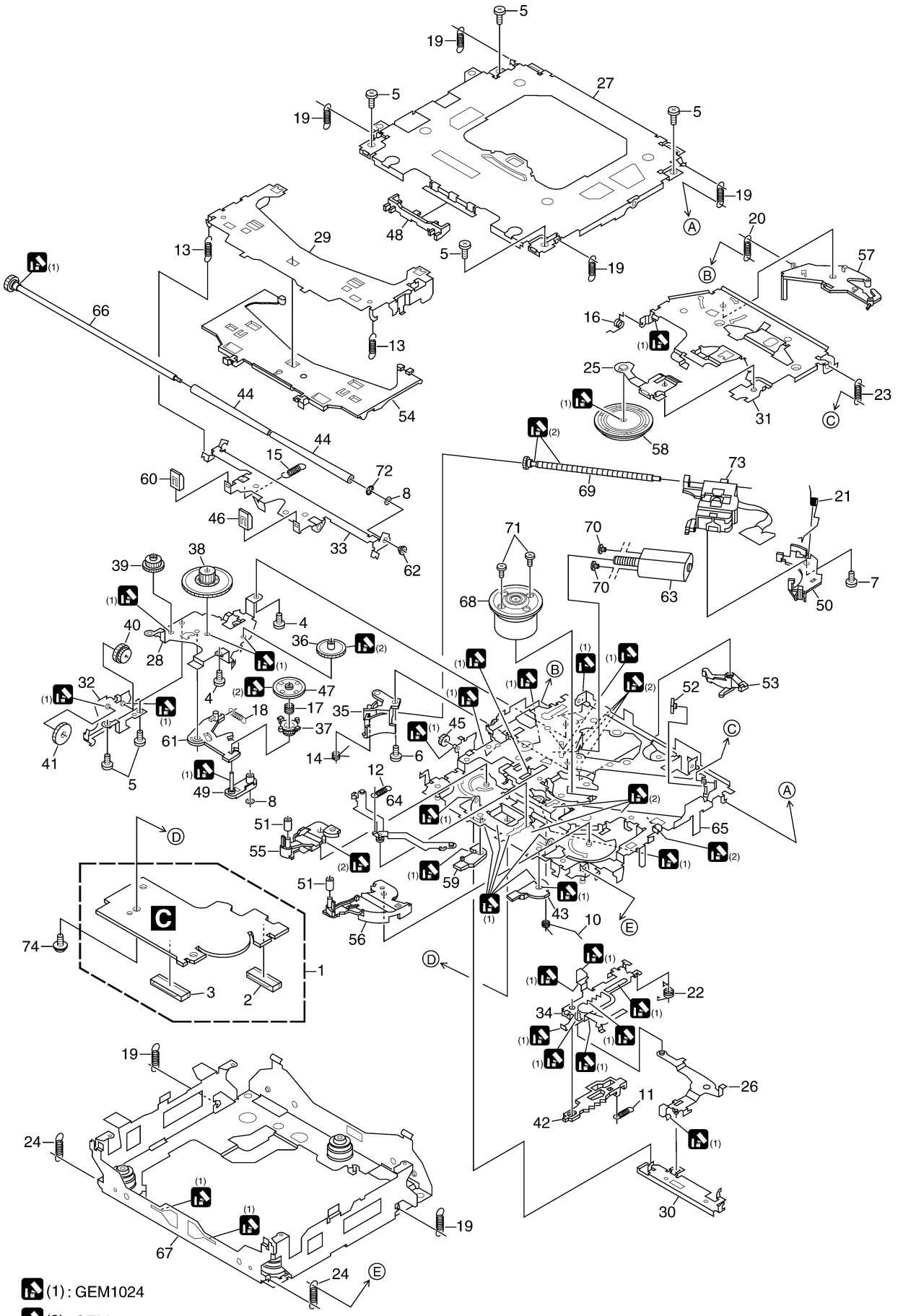
31
C

EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BSZ26P060FTC
	2	Screw	BSZ26P200FTC
	3	Screw	BSZ30P060FTC
	4	Screw	BSZ30P200FTC
	5	Cord Assy	CDP1017
	6	Earth Plate	CNC8915
	7	Holder	CND3598
	8	Cushion	CNM8890
	9	Sheet	CNM9404
	10	Remote Control Assy	CXC5719
	11	Cover	CNS7068
	12	CD Mechanism Module(S10.5)	CXK5760
	13	Cable	YDE5025
	14	Case	YNB5014
	15	Insulator	YNM5062
	16	Heat Sink	YNR5031
	17	Panel	YNS5191
	18	Tuner Amp Unit	YWM5141
	19	Screw	BSZ26P060FTC
	20	Screw	BPZ26P080FTC
⚠	21	Fuse(10 A)	CEK1208
	22	Plug(CN901)	CKM1376
	23	Connector(CN101)	CKS3408
	24	Connector(CN701)	CKS3829
	25	Connector(CN803)	CKS5664
	26	Antenna Jack(CN401)	CKX1056
	27	Holder	CND1054
	28	Pin Jack(CN351)	XKB7001
	29	Holder	XNC7030
	30	Holder	YNC5043
	31	Chassis Unit	YXA5196
	32	Detachable Assy	YXA5207
	33	Screw	BPZ20P100FTB
	34	Button(Detach)	CAC9941
	35	Button(AUDIO/FUNC)	CAC9942
	36	Button(L/R)	CAC9946
	37	Button(UP)	CAC9947
	38	Button(DOWN)	CAC9948
	39	Button(EJECT)	CAC9949
	40	Button(EQ/BAND)	CAC9950
	41	Spring	CBH2210
	42	Cover	CNS8758
	43	Knob Unit(SOURCE,VOLUME)	CXC7054
	44	Spring	CBL1761
	45	Button(1-6)	YAC5118
	46	Jack	CKN1047
	47	Connector(CN1801)	CKS5663
	48	LCD(LCD1801)	YAW5080
	49	Holder	YNC5025
	50	Cushion	YNM5029
	51	Lighting Conductor	YNV5066
	52	Rubber	YNV5067
	53	Connector	YNV5068
	54	Grille Unit	YXA5230
	55	Button(DETACH)	CAC4836
	56	Spring	CBH2367
	57	Spring	CBH2961
	58	Spring	CBH2962
	59	Cover	CNN1665
	60	Panel	CNS8760
	61	Arm	CNV9311
	62	Arm	CNV9312
	63	FM/AM Tuner Unit	CWE1952
	64	•••••	
	65	IC(IC301)	PAL007C
	66	IC(IC921)	NJM2388F84
	67	Transistor (Q702,Q911)	2SD2396
	68	IC(IC1802)	GP1UX51RK

2.3 CD MECHANISM MODULE

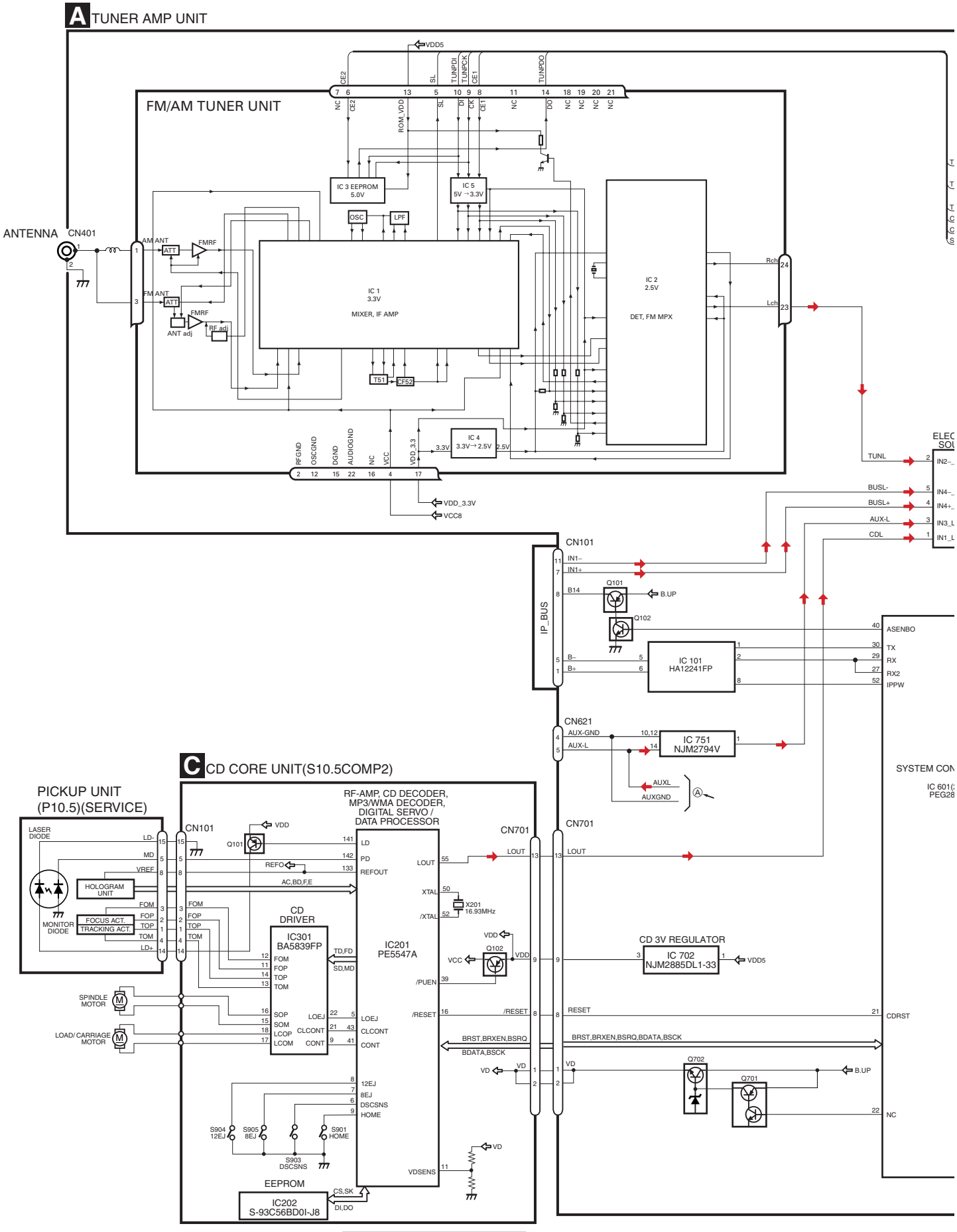


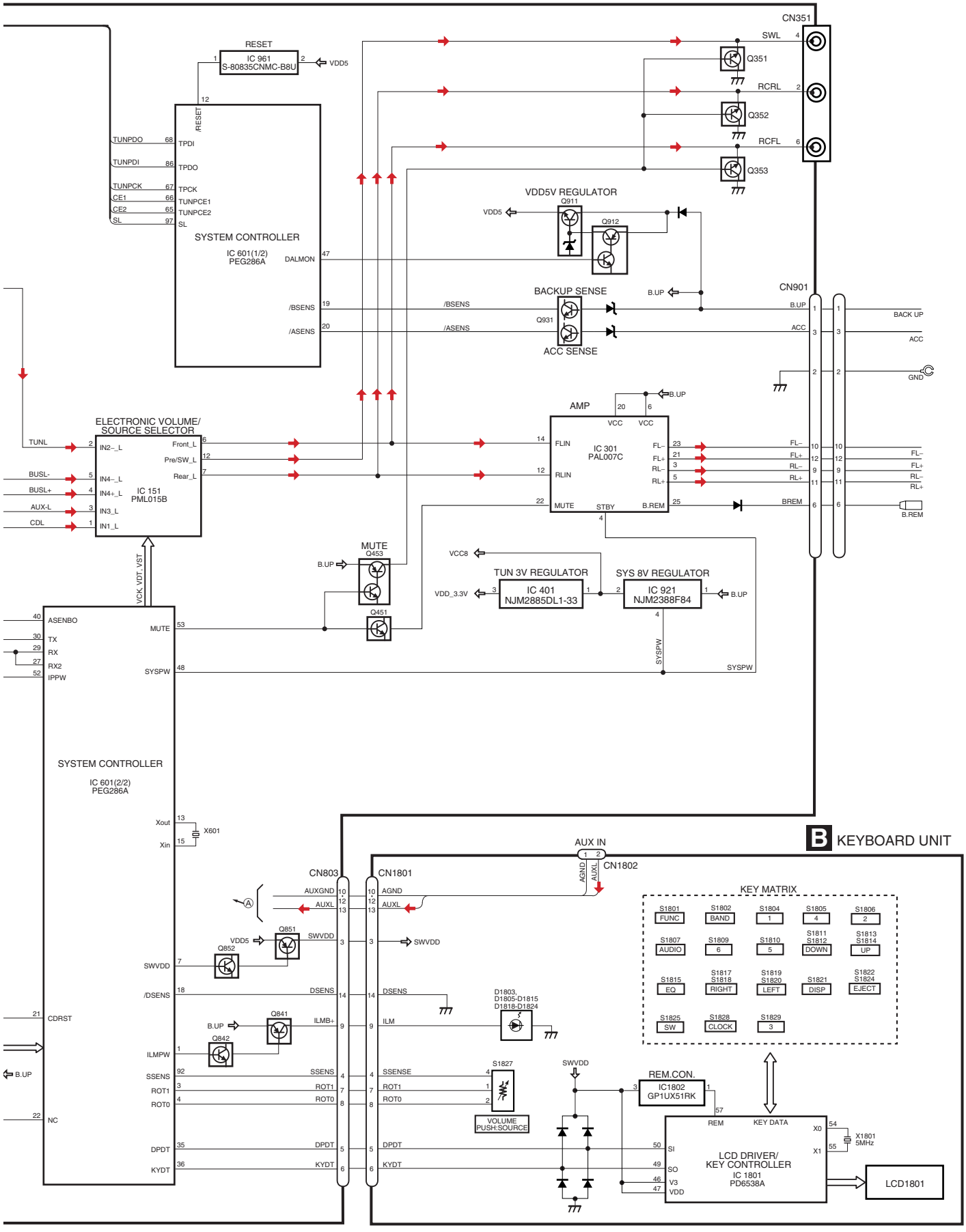
CD MECHANISM MODULE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	CD Core Unit(S10.5COMP2)	CWX3350
	2	Connector(CN101)	CKS4911
	3	Connector(CN701)	CKS4808
	4	Screw	BMZ20P025FTC
	5	Screw	BSZ20P040FTC
	6	Screw(M2 x 3)	CBA1511
	7	Screw(M2 x 4)	CBA1835
	8	Washer	CBF1038
	9	•••••	
	10	Spring	CBH2609
	11	Spring	CBH2612
	12	Spring	CBH2614
	13	Spring	CBH2616
	14	Spring	CBH2617
	15	Spring	CBH2620
	16	Spring	CBH2855
	17	Spring	CBH2937
	18	Spring	CBH2735
	19	Spring	CBH2854
	20	Spring	CBH2642
	21	Spring	CBH2856
	22	Spring	CBH2857
	23	Spring	CBH2860
	24	Spring	CBH2861
	25	Spring	CBL1686
	26	Arm	CND1909
	27	Frame	CND2582
	28	Bracket	CND2583
	29	Arm	CND2584
	30	Lever	CND2585
	31	Arm	CND2586
	32	Bracket	CND2587
	33	Arm	CND2588
	34	Lever	CND2589
	35	Holder	CNV7201
	36	Gear	CNV7207
	37	Gear	CNV7208
	38	Gear	CNV7209
	39	Gear	CNV7210
	40	Gear	CNV7211
	41	Gear	CNV7212
	42	Rack	CNV7214
	43	Arm	CNV7216
	44	Roller	CNV8189
	45	Gear	CNV7219
	46	Guide	CNV7361
	47	Gear	CNV7595
	48	Guide	CNV8448
	49	Arm	CNV7805
	50	Rack	CNV8342
	51	Roller	CNV8343
	52	Holder	CNV8344
	53	Arm	CNV8345
	54	Guide	CNV8347
	55	Arm	CNV8348
	56	Arm	CNV8349
	57	Arm	CNV8350
	58	Clamper	CNV8365
	59	Arm	CNV8386
	60	Guide	CNV8396
	61	Arm	CNV8413
	62	Collar	CNV8447
	63	Motor Unit(M2)	CXC4026
	64	Arm Unit	CXC4027
	65	Chassis Unit	CXC4028
	66	Gear Unit	CXC4029
	67	Frame Unit	CXC4031
	68	Motor Unit(M1)	CXC7134
	69	Screw Unit	CXC6359
	70	Screw	JFZ20P020FTC
	71	Screw	JGZ17P022FTC
	72	Washer	YE20FTC
	73	Pickup Unit(P10.5)(Service)	CXX1942
	74	Screw	IMS26P030FTC

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

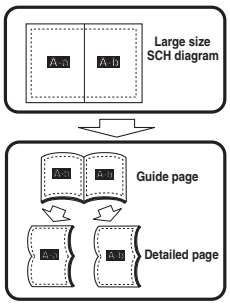
3.1 BLOCK DIAGRAM

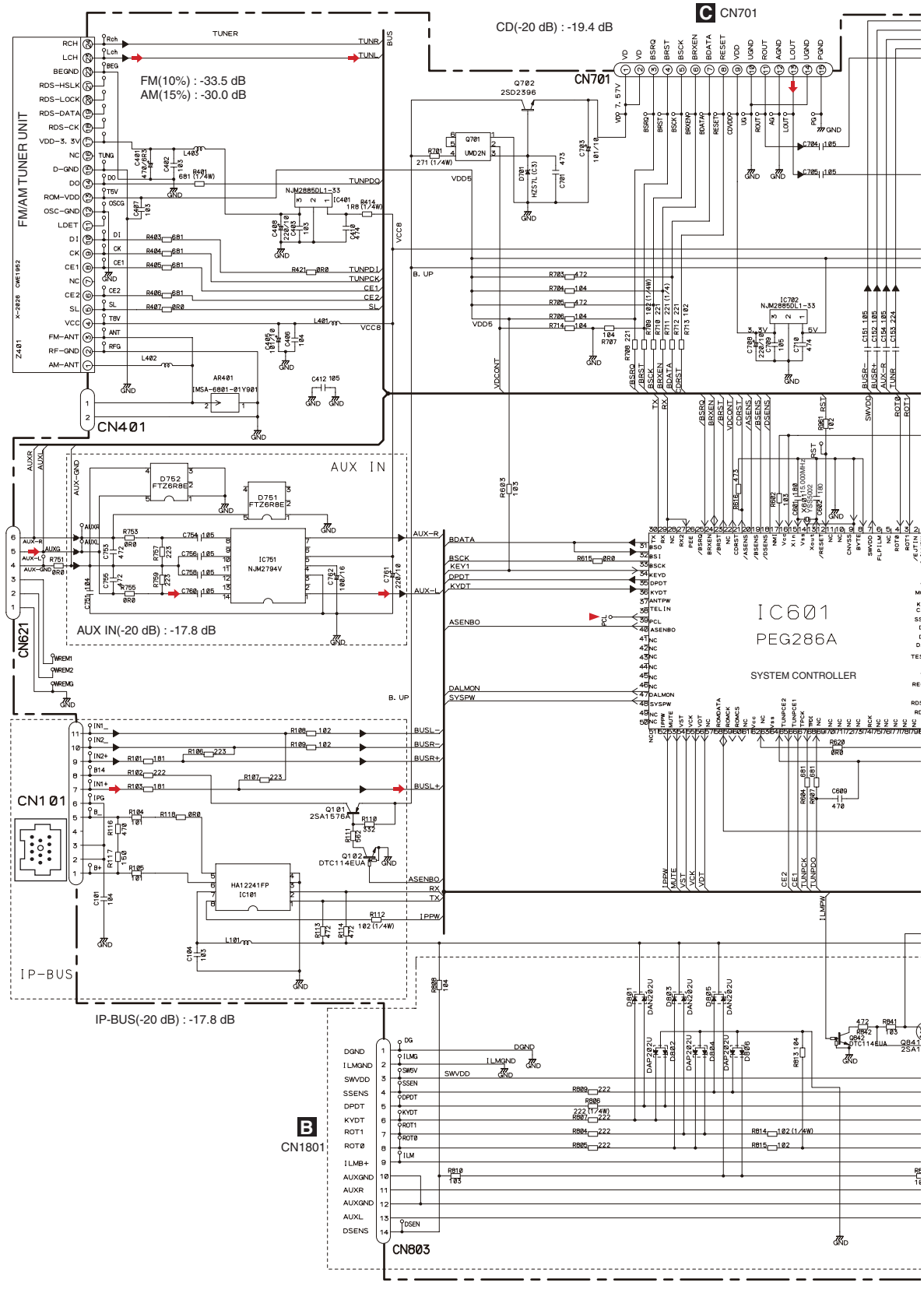



CN351
SWL
RCRL
RCFL
Q351
Q352
Q353
RESET
IC 961
S-80835CNMC-B8U
VDD5
SYSTEM CONTROLLER
IC 601(1/2)
PEG286A
TUNPDO
TUNPDI
TUNPCK
CE1
CE2
SL
TPDI
TPDO
TPCK
TUNPCE1
TUNPCE2
DALMON
VDD5V REGULATOR
Q911
Q912
BACKUP SENSE
Q931
ACC SENSE
/BSENS
/ASENS
B.UP
CN901
BACK UP
ACC
GND
ELECTRONIC VOLUME/
SOURCE SELECTOR
IC 151
PML015B
TUNL
BUSL-
BUSL+
AUX-L
CDL
Front_L
Pre/SW_L
Rear_L
AMP
IC 301
PAL007C
FLIN
RLIN
MUTE
STBY
VCC
FL–
FL+
RL–
RL+
BREM
B.REM
MUTE
Q453
Q451
TUN 3V REGULATOR
IC 401
NJM2885DL1-33
VDD_3.3V
VCC8
SYS 8V REGULATOR
IC 921
NJM2388F84
SYSPW
VCK, VDT, VST
SYSTEM CONTROLLER
IC 601(2/2)
PEG286A
ASENBO
TX
RX
RX2
IPPW
Xout
Xin
X601
CDRST
NC
SSENS
ROT1
ROT0
DPDT
KYDT
ILMPW
ILMB+
Q841
Q842
Q851
Q852
SWVDD
DSENS
/DSENS
AUXGND
AUXL
AGND
ILM
D1803,
D1805-D1815
D1818-D1824
B KEYBOARD UNIT
AUX IN
CN1802
CN803
CN1801
KEY MATRIX
S1801 FUNC
S1802 BAND
S1804 1
S1805 4
S1806 2
S1807 AUDIO
S1809 6
S1810 5
S1811 S1812 DOWN
S1813 S1814 UP
S1815 EQ
S1817 S1818 RIGHT
S1819 S1820 LEFT
S1821 DISP
S1822 S1824 EJECT
S1825 SW
S1828 CLOCK
S1829 3
S1827
VOLUME
PUSH:SOURCE
REM.CON.
IC1802
GP1UX51RK
REM
KEY DATA
LCD DRIVER/
KEY CONTROLLER
IC 1801
PD6538A
X1801
5MHz
LCD1801

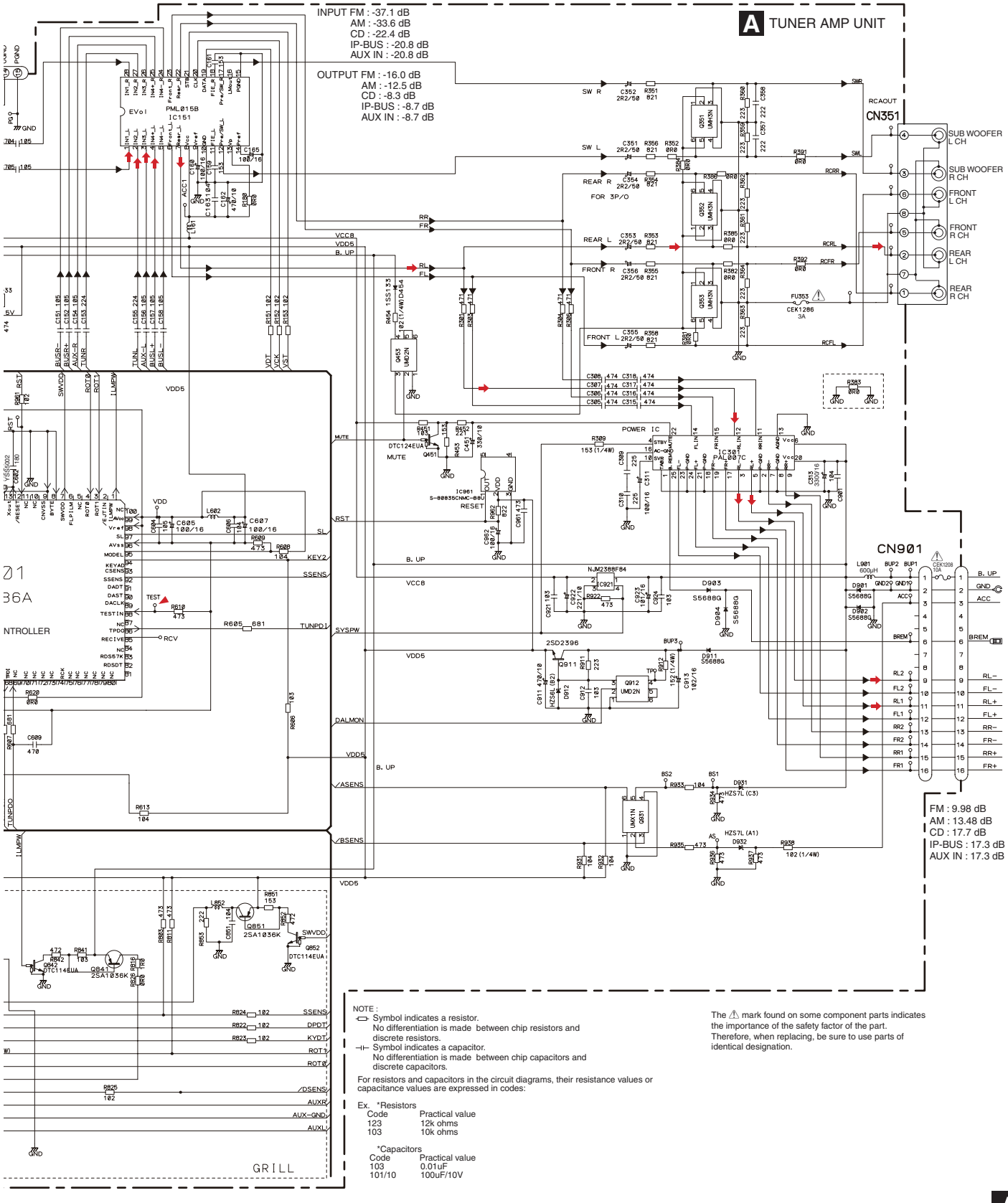
3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

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





A-b



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

For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

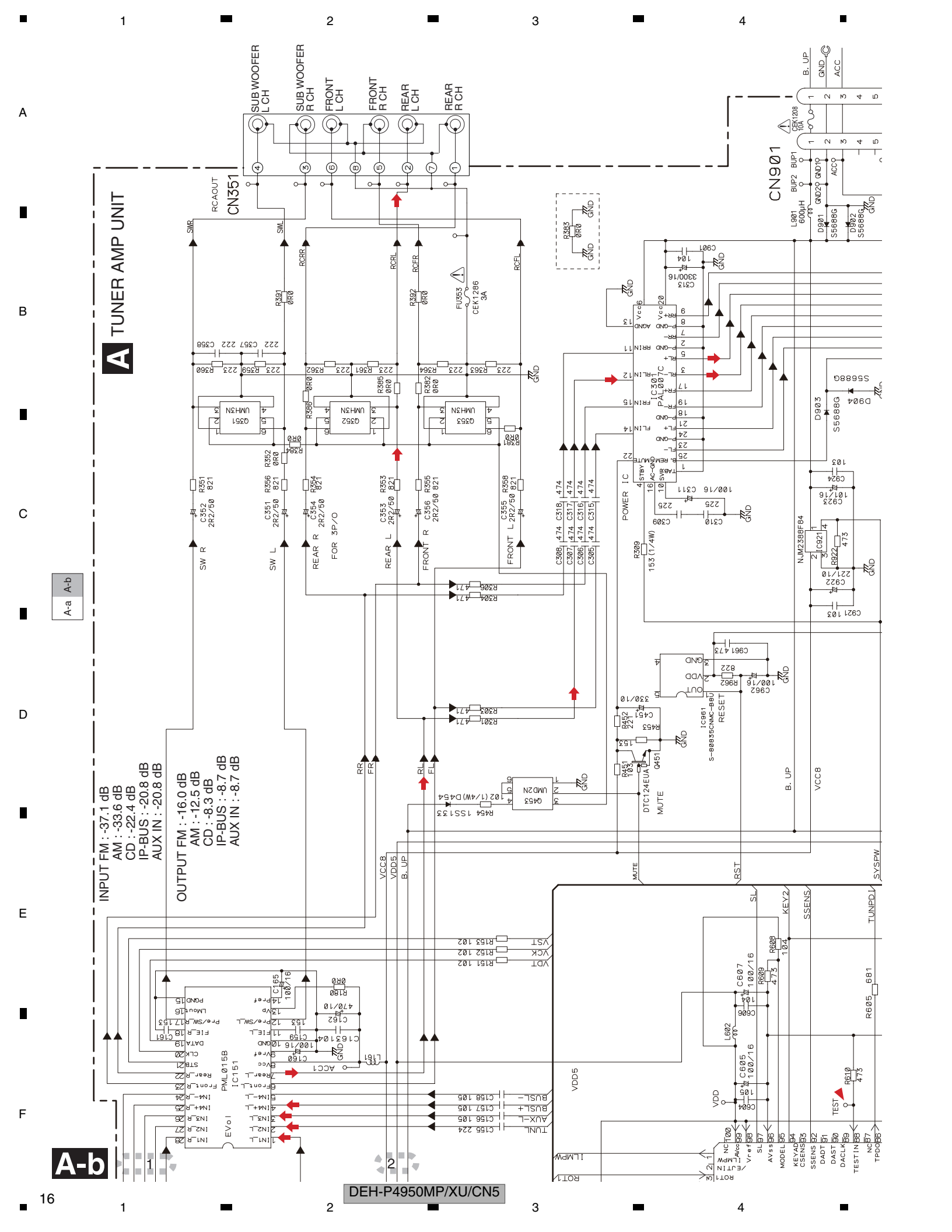
Ex. *Resistors

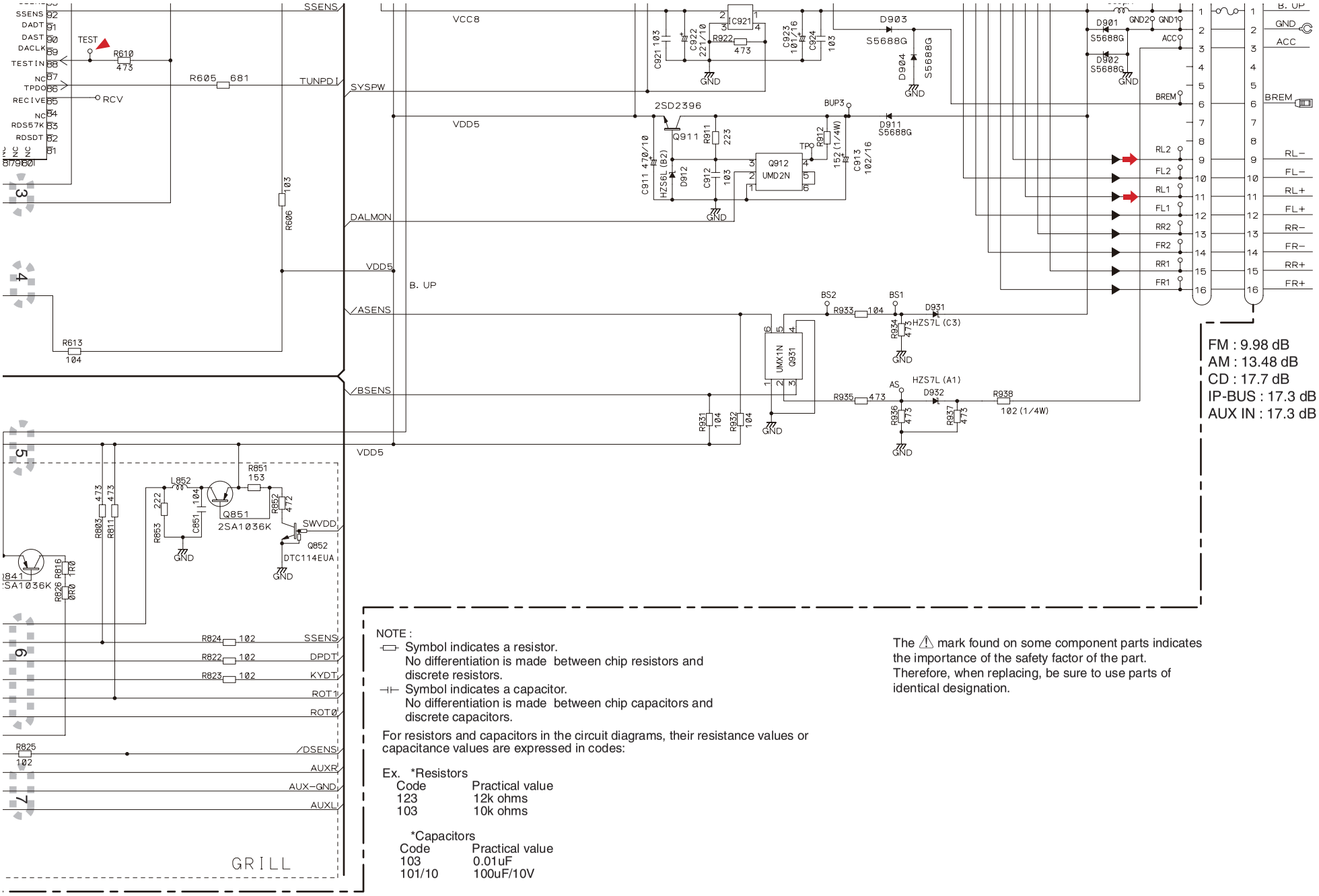
Code	Practical value
123	12k ohms
103	10k ohms

*Capacitors

Code	Practical value
103	0.01uF
101/10	100uF/10V

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


A TUNER AMP UNIT
CN351
CN901
SUB WOOFER L CH
SUB WOOFER R CH
FRONT L CH
FRONT R CH
REAR L CH
REAR R CH
RCAOUT
B. UP
GND
ACC
BUP1
BUP2
GND2
ACC2
POWER IC
PAL1007C
IC301
NJM2388F84
S-80835CNMC-B8D
RESET
MUTE
DTC124EUA
Q451
IC151
PML015B
EVol
INPUT FM : -37.1 dB
AM : -33.6 dB
CD : -22.4 dB
IP-BUS : -20.8 dB
AUX IN : -20.8 dB
OUTPUT FM : -16.0 dB
AM : -12.5 dB
CD : -8.3 dB
IP-BUS : -8.7 dB
AUX IN : -8.7 dB
FOR 3P/O
SW R
SW L
REAR R
REAR L
FRONT R
FRONT L
VCC8
VDD5
B. UP
MUTE
RST
SYSPW
A-a
A-b
A-b
DEH-P4950MP/XU/CN5
16



FM : 9.98 dB
AM : 13.48 dB
CD : 17.7 dB
IP-BUS : 17.3 dB
AUX IN : 17.3 dB

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.

For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

Ex. *Resistors

Code	Practical value
123	12k ohms
103	10k ohms

*Capacitors

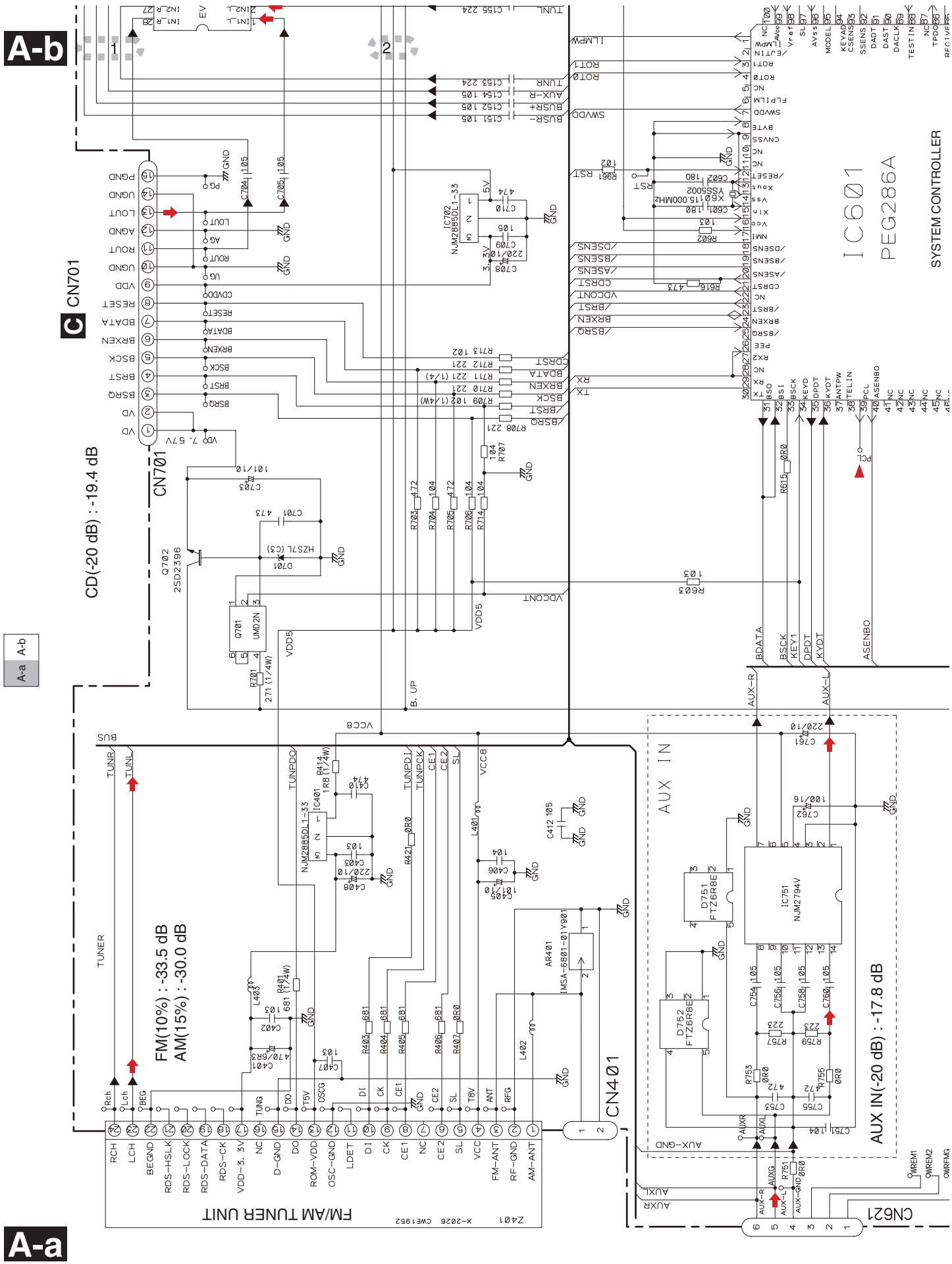
Code	Practical value
103	0.01uF
101/10	100uF/10V

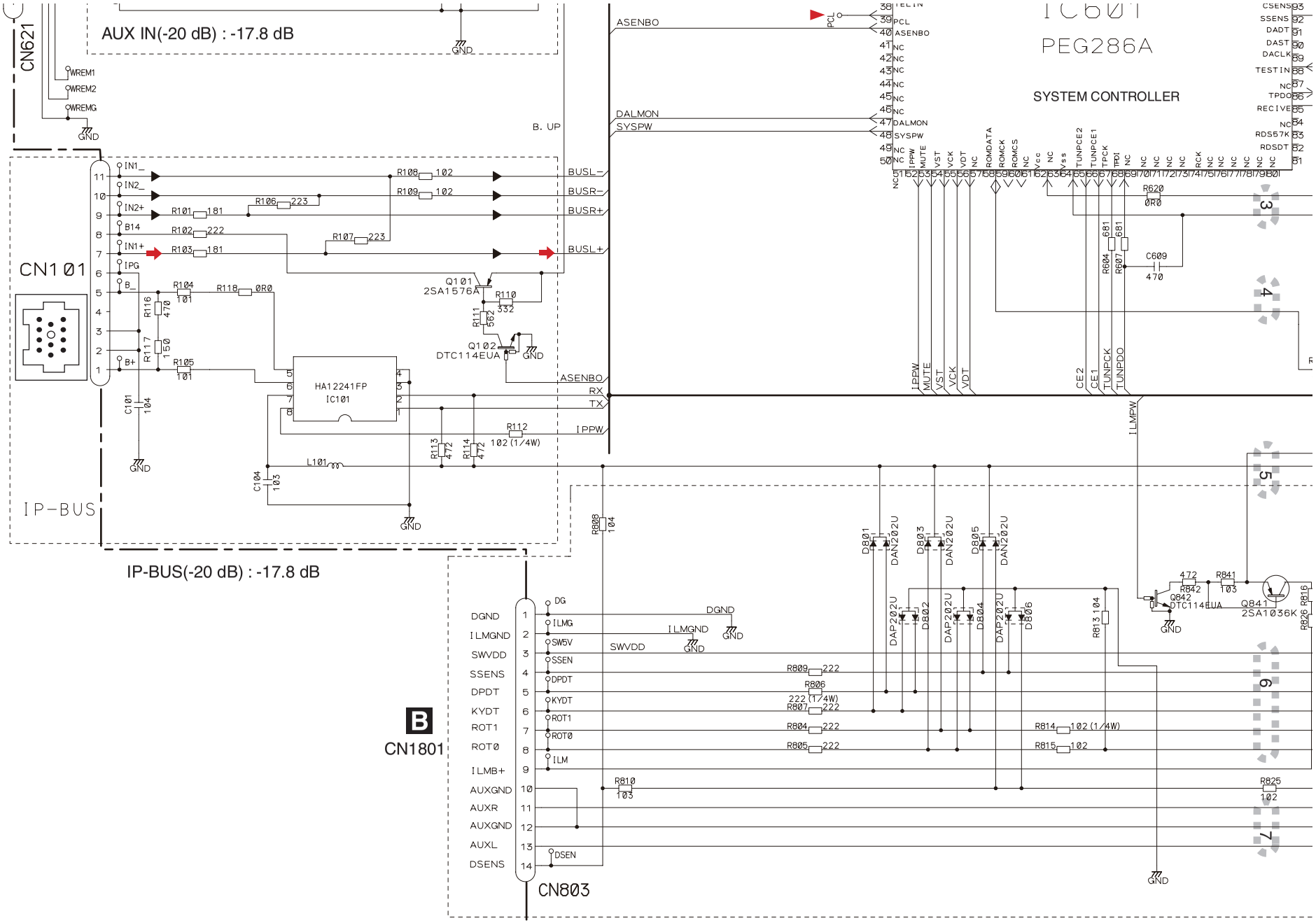
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

DEH-P4950MP/XU/CN5

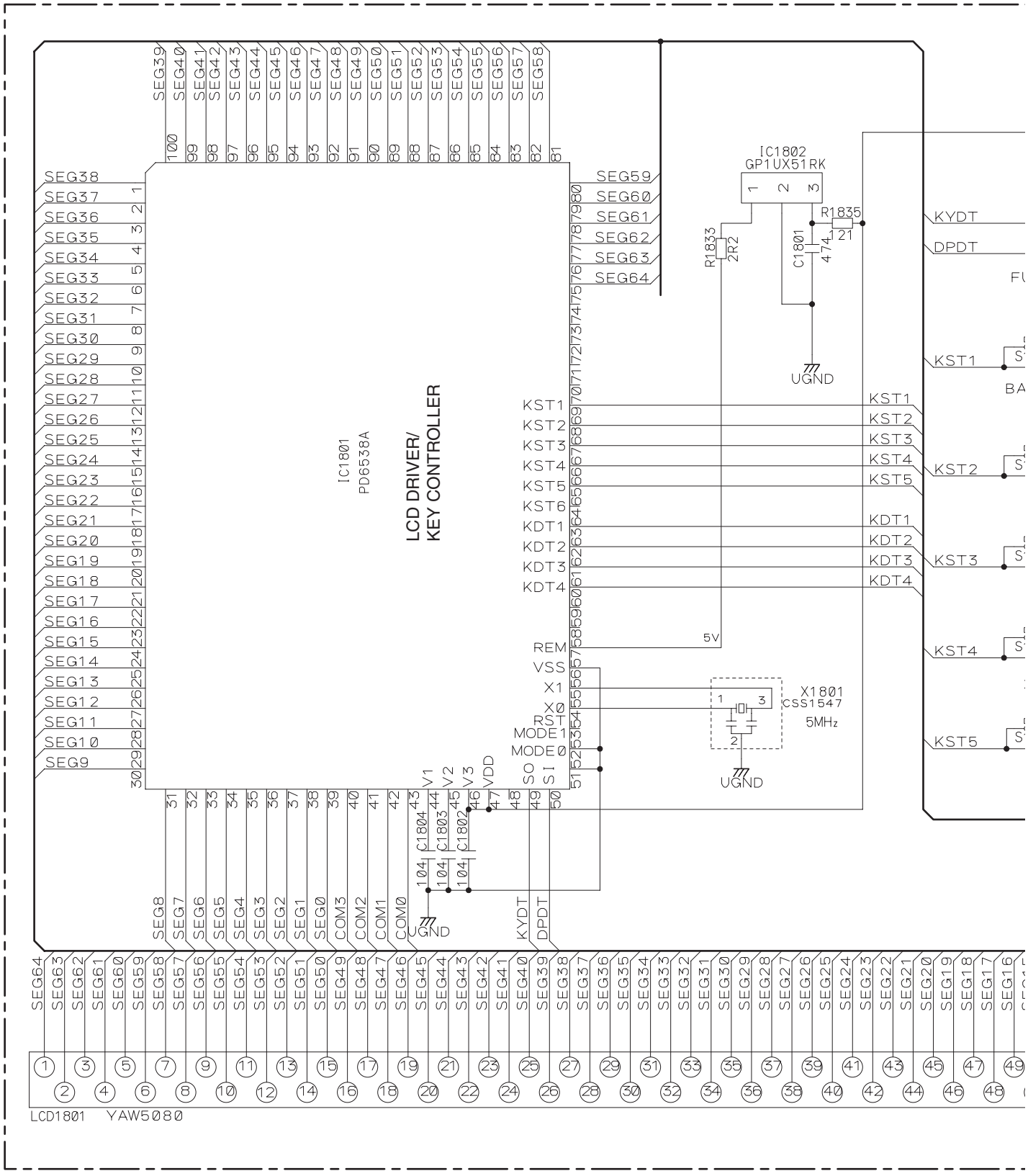
A-b

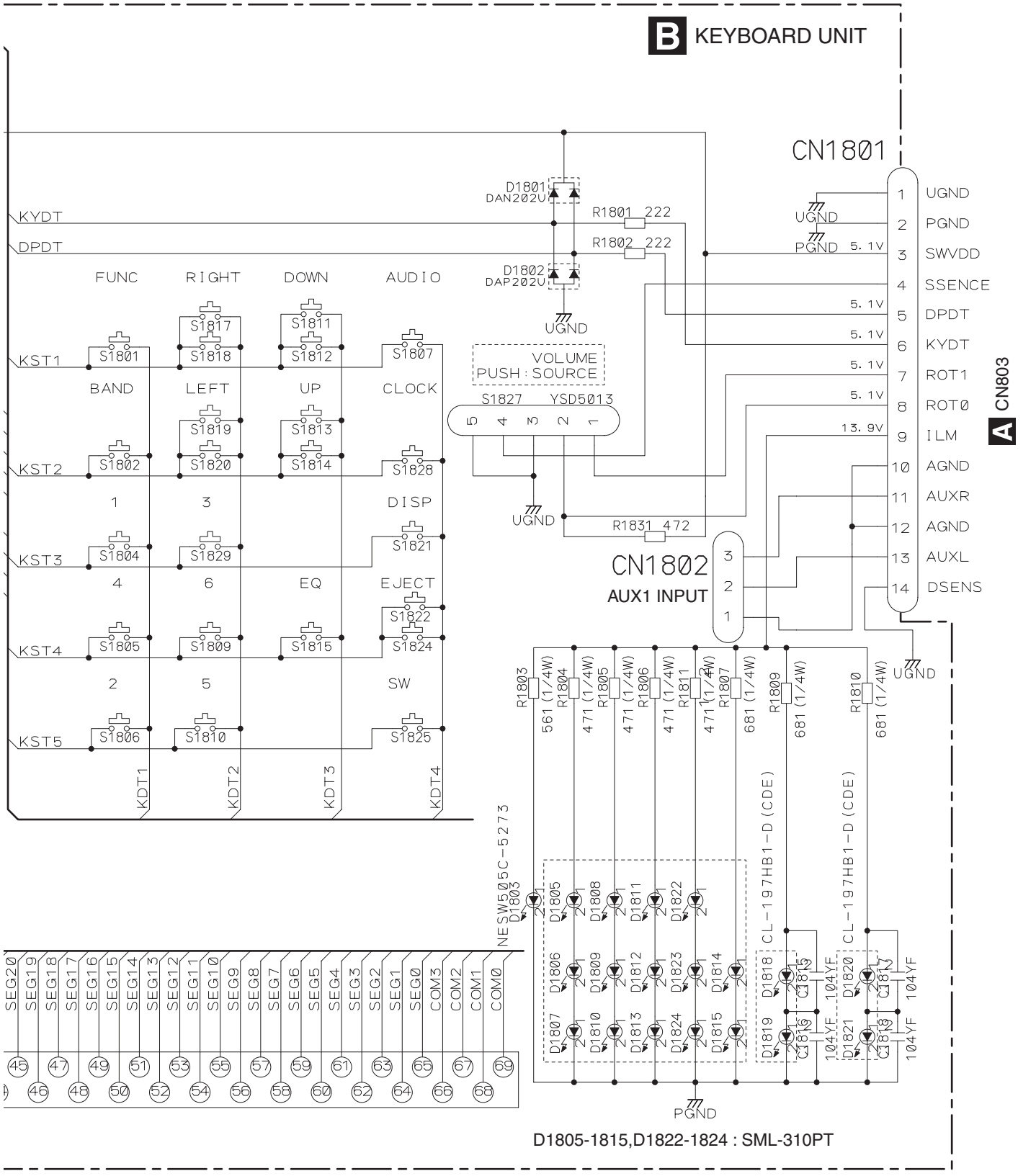
A-a A-b


A-b
A-a
SYSTEM CONTROLLER
IC601
PEG286A
CN701
CD(-20 dB) : -19.4 dB
B. UP
TUNER
FM(10%) : -33.5 dB
AM(15%) : -30.0 dB
FM/AM TUNER UNIT
Z401
CN401
AUX IN
AUX IN(-20 dB) : -17.8 dB
CN621
DEH-P4950MP/XU/CN5
18


AUX IN(-20 dB) : -17.8 dB
IP-BUS(-20 dB) : -17.8 dB
CN621
CN101
IP-BUS
HA12241FP
IC101
PEG286A
SYSTEM CONTROLLER
CN1801
CN803
ASENBO
DALMON
SYSPW
BUSL-
BUSR-
BUSR+
BUSL+
RX
TX
IPPW
ILMPW
DGND
ILMGND
SWVDD
B. UP
A-a
A-b

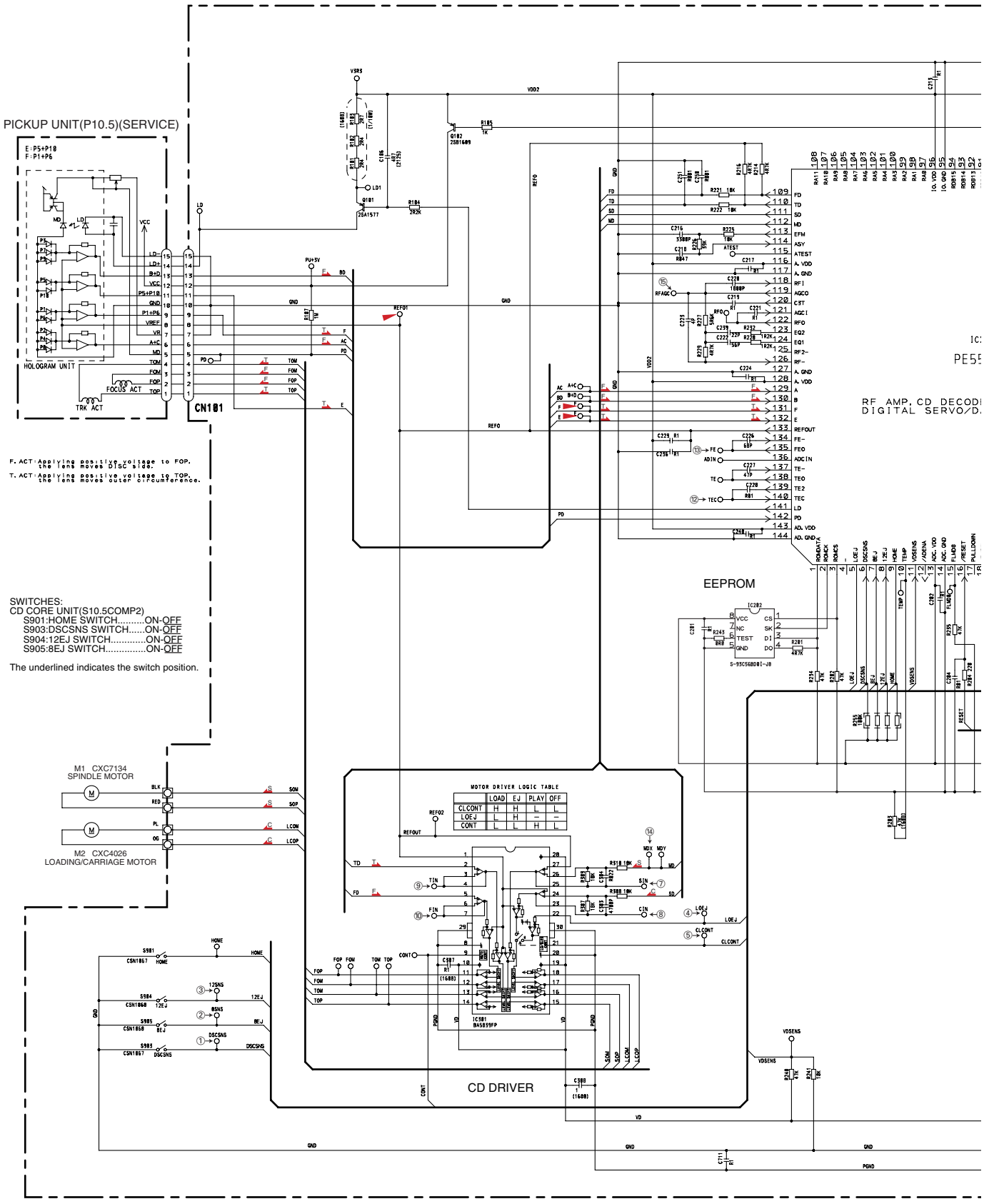
3.3 KEYBOARD UNIT




B KEYBOARD UNIT
CN1801
1 UGND
2 PGND
3 SWVDD
4 SSENCE
5 DPDT
6 KYDT
7 ROT1
8 ROT0
9 ILM
10 AGND
11 AUXR
12 AGND
13 AUXL
14 DSENS
A CN803
CN1802
AUX1 INPUT
D1801 DAN202U
D1802 DAP202U
R1801 222
R1802 222
R1831 472
KYDT
DPDT
UGND
PGND 5.1V
FUNC
RIGHT
DOWN
AUDIO
KST1
KST2
KST3
KST4
KST5
S1801
S1817
S1811
S1807
S1818
S1812
BAND
LEFT
UP
CLOCK
S1819
S1813
S1802
S1820
S1814
S1828
1
3
DISP
S1821
S1804
S1829
4
6
EQ
EJECT
S1822
S1805
S1809
S1815
S1824
2
5
SW
S1806
S1810
S1825
KDT1
KDT2
KDT3
KDT4
VOLUME
PUSH : SOURCE
S1827 YSD5013
5 4 3 2 1
5.1V
13.9V
R1803 561 (1/4W)
R1804 471 (1/4W)
R1805 471 (1/4W)
R1806 471 (1/4W)
R1811 471 (1/4W)
R1807 471 (1/4W)
R1809 681 (1/4W)
R1810 681 (1/4W)
NESW505C-5273
D1803
D1805
D1808
D1811
D1822
D1806
D1809
D1812
D1823
D1814
D1807
D1810
D1813
D1824
D1815
CL-197HB1-D (CDE)
D1818
D1819
D1820
D1821
C1815 104YF
C1816 104YF
C1817 104YF
C1818 104YF
SEG20 SEG19 SEG18 SEG17 SEG16 SEG15 SEG14 SEG13 SEG12 SEG11 SEG10 SEG9 SEG8 SEG7 SEG6 SEG5 SEG4 SEG3 SEG2 SEG1 SEG0 COM3 COM2 COM1 COM0
45 47 49 51 53 55 57 59 61 63 65 67 69
46 48 50 52 54 56 58 60 62 64 66 68
D1805-1815,D1822-1824 : SML-310PT
B

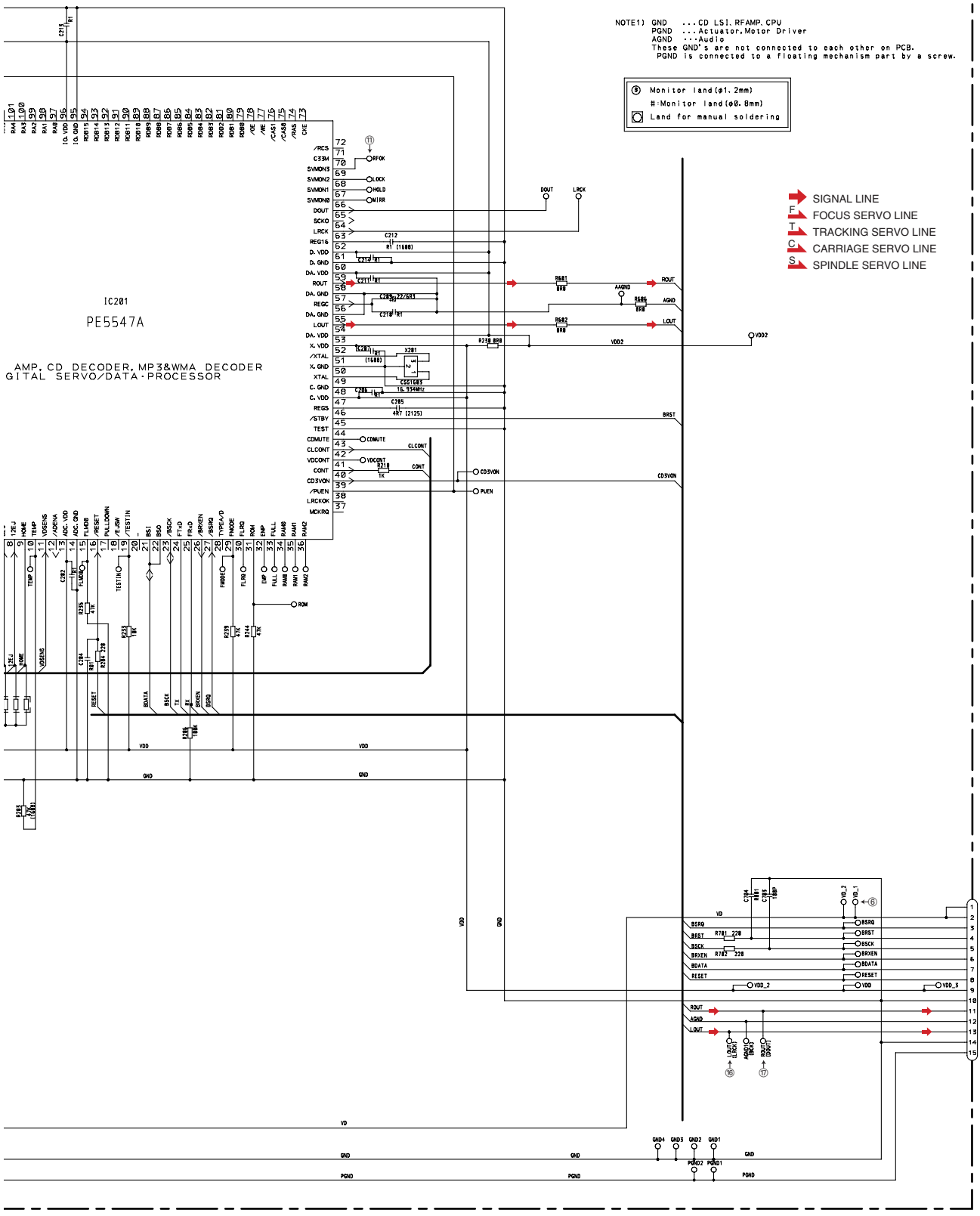
3.4 CD MECHANISM MODULE(GUIDE PAGE)

C-a



C

C CD CORE UNIT(S10.5COMP2)



A

B

C

D

E

F

C-a C-b

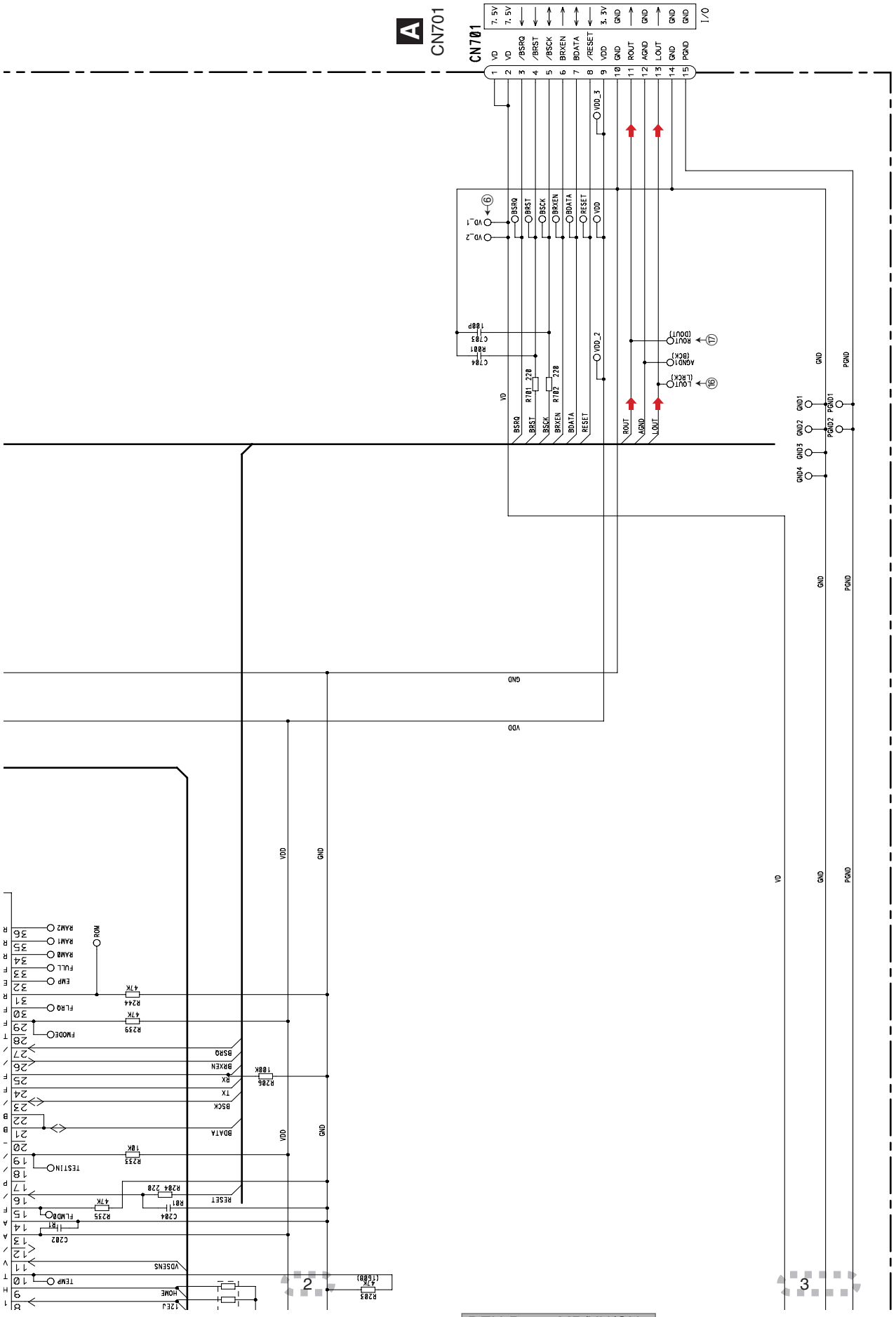
C CD CORE UNIT(S10.5COMP2)

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

Ⓑ Monitor land(φ1.2mm)
#:Monitor land(φ0.8mm)
◯ Land for manual soldering

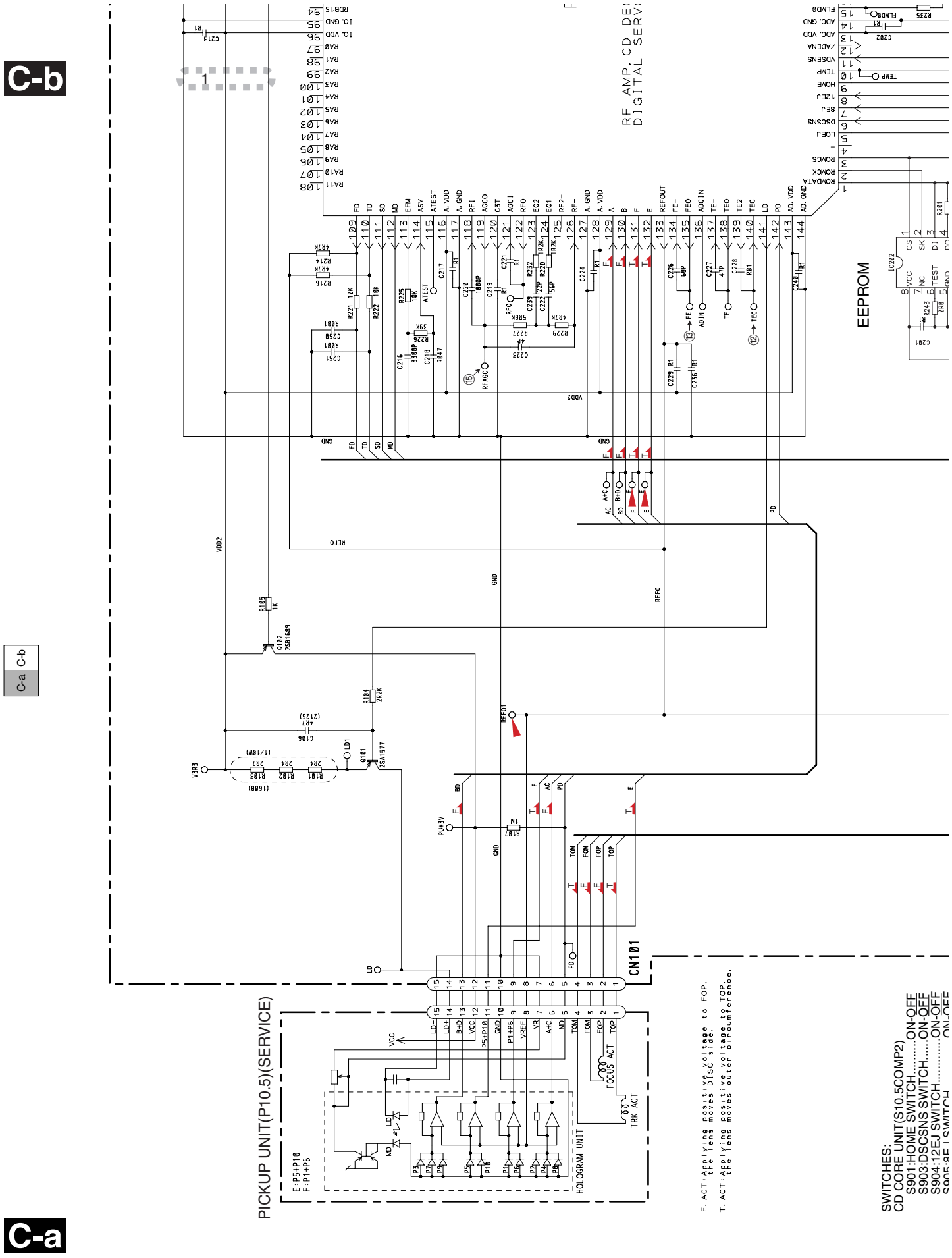
SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE

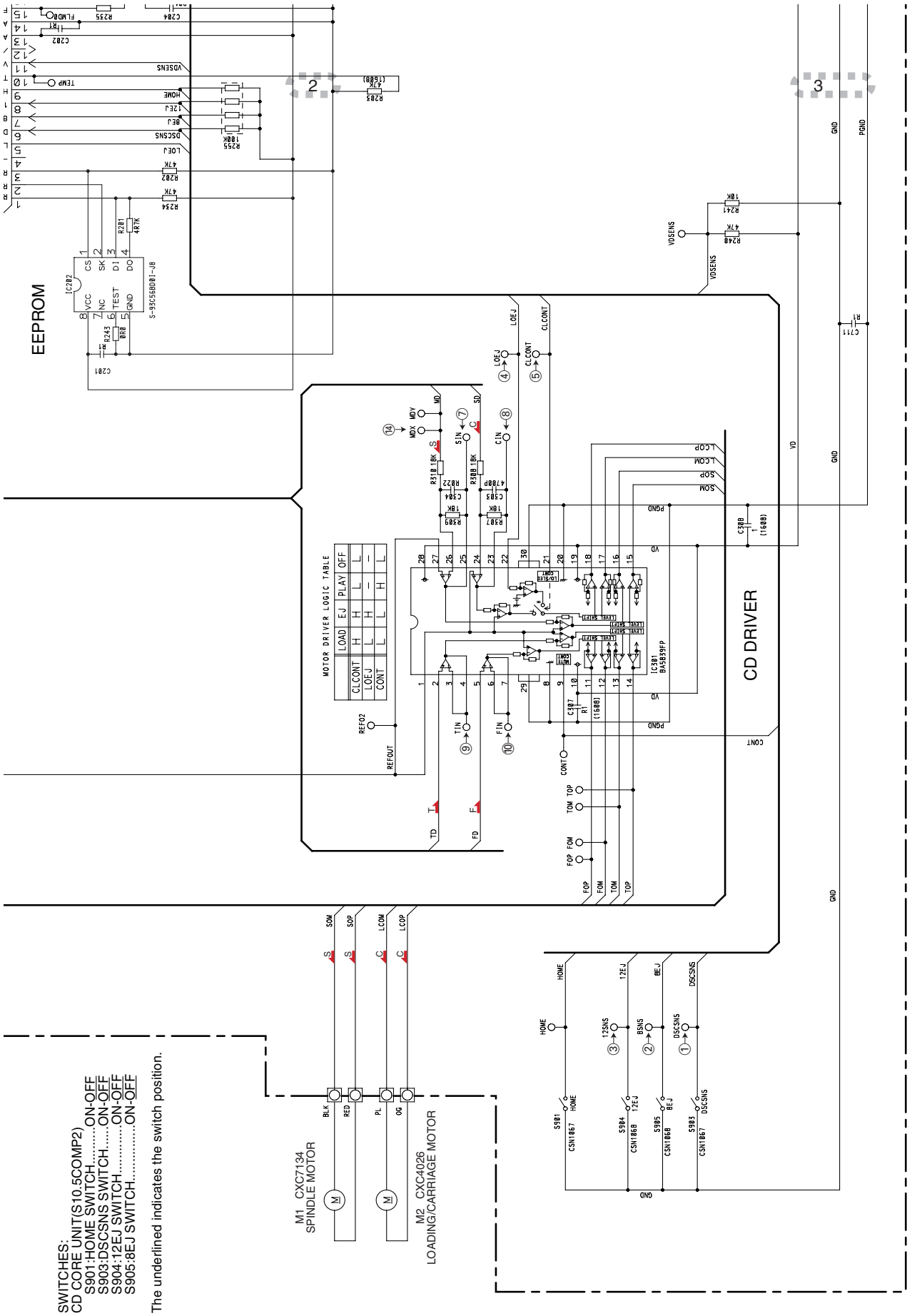
DEH-P4950MP/XU/CN5


CN701
CN701
VD
VD
/BSRQ
/BRST
/BSCK
BRXEN
BDATA
/RESET
VDD
GND
ROUT
AGND
LOUT
GND
PGND
7.5V
7.5V
3.3V
I/O
VDD_3
VDD_2
VD_1
VD_2
BSRQ
BRST
BSCK
BRXEN
BDATA
RESET
VDD
ROUT
(DOUT)
AGND
(BCK)
LOUT
(LRCK)
R701 220
R702 220
C703 100P
R801 0
C704
GND1
GND2
GND3
GND4
PGND1
PGND2
GND
PGND
VD
VDD
GND
ROM
RAM2
RAM1
RAM0
FULL
EMP
FLRQ
FWODE
BSRQ
BRXEN
RX
TX
BSCK
BDATA
TESTIN
RESET
FLMOD
TEMP
HOME
VOSENS
R244 47K
R239 47K
R286 100K
R235 10K
R204 220
R81
C204
R235 47K
C202
R205 47K
2
3

C-a C-b

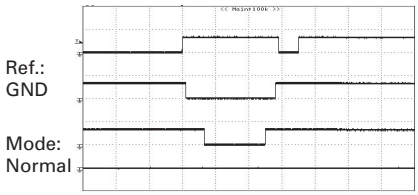
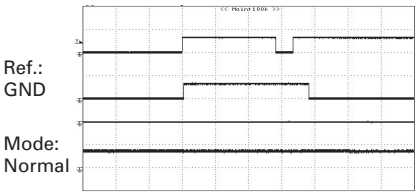
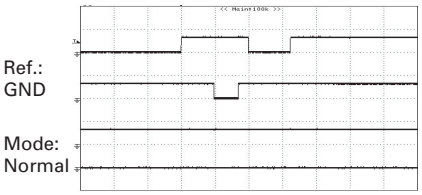
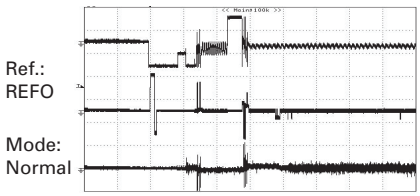
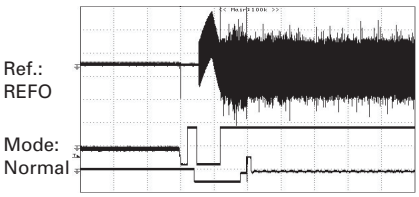
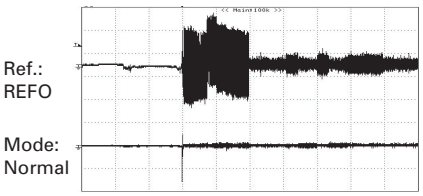
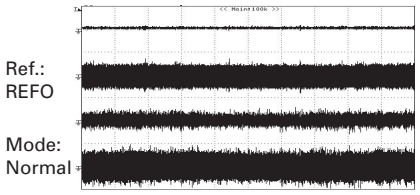
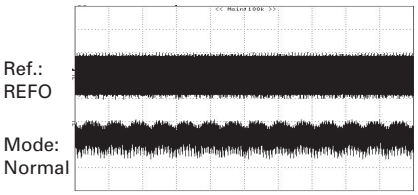
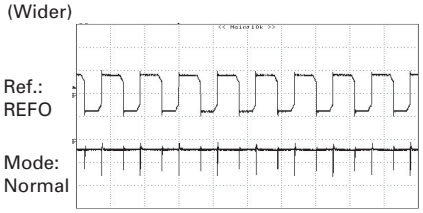
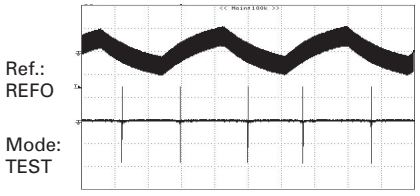
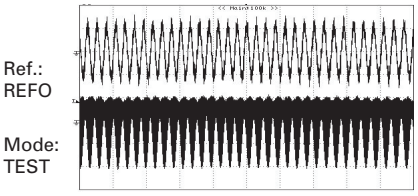
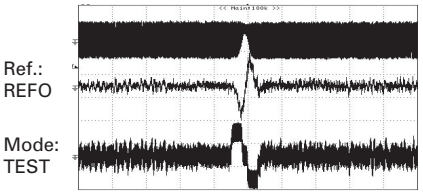
C-b


C-b
C-a
RF AMP, CD DE
DIGITAL SERV
EEPROM
PICKUP UNIT(P10.5)(SERVICE)
HOLOGRAM UNIT
CN101
SWITCHES:
CD CORE UNIT(S10.5COMP2)
S901:HOME SWITCH.....ON-OFF
S903:DSCSNS SWITCH.....ON-OFF
S904:12EJ SWITCH.....ON-OFF


EEPROM
CD DRIVER
MOTOR DRIVER LOGIC TABLE
LOAD EJ PLAY OFF
CLCONT H H L L
LOEJ L H – H
CONT L L – L
SWITCHES:
CD CORE UNIT(S10.5COMP2)
S901:HOME SWITCH.....ON-OFF
S903:DSCSNS SWITCH.....ON-OFF
S904:12EJ SWITCH.....ON-OFF
S905:8EJ SWITCH.....ON-OFF
The underlined indicates the switch position.
M1 CXC7134
SPINDLE MOTOR
M2 CXC4026
LOADING/CARRIAGE MOTOR
BLK
RED
PL
OG
VD
GND
PGND
VDSENS
LOEJ
CLCONT
MDX
SIN
CIN
REFO2
REFOUT
TIN
FIN
CONT
TOM TOP
FOP FOM
HOME
12SNS
BSNS
DSCSNS
S901
S904
S905
S903

● Waveforms

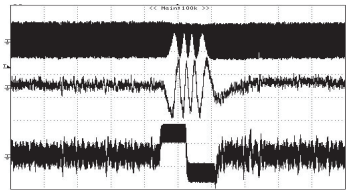
Note : 1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage REFO1(1.65 V)

①DSCSNS 5 V/div 500 ms/div ②8SNS 5 V/div ③12SNS 5 V/div ④LOEJ 5 V/div 12 cm CD Loading operation  	①DSCSNS 5 V/div 500 ms/div ⑤CLCONT 5 V/div ④LOEJ 5 V/div ⑥VD 10 V/div 12 cm CD Loading operation  	①DSCSNS 5 V/div 500 ms/div ②8SNS 5 V/div ③12SNS 5 V/div ④LOEJ 5 V/div 8 cm CD Loading operation 
⑦SIN 1 V/div 1 s/div ⑧CIN 500 mV/div ⑨TIN 1 V/div 12 cm CD-DA setup operation after loading  	⑩FIN 200 mV/div 500 ms/div ⑪RFOK(MONI_2) 2 V/div ⑦SIN 2 V/div 12 cm CD-DA Source On setup operation  	⑫TE 500 mV/div 200 ms/div ⑬FE 500 mV/div Source On setup operation 
⑬FE 500 mV/div 20 ms/div ⑩FIN 500 mV/div ⑫TE 500 mV/div ⑨TIN 500 mV/div CD-DA Play operation  	⑭MDX 2 V/div 200 ms/div ⑦SIN 500 mV/div Spindle waveform during play operation  	⑭MDX 2 V/div 5 µs/div ⑦SIN 500 mV/div Spindle waveform during play operation (Wider) 
⑩FIN 500 mV/div 200 ms/div ⑬FE 500 mV/div Focus Search waveform  	⑫TE 500 mV/div 2 ms/div ⑮RFAGC 500 mV/div Track Open waveform  	⑮RFAGC 1 V/div 500 µs/div ⑫TE 500 mV/div ⑨TIN 500 mV/div 1 Track Jump waveform 

⑮RFAGC	1 V/div	500 µs/div
⑫TE	500 mV/div	
⑨TIN	500 mV/div	

4 Tracks Jump waveform

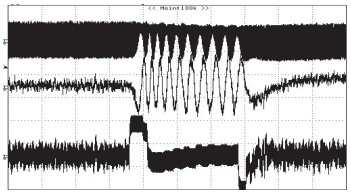
Ref.: REFO
Mode: TEST



⑮RFAGC	1 V/div	500 µs/div
⑫TE	500 mV/div	
⑨TIN	500 mV/div	

10 Tracks Jump waveform

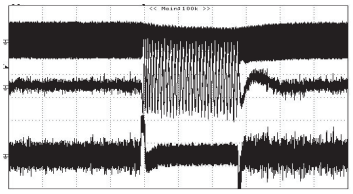
Ref.: REFO
Mode: TEST



⑮RFAGC	1 V/div	2 ms/div
⑫TE	500 mV/div	
⑨TIN	500 mV/div	

32 Tracks Jump waveform

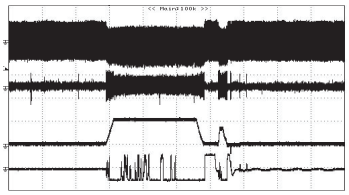
Ref.: REFO
Mode: TEST



⑮RFAGC	1 V/div	200 ms/div
⑫TE	1 V/div	
⑧CIN	1 V/div	
⑦SIN	2 V/div	

Search operation(Outter to Inner)

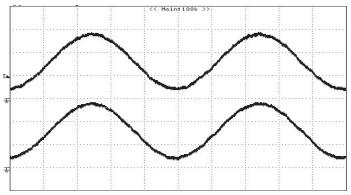
Ref.: REFO
Mode: Normal



⑯LOUT	1 V/div	200 µs/div
⑰ROUT	1 V/div	

Analog audio waveform

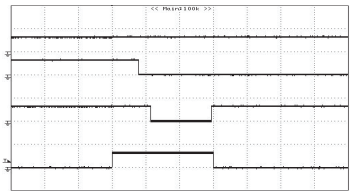
Ref.: AGND
Mode: Normal



①DSCSNS	5 V/div	500 ms/div
②8SNS	5 V/div	
③12SNS	5 V/div	
④LOEJ	5 V/div	

12 cm CD Eject operation

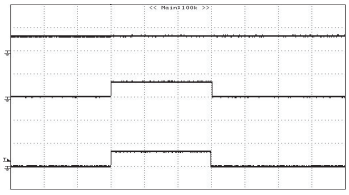
Ref.: GND
Mode: Normal



①DSCSNS	5 V/div	500 ms/div
⑤CLCONT	5 V/div	
④LOEJ	5 V/div	

12 cm CD Eject operation

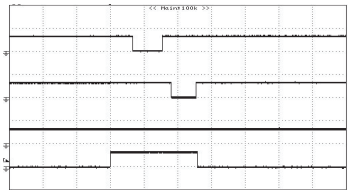
Ref.: GND
Mode: Normal



①DSCSNS	5 V/div	500 ms/div
②8SNS	5 V/div	
③12SNS	5 V/div	
④LOEJ	5 V/div	

8 cm CD Eject operation

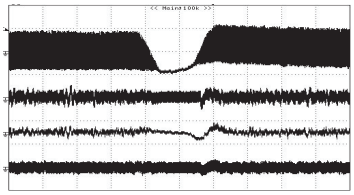
Ref.: GND
Mode: Normal



⑮RFAGC	1 V/div	500 µs/div
⑨TIN	1 V/div	
⑫TE	1 V/div	
⑩FIN	1 V/div	

Black dot(800 µm) during play

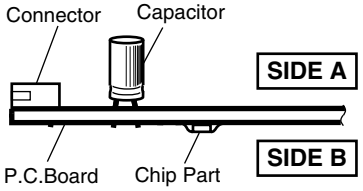
Ref.: REFO
Mode: Normal



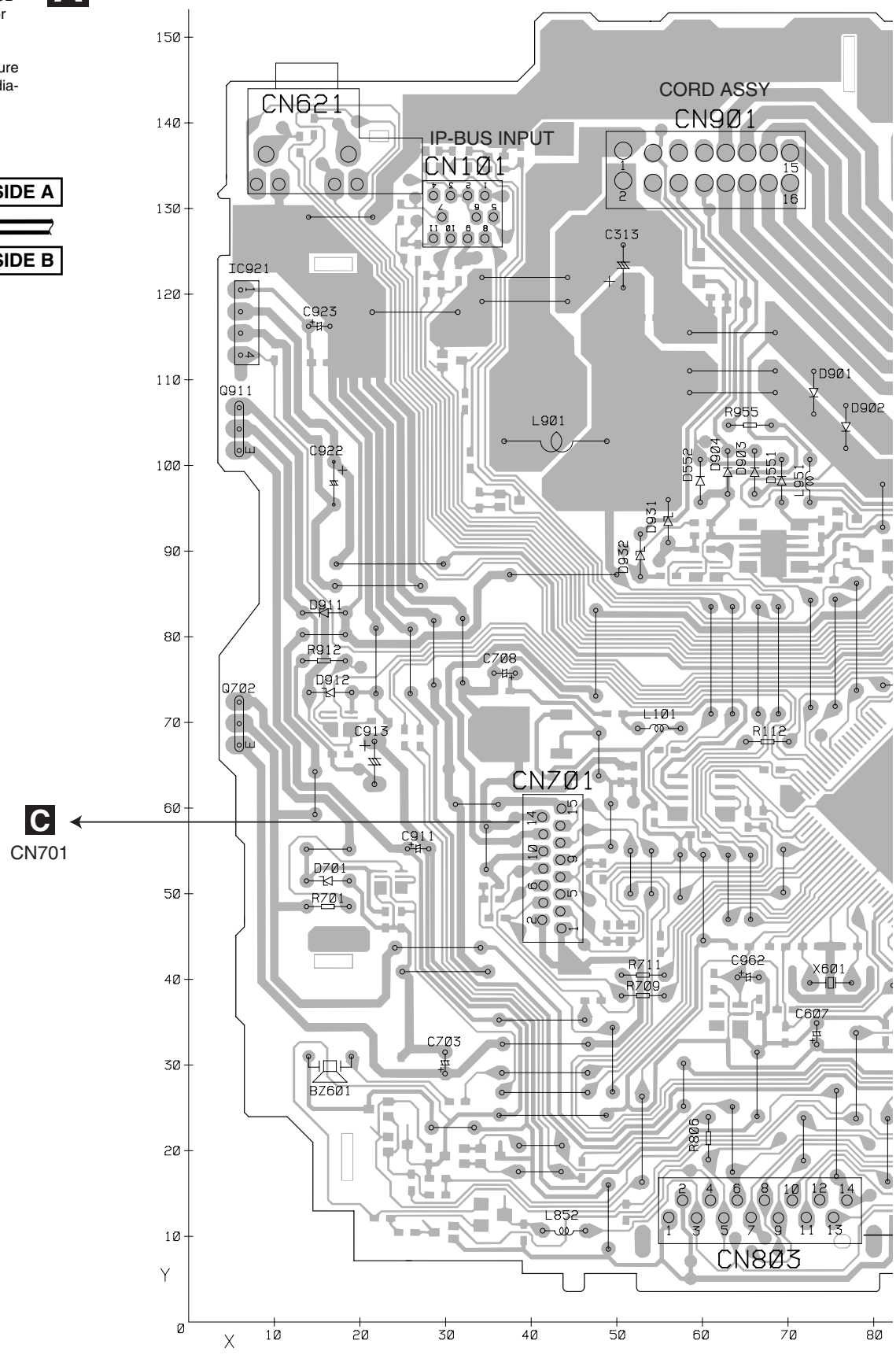
4. PCB CONNECTION DIAGRAM
4.1 TUNER AMP UNIT

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

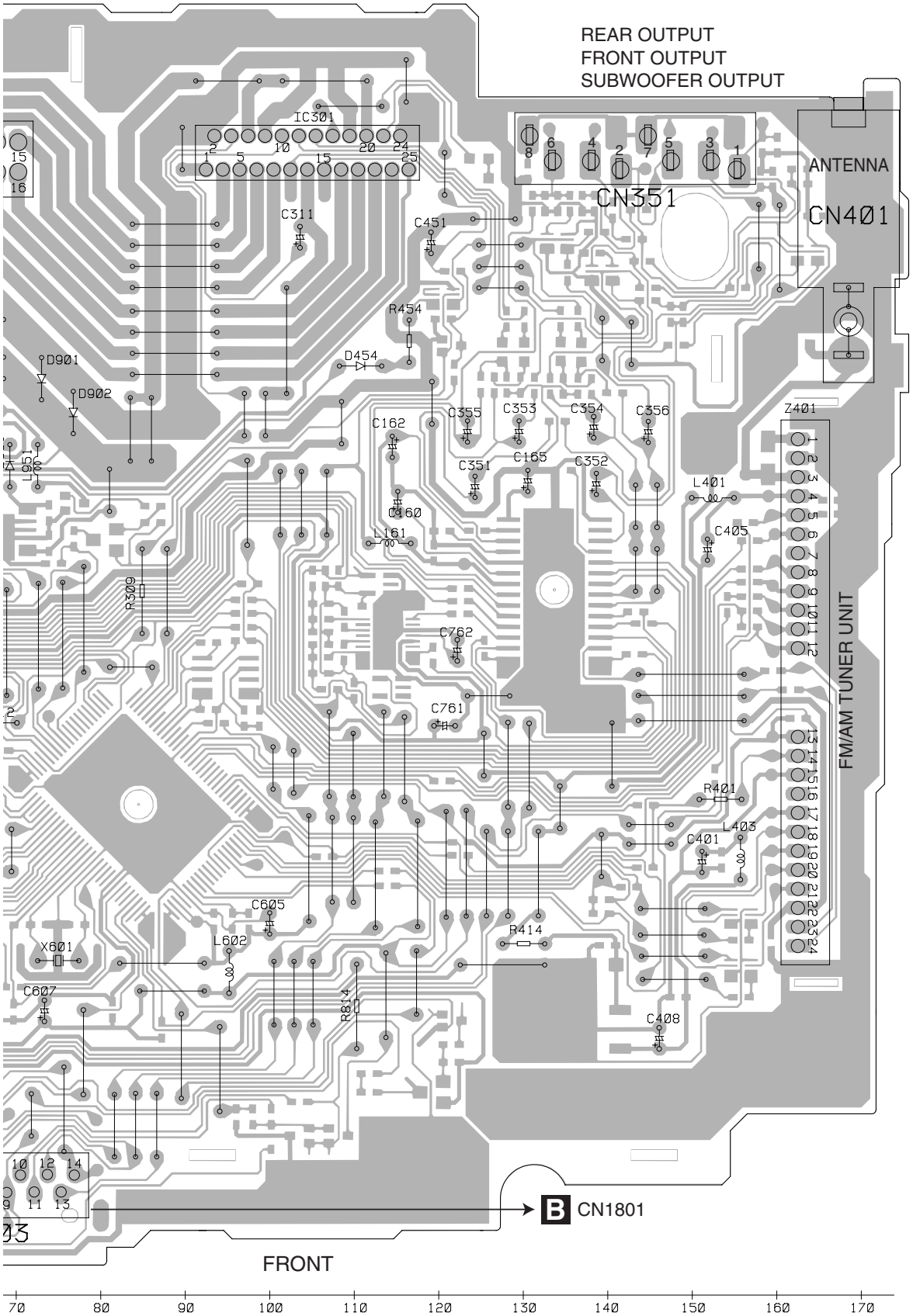


C
CN701

A

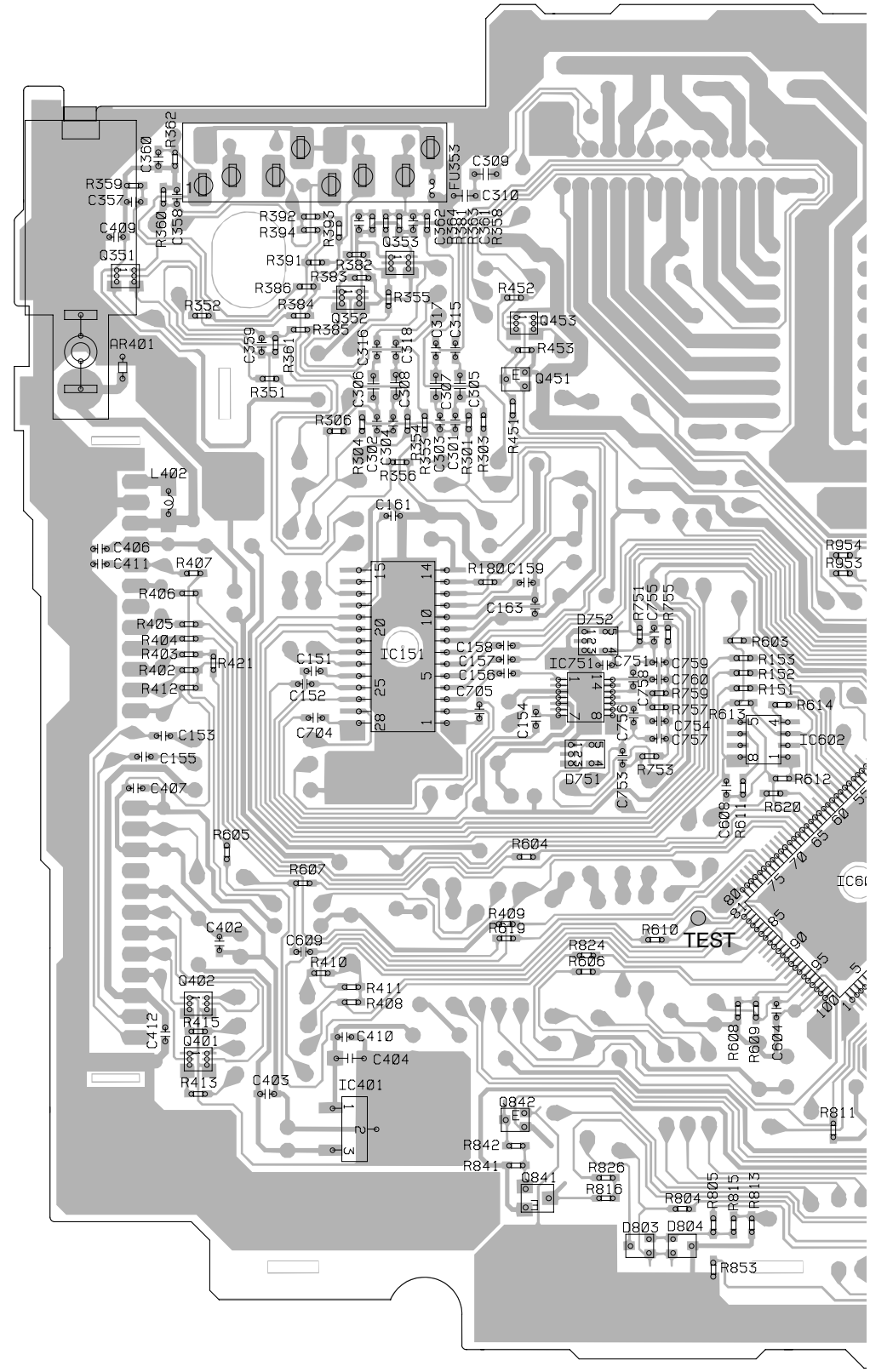
DEH-P4950MP/XU/CN5

SIDE A


REAR OUTPUT
FRONT OUTPUT
SUBWOOFER OUTPUT
IC301
CN351
ANTENNA
CN401
C311
C451
R454
D454
D901
D902
C162
C355
C353
C354
C356
Z401
C351
C165
C352
L401
C460
L151
C405
R309
C762
C761
FM/AM TUNER UNIT
R401
L403
C401
C605
R414
X601
L602
C607
R814
C408
B CN1801
FRONT

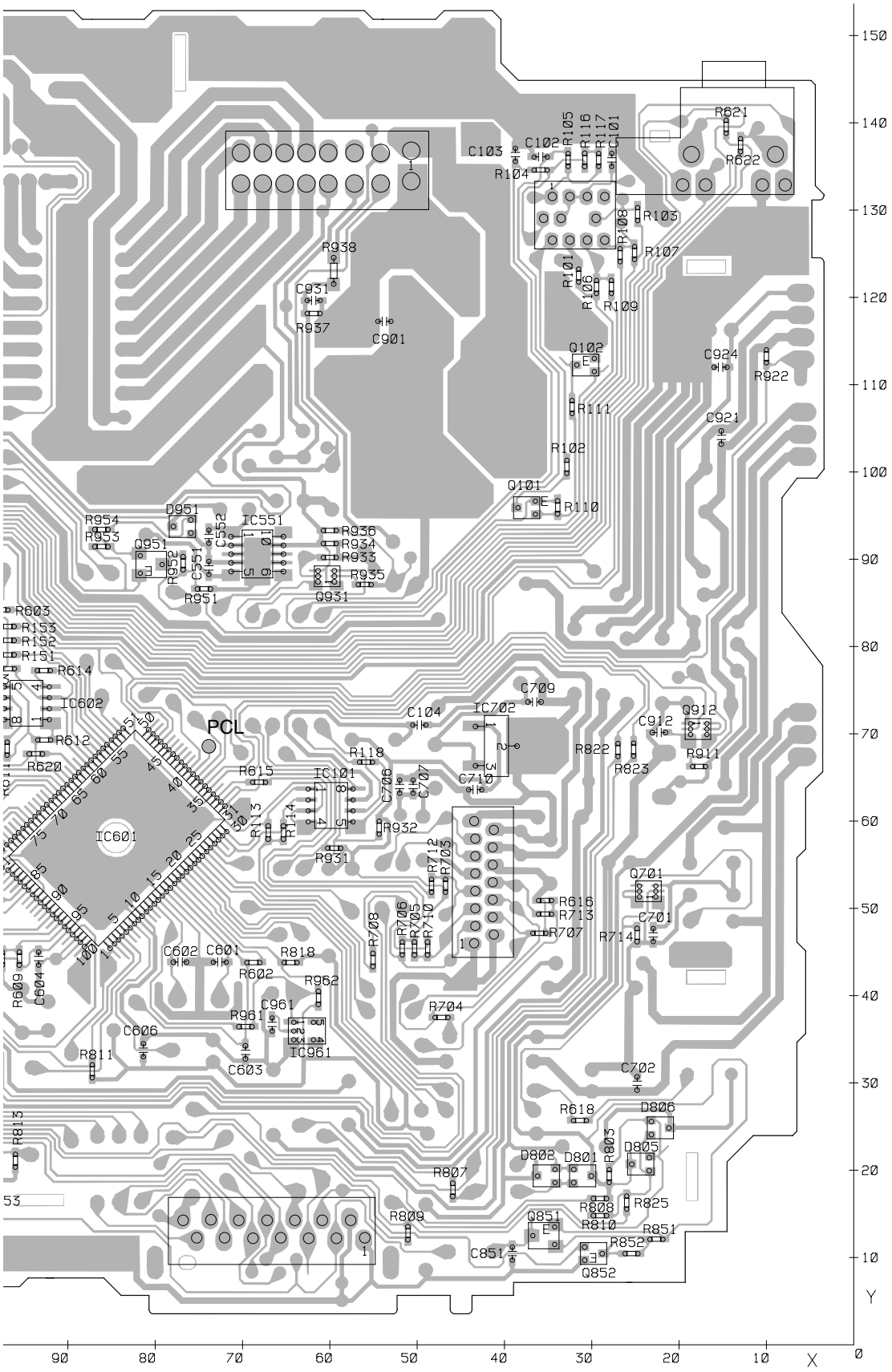
A

A TUNER AMP UNIT



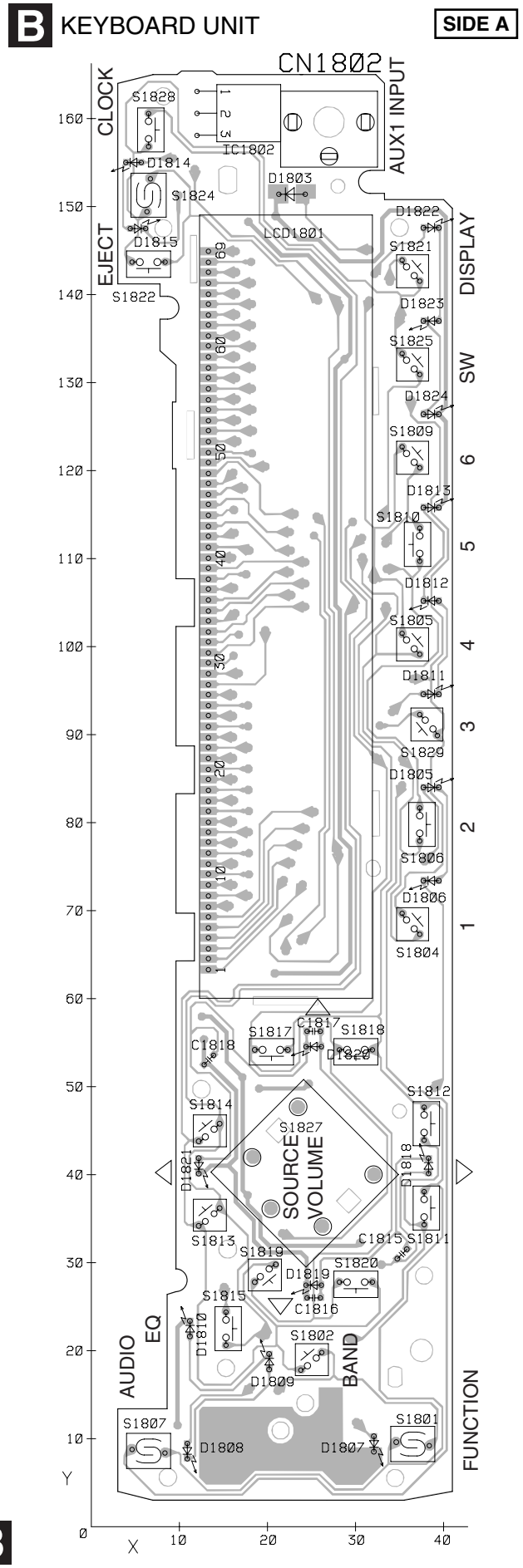
⚠FU 353 (B,131,133) Fuse 3 A CEK1286

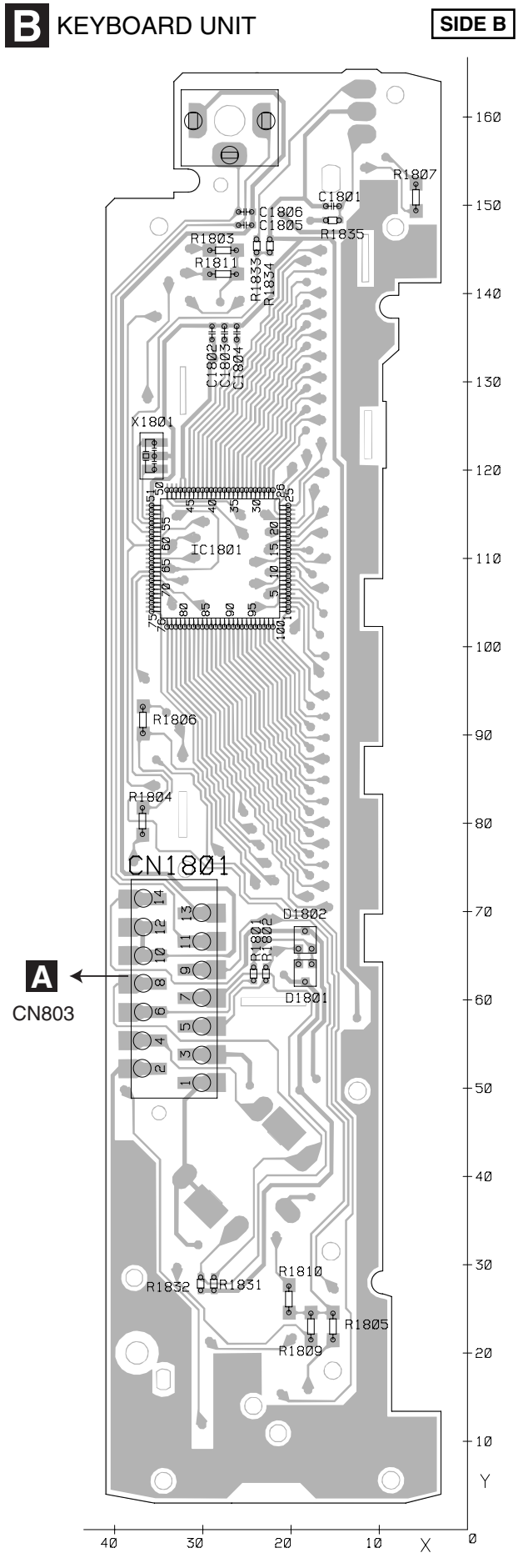
SIDE B



DEH-P4950MP/XU/CN5

4.2 KEYBOARD UNIT





A

B

C

D

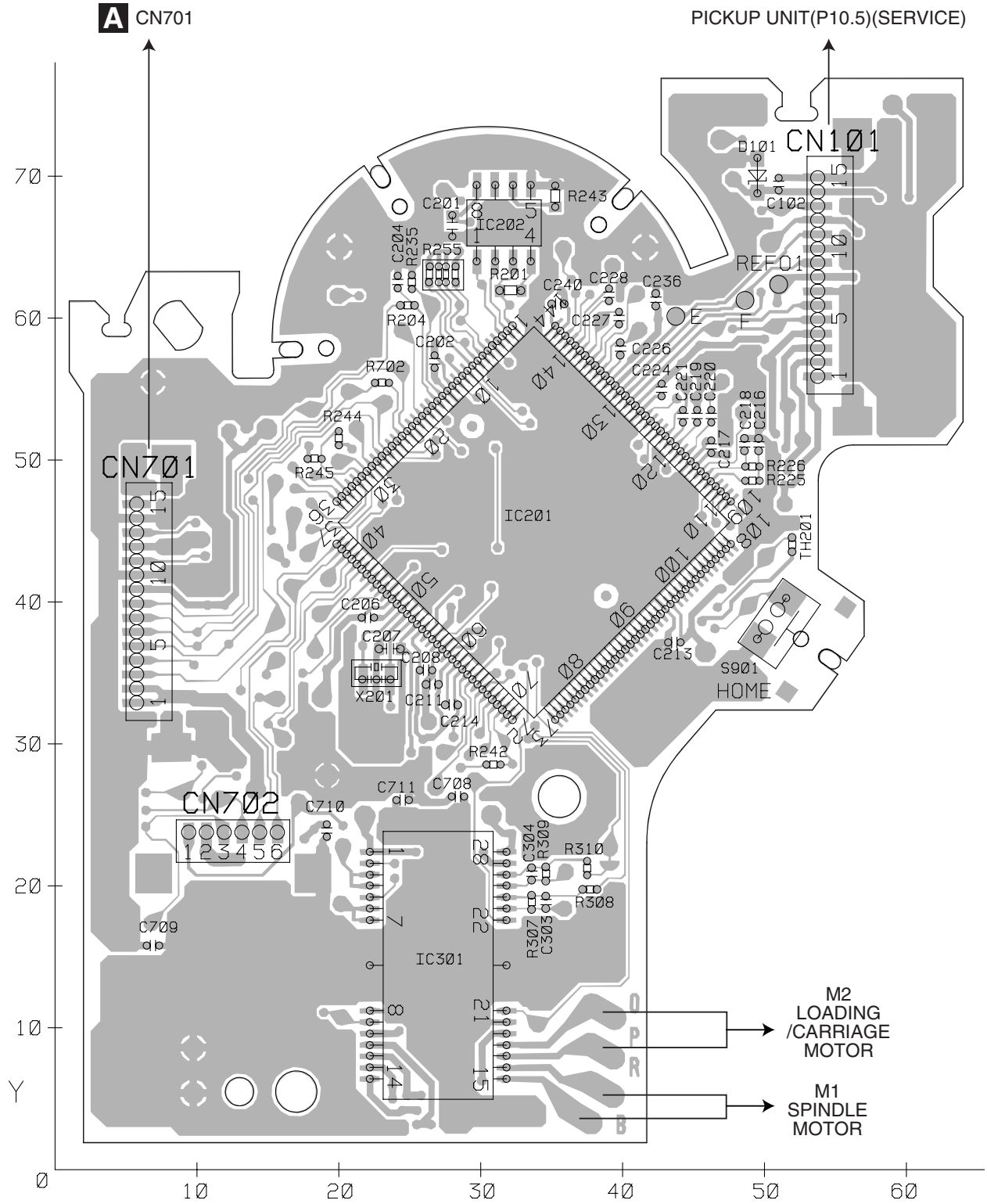
E

F

4.3 CD CORE UNIT(S10.5COMP2)

C CD CORE UNIT(S10.5COMP2)

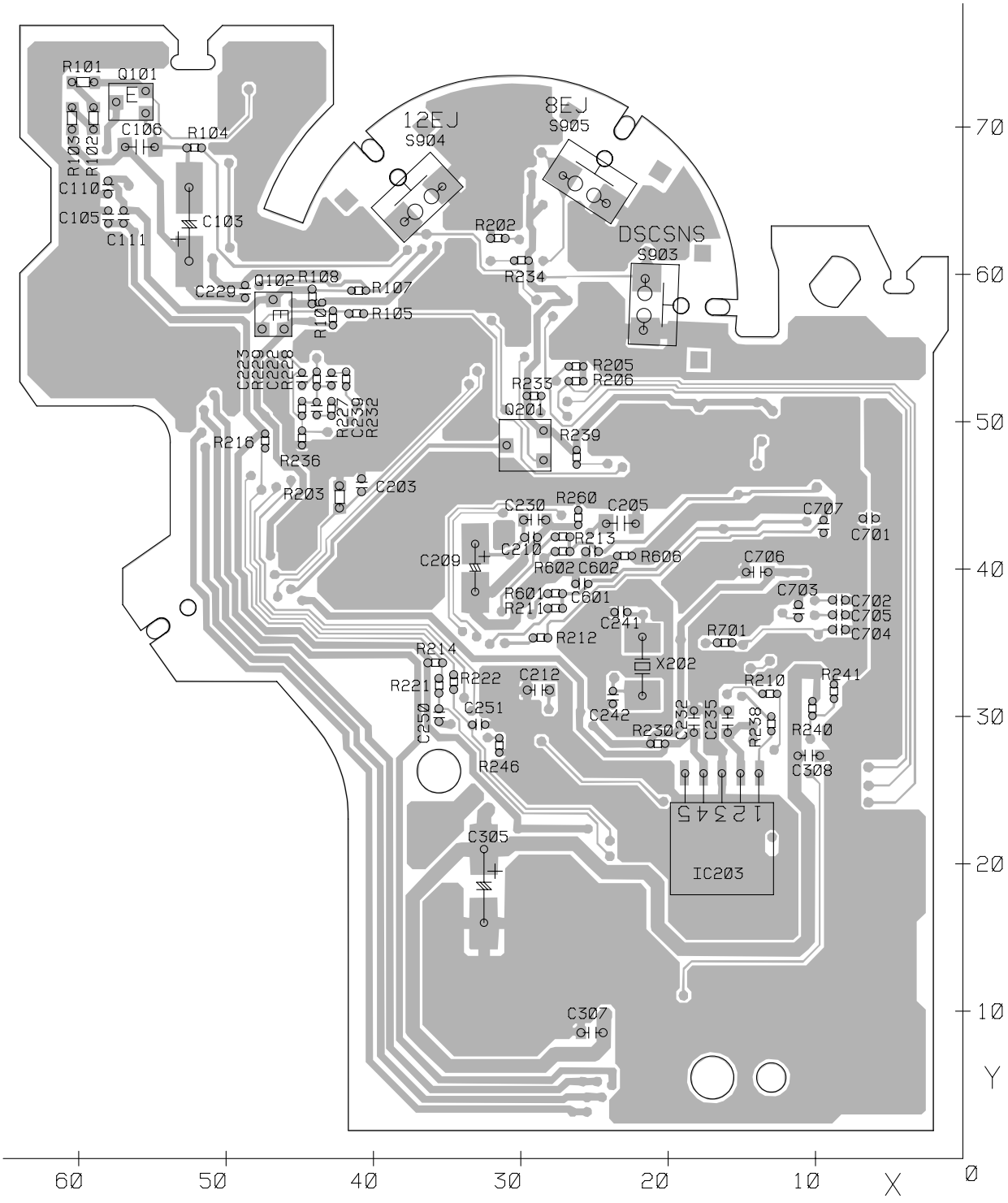
SIDE A



C

C CD CORE UNIT(S10.5COMP2)

SIDE B



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/◯S◯◯◯J,RS1/◯◯S◯◯◯J

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

  CKS....., CCS....., CSZS.....
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Meaning of the figures and others in the parentheses in the parts list.*

  Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

  IC 301 (A, 91, 111) IC NJM2068V

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

Unit Number : YWM5141

Unit Name : Tuner Amp Unit

Unit Number :

Unit Name : Keyboard Unit

Unit Number : CWX3350

Unit Name : CD Core

Unit(S10.5COMP2)

A

Unit Number : YWM5141

Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC 101	(B,60,62) IC	HA12241FP
IC 151	(B,134,84) IC	PML015B
IC 301	(A,92,133) IC	PAL007C
IC 401	(B,137,31) IC	NJM2885DL1-33
IC 601	(B,84,58) IC	PEG286A
IC 702	(B,39,69) IC	NJM2885DL1-33
IC 751	(B,114,78) IC	NJM2794V
IC 921	(A,6,121) IC	NJM2388F84
IC 961	(B,63,36) IC	S-80835CNMC-B8U
Q 101	(B,37,96) Transistor	2SA1576A
Q 102	(B,31,112) Transistor	DTC114EUA
Q 351	(B,164,124) Transistor	UMH3N
Q 352	(B,139,121) Transistor	UMH3N
Q 353	(B,134,125) Transistor	UMH3N
Q 451	(B,122,112) Transistor	DTC124EUA
Q 453	(B,121,118) Transistor	UMD2N
Q 701	(B,24,52) Transistor	UMD2N
Q 702	(A,6,67) Transistor	2SD2396
Q 841	(B,119,24) Transistor	2SA1036K
Q 842	(B,122,32) Transistor	DTC114EUA
Q 851	(B,36,13) Transistor	2SA1036K
Q 852	(B,30,10) Transistor	DTC114EUA
Q 911	(A,6,102) Transistor	2SD2396
Q 912	(B,18,71) Transistor	UMD2N
Q 931	(B,60,88) Transistor	UMX1N
D 454	(A,108,110) Diode	1SS133
D 701	(A,19,52) Diode	HZS7L(C3)
D 751	(B,114,72) Diode	FTZ6R8E
D 752	(B,113,84) Diode	FTZ6R8E
D 801	(B,31,19) Diode	DAN202U
D 802	(B,35,19) Diode	DAP202U
D 803	(B,108,19) Diode	DAN202U
D 804	(B,104,19) Diode	DAP202U
D 805	(B,24,21) Diode	DAN202U
D 806	(B,22,25) Diode	DAP202U
D 901	(A,73,111) Diode	S5688G
D 902	(A,77,107) Diode	S5688G
D 903	(A,66,97) Diode	S5688G
D 904	(A,63,97) Diode	S5688G
D 911	(A,18,83) Diode	S5688G
D 912	(A,19,74) Diode	HZS6L(B2)
D 931	(A,56,91) Diode	HZS7L(C3)
D 932	(A,53,87) Diode	HZS7L(A1)
L 101	(A,52,69) Inductor	LAU2R2K
L 161	(A,112,89) Inductor	LAU2R2K
L 401	(A,155,94) Inductor	LAU1R0K
L 402	(B,159,99) Inductor	LCTAW220J2520
L 403	(A,156,54) Inductor	LAU1R0K
L 602	(A,95,41) Inductor	LAU2R2K
L 852	(A,46,11) Inductor	LAU2R2K
L 901	(A,36,103) Choke Coil 600 µH	CTH1280
X 601	(A,73,40) Crystal Resonator 15.000 MHz	YSS5002
⚠FU353	(B,131,133) Fuse 3 A	CEK1286
Z 401	(A,163,101) FM/AM Tuner Unit	CWE1952
AR401	(B,164,114) Surge Protector	IMSA-6801-01Y901
⚠	Fuse 10 A	CEK1208

RESISTORS

R 101	(B,32,123)	RS1/16S181J
R 102	(B,33,101)	RS1/16S222J
R 103	(B,25,130)	RS1/16S181J
R 104	(B,36,135)	RS1/16S101J
R 105	(B,33,136)	RS1/16S101J

Circuit Symbol and No.		Part No.
R 106	(B,29,121)	RS1/16S223J
R 107	(B,25,125)	RS1/16S223J
R 108	(B,27,125)	RS1/16S102J
R 109	(B,28,121)	RS1/16S102J
R 110	(B,34,96)	RS1/16S332J
R 111	(B,32,107)	RS1/16S562J
R 112	(A,65,68)	RD1/4PU102J
R 113	(B,67,59)	RS1/16S472J
R 114	(B,65,59)	RS1/16S472J
R 116	(B,31,136)	RS1/16S470J
R 117	(B,29,136)	RS1/16S150J
R 118	(B,56,67)	RS1/16S0R0J
R 151	(B,97,79)	RS1/16S102J
R 152	(B,97,81)	RS1/16S102J
R 153	(B,97,82)	RS1/16S102J
R 180	(B,125,91)	RS1/16S0R0J
R 301	(B,127,108)	RS1/16S471J
R 303	(B,125,108)	RS1/16S471J
R 304	(B,138,108)	RS1/16S471J
R 306	(B,141,107)	RS1/16S471J
R 309	(A,85,78)	RD1/4PU153J
R 351	(B,148,112)	RS1/16S821J
R 352	(B,155,119)	RS1/16S0R0J
R 353	(B,131,108)	RS1/16S821J
R 354	(B,133,108)	RS1/16S821J
R 355	(B,135,121)	RS1/16S821J
R 356	(B,134,103)	RS1/16S821J
R 358	(B,131,129)	RS1/16S821J
R 359	(B,163,133)	RS1/16S223J
R 360	(B,160,132)	RS1/16S223J
R 361	(B,147,116)	RS1/16S223J
R 362	(B,158,136)	RS1/16S223J
R 363	(B,134,129)	RS1/16S223J
R 364	(B,137,129)	RS1/16S223J
R 381	(B,136,129)	RS1/16S0R0J
R 382	(B,139,126)	RS1/16S0R0J
R 383	(B,138,123)	RS1/16S0R0J
R 384	(B,145,119)	RS1/16S0R0J
R 385	(B,145,118)	RS1/16S0R0J
R 386	(B,144,122)	RS1/16S0R0J
R 391	(B,143,125)	RS1/16S0R0J
R 392	(B,144,130)	RS1/16S0R0J
R 401	(A,156,59)	RD1/4PU681J
R 403	(B,157,83)	RS1/16S681J
R 404	(B,157,84)	RS1/16S681J
R 405	(B,157,86)	RS1/16S681J
R 406	(B,157,89)	RS1/16S681J
R 407	(B,156,91)	RS1/16S0R0J
R 414	(A,133,42)	RD1/4PU1R8J
R 421	(B,154,82)	RS1/16S0R0J
R 451	(B,122,109)	RS1/16S103J
R 452	(B,122,121)	RS1/16S221J
R 453	(B,121,116)	RS1/16S153J
R 454	(A,117,115)	RD1/4PU102J
R 602	(B,69,44)	RS1/16S103J
R 603	(B,98,84)	RS1/16S103J
R 604	(B,120,61)	RS1/16S681J
R 605	(B,153,61)	RS1/16S681J
R 606	(B,114,48)	RS1/16S103J
R 607	(B,144,58)	RS1/16S681J

Circuit Symbol and No.		Part No.
R 608	(B,98,44)	RS1/16S104J
R 609	(B,96,44)	RS1/16S473J
R 610	(B,106,52)	RS1/16S473J
R 613	(B,97,77)	RS1/16S104J
R 615	(B,68,64)	RS1/16S0R0J
R 616	(B,35,51)	RS1/16S473J
R 620	(B,94,68)	RS1/16S0R0J
R 701	(A,14,49)	RD1/4PU271J
R 703	(B,47,53)	RS1/16S472J
R 704	(B,47,38)	RS1/16S104J
R 705	(B,50,45)	RS1/16S472J
R 706	(B,52,45)	RS1/16S104J
R 707	(B,36,47)	RS1/16S104J
R 708	(B,55,44)	RS1/16S221J
R 709	(A,56,38)	RD1/4PU102J
R 710	(B,49,45)	RS1/16S221J
R 711	(A,56,41)	RD1/4PU221J
R 712	(B,48,53)	RS1/16S221J
R 713	(B,35,49)	RS1/16S102J
R 714	(B,25,47)	RS1/16S104J
R 751	(B,108,85)	RS1/16S0R0J
R 753	(B,107,72)	RS1/16S0R0J
R 755	(B,105,85)	RS1/16S0R0J
R 757	(B,106,77)	RS1/16S223J
R 759	(B,106,79)	RS1/16S223J
R 803	(B,28,19)	RS1/16S473J
R 804	(B,104,23)	RS1/16S222J
R 805	(B,100,21)	RS1/16S222J
R 806	(A,61,19)	RD1/4PU222J
R 807	(B,46,18)	RS1/16S222J
R 808	(B,29,17)	RS1/16S104J
R 809	(B,51,13)	RS1/16S222J
R 810	(B,29,15)	RS1/16S103J
R 811	(B,87,31)	RS1/16S473J
R 813	(B,96,21)	RS1/16S104J
R 814	(A,110,29)	RD1/4PU102J
R 815	(B,98,21)	RS1/16S102J
R 816	(B,112,24)	RS1/16S1R0J
R 822	(B,27,68)	RS1/16S102J
R 823	(B,25,68)	RS1/16S102J
R 824	(B,114,50)	RS1/16S102J
R 825	(B,26,16)	RS1/16S102J
R 826	(B,112,26)	RS1/16S0R0J
R 841	(B,121,28)	RS1/16S103J
R 842	(B,121,30)	RS1/16S472J
R 851	(B,23,12)	RS1/16S153J
R 852	(B,25,10)	RS1/16S472J
R 853	(B,100,16)	RS1/16S222J
R 911	(B,18,66)	RS1/16S223J
R 912	(A,18,77)	RD1/4PU152J
R 922	(B,10,113)	RS1/16S473J
R 931	(B,60,57)	RS1/16S104J
R 932	(B,54,59)	RS1/16S104J
R 933	(B,60,90)	RS1/16S104J
R 934	(B,60,92)	RS1/16S473J
R 935	(B,56,87)	RS1/16S473J
R 936	(B,60,93)	RS1/16S473J
R 937	(B,62,118)	RS1/16S473J
R 938	(B,60,123)	RS1/4SA102J
R 961	(B,70,36)	RS1/16S102J

Circuit Symbol and No.		Part No.
R 962	(B,61,40)	RS1/16S822J

CAPACITORS

C 101	(B,28,136)	CKSRYB104K25
C 104	(B,50,71)	CKSRYB103K50
C 151	(B,143,81)	CKSRYB105K10
C 152	(B,144,80)	CKSRYB105K10
C 153	(B,160,74)	CKSRYB224K10
C 154	(B,119,76)	CKSRYB105K10
C 155	(B,162,72)	CKSRYB224K10
C 156	(B,123,81)	CKSRYB105K10
C 157	(B,123,82)	CKSRYB105K10
C 158	(B,123,84)	CKSRYB105K10
C 159	(B,120,90)	CKSRYB153K50
C 160	(A,115,93)	CEJQ100M16
C 161	(B,135,98)	CKSRYB153K50
C 162	(A,115,102)	CEJQ470M10
C 163	(B,119,88)	CKSRYB104K25
C 165	(A,131,95)	CEJQ100M16
C 305	(B,128,112)	CKSQYB474K16
C 306	(B,137,112)	CKSQYB474K16
C 307	(B,130,112)	CKSQYB474K16
C 308	(B,134,112)	CKSQYB474K16
C 309	(B,125,135)	CKSQYB225K10
C 310	(B,127,132)	CKSQYB225K10
C 311	(A,104,124)	CEJQ100M16
C 313	(A,51,121) 3 300 µF/16 V	CCH1494
C 315	(B,128,116)	CKSRYB474K10
C 316	(B,136,116)	CKSRYB474K10
C 317	(B,130,116)	CKSRYB474K10
C 318	(B,134,116)	CKSRYB474K10
C 351	(A,124,94)	CEJQ2R2M50
C 352	(A,139,95)	CEJQ2R2M50
C 353	(A,130,101)	CEJQ2R2M50
C 354	(A,138,102)	CEJQ2R2M50
C 355	(A,123,101)	CEJQ2R2M50
C 356	(A,145,101)	CEJQ2R2M50
C 357	(B,163,132)	CKSRYB222K50
C 358	(B,158,132)	CKSRYB222K50
C 401	(A,151,53)	CEJQ470M6R3
C 402	(B,153,52)	CKSRYB103K50
C 403	(B,148,35)	CKSRYB103K50
C 405	(A,152,90)	CEJQ101M10
C 406	(B,166,94)	CKSRYB104K25
C 407	(B,163,68)	CKSRYB103K50
C 408	(A,146,29)	CEJQ220M10
C 410	(B,140,41)	CKSRYB474K10
C 412	(B,160,40)	CKSRYB105K10
C 451	(A,119,123)	CEJQ330M10
C 601	(B,73,44)	CCSRCH180J50
C 602	(B,77,44)	CCSRCH180J50
C 604	(B,93,44)	CKSRYB105K10
C 605	(A,100,43)	CEJQ100M16
C 606	(B,81,34)	CKSRYB104K25
C 607	(A,73,32)	CEJQ100M16
C 609	(B,144,51)	CCSRCH470J50
C 701	(B,23,47)	CKSRYB473K25
C 703	(A,30,29)	CEJQ101M10
C 704	(B,143,76)	CKSRYB105K10
C 705	(B,125,77)	CKSRYB105K10
C 708	(A,38,76)	CEJQ220M10
C 709	(B,37,74)	CKSRYB105K10
C 710	(B,43,64)	CKSRYB474K10
C 751	(B,112,82)	CKSRYB104K25
C 753	(B,110,72)	CKSRYB472K50
C 754	(B,106,76)	CKSRYB105K10
C 755	(B,107,85)	CKSRYB472K50
C 756	(B,109,76)	CKSRYB105K10
C 758	(B,109,80)	CKSRYB105K10
C 760	(B,106,80)	CKSRYB105K10
C 761	(A,119,67)	CEJQ220M10
C 762	(A,122,75)	CEJQ100M16
C 851	(B,39,10)	CKSRYB104K25
C 901	(B,54,117)	CKSRYB104K25
C 911	(A,26,55)	CEJQ470M10
C 912	(B,22,70)	CKSRYB103K50
C 913	(A,22,63)	CEAT102M16
C 921	(B,15,104)	CKSRYB103K50
C 922	(A,17,100)	CEJQ221M10
C 923	(A,14,116)	CEJQ101M16
C 924	(B,15,112)	CKSRYB103K50
C 961	(B,67,37)	CKSRYB473K25
C 962	(A,64,40)	CEJQ100M16

B

Unit Number :
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1801	(B,28,110)	IC	PD6538A
IC 1802	(A,12,161)	IC	GP1UX51RK
D 1801	(B,18,63)	Diode	DAN202U
D 1802	(B,18,67)	Diode	DAP202U
D 1803	(A,23,151)	Diode	NESW505C-5273
D 1805	(A,39,84)	LED	SML-310PT
D 1806	(A,39,73)	LED	SML-310PT
D 1807	(A,32,9)	LED	SML-310PT
D 1808	(A,11,9)	LED	SML-310PT
D 1809	(A,20,19)	LED	SML-310PT
D 1810	(A,11,23)	LED	SML-310PT
D 1811	(A,39,95)	LED	SML-310PT
D 1812	(A,39,105)	LED	SML-310PT
D 1813	(A,39,116)	LED	SML-310PT
D 1814	(A,5,155)	LED	SML-310PT
D 1815	(A,5,148)	LED	SML-310PT
D 1818	(A,38,41)	LED	CL-197HB1-D(CDE)
D 1819	(A,25,27)	LED	CL-197HB1-D(CDE)
D 1820	(A,25,55)	LED	CL-197HB1-D(CDE)
D 1821	(A,12,41)	LED	CL-197HB1-D(CDE)
D 1822	(A,39,148)	LED	SML-310PT
D 1823	(A,39,137)	LED	SML-310PT
D 1824	(A,39,126)	LED	SML-310PT
X 1801	(B,36,122)	Ceramic Resonator 5.00 MHz	CSS1547
S 1827	(A,25,41)	Switch(VOLUME/SOURCE)	YSD5013
LCD1801	(A,13,63)	LCD	YAW5080

RESISTORS

Circuit Symbol and No.		Part No.
R 1801	(B,24,63)	RS1/16S222J
R 1802	(B,23,63)	RS1/16S222J
R 1803	(B,28,145)	RS1/4SA561J
R 1804	(B,37,80)	RS1/4SA471J
R 1805	(B,15,23)	RS1/4SA471J
R 1806	(B,37,92)	RS1/4SA471J
R 1807	(B,6,151)	RS1/4SA681J
R 1809	(B,18,23)	RS1/4SA681J
R 1810	(B,20,26)	RS1/4SA681J
R 1811	(B,28,142)	RS1/4SA471J
R 1831	(B,29,28)	RS1/16S472J
R 1833	(B,24,145)	RS1/16S2R2J
R 1835	(B,15,148)	RS1/16S121J

CAPACITORS

C 1801	(B,15,150)	CKSRYB474K10
C 1802	(B,29,136)	CKSRYF104Z25
C 1803	(B,28,136)	CKSRYF104Z25
C 1804	(B,26,136)	CKSRYF104Z25
C 1815	(A,35,31)	CKSRYF104Z25
C 1816	(A,25,26)	CKSRYF104Z25
C 1817	(A,25,56)	CKSRYF104Z25
C 1818	(A,13,53)	CKSRYF104Z25

C

Unit Number : CWX3350
Unit Name : CD Core Unit(S10.5COMP2)

MISCELLANEOUS

IC 201	(A,34,46)	IC	PE5547A
IC 202	(A,32,67)	IC	S-93C56BD0I-J8
IC 301	(A,27,14)	IC	BA5839FP
Q 101	(B,56,72)	Transistor	2SA1577
Q 102	(B,47,57)	Transistor	2SB1689
X 201	(A,23,35)	Ceramic Resonator 16.934 MHz	CSS1603
S 901	(A,53,37)	Switch(HOME)	CSN1067
S 903	(B,19,58)	Switch(DSCSNS)	CSN1067
S 904	(B,38,67)	Switch(12EJ)	CSN1068
S 905	(B,24,68)	Switch(8EJ)	CSN1068

RESISTORS

R 101	(B,60,73)	RS1/10SR2R4J
R 102	(B,59,71)	RS1/10SR2R4J
R 103	(B,60,71)	RS1/10SR2R7J
R 104	(B,52,69)	RS1/16SS222J
R 105	(B,41,57)	RS1/16SS102J
R 107	(B,41,59)	RS1/16SS105J
R 201	(A,32,62)	RS1/16S472J
R 202	(B,32,62)	RS1/16SS473J
R 203	(B,42,45)	RS1/16S473J
R 204	(A,25,61)	RS1/16SS221J
R 206	(B,26,53)	RS1/16SS104J
R 210	(B,13,32)	RS1/16SS102J
R 214	(B,36,34)	RS1/16SS472J
R 216	(B,47,49)	RS1/16SS472J
R 221	(B,36,32)	RS1/16SS103J
R 222	(B,35,32)	RS1/16SS103J
R 225	(A,49,49)	RS1/16SS103J

Circuit Symbol and No.		Part No.
R 226	(A,49,50)	RS1/16SS393J
R 227	(B,45,51)	RS1/16SS562J
R 228	(B,42,53)	RS1/16SS122J
R 229	(B,44,53)	RS1/16SS472J
R 230	(B,21,28)	RS1/16SS0R0J
R 232	(B,43,51)	RS1/16SS122J
R 233	(B,29,52)	RS1/16SS103J
R 234	(B,30,61)	RS1/16SS473J
R 235	(A,25,63)	RS1/16SS473J
R 239	(B,26,48)	RS1/16SS473J
R 240	(B,10,31)	RS1/16SS473J
R 241	(B,9,32)	RS1/16SS103J
R 243	(A,35,69)	RS1/16S0R0J
R 244	(A,20,52)	RS1/16SS473J
R 255	(A,27,63)	RAB4CQ104J
R 307	(A,34,19)	RS1/16SS183J
R 308	(A,38,20)	RS1/16SS183J
R 309	(A,35,21)	RS1/16SS183J
R 310	(A,38,21)	RS1/16SS183J
R 601	(B,28,38)	RS1/16SS0R0J
R 602	(B,27,41)	RS1/16SS0R0J
R 606	(B,23,41)	RS1/16SS0R0J
R 701	(B,16,35)	RS1/16SS221J
R 702	(A,23,55)	RS1/16SS221J

CAPACITORS

C 106	(B,56,69)	CKSQYB475K6R3
C 201	(A,28,67)	CKSRYB104K16
C 202	(A,27,57)	CKSSYB104K10
C 204	(A,24,63)	CKSSYB103K16
C 205	(B,23,43)	CKSQYB475K6R3
C 206	(A,22,39)	CKSSYB104K10
C 207	(A,24,37)	CKSRYB104K16
C 209	(B,33,40)	CEVW220M6R3
C 210	(B,29,42)	CKSSYB104K10
C 211	(A,27,34)	CKSSYB104K10
C 212	(B,29,32)	CKSRYB104K16
C 213	(A,44,37)	CKSSYB104K10
C 214	(A,28,33)	CKSSYB104K10
C 216	(A,50,51)	CKSSYB332K50
C 217	(A,46,51)	CKSSYB104K10
C 218	(A,49,51)	CKSSYB473K10
C 219	(A,45,53)	CKSSYB104K10
C 220	(A,46,53)	CKSSYB182K50
C 221	(A,44,53)	CKSSYB104K10
C 222	(B,43,53)	CCSSCH560J50
C 223	(B,45,53)	CCSSCH4R0C50
C 224	(A,43,55)	CKSSYB104K10
C 226	(A,40,58)	CCSSCH680J50
C 227	(A,40,60)	CCSSCH470J50
C 228	(A,39,62)	CKSSYB103K16
C 229	(B,49,59)	CKSSYB104K10
C 236	(A,42,61)	CKSSYB104K10
C 239	(B,44,51)	CCSSCH220J50
C 240	(A,35,61)	CKSSYB104K10
C 250	(B,36,30)	CKSSYB102K50
C 251	(B,33,29)	CKSSYB102K50
C 303	(A,35,19)	CKSSYB472K25
C 304	(A,34,21)	CKSSYB223K16

Circuit Symbol and No.		Part No.
C 307	(B,25,9)	CKSRYB104K16
C 308	(B,10,27)	CKSRYB105K10
C 703	(B,11,37)	CCSSCH101J50
C 704	(B,8,36)	CKSSYB102K50
C 711	(A,25,26)	CKSSYB104K10

Miscellaneous Parts List

	Pickup Unit(P10.5)(Service)	CXX1942
M 1	Motor Unit(SPINDLE)	CXC7134
M 2	Motor Unit(LOADING/CARRIAGE)	CXC4026

6. ADJUSTMENT

6.1 CD ADJUSTMENT

1) Cautions on adjustments

• In this product the single voltage (3.3 V) is used for the regulator. The reference voltage is the REFO1 (1.65 V) 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.

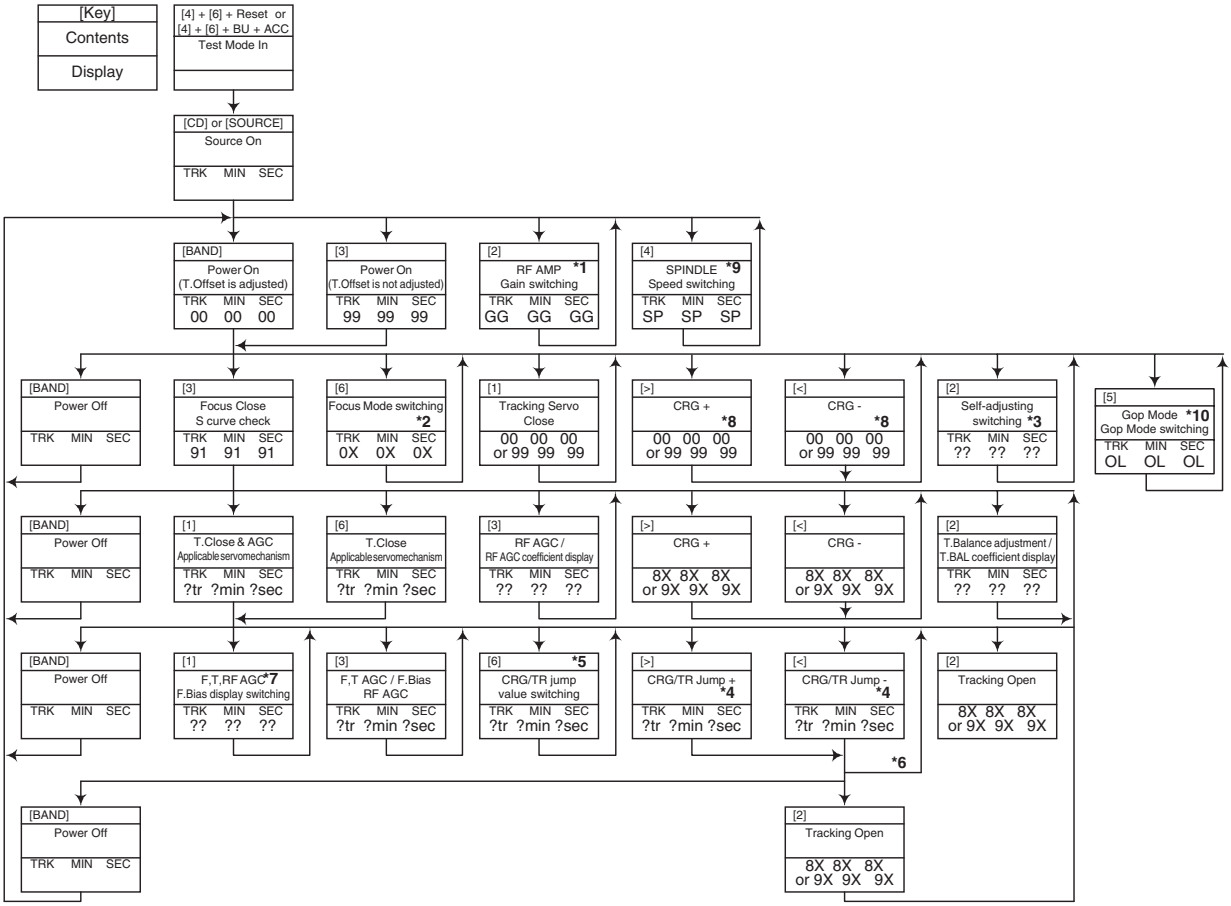
• The load and eject operation is not guarantied with the mechanism upside down. If the mechanism is blocked due to mistaken eject operation, reset the product or turn off and on the ACC to restore it.

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 0 dB, and the auto-adjustment values are reset to the default settings.

● Flow Chart



*1) TYP (TRK MIN SEC) → + 6 dB ($^{TRK}06^{MIN}06^{SEC}06$) → + 12 dB ($^{TRK}12^{MIN}12^{SEC}12$)

*2) Focus Close → S Curve check 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 → RF.Offset → T.Offset Display → Switch to the order of the original display

*4) 1TR/4TR/10TR/32TR/100TR

*5) Single → 4TR → 10TR → 32TR → 100TR → CRG Move
9x(8x):91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

*6) Only at the time of CRG move, 100TR jump

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

*8) CRG motor voltage = 2 [V]

*9) TYP (1X) (TRK MIN SEC) → 2X ($^{TRK}22^{MIN}22^{SEC}22$) → 1X ($^{TRK}11^{MIN}11^{SEC}11$)

*10) OFF(TYP) (TRK MIN SEC) → FORCUS ($^{TRK}70^{MIN}70^{SEC}70$) → TRACKING ($^{TRK}71^{MIN}71^{SEC}71$)

[Key]	Operation Test Mode
[BAND]	Power On/Off
[>]	CRG + / TR Jump + (Direction of the external surface)
[<]	CRG - / TR Jump - (Direction of the internal surface)
[1]	T. CLS & AGC & Applicable servomechanism / AGC,AGC display setting
[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 ON : ERR 30Counts Start BER display data[%]
[6]	F. Mode switching / Tracking Close / CRG•TR Jump Switching

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

*) • After the [Eject] key is pressed keys other than the [Eject] key should not be pressed, until disc ejection is complete.
• When the key [2] or [3] is pressed during the Focus Search, the power supply should be immediately turned off (otherwise the lens sticks to Wall, causing the actuator to be damaged).
• In the case of TR jump other than to 100TR, the function shall continue to be processed even if the TR jump key is released. As for the CRG Move and 100TR Jump, the mechanism shall be set to the Tracking Close mode when the key is released.
• When the power is turned on/off the jump mode is reset to the Single TR (91) while the gain of the RFAMP is reset to 0 dB. At the same time all the self-adjusting values shall return to the default setting.

6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

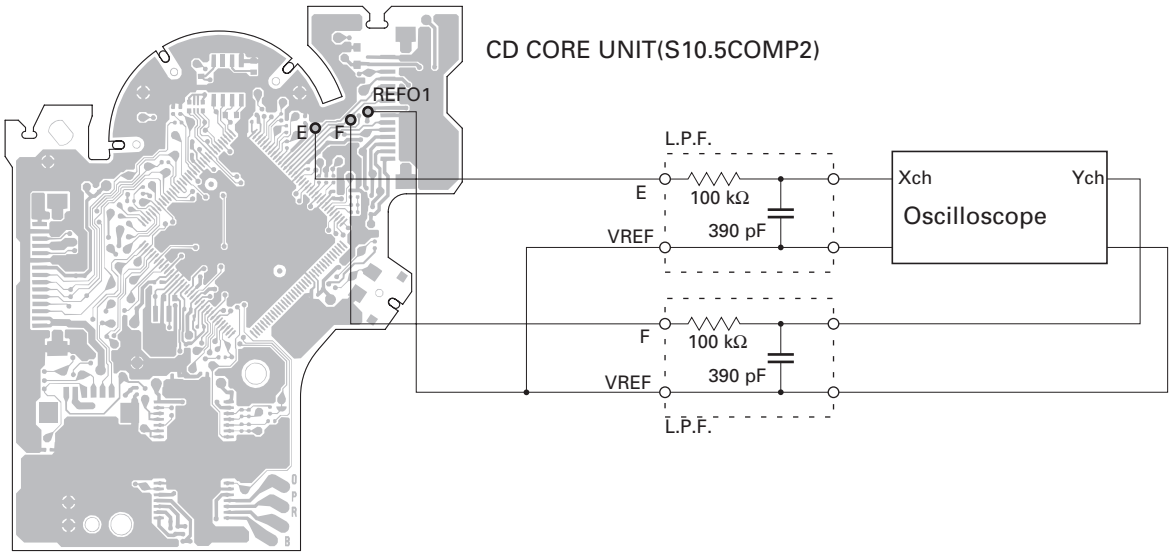
• **Note :**
The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best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

• **Purpose :**
To check that the grating is within an acceptable range when the PU unit is changed.

• **Symptoms of Mal-adjustment :**
If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• **Method :**

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



• **Checking Procedure**
1. In test mode, load the disc and switch the 3 V 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.

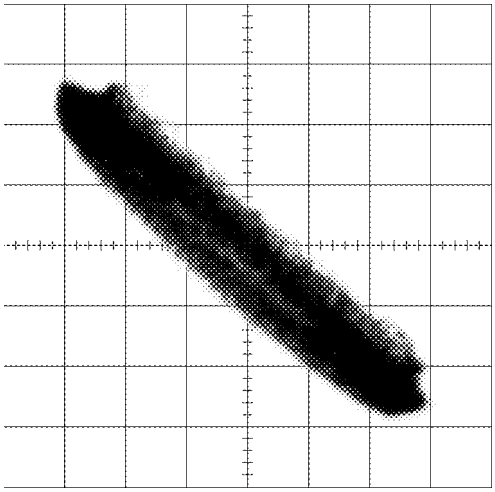
• **Note**
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

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

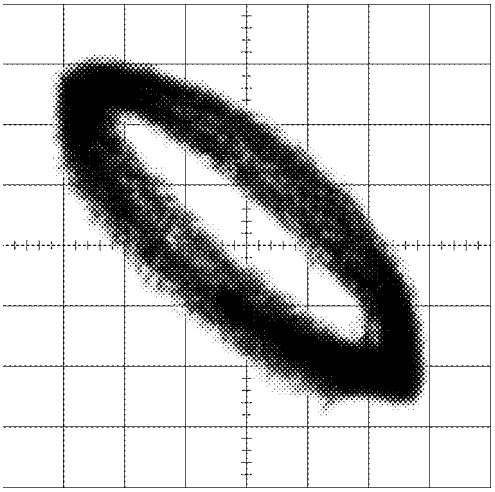
Grating waveform

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

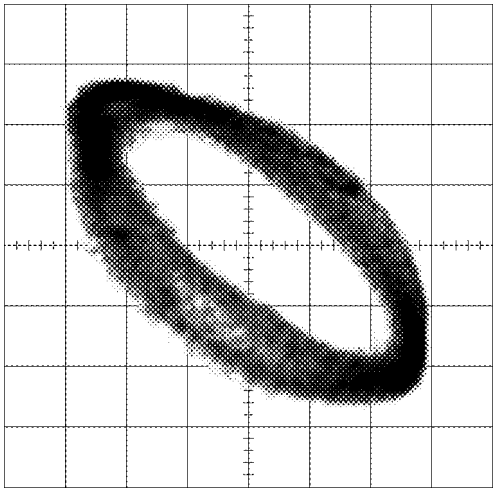
0°



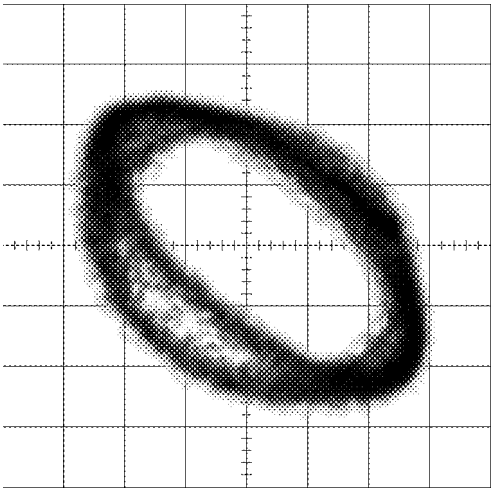
30°



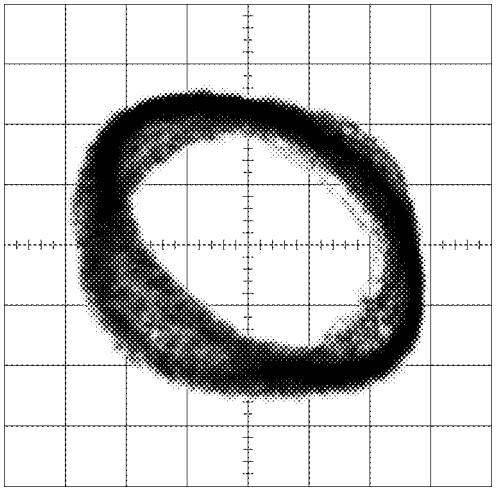
45°



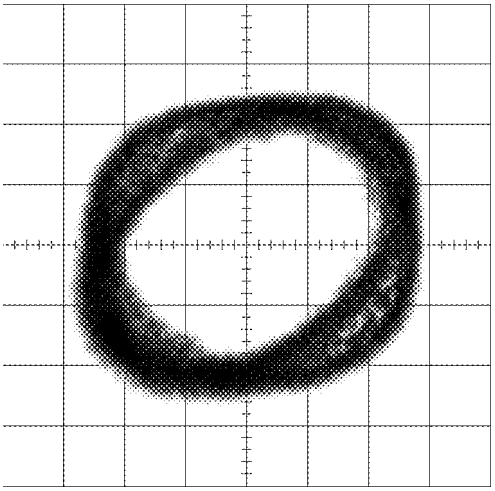
60°



75°



90°



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

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.

6.4 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 IC601(Pin 88) terminal to H.
The clock signal is output from the PCL terminal IC601(Pin 39).
The frequency of the clock signal is 468 750 Hz that is one 32th of the fundamental frequency.
The clock signal should be 468 750 Hz(- 10 Hz, + 15 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 Case.

● **Removing the CD Mechanism Module (Fig.1)**

1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

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

2 Release the two latchs and then remove the Detachable Assy.

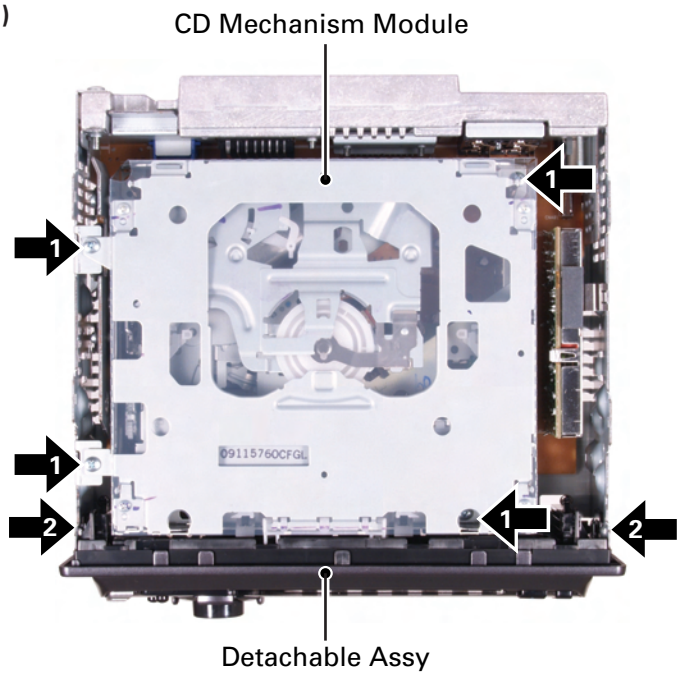


Fig.1

● **Removing the Tuner Amp Unit (Fig.2)**

1 Remove the screw.

2 Remove the three screws.

3 Straighten the tabs at four locations indicated and then remove the Tuner Amp Unit.

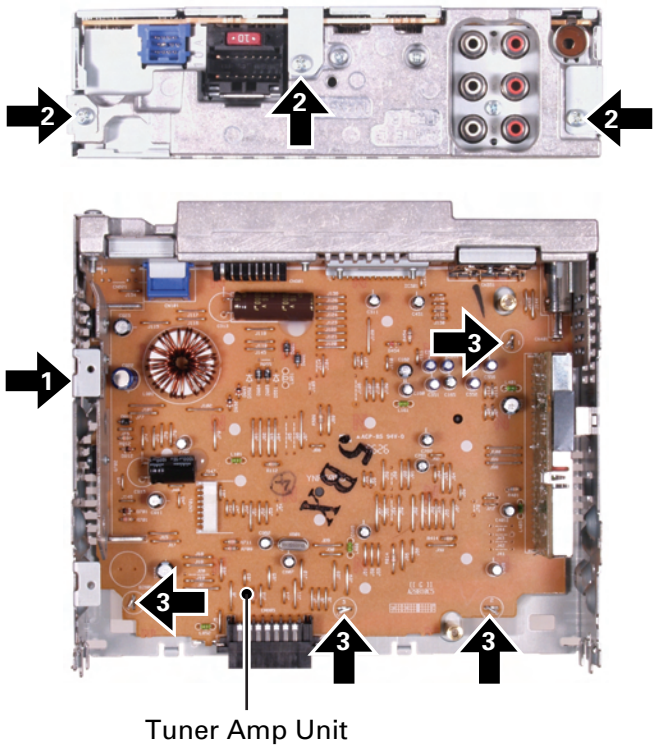
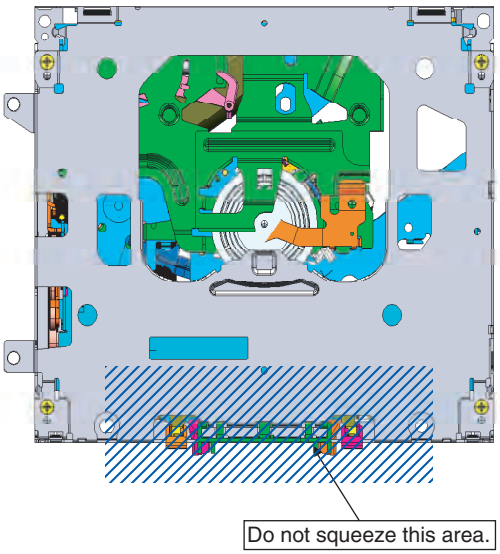


Fig.2

● How to hold the Mechanism Unit

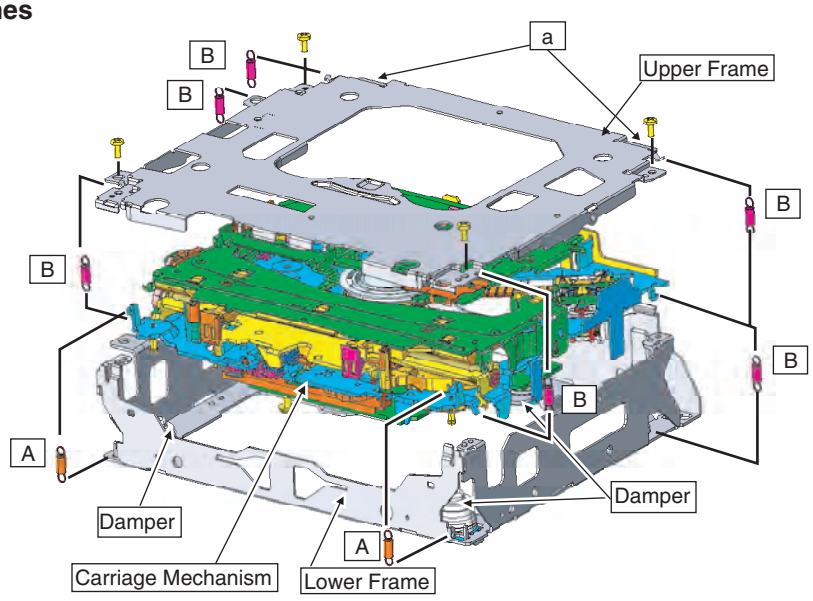
1. Hold the Upper and Lower Frames.
2. Do not hold the front portion of the Upper Frame, because it is not very solid.



● Removing the Upper and Lower Frames

1. With a disc inserted and clamped in the mechanism, remove the two Springs (A), the six Springs (B), and the four Screws.
2. Turn the Upper Frame using the part "a" as a pivot, and remove the Upper Frame.
3. While lifting the Carriage Mechanism, remove it from the three Dampers.

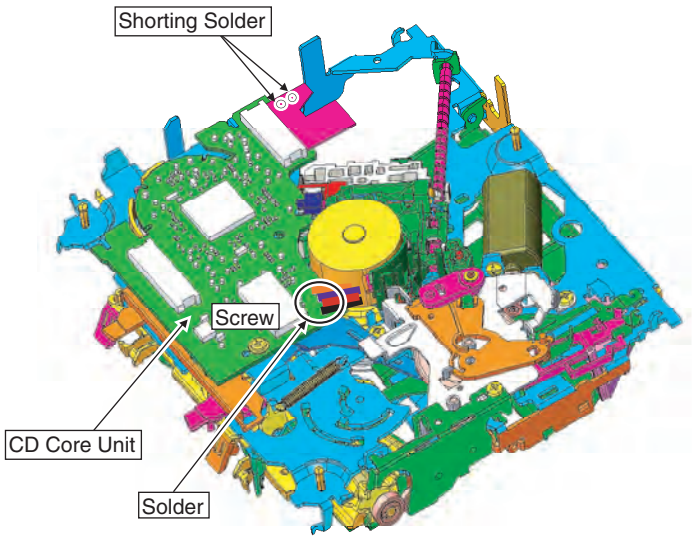
Caution: When assembling, be sure to apply some alcohol to the Dampers and assemble the mechanism in a clamped state.



● How to remove the CD Core Unit

1. Apply Shorting Solder to the flexible cable of the Pickup, and disconnect it from the connector.
2. Unsolder the four leads, and loosen the Screw.
3. Remove the CD Core Unit.

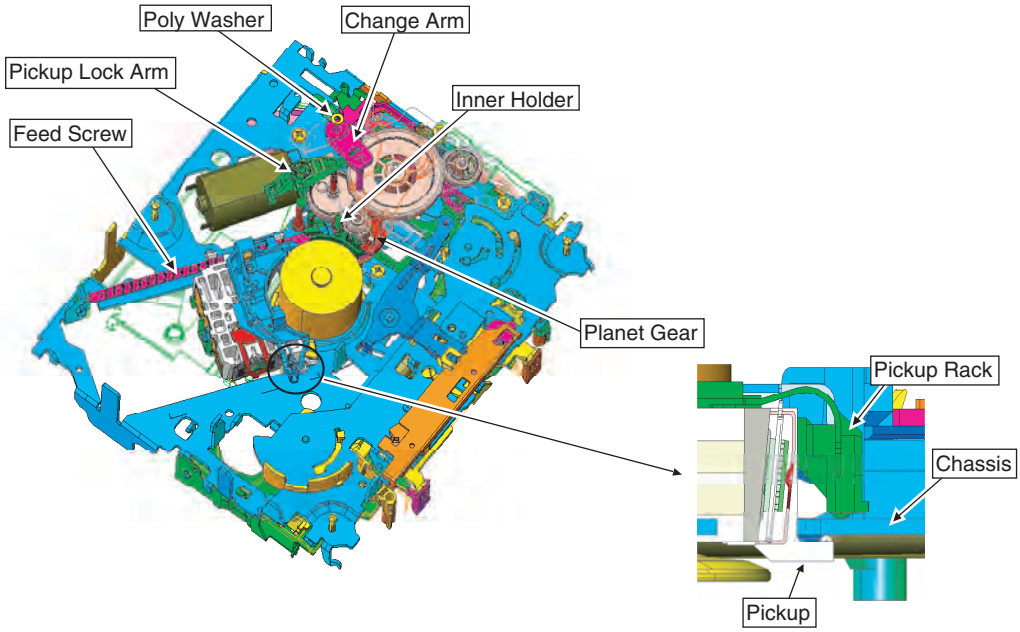
Caution: When assembling the CD Core Unit, assemble it with the SW in a clamped state so as not to damage it.



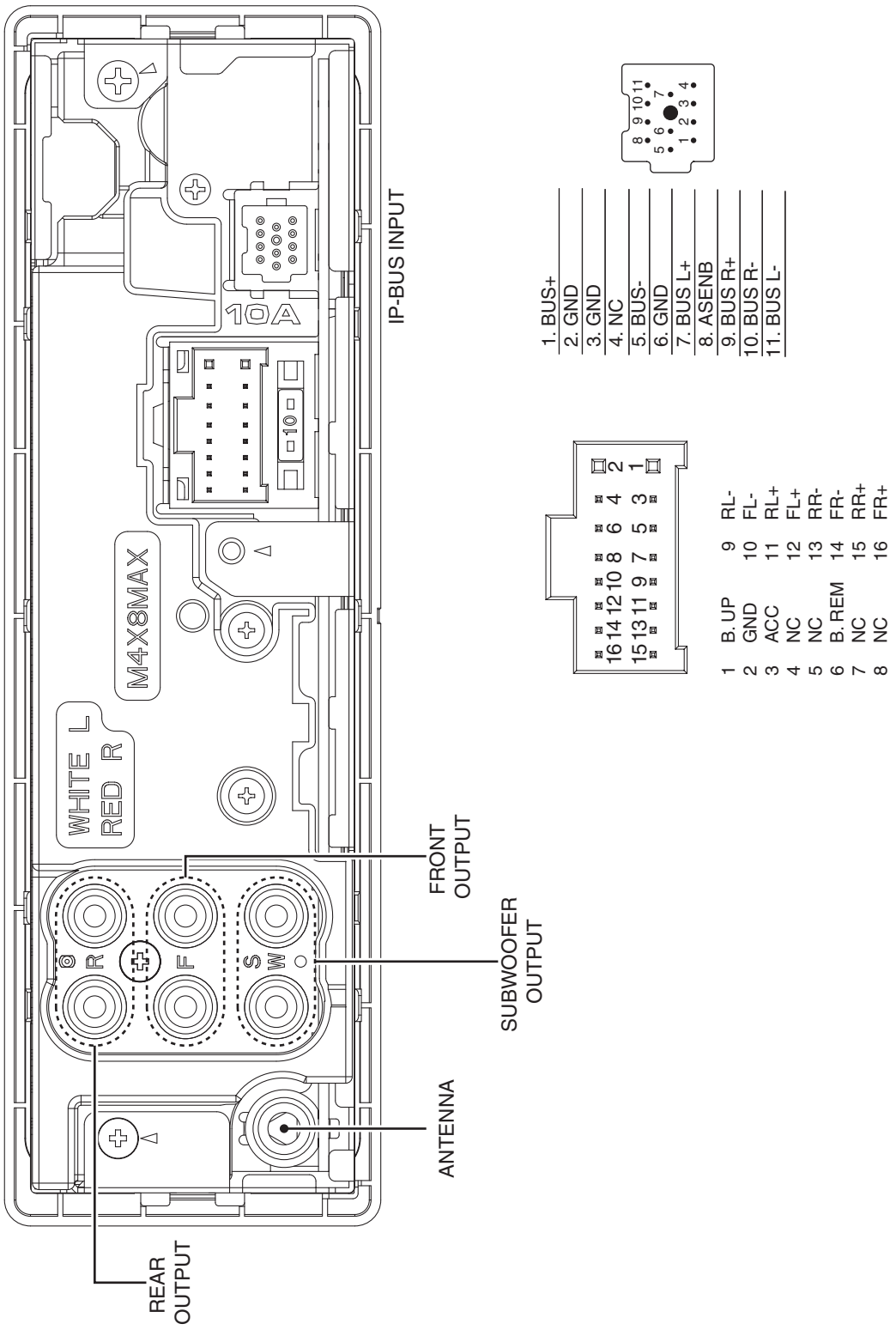
● How to remove the Pickup Unit

1. Make the system in the carriage mechanism mode, and have it clamped.
2. Remove the CD Core Unit and remove the leads from the Inner Holder.
3. Remove the Poly Washer, Change Arm, and Pickup Lock Arm.
4. While releasing from the hook of the Inner Holder, lift the end of the Feed Screw.

Caution: When assembling, move the Planet Gear to the load/eject position before setting the Feed Screw in the Inner Holder.
Assemble the sub unit side of the Pickup, taking the plate (Chassis) in-between. When treating the leads of the Load Carriage Motor Assy, do not make them loose over the Feed Screw.

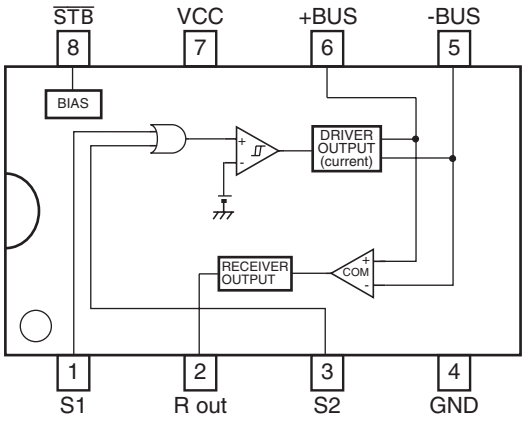


7.1.2 CONNECTOR FUNCTION DESCRIPTION

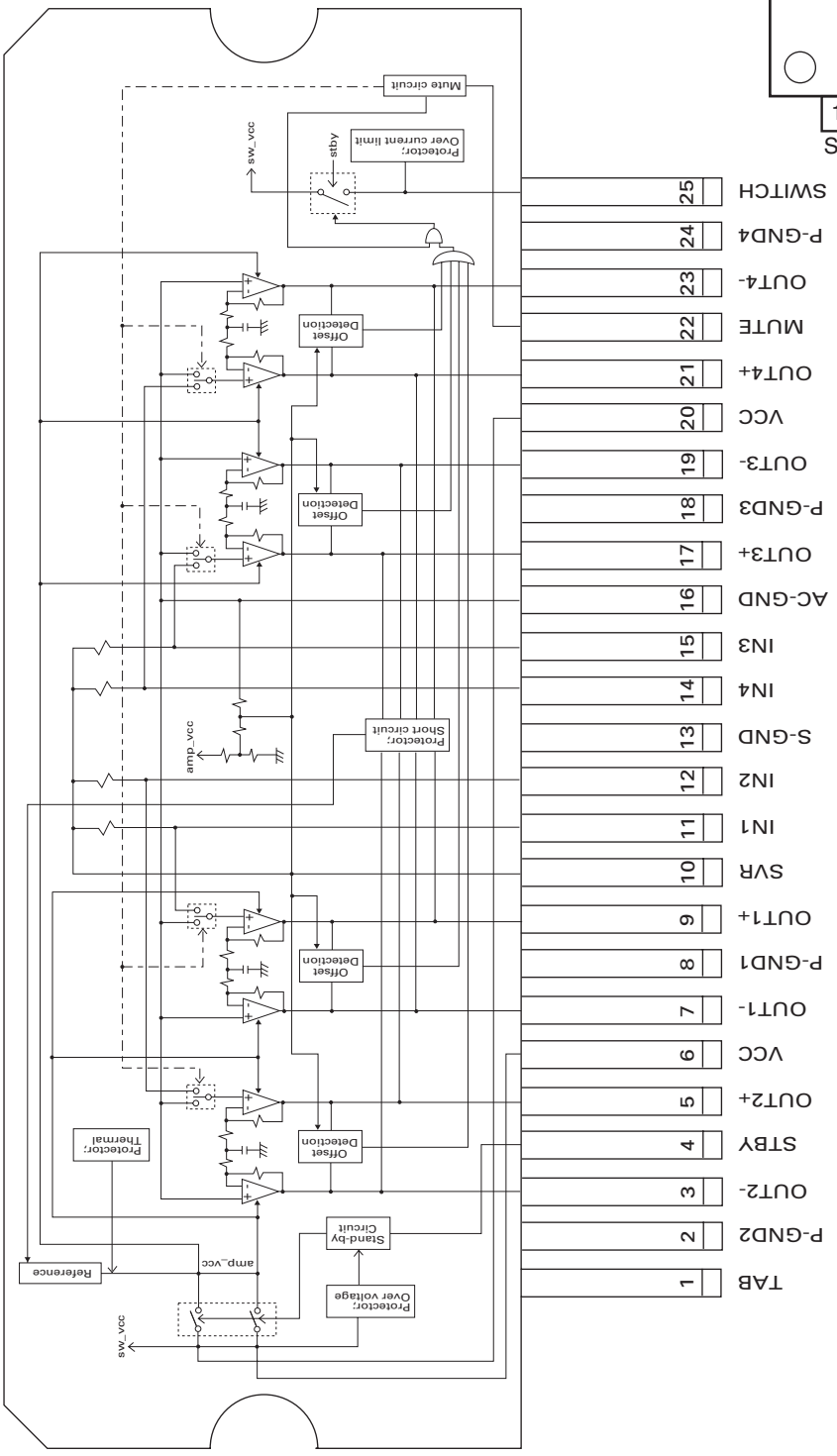


7.2 PARTS
7.2.1 IC

HA12241FP

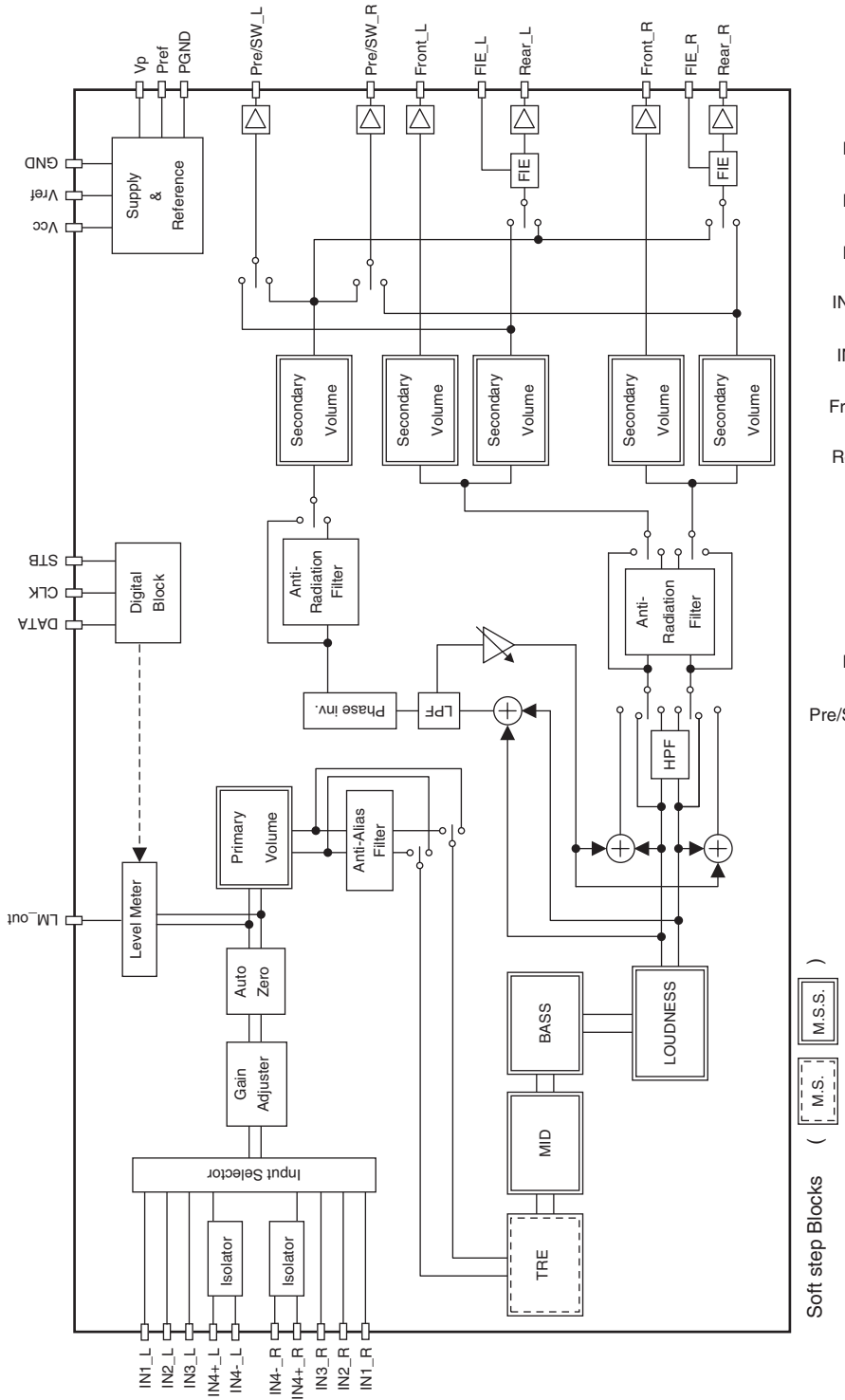


PAL007C

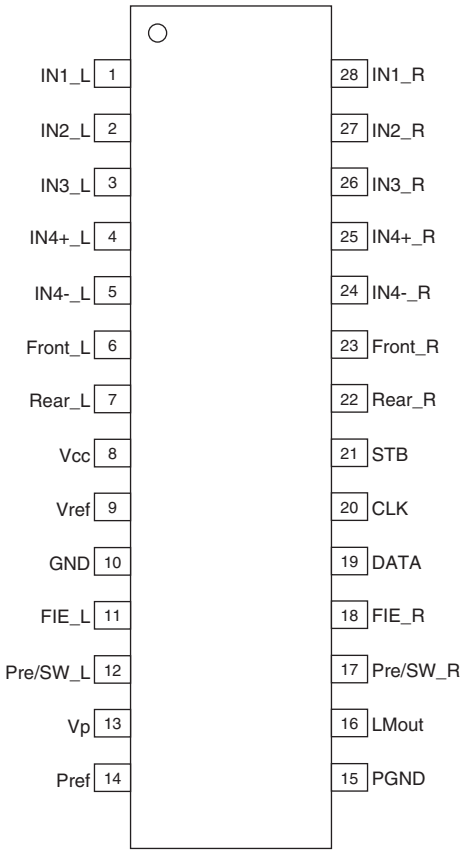


PML015B

● Block Diagram



● Pin Layout

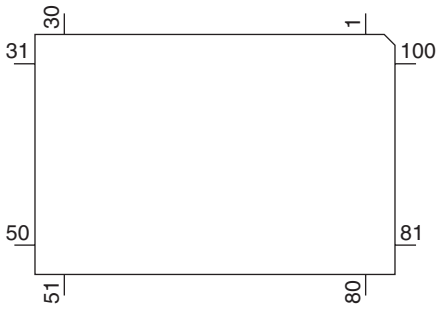


● Pin Functions (PEG286A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	ILMPW	O	C	Illumination power output
2	NC			Not used
3,4	ROT1,0	I		Rotary encoder pulse input 1, 0
5,6	NC			Not used
7	SWVDD	O	C	VDD for display microcomputer
8	BYTE	I		External data bus width change input
9	CNVSS	I		Processor mode change input
10,11	NC			Not used
12	$\overline{\text{RESET}}$	I		Reset input
13	XOUT	O		Main clock output
14	VSS	I		GND
15	XIN	I		Main clock input
16	VCC	I		Power supply input(+)
17	$\overline{\text{NMI}}$	I	C	NMI input
18	$\overline{\text{DSENS}}$	I		Detach sense input
19	$\overline{\text{BSENS}}$	I		Backup sense input
20	$\overline{\text{ASENS}}$	I		ACC sense input
21	$\overline{\text{CD-RESET}}$	O	C	CD mechanism RESET output
22	$\overline{\text{VDCONT}}$	O	C	VD power supply output
23	$\overline{\text{BRST}}$	O	C	P-BUS : Reset output
24	$\overline{\text{BRXEN}}$	I/O	C	P-BUS : Reception enable input/output
25	$\overline{\text{BSRQ}}$	I		P-BUS : Service request input
26	NC			Not used
27	RX2	I		IPBUS : Input 2
28	NC			Not used
29	RX	I		IPBUS : Input
30	TX	O	N	IPBUS : Output
31	BSO	O	C	PBUS : Output
32	BSI	I		PBUS : Input
33	BSCK	O	C	PBUS : Clock output
34	KEYD	I		Not used
35	DPDT	O	C	Display microcomputer communication data output
36	KYDT	I		Display microcomputer communication data input
37,38	NC			Not used
39	PCL	O	C	Output for clock adjustment
40	ASENBO	O	C	IPBUS : Slave ACC sense output
41-46	NC			Not used
47	DALMON	O	C	For consumption current reduction output
48	SYSPW	O	C	System power control output
49-51	NC			Not used
52	IPPW	O	C	IPBUS : Driver power supply control output
53	MUTE	O	C	System mute output
54	VST	O	C	E.VOL strobe output
55	VCK	O	C	E.VOL clock output
56	VDT	O	C	E.VOL data output
57	NC			Not used
58	ROMDATA	I/O	C	ROM correction data input/output
59	ROMCK	O	C	ROM correction clock output
60	ROMCS	O	C	ROM correction chip select output
61	NC			Not used
62	VCC	I		Power supply input(+)
63	NC			Not used
64	VSS	I		GND
65	$\overline{\text{CE2}}$	O	C	TUNER : Chip enable output(EEPROM)
66	CE1	O	C	TUNER : Chip enable output(PLL)

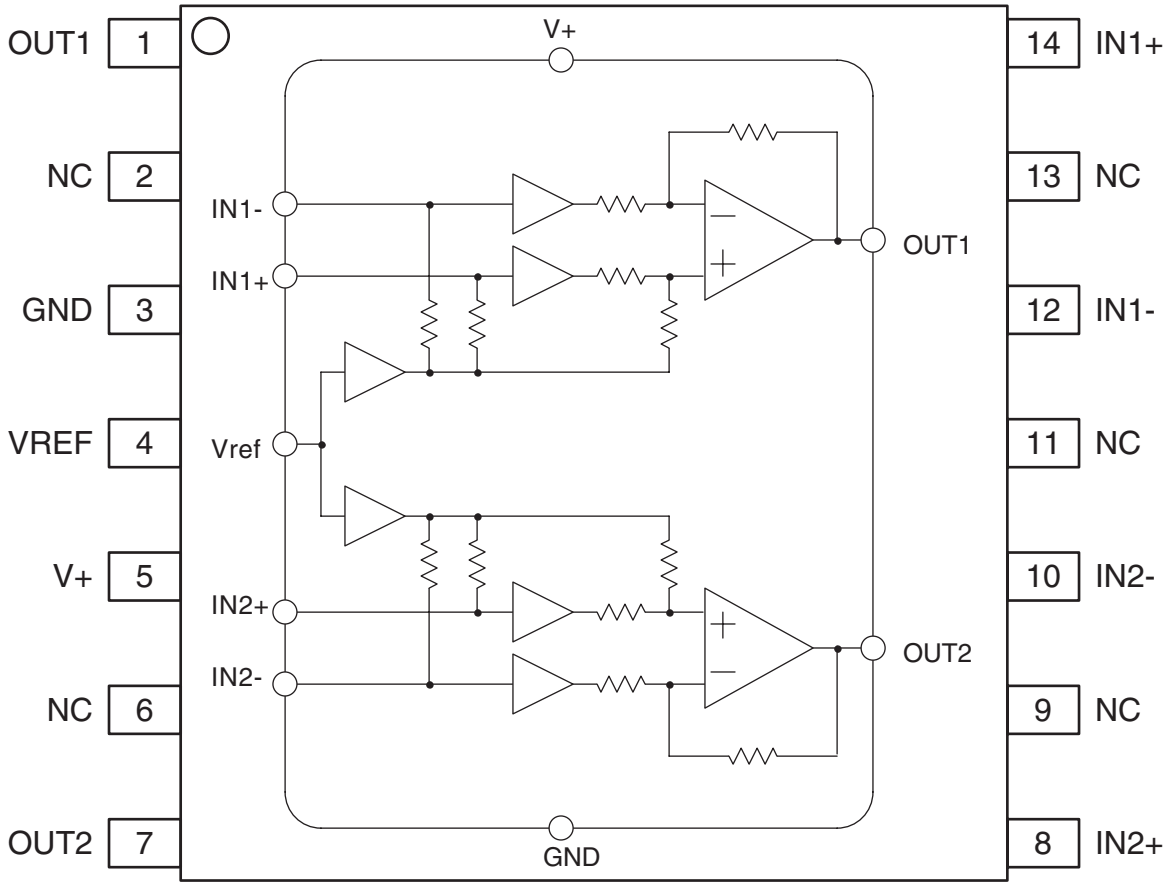
Pin No.	Pin Name	I/O	Format	Function and Operation
67	TUNPCK	O	C	TUNER : Clock output(PLL)
68	TUNPDI	I		TUNER : Data input(PLL)
69-85	NC			Not used
86	TUNPDO	O	C	TUNER : Data output(PLL)
87	NC			Not used
88	TESTIN	I		Test program input
89-91	NC			Not used
92	SSENS			Source key
93	NC			Not used
94	KEYAD	I		Not used
95	MODEL	I		Model select input
96	AVSS	I		A/D converter GND(Connected to VSS)
97	SL			Signal level input(Field intensity)
98	VREF	I		A/D converter reference voltage input
99	AVCC	I		A/D converter power supply input terminal(Connected to VCC)
100	NC			Not used

PEG286A



Format	Meaning
C	CMOS
N	Nch open drain

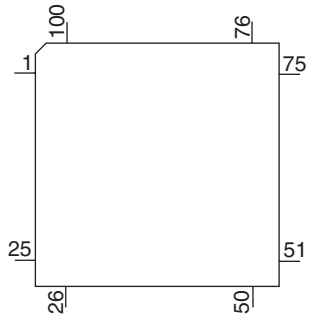
NJM2794V



● Pin Functions (PD6538A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1-39	SEG38-0	O		LCD segment output
40-43	COM3-0	O		LCD common output
44-46	V1-3	O		LCD drive power supply
47	VCC	O		Power supply
48	NC			Not used
49	TXD	O	C	Communication data output
50	RXD	I	C	Communication data input
51,52	MOD0,1			Not used
53	RESET			Reset
54,55	X0,1			Crystal oscillator connection pin
56	VSS			Not used
57	REM	I	C	Remote control input
58,59	NC			Not used
60-63	KDT4-1	O	C	Key data 4-1 output
64-69	KST6-1	O	N	Key strobe 6-1 output
70-100	SEG69-39	O		LCD segment output

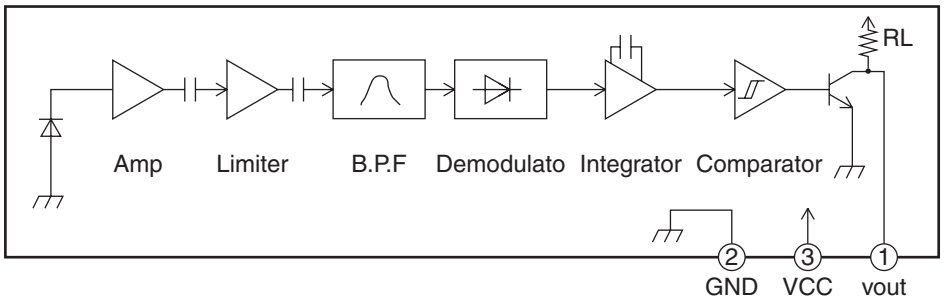
PD6538A



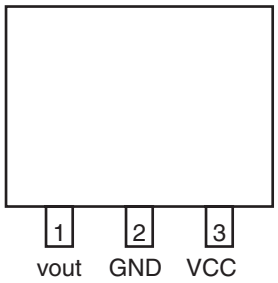
Format	Meaning
C	CMOS
N	Nch open drain

GP1UX51RK

● Block Diagram



● Pin Layout

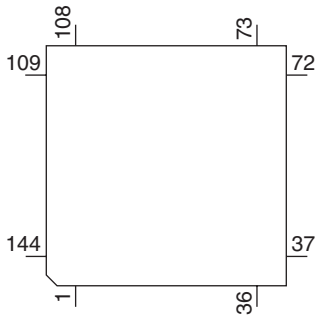


● Pin Functions (PE5547A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	ROMDATA	I/O	/C	E2PROM : Data input/output
2	ROMCK	O	C	E2PROM : Clock output
3	ROMCS	O	C	E2PROM : Chip select output
4	NC			Not used
5	LOEJ	O	C	LOAD/EJECT direction switching output
6	DSCSNS	I		Disc sense input
7	$\overline{8SNS}$	I		8 cm disc detection input
8	$\overline{12SNS}$	I		12 cm disc detection input
9	$\overline{HOME}$	I		HOME SW sense input
10	TEMP			Temperature information sense input
11	VDSENS			VD power supply short circuit/earth fault sense input
12	$\overline{ADENA}$	O	C	A/D reference voltage supply control output
13	ADC.VDD			Power supply for A/D converter
14	ADC.GND			Ground for A/D converter
15	FLMD0	I		Flash writing control terminal
16	$\overline{RESET}$	I		Internal microcomputer reset terminal
17	PULLDOWN	O	C	Pull-down
18	NC			Not used
19	$\overline{TESTIN}$	I		Chip check, test program start-up input
20	NC			Not used
21	BSI	I	N	P-BUS : Serial data input
22	BSO	O	N	P-BUS : Serial data output
23	$\overline{BSCK}$	I/O	N	P-BUS : Serial clock input/output
24	FTxD	O	N	Tx for flash rewriting
25	FRxD	I		Rx for flash rewriting
26	BRXEN	I/O	/C	P-BUS : Reception enable input/output
27	$\overline{BSRQ}$	I/O	/C	P-BUS : Service request input
28	NC			Not used
29	$\overline{FMODE}$	I		Flash self-rewriting mode start-up input
30	FLRQ	O	C	Flash self-rewriting reset voltage control
31	ROM	I		Open(EMPH)
32-36	NC			Not used
37	MCKRQ	O	N	CLOCK request
38	LRCKOK	O	N	LRCK reference enable
39	$\overline{PUEN}$	O	C	Pickup hologram power supply control output
40	CD3VON	O	C	CD + 3.3 V power supply control output
41	CONT	O	C	Servo driver power supply control output
42	VDCONT	O	C	VD power supply control output
43	CLCONT	O	C	CRG/LOAD-EJECT switching control output
44	CDMUTE	O	C	CD mute control output
45	TEST	I		Test terminal
46	$\overline{BRST}$	I		P-BUS : Communication reset input
47	REGS			Capacitor connection for standby
48	C.VDD			Power supply for internal microcomputer
49	C.GND			Ground for internal microcomputer
50	XTAL	I		Connected to the crystal oscillator
51	X.GND			Ground for the crystal oscillator
52	$\overline{XTAL}$	O		Connected to the crystal oscillator
53	X.VDD			Power supply for the crystal oscillator
54	DA.VDD			Power supply for DAC
55	LOUT	O		Output of audio for the left channel
56	DA.GND			Ground for DAC
57	REGC			Connected to the capacitor for band gap
58	DA.GND			Ground for DAC
59	ROUT	O		Output of audio for the right channel

Pin No.	Pin Name	I/O	Format	Function and Operation
60	DA.VDD			Power supply for DAC
61	D.GND			Ground for digital circuits
62	D.VDD			Power supply for digital circuits
63	REG16			Capacitor connection for 1.6 V regulator
64	LRCK	O	C	3-wire audio LR clock output
65	SCKO	O	C	3-wire audio serial I/F clock output
66	DOUT	O	C	3-wire audio serial I/F data output
67-69	SVMON0-2	I/O	/C	Servo monitor input/output 0-2
70	SVMON3	I/O	/C	Servo monitor input/output 3(Ext MCK IN)
71	C33M	O	C	DRAM CLOCK
72	($\overline{RCS}$)	O	C	DRAM CS
73	(CKE)	O	C	DRAM CKE output
74	$\overline{RAS}$	O	C	Output of DRAM RAS
75	$\overline{CAS0}$(LDQM)	O	C	DRAM Lower CAS(LDQM) output
76	$\overline{CAS1}$(UDQM)	O	C	DRAM Upper CAS(UDQM) output
77	$\overline{WE}$	O	C	Output of DRAM WE
78	$\overline{OE}$($\overline{CAS}$)	O	C	DRAM OE(CAS) output
79-94	RDB0-15	I/O	/C	Input/output of DRAM data 0-15
95	IO.GND			Ground for I/O terminal
96	IO.VDD			Power supply for I/O terminal
97-108	RA0-11	O	C	Output of DRAM address 0-11
109	FD	O	C	Output of focus drive PWM
110	TD	O	C	Output of tracking drive PWM
111	SD	O	C	Output of thread drive PWM
112	MD	O	C	Output of spindle drive PWM
113	EFM	O		Output of EFM signals
114	ASY	I		Asymmetry input
115	ATEST	O		Analog tests
116	A.VDD			Power supply for the analog system
117	A.GND			Ground for the analog system
118	RFI	I		Input of RF
119	AGCO	O		Output of RF
120	C3T			Connection to the capacitor for detecting 3T
121	AGCI	I		Input of AGC
122	RFO	O		Output of RF(AGC)
123,124	EQ2,1	I		Equalizer 2, 1
125	RF2-	I		Reversal input of RF2
126	RF-	I		Reversal input of RF
127	A.GND			Ground for the analog system
128	A.VDD			Power supply for the analog system
129	A	I		Input of A
130	B	I		Input of B
131	F	I		Input of F
132	E	I		Input of E
133	REFOUT	O		Output of reference voltage
134	FE-	I		Reversal input of FE
135	FEO	O		Output of FE
136	ADCIN	I		FE,TE A/D converter input
137	TE-	I		Reversal input of TE
138	TEO	O		Output of TE
139	TE2	O		TE2
140	TEC	I		TEC
141	LD	O		Output of LD
142	PD	I		Input of PD
143	AD.VDD			Power supply for servo ADC
144	AD.GND			Ground for servo ADC

PE5547A

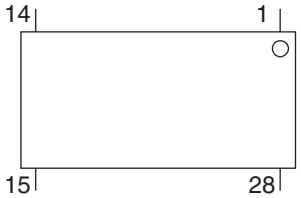


Format	Meaning
C	CMOS
N	Nch open drain

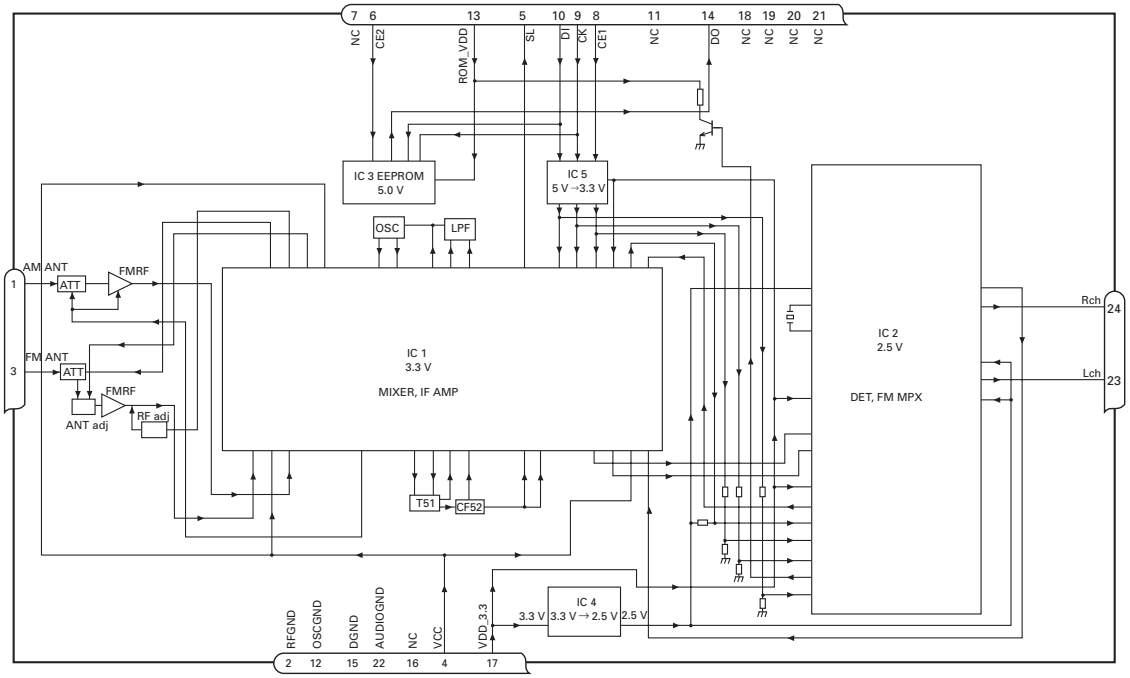
● Pin Functions(BA5839FP)

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

BA5839FP



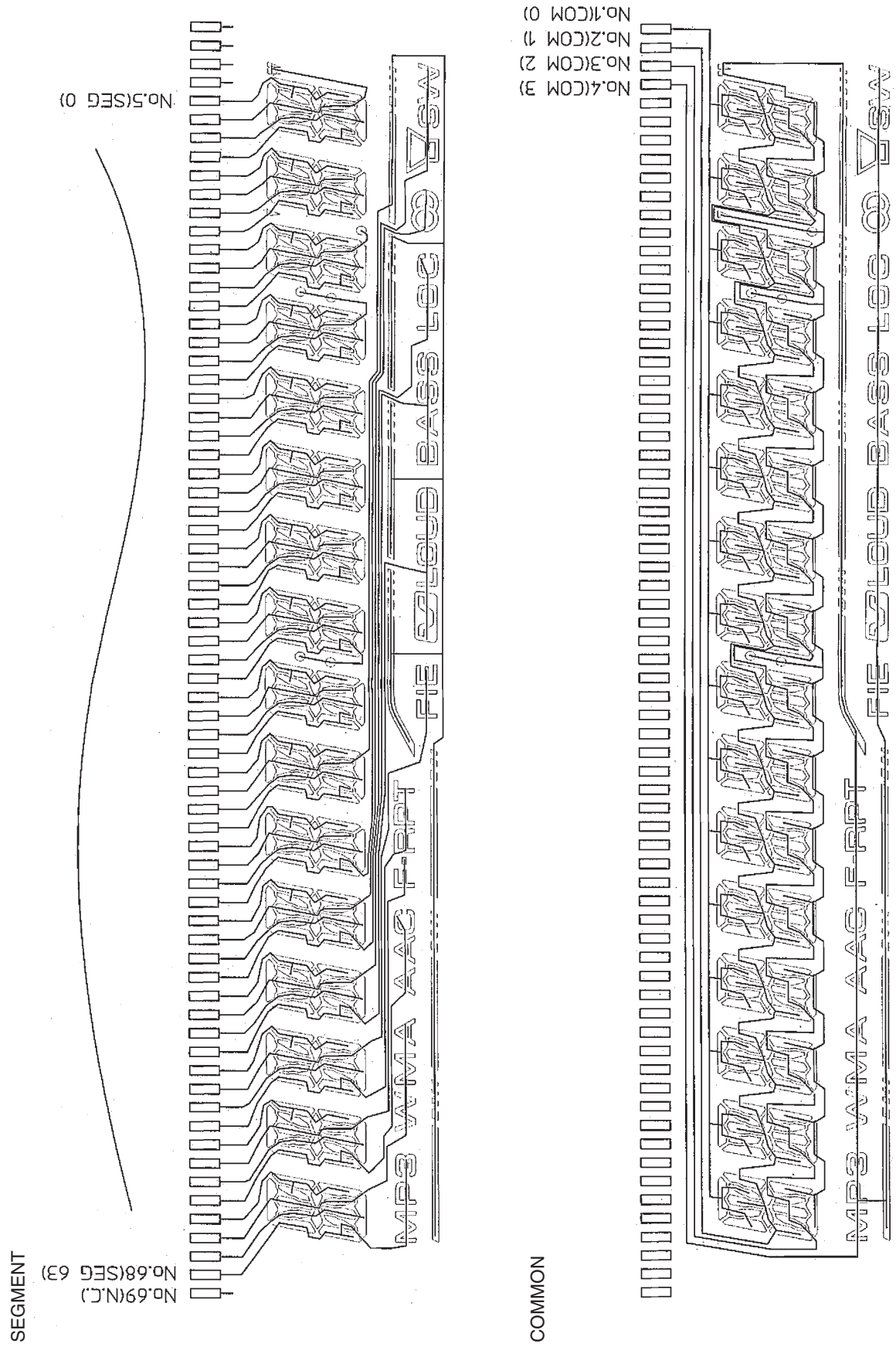
● FM/AM Tuner Unit



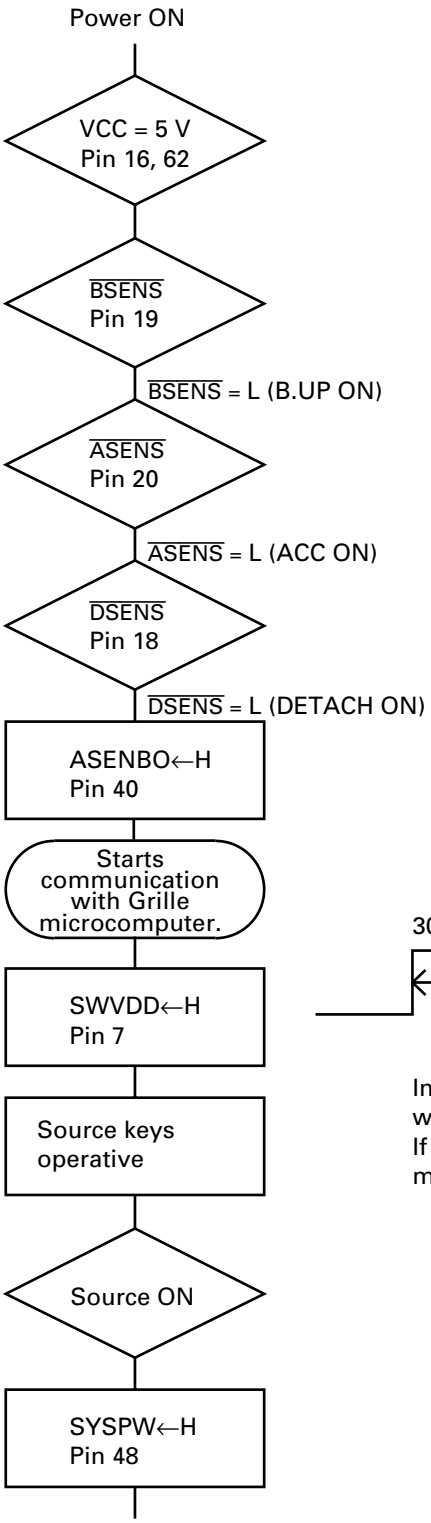
No.	Symbol	I/O	Explain	
1	AMANT	I	AM antenna input	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7 μH. (LAU type inductor)A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the hum of power transmission line.
2	RFGND		RF ground	Ground of antenna block
3	FMANT	I	FM antenna input	Input of FM antenna 75 Ω Surge absorber(DSP-201M-S00B)is necessary.
4	VCC		power supply	The power supply for analog block. D.C 8.4 V± 0.3 V
5	SL	O	signal level	Output of FM/AM signals level
6	CE2	I	chip enable-2	Chip enable for EEPROM "Low" active
7	NC		non connection	Not used
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. 3.3 V ± 0.2 V
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

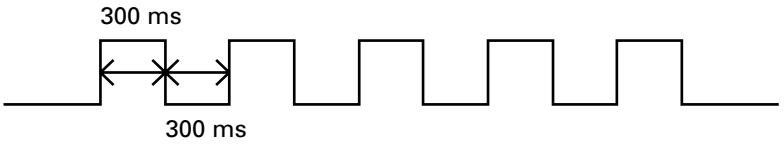
7.2.2 DISPLAY

● **LCD(YAW5080)**



7.3 OPERATIONAL FLOW CHART

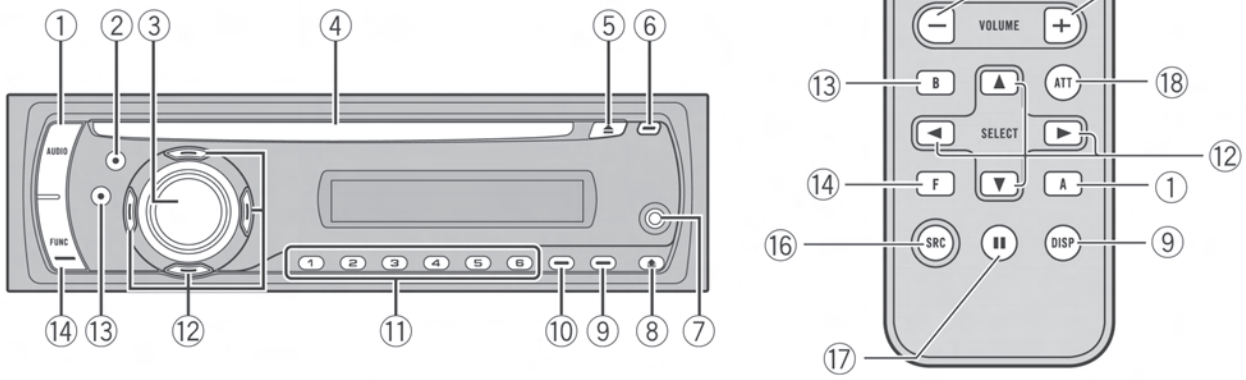




In case of the above signal, the communication with Grille microcomputer may fail.
If the time interval is not 300 msec, the oscillator may be defective.

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

8. OPERATIONS



按钮功能

主机

① **AUDIO按钮**
按该按钮可选择各种音质控制。

② **EQ按钮**
按该按钮可选择各种均衡器曲线。

③ **SOURCE 按钮、VOLUME**
选择播放源可开启本机。按该按钮可在所有可用的播放源中循环。
旋转该按钮可调高或调低音量。

④ **CD装载槽**
插入要播放的碟片。

⑤ **EJECT按钮**
按该按钮可从内置式CD播放机内退出CD。

⑥ **CLOCK按钮**
按该按钮可切换至时钟显示。

⑦ **AUX1输入插孔（3.5 mm立体声插孔）**
用来连接一个辅助设备。

⑧ **DETACH按钮**
按该按钮可将前面板从主机卸下。

⑨ **DISPLAY按钮**
按该按钮可选择不同的显示模式。

⑩ **SW按钮**
按该按钮选择超低音扬声器设定菜单。按住该按钮选择低音增强设定菜单。

⑪ **1至6按钮**
按该按钮可进行预设调谐，并可在使用多碟CD播放机时进行碟片号码搜索。

⑫ **▲/▼/◄/►按钮**
按该按钮可进行手动搜索调谐、快进、快倒和曲目搜索控制。同样还可用于控制功能。

⑬ **BAND按钮**
按该按钮可在3个FM波段和1个AM波段之间进行选择，并可取消各功能的控制模式。

⑭ **FUNCTION按钮**
按该按钮可选择各项功能。

遥控器

其作用和使用主机按钮相同。有关各按钮的作用，请参见对主机的介绍；**ATT**和**PAUSE**除外，其作用介绍如下。

⑮ **VOLUME按钮**
按该按钮可调高或调低音量。

⑯ **SOURCE按钮**
选择播放源可开启本机。按该按钮可在所有可用的播放源中循环。

⑰ **PAUSE按钮**
按该按钮可开关暂停。

⑱ **ATT按钮**
按该按钮可迅速将音量电平调低约90%。再按一次即可返回起初的音量电平。▣

开启本机与选择播放源

所需收听的播放源可进行选择。要切换至内置式CD播放机，请在本机中装入一张碟片。

● **按SOURCE选择一个播放源。**

反复按**SOURCE**可在以下播放源之间进行切换：

调谐器－电视－内置式CD播放机－多碟CD播放机－iPod－外部设备1－外部设备2－AUX1－AUX2

注意

- 在下列情况时，音源不会改变：
  — 当没有与选择的播放源对应的设备连接至本机时；
  — 当本机内没有碟片时；
  — 当多碟CD播放机内没有碟片舱时；
  — 当AUX（辅助输入）设为关时。

- AUX1的默认设定为开启。不使用AUX1时请将其关闭。
- 外部设备系指先锋产品（如未来产品），尽管作为播放源不兼容，但可通过本机控制其基本功能。本机可控制两台外部设备。在连接两台外部设备时，本机会自动将其指定为外部设备1和外部设备2。
- 当本机的蓝色／白色引线连接至汽车的自动天线中继控制端子时，汽车天线会在本机播放源启动时伸出。要收回天线，请关闭播放源。▣

调节音量

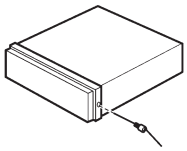
● **使用VOLUME可调节声级。**▣

关闭本机

● **按住SOURCE直至本机关闭。**▣

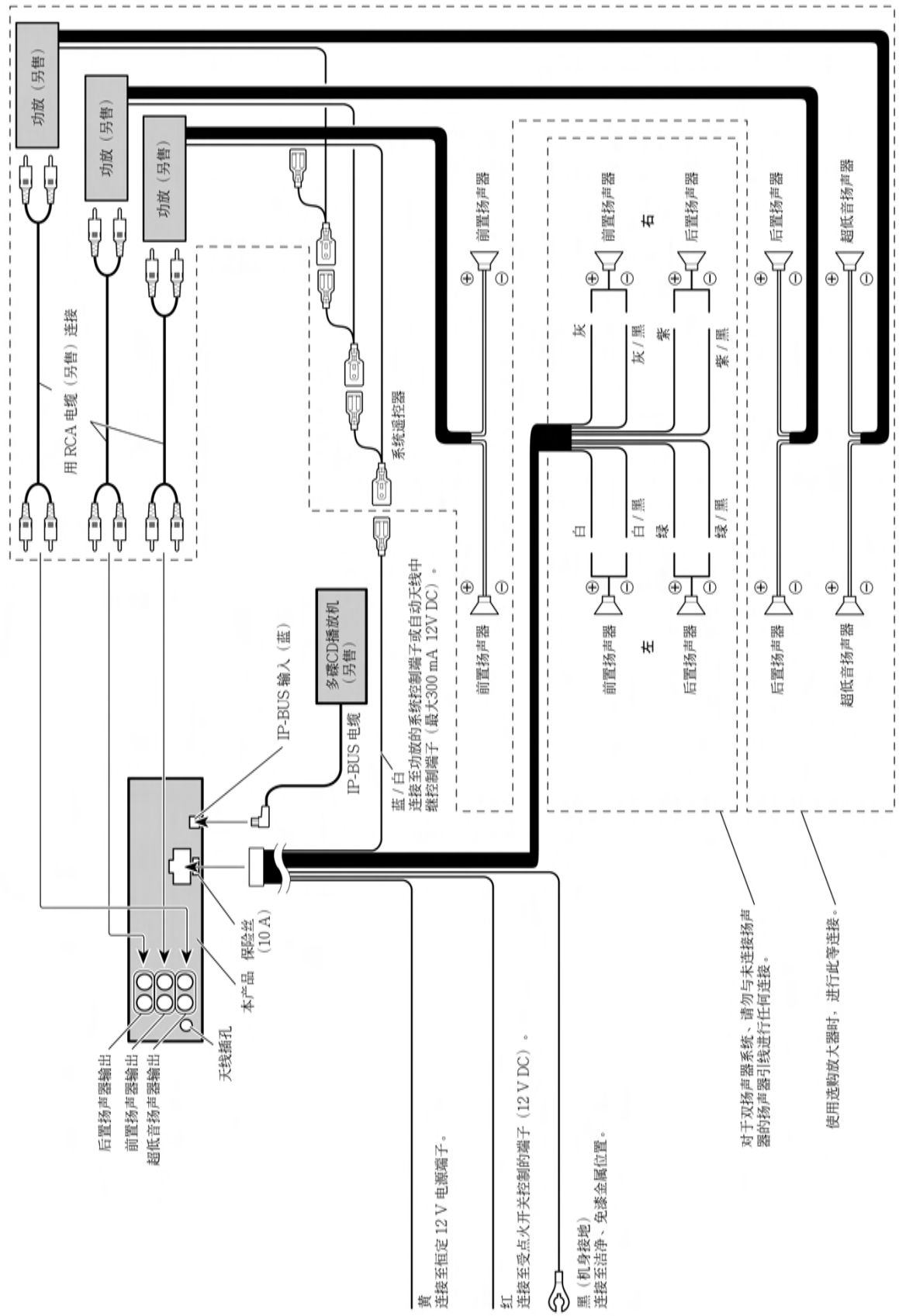
Fastening the front panel

If you do not plan to detach the front panel, the front panel can be fastened with supplied screw.



Screw
(CXX2204)

● Connection Diagram



● Jigs List

Name	Jig No.	Remarks
Test Disc	TCD-782	Checking the grating
L.P.F.		Checking the grating (Two pieces)

● Grease List

Name	Grease No.	Remarks
Grease	GEM1024	CD Mechanism Module
Grease	GEM1045	CD Mechanism Module

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