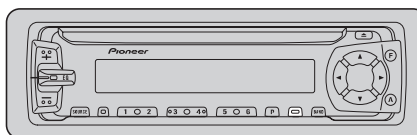


Service Manual

Pioneer

DEH-1000/X1N/UC



ORDER NO.
CRT2313

HIGH POWER CD PLAYER WITH FM/AM TUNER

DEH-1000

DEH-10

X1N/UC

DEH-1050

X1N/ES

X1N/UC

COMPACT
disc
DIGITAL AUDIO

- See the separate manual CX-916(CRT2300) for the CD mechanism description, disassembly and circuit description.
- The CD mechanism employed in this model is one of S8 series.

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

● **CD Player Service Precautions**

1. For pickup unit(CXX1285) handling, please refer to "Disassembly"(CX-916 Service Manual CRT2300).
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(Protection by a short pin).

2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please check the grating after changing the service pickup unit(see page 46).

1. SAFETY INFORMATION

CAUTION

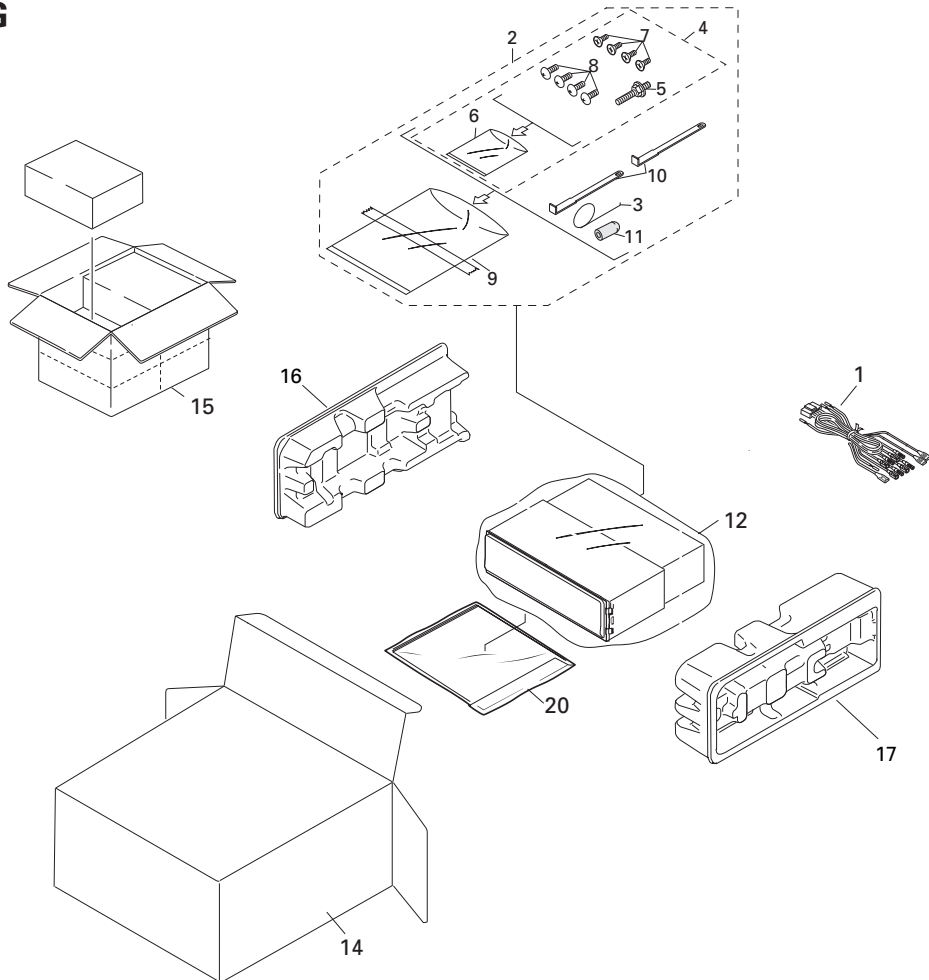
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly 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

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*" and ⊗ can not be supplied.
- Screws adjacent to ∇ mark on the product are used for disassembly.

(1) PACKING SECTION PARTS LIST

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|---------------------|-----------------------|--------------------------|-------------|-----------------------|
| | 1 Cord Assy | CDE5874 | 16 Protector | | CHP2101 |
| * | 2 Accessory Assy | CEA2395 | 17 Protector | | CHP2102 |
| | 3 Spring | CBH1650 | 18 | | |
| | 4 Screw Assy | CEA2396 | 19 | | |
| | 5 Screw | CBA1002 | 20-1 Owner's Manual | | See Contrast table(2) |
| | | | 20-2 Owner's Manual | | See Contrast table(2) |
| * | 6 Polyethylene Bag | CEG-127 | 20-3 Installation Manual | | See Contrast table(2) |
| | 7 Screw | CRZ50P090FMC | 20-4 Polyethylene Bag | | CEG1116 |
| | 8 Screw | TRZ50P080FMC | * 20-5 Card | | See Contrast table(2) |
| * | 9 Polyethylene Bag | CEG-158 | | | |
| | 10 Handle | CNC5395 | | | |
| | 11 Bush | CNV3930 | | | |
| | 12 Polyethylene Bag | See Contrast table(2) | | | |
| | 13 | | | | |
| | 14 Carton | See Contrast table(2) | | | |
| | 15 Contain Box | See Contrast table(2) | | | |

(2) CONTRAST TABLE

DEH-1000/X1N/UC, DEH-10/X1N/UC and DEH-1050/X1N/ES are constructed the same except for the following:

| Mark No. | Symbol and Description | Part No. | | |
|----------|--------------------------|-----------------|---------------|-----------------|
| | | DEH-1000/X1N/UC | DEH-10/X1N/UC | DEH-1050/X1N/ES |
| | 12 Polyethylene Bag | CEG1173 | CEG1173 | CEG-162 |
| | 14 Carton | CHG3664 | CHG3663 | CHG3665 |
| | 15 Contain Box | CHL3664 | CHL3663 | CHL3665 |
| | 20-1 Owner's Manual | CRD2858 | CRD2858 | CRD2860 |
| | 20-2 Owner's Manual | Not used | Not used | CRD2861 |
| | 20-3 Installation Manual | CRD2859 | CRD2859 | CRD2862 |
| * | 20-5 Card | ARY1048 | ARY1048 | Not used |

● **Owner's Manual**

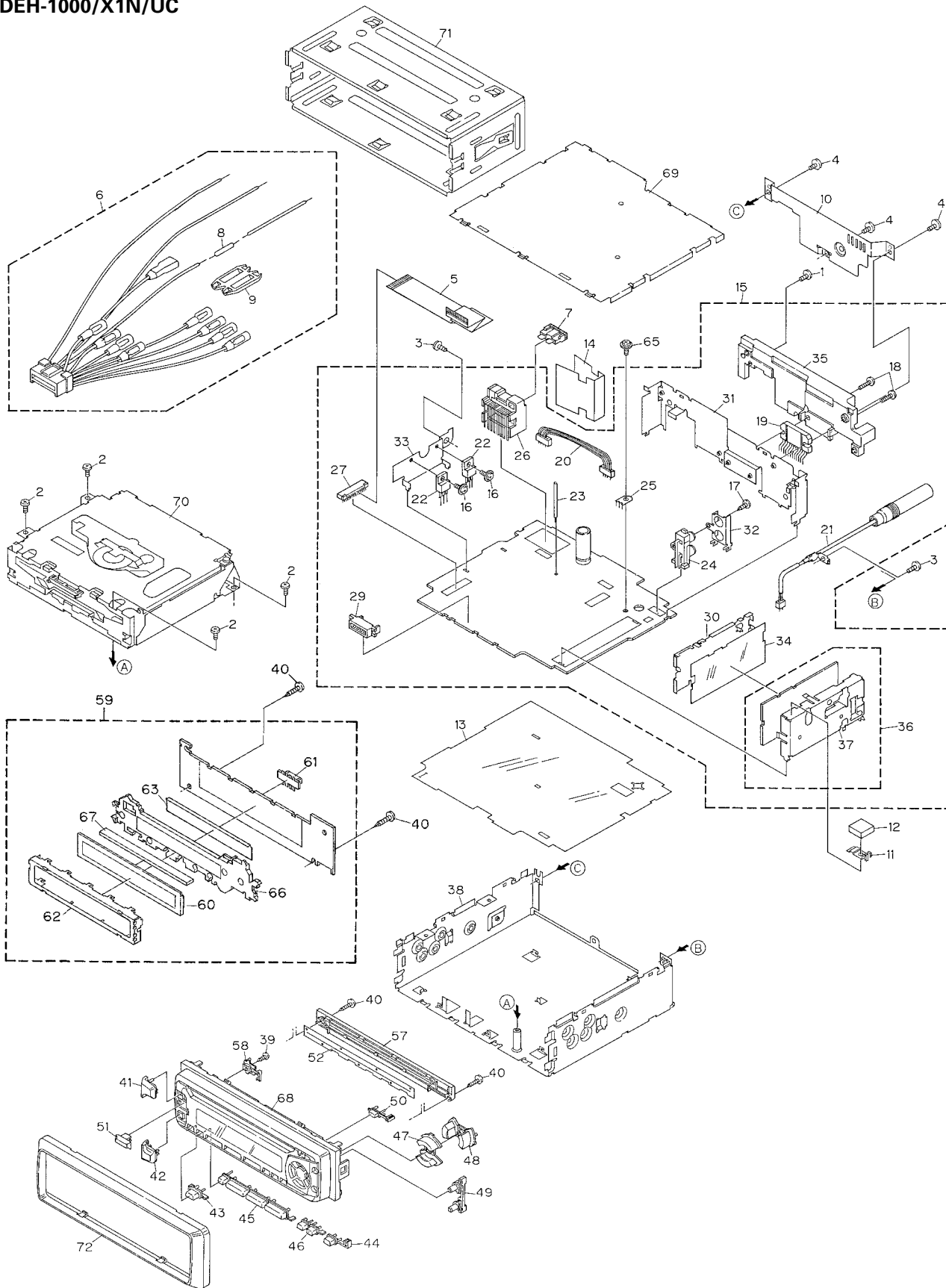
| Model | Part No. | Language |
|--------------------------------|----------|------------------------------|
| DEH-1000/X1N/UC, DEH-10/X1N/UC | CRD2858 | English, French, Spanish |
| DEH-1050/X1N/ES | CRD2860 | English, Spanish, Portuguese |
| | CRD2861 | Arabic, Chinese |

● **Installation Manual**

| Model | Part No. | Language |
|--------------------------------|----------|---|
| DEH-1000/X1N/UC, DEH-10/X1N/UC | CRD2859 | English, French, Spanish |
| DEH-1050/X1N/ES | CRD2862 | English, Spanish, Portuguese, Arabic, Chinese |

2.2 EXTERIOR

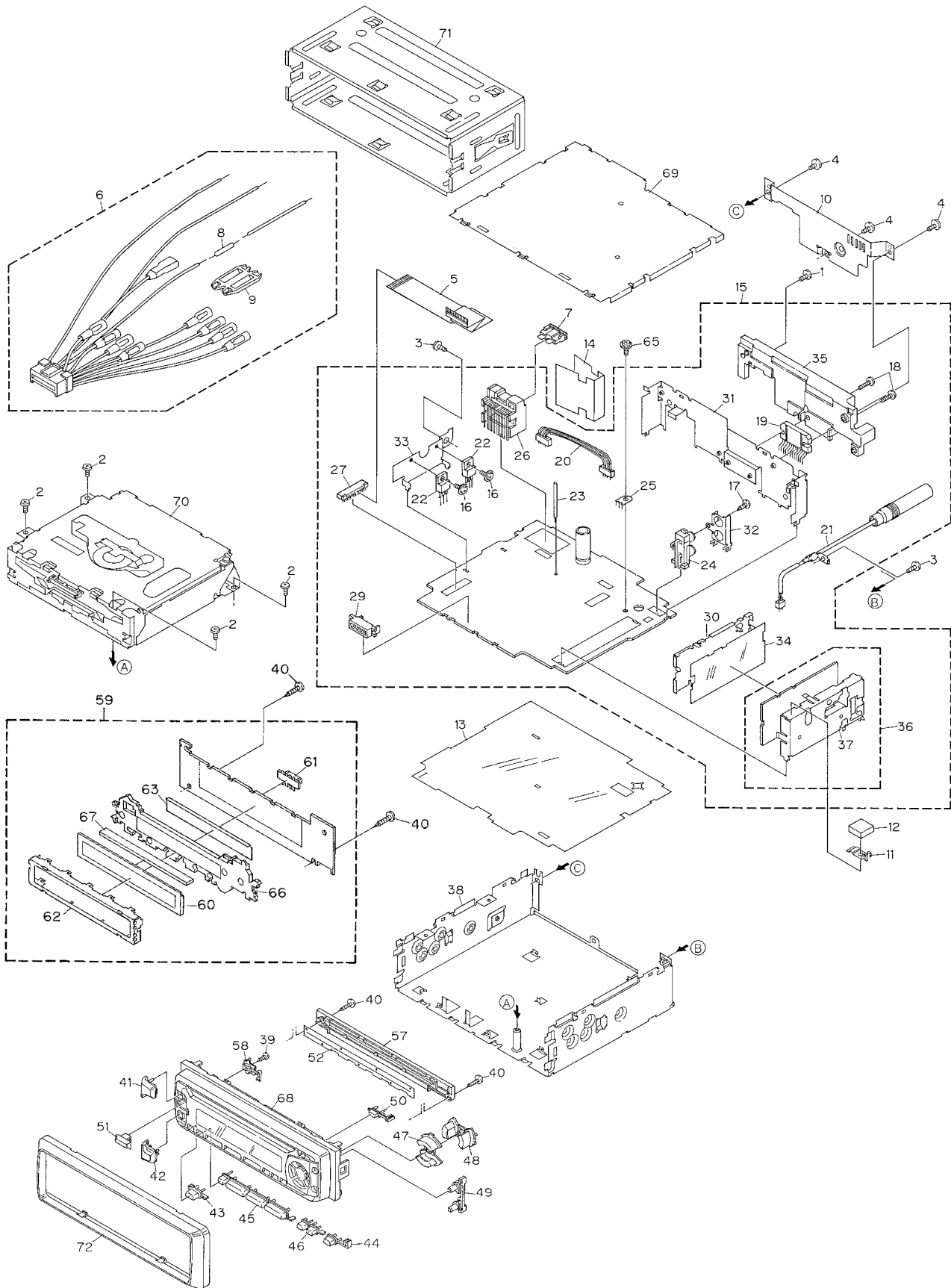
● DEH-1000/X1N/UC



● EXTERIOR SECTION PARTS LIST

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|----------------------|--------------|----------|---------------------|--------------|
| 1 | Screw | BMZ26P120FMC | 36 | FM/AM Tuner Unit | CWE1501 |
| 2 | Screw | BSZ26P060FMC | 37 | Holder | CNC7532 |
| 3 | Screw | BSZ30P060FMC | 38 | Chassis Unit | CXB3167 |
| 4 | Screw | BSZ30P120FMC | 39 | Screw | BPZ20P060FMC |
| 5 | Cable | CDE6018 | 40 | Screw | BPZ20P080FMC |
| 6 | Cord Assy | CDE5874 | 41 | Button(+) | CAC5834 |
| 7 | Fuse(10A) | CEK1136 | 42 | Button(-) | CAC5837 |
| 8 | Resistor | RS1/2PMF102J | 43 | Button(SOURCE) | CAC5983 |
| 9 | Cap | CNS1472 | 44 | Button(BAND) | CAC5984 |
| 10 | Cover | CNC8367 | 45 | Button(1-6) | CAC5840 |
| 11 | Earth Plate | CNC8368 | 46 | Button(PGM,CL) | CAC5841 |
| 12 | Spacer | CNM4913 | 47 | Button(UP,DOWN) | CAC5846 |
| 13 | Insulator | CNM6006 | 48 | Button(<->) | CAC5849 |
| 14 | Insulator | CNM6224 | 49 | Button(F,A) | CAC5852 |
| ⊗ 15 | Tuner Amp Unit | CWM6092 | 50 | Button(EJECT) | CAC5853 |
| 16 | Screw | ASZ26P080FMC | 51 | Button(EQ) | CAC6132 |
| 17 | Screw | BPZ26P080FMC | 52 | Cover | CNM4704 |
| 18 | Screw | BSZ26P160FMC | 53 | ..... |  |
| 19 | IC(IC551) | PAL005A | 54 | ..... |  |
| 20 | Connector(CN551) | CDE5996 | 55 | ..... |  |
| 21 | Antenna Cable(CN502) | CDH1254 | 56 | ..... |  |
| 22 | Transistor(Q981,991) | 2SD2396 | 57 | Holder | CNV5574 |
| 23 | Clamper | CEF1006 | 58 | Housing | CNV5575 |
| 24 | Pin Jack(CN431) | CKB1028 | 59 | Keyboard Unit | CWM6098 |
| 25 | Terminal(CN501) | CKF1059 | 60 | LCD(LCD1801) | CAW1500 |
| 26 | Connector(CN951) | CKM1299 | 61 | Connector(CN1801) | CKS3580 |
| * 27 | Connector(CN681) | CKS2227 | 62 | Holder | CNC8036 |
| 28 | ..... |  | 63 | Sheet | CNM6026 |
| 29 | Connector(CN651) | CKS3581 | 64 | ..... |  |
| 30 | Holder | CNC7533 | 65 | Screw | ISS26P055FUC |
| 31 | Holder | CNC8130 | 66 | Lighting Conductor | CNV5570 |
| 32 | Holder | CNC8041 | 67 | Connector | CNV5571 |
| 33 | Holder | CNC8043 | 68 | Grille Unit | CXB3504 |
| 34 | Insulator | CNM5967 | 69 | Case Unit | CXB4033 |
| 35 | Heat Sink | CNR1506 | 70 | CD Mechanism Module | CXK5200 |
| | | | 71 | Holder | CNC6798 |
| | | | 72 | Panel | CNS5132 |

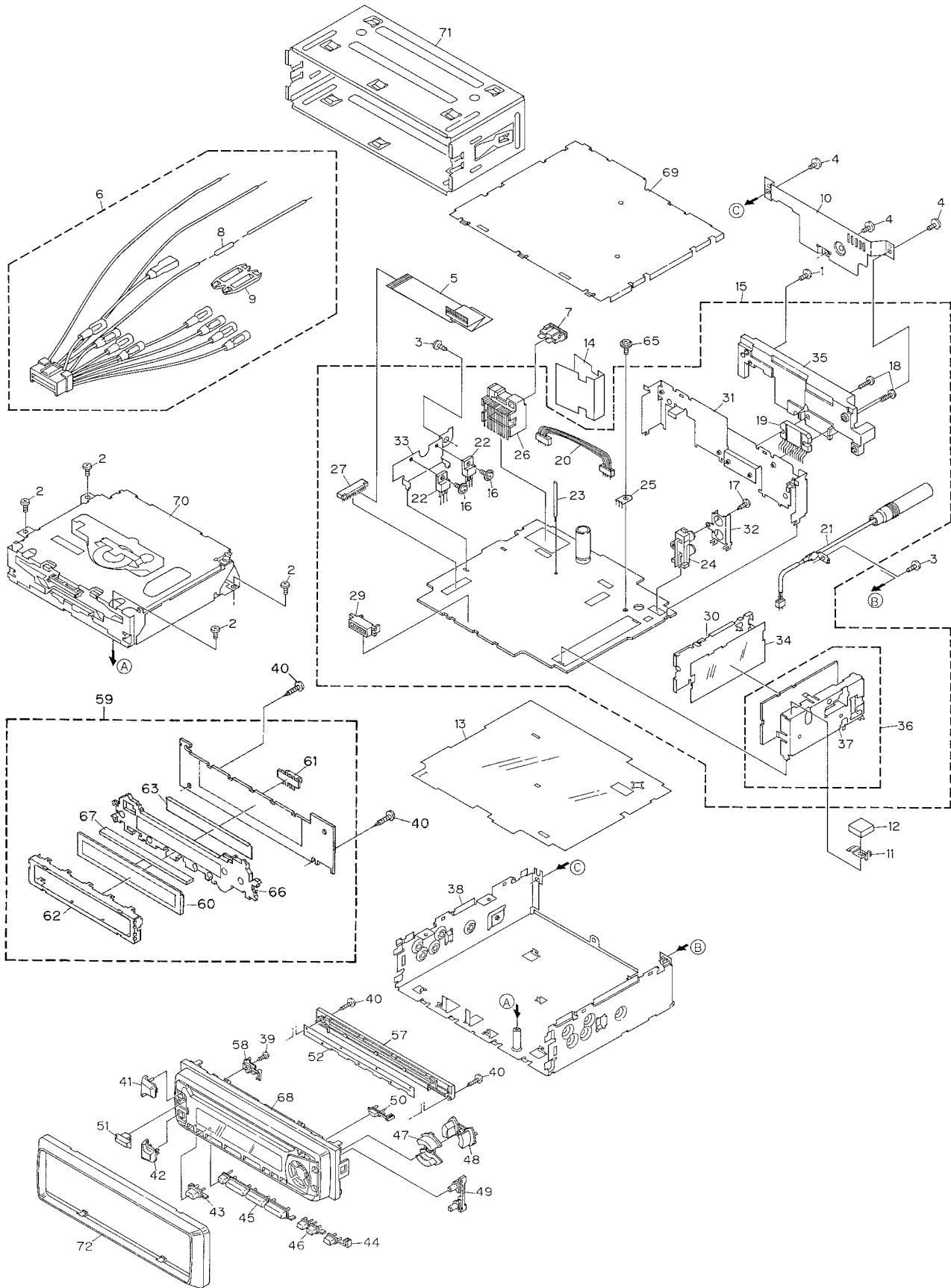
● DEH-10/X1N/UC



● EXTERIOR SECTION PARTS LIST

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|----------------------|--------------|----------|---------------------|--------------|
| 1 | Screw | BMZ26P120FMC | 36 | FM/AM Tuner Unit | CWE1501 |
| 2 | Screw | BSZ26P060FMC | 37 | Holder | CNC7532 |
| 3 | Screw | BSZ30P060FMC | 38 | Chassis Unit | CXB3167 |
| 4 | Screw | BSZ30P120FMC | 39 | Screw | BPZ20P060FMC |
| 5 | Cable | CDE6018 | 40 | Screw | BPZ20P080FMC |
| 6 | Cord Assy | CDE5874 | 41 | Button(+) | CAC5834 |
| 7 | Fuse(10A) | CEK1136 | 42 | Button(-) | CAC5837 |
| 8 | Resistor | RS1/2PMF102J | 43 | Button(SOURCE) | CAC5983 |
| 9 | Cap | CNS1472 | 44 | Button(BAND) | CAC5984 |
| 10 | Cover | CNC8367 | 45 | Button(1-6) | CAC5840 |
| 11 | Earth Plate | CNC8368 | 46 | Button(PGM,CL) | CAC5841 |
| 12 | Spacer | CNM4913 | 47 | Button(UP,DOWN) | CAC5846 |
| 13 | Insulator | CNM6006 | 48 | Button(<->) | CAC5849 |
| 14 | Insulator | CNM6224 | 49 | Button(F,A) | CAC5852 |
| ⊗ 15 | Tuner Amp Unit | CWM6092 | 50 | Button(EJECT) | CAC5853 |
| 16 | Screw | ASZ26P080FMC | 51 | Button(EQ) | CAC6132 |
| 17 | Screw | BPZ26P080FMC | 52 | Cover | CNM4704 |
| 18 | Screw | BSZ26P160FMC | 53 | ..... |  |
| 19 | IC(IC551) | PAL005A | 54 | ..... |  |
| 20 | Connector(CN551) | CDE5996 | 55 | ..... |  |
| 21 | Antenna Cable(CN502) | CDH1254 | 56 | ..... |  |
| 22 | Transistor(Q981,991) | 2SD2396 | 57 | Holder | CNV5574 |
| 23 | Clamper | CEF1006 | 58 | Housing | CNV5575 |
| 24 | Pin Jack(CN431) | CKB1028 | 59 | Keyboard Unit | CWM6095 |
| 25 | Terminal(CN501) | CKF1059 | 60 | LCD(LCD1801) | CAW1500 |
| 26 | Connector(CN951) | CKM1299 | 61 | Connector(CN1801) | CKS3580 |
| * 27 | Connector(CN681) | CKS2227 | 62 | Holder | CNC8036 |
| 28 | ..... |  | 63 | Sheet | CNM6026 |
| 29 | Connector(CN651) | CKS3581 | 64 | ..... |  |
| 30 | Holder | CNC7533 | 65 | Screw | ISS26P055FUC |
| 31 | Holder | CNC8130 | 66 | Lighting Conductor | CNV5570 |
| 32 | Holder | CNC8041 | 67 | Connector | CNV5571 |
| 33 | Holder | CNC8043 | 68 | Grille Unit | CXB3503 |
| 34 | Insulator | CNM5967 | 69 | Case Unit | CXB4033 |
| 35 | Heat Sink | CNR1506 | 70 | CD Mechanism Module | CXK5200 |
| | | | 71 | Holder | CNC6798 |
| | | | 72 | Panel | CNS5132 |

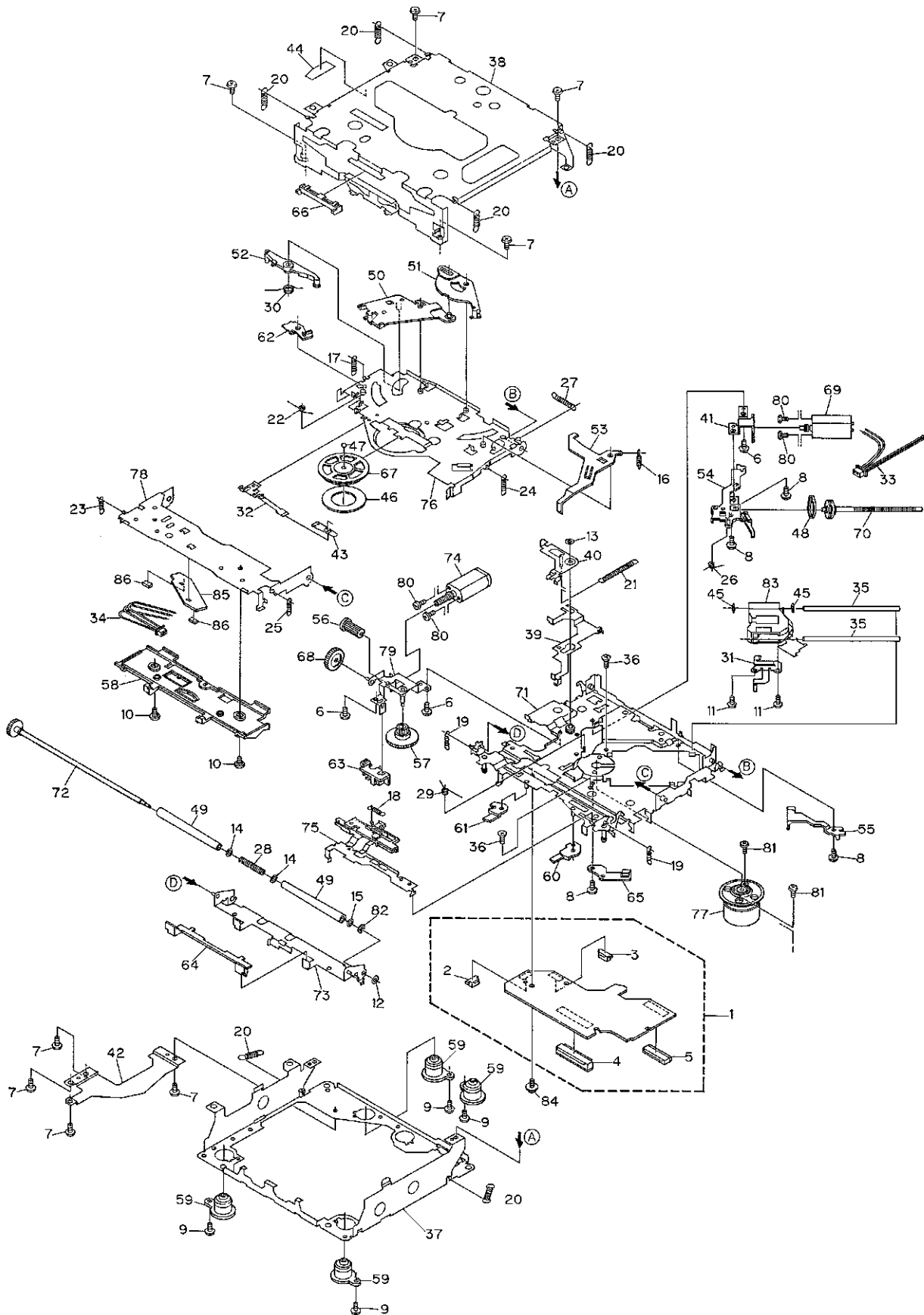
● DEH-1050/X1N/ES



● EXTERIOR SECTION PARTS LIST

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|----------------------|--------------|----------|---------------------|--------------|
| 1 | Screw | BMZ26P120FMC | 36 | FM/AM Tuner Unit | CWE1501 |
| 2 | Screw | BSZ26P060FMC | 37 | Holder | CNC7532 |
| 3 | Screw | BSZ30P060FMC | 38 | Chassis Unit | CXB3167 |
| 4 | Screw | BSZ30P120FMC | 39 | Screw | BPZ20P060FMC |
| 5 | Cable | CDE6018 | 40 | Screw | BPZ20P080FMC |
| 6 | Cord Assy | CDE5874 | 41 | Button(+) | CAC5834 |
| 7 | Fuse(10A) | CEK1136 | 42 | Button(-) | CAC5837 |
| 8 | Resistor | RS1/2PMF102J | 43 | Button(SOURCE) | CAC5983 |
| 9 | Cap | CNS1472 | 44 | Button(BAND) | CAC5984 |
| 10 | Cover | CNC8367 | 45 | Button(1-6) | CAC5840 |
| 11 | Earth Plate | CNC8368 | 46 | Button(PGM,CL) | CAC5841 |
| 12 | Spacer | CNM4913 | 47 | Button(UP,DOWN) | CAC5846 |
| 13 | Insulator | CNM6006 | 48 | Button(<->) | CAC5849 |
| 14 | Insulator | CNM6224 | 49 | Button(F,A) | CAC5852 |
| ⊗ 15 | Tuner Amp Unit | CWM6093 | 50 | Button(EJECT) | CAC5853 |
| 16 | Screw | ASZ26P080FMC | 51 | Button(EQ) | CAC6132 |
| 17 | Screw | BPZ26P080FMC | 52 | Cover | CNM4704 |
| 18 | Screw | BSZ26P160FMC | 53 | ..... |  |
| 19 | IC(IC551) | PAL005A | 54 | ..... |  |
| 20 | Connector(CN551) | CDE5996 | 55 | ..... |  |
| 21 | Antenna Cable(CN502) | CDH1254 | 56 | ..... |  |
| 22 | Transistor(Q981,991) | 2SD2396 | 57 | Holder | CNV5574 |
| 23 | Clamper | CEF1006 | 58 | Housing | CNV5575 |
| 24 | Pin Jack(CN431) | CKB1028 | 59 | Keyboard Unit | CWM6098 |
| 25 | Terminal(CN501) | CKF1059 | 60 | LCD(LCD1801) | CAW1500 |
| 26 | Connector(CN951) | CKM1299 | 61 | Connector(CN1801) | CKS3580 |
| * 27 | Connector(CN681) | CKS2227 | 62 | Holder | CNC8036 |
| 28 | ..... |  | 63 | Sheet | CNM6026 |
| 29 | Connector(CN651) | CKS3581 | 64 | ..... |  |
| 30 | Holder | CNC7533 | 65 | Screw | ISS26P055FUC |
| 31 | Holder | CNC8130 | 66 | Lighting Conductor | CNV5570 |
| 32 | Holder | CNC8041 | 67 | Connector | CNV5571 |
| 33 | Holder | CNC8043 | 68 | Grille Unit | CXB3505 |
| 34 | Insulator | CNM5967 | 69 | Case Unit | CXB4033 |
| 35 | Heat Sink | CNR1506 | 70 | CD Mechanism Module | CXK5200 |
| | | | 71 | Holder | CNC6798 |
| | | | 72 | Panel | CNS5132 |

2.3 CD MECHANISM MODULE



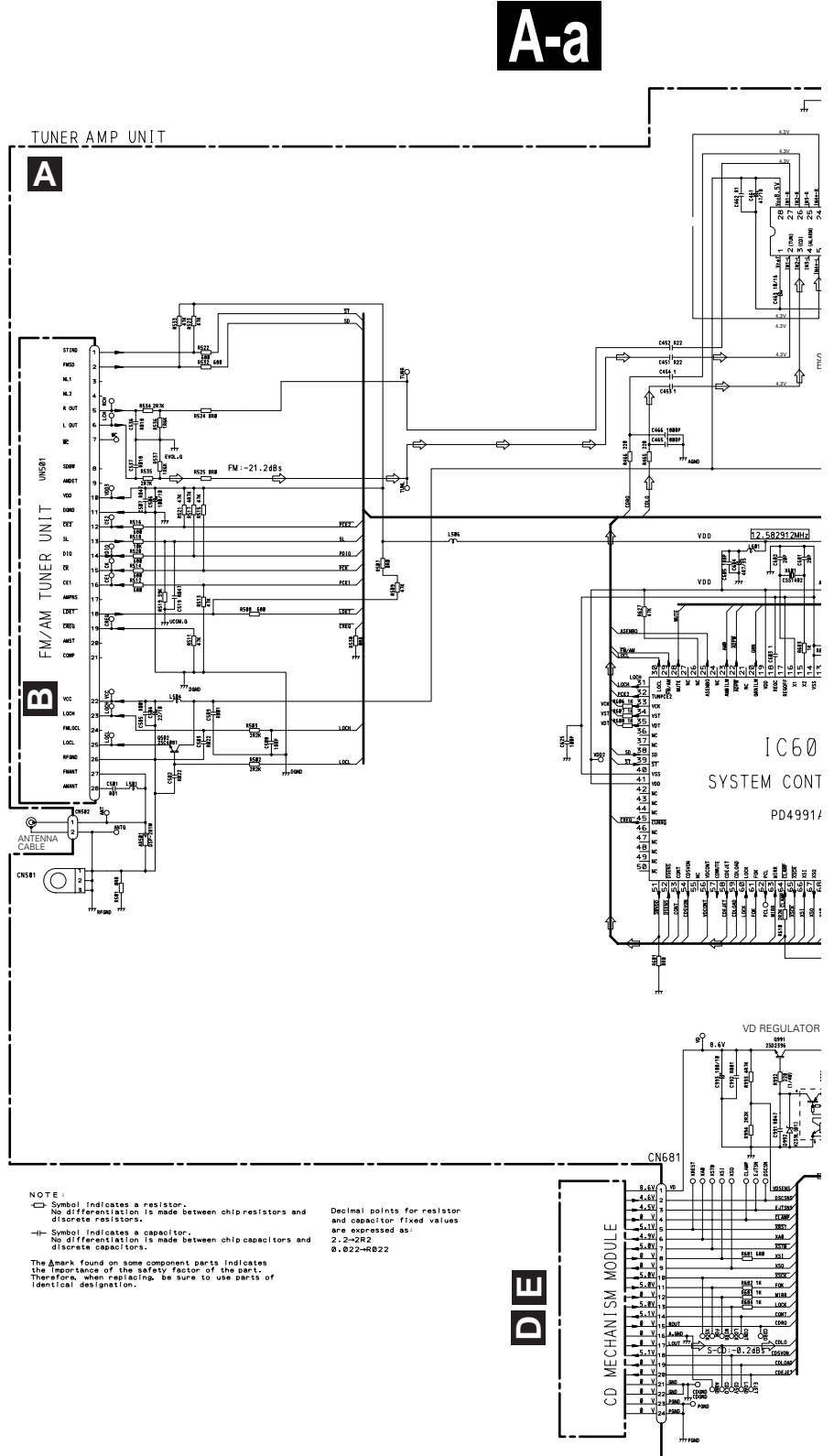
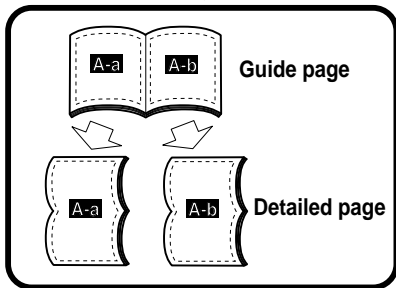
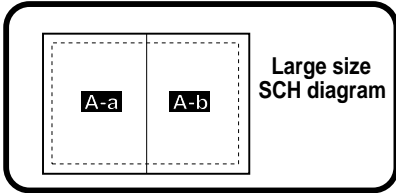
● CD MECHANISM MODULE SECTION PARTS LIST

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|------------------|--------------|----------|--------------------------|--------------|
| 1 | Control Unit | CWX2344 | 46 | Sheet | CNM6215 |
| 2 | Connector(CN802) | CKS2192 | 47 | Ball | CNR1189 |
| 3 | Connector(CN801) | CKS2193 | 48 | Belt | CNT1086 |
| 4 | Connector(CN701) | CKS2773 | 49 | Roller | CNV5259 |
| 5 | Connector(CN101) | CKS3486 | 50 | Arm | CNV5246 |
| 6 | Screw | BMZ20P030FZK | 51 | Arm | CNV5247 |
| 7 | Screw | BSZ20P040FZK | 52 | Arm | CNV5248 |
| 8 | Screw(M2×3) | CBA1077 | 53 | Arm | CNV5249 |
| 9 | Screw(M2×6) | CBA1230 | 54 | Guide | CNV5254 |
| 10 | Screw | CBA1243 | 55 | Guide | CNV5255 |
| 11 | Screw(M2×4) | CBA1362 | 56 | Gear | CNV5257 |
| 12 | Washer | CBF1037 | 57 | Gear | CNV5256 |
| 13 | Washer | CBF1038 | 58 | Guide | CNV5259 |
| 14 | Washer | CBF1060 | 59 | Damper | CNV5266 |
| * 15 | Washer | CBF1075 | 60 | Arm | CNV5359 |
| 16 | Spring | CBH2079 | 61 | Arm | CNV5360 |
| 17 | Spring | CBH2117 | 62 | Arm | CNV5361 |
| 18 | Spring | CBH2082 | 63 | Guide | CNV5509 |
| 19 | Spring | CBH2110 | 64 | Guide | CNV5510 |
| 20 | Spring | CBH2111 | 65 | Holder | CNV5578 |
| 21 | Spring | CBH2114 | 66 | Guide | CNV5751 |
| 22 | Spring | CBH2115 | 67 | Clamper | CNV5758 |
| 23 | Spring | CBH2080 | 68 | Gear | CNV5813 |
| 24 | Spring | CBH2118 | 69 | Motor Unit(M1) | CXB2190 |
| 25 | Spring | CBH2161 | 70 | Screw Unit | CXB2191 |
| 26 | Spring | CBH2163 | 71 | Chassis Unit | CXB2192 |
| 27 | Spring | CBH2189 | 72 | Gear Unit | CXB2193 |
| 28 | Spring | CBH2249 | 73 | Arm Unit | CXB2194 |
| 29 | Spring | CBH2260 | 74 | Motor Unit(M2) | CXB2195 |
| 30 | Spring | CBH2262 | 75 | Lever Unit | CXB2553 |
| 31 | Spring | CBL1367 | 76 | Arm Unit | CXB2554 |
| 32 | Spring | CBL1369 | 77 | Motor Unit(M3) | CXB2562 |
| 33 | Connector | CDE5531 | 78 | Arm Unit | CXB2795 |
| 34 | Connector | CDE5532 | 79 | Bracket Unit | CXB4071 |
| 35 | Shaft | CLA3304 | 80 | Screw | JFZ20P025FMC |
| 36 | Screw(M2.6×6) | CBA1458 | 81 | Screw | JGZ17P025FZK |
| 37 | Frame | CNC7544 | 82 | Washer | YE15FUC |
| 38 | Frame | CNC7545 | 83 | Pickup Unit(Service)(P8) | CXX1285 |
| 39 | Lever | CNC7546 | 84 | Screw | IMS26P030FMC |
| 40 | Arm | CNC7739 | * 85 | PCB | CNX2982 |
| 41 | Bracket | CNC7798 | 86 | Photo-transistor(Q1, 2) | CPT230SX-TU |
| 42 | Plate | CNC8090 | | | |
| 43 | Spacer | CNM3315 | | | |
| 44 | Sheet | CNM6170 | | | |
| 45 | Cushion | CNM6204 | | | |

3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

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



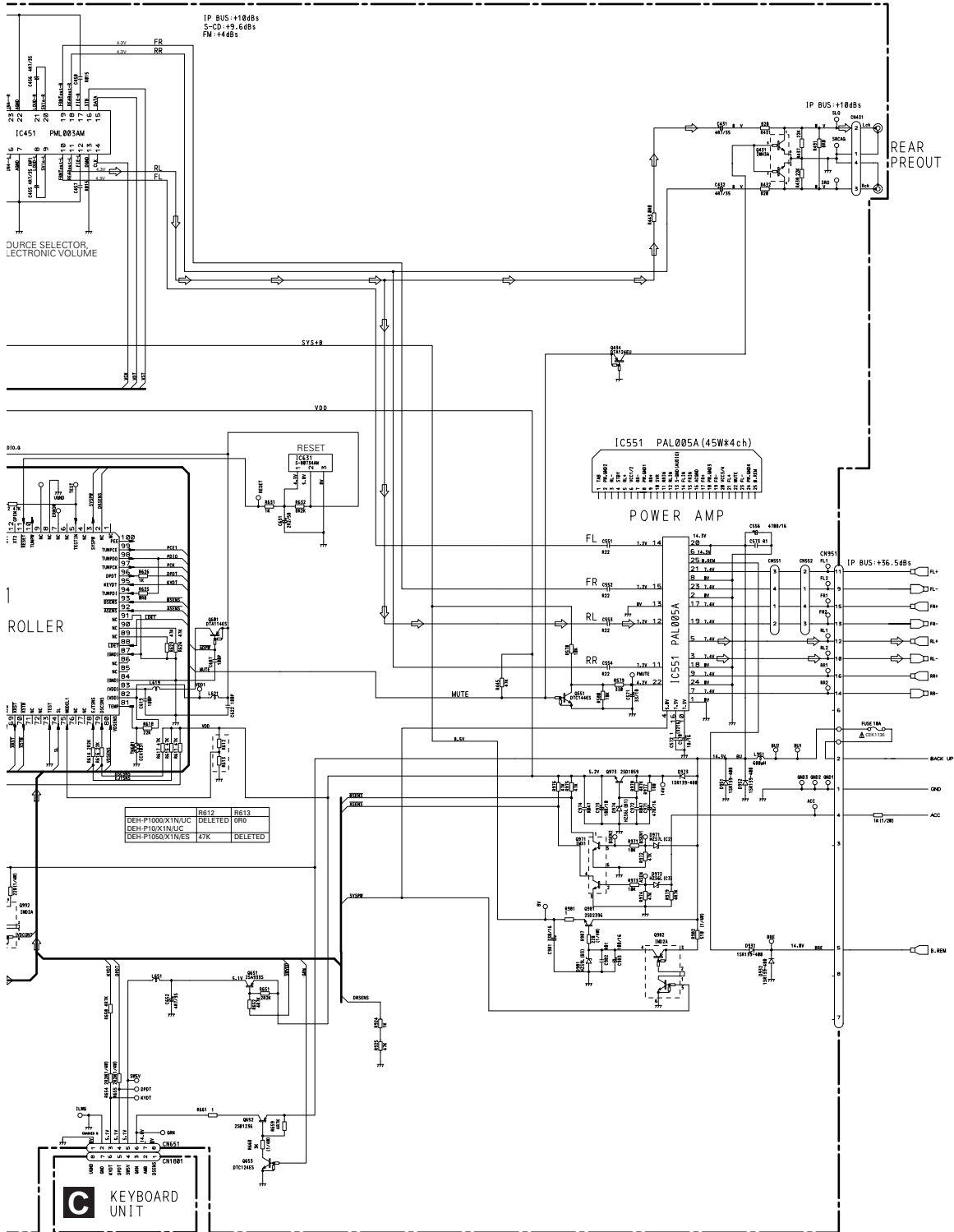
A-a

A

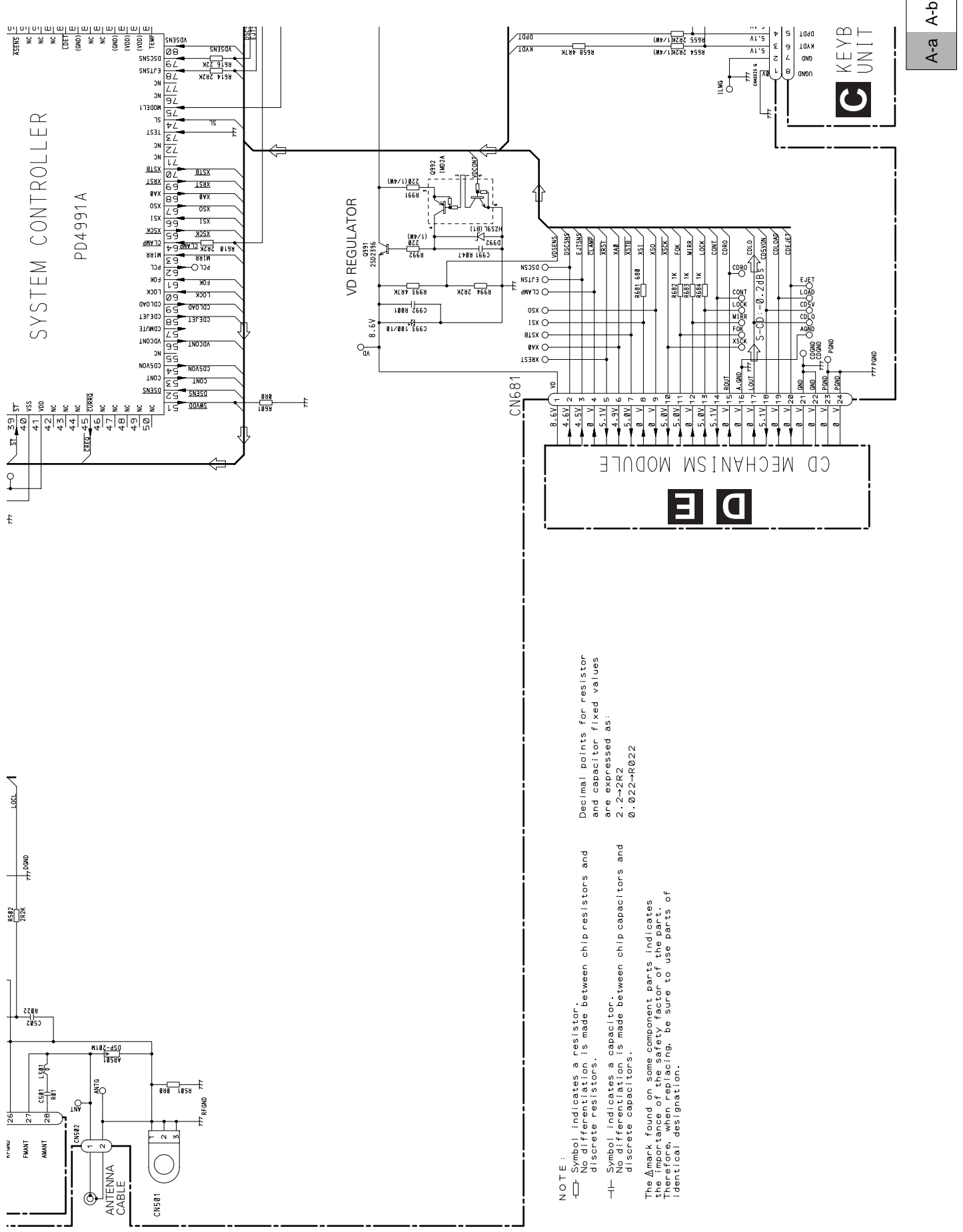
B

DE

A-b



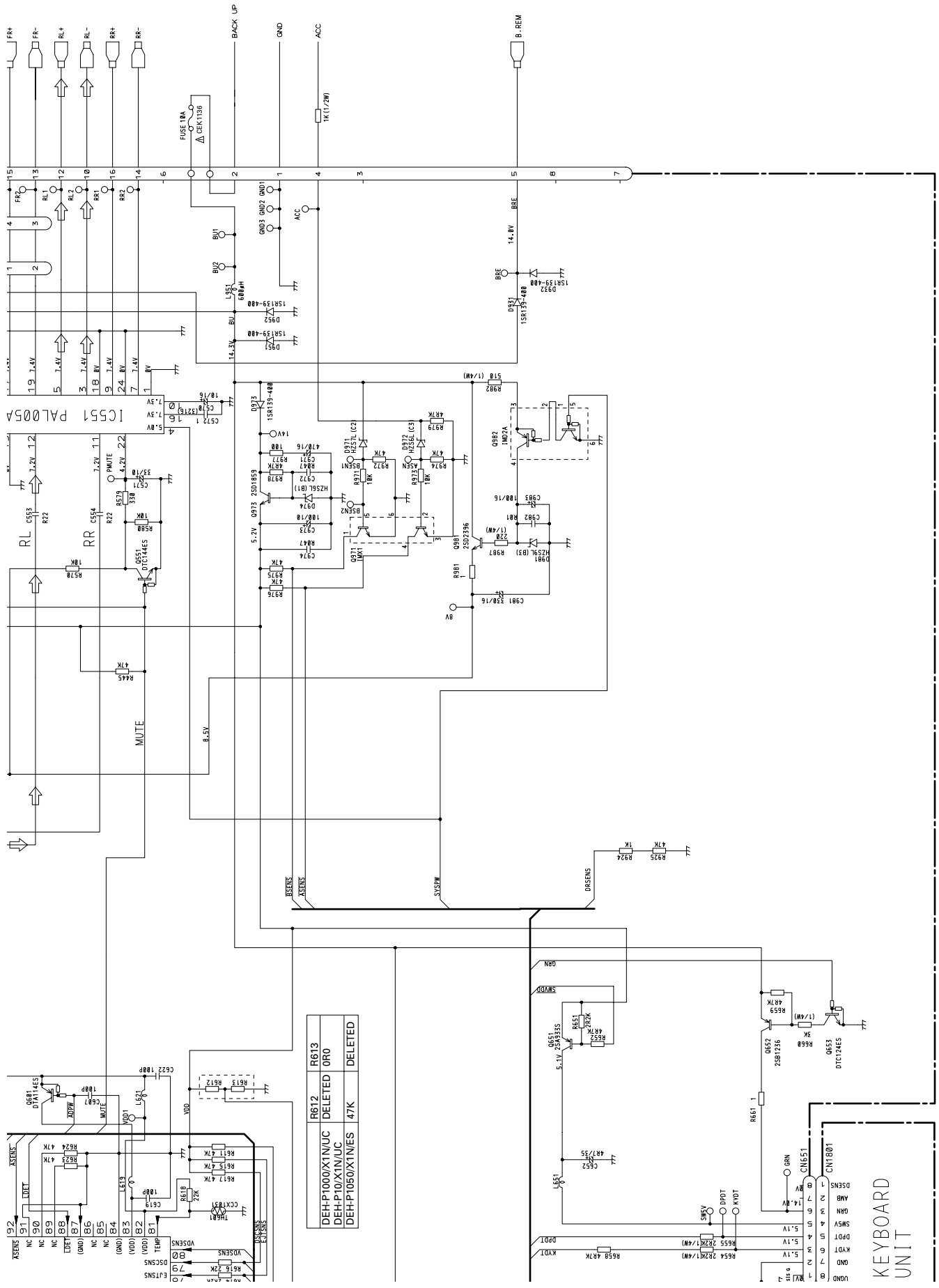
A
B
C
D



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.

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.



| | | | | | |
|----------------|------|------|---------|-----|---------|
| DEHP1000X1N/UC | R612 | R613 | DELETED | OR0 | DELETED |
| DEHP10X1N/UC | | | | | |
| DEHP1050X1N/ES | 47K | | | | |

KEYBOARD UNIT

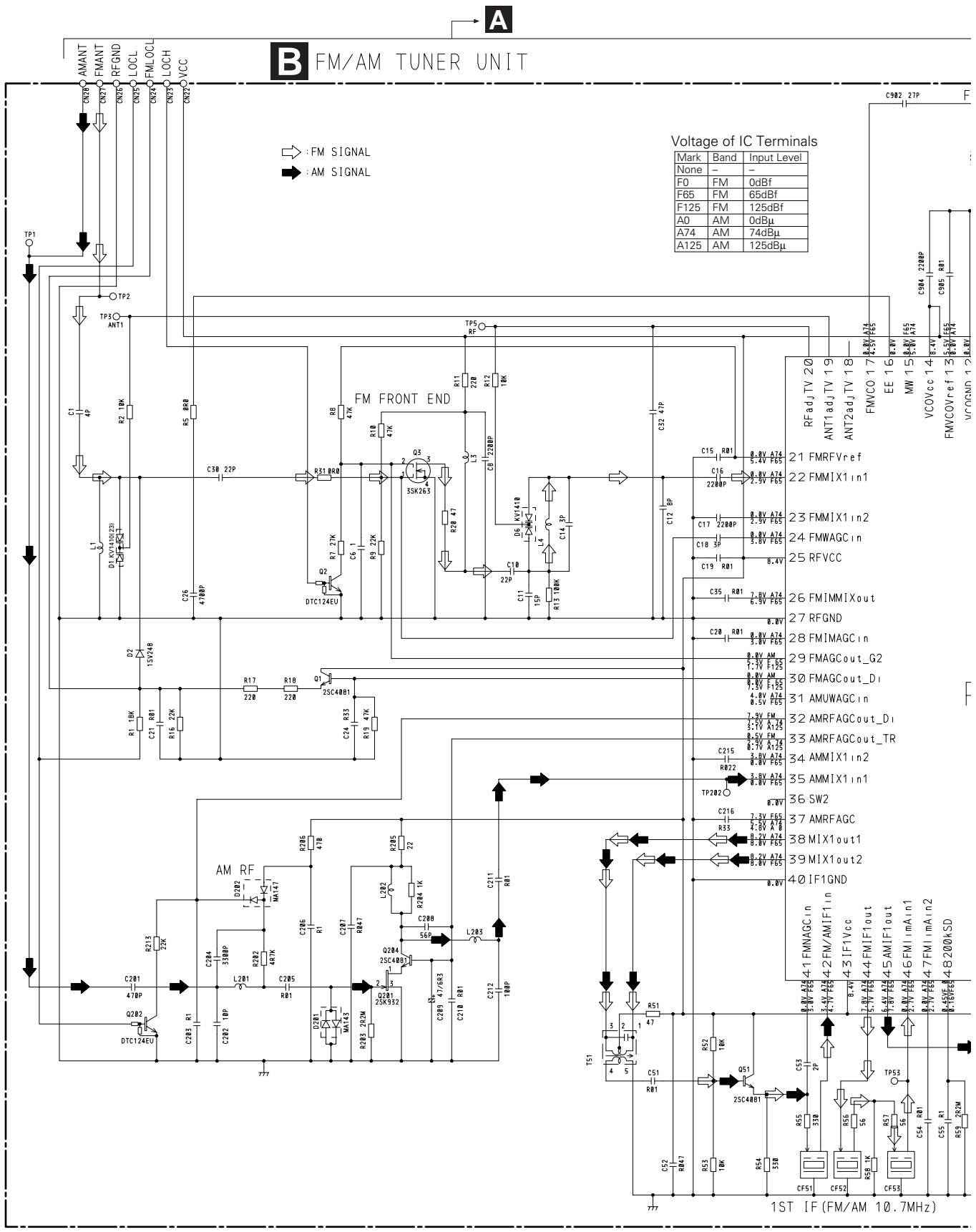
3.2 FM/AM TUNER UNIT

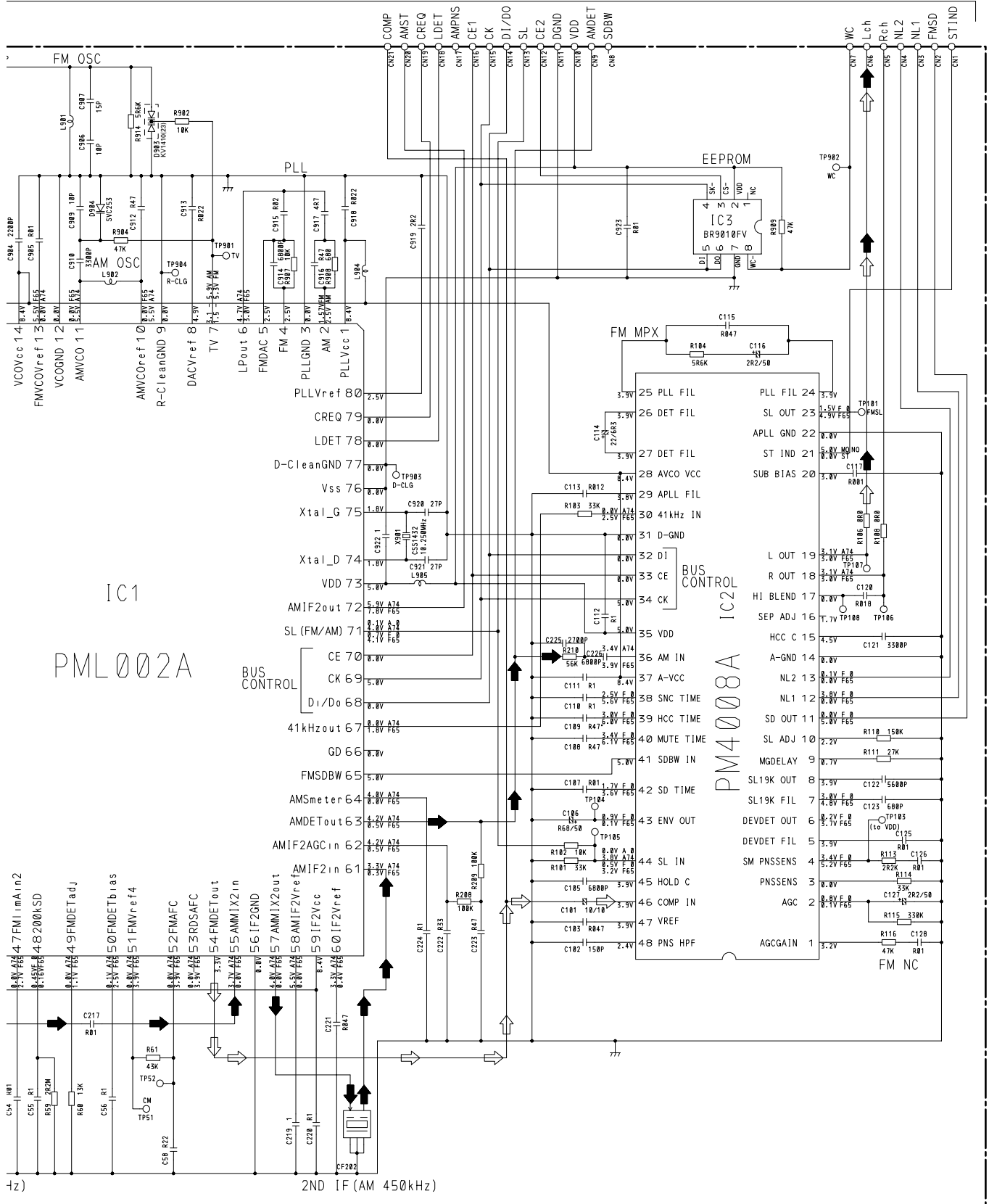
A

B

C

D





3.3 KEYBOARD UNIT

C KEYBOARD UNIT

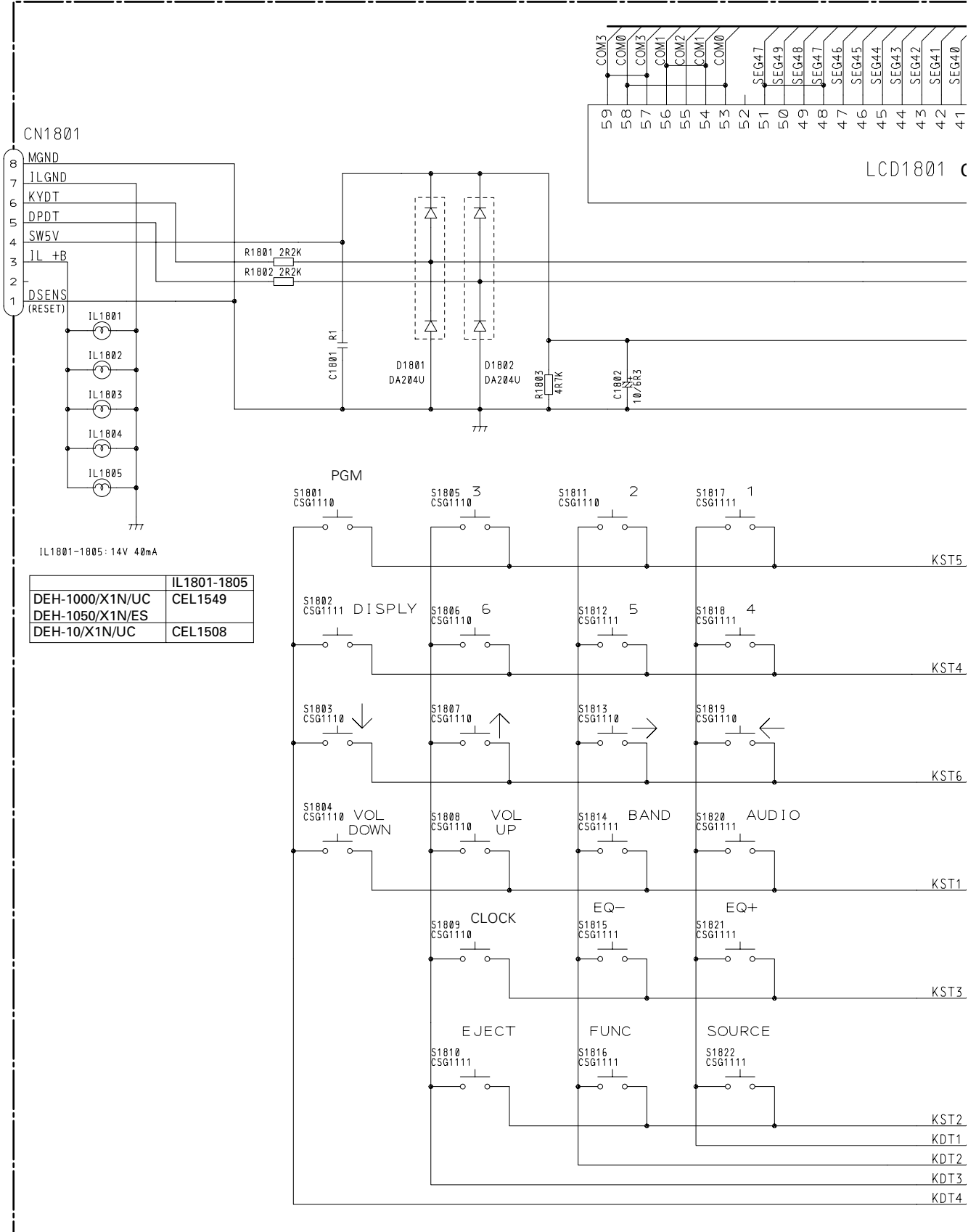
A

B

C

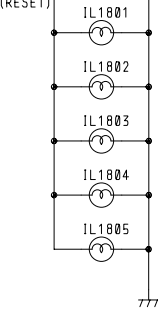
D

A CN651



CN1801

8 MGND
7 JL GND
6 KYDT
5 DPDT
4 SW5V
3 JL +B
2 DSENS
1 (RESET)



IL1801-1805: 14V 40mA

| | |
|-----------------|-------------|
| | IL1801-1805 |
| DEH-1000/X1N/UC | CEL1549 |
| DEH-1050/X1N/ES | CEL1549 |
| DEH-10/X1N/UC | CEL1508 |

PGM

S1801
CSG1110

S1805 3
CSG1110

S1811 2
CSG1110

S1817 1
CSG1111

KST5

S1802
CSG1111 DISPLY

S1806 6
CSG1110

S1812 5
CSG1111

S1818 4
CSG1111

KST4

S1803
CSG1110

S1807
CSG1110

S1813
CSG1110

S1819
CSG1110

KST6

S1804
CSG1110 VOL DOWN

S1808
CSG1110 VOL UP

S1814
CSG1111 BAND

S1820
CSG1111 AUDIO

KST1

S1809
CSG1110 CLOCK

S1815
CSG1111 EQ-

S1821
CSG1111 EQ+

KST3

S1810
CSG1111 EJECT

S1816
CSG1111 FUNC

S1822
CSG1111 SOURCE

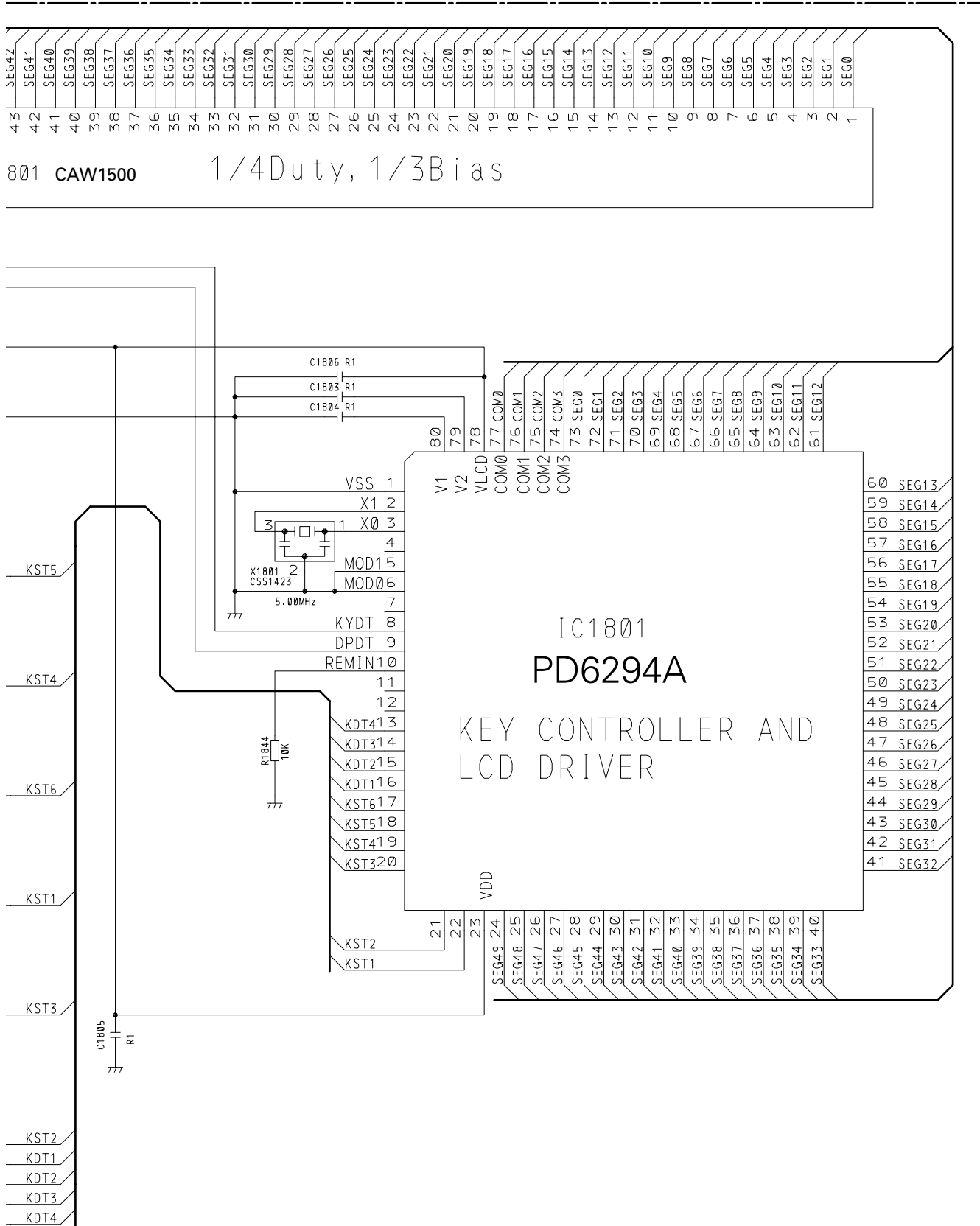
KST2

KDT1

KDT2

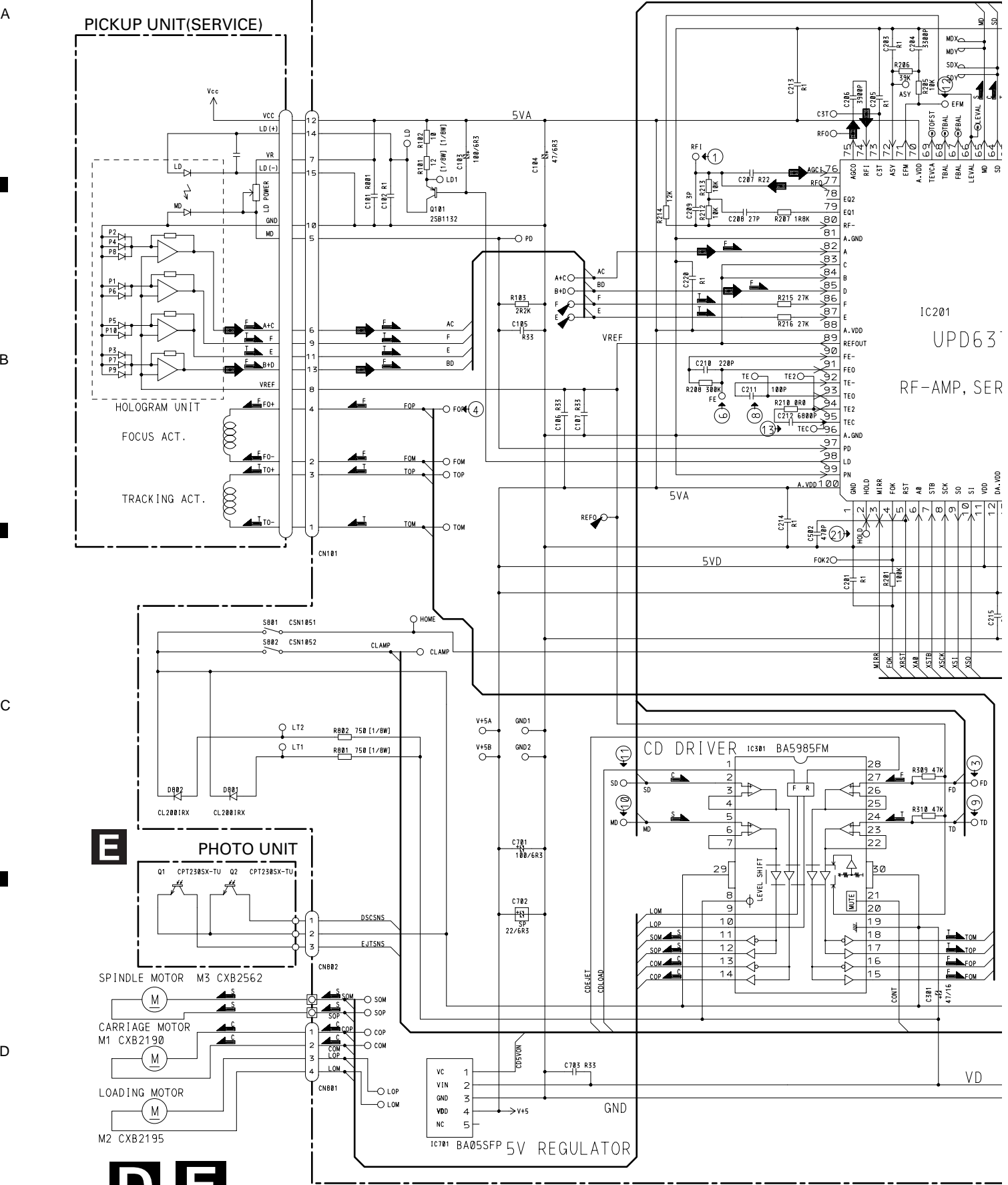
KDT3

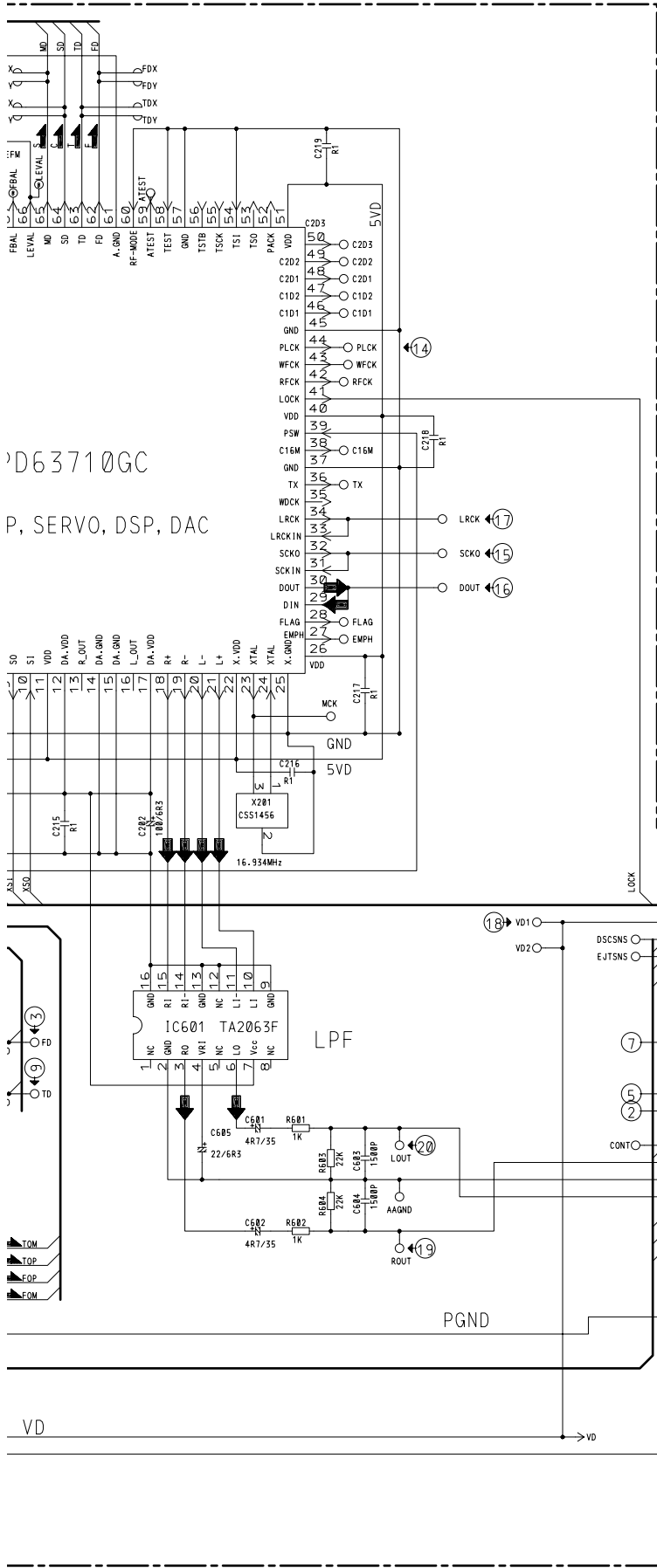
KDT4



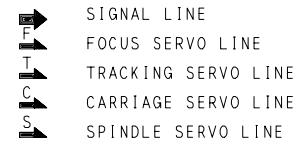
3.4 CD MECHANISM MODULE

D CONTROL UNIT

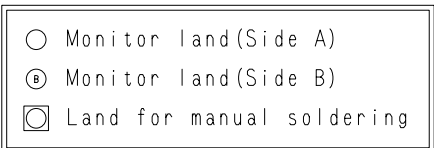




D63710GC
P, SERVO, DSP, DAC



SWITCHES:
CONTROL UNIT
S801 : HOME SWITCH.....ON-OFF
S802 : CLAMP SWITCH....ON-OFF
The underlined indicates the switch position.



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

A

B

C

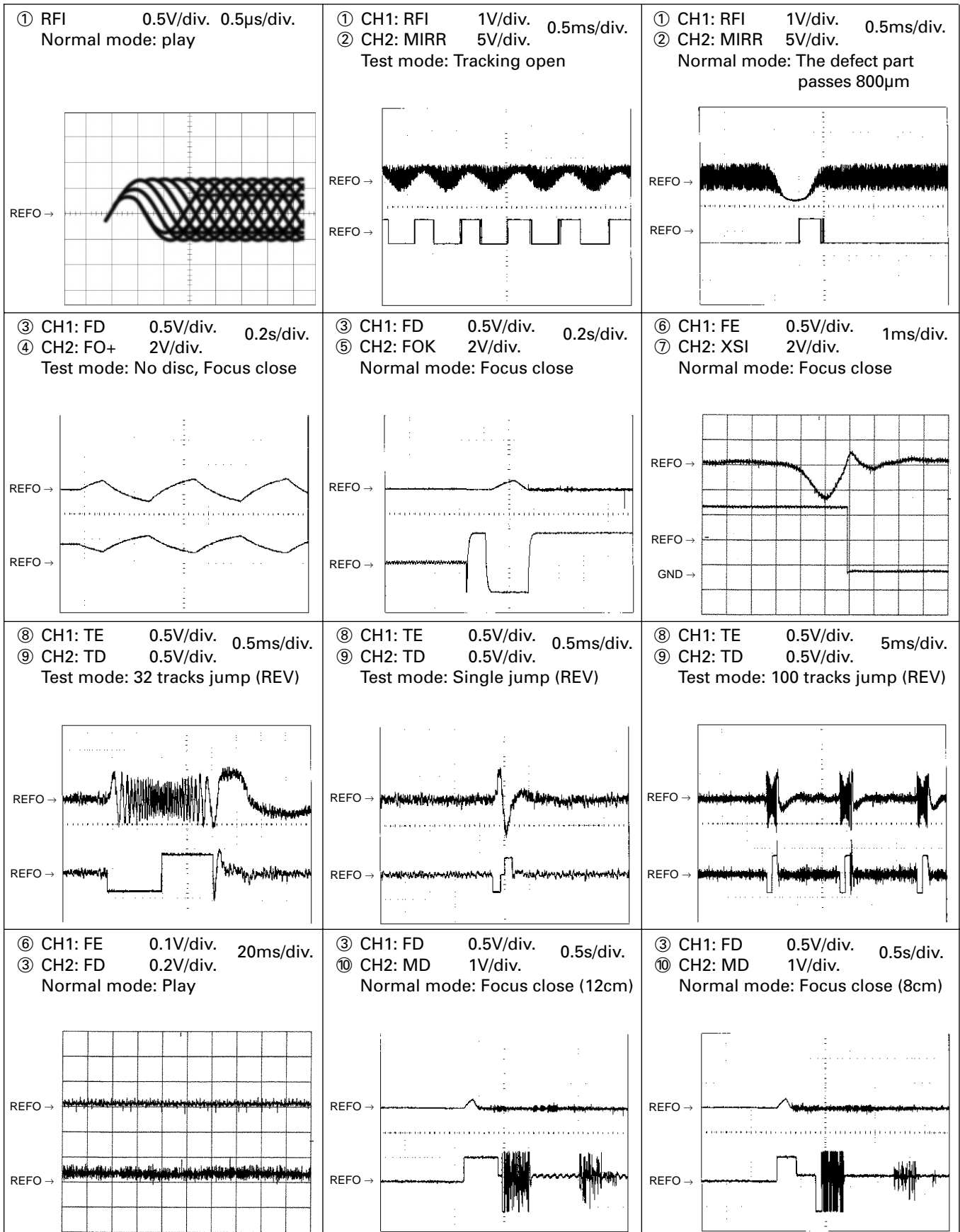
D

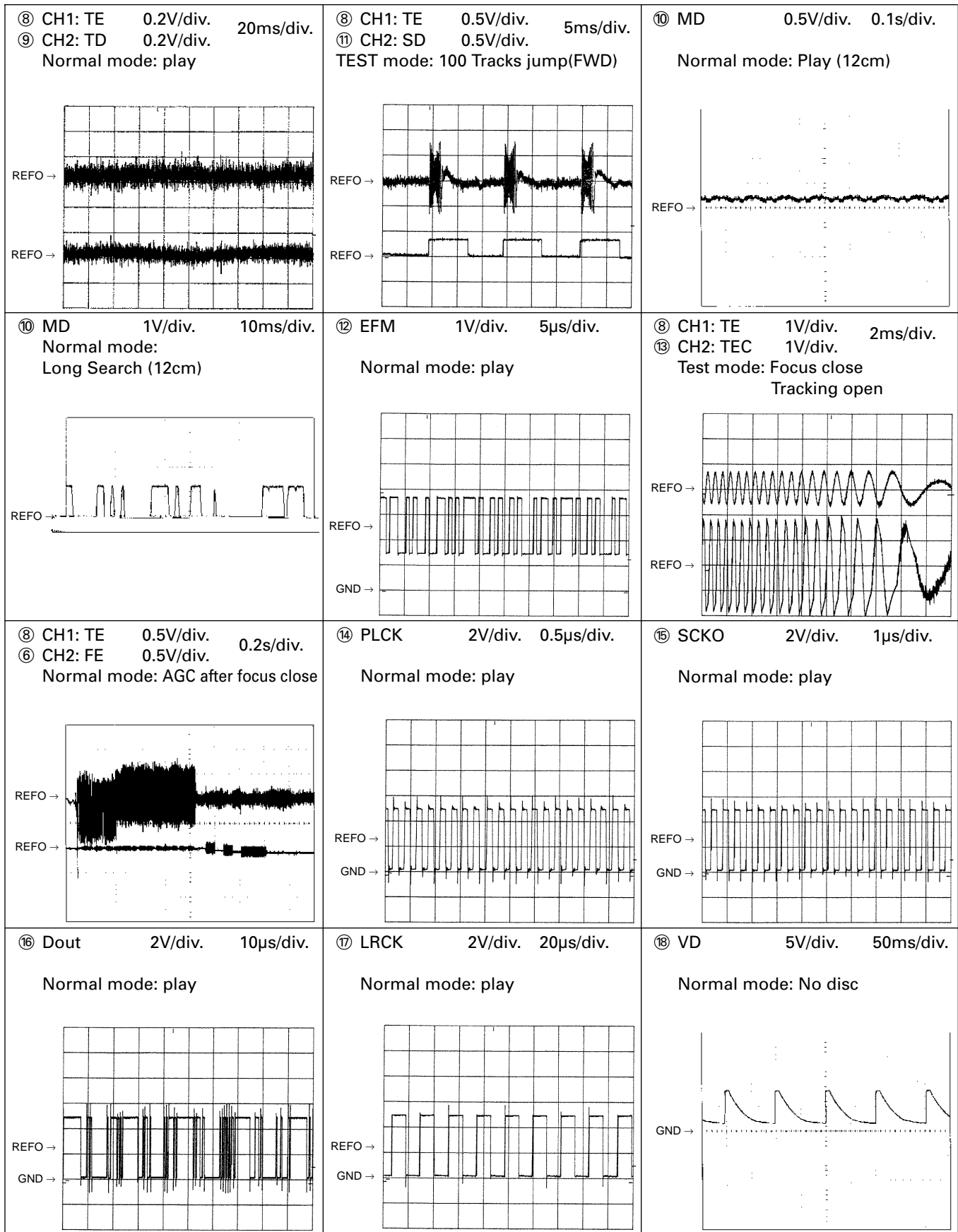
A CN681

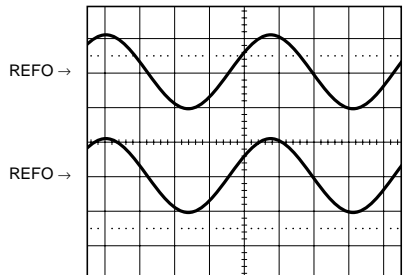
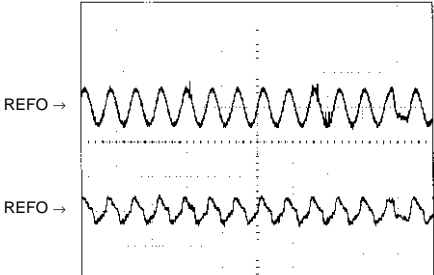
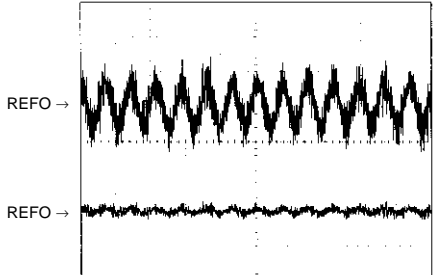
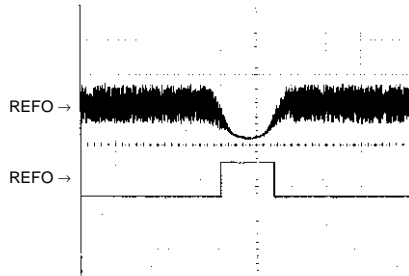
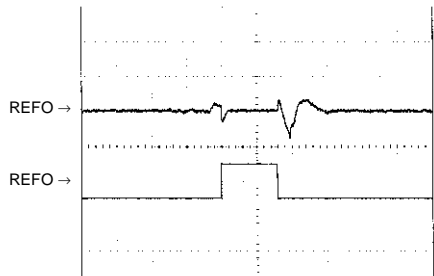
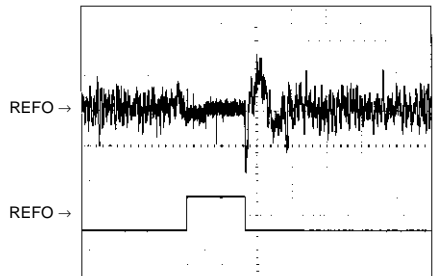
D

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

● Waveforms





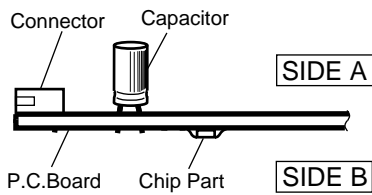
| | | |
|--|--|---|
| <p>⑱ CH1: R OUT 1V/div. 0.2ms/div. ⑳ CH2: L OUT 1V/div. 0.2ms/div. Normal mode: Play (1kHz 0dB)</p>  | <p>⑥ CH1: FE 0.2V/div. 1ms/div. ③ CH2: FD 0.5V/div. 1ms/div. Normal mode: During AGC</p>  | <p>⑧ CH1: TE 0.2V/div. 1ms/div. ⑨ CH2: TD 0.5V/div. 1ms/div. Normal mode: During AGC</p>  |
| <p>① CH1: RFI 1V/div. 0.5ms/div. ② CH2: HOLD 5V/div. 0.5ms/div. Normal mode: The defect part passes 800μm(B.D)</p>  | <p>③ CH1: FD 1V/div. 0.5ms/div. ② CH2: HOLD 5V/div. 0.5ms/div. Normal mode: The defect part passes 800μm(B.D)</p>  | <p>⑨ CH1: TD 0.1V/div. 0.5ms/div. ② CH2: HOLD 5V/div. 0.5ms/div. Normal mode: The defect part passes 800μm(B.D)</p>  |
| | | |
| | | |

4. PCB CONNECTION DIAGRAM

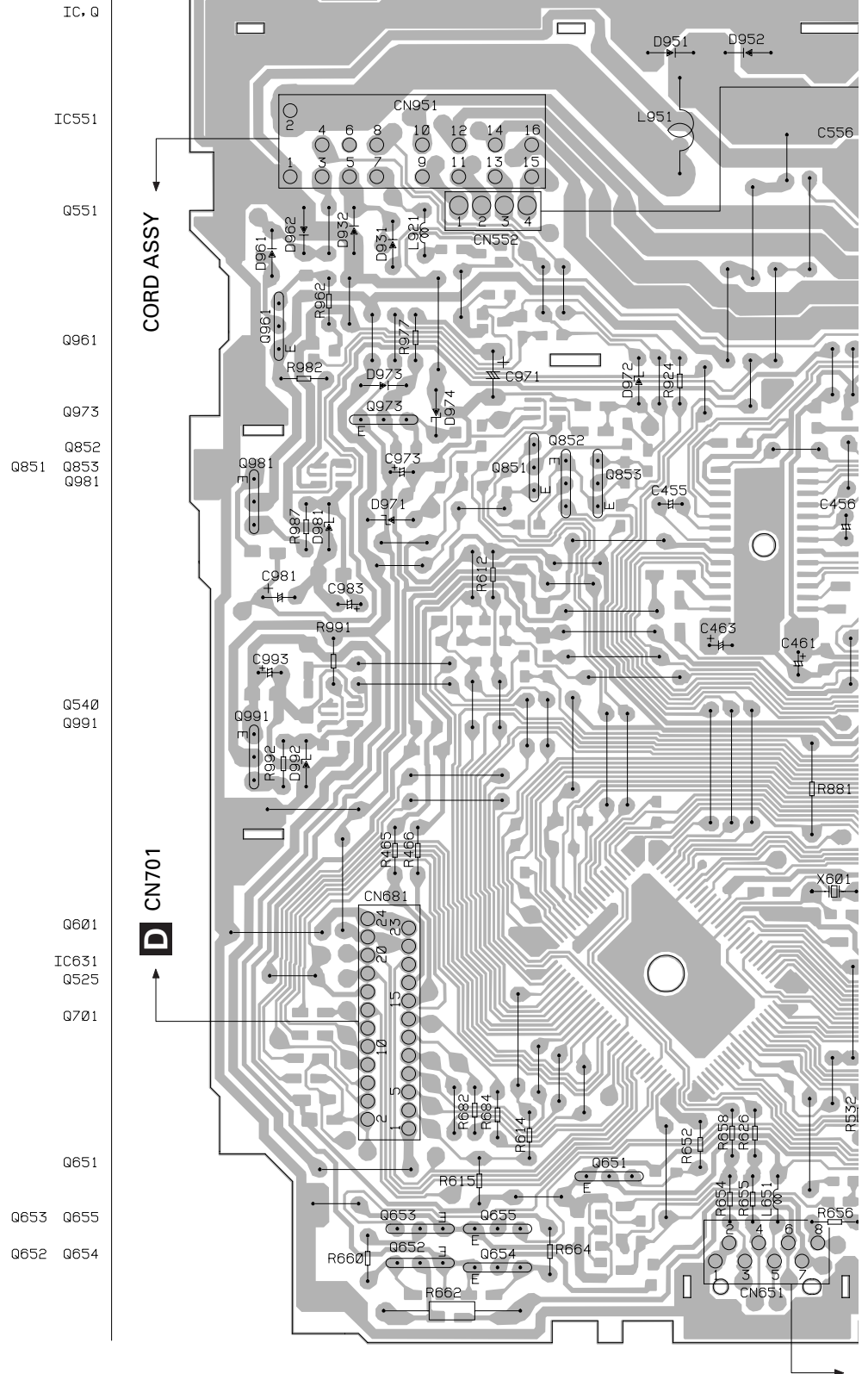
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

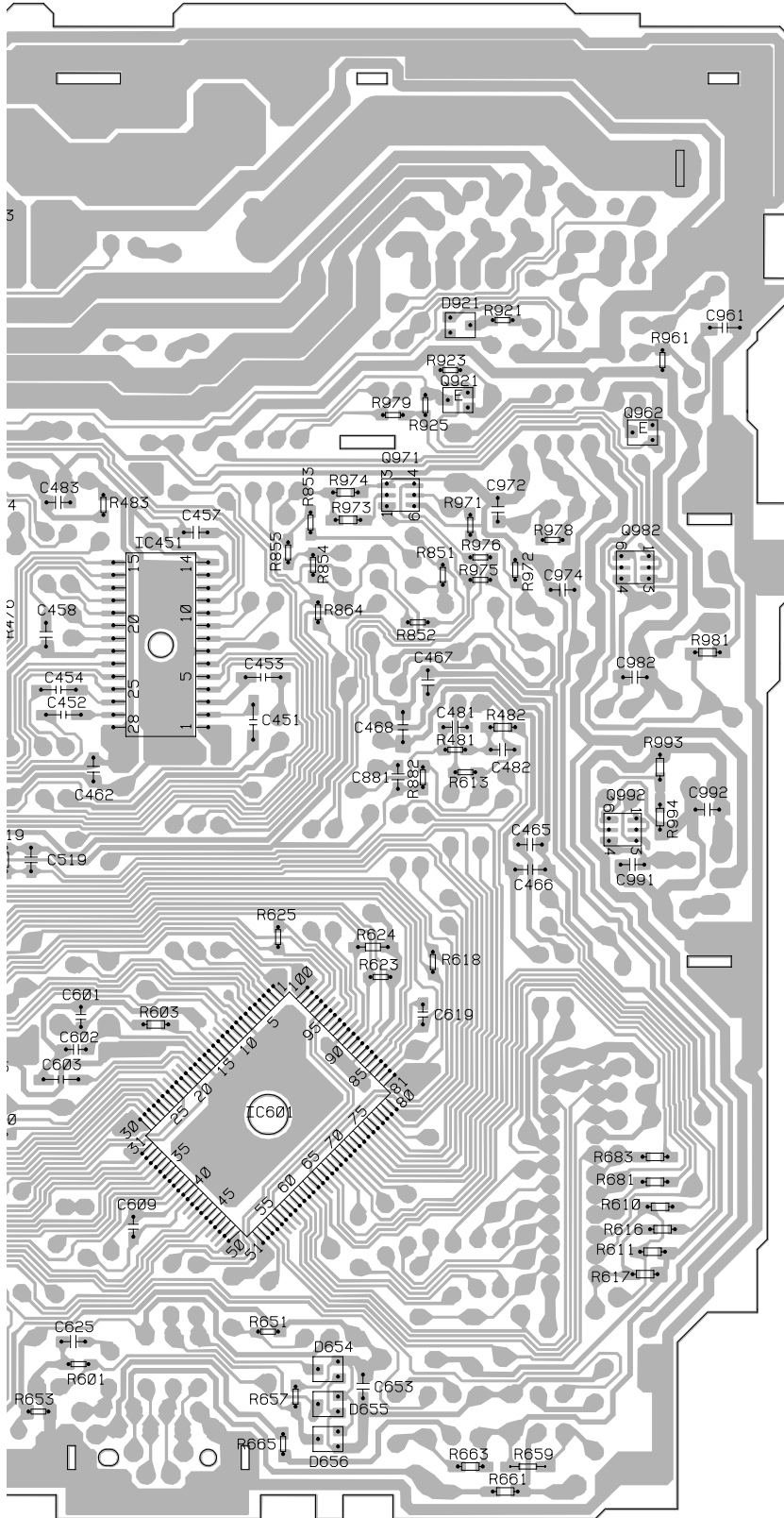
- The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
- Viewpoint of PCB diagrams



A TUNER AMP UNIT



SIDE B



IC. Q

Q411

Q431
Q432

Q412
Q921
IC414
Q962

Q971

IC451 Q982
Q471 IC471
Q433
Q502 Q434

IC472

Q992
Q507
Q541 Q542

IC601
IC701
Q524

IC702

IC602

A

B

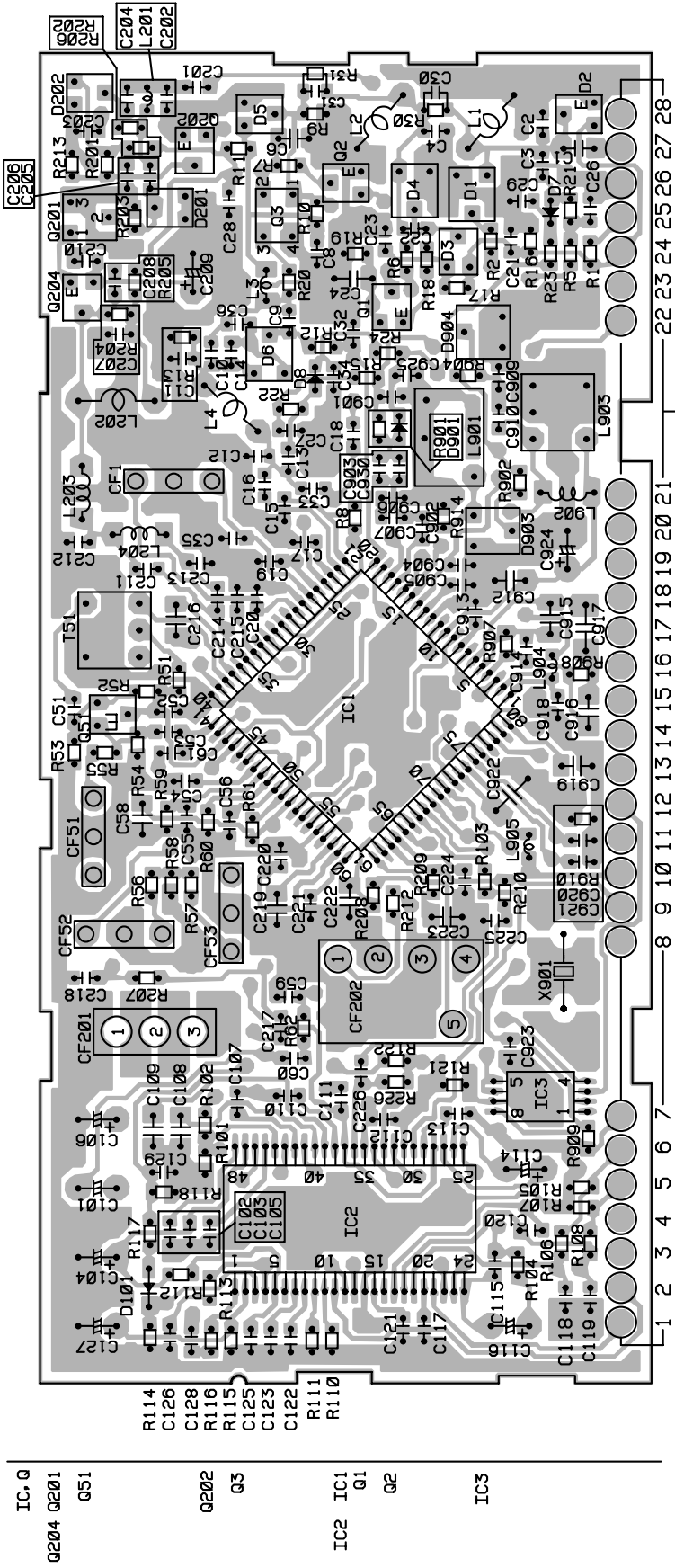
C

D

4.2 FM/AM TUNER UNIT

SIDE A

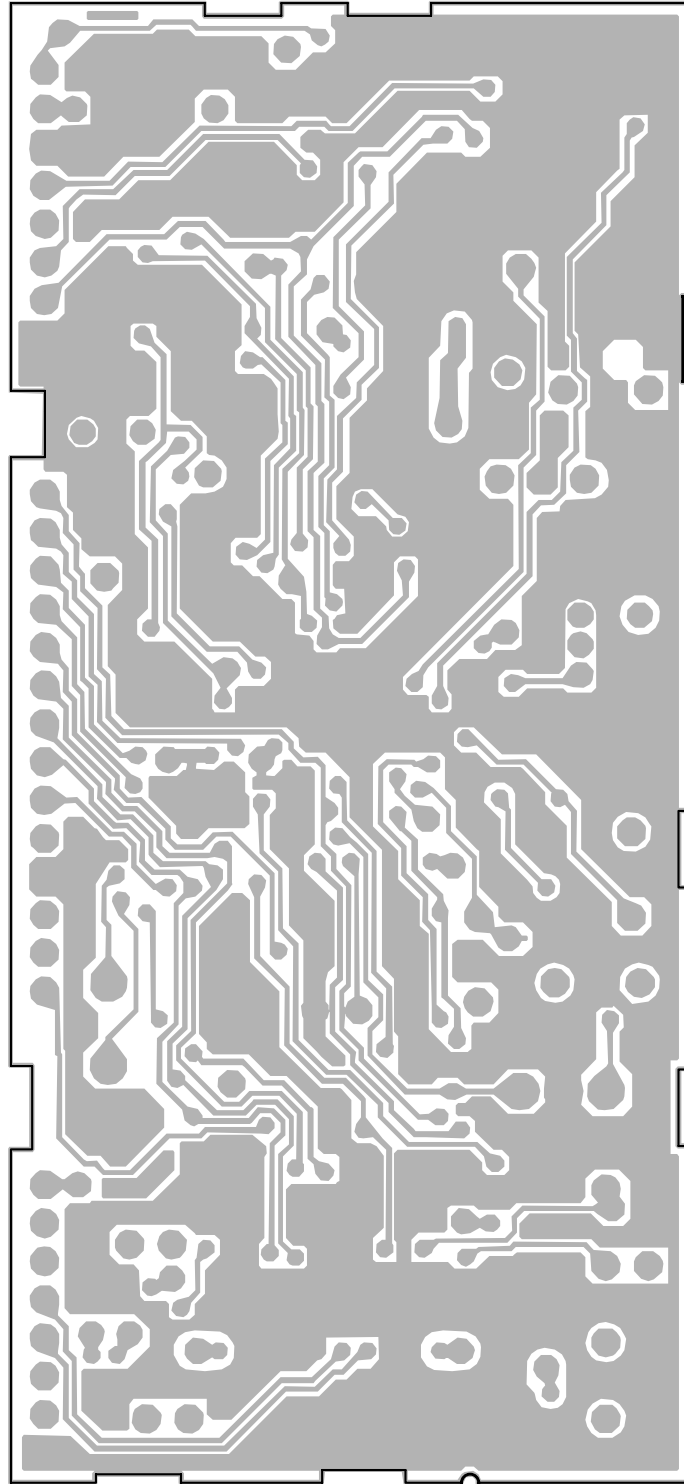
B FM/AM TUNER UNIT



- IC, Q
- Q204 Q201
- Q51
- Q202
- Q3
- IC2 IC1
- Q1
- Q2
- IC3

- R114
- C126
- C128
- R116
- R115
- C125
- C123
- C122
- R111
- R110

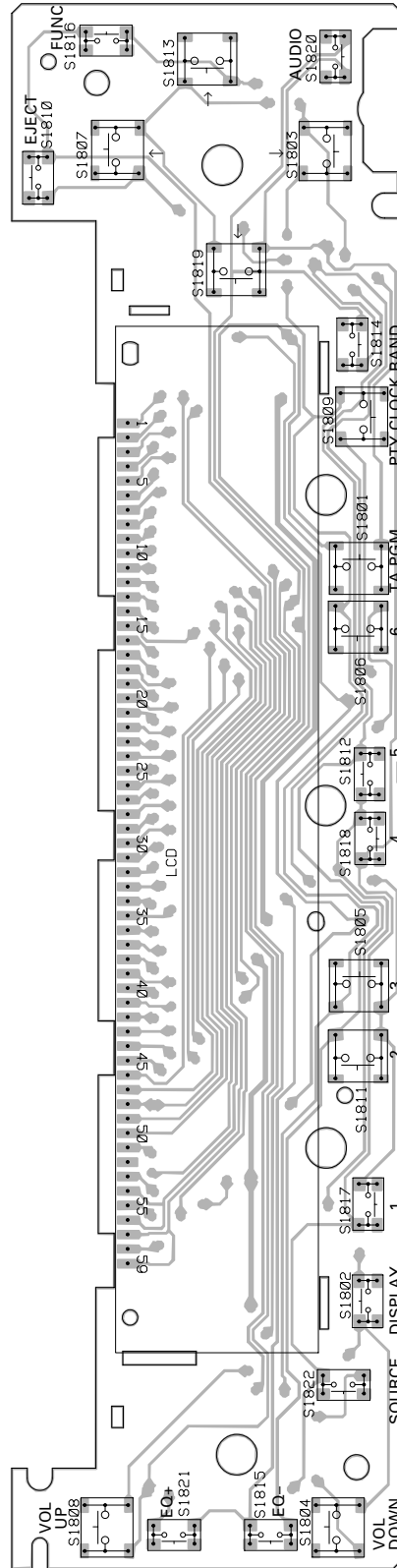
SIDE B



B FM/AM TUNER UNIT

4.3 KEYBOARD UNIT

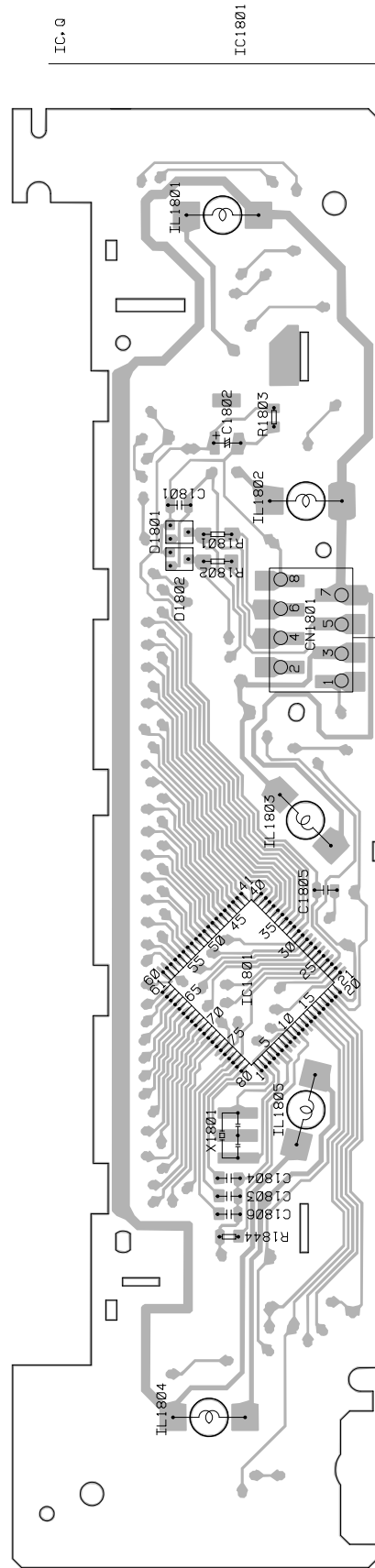
SIDE A



C KEYBOARD UNIT



SIDE B



C KEYBOARD UNIT



1

2

3

4

1

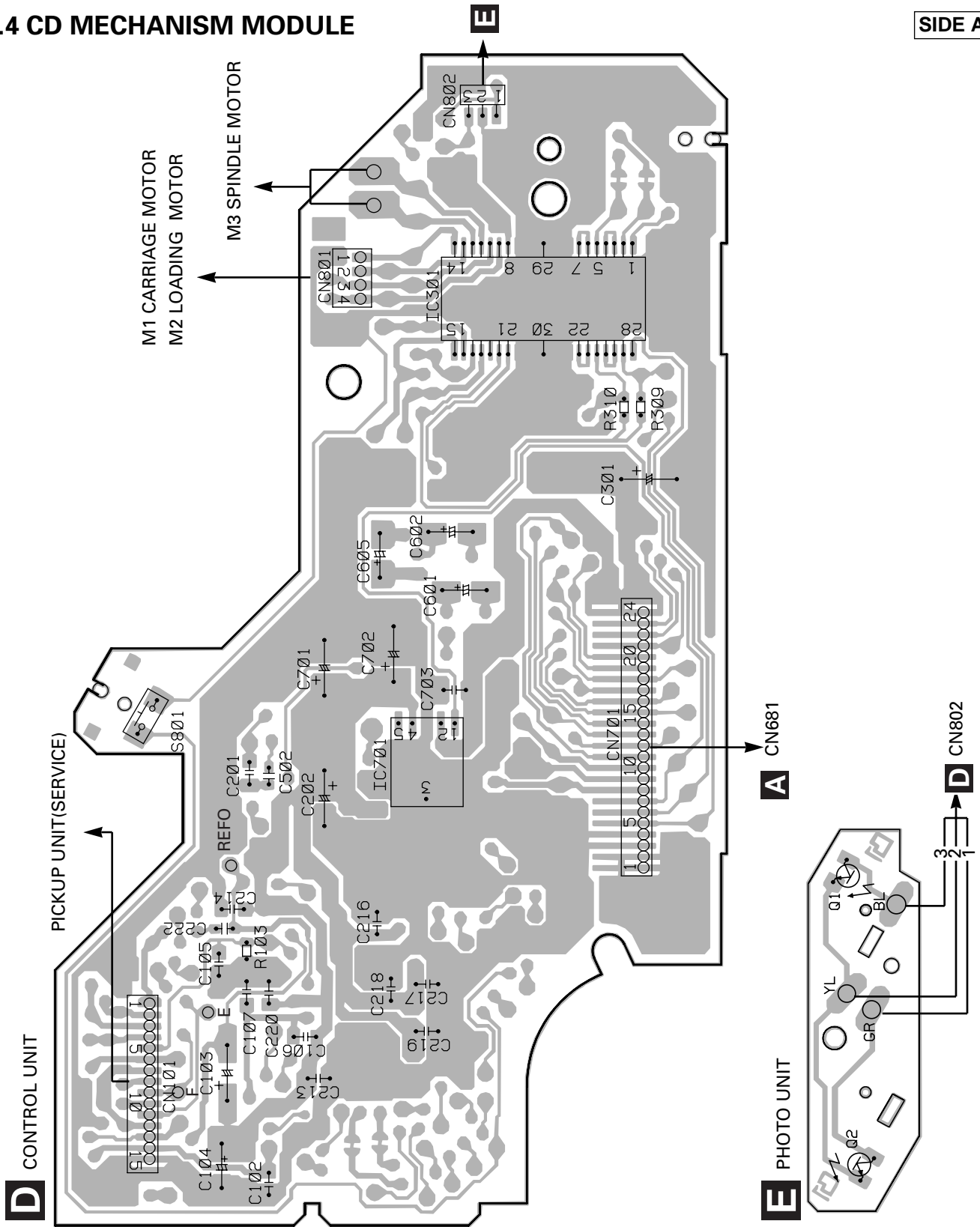
2

3

4

4.4 CD MECHANISM MODULE

SIDE A



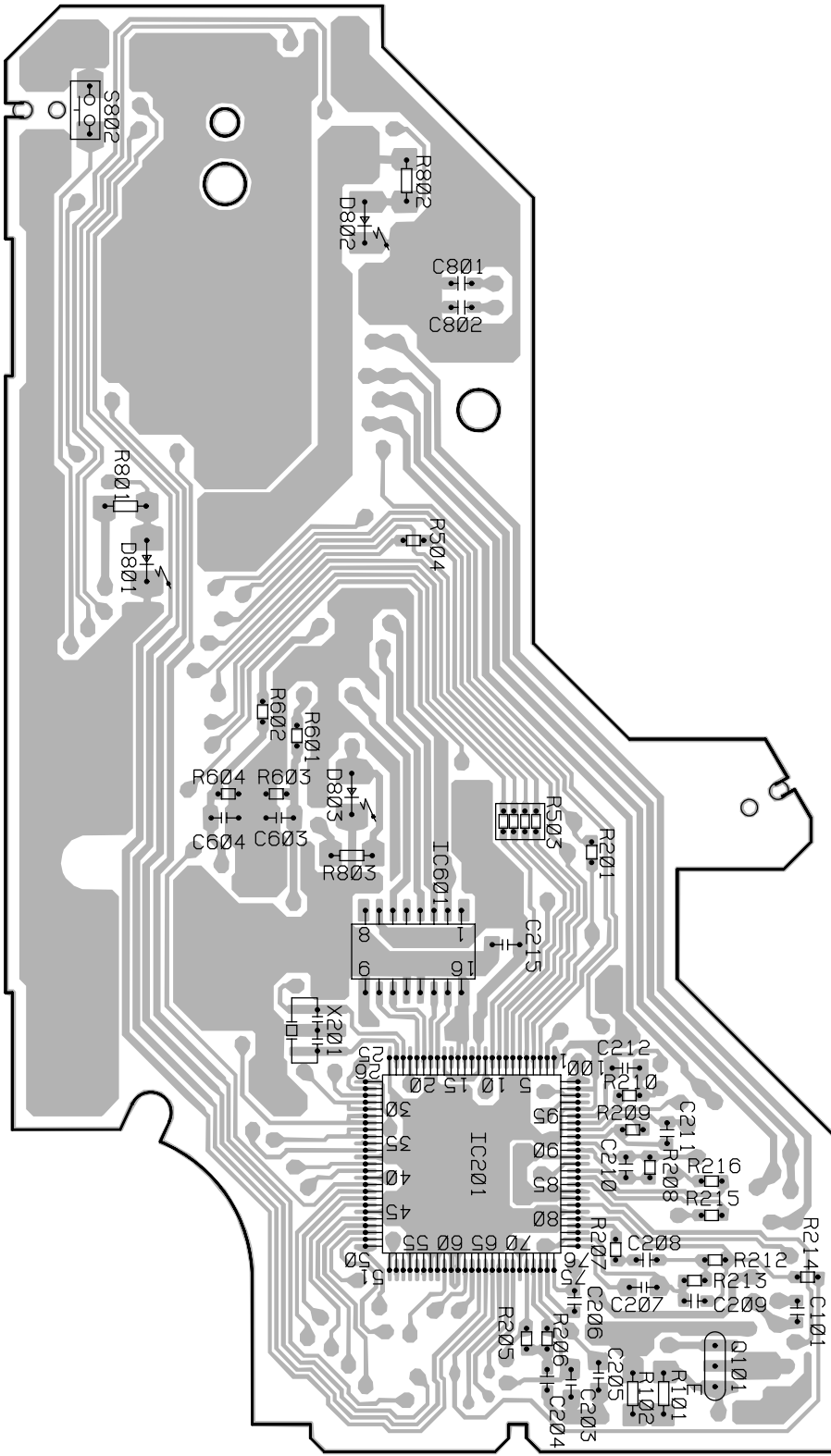
IC, Q

IC701

IC301

SIDE B

D CONTROL UNIT



IC, 0
 Q101
 IC201
 IC601

D

5. ELECTRICAL PARTS LIST

NOTES:

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

Chip Resistor

RS1/OSOOOJ,RS1/OOSOOOJ

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

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

| ====Circuit Symbol and No.====Part Name | Part No. | ====Circuit Symbol and No.====Part Name | Part No. |
|---|-------------|---|---------------|
| A Unit Number : CWM6092(DEH-1000/X1N/UC,10/X1N/UC) Unit Name : Tuner Amp Unit | | R 502 | RD1/4PU222J |
| | | R 503 | RS1/10S222J |
| | | R 507 | RS1/10S0R0J |
| | | R 508 | RS1/10S681J |
| | | R 509 | RS1/10S473J |
| MISCELLANEOUS | | | |
| IC 451 IC | PML003AM | | |
| IC 551 IC | PAL005A | R 511 | RS1/10S473J |
| IC 601 IC | PD4991A | R 512 | RS1/10S681J |
| IC 631 IC | S-80734AN | R 513 | RS1/8S473J |
| Q 431 Transistor | IMH3A | R 514 | RS1/10S681J |
| | | R 515 | RS1/8S473J |
| Q 434 Transistor | DTA124EU | | |
| Q 502 Transistor | 2SC4081 | R 516 | RS1/10S681J |
| Q 551 Transistor | DTC144ES | R 517 | RS1/8S472J |
| Q 601 Transistor | DTA114ES | R 518 | RS1/10S103J |
| Q 651 Transistor | 2SA933S | R 519 | RS1/10S393J |
| | | R 520 | RS1/10S681J |
| Q 652 Transistor | 2SB1236 | | |
| Q 653 Transistor | DTC124ES | R 521 | RS1/10S473J |
| Q 971 Transistor | IMX1 | R 522 | RD1/4PU681J |
| Q 973 Transistor | 2SD1859 | R 523 | RS1/10S473J |
| Q 981 Transistor | 2SD2396 | R 524 | RS1/10S0R0J |
| | | R 525 | RS1/10S0R0J |
| Q 982 Transistor | IMD2A | | |
| Q 991 Transistor | 2SD2396 | R 532 | RD1/4PU681J |
| Q 992 Transistor | IMD2A | R 533 | RS1/10S473J |
| D 931 Diode | 1SR139-400 | R 534 | RS1/10S272J |
| D 932 Diode | 1SR139-400 | R 535 | RS1/10S272J |
| | | R 536 | RS1/10S162J |
| D 951 Diode | 1SR139-400 | | |
| D 952 Diode | 1SR139-400 | R 537 | RS1/10S162J |
| D 971 Diode | HZS7L(C2) | R 538 | RS1/10S0R0J |
| D 972 Diode | HZS6L(C3) | R 570 | RD1/4PU103J |
| D 973 Diode | 1SR139-400 | R 579 | RS1/10S331J |
| | | R 580 | RS1/10S103J |
| D 974 Diode | HZS6L(B1) | | |
| D 981 Diode | HZS9L(B3) | R 601 | RS1/10S0R0J |
| D 992 Diode | HZS9L(B1) | R 602 | RD1/4PU473J |
| L 501 Ferri-Inductor | LAU4R7K | R 603 | RS1/10S102J |
| L 504 Ferri-Inductor | LAU2R2K | R 606 | RD1/4PU102J |
| | | R 607 | RD1/4PU102J |
| L 506 Inductor | LAU100K | | |
| L 601 Inductor | LAU100K | R 608 | RD1/4PU102J |
| L 619 Ferri-Inductor | LAU2R2K | R 610 | RS1/10S222J |
| L 621 Ferri-Inductor | LAU2R2K | R 611 | RS1/10S473J |
| L 651 Ferri-Inductor | LAU101K | R 613 | RS1/10S0R0J |
| | | R 614 | RD1/4PU222J |
| L 951 Choke Coil 600μH | CTH1221 | | |
| TH 601 Thermistor | CCX1031 | R 615 | RD1/4PU473J |
| X 601 Radiator 12.58291MHz FM/AM Tuner Unit | CSS1402 | R 616 | RS1/10S222J |
| | CWE1501 | R 617 | RS1/10S473J |
| AR 501 | DSP-201M | R 618 | RN1/10SE2002D |
| | | R 623 | RS1/10S473J |
| RESISTORS | | R 624 | RS1/8S473J |
| R 421 | RS1/10S473J | R 625 | RS1/10S0R0J |
| R 431 | RS1/10S821J | R 626 | RD1/4PU102J |
| R 432 | RS1/10S821J | R 627 | RS1/10S473J |
| R 437 | RS1/10S223J | R 631 | RS1/10S102J |
| R 438 | RS1/10S223J | | |
| | | R 632 | RS1/10S822J |
| | | R 651 | RS1/10S222J |
| R 443 | RS1/10S0R0J | R 652 | RD1/4PU472J |
| R 445 | RS1/8S473J | R 654 | RD1/4PU222J |
| R 465 | RD1/4PU221J | R 655 | RD1/4PU222J |
| R 466 | RD1/4PU221J | | |
| R 501 | RS1/10S0R0J | | |

| ====Circuit Symbol and No.===Part Name | Part No. | ====Circuit Symbol and No.===Part Name | Part No. |
|--|--------------|---|----------------------|
| R 658 | RD1/4PU472J | C 605 | CCSQCH101J50 |
| R 659 | RS1/8S472J | C 607 | CCSQCH101J50 |
| R 660 | RD1/4PU302J | C 619 | CCSQCH101J50 |
| R 661 | RS1/10S1R0J | C 622 | CCSQCH101J50 |
| R 681 | RS1/10S681J | C 625 | CCSQCH101J50 |
| R 682 | RD1/4PU102J | C 631 | CEJA2R2M50 |
| R 683 | RS1/10S102J | C 652 | CEJA4R7M35 |
| R 684 | RD1/4PU102J | C 971 | 470μF/16V |
| R 924 | RD1/4PU102J | C 972 | CCH1331 |
| R 925 | RS1/10S473J | C 973 | CKSQYB473K25 |
| | | | CEJA101M10 |
| R 971 | RS1/10S103J | C 974 | CKSQYB473K25 |
| R 972 | RS1/10S473J | C 981 | 330μF/16V |
| R 973 | RS1/10S103J | C 982 | CCH1326 |
| R 974 | RS1/10S473J | C 983 | CKSQYB103K50 |
| R 975 | RS1/10S473J | C 991 | CEJA101M16 |
| | | | CKSQYB473K25 |
| R 976 | RS1/10S473J | C 992 | CKSQYB102K50 |
| R 977 | RD1/4PU101J | C 993 | CEJA101M10 |
| R 978 | RS1/10S472J | | |
| R 979 | RS1/10S472J | | |
| R 981 | RS1/10S1R0J | | |
| R 982 | RD1/4PU511J | | |
| R 987 | RD1/4PU221J | | |
| R 991 | RD1/4PU221J | | |
| R 992 | RD1/4PU221J | | |
| R 993 | RS1/10S472J | | |
| R 994 | RS1/10S222J | | |
| | | A Unit Number : CWM6093(DEH-1050/X1N/ES) | |
| | | Unit Name : Tuner Amp Unit | |
| MISCELLANEOUS | | | |
| CAPACITORS | | | |
| C 431 | CEJA4R7M35 | IC 451 | IC |
| C 432 | CEAL4R7M35 | IC 551 | IC |
| C 451 | CKSYB224K25 | IC 601 | IC |
| C 452 | CKSYB224K25 | IC 631 | IC |
| C 453 | CKSYB105K16 | Q 431 | Transistor |
| C 454 | CKSYB105K16 | Q 434 | Transistor |
| C 455 | CEJANP4R7M16 | Q 502 | Transistor |
| C 456 | CEJANP4R7M16 | Q 551 | Transistor |
| C 457 | CKSQYB153K50 | Q 601 | Transistor |
| C 458 | CKSQYB153K50 | Q 651 | Transistor |
| C 461 | CEAL470M10 | Q 652 | Transistor |
| C 462 | CKSQYB104K25 | Q 653 | Transistor |
| C 463 | CEJA100M16 | Q 971 | Transistor |
| C 465 | CCSQL182J50 | Q 973 | Transistor |
| C 466 | CCSSL182J50 | Q 981 | Transistor |
| C 501 | CKSQYB103K50 | Q 982 | Transistor |
| C 502 | CKSQYB223K50 | Q 991 | Transistor |
| C 503 | CKSQYB223K50 | Q 992 | Transistor |
| C 504 | CEJA220M10 | D 931 | Diode |
| C 505 | CKSQYB102K50 | D 932 | Diode |
| C 506 | CEAL101M10 | D 951 | Diode |
| C 507 | CKSQYB473K25 | D 952 | Diode |
| C 508 | CCSQCH101J50 | D 971 | Diode |
| C 509 | CKSQYB102K50 | D 972 | Diode |
| C 519 | CKSQYB472K50 | D 973 | Diode |
| C 536 | CKSQYB183K50 | D 974 | Diode |
| C 537 | CKSQYB183K50 | D 981 | Diode |
| C 551 | CKSYB224K25 | D 992 | Diode |
| C 552 | CKSYB224K25 | L 501 | Ferri-Inductor |
| C 553 | CKSYB224K25 | L 504 | Ferri-Inductor |
| C 554 | CKSYB224K25 | L 506 | Inductor |
| C 556 | 4700μF/16V | L 601 | Inductor |
| C 570 | CCH1328 | L 619 | Ferri-Inductor |
| C 571 | CEJA100M16 | L 621 | Ferri-Inductor |
| C 572 | CEJA330M10 | L 651 | Ferri-Inductor |
| C 573 | CKSYB105K16 | L 951 | Choke Coil 600μH |
| C 601 | CKSYB104K50 | TH 601 | Thermistor |
| C 602 | CCSQCH200J50 | X 601 | Radiator 12.58291MHz |
| C 603 | CKSYB105K16 | AR 501 | FM/AM Tuner Unit |
| C 604 | CEJA4R7M35 | | |
| | | RESISTORS | |
| | | R 421 | RS1/10S473J |
| | | R 431 | RS1/10S821J |
| | | R 432 | RS1/10S821J |
| | | R 437 | RS1/10S223J |
| | | R 438 | RS1/10S223J |

| ====Circuit Symbol and No.====Part Name | Part No. | ====Circuit Symbol and No.====Part Name | Part No. |
|---|---------------|---|--------------|
| R 443 | RS1/10S0R0J | R 682 | RD1/4PU102J |
| R 445 | RS1/8S473J | R 683 | RS1/10S102J |
| R 465 | RD1/4PU221J | R 684 | RD1/4PU102J |
| R 466 | RD1/4PU221J | R 924 | RD1/4PU102J |
| R 501 | RS1/10S0R0J | R 925 | RS1/10S473J |
| R 502 | RD1/4PU222J | R 971 | RS1/10S103J |
| R 503 | RS1/10S222J | R 972 | RS1/10S473J |
| R 507 | RS1/10S0R0J | R 973 | RS1/10S103J |
| R 508 | RS1/10S681J | R 974 | RS1/10S473J |
| R 509 | RS1/10S473J | R 975 | RS1/10S473J |
| R 511 | RS1/10S473J | R 976 | RS1/10S473J |
| R 512 | RS1/10S681J | R 977 | RD1/4PU101J |
| R 513 | RS1/8S473J | R 978 | RS1/10S472J |
| R 514 | RS1/10S681J | R 979 | RS1/10S472J |
| R 515 | RS1/8S473J | R 981 | RS1/10S1R0J |
| R 516 | RS1/10S681J | R 982 | RD1/4PU511J |
| R 517 | RS1/8S472J | R 987 | RD1/4PU221J |
| R 518 | RS1/10S103J | R 991 | RD1/4PU221J |
| R 519 | RS1/10S393J | R 992 | RD1/4PU221J |
| R 520 | RS1/10S681J | R 993 | RS1/10S472J |
| R 521 | RS1/10S473J | R 994 | RS1/10S222J |
| R 522 | RD1/4PU681J | | |
| R 523 | RS1/10S473J | CAPACITORS | |
| R 524 | RS1/10S0R0J | C 431 | CEJA4R7M35 |
| R 525 | RS1/10S0R0J | C 432 | CEAL4R7M35 |
| R 532 | RD1/4PU681J | C 451 | CKSYB224K25 |
| R 533 | RS1/10S473J | C 452 | CKSYB224K25 |
| R 534 | RS1/10S272J | C 453 | CKSYB105K16 |
| R 535 | RS1/10S272J | C 454 | CKSYB105K16 |
| R 536 | RS1/10S162J | C 455 | CEJANP4R7M16 |
| R 537 | RS1/10S162J | C 456 | CEJANP4R7M16 |
| R 538 | RS1/10S0R0J | C 457 | CKSQYB153K50 |
| R 570 | RD1/4PU103J | C 458 | CKSQYB153K50 |
| R 579 | RS1/10S331J | C 461 | CEAL470M10 |
| R 580 | RS1/10S103J | C 462 | CKSQYB104K25 |
| R 601 | RS1/10S0R0J | C 463 | CEJA100M16 |
| R 602 | RD1/4PU473J | C 465 | CCSQL182J50 |
| R 603 | RS1/10S102J | C 466 | CCSSL182J50 |
| R 606 | RD1/4PU102J | C 501 | CKSQYB103K50 |
| R 607 | RD1/4PU102J | C 502 | CKSQYB223K50 |
| R 608 | RD1/4PU102J | C 503 | CKSQYB223K50 |
| R 610 | RS1/10S222J | C 504 | CEJA220M10 |
| R 611 | RS1/10S473J | C 505 | CKSQYB102K50 |
| R 612 | RD1/4PU473J | C 506 | CEAL101M10 |
| R 614 | RD1/4PU222J | C 507 | CKSQYB473K25 |
| R 615 | RD1/4PU473J | C 508 | CCSQCH101J50 |
| R 616 | RS1/10S222J | C 509 | CKSQYB102K50 |
| R 617 | RS1/10S473J | C 519 | CKSQYB472K50 |
| R 618 | RN1/10SE2002D | C 536 | CKSQYB183K50 |
| R 623 | RS1/10S473J | C 537 | CKSQYB183K50 |
| R 624 | RS1/8S473J | C 551 | CKSYB224K25 |
| R 625 | RS1/10S0R0J | C 552 | CKSYB224K25 |
| R 626 | RD1/4PU102J | C 553 | CKSYB224K25 |
| R 627 | RS1/10S473J | C 554 | CKSYB224K25 |
| R 631 | RS1/10S102J | C 556 | 4700µF/16V |
| R 632 | RS1/10S822J | C 570 | CCH1328 |
| R 651 | RS1/10S222J | C 571 | CEJA100M16 |
| R 652 | RD1/4PU472J | C 572 | CEJA330M10 |
| R 654 | RD1/4PU222J | | CKSYB105K16 |
| R 655 | RD1/4PU222J | C 573 | CKSYB104K50 |
| R 658 | RD1/4PU472J | C 601 | CCSQCH200J50 |
| R 659 | RS1/8S472J | C 602 | CCSQCH200J50 |
| R 660 | RD1/4PU302J | C 603 | CKSYB105K16 |
| R 661 | RS1/10S1R0J | C 604 | CEJA4R7M35 |
| R 681 | RS1/10S681J | C 605 | CCSQCH101J50 |
| | | C 607 | CCSQCH101J50 |
| | | C 619 | CCSQCH101J50 |
| | | C 622 | CCSQCH101J50 |
| | | C 625 | CCSQCH101J50 |

| ====Circuit Symbol and No.====Part Name | Part No. | ====Circuit Symbol and No.====Part Name | Part No. |
|---|--------------|---|---------------|
| C 631 | CEJA2R2M50 | R 31 | RS1/16S0R0J |
| C 652 | CEJA4R7M35 | R 51 | RS1/16S470J |
| C 971 470μF/16V | CCH1331 | R 52 | RS1/16S103J |
| C 972 | CKSQYB473K25 | R 53 | RS1/16S103J |
| C 973 | CEJA101M10 | R 54 | RS1/16S331J |
| C 974 | CKSQYB473K25 | R 55 | RS1/16S331J |
| C 981 330μF/16V | CCH1326 | R 56 | RS1/16S560J |
| C 982 | CKSQYB103K50 | R 57 | RS1/16S560J |
| C 983 | CEJA101M16 | R 58 | RS1/16S102J |
| C 991 | CKSQYB473K25 | R 59 | RS1/16S225J |
| C 992 | CKSQYB102K50 | R 60 | RS1/16S133J |
| C 993 | CEJA101M10 | R 61 | RS1/16S433J |
| | | R 101 | RS1/16S333J |
| | | R 102 | RS1/16S103J |
| | | R 103 | RS1/16S333J |
| | | R 104 | RS1/16S562J |
| | | R 106 | RS1/16S0R0J |
| | | R 108 | RS1/16S0R0J |
| | | R 110 | RS1/16S154J |
| | | R 111 | RS1/16S273J |
| | | R 113 | RS1/16S222J |
| | | R 114 | RS1/16S333J |
| | | R 115 | RS1/16S334J |
| | | R 116 | RS1/16S473J |
| | | R 202 | RS1/16S472J |
| | | R 203 | RS1/16S225J |
| | | R 204 | RS1/16S102J |
| | | R 205 | RS1/16S220J |
| | | R 206 | RS1/16S471J |
| | | R 208 | RS1/16S104J |
| | | R 209 | RS1/16S104J |
| | | R 210 | RS1/16S563J |
| | | R 213 | RS1/16S223J |
| | | R 902 | RS1/16S103J |
| | | R 904 | RS1/16S473J |
| | | R 907 | RS1/16S103J |
| | | R 908 | RS1/16S681J |
| | | R 909 | RS1/16S473J |
| | | R 914 | RS1/16S562J |
| | | CAPACITORS | |
| | | C 1 | CCSQCH4R0C50 |
| | | C 6 | CKSQYB105K10 |
| | | C 8 | CKSRYB222K50 |
| | | C 10 | CCSRCH220J50 |
| | | C 11 | CCSRCH150J50 |
| | | C 12 | CCSRCH8R0D50 |
| | | C 14 | CCSR CJ3R0C50 |
| | | C 15 | CKSRYB103K50 |
| | | C 16 | CKSRYB222K50 |
| | | C 17 | CKSRYB222K50 |
| | | C 18 | CCSR CJ3R0C50 |
| | | C 19 | CKSRYB103K50 |
| | | C 20 | CKSRYB103K50 |
| | | C 21 | CKSRYB103K50 |
| | | C 24 | CKSQYB334K16 |
| | | C 26 | CKSRYB472K50 |
| | | C 30 | CCSRCH220J50 |
| | | C 32 | CCSRCH470J50 |
| | | C 35 | CKSRYB103K50 |
| | | C 51 | CKSRYB103K50 |
| | | C 52 | CKSRYB473K16 |
| | | C 53 | CCSRCK2R0C50 |
| | | C 54 | CKSRYB103K50 |
| | | C 55 | CKSRYB104K16 |
| | | C 56 | CKSRYB104K16 |
| | | CAPACITORS | |
| | | C 1 | CCSQCH4R0C50 |
| | | C 6 | CKSQYB105K10 |
| | | C 8 | CKSRYB222K50 |
| | | C 10 | CCSRCH220J50 |
| | | C 11 | CCSRCH150J50 |
| | | C 12 | CCSRCH8R0D50 |
| | | C 14 | CCSR CJ3R0C50 |
| | | C 15 | CKSRYB103K50 |
| | | C 16 | CKSRYB222K50 |
| | | C 17 | CKSRYB222K50 |
| | | C 18 | CCSR CJ3R0C50 |
| | | C 19 | CKSRYB103K50 |
| | | C 20 | CKSRYB103K50 |
| | | C 21 | CKSRYB103K50 |
| | | C 24 | CKSQYB334K16 |
| | | C 26 | CKSRYB472K50 |
| | | C 30 | CCSRCH220J50 |
| | | C 32 | CCSRCH470J50 |
| | | C 35 | CKSRYB103K50 |
| | | C 51 | CKSRYB103K50 |
| | | C 52 | CKSRYB473K16 |
| | | C 53 | CCSRCK2R0C50 |
| | | C 54 | CKSRYB103K50 |
| | | C 55 | CKSRYB104K16 |
| | | C 56 | CKSRYB104K16 |

B Unit Number : CWE1501
Unit Name : FM/AM Tuner Unit





CAPACITORS

| IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | IC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|------------|---------|-----|------------|----------|-----|-----|--------|------|------------|---------|-------|-----|--------|-------|------------|----------|-------|------------|---------|-----|-------|------------|-----|-------|--------|-----|-------|------------|-------|-------|-------|-------|-------|-------|-------|-------|------------|-------|-------|--------|-----|------|---------|-----|----------|--------------|-----|------|---------|-------|----------|--------------|-------|----------|---------|-------|----------|--------------|-------|------|---------|-------|----------|--------------|-------|----------|--------------|-------|----------|--------------|------|------|---------|-------|----------------|---------|-------|----------------|---------|-------|----------------|---------|--------|----------------|---------|-------|-----------------------------|---------|
| Q 1 | Transistor | 2SC4081 | Q 2 | Transistor | DTC124EU | Q 3 | FET | 3SK263 | Q 51 | Transistor | 2SC4081 | Q 201 | FET | 2SK932 | Q 202 | Transistor | DTC124EU | Q 204 | Transistor | 2SC4081 | D 1 | Diode | KV1410(23) | D 2 | Diode | 1SV248 | D 6 | Diode | KV1410(23) | D 201 | Diode | MA143 | D 202 | Diode | MA147 | D 903 | Diode | KV1410(23) | D 904 | Diode | SVC253 | L 1 | Coil | CTC1155 | L 3 | Inductor | LCTB1R5K2125 | L 4 | Coil | CTC1155 | L 201 | Inductor | LCTB330K1608 | L 202 | Inductor | CTF1287 | L 203 | Inductor | LCTA121J3225 | L 901 | Coil | CTC1154 | L 902 | Inductor | LCTA3R3J3225 | L 904 | Inductor | LCTBR47K1608 | L 905 | Inductor | LCTBR47K1608 | T 51 | Coil | CTE1132 | CF 51 | Ceramic Filter | CTF1442 | CF 52 | Ceramic Filter | CTF1442 | CF 53 | Ceramic Filter | CTF1442 | CF 202 | Ceramic Filter | CTF1348 | X 901 | Crystal Resonator 10.250MHz | CSS1432 |

RESISTORS

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|
| R 1 | RS1/16S183J | R 2 | RS1/16S103J | R 5 | RS1/16S0R0J | R 7 | RS1/16S273J | R 8 | RS1/16S473J | R 9 | RS1/16S223J | R 10 | RS1/16S473J | R 11 | RS1/16S221J | R 12 | RS1/16S103J | R 13 | RS1/16S104J | R 16 | RS1/16S223J | R 17 | RS1/16S221J | R 18 | RS1/16S221J | R 19 | RS1/16S473J | R 20 | RS1/16S470J |
|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|

| ====Circuit Symbol and No.====Part Name | Part No. |
|---|--------------|
| C 58 | CKSQYB224K16 |
| C 101 | CEALNP100M10 |
| C 102 | CCSRCH151J50 |
| C 103 | CKSRYB473K16 |
| C 105 | CKSRYB682K25 |
| C 106 | CEALR68M50 |
| C 107 | CKSRYB103K50 |
| C 108 | CKSQYB474K16 |
| C 109 | CKSQYB474K16 |
| C 110 | CKSRYB104K16 |
| C 111 | CKSRYB104K16 |
| C 112 | CKSRYB104K16 |
| C 113 | CKSRYB123K25 |
| C 114 | CEAL220M6R3 |
| C 115 | CKSRYB473K16 |
| C 116 | CEAL2R2M50 |
| C 117 | CKSRYB102K50 |
| C 120 | CKSRYB183K25 |
| C 121 | CKSRYB332K50 |
| C 122 | CKSRYB562K25 |
| C 123 | CKSRYB681K50 |
| C 125 | CKSRYB103K50 |
| C 126 | CKSRYB103K50 |
| C 127 | CEAL2R2M50 |
| C 128 | CKSRYB103K50 |
| C 201 | CCSRCH471J50 |
| C 202 | CCSRCH100D50 |
| C 203 | CKSRYB104K16 |
| C 204 | CKSRYB332K50 |
| C 205 | CKSRYB103K50 |
| C 206 | CKSRYB104K16 |
| C 207 | CKSRYB473K16 |
| C 208 | CCSRCH560J50 |
| C 209 | CEAL470M6R3 |
| C 210 | CKSRYB103K50 |
| C 211 | CKSRYB103K50 |
| C 212 | CCSRCH101J50 |
| C 215 | CKSRYB223K25 |
| C 216 | CKSQYB334K16 |
| C 217 | CKSRYB103K50 |
| C 219 | CKSQYB105K10 |
| C 220 | CKSRYB104K16 |
| C 221 | CKSRYB473K16 |
| C 222 | CKSQYB334K16 |
| C 223 | CKSQYB474K16 |
| C 224 | CKSRYB104K16 |
| C 225 | CKSRYB272K50 |
| C 226 | CKSRYB682K25 |
| C 902 | CCSRCH270J50 |
| C 904 | CKSRYB223K25 |
| C 905 | CKSRYB103K50 |
| C 906 | CCSRTH100D50 |
| C 907 | CCSRTH150J50 |
| C 909 | CCSRTH100D50 |
| C 910 | CKSRYB332K50 |
| C 912 | CKSQYB474K16 |
| C 913 | CKSRYB223K25 |
| C 914 | CKSRYB682K25 |
| C 915 | CKSQYB223K25 |
| C 916 | CKSQYB474K16 |
| C 917 | CKSYB475K10 |
| C 918 | CKSRYB223K25 |
| C 919 | CKSQYB225K10 |
| C 920 | CCSRCH270J50 |
| C 921 | CCSRCH270J50 |
| C 922 | CKSYB105K16 |
| C 923 | CKSRYB103K50 |

| ====Circuit Symbol and No.====Part Name | Part No. | |
|--|------------------|--------------|
|  Unit Number : CWM6098(DEH-1000/X1N/UC, DEH-1050/X1N/ES) | | |
|  Unit Name : Keyboard Unit | | |
| MISCELLANEOUS | | |
| IC 1801 | IC | PD6294A |
| D 1801 | Diode Network | DA204U |
| D 1802 | Diode Network | DA204U |
| X 1801 | Radiator 5.00MHz | CSS1423 |
| S 1801 | Switch | CSG1110 |
| S 1802 | Switch | CSG1111 |
| S 1803 | Switch | CSG1110 |
| S 1804 | Switch | CSG1110 |
| S 1805 | Switch | CSG1110 |
| S 1806 | Switch | CSG1110 |
| S 1807 | Switch | CSG1110 |
| S 1808 | Switch | CSG1110 |
| S 1809 | Switch | CSG1110 |
| S 1810 | Switch | CSG1111 |
| S 1811 | Switch | CSG1110 |
| S 1812 | Switch | CSG1111 |
| S 1813 | Switch | CSG1110 |
| S 1814 | Switch | CSG1111 |
| S 1815 | Switch | CSG1111 |
| S 1816 | Switch | CSG1111 |
| S 1817 | Switch | CSG1111 |
| S 1818 | Switch | CSG1111 |
| S 1819 | Switch | CSG1110 |
| S 1820 | Switch | CSG1111 |
| S 1821 | Switch | CSG1111 |
| S 1822 | Switch | CSG1111 |
| IL 1801 | Lamp 14V 40mA | CEL1549 |
| IL 1802 | Lamp 14V 40mA | CEL1549 |
| IL 1803 | Lamp 14V 40mA | CEL1549 |
| IL 1804 | Lamp 14V 40mA | CEL1549 |
| IL 1805 | Lamp 14V 40mA | CEL1549 |
| LCD1801 | LCD | CAW1500 |
| RESISTORS | | |
| R 1801 | | RS1/8S222J |
| R 1802 | | RS1/8S222J |
| R 1803 | | RS1/10S472J |
| R 1844 | | RS1/10S103J |
| CAPACITORS | | |
| C 1801 | | CKSQYB104K50 |
| C 1802 | | CEH100M6R3 |
| C 1803 | | CKSQYB104K50 |
| C 1804 | | CKSQYB104K50 |
| C 1805 | | CKSQYB104K50 |
| C 1806 | | CKSQYB104K50 |
|  Unit Number : CWM6095(DEH-10/X1N/UC) | | |
|  Unit Name : Keyboard Unit | | |
| MISCELLANEOUS | | |
| IC 1801 | IC | PD6294A |
| D 1801 | Diode Network | DA204U |
| D 1802 | Diode Network | DA204U |
| X 1801 | Radiator 5.00MHz | CSS1423 |
| S 1801 | Switch | CSG1110 |
| S 1802 | Switch | CSG1111 |
| S 1803 | Switch | CSG1110 |
| S 1804 | Switch | CSG1110 |
| S 1805 | Switch | CSG1110 |
| S 1806 | Switch | CSG1110 |

| ====Circuit Symbol and No.====Part Name | Part No. | ====Circuit Symbol and No.====Part Name | Part No. |
|---|--------------|---|--------------|
| S 1807 Switch | CSG1110 | R 310 | RS1/16S473J |
| S 1808 Switch | CSG1110 | R 503 | RA4C681J |
| S 1809 Switch | CSG1110 | R 504 | RS1/16S102J |
| S 1810 Switch | CSG1111 | R 601 | RS1/16S102J |
| S 1811 Switch | CSG1110 | R 602 | RS1/16S102J |
| S 1812 Switch | CSG1111 | R 603 | RS1/16S223J |
| S 1813 Switch | CSG1110 | R 604 | RS1/16S223J |
| S 1814 Switch | CSG1111 | R 801 | RS1/8S751J |
| S 1815 Switch | CSG1111 | R 802 | RS1/8S751J |
| S 1816 Switch | CSG1111 | | |
| S 1817 Switch | CSG1111 | CAPACITORS | |
| S 1818 Switch | CSG1111 | C 101 | CCSRCH102J25 |
| S 1819 Switch | CSG1110 | C 102 | CKSQYB104K16 |
| S 1820 Switch | CSG1111 | C 103 | CEV101M6R3 |
| S 1821 Switch | CSG1111 | C 104 | CEV470M6R3 |
| | | C 105 | CKSQYB334K16 |
| S 1822 Switch | CSG1111 | | |
| IL 1801 Lamp 14V 40mA | CEL1508 | C 106 | CKSQYB334K16 |
| IL 1802 Lamp 14V 40mA | CEL1508 | C 107 | CKSQYB334K16 |
| IL 1803 Lamp 14V 40mA | CEL1508 | C 201 | CKSQYB104K16 |
| IL 1804 Lamp 14V 40mA | CEL1508 | C 202 | CEV101M6R3 |
| | | C 203 | CKSQYB104K16 |
| IL 1805 Lamp 14V 40mA | CEL1508 | | |
| LCD1801 LCD | CAW1500 | C 204 | CKSRYP332K50 |
| | | C 205 | CKSQYB104K16 |
| RESISTORS | | C 206 | CKSRYP392K50 |
| R 1801 | RS1/8S222J | C 207 | CKSQYB224K16 |
| R 1802 | RS1/8S222J | C 208 | CCSRCH270J50 |
| R 1803 | RS1/10S472J | | |
| R 1844 | RS1/10S103J | C 209 | CCSRCJ3R0C50 |
| | | C 210 | CCSRCH221J50 |
| CAPACITORS | | C 211 | CCSRCH101J50 |
| C 1801 | CKSQYB104K50 | C 212 | CKSQYB682K50 |
| C 1802 | CEH100M6R3 | C 213 | CKSQYB104K16 |
| C 1803 | CKSQYB104K50 | | |
| C 1804 | CKSQYB104K50 | C 214 | CKSQYB104K16 |
| C 1805 | CKSQYB104K50 | C 215 | CKSQYB104K16 |
| | | C 216 | CKSQYB104K16 |
| C 1806 | CKSQYB104K50 | C 217 | CKSQYB104K16 |
| | | C 218 | CKSQYB104K16 |
| | | C 219 | CKSQYB104K16 |
| | | C 220 | CKSQYB104K16 |
| D Unit Number : CWX2344 | | C 301 | CEV470M16 |
| Unit Name : Control Unit | | C 502 | CKSRYP471K50 |
| | | C 601 | CEV4R7M35 |
| MISCELLANEOUS | | | |
| IC 201 IC | UPD63710GC | C 602 | CEV4R7M35 |
| IC 301 IC | BA5985FM | C 603 | CCSQSL152J50 |
| IC 601 IC | TA2063F | C 604 | CCSQSL152J50 |
| IC 701 IC | BA05SFP | C 605 | CEV220M6R3 |
| Q 101 Transistor | 2SB1132 | C 701 | CEV101M6R3 |
| | | | |
| D 801 LED | CL200IRX | C 702 22μF/6.3V | CCH1300 |
| D 802 LED | CL200IRX | C 703 | CKSQYB334K16 |
| X 201 Ceramic Oscillator 16.934MHz | CSS1456 | | |
| S 801 Spring Switch(HOME) | CSN1051 | | |
| S 802 Spring Switch(CLAMP) | CSN1052 | E Unit Number : | |
| | | Unit Name : Photo Unit | |
| RESISTORS | | Q 1 Photo-transistor | CPT230SX-TU |
| R 101 | RS1/8S120J | Q 2 Photo-transistor | CPT230SX-TU |
| R 102 | RS1/8S100J | | |
| R 103 | RS1/16S222J | Miscellaneous Parts List | |
| R 201 | RS1/16S104J | | |
| R 205 | RS1/16S103J | | |
| | | | |
| R 206 | RS1/16S393J | | |
| R 207 | RS1/16S182J | M 1 Pickup Unit(Service)(P8) | CXX1285 |
| R 208 | RS1/16S304J | M 2 Motor Unit(CARRIAGE) | CXB2190 |
| R 210 | RS1/16S0R0J | M 3 Motor Unit(LOADING) | CXB2195 |
| R 212 | RS1/16S103J | | CXB2562 |
| | | | Fuse(10A) |
| | | | CEK1136 |
| R 213 | RS1/16S103J | | |
| R 214 | RS1/16S123J | | |
| R 215 | RS1/16S273J | | |
| R 216 | RS1/16S273J | | |
| R 309 | RS1/16S473J | | |

6. ADJUSTMENT

6.1 CD ADJUSTMENT

1) Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.

If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.

Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
 - *During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.
 - *The unit will not load a disc.

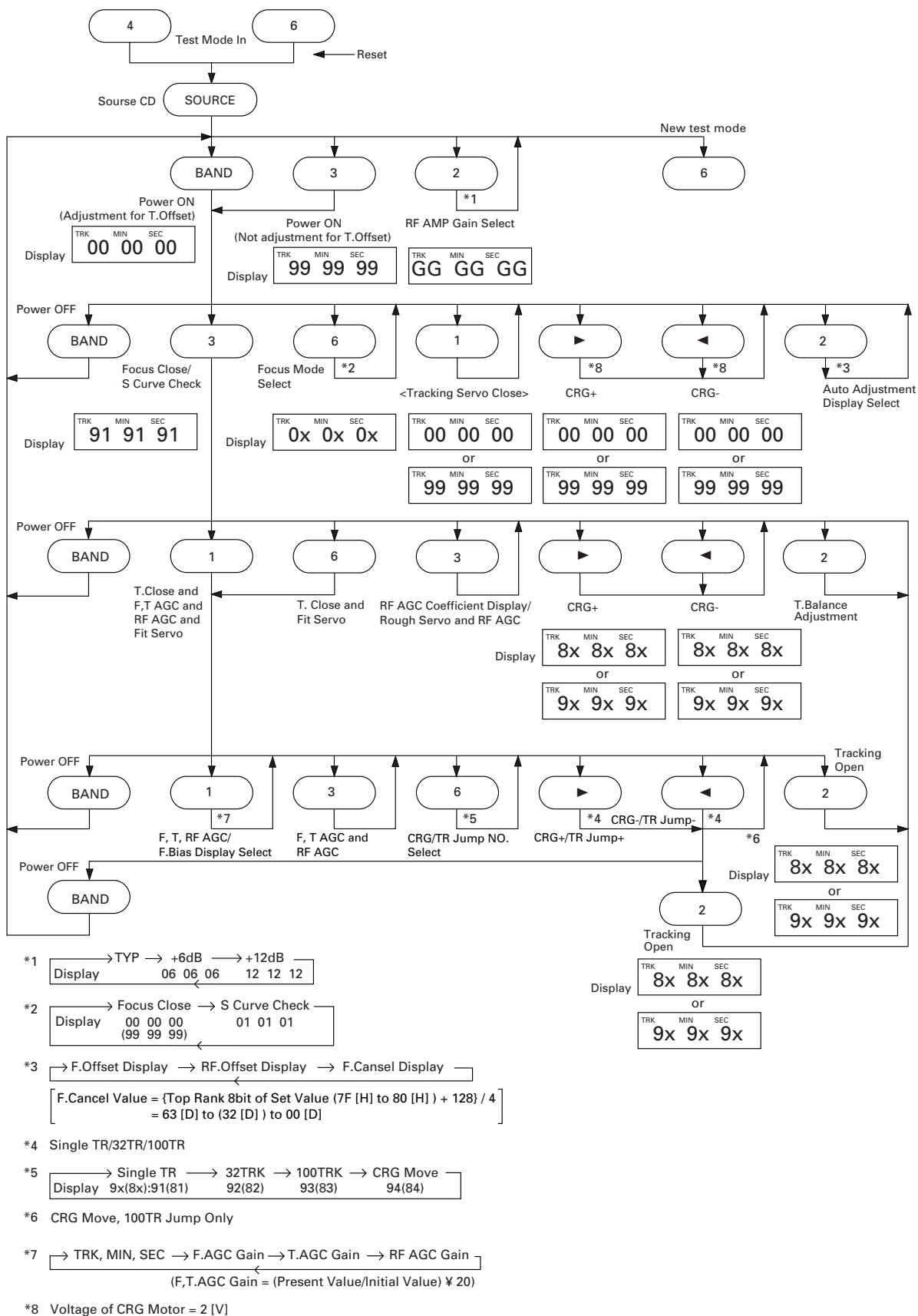
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

2) Test Mode

This mode is used for adjusting the CD mechanism module of the device.

- Test mode starting procedure
Reset while pressing the **4** and **6** keys together.
- Test mode cancellation
Switch ACC, back-up OFF.
- After pressing the EJECT key, do not press any other key until the disk is completely ejected.
- If the ► or ◀ key is pressed while focus search is in progress, immediately turn the power off (otherwise the actuator may be damaged due to adhesion of the lenses).
- Jump operation of TRs other than 100TR continues after releasing the key. CRG move and 100TR jump operations are brought into the "Tracking close" status when the key is released.
- Powering Off/On resets the jump mode to "Single TR (91)", the RF AMP gain setting to 0 dB, and the automatic adjustment value to the initial value.

● Flow Chart



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 :

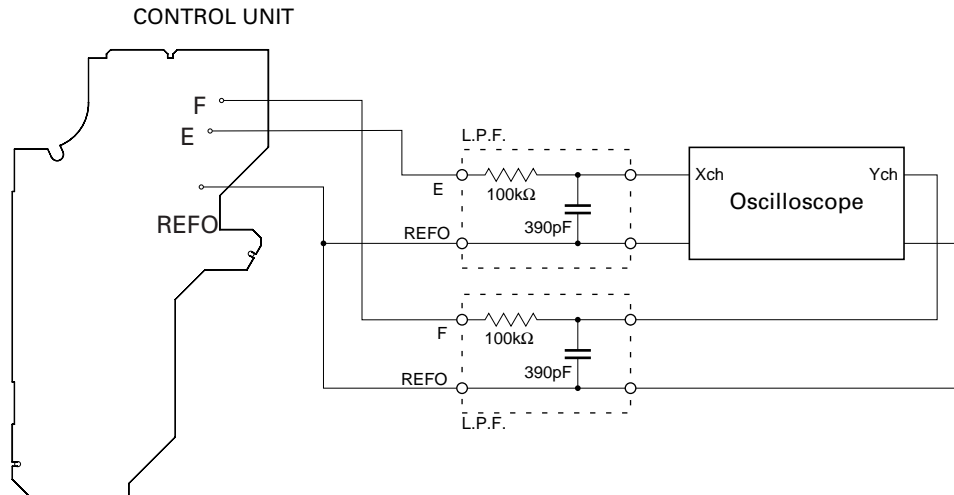
To check that the grating is within an acceptable range.

• 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 track searching taking a long time, may appear.

• Method :

- | | |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points | • E, F, REFOUT |
| • Disc | • ABEX TCD-784 |
| • Mode | • TEST MODE |



• Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the ► 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 2 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

• Note

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

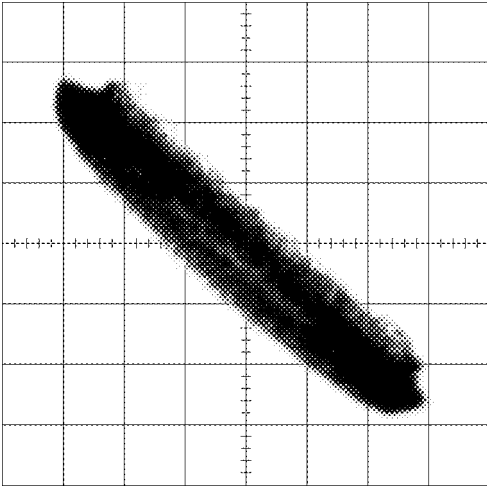
• Hint

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

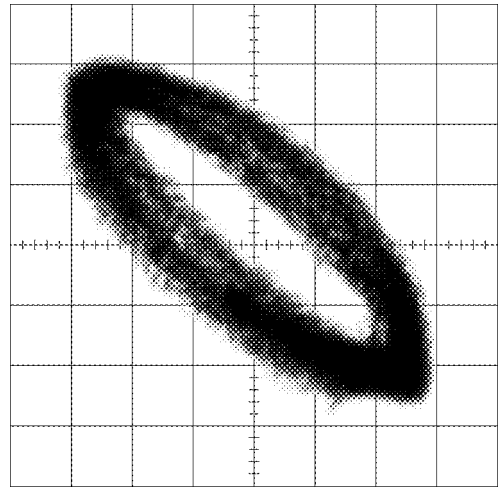
Grating waveform

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

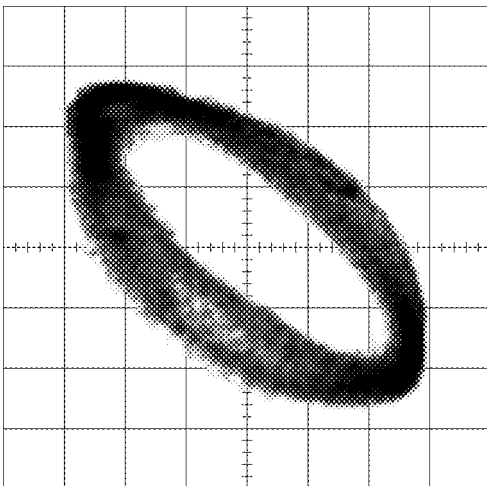
0°



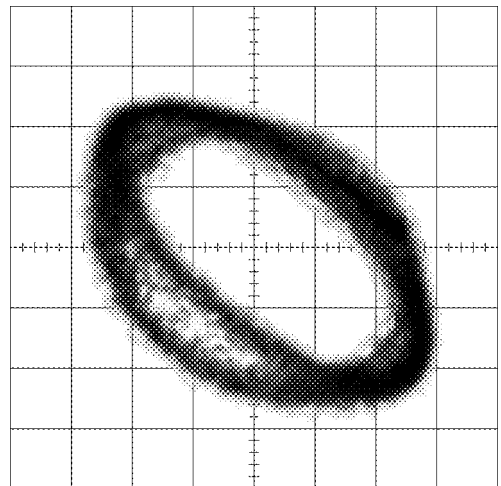
30°



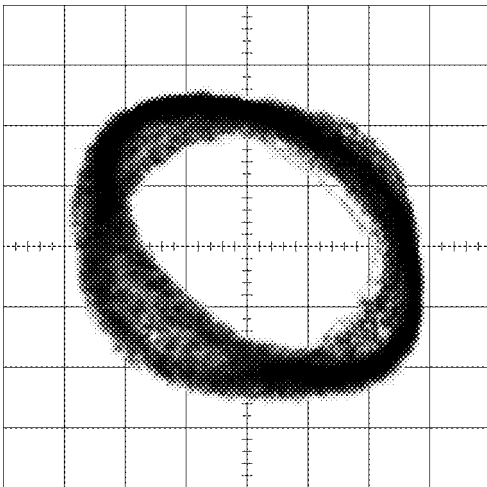
45°



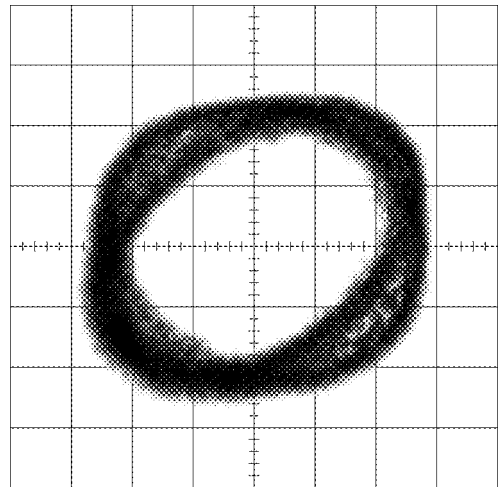
60°



75°



90°



7. GENERAL INFORMATION

7.1 PARTS

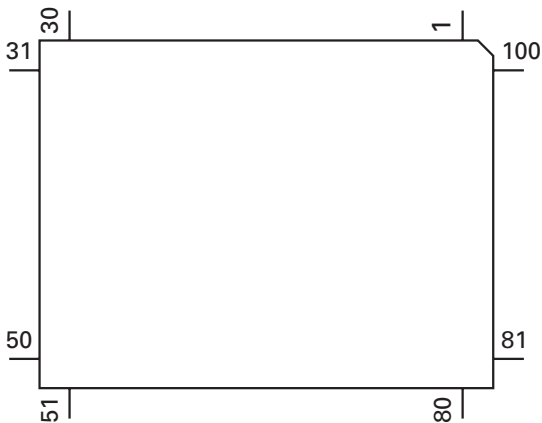
7.1.1 IC

● Pin Functions (PD4991A)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|---|
| 1,2 | NC | | Not used |
| 3 | SYSPW | O | System power supply control output |
| 4 | NC | | Not used |
| 5 | TESTIN | I | Test program mode input |
| 6-9 | NC | | Not used |
| 10 | TUNPW | O | Tuner power control output |
| 11 | RESET | I | Reset input |
| 12 | XT2 | | Not used (open) |
| 13 | XT1 | | Not used (GND) |
| 14 | VSS | | GND |
| 15 | X2 | | Crystal oscillator connection pin |
| 16 | X1 | | Crystal oscillator connection pin |
| 17 | REGOFF | | Connect to VSS |
| 18 | REGC | | Capacitor for regulator connect pin |
| 19 | VDD | | Power supply |
| 20 | GRNILM | O | Green illumination select output |
| 21 | NC | | Not used |
| 22 | ADPW | O | A/D converter power supply output |
| 23 | AMBILM | O | Amber illumination select output |
| 24 | NC | | Not used |
| 25 | ASENB | O | Slave power supply control output |
| 26,27 | NC | | Not used |
| 28 | MUTE | O | System mute output |
| 29 | FM/AM | O | RDS decoder power select output |
| 30 | LOCL | O | LOCL output |
| 31 | LOCH | O | LOCH output |
| 32 | TUNPCE2 | O | PLL IC chip enable output |
| 33 | VCK | O | Clock output for electronic volume |
| 34 | VST | O | Strobe pulse output for electronic volume |
| 35 | VDT | O | Data output for electronic volume |
| 36,37 | NC | | Not used |
| 38 | SD | I | SD input |
| 39 | ST | I | FM stereo input |
| 40 | VSS | | GND |
| 41 | VDD | | Power supply |
| 42-44 | NC | | Not used |
| 45 | CURRO | O | Tuner voltage FIX output |
| 46-50 | NC | | Not used |
| 51 | SWVDD | O | Keyboard unit power supply control output |
| 52 | DSNS | I | Grille detach sense input |
| 53 | CONT | O | CD server driver power control output |
| 54 | CD5VON | O | CD +5V power control output |
| 55 | NC | | Not used |
| 56 | VDCONT | O | CD VD power control output |
| 57 | CDMUTE | O | CD mute control output |
| 58 | CDEJET | O | CD eject control output |
| 59 | CDLOAD | O | CD LOAD motor loading control output |
| 60 | LOCK | I | CD spindle lock input |
| 61 | FOK | I | CD focus OK input |
| 62 | PCL | O | Clock adjustment output |
| 63 | MIRR | I | CD mirror detector input |

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|---------------------|-----|--|
| 64 | CLAMP | I | CD disc clamp sense input |
| 65 | X \overline{SCK} | O | CD LSI clock output |
| 66 | XSI | I | CD LSI data input |
| 67 | XSO | O | CD LSI data output |
| 68 | XA0 | O | CD LSI command/data control output |
| 69 | X \overline{RST} | O | CD LSI reset output |
| 70 | X \overline{STB} | O | CD LSI strobe output |
| 71,72 | NC | | Not used |
| 73 | TEST | I | Test terminal |
| 74 | SL | I | Tuner signal level input |
| 75 | MODEL1 | I | Model select input |
| 76,77 | NC | | Not used |
| 78 | EJTSNS | I | CD disc EJECT position detect |
| 79 | DSCSNS | I | CD disc detect input |
| 80 | VDSNS | I | CD VD over voltage / short-circuit sense input |
| 81 | TEMP | I | CD temperature sense input (CD) |
| 82 | (VDD) | | A/D converter power supply terminal |
| 83 | (VDD) | | A/D converter reference voltage terminal |
| 84 | (GND) | | A/D converter GND |
| 85,86 | NC | | Not used |
| 87 | GND | | GND |
| 88 | LDET | I | RDS PLL lock sense input |
| 89-91 | NC | | Not used |
| 92 | A \overline{SENS} | I | ACC power sense input |
| 93 | B \overline{SENS} | I | Back up power sense input |
| 94 | TUNPDI | I | PLL IC data input |
| 95 | KEYDT | I | Key data input |
| 96 | DPDT | O | Display data output |
| 97 | TUNPCK | O | PLL IC clock output |
| 98 | TUNPDO | O | PLL IC data output |
| 99 | TUNPCE | O | PLL IC chip enable |
| 100 | PEE | O | Beep tone output |

*PD4991A



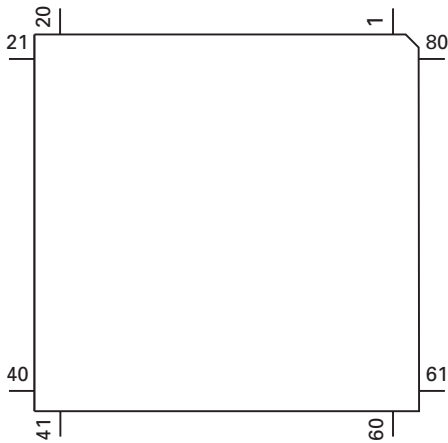
IC's marked by* are MOS type.

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

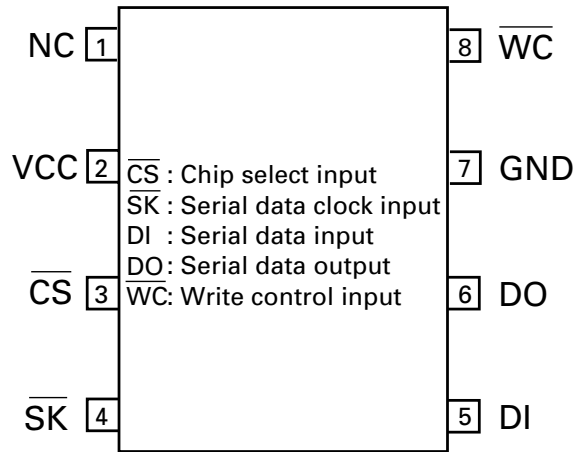
● Pin Functions (PD6294A)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|-----------|-----|-----------------------------------|
| 1 | VSS | | GND |
| 2 | X1 | | Crystal oscillator connection pin |
| 3 | X0 | | Crystal oscillator connection pin |
| 4 | NC | | Not used |
| 5,6 | MOD1,0 | I | Connect to GND |
| 7 | NC | | Not used |
| 8 | KYDT | O | Key data output |
| 9 | DPDT | I | Display data input |
| 10 | REMIN | I | Remote control pulse input |
| 11,12 | NC | | Not used |
| 13-16 | KD4-KD1 | I | Key data input |
| 17-22 | KST6-KST1 | O | Key strobe output |
| 23 | VDD | | VDD |
| 24-73 | SEG49-0 | O | LCD segment output |
| 74-77 | COM3-0 | O | LCD common output |
| 78 | VLCD | I | LCD voltage input |
| 79,80 | V2,V1 | | Power supply terminal |

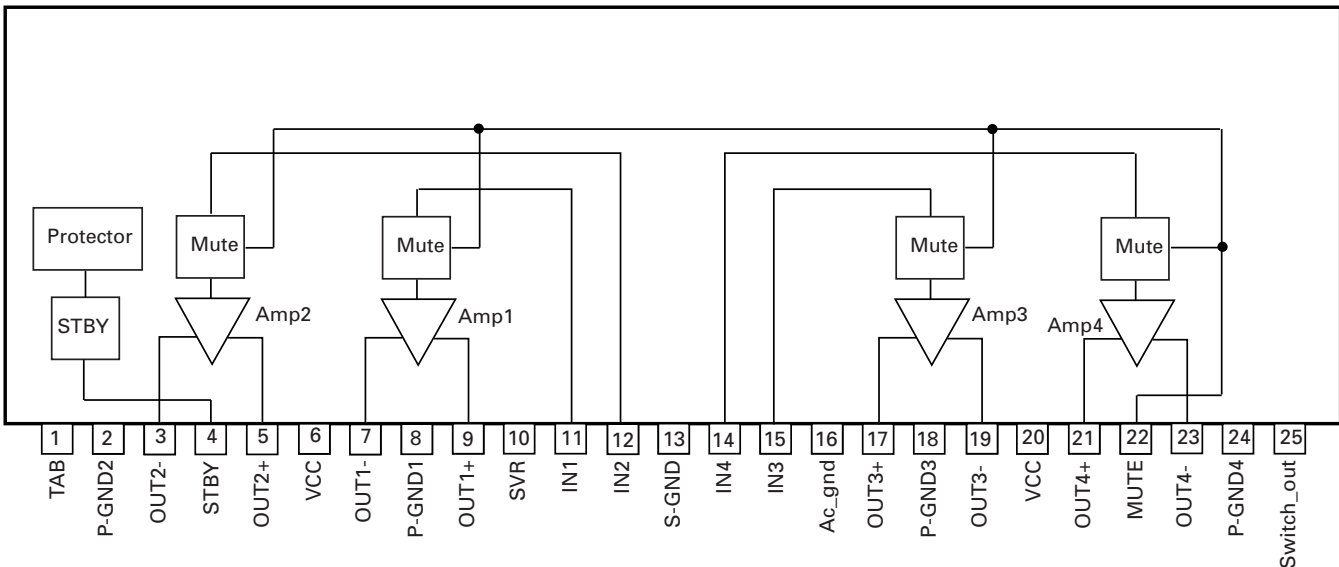
*PD6294A



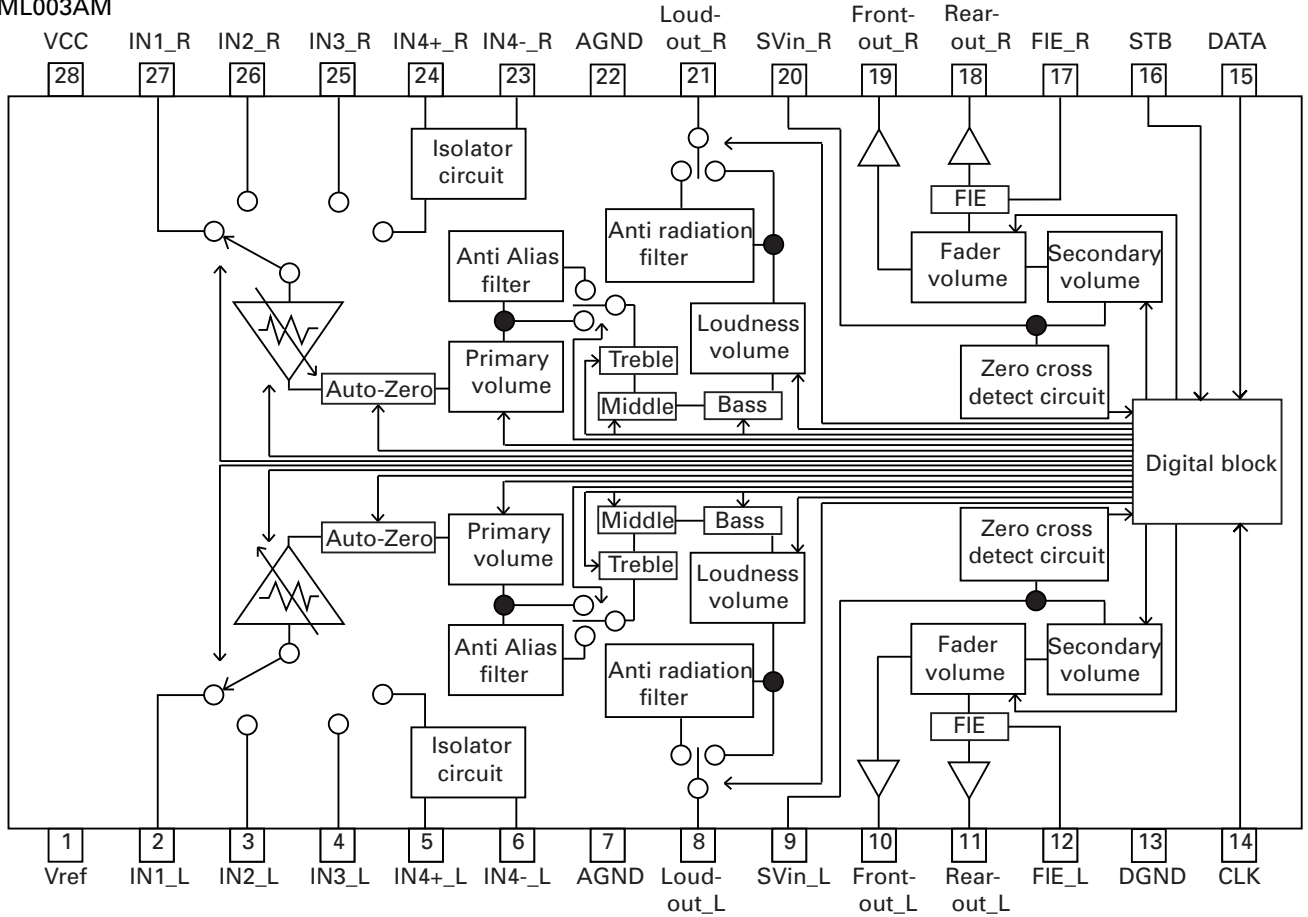
BR9010FV



PAL005A



PML003AM

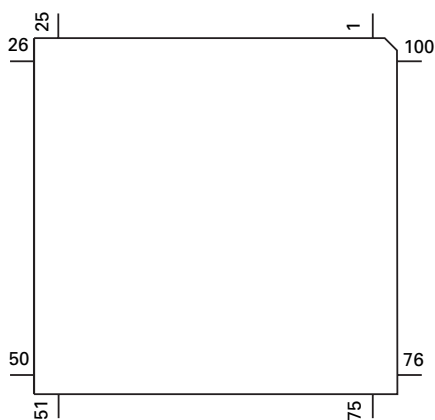


● Pin Functions (UPD63710GC)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|--|
| 1 | GND | | Logic circuit GND |
| 2 | HOLD | I/O | Defect detection output |
| 3 | MIRR | I/O | MIRR output |
| 4 | FOK | O | RFOK signal output |
| 5 | RST | I | Reset signal input |
| 6 | A0 | I | Command/parameter identification signal input |
| 7 | STB | I | Data strobe signal input |
| 8 | SCK | I | Clock signal input for serial data input/output |
| 9 | SO | O | Serial data and status signal output |
| 10 | SI | I | Serial data input |
| 11 | VDD | | Positive power supply terminal to logic circuit |
| 12 | DA.VDD | | Positive power supply terminal to D/A converter |
| 13 | NC | | Not used |
| 14, 15 | DA.GND | | D/A converter GND |
| 16 | NC | | Not used |
| 17 | DA.VDD | | Positive power supply terminal to D/A converter |
| 18 | R+ | O | Right channel audio data output |
| 19 | R- | O | Right channel audio data output |
| 20 | L- | O | Left channel audio data output |
| 21 | L+ | O | Left channel audio data output |
| 22 | X.VDD | | Positive power supply terminal to crystal oscillation circuit |
| 23 | XTAL | O | Crystal oscillator connect pin |
| 24 | XTAL | I | Crystal oscillator connect pin |
| 25 | X.GND | | Crystal oscillation circuit GND |
| 26 | VDD | | Positive power supply terminal to logic circuit |
| 27 | EMPH | O | Output pin for the pre-emphasis data in the sub-Q code |
| 28 | FLAG | O | Flag output pin to indicate that audio data currently being output consists of noncorrectable data |
| 29 | DIN | I | Serial data input to internal DAC |
| 30 | DOUT | O | Serial audio data output |
| 31 | SCKIN | I | Serial clock input to internal DAC |
| 32 | SCKO | O | Audio data that is output from DOUT changes at rising edge of this clock |
| 33 | LRCKIN | I | LRCK signal input to internal DAC |
| 34 | LRCK | O | Signals to distinguish the right and left channels of the audio data output from DOUT |
| 35 | WDCK | O | Output double the frequency of LRCK |
| 36 | TX | O | Digital audio interface data output |
| 37 | GND | | Logic circuit GND |
| 38 | C16M | O | Oscillator clock buffering output |
| 39 | LIMIT | I | Status of the pin is output at Bit 5 of the status output |
| 40 | VDD | | Positive power supply terminal to logic circuit |
| 41 | LOCK | O | EFM synchronous detection signal |
| 42 | RFCK | O | Frame synchronous signal of XTAL-system |
| 43 | WFCK | O | Frame synchronous signal of PLL-system |
| 44 | PLCK | O | Monitor pin of bit clock |
| 45 | GND | | Logic circuit GND |
| 46 | C1D1 | O | Output pin for indicating the C1 error correction results |
| 47 | C1D2 | O | Output pin for indicating the C1 error correction results |
| 48 | C2D1 | O | Output pin for indicating the C2 error correction results |
| 49 | C2D2 | O | Output pin for indicating the C2 error correction results |
| 50 | C2D3 | O | Output pin for indicating the C2 error correction results |
| 51 | VDD | | Positive power supply terminal to logic circuit |
| 52 | PACK | O | CD-TEXT PACK synchronous signal |
| 53 | TSO | O | CD-TEXT data serial output |
| 54 | TSI | I | CD-TEXT control parameter serial input |
| 55 | TSCK | I | CD-TEXT serial clock input |
| 56 | TSTB | I | CD-TEXT parameter strobe signal input |
| 57 | GND | | Logic circuit GND |
| 58 | TEST | I | Test pin |

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|--|
| 59 | ATEST | I/O | Test pin |
| 60 | RFMODE | I | Use/not use select for internal RF amplifier |
| 61 | A.GND | | Analog circuit GND |
| 62 | FD | O | Focus drive output |
| 63 | TD | O | Tracking drive output |
| 64 | SD | O | Sled drive output |
| 65 | MD | O | Spindle drive output |
| 66 | DACO | O | DAC output for adjustment |
| 67 | FBAL | O | DAC output for adjustment |
| 68 | TBAL | O | DAC output for adjustment |
| 69 | TEVCA | O | DAC output for adjustment |
| 70 | A.VDD | | Power supply terminal to analog circuit |
| 71 | EFM | O | EFM signal output |
| 72 | ASY | I | EFM comparator reference voltage input |
| 73 | C3T | | 3T detection capacitor additional pin |
| 74 | RFI | I | RF signal input for EFM data regulation |
| 75 | AGCO | O | RF signal output of after gain adjustment |
| 76 | AGCI | I | RF-AGC amplifier input |
| 77 | RFO | O | RF summing amplifier output |
| 78 | EQ2 | | RF amplifier equalizer parts additional pin |
| 79 | EQ1 | | RF amplifier equalizer parts additional pin |
| 80 | RF- | I | RF summing amplifier inverted input |
| 81 | A.GND | | Analog circuit GND |
| 82 | A | I | Photo detector A input |
| 83 | C | I | Photo detector C input |
| 84 | B | I | Photo detector B input |
| 85 | D | I | Photo detector D input |
| 86 | F | I | Photo detector F input |
| 87 | E | I | Photo detector E input |
| 88 | A.VDD | | Positive power supply terminal to analog circuit |
| 89 | REFOUT | O | Reference electric potential output |
| 90 | FE- | I | Focus error amplifier inverted input |
| 91 | FEO | I/O | Focus error amplifier output |
| 92 | TE- | I | Tracking error amplifier inverted input |
| 93 | TEO | I/O | Tracking error amplifier output |
| 94 | TE2 | I/O | Tracking error output of after amplification |
| 95 | TEC | I | Tracking comparator input |
| 96 | A.GND | | Analog circuit GND |
| 97 | PD | I | PD detection signal input for LD output monitor |
| 98 | LD | O | LD control current output |
| 99 | PN | I | APC circuit control polarity set pin |
| 100 | A.VDD | | Positive power supply terminal to analog circuit |

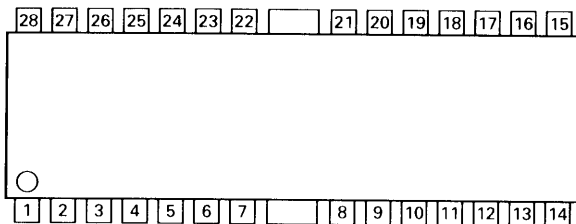
*UPD63710GC



● Pin Functions (BA5985FM)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|----------------------------------|
| 1 | FWD | I | Loading driver FWD input |
| 2 | OPIN1(+) | I | CH1 pre-amplifier input |
| 3 | OPIN1(-) | I | CH1 pre-amplifier inverted input |
| 4 | OPOUT1 | O | CH1 pre-amplifier output |
| 5 | OPIN2(+) | I | CH2 pre-amplifier input |
| 6 | OPIN2(-) | I | CH2 pre-amplifier inverted input |
| 7 | OPOUT2 | O | CH2 pre-amplifier output |
| 8 | VCC | | Power supply |
| 9 | VOL(-) | O | Loading driver negative output |
| 10 | VOL(+) | O | Loading driver positive output |
| 11 | VO2(-) | O | Driver CH2 negative output |
| 12 | VO2(+) | O | Driver CH2 positive output |
| 13 | VO1(-) | O | Driver CH1 negative output |
| 14 | VO1(+) | O | Driver CH1 positive output |
| 15 | VO4(+) | O | Driver CH4 positive output |
| 16 | VO4(-) | O | Driver CH4 negative output |
| 17 | VO3(+) | O | Driver CH3 positive output |
| 18 | VO3(-) | O | Driver CH3 negative output |
| 19 | GND | | GND |
| 20 | BIAS | I | Bias input |
| 21 | MUTE | | Mute control |
| 22 | OPOUT3 | O | CH3 pre-amplifier output |
| 23 | OPIN3(-) | I | CH3 pre-amplifier inverted input |
| 24 | OPIN3(+) | I | CH3 pre-amplifier input |
| 25 | OPOUT4 | O | CH4 pre-amplifier output |
| 26 | OPIN4(-) | I | CH4 pre-amplifier inverted input |
| 27 | OPIN4(+) | I | CH4 pre-amplifier input |
| 28 | REV | I | Loading driver REV input |

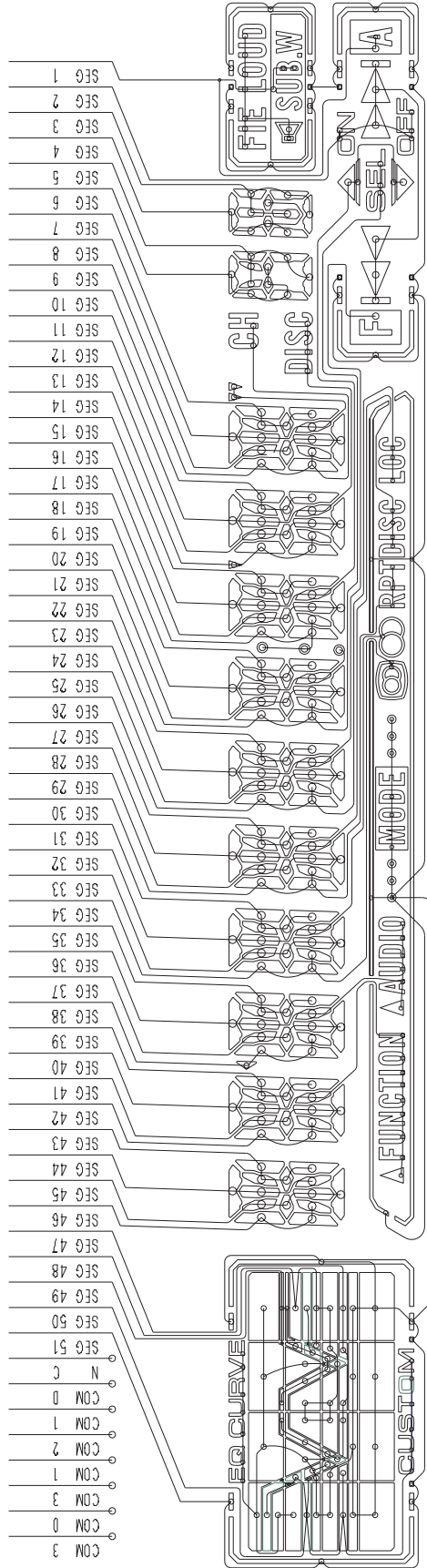
BA5985FM



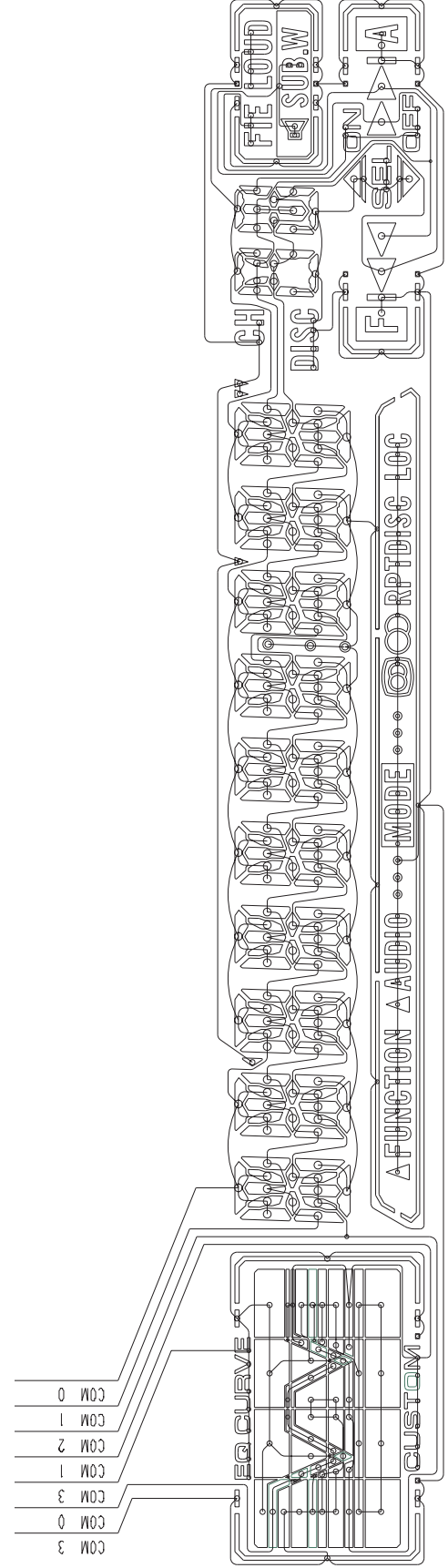
7.1.2 DISPLAY

● CAW1500

SEGMENT



COMMON



7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

● Removing the Case Unit(not shown)

1.Remove the Case Unit.

● Removing the Panel Assy(Fig.1)

1 Disengage the stoppers at two locations.

2 Remove the Panel Assy.

● Removing the CD Mechanism Module (not shown)

1.Remove the four screws.

2.Disconnect the connector, and then remove the CD Mechanism Module.

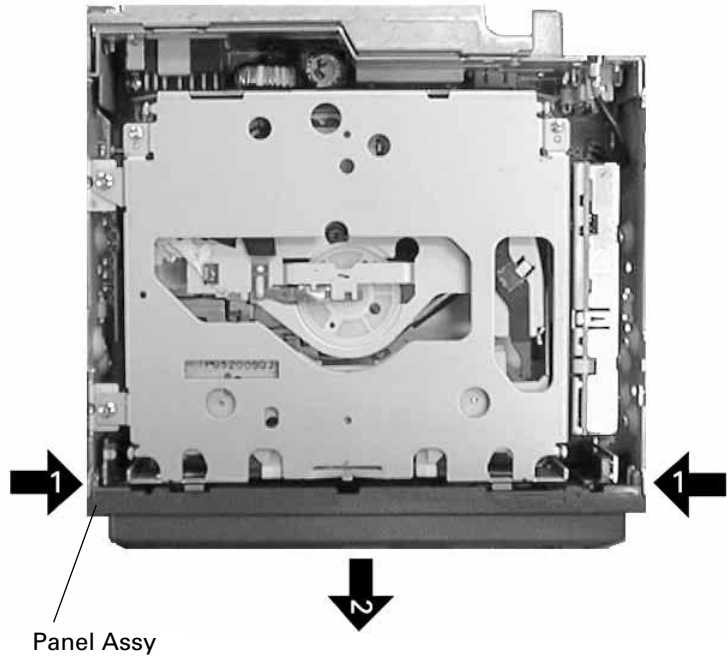


Fig.1

● Removing the Tuner Amp Unit(Fig.2)

1 Remove the two screws.

2 Remove the three screws.

3 Remove the screw.

4 Straighten the tabs at four locations indicated.
Remove the Tuner Amp Unit.

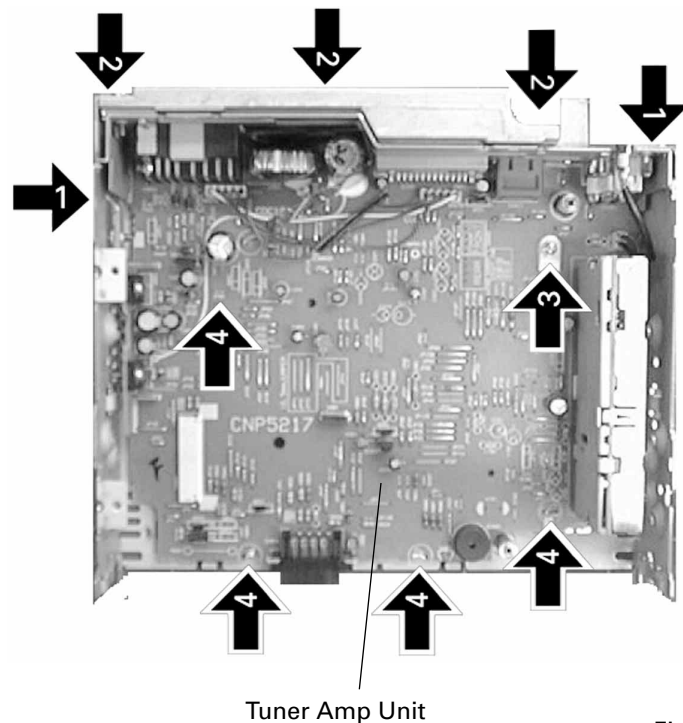


Fig.2

7.2.2 TEST MODE

● Error Messages

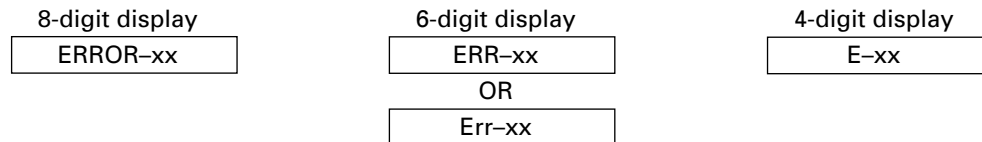
If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

(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.



(2) Error Code List

| Code | Class | Displayed error code | Description of the code and potential cause(s) |
|------|-------------|--|--|
| 10 | Electricity | Carriage Home NG | CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism. |
| 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 RF AMP 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. → Failure on home switch or CRG move mechanism. An appropriate RF AMP gain can't be determined. → CD signal error. |
| 17 | Electricity | Setup NG | APC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations. |
| 30 | Electricity | Search Time Out | Failed to reach target address. → CRG tracking error or damages on disc. |
| 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.

A newly designed head unit must conform to the example given above.

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

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

● **New Test Mode**

S-CD plays the same way as before.

If an error such as off focus, spindle unlocking, unreadable sub-code, or sound skipping occurs after setup, its cause and time occurred (in absolute time) are displayed.

During setup, operational status of the control software (internal RAM: CPOINT) is displayed.

These displays and functions are prepared for enhancing aging in the servicing and efficiency of trouble analysis.

(1) Shifting to the New Test Mode

- ① Turn on the current test mode by starting the reset from the key (it varies between the products).
- ② Select S-CD for the source through the specified procedure including use of the [SOURCE] key, and inserting the disc. Then, press the [Jump Mode Selector] key while maintaining the regulator turned off.
- ③ After the above operations, the new test mode remains on irrespective of whether the S-CD is turned on or off.
You can reset the new test mode by turning on the reset start.

* With some products, the new test mode can be reset through the same operations as that employed for shifting to the STBY mode (while maintaining the Acc turned off).

(2) Key Correspondence

| Key (Example) | Test mode | | New test mode | |
|------------------|--|---|---------------|------------------------|
| | Power Off | Power On | In-play | Error Production |
| BAND | To power on (offset adjustment performed) | To power off | – | Time/Err.No. switching |
| ▶ | – | FWD-Kick | FF/TR+ | – |
| ◀ | – | REV-Kick | REV/TR- | – |
| 1 | – | T.Close (AGC performed) /parameter display switching | Scan | – |
| 2 | RF AMP gain switching | Parameter display switching /T.BAL adjustment/T.Open | Mode | – |
| 3 | To power on (offset adjustment not performed) | F.Close/RF AGC/F.T.AGC | – | – |
| 6 | – | F.Mode switching /T.Close (no AGC)/Jump switching | Auto/Manu | T.No./Time switching |

Note: Eject and CD on/off is performed in the same procedure as that for the normal mode.

(3) Cause of Error and Error Code

| Code | Class | Contents | Description and cause |
|------|-------------|--------------------------|--|
| 40 | Electricity | Off focus detected. | FOK goes low. → Damages/stains on disc, vibrations or failure on servo. |
| 41 | Electricity | Spindle unlocked. | FOK = Low continued for 50 msec. → Damages/stains on disc, vibrations or failure on servo. |
| 42 | Electricity | Sub-code unreadable. | Sub-code was unreadable for 50 msec. → Damages/stains on disc, vibrations or failure on servo. |
| 43 | Electricity | Sound skipping detected. | Last address memory function was activated. → Damages/stains on disc, vibrations or failure on servo. |

Note: Mechanical errors during aging are not displayed.

The error codes should be indicated in the same way as in the normal mode.

(4) Display of Operational Status (CPOINT) during Setup

| Status No. | Contents | Protective action |
|------------|--|---|
| 00 | CD+5V ON process in progress. | None |
| 01 | Servo LSI initialization (1/3) in progress. | None |
| 02 | Servo LSI CRAM initialization in progress. | None |
| 03 | Servo LSI initialization (2/3) in progress. | None |
| 04 | Offset adjustment (1/3) in progress. | None |
| 05 | Offset adjustment (2/3) in progress. | None |
| 06 | Offset adjustment (3/3) in progress. | None |
| 07 | FZD adjustment in progress. | None |
| 08 | Servo LSI initialization (3/3) in progress. | None |
| 10 | Carriage move to home position started. | None |
| 11 | Carriage move to home position started. | None |
| 12 | Carriage is moving toward inner diameter. | Specified 10 seconds has been passed or failure on home switch. |
| 13 | Carriage is moving toward outer diameter. | Specified 10 seconds has been passed or failure on home switch. |
| 14 | Carriage outer kick in progress. | None |
| 15 | Carriage outer diameter feed (1 second) in progress. | None |
| 20 | Servo close started. | None |
| 21 | Pre-processing for focus search started. | None |
| 22 | Spindle rotation and focus search started. | None |
| 23 | Waiting for focus close (XSI=Low). | Specified focus search time has been passed. |
| 24 | Standing by after focus close is over. | Specified focus search time has been passed. |
| 25 | Focus search preprocessing is in progress while setup protection is turned on. | None |
| 26 | Focus search preprocessing is in progress while focus recovery is turned on. | None |
| 27 | Wait time after focus close is set up. | Off focus. |
| 28 | Standing by after focus close is over. | Off focus. |
| 29 | Setup (1/2) before T balance adjustment is started. | Off focus. |
| 30 | Setup (2/2) before T balance adjustment is started. | Off focus. |
| 31 | T balance adjustment started. | Off focus. |
| 32 | T balance adjustment (1/2). | Off focus. |
| 33 | T balance adjustment (2/2). | Off focus. |
| 34 | Waiting for spindle rotation to end. Spindle rough servo. | Off focus. |
| 35 | Standing by after spindle rough servo is over. | Off focus. |
| 36 | RF AGC started. | Off focus. |
| 37 | RF AGC started. | Off focus. |
| 38 | RF AGC ending process in progress. | Off focus. |
| 39 | Tracking close in progress. | Off focus. |
| 40 | Standing by after tracking is closed. Carriage closing in progress. | Off focus. |
| 41 | Focus/tracking AGC started. | Off focus. |
| 42 | Focus AGC started. | Off focus. |
| 43 | Focus AGC in progress. | Off focus. |
| 44 | Tracking AGC in progress. | Off focus. |
| 45 | Standing by after focus/tracking AGC are over. | Off focus. |
| 46 | Spindle processes applicable servo. | Off focus. |
| 47 | Check for servo close is started. | Off focus. |
| 48 | Check of LOCK pin started. | Off focus or spindle not locked. |
| 49 | RF AGC started. | Off focus. |
| 50 | RF AGC in progress. | Off focus. |
| 51 | Standing by after RF AGC is over. | Off focus. |

(5) Display Examples

1) During Setup (When status no. = 11)

| TRK No. | MIN. | SEC. |
|---------|------|------|
| 11 | 11' | 11" |

2) During Operation (TOC read, TRK search, Play, FF and REV)

The same as in the normal mode.

3) When a Protection Error Occurred

Switch to the following displays (A) and (B) using the [BAND] switch:

(A) Error occurrence timing display in absolute time.

An example: Error occurred in 12th tune at 34'56" in absolute time.

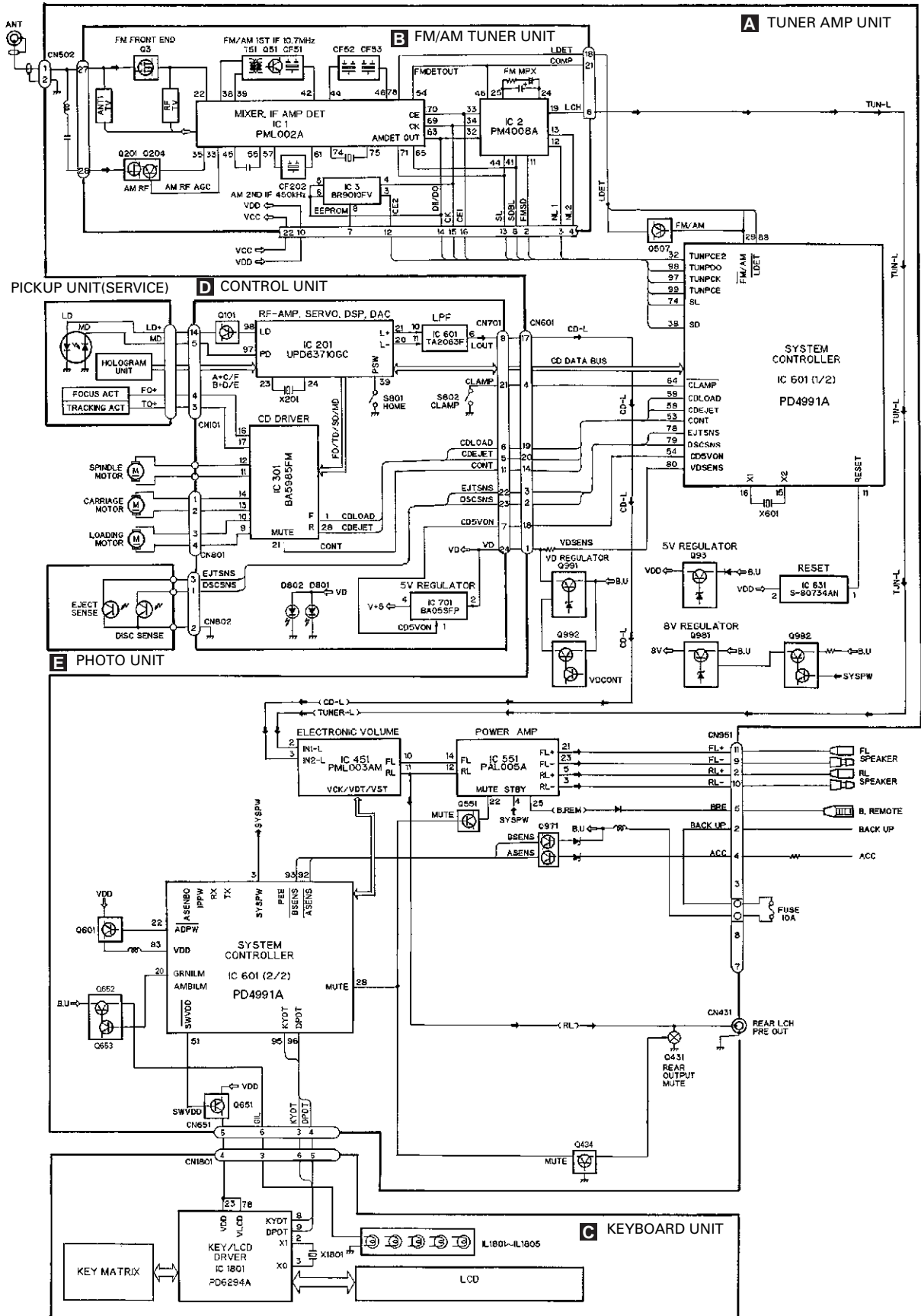
| TRK No. | MIN. | SEC. |
|---------|------|------|
| 12 | 34' | 56" |

(B) Error No. display

An example: Error #40 (Off focus is detected)

ERROR-40

7.3 BLOCK DIAGRAM

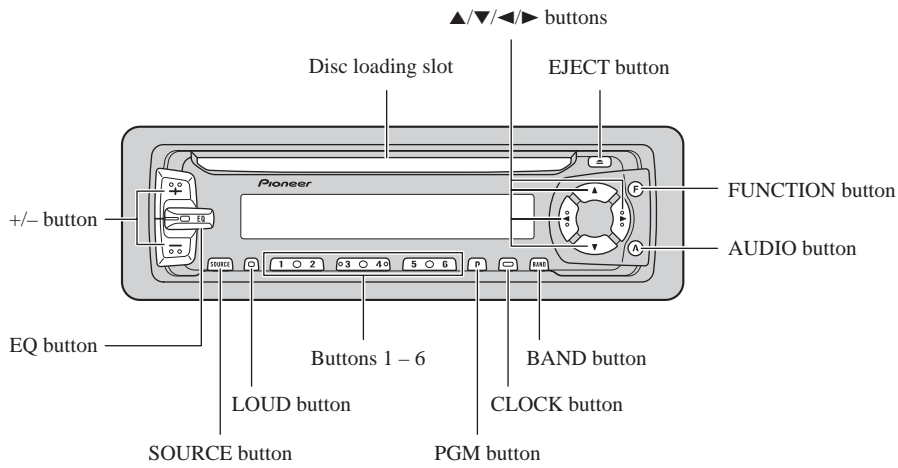


8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

Key Finder

Head Unit



Basic Operation

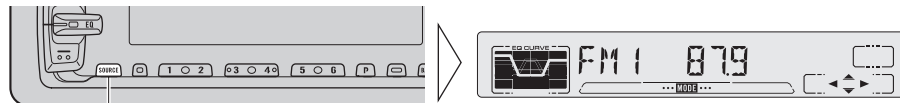
To Listen to Music

The following explains the initial operations required before you can listen to music.

Note:

- Loading a disc in this product.

1. Select the desired source (e.g. tuner).



Each press changes the Source ...

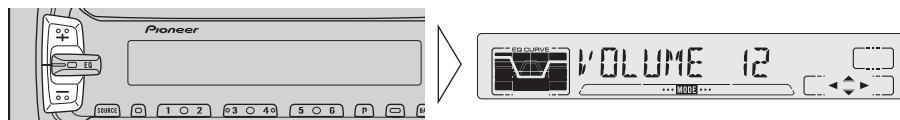
■ **Head Unit**

Each press of the SOURCE button selects the desired source in the following order:
Built-in CD player → Tuner

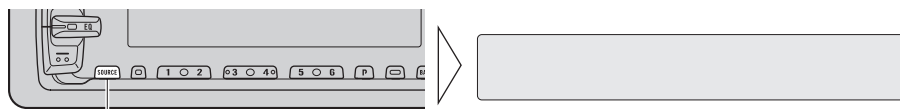
Note:

- The sound source will not change if no disc is set in this product.

2. Raise or lower the volume.



3. Source OFF.



Hold for 1 second or more

Basic Operation

Basic Operation of Tuner

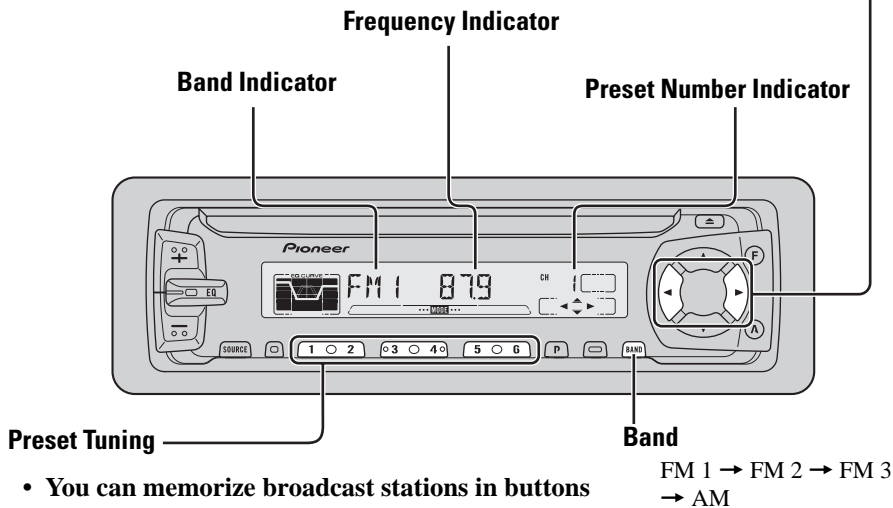
Manual and Seek Tuning

- You can select the tuning method by changing the length of time you press the ◀▶ button.

| | |
|------------------------------|---------------------|
| Manual Tuning (step by step) | 0.5 seconds or less |
| Seek Tuning | 0.5 seconds or more |

Note:

- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcasting stations. Seek Tuning starts as soon as you stop pressing the button.
- “◯” stereo indicator lights when a stereo station is selected.



- You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.

| | |
|---------------------------------|-------------------|
| Preset station recall | 2 seconds or less |
| Broadcast station preset memory | 2 seconds or more |

Note:

- Up to 18 FM stations (6 in FM1, FM2 and FM3) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Basic Operation of Built-in CD Player

Eject

Note:

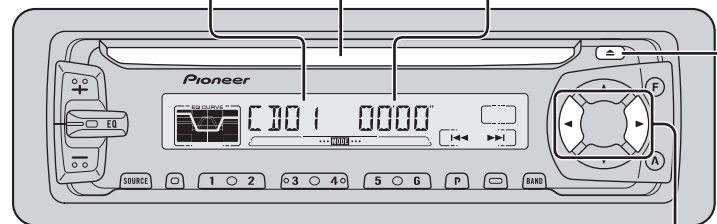
- The CD function can be turned ON/OFF with the disc remaining in this product.
- Discs left partially inserted after ejection may incur damage or fall out.

Disc Loading Slot

The built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.

Track Number Indicator

Elapsed Play Time Indicator



Track Search and Fast Forward/Reverse

- You can select between Track Search or Fast forward/Reverse by pressing the ◀/▶ button for a different length of time.

| | |
|----------------------|---------------------|
| Track Search | 0.5 seconds or less |
| Fast forward/Reverse | Continue pressing |

Note:

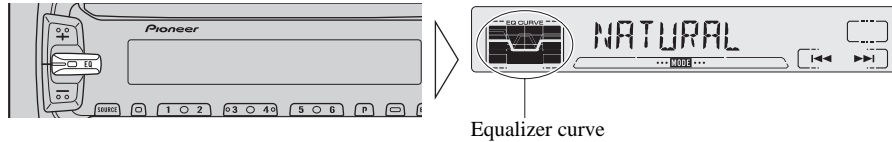
- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down. Push the EJECT button and check the disc for damage before reinserting it.
- If a CD is inserted with the recorded side up, it will be ejected automatically after a few moments.
- If the built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display.

Audio Adjustment

Selecting the Equalizer Curve

You can switch between Equalizer curves.

- Move the EQ button up or down to select the desired Equalizer curve.



POWERFUL ↔ NATURAL ↔ VOCAL ↔ CUSTOM ↔ EQ FLAT
↔ SUPER BASS

Note:

- “CUSTOM” stores an equalizer curve you have made adjustments to.
- You can create different “CUSTOM” curves for different sources.

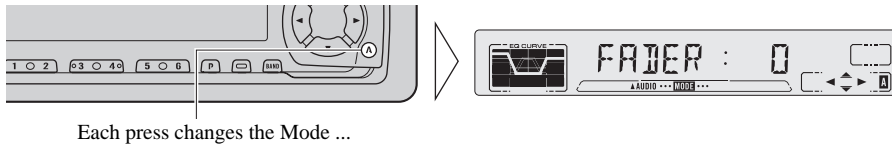
Entering the Audio Menu

With this Menu, you can adjust the sound quality.

Note:

- After entering the Audio Menu, if you do not perform an operation within about 30 seconds, the Audio Menu is automatically canceled.

1. Select the desired mode in the Audio Menu.



2. Operate a mode.

3. Cancel the Audio Menu.



Audio Adjustment

Audio Menu Functions

The Audio Menu features the following functions.

Balance Adjustment (FADER)

This function allows you to select a Fader/Balance setting that provides ideal listening conditions in all occupied seats.

1. Press the **AUDIO** button and select **Fader/Balance mode (FADER)** in the **Audio Menu**.

2. Adjust front/rear speaker balance with the **▲/▼** buttons.

“FADER F15” – “FADER R15” is displayed as it moves from front to rear.



3. Adjust left/right speaker balance with the **◀/▶** buttons.

“BAL L 9” – “BAL R 9” is displayed as it moves from left to right.



Note:

- “FADER 0” is the proper setting when 2 speakers are in use.

Equalizer Curve Adjustment (EQ-LOW/MID/HIGH)

You can adjust equalizer settings as desired. Adjusted equalizer curve settings are memorized in “CUSTOM”.

1. Press the **AUDIO** button and select the **Equalizer mode (EQ-LOW/MID/HIGH)** in the **Audio Menu**.

2. Select the band you want to adjust with the **◀/▶** buttons.

EQ-LOW ↔ EQ-MID ↔ EQ-HIGH



3. Boost or attenuate the selected band with the **▲/▼** buttons.

The display shows “+6” – “-6”.



Note:

- If you make adjustments when a curve other than “CUSTOM” is selected, the adjusted curve is stored in memory as a “CUSTOM” curve. Also, the displayed curve switches to that selected before adjustments were made.

Audio Menu Functions

The Audio Menu features the following functions.

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3. Adjust left/right speaker balance with the **◀/▶** buttons.

“BAL L 9” – “BAL R 9” is displayed as it moves from left to right.



Note:

- “FADER 0” is the proper setting when 2 speakers are in use.

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2. Select the band you want to adjust with the **◀/▶** buttons.

EQ-LOW ↔ EQ-MID ↔ EQ-HIGH



3. Boost or attenuate the selected band with the **▲/▼** buttons.

The display shows “+6” – “-6”.

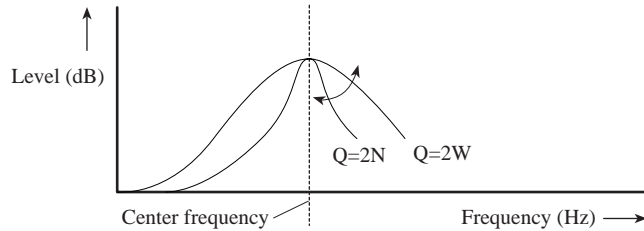


Note:

- If you make adjustments when a curve other than “CUSTOM” is selected, the adjusted curve is stored in memory as a “CUSTOM” curve. Also, the displayed curve switches to that selected before adjustments were made.

Equalizer Curve Fine Adjustment

You can adjust the center frequency of each equalizer curve band (LOW/MID/HIGH) and the Q factor (curve characteristics).



1. Press the **AUDIO** button for 2 or more seconds to select **Equalizer Curve Fine Adjustment**.

2. Press the **AUDIO** button to select the desired band for adjustment.



3. Select the desired frequency with the **◀/▶** buttons.

LOW: 40 ↔ 80 ↔ 100 ↔ 160 (Hz)
 MID: 200 ↔ 500 ↔ 1K ↔ 2K (Hz)
 HIGH: 3K ↔ 8K ↔ 10K ↔ 12K (Hz)



4. Select the desired Q factor with the **▲/▼** buttons.

2N ↔ 1N ↔ 1W ↔ 2W



Loudness Adjustment (LOUD)

The Loudness function compensates for deficiencies in the low and high sound ranges at low volume. You can select a desired Loudness level.

1. Press the **AUDIO** button and select the **Loudness mode (LOUD)** in the Audio Menu.

2. Switch the Loudness function ON/OFF with the **▲/▼** buttons.



3. Select the desired level with the **◀/▶** buttons.

LOW ↔ MID ↔ HI



Note:

- You can also switch the Loudness function ON/OFF by pressing the **LOUD** button. However, you cannot change the level.

Audio Adjustment

Front Image Enhancer Function (FIE)

The F.I.E. (Front Image Enhancer) function is a simple method of enhancing front imaging by cutting mid- and high-range frequency output from the rear speakers, limiting their output to low-range frequencies. You can select the frequency you want to cut.

Precaution:

- When the F.I.E. function is deactivated, the rear speakers output sound of all frequencies, not just bass sounds. Reduce the volume before disengaging F.I.E. to prevent a sudden increase in volume.

1. Press the AUDIO button and select the F.I.E. mode (FIE) in the Audio Menu.

2. Switch the F.I.E. function ON/OFF with the ▲/▼ buttons.



3. Select the desired frequency with the ◀/▶ buttons.

100 ↔ 160 ↔ 250 (Hz)



Note:

- After switching the F.I.E. function ON, select the Fader/Balance mode in the Audio Menu, and adjust front and rear speaker volume levels until they are balanced.
- Switch the F.I.E. function OFF when using a 2-speaker system.

Source Level Adjustment (SLA)

The SLA (Source Level Adjustment) function prevents radical leaps in volume when switching between sources. Settings are based on the FM volume, which remains unchanged. (Since the FM volume is the control, SLA is not possible in the FM modes.) The AM and CD levels can all be adjusted.

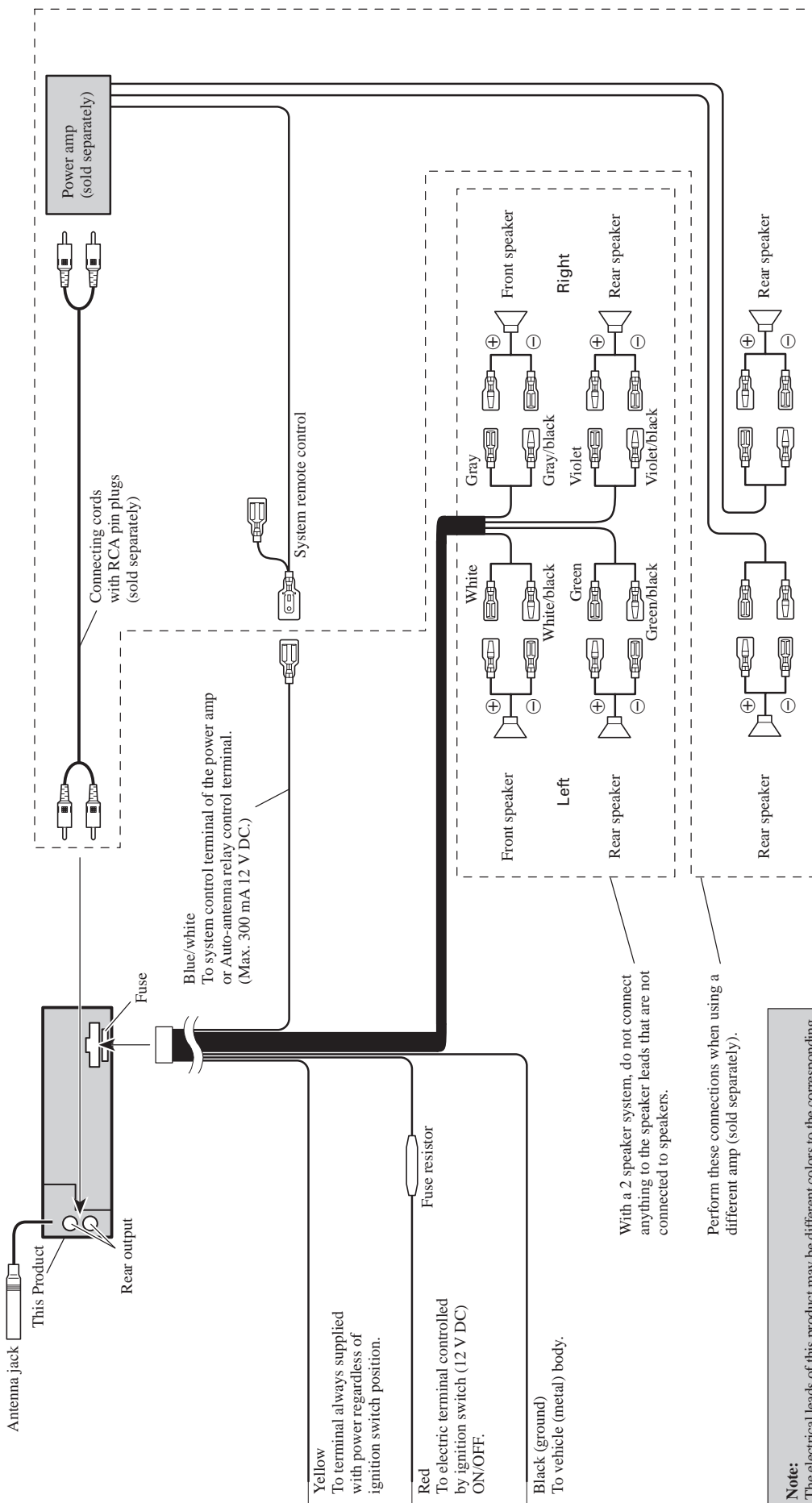
1. Compare the FM volume with the volume of the other source. (e.g. Built-in CD player)

2. Press the AUDIO button, and select the SLA mode (SLA) in the Audio Menu.

3. Increase or decrease the level with the ▲/▼ buttons.

The display shows “+4” – “-4”.





Yellow
To terminal always supplied with power regardless of ignition switch position.

Red
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

Black (ground)
To vehicle (metal) body.

With a 2 speaker system, do not connect anything to the speaker leads that are not connected to speakers.

Perform these connections when using a different amp (sold separately).

Note:
The electrical leads of this product may be different colors to the corresponding leads (i.e. the leads that serve the same function) of other products. When connecting this product to another product, please read the instruction manual for each product carefully and then connect each lead of this product to the other product that serves the same function.

8.2 SPECIFICATIONS

● DEH-1000/X1N/UC, DEH-10/X1N/UC

General

| | |
|--------------------------|--|
| Power source | 14.4 V DC (10.8 – 15.1 V allowable) |
| Grounding system | Negative type |
| Max. current consumption | 10.0 A |
| Dimensions | |
| (DIN) (chassis) | 178 (W) × 50 (H) × 159 (D) mm [7 (W) × 2 (H) × 6-1/4 (D) in] |
| (nose) | 188 (W) × 58 (H) × 19 (D) mm [7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in] |
| (D) (chassis) | 178 (W) × 50 (H) × 164 (D) mm [7 (W) × 2 (H) × 6-1/2 (D) in] |
| (nose) | 170 (W) × 46 (H) × 14 (D) mm [6-3/4 (W) × 1-3/4 (H) × 5/8 (D) in] |
| Weight | 1.4 kg (3.1 lbs) |

Amplifier

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

| | |
|---|-------------------------------|
| Maximum power output | 45 W × 4 |
| Load impedance | 4 Ω (4 – 8 Ω allowable) |
| Preout maximum output | |
| level/output impedance | 2.2 V/1 kΩ |
| Equalizer (3-Band Parametric Equalizer) | |

| | |
|--------|--|
| (Low) | Frequency: 40/80/100/160 Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB |
| (Mid) | Frequency: 200/500/1k/2k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB |
| (High) | Frequency: 3.15k/8k/10k/12.5k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB |

Loudness contour

| | |
|--------|--|
| (Low) | +3.5 dB (100 Hz), +3 dB (10 kHz) |
| (Mid) | +10 dB (100 Hz), +6.5 dB (10 kHz) |
| (High) | +11 dB (100 Hz), +11 dB (10 kHz) (volume: -30 dB) |

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 | 94 dB (1 kHz) (IHF-A network) |
| Dynamic range | 92 dB (1 kHz) |
| Number of channels | 2 (stereo) |

FM tuner

| | |
|------------------------------|---|
| Frequency range | 87.9 – 107.9 MHz |
| Usable sensitivity | 10 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB) |
| 50 dB quieting sensitivity | 15 dBf (1.7 μV/75 Ω, mono) |
| Signal-to-noise ratio | 70 dB (IHF-A network) |
| Distortion | 0.3% (at 65 dBf, 1 kHz, stereo) |
| Frequency response | 30 – 15,000 Hz (±3 dB) |
| Stereo separation | 40 dB (at 65 dBf, 1 kHz) |
| Selectivity | 70 dB (2ACA) |
| Three-signal intermodulation | |
| (desired signal level) | 30 dBf |
| (two undesired signal level) | 100 dBf |

AM tuner

| | |
|--------------------|--------------------------|
| Frequency range | 530 – 1,710 kHz |
| Usable sensitivity | 18 μV (S/N: 20 dB) |
| Selectivity | 50 dB (±10 kHz) |

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

● DEH-1050/X1N/ES

General

| | |
|--------------------------|-------------------------------------|
| Power source | 14.4 V DC (10.8 – 15.1 V allowable) |
| Grounding system | Negative type |
| Max. current consumption | 10.0 A |
| Dimensions | |
| (DIN) (chassis) | 178 (W) × 50 (H) × 159 (D) mm |
| (nose) | 188 (W) × 58 (H) × 19 (D) mm |
| (D) (chassis) | 178 (W) × 50 (H) × 164 (D) mm |
| (nose) | 170 (W) × 46 (H) × 14 (D) mm |
| Weight | 1.4 kg |

Amplifier

| | |
|--|--|
| Continuous power output is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD. | |
| Maximum power output | 45 W × 4 |
| Load impedance | 4 Ω (4 – 8 Ω allowable) |
| Preout maximum output level/ output impedance | 2.2 V/1 kΩ |
| Equalizer (3-Band Parametric Equalizer) | |
| (Low) | Frequency: 40/80/100/160 Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB |
| (Mid) | Frequency: 200/500/1k/2k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB |
| (High) | Frequency: 3.15k/8k/10k/12.5k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB |
| Loudness contour | |
| (Low) | +3.5 dB (100 Hz), +3 dB (10 kHz) |
| (Mid) | +10 dB (100 Hz), +6.5 dB (10 kHz) |
| (High) | +11 dB (100 Hz), +11 dB (10 kHz) (volume: –30 dB) |

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 | 94 dB (1 kHz) (IEC-A network) |
| Dynamic range | 92 dB (1 kHz) |
| Number of channels | 2 (stereo) |

FM tuner

| | |
|----------------------------|--|
| Frequency range | 87.5 – 108 MHz |
| Usable sensitivity | 10 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB) |
| 50 dB quieting sensitivity | 15 dBf (1.7 μV/75 Ω, mono) |
| Signal-to-noise ratio | 70 dB (IEC-A network) |
| Distortion | 0.3% (at 65 dBf, 1 kHz, stereo) |
| Frequency response | 30 – 15,000 Hz (±3 dB) |
| Stereo separation | 40 dB (at 65 dBf, 1 kHz) |

AM tuner

| | |
|--------------------|---|
| Frequency range | 531 – 1,602 kHz (9 kHz) 530 – 1,710 kHz (10 kHz) |
| Usable sensitivity | 18 μV (S/N: 20 dB) |
| Selectivity | 50 dB (±9 kHz) 50 dB (±10 kHz) |

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.