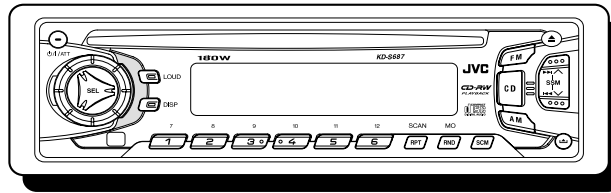
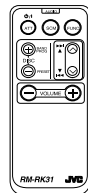
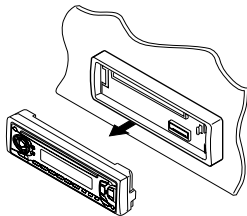


JVC

SERVICE MANUAL

CD RECEIVER

KD-S687




Area Suffix
UR ----- Brazil

Contents

| | | | |
|-------------------------------------|------|-----------------------------------|---------|
| Safety precaution | 1-2 | Flow of functional | |
| Preventing static electricity | 1-3 | operation unit TOC read | 1-12 |
| Disassembly method | 1-4 | Maintenance of laser pickup | 1-14 |
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| | | Description of major ICs | 1-15~26 |

Safety precaution

 **CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

 **CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

Preventing static electricity

1. Grounding to prevent damage by static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

2. About the earth processing for the destruction prevention by static electricity

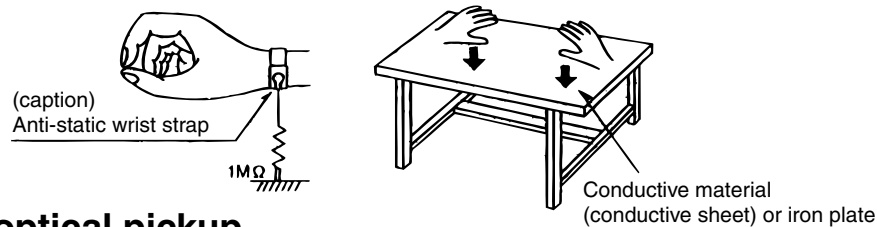
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players. Be careful to use proper grounding in the area where repairs are being performed.

2-1 Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

2-2 Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)

2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

4. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.

2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.

3. Handle the flexible cable carefully as it may break when subjected to strong force.

4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

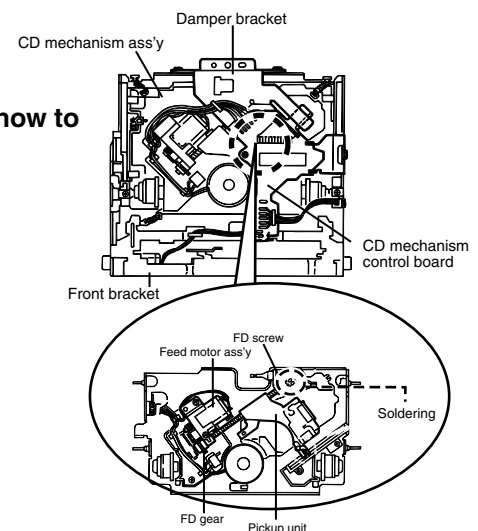
Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for pick-up and how to detach the substrate.**

1. Solder is put up before the card wire is removed from connector on the CD substrate as shown in Figure.

(When the wire is removed without putting up solder, the CD pick-up assembly might destroy.)

2. Please remove solder after connecting the card wire with when you install picking up in the substrate.

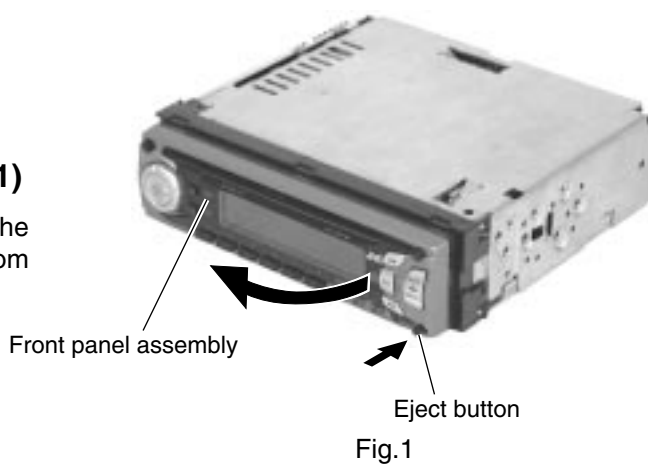


Disassembly method

<Main body>

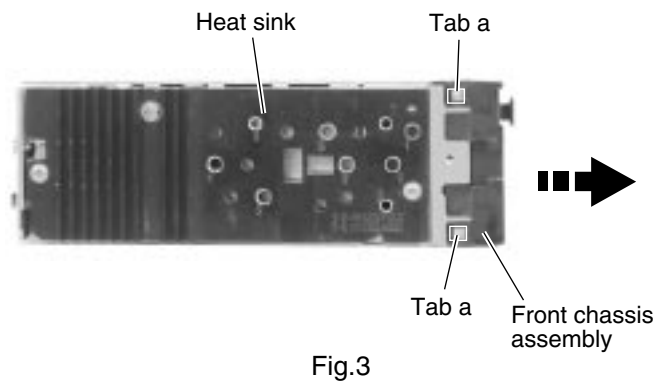
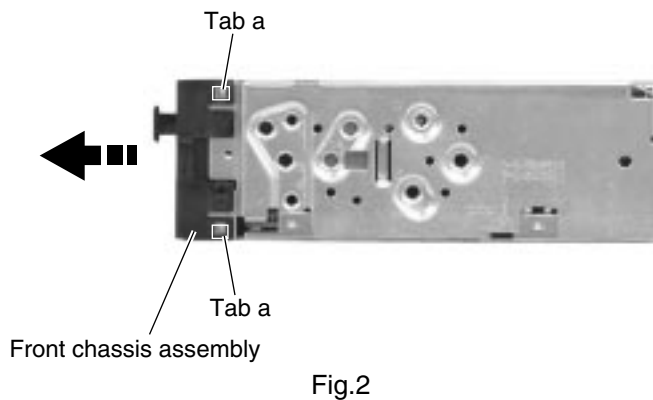
■ Removing the front panel assembly (See Fig.1)

1. Press the eject button in the lower right part of the front panel. Remove the front panel assembly from the body.



■ Removing the front chassis assembly (See Fig.2 and 3)

- Prior to performing the following procedure, remove the front panel assembly.
1. Release the four joint tabs **a** on both sides of the front chassis assembly and remove the front chassis assembly toward the front.



■ **Removing the heat sink (See Fig.4)**

1. Remove the three screws **A** on the left side of the body.

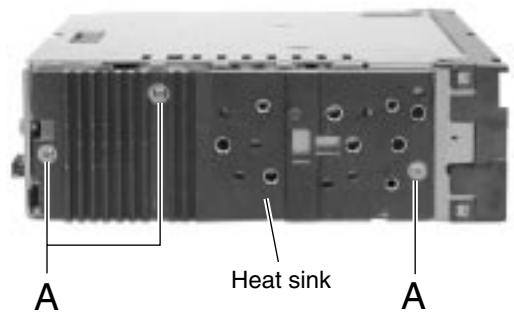


Fig.4

■ **Removing the bottom cover (See Fig.5 and 6)**

- Prior to performing the following procedure, remove the front panel assembly, the front chassis assembly and the heat sink.

1. Turn over the body and unjoint the five joints **b** with the bottom cover and the body using a screwdriver.

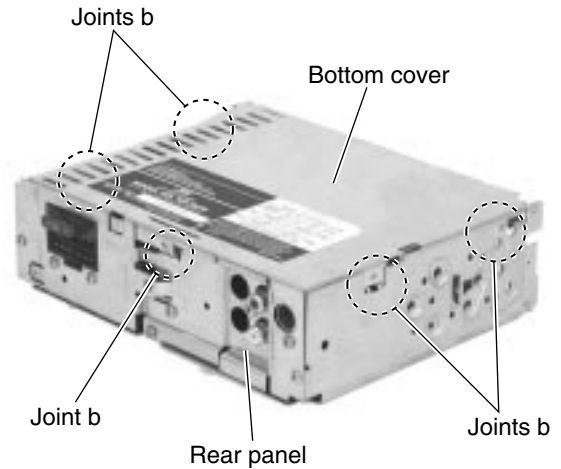


Fig.5

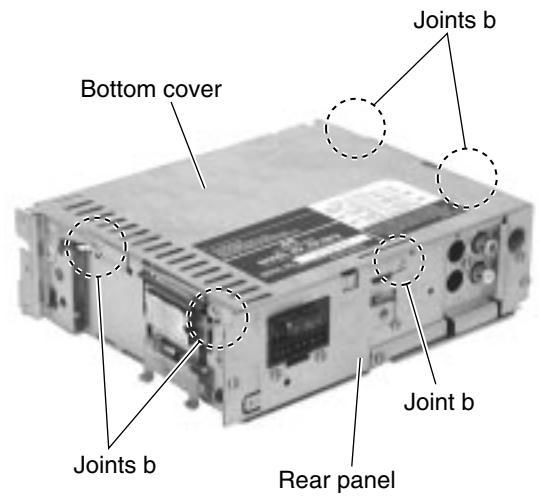


Fig.6

■ Removing the main board
(See Fig.7 and 8)

• Prior to performing the following procedure, remove the front panel assembly, the front chassis assembly, the heat sink and the bottom cover.

1. Remove the screw **B**, the four screws **C** and the three screws **D** attaching the rear panel on the back of the body. Remove the rear panel.
2. Remove the two screws **E** attaching the main board on the bottom of the body. Disconnect connector CN501 on the main board in the direction of the arrow.

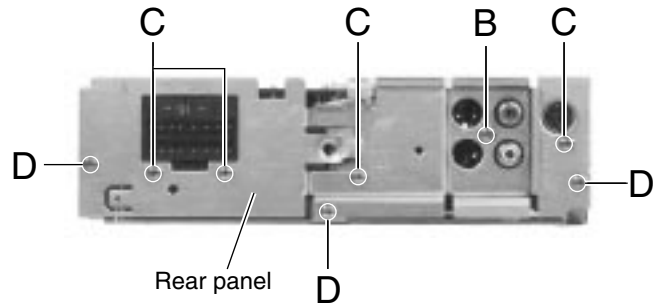


Fig.7

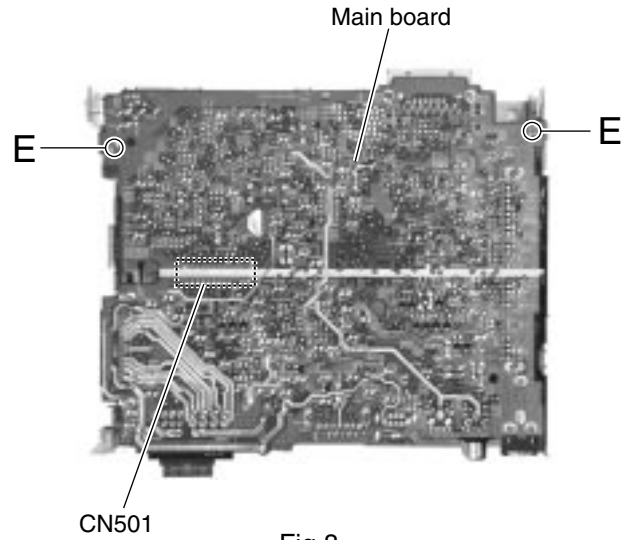


Fig.8

■ Removing the CD mechanism section
(See Fig.9)

• Prior to performing the following procedure, remove the front panel assembly, the front chassis assembly, the heat sink, the bottom cover and the main board.

1. Remove the three screws **F** attaching the cassette mechanism section on the back of the top chassis.

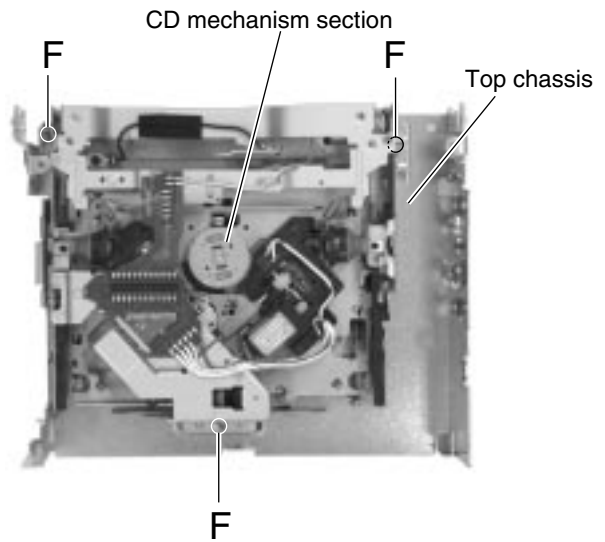


Fig.9

■ Removing the control switch board (See Fig.10 to 12)

· Prior to performing the following procedure, remove the front panel assembly.

1. Remove the four screws **G** attaching the rear cover on the back of the front panel assembly.
2. Unjoint the ten joints **c** with the front panel and the rear cover.
3. Remove the control switch board on the back of the front panel.

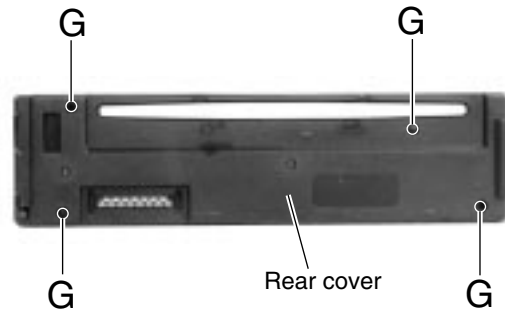


Fig.10

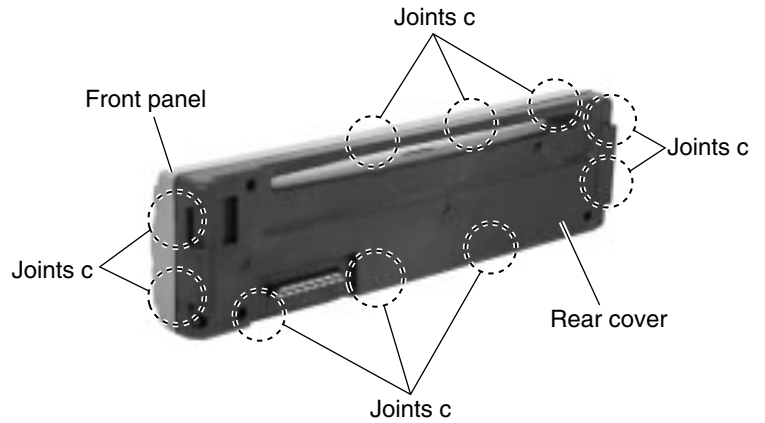


Fig.11

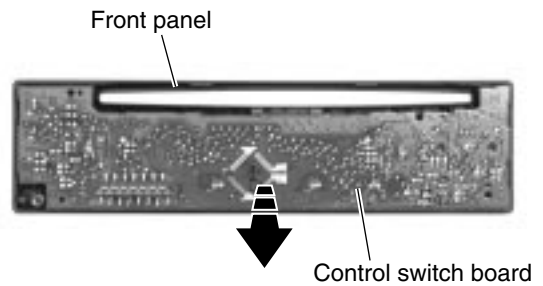


Fig.12

<CD mechanism section>

■ Removing the CD mechanism control board (See Fig.1 and 2)

1. Unsolder the part **a** and **b** on the CD mechanism control board.
2. Remove the stator fixing the CD mechanism control board and the damper bracket (To remove the stator smoothly, pick up the center part).
3. Remove the screw **A** attaching the CD mechanism control board.
4. Remove the CD mechanism control board in the direction of the arrow while releasing it from the two damper bracket slots **d** and the front bracket slot **e**.
5. Disconnect the flexible wire from connector on the pickup unit.

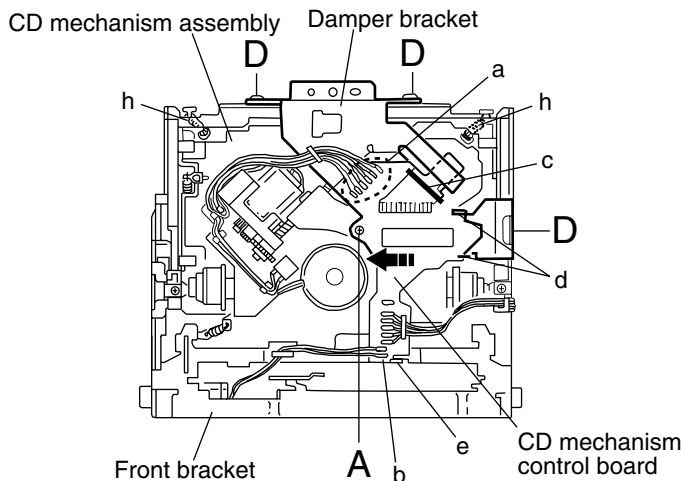


Fig.1

ATTENTION: Turn the FD gear in the direction of the arrow to move the entire pickup unit to the appropriate position where the flexible wire of the CD mechanism unit can be disconnected easily.

(Refer to Fig.2)

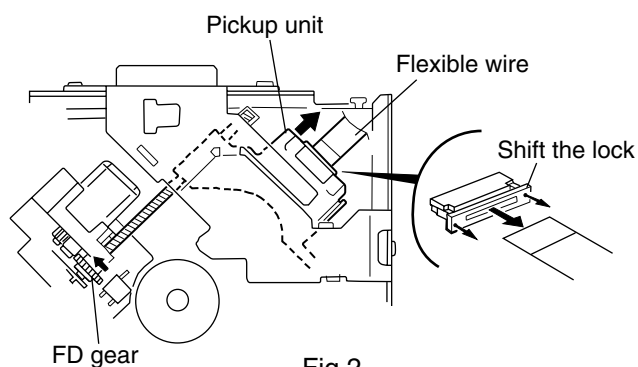


Fig.2

■ Removing the loading motor (See Fig.3 to 5)

• Prior to performing the following procedure, remove the CD mechanism control board.

1. Remove the two springs **f** attaching the CD mechanism assembly and the front bracket.
2. Remove the two screws **B** and the front bracket while pulling the flame outward.
3. Remove the belt and the screw **C** from the loading motor.

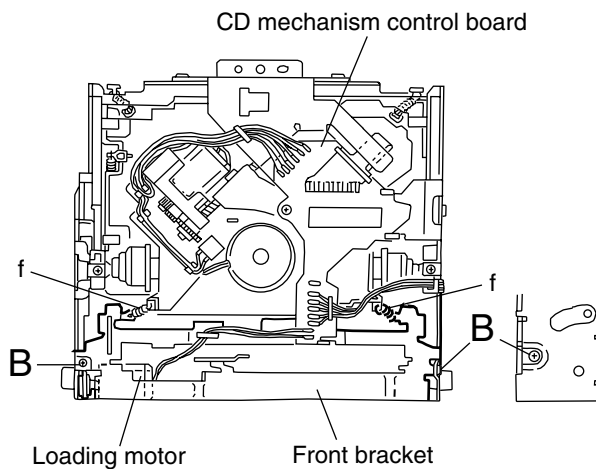


Fig.3

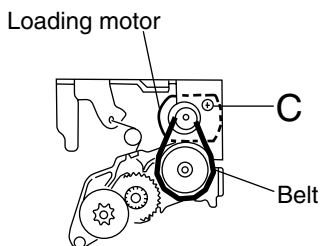


Fig.5

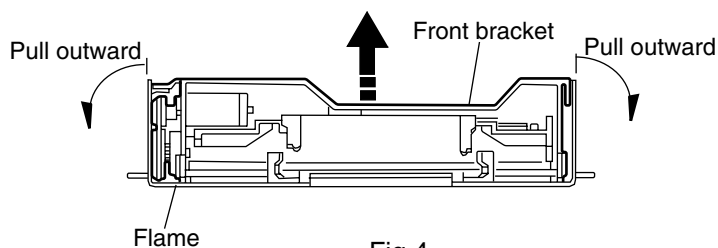


Fig.4

**■ Removing the CD mechanism assembly
(See Fig.1, 6 to 9)**

• Prior to performing the following procedure, remove the CD mechanism control board and the front bracket (loading motor).

1. Remove the three screws **D** and the damper bracket.
2. Raise the both sides fix arms and move the fix plates in the direction of the arrow to place the four shafts **g** as shown in Fig.8 and 9.
3. Remove the CD mechanism assembly and the two springs **h** attaching the flame.
4. Remove the two screws **E** and both sides rear damper brackets from the dampers. Detach the CD mechanism assembly from the left side to the right side.

ATTENTION: The CD mechanism assembly can be removed if only the rear damper bracket on the left side is removed.

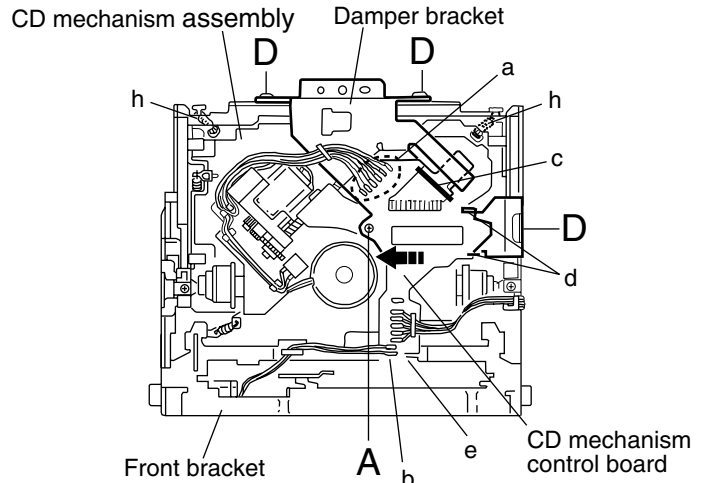


Fig.5

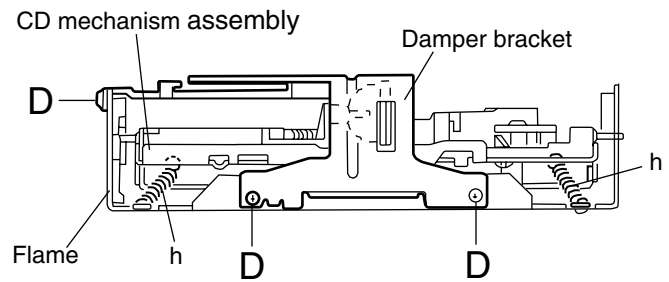


Fig.6

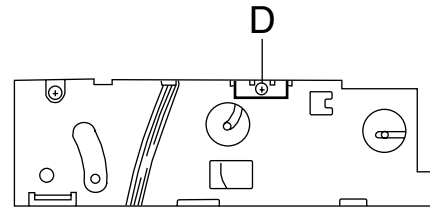


Fig.7

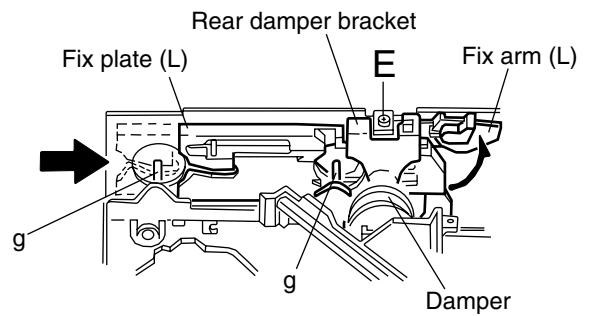


Fig.8

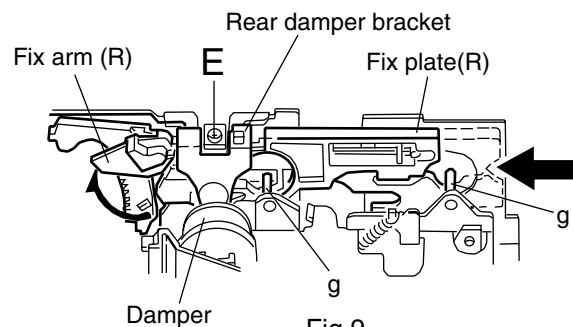


Fig.9

■ Removing the feed motor assembly
(See Fig.10)

• Prior to performing the following procedure, remove the CD mechanism control board, the front bracket (loading motor) and the CD mechanism assembly.

1. Remove the two screws **F** and the feed motor assembly.

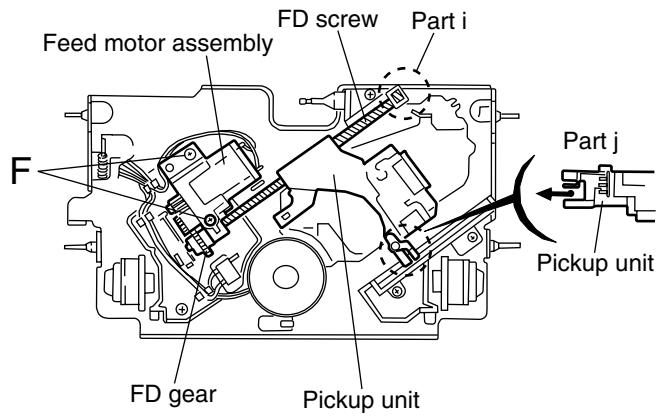


Fig.10

■ Removing the pickup unit
(See Fig.10 and 11)

• Prior to performing the following procedure, remove the CD mechanism control board, the front bracket (loading motor), the CD mechanism assembly and the feed motor assembly.

1. Detach the FD gear part of the pickup unit upward. Then remove the pickup unit while pulling out the part **i** of the FD screw.

ATTENTION: When reattaching the pickup unit, reattach the part **j** of the pickup unit, then the part **i** of the FD screw.

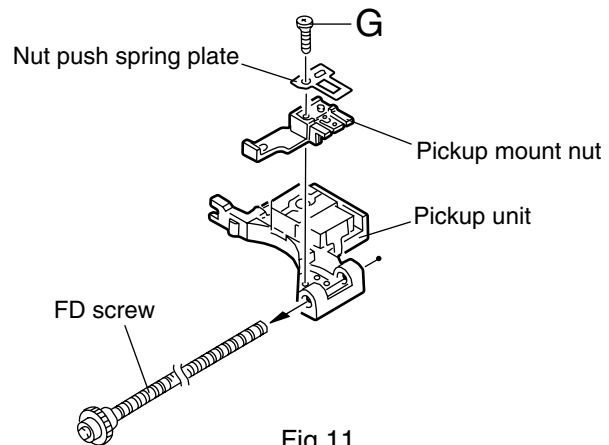


Fig.11

2. Remove the screw **G** attaching the nut push spring plate and the pickup mount nut from the pickup unit. Pull out the FD screw.

■ Removing the spindle motor
(See Fig.12 and 13)

• Prior to performing the following procedure, remove the CD mechanism control board, the front bracket (loading motor), the CD mechanism assembly and the feed motor assembly.

1. Turn up the CD mechanism assembly and remove the two springs **k** on both sides of the clamber arms. Open the clamber arm upward.
2. Turn the turn table, and remove the two screws **H** and the spindle motor.

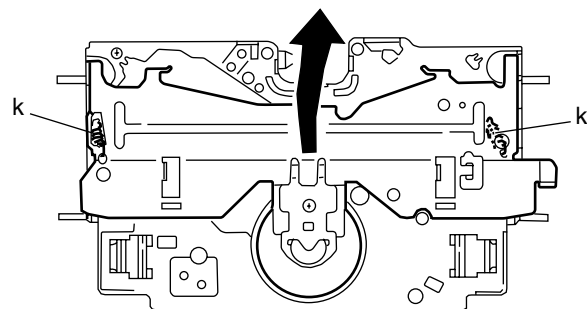


Fig.12

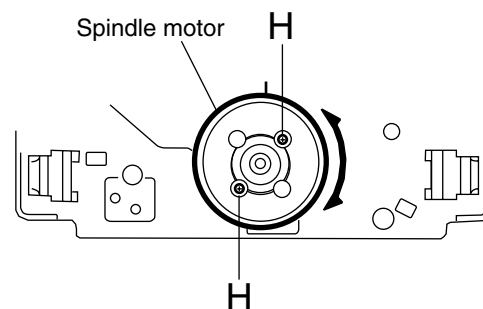


Fig.13

Adjustment method

■ Test instruments required for adjustment

1. Digital oscilloscope (100MHz)
2. AM Standard signal generator
3. FM Standard signal generator
4. Stereo modulator
5. Electric voltmeter
6. Digital tester
7. Tracking offset meter
8. Test Disc JVC :CTS-1000
9. Extension cable for check
EXTGS004-26P × 1

■ Standard volume position

Balance and Bass & Treble volume : Indication "0"
Loudness : OFF
BBE : OFF

■ Frequency Band

FM 87.5MHz ~ 107.9MHz
MW 530kHz ~ 1710 kHz

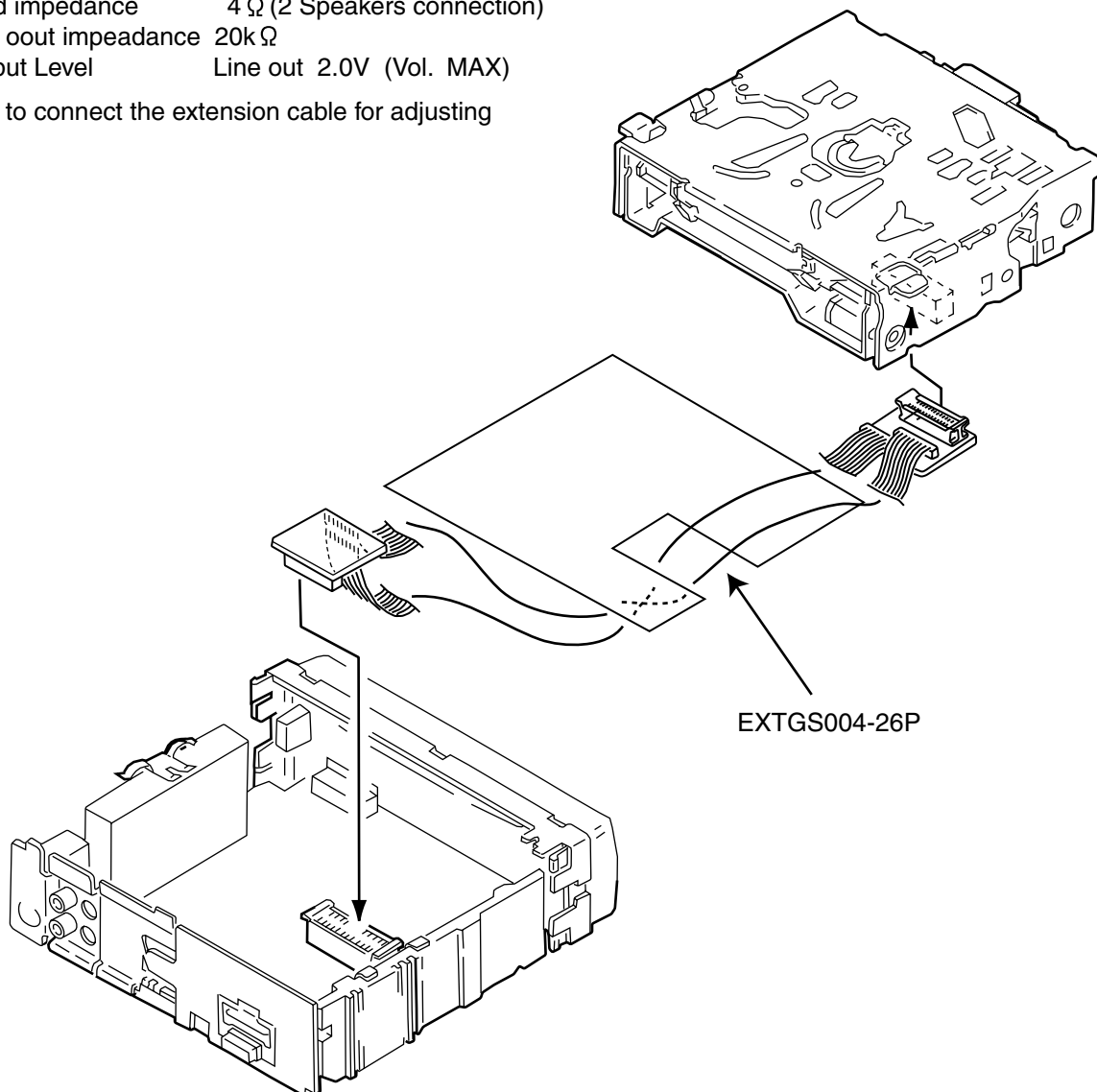
■ Dummy load

Exclusive dummy load should be used for AM, and FM. For FM dummy load, there is a loss of 6dB between SSG output and antenna input. The loss of 6dB need not be considered since direct reading of figures are applied in this working standard.

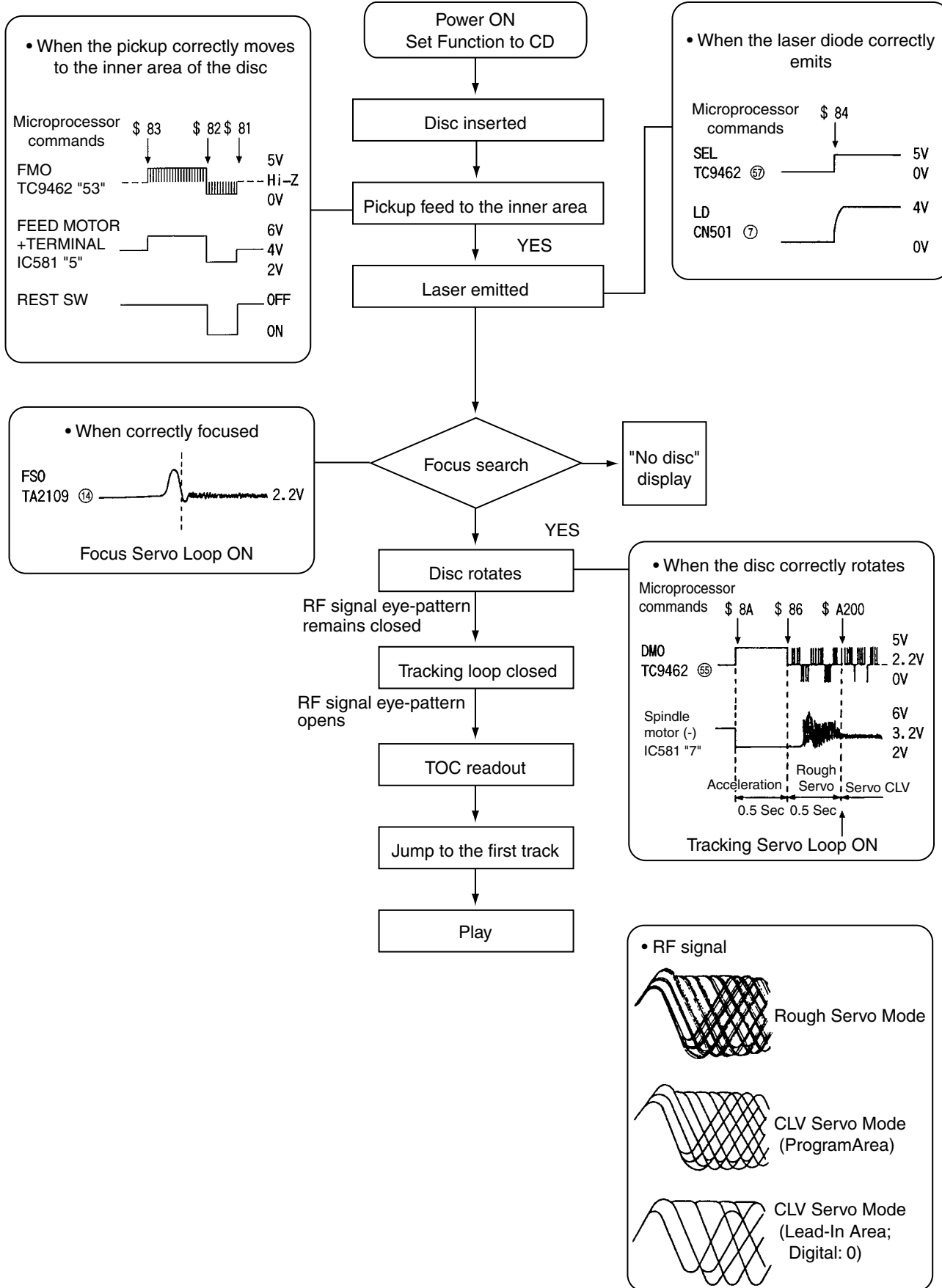
■ Standard measuring conditions

Power supply voltage DC14.4V(10.5~16V)
Load impedance 4 Ω (2 Speakers connection)
Line out impedance 20k Ω
Output Level Line out 2.0V (Vol. MAX)

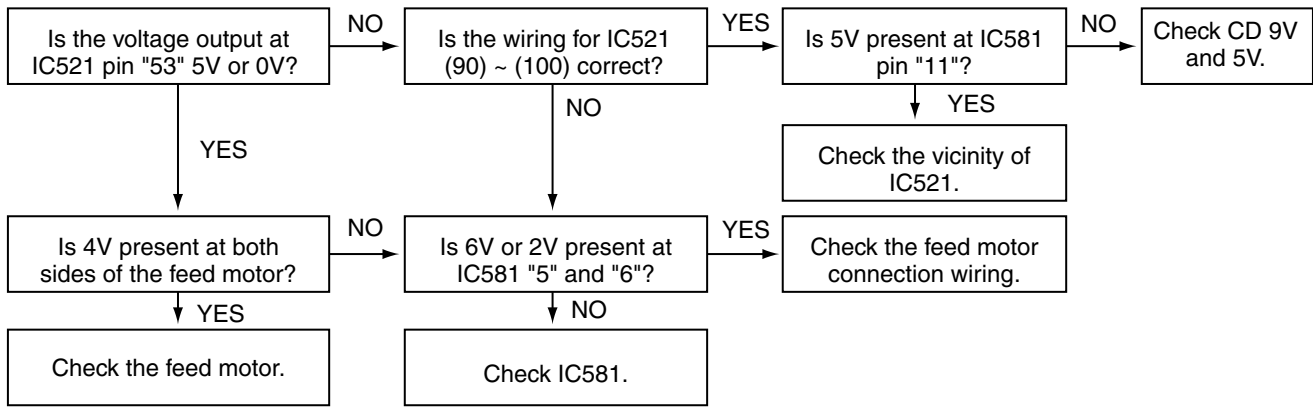
■ How to connect the extension cable for adjusting



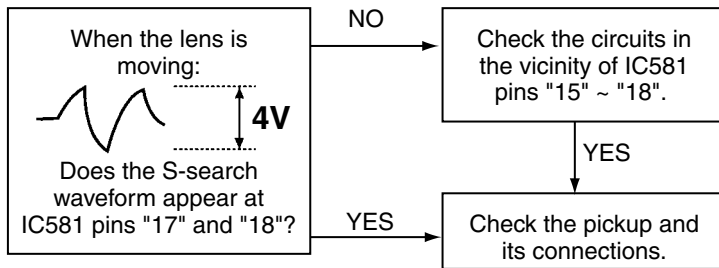
Flow of functional operation until TOC read



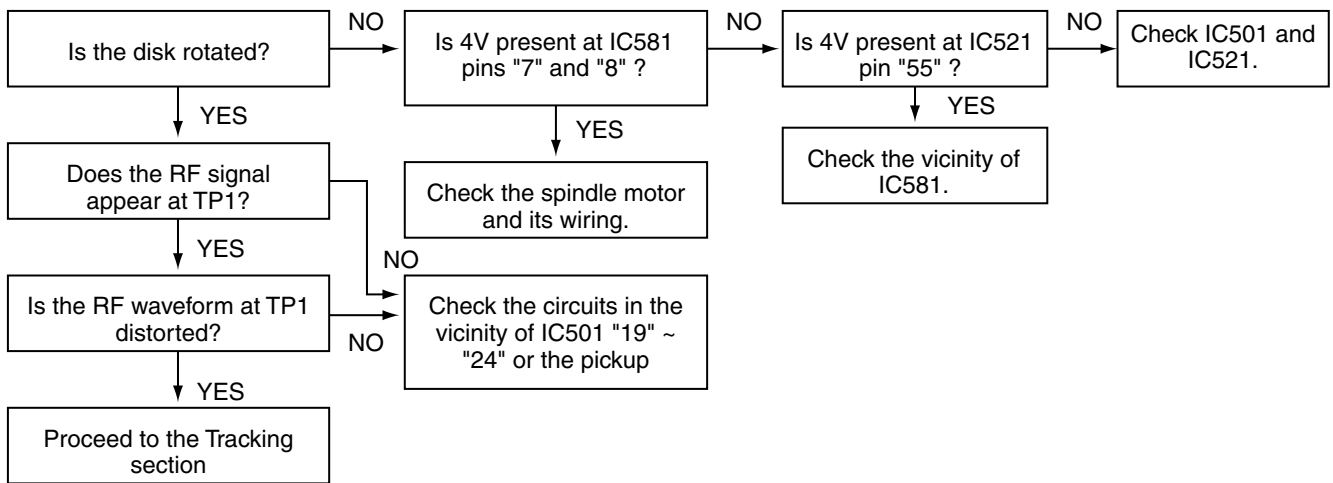
■ Feed Section



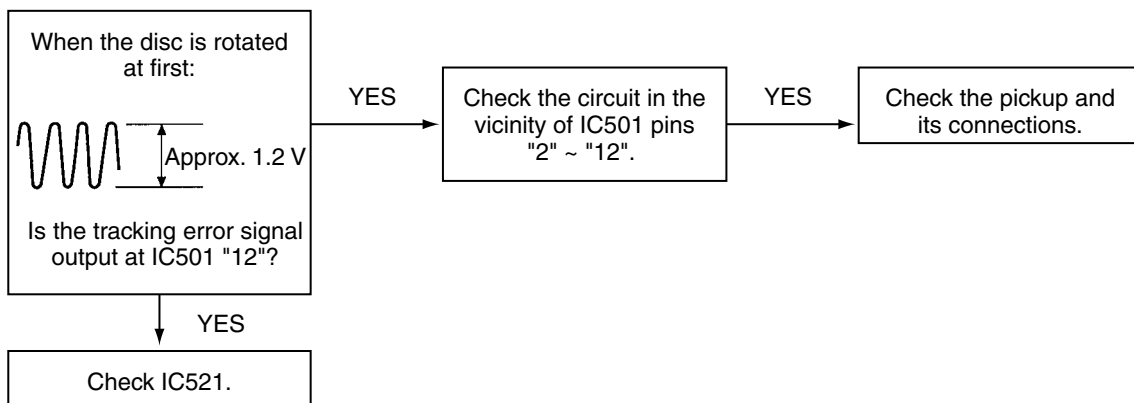
■ Focus Section



■ Spindle Section



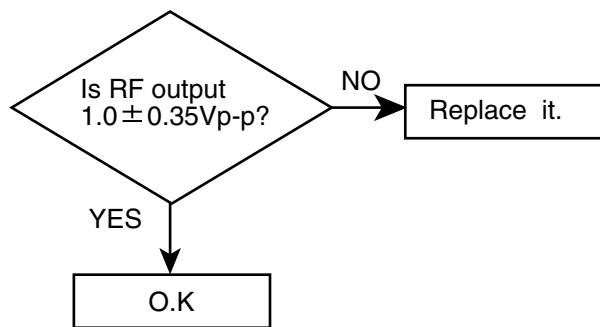
■ Tracking Section



Maintenance of laser pickup

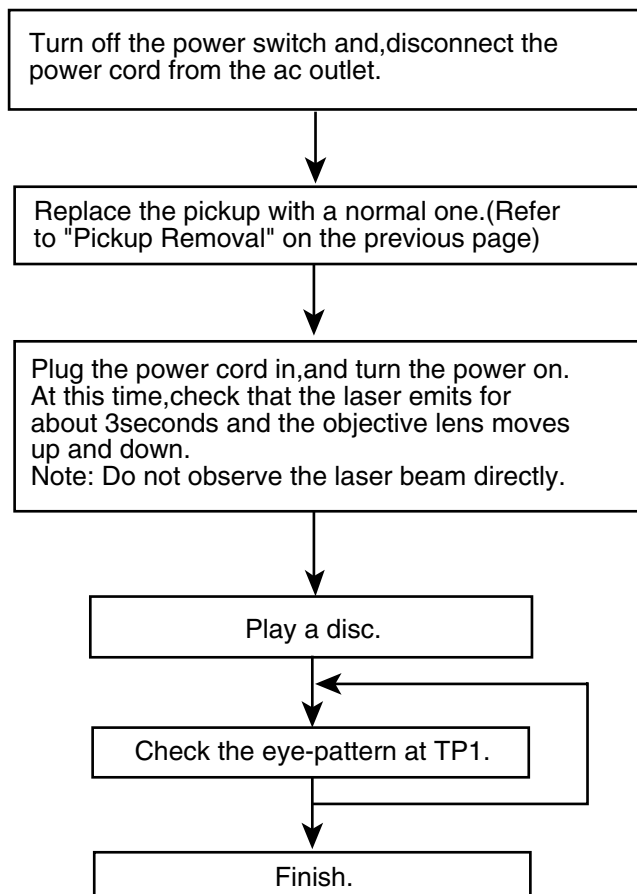
(1) Cleaning the pick up lens
 Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode
 When the life of the laser diode has expired, the following symptoms will appear.
 (1) The level of RF output (EFM output: amplitude of eye pattern) will be low.



Replacement of laser pickup

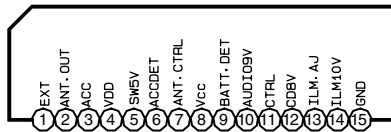
(3) Semi-fixed resistor on the APC PC board
 The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
 If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
 If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.



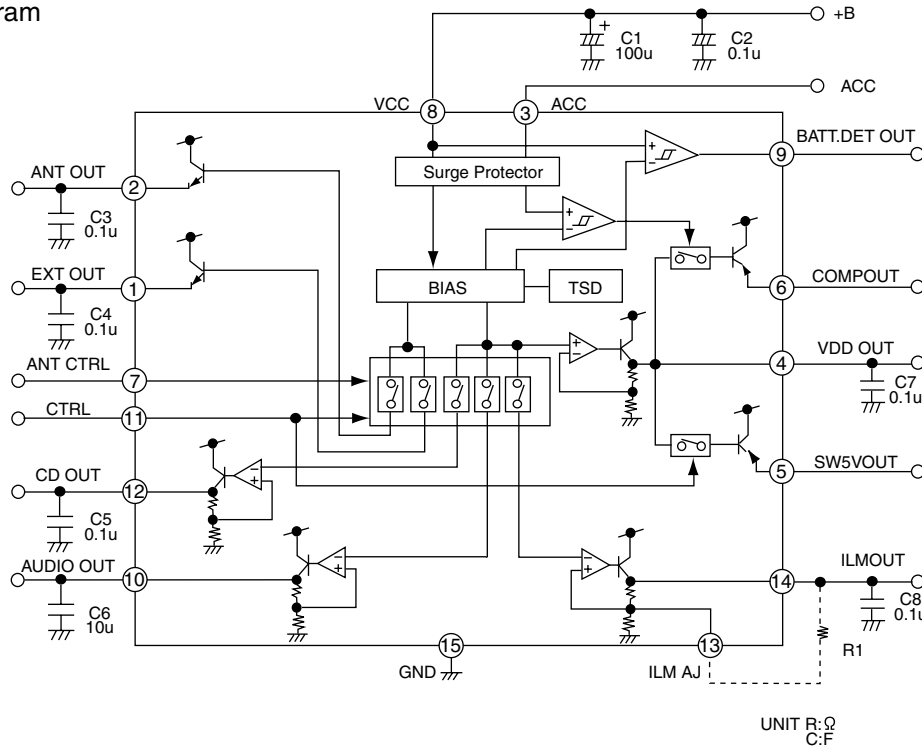
Description of major ICs

■ HA13164 (IC901) : Regulator

1. Terminal layout



2. Block diagram



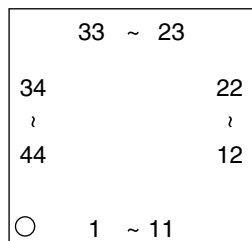
note1) TAB (header of IC)
connected to GND

3. Pin function

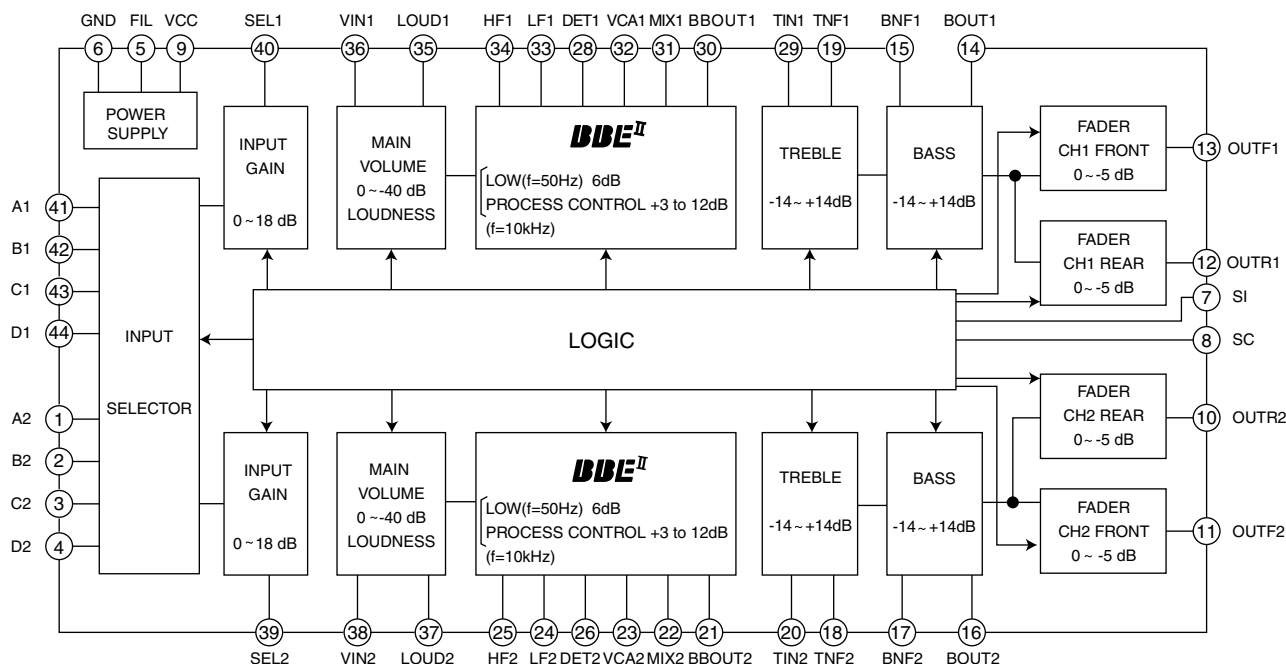
| Pin No. | Symbol | Function |
|---------|-----------|--|
| 1 | EXTOUT | Output voltage is VCC-1 V when M or H level applied to CTRL pin. |
| 2 | ANTOUT | Output voltage is VCC-1 V when M or H level to CTRL pin and H level to ANT-CTRL. |
| 3 | ACCIN | Connected to ACC. |
| 4 | VDDOUT | Regular 5.7V. |
| 5 | SW5VOUT | Output voltage is 5V when M or H level applies to CTRL pin. |
| 6 | COMPOUT | Output for ACC detector. |
| 7 | ANT CTRL | L:ANT output OFF , H:ANT output ON |
| 8 | VCC | Connected to VCC. |
| 9 | BATT DET | Low battery detect. |
| 10 | AUDIO OUT | Output voltage is 9V when M or H level applied to CTRL pin. |
| 11 | CTRL | L:BIAS OFF, M:BIAS ON, H:CD ON |
| 12 | CD OUT | Output voltage is 8V when H level applied to CTRL pin. |
| 13 | ILM AJ | Adjustment pin for ILM output voltage. |
| 14 | ILM OUT | Output voltage is 10V when M or H level applies to CTRL pin. |
| 15 | GND | Connected to GND. |

■ BD3860K (IC161):E.Volume

1.Terminal layout



2.Blockdiagram

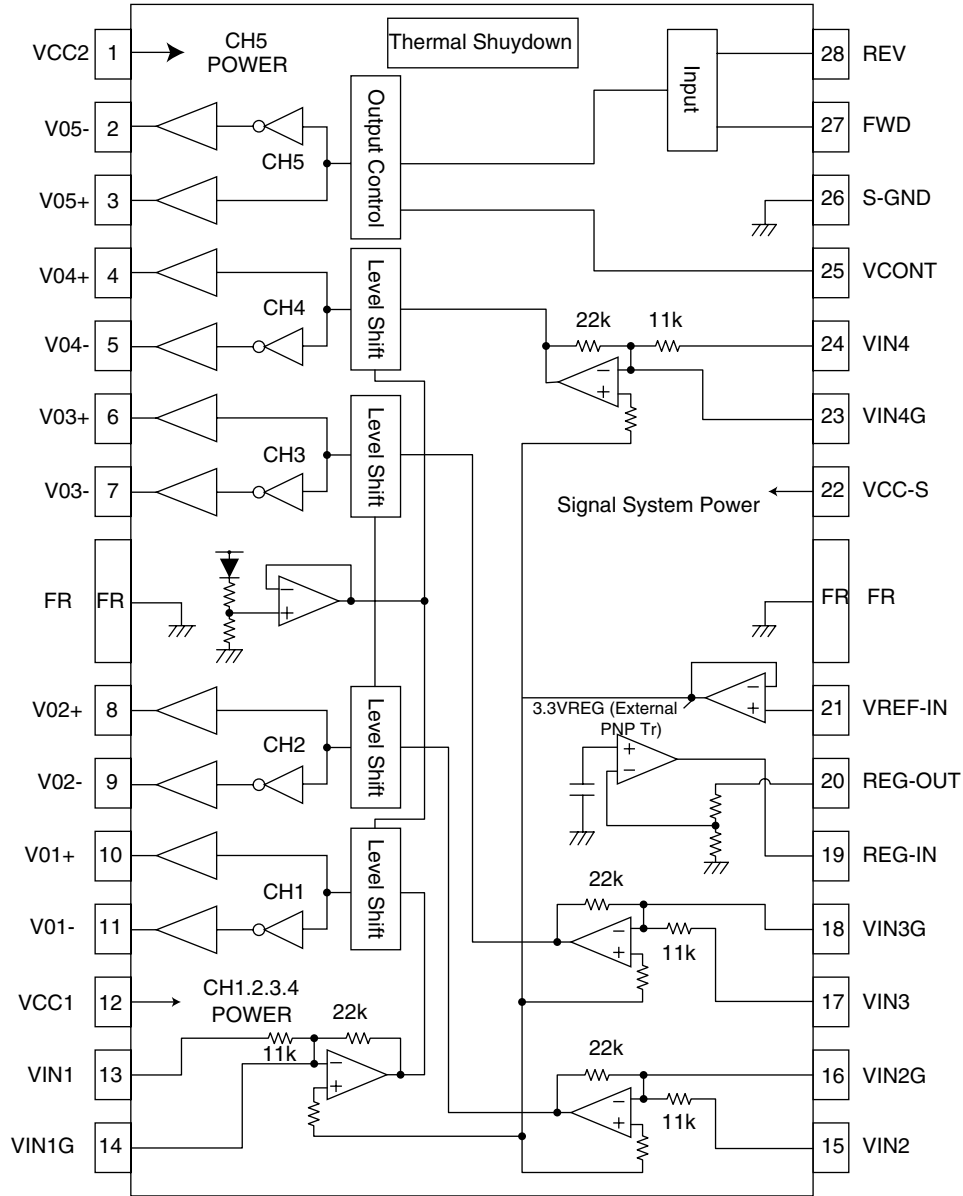


3.Pin function

| Pin No. | Symbol | Function | Pin No. | Symbol | Function |
|---------|--------|--|---------|--------|---|
| 1 | A2 | CH2 Input Pin A | 23 | VCA2 | CH2 High Pass VCA Output Pin |
| 2 | B2 | CH2 Input Pin B | 24 | LF2 | CH2 Low Pass Filter Setting Pin |
| 3 | C2 | CH2 Input Pin C | 25 | HF2 | CH2 High Pass Filter Setting Pin |
| 4 | D2 | CH2 Input Pin D | 26 | DET2 | CH2 High Pass Attack/Release Time Setting Pin |
| 5 | FIL | 1/2 VCC Pin | 27 | NC | Non connect |
| 6 | GND | Ground Pin | 28 | DET1 | CH1 High Pass Attack/Release Time Setting Pin |
| 7 | SI | Serial Data Receiving Pin | 29 | TIN1 | CH1 treble Input Pin |
| 8 | SC | Serial Clock Receiving Pin | 30 | BBOUT1 | CH1 BBE II Signal Output Pin |
| 9 | VCC | Power Supply Pin | 31 | MIX1 | CH1 Output MIX Amplifier Inverse Input Pin |
| 10 | OUTR2 | CH2 Rear Output Pin | 32 | VCA1 | CH1 High Pass VCA Output Pin |
| 11 | OUTF2 | CH2 Front Output Pin | 33 | LF1 | CH1 Low Pass Filter Setting Pin |
| 12 | OUTR1 | CH1 Rear Output Pin | 34 | HF1 | CH1 High Pass Filter Setting Pin |
| 13 | OUTF1 | CH1 Front Output Pin | 35 | LOUD1 | CH1 Loudness Filter Setting Pin |
| 14 | BOUT1 | CH1 Bass Filter Setting Pin | 36 | VIN1 | CH1 Main Volume Input Pin |
| 15 | BNF1 | CH1 Bass Filter Setting Pin | 37 | LOUD2 | VCH2 Loudness Filter setting Pin |
| 16 | BOUT2 | CH2 Bass Filter Setting Pin | 38 | VIN2 | CH2 Main Volume Input Pin |
| 17 | BNF2 | CH2 Bass Filter Setting Pin | 39 | SEL2 | CH2 Input Gain Output Pin |
| 18 | TNF2 | CH2 treble Filter Setting Pin | 40 | SEL1 | CH1 Input Gain output Pin |
| 19 | TNF1 | CH1 treble Filter Setting Pin | 41 | A1 | CH1 Input Pin A |
| 20 | TIN2 | CH2 treble Input Pin | 42 | B1 | CH1 Input Pin B |
| 21 | BBOUT2 | CH2 BBE II Signal Output Pin | 43 | C1 | CH1 Input Pin C |
| 22 | MIX2 | CH2 Output MIX Amplifier Inverse Input Pin | 44 | D1 | CH1 Input Pin D |

■ LA6574H-X (IC561) : Power AMP

1.Pin layout / Block diagram

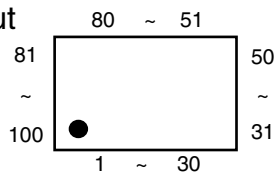


2.Pin function

| PinNo. | Symbol | Function | PinNo. | Symbol | Function |
|--------|--------|-----------------------------------|--------|---------|-------------------------------------|
| 1 | VCC2 | CH3,4,5 power supply | 15 | VIN2 | CH2 input terminal |
| 2 | VO5- | Loading output (-) | 16 | VIN2G | CH2 input terminal (For gain ADJ) |
| 3 | VO5+ | Loading output (+) | 17 | VIN3 | CH3 input terminal |
| 4 | VO4+ | CH4 output terminal (+) | 18 | VIN3G | CH3 input terminal (For gain ADJ) |
| 5 | VO4- | CH4 output terminal (-) | 19 | REG-IN | Regulator terminal |
| 6 | VO3+ | CH3 output terminal (+) | 20 | REG-OUT | Regulator terminal |
| 7 | VO3- | CH3 output terminal (-) | 21 | VREF-IN | Reference voltage input terminal |
| 8 | VO2+ | CH2 output terminal (+) | 22 | VCC-S | Signal system power supply |
| 9 | VO2- | CH2 output terminal (-) | 23 | VIN4G | CH4 input terminal (For gain ADJ) |
| 10 | VO1+ | CH1 output terminal (+) | 24 | VIN4 | CH4 input terminal |
| 11 | VO1- | CH1 output terminal (-) | 25 | VCONT | 5CH output voltage setting terminal |
| 12 | VCC1 | CH1,2 power supply | 26 | S-GND | GND for signal line |
| 13 | VIN1 | CH1 input terminal | 27 | FWD | 5CH output select terminal |
| 14 | VIN1G | CH1 input terminal (For gain ADJ) | 28 | REV | 5CH output select terminal |

■ UPD178078GF-559 (IC701) : System CPU

1.Pin layout



2.Pin function (1/2)

| Pin NO. | Symbol | I/O | FUNCTION |
|---------|----------|-----|-------------------------------------|
| 1 | | - | No use |
| 2 | BUSINT | I | JVC bus communication line |
| 3 | BUSSI | I | JVC bus communication line |
| 4 | BUSO | O | JVC bus communication line |
| 5 | JBUS-SCK | O | JVC bus communication line |
| 6,7,8 | | - | No use |
| 9 | VOL-DA | O | Serial data for volume |
| 10 | VOL-CLK | O | Serial clock for volume |
| 11 | | - | No use |
| 12 | LCDDA | O | LCD driver serial data output |
| 13 | LCDCLK | O | Serial data for LCD |
| 14 | BUSI/O | O | JVC bus output select |
| 15 | | - | No use |
| 16 | LCDCE | O | LCD driver communication line |
| 17 | SW2 | I | CD mech switch |
| 18 | SW3 | I | CD mech switch |
| 19 | SW4 | I | CD mech switch |
| 20 | RSTSW | I | Traverse mech rest switch |
| 21 | ENC1 | I | Encoder input |
| 22 | ENC2 | I | Encoder input |
| 23 | KEY0 | I | Key input |
| 24 | KEY1 | I | Key input |
| 25 | KEY2 | I | Key input |
| 26 | LEVEL | I | Audio level input |
| 27 | AVDD | - | Power supply |
| 28 | SM | I | Signal level meter input |
| 29 | | - | No use |
| 30,31 | | - | No use |
| 32 | AVSS | - | Connect to GND |
| 33 | REGCPU | - | Connect to GND with capacitor |
| 34 | VDD | - | Power supply |
| 35 | REGOSC | - | Connect to GND with capacitor |
| 36 | X2 | - | System clock |
| 37 | X1 | I | System clock |
| 38 | GND0 | - | Connect to GND |
| 39 | SD/ST | I | Station detector & Stereo indicator |
| 40 | GND2 | - | Connect to GND |
| 41 | | - | No use |
| 42 | IFC | I | IF count input |
| 43 | VDDPLL | - | --- |
| 44 | OSC | I | FM,AM osc input |
| 45 | | - | No use |

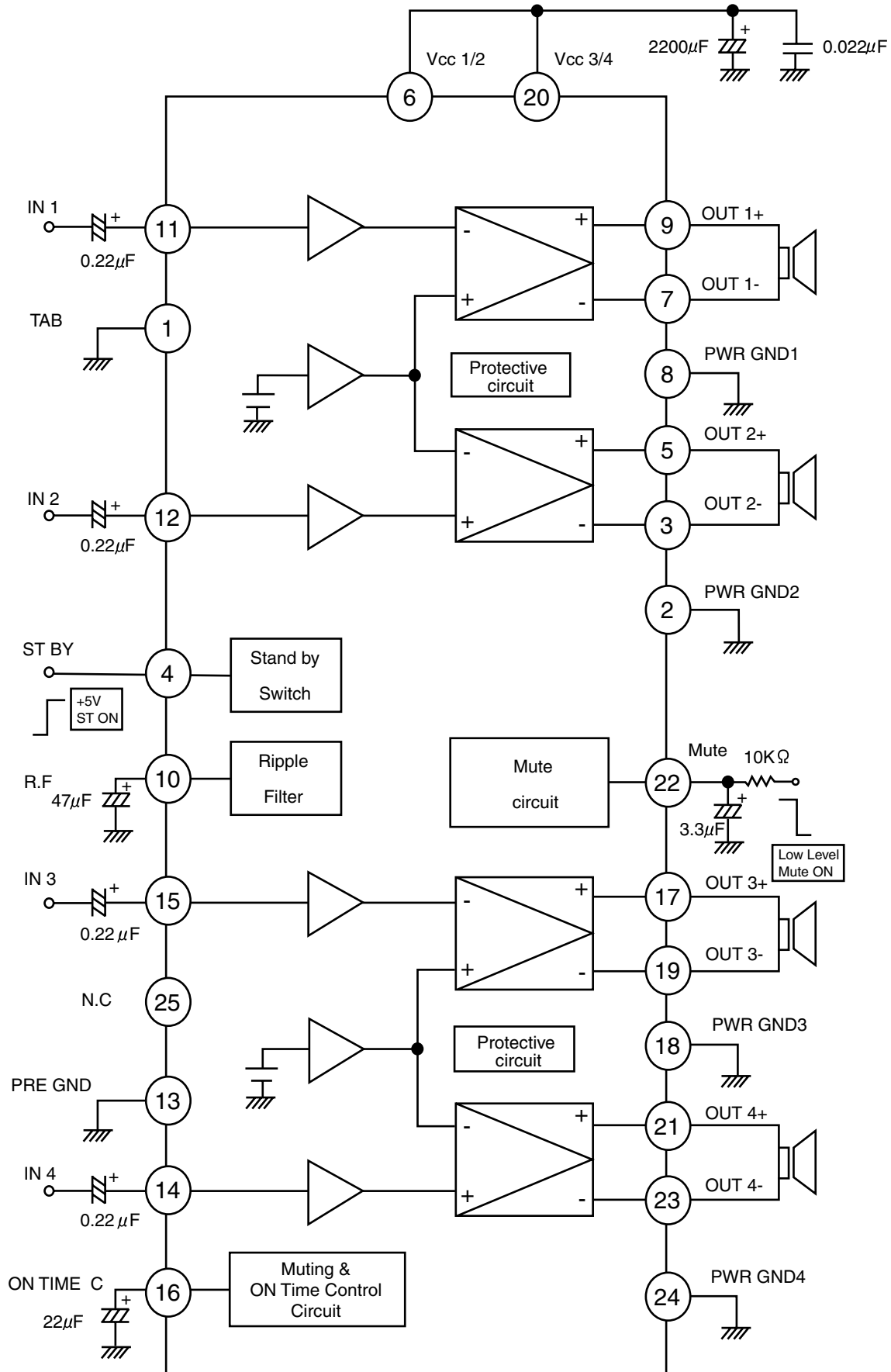
2.Pin function (2/2)

UPD178078GF-559

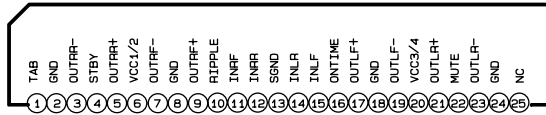
| Pin NO. | Symbol | I/O | FUNCTION |
|---------|-----------|-----|---------------------------------|
| 46 | GNDPLL | - | --- |
| 47 | AMEO | O | PLL error output for AM |
| 48 | FMEO | O | PLL error output for FM |
| 49 | IC(VPP) | - | Setting to write for flash |
| 50 | RESET | I | System reset |
| 51 | SW1 | I | CD mech switch |
| 52 | REMOCON | I | Remocon input |
| 53 | VTR-LOGIC | - | No use |
| 54 | VR-CONT | - | No use |
| 55 | POWER | O | Power control |
| 56 | CDON | O | CD power control |
| 57 | MUTE | O | Mute control |
| 58 | STAGE | - | No use |
| 59 | BUZZER | - | No use |
| 60 | JAPAN | - | No use |
| 61~67 | | - | No use |
| 68 | CDRW | O | CD-RW detect signal output |
| 69 | LM0 | O | CD mech driver control |
| 70 | LM1 | O | CD mech driver control |
| 71 | BUCK | O | CD LSI communication line |
| 72 | CCE | O | CD LSI communication line |
| 73 | BUS0 | I/O | CD LSI communication line |
| 74 | BUS1 | I/O | CD LSI communication line |
| 75 | BUS2 | I/O | CD LSI communication line |
| 76 | BUS3 | I/O | CD LSI communication line |
| 77 | RST | O | CD LSI communication line |
| 78 | PS1 | I | ACC detection input |
| 79 | PS2 | I | Memory detection |
| 80 | DETACH | I | Detach detection |
| 81 | | - | No use |
| 82 | GND1 | - | Connect to GND |
| 83 | MONO | O | Mono by force |
| 84 | SEEK/STOP | O | Switching SEEK & STOP |
| 85 | FM/AM | O | Band switch |
| 86 | | - | No use |
| 87 | ANT | O | Antena regulator control signal |
| 88 | TEL MUTE | - | No use |
| 89~98 | NC | - | Non connection |
| 99 | VDDPORT | - | Vdd |
| 100 | GNDPORT | - | Connect to GND |

■ LA4743K(IC302):Power AMP

1. Block diagram



2.Terminal layout



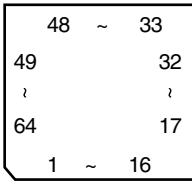
3.Pin function

LA4743K

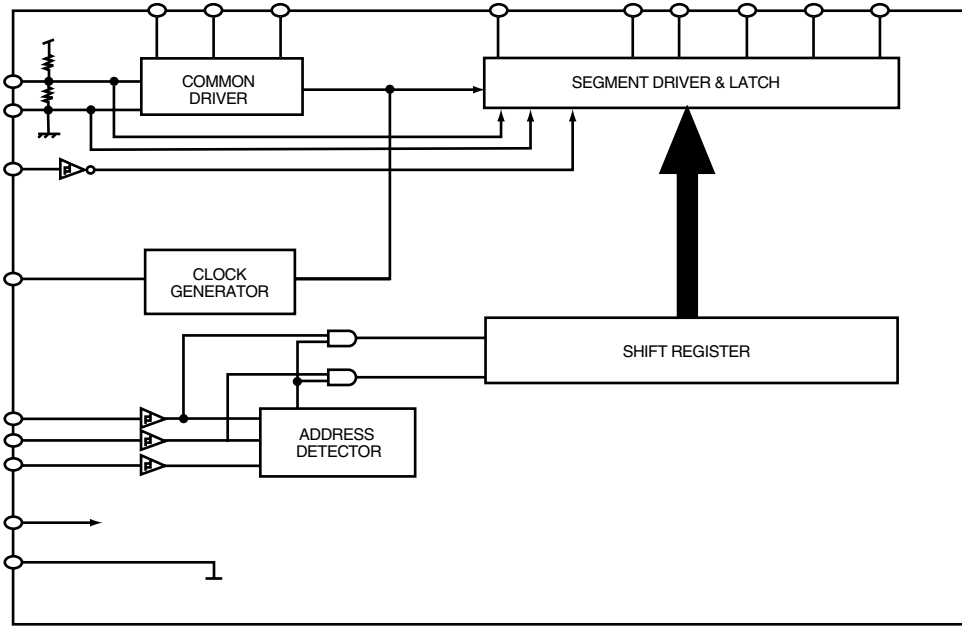
| Pin No. | Symbol | Function |
|---------|--------|--------------------------|
| 1 | TAB | Header of IC |
| 2 | GND | Power GND |
| 3 | OUTRR- | Outpur(-) for front Rch |
| 4 | STBY | Stand by input |
| 5 | OUTRR+ | Output (+) for front Rch |
| 6 | VCC1/2 | Power input |
| 7 | OUTRF- | Output (-) for rear Rch |
| 8 | GND | Power GND |
| 9 | OUTRF+ | Output (+) for rear Rch |
| 10 | RIPPLE | Ripple filter |
| 11 | INRF | Rear Rch input |
| 12 | INRR | Front Rch input |
| 13 | SGND | Signal GND |
| 14 | INLR | Front Lch input |
| 15 | INLF | Rear Lch input |
| 16 | ONTIME | Power on time control |
| 17 | OUTLF+ | Output (+) for rear Lch |
| 18 | GND | Power GND |
| 19 | OUTLF- | Output (-) for rear Lch |
| 20 | VCC3/4 | Power input |
| 21 | OUTLR+ | Output (+) for front |
| 22 | MUTE | Muting control input |
| 23 | OUTLR- | Output (-) for front |
| 24 | GND | Power GND |
| 25 | NC | Non connection |

■ PT6523LQ(IC601) :

1. Terminal layout



2. Block diagram



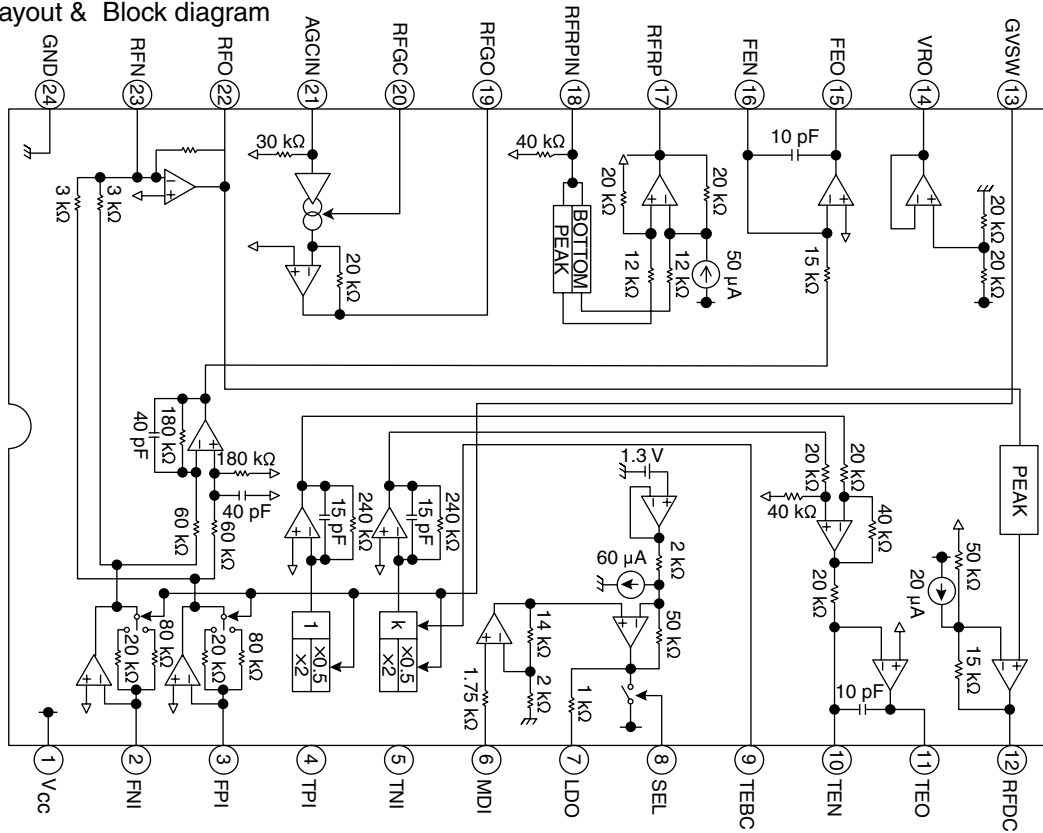
3. Pin function

| Pin No. | Pin Name | I/O | Description |
|---------|-------------------------|-----|---|
| 1~ 52 | SG1 ~ SG52 | O | Segment Output Pins |
| 53~55 | COM1 ~ COM3 | O | Common Driver Output Pins |
| 56 | VDD | - | Power Supply |
| 57 | $\overline{\text{INH}}$ | I | Display OFF Control Input Pin When this pin is "Low", the Display is forcibly turned OFF. (SG1 to SG52, COM1 to COM3 are set to "LOW"). (See Note 1) When this pin is set to "High", the Display is ON. |
| 58 | VDD1 | I | Used for the 2/3 Bias Voltage when the Bias Voltages are provided externally. Connect to VDD2 when 1/2 Bias is used. |
| 59 | VDD2 | I | Used for 1/3 Bias Voltage when the Bias Voltages are provided externally. Connect to VDD1 when 1/2 Bias is used. |
| 60 | VSS | - | Ground Pin. |
| 61 | OSC | I/O | Oscillation Input /Output Pin |
| 62 | CE | I | Chip Enable Pin |
| 63 | CLK | I | Synchronization Clock |
| 64 | DI | I | Transfer Data Pin |

Note 1. When $\overline{\text{INH}}$ = "LOW" : Serial data transfers can be performed when the display is forcibly OFF.

■ TA2147F-X (IC501) : RF amp

1. Pin layout & Block diagram

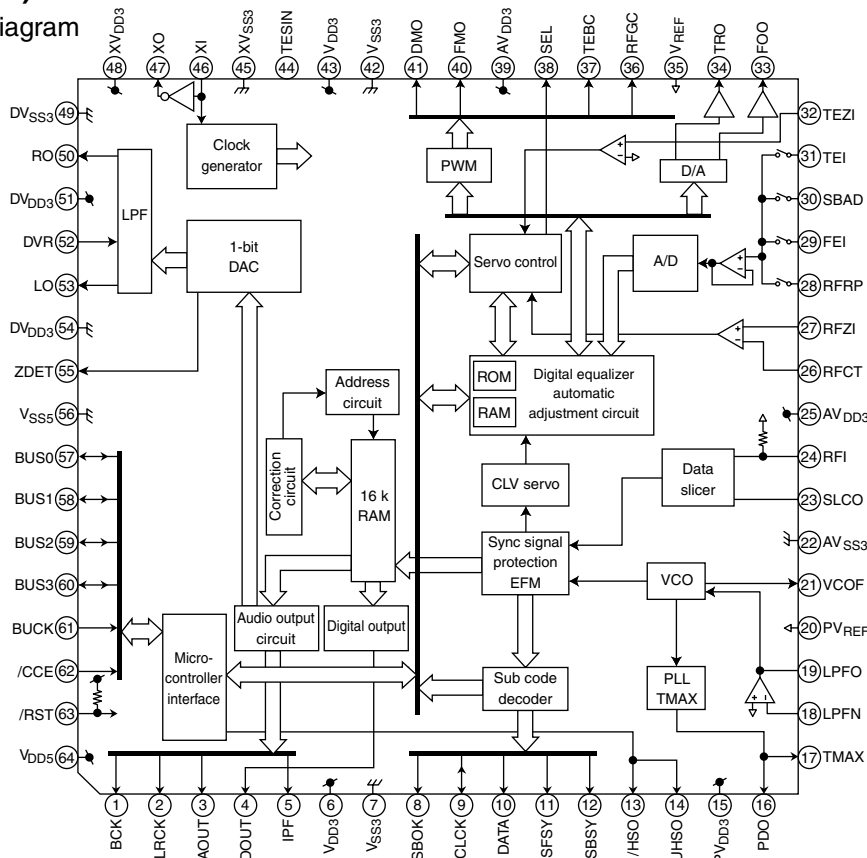


2. Pin function

| Pin No. | Symbol | I/O | Function |
|---------|--------|-----|---|
| 1 | Vcc | - | 3.3V power supply pin |
| 2 | FNI | I | Main-beam amp input pin |
| 3 | FPI | I | Main-beam amp input pin |
| 4 | TPI | I | Sub-beam amp input pin |
| 5 | TNI | I | Sub-beam amp input pin |
| 6 | MDI | I | Monitor photo diode amp input pin |
| 7 | LDO | O | Laser diode amp output pin |
| 8 | SEL | I | APC circuit ON/OFF control signal, laser diode control signal input or bottom/peak detection frequency change pin |
| 9 | TEBC | I | Tracking error balance adjustment signal input pin |
| 10 | TEN | I | Tracking error signal generation amp negative-phase input pin |
| 11 | TEO | O | Tracking error signal generation amp output pin |
| 12 | RFDC | O | RF signal peak detection output pin |
| 13 | GVSW | I | AGC/FE/TE amp gain change pin |
| 14 | VRO | O | Reference voltage output pin |
| 15 | FEO | O | Focus error signal generation amp output pin |
| 16 | FEN | I | Focus error signal generation amp negative-phase input pin |
| 17 | RFRP | O | Signal amp output pin for track count |
| 18 | RFRPIN | I | Signal generation amp input pin for track count |
| 19 | RFGO | O | RF signal amplitude adjustment amp output pin |
| 20 | RFGC | I | RF amplitude adjustment control signal input pin |
| 21 | AGCIN | I | RF signal amplitude adjustment amp input pin |
| 22 | RFO | O | RF signal generation amp output pin |
| 23 | RFN | I | RF signal generation amp input pin |
| 24 | GND | - | GND pin |

■ TC9490FA (IC521) : DSP

1. Pin layout & Block diagram



2. Pin function (1/2)

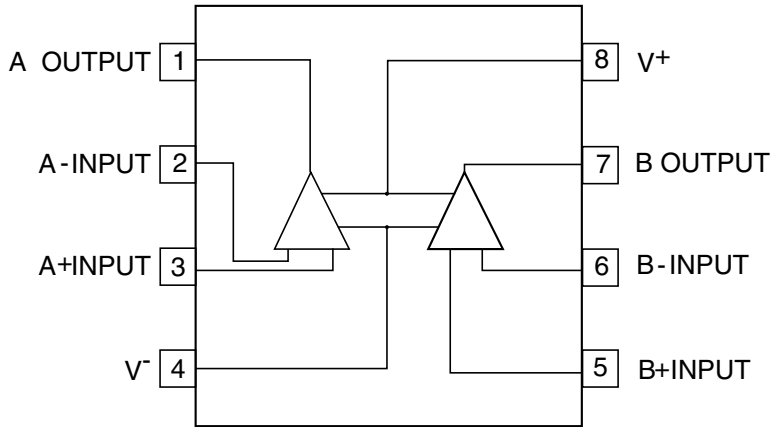
| No. | Symbol | I/O | Function |
|-----|--------|-----|---|
| 1 | BCK | O | Bit clock output pin.32fs, 48fs, or 64fs selectable by command. |
| 2 | LRCK | O | L/R channel clock output pin. "L" for L channel and "H" for R channel. |
| 3 | AOUT | O | Audio data output pin. MSB-first or LSB-first selected by command. |
| 4 | DOUT | O | Digital data output pin. Outputs up to double-speed playback. |
| 5 | IPF | O | Correction flog output pin. |
| 6 | VDD3 | - | Digital 3.3V power supply voltage pin. |
| 7 | VSS3 | - | Digital GND pin. |
| 8 | SBOK | O | Subcode Q data CRCC result output pin. "H" level when result is OK. |
| 9 | CLCK | I/O | Sub-code P-W data read clock I/O pin. I/O polarity selectable by command. |
| 10 | DATA | O | Sub-code P-W data output pin. |
| 11 | SFSY | O | Playback frames sync signal output pin. |
| 12 | SBSY | O | Sub-code block sync output pin. |
| 13 | /HSO | O | Playback speed mode flag output pin. |
| 14 | /UHSO | O | Playback speed mode flag output pin. |
| 15 | PVDD3 | - | PLL-only 3.3V power supply voltage pin. |
| 16 | PDO | O | EFM and PLCK phase difference signal output pin. |
| 17 | TMAX | O | TMAX detection result output pin. |
| 18 | LPFN | I | Inverted input pin for PLL RF amp. |
| 19 | LPFO | O | Output pin for PLL LPF amp. |
| 20 | PVREF | - | PLL-only VREF pin. |
| 21 | VCOF | O | VCO filter pin. |
| 22 | AVSS3 | - | Analog GND pin. |
| 23 | SLCO | O | DAC output pin for data slice level generation. |
| 24 | RFI | I | RF signal input pin. |
| 25 | AVSS3 | - | Analog 3.3V power supply voltage pin. |

2. Pin function (2/2)

TC9490FA

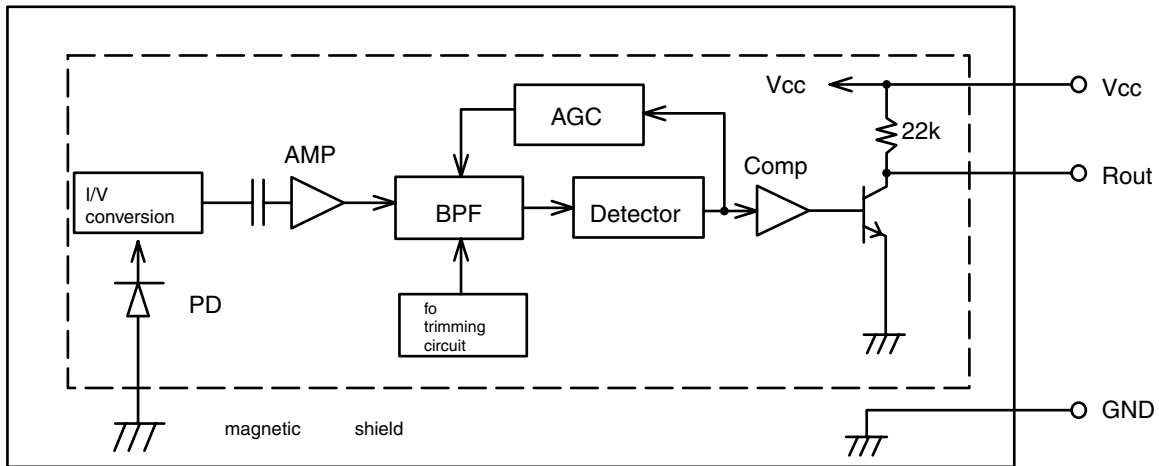
| No. | Symbol | I/O | Function |
|-----|---------|-----|---|
| 26 | RFCT | I | RFRP signal center level input pin. |
| 27 | RFZI | I | RFRP signal zero-cross input pin. |
| 28 | RFRP | I | RF ripple signal input pin. |
| 29 | FEI | I | Focus error signal input pin. |
| 30 | SBADTEI | I | Sub-beam adder signal input pin. |
| 31 | TEI | I | Tracking error input pin. Inputs when tracking servo is on. |
| 32 | TEZI | I | Tracking error signal zero-cross input pin. |
| 33 | FOO | O | Focus equalizer output pin. |
| 34 | TRO | O | Tracking equalizer output pin. |
| 35 | VREF | - | Analog reference power supply voltage pin. |
| 36 | RFGC | O | RF amplitude adjustment control signal output pin. |
| 37 | TEBC | O | Tracking barance control signal output pin. |
| 38 | SEL | O | APC circuit ON/OFF signal output pin. |
| 39 | AVDD3 | - | Analog 3.3V power supply voltage pin. |
| 40 | FMO | O | Feed equalizer output pin. |
| 41 | DMO | O | Disc equalizer output pin. |
| 42 | VSS3 | - | Digital GND pin. |
| 43 | VDD3 | - | Digital 3.3V power supply voltage pin. |
| 44 | TESIN | I | Test input pin. |
| 45 | XVSS3 | - | System clock oscillator GND pin. |
| 46 | XI | I | System clock oscillator input pin. |
| 47 | XO | O | System clock oscillator output pin. |
| 48 | XVDD3 | - | System clock oscillator 3.3V power supply voltage pin. |
| 49 | DVSS3 | - | DA converter GND pin. |
| 50 | RO | O | R-channel data foward output pin. |
| 51 | DVDD3 | - | DA converter 3.3V power supply pin. |
| 52 | DVR | - | Reference voltage pin. |
| 53 | LO | O | L-channel data forward output pin. |
| 54 | DVSS3 | - | DC converter GND pin. |
| 55 | ZDET | O | 1 bit DA converter zero data detection flag output pin. |
| 56 | VSS5 | - | Microcontroller interface GND pin. |
| 57 | BUS0 | I/O | Microcontroller interface data I/O pins. |
| 58 | BUS1 | I/O | Microcontroller interface data I/O pins. |
| 59 | BUS2 | I/O | Microcontroller interface data I/O pins. |
| 60 | BUS3 | I/O | Microcontroller interface data I/O pins. |
| 61 | BUCK | I | Microcontroller interface clock input pin. |
| 62 | /CCE | I | Microcontroller interface chip enable signal input pin. |
| 63 | /RST | I | Reset signal input pin. |
| 64 | VDD5 | - | Microcontroller interface 5V power supply pin. |

■ NJM4565M-WE (IC571) : Ope. amp



■ RPM6938-SV4(IC602) : Remote sensor

1. Block diagram



< MEMO >



VICTOR COMPANY OF JAPAN, LIMITED

MOBILE ELECTRONICS DIVISION

PERSONAL & MOBILE NETWORK BUSINESS UNIT. 10-1,1Chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

PARTS LIST

[KD-S687]

* All printed circuit boards and its assemblies are not available as service parts.

| |
|---|
| <p>Area suffix</p> <p>UR ----- Brazil</p> |
|---|

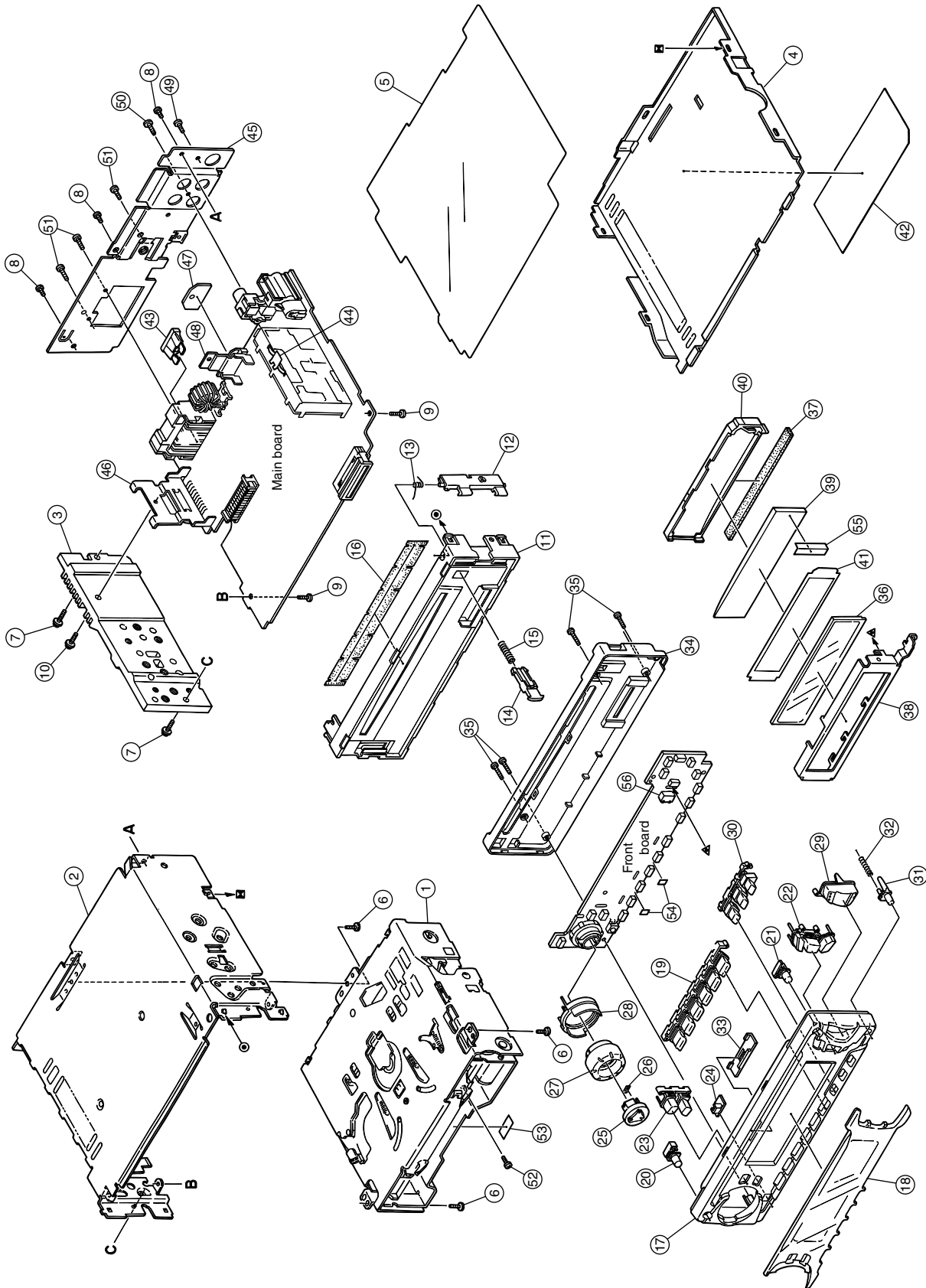
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| Exploded view of general assembly and parts list (Block No.M1) | 3- 2 |
| CD mechanism assembly and parts list (Block No.MB) | 3- 5 |
| Electrical parts list (Block No.01,02) | 3- 8 |
| Packing materials and accessories parts list (Block No.M3,M5) | 3-14 |

Exploded view of general assembly and parts list

Block No.

| | | | |
|---|---|---|---|
| M | 1 | M | M |
|---|---|---|---|



■ Parts list (General assembly)

Block No. M1MM

| △ | Item | Parts number | Parts name | Q'ty | Description | Area |
|---|------|---------------|-----------------|------|--------------------|------|
| | 1 | ----- | CD MECHA | 1 | TN-CCD1001Z-138S | |
| | 2 | FSJC1029-401 | TOP CHASSIS | 1 | | |
| | 3 | FSMH3001-202 | SIDE PANEL | 1 | | |
| | 4 | FSKM3011-002 | BOTTOM COVER | 1 | | |
| | 5 | FSMA3004-203 | INSULATOR | 1 | | |
| | 6 | QYSDST2604Z | SCREW | 3 | CHASSIS+MECHA BKT | |
| | 7 | FSKZ4005-001 | SCREW | 2 | CHASSIS+SIDE PANEL | |
| | 8 | QYSDST2604Z | SCREW | 3 | CHASSIS+REAR BKT | |
| | 9 | QYSDST2606Z | SCREW | 2 | CHASSIS+MAIN PWB | |
| | 10 | FSKZ4005-001 | SCREW | 1 | SIDE PANEL+IC BKT | |
| | 11 | FSJC2013-014 | FRONT CHASSIS | 1 | | |
| | 12 | FSKS3010-001 | LOCK LEVER | 1 | | |
| | 13 | FSKW4005-003 | TORSION SPRING | 1 | LOCK LEVER | |
| | 14 | FSXP3026-002 | RLS KNOB | 1 | | |
| | 15 | FSKW3002-015 | COMP.SPRING | 1 | | |
| | 16 | FSPK3009-002 | BLIND | 1 | | |
| | 17 | GE10003-003A | FRONT PANEL | 1 | | |
| | 18 | GE30111-021A | FINDER | 1 | | |
| | 19 | GE20104-002A | PRESET BUTTON | 1 | | |
| | 20 | GE30105-002B | POWER BUTTON | 1 | | |
| | 21 | GE30109-002A | EJECT BUTTON | 1 | | |
| | 22 | GE20110-004C | D.FUNCT BUTTON | 1 | FM/CD/AM | |
| | 23 | GE30112-001A | PUSH BUTTON(2) | 1 | | |
| | 24 | GE40102-001A | REMOTE LENS | 1 | | |
| | 25 | GE30366-001A | SEL BUTTON | 1 | | |
| | 26 | FSYH4036-032 | SHEET | 1 | SEL BUTTON | |
| | 27 | GE30546-001A | KNOB | 1 | | |
| | 28 | GE30104-001A | RIM LENS | 1 | | |
| | 29 | GE20109-001C | UP DOWN BUTTON | 1 | | |
| | 30 | GE30106-001A | SND FUNC BUTTON | 1 | | |
| | 31 | FSXP3055-001 | DETACH BUTTON | 1 | | |
| | 32 | FSKW3002-012 | COMP. SPRING | 1 | DETACH BUTTON | |
| | 33 | GE30117-001A | LIGHT LENS | 1 | | |
| | 34 | GE10004-002B | REAR COVER | 1 | | |
| | 35 | VKZ4777-001 | MINI SCREW | 4 | FRONT+REAR | |
| | 36 | QLD0216-001 | LCD MODULE | 1 | | |
| | 37 | QNZ0442-001 | RUBBER CONNE | 1 | | |
| | 38 | GE30276-001A | LCD CASE | 1 | | |
| | 39 | FSJK3025-001 | LCD LENS | 1 | | |
| | 40 | FSKS3019-001 | LENS CASE | 1 | | |
| | 41 | FSYH4074-001 | LIGHTING SHEET | 1 | | |
| | 42 | ----- | NAME PLATE | 1 | | |
| △ | 43 | QMFZ047-150-T | FUSE | 1 | | |
| | 44 | VMA4652-001SS | EARTH PLATE | 1 | | |
| | 45 | FSKM3010-020 | REAR BRACKET | 1 | | |
| | 46 | FSKL4024-001 | IC BRACKET | 1 | | |
| | 47 | GE40104-001B | HEAT SINK | 1 | | |
| | 48 | GE40103-001A | REG BRACKET | 1 | | |

■ Parts list (General assembly)

Block No. M1MM

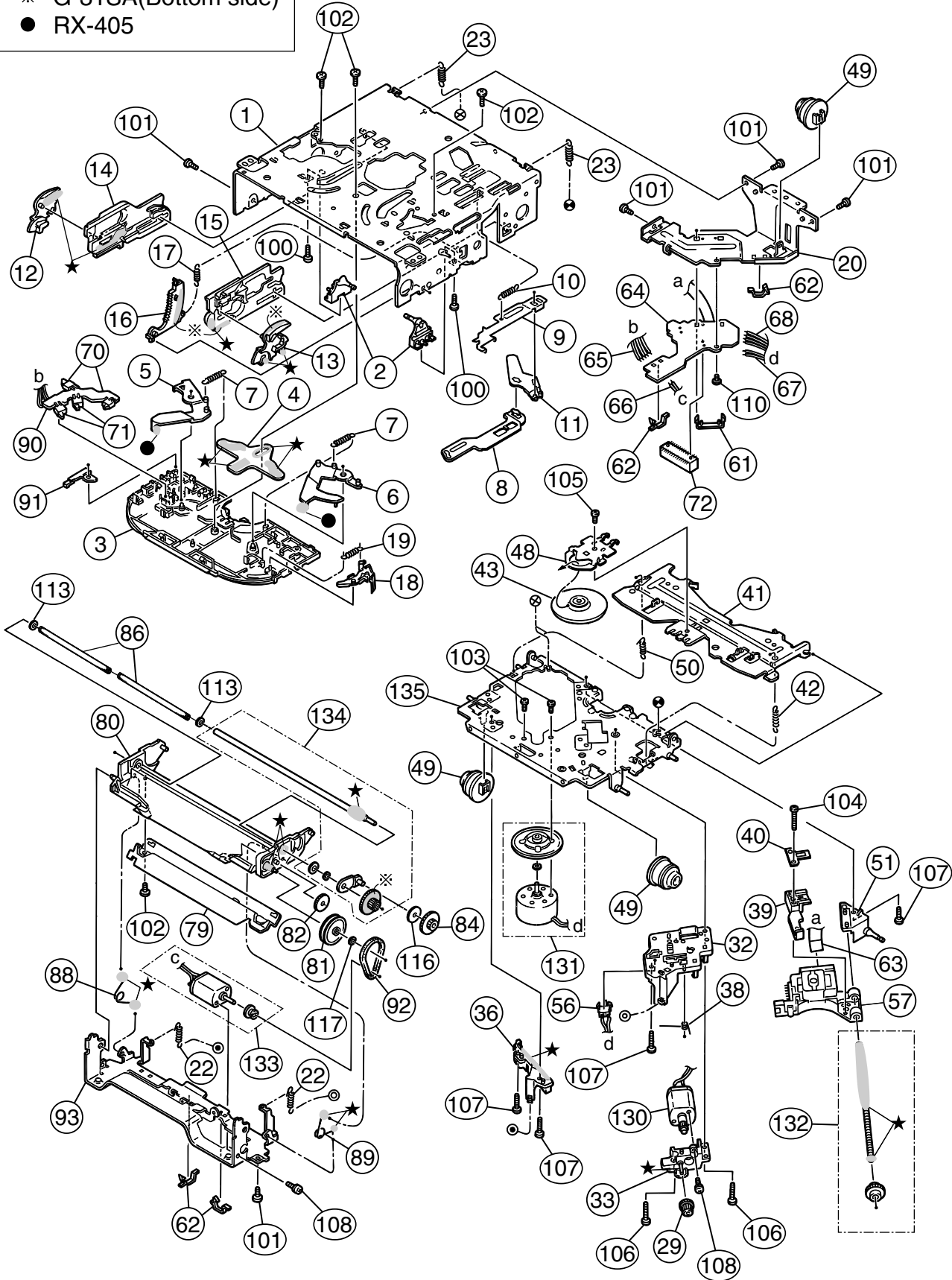
| ▲ | Item | Parts number | Parts name | Q'ty | Description | Area |
|---|------|--------------|----------------|------|-------------|------|
| | 49 | QYSDST2606Z | SCREW | 1 | | |
| | 50 | QYSDSF3006Z | SCREW | 1 | | |
| | 51 | QYSDST2606Z | SCREW | 3 | | |
| | 52 | QYSDST2004Z | SCREW | 1 | | |
| | 53 | LV40847-002A | SPACER | 1 | | |
| | 54 | FSYH4036-069 | SHEET | 2 | | |
| | 55 | FSYH4071-001 | LIGHTING SHEET | 1 | | |
| | 56 | FSKS3016-002 | LED HOLDER | 1 | | |

CD mechanism assembly and parts list

Block No. M B M M

TN-CCD1001Z-138S

- Grease
- ★ G-31SA
 - ※ G-31SA(Bottom side)
 - RX-405



■ Parts list (CD mechanism)

Block No. MBMM

| △ | Item | Parts number | Parts name | Q'ty | Description | Area |
|---|------|--------------|------------------|------|-------------|------|
| | 1 | 30310101T | FRAME | 1 | | |
| | 2 | 30310103T | DANPER PIN | 2 | | |
| | 3 | 30310107T | UPPER PLATE | 1 | | |
| | 4 | 30310108T | SEL STOP PLATE | 1 | | |
| | 5 | 30310142T | SEL ARM (L)L | 1 | | |
| | 6 | 30310143T | SEL ARM (R)L | 1 | | |
| | 7 | 30310145T | S ARM SPRING(L) | 2 | | |
| | 8 | 30310112T | TRIG LEVER | 1 | | |
| | 9 | 30310155T | TRIG PL(Z) | 1 | | |
| | 10 | 30310115T | TRIG PL SPRING | 1 | | |
| | 11 | 30310116T | TRIG ARM | 1 | | |
| | 12 | 30310134T | FIX ARM (L)B | 1 | | |
| | 13 | 30310159T | FIX ARM (R)Z | 1 | | |
| | 14 | 30310150T | FIX PL (L)Z | 1 | | |
| | 15 | 30310156T | FIX PL (R) Z | 1 | | |
| | 16 | 30310138T | LDG GR (6)B | 1 | | |
| | 17 | 30310122T | LDG GEAR (6)SP | 1 | | |
| | 18 | 30310148T | S.L ARM(N) | 1 | | |
| | 19 | 30310125T | S.L ARM SPRING | 1 | | |
| | 20 | 30310149T | REAR DAM BKT(Z) | 1 | | |
| | 22 | 30310151T | HUNG UP SP (FZ) | 2 | | |
| | 23 | 30310129T | HUNG UP SP (R) | 2 | | |
| | 29 | 30300510T | PU GEAR(B) | 1 | | |
| | 32 | 30310544T | F.M.BASE(Z) | 1 | | |
| | 33 | 30310547T | FD GR BLK(Z) | 1 | | |
| | 36 | 30310546T | PU GUIDE(Z) | 1 | | |
| | 38 | 30310533T | THRUST SPR(M) | 1 | | |
| | 39 | 30310577T | PU M NUT(Z-S) | 1 | | |
| | 40 | 30310512T | NUT PUSH SPR PL | 1 | | |
| | 41 | 30310558T | CLP ARM(Z) | 1 | | |
| | 42 | 30310514T | CLP ARM SPRING | 1 | | |
| | 43 | 30310552T | CLAMPER(Z) | 1 | | |
| | 48 | 30310557T | CLAMPER PLATE(Z) | 1 | | |
| | 49 | 30310524T | DAMPER (J) | 3 | | |
| | 50 | 30310525T | CLP ARM SPR (L) | 1 | | |
| | 51 | 30310545T | F SCREW GUIDE(Z) | 1 | | |
| | 56 | 64180405T | DET SW | 1 | ESE11SF4 | |
| | 57 | QAL0230-001 | C.D PICK (SONY) | 1 | | |
| | 61 | 30311035T | FPC HOLDER(Z) | 1 | | |
| | 62 | 19501403T | WIRE CLAMPER | 4 | | |
| | 63 | 30311045T | PICK UP FPC(Z-S) | 1 | | |
| | 64 | 30311044T | CONNECT.PCB(Z-S) | 1 | | |
| | 65 | 30311038T | WIRE (5P-Z) | 1 | | |
| | 66 | 30311039T | WIRE (LD-Z) | 1 | | |
| | 67 | 30311040T | WIRE (FD-Z) | 1 | | |
| | 68 | 30311041T | WIRE (RS-Z) | 1 | | |
| | 70 | 64180402T | DET SWITCH | 2 | ESE22MH1 | |
| | 71 | 64180403T | DET SWITCH | 2 | ESE22MH3 | |

Parts list (CD mechanism)
Block No. MBMM

| ⚠ | Item | Parts number | Parts name | Q'ty | Description | Area |
|---|------|--------------|-----------------|------|--------------|------|
| | 72 | 68150242T | CONNECTOR | 1 | TKC-W26X-A1 | |
| | 79 | 30311105T | SOPPORT PLATE | 1 | | |
| | 80 | 30311138T | GR MT BLK(N) | 1 | | |
| | 81 | 30311109T | LDG GEAR (2) | 1 | | |
| | 82 | 30311110T | LDG GEAR (3) | 1 | | |
| | 84 | 30311112T | LDG GEAR (5) | 1 | | |
| | 86 | 30311136T | LDG ROLLER | 2 | | |
| | 88 | 30311118T | L.P SPRING (L) | 1 | | |
| | 89 | 30311119T | L.P SPRING (R) | 1 | | |
| | 90 | 30311123T | SW PCB | 1 | | |
| | 91 | 30311124T | SW ACTUATOR | 1 | | |
| | 92 | 30311129T | LDG BELT | 1 | | |
| | 93 | 30311140T | FRONT BRKT (J) | 1 | | |
| | 100 | 9C0620503T | C B TAP SCREW | 2 | M2X5 | |
| | 101 | 9C2020401T | C SCREW TS.G | 5 | M2X4 | |
| | 102 | 9C4320403T | C B TAP SCREW | 4 | M2X4 | |
| | 103 | 9C0117223T | SCREW | 2 | M1.7X2.2 | |
| | 104 | 9C0917703T | C TAP SCREW S3 | 1 | M1.7X7 | |
| | 105 | 9C0320201T | C TAP SCREW S3 | 1 | M2X2 | |
| | 106 | 9C4920013T | C TAP SCREW S3 | 2 | M2X10 | |
| | 107 | 9C4920603T | C TAP SCREW B3 | 4 | M2X6 | |
| | 108 | 9P0220031T | TAMS SCREW | 2 | M2X3 | |
| | 110 | 9C0420253 | C TAP SCREW | 1 | M2X2.5 | |
| | 113 | 9W0330276 | NW BLUE | 2 | 2.9X5X0.3 | |
| | 116 | 9W0725030T | LUMILAR W | 1 | 2.3X9.8X0.25 | |
| | 117 | 9W0640030T | WASHER | 1 | 1.4X3.2X0.4 | |
| | 130 | 303105310T | FEED MO ASSY | 1 | | |
| | 131 | 303105311T | SPINDLE MO ASSY | 1 | | |
| | 132 | 303105312T | FEED SCREW ASSY | 1 | | |
| | 133 | 303111301T | LDG MOTOR ASSY | 1 | | |
| | 134 | 303111302T | RDG RLR SFT ASY | 1 | | |
| | 135 | 303105502T | T.T.BASE ASSY | 1 | | |

■ Electrical parts list (Main board)

Block No. 01

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|--------------|-------------|----------------|------|
| | C 1 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | |
| | C 2 | QERF1HM-224Z | E CAPACITOR | 0.22MF 20% 50V | |
| | C 12 | QERF1HM-104Z | E CAPACITOR | 0.1MF 20% 50V | |
| | C 14 | NCB31EK-103X | C CAPACITOR | | |
| | C 17 | NCS21HJ-560X | C CAPACITOR | | |
| | C 18 | NDC31HJ-151X | C CAPACITOR | | |
| | C 21 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | |
| | C 22 | NCB31HK-223X | C CAPACITOR | | |
| | C 24 | QEKJ1AM-227Z | E CAPACITOR | 220MF 20% 10V | |
| | C 31 | QERF1HM-225Z | E CAPACITOR | 2.2MF 20% 50V | |
| | C 32 | NCB31HK-102X | C CAPACITOR | | |
| | C 33 | QERF1AM-227Z | E CAPACITOR | 220MF 20% 10V | |
| | C 35 | NDC31HJ-470X | C CAPACITOR | | |
| | C 41 | NCB31EK-563X | C CAPACITOR | | |
| | C 42 | NCB31HK-123X | C CAPACITOR | | |
| | C 81 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 82 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 83 | NCB21EK-333X | C CAPACITOR | | |
| | C 84 | NCB21EK-333X | C CAPACITOR | | |
| | C 85 | NCB31HK-103X | C CAPACITOR | | |
| | C 161 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | |
| | C 162 | NCS31HJ-471X | C CAPACITOR | | |
| | C 163 | NCB31EK-104X | C CAPACITOR | | |
| | C 164 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | |
| | C 165 | NCB31HK-472X | C CAPACITOR | | |
| | C 166 | NCB21CK-224X | C CAPACITOR | | |
| | C 167 | NCB21CK-224X | C CAPACITOR | | |
| | C 171 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | |
| | C 172 | NCS31HJ-471X | C CAPACITOR | | |
| | C 173 | NCB31EK-104X | C CAPACITOR | | |
| | C 174 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | |
| | C 175 | NCB31HK-472X | C CAPACITOR | | |
| | C 176 | NCB21CK-224X | C CAPACITOR | | |
| | C 177 | NCB21CK-224X | C CAPACITOR | | |
| | C 178 | QEKJ1CM-476Z | E CAPACITOR | 47MF 20% 16V | |
| | C 179 | NCB31EK-103X | C CAPACITOR | | |
| | C 180 | QEKJ1CM-107Z | E CAPACITOR | 100MF 20% 16V | |
| | C 181 | QERF1HM-225Z | E CAPACITOR | 2.2MF 20% 50V | |
| | C 182 | QERF1HM-225Z | E CAPACITOR | 2.2MF 20% 50V | |
| | C 183 | NCS31HJ-221X | C CAPACITOR | | |
| | C 184 | NCS31HJ-221X | C CAPACITOR | | |
| | C 185 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 186 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 191 | QERF1HM-225Z | E CAPACITOR | 2.2MF 20% 50V | |
| | C 192 | QERF1HM-225Z | E CAPACITOR | 2.2MF 20% 50V | |
| | C 193 | NCS31HJ-221X | C CAPACITOR | | |
| | C 194 | NCS31HJ-221X | C CAPACITOR | | |
| | C 195 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 196 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 201 | NCB31EK-103X | C CAPACITOR | | |
| | C 202 | NCB31EK-104X | C CAPACITOR | | |
| | C 203 | NCB31HK-472X | C CAPACITOR | | |
| | C 204 | NCS31HJ-471X | C CAPACITOR | | |
| | C 211 | NCB31EK-103X | C CAPACITOR | | |
| | C 212 | NCB31EK-104X | C CAPACITOR | | |
| | C 213 | NCB31HK-472X | C CAPACITOR | | |
| | C 214 | NCS31HJ-471X | C CAPACITOR | | |
| | C 215 | QERF1EM-475Z | E CAPACITOR | 4.7MF 20% 25V | |
| | C 216 | NCB31EK-104X | C CAPACITOR | | |
| | C 242 | QEKJ1CM-226Z | E CAPACITOR | 22MF 20% 16V | |
| | C 243 | NCB31EK-473X | C CAPACITOR | | |
| | C 244 | QERF1HM-224Z | E CAPACITOR | 0.22MF 20% 50V | |
| | C 245 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|--------------|-------------|---------------|------|
| | C 300 | NCB31HK-223X | C CAPACITOR | | |
| | C 303 | NDC31HJ-101X | C CAPACITOR | | |
| | C 304 | NDC31HJ-101X | C CAPACITOR | | |
| | C 305 | NDC31HJ-101X | C CAPACITOR | | |
| | C 306 | NDC31HJ-101X | C CAPACITOR | | |
| | C 308 | QERF1EM-475Z | E CAPACITOR | 4.7MF 20% 25V | |
| | C 309 | QERF1EM-475Z | E CAPACITOR | 4.7MF 20% 25V | |
| | C 313 | NDC31HJ-101X | C CAPACITOR | | |
| | C 314 | NDC31HJ-101X | C CAPACITOR | | |
| | C 315 | NDC31HJ-101X | C CAPACITOR | | |
| | C 316 | NDC31HJ-101X | C CAPACITOR | | |
| | C 317 | NCB31HK-223X | C CAPACITOR | | |
| | C 318 | QERF1CM-107Z | E CAPACITOR | 100MF 20% 16V | |
| | C 319 | QEKJ1CM-476Z | E CAPACITOR | 47MF 20% 16V | |
| | C 320 | QEKJ1CM-226Z | E CAPACITOR | 22MF 20% 16V | |
| | C 333 | NCB31EK-473X | C CAPACITOR | | |
| | C 341 | NDC31HJ-101X | C CAPACITOR | | |
| | C 351 | NDC31HJ-101X | C CAPACITOR | | |
| | C 361 | NCB31EK-104X | C CAPACITOR | | |
| | C 362 | NCB31EK-104X | C CAPACITOR | | |
| | C 363 | NCB31EK-104X | C CAPACITOR | | |
| | C 364 | NCB31EK-104X | C CAPACITOR | | |
| | C 501 | NCB31HK-103X | C CAPACITOR | | |
| | C 502 | NCB31HK-103X | C CAPACITOR | | |
| | C 503 | QERF1AM-107Z | E CAPACITOR | 100MF 20% 10V | |
| | C 504 | NCB31HK-103X | C CAPACITOR | | |
| | C 505 | QERF1AM-107Z | E CAPACITOR | 100MF 20% 10V | |
| | C 507 | NCB31HK-682X | C CAPACITOR | | |
| | C 508 | NCB31HK-103X | C CAPACITOR | | |
| | C 509 | QERF1AM-107Z | E CAPACITOR | 100MF 20% 10V | |
| | C 510 | NCB31CK-104X | C CAPACITOR | | |
| | C 511 | NCB31CK-104X | C CAPACITOR | | |
| | C 512 | NDC31HJ-820X | C CAPACITOR | | |
| | C 513 | NCB31HK-103X | C CAPACITOR | | |
| | C 514 | NDC31HJ-5R0X | C CAPACITOR | | |
| | C 521 | NCB31HK-103X | C CAPACITOR | | |
| | C 522 | QERF1AM-107Z | E CAPACITOR | 100MF 20% 10V | |
| | C 523 | NDC31HJ-470X | C CAPACITOR | | |
| | C 524 | NCB31HK-153X | C CAPACITOR | | |
| | C 525 | NCB31HK-103X | C CAPACITOR | | |
| | C 526 | NCB31HK-272X | C CAPACITOR | | |
| | C 527 | NCB31HK-103X | C CAPACITOR | | |
| | C 528 | NCB31EK-333X | C CAPACITOR | | |
| | C 530 | NCB31EK-333X | C CAPACITOR | | |
| | C 531 | NCB31EK-473X | C CAPACITOR | | |
| | C 533 | NCS31HJ-471X | C CAPACITOR | | |
| | C 534 | NCS31HJ-471X | C CAPACITOR | | |
| | C 535 | NCB31EK-473X | C CAPACITOR | | |
| | C 536 | NCB31EK-473X | C CAPACITOR | | |
| | C 537 | NCB31EK-473X | C CAPACITOR | | |
| | C 538 | NCB31EK-473X | C CAPACITOR | | |
| | C 539 | QEKJ1CM-107Z | E CAPACITOR | 100MF 20% 16V | |
| | C 540 | NCB31HK-103X | C CAPACITOR | | |
| | C 541 | NCB31HK-103X | C CAPACITOR | | |
| | C 544 | NCB31HK-103X | C CAPACITOR | | |
| | C 545 | QEKJ1CM-107Z | E CAPACITOR | 100MF 20% 16V | |
| | C 546 | NDC31HJ-101X | C CAPACITOR | | |
| | C 547 | NCB31CK-104X | C CAPACITOR | | |
| | C 548 | QERF1AM-107Z | E CAPACITOR | 100MF 20% 10V | |
| | C 549 | NCB31HK-103X | C CAPACITOR | | |
| | C 550 | QERF1HM-105Z | E CAPACITOR | 1.0MF 20% 50V | |
| | C 551 | QERF1AM-107Z | E CAPACITOR | 100MF 20% 10V | |
| | C 552 | NCB31HK-103X | C CAPACITOR | | |

■ Electrical parts list (Main board)

Block No. 01

| ▲ | Item | Parts number | Parts name | Remarks | Area | ▲ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|---------------|--------------|---------------|------|---|-------|-----------------|-------------|---------|------|
| | C 553 | NDC31HJ-100X | C CAPACITOR | | | | D 702 | UDZS6.2B-X | SI DIODE | | |
| | C 554 | NDC31HJ-100X | C CAPACITOR | | | | D 703 | UDZS6.2B-X | SI DIODE | | |
| | C 555 | NDC31HJ-121X | C CAPACITOR | | | | D 704 | UDZS6.2B-X | SI DIODE | | |
| | C 561 | QERF1AM-476Z | E CAPACITOR | 47MF 20% 10V | | | D 705 | UDZS6.2B-X | SI DIODE | | |
| | C 562 | NCB31HK-103X | C CAPACITOR | | | | D 706 | UDZS6.2B-X | SI DIODE | | |
| | C 563 | QERF1CM-226Z | E CAPACITOR | 22MF 20% 16V | | | D 707 | UDZS6.2B-X | SI DIODE | | |
| | C 571 | NCS31HJ-821X | C CAPACITOR | | | | D 708 | UDZS6.2B-X | SI DIODE | | |
| | C 572 | QEKJ1EM-475Z | E CAPACITOR | 4.7MF 20% 25V | | | D 709 | UDZS6.2B-X | SI DIODE | | |
| | C 573 | NCS31HJ-121X | C CAPACITOR | | | | D 901 | 1N5401-F64 | SI DIODE | | |
| | C 574 | NCS31HJ-821X | C CAPACITOR | | | | D 903 | 1SS133-T1 | SI DIODE | | |
| | C 581 | NCS31HJ-821X | C CAPACITOR | | | | D 905 | CRS03-W | SB DIODE | | |
| | C 582 | QEKJ1EM-475Z | E CAPACITOR | 4.7MF 20% 25V | | | D 906 | CRS03-W | SB DIODE | | |
| | C 583 | NCS31HJ-121X | C CAPACITOR | | | | D 971 | 1SS355-X | DIODE | | |
| | C 584 | NCS31HJ-821X | C CAPACITOR | | | | D 972 | 1SS355-X | DIODE | | |
| | C 587 | QEKJ1CM-106Z | E CAPACITOR | 10MF 20% 16V | | | D 976 | 1SS133-T1 | SI DIODE | | |
| | C 591 | QEKJ1AM-107Z | E CAPACITOR | 100MF 20% 10V | | | D 977 | UDZ11B-X | ZENER DIODE | | |
| | C 592 | QEKJ0JM-476Z | E CAPACITOR | 47MF 20% 6.3V | | | IC161 | BD3860K | IC | | |
| | C 593 | QEKJ0JM-476Z | E CAPACITOR | 47MF 20% 6.3V | | | IC302 | LA4743K | IC | | |
| | C 594 | NCS31EJ-102X | C CAPACITOR | | | | IC501 | TA2147F-X | IC | | |
| | C 597 | QEKJ1CM-106Z | E CAPACITOR | 10MF 20% 16V | | | IC521 | TC9490FA | IC | | |
| | C 701 | QERF1AM-227Z | E CAPACITOR | 220MF 20% 10V | | | IC561 | LA6574H-X | IC | | |
| | C 702 | NCB31EK-104X | C CAPACITOR | | | | IC571 | NJM4565M-WE | IC | | |
| | C 703 | NCB31EK-104X | C CAPACITOR | | | | IC701 | UPD178078GF-559 | IC | | |
| | C 705 | NDC31HJ-220X | C CAPACITOR | | | | IC901 | HA13164A | IC | | |
| | C 706 | NDC31HJ-220X | C CAPACITOR | | | | L 1 | QQL244J-4R7Z | INDUCTOR | | |
| | C 707 | QERF1AM-227Z | E CAPACITOR | 220MF 20% 10V | | | L 521 | QQL244J-470Z | INDUCTOR | | |
| | C 708 | NCB31EK-103X | C CAPACITOR | | | | L 522 | QQL244J-470Z | INDUCTOR | | |
| | C 710 | NCB31EK-104X | C CAPACITOR | | | | L 523 | QQL244J-470Z | INDUCTOR | | |
| | C 711 | NCS31HJ-102X | C CAPACITOR | | | | L 524 | QQL244J-470Z | INDUCTOR | | |
| | C 901 | QEZ0337-228 | E CAPACITOR | 2200MF | | | L 701 | QQL244J-4R7Z | INDUCTOR | | |
| | C 903 | QERF1CM-476Z | E CAPACITOR | 47MF 20% 16V | | | L 702 | QQL244J-4R7Z | INDUCTOR | | |
| | C 904 | QERF1CM-226Z | E CAPACITOR | 22MF 20% 16V | | | L 901 | QQR0703-001 | CHOKE COIL | | |
| | C 905 | QERF1AM-227Z | E CAPACITOR | 220MF 20% 10V | | | Q 1 | UN2211-X | TRANSISTOR | | |
| | C 906 | QERF1HM-225Z | E CAPACITOR | 2.2MF 20% 50V | | | Q 21 | 2SB1197K/QR/-X | TRANSISTOR | | |
| | C 907 | NCB31HK-103X | C CAPACITOR | | | | Q 22 | 2SB709A/R/-X | TRANSISTOR | | |
| | C 908 | QERF1AM-227Z | E CAPACITOR | 220MF 20% 10V | | | Q 23 | UN2211-X | TRANSISTOR | | |
| | C 909 | QERF1AM-227Z | E CAPACITOR | 220MF 20% 10V | | | Q 31 | 2SD601A/R/-X | TRANSISTOR | | |
| | C 910 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | | | Q 32 | 2SD601A/R/-X | TRANSISTOR | | |
| | C 913 | QERF1CM-106Z | E CAPACITOR | 10MF 20% 16V | | | Q 41 | 2SC3661-X | TRANSISTOR | | |
| | C 914 | NCB31EK-104X | C CAPACITOR | | | | Q 42 | 2SC3661-X | TRANSISTOR | | |
| | C 975 | NCB31EK-823X | C CAPACITOR | | | | Q 241 | 2SD601A/R/-X | TRANSISTOR | | |
| | C 976 | QERF0JM-476Z | E CAPACITOR | 47MF 20% 6.3V | | | Q 301 | UN2211-X | TRANSISTOR | | |
| | C 977 | QERF1CM-107Z | E CAPACITOR | 100MF 20% 16V | | | Q 341 | 2SD1048/6-7/-X | TRANSISTOR | | |
| | CJ 1 | QNB0100-002 | ANT TERMINAL | | | | Q 351 | 2SD1048/6-7/-X | TRANSISTOR | | |
| | CJ321 | QNN0170-001 | PIN JACK | | | | Q 501 | 2SB1241/QR/-T | TRANSISTOR | | |
| | CJ691 | VMC0334-001 | CONNECTOR | | | | Q 521 | UN2111-X | TRANSISTOR | | |
| | CN501 | QGB2027M1-26S | CONNECTOR | | | | Q 522 | UN2211-X | TRANSISTOR | | |
| | CN901 | QNZ0002-001 | JACK UNIT | | | | Q 561 | 2SB1322/RS/-T | TRANSISTOR | | |
| | D 1 | 1SS133-T1 | SI DIODE | | | | Q 963 | 2SB709A/R/-X | TRANSISTOR | | |
| | D 2 | 1SS133-T1 | SI DIODE | | | | Q 964 | UN2211-X | TRANSISTOR | | |
| | D 21 | 1SS133-T1 | SI DIODE | | | | Q 971 | 2SD601A/R/-X | TRANSISTOR | | |
| | D 22 | 1SS133-T1 | SI DIODE | | | | Q 976 | UN2111-X | TRANSISTOR | | |
| | D 31 | MTZJ10C-T1 | ZENER DIODE | | | | Q 977 | UN2111-X | TRANSISTOR | | |
| | D 101 | UDZS10B-X | ZENER DIODE | | | | R 1 | NRSA63J-102X | MG RESISTOR | | |
| | D 242 | 1SS133-T1 | SI DIODE | | | | R 2 | NRSA63J-470X | MG RESISTOR | | |
| | D 243 | 1SS133-T1 | SI DIODE | | | | R 3 | NRSA63J-102X | MG RESISTOR | | |
| | D 244 | 1SS133-T1 | SI DIODE | | | | R 4 | NRSA63J-473X | MG RESISTOR | | |
| | D 245 | 1SS133-T1 | SI DIODE | | | | R 5 | NRSA63J-103X | MG RESISTOR | | |
| | D 301 | 1SS133-T1 | SI DIODE | | | | R 8 | NRSA63J-223X | MG RESISTOR | | |
| | D 331 | 1SS133-T1 | SI DIODE | | | | R 9 | NRSA63J-822X | MG RESISTOR | | |
| | D 341 | 1SS133-T1 | SI DIODE | | | | R 21 | NRSA63J-103X | MG RESISTOR | | |
| | D 561 | DSK10C-T1 | DIODE | | | | R 22 | NRSA63J-102X | MG RESISTOR | | |
| | D 701 | UDZS6.2B-X | SI DIODE | | | | R 23 | NRSA63J-103X | MG RESISTOR | | |

■ Electrical parts list (Main board)

Block No. 01

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|--------------|-------------|---------|------|
| | R 24 | NRSA02J-222X | MG RESISTOR | | |
| | R 25 | NRS181J-150X | MG RESISTOR | | |
| | R 26 | NRS181J-150X | MG RESISTOR | | |
| | R 27 | NRSA02J-100X | MG RESISTOR | | |
| | R 31 | NRSA63J-152X | MG RESISTOR | | |
| | R 32 | NRSA63J-102X | MG RESISTOR | | |
| | R 33 | NRSA02J-103X | MG RESISTOR | | |
| | R 34 | NRSA02J-471X | MG RESISTOR | | |
| | R 41 | NRSA63J-102X | MG RESISTOR | | |
| | R 42 | NRSA63J-392X | MG RESISTOR | | |
| | R 43 | NRSA02J-102X | MG RESISTOR | | |
| | R 81 | NRSA63J-272X | MG RESISTOR | | |
| | R 82 | NRSA63J-272X | MG RESISTOR | | |
| | R 83 | NRSA63J-432X | MG RESISTOR | | |
| | R 84 | NRSA63J-432X | MG RESISTOR | | |
| | R 161 | NRSA63J-224X | MG RESISTOR | | |
| | R 162 | NRSA63J-682X | MG RESISTOR | | |
| | R 163 | NRSA63J-332X | MG RESISTOR | | |
| | R 171 | NRSA63J-224X | MG RESISTOR | | |
| | R 172 | NRSA63J-682X | MG RESISTOR | | |
| | R 173 | NRSA63J-332X | MG RESISTOR | | |
| | R 175 | NRSA63J-222X | MG RESISTOR | | |
| | R 176 | NRSA63J-222X | MG RESISTOR | | |
| | R 181 | NRSA63J-103X | MG RESISTOR | | |
| | R 182 | NRSA63J-103X | MG RESISTOR | | |
| | R 183 | NRSA63J-273X | MG RESISTOR | | |
| | R 184 | NRSA63J-273X | MG RESISTOR | | |
| | R 191 | NRSA63J-103X | MG RESISTOR | | |
| | R 192 | NRSA63J-103X | MG RESISTOR | | |
| | R 193 | NRSA63J-273X | MG RESISTOR | | |
| | R 194 | NRSA63J-273X | MG RESISTOR | | |
| | R 211 | NRSA63J-105X | MG RESISTOR | | |
| | R 221 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 241 | NRSA63J-224X | MG RESISTOR | | |
| | R 242 | NRSA63J-224X | MG RESISTOR | | |
| | R 243 | NRSA63J-102X | MG RESISTOR | | |
| | R 244 | NRSA63J-563X | MG RESISTOR | | |
| | R 245 | NRSA63J-123X | MG RESISTOR | | |
| | R 246 | NRSA63J-184X | MG RESISTOR | | |
| | R 247 | NRSA63J-223X | MG RESISTOR | | |
| | R 248 | NRSA63J-101X | MG RESISTOR | | |
| | R 249 | NRSA63J-473X | MG RESISTOR | | |
| | R 305 | NRSA02J-473X | MG RESISTOR | | |
| | R 306 | NRSA02J-471X | MG RESISTOR | | |
| | R 307 | NRSA63J-472X | MG RESISTOR | | |
| | R 341 | NRSA02J-102X | MG RESISTOR | | |
| | R 342 | NRSA02J-101X | MG RESISTOR | | |
| | R 345 | NRSA63J-222X | MG RESISTOR | | |
| | R 351 | NRSA02J-102X | MG RESISTOR | | |
| | R 352 | NRSA02J-101X | MG RESISTOR | | |
| | R 355 | NRSA63J-222X | MG RESISTOR | | |
| | R 501 | NRSA63J-823X | MG RESISTOR | | |
| | R 502 | NRSA63J-823X | MG RESISTOR | | |
| | R 503 | NRSA63J-823X | MG RESISTOR | | |
| | R 504 | NRSA63J-823X | MG RESISTOR | | |
| | R 505 | NRSA63J-154X | MG RESISTOR | | |
| | R 506 | NRSA63J-154X | MG RESISTOR | | |
| | R 507 | NRSA02J-220X | MG RESISTOR | | |
| | R 508 | NRSA02J-220X | MG RESISTOR | | |
| | R 509 | NRSA63J-823X | MG RESISTOR | | |
| | R 510 | NRSA63J-473X | MG RESISTOR | | |
| | R 511 | NRSA63J-103X | MG RESISTOR | | |
| | R 512 | NRSA63J-202X | MG RESISTOR | | |

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|--------------|-------------|---------|------|
| | R 513 | NRSA63J-102X | MG RESISTOR | | |
| | R 514 | NRSA63J-273X | MG RESISTOR | | |
| | R 515 | NRSA63J-101X | MG RESISTOR | | |
| | R 516 | NRSA63J-821X | MG RESISTOR | | |
| | R 517 | NRSA63J-473X | MG RESISTOR | | |
| | R 521 | NRSA63J-562X | MG RESISTOR | | |
| | R 522 | NRSA63J-473X | MG RESISTOR | | |
| | R 523 | NRSA63J-474X | MG RESISTOR | | |
| | R 524 | NRSA63J-333X | MG RESISTOR | | |
| | R 525 | NRSA63J-103X | MG RESISTOR | | |
| | R 526 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 527 | NRSA63J-101X | MG RESISTOR | | |
| | R 528 | NRSA63J-101X | MG RESISTOR | | |
| | R 529 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 530 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 531 | NRSA63J-101X | MG RESISTOR | | |
| | R 532 | NRSA63J-101X | MG RESISTOR | | |
| | R 533 | NRSA63J-105X | MG RESISTOR | | |
| | R 534 | NRSA63J-472X | MG RESISTOR | | |
| | R 535 | NRSA63J-472X | MG RESISTOR | | |
| | R 536 | NRSA63J-472X | MG RESISTOR | | |
| | R 537 | NRSA63J-472X | MG RESISTOR | | |
| | R 538 | NRSA63J-103X | MG RESISTOR | | |
| | R 539 | NRSA63J-225X | MG RESISTOR | | |
| | R 561 | NRSA63J-103X | MG RESISTOR | | |
| | R 562 | NRSA63J-682X | MG RESISTOR | | |
| | R 563 | NRSA63J-562X | MG RESISTOR | | |
| | R 564 | NRSA63J-682X | MG RESISTOR | | |
| | R 565 | NRSA02J-203X | MG RESISTOR | | |
| | R 566 | NRSA02J-822X | MG RESISTOR | | |
| | R 571 | NRSA63J-153X | MG RESISTOR | | |
| | R 572 | NRSA63J-333X | MG RESISTOR | | |
| | R 573 | NRSA63J-123X | MG RESISTOR | | |
| | R 574 | NRSA63J-151X | MG RESISTOR | | |
| | R 575 | NRSA63J-103X | MG RESISTOR | | |
| | R 581 | NRSA63J-153X | MG RESISTOR | | |
| | R 582 | NRSA63J-333X | MG RESISTOR | | |
| | R 583 | NRSA63J-123X | MG RESISTOR | | |
| | R 584 | NRSA63J-151X | MG RESISTOR | | |
| | R 585 | NRSA63J-103X | MG RESISTOR | | |
| | R 591 | NRSA63J-223X | MG RESISTOR | | |
| | R 592 | NRSA63J-223X | MG RESISTOR | | |
| | R 593 | NRSA63J-223X | MG RESISTOR | | |
| | R 594 | NRSA63J-223X | MG RESISTOR | | |
| | R 685 | NRSA63J-473X | MG RESISTOR | | |
| | R 686 | NRSA63J-473X | MG RESISTOR | | |
| | R 704 | NRSA63J-473X | MG RESISTOR | | |
| | R 706 | NRSA63J-222X | MG RESISTOR | | |
| | R 707 | NRSA63J-222X | MG RESISTOR | | |
| | R 709 | NRSA63J-222X | MG RESISTOR | | |
| | R 710 | NRSA63J-473X | MG RESISTOR | | |
| | R 711 | NRSA63J-473X | MG RESISTOR | | |
| | R 712 | NRSA63J-473X | MG RESISTOR | | |
| | R 713 | NRSA63J-473X | MG RESISTOR | | |
| | R 714 | NRSA63J-103X | MG RESISTOR | | |
| | R 715 | NRSA63J-103X | MG RESISTOR | | |
| | R 716 | NRSA63J-103X | MG RESISTOR | | |
| | R 717 | NRSA63J-103X | MG RESISTOR | | |
| | R 718 | NRSA63J-472X | MG RESISTOR | | |
| | R 719 | NRSA63J-103X | MG RESISTOR | | |
| | R 720 | NRSA63J-472X | MG RESISTOR | | |
| | R 721 | NRSA63J-103X | MG RESISTOR | | |
| | R 722 | NRSA63J-472X | MG RESISTOR | | |

■ Electrical parts list (Main board)

Block No. 01

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|--------------|-------------|--------------|------|
| | R 723 | NRSA63J-473X | MG RESISTOR | | |
| | R 724 | NRSA63J-473X | MG RESISTOR | | |
| | R 725 | NRSA63J-473X | MG RESISTOR | | |
| | R 726 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 727 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 728 | NRSA63J-473X | MG RESISTOR | | |
| | R 729 | NRSA63J-473X | MG RESISTOR | | |
| | R 731 | NRSA63J-473X | MG RESISTOR | | |
| | R 732 | NRSA63J-103X | MG RESISTOR | | |
| | R 733 | NRSA63J-473X | MG RESISTOR | | |
| | R 734 | NRSA63J-104X | MG RESISTOR | | |
| | R 735 | NRSA63J-103X | MG RESISTOR | | |
| | R 744 | NRSA63J-222X | MG RESISTOR | | |
| | R 745 | NRSA63J-222X | MG RESISTOR | | |
| | R 746 | NRSA63J-103X | MG RESISTOR | | |
| | R 747 | NRSA63J-103X | MG RESISTOR | | |
| | R 748 | NRSA63J-103X | MG RESISTOR | | |
| | R 749 | NRSA63J-0R0X | MG RESISTOR | | |
| | R 750 | NRSA63J-473X | MG RESISTOR | | |
| | R 892 | NRSA63J-222X | MG RESISTOR | | |
| | R 893 | NRSA63J-473X | MG RESISTOR | | |
| | R 901 | QRE142J-102X | C RESISTOR | 1.0K 5% 1/4W | |
| | R 902 | NRSA02J-912X | MG RESISTOR | | |
| | R 903 | NRSA02J-472X | MG RESISTOR | | |
| | R 905 | NRSA63J-122X | MG RESISTOR | | |
| | R 906 | NRSA63J-102X | MG RESISTOR | | |
| | R 907 | NRS181J-222X | MG RESISTOR | | |
| | R 908 | NRS181J-222X | MG RESISTOR | | |
| | R 967 | NRSA63J-273X | MG RESISTOR | | |
| | R 968 | NRSA63J-103X | MG RESISTOR | | |
| | R 971 | NRSA63J-473X | MG RESISTOR | | |
| | R 976 | NRSA63J-473X | MG RESISTOR | | |
| | TU 1 | QAU0257-001 | TUNER | | |
| | X 521 | QAX0413-001Z | CRYSTAL | | |
| | X 701 | QAX0406-001Z | CRYSTAL | | |

■ Electrical parts list (Front board)

Block No. 02

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|-----------------|----------------|---------|------|
| | C 601 | NCB31HK-223X | C CAPACITOR | | |
| | C 602 | NCS31HJ-681X | C CAPACITOR | | |
| | C 603 | NBE20JM-106X | TS E CAPACITOR | | |
| | C 611 | NCB31HK-123X | C CAPACITOR | | |
| | C 612 | NBE20JM-475X | TS E CAPACITOR | | |
| | C 681 | NCB31HK-223X | C CAPACITOR | | |
| | C 682 | NCB31HK-223X | C CAPACITOR | | |
| | CJ601 | VMC0335-001 | CONNECTOR | | |
| | D 601 | SML-310VT/JK/-X | LED | | |
| | D 602 | SML-310VT/JK/-X | LED | | |
| | D 603 | SML-310VT/JK/-X | LED | | |
| | D 604 | SML-310VT/JK/-X | LED | | |
| | D 605 | SML-310VT/JK/-X | LED | | |
| | D 606 | SML-310VT/JK/-X | LED | | |
| | D 607 | SML-310VT/JK/-X | LED | | |
| | D 608 | SML-310VT/JK/-X | LED | | |
| | D 609 | SML-310VT/JK/-X | LED | | |
| | D 610 | SML-310VT/JK/-X | LED | | |
| | D 611 | SML-310VT/JK/-X | LED | | |
| | D 613 | SML-310VT/JK/-X | LED | | |
| | D 614 | SML-310VT/JK/-X | LED | | |
| | D 615 | SML-310VT/JK/-X | LED | | |
| | D 616 | SML-310VT/JK/-X | LED | | |
| | D 617 | SML-310VT/JK/-X | LED | | |
| | D 618 | LT1F67AF-W | LED | | |
| | D 619 | SML-310VT/JK/-X | LED | | |
| | D 620 | SML-310VT/JK/-X | LED | | |
| | D 621 | SML-310VT/JK/-X | LED | | |
| | D 622 | SML-310VT/JK/-X | LED | | |
| | D 623 | SML-310VT/JK/-X | LED | | |
| | D 624 | SML-310VT/JK/-X | LED | | |
| | D 625 | SML-310LT/MN/-X | LED | | |
| | D 641 | UDZS5.1B-X | ZENER DIODE | | |
| | D 642 | 1SS355-X | DIODE | | |
| | D 643 | 1SS355-X | DIODE | | |
| | D 644 | NSPW310BS/BRS/ | LED | | |
| | D 645 | NSPW310BS/BRS/ | LED | | |
| | D 646 | UDZS6.2B-X | SI DIODE | | |
| | IC601 | PT6523LQ | IC | | |
| | IC602 | RPM6938-SV4 | IC | | |
| | JS690 | QSW0793-001 | ROTARY ENCODER | | |
| | R 601 | NRSA63J-182X | MG RESISTOR | | |
| | R 602 | NRSA63J-122X | MG RESISTOR | | |
| | R 603 | NRSA63J-182X | MG RESISTOR | | |
| | R 604 | NRSA63J-272X | MG RESISTOR | | |
| | R 605 | NRSA63J-392X | MG RESISTOR | | |
| | R 606 | NRSA63J-821X | MG RESISTOR | | |
| | R 607 | NRSA63J-821X | MG RESISTOR | | |
| | R 608 | NRSA63J-122X | MG RESISTOR | | |
| | R 609 | NRSA63J-182X | MG RESISTOR | | |
| | R 610 | NRSA63J-272X | MG RESISTOR | | |
| | R 611 | NRSA63J-392X | MG RESISTOR | | |
| | R 612 | NRSA63J-821X | MG RESISTOR | | |
| | R 613 | NRSA63J-821X | MG RESISTOR | | |
| | R 614 | NRSA63J-122X | MG RESISTOR | | |
| | R 615 | NRSA63J-182X | MG RESISTOR | | |
| | R 616 | NRSA63J-272X | MG RESISTOR | | |
| | R 631 | NRSA63J-821X | MG RESISTOR | | |
| | R 632 | NRSA63J-182X | MG RESISTOR | | |
| | R 633 | NRSA63J-182X | MG RESISTOR | | |
| | R 634 | NRSA63J-182X | MG RESISTOR | | |
| | R 635 | NRSA63J-182X | MG RESISTOR | | |
| | R 636 | NRSA63J-182X | MG RESISTOR | | |

| △ | Item | Parts number | Parts name | Remarks | Area |
|---|-------|--------------|-------------|-----------|------|
| | R 637 | NRSA63J-182X | MG RESISTOR | | |
| | R 638 | NRSA63J-511X | MG RESISTOR | | |
| | R 639 | NRSA63J-511X | MG RESISTOR | | |
| | R 640 | NRSA63J-511X | MG RESISTOR | | |
| | R 641 | NRSA63J-511X | MG RESISTOR | | |
| | R 642 | NRSA63J-821X | MG RESISTOR | | |
| | R 643 | NRSA63J-821X | MG RESISTOR | | |
| | R 644 | NRSA63J-182X | MG RESISTOR | | |
| | R 645 | NRSA63J-182X | MG RESISTOR | | |
| | R 646 | NRSA63J-821X | MG RESISTOR | | |
| | R 647 | NRSA63J-821X | MG RESISTOR | | |
| | R 648 | NRSA63J-681X | MG RESISTOR | | |
| | R 649 | NRSA63J-821X | MG RESISTOR | | |
| | R 651 | NRSA63J-222X | MG RESISTOR | | |
| | R 652 | NRSA63J-222X | MG RESISTOR | | |
| | R 653 | NRSA63J-103X | MG RESISTOR | | |
| | R 654 | NRSA63J-103X | MG RESISTOR | | |
| | R 655 | NRSA63J-103X | MG RESISTOR | | |
| | R 656 | NRSA63J-103X | MG RESISTOR | | |
| | R 657 | NRSA63J-513X | MG RESISTOR | | |
| | R 658 | NRSA63J-184X | MG RESISTOR | | |
| | R 659 | NRS181J-391X | MG RESISTOR | | |
| | R 660 | NRS181J-391X | MG RESISTOR | | |
| | R 661 | NRS181J-103X | MG RESISTOR | | |
| | R 662 | NRSA63J-471X | MG RESISTOR | | |
| | R 681 | NRSA63J-101X | MG RESISTOR | | |
| | S 601 | NSW0066-001X | TACT SWITCH | POWER | |
| | S 602 | NSW0066-001X | TACT SWITCH | 1 | |
| | S 603 | NSW0066-001X | TACT SWITCH | 2 | |
| | S 604 | NSW0066-001X | TACT SWITCH | 3 | |
| | S 605 | NSW0066-001X | TACT SWITCH | 4 | |
| | S 606 | NSW0066-001X | TACT SWITCH | 5 | |
| | S 607 | NSW0066-001X | TACT SWITCH | SELECT | |
| | S 608 | NSW0066-001X | TACT SWITCH | DISP/LOUD | |
| | S 609 | NSW0066-001X | TACT SWITCH | S-EQ | |
| | S 610 | NSW0066-001X | TACT SWITCH | SCAN/RPT | |
| | S 611 | NSW0066-001X | TACT SWITCH | MO/RND | |
| | S 612 | NSW0066-001X | TACT SWITCH | EJECT | |
| | S 613 | NSW0066-001X | TACT SWITCH | << | |
| | S 614 | NSW0066-001X | TACT SWITCH | 6 | |
| | S 615 | NSW0066-001X | TACT SWITCH | INFO | |
| | S 616 | NSW0066-001X | TACT SWITCH | AM | |
| | S 617 | NSW0066-001X | TACT SWITCH | CD | |
| | S 618 | NSW0066-001X | TACT SWITCH | FM | |
| | S 619 | NSW0066-001X | TACT SWITCH | >> | |

< MEMO >

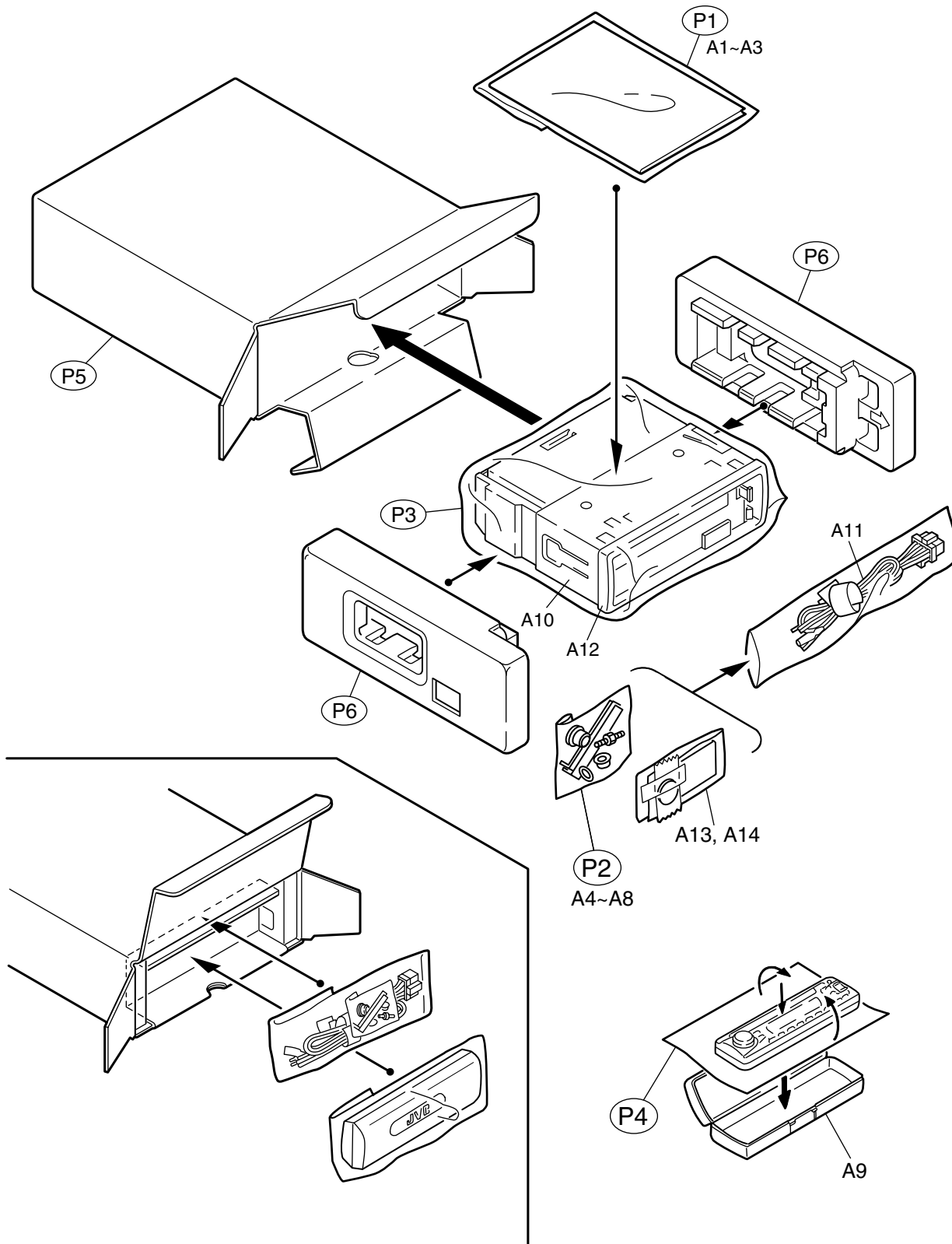
Packing materials and accessories parts list

Block No.

| | | | |
|---|---|---|---|
| M | 3 | M | M |
|---|---|---|---|

Block No.

| | | | |
|---|---|---|---|
| M | 5 | M | M |
|---|---|---|---|



■ Parts list (Packing)

Block No. M3MM

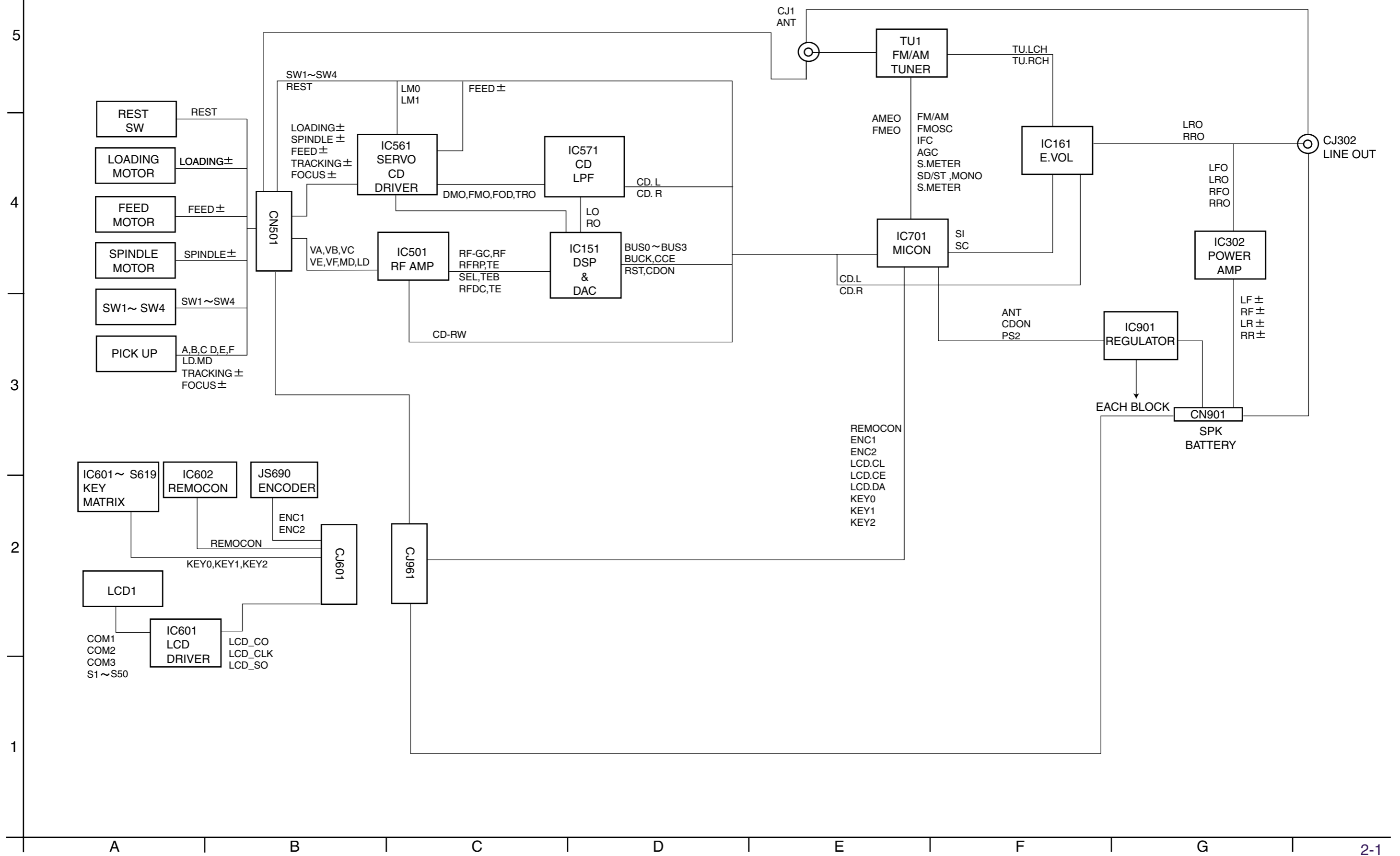
| △ | Item | Parts number | Parts name | Q'ty | Description | Area |
|---|------|--------------|------------|------|-------------|------|
| | P 1 | ----- | POLY BAG | 1 | INST.MANUAL | |
| | P 2 | ----- | POLY BAG | 1 | | |
| | P 3 | ----- | POLY BAG | 1 | SET | |
| | P 4 | ----- | SHEET | 1 | | |
| | P 5 | ----- | CARTON BOX | 1 | | |
| | P 6 | ----- | CUSHION | 2 | | |

■ Parts list (Accessories)

Block No. M5MM

| △ | Item | Parts number | Parts name | Q'ty | Description | Area |
|---|------|---------------|-----------------|------|-------------|------|
| | A 1 | ----- | INST.MANUAL | 1 | | |
| | A 2 | ----- | INSTALL MANUAL | 1 | | |
| | A 3 | ----- | SV STATION LIST | 1 | | |
| | A 4 | VKZ4027-202 | PLUG NUT | 1 | | |
| | A 5 | VKH4871-001SS | MOUNT BOLT | 1 | | |
| | A 6 | VKZ4328-001 | LOCK NUT | 1 | FOR M5 | |
| | A 7 | WNS5000Z | WASHER | 1 | | |
| | A 8 | FSKL4010-002 | HOOK | 2 | | |
| | A 9 | FSJB3001-30A | HARD CASE | 1 | | |
| | A 10 | FSKM2004-202 | MOUNTING SLEEVE | 1 | | |
| | A 11 | QAM0089-001 | 16P CORD ASSY | 1 | | |
| | A 12 | FSJD2034-005 | TRIM PLATE | 1 | | |
| | A 13 | RM-RK31 | REMOCON | 1 | | |
| | A 14 | ----- | LI BATTERY | 1 | | |

Block diagram

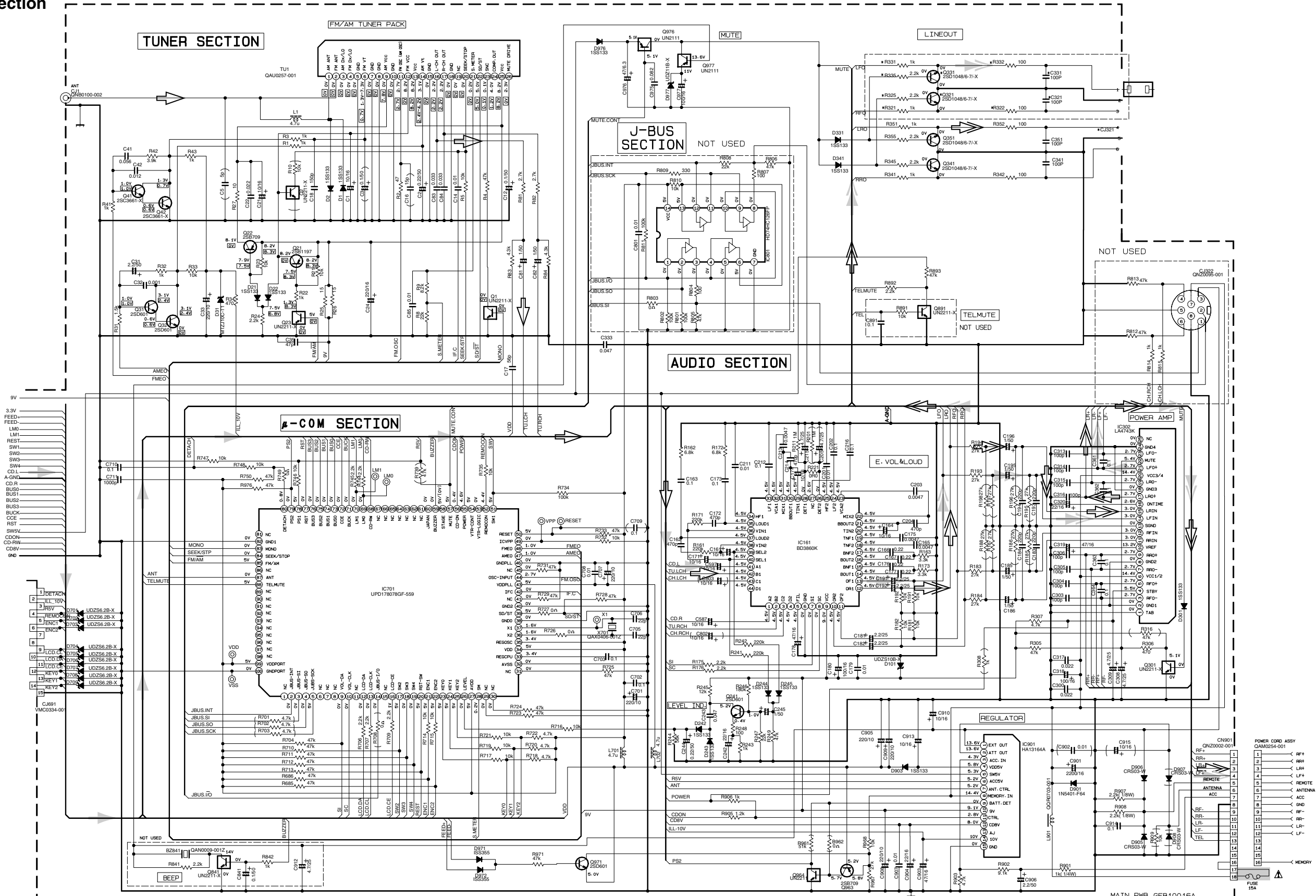


Standard schematic diagrams

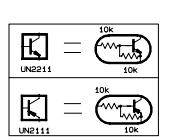
KD-S687

KD-S687

Main amp section



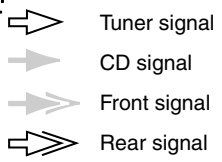
| *REMARK | KD-S680J | KD-S700BJ | KD-S700GJ | KD-S7250J |
|------------------|-------------|-------------|-------------|-------------|
| R331, R332, R335 | NOT USED | NOT USED | NOT USED | USED |
| C331, C332, C325 | NOT USED | NOT USED | NOT USED | USED |
| C321, C321 | NOT USED | NOT USED | NOT USED | USED |
| CJ321 | QNN0170-001 | QNN0170-001 | QNN0170-001 | QNN0176-001 |



NOTES

- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL. CONDITION --- FM (□ AM MODE)
- UNLESS OTHERWISE SPECIFIED, ALL RESISTOR ARE 1/16W ±5% METAL GLAZE RESISTOR. ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR. ALL RESISTANCE VALUES ARE IN OHM. ALL CAPACITANCE VALUES ARE IN UF (PpF) ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(UF)/RATED VOLTAGE (V)

Parts are safety assurance parts. When replacing those parts make sure to use the specified one.



5
4
3
2
1

A B C 2-2 D E F G H

CD servo control section

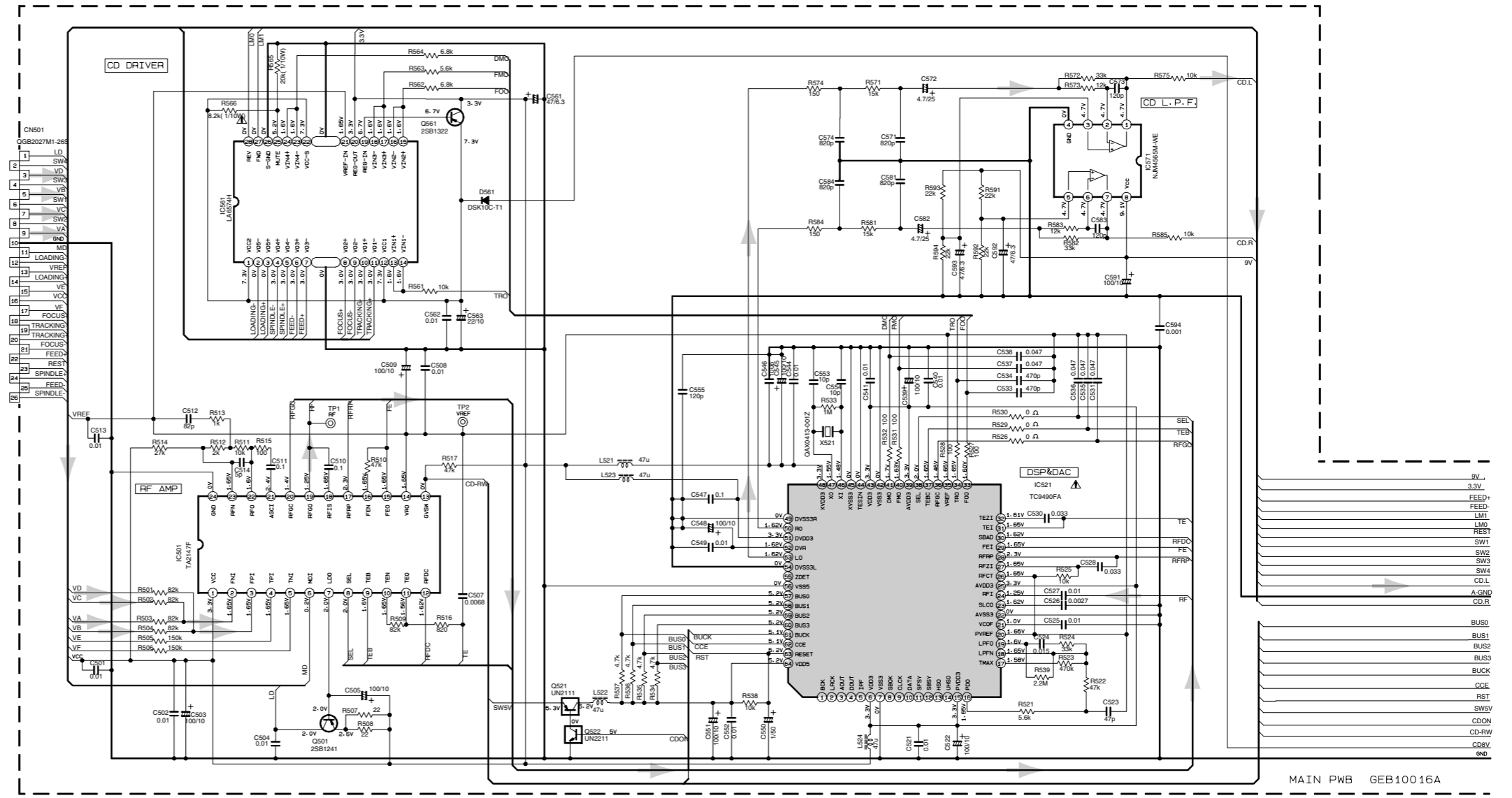
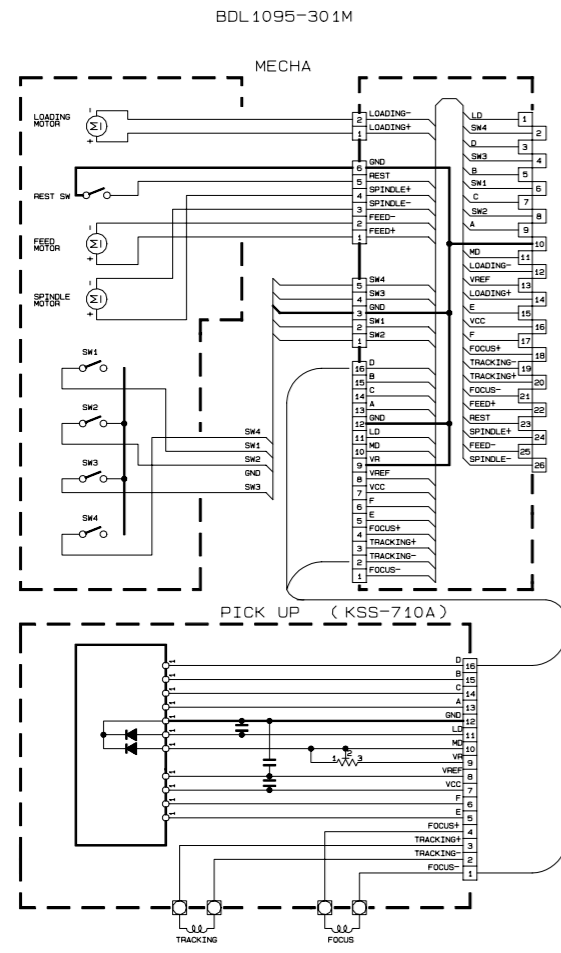
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4

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2

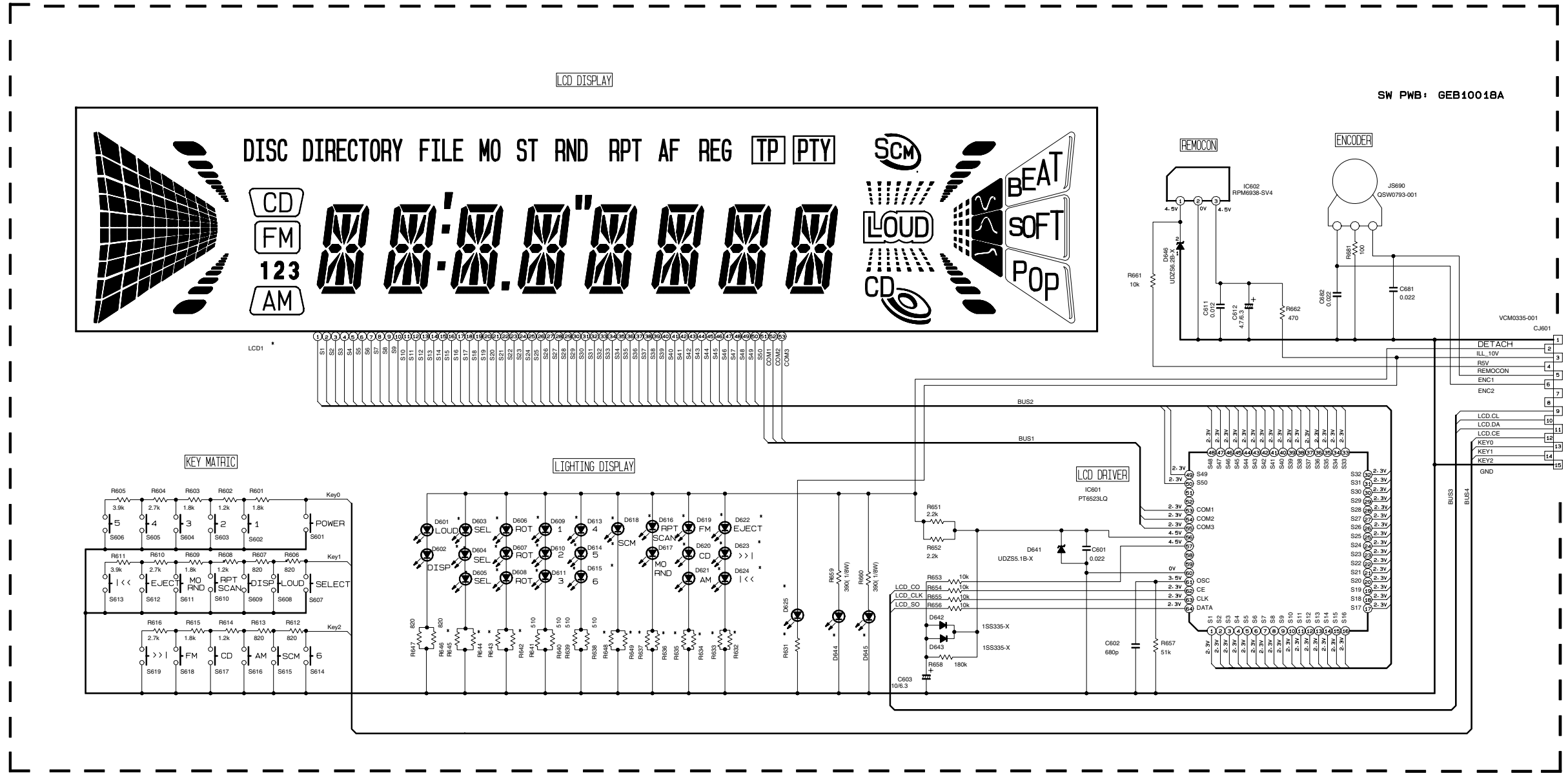
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- NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL CONDITION --- CD MODE.
 2. UNLESS OTHERWISE SPECIFIED, ALL RESISTOR ARE 1/16W ±5% METAL GLAZE RESISTOR. ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR. ALL RESISTANCE VALUES ARE IN OHM. ALL CAPACITANCE VALUES ARE IN UF(PpF) ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(UF)/RATED VOLTAGE(V)

▲ Parts are safety assurance parts. When replacing those parts make sure to use the specified one. → CD signal

■ LCD & key control section



*REMARKS

| MODEL | KD-S680J | KD-S7250J | KD-S700GNJ | KD-S700BUJ |
|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| LCD1 | QLD0216-001 | QLD0216-001 | QLD0216-001 | QLD0216-001 |
| D644 D645 | WHITE NSPW310BS/BRS/ | WHITE NSPW310BS/BRS/ | WHITE NSPW310BS/BRS/ | WHITE NSPW310BS/BRS/ |
| D601-D617 D619-D624 | SML-310VT/JK/-X | SML-310VT/JK/-X | LNJ308GB1/1-3/X | LNJ308GB1/1-3/X |
| D618 | LNJ308GB1/1-3/X | LNJ308GB1/1-3/X | SML-310VT/JK/-X | SML-310VT/JK/-X |
| D625 | SML-310LT/MN/-X | SML-310LT/MN/-X | SML-310LT/MN/-X | SML-310LT/MN/-X |
| R631 | 820 | 820 | 820 | 820 |
| R632 R633 | 1.8k | 1.8k | 1.2k | 1.2k |
| R634 R635 | 1.8k | 1.8k | 910 | 910 |
| R636 R637 | 1.8k | 1.8k | 510 | 510 |
| R642 R643 | 820 | 820 | 470 | 470 |
| R644 R645 | 1.8k | 1.8k | 820 | 820 |
| R648 | 680 | 680 | 1.8k | 1.8k |
| R649 | 820 | 820 | 1.8k | 1.8k |

NOTES

- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
- UNLESS OTHERWISE SPECIFIED:
ALL RESISTOR ARE 1/16W ±5% METAL GLAZE RESISTOR.
ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM.
ALL CAPACITANCE VALUES ARE IN uF(P+P)
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(uF)/RATED VOLTAGE(V)

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4

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A

B

C

2-4

D

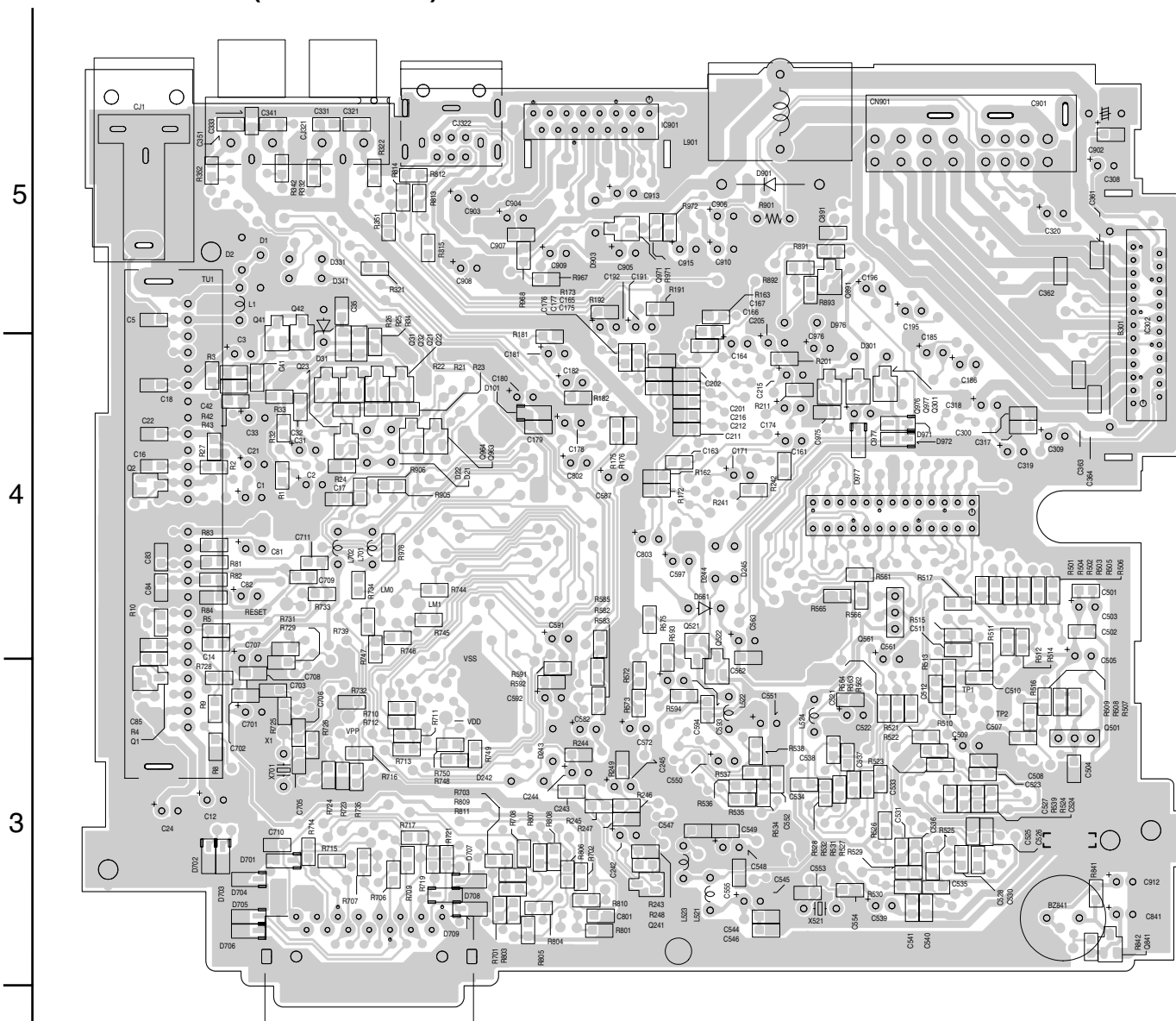
E

F

G

H

■ Main board(Reverse side)



■ Front board(Reverse side)

