

# JVC

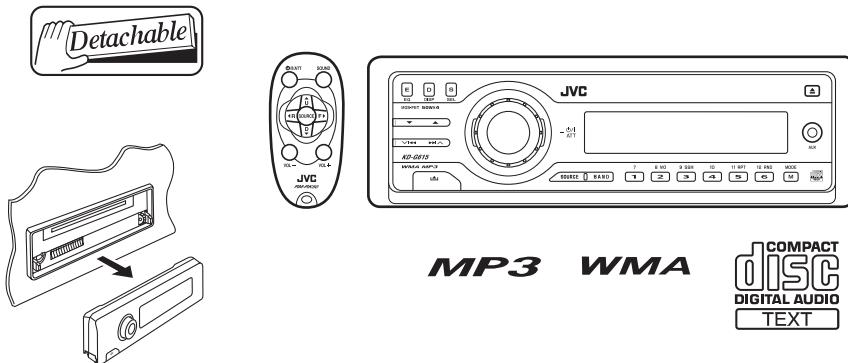
## SERVICE MANUAL

### CD RECEIVER

### KD-G615

#### Area suffix

UT	Taiwan
UH	Thailand
UN	Asean
U	Other Areas



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# SPECIFICATION

<b>AUDIO AMPLIFIER SECTION</b>		
Maximum Power Output	Front	50 W per channel
	Rear	50 W per channel
Continuous Power Output (RMS)	Front	19 W per channel into 4 Ω, 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion.
	Rear	19 W per channel into 4 Ω, 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion.
Load Impedance	4 Ω (4 Ω to 8 Ω allowance)	
Tone Control Range	Bass	±10 dB at 100 Hz
	Treble	±10 dB at 10 kHz
Frequency Response	40 Hz to 20 000 Hz	
Signal-to-Noise Ratio	70 dB	
Line-Out Level/Impedance	2.5 V/20 kΩ load (full scale)	
Output Impedance	1 kΩ	
Subwoofer-Out Level/Impedance	2.0 V/20 kΩ load (full scale)	
Other Terminals	CD changer, SUBWOOFER	
<b>TUNER SECTION</b>		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
	Capture Ratio	1.5 dB
AM Tuner	Sensitivity	20 μV
	Selectivity	35 dB
<b>CD PLAYER SECTION</b>		
Type	Compact disc player	
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Number of channels	2 channels (stereo)	
Frequency Response	5 Hz to 20 000 Hz	
Dynamic Range	96 dB	
Signal-to-Noise Ratio	98 dB	
Wow and Flutter	Less than measurable limit	
MP3 Decoding Format	MPEG1/2 Audio Layer 3 Max. Bit Rate : 320 kbps	
WMA (Windows Media Audio) Decoding Format	Max. Bit Rate : 192 kbps	
<b>GENERAL</b>		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System	Negative ground	
Allowable Operating Temperature	0°C to +40°C	
Dimensions (W × H × D)	Installation Size (approx.)	182 mm × 52 mm × 150 mm
	Panel Size (approx.)	188 mm × 58 mm × 11 mm
Mass (approx.)	1.5 kg (excluding accessories)	

Design and specifications are subject to change without notice.

## **SECTION 1**

### **PRECAUTIONS**

#### **1.1 Safety Precautions**



**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.

## 1.2 Preventing 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.

### 1.2.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players.

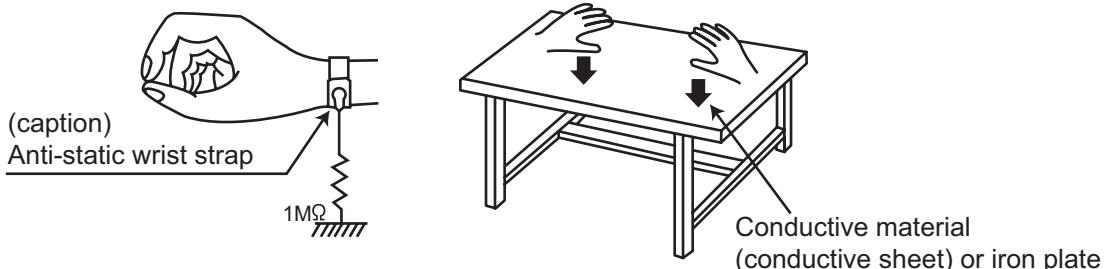
Be careful to use proper grounding in the area where repairs are being performed.

#### (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) Ground yourself

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



#### (3) Handling the optical pickup

- 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.)
- 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.

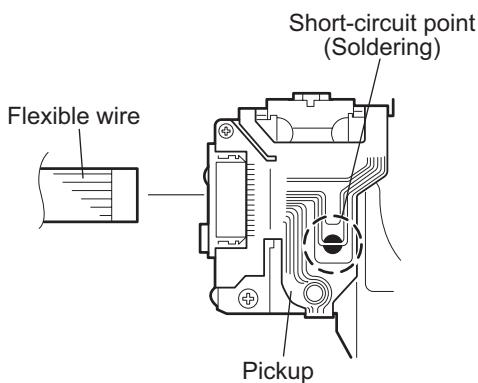
## 1.3 Handling the traverse unit (optical pickup)

- Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
- 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.
- Handle the flexible cable carefully as it may break when subjected to strong force.
- It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

## 1.4 Attention when traverse unit is decomposed

\*Please refer to "Disassembly method" in the text for the CD pickup unit.

- Apply solder to the short land before the flexible wire is disconnected from the connector on the CD pickup unit.  
(If the flexible wire is disconnected without applying solder, the CD pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land after connecting the flexible wire.



## 1.5 Important for laser products

### 1.CLASS 1 LASER PRODUCT

**2.DANGER :** Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.

**3.CAUTION :** There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

**4.CAUTION :** The CD,MD and DVD player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

**5.CAUTION :** If safety switches malfunction, the laser is able to function.

**6.CAUTION :** Use of controls, adjustments or performance of procedures other than those specified here in may result in hazardous radiation exposure.



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

**CAUTION** : Visible and invisible laser radiation when open and interlock failed or defeated.

AVOID DIRECT EXPOSURE TO BEAM.

**ADVARSEL** : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling.

**VARNING** : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen.

**VARO** : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi.

## REPRODUCTION AND POSITION OF LABELS

### WARNING LABEL

CLASS 1  
LASER PRODUCT

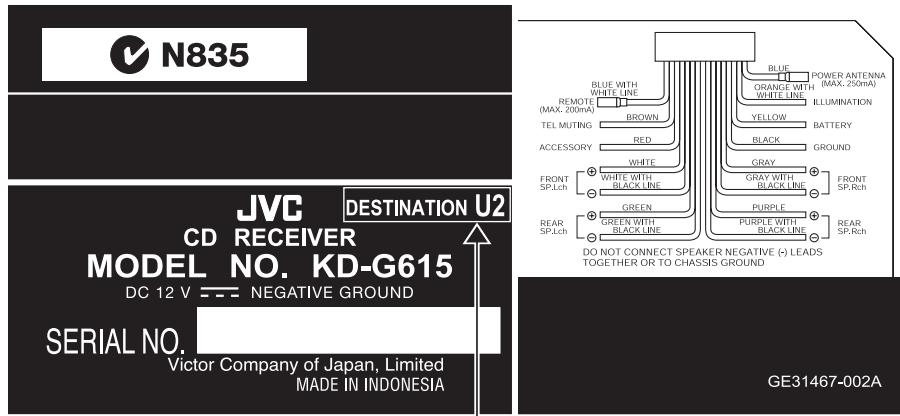
CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling. (d)	VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)	VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)
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## SECTION 2

### SPECIFIC SERVICE INSTRUCTIONS

#### 2.1 HOW TO IDENTIFY MODELS

##### 2.1.1 NAME PLATE



Discernment sign

## SECTION 3 DISASSEMBLY

### 3.1 Main body

#### 3.1.1 Removing the front panel assembly (See Fig.1)

- (1) Push the detach button in the lower right part of the front panel assembly and remove the front panel assembly.
- (2) Take out the front panel assembly.

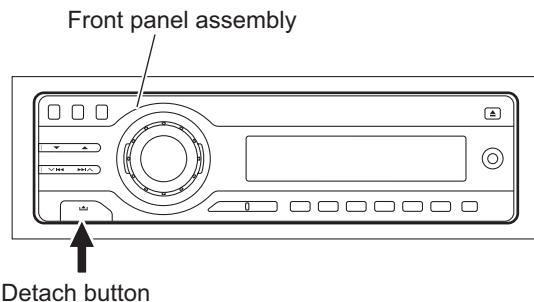


Fig.1

#### 3.1.2 Removing the bottom cover (See Fig.2)

- (1) Turn the main body up side down.
- (2) Insert a screwdriver under the joints to release the two joints **a** on the left side, two joints **b** on the right side and joint **c** on the back side of the main body, then remove the bottom cover from the main body.

**CAUTION:**

When releasing the joints using a screwdriver, do not damage the main board.

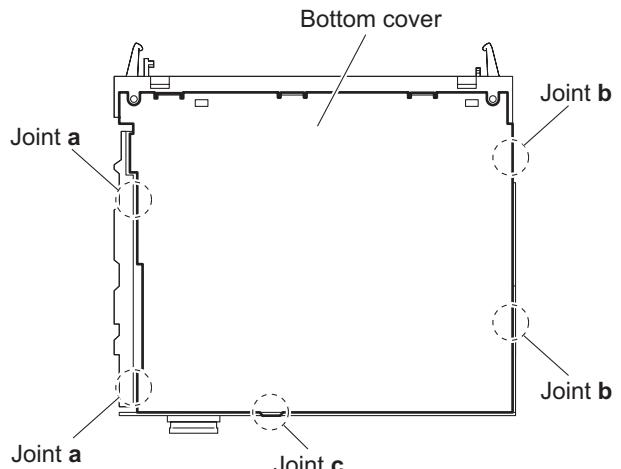


Fig.2

### 3.1.3 Removing the front chassis assembly

(See Figs.3 and 4)

- Prior to performing the following procedures, remove the front panel assembly and bottom cover.
- (1) Remove the two screws **A** on the both sides of the main body. (See Fig.3)
- (2) Remove the two screws **B** on the front side of the main body. (See Fig.4)
- (3) Release the two joints **d** and two joints **e** on the both sides of the main body, then remove the front chassis assembly forward. (See Fig.3)

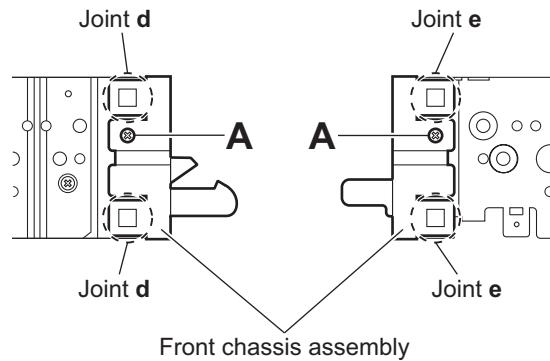


Fig.3

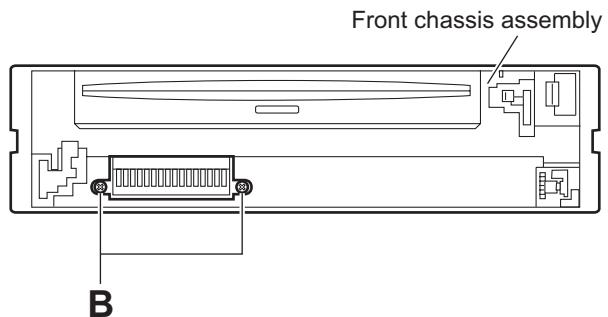


Fig.4

### 3.1.4 Removing the side panel

(See Fig.5)

#### Reference:

Remove the front panel assembly as required. (Refer to "3.1.1 Removing front panel assembly")

- (1) Remove the two screws **C** and screw **D** attaching the side panel on the left side of the main body.
- (2) Take out the side panel from the main body.

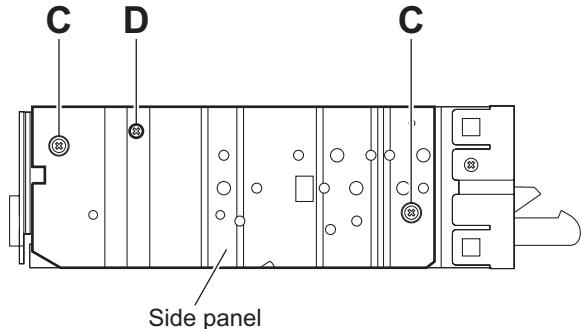


Fig.5

### 3.1.5 Removing the rear bracket

(See Fig.6)

- Prior to performing the following procedure, remove the bottom cover.
- (1) Remove the three screws **E**, three screws **F** and three screws **G** attaching the rear bracket on the back side of the main body.
- (2) Take out the rear bracket.

**Reference:**

When attaching the rear bracket to the main body, insert the subwoofer output into the slot of the rear bracket.

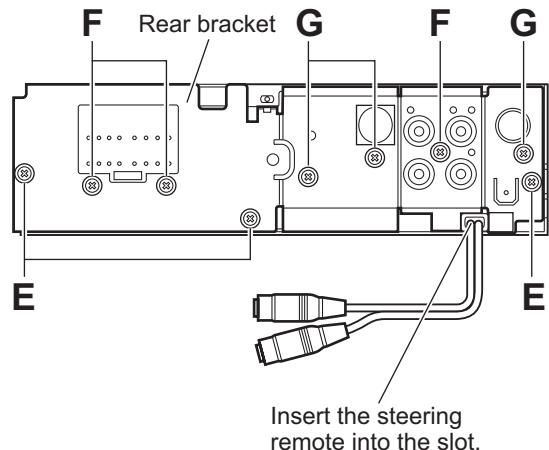


Fig.6

### 3.1.6 Removing the main board

(See Fig.7)

- Prior to performing the following procedure, remove the front panel assembly, front chassis assembly, side panel, bottom cover and rear bracket.
- (1) Remove the two screws **H** attaching the main board.
- (2) Disconnect the connector [CN501](#) and take out the main board.

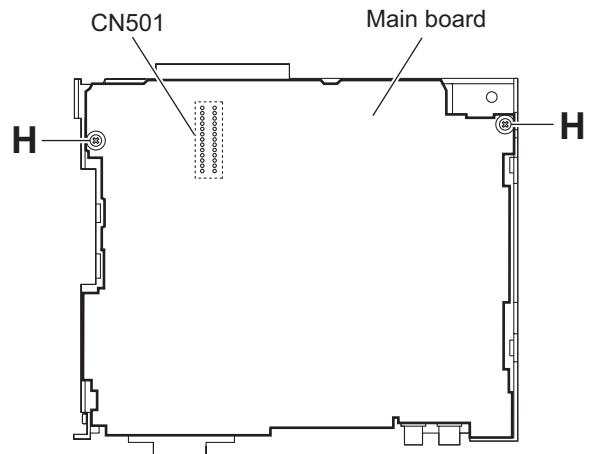


Fig.7

### 3.1.7 Removing the CD mecha control board

(See Fig.8)

- Prior to performing the following procedure, remove the front panel assembly, front chassis assembly, side panel, bottom cover, rear bracket and main board.
- (1) Disconnect the card wire from the connector [CN601](#) on the CD mecha control board.
- (2) Remove the five screws **J** attaching the CD mecha control board.
- (3) Release the claw **f**, and take out the CD mecha control board.

**Reference:**

When attaching the CD mecha control board, attach it to the claw **f** and pass the slot **g** of it into the boss of the CD mechanism assembly.

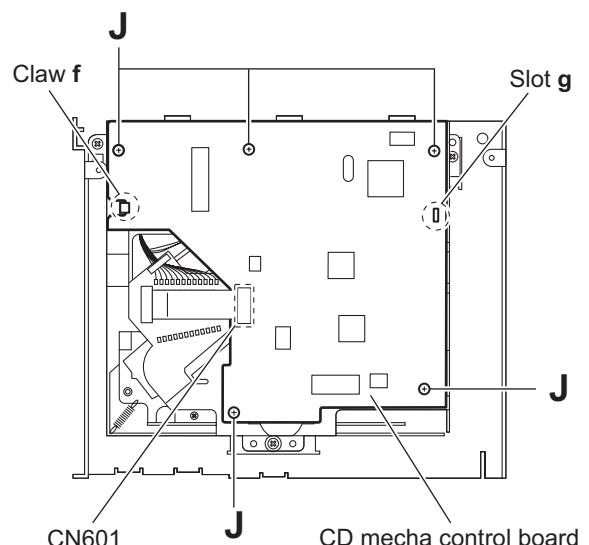


Fig.8

### 3.1.8 Removing the CD mechanism assembly

(See Fig.9)

- Prior to performing the following procedure, remove the front panel assembly, front chassis assembly, side panel, bottom cover, rear bracket, main board and CD mecha control board.
- (1) Remove the three screws **K** attaching the top chassis.
- (2) Take out the CD mechanism assembly.

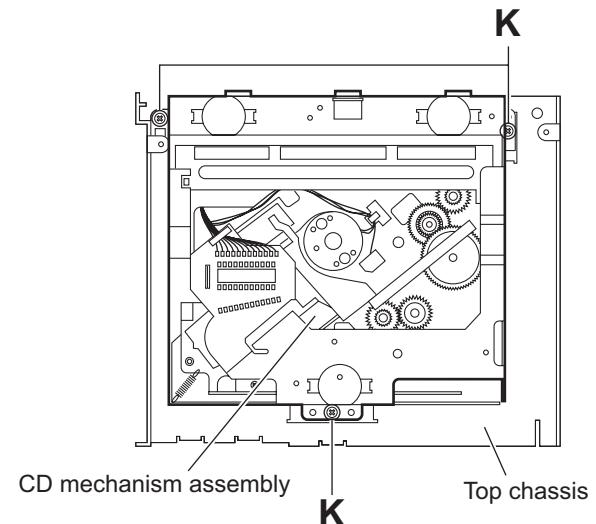


Fig.9

### 3.1.9 Removing the switch board

(See Figs.10 to 12)

- Prior to performing the following procedure, remove the front panel assembly.
- (1) Remove the five screws **L** attaching the front panel assembly. (See Fig.10)
- (2) Release the nine joints **h**, and take out the rear cover. (See Fig.11)
- (3) Release the joint **i**, and take out the switch board. (See Fig.12)

**Note:**

When removing the rear cover assembly and switch board, be careful not to lose the compression spring and comp. spring. (See Fig.12)

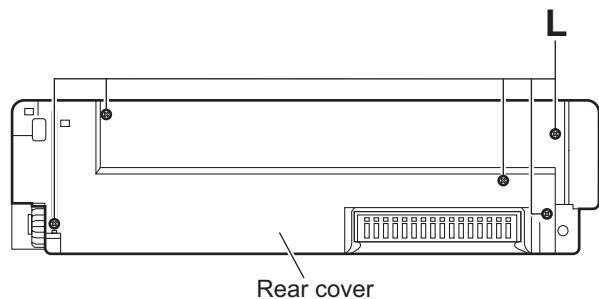


Fig.10

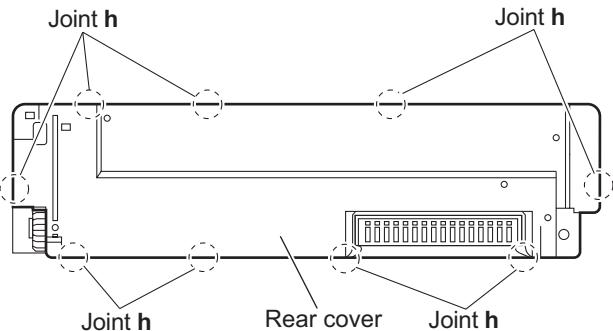


Fig.11

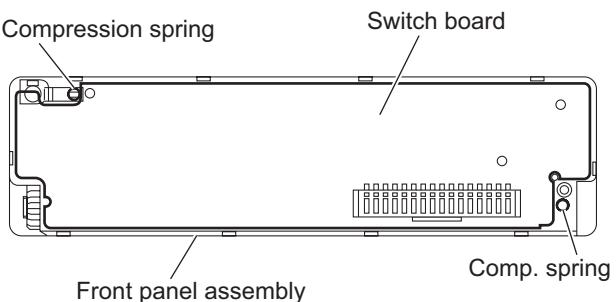


Fig.12

### 3.2 CD Mechanism section

#### 3.2.1 Removing the top cover (See Figs.1 and 2)

- (1) Remove the four screws **A** on the both side of the body.
- (2) Lift the front side of the top cover and move the top cover backward to release the two joints **a**.

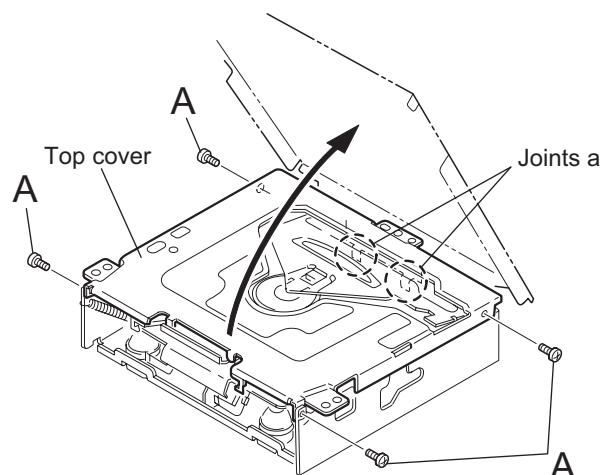


Fig.1

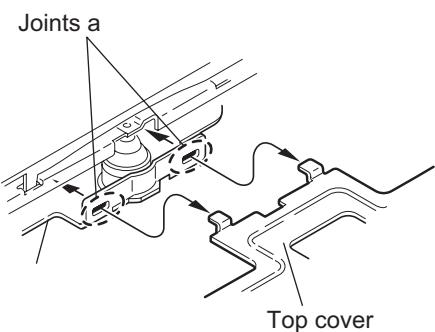


Fig.2

### 3.2.2 Removing the connector board

(See Figs.3 to 5)

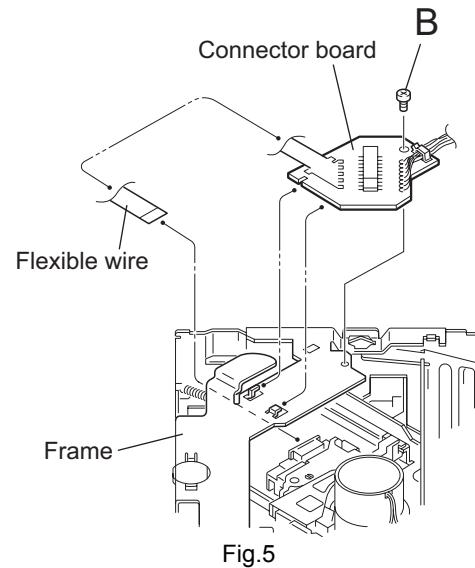
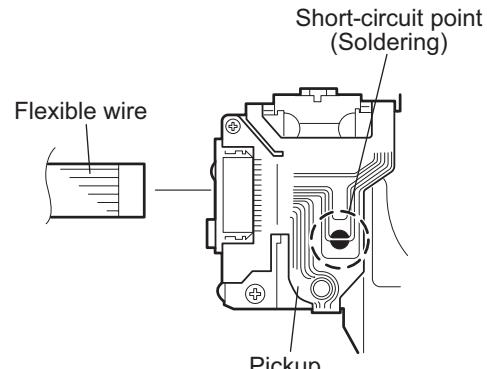
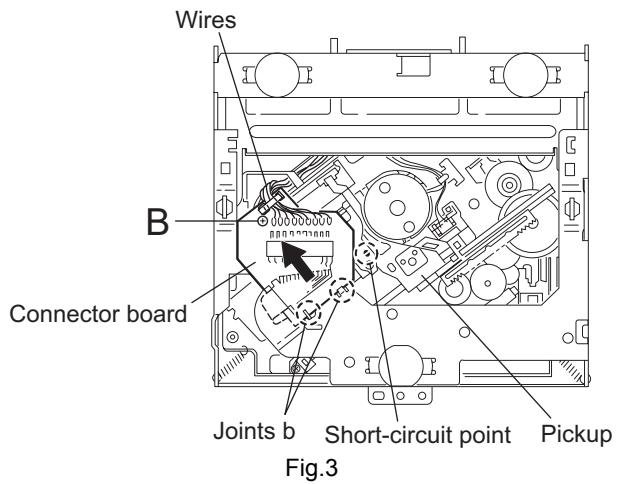
#### CAUTION:

Before disconnecting the flexible wire from the pickup, solder the short-circuit point on the pickup. No observance of this instruction may cause damage of the pickup.

- (1) Remove the screw **B** fixing the connector board.
- (2) Solder the short-circuit point on the pickup.
- (3) Disconnect the flexible wire from the pickup.
- (4) Move the connector board in the direction of the arrow to release the two joints **b**.
- (5) Unsolder the wires on the connector board if necessary.

#### CAUTION:

Unsolder the short-circuit point after reassembling.



### 3.2.3 Removing the DET switch

(See Figs.6 and 7)

- (1) Extend the two tabs c of the feed sw. holder and pull out the switch.
- (2) Unsolder the DET switch wire if necessary.

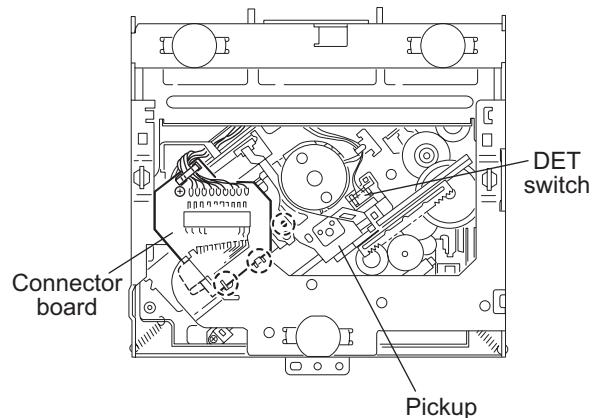


Fig.6

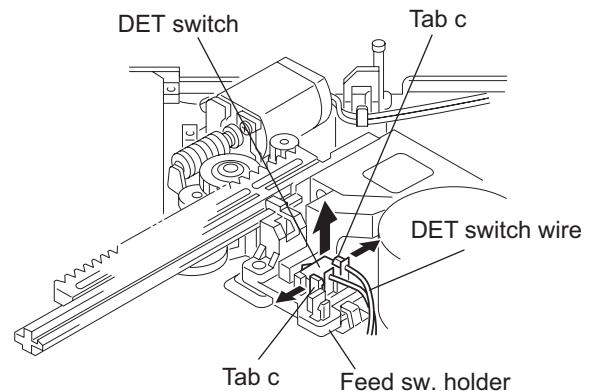


Fig.7

### 3.2.4 Removing the chassis unit

(See Figs.8 and 9)

- Prior to performing the following procedure, remove the top cover and connector board.
- (1) Remove the two suspension springs (L) and (R) attaching the chassis unit to the frame.

**CAUTION:**

- The shape of the suspension spring (L) and (R) are different. Handle them with care.
- When reassembling, make sure that the three shafts on the underside of the chassis unit are inserted to the dampers certainly.

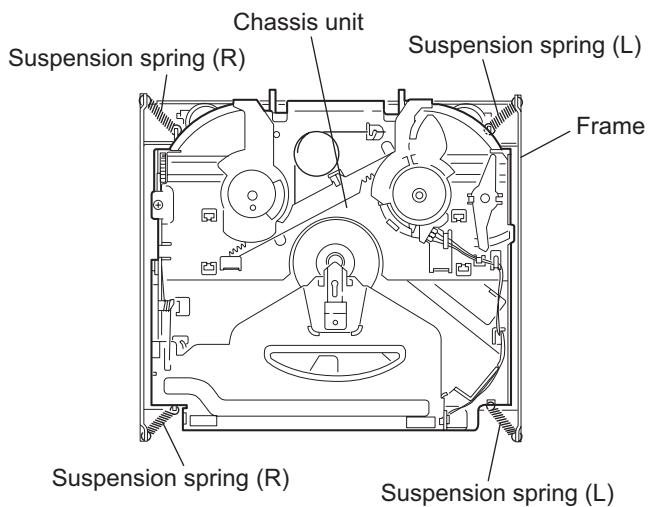


Fig.8

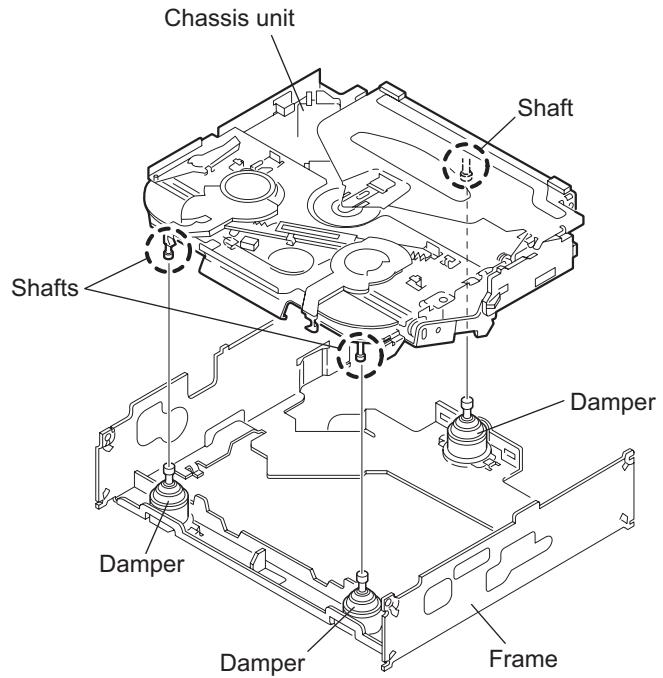


Fig.9

### 3.2.5 Removing the clamper assembly

(See Figs.10 and 11)

- Prior to performing the following procedure, remove the top cover.
- (1) Remove the clamper arm spring.
- (2) Move the clamper assembly in the direction of the arrow to release the two joints d.

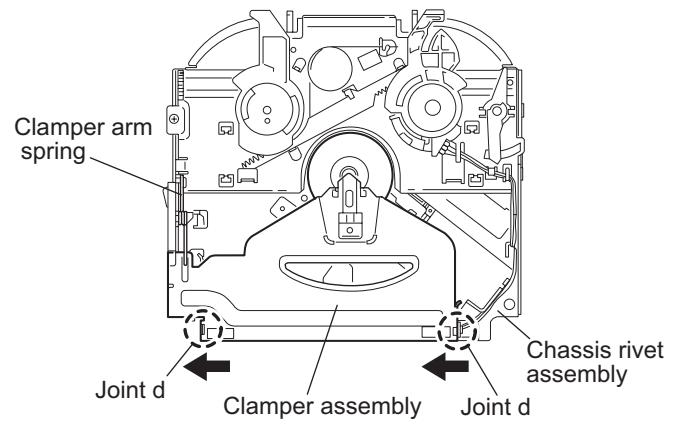


Fig.10

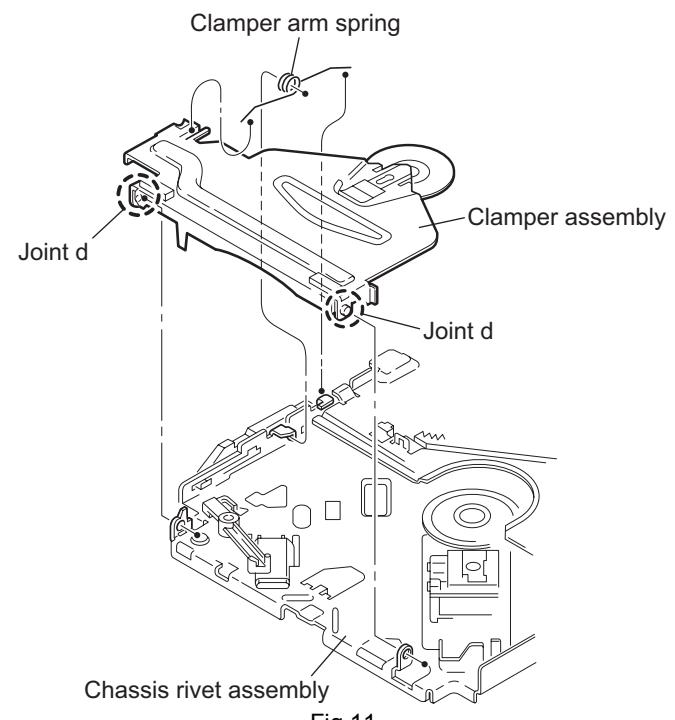


Fig.11

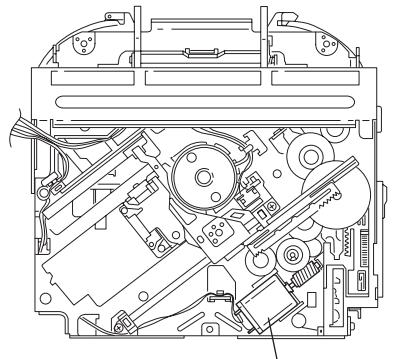
### 3.2.6 Removing the loading / feed motor assembly

(See Figs.12 and 13)

- Prior to performing the following procedure, remove the top cover, connector board and chassis unit.
- (1) Remove the screw **C** and move the loading / feed motor assembly in the direction of the arrow to remove it from the chassis rivet assembly.
- (2) Disconnect the wire from the loading / feed motor assembly if necessary.

**CAUTION:**

When reassembling, connect the wire from the loading / feed motor assembly to the flame as shown in Fig.12.



Loading / feed motor assembly  
Fig.12

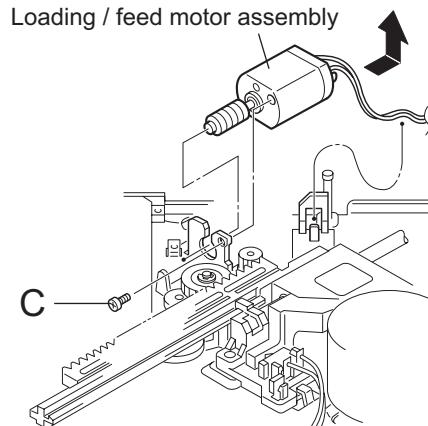


Fig.13

### 3.2.7 Removing the pickup unit

(See Figs.14 to 18)

- Prior to performing the following procedure, remove the top cover, connector board and chassis unit.
- (1) Remove the screw **D** and pull out the pu. shaft holder from the pu. shaft.
- (2) Remove the screw **E** attaching the feed sw. holder.
- (3) Move the part **e** of the pickup unit upward with the pu. shaft and the feed sw. holder, then release the joint **f** of the feed sw. holder in the direction of the arrow. The joint **g** of the pickup unit and the feed rack is released, and the feed sw. holder comes off.
- (4) Remove the pu. shaft from the pickup unit.
- (5) Remove the screw **F** attaching the feed rack to the pickup unit.

### 3.2.8 Reattaching the pickup unit

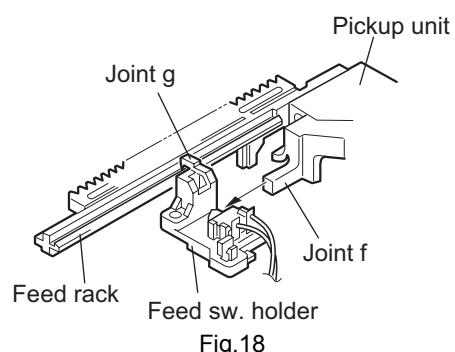
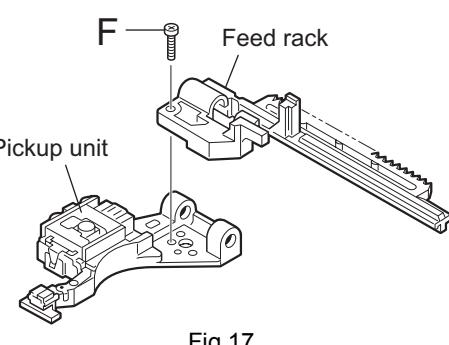
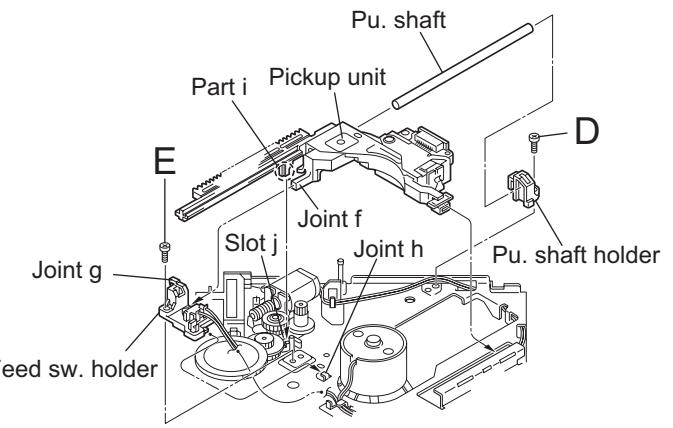
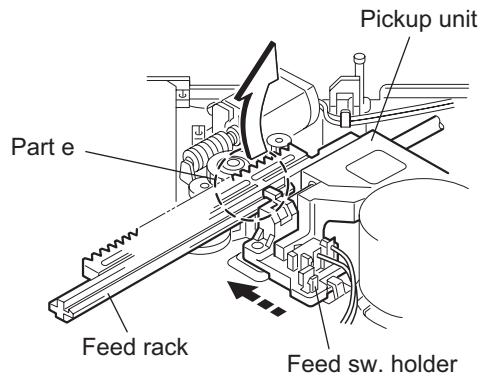
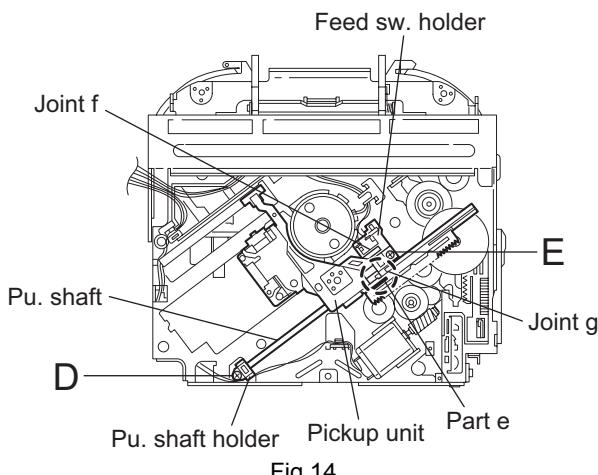
(See Figs.14 to 17)

- (1) Reattach the feed rack to the pickup unit using the screw **F**.
- (2) Reattach the feed sw. holder to the feed rack while setting the joint **g** to the slot of the feed rack and setting the joint **f** of the feed rack to the switch of the feed sw. holder correctly.
- (3) As the feed sw. holder is temporarily attached to the pickup unit, set to the gear of the joint **g** and to the bending part of the chassis (joint **h**) at a time.

#### CAUTION:

Make sure that the part **i** on the underside of the feed rack is certainly inserted to the slot **j** of the change lock lever.

- (4) Reattach the feed sw. holder using the screw **E**.
- (5) Reattach the pu. shaft to the pickup unit. Reattach the pu. shaft holder to the pu. shaft using the screw **D**.



### 3.2.9 Removing the trigger arm

(See Figs.19 and 20)

- Prior to performing the following procedure, remove the top cover, connector board and clamper unit.
- (1) Turn the trigger arm in the direction of the arrow to release the joint **k** and pull out upward.

**CAUTION:**

When reassembling, insert the part m and n of the trigger arm into the part p and q at the slot of the chassis rivet assembly respectively and join the joint **k** at a time.

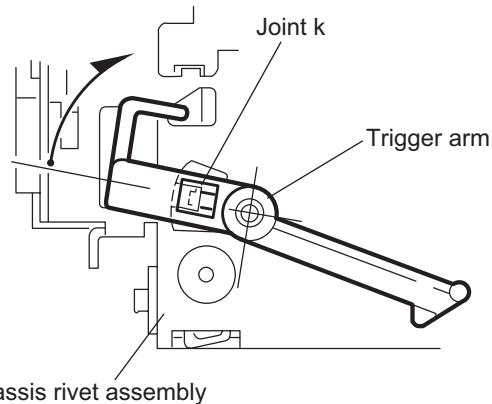


Fig.19

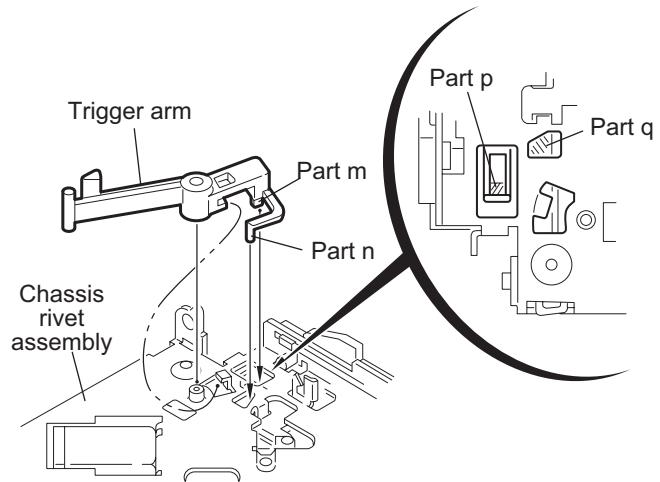


Fig.20

### 3.2.10 Removing the top plate assembly

(See Fig.21)

- Prior to performing the following procedure, remove the top cover, connector board, chassis unit, and clamper assembly.
- (1) Remove the screw **H**.
- (2) Move the top plate assembly in the direction of the arrow to release the two joints **r**.
- (3) Unsolder the wire marked **s** if necessary.

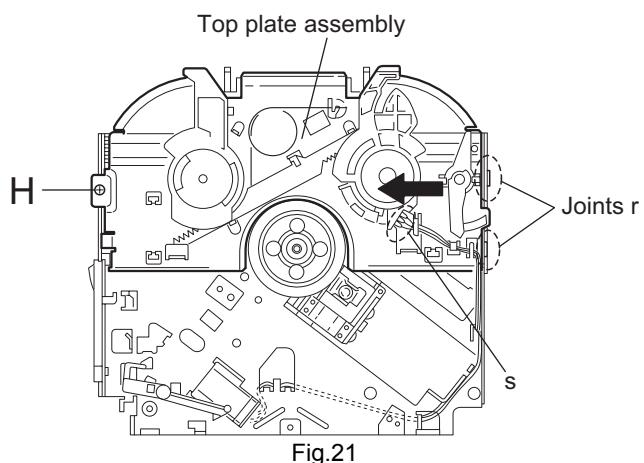


Fig.21

### 3.2.11 Removing the mode sw. / select lock arm

(See Figs.22 and 23)

- Prior to performing the following procedure, remove the top plate assembly.
  - Bring up the mode sw. to release from the link plate (joint t) and turn in the direction of the arrow to release the joint u.
  - Unsolder the wire of the mode sw. marked s if necessary.
  - Turn the select lock arm in the direction of the arrow to release the two joints v.
  - The select lock arm spring comes off the select lock arm at the same time.

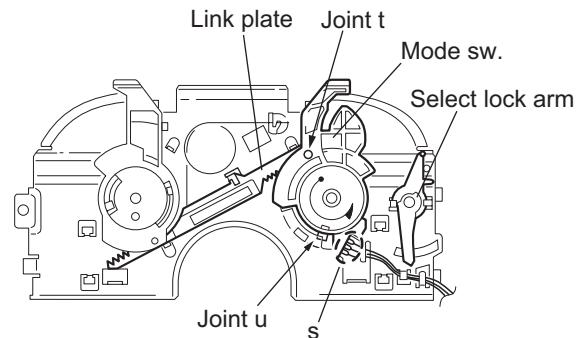


Fig.22

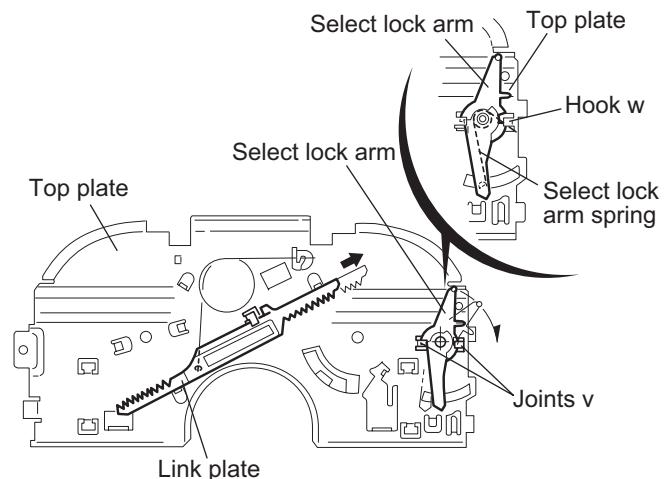


Fig.23

### 3.2.12 Reassembling the mode sw. / select lock arm (See Figs.24 to 26)

#### REFERENCE:

Reverse the above removing procedure.

- (1) Reattach the select lock arm spring to the top plate and set the shorter end of the select lock arm spring to the hook w on the top plate.
- (2) Set the other longer end of the select lock arm spring to the boss x on the underside of the select lock arm, and join the select lock arm to the slots (joint v). Turn the select lock arm as shown in the figure.
- (3) Reattach the mode sw. while setting the part t to the first peak of the link plate gear, and join the joint u.

#### CAUTION:

When reattaching the mode sw., check if the points y and z are correctly fitted and if each part operates properly.

Select lock arm spring

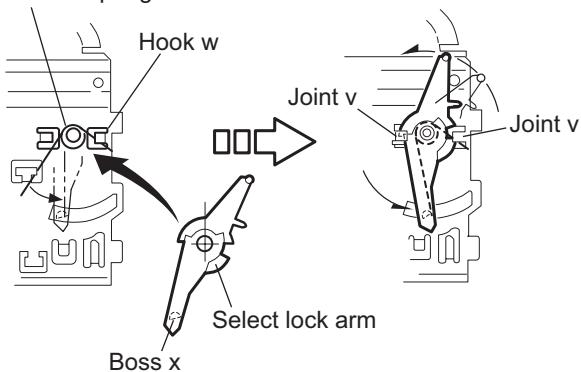


Fig.24

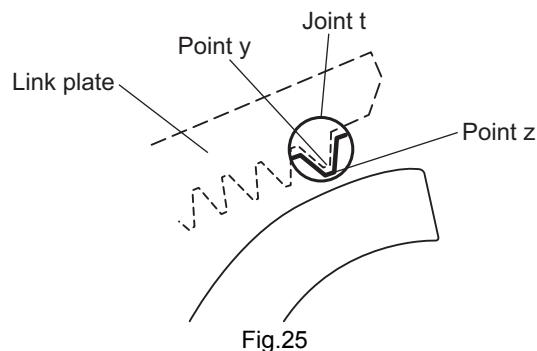


Fig.25

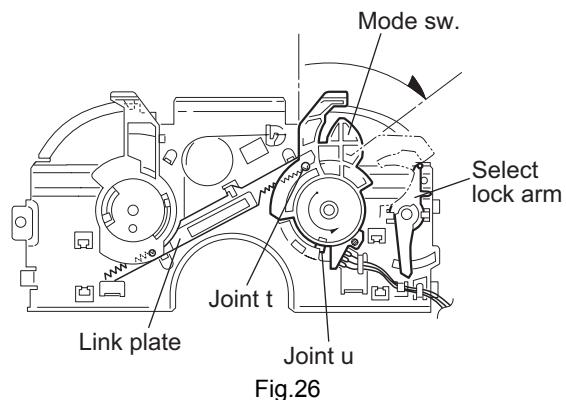


Fig.26

### 3.2.13 Removing the select arm R / link plate

(See Figs.27 and 28)

- Prior to performing the following procedure, remove the top plate assembly.
- (1) Bring up the select arm R to release from the link plate (joint a') and turn as shown in the figure to release the two joints b' and joint c'.
- (2) Move the link plate in the direction of the arrow to release the joint d'. Remove the link plate spring at the same time.

**REFERENCE:**

Before removing the link plate, remove the mode sw..

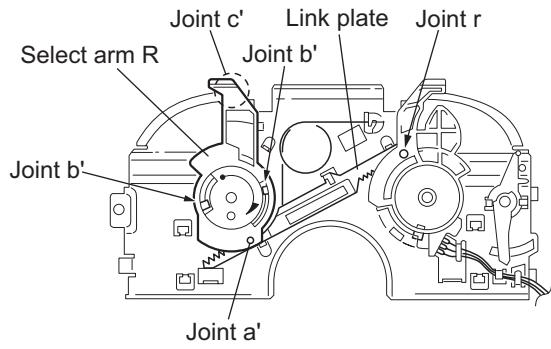


Fig.27

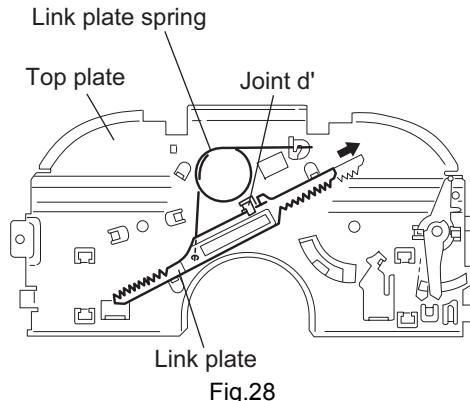


Fig.28

### 3.2.14 Reattaching the Select arm R / link plate

(See Figs.29 and 30)

**REFERENCE:**

Reverse the above removing procedure.

- Reattach the link plate spring.
- Reattach the link plate to the link plate spring while joining them at joint d'.
- Reattach the joint a' of the select arm R to the first peak of the link plate while joining the two joints b' with the slots. Then turn the select arm R as shown in the figure. The top plate is joined to the joint c'.

**CAUTION:**

When reattaching the select arm R, check if the points e' and f' are correctly fitted and if each part operates properly.

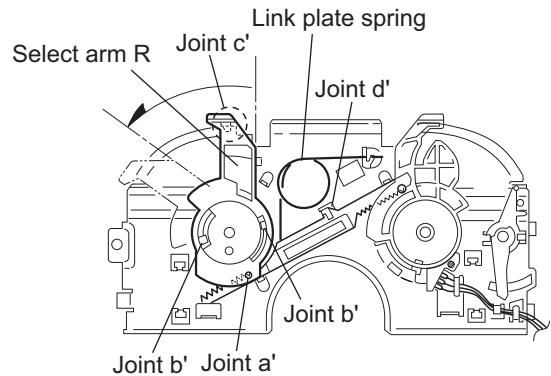


Fig.29

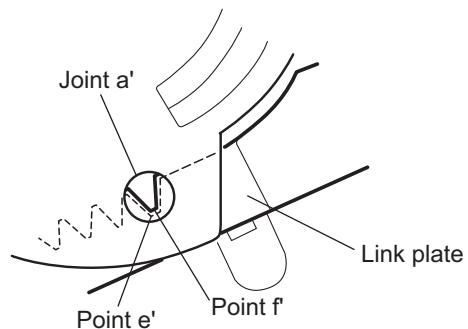


Fig.30

### 3.2.15 Removing the loading roller assembly

(See Figs.31 to 33)

- Prior to performing the following procedure, remove the clamper assembly and top plate assembly.
- (1) Push inward the loading roller assembly on the gear side and detach it upward from the slot of the joint **g'** of the lock arm rivet assembly.
- (2) Detach the loading roller assembly from the slot of the joint **h'** of the lock arm rivet assembly.

The roller guide comes off the gear section of the loading roller assembly.

Remove the roller guide and the HL washer from the shaft of the loading roller assembly.

- Remove the screw **J** attaching the lock arm rivet assembly.
- Push the shaft at the joint **i'** of the lock arm rivet assembly inward to release the lock arm rivet assembly from the slot of the L side plate.
- Extend the lock arm rivet assembly outward and release the joint **j'** from the boss of the chassis rivet assembly. The roller guide springs on both sides come off at the same time.

#### CAUTION:

When reassembling, reattach the left and right roller guide springs to the lock arm rivet assembly before reattaching the lock arm rivet assembly to the chassis rivet assembly. Make sure to fit the part **k'** of the roller guide spring inside of the roller guide. (Refer to Fig.34.)

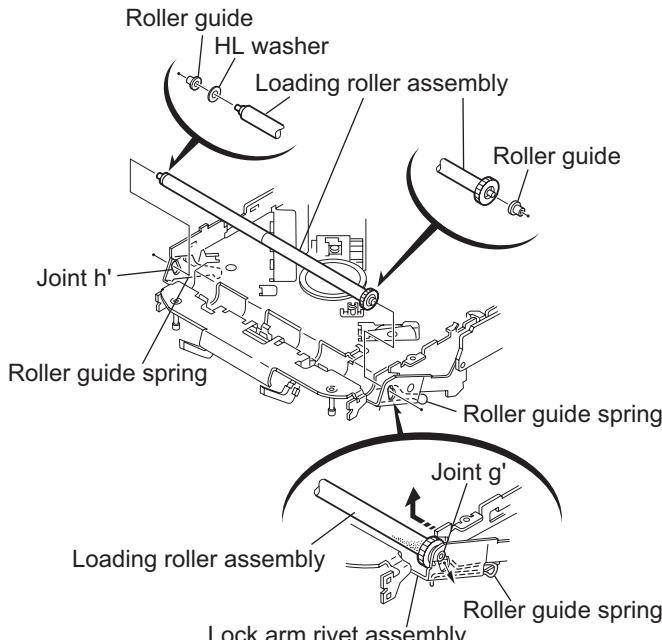


Fig.31

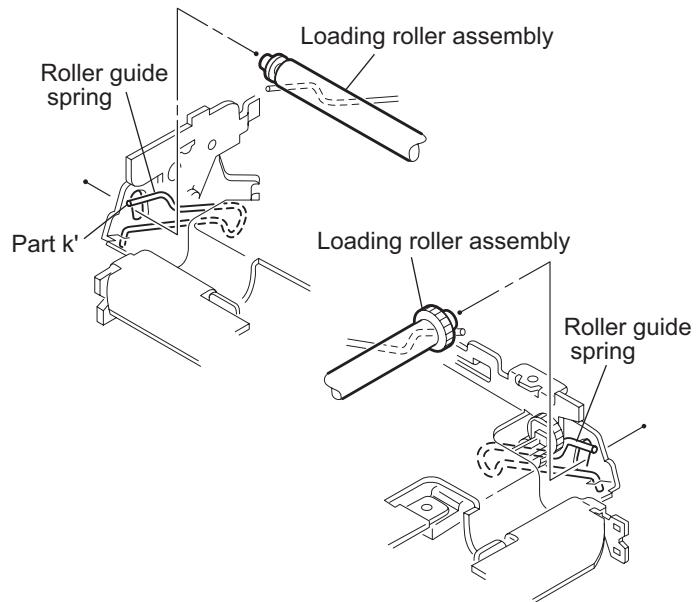


Fig.32

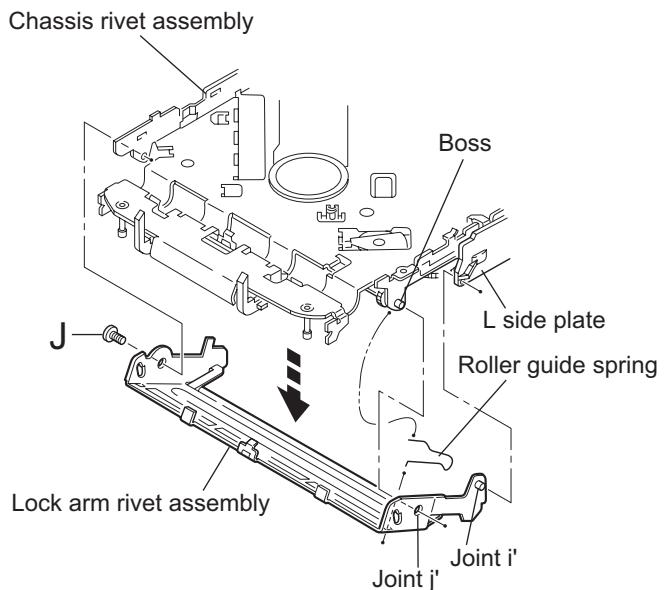


Fig.33

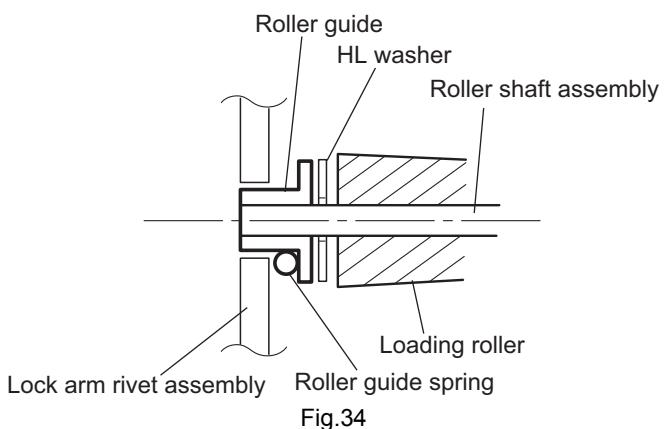


Fig.34

### 3.2.16 Removing the loading gear 5, 6 and 7

(See Figs.35 and 36)

- Prior to performing the following procedure, remove the top cover, chassis unit, pickup unit and top plate assembly.
- (1) Remove the screw K attaching the loading gear bracket. The loading gear 6 and 7 come off the loading gear bracket.
- (2) Pull out the loading gear 5.

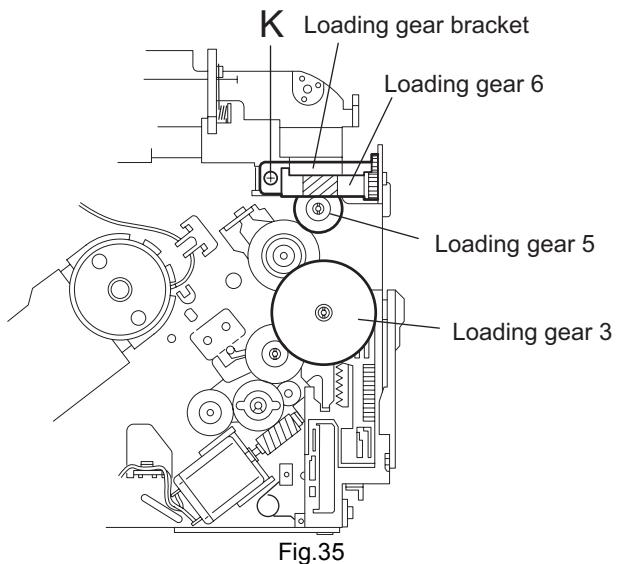


Fig.35

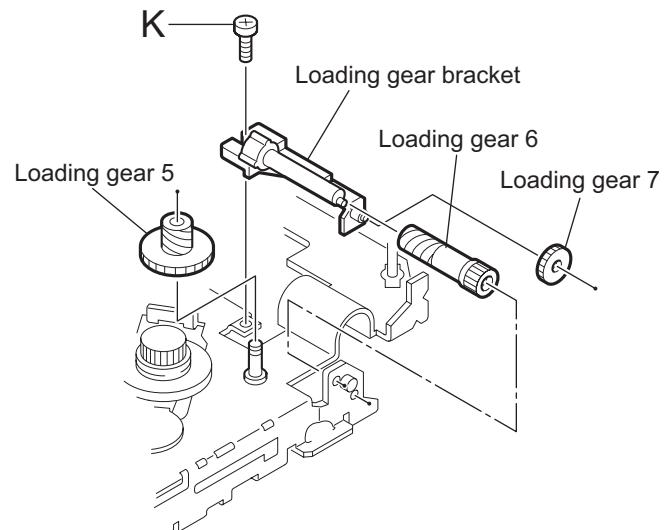


Fig.36

### 3.2.17 Removing the gears

(See Figs.37 to 40)

- Prior to performing the following procedure, remove the top cover, chassis unit, top plate assembly and pickup unit.
- Pull out the loading gear 3. (See Fig.35.)
- (1) Pull out the feed gear.
- (2) Move the loading plate assembly in the direction of the arrow to release the L side plate from the two slots m' of the chassis rivet assembly. (See Fig.37.)
- (3) Detach the loading plate assembly upward from the chassis rivet assembly while releasing the joint n'. Remove the slide hook and loading plate spring from the loading plate assembly.
- (4) Pull out the loading gear 2 and remove the change lock lever.
- (5) Remove the E ring and washer attaching the change gear 2.
- (6) The change gear 2, change gear spring and adjusting washer come off.
- (7) Remove the loading gear 1.
- (8) Move the change plate rivet assembly in the direction of the arrow to release from the three shafts of the chassis rivet assembly upward. (See Fig.38.)
- (9) Detach the loading gear plate rivet assembly from the shaft of the chassis rivet assembly upward while releasing the joint p'. (See Figs.38 and 40.)
- (10) Pull out the loading gear 4.

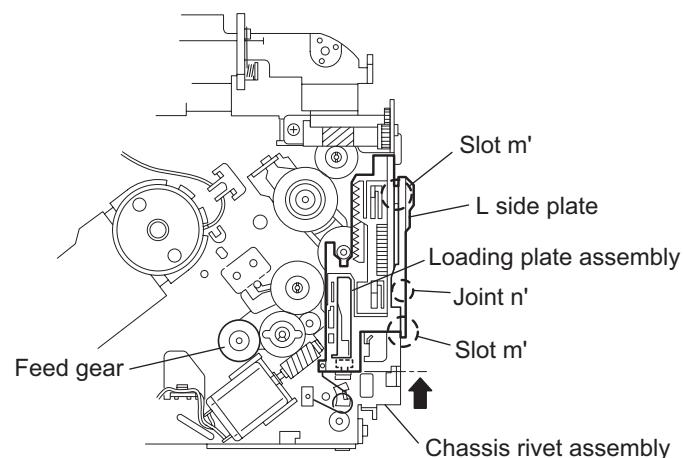


Fig.37

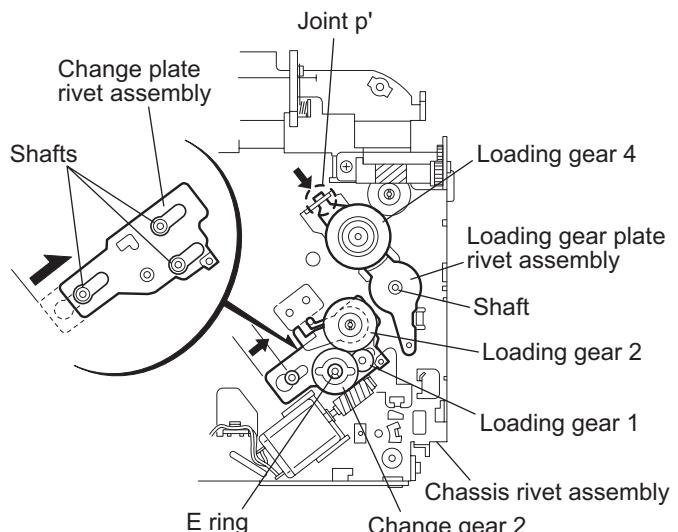


Fig.38

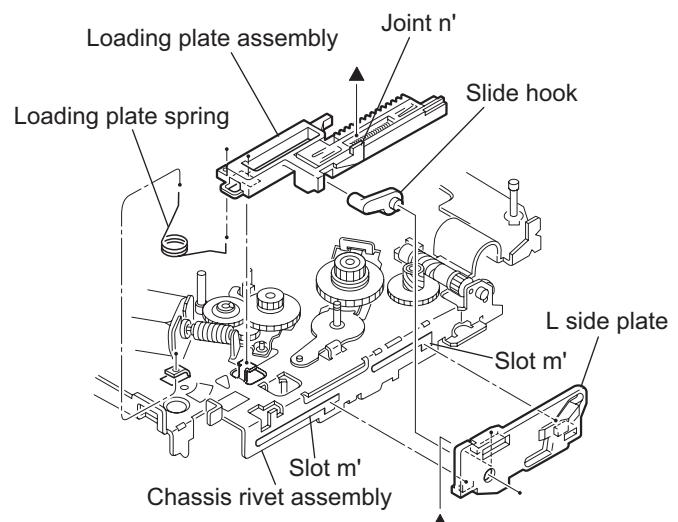


Fig.39

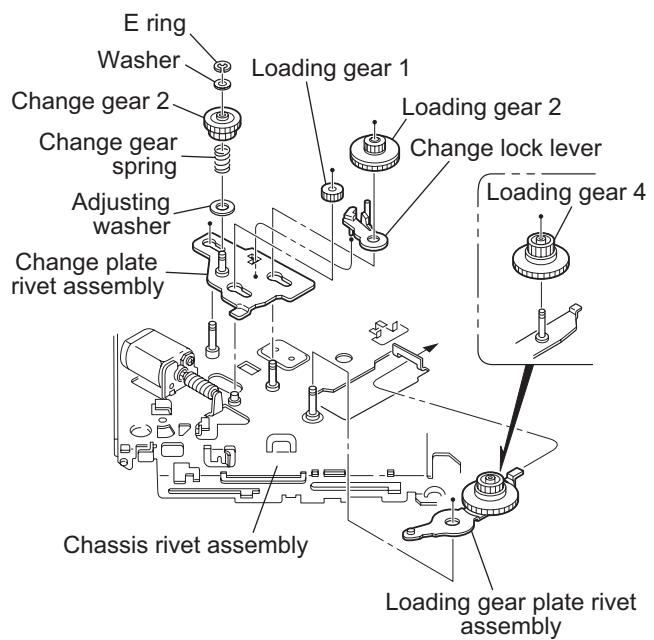


Fig.40

### 3.2.18 Removing the turn table / spindle motor

(See Figs.41 and 42)

- Prior to performing the following procedure, remove the top cover, connector board, chassis unit and clamper assembly.
- (1) Remove the two screws **L** attaching the spindle motor assembly through the slot of the turn table on top of the body.
- (2) Unsolder the wire on the connector board if necessary.

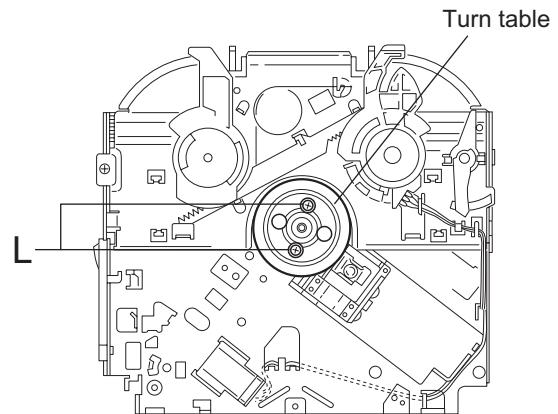


Fig.41

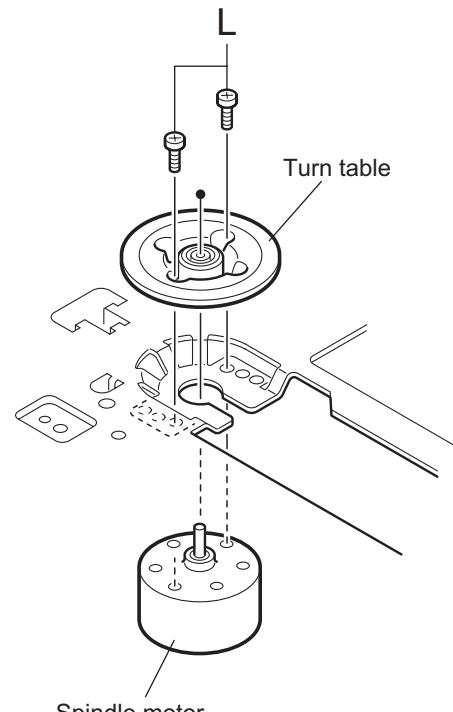


Fig.42

## SECTION 4 ADJUSTMENT

### 4.1 Adjustment method

#### ■ Test instruments required for adjustment

- (1) Digital oscilloscope (100MHz)
- (2) Electric voltmeter
- (3) Digital tester
- (4) Tracking offset meter
- (5) Test Disc JVC :CTS-1000
- (6) Extension cable for check  
EXTSH002-22P × 1

#### ■ Standard volume position

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

#### ■ How to connect the extension cable for adjusting

##### Caution:

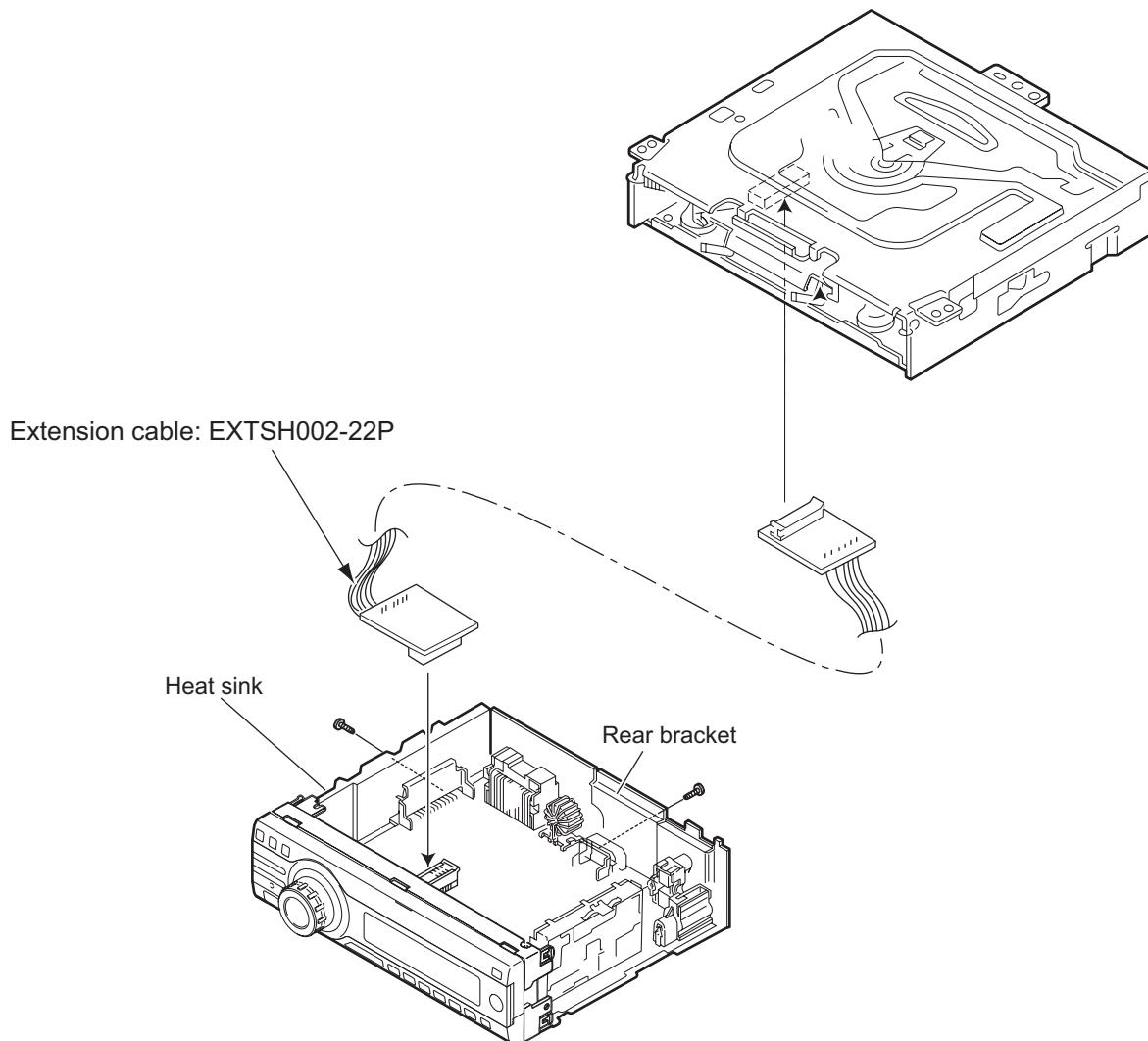
Be sure to attach the heat sink and rear bracket onto the power amplifier IC and regulator IC respectively, before supply the power. If voltage is applied without attaching these parts, the power amplifier IC and regulator IC will be destroyed by heat.

#### ■ Standard measuring conditions

Power supply voltage DC14.4V(11 to 16V)  
Load impedance 20KΩ(2 Speakers connection)  
Output Level Line out 2.5V (Vol. MAX)

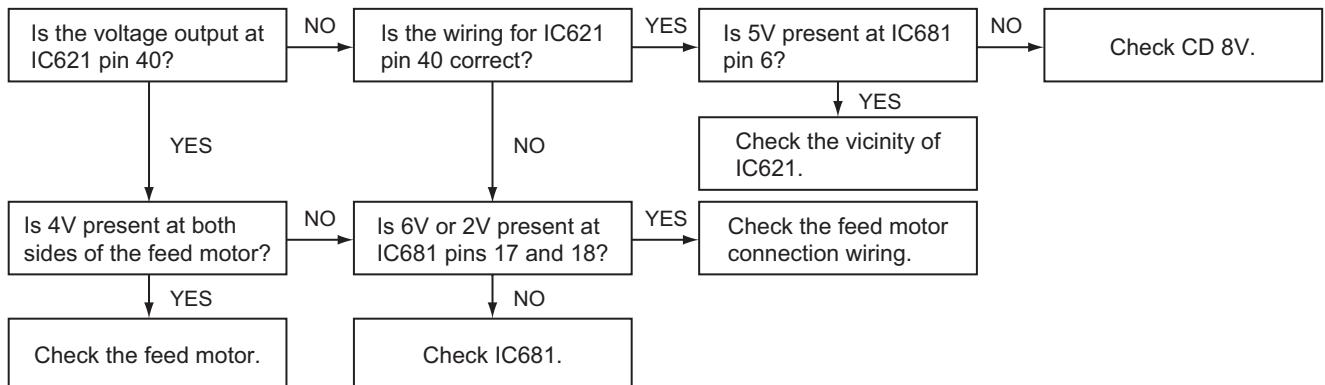
#### ■ Dummy load

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.

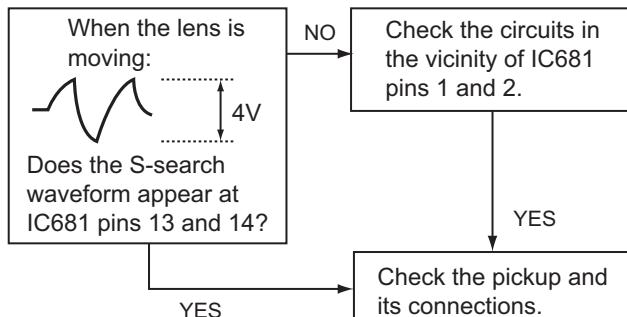


## SECTION 5 TROUBLESHOOTING

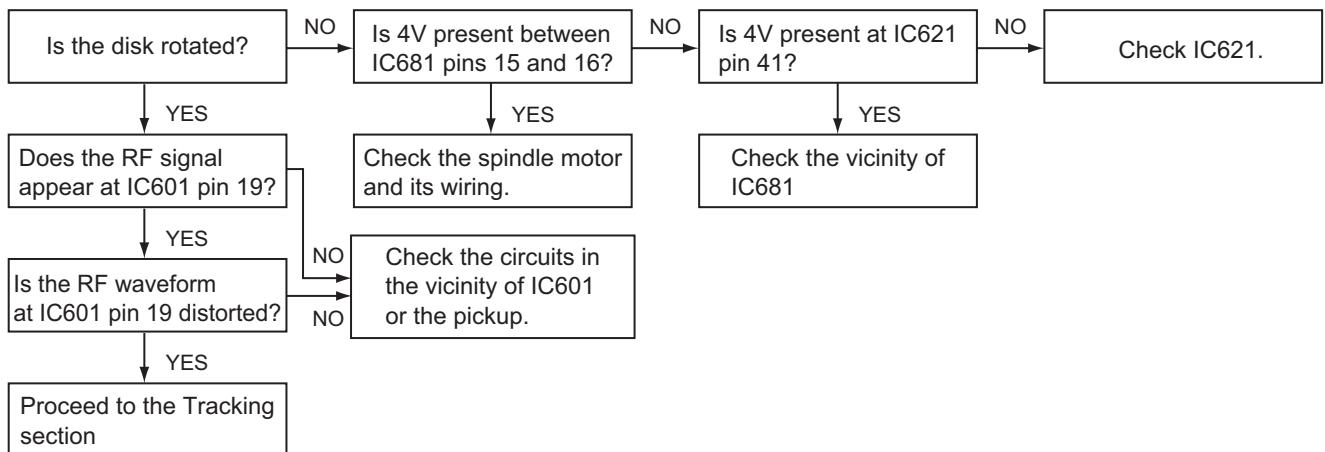
### 5.1 Feed section



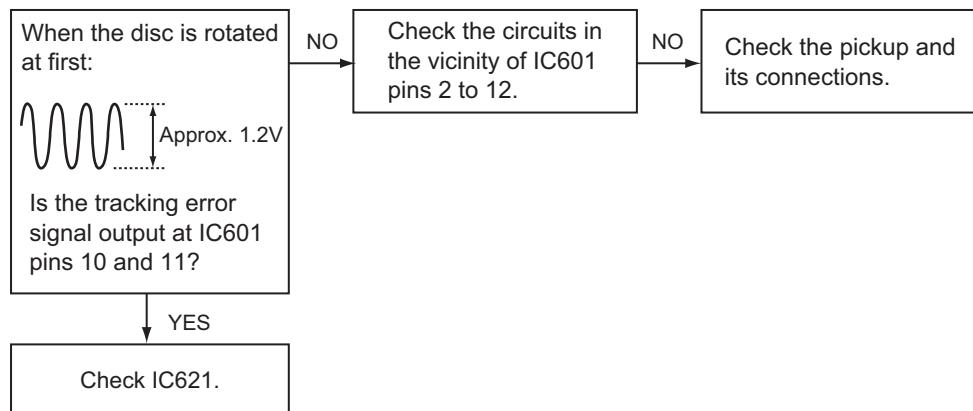
### 5.2 Focus section



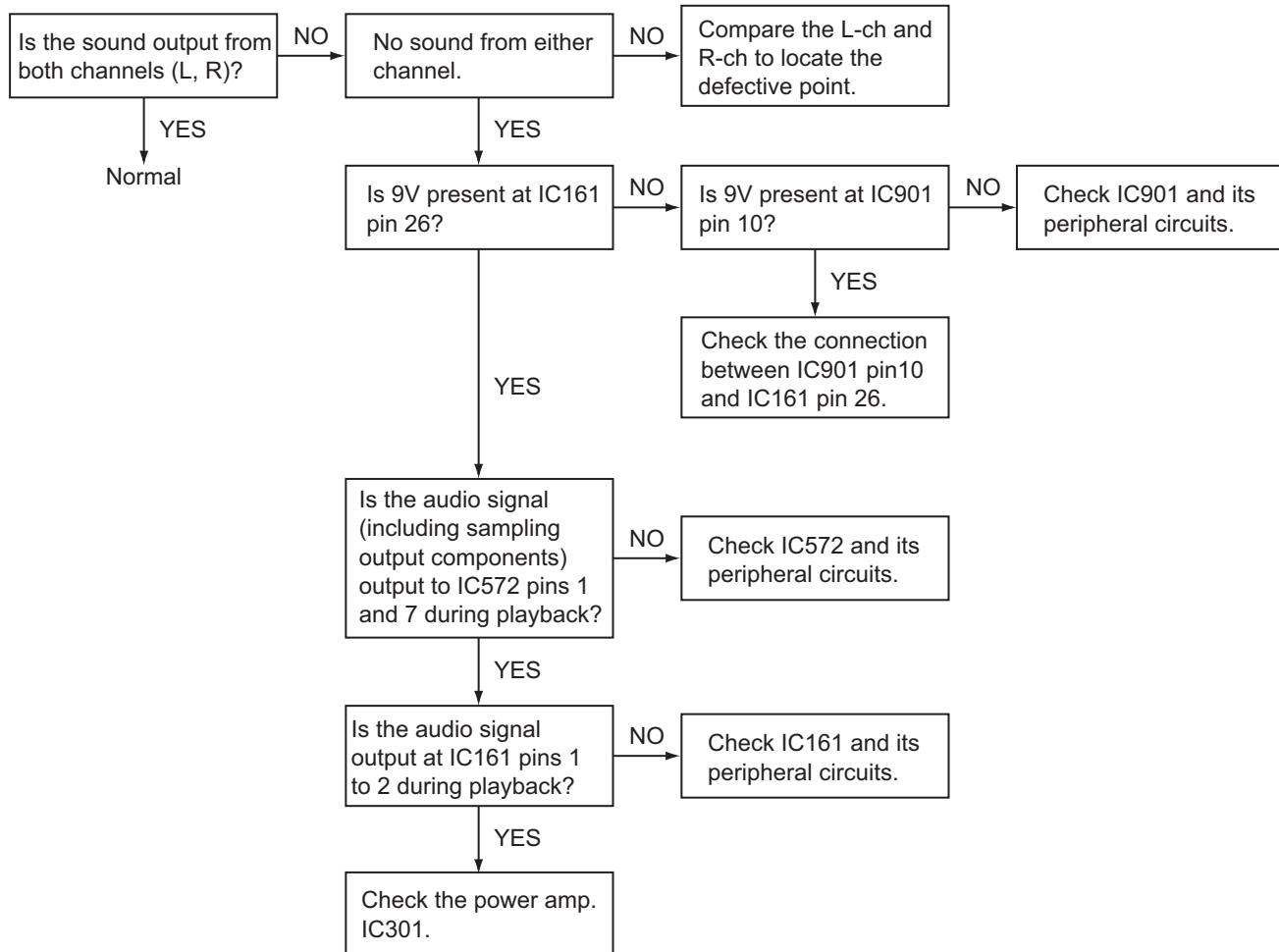
### 5.3 Spindle section



### 5.4 Tracking section



## 5.5 Signal processing section



## 5.6 Maintenance of laser pickup

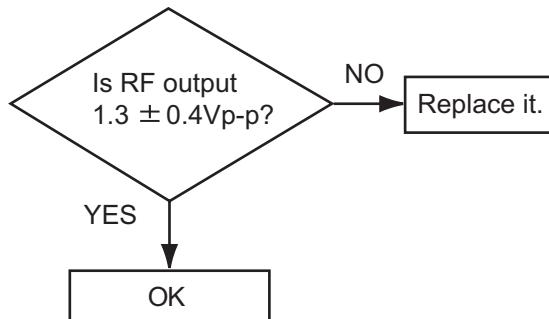
### (1) Cleaning the pick up lens

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.

- The level of RF output (EFM output: amplitude of eye pattern) will be low.



### (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.

## 5.7 Replacement of laser pickup

Turn off the power switch and, disconnect the power cord.

Replace the pickup with a normal one. (Refer to "Removing the pickup unit" on the previous page.)

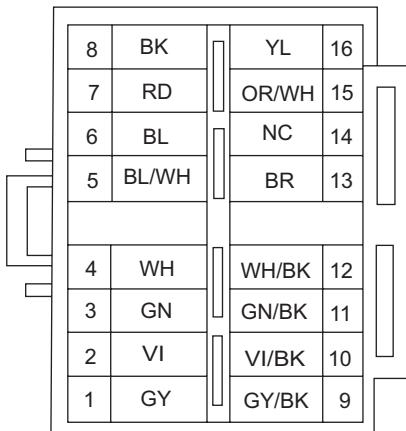
Plug the power cord in, and turn the power on. At this time, check that the laser emits for about seconds and the objective lens moves up and down. Note: Do not observe the laser beam directly.

Play a disc.

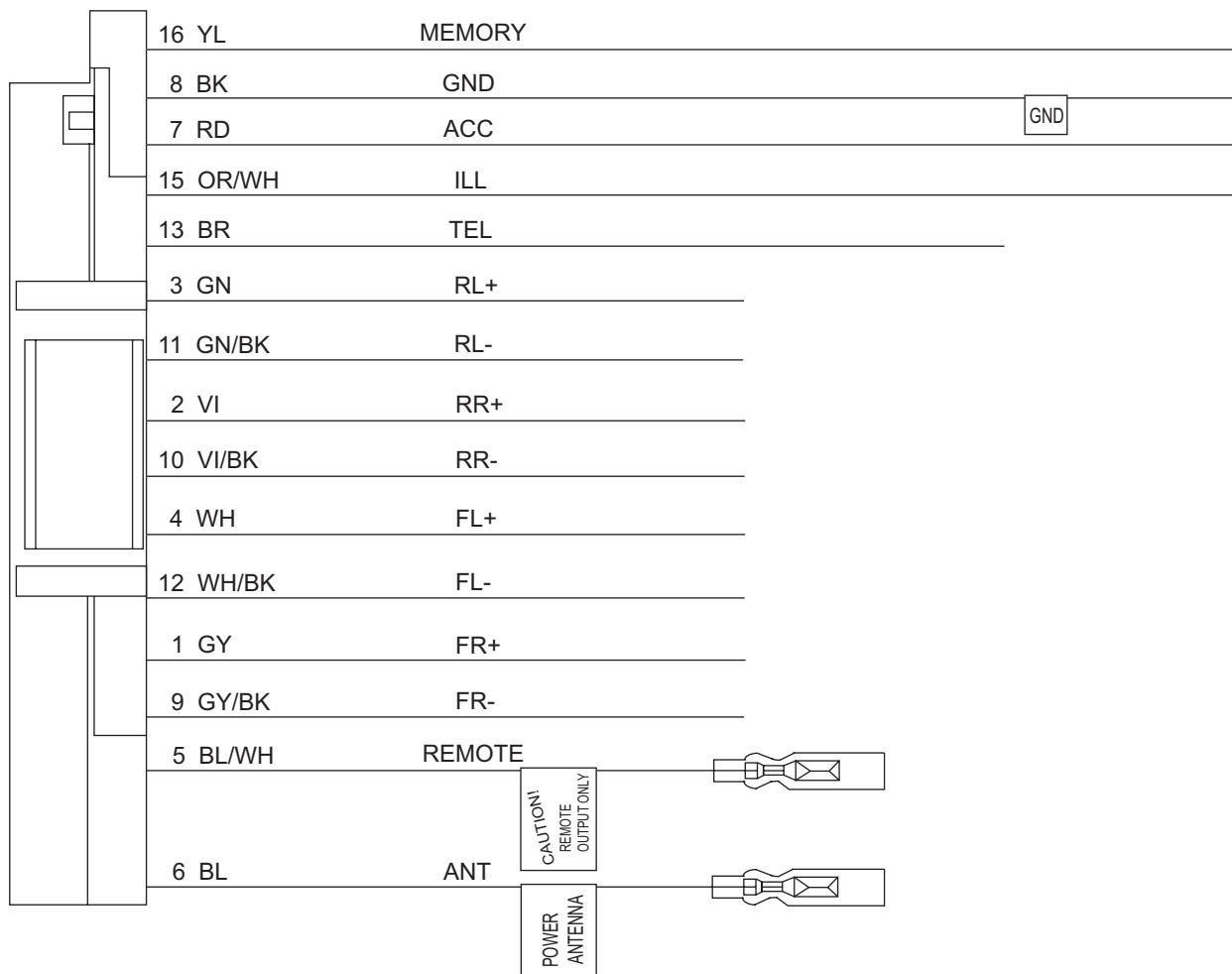
Check the eye-pattern at IC601 pin 19.

Finish.

## 5.8 16 PIN CORD DIAGRAM



BK	Black	GN	Green
RD	Red	VI	Violet
BL	Blue	GY	Gray
WH	White	YL	Yellow
BR	Brown	OR	Orange



RR	Rear Right	ANT	Auto Antenna
FR	Front Right	ACC	ACC Line
FL	Front Left	ILL	Illuminations Control
RL	Rear Left	GND	Ground
REMOTE	Remote out	MEMORY	Memory Backup Battery+
TEL	Telephone muting		





Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY CAR ELECTRONICS CATEGORY 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MA147)



Printed in Japan  
VPT

# JVC

## SCHEMATIC DIAGRAMS

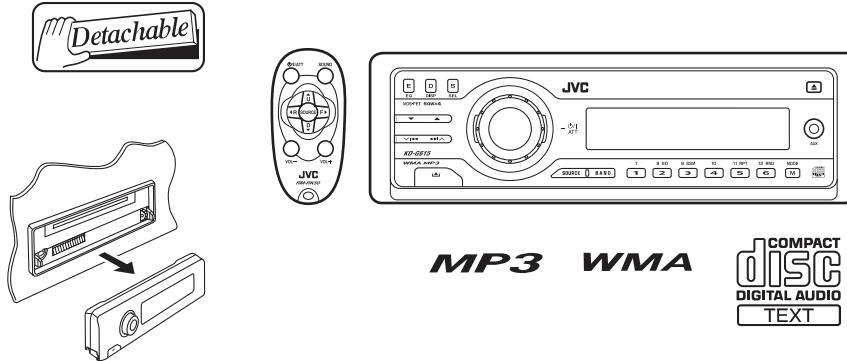
### CD RECEIVER

## KD-G615

CD-ROM No.SML200502

#### Area suffix

UT	Taiwan
UH	Thailand
UN	Asean
U	Other Areas



### Contents

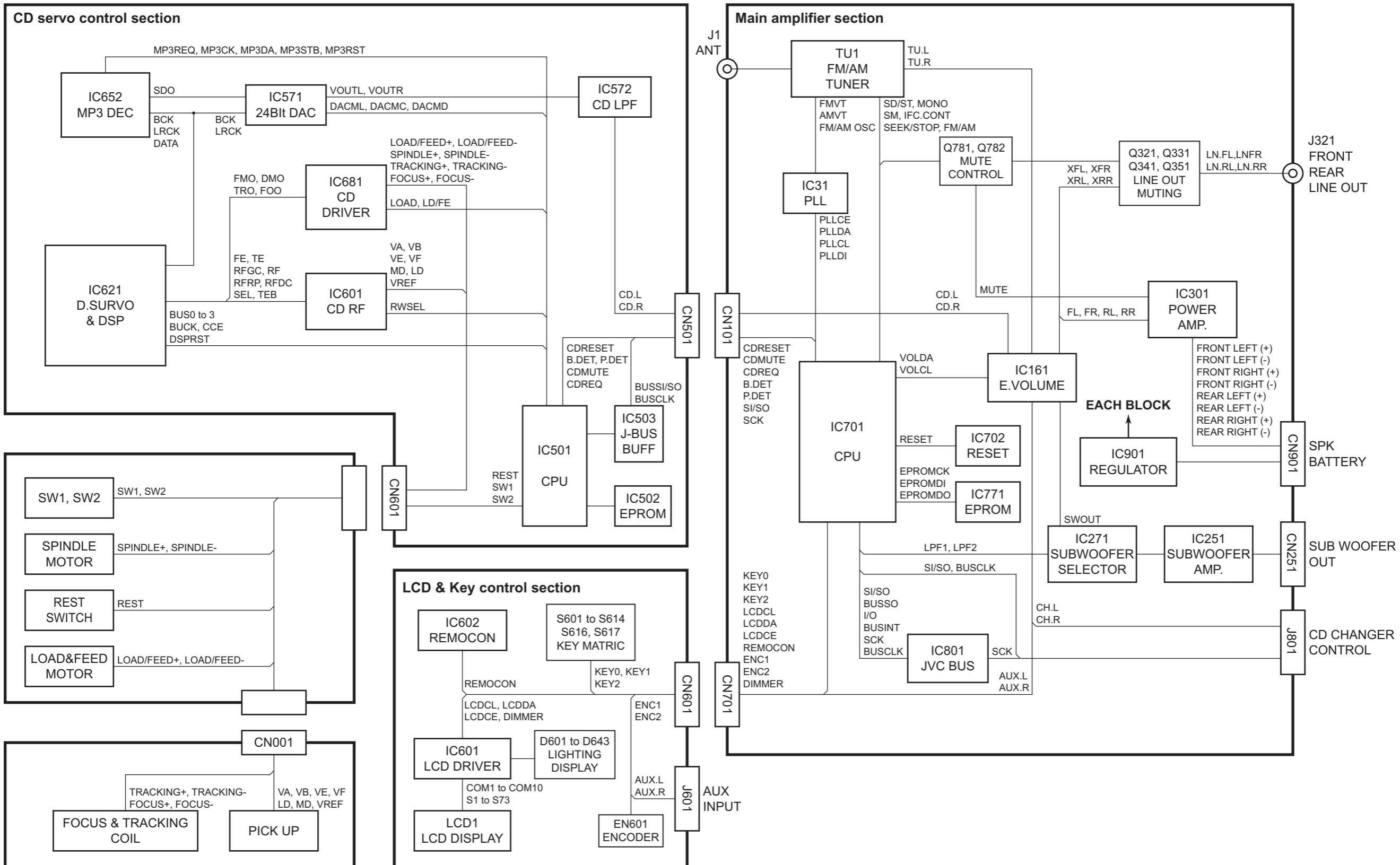
Block diagram -----	2-1
Standard schematic diagrams (For UT,UH,UN,U version) -----	2-2
Standard schematic diagrams (For UT2,UH2,UN2,U2 version) -----	2-5
Printed circuit boards -----	2-8 to 10

## 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 preforming repair of this system.

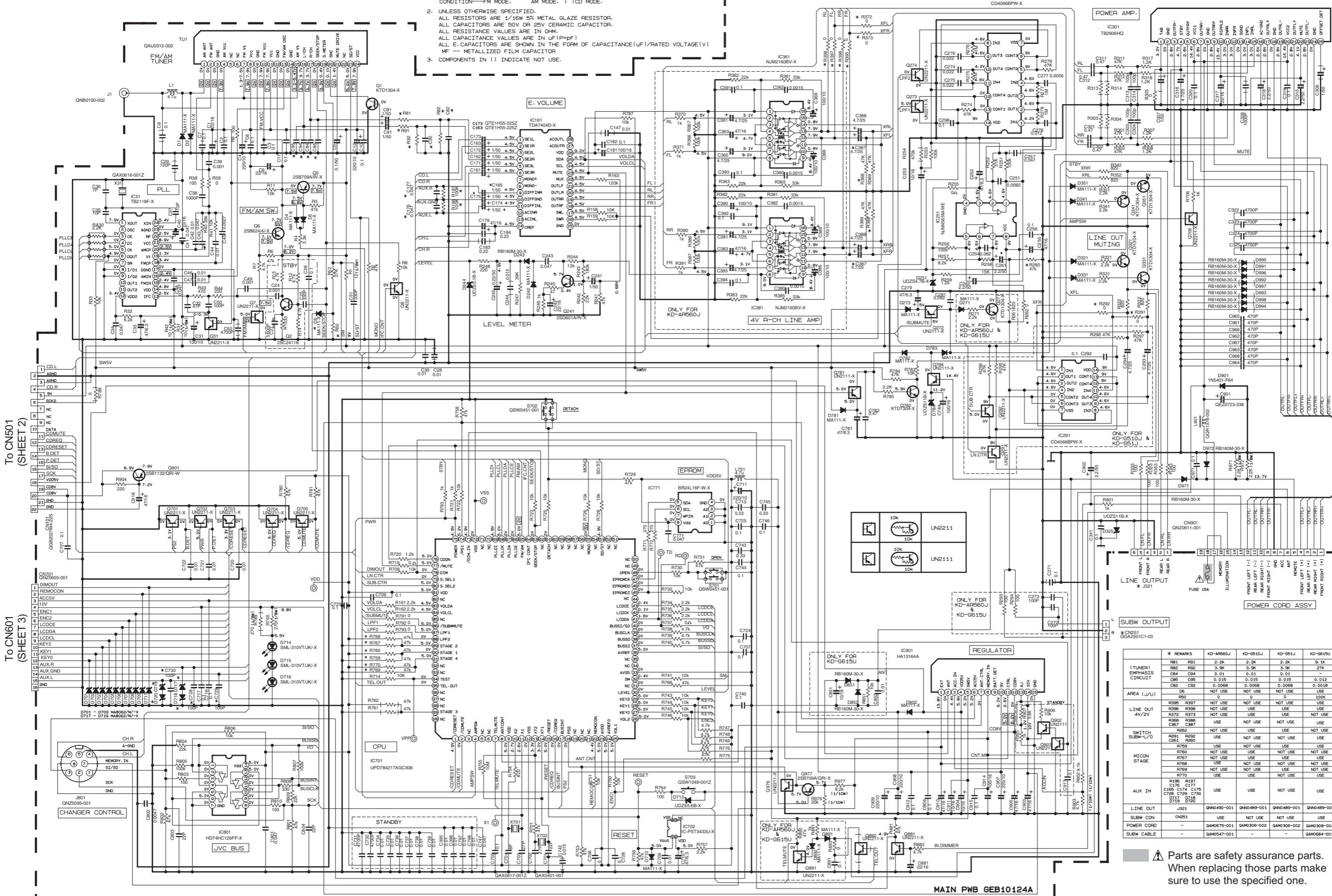
 **CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

# Block diagram

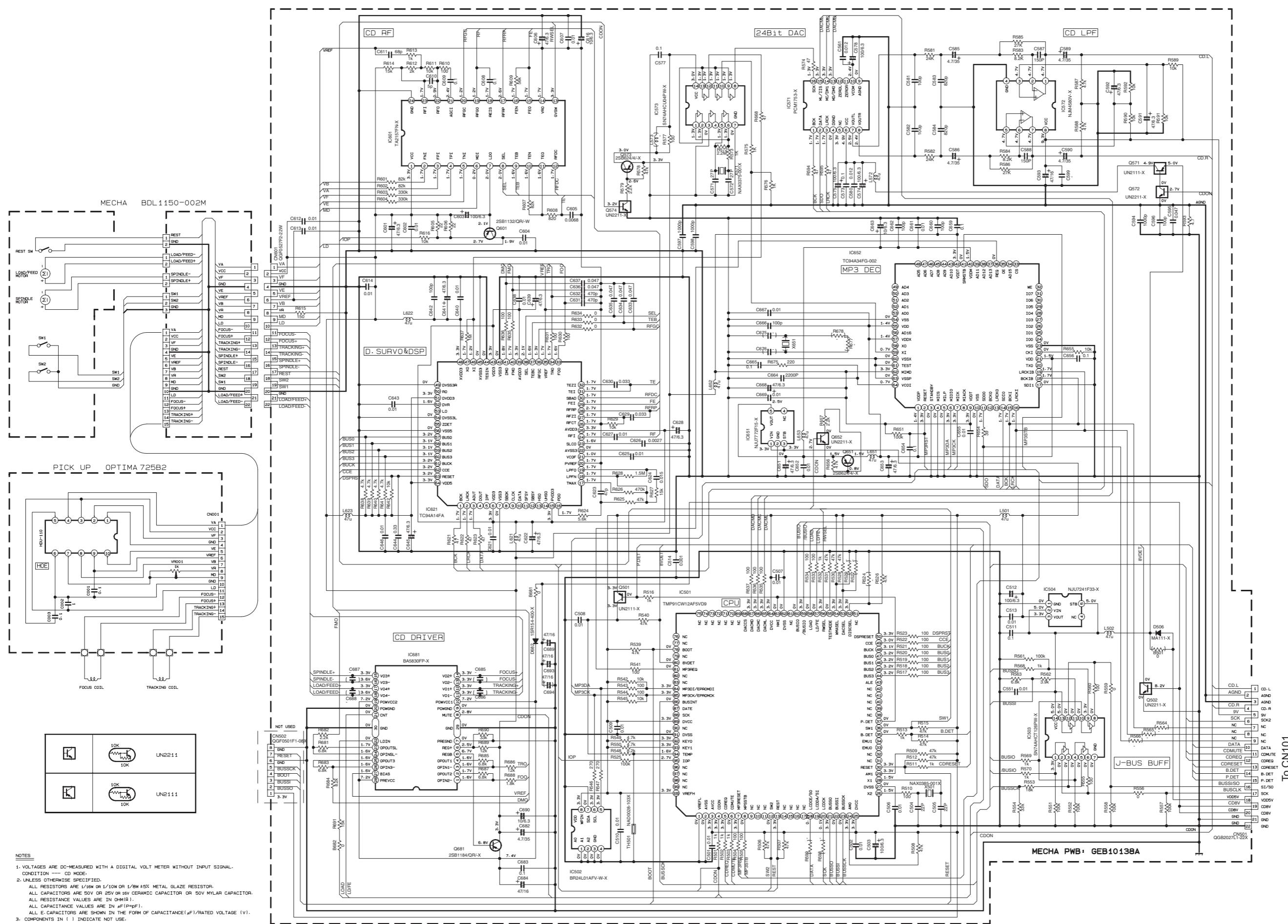


# Standard schematic diagrams (For UT, UH, UN, U version)

## Main amplifier section



## ■ CD servo control section

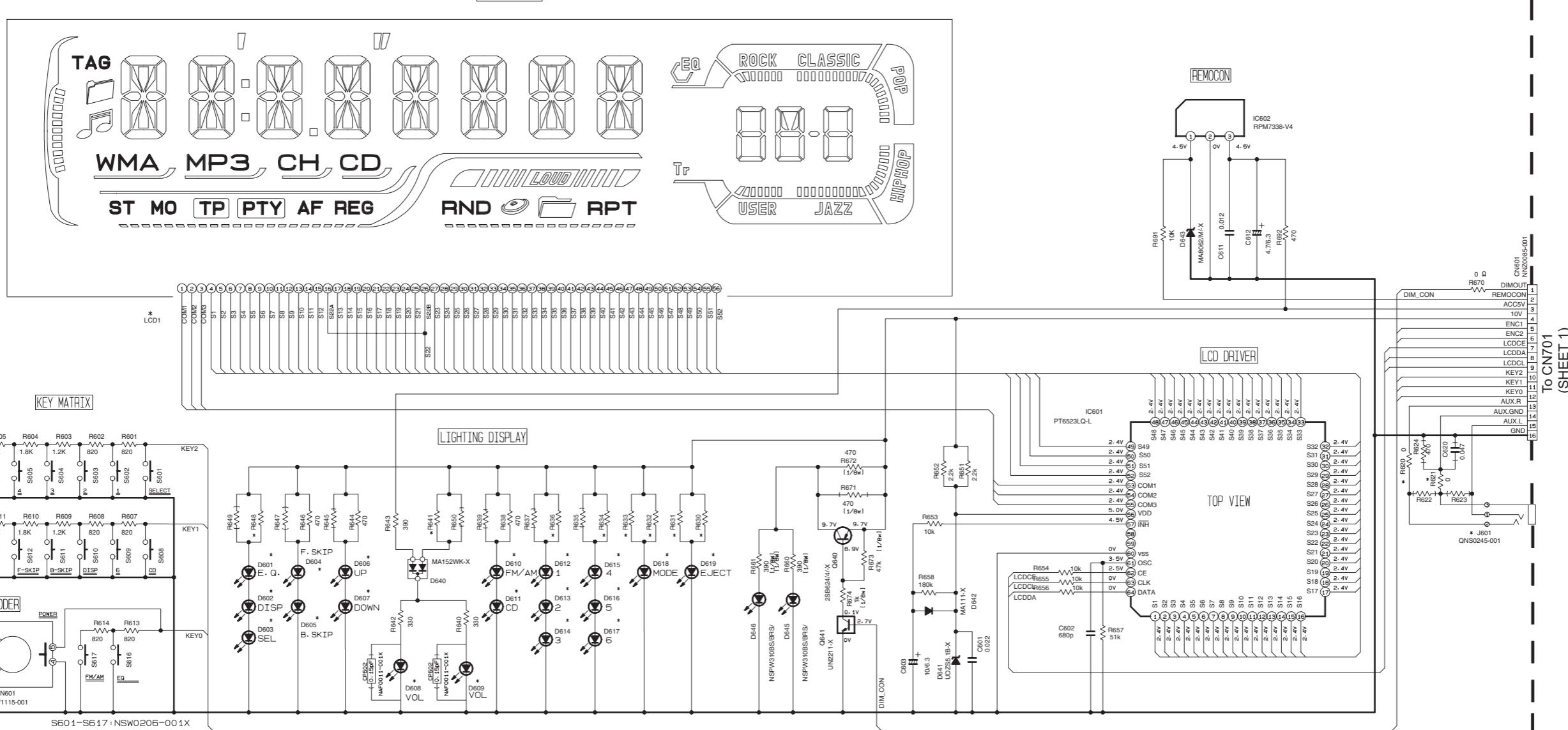


To CN101  
(SHEET 1)

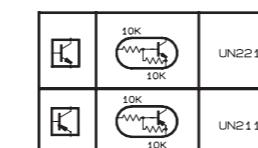
SHEET 2

## ■ LCD & Key control section

SW PWB : GEB10134A



* REMARKS	KD-AR560J	KD-G510J	KD-S51J	KD-G615U
D610-D619 D601-D607	SML-310VT/JK/-X	SML-310VT/JK/-X	SML-310VT/JK/-X	SML-310VT/JK/-X
D608-D609	SML-310VT/JK/-X	SML-310VT/JK/-X	SML-310VT/JK/-X	CL-190UB2-X-X
R620 R621 J601	USE	USE	NOT USE	USE
R630	1.2K	1K	1K	1K
R631	1.2K	-	-	-
R632	1.2K	820	820	820
R633	1.2K	-	-	-
R634 R636 R648	270	330	330	330
R641	390	200	200	180
LCD1	QLD0349-001	QLD0349-001	QLD0349-001	QLD0354-001

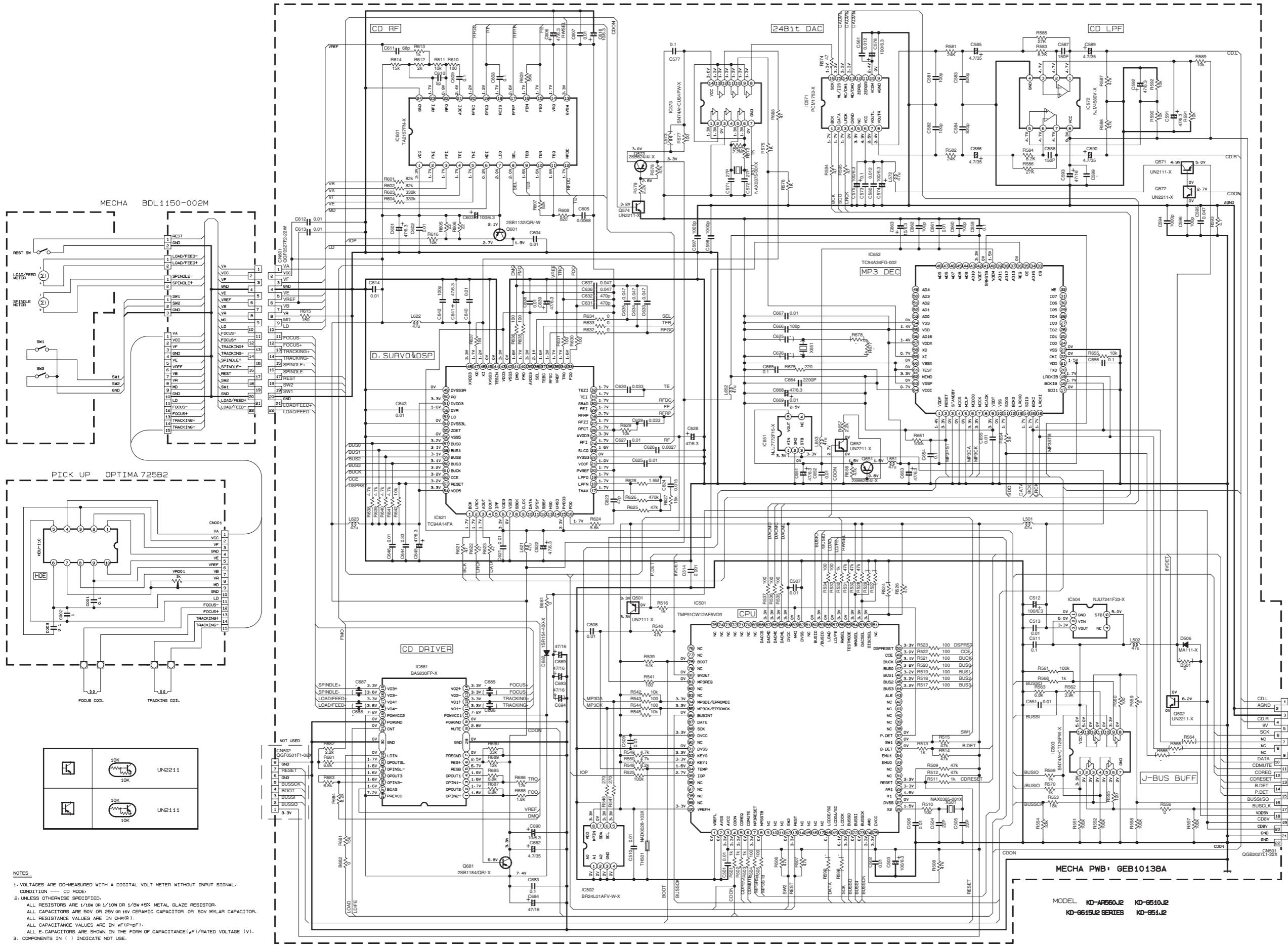


### NOTES

- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
- UNLESS OTHERWISE SPECIFIED.  
ALL RESISTORS ARE 1/16W METAL GLAZE RESISTORS.  
ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR.  
ALL RESISTANCE VALUES ARE IN OHM.  
ALL CAPACITANCE VALUES ARE IN  $\mu\text{F}$  (P-P)  
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE ( $\mu\text{F}$ ) / RATED VOLTAGE (V)  
T --- TANTALUM CAPACITOR.
- COMPONENTS IN ( ) INDICATE NOT USE.



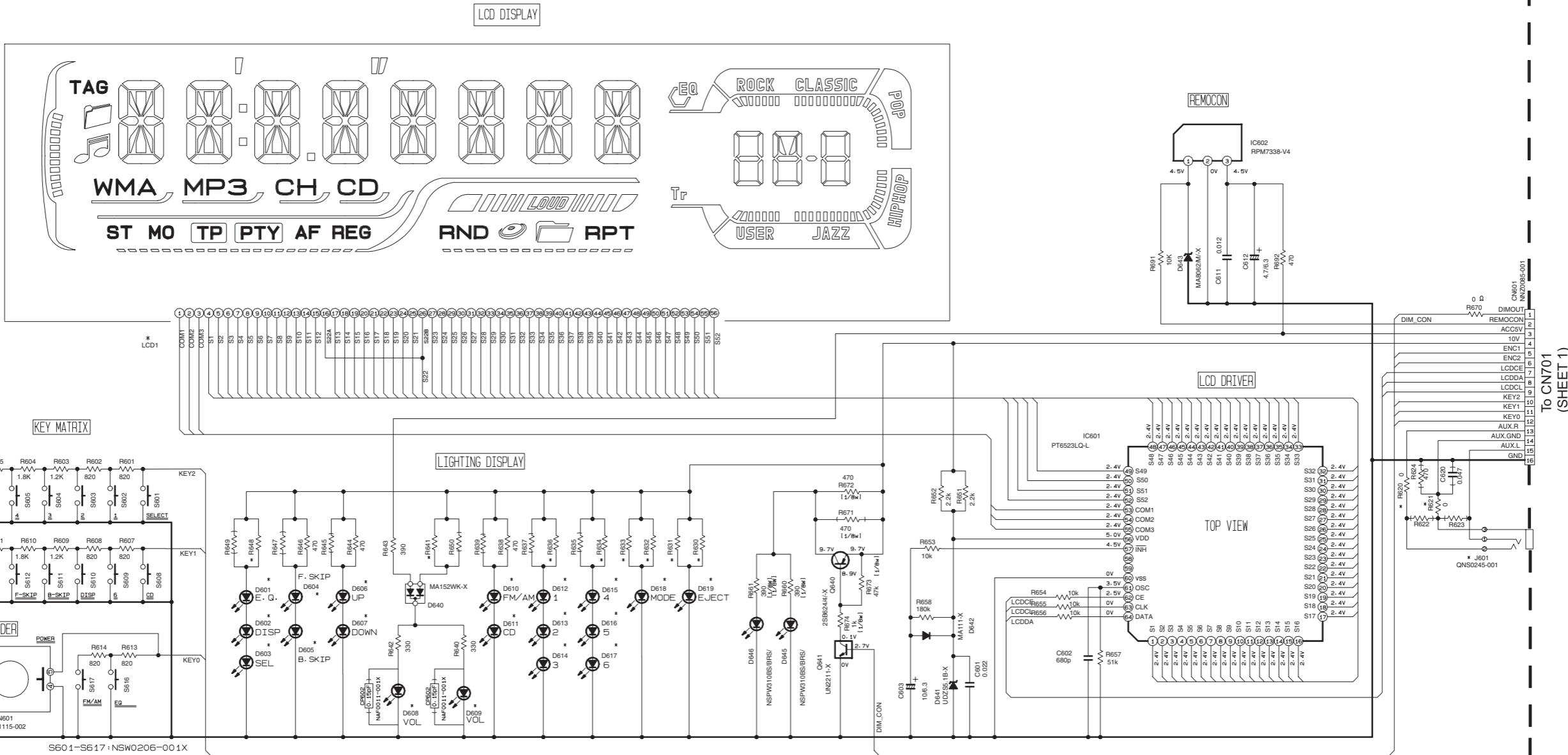
## CD servo control section



To CN101  
(SHEET 1)

## ■ LCD & Key control section

SW PWB : GEB10134A



* REMARKS	KD-AR560J2	KD-G510J2	KD-S51J2	KD-G615U2
D610-D619 D601-D607	SML-310VT/JK/-X	SML-310VT/JK/-X	SML-310VT/JK/-X	SML-310VT/JK/-X
D608-D609	SML-310VT/JK/-X	SML-310VT/JK/-X	SML-310VT/JK/-X	CL-190UB2-X-X
R620 R621 J601	USE	USE	NOT USE	USE
R630	1. 2K	1K	1K	1K
R631	1. 2K	-	-	-
R632	1. 2K	820	820	820
R633	1. 2K	-	-	-
R634 R636 R648	270	330	330	330
R641	390	200	200	180
LCD1	QLD0349-001	QLD0349-001	QLD0349-001	QLD0354-001

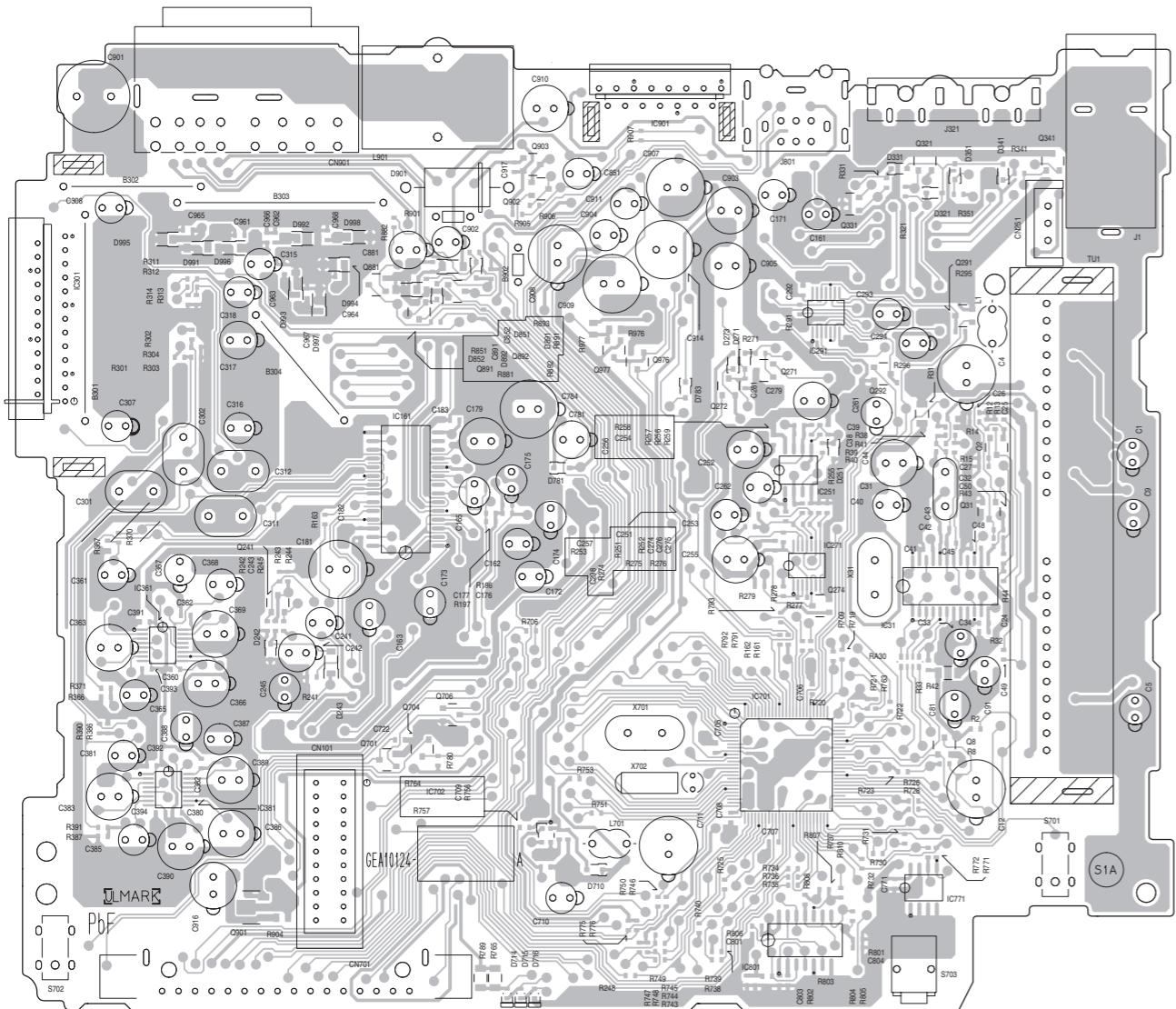
- NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
  2. UNLESS OTHERWISE SPECIFIED.  
ALL RESISTORS ARE 1/16W METAL GLAZE RESISTORS.  
ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR.  
ALL RESISTANCE VALUES ARE IN OHM.  
ALL CAPACITANCE VALUES ARE IN  $\mu\text{F}(\text{P-P})$ .  
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE( $\mu\text{F}$ )/RATED VOLTAGE(V)  
T --- TANTALUM CAPACITOR.
  3. COMPONENTS IN ( ) INDICATE NOT USE.

MODEL KD-AR560J2 KD-G510J2  
KD-G615U2 SERIES KD-S51J2

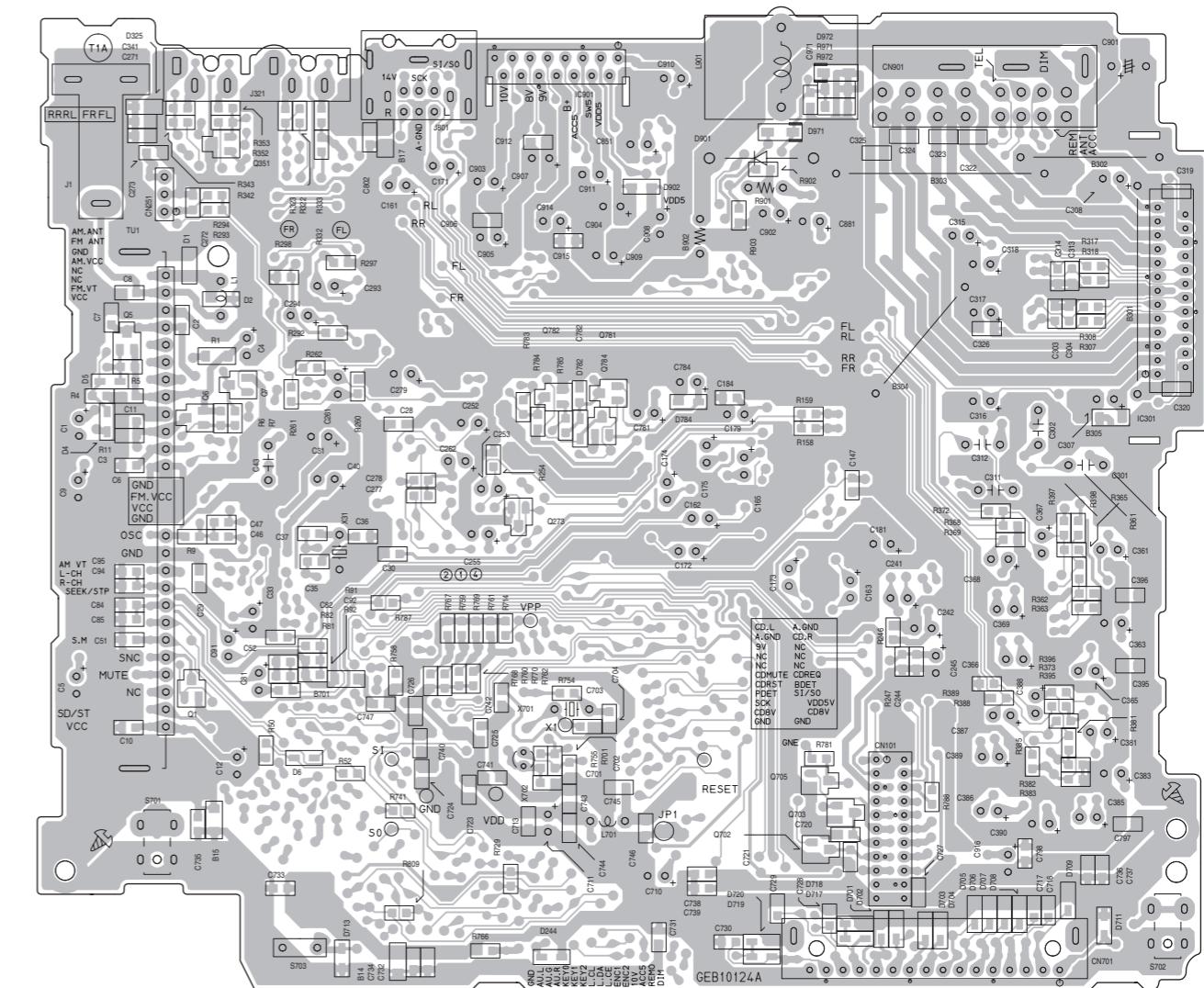
# Printed circuit boards

## ■ Main board (For UT, UH, UN U version)

Forward side

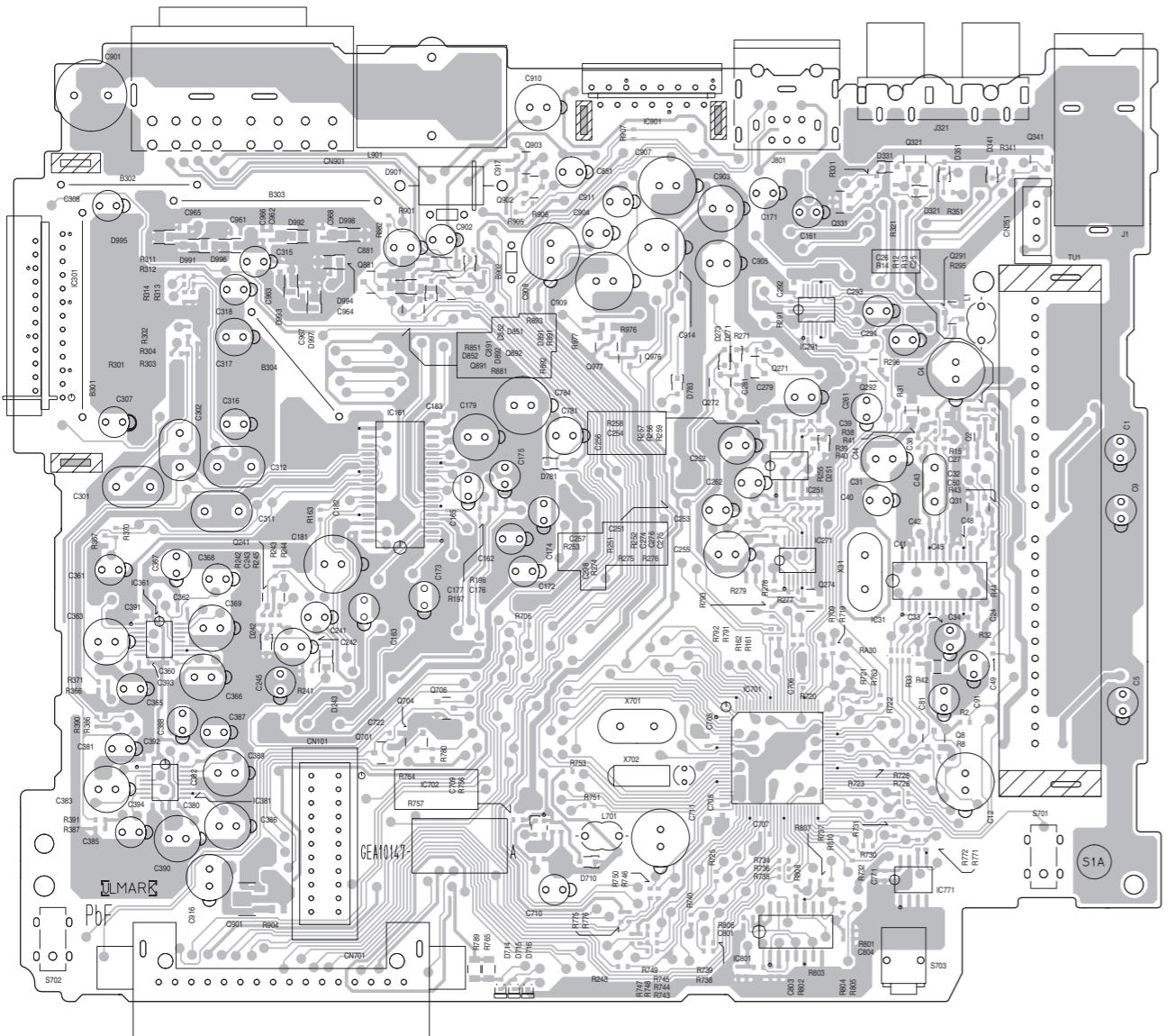


Reverse side

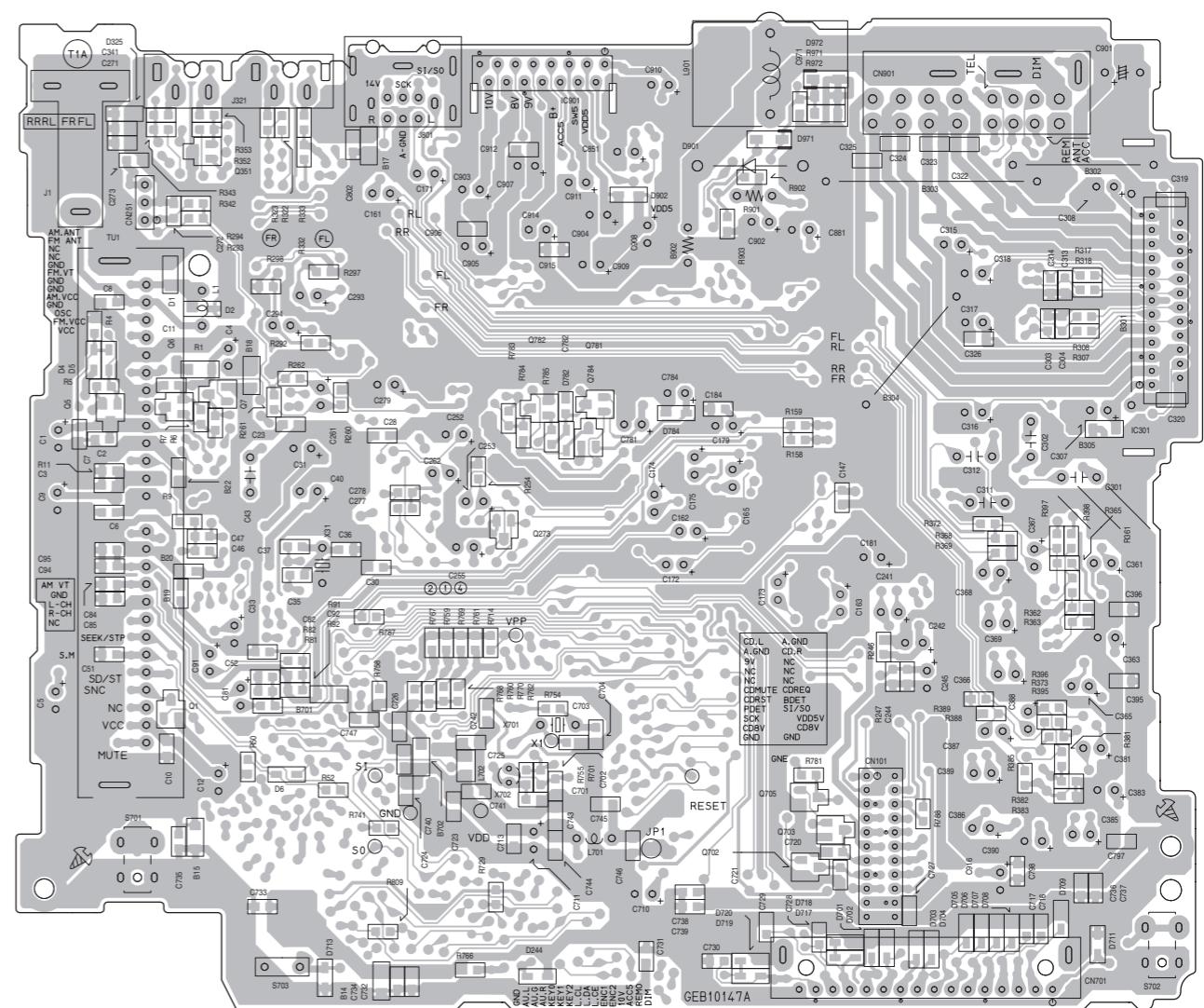


■ Main board (For UT2, UH2, UN2, U2 version)

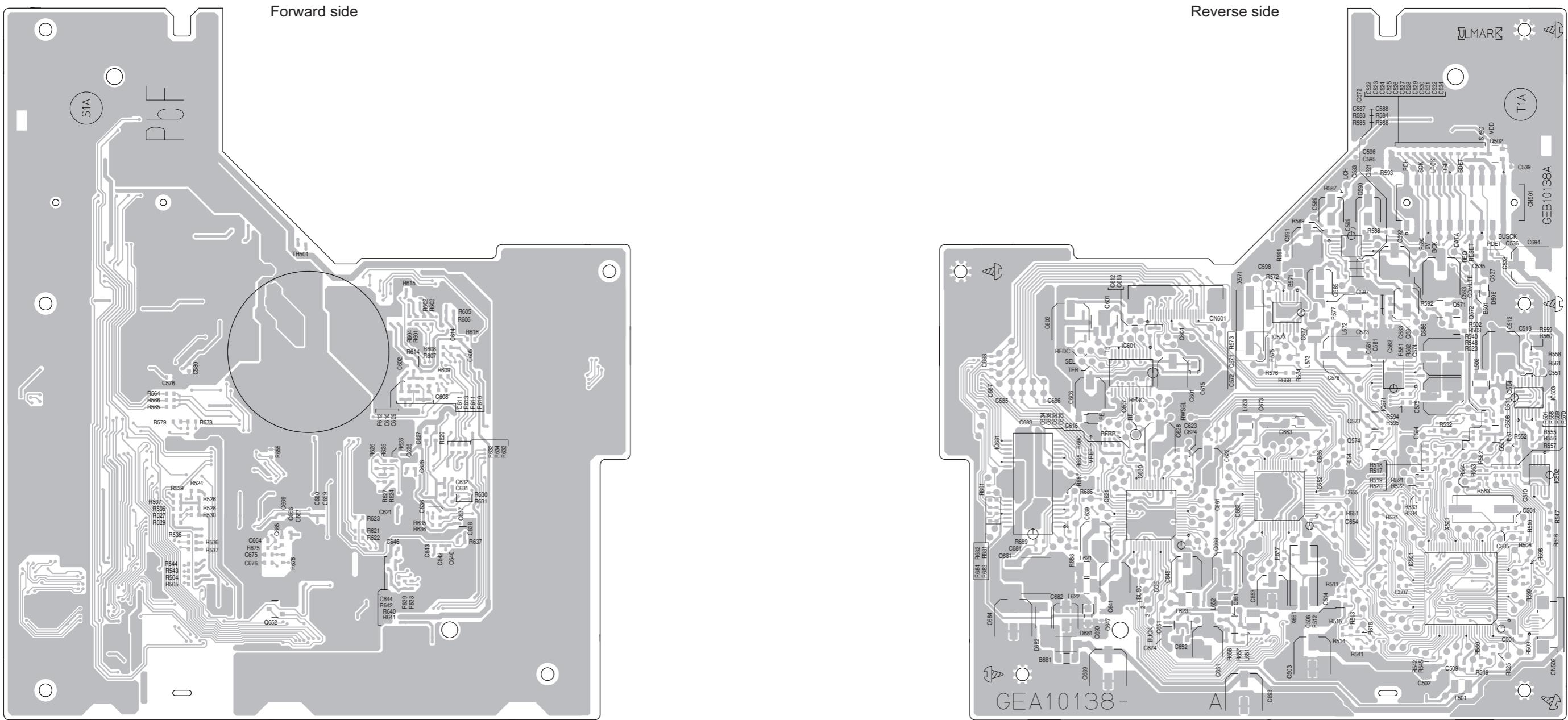
Forward side



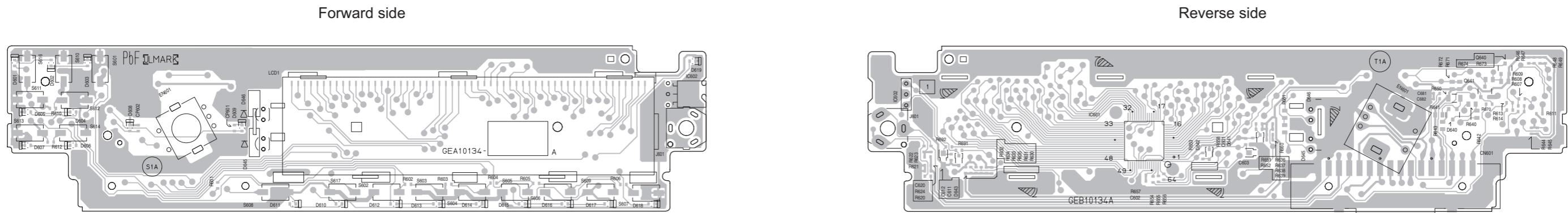
Reverse side



## ■ CD mecha control board (Common)



## ■ Switch board



**< M E M O >**

# JVC

Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY CAR ELECTRONICS CATEGORY 10-1,1chome,Ohwatarimachi,Maebashi-city,371-8543,Japan

(No.MA147SCH)

 Printed in Japan  
VPT

# PARTS LIST

## [ KD-G615 ]

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

### Area suffix

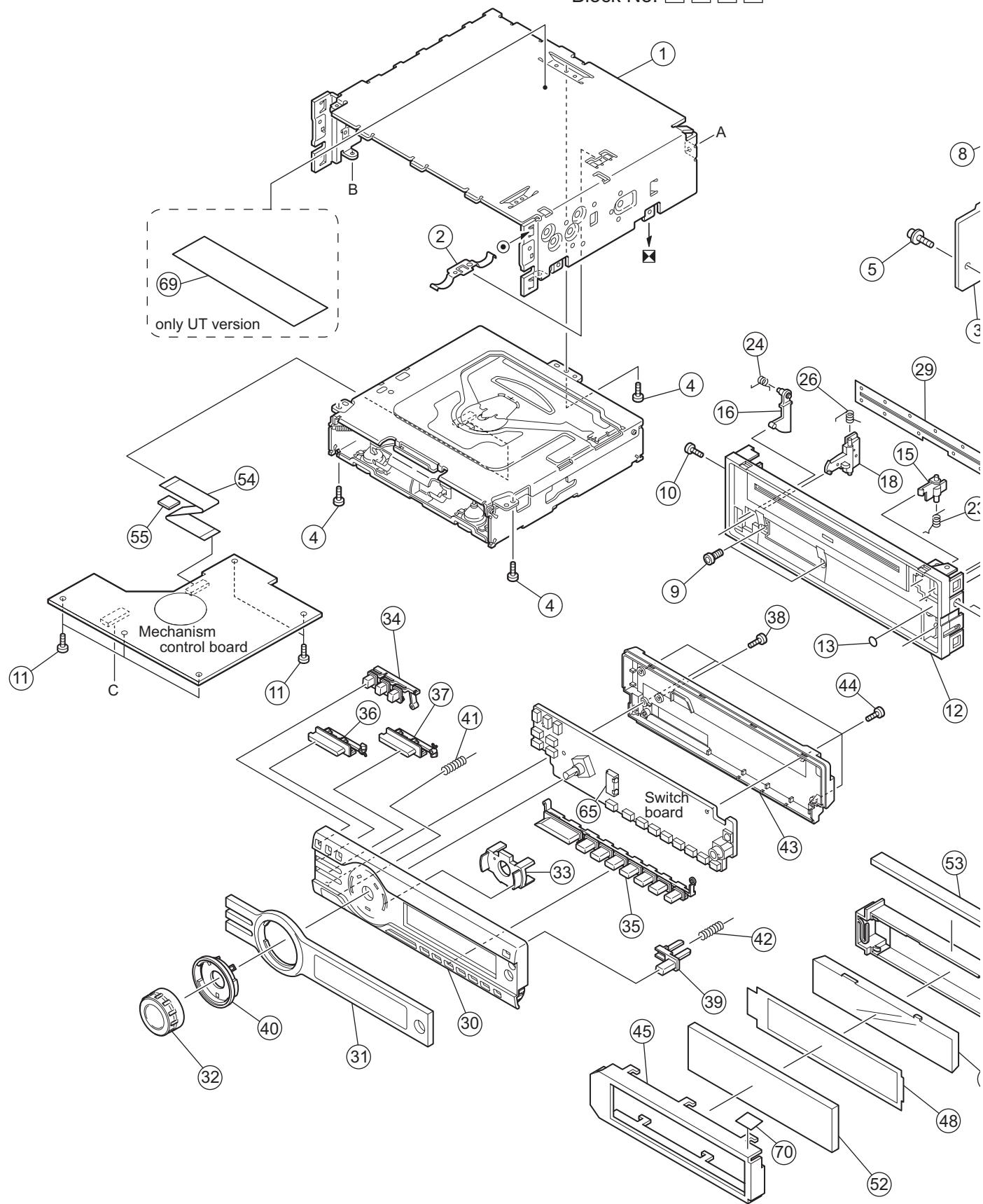
UT	-----	Taiwan
UH	-----	Thailand
UN	-----	Asean
U	-----	Other Areas

### - Contents -

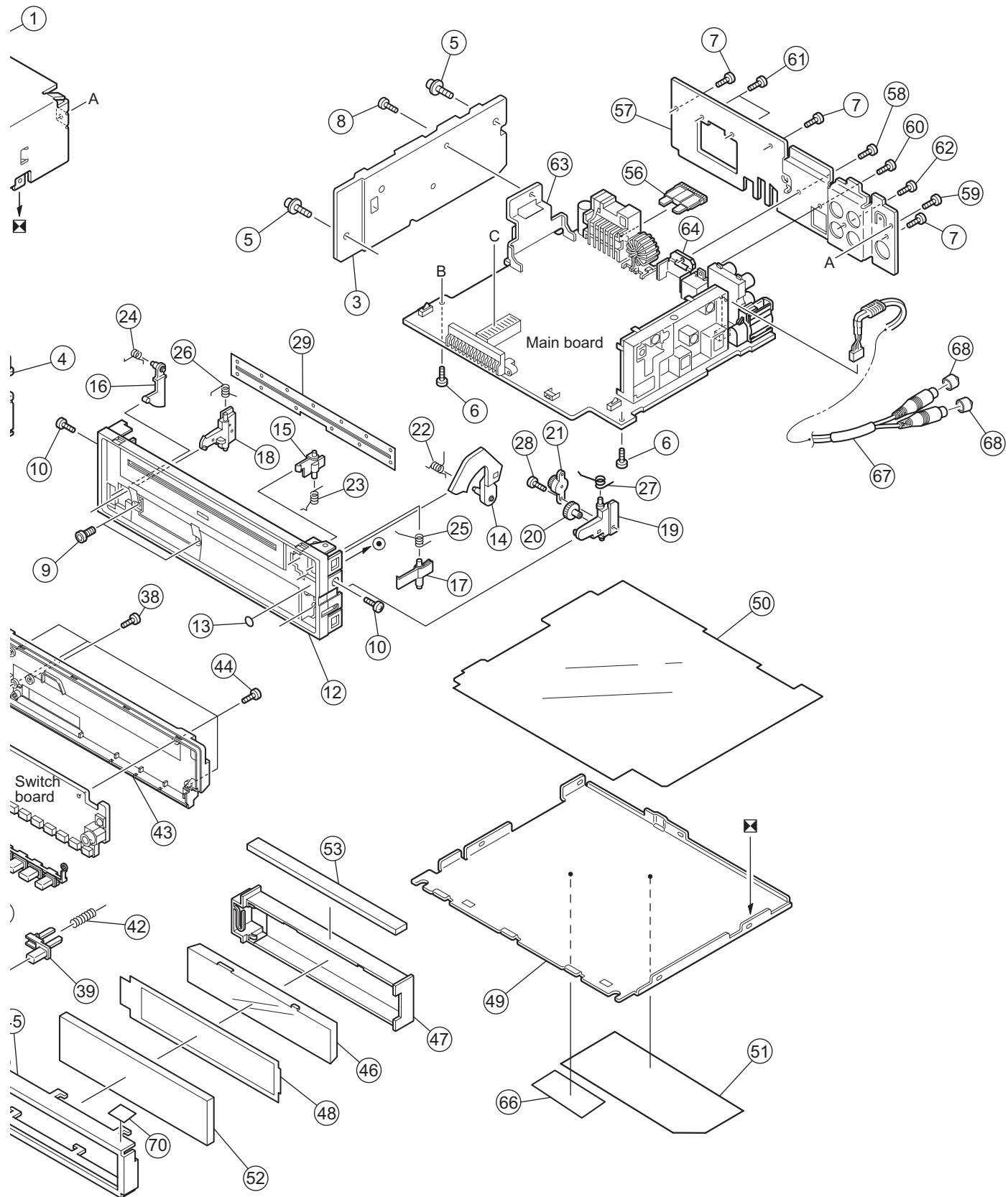
Exploded view of general assembly and parts list (Block No.M1) .....	3-2
CD mechanism assembly and parts list (Block No.MB) .....	3-5
Electrical parts list (Block No.01~03) (KD-G615_UT,UH,UN,U) .....	3-7
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# Exploded view of general assembly and parts list

Block No. M 1 M M



o. M 1 M M



## General Assembly

Block No. [M][1][M][M]

△	Symbol No.	Part No.	Part Name	Description	Local
	1	GE10043-210A	TOP CHASSIS		
	2	GE40135-001A	EARTH PLATE		
	3	GE30938-003A	SIDE PANEL		
	4	QYSDST2604ZA	TAP SCREW	M2.6 x 4mm(x3)	
	5	GE40235-001A	SCREW	(x2)	
	6	GE40235-004A	SCREW	(x2)	
	7	QYSDST2604ZA	TAP SCREW	M2.6 x 4mm(x3)	
	8	QYSDST2610ZA	TAP SCREW	M2.6 x 10mm	
	9	QYSDSF2006ZA	TAP SCREW	M2 x 6mm(x2)	
	10	QYSDST2004ZA	TAP SCREW	M2 x 4mm(x2)	
	11	QYSDST2004ZA	TAP SCREW	M2 x 4mm(x5)	
	12	GE30823-005A	F.CHASSIS ASSY		
	13	FSYH4036-098	SHEET		
	14	GE30827-002A	OPEN LEVER		
	15	GE30824-002A	LOCK LEVER(O.L)		
	16	GE31245-002A	RELEASE LEVER		
	17	GE30829-001A	LOCK LEVER(TOP)		
	18	GE31607-001A	LOCK LEVER(L)		
	19	GE31608-001A	LOCK LEVER(R)		
	20	GE40154-001A	GEAR		
	21	QZW0108-002	OIL DAMPER		
	22	GE40153-001A	T.SPRING		
	23	GE40157-001A	T.SPRING		
	24	VKW5264-005	T.SPRING		
	25	FSKW4012-002	T.SPRING		
	26	VKW5263-002	T.SPRING		
	27	GE40155-001A	T.SPRING		
	28	QYSDSF2006ZA	TAP SCREW	M2 x 6mm	
	29	GE40156-001A	BLIND		
	30	GE31590-015A	FRONT PANEL ASSY		
	31	GE31591-002A	FINDER ASSY		
	32	GE40254-004A	VOLUME KNOB ASS		
	33	GE31599-001A	RIM LENS		
	34	GE31593-003A	D.FUNC BTN		
	35	GE20175-008A	PRESET BUTTON		
	36	GE31594-001A	UP/DOWN BTN		
	37	GE31595-001A	SEARCH BTN		
	38	VKZ4777-010	MINI SCREW		
	39	GE31601-004A	EJECT BUTTON		
	40	GE31598-001A	RIM COVER		
	41	FSKW3002-012	COMP.SPRING		
	42	GE40202-012A	COMPRESSION SPRING		
	43	GE10107-002A	REAR COVER		
	44	VKZ4777-010	MINI SCREW	(x4)	
	45	GE31603-001A	LCD CASE		
	46	GE31604-001A	LCD LENS		
	47	GE31605-001A	LENS CASE		
	48	GE40251-002A	LIGHTING SHEET		
	49	GE30393-002A	BOTTOM COVER		
	50	FSMA3005-001	INSULATOR		
	51	GE31467-002A	NAME PLATE		
	51	GE31467-001A	NAME PLATE		
	52	QLD0354-001	LCD MODULE		
	53	QNZ0772-001	RUBBER CONN		
	54	QUQ105-2207AE	FFC WIRE	22pin 7cm	
	55	VYSH101-009	SPACER		
△	56	QMFZ047-150-T	FUSE	15A	
	57	GE30912-015A	REAR BRACKET		
	58	QYSDST2606ZA	TAP SCREW	M2.6 x 6mm	
	59	QYSDST2606ZA	TAP SCREW	M2.6 x 6mm	
	60	QYSDST2606ZA	TAP SCREW	M2.6 x 6mm	
	61	QYSDSF2006ZA	TAP SCREW	M2.6 x 6mm(x2)	
	62	QYSDSF2006ZA	TAP SCREW	M2.6 x 6mm	
	63	GE40172-004A	IC BRACKET		
	64	GE40124-002A	REG BRACKET		
	65	GE30854-001A	LED HOLDER		
	66	LV41843-002A	LASER CAUTION		
	67	QAM0684-001	SUBWOOFER CABLE		
	68	VYTA500-001	PIN CAP	(x2)	
	69	GE31574-007A	UT LABEL		
	70	GE40218-032A	SHEET		G615UT

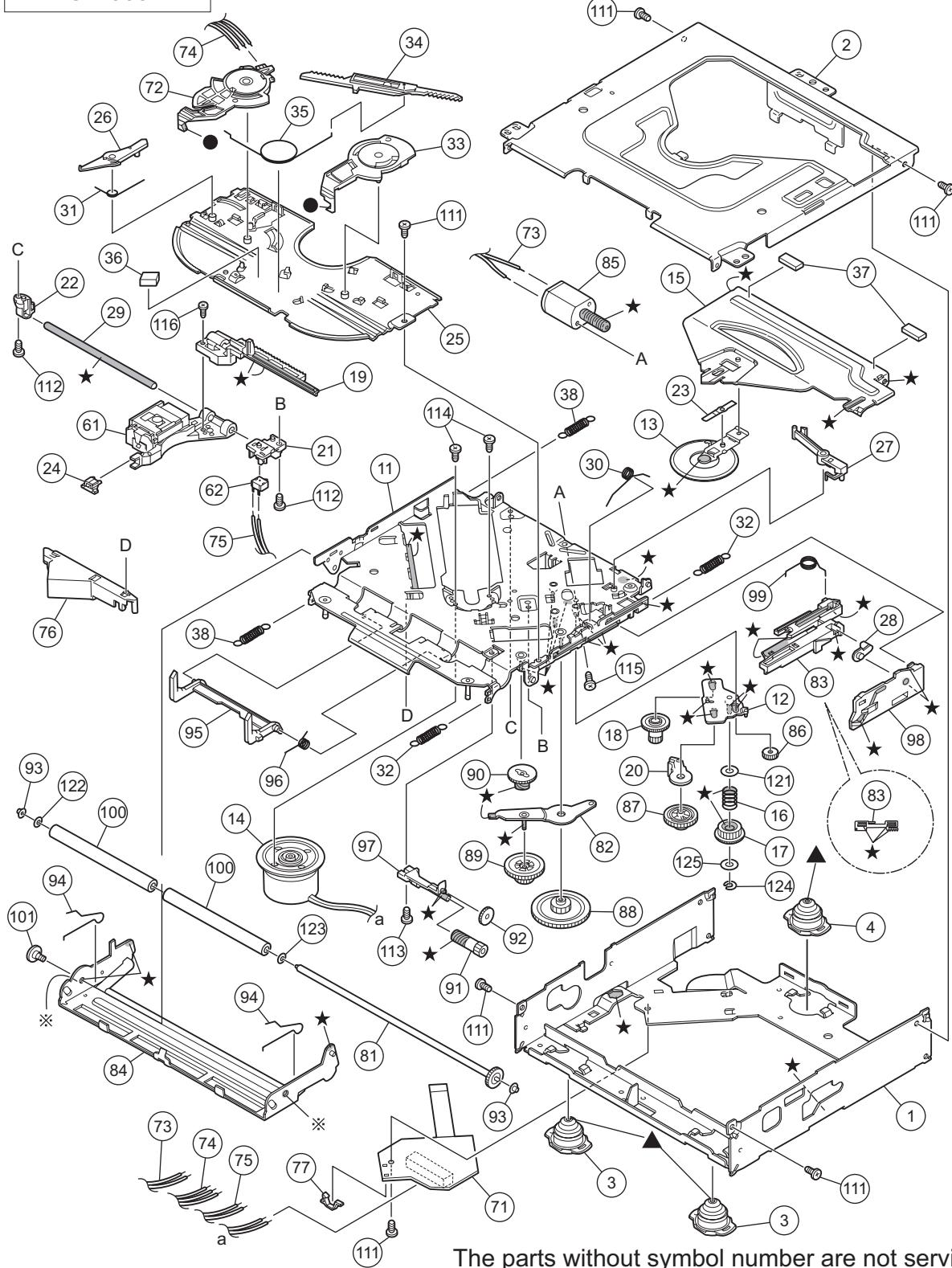
# CD mechanism assembly and parts list

Grease

- ★ TNG-87
- ※ GP-501MK
- CFD-005Z
- ▲ GP-305T

TN-2001-1013

Block No. M B M M



The parts without symbol number are not service.

## CD mechanism

Block No. [M][B][M][M]

△	Symbol No.	Part No.	Part Name	Description	Local
1		30320101T	FRAME		
2		30320102T	TOP COVER		
3		30320115T	DANPER F	(x2)	
4		30320116T	DANPER R		
11		303205505T	CHASSIS RIVET		
12		303205503T	CHANGE P. RVT A		
13		303205301T	CLAMPER ASSY		
14		303205302T	SPINDLE MOTOR A		
15		30320502T	CLAMPER ARM		
16		30320503T	CHANGE GEAR SPG		
17		30320505T	CHANGE GEAR 2		
18		30320506T	FEED GEAR		
19		30320507T	FEED RACK		
20		30320509T	CHANGE LOCK RAR		
21		30320510T	FEED SW HOLDER		
22		30320511T	PU SHAFT HOLDER		
23		30320513T	CLAMPER SUB SPG		
24		30320514T	FD SUB HOLDER		
25		30320518T	TOP PLATE		
26		30320519T	SELECT LOCK ARM		
27		30320520T	TRIGGER ARM		
28		30320521T	SLIDE HOOK		
29		30320522T	PU SHAFT		
30		30320525T	CLAMPER ARM SPG		
31		30320526T	SELECT L ARM SP		
32		30320538T	SUSPENSION SP R	(x2)	
33		30320529T	SELECT ARM R		
34		30320530T	LINK PLATE		
35		30320531T	LINK PLATE SPG		
36		30320523T	CUSHION F		
37		30320524T	CUSHION R	(x2)	
38		30320539T	SUSPENSION SP L	(x2)	
61		69011614T	PICKUP OPT-725		
62		64180406T	DET SW ESE22		
71		303210302T	CONN BOARD ASSY		
72		30321002T	MODE SW		
73		30321003T	LOAD MOTOR WIRE		
74		30321005T	MODE SW WIRE		
75		30321009T	SL WIRE		
76		30321011T	WIRE HOLDER		
77		19501403T	WIRE CLUMPER		
81		303211301T	ROLLER SHAFT AS		
82		303211501T	L GEAR PLATE RV		
83		303211302T	LOADING PLATE A		
84		303211502T	LOCK ARM RV ASS		
85		303211303T	L/F MOTOR ASSY		
86		30321101T	LOADING GEAR 1		
87		30321102T	LOADING GEAR 2		
88		30321103T	LOADING GEAR 3		
89		30321104T	LOADING GEAR 4		
90		30321105T	LOADING GEAR 5		
91		30321106T	LOADING GEAR 6		
92		30321107T	LOADING GEAR 7		
93		30321149T	ROLLER GUIDE	(x2)	
94		30321114T	ROLLER GUIDE SP	(x2)	
95		30321116T	DISC STOPPER AR		
96		30321117T	DISC ST ARM SPG		
97		30321118T	LD GEAR BRACKET		
98		30321125T	L SIDE PLATE		
99		30321131T	LOAD PLATE SPG		
100		30321133T	LDG ROLLER	(x2)	
101		18211223T	COLLAR SCREW		
111		9P0420031T	SCREW	(x6)	
112		9P0420041T	TAP.SCREW	(x2)	
113		9B0320041T	SCREW		
114		9C0117183T	SCREW	(x2)	
115		9C0120203T	SCREW		
116		9C0317503T	SCREW		
121		9W0130170T	PW 3.5X8X0.3		
122		9W0513060T	HL WASHER		
123		9W0710070T	L WASHER		
124		9E0100152T	E RING		
125		9W0113020T	PW 2.1X4X0.13		







## Switch board (KD-G615\_UT,UH,UN,U)

### Block No. [0][2]

△ Symbol No.	Part No.	Part Name	Description	Local
IC601	PT6523LQ-L	LCD DRIVER		
IC602	RPM7338-V4	RM.RECEIVER		
Q640	2SB624/4-X	TRANSISTOR		
Q641	UN2211-X	TRANSISTOR		
D601	SML-310VT/JK-X	LED		
D602	SML-310VT/JK-X	LED		
D603	SML-310VT/JK-X	LED		
D604	SML-310VT/JK-X	LED		
D605	SML-310VT/JK-X	LED		
D606	SML-310VT/JK-X	LED		
D607	SML-310VT/JK-X	LED		
D608	CL-190UB2-X-X	LED		
D609	CL-190UB2-X-X	LED		
D610	SML-310VT/JK-X	LED		
D611	SML-310VT/JK-X	LED		
D612	SML-310VT/JK-X	LED		
D613	SML-310VT/JK-X	LED		
D614	SML-310VT/JK-X	LED		
D615	SML-310VT/JK-X	LED		
D616	SML-310VT/JK-X	LED		
D617	SML-310VT/JK-X	LED		
D618	SML-310VT/JK-X	LED		
D619	SML-310VT/JK-X	LED		
D640	MA152WK-X	SI DIODE		
D641	UDZ55.1B-X	Z DIODE		
D642	MA111-X	SI DIODE		
D643	MA8062/M-X	Z DIODE		
D645	NSPW310BS/BRS/	LED		G615 UN
D645	NSPW310BS/BRST/	WHITE LED		G615 U,G61 5UH, G615 UT
D646	NSPW310BS/BRS/	LED		G615 UN
D646	NSPW310BS/BRST/	WHITE LED		G615 U,G61 5UH, G615 UT

△ Symbol No.	Part No.	Part Name	Description	Local
R644	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R646	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R648	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R651	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R652	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R653	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R654	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R655	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R656	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R657	NRSA63J-513X	MG RESISTOR	51kΩ 1/16W J	
R658	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
R660	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J	
R661	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J	
R670	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R672	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R673	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R674	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R691	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R692	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
CN601	NNZ0085-001	CAR CONNECTOR		
EN601	QSW1115-002	ROTARY ENCODER		
J601	QNS0245-001	AUX JACK		
S601	NSW0206-001X	TACT SWITCH		
S602	NSW0206-001X	TACT SWITCH		
S603	NSW0206-001X	TACT SWITCH		
S604	NSW0206-001X	TACT SWITCH		
S605	NSW0206-001X	TACT SWITCH		
S606	NSW0206-001X	TACT SWITCH		
S607	NSW0206-001X	TACT SWITCH		
S608	NSW0206-001X	TACT SWITCH		
S609	NSW0206-001X	TACT SWITCH		
S610	NSW0206-001X	TACT SWITCH		
S611	NSW0206-001X	TACT SWITCH		
S612	NSW0206-001X	TACT SWITCH		
S613	NSW0206-001X	TACT SWITCH		
S614	NSW0206-001X	TACT SWITCH		
S616	NSW0206-001X	TACT SWITCH		
S617	NSW0206-001X	TACT SWITCH		

## Mechanism control board (KD-G615\_UT,UH,UN,U)

### Block No. [0][3]

△ Symbol No.	Part No.	Part Name	Description	Local
IC501	TMP91CW12AF5VD9	IC		
IC502	BR24L01AFV-W-X	IC		
IC503	SN74AHCT126PW-X	IC(DIGITAL)		
IC504	NJU7241F33-X	IC		
IC571	PCM1753-X	IC		
IC572	NJM4580V-X	IC		
IC573	SN74AHC04PW-X	IC		
IC601	TA2157FN-X	RF AMP IC		
IC621	TC94A14FA	CD LSI IC		
IC651	NJU7772F15-X	IC		
IC652	TC94A34FG-002	IC		
IC681	BA5830FP-X	IC		
Q501	UN2111-X	TRANSISTOR		
Q502	UN2211-X	TRANSISTOR		
Q571	UN2111-X	TRANSISTOR		
Q572	UN2211-X	TRANSISTOR		
Q573	2SB624/4-X	TRANSISTOR		
Q574	UN2211-X	TRANSISTOR		
Q601	2SB1132/QR-W	TRANSISTOR		
Q651	2SB624/4-X	TRANSISTOR		
Q652	UN2211-X	TRANSISTOR		
Q681	2SB1184/QR-X	TRANSISTOR		
D506	MA111-X	SI DIODE		
D682	1SR154-400-X	DIODE		













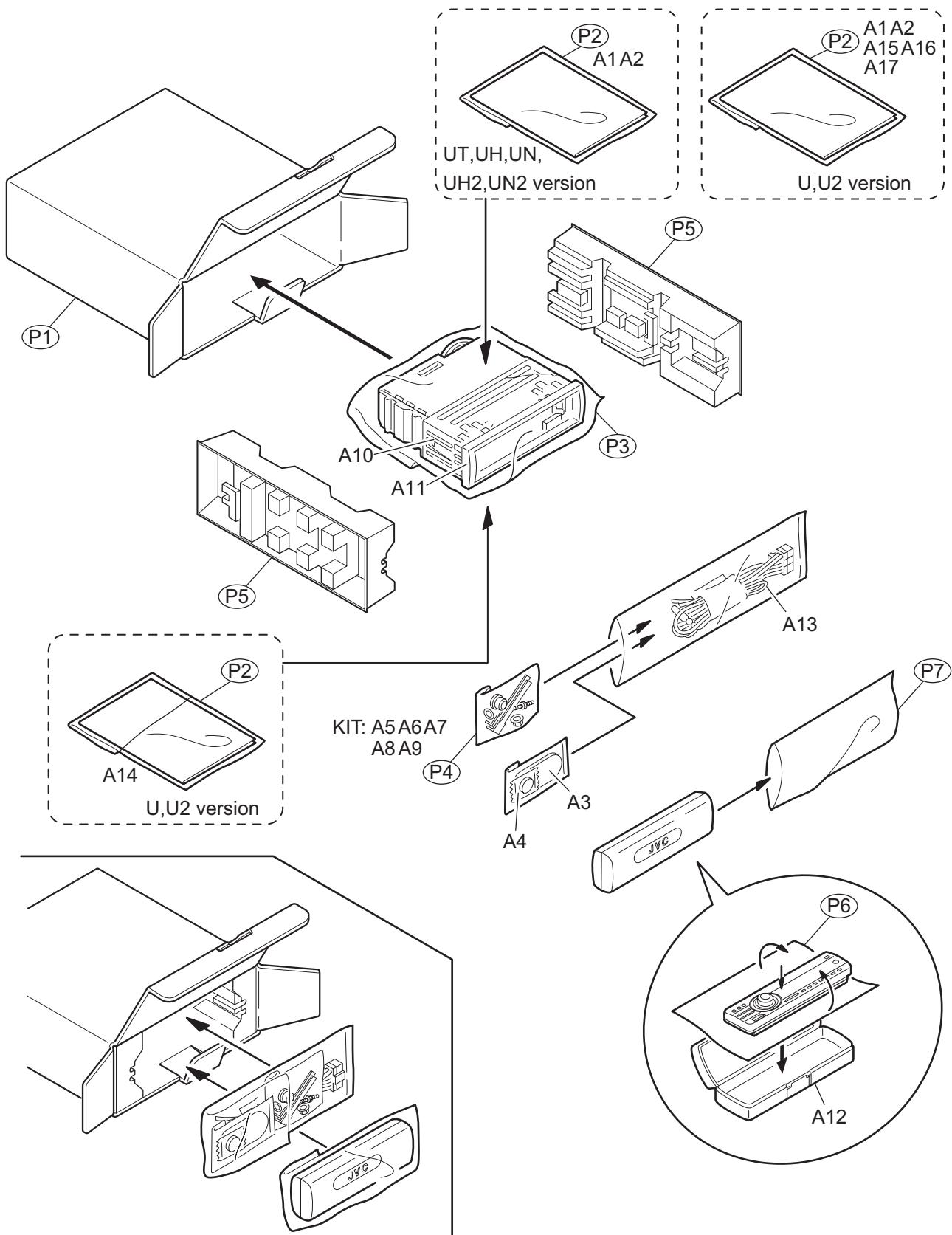


△ Symbol No.	Part No.	Part Name	Description	Local
R610	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R611	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R612	NRSA63J-202X	MG RESISTOR	2kΩ 1/16W J	
R613	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R614	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R615	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R616	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R621	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R622	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R623	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R624	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R625	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R626	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J	
R627	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R628	NRSA63J-155X	MG RESISTOR	1.5MΩ 1/16W J	
R629	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R630	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R631	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R632	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R633	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R634	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R635	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R636	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R637	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R638	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R639	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R640	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R641	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R642	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R651	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R654	NRSA63J-390X	MG RESISTOR	39Ω 1/16W J	
R655	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R656	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R657	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R668	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R675	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R681	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R682	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R683	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R684	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R685	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R686	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R687	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R688	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R689	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R690	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R691	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
L501	NQL114K-470X	INDUCITOR	47uH K	
L502	NQL114K-470X	INDUCITOR	47uH K	
L572	NQL114K-470X	INDUCITOR	47uH K	
L621	NQL114K-470X	INDUCITOR	47uH K	
L622	NQL114K-470X	INDUCITOR	47uH K	
L623	NQL114K-470X	INDUCITOR	47uH K	
L651	NQL114K-470X	INDUCITOR	47uH K	
L652	NQL114K-470X	INDUCITOR	47uH K	
L653	NQL114K-470X	INDUCITOR	47uH K	
CN501	QGB2027L1-22X	CONNECTOR	B-B (1-22)	
CN601	QGF0527F2-22W	CONNECTOR	FFC/FPC (1-22)	
TH501	NAD0028-103X	N THERMISTOR	10kΩ	
X501	NAX0385-001X	CRYSTAL	24.576MHz	
X571	NAX0375-001X	CRYSTAL	16.9344MHz	

**<MEMO>**

# Packing materials and accessories parts list

Block No. M 3 M M



## Packing and Accessories

Block No. [M][3][M][M]

△	Symbol No.	Part No.	Part Name	Description	Local
A 1		GET0265-001A	INST BOOK	ENG THA	G615U,G615U2,G615UH,G615UH2
A 1		GET0265-003A	INST BOOK	ENG INA	G615UN,G615UN2
A 1		GET0265-007A	INST BOOK	ENG CHI(TAIWAN)	G615UT
A 2		GET0265-004A	INSTALL MANUAL		G615U,G615U2,G615UH,G615UH2
A 2		GET0265-006A	INSTALL MANUAL		G615UN,G615UN2
A 2		GET0265-008A	INSTALL MANUAL		G615UT
A 3		RM-RK50	REMOCON UNIT		
A 4		-----	BATTERY		
A 5		VKZ4027-202	PLUG NUT		
A 6		VKH4871-003	MOUNT BOLT		
A 7		VKZ4328-003	LOCK NUT		
A 8		QYWWS53A008ZA	WASHER	0mm/5.3mm x	
A 9		GE40130-002A	HOOK	(x2)	
A 10		GE20137-003A	MOUNTING SLEEVE		
A 11		GE20149-014A	TRIM PLATE		
A 12		FSJB3002-30C	HARD CASE		
A 13		QAM0308-004	16P CORD ASSY		
A 14		GET0265-002A	INST BOOK	KOR CHI(TAIWAN) ARA PER	G615U,G615U2
A 15		GET0265-009A	INST BOOK	RUS	G615U,G615U2
A 16		GET0265-005A	INSTALL MANUAL		G615U,G615U2
A 17		GET0265-010A	INSTALL MANUAL		G615U,G615U2
KIT		SRW-385U	SCREW PARTS KIT	A5 A6 A7 A8 A9	
P 1		GE31468-002A	CARTON		
P 2		FSPG4002-001	POLY BAG	(x2)	G615U,G615U2
P 2		FSPG4002-001	POLY BAG		G615UH,G615UH2
P 2		FSPG4002-001	POLY BAG		G615UN,G615UN2,G615UT
P 3		QPC03004315P	POLY BAG	30cm x 43cm	
P 4		QPA00801205	POLY BAG	8cm x 12cm	
P 5		GE10108-002A	PAPER CUSHION	(x2)	
P 6		FSYH4036-068	SHEET		
P 7		QPA01003003	POLY BAG	10cm x 30cm	