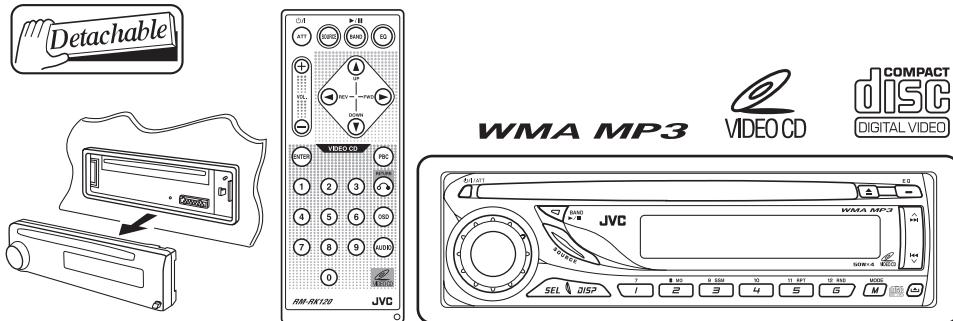


# JVC

## SERVICE MANUAL

VCD/CD RECEIVER

# KD-SV3204UI, KD-SV3205U, KD-SV3205UN, KD-SV3205UT, KD-SV3205UH



Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

### TABLE OF CONTENTS

1 PRECAUTIONS .....	1-3
2 SPECIFIC SERVICE INSTRUCTIONS .....	1-6
3 DISASSEMBLY .....	1-7
4 ADJUSTMENT .....	1-11
5 TROUBLESHOOTING .....	1-13

# 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
Other Terminal		LINE IN, CD changer
<b>VIDEO SECTION</b>		
Color system		PAL/NTSC
Video output (composite)		1 Vp-p/75 Ω
<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	30 dB
AM Tuner	Sensitivity	20 μV
	Selectivity	35 dB
<b>VCD/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:
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.)		1.4 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 laser products.

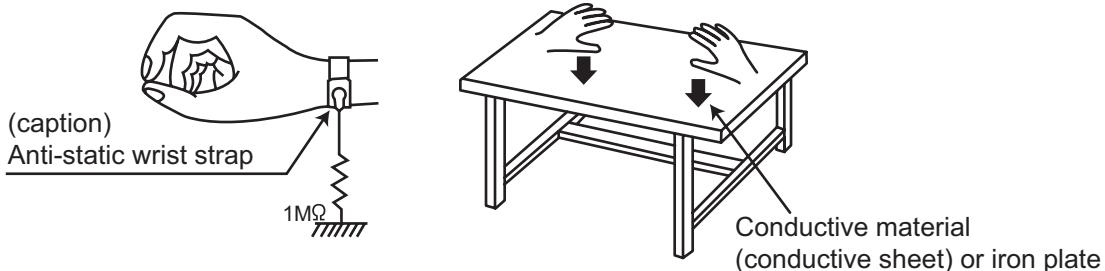
Be careful to use proper grounding in the area where repairs are being performed.

#### (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.

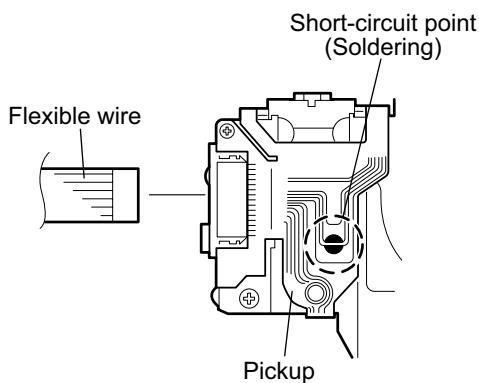
## 1.3 Handling the traverse unit (optical pickup)

- 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 pickup unit.

- Apply solder to the short land before the flexible wire is disconnected from the connector on the pickup unit.  
(If the flexible wire is disconnected without applying solder, the 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.

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

**VARO** : Avattaessa ja suojalukitus ohittuna 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)

WARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)

VARO : Avattaessa ja suojalukitus ohittuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)

## **SECTION 2**

### **SPECIFIC SERVICE INSTRUCTIONS**

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

## SECTION 3 DISASSEMBLY

### 3.1 Main body section

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

Push the detach button in the lower right part of the front panel assembly and remove the front panel assembly.

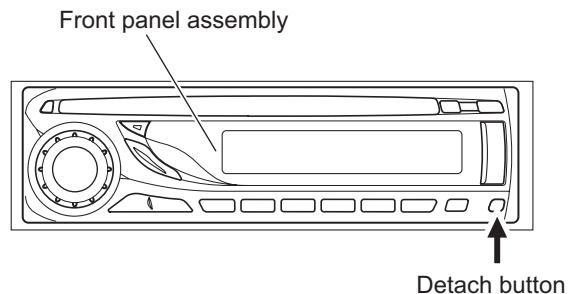


Fig.1

#### 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, tow 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.

**Note:**

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

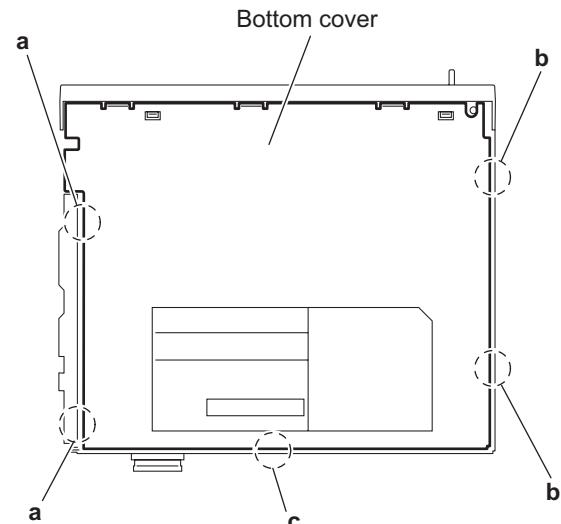


Fig.2

#### 3.1.3 Removing the front chassis assembly (See Fig.3)

- Remove the front panel assembly and bottom cover.
  - (1) Remove the two screws **A** on the both sides of the main body.
  - (2) Release the one joint **d** and one joint **e** on the both sides of the main body, then remove the front chassis assembly toward the front.

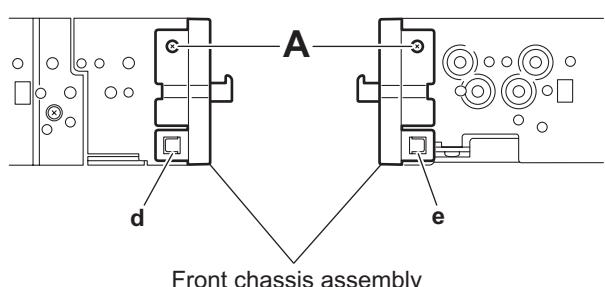


Fig.3

### 3.1.4 Removing the side panel (See Fig.4)

#### Reference:

Remove the front panel assembly as required.

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

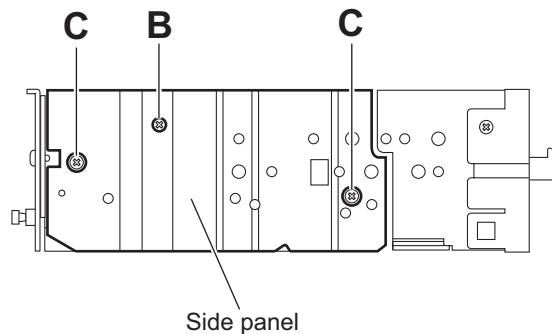


Fig.4

### 3.1.5 Removing the rear bracket (See Fig.5)

#### Reference:

- Remove the bottom cover.
- (1) Remove the three screws **D**, one screw **D'**, four screws **E** and two screws **F** attaching the rear bracket on the back side of the main body.

#### Reference:

When attaching the screw **D'**, attach the wire holder of the VIDEO OUT cable with it as before.

- (2) Remove the LINE IN cable in the direction of the arrow from the slot of the rear bracket.
- (3) Remove the rear bracket.

### 3.1.6 Removing the main board (See Fig.5 and 6)

- Remove the front panel assembly, bottom cover, front chassis assembly and side panel.
- (1) Remove the three screws **D** and one screw **D'** attaching the rear bracket on the back side of the main body. (See Fig.5)

#### Reference:

When attaching the screw **D'**, attach the wire holder of the DVD OUT cable with it as before.

- (2) Remove the two screws **G** attaching the main board. (See Fig.6)
- (3) Disconnect the connector **CN301** on the main board from the main body and take out the main board with the rear bracket. (See Fig.6)

#### Reference:

Remove the rear bracket from the main body as required.

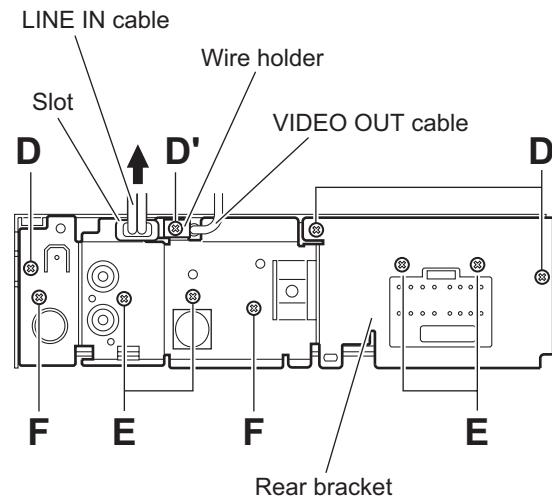


Fig.5

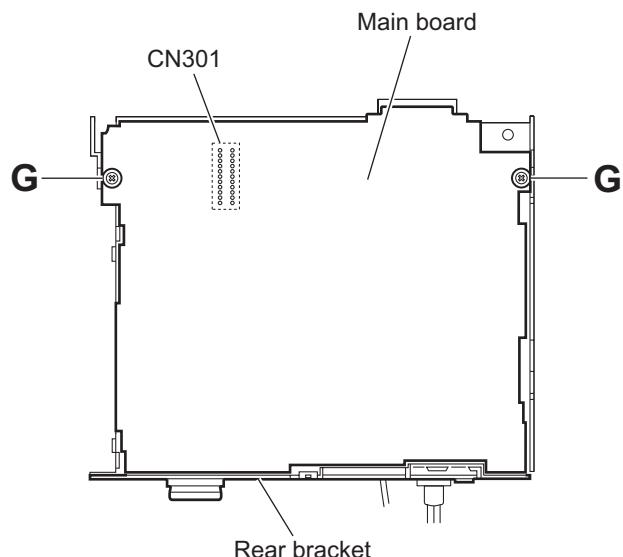


Fig.6

### 3.1.7 Removing the mechanism control board

(See Fig.7)

- Remove the front panel assembly, bottom cover, front chassis assembly, side panel and main board.
- (1) Disconnect the card wire from the connector [CN601](#) on the mechanism control board.
- (2) Remove the five screws **H** attaching the mechanism control board on the CD mechanism assembly.
- (3) Remove the joint **f** in the direction of the arrow and take out the mechanism control board from the CD mechanism assembly.

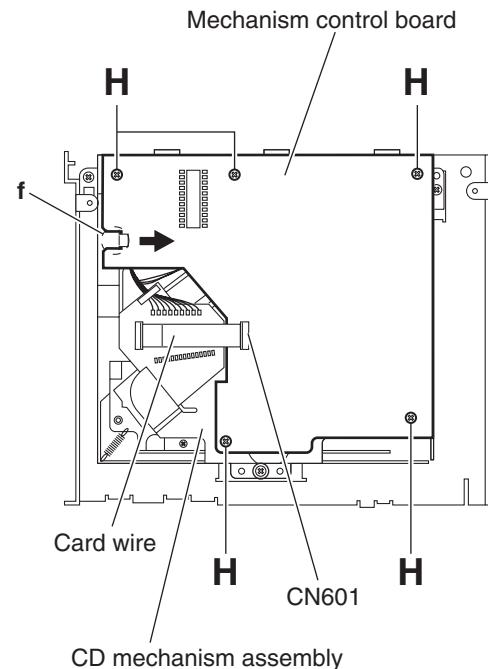


Fig.7

### 3.1.8 Removing the CD mechanism assembly

(See Fig.8)

- Remove the front panel assembly, bottom cover, front chassis assembly, side panel and main board.

#### Reference:

Remove the mechanism control board as required.

- (1) Remove the three screws **J** attaching the CD mechanism assembly on the top chassis.
- (2) Take out the CD mechanism assembly.

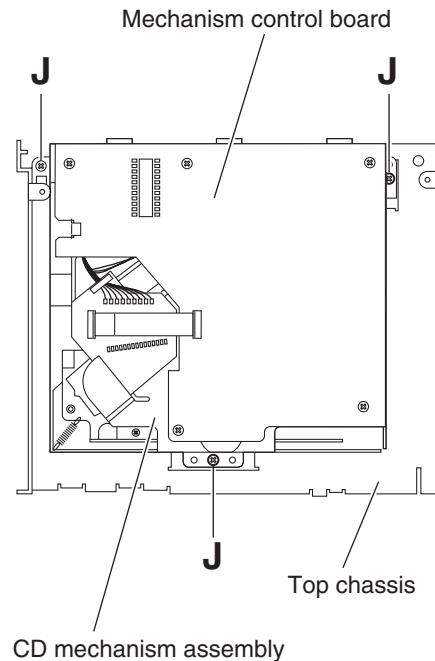


Fig.8

### 3.1.9 Removing the switch board

(See Fig.9 to 11)

- Remove the front panel assembly.
  - (1) Remove the four screws **K** on the back side of the front panel assembly. (See Fig.9)
  - (2) Release the fourteen joints **g** and remove the rear cover. (See Fig.10)
  - (3) Release the joint **h** and take out the switch board from the front panel assembly. (See Fig.11)

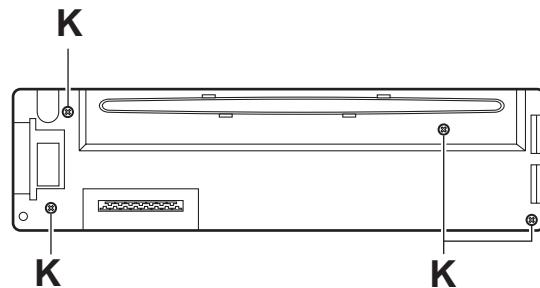


Fig.9

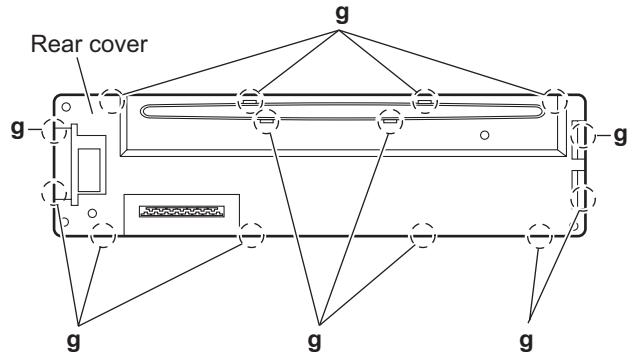


Fig.10

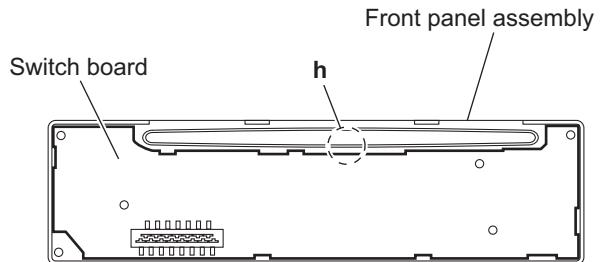


Fig.11

### 3.2 CD mechanism section

For the CD mechanism section, please refer CD mechanism manual TN2001-1077 (No.MY001).

## 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:

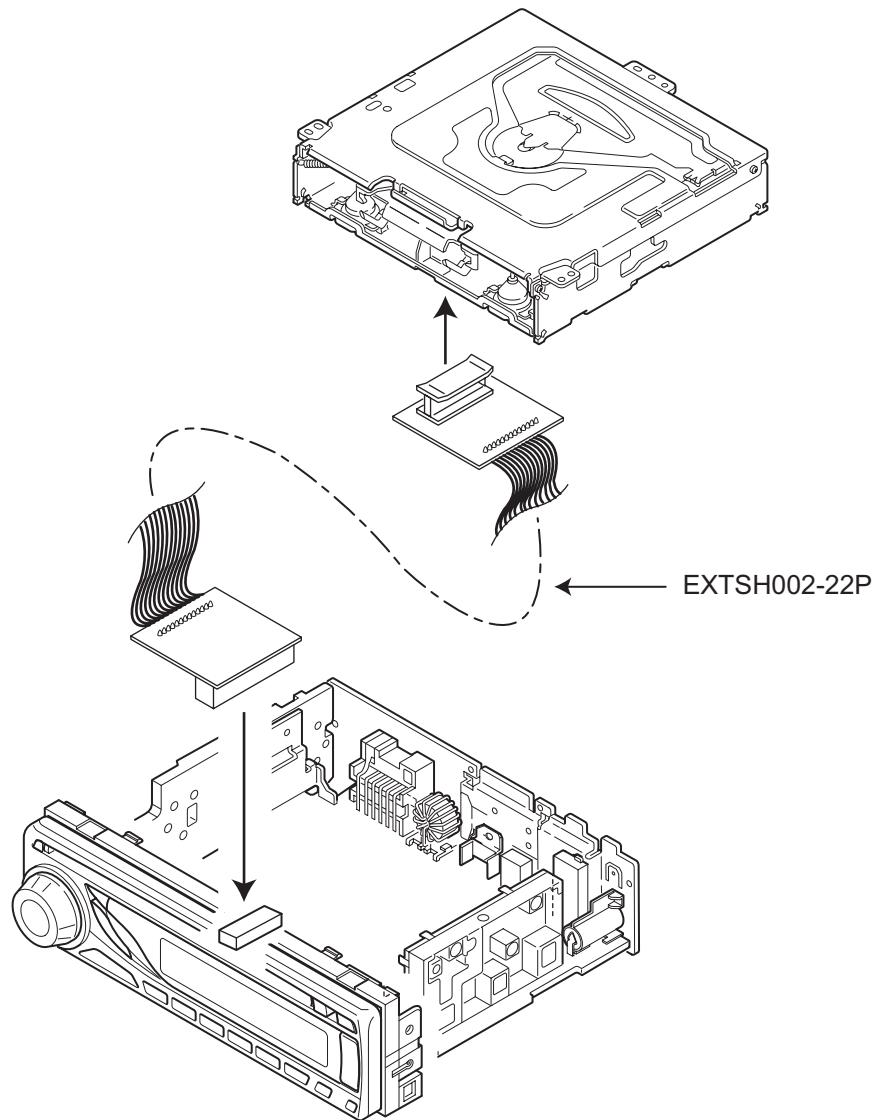
Be sure to attach the heat sink and rear bracket onto the power amplifier IC and regulator IC respectively, before supply the power.  
If voltage is applied without attaching these parts, the power amplifier IC and regulator IC will be destroyed by heat.

#### ■ Standard measuring conditions

Power supply voltage DC14.4V(11 to 16V)  
Load impedance 20KΩ(2 Speakers connection)  
Output Level Line out 2.0V (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.



#### 4.2 Confirmation method of a microcomputer version

1. Press the [ ⌂ / I /ATT ] button.
2. Set this set at tuner mode.
3. Keep this state more than 2 seconds while continuing pressing the [BAND] button and [2] button sequentially.
4. It is displayed as follows by a display window.

MA \*\*\* → Main micon version  
↓  
CD \*\*\* → CD micon version  
↓  
CH \*\*\* → CH micon version (It is displayed only in changer connection.)

Change each indication with the [SKIP] button.

## SECTION 5

### TROUBLESHOOTING

#### 5.1 Maintenance of laser pickup

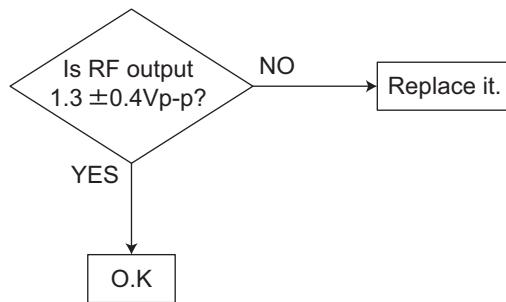
##### (1) Cleaning the pick up lens

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.

#### 5.2 Replacement of laser pickup

##### 5.2 Replacement of laser pickup

Turn off the power switch and, disconnect the power cord from the ac outlet.

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

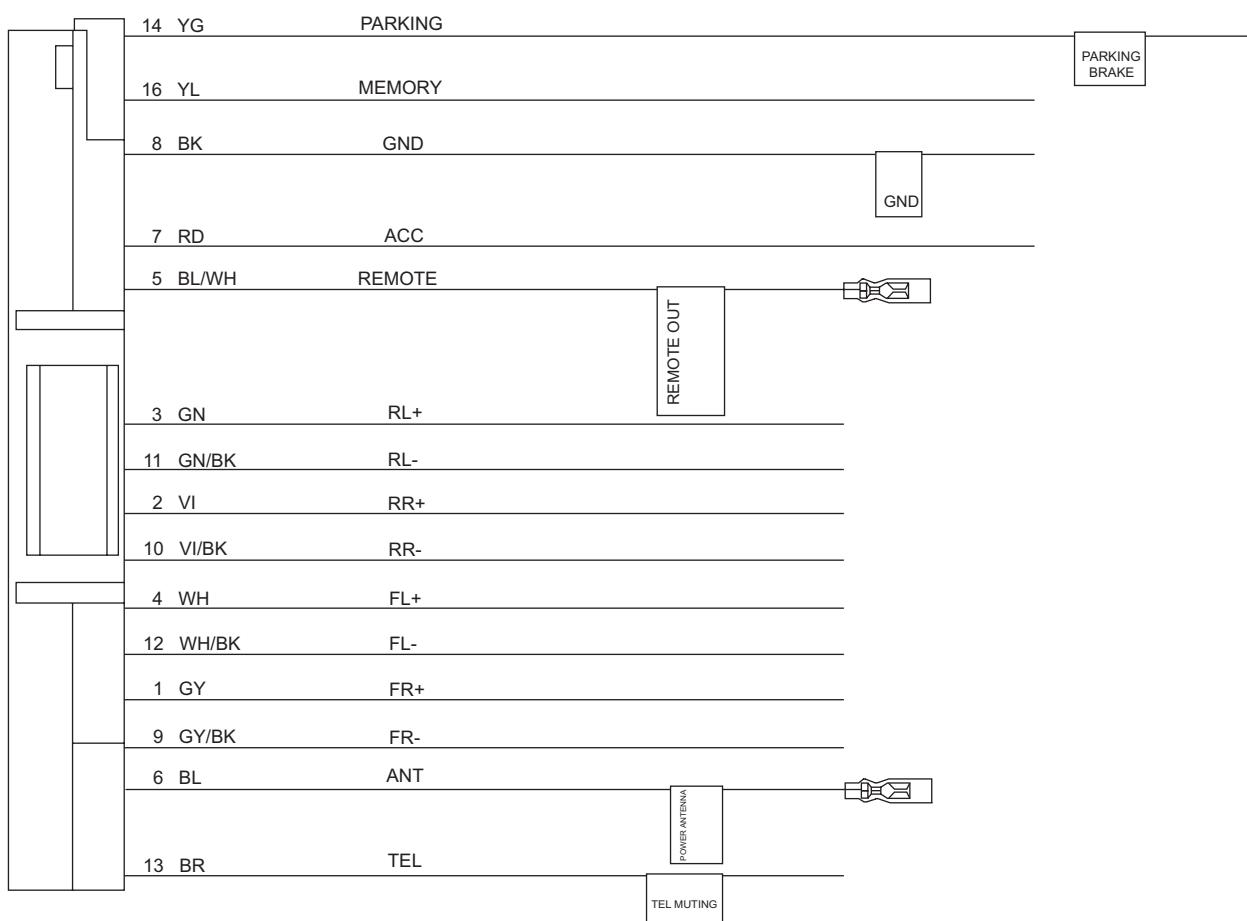
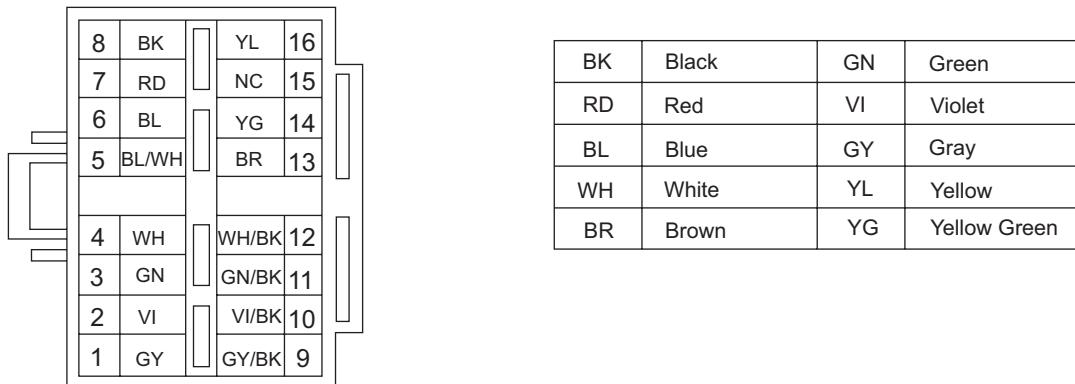
Plug the power cord in, and turn the power on. At this time, check that the laser emits for about 3seconds and the objective lens moves up and down.  
Note: Do not observe the laser beam directly.

Play a disc.

Check the eye-pattern at RF test point.

Finish.

### 5.3 16 PIN CORD DIAGRAM



RR	Rear Right	ANT	Auto Antenna
FR	Front Right	ACC	ACC Line
FL	Front Left	TEL	Telephone Muting
RL	Rear Left	GND	Ground
REMOTE	Remote	MEMORY	Memory Backup Battery+
		PARKING	Parking Brake





Victor Company of Japan, Limited

Mobile Entertainment Business Group Mobile Entertainment Category 10-1, 1chome, Ohwatari-machi, Maebashi-city, Gumma-ken, 371-8543, Japan

(No.MA256)



Printed in Japan  
VPT

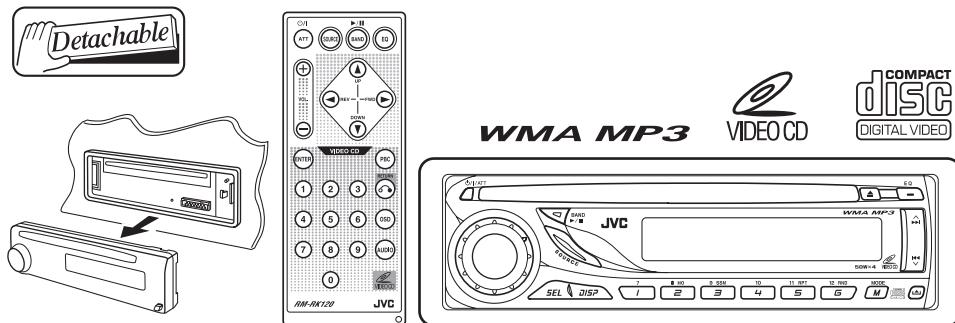
# JVC

## SCHEMATIC DIAGRAMS

### VCD/CD RECEIVER

**KD-SV3204UI, KD-SV3205U,  
KD-SV3205UN, KD-SV3205UT  
KD-SV3205UH**

CD-ROM No.SML200603



Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

### Contents

Block diagram .....	2-1
Standard schematic diagrams .....	2-2
Printed circuit boards .....	2-5 to 6

## Safety precaution

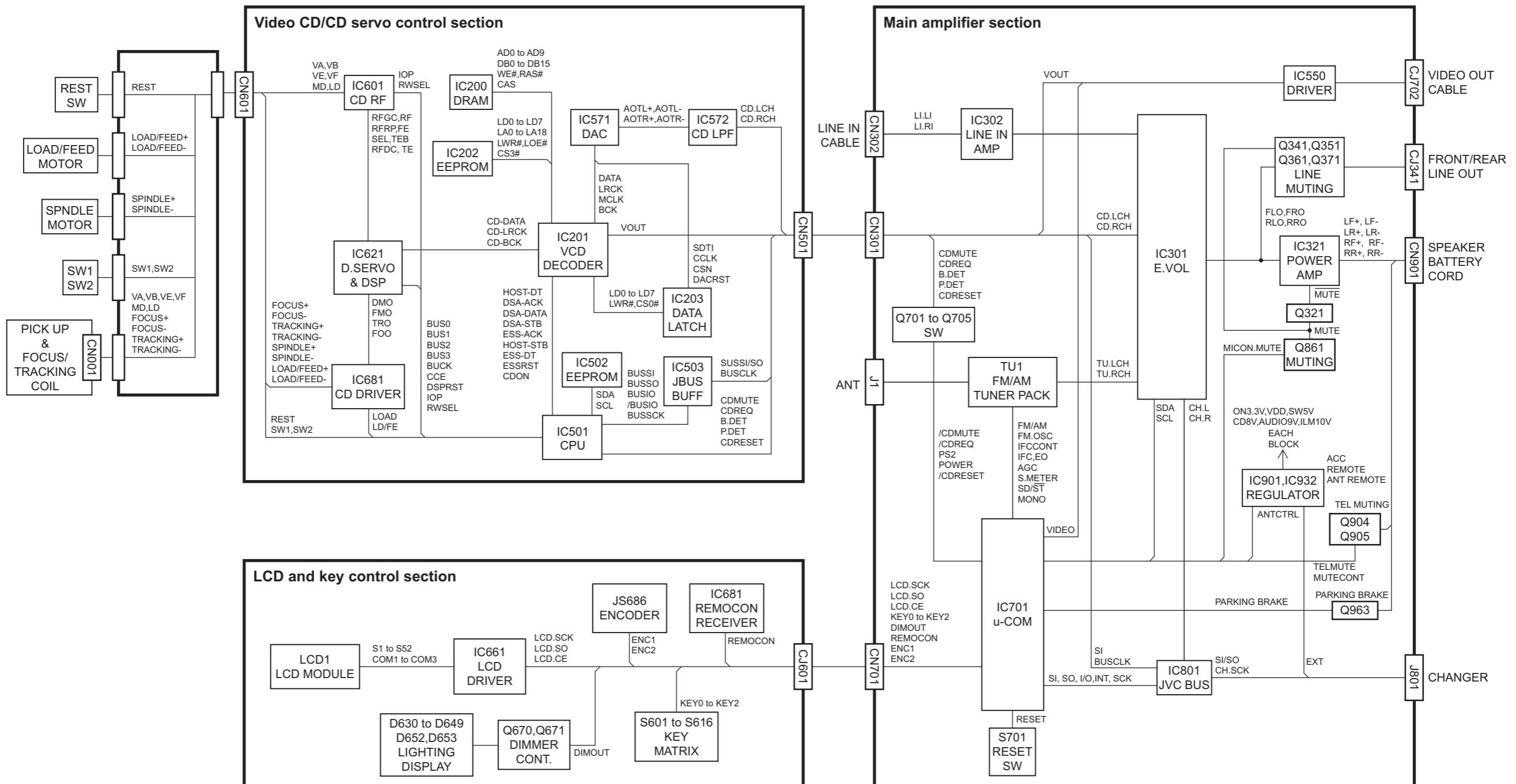


**CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.



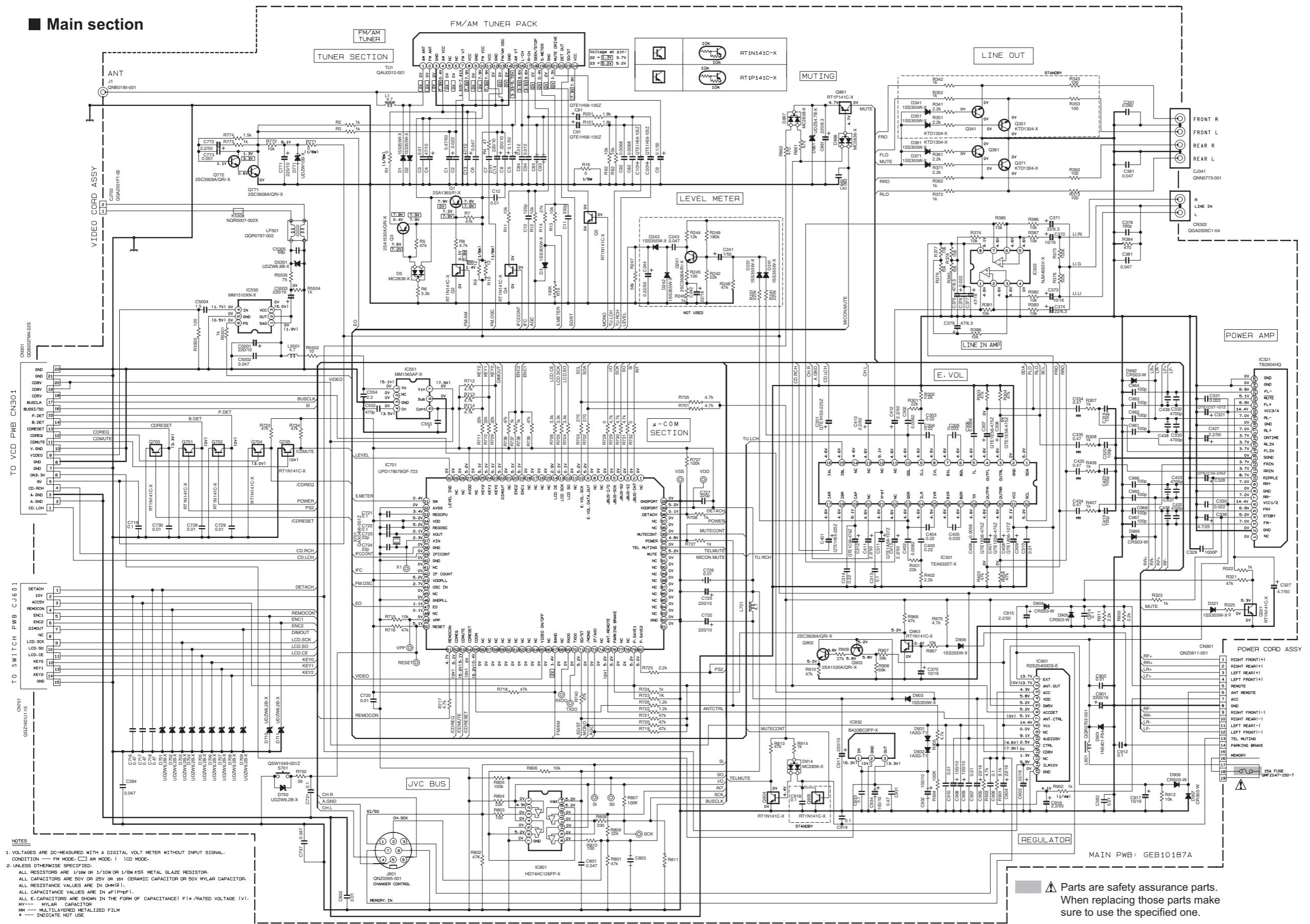
**CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

## Block diagram

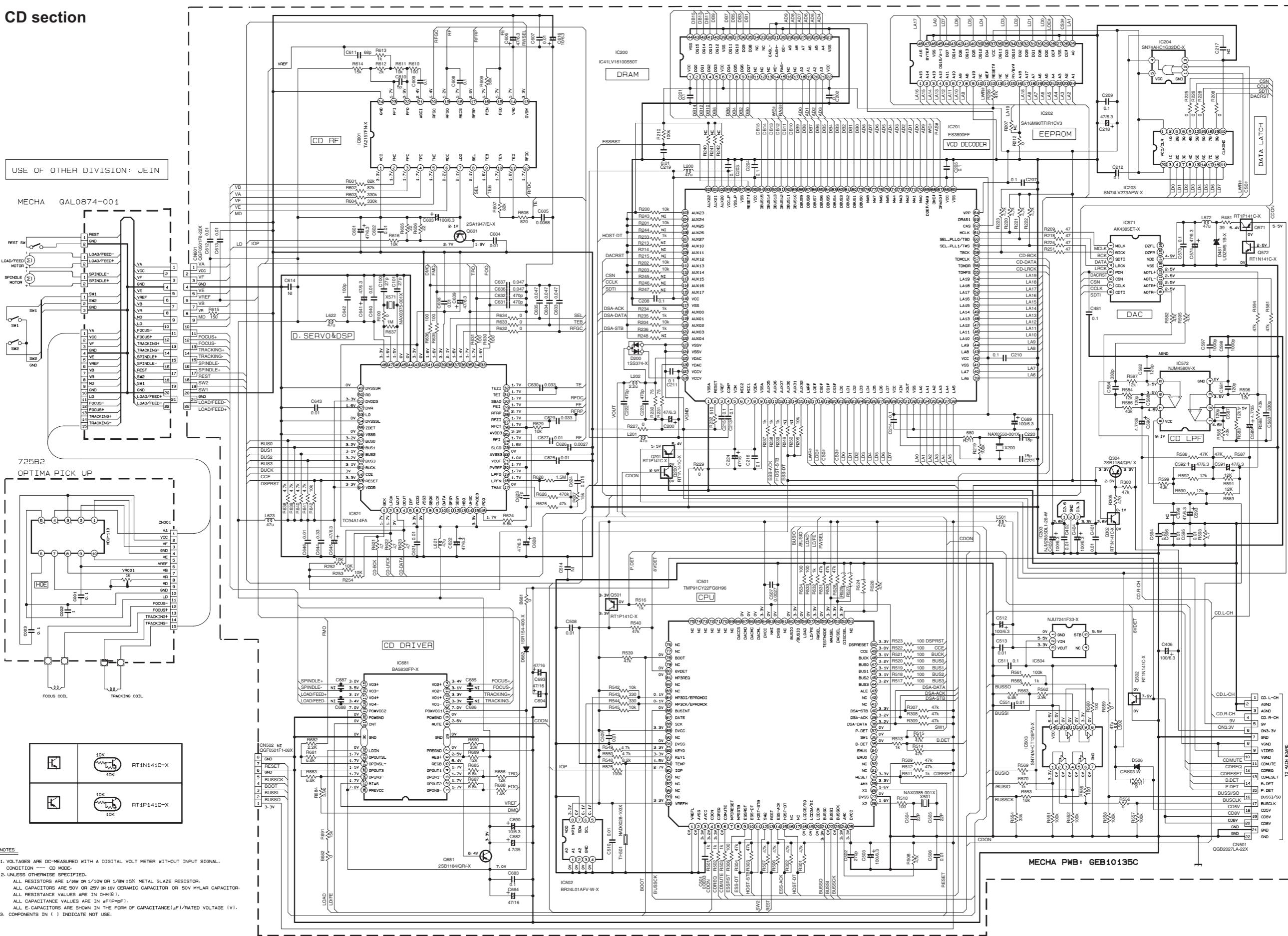


# Standard schematic diagrams

## Main section

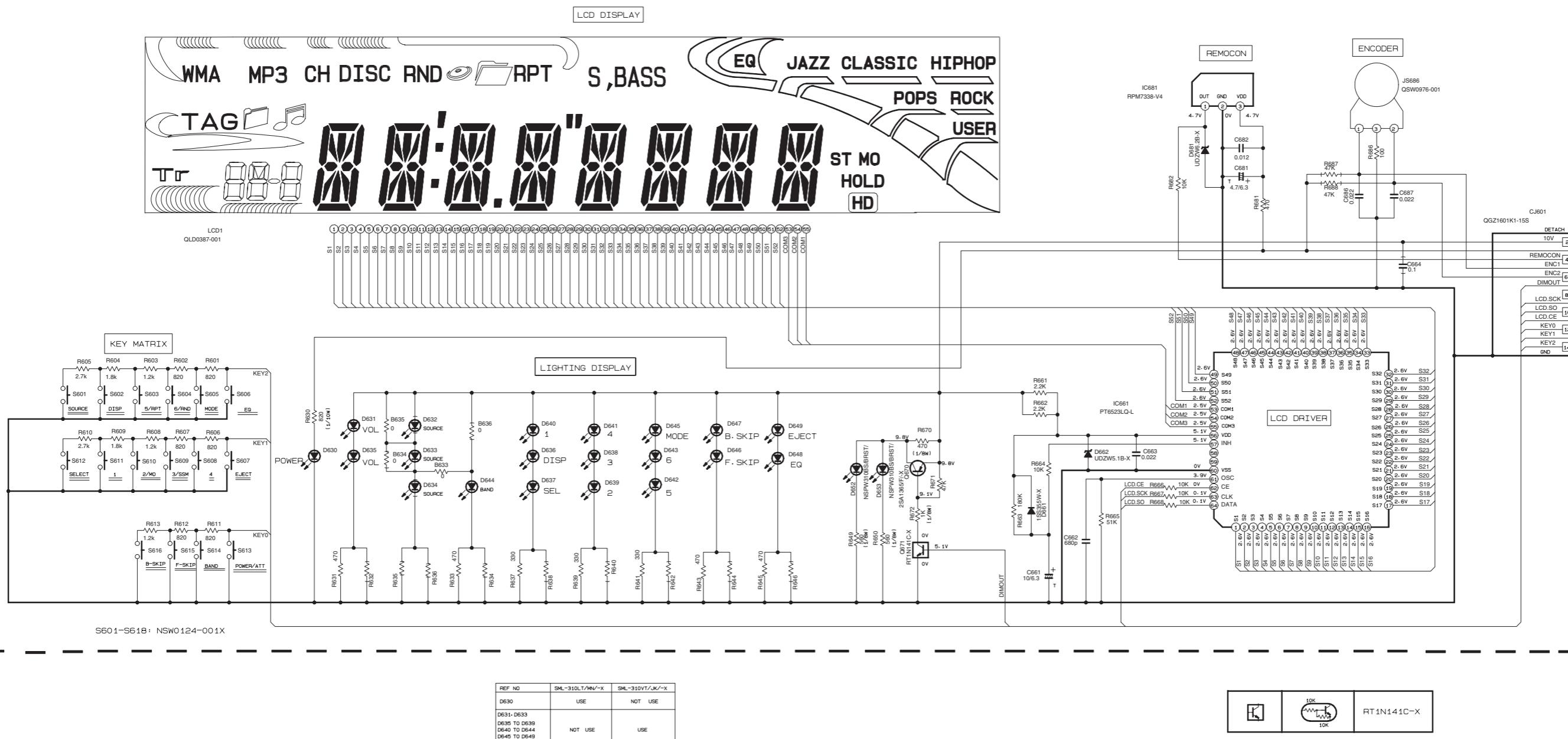


## CD section



## ■ LCD & Keey control section

SW PWB: GEB10174A



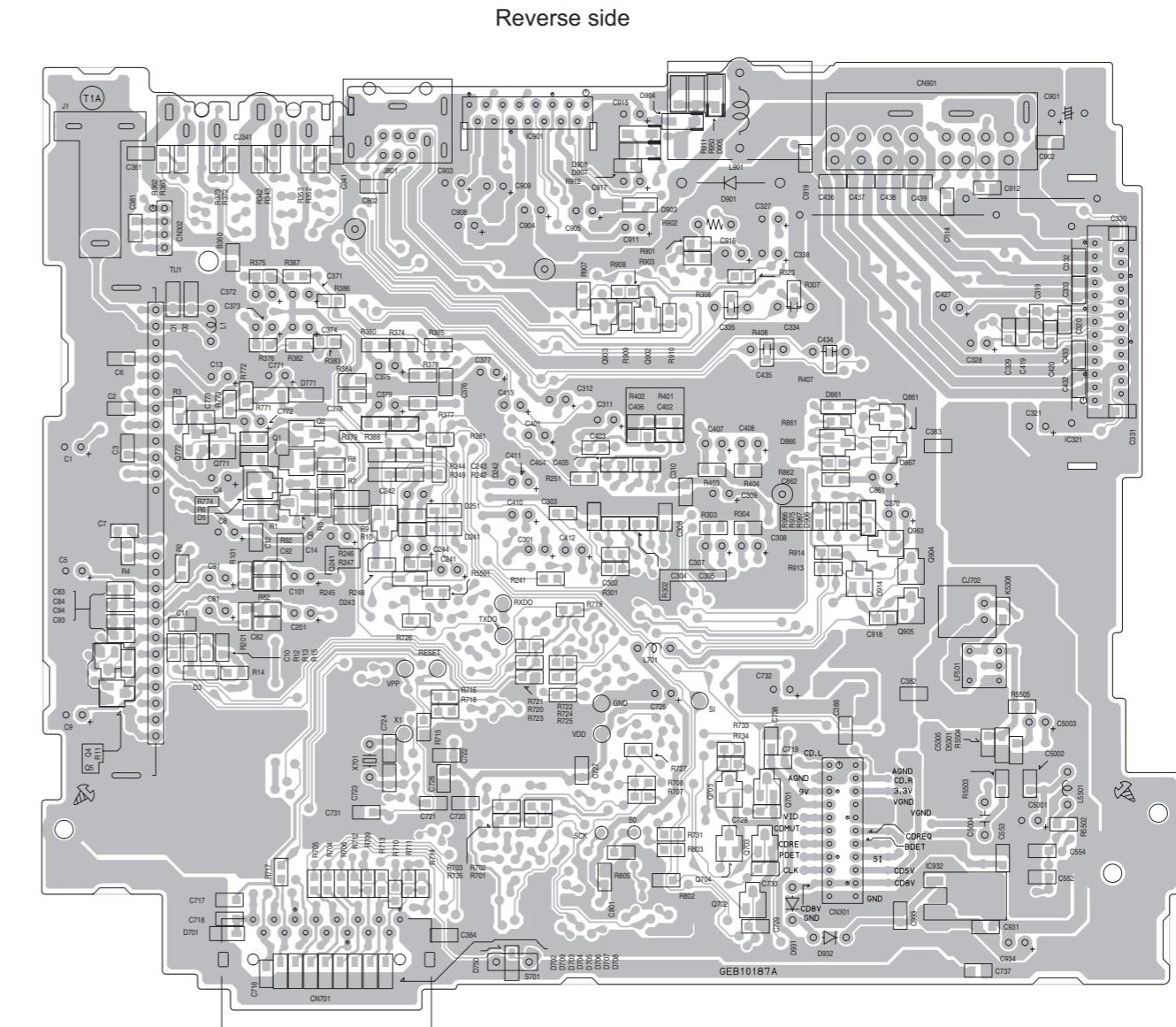
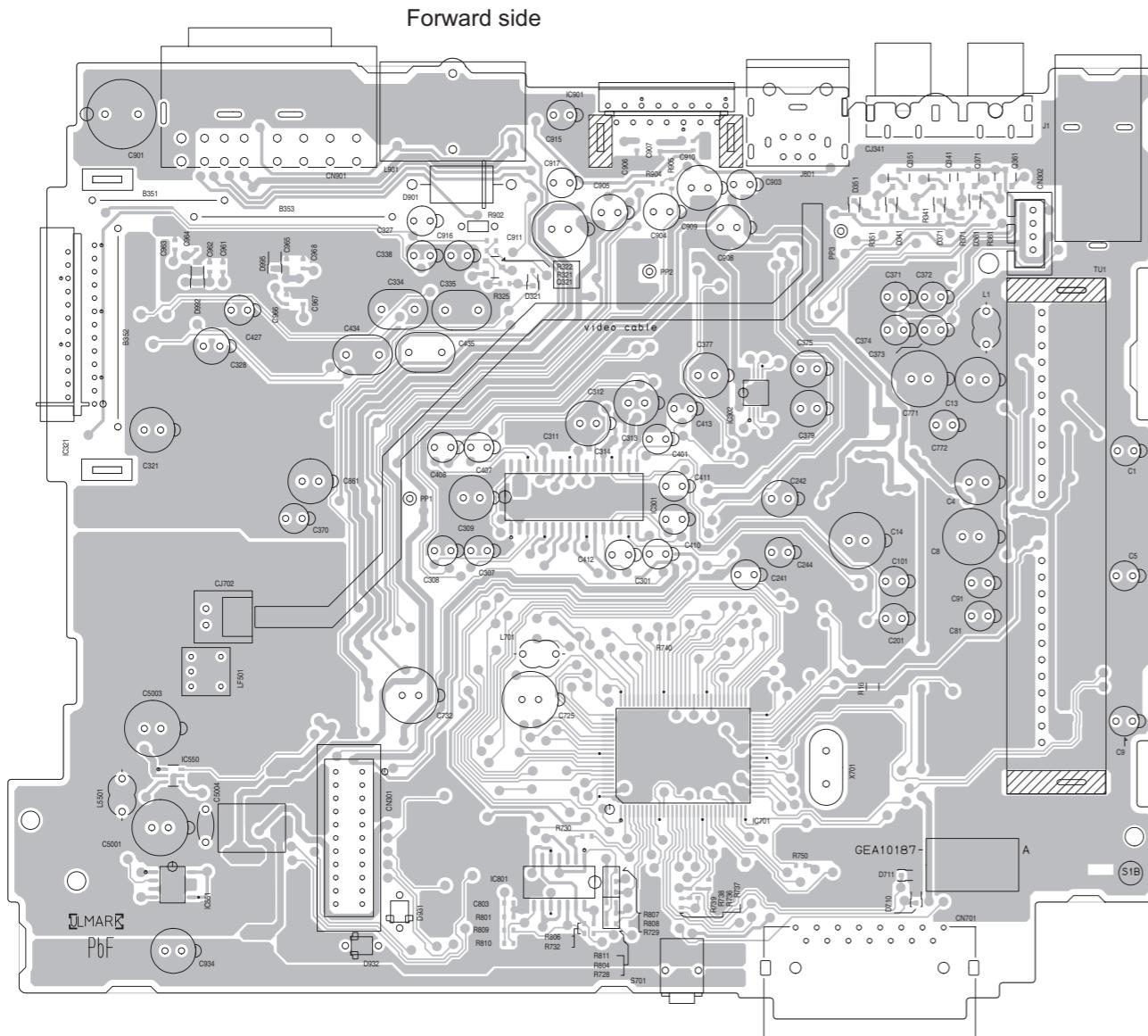
NOTES  
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.

2. UNLESS OTHERWISE SPECIFIED.  
ALL RESISTORS 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  $\mu$ F( $p$ =pF)  
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE( $\mu$ F)/RATED VOLTAGE(V)  
T --- TANTALUM CAPACITOR.

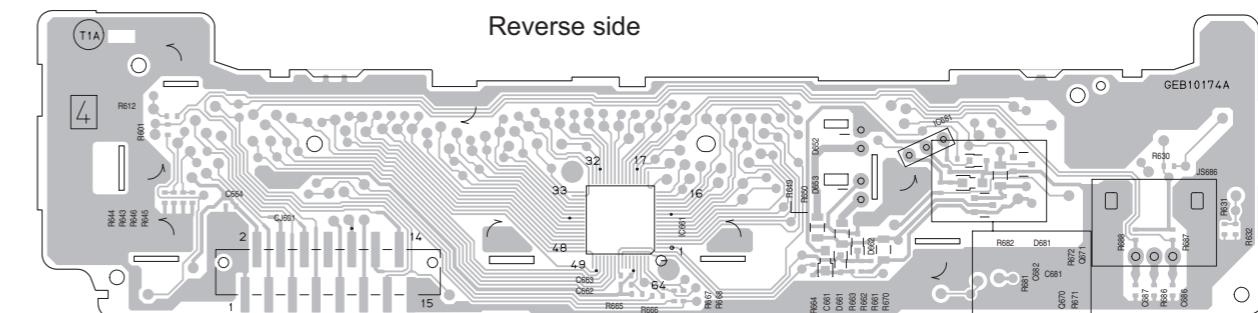
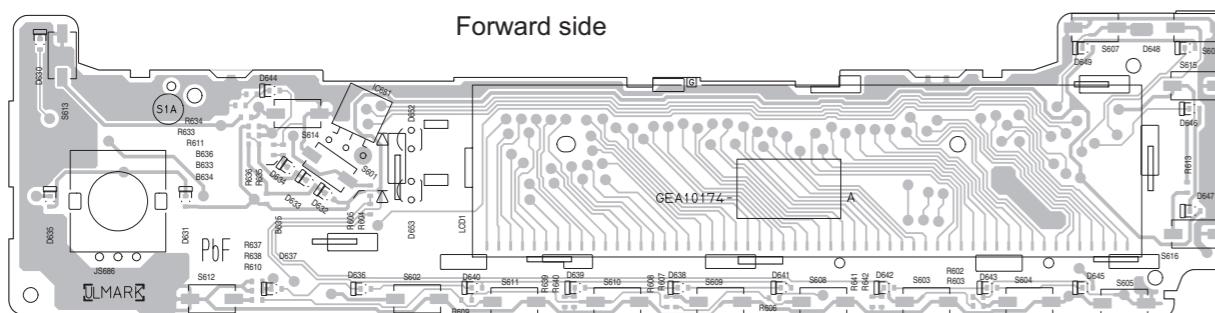
3. COMPONENTS IN ( ) INDICATE NOT USE.

# Printed circuit boards

**Main board** Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)



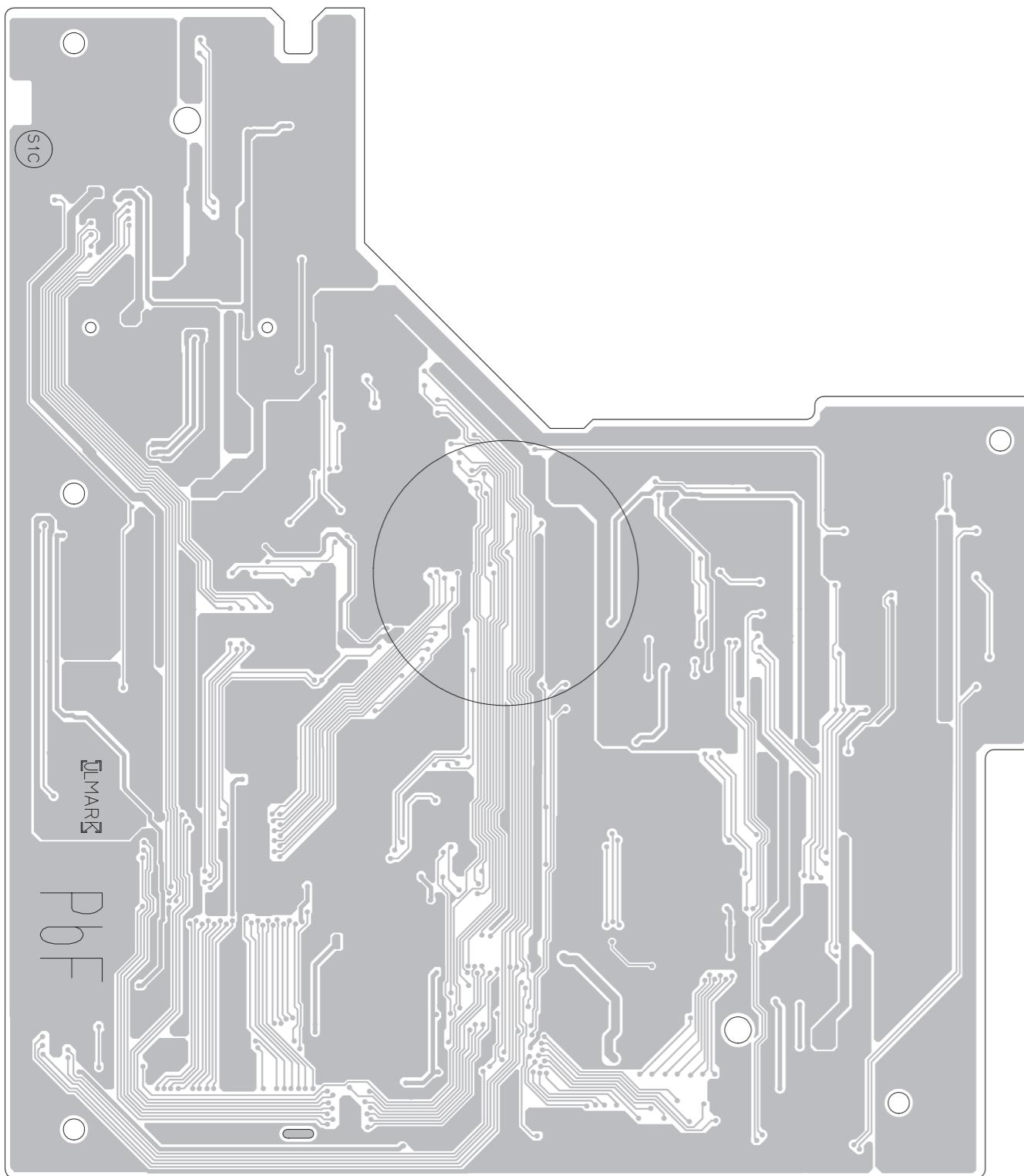
**Switch board** Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)



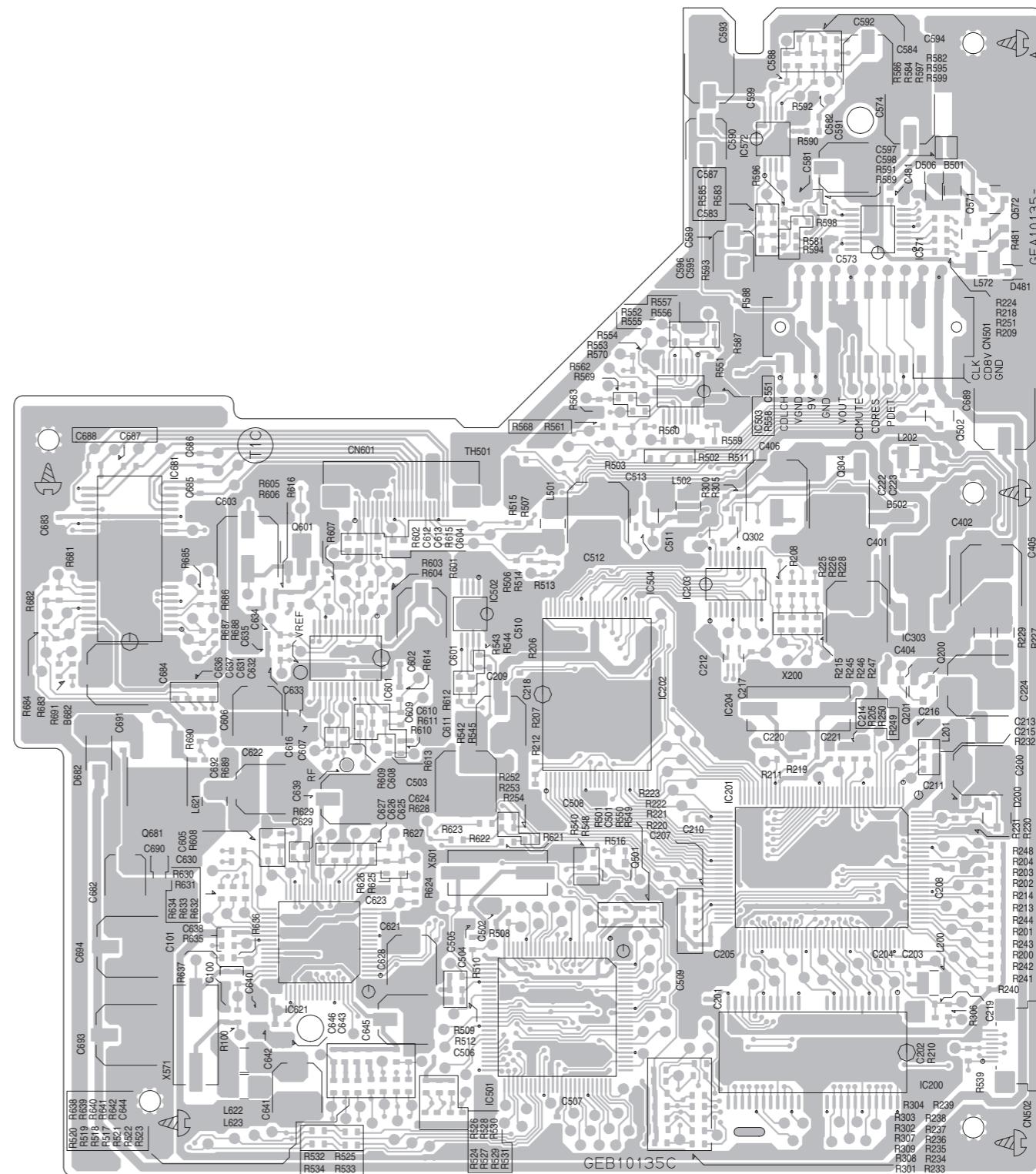
## ■ CD mechanism control board

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

Forward side



Reverse side



**< MEMO >**

# JVC

Victor Company of Japan, Limited

Mobile Entertainment Business Group Mobile Entertainment Category 10-1, 1chome, Ohwatari-machi, Maebashi-city, Gumma-ken, 371-8543, Japan

(No.MA256SCH)

 Printed in Japan  
VPT

## PARTS LIST

KD-SV3204UI, KD-SV3205U, KD-SV3205UN  
KD-SV3205UT, KD-SV3205UH

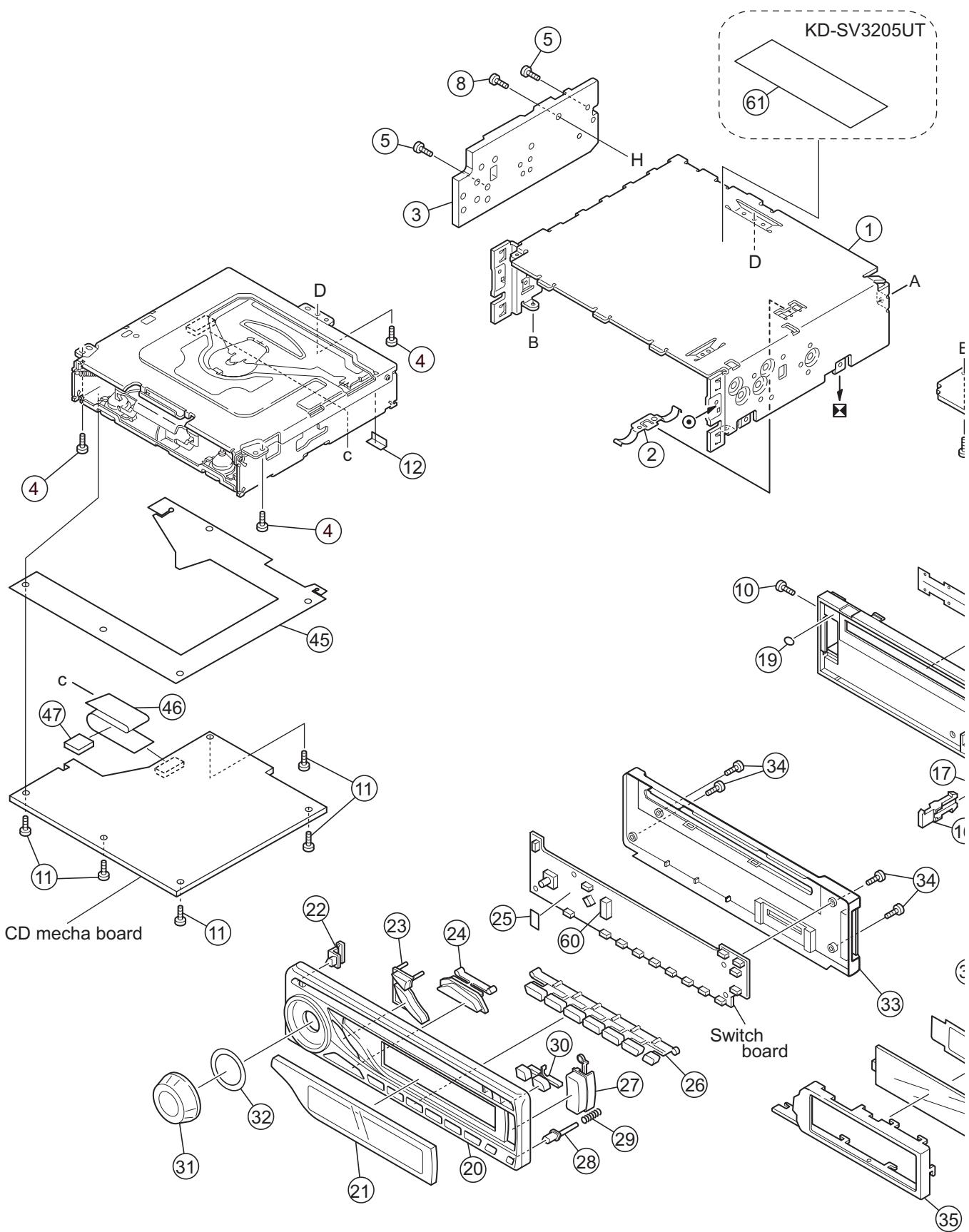
- \* All printed circuit boards and its assemblies are not available as service parts.
- \* Please refer to the mechanism manual (model TN2001-1077, No.MY001) for the CD mechanism.

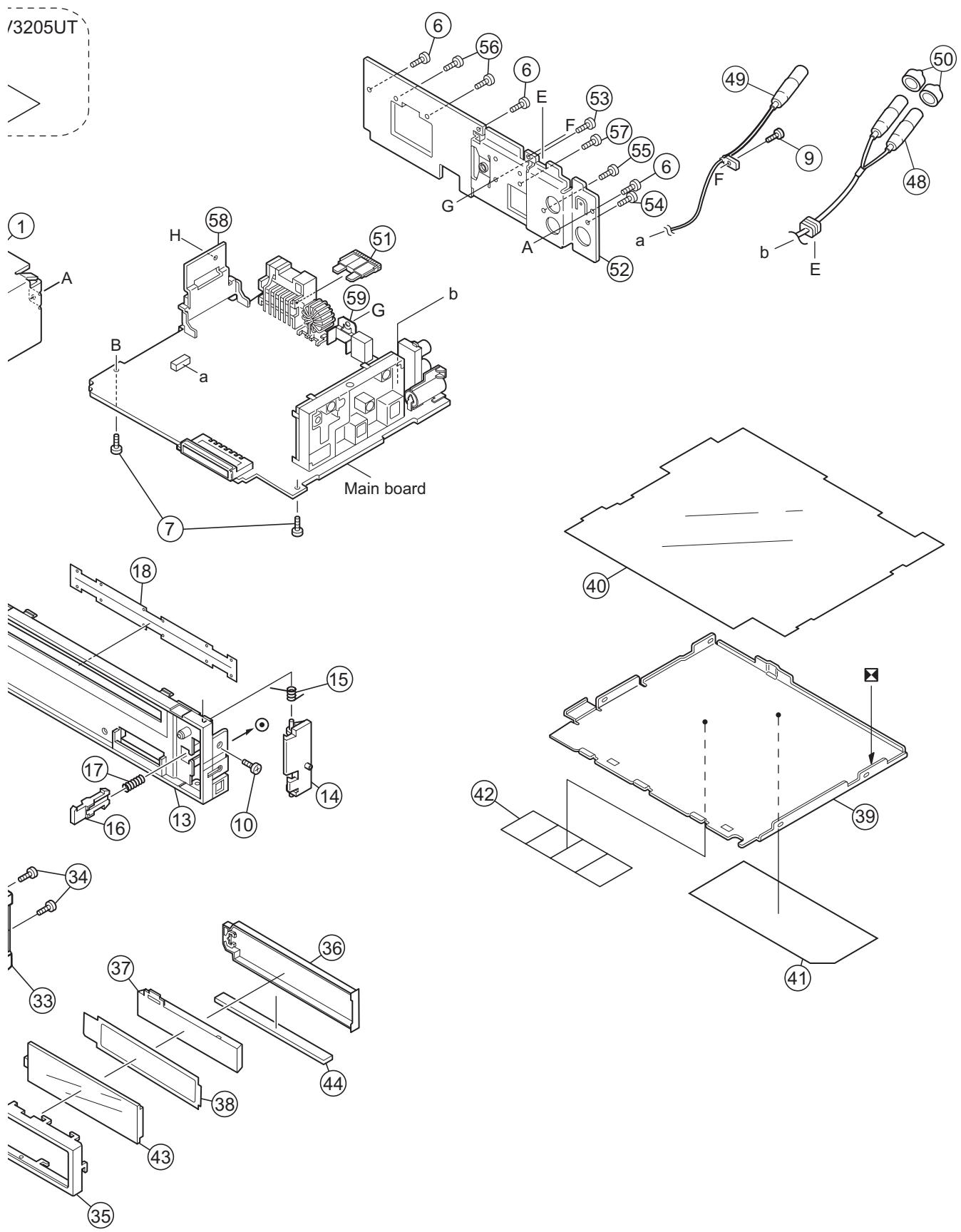
### - Contents -

Exploded view of general assembly and parts list (Block No.M1) .....	3- 2
Electrical parts list (Block No.01~03).....	3- 5
Packing materials and accessories parts list (Block No.M3).....	3-12

# Exploded view of general assembly and parts list

Block No. M 1 M M





# General Assembly

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

△	Symbol No.	Part No.	Part Name	Description	Local
	1	GE10136-002A	TOP CHASSIS		
	2	GE40135-001A	EARTH PLATE		
	3	GE31894-001A	HEAT SINK		
	4	QYSDST2604ZA	TAP SCREW	M2.6 x 4mm(x3)	
	5	GE40235-001A	SCREW	(x2)	
	6	QYSDST2604ZA	TAP SCREW	M2.6 x 4mm(x3)	
	7	GE40235-004A	SCREW	(x2)	
	8	QYSDST2610ZA	TAP SCREW	M2.6 x 10mm	
	9	QYSDST2604ZA	TAP SCREW	M2.6 x 4mm	
	10	QYSDST2004ZA	TAP SCREW	M2 x 4mm(x2)	
	11	QYSDST2004ZA	TAP SCREW	M2 x 4mm(x5)	
	12	FSYH4036-100	SHEET		
	13	GE10137-001A	FRONT CHASSIS		
	14	GE31569-002A	LOCK LEVER		
	15	GE40269-001A	TORSION SPRING		
	16	GE31978-001A	RLS KNOB		
	17	GE30999-003A	COMP.SPRING		
	18	GE40294-002A	BLIND		
	19	FSYH4036-098	SHEET		
	20	GE10139-034A	FRONT PANEL		
	20	GE10139-035A	FRONT PANEL		SV3204UI SV3205U, SV3205UN, SV3205UT, SV3205UH
	21	GE31967-013A	FINDER ASSY		
	22	GE31968-002A	POWER BUTTON		
	23	GE31969-001A	SRC BUTTON		
	24	GE31970-001A	SEL BUTTON		
	25	GE40218-045A	SHEET		
	26	GE20188-001A	PRESET BUTTON		
	27	GE31971-001A	SEARCH BUTTON		
	28	GE31972-001A	DETACH BUTTON		
	29	GE40202-013A	COMP.SPRING		
	30	GE31973-001A	EJECT BUTTON		
	31	GE40296-005A	VOL KNOB ASSY		
	32	GE40323-003A	SHEET		
	33	GE10140-002A	REAR COVER		
	34	VKZ4777-010	MINI SCREW	(x4)	
	35	GE31975-001A	LCD CASE		
	36	GE31977-001A	LENS CASE		
	37	GE31976-001A	LCD LENS		
	38	GE40297-001A	LIGHTING SHEET		
	39	GE31895-001A	BOTTOM COVER		
	40	GE31984-001A	INSULATOR		
	41	GE32032-001A	NAME PLATE		
	41	GE32029-001A	NAME PLATE		SV3204UI SV3205U, SV3205UN, SV3205UT, SV3205UH
	42	LV41843-002A	LASER CAUTION		
	43	QLD0387-001	LCD MODULE		
	44	QNZ0823-001	LCD CONNECTOR		
	45	LV43385-001A	INSULATOR		
	46	QUQL05-2207AE-E	FFC WIRE	22pin 7cm	
	47	VYSH101-009	SPACER		
	48	QAM0685-001	LINE IN CABLE		
	49	QAM0676-001	VIDEO CABLE		
	50	VYTA500-001	PIN CAP	(x2)	
△	51	QMZF047-150-T	FUSE	15A	
	52	GE31571-007A	REAR BRACKET		
	53	QYSDST2606ZA	TAP SCREW	M2.6 x 6mm	
	54	QYSDST2606ZA	TAP SCREW	M2.6 x 6mm	
	55	QYSDSF2606ZA	TAP SCREW	M2.6 x 6mm	
	56	QYSDSF2606ZA	TAP SCREW	M2.6 x 6mm(x2)	
	57	QYSDST2606ZA	TAP SCREW	M2.6 x 6mm	
	58	GE40172-004A	IC BRACKET		
	59	GE40124-002A	REG BRACKET		
	60	GE30854-001A	LED HOLDER		
	61	GE31574-026A	UT LABEL		SV3205UT













**<MEMO>**

# Packing materials and accessories parts list

Block No. M 3 M M

