JVC

SERVICE MANUAL

CD RECEIVER

# KD-SC900R
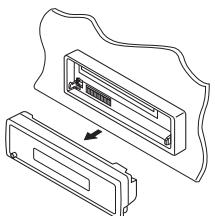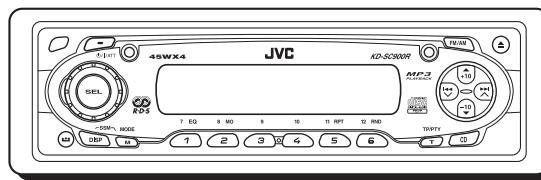
Area Suffix

E ------------- Continental Europe
EX ---------------- Central Europe

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No.49829
2003/04

SECTION 1
Important Safety 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 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.**

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 DVD 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.

(caption)
Anti-static wrist strap

1MΩ

Conductive material
(conductive sheet) or iron plate
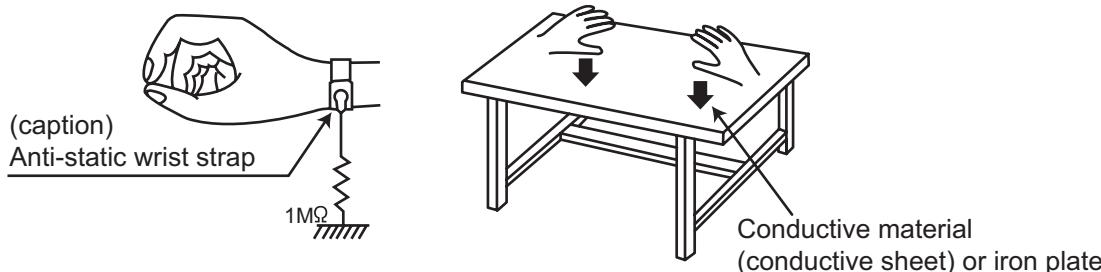
(3) Handling the optical pickup

- 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)

(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) I t 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 CDpickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land after connecting the flexible wire.

Short-circuit point
(Soldering)

Flexible wire

Pickup

Short-circuit point   Pickup
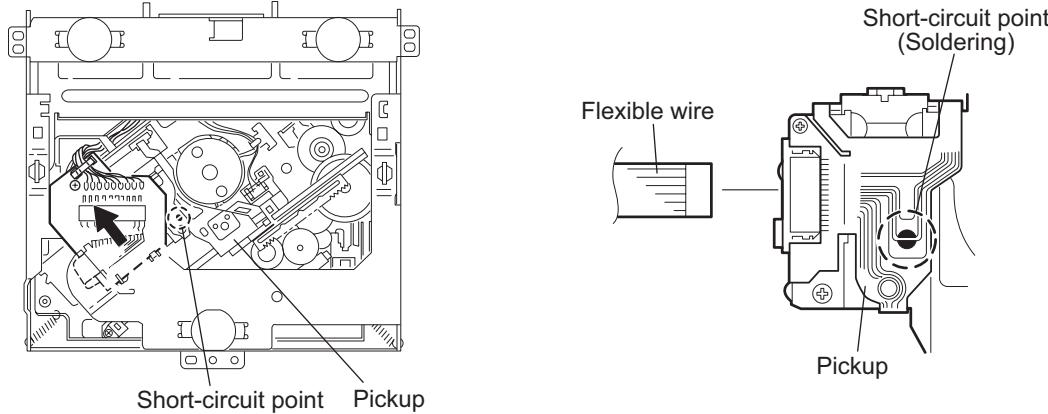
SECTION 2
Disassembly method

2.1 Main body

2.1.1 Removing the front panel assembly
(See Fig.1)
(1) Push the detach button in the lower left part of the front panel assembly and remove the front panel assembly in the direction of the arrow.

Front panel assembly

Detach button
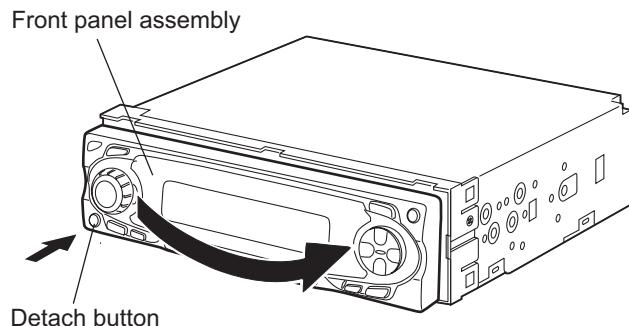
Fig.1

2.1.2 Removing the front chassis assembly
(See Figs.2 to 4)
- Prior to performing the following procedure, remove the front panel assembly.
 (1) Remove the screw **A** on the both sides of the main body.
 (2) Remove the two screws **B** on the front side of the main body.
 (3) Release the two joints **a** and two joints **b** on both sides of the main body using a screwdriver, and remove the front chassis assembly forward.
 (4) Release the two joints **c** on the bottom side of the main body and remove the front chassis assembly in the direction of the arrow.(see Fig.3)

Joint **a**   Joint **b**

A   **A**

Joint **a**   Joint **b**

Front chassis assembly
Fig.2

B
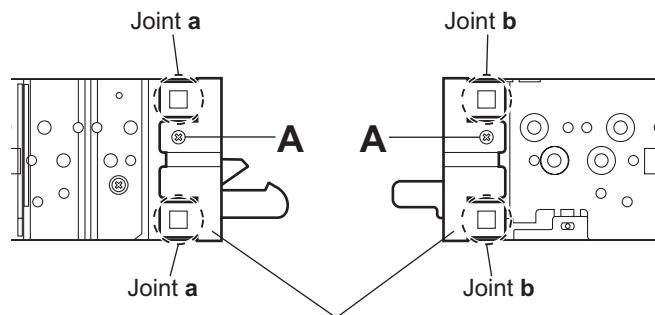
Fig.3

Front chassis assembly
Joint **c**   Joint **c**
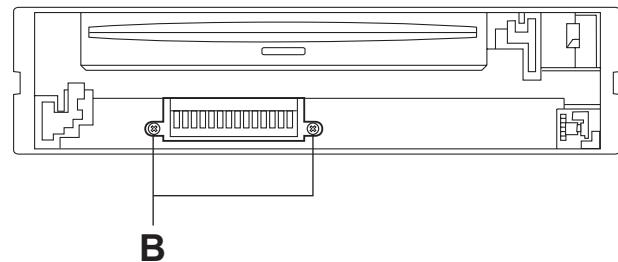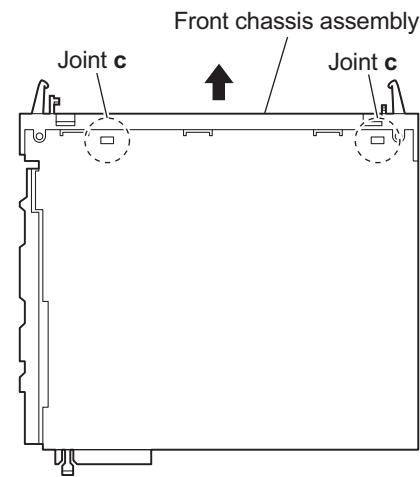
Fig.4

2.1.3 Removing the heat sink
(See Fig.5)

(1) Remove the two screws **C** and one screws **D** on the left side of the main body.
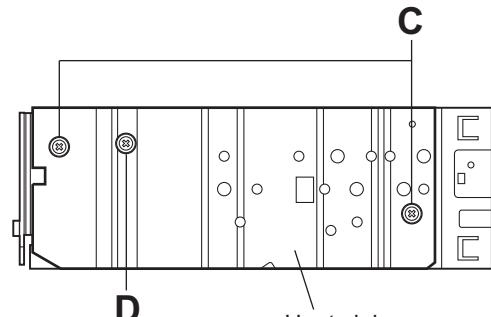
Fig.5

### 2.1.4 Removing the bottom cover
(See Figs.6 and 7)

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

(1) Turn over the body and release the two joints **d**, two joints **e** and joint **f** .

CAUTION:

Do not damage the main board when releasing the joint **d** using a screwdriver. (See Figs.6 and 7)
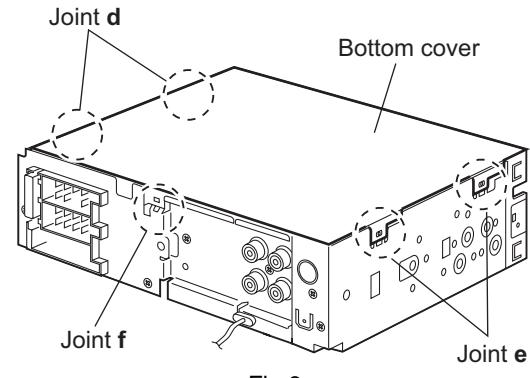

Fig.6
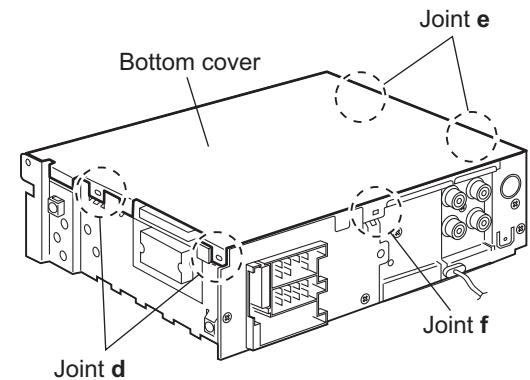
Fig.7

2.1.5 Removing the rear bracket
(See Fig.8)
• Prior to performing the following procedure, remove the front panel assembly, front chassis assembly, heat sink and bottom cover.
  (1) Remove the three screws **E**, one screws **F** and two screws **G** on the back of the body.
  (2) Remove the rear bracket.

Rear bracket

G   F   G

E   E

Insert Subwoofer and steering cables into the slots.
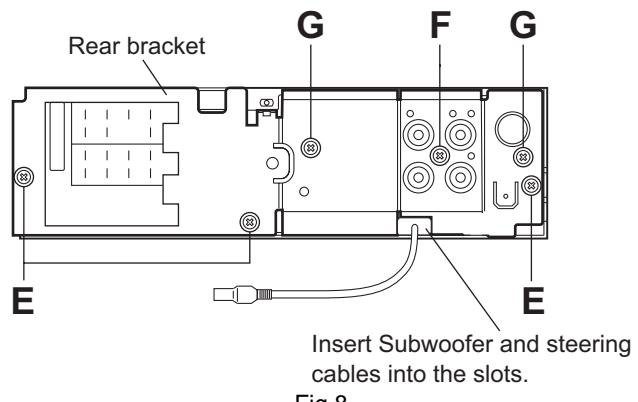
Fig.8

2.1.6 Removing the main board
(See Fig.9)
• Prior to performing the following procedure, remove the front panel assembly, front chassis assembly, heat sink, bottom cover and rear bracket.
  (1) Remove the two screws **H** attaching the main board.
  (2) Disconnect connector CN501 and remove the main board.

Main board

H   **H**

CN501
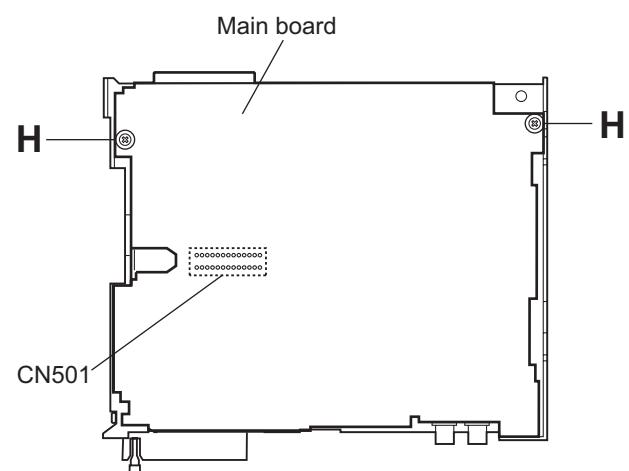
Fig.9

2.1.7 Removing the CD mechanism assembly
(See Fig.10)
• Prior to performing the following procedure, remove the front panel assembly, front chassis assembly, heat sink, bottom cover, rear bracket and main board.
  (1) Remove the three screws **J** .

J

CD mechanism assembly   Top chassis

J
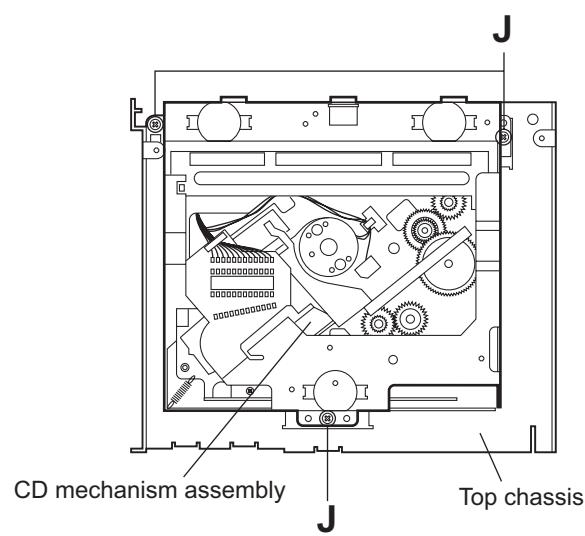
Fig.10

2.1.8 Removing the front board
(See Figs.11 to 13)

• Prior to performing the following procedure, remove the front panel assembly.
  (1) Remove the four screws **K** on the back side of the front panel assembly.
  (2) Release the ten joints **g**.
  (3) Take out the front board.

Fig.11

Joint **g**

Joint **g**

Joint **g**

Joint **g**

Fig.12

Front board
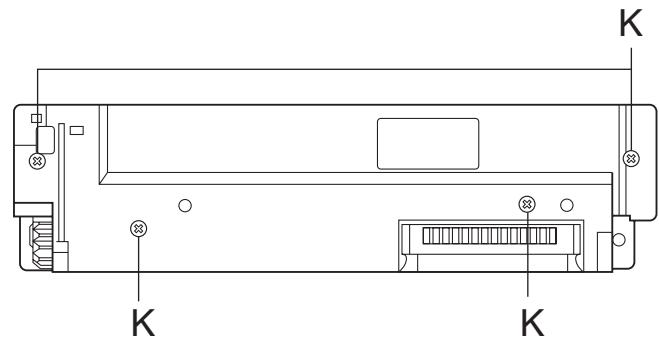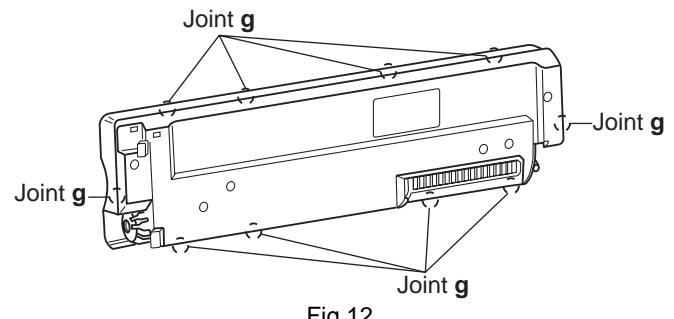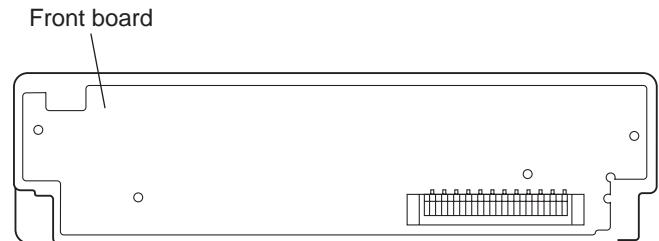
Fig.13

2.2 CD Mechanism Assembly

2.2.1 Removing the top cover
(See Figs.1 and 2)
(1) Remove the two 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**.

A

Top cover

A

Joints a

A

Fig.1

Joints a

Top cover
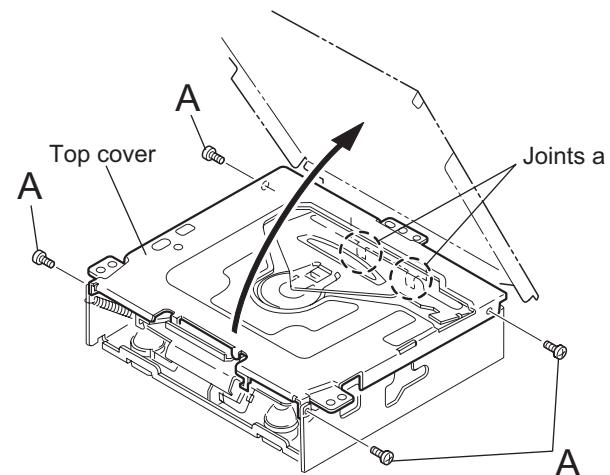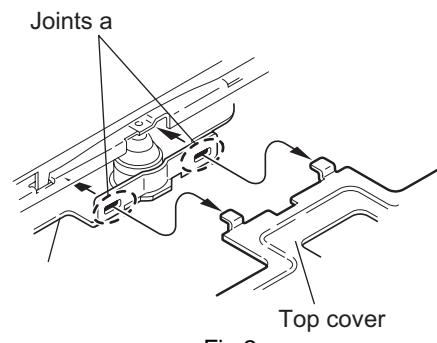
Fig.2

2.2.2 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 connector board.
(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 wire on the connector board if necessary.

   CAUTION:

   Unsolder the short-circuit point after reassembling.

Wires

B

Connector board

Joints b   Short-circuit point   Pickup

Fig.3

Short-circuit point
(Soldering)

Flexible wire

Pickup

Fig.4

B

Connector board

Flexible wire

Frame
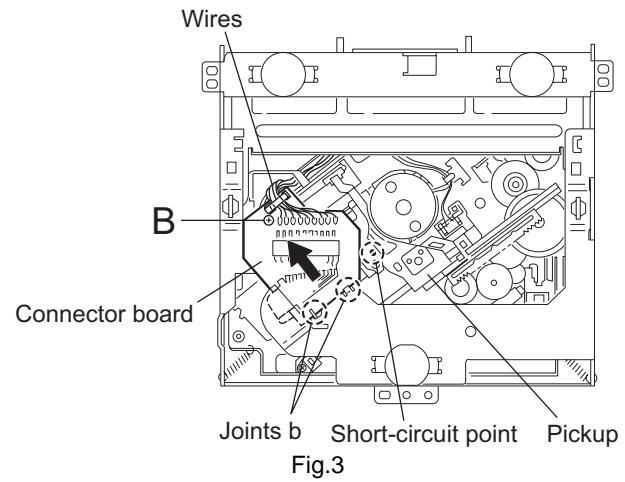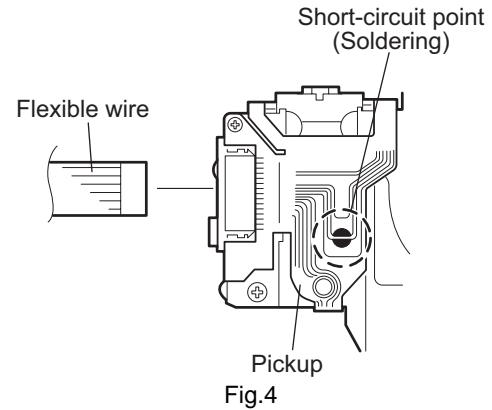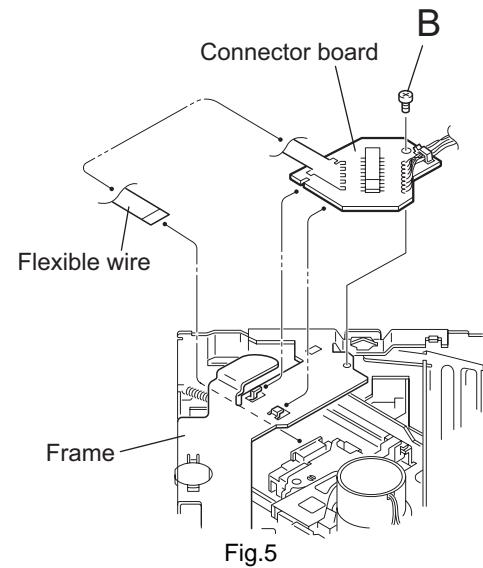
Fig.5

2.2.3 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.

DET switch

Connector board

Pickup

Fig.6

DET switch

Tab c

DET switch wire

Tab c

Feed sw. holder
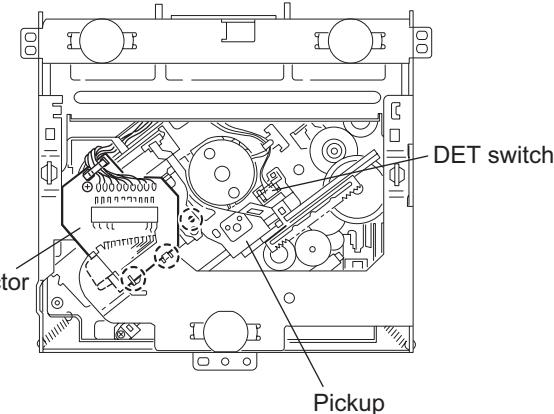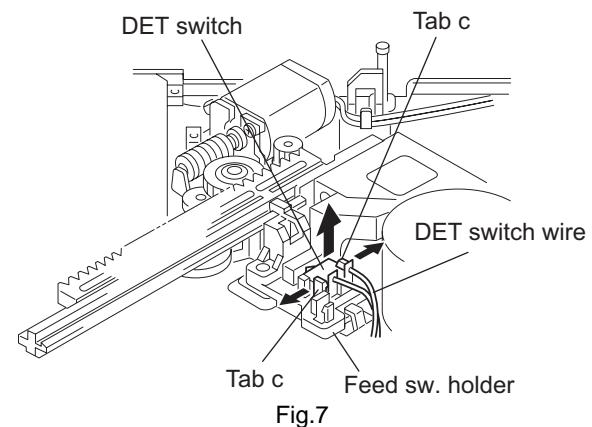
Fig.7

2.2.4 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.
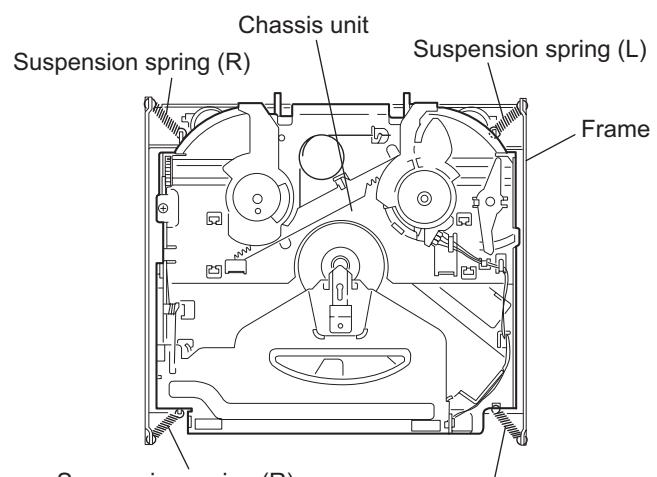
Fig.8
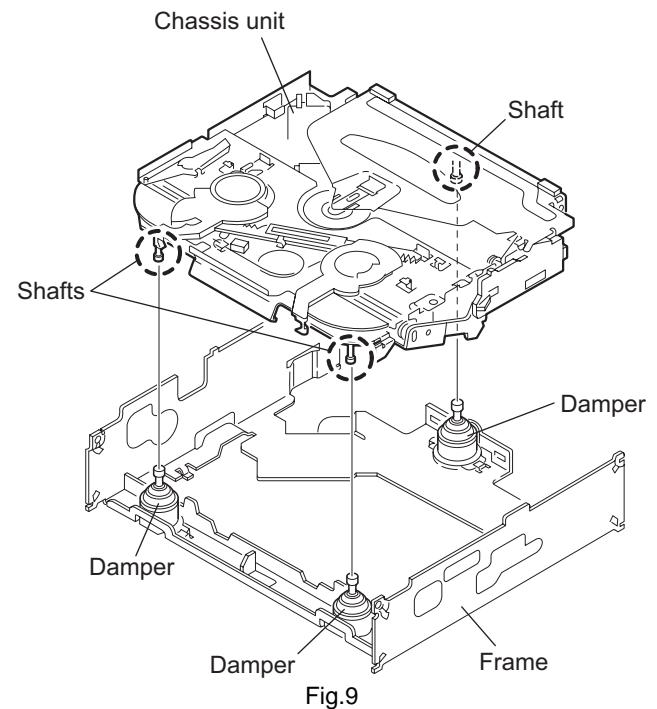
Fig.9

2.2.5 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**.

Clamper arm spring

Chassis rivet assembly

Joint d

Clamper assembly

Joint d

Fig.10

Clamper arm spring

Joint d

Clamper assembly

Joint d

Chassis rivet assembly

Fig.11
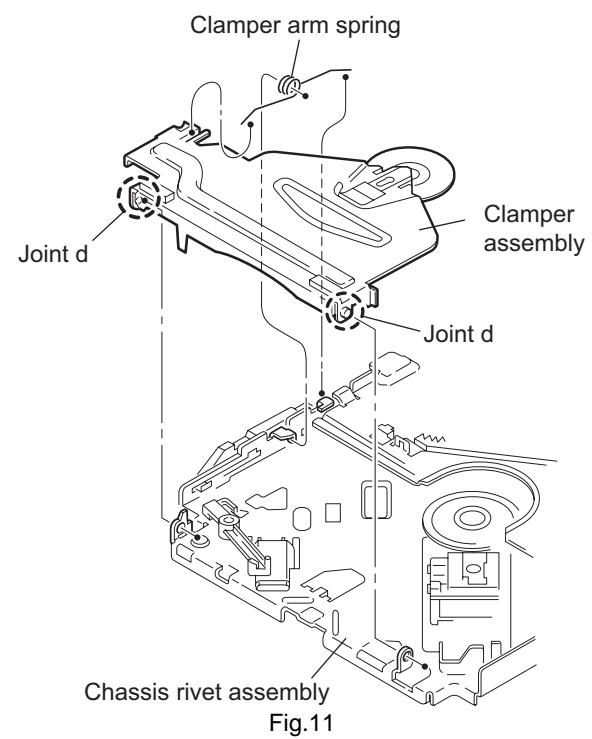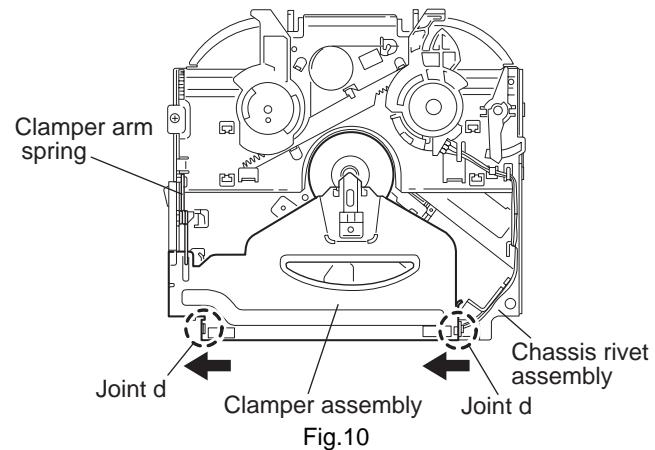
2.2.6 Removing the loading / feed motor assembly (See Figs.12 and 13)

• 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

Loading / feed motor assembly

C

Fig.13
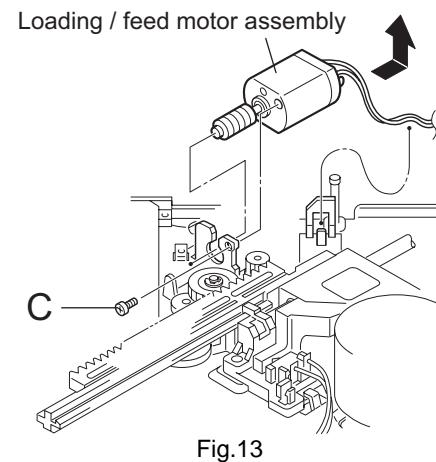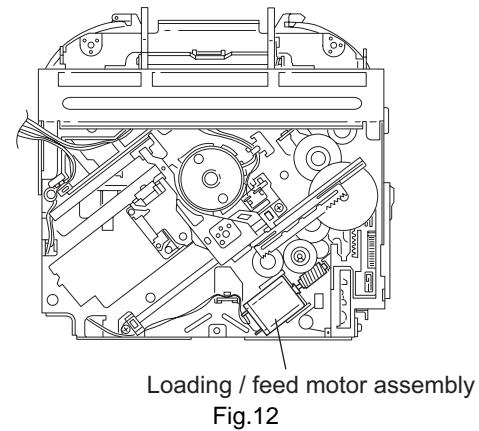
2.2.7 Removing the pickup unit
(See Figs.14 to 18)

- 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.

2.2.8 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 part 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**.
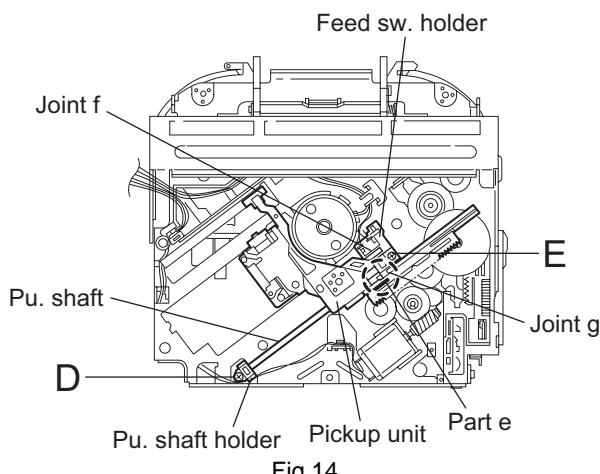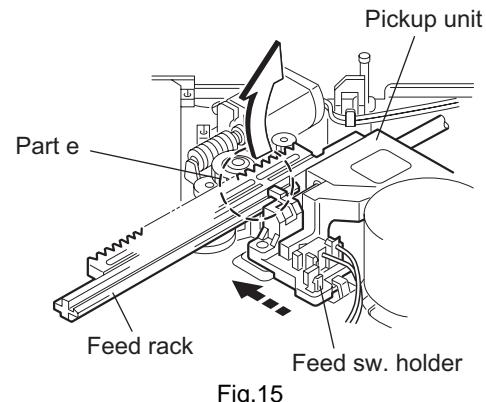
Fig.15

Fig.16

Fig.17

Fig.14
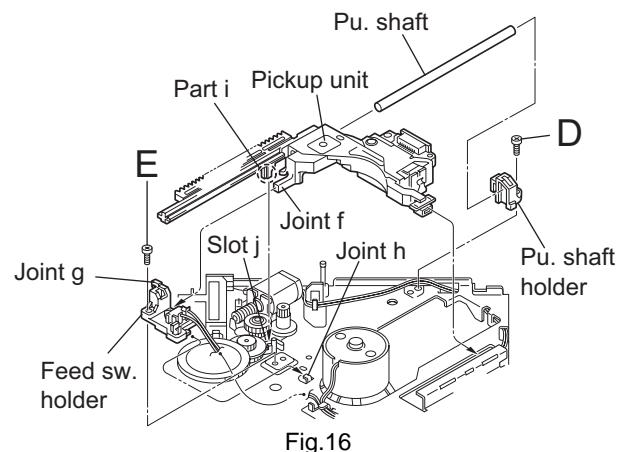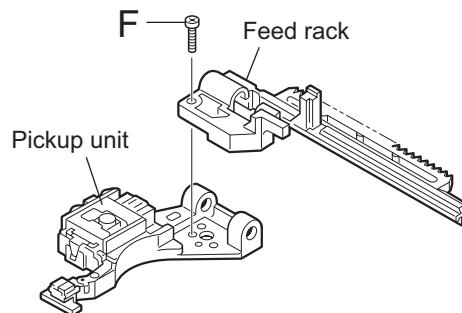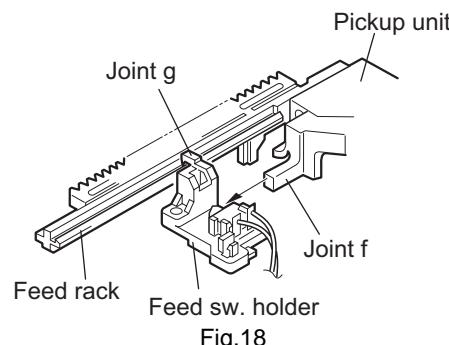
Fig.18

2.2.9 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.

Joint k

Trigger arm

Chassis rivet assembly

Fig.19

Trigger arm

Part p

Part q

Part m

Part n

Chassis rivet assembly
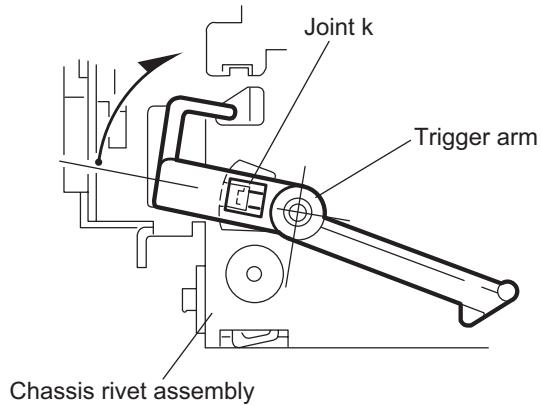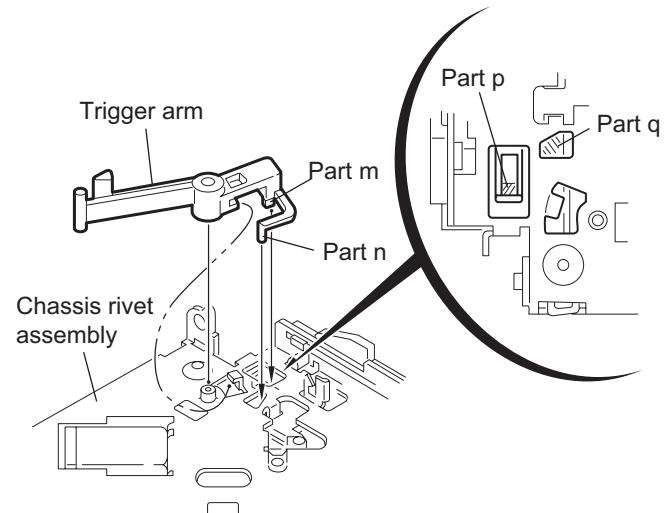
Fig.20

### 2.2.10 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.

Top plate assembly

H

Joints r

s
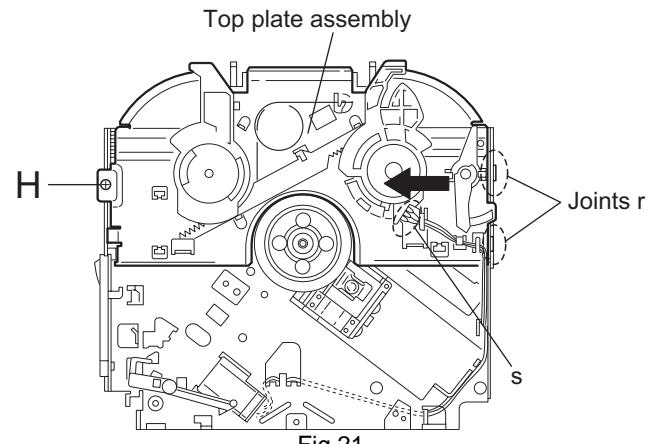
Fig.21

2.2.11 Removing the mode sw. / select lock arm (See Figs.22 and 23)

• Prior to performing the following procedure, remove the top plate assembly.

  (1) 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**.

  (2) Unsolder the wire of the mode sw. marked s if necessary.

  (3) Turn the select lock arm in the direction of the arrow to release the two joints **v**.

  (4) The select lock arm spring comes off the select lock arm at the same time.
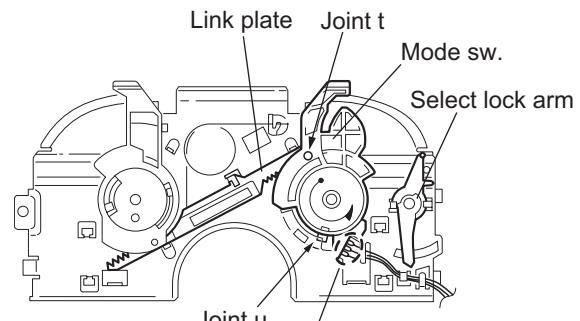
Fig.22
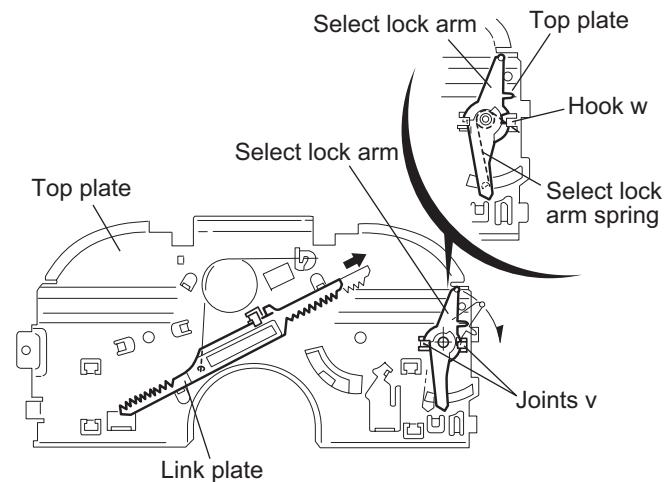
Fig.23

2.2.12 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.
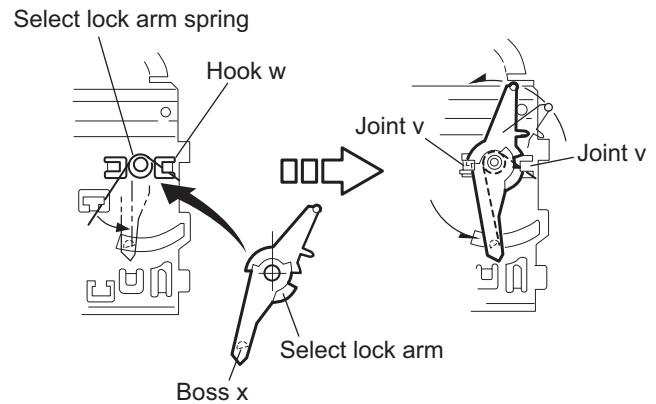
Fig.24
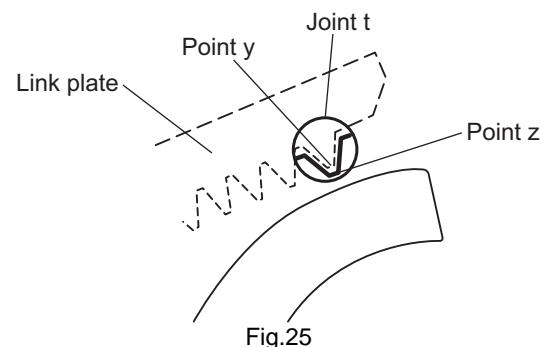
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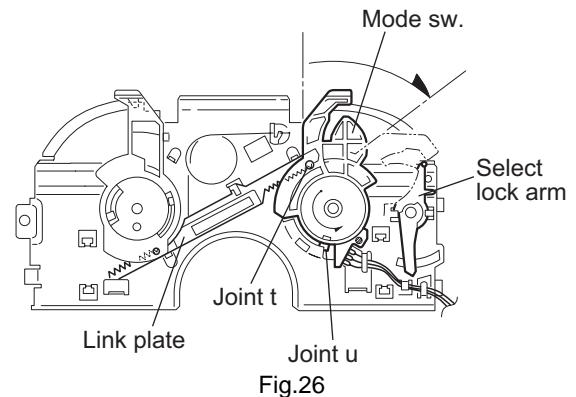
Fig.26

2.2.13 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..
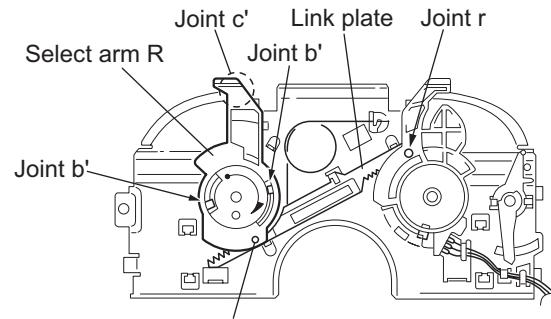
Fig.27
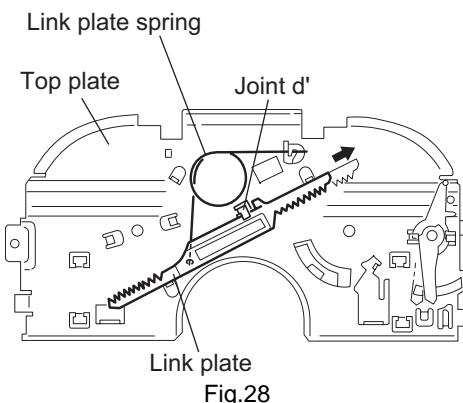
Fig.28

2.2.14 Reattaching the Select arm R / link plate (See Figs.29 and 30)

REFERENCE:
Reverse the above removing procedure.
  (1) Reattach the link plate spring.
  (2) Reattach the link plate to the link plate spring while joining them at joint **d'**.
  (3) 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.
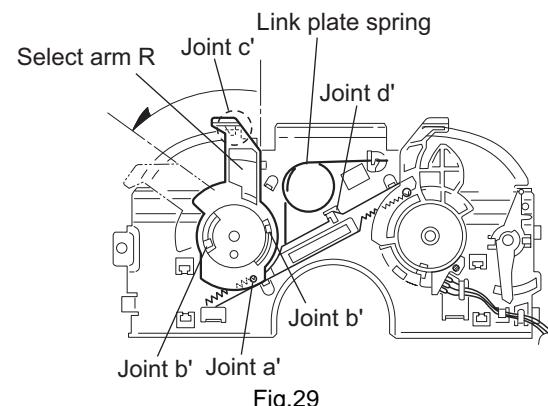
Fig.29
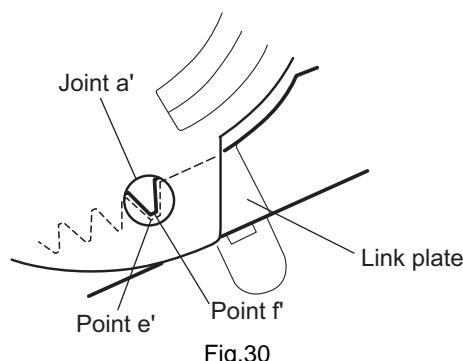
Fig.30

2.2.15 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.

(3) Remove the screw **J** attaching the lock arm rivet assembly.

(4) 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.

(5) 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.32

Fig.33

Fig.31

Fig.34
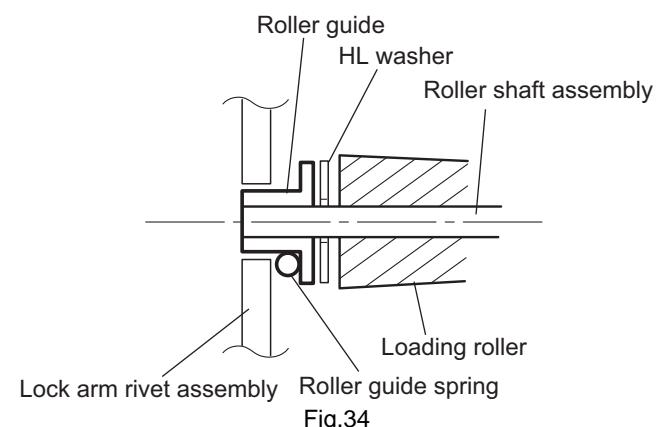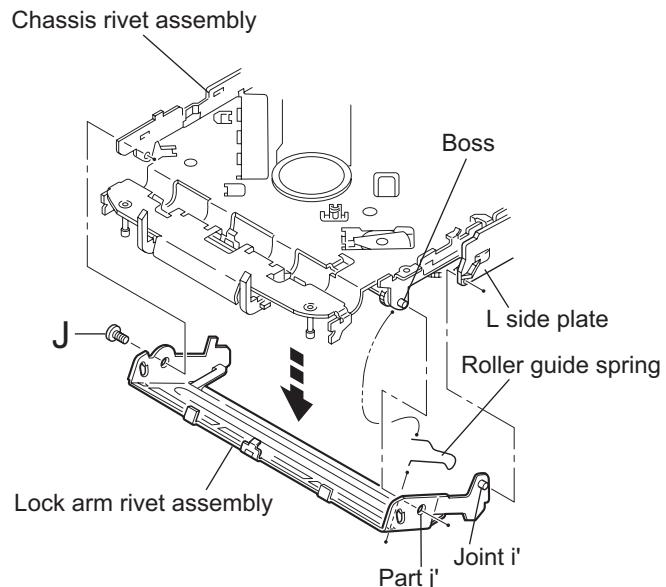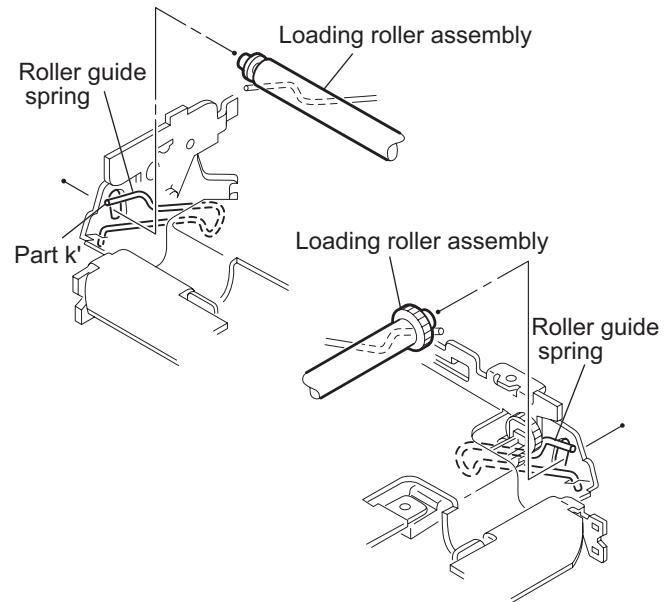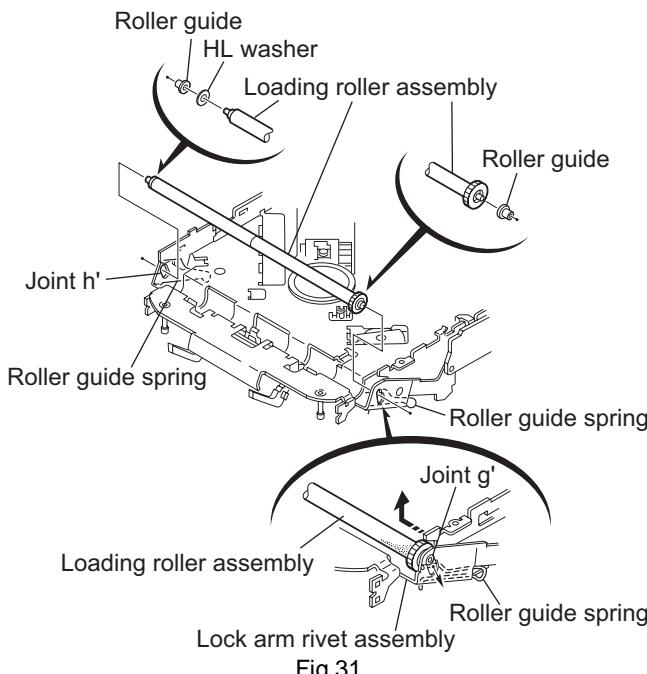
2.2.16 Removing the loading gear 5, 6 and 7 (See Figs.35 and 36)

• 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.

K Loading gear bracket
Loading gear 6
Loading gear 5
Loading gear 3

Fig.35
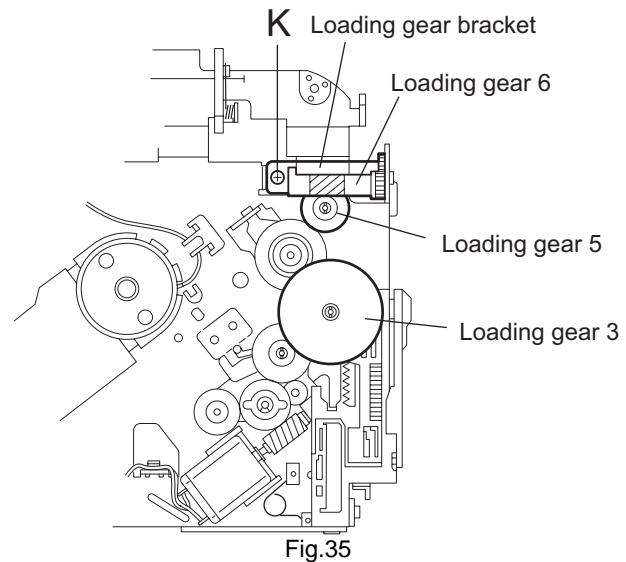
K
Loading gear bracket
Loading gear 6
Loading gear 7
Loading gear 5
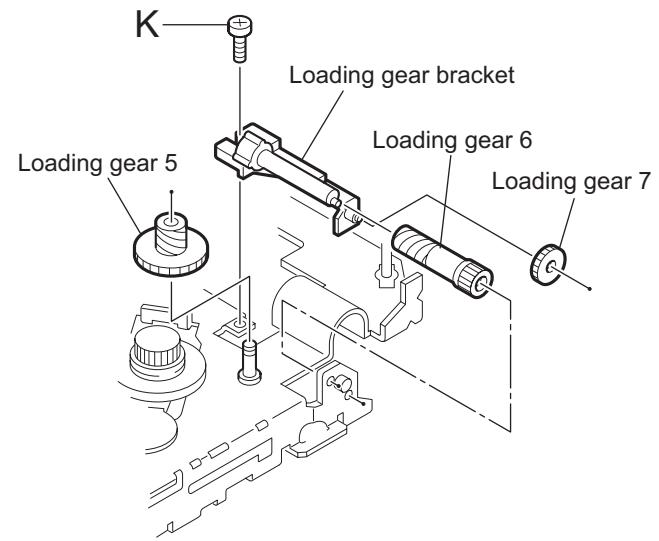
Fig.36

2.2.17 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 changer gear 2.
  - (6) The changer 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.
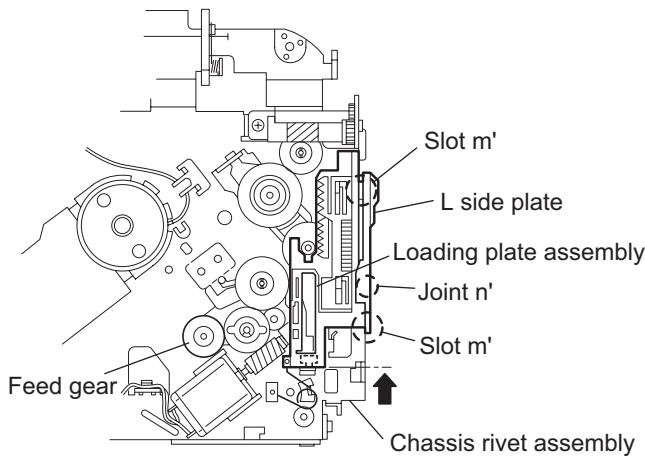
Fig.38

Fig.37
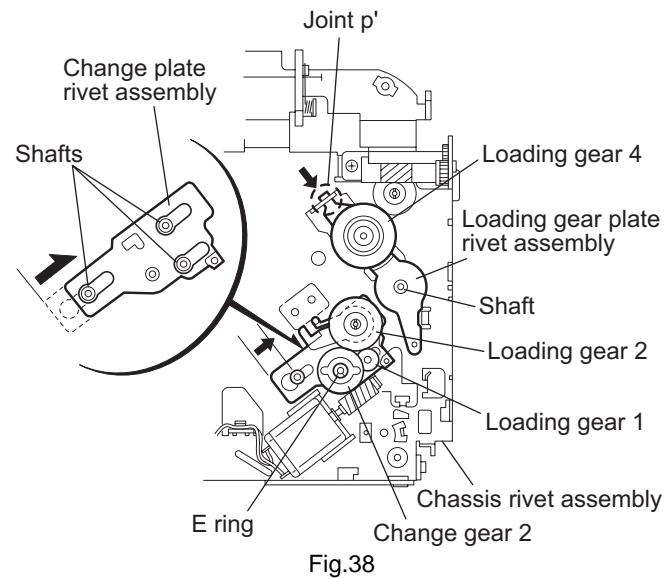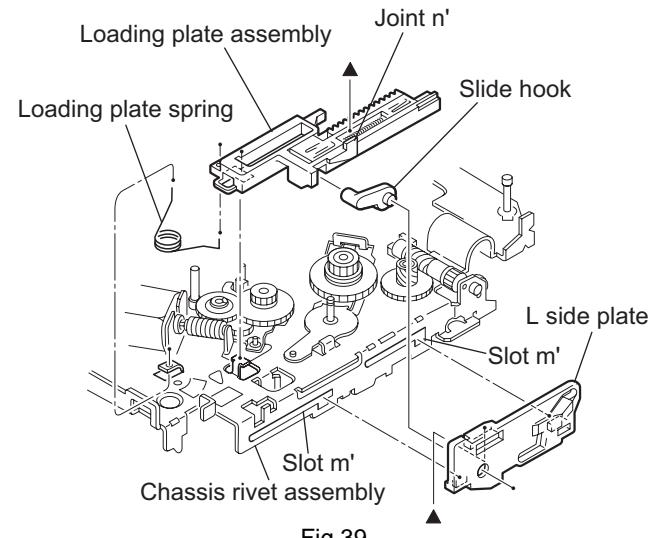
Fig.39
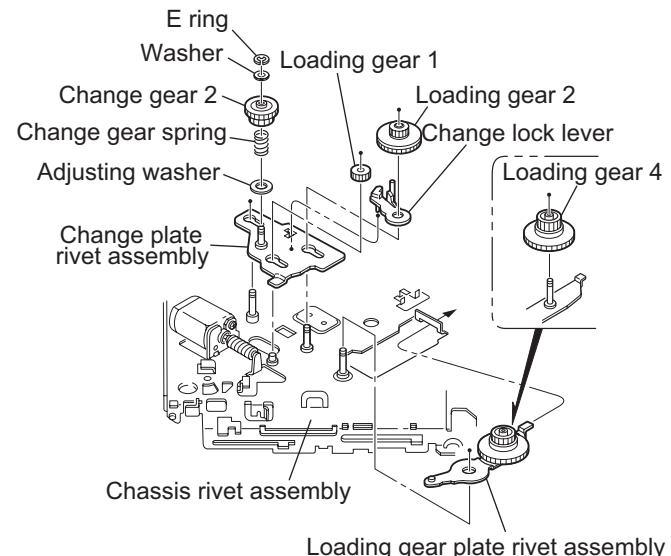
Fig.40

2.2.18 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.

Turn table

L

Fig.41

L

Turn table

Spindle motor

Fig.42
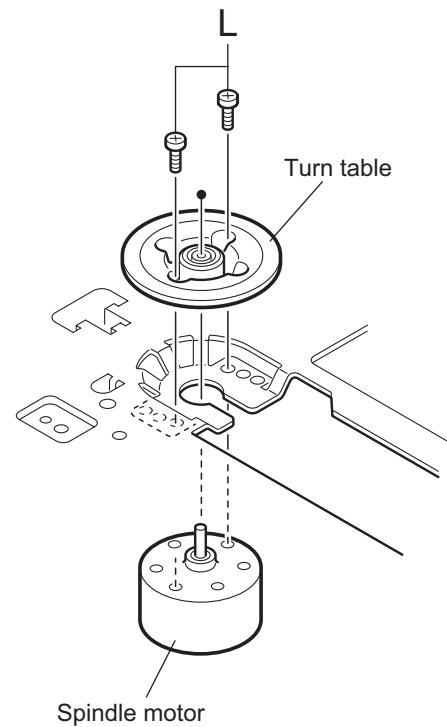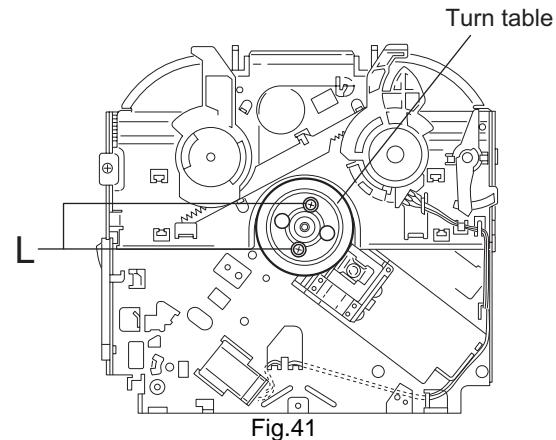
2.3 Finder Plate Design

Model Name : KD-SC900R

Factory Setting

Design Name : CARBON BLACK

Design Name : LEOPARD

Design Name :SAPPHIRE BLUE

Design Name : SILVER HAIRLINE
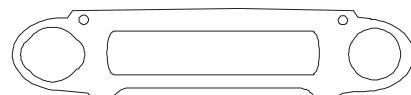
SECTION 3
Adjustment

3.1 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
   EXTSH002-22P$^\times$ 1

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

■ Frequency Band
FM   87.5 MHz to 108.0 MHz
AM(MW)   522 kHz to 1620 kHz
    (LW)   144 kHz to 279 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 to 16V)
Load impedance   20Kohm(2 Speakers connection)
Output Level   Line out 2.0V (Vol. MAX)

■ How to connect the extension cable for adjusting

* The cardboard is cut in a suitable size.
  uses for the insulation stand of mechanism.

Caution:
Be sure to attach the heat sink and rear
bracket onto the power amplifier IC301
and regulator IC901 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.

Extension cable

EXTSH002-22P

Heat sink

Rear bracket

3.2 Flow of functional operation unit TOC read

When the pickup correctly moves to the inner area of the disc

Microprocessor commands $83 $82 $81

FMO
TC94A14FA "40"   3.3V
Hi-Z
0V

FEED MOTOR
+TERMINAL
IC501 "4"   6V
4V
2V

REST SW   OFF
ON

Power ON
Set Function CD

Disc inserted

Pickup feed to the inner area

Laser emitted   YES

When the laser diode correctly emits

Microprocessor commands $84

SEL
TC94A14FA "38"   3.3V
0V

LD
CN501 "15"   4V
0V

When correctly focused

FEO
TA2157 "15"   2.2V

Focus Servo Loop ON

Focus search → "No disc" display

YES

Disc rotates

RF signal eye-pattern remains closed

Tracking loop closed

RF signal eye-pattern opens

TOC read out

Jump to the first track

Play

When the disc correctly rotates

Microprocessor commands $84 $86 $ A200

DMO
TC94A14FA "41"   3.3V
2.2V
0V

Spindle motor(-)
IC501 "7"   6V
3.2
2V

Acceleration   Rough Servo   Servo CLV

0.5 Sec   0.5 Sec

Tracking Servo Loop ON

RF signal

Rough Servo Mode

CLV Servo Mode
(Program Area)

CLV Servo Mode
(Lead-In Area;
Digital :0)

3.2.1 Feed section

Is the voltage output at IC541 pin "40" 5V or 0V? — NO → Is the wiring for IC501 pin 27? — YES → Is 3.3V present at IC501 pin "20"? — NO → Check CD 8V and 5V.

Is 3.3V present at IC501 pin "20"? — YES → Check the vicinity of IC541.

Is the voltage output at IC541 pin "40" 5V or 0V? — YES ↓

Is 4V present at both sides of the feed motor? — NO → Is 6V or 2V present at IC501 "4" and "5"? — YES → Check the feed motor connection wiring.

Is the wiring for IC501 pin 27? — NO ↓ Is 6V or 2V present at IC501 "4" and "5"?

Is 4V present at both sides of the feed motor? — YES ↓ Check the feed motor.

Is 6V or 2V present at IC501 "4" and "5"? — NO ↓ Check IC501.

3.2.2 Focus section

When the lens is moving:
4V
Does the S-search waveform appear at IC501 pins "8" and "9"? — NO → Check the circuits in the vicinity of IC501 pins "8","9"and"15".

Check the circuits in the vicinity of IC501 pins "8","9"and"15". — YES ↓

Does the S-search waveform appear at IC501 pins "8" and "9"? — YES → Check the pickup and its connections

3.2.3 Spindle section

Is the disk rotated? — NO → Is 4V present at IC501 pins "6" and "7"? — NO → Is 4V present at IC541 pins "41" ? — NO → Check IC541 and IC501.

Is 4V present at IC541 pins "41" ? — YES → Check the vicinity of IC501.

Is the disk rotated? — YES ↓

Does the RF signal appear at RF test point? — YES ↓

Is the RF waveform at RF test point distorted? — YES ↓ Proceed to the Tracking section

Is 4V present at IC501 pins "6" and "7"? — YES ↓ Check the spindle motor and its wiring

Does the RF signal appear at RF test point? — NO → Check the circuits in the vicinity of IC501 "19"~ "24" or the pickup

Is the RF waveform at RF test point distorted? — NO → Check the circuits in the vicinity of IC501 "19"~ "24" or the pickup

3.2.4 Tracking section

When the disc is rotated at first:
Approx. 1.2V
Is the tracking error signal output at IC501 "11"? — YES → Check the circuit in the vicinity of IC501 pins "2"~"12". — YES → Check the pickup and its connections

Is the tracking error signal output at IC501 "11"? — YES ↓ Check IC541.

3.3 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:ampli tude of eye pattern) will be low.

Is RF output 1.0±0.35Vp-p? — NO → Replace it.

YES ↓

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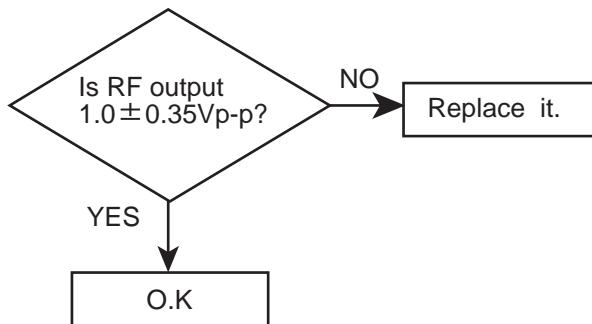
(3) Semi-fixed resistor on the APC PC board
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power.Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.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

3.4 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.

SECTION 4
Description of major ICs

4.1 AK4381VT-X (IC481) : D/A converter

• Pin layout

MCLK	1	16	DZFL
BICK	2	15	DZFR
SDTI	3	14	VDD
LRCK	4	13	VSS
PDN	5	12	AOUTL+
CSN	6	11	AOUTL-
CCLK	7	10	AOUTR+
CDTI	8	9	AOUTR-

• Block diagram
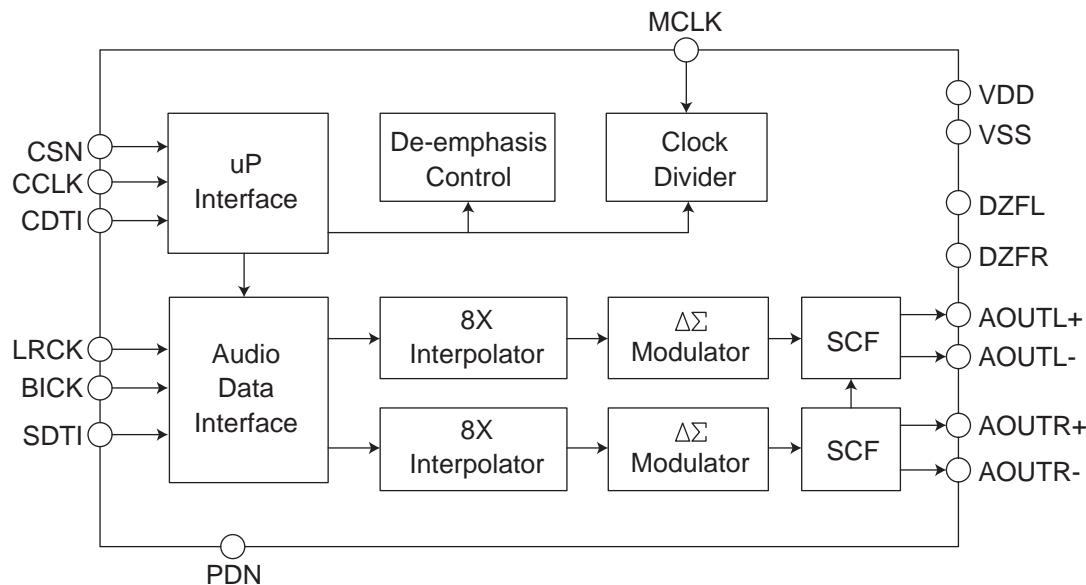
• Pin functions

Pin No.	Symbol	I/O	Description
1	MCLK	I	Master clock input terminal
2	BICK	I	Audio serial data clock terminal
3	SDTI	I	Audio serial data input terminal
4	LRCK	I	L/R Clock terminal
5	PDN	I	Power down mode terminal
6	CSN	I	Chip select
7	CCLK	I	Control data input terminal
8	CDTI	I	Control data input terminal
9	AOUTR-	O	Rch negative analog output terminal
10	AOUTR+	O	Rch positive analog output terminal
11	AOUTL-	O	Lch negative analog output terminal
12	AOUTL+	O	Lch positive analog output terminal
13	VSS	-	Connect to ground
14	VDD	-	Power supply terminal
15	DZFR	O	Rch data zero input detection terminal
16	DZFL	O	Lch data zero input detection terminal

4.2 AN80T07 (IC901) : Regulator

• Block diagram
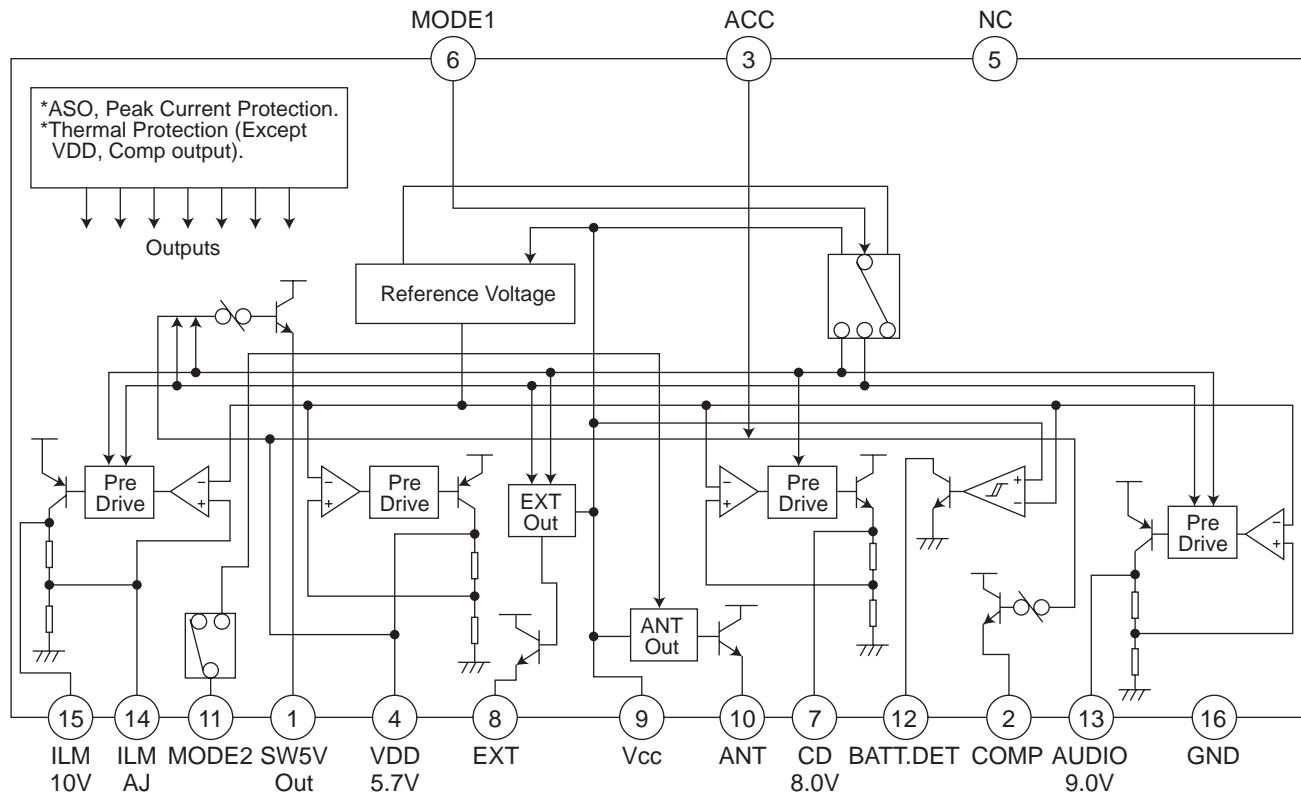
• Pin function

Pin No.	Symbol	Function
1	SW5V Output	When Mode 1 pin is "M", "H" SW output is VDD -0.7V (Io=100mA min).
2	COMP Output	When ACC input pin is "H" COMP Output is VDD -0.7V (Io=100mA min).
3	ACC Input	L: COMP Output OFF and H: COMP Output ON
4	VDD Output	5.7V Output voltage for a microcontroller (Io=100mA min).
5	NC	NC pin
6	MODE1	3 Input "L", "M", "H" control pin
7	CD Output	When Mode 1 pin is "H" CD output is 8V (Io=1200mA min).
8	EXT Output	When Mode 1 pin is "M", "H" EXT output is Vcc-1.0V (Io=300mA min).
9	VCC	Connected to car BACKUP Power supply.
10	ANT Output	When Mode 2 pin is "H" ANT output is Vcc-1.0V (Io=300mA).
11	MODE2	L: ANT Output OFF and H: ANT Output ON
12	BATT.DET	NPN Transistor open collector Output (When battery is lower then 9V "L")
13	Audio Output	When Mode 1 pin is "M", "H" Audio output is 9V (Io=500mA min).
14	ILM AJ	ILM (Illumination) Output adjustable pin.
15	ILM(Illumination) Output	When Mode 1 pin is "M", "H" ILM output is 10V (Io=300mA min).
16	GND	Connected to the IC substrate.

4.3 BR24C16F-X (IC771) : EEPROM

• Pin layout

VCC   WP   SCL   SDA

A0   A1   A2   GND
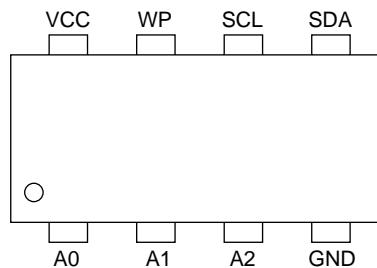
• Pin function

Symbol	I/O	Function
VCC	-	Power supply.
GND	-	GND
A0,A1,A2	I	No use connect to GND.
SCL	I	Serial clock input.
SDA	I/O	Serial data I/O of slave and ward address.
WP	I	Write protect terminal.

• Block diagram

```
A0 |1|                     16kbit EEPROM allay                    |8| Vcc

              11bit                                  8bit

                  Address        Slave Ward          Data
A1 |2|            decoder   11bit Address resister    resister    |7| WP

                          START    STOP

A2 |3|          Control circuit                                   |6| SCL
                                              ACK

GND |4|   High voltage osc circuit   Power supply                 |5| SDA
                                     voltage det.
```
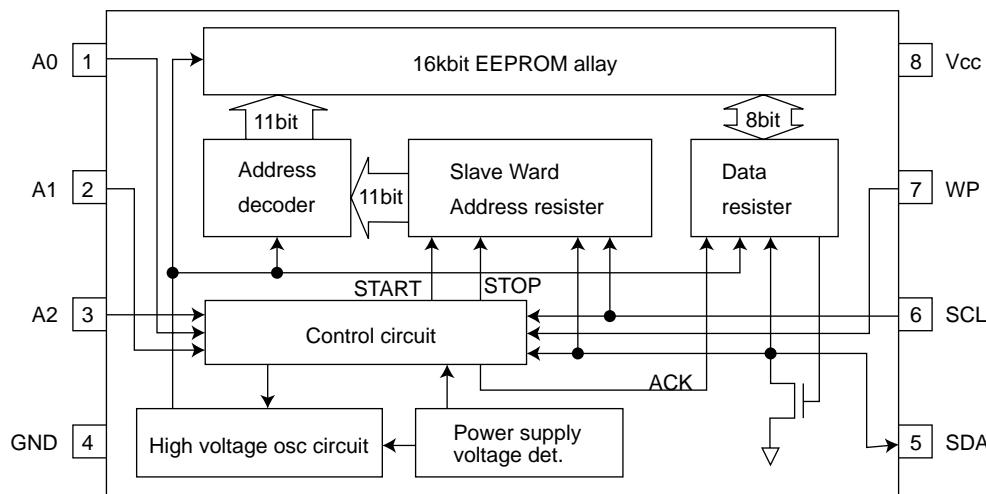
4.4 IC-PST600M/G/-W(IC702):Reset

```
                                                    (1) IN

                    Co1                             (3) Vout
                              OP1

                                                    (2) GND
```
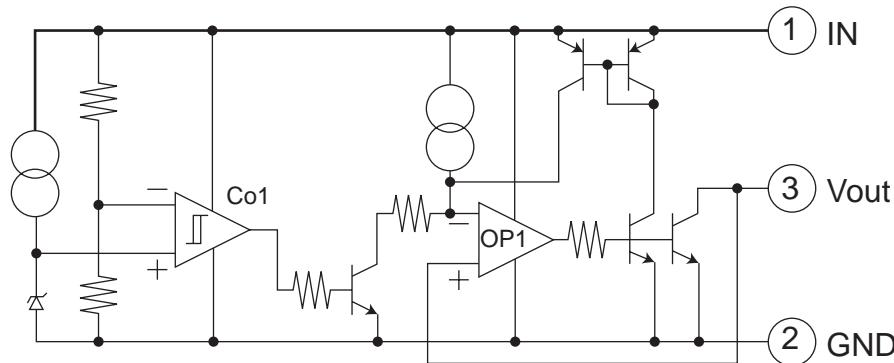
4.5 LC75823W (IC601) : LCD driver

• Pin Layout
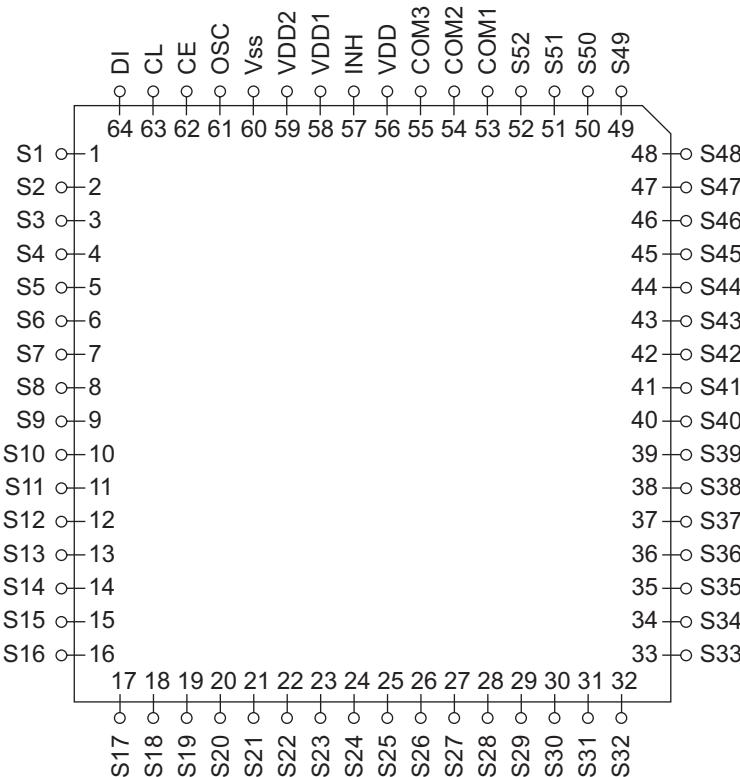
• Pin function

Pin No.	Symbol	I/O	Functions
1 to 52	S1 to S52	O	Segment output pins used to display data transferred by serial data input.
53 to 55	COM1 to COM3	O	Common driver output pins. The frame frequency is given by : t0=(fosc/384)Hz.
56	VDD	--	Power supply connection. Provide a voltage of between 4.5 and 6.0V.
57	$\overline{INH}$	I	Display turning off input pin. $\overline{INT}$="L" (Vss) ----- off (S1 to S52, COM1 to COM3="L" $\overline{INT}$="H" (VDD)----- on Serial data can be transferred in display off mode.
58	VDD1	I	Used for applying the LCD drive 2/3 bias voltage externally. Must be connected to VDD2 when a 1/2 bias drive scheme is used.
59	VDD2	I	Used for applying the LCD drive 1/3 bias voltage externally. Must be connected to VDD1 when a 1/2 bias drive scheme is used.
60	Vss	--	Power supply connection. Connect to GND.
61	OSC	I/O	Oscillator connection. An oscillator circuit is formed by connecting an external resistor and capacitor at this pin.
62	CE	I	Serial data interface connection to the controller. CE : Chip enable
63	CL	I	Serial data interface connection to the controller. CL : Sync clock
64	DI	I	Serial data interface connection to the controller. DI : Transfer data

4.6 LA4743K (IC301) : Power amp.

• Block diagram
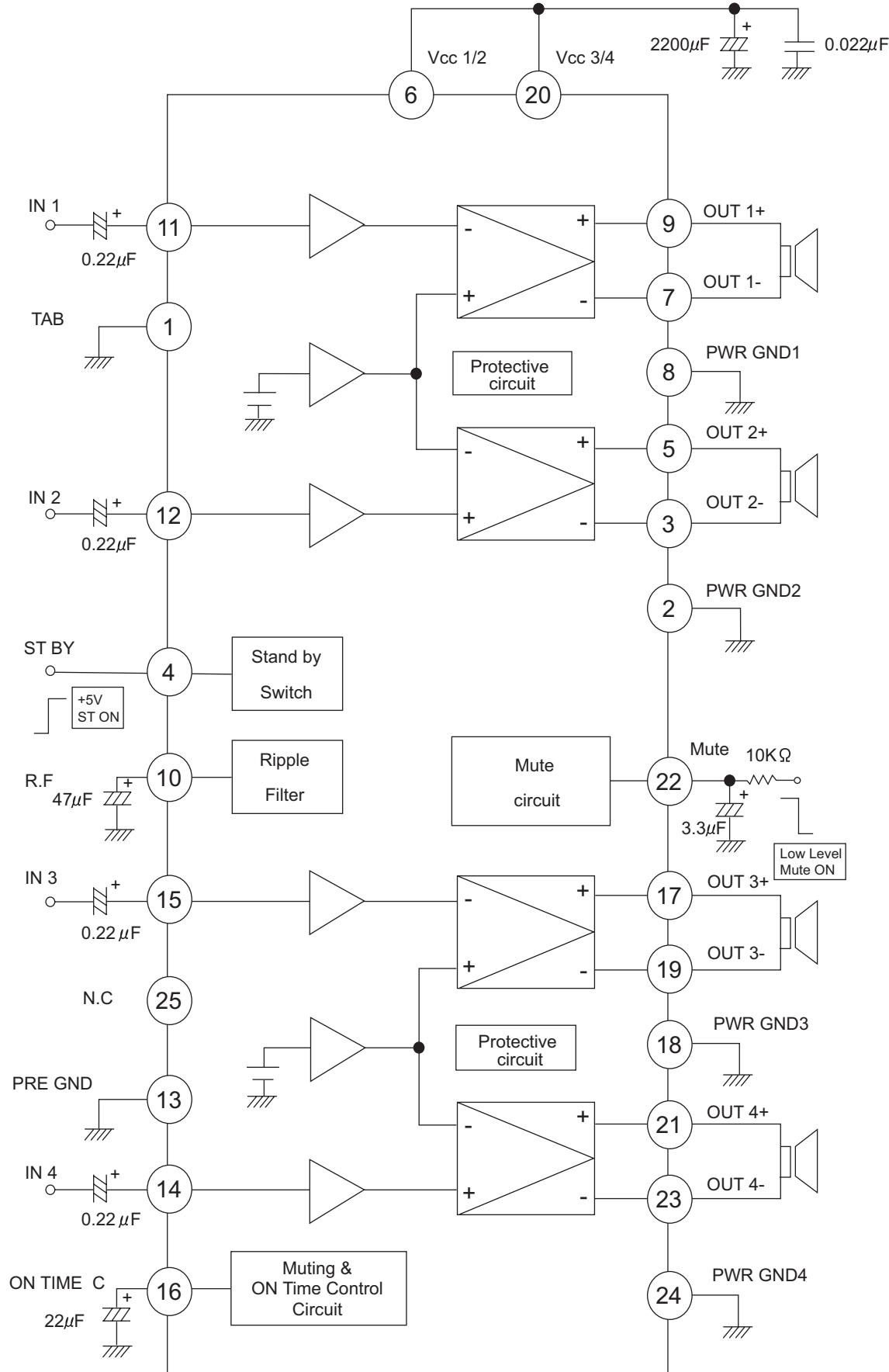
• Pin layout

• Pin function

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	TAB	Header of IC	14	FLIN	Front Lch input
2	GND	Power GND	15	RLIN	Rear Lch input
3	FR-	Outpur(-) for front Rch	16	ONTIME	Power on time control
4	STDBY	Stand by input	17	RL+	Output (+) for rear Lch
5	FR+	Output (+) for front Rch	18	GND	Power GND
6	VP1	Power input	19	RL-	Output (-) for rear Lch
7	RR-	Output (-) for rear Rch	20	VP3	Power input
8	GND	Power GND	21	FL+	Output (+) for front
9	RR+	Output (+) for rear Rch	22	MUTE	Muting control input
10	RIPPLE	Ripple filter	23	FL-	Output (-) for front
11	RRIN	Rear Rch input	24	GND	Power GND
12	FRIN	Front Rch input	25	NC	Non connection
13	SGND	Signal GND			

4.7 LA6579H-X (IC501) : 4-Channel bridge driver

• Pin layout & Block diagram
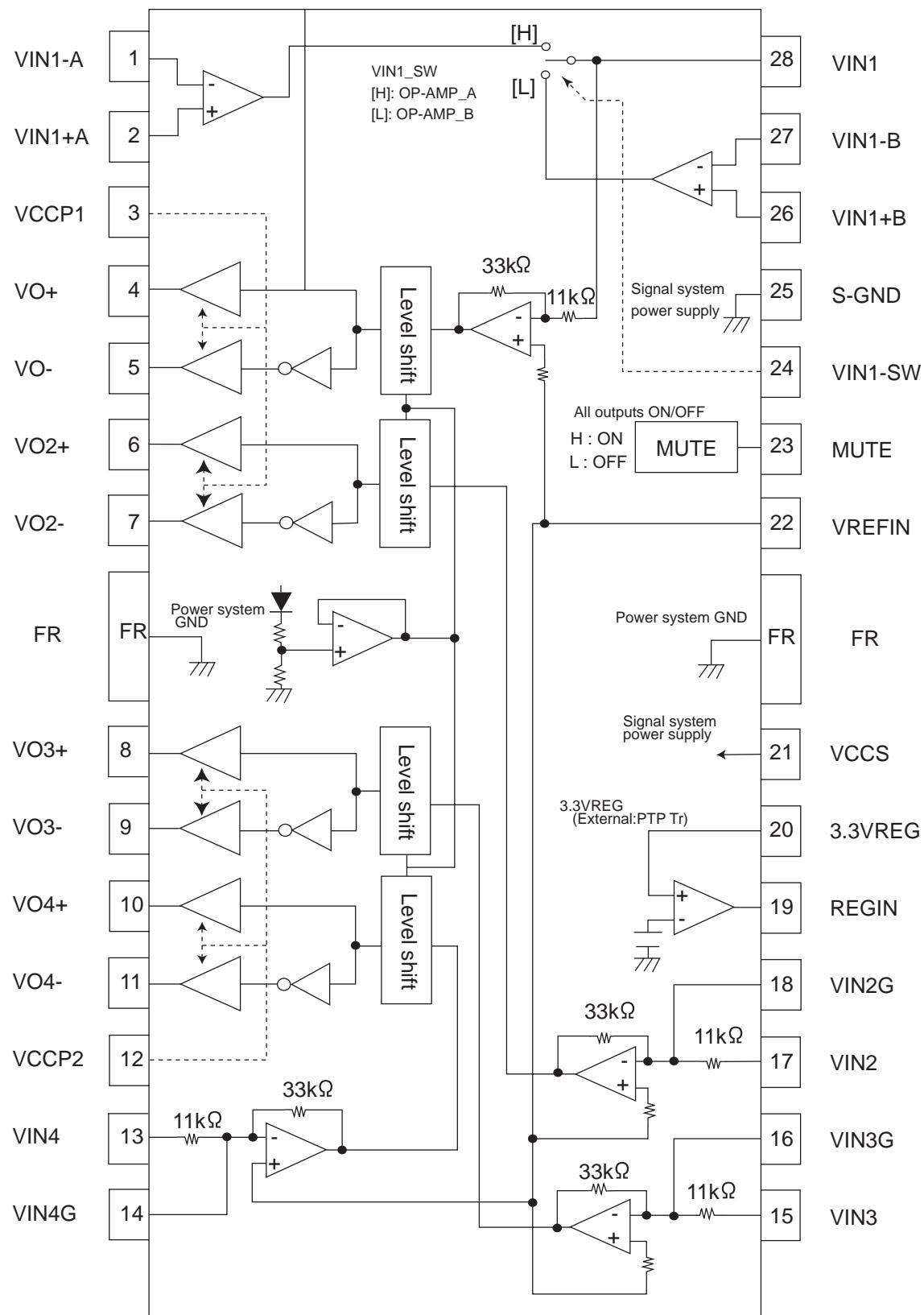
• Pin function

Pin No.	Symbol	Function
1	VIN1-A	CH1 input AMP_inverted input
2	VIN1+A	CH1 input AMP_non-inverted input
3	VCCP1	CH1 and CH2 power stage power supply
4	VO1+	Output pin(+)for channel 1
5	VO1-	CH1 output pin (-) for channel 1
6	VO2+	Output pin(+)for channel 2
7	VO2-	Output pin(-)for channel 2
8	VO3+	Output pin(+)for channel 3
9	VO3-	Output pin(-)for channel 3
10	VO4+	Output pin(+)for channel 4
11	VO4-	Output pin(-)for channel 4
12	VCCP2	CH3 and CH4 power stage powr supply
13	VIN4	Input pin for channel 4
14	VIN4G	Input pin for channel 4(for gain adjustment)
15	VIN3	Input pin for channel 3
16	VIN3G	Input pin for channel 3(for gain adjustment)
17	VIN2	Input pin for channel 2
18	VIN2G	Input pin for channel 2(for gain adjustment)
19	REGIN	External PNP transistor base connection
20	3.3VREG	3.3VREG output pin external PNP transistor,collector connection
21	VCCS	Signal system GND
22	VREFIN	Reference voltage application pin
23	MUTE	Output ON/OFF pin
24	VIN1_SW	CH1 input OP AMP_changeover pin
25	S_GND	Signal system GND
26	VIN1+B	CH1 AMP_B non-inverted input pin
27	VIN1-B	CH1 AMP_B inverted input pin
28	VIN1	CH1 input pin input OP_AMP output pin

4.8 NJM4565M-WE (IC581) : CD L.P.F.

A OUTPUT	1		8	V+
A -INPUT	2		7	B OUTPUT
A+INPUT	3		6	B -INPUT
V−	4		5	B+INPUT
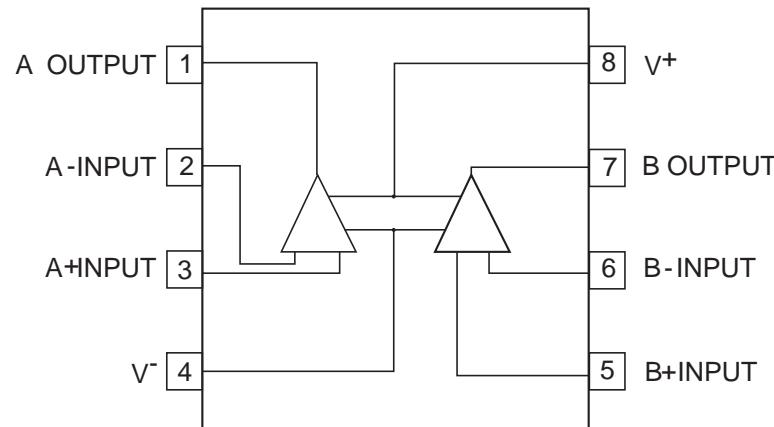
4.9 NJU7241F25-X (IC461) : Regulator

• Pin layout

GND	1		5	STB
VIN	2			
VOUT	3		4	NC

• Block diagram

Short protect

VIN ② VOUT ③

STB ⑤

Vref

GND ① GND ①
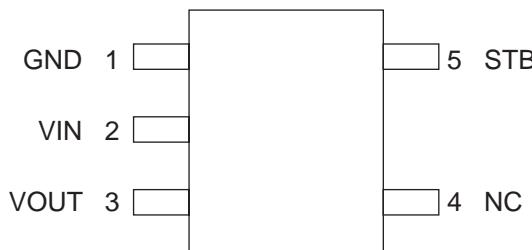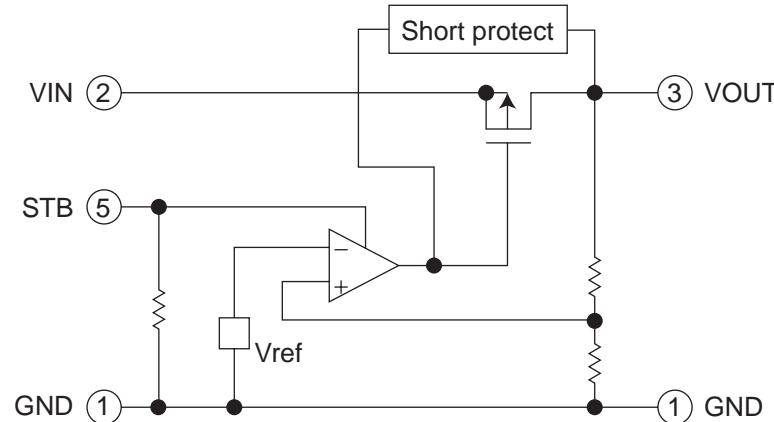
4.10 NJU7241F33-X (IC471) : Voltage regulator

PIN FUNCTION
1. GND
2. V_{IN}
3. V_{OUT}
4. +NC
5. STB
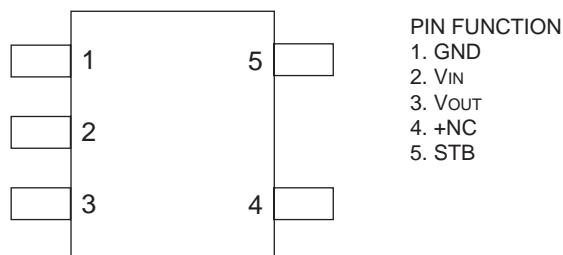
4.11 RPM6938-SV4 (IC602) : Remote control receiver

• Pin diagram
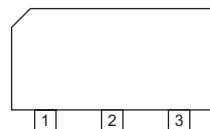
• Block diagram
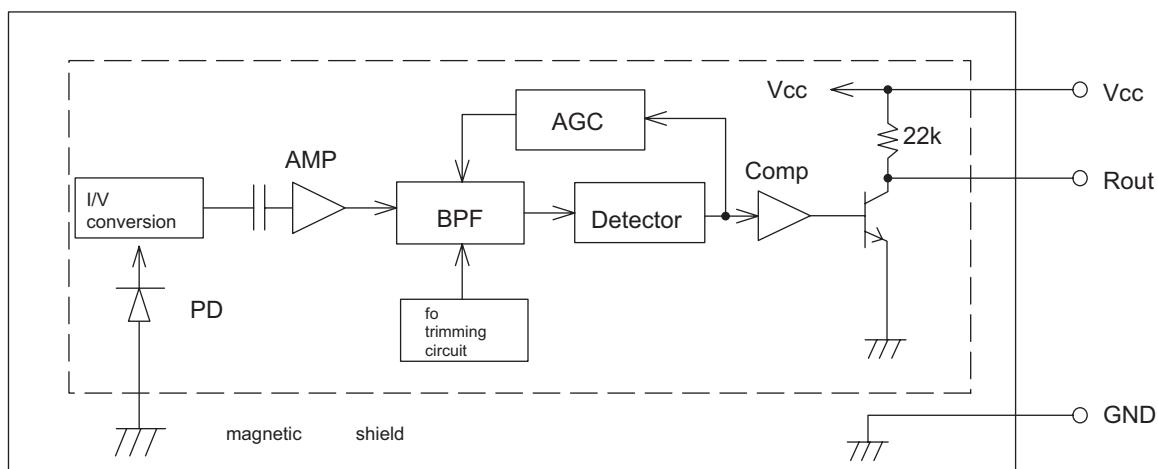
4.12 SAA6579T-X (IC71) : RDS detecter

• Pin layout

```
        QUAL  1        16  CLK
        DATA  2        15  T57
        Vref  3        14  OSCO
        MUX   4        13  OSCI
        Vdd   5        12  Vdd
        GND   6        11  GND
        CIN   7        10  TEST
       SCOUT  8         9  MODE
```
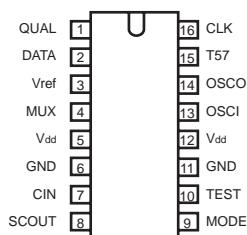
• Block diagram
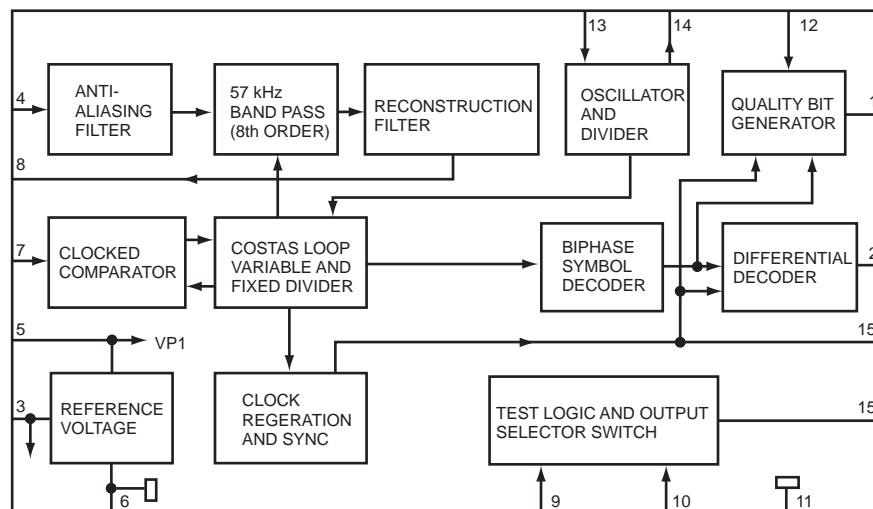
• Pin function

Pin No.	Symbol	Description
1	QUAL	Quality indication output
2	DATA	RDS data output
3	Vref	Reference voltage output (0.5VDDA)
4	MUX	Multiolex signal input
5	Vdd	+5V supply voltage for analog part
6	GND	Ground for analog part (0V)
7	CIN	Sub carrier input to comparator
8	SCOUT	Sub carrier output of reconstruction filter
9	MODE	Oscillator mode / test control input
10	TEST	Test enable input
11	GND	Ground for digital part (0V)
12	Vdd	+5V supply voltage for digital part
13	OSCI	Oscillator input
14	OSCO	Oscillator output
15	T57	57 kHz clock signal output
16	CLK	RDS clock output

4.13 TB2118F-X (IC31) : PLL

• Terminal Layout
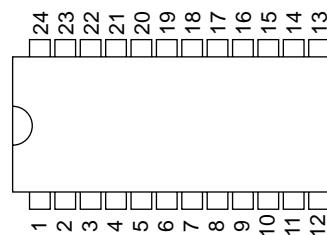
• Block diagram
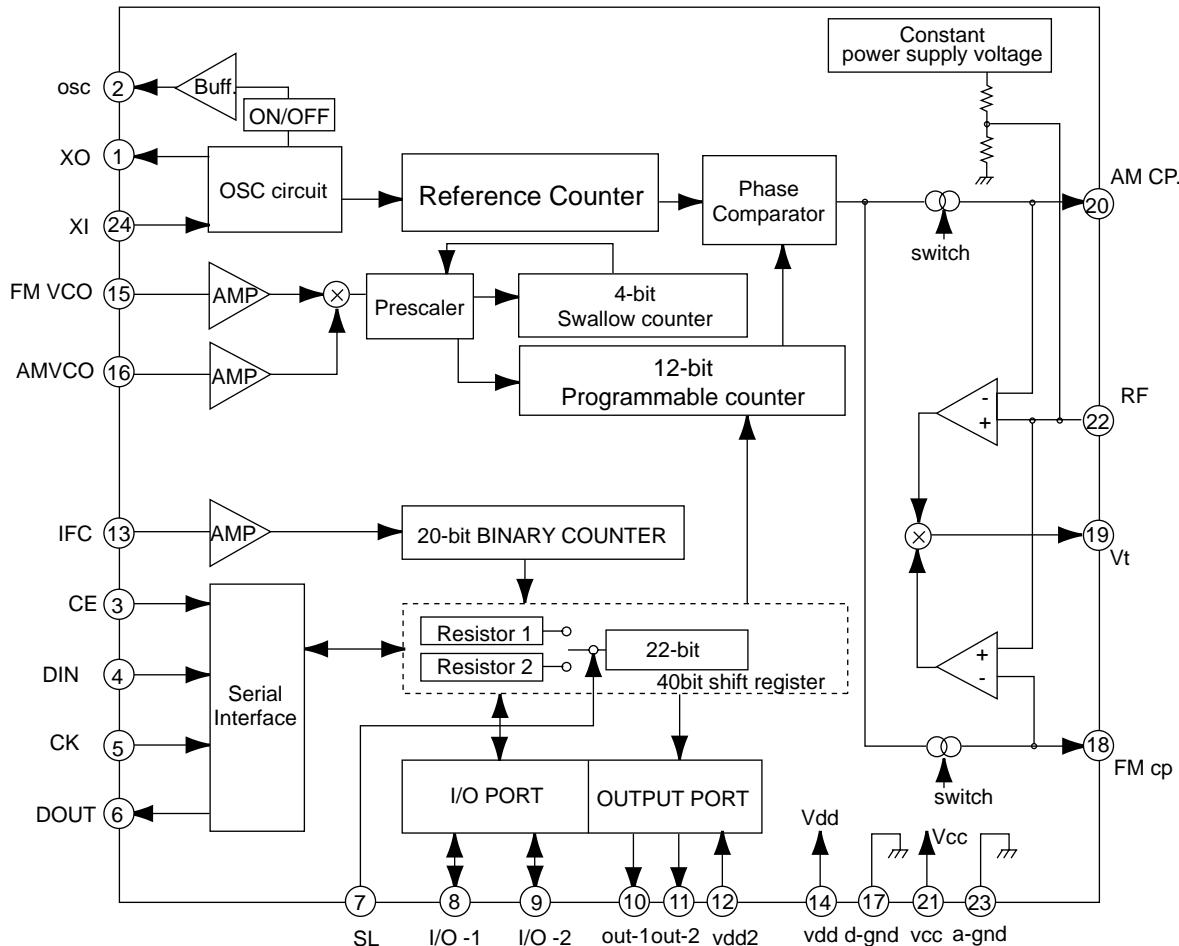
• Pin Function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XOUT	O	Crystal oscillator pin	13	IFC	I	IF signal input
2	OSC	-	Non connect	14	VDD	-	Power pins for digital block
3	CE	I	Chip enable input	15	FMIN	I	FM band local signal input
4	DI	I	Serial data input	16	AMIN	I	AM band local signal input
5	CK	I	Clock input	17	DGND	-	Connect to GND (for digital circuit)
6	DOUT	O	Serial data output	18	FMCP	O	Charge pump output for FM
7	SR	O	Register control pin	19	Vt	-	Tuning voltage biased to 2.5V.
8	I/01	I/O	I/O ports	20	AMCP	O	Charge pump output for AM
9	I/02	I/O	I/O ports	21	VCC	-	Power pins for analog block
10	OUT1	-	Non connect	22	RF	I	Ripple filter connecting pin
11	OUT2	-	Non connect	23	AGND	-	Connect to GND (for analog circuit)
12	VDD2	-	Single power supply for REF. frequency block	24	XIN	I	Crystal oscillator pin

4.14 TA2157FN-X (IC521) : RF amp

• Terminal layout
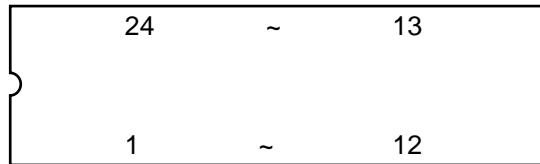
• Block diagram
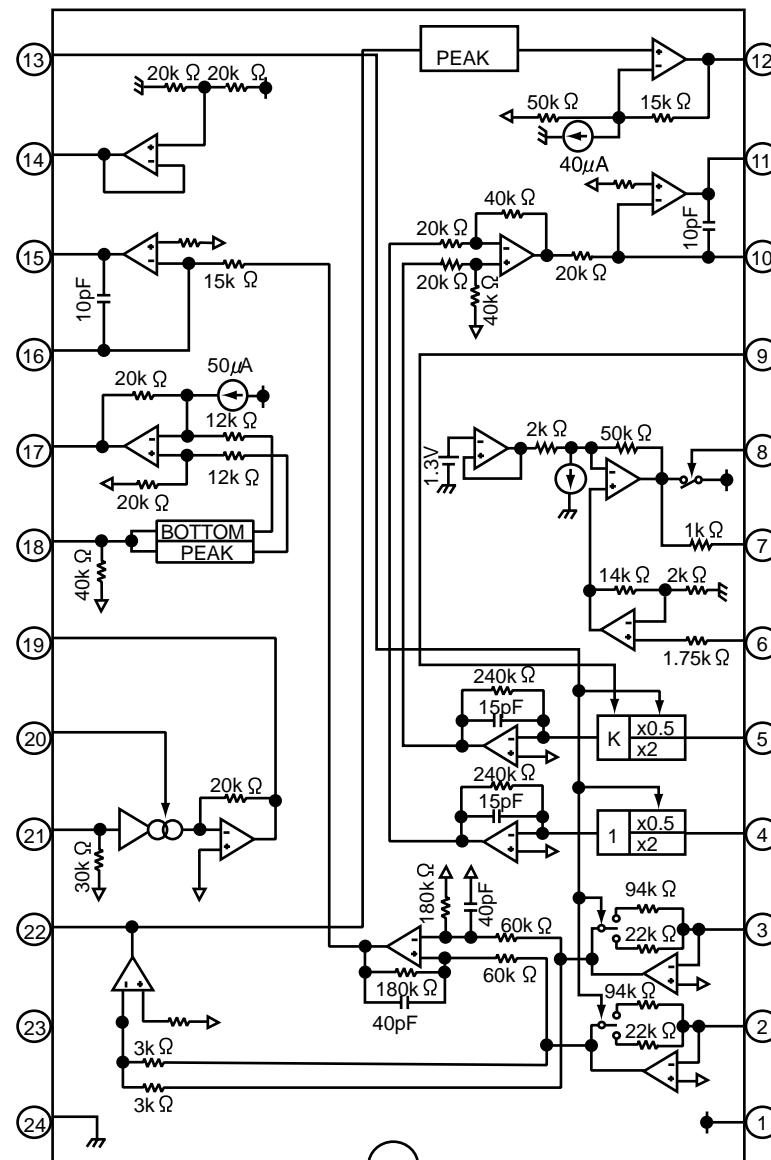
PIN	SEL	TEB	RFGC	TEB
VCTRLPIN	(APC SW)	(TE BAL)	(AGC Gian)	(TE BAL)
VCC	APC ON	-50%	+12dB	Normal mode (0dB)
HiZ	APC ON	0%	+6dB	Normal mode (0dB)
GND	APC OFF (LDO=H)	50%	0dB	CD-RW mode (+12dB)

• 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 (LDO) control signal input or bottom/peak detection frequency change pin. <table><tr><td>SEL</td><td>APC circuit</td><td>LDO</td></tr><tr><td>GND</td><td>OFF</td><td>Connected VCC through 1kΩ resistor</td></tr><tr><td>Hiz</td><td>ON</td><td>Control signal output</td></tr><tr><td>VCC</td><td>ON</td><td>Control signal output</td></tr></table>
9	TEB	I	Tracking error balance adjustment signal input pin Adjusts TE signal balance by eliminating carrier component from PWM signal (3-state output, PWM carrier = 88.2kHz) output from TC94A14F/FA TEBC pin using RC-LPF and inputting DC. TEBC input voltage:GND~VCC
10	TEN	I	Tracking error signal generation amp negative-phase input pin
11	TEO	O	Tracking error signal generation amp output pin. Combining TEO signal RFRP signal with TC94A14F/FA configures tracking search system.
12	RFDC	O	RF signal peak detection output pin
13	GVSW	I	AGC/FE/TE amp gain change pin <table><tr><td>GVSW</td><td>Mode</td></tr><tr><td>GND</td><td>CD-RW</td></tr><tr><td>Hiz</td><td>Normal</td></tr><tr><td>VCC</td><td></td></tr></table>
14	VRO	O	Reference voltage (VRO) output pin *VRO=1/2VCC When VCC=3.3V
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 Combining RFRP signal and TEO signal with TC94A14F/FA configures tracking search system.
18 19 20	REIS RFGO RFGC	I O I	RF signal amplitude adjustment amp output pin RF amplitude adjustment control signal input pin Adjusts RF signal amplitude by eliminating carrier component from PWM signal (3-state output, PWM carrier=88.2kHz)output fromTC94A14F/14FA *RFGC pin using RC-LPF and inputting DC. *RFGC input voltage:GND~VCC
21	AGCIN	I	RF signal amplitude adjustment amp input pin
22	RFO	O	RF signal generation amp output pin
23	RFI	I	RF signal generation amp input pin
24	GND	-	GND pin

4.15 TC94A14FA (IC541) : DSP & DAC

• Terminal layout & block daiagram

Clock generator

PWM

D/A

LPF

1-bit DAC

Servo control

A/D

Address circuit

Correction circuit

16 k RAM

ROM
RAM
Digital equalizer automatic adjustment circuit

CLV servo

Data slicer

Audio out circuit

Digital output

Synchronous guarantee EFM decoder

VCO

Micro-controller interface

Sub code decoder

PLL TMAX
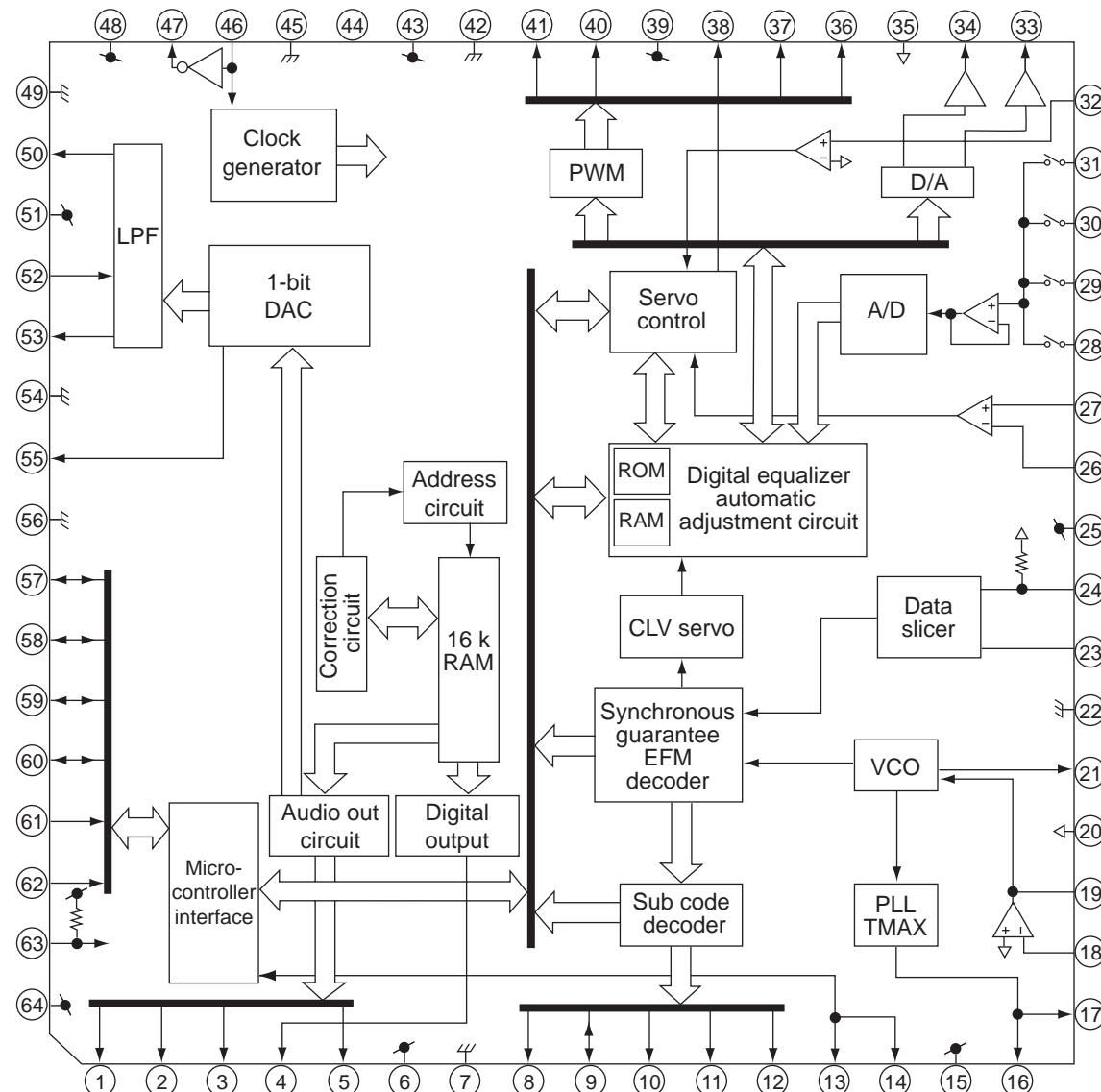
• Pin function

Pin No	Symbol	I/O	Description
1	BCK	O	Bit clock output pin.32fs48fsor 64fs selectable by command.
2	LRCK	O	L/R channel clock output pin."L" for L channel and "H" for R channel. Output polarity can be inverted by command.
3	AOUT	O	Audio data output pin. MSB-first or LSB-first selectable by command.
4	DOUT	O	Digital data output pin.Outputs up to double-speed playback.
5	IPF	O	Correction flag output pin. When set to "H" AOUT output cannot be corrected by C2 correction processing.
6	V_{DD3}	-	Digital 3.3V power supply voltage pin.
7	V_{SS3}	-	Digital GND pin.
8	SBOK	O	Subcode Q data CRCC result output pin. "H" level when result is OK.
9	CLCK	O	Subcode P-W data read I/O pin. I/O polarity selectable by command.
10	DATA	O	Subcode P-W data output pin.
11	SFSY	O	Playback frame sync signal output pin.
12	SBSY	O	Subcode block sync signal output pin. "H" level at S1 when subcode sync is detected.
13	HSO	I/O	General-purpose input / output pins.Input port at reset.
14	UHSO		
15	PV_{DD3}	-	PLL-only 3.3V power supply voltage pin.
16	PDO	O	EFM and PLCK phase difference signal output pin.

Pin No	Symbol	I/O	Descroption
17	TMAX	O	TMAX detection result output pin.

TMAX Detection Result	TMAX Output
Longer than fixed period	"PV$_{DD3}$"
Within fixed period	"HiZ"
Shorter than fixed period	"AV$_{SS3}$"

Pin No	Symbol	I/O	Descroption
18	LPFN	I	Inverted input pin for PLL LPF amp.
19	LPFO	O	Output pin for PLL LPF amp.
20	PVREF	-	PLL-only VREF pin.
21	VCOF	O	VCO filter pin.
22	AV$_{SS3}$	-	Analog GND pin.
23	SLCO	O	DAC output pin for data slice level generation.
24	RFI	I	RF signal input pin. Zin selectable by command.
25	AV$_{DD3}$	-	Analog 3.3V power supply voltage pin.
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	SBAD	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 balance control signal output pin.
38	SEL	O	APC circuit ON/OFF signal output pin. At laser on, high impedance with UHS="L", H output with UHS="H".
39	AV$_{DD3}$	-	Analog 3.3V power supply voltage pin.
40	FMO	O	Feed equalizer output pin.
41	DMO	O	Disc equalizer output pin.
42	V$_{SS3}$	-	Digital GND pin.
43	V$_{DD3}$	-	Digital 3.3V power supply voltage pin.
44	TESIN	I	Test input pin. Normally, fixed to "L".
45	XV$_{SS3}$	-	System clock oscillator GND pin.
46	XI	I	System clock oscillator input pin.
47	XO	O	System clock oscillator output pin.
48	XV$_{DD3}$	-	System clock oscillator 3.3V power supply voltage pin.
49	DV$_{SS3}$R	-	DA converter GND pin.
50	RO	O	R-channel data forward output pin.
51	DV$_{DD3}$	-	DA converter 3.3V power supply pin.
52	DVR	-	Reference voltage pin.
53	LO	O	L-channel data forward output pin.
54	DV$_{SS3}$L	-	DA converter GND pin.
55	ZDET	O	1 bit DA converter zero detection flag output pin.
56	V$_{SS5}$	-	Microcontroller interface GND pin.
57	BUS0		
58	BUS1		
59	BUS2	I/O	Microcontroller interface data I/O pins.
60	BUS3		
61	BUCK	I	Microcontroller interface clock input pin.
62	/CCE	I	Microcontroller interface chip enable signal input pin.At "L", BUS0 to BUS3 are active.
63	/RST	I	Reset signal input pin. At reset, "L".
64	V$_{DD5}$	-	Microcontroller interface 5V power supply pin.

4.16 TC94A20F-011 (IC401) : CD-ROM decoder + MP3 decoder with DAC and SRAM

• Pin layout

```
48        33
              32
49
                 17
64            16
  1
```

• Block diagram

```
32  31  30  29  28  27  26  25  24  23  22  21  20  19  18  17

33                                                          16

        DIT         DAC        DAC                          15

                 Bus                                        14
                 Switch

        C-Pointer register                                  13

General output port    Address calc. 2sets   Y-Pointer register    AY   A3   round & limit    12

                       X-Pointer register     AX   ALU   A2          Audio I/F   11

                 ERAM 2k word                                        10

                 CROM 4k word *7    register X0 X1 X2 Y0 Y1 Y2   MZ   MY  MAC  A1  round & limit   9

Flag             Y-RAM 4k word                 MX   A0                8

                 X-RAM 4k word                                       7

                                  Program control                    6

Timer            SRAM I/F   1Mbit SRAM    PRAM 256word   PROM 4k*3 =12k word   Instruction decoder   Microcom. I/F   5

Interrupt control                                                    4

DRAM I/F                                                             3

                                                                     2

General inputbport    SubCode I/F   VCO   Timing generator           1

49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64
```

1-44 (No.49829)

• Pin functions

Pin No	Symbol	I/O	Functions
1	/RESET	I	Hard reset input H:normal L:reset
2	MiMD	I	Micon I/F mode select input
3	/MiCS	I	Micon I/F chip select input
4	/MiLP	I	Micon I/F latch palus input
5	MiDio	I/O	Micon I/F data input/output
6	/MiCK	I	Micon I/F clock input
7	MiACK	O	Micon I/F acknowledge output
8	VDDT	-	Power supply for digital (3.3V)
9	SDo	O	Data output
10	BCKo	O	Bit output
11	LRCKo	O	LR clock output
12	SDiO	I	Data input 0
13	BCKiA	I	Bit clock input A
14	LRCKiA	I	LR clock input A
15	SDiL	I	Data input terminal 1
16	BCKiB	I	Bit clock input terminal B
17	LRCKiB	I	LR clock input terminal B
18	VDD	-	Power supply for digital (2.5V)
19	STANBY	I	Standby mode control input H:STBY L:normal
20	VSS	-	GND for digital
21	VSSL	-	GND for DAC Lch
22	VRAL	-	Reference voltage for DAC Lch
23	LO	O	DAC Lch output
24,25	VDAL,VDAR	-	Power supply for DAC Lch/Power supply for DAC Rch (2.5V)
26	RO	O	DAC Rch output
27	VRAR	-	Reference voltage for DAC Rch
28	VSSR	-	GND for DAC R ch
29	TESTP	I	Test terminal H:test mode L:normal
30	TXO	O	SPDIF output
31~34	Po0~Po3	O	General purpose output 0 ~ 3
35	VDDT	-	Power supply for digital (3.3V)
36~38	Po4~Po6	O	General purpose output 4 ~ 6
39	REQ	O	REC terminal
40	VSS	-	GND for digital
41	IRO	I/O	External interrupt input
42	VDDM	-	Internal 1Mbit SRAM power supply (2.5V)
43,44	Fi0,Fi1	I	Flug input 0,1
45	VSSM	-	GND for internal 1Mbit SRAM
46,47	Pi0,Pi1	I	General ourpose input 01
48	VSS	-	GND for digital
49,50	Pi2,Pi3	I	General purpose input 23
51	Pi4/CLCL	I	General purpose input 4/SUBQ I/F clock inputoutput
52	VDD	-	Power supply for digital (2.5V)
53	Pi5/DATA	I	General purpose input 5/SUBQ I/F data input
54	TSTiN/SFSY	I	Test terminal/SUBQ I/F flame sync input
55	Fi2/SBSY	I	Flug input 2/SUBQ I/F block sync input
56	VSSP	-	GND for VCO
57	Pdo	O	PLL phase error detection signal output
58	Vcoi	I	VCO control voltage input
59	VDDP	-	Power supply for VCO (2.5V)
60	CKo/CKi	I/O	External clock input/Clock output terminal
61	VDDX	-	Power supply for X'tal oscillator (2.5V)
62,63	Xi,Xo	I,O	Oscillator connection terminal for input/output
64	VSSX	-	GND for oscillator

4.17 UPD784217AGC195 (IC701) : CPU

• Pin Layout

```
      75        51
  76 ┌──────────┐ 50
     │          │
     │          │
 100 │          │ 26
     └──────────┘
      1         25
```
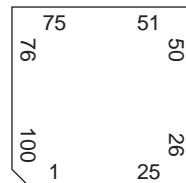
• Block Diagram

Pin No.	Symbol	I/O	Function
1	CDRESET	-	Not use
2	CDMUTE	-	Not use
3	SW2	O	CD mecha SW2
4	PSW	O	CD mecha position setting SW
5	LM0	O	Loading motor control output 0
6	LM1	O	Loading motor control output 1
7	NC	-	Not use
8	ANTCRTL	O	Antenna remote control
9	VDD	-	Power supply
10	X2	-	
11	X1	-	
12	VSS	-	Ground
13	XT2	-	
14	XT1	-	
15	RESET	I	System reset
16	SW1	I	CD mecha SW1
17	BUSINT	I	Not use
18	PS2	I	Power save2, H means STOP mode
19	STEERING	I	Not use
20	RDSSCK	I	RDS clock input
21	RDSDA	I	RDS data input
22	REMOCON	I	Remocon data input
23	AVDD	-	A/D converter power supply
24	AVREF0	-	A/D reference voltage
25	VOL1	I	Volume encoder pulse input 1
26	VOL2	I	Volume encoder pulse input 2
27	KEY0	-	Key input 0
28	KEY1	I	Key input 1
29	KEY2	I	Key input 2
30	LEVEL	I	Level meter input
31	SQ	I	Signal lquality input
32	SM	-	Signal level meter input
33	AVSS	-	Ground
34,35	NC	I	Not use
36	AVREF	-	Analog reference voltage
37	BUSSI	I	Not use
38	BUSSO	O	Not use
39	BUSSCK	I/O	Not use
40	BUSI/O	O	Not use
41	LCDDA	O	LCD DATA output
42	LCDCK	O	LCD CK
43	LCDCE	O	LCD CE
44	NC	O	Not use
45	EPROMDI	I	I2C data input

Pin No.	Symbol	I/O	Function
46	EPROMDO	O	I2C data output
47	EPROMCK	O	I2C clock output
48	OPEN	I	DOOR OPEN SW
49	CSN	O	External DAC IC chip select output
50	CCLK	O	External DAC IC control data output
51	CDTI	O	External DAC IC control data output
52	PDN	O	Power down mode output
53	SD/ST	I	Station detector or stereo indicator input ; H means a station is there. L means the program is stereo.
54	MP3CLK	O	MP3 IC clock output
55	MONO	O	Mono by power force
56	MP3DIN	I	MP3 IC data input
57	MP3DOUT	O	MP3 IC data output
58	MP3STBY	O	MP3 IC standby output
59	MP3RESET	O	MP3 IC reset output
60	MP3REQ	I	MP3 IC REQ input
61	DETACH	I	Detach signal input
62	AFCK	I	AF check input
63	SEEK/STOP	O	Switching SEEK/STOP
64	IFC CONT	O	IF control
65	FM/AM	O	FM,AM band selecting output; H=FM,L=AM
66	PLLCE	O	CE output for PLL IC
67	PLLDA	O	Data output for PLL IC
68	PLLCK	O	Clock output for PLL IC
69	PLLDI	I	Data input from PLL IC
70	TELMUTE	I	Telephone muting detection input ; Active level can be selected H or L in PSM
71	NC	-	Not use
72	VSS	-	Ground
73	DIMIN	I	Dimmer detector input, L=dimmer on
74	PS1	I	Power save 1, L=ACC off
75	POWER	O	Power on/off control output, H=power on
76	CDON	-	CD power control
77	MUTE	O	Muting output, L=muting on
78	DIMOUT	O	Dimmer detector output
79,80	NC	-	Not use
81	VDD	-	Power supply
82	NC	-	Not use
83	VOLDA	O	Data output for e-volume IC
84	VOLCL	O	Clock output for e-volume IC
85 to 89	NC	-	Not use
90	STAGE	-	Not use
91	BUCK	O	DSP IC interface clock output
92	CCE	O	DSP IC interface chip enable signal output
93	RST	O	DSP IC reset output (L: reset)
94	TEST	-	Test terminal
95	BUS0	I/O	DSP IC interface data input/output 0
96	BUS1	I/O	DSP IC interface data input/output 1
97	BUS2	I/O	DSP IC interface data input/output 2
98	BUS3	I/O	DSP IC interface data input/output 3
99	NC	-	Not use
100	CDRW	O	RF gain control L=CD-RW, H=CD-DA

4.18 TEA6320T-X (IC161) : E.volume

• Pin layout

```
        SDA  1 ⌐‿⌐ 32  SCL
        GND  2       31  VCC
       OUTLR 3       30  OUTRR
       OUTLF 4       29  OUTRF
         TL  5       28  TR
        B2L  6       27  B2R
        B1L  7       26  B1R
        IVL  8       25  IVR
        ILL  9       24  ILR
        QSL 10       23  QSR
        IDL 11       22  IDR
       MUTE 12       21  Vref
        ICL 13  CD-CH 20  ICR
        IMD 14       19  CAP
        IBL 15  TAPE  18  IBR
        IAL 16 TUNER  17  IAR
```

• Block diagram
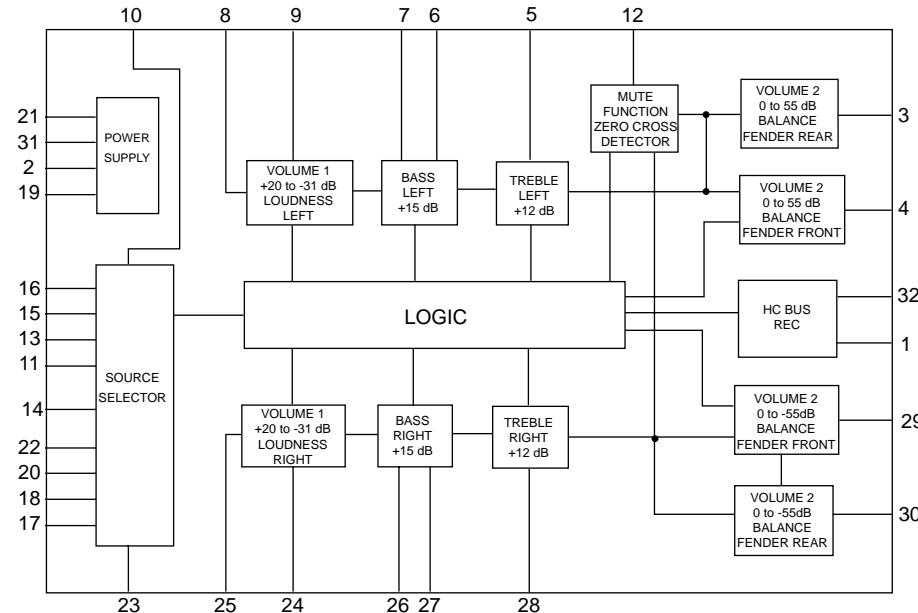
• Pin functions

Pin No.	Symbol	I/O	Functions
1	SDA	I/O	Serial data input/output.
2	GND	-	Ground.
3	OUTLR	O	output left rear.
4	OUTLF	O	output left front.
5	TL	I	Treble control capacitor left channel or input from an external equalizer.
6	B2L	-	Bass control capacitor left channel or output to an external equalizer.
7	B1L	-	Bass control capacitor left channel.
8	IVL	I	Input volume 1. left control part.
9	ILL	I	Input loudness. left control part.
10	QSL	O	Output source selector. left channel.
11	IDL	-	Not used
12	MUTE	-	Not used
13	ICL	I	Input C left source.
14	IMO	-	Not used
15	IBL	I	Input B left source.
16	IAL	I	Input A left source.

Pin No.	Symbol	I/O	Functions
17	IAR	I	Input A right source.
18	IBR	I	Input B right source.
19	CAP	-	Electronic filtering for supply.
20	ICR	I	Input C right source.
21	Vref	-	Reference voltage (0.5Vcc)
22	IDR	-	Not used
23	QSR	O	Output source selector right channel.
24	ILR	I	Input loudness right channel.
25	IVR	I	Input volume 1. right control part.
26	B1R	-	Bass control capacitor right channel
27	B2R	O	Bass control capacitor right channel or output to an external equalizer.
28	TR	I	Treble control capacitor right channel or input from an external equalizer.
29	OUTRF	O	Output right front.
30	OUTRR	O	Output right rear.
31	Vcc	-	Supply voltage.
32	SCL	I	Serial clock input.

KD-SC900R

(No.49829)

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