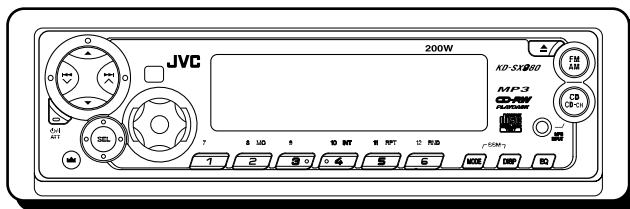
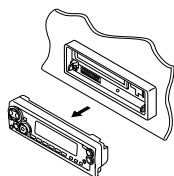


JVC

SERVICE MANUAL

CD RECEIVER

KD-SX980



MP3
CD-RW
PLAYBACK

COMPACT
disc
DIGITAL AUDIO
TEXT


Area Suffix

J - Northern America

Contents

Safety precaution	1-2	Flow of functional	
Preventing static electricity	1-3	operation unit TOC read	1-20
Disassembly method	1-4	Maintenance of laser pickup	1-22
Adjustment method	1-19	Replacement of laser pickup	1-22
		Description of major ICs	1-23~43

Safety precaution

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

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

Preventing static electricity

1. Grounding to prevent damage by static electricity

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

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

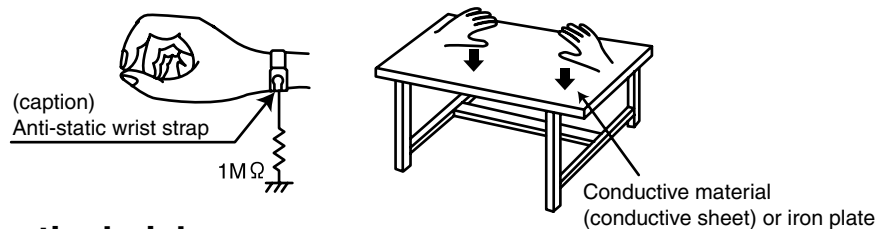
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players. Be careful to use proper grounding in the area where repairs are being performed.

2-1 Ground the workbench

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

2-2 Ground yourself

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



3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

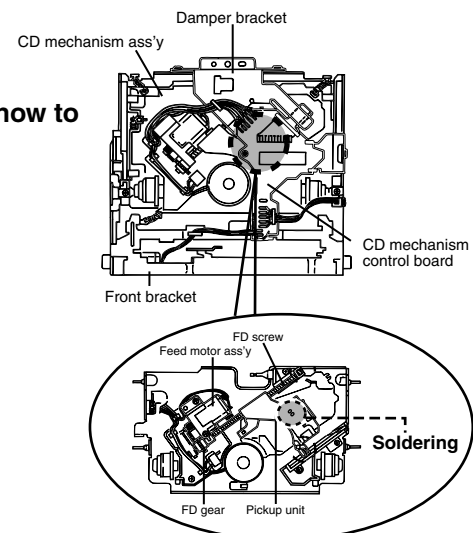
4. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
3. Handle the flexible cable carefully as it may break when subjected to strong force.
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

Attention when traverse unit is decomposed

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

1. Solder is put up before the card wire is removed from connector on the CD substrate as shown in Figure.
(When the wire is removed without putting up solder, the CD pick-up assembly might destroy.)
2. Please remove solder after connecting the card wire with when you install picking up in the substrate.



Disassembly method

■ Removing the front panel unit

(See Fig.1)

1. Press the release switch and remove the front panel unit in the direction of the arrow.

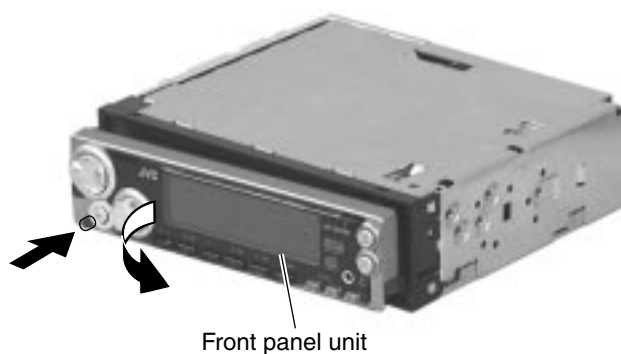


Fig.1

■ Removing the front chassis

(See Fig.2 to 4)

1. Remove the two screws **A** attaching the front chassis.
2. Remove the two screws **B** on each side of the body.
3. Release the two joints **a** and the two joints **b** on the sides. Release the two joints **c** at the bottom and remove the front chassis toward the front.

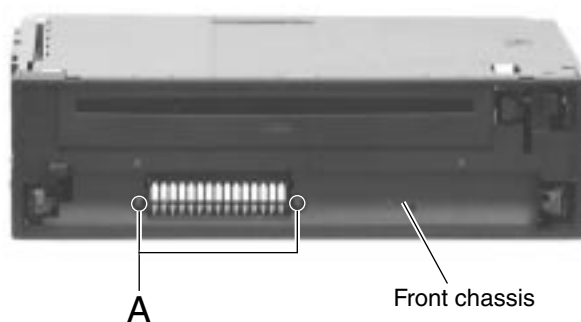


Fig.2

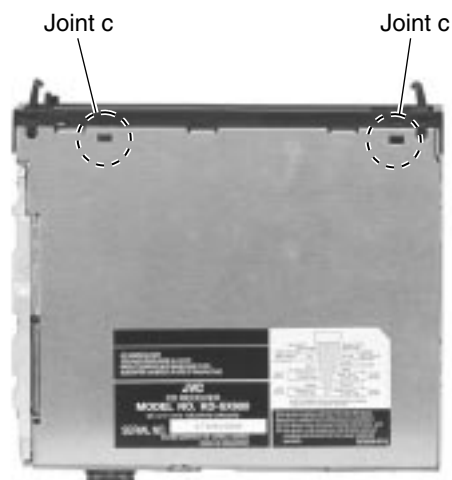


Fig.4

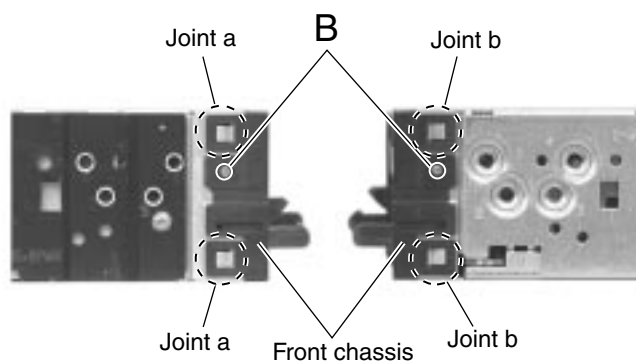


Fig. 3

■ Removing the heat sink (See Fig.5)

1. Remove the four screws **C** attaching the heat sink on the left side of the body, and remove the heat sink.

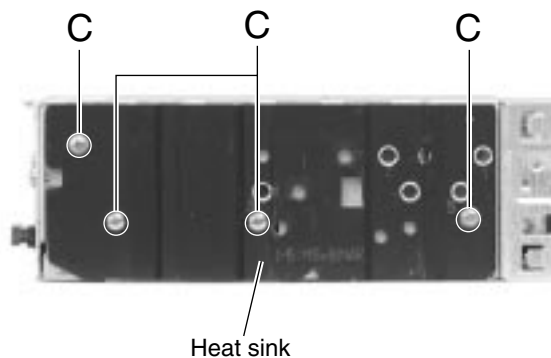


Fig. 5

■ Removing the bottom cover (See Fig.6)

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

1. Turn the body upside down.
2. Insert a screwdriver to the two joints **d** and two joints **e** on both sides of the body and the joint **f** on the back of the body, then detach the bottom cover from the body.

CAUTION: When disengaging the joint **f** using a screwdriver, do not damage or break the board.

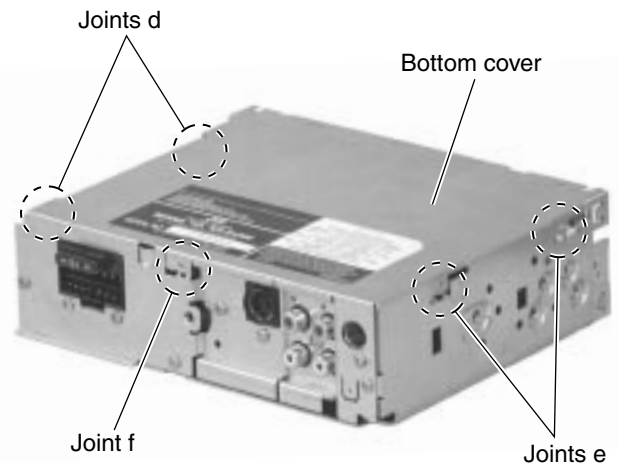


Fig. 6

■ Removing the rear panel (See Fig.7)

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

1. Remove the eight screws **D** attaching the rear panel and one screw **E** attaching the pine jack on the back of the body.

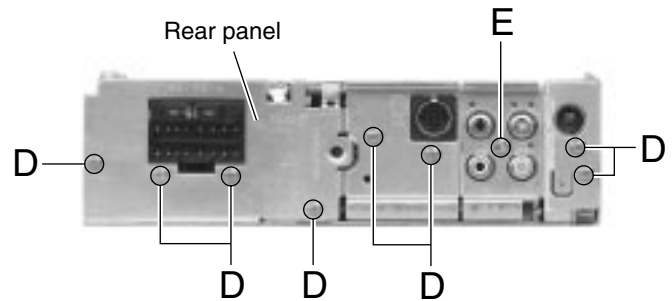


Fig. 7

■ Removing the main amplifier board assembly (See Fig.8)

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

1. Remove the two screws **F** attaching the main amplifier board assembly on the top cover.
2. Disconnect connector CN101 on the main amplifier board assembly from the cassette mechanism assembly.

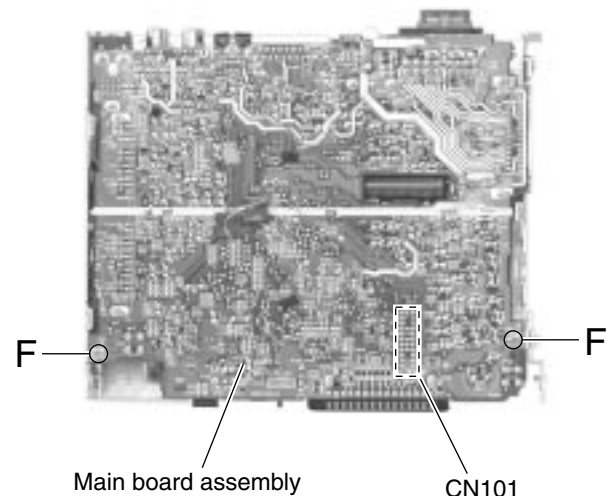


Fig. 8

■ **Removing the MP3 board**

(See Fig.9)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the wire from connector CN601 on the MP3 board.
 2. Remove the five screws **G** and the MP3 board, releasing the joint **g** and **h**.

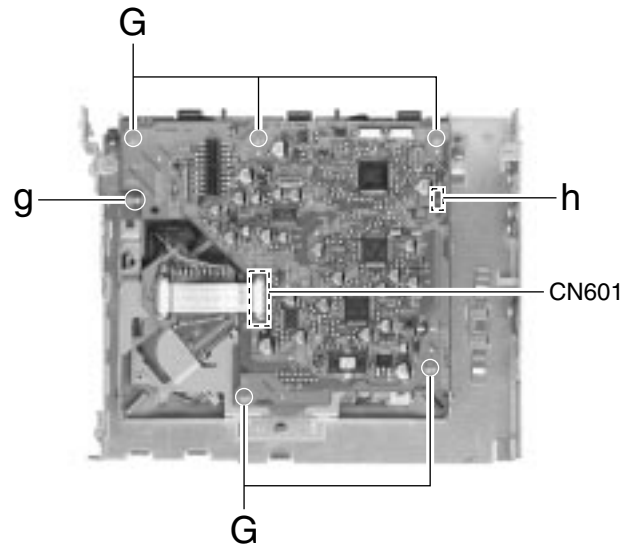


Fig.9

■ **Removing the CD mechanism assembly**

(See Fig.10)

- Prior to performing the following procedure, remove the front chassis, the heat sink, bottom cover and the main amplifier board assembly.
1. Remove the three screws **H** attaching the cassette mechanism assembly from the top cover.

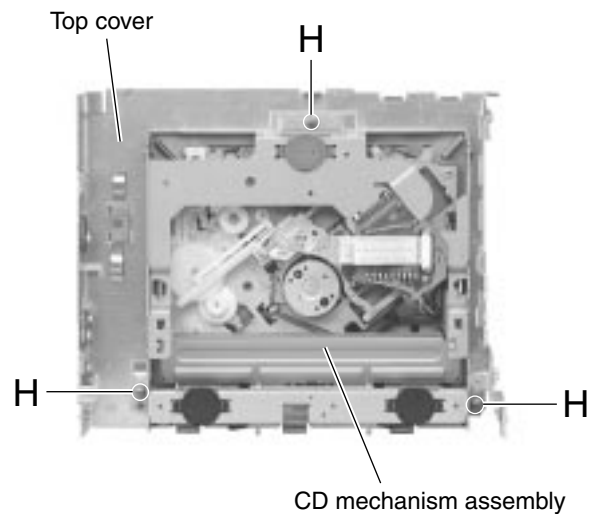


Fig. 10

**■ Removing the (LCD & key) control switch board
(See Fig.11 to 13)**

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

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



Fig. 11

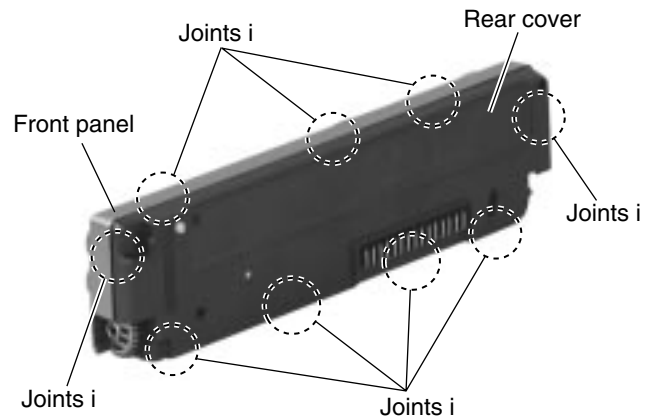


Fig. 12

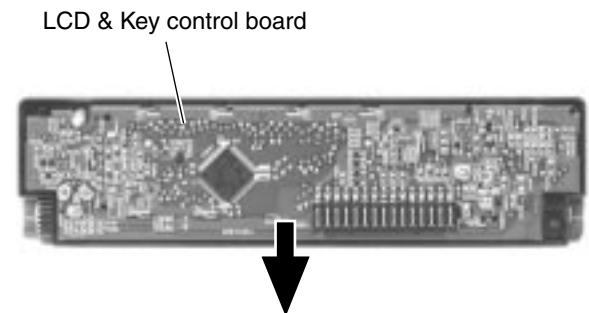


Fig. 13

<CD mechanism section>

■ Removing the top cover

(See Fig.1 and 2)

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

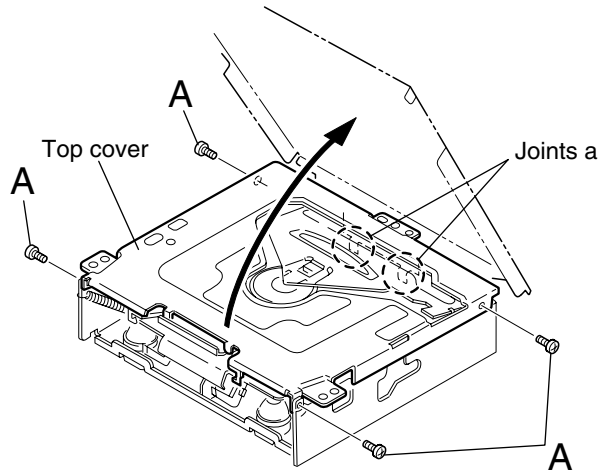


Fig.1

■ Removing the connector board

(See Fig.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.

Disconnect the flexible wire from the pickup.

3. Move the connector board in the direction of the arrow to release the two joints **b**.
4. Unsolder the wire on the connector board if necessary.

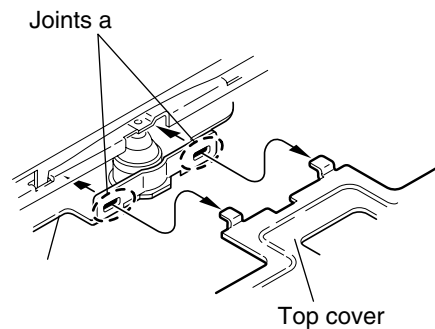


Fig.2

CAUTION: Unsolder the short-circuit point after reassembling.

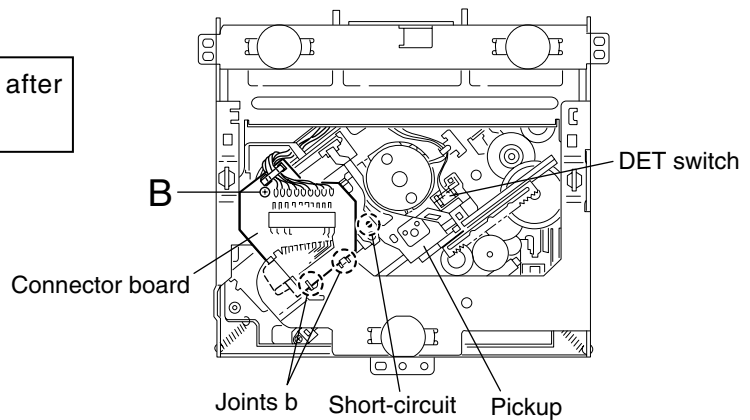


Fig.3

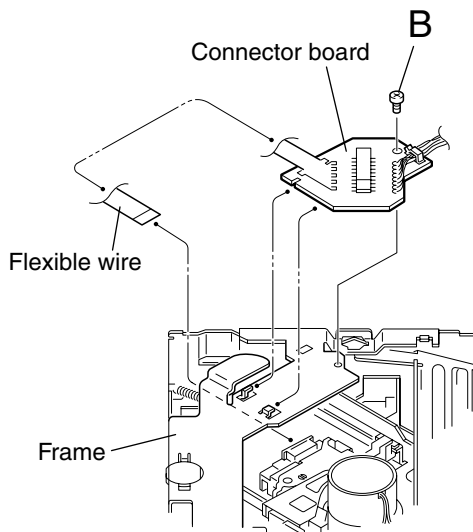


Fig.5

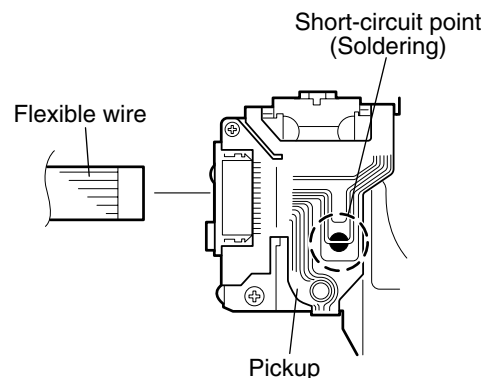


Fig.4

■ Removing the DET switch
(See Fig.3 and 6)

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

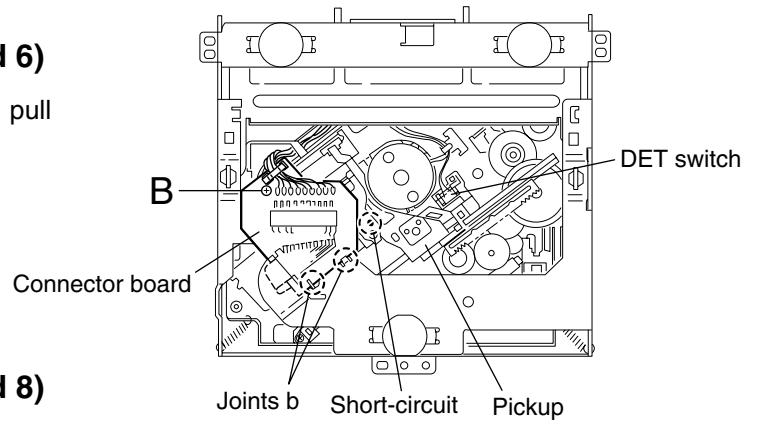


Fig.3

■ Removing the chassis unit
(See Fig.7 and 8)

- Prior to performing the following procedure, remove the top cover and the 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.

CAUTION: When reassembling, make sure that the three shafts on the underside of the chassis unit are inserted to the dampers certainly.

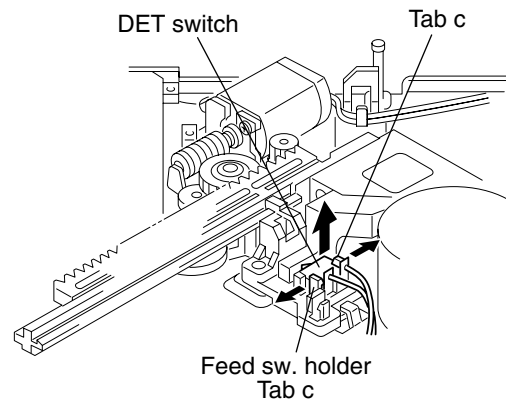


Fig.6

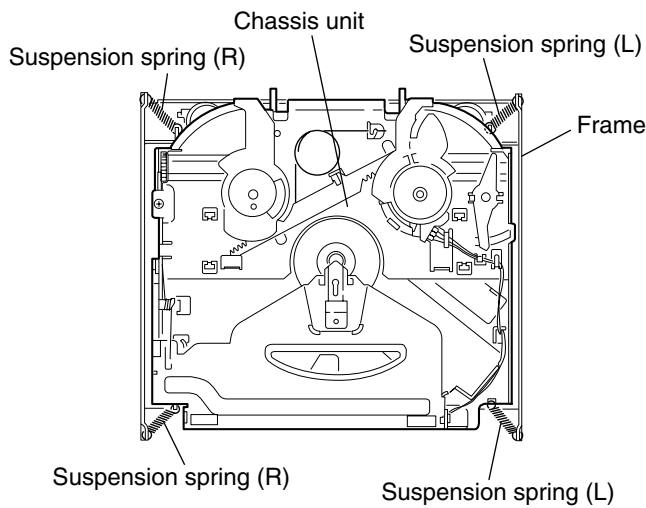


Fig.7

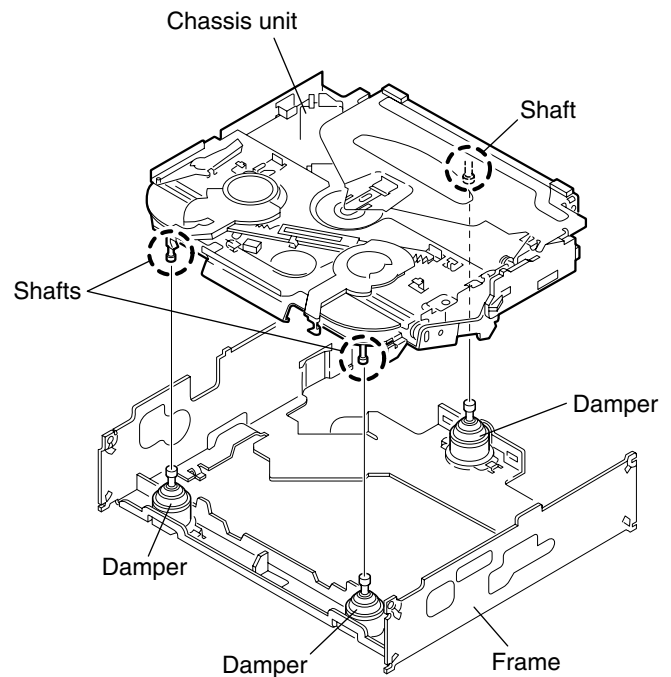


Fig.8

**■ Removing the clamper assembly
(See Fig.9 and 10)**

• Prior to performing the following procedure, remove the top cover.

1. Remove the clamper arm spring.
2. Move the clamper assembly in the direction of the arrow to release the two joints **d**.

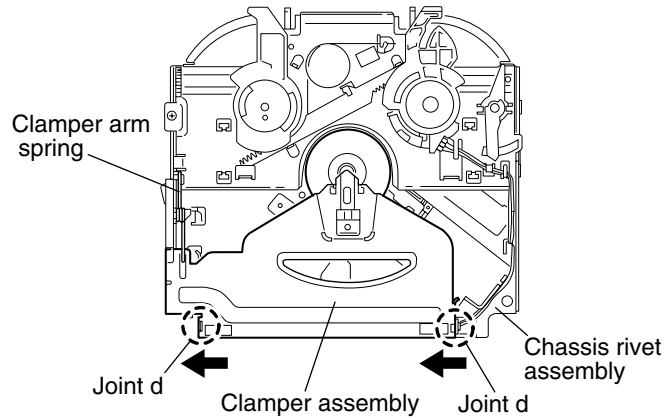


Fig.9

**■ Removing the loading / feed motor assembly
(See Fig.11 and 12)**

• Prior to performing the following procedure, remove the top cover, the connector board and the 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.11.

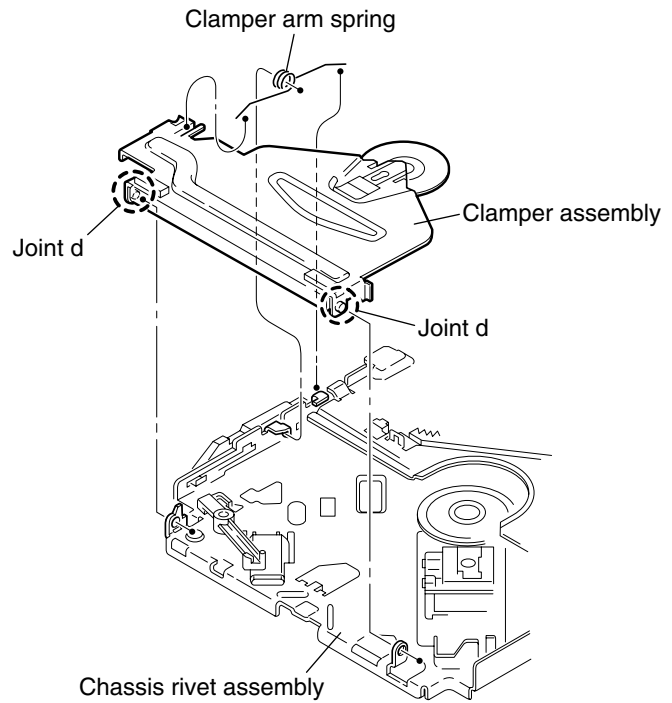
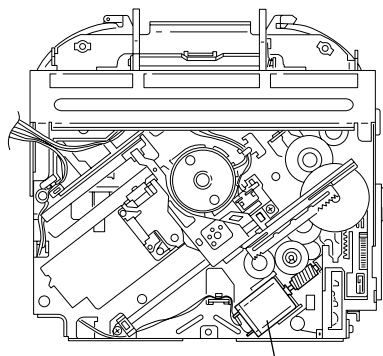


Fig.10



Loading / feed motor assembly

Fig.11

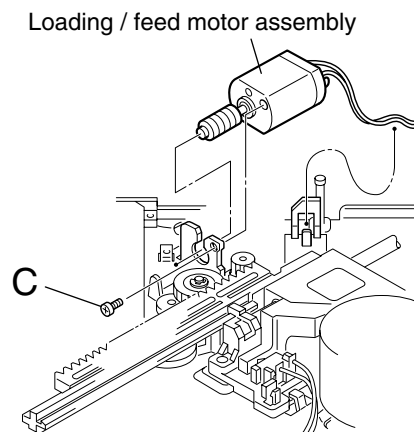


Fig.12

■ Removing the pickup unit
(See Fig.13 to 17)

• Prior to performing the following procedure, remove the top cover, the connector board and the chassis unit.

1. Remove the screw **D** and pull out the pu. shaft holder from the shaft.
2. Remove the screw **E** attaching the feed sw. holder.
3. Move the part **e** of the pickup unit upward with the 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 shaft from the pickup unit.
5. Remove the screw **F** attaching the feed rack to the pickup unit.

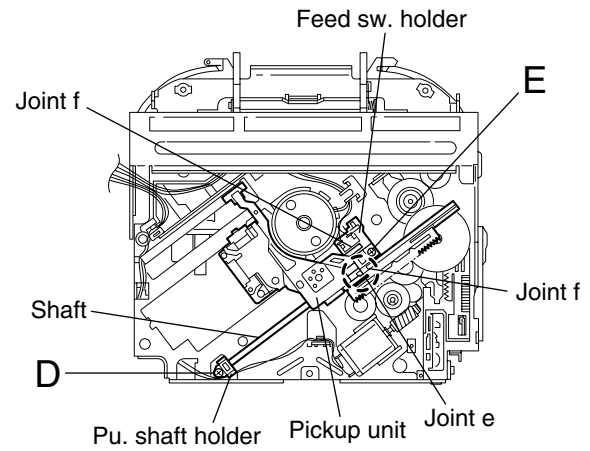


Fig.13

■ Reattaching the pickup unit
(See Fig.13 to 16)

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 tab **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 shaft to the pickup unit. Reattach the pu. shaft holder to the shaft using the screw **D**.

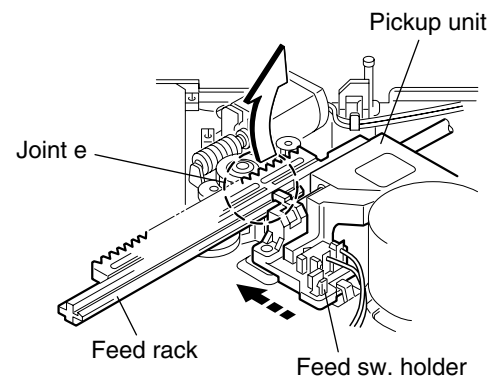


Fig.14

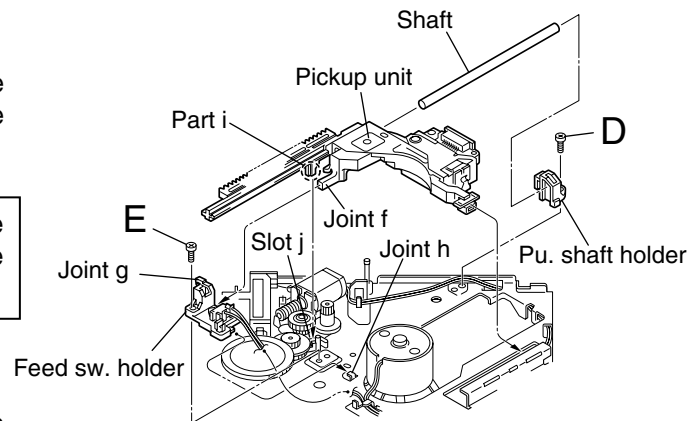


Fig.15

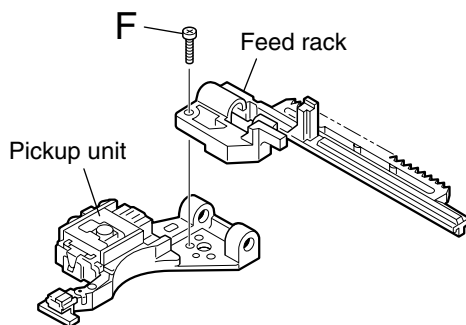


Fig.16

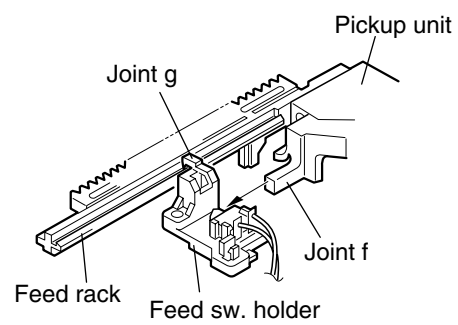


Fig.17

■ Removing the trigger arm

(See Fig.18 and 19)

- Prior to performing the following procedure, remove the top cover, the connector board and the clamber 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 **l** and **m** of the trigger arm into the part **n** and **o** at the slot of the chassis rivet assembly respectively and join the joint **k** at a time.

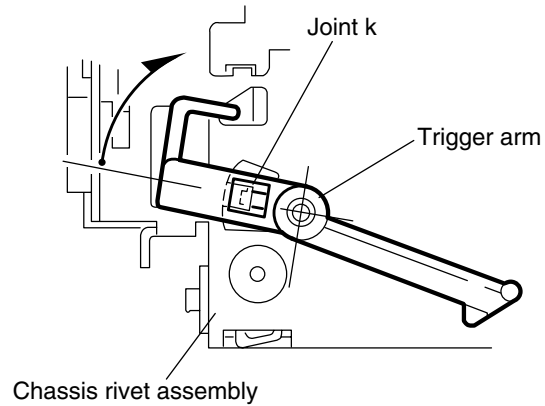


Fig.18

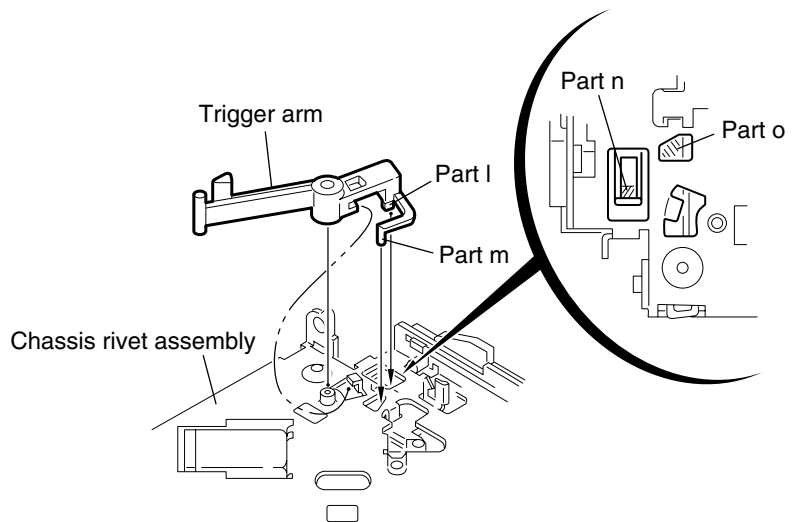


Fig.19

■ Removing the top plate assembly

(See Fig.20)

- Prior to performing the following procedure, remove the top cover, the connector board, the chassis unit, and the clamber assembly.

1. Remove the screw **H**.
2. Move the top plate assembly in the direction of the arrow to release the two joints **p**.
3. Unsolder the wire marked **q** if necessary.

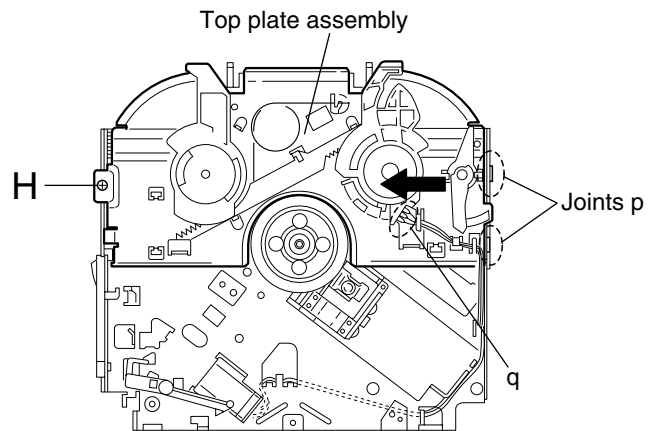


Fig.20

■ Removing the select arm (L) / select lock arm (See Fig.21 and 22)

- Prior to performing the following procedure, remove the top plate assembly.
- 1. Bring up the select arm (L) to release from the link plate (joint r) and turn in the direction of the arrow to release the joint s.
- 2. Unsolder the wire of the select arm (L) marked q if necessary.
- 3. Turn the select lock arm in the direction of the arrow to release the two joints t.

The select lock arm spring comes off the select lock arm at the same time.

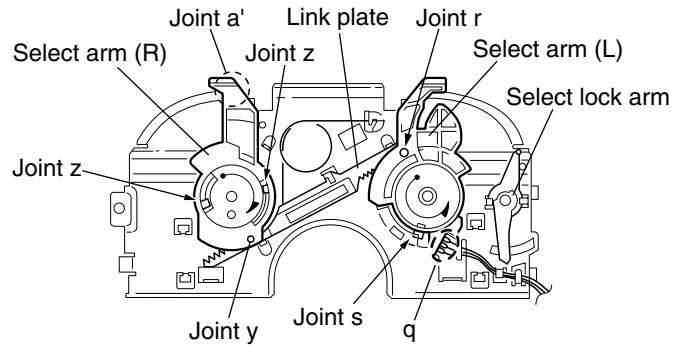


Fig.21

■ Reassembling the select arm (L) / select lock arm (See Fig.23 to 25)

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 u on the top plate.
2. Set the other longer end of the select lock arm spring to the boss v on the underside of the select lock arm, and join the select lock arm to the slots (joint t). Turn the select lock arm as shown in the figure.
3. Reattach the select arm (L) while setting the part r to the first peak of the link plate gear, and join the joint s.

CAUTION: When reattaching the select arm (L), check if the points w and x are correctly fitted and if each part operates properly.

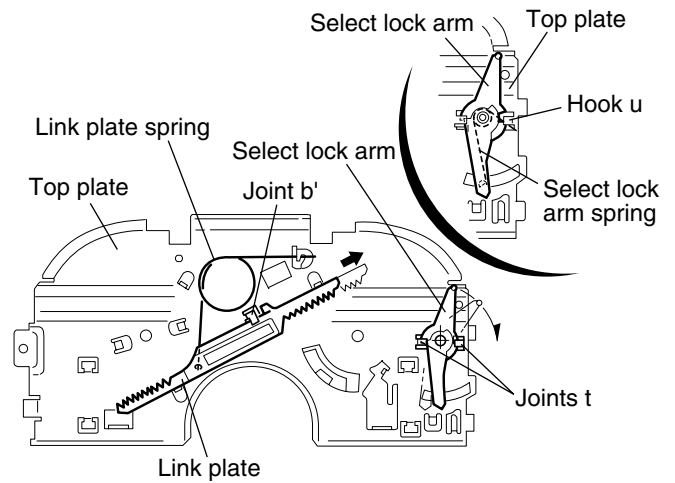


Fig.22

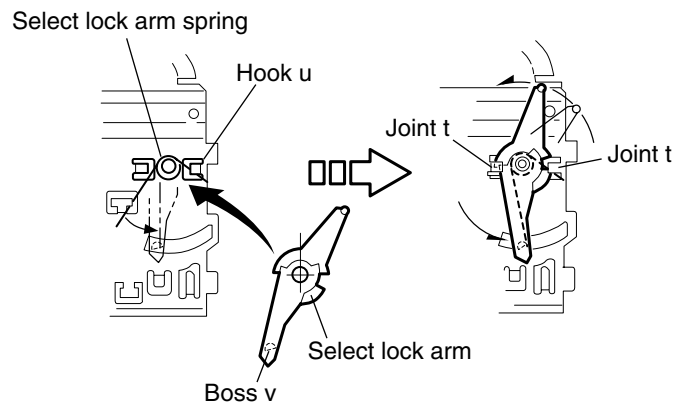


Fig.23

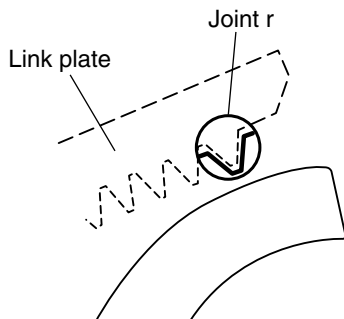


Fig.24

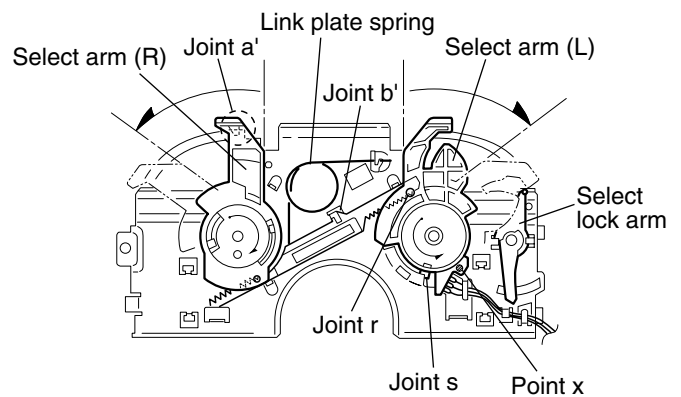


Fig.25

**■ Removing the select arm (R) / link plate
(See Fig.21 and 22)**

• 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 y) and turn as shown in the figure to release the two joints z and joint a'.
2. Move the link plate in the direction of the arrow to release the joint b'. Remove the link plate spring at the same time.

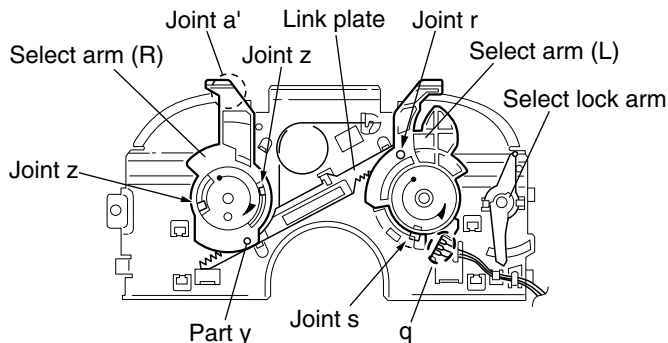


Fig.21

REFERENCE: Before removing the link plate, remove the select arm (L).

**■ Reattaching the Select arm (R) / link plate
(See Fig.25 and 26)**

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 b'.
3. Reattach the part y of the select arm (R) to the first peak of the link plate while joining the two joints z with the slots. Then turn the select arm (R) as shown in the figure. The top plate is joined to the joint a'.

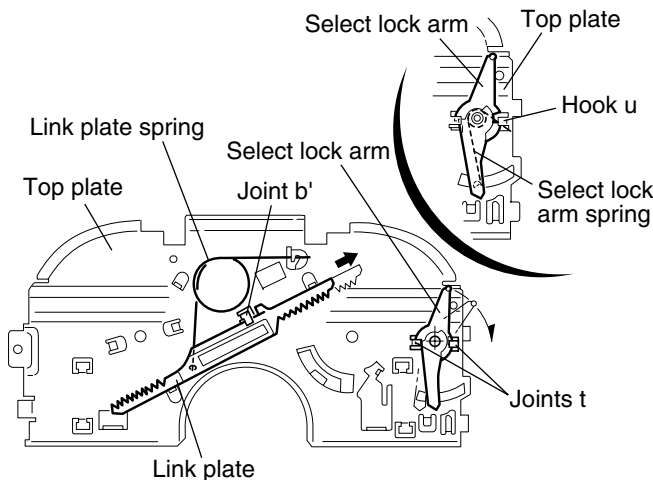


Fig.22

CAUTION: When reattaching the select arm (R), check if the part c' is correctly fitted and if each part operates properly.

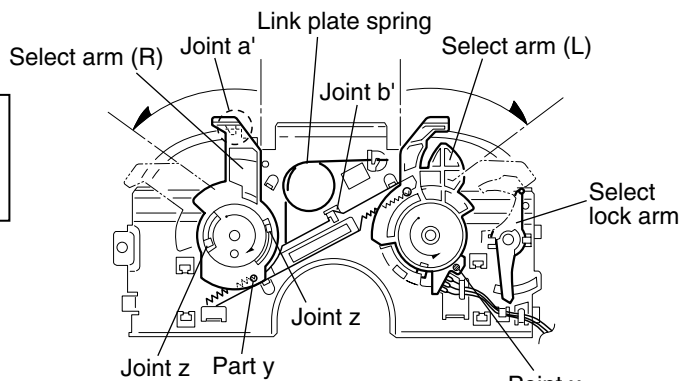


Fig.25

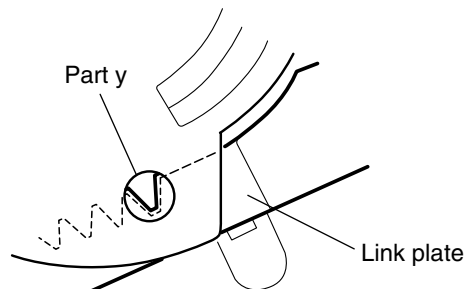


Fig.26

**■ Removing the loading roller assembly
(See Fig.27 to 29)**

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

1. Push inward the loading roller assembly on the gear side and detach it upward from the slot of the joint **d'** of the lock arm rivet assembly.

Detach the loading roller assembly from the slot of the joint **e'** 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 washer from the shaft of the loading roller assembly.

2. Remove the screw **I** attaching the lock arm rivet assembly.

3. Push the shaft at the joint **f'** of the lock arm rivet assembly inward to release the lock arm rivet assembly from the slot of the side plate. Extend the lock arm rivet assembly outward and release the joint **g'** from the boss of the chassis rivet assembly. The roller guide springs on both sides come off.

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 **h'** of the roller guide spring (L) inside of the roller guide (Refer to Fig.30).

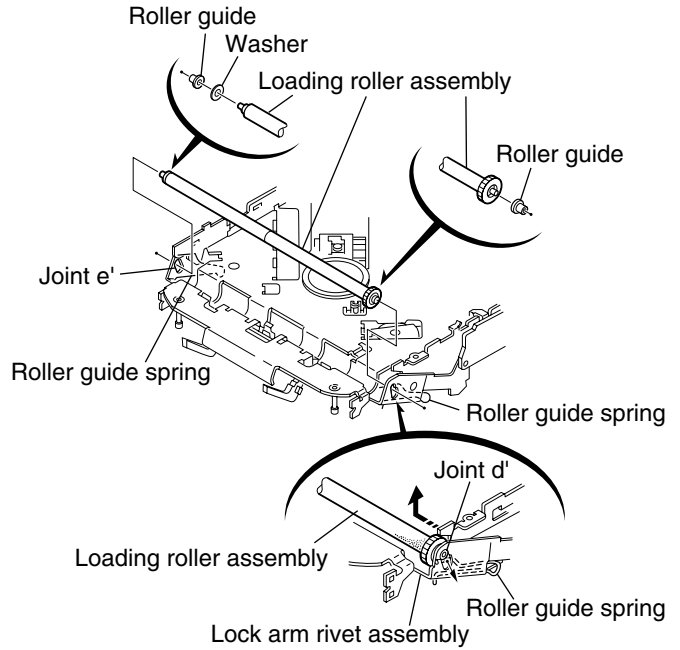


Fig.27

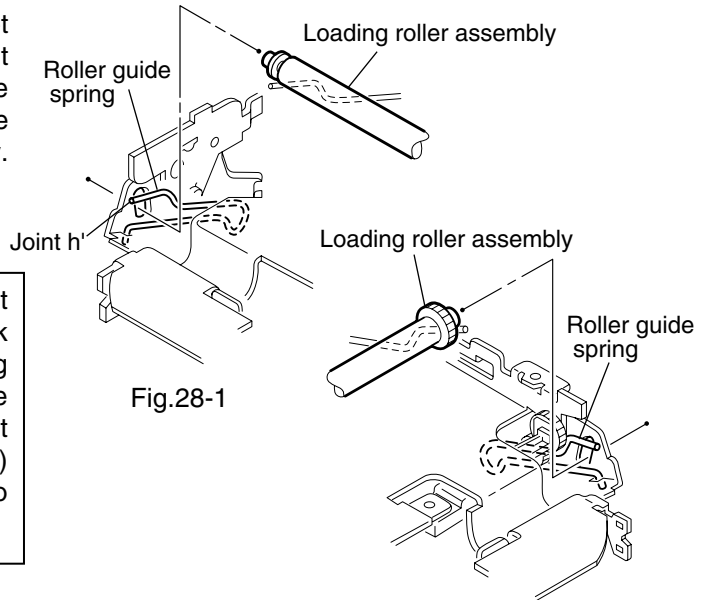


Fig.28-1

Fig.28-2

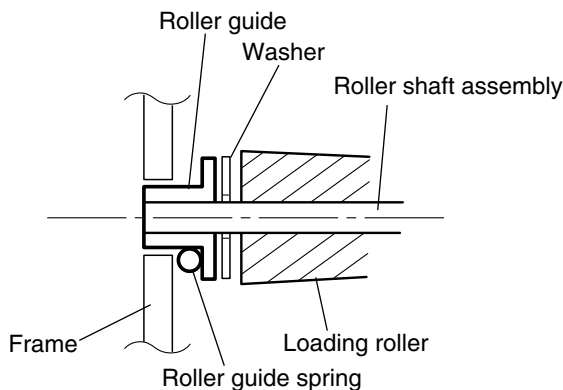


Fig.30

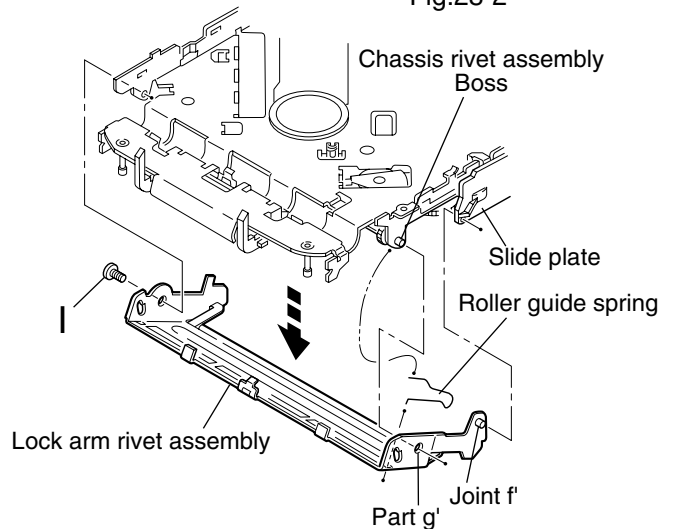


Fig.29

■ **Removing the loading gear (5), (6) and (7) (See Fig.31 and 32)**

• Prior to performing the following procedure, remove the top cover, the chassis unit and the top plate assembly.

1. Remove the screw **J** attaching the loading gear bracket. The loading gear (6) and (7) come off the loading gear bracket.
2. Pull out the loading gear (5).

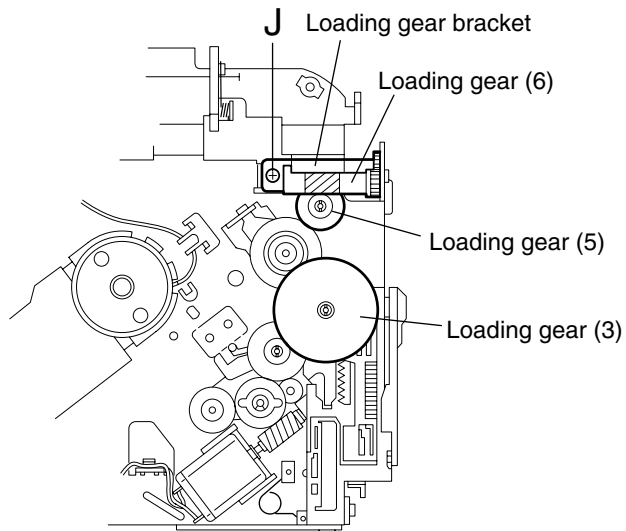


Fig.31

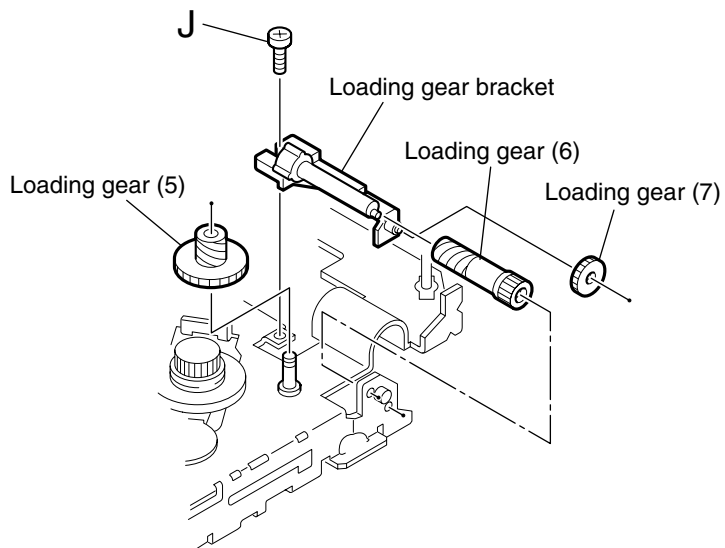


Fig.32

■ Removing the gears (See Fig.33 to 36)

· Prior to performing the following procedure, remove the top cover, the chassis unit, the top plate assembly and the pickup unit.

1. Pull out the feed gear.
2. Move the loading plate assembly in the direction of the arrow to release the slide plate from the two slots j' of the chassis rivet assembly.
3. Detach the loading plate assembly upward from the chassis rivet assembly while releasing the joint k'. Remove the slide hook and the 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-washer and the washer attaching the changer gear (2).
6. The changer gear (2), the changer gear spring and the adjusting washer come off.
7. Remove the loading gear (1).
8. Move the hang plate rivet assembly in the direction of the arrow to release from the three shafts of the chassis rivet assembly upward.
9. Detach the loading gear plate rivet assembly from the shaft of the chassis rivet assembly upward while releasing the joint l'.
10. Pull out the loading gear (4).

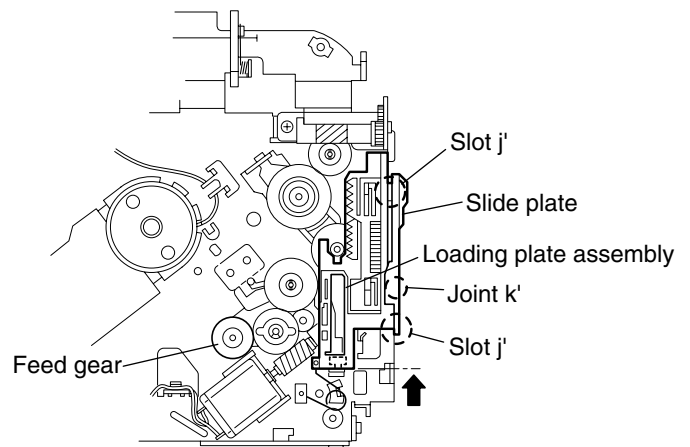


Fig.33

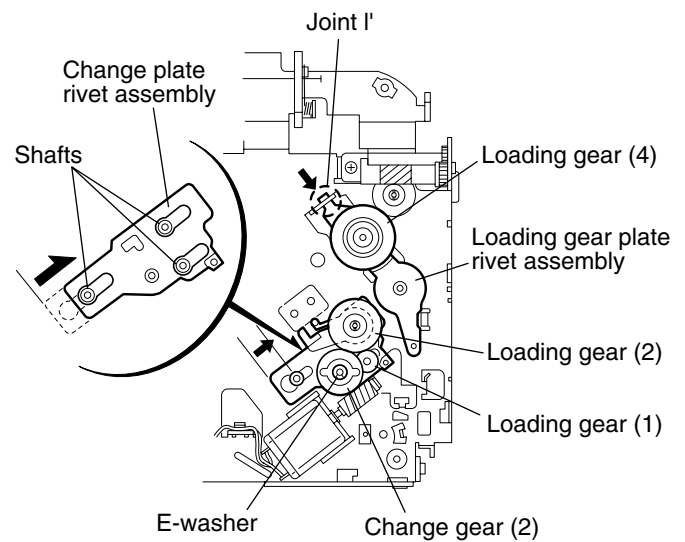


Fig.34

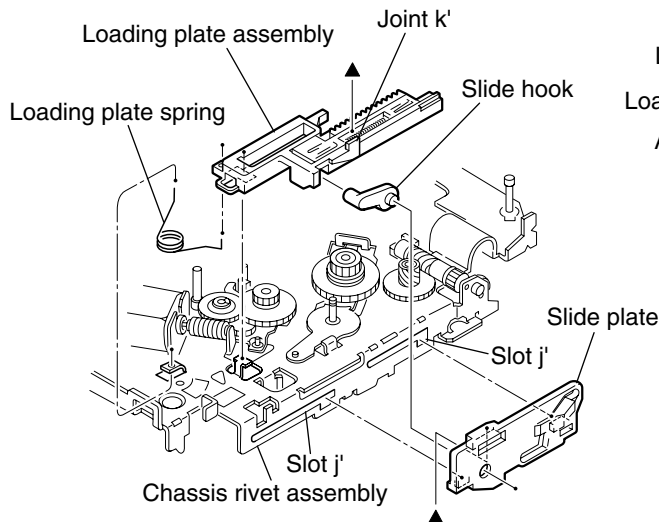


Fig.35

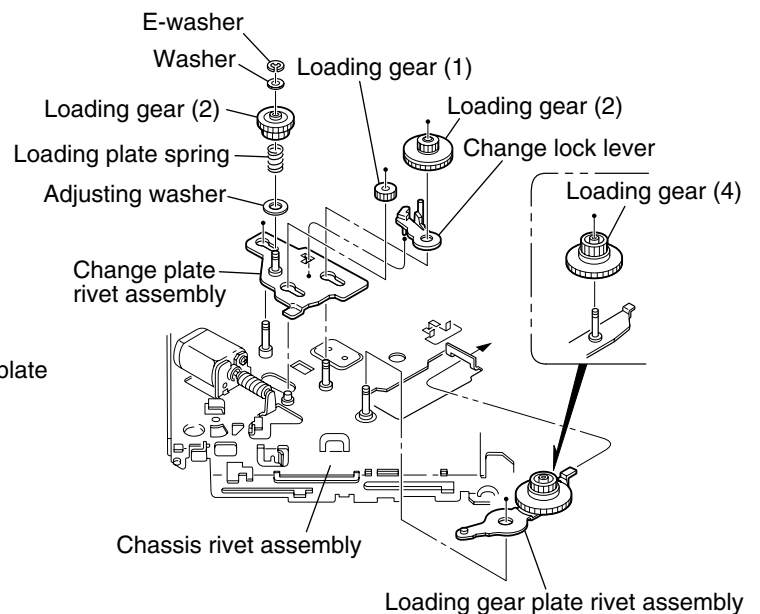


Fig.36

■ **Removing the turn table / spindle motor**
(See Fig.37 and 38)

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

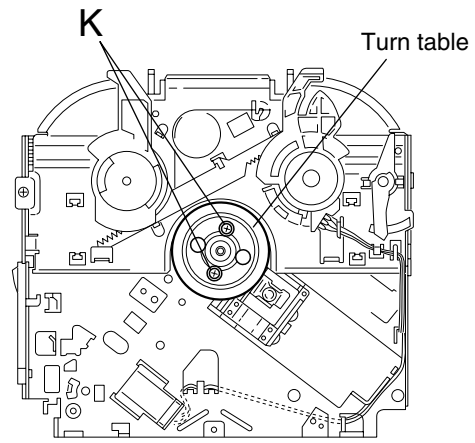


Fig.37

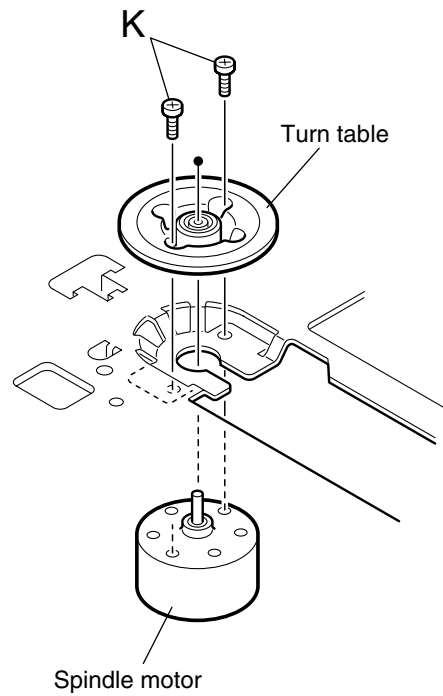


Fig.38

Adjustment method

■ Test instruments required 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. Test disc (CTS-1000)
8. Extension cable for check
EXTGS004-26P

■ Standard volume position

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

■ Frequency Band

FM 87.5MHz - 108.0 MHz
AM 530kHz - 1710kHz

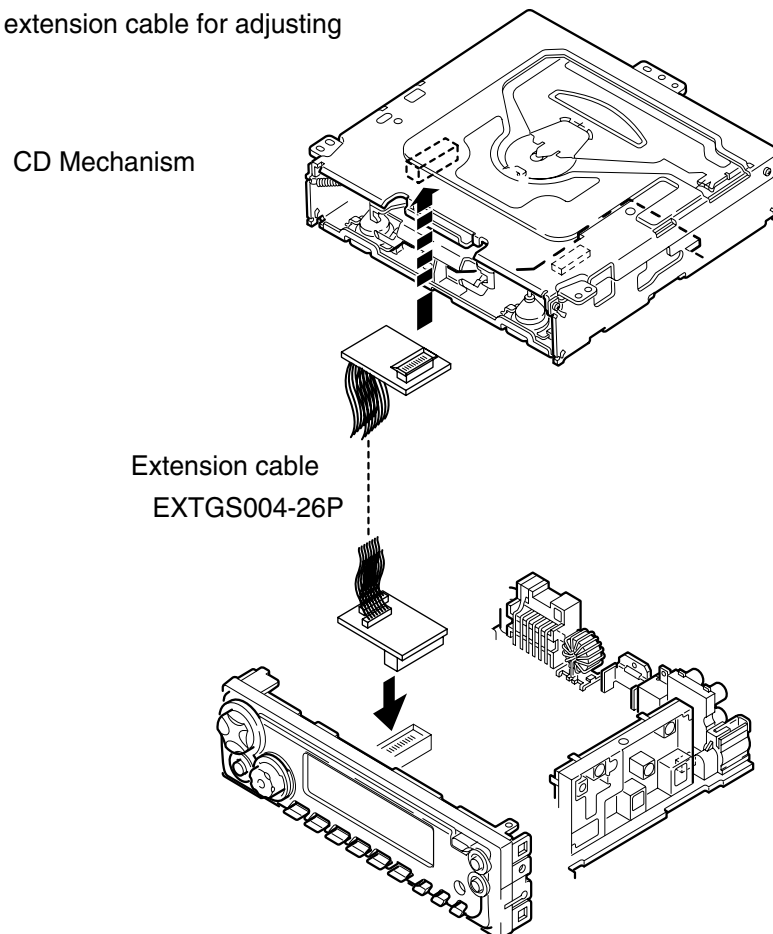
■ Dummy load

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.

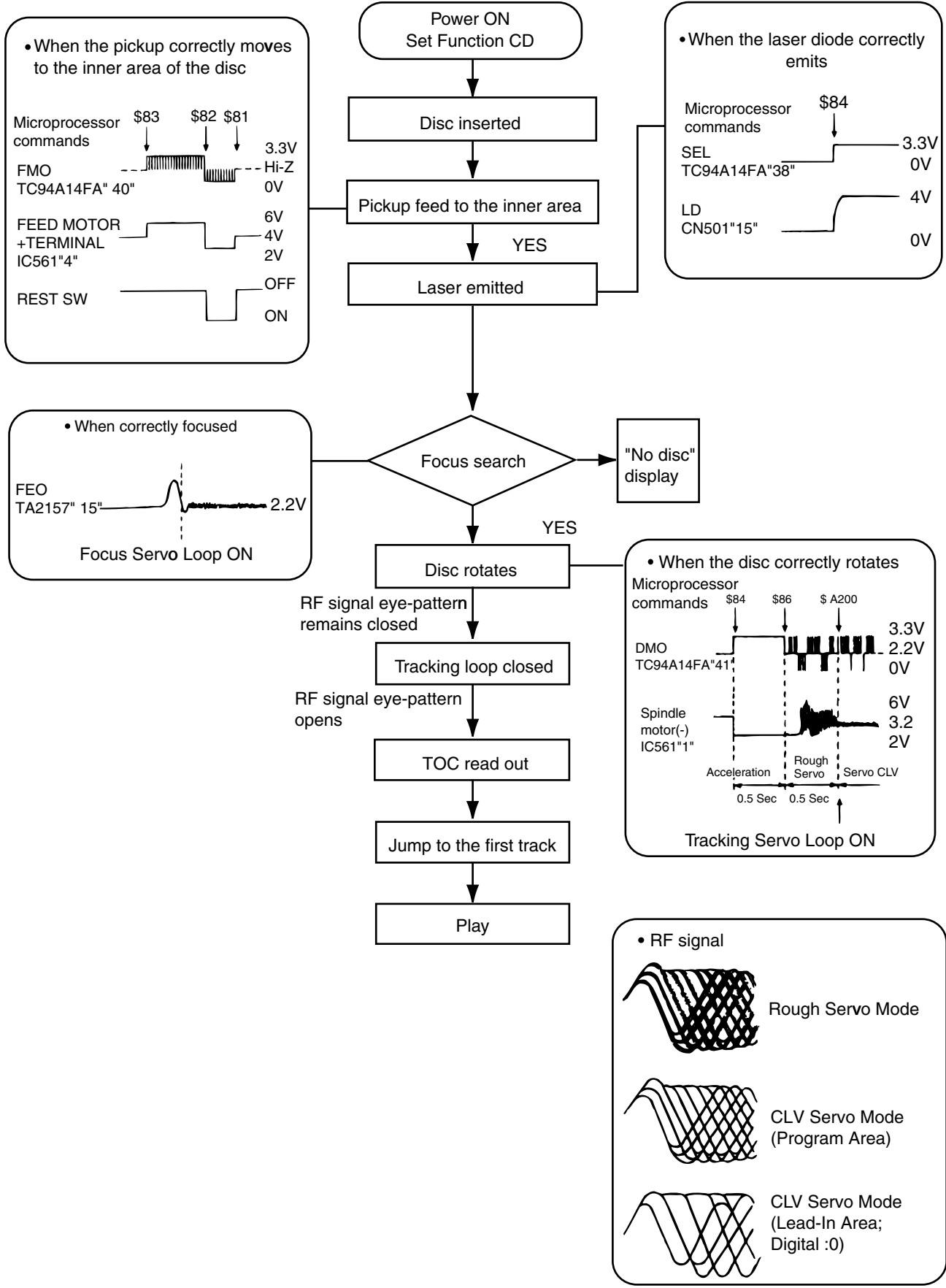
■ Standard measuring conditions

Power supply voltage DC 14.4V(11V to 16V allowance)
Load impedance 4Ω (4Ω to 8Ω allowance)
Line-out Level/Impedance
: 2.0 V/ $20k\Omega$ load(full scale)
Output impedance : $1k\Omega$

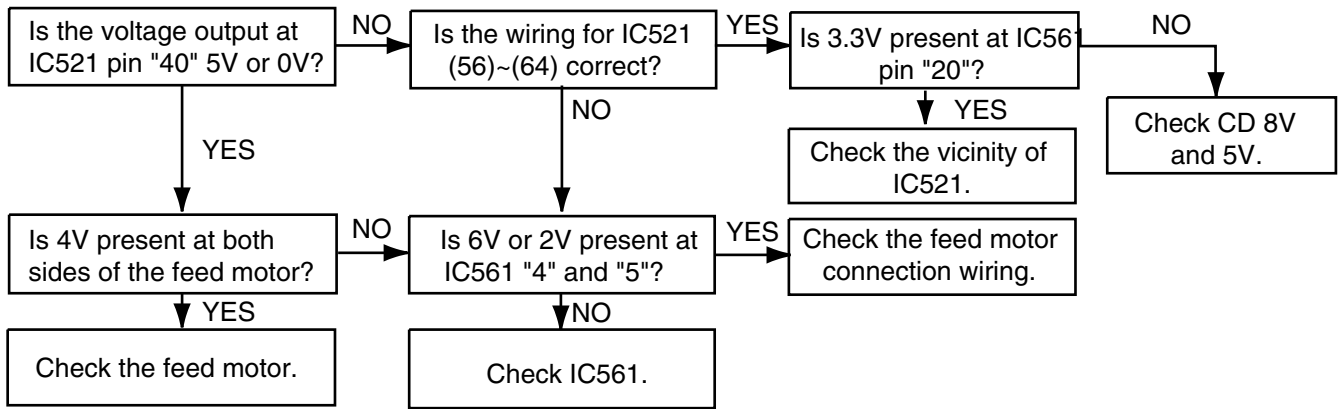
■ How to connect the extension cable for adjusting



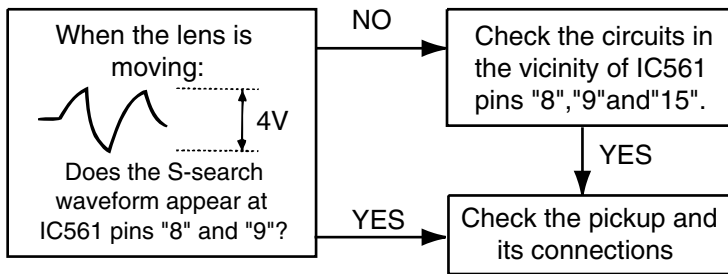
Flow of functional operation unit TOC read



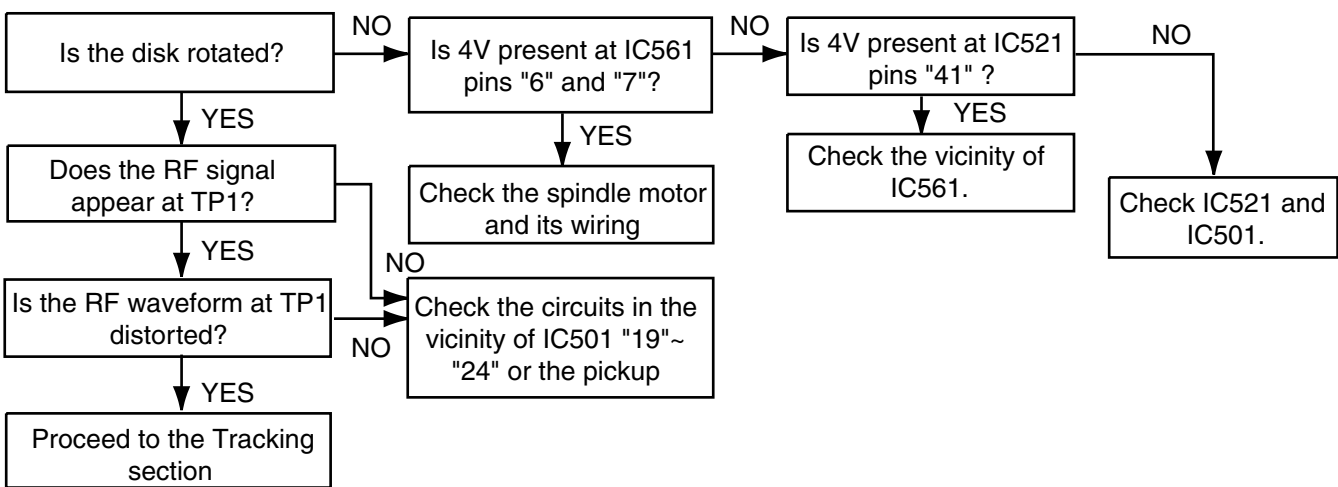
■ **Feed section**



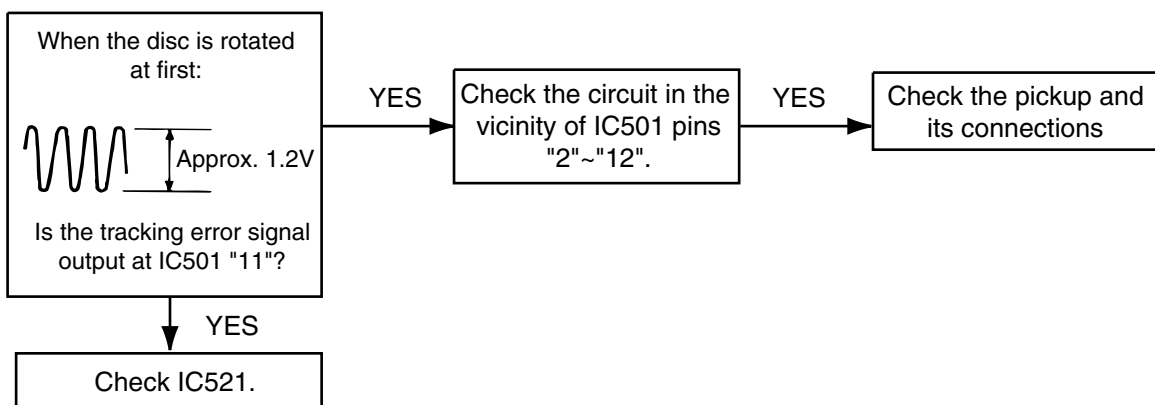
■ **Focus section**



■ **Spindle section**



■ **Tracking section**



Maintenance of laser pickup

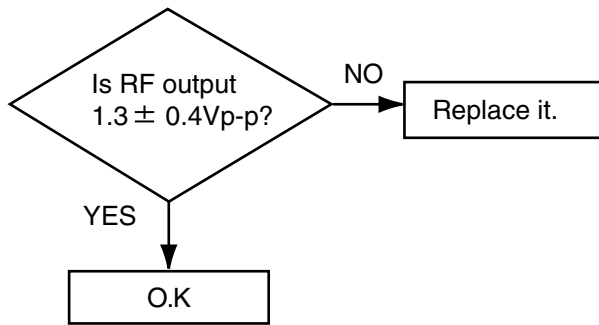
(1) Cleaning the pickup lens

Before you replace the pickup, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

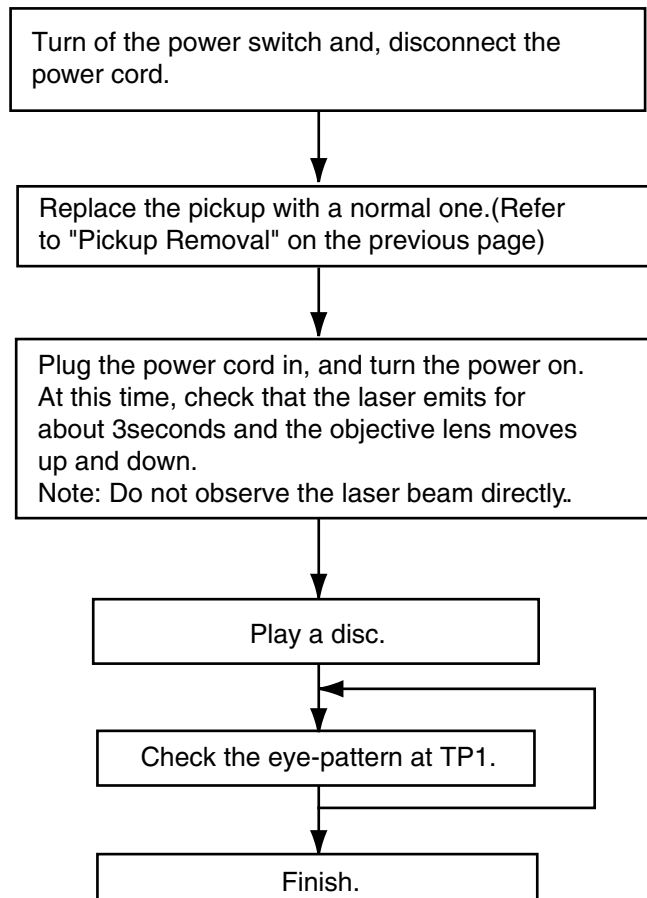
- (1) The level of RF output (EFM output: amplitude of eye pattern) will be low.



(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.

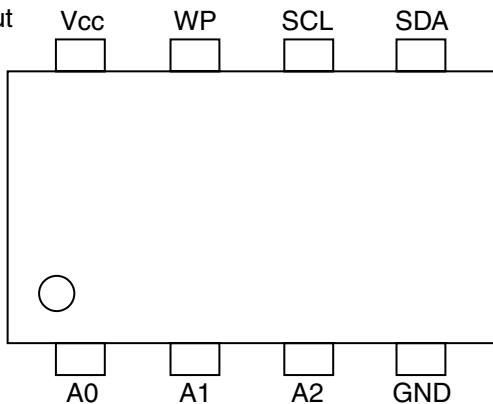
Replacement of laser pickup



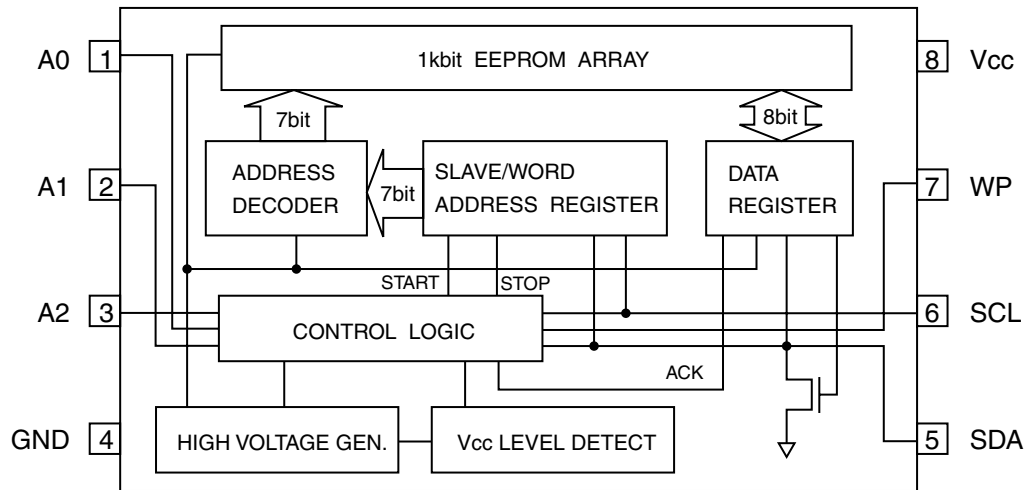
Description of major ICs

■ BR24C01AFV-W-X (IC502) : EEPROM

1.Pin layout



2.Block diagram



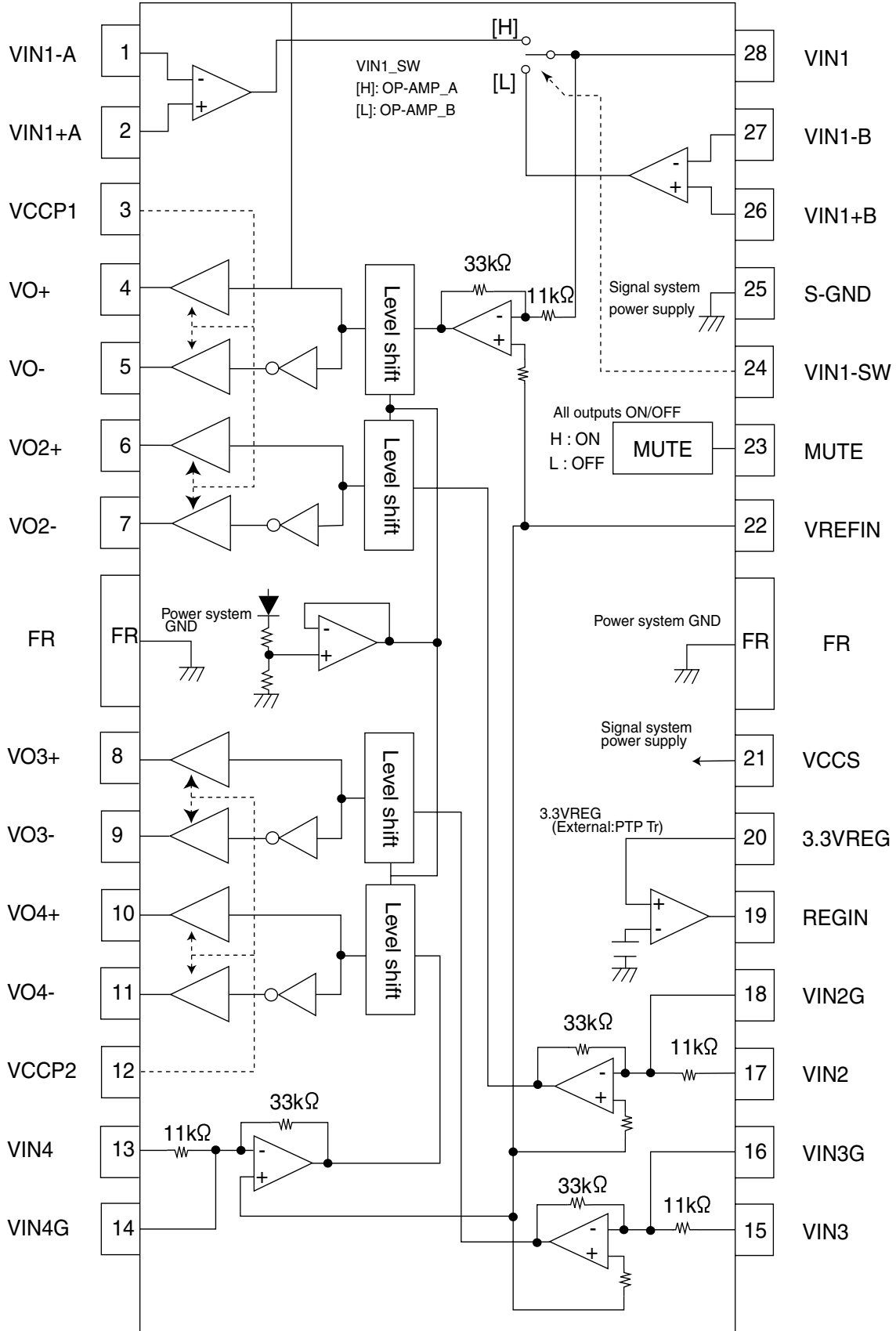
3.Pin function

Pin name	I/O	Function
Vcc	-	Power supply
GND	-	Ground (0v)
A0,A1,A2	IN	Slave address set
SCL	IN	Serial clock input
SDA	IN / OUT	Slave and word address, serial data input, serial data output *1
WP	IN	Write protect input

*1 An open drain output requires a pull-up resistor.

■ LA6579H-X (IC681) : 4-Channel bridge driver

1. Pin layout & Block diagram

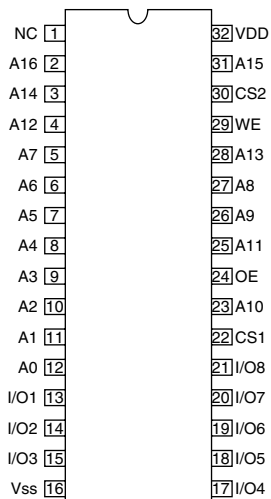


3.Pin function

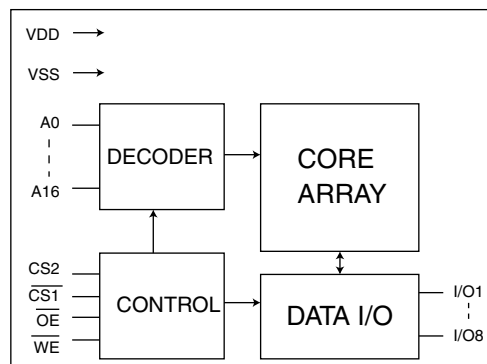
Pin No.	Symbol	Function
1	VIN1-A	CH1 input AMP_inverted input
2	VIN1+A	CH1 input AMP_non-inverted input
3	VCCP1	CH1 and CH2 power stage power supply
4	VO1+	Output pin(+)for channel 1
5	VO1-	CH1 output pin (-) for channel 1
6	VO2+	Output pin(+)for channel 2
7	VO2-	Output pin(-)for channel 2
8	VO3+	Output 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

■ W24L010AJ-AS-X (IC653) : SRAM

1.Pin layout



2.Block diagram

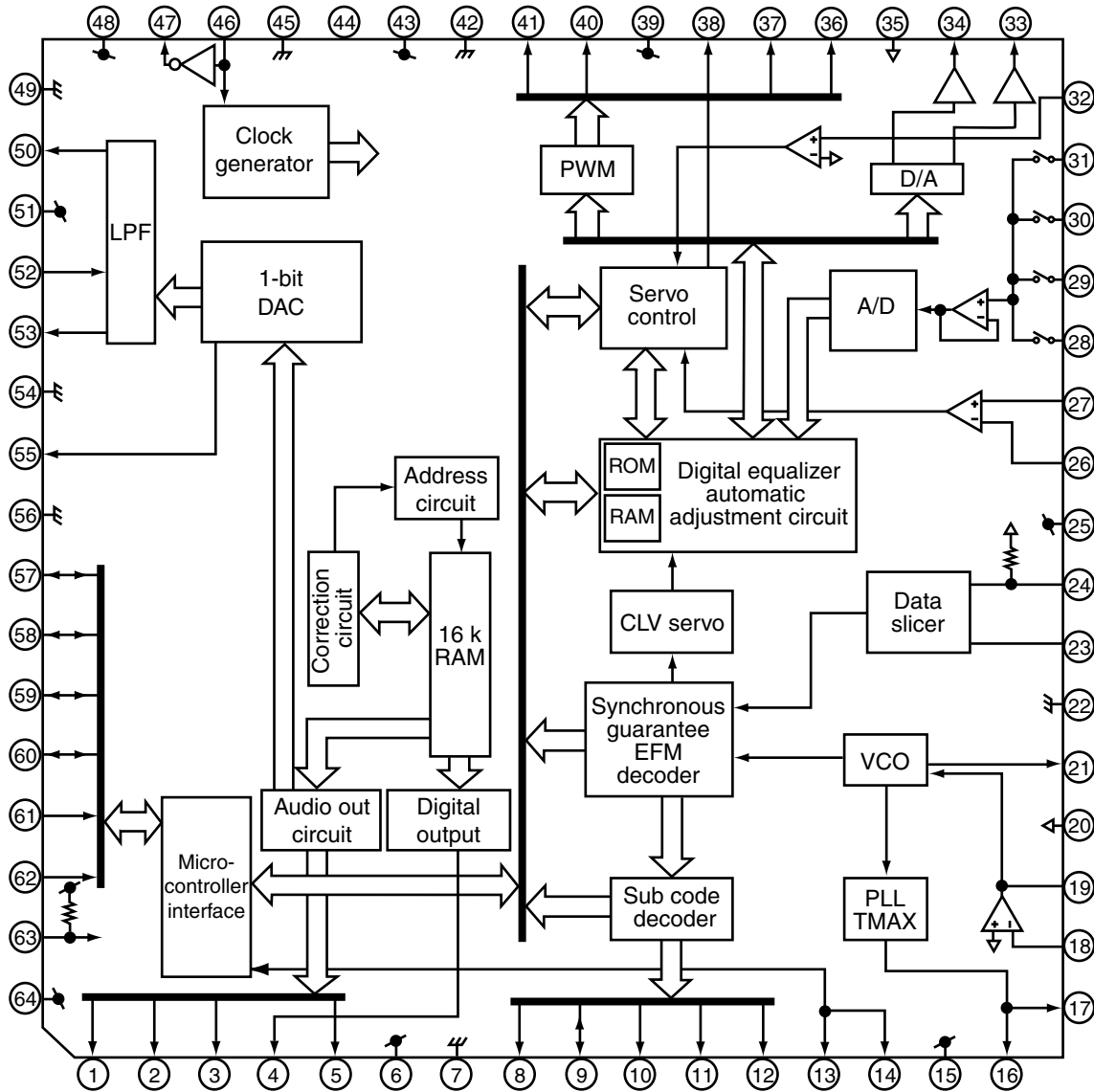


3.Pin functions

Symbol	Function
A0-A16	Address inputs
I/O1-I/O8	Data inpts/outputs
CS1,CS2	Chip select input
WE	Write enable input
OE	Output enable input
VDD	Power supply
VSS	Ground
NC	No connection

■ TC94A14FA (IC621) : DSP & DAC

1. Terminal layout & block diagram



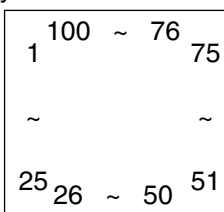
2. Pin function

Pin No	Symbol	I/O	Description
1	BCK	O	Bit clock output pin. 32fs, 48fs, or 64fs selectable by command.
2	LRCK	O	L/R channel clock output pin. "L" for L channel and "H" for R channel. 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	VDD3	-	Digital 3.3V power supply voltage pin.
7	VSS3	-	Digital GND pin.
8	SBOK	O	Subcode Q data CRCC result output pin. "H" level when result is OK.
9	CLCK	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.
14	UHSO		Input port at reset.
15	PVDD3	-	PLL-only 3.3V power supply voltage pin.

Pin No	Symbol	I/O	Description								
16	PDO	O	EFM and PLCK phase difference signal output pin.								
17	TMAX	O	TMAX detection result output pin. <table border="1" data-bbox="477 281 1070 415"> <thead> <tr> <th>TMAX Detection Result</th> <th>TMAX Output</th> </tr> </thead> <tbody> <tr> <td>Longer than fixed period</td> <td>"PVDD3"</td> </tr> <tr> <td>Within fixed period</td> <td>"HiZ"</td> </tr> <tr> <td>Shorter than fixed period</td> <td>"AVSS3"</td> </tr> </tbody> </table>	TMAX Detection Result	TMAX Output	Longer than fixed period	"PVDD3"	Within fixed period	"HiZ"	Shorter than fixed period	"AVSS3"
TMAX Detection Result	TMAX Output										
Longer than fixed period	"PVDD3"										
Within fixed period	"HiZ"										
Shorter than fixed period	"AVSS3"										
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	AVSS3	-	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	AVDD3	-	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	AVDD3	-	Analog 3.3V power supply voltage pin.								
40	FMO	O	Feed equalizer output pin.								
41	DMO	O	Disc equalizer output pin.								
42	VSS3	-	Digital GND pin.								
43	VDD3	-	Digital 3.3V power supply voltage pin.								
44	TESIN	I	Test input pin. Normally, fixed to "L".								
45	XVSS3	-	System clock oscillator GND pin.								
46	XI	I	System clock oscillator input pin.								
47	XO	O	System clock oscillator output pin.								
48	XVDD3	-	System clock oscillator 3.3V power supply voltage pin.								
49	DVSS3R	-	DA converter GND pin.								
50	RO	O	R-channel data forward output pin.								
51	DVDD3	-	DA converter 3.3V power supply pin.								
52	DVR	-	Reference voltage pin.								
53	LO	O	L-channel data forward output pin.								
54	DVSS3L	-	DA converter GND pin.								
55	ZDET	O	1 bit DA converter zero detection flag output pin.								
56	VSS5	-	Microcontroller interface GND pin.								
57	BUS0										
58	BUS1	I/O	Microcontroller interface data I/O pins.								
59	BUS2										
60	BUS3										
61	BUCK	I									
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	VDD5	-	Microcontroller interface 5V power supply pin.								

■ UPD784215AGC175 (IC701) : Main micon

1.Pin layout



2.Pin functions(1/2)

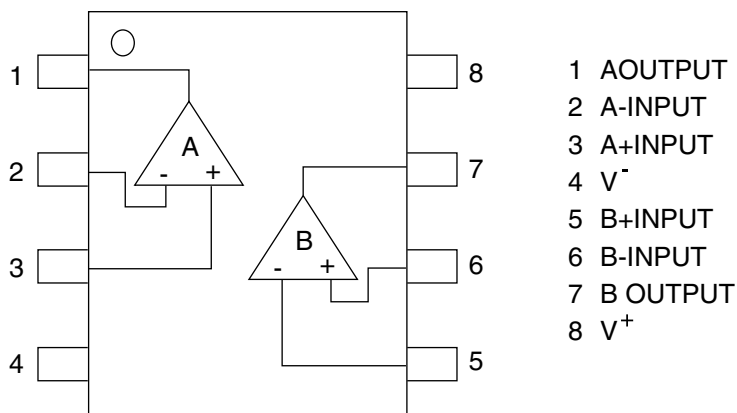
Pin No.	Symbol	I/O	Function
1	CD RESET	O	Reset output for CD sub-micon
2	CD MUTING	I	Muting request of CD sub-micon
3~7	-	-	No use
8	ANT CONT	O	Antenna remote control
9	VDD	-	Micon power supply
10	X2	-	
11	X1	-	
12	VSS	-	GND
13	XT2	-	
14	XT1	-	
15	RESET	I	System reset
16	CD REQ	I	CD request from CD sub-micon
17	BUS-INT	I	J-BUS int
18	PS2	I	Power save2 H:STOP mode
19~21	-	-	-
22	REMOCON	I	Remocon 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	I	Key input 0
28	KEY1	I	Key input 1
29	KEY2	I	Key input 2
30	LEVEL	I	Level meter input
31	-	-	-
32	SM	I	S.METER input
33	AVSS	-	GND
34,35	-	-	-
36	AVREF	-	Reference voltage
37	BUS-SI	I	J-BUS data input
38	BUS-SO	O	J-BUS data output
39	BUS-SCK	I/O	J-BUS clock input/output
40	BUS-I/O	O	J-BUS I/O selection Output:H Input:L
41	LCD-DA	O	Data output for LCD driver
42	LCD-SCK	O	CLK output for LCD driver
43	LCD-CE	O	CE for LCD driver
44	BUZZER	O	Buzzer output
45	E2PROM-DI	I	I2C data input
46	E2PROM-DO	O	I2C data output
47	E2PROM-CLK	O	I2C clock output
48	OPEN	I	Door open switch
49~52	-	-	-

2.Pin functions(2/2)

Pin No.	Symbol	I/O	Function
53	SD/ST	I	Station detector or stereo indicator input
54	-	-	-
55	MONO	O	Monoral selection output H:Monoral
56~60	-	-	-
61	DETACH	I	Detach detect input H:Detach
62	-	-	-
63	SEEK/STOP	O	Auto seek and stop selecting output
64	-	-	-
65	FM/AM	O	FM,AM band selecting output H:FM
66	PLL-CE	O	CE output for PLL IC
67	PLL-DO	O	Data output for PLL IC
68	PLL-CLK	O	Clock output for PLL IC
69	PLL-DI	I	Data input from PLL IC
70	TEL-MUTING	I	Telephone muting detection input
71	-	-	-
72	VSS	-	GND
73	DIM-IN	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	CD-ON	O	CD power supply control output H:CD power on
77	MUTING	O	Muting output L:Muting on
78~80	-	-	-
81	VDD	-	Micon power supply
82	-	-	-
83	VOL-DA	O	Data output for E-volume IC
84	VOL-CLK	O	Clock output for E-volume IC
85	-	-	-
86	SUB MUTING	O	Muting control output for subwoofer
87~89	-	-	-
90	STAGE1	I	Model selecting input
91~93	-	-	-
94	TEST	-	For rewriting flash memory
95~99	-	-	-
100	CD-RW	O	RF gain control L:CD-RW H:CD-DA

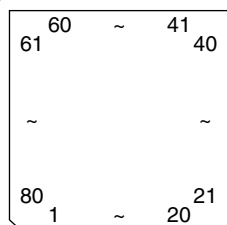
■ NJM4565V-X (IC572) : Dual ope amp

1.Terminal layout & Pin function



■ UPD784225GK-623 (IC501) : CPU

1.Pin layout



2.Pin functions (1/2)

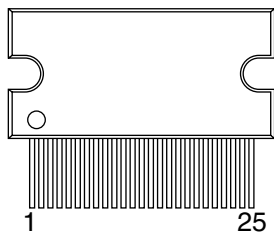
Pin No.	Symbol	I/O	Function
1	TEMP IN	I	Temp. detection input terminal
2,3	-	-	No use
4	AVSS	-	Connect to GND
5	ADCONT	O	Output H level at power to on
6	-	-	-
7	AVREF1	-	Connect to 3.3V
8	EPROMDI	I	EEPROM data input terminal
9	EPROMDO	O	EEPROM data output terminal
10	EPROMCK	I/O	EEPROM clock signal input/output terminal
11	LCD CE	O	Chip enable output for LCD driver
12	LCD DA	O	Data output for LCD driver
13	LCD CK	O	Clock outout for LCD driver
14	BUS I/O	O	JVC BUS input/output control terminal (negative)
15	BUS I/O	O	JVC BUS input/output control terminal
16	BUS SI	I	JVC BUS data input terminal
17	BUS SO	O	JVC BUS data output terminal
18	BUS SCK	I/O	JVC BUS clock input/output terminal
19	BUSOUT	O	JVC BUS BUSOUT output terminal
20	CD ON	O	Power supply (3.3V) control for CD
21	CD REQ	O	CD mechanism power supply to on request signal output terminal
22	CD MUTE	O	CD mute signal output terminal
23	-	-	-
24	DSP RESET	O	CD DSP reset signal output terminal
25	CCE	O	CD DSP chip enable output terminal
26	BUCK	O	CD DSP data clock output terminal
27	BUS3	I/O	CD DSP data 3 input/output terminal
28	BUS2	I/O	CD DSP data 2 input/output terminal
29	BUS1	I/O	CD DSP data 1 input/output terminal
30	BUS0	I/O	CD DSP data 0 inout/output terminal
31	2X PLAY	O	RF frequency responce select output of 2xspeed playback
32	RW SEL	O	CD-RW select output terminal (RW:L)
33	VSS1	-	Connect to GND
34	LD	O	Loading signal output terminal
35	LD/FE	O	Loading/Feed select signal output terminal (H:LD,L:FE)
36	MP3 DI	I	CD MP3 data input terminal
37	MP3 DO	O	CD MP3 data output terminal
38	MP3 CK	O	Clock signal output terminal for CD MP3 data
39	MP3 RESET	O	CD MP3 reset signal output terminal
40	MP3 STB	O	CD MP3 standby signal output terminal (H:Standby)
41~43	-	-	-
44	DAC ML	O	DAC mode control latch output terminal
45	DAC MC	O	DAC mode control BCK output terminal
46	DAC MD	O	DAC mode control data output terminal

2.Pin functions (2/2)

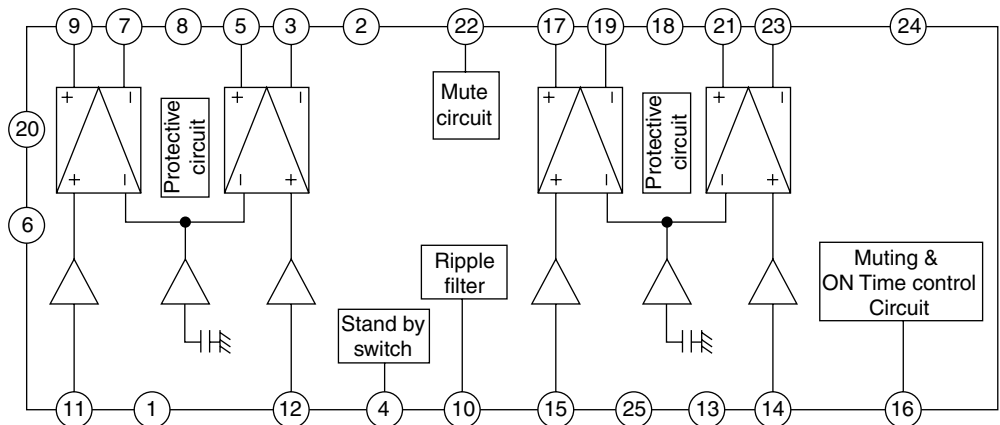
Pin No.	Symbol	I/O	Function
47	DAC CS	O	DAC chip select terminal
48~51	-	-	No use
52	DISC SEL	I	8cm disc corespondance mode select terminal (respondance:L)
53	DAC SEL	I	DAC select mode input terminal
54	-	-	-
55	TEST MODE	I	LCD/AD key/Remocon invalid select mode input terminal L:invalid
56	MP3 SEL	I	MP3 select mode input terminal
57	8V DET	I	CD mechanism power supply detection terminal (L:8V on)
58	REST	I	CD mechanism rest switch input terminal
59	SW2	I	CD mechanism SW2 input terminal
60	RESET	I	Riset signal input terminal
61	SW1	I	CD mechanism SW1 input terminal
62	B.DET	I	Backup power supply detection input terminal (H:Stop mode)
63	P.DET	I	Main power off detection input terminal (H:HALT mode)
64	BUS INT	I	JVC BUS comunication start squeeze input terminal
65	MP3 REQ	I	CD MP3 request signal input terminal
66	-	-	-
67	VSS0	-	Connect to GND
68	VDD1	-	Connect to 3.3V
69	X2	O	Ocsillator (6MHz)
70	X1	I	Oscillator (6MHz)
71	VPP	-	Connec to GND
72	XT2	O	Open
73	XT1	I	Connect to GND
74	VDD0	-	Connect to 3.3V
75	AVDD	-	Connect to ADCONT
76	IOP	I	Pickup IOP measurment input terminal
77	KEY0	I	Key input 0 (8bit A/D input) terminal
78	KEY1	I	Key input 1 (8bit A/D input) terminal
79	KEY2	I	Key input 2 (8bit A/D input) terminal
80	KET3	I	Key input 3 (8bit A/D input) terminal

■ LA47503 (IC301) : Power amp

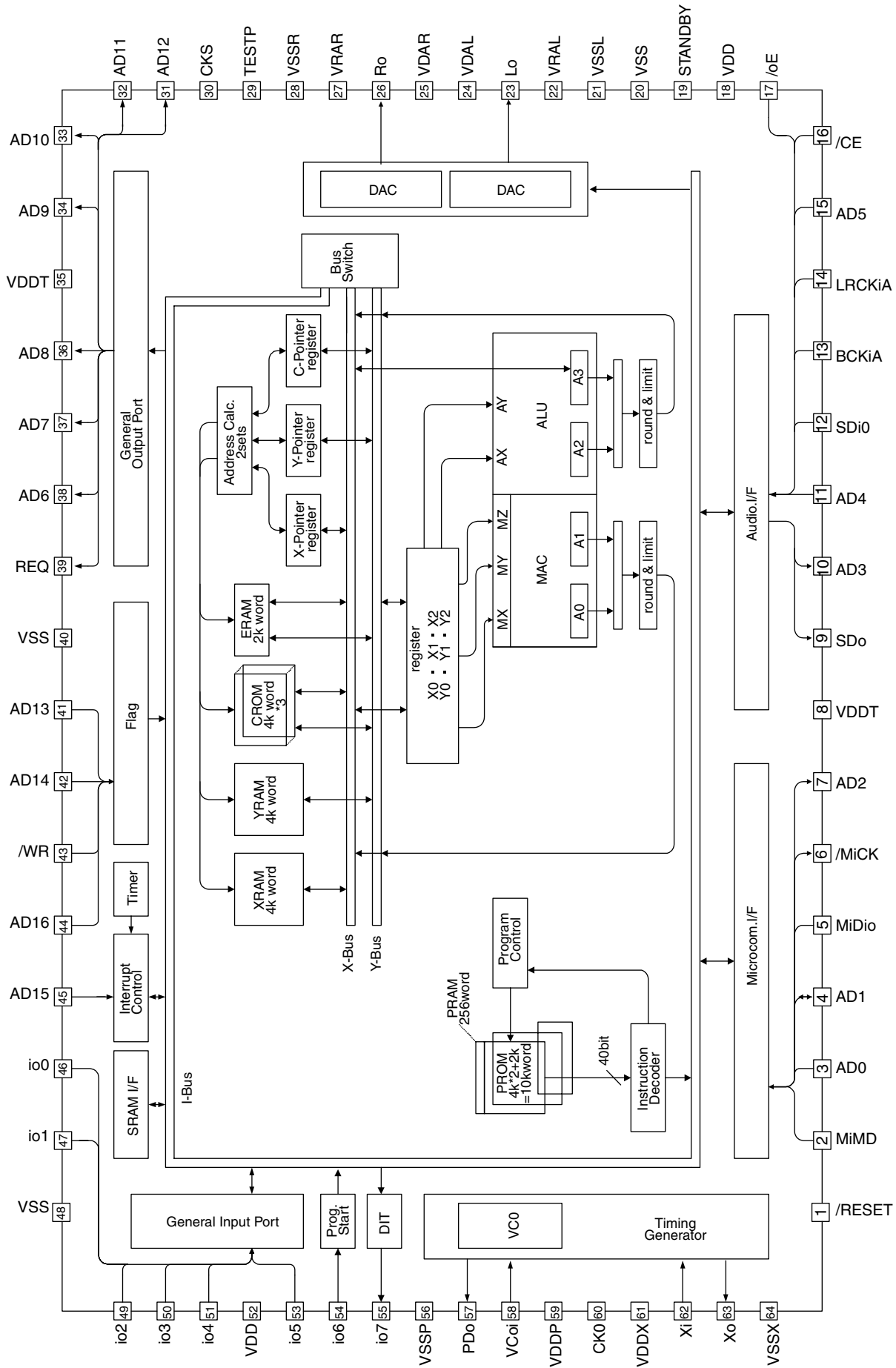
1. Pin layout



2. Block diagram



■ TC94A02F-005 (IC651) : DSP



3.Pin function (1/2)

TC94A02F-005

Pin No.	Symbol	I/O	Function
1	/RESET	I	Hard reset input terminal(H:Normal operation L: Reset)
2	MiMD	I	Micon I/F mode select input terminal
3	AD0	O	External SRAM address output 0 terminal
4	AD1	O	External SRAM address output 1 terminal
5	MiDio	I/O	Micon I/F data input/output terminal
6	/MiCK	I	Micon I/F clock input terminal
7	AD2	O	External SRAM address output 2 terminal
8	VDDT	-	Digital power supply (3.3V)
9	SDo	O	Data output terminal
10	AD3	O	External SRAM address output 3 terminal
11	AD4	O	External SRAM address output 4 terminal
12	SDi0	I	Data input terminal 0
13	BCKiA	I	Bit clock input terminal A
14	LRCKiA	I	LR clock input terminal A
15	AD5	O	External SRAM address output 5 terminal
16	CE	O	External SRAM chip enable terminal
17	OE	O	External SRAM output enable terminal
18	VDD	-	Digital power supply (2.5V)
19	STANBY	I	Standby mode control terminal
20	VSS	-	Digital GND
21	VSSL	-	DAC Lch GND
22	VRAL	-	DAC Lch reference voltage terminal
23	LO	O	DAC Lch output terminal
24	VDAL	-	DAC Rch power supply terminal(2.5V)
25	VDAR	-	DAC Lch power supply terminal(2.5V)
26	RO	O	DAC Rch output terminal
27	VRAR	-	DAC Rch reference voltage terminal
28	VSSR	-	DAC Rch GND
29	TESTP	I	Test terminal
30	CKS	I	VCO select terminal
31	AD12	O	External SRAM address output 12 terminal
32	AD11	O	External SRAM address output 11 terminal
33	AD10	O	External SRAM address output 10 terminal
34	AD9	O	External SRAM address output 9 terminal
35	VDDT	-	Digital power supply terminal (3.3V)
36	AD8	O	External SRAM address output 8 terminal
37	AD7	O	External SRAM address output 7 terminal
38	AD6	O	External SRAM address output 6 terminal
39	REQ	O	Squeeze request terminal to host
40	VSS	-	Digital GND
41	AD13	O	External SRAM address output 13 terminal
42	AD14	O	External SRAM address output 14 terminal
43	WR	O	External SRAM write signal
44	AD16	O	External SRAM address output 16 terminal
45	AD15	O	External SRAM address output 15 terminal
46	io0	I/O	External SRAM data input/output 0 terminal
47	io1	I/O	External SRAM data input/output 1 terminal
48	VSS	-	Digital GND
49	io2	I/O	External SRAM data input/output 2 terminal
50	io3	I/O	External SRAM data input/output 3 terminal

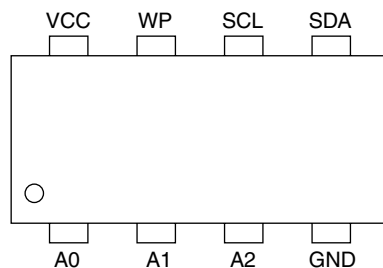
3.Pin function (2/2)

TC94A02F-005

Pin No.	Symbol	I/O	Function
51	io4	I/O	External SRAM data input/output 4 terminal
52	VDD	-	Digital power supply (2.5V) terminal
53	io5	I/O	External SRAM data input/output 5 terminal
54	io6	I/O	External SRAM data input/output 6 terminal
55	io7	I/O	External SRAM data input/output 7 terminal
56	VSSP	-	VCO GND
57	Pdo	O	PLL phase error detection signal output terminal
58	Vcoi	I	VCO control voltage input terminal
59	VDDP	-	VCO power supply
60	Cko	O	16.934 MHz clock output terminal
61	VDDX	-	Power supply (2.5V) terminal for oscillator
62	Xi	I	Connection terminal for oscillator(input)
63	Xo	O	Connection terminal for oscillator(output)
64	VSSX	-	GND for oscillator

■ BR24C16F-X (IC771) : EEPROM

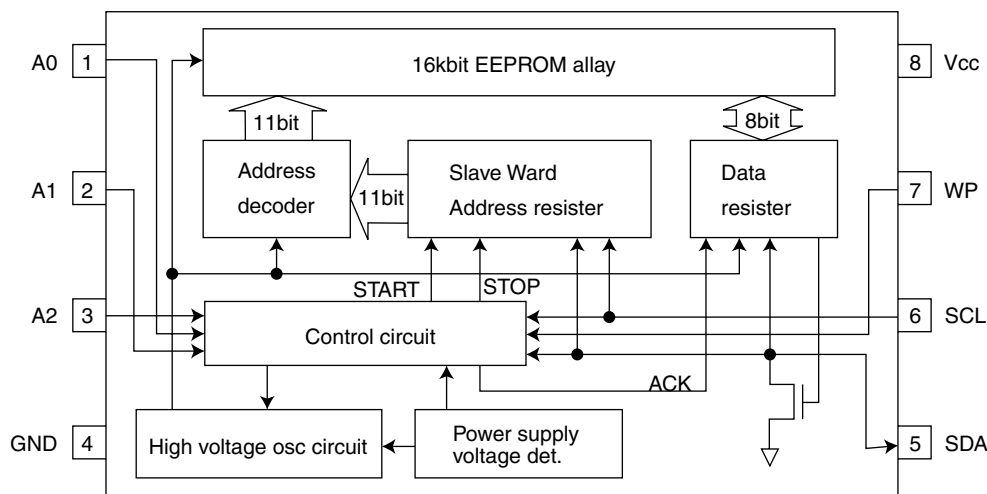
1. Pin layout



2. Pin function

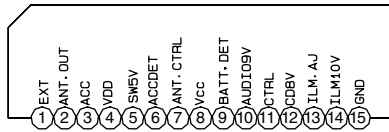
Symbol	I/O	Function
VCC	-	Power supply.
GND	-	GND
A0,A1,A2	I	No use connect to GND.
SCL	I	Serial clock input.
SDA	I/O	Serial data I/O of slave and ward address.
WP	I	Write protect terminal.

3. Block diagram

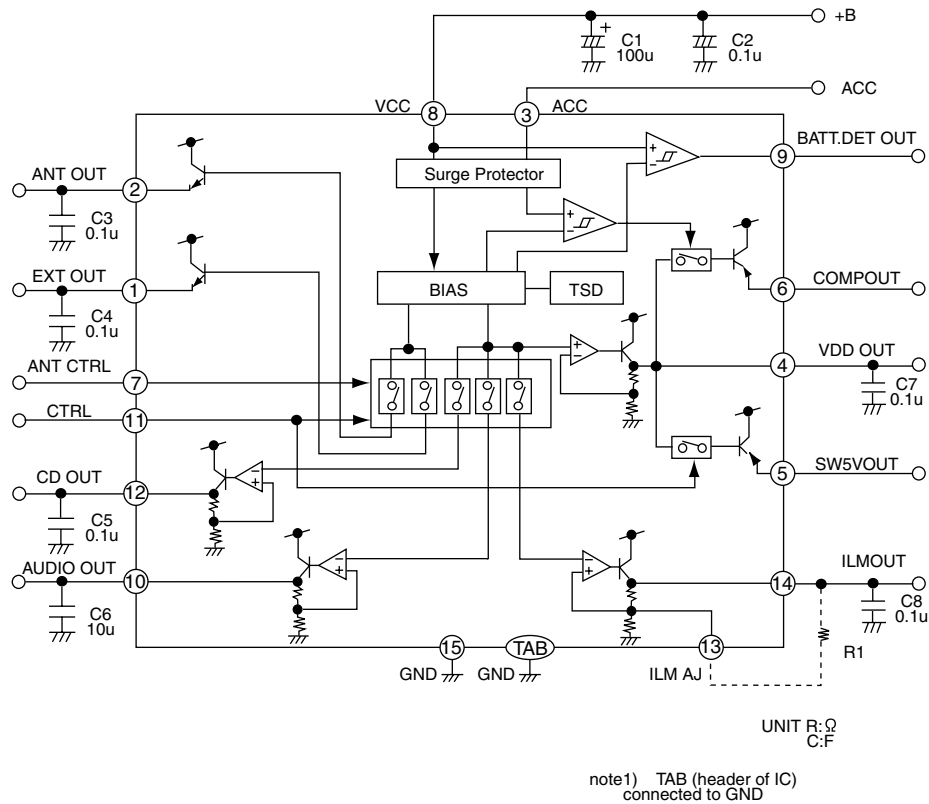


HA13164A (IC901) : Regulator

1. Terminal layout



2. Block diagram

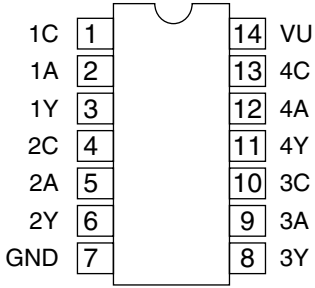


3. Pin function

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

■ HD74HC126FP-X (IC801) : Buffer

1. Terminal layout

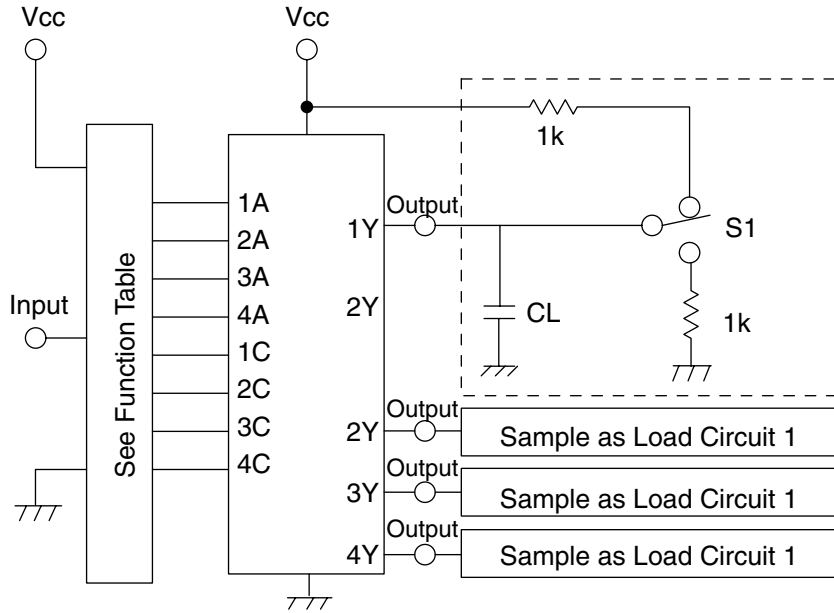


3. Pin function

Input		Output
C	A	Y
L	X	Z
H	L	H
H	H	L

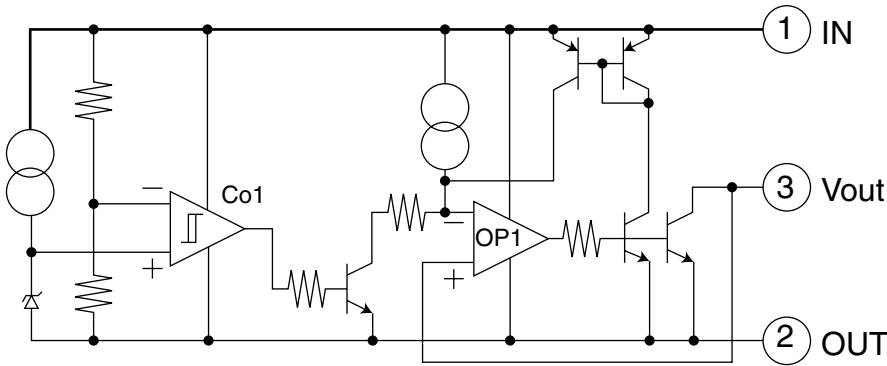
Note) H:High level
L:Low level
X:Irrelevant
Z:Off(High-impedance)
State a 3-state input

2. Block diagram



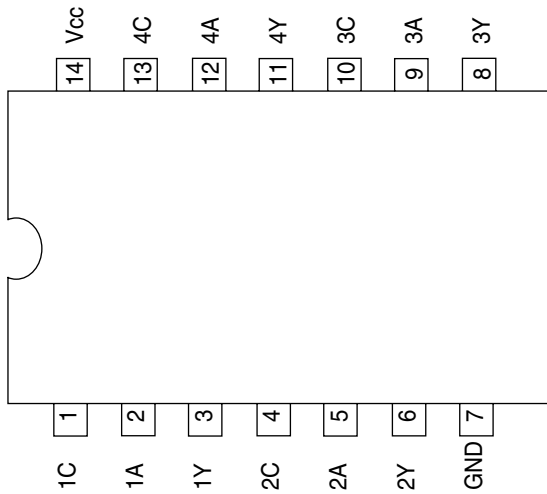
Note) CL includes probe and jig capacitance

■ IC-PST600M/G/-W (IC702) : System reset



HD74HCT126T-X : (IC503) Buffer

1. Terminal layout

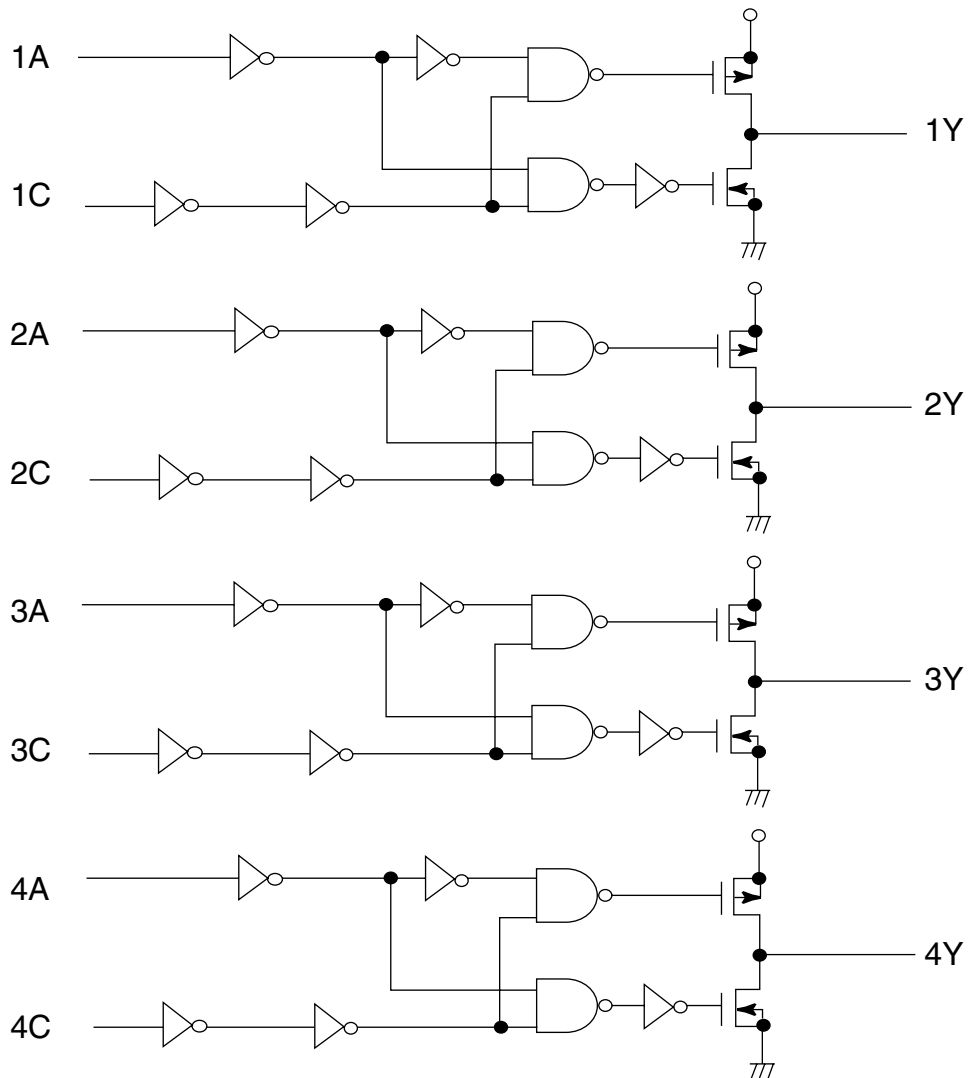


3. Pin function

INPUT		OUTPUT
C	A	Y
L	X	Z
H	L	L
H	H	H

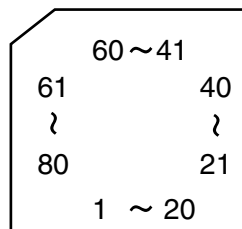
H : High level
 L : Low level
 X : Irrelevant
 Z : Off (High-impedance) state of a 3-stage output

2. Block diagram

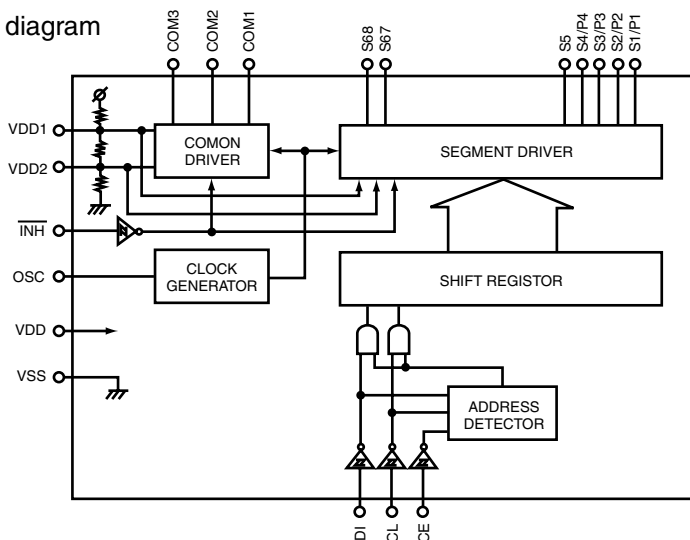


■ LC75873NW (IC601) : LCD driver

1.Pin layout



2.Block diagram

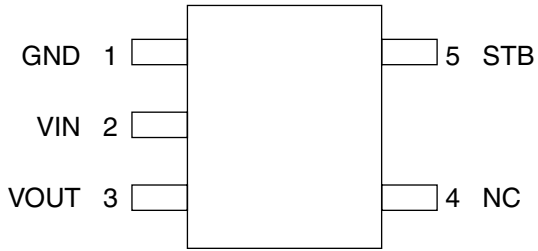


3.Pin function

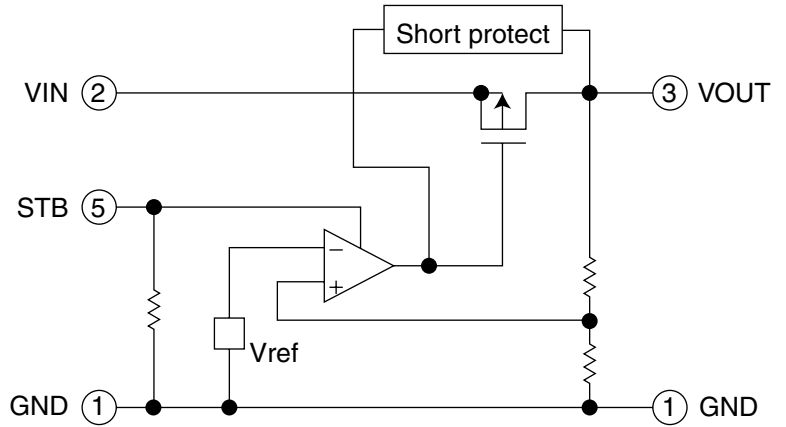
Pin No.	Pin name	I/O	Description
79,80 1,2,3 to 66	S1/P1 TO S4/P4 S5 to S68	O	Segment outputs for displaying the display data transferred by serial data input. The S1/P1 to S4/P4 pins can be used as general-purpose output ports under serial data control.
67 78 69	COM1 COM2 COM3	O	Common driver outputs. The frame frequency f_0 is given by : $f_0 = (FOSC/384)Hz$.
74	OSC	I/O	Oscillator connection An oscillator circuit is formed by connecting an external resistor and capacitor to this pin.
76 77 78	CE CL DI	I	Serial data transfer inputs. Connected to the controller. CE:Chip enable CL:Synchronization clock DI:Transfer data
75	\overline{INH}	I	Display off control input <ul style="list-style-type: none"> • $\overline{INH} = "L"(VSS)$... Display forced off S1/P1 to S4/P4 = "L" (These pins are forcibly set to the segment output port function and held at the low level.) S5 to S68 = "L" COM1 to COM3 "L" • $\overline{INH} = "H"(HDD)$... Display on However, serial data transfer is possible when the display is forced off by this pin.
71	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.
72	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.
70	VDD	-	Power supply connection. Provide a voltage of between 3.0 and 6.0V.
73	VSS	-	Power supply connection. Connect to ground.

■ NJU7241F25-X (IC651) : Regulator

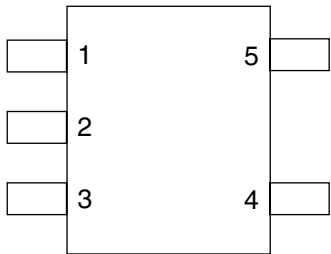
1.Pin layout



2.Block diagram



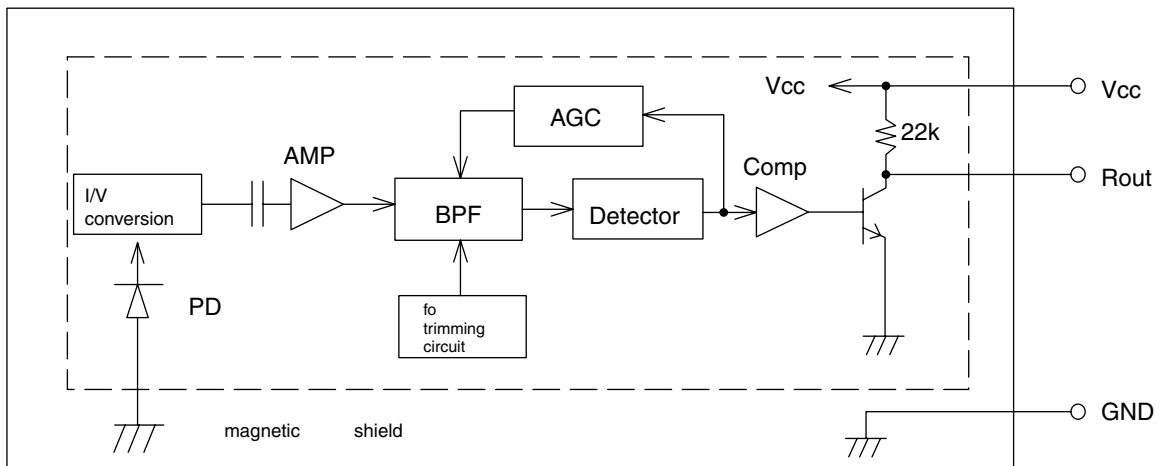
■ NJU7241F33-X (IC504) : Voltage regulator



- PIN FUNCTION
- 1. GND
 - 2. VIN
 - 3. VOUT
 - 4. +NC
 - 5. STB

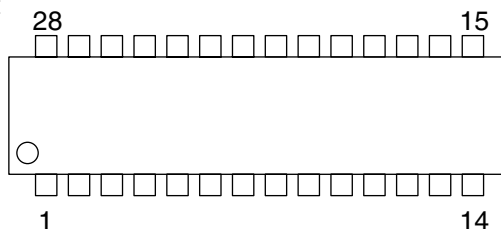
■ RPM6938-SV4 (IC602) : Remote sensor

1.Block diagram

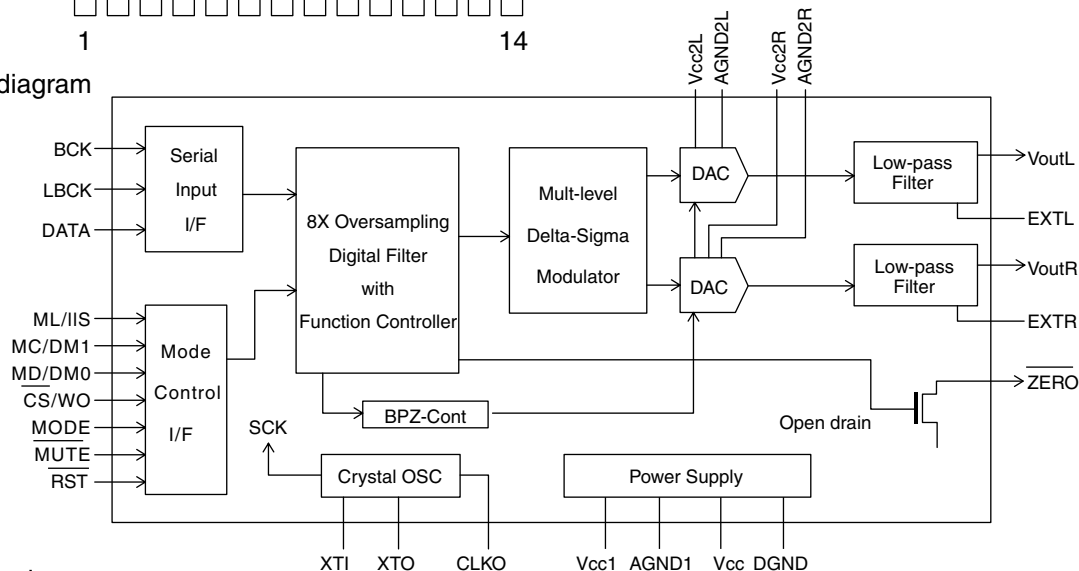


■ PCM1716E-X (IC571) : D/A converter

1. Pin layout



2. Block diagram

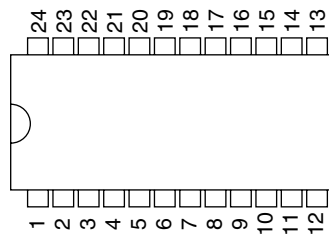


3. Pin function

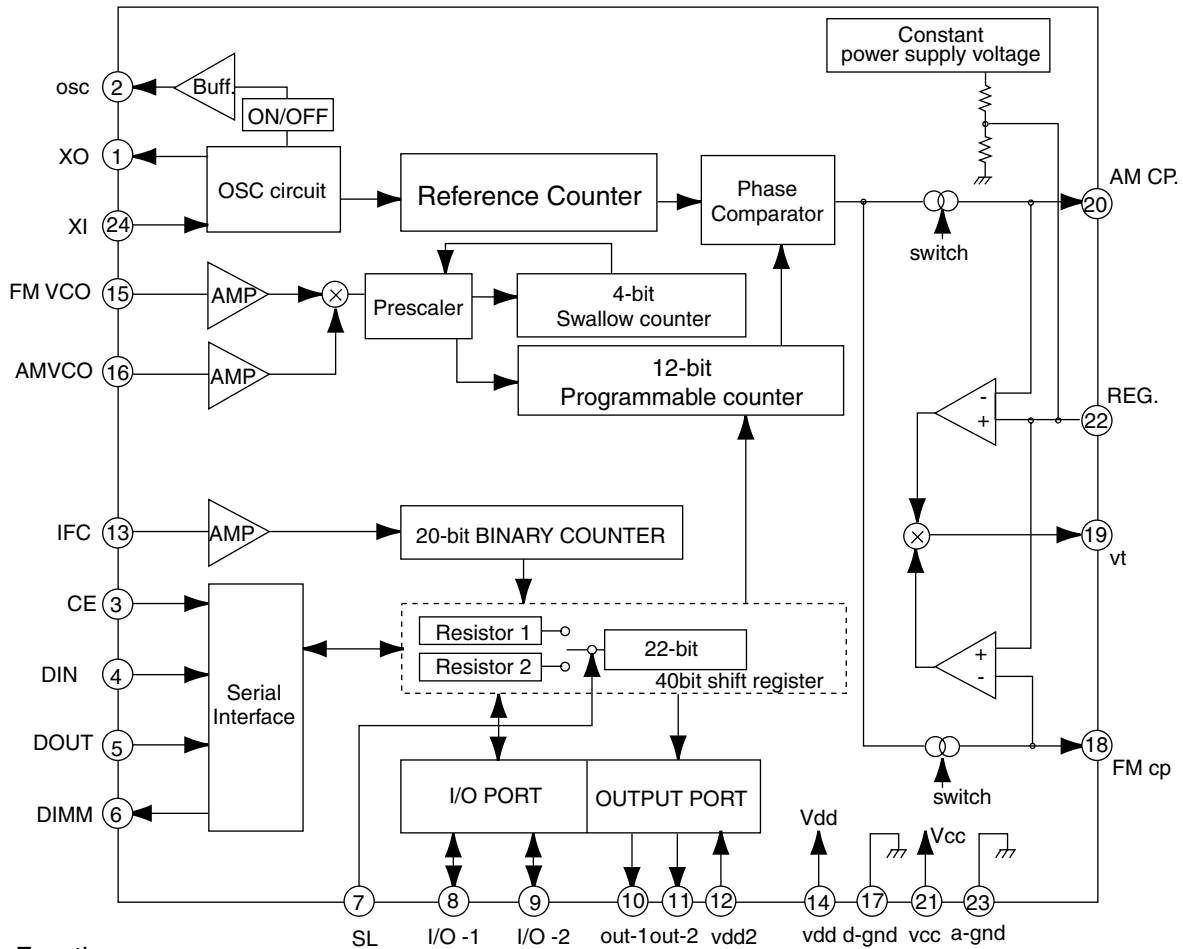
Pin No.	Symbol	I/O	Function
1	LRCK	I	LRCK clock input
2	DATA	I	Serial audio data input
3	BCK	I	Bit clock input for serial audio data
4	CLKO	O	Buffered output of system clock
5	XTI	I	Oscillator input / External clock input
6	XTO	O	Oscillator output
7	DGND	-	Digital ground
8	VDD	-	Digital power +5V
9	VDD2R	-	Analog power +5V
10	AGND2R	-	Analog ground
11	EXTR	O	Rch common pin of analog output amp
12	NC	-	Non connection
13	VOUTR	O	Rch analog voltage output of audio signal
14	AGND1	-	Analog ground
15	Vcc1	-	Analog power +5V
16	VOUTL	O	Lch analog voltage output of audio signal
17	NC	-	Non connection
18	EXTL	O	Lch common pin of analog output amp
19	AGND2L	-	Analog ground
20	Vcc2L	-	Analog power +5V
21	ZERO	O	Zero data flag
22	RST	I	Reset
23	CS/IWO	I	Chip select / Input format selection
24	MODE	I	Mode control select
25	MUTE	I	Mute control
26	MD/DM0	I	Mode control, Data / De-emphasis selection 1
27	MC/DM1	I	Mode control, BCK / De-emphasis selection 2
28	ML/IIS	I	Mode control, WDCK / Input format selection

■TB2118F-X (IC31) : PLL

1. Terminal Layout



2. Block diagram

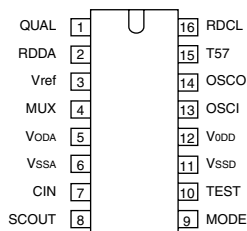


3. Pin Function

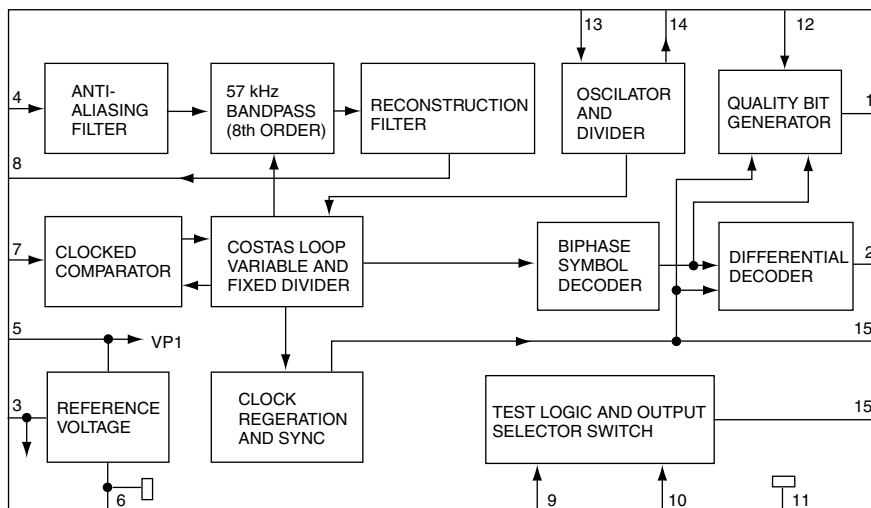
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XOUT	O	Crystal oscillator pin	13	IFC	I	IF signal input
2	OSC	-	Non connect	14	VDD	-	Power pins for digital block
3	CE	I	Chip enable input	15	FMIN	I	FM band local signal input
4	DI	I	Serial data input	16	AMIN	I	AM band local signal input
5	CK	I	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/O1	I/O	I/O ports	20	AMCP	O	Charge pump output for AM
9	I/O2	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

■ SAA6579T-X (IC71) : RDS

1.Pin layout



2.Block diagram

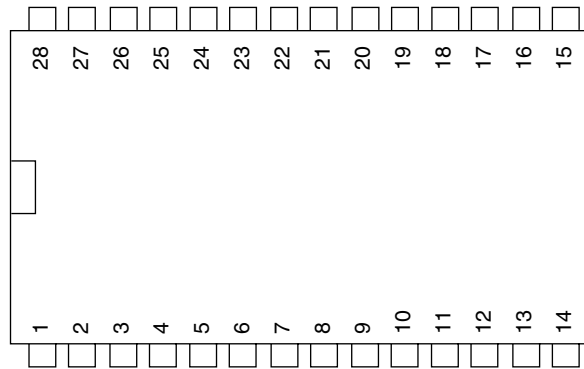


3.Pin function

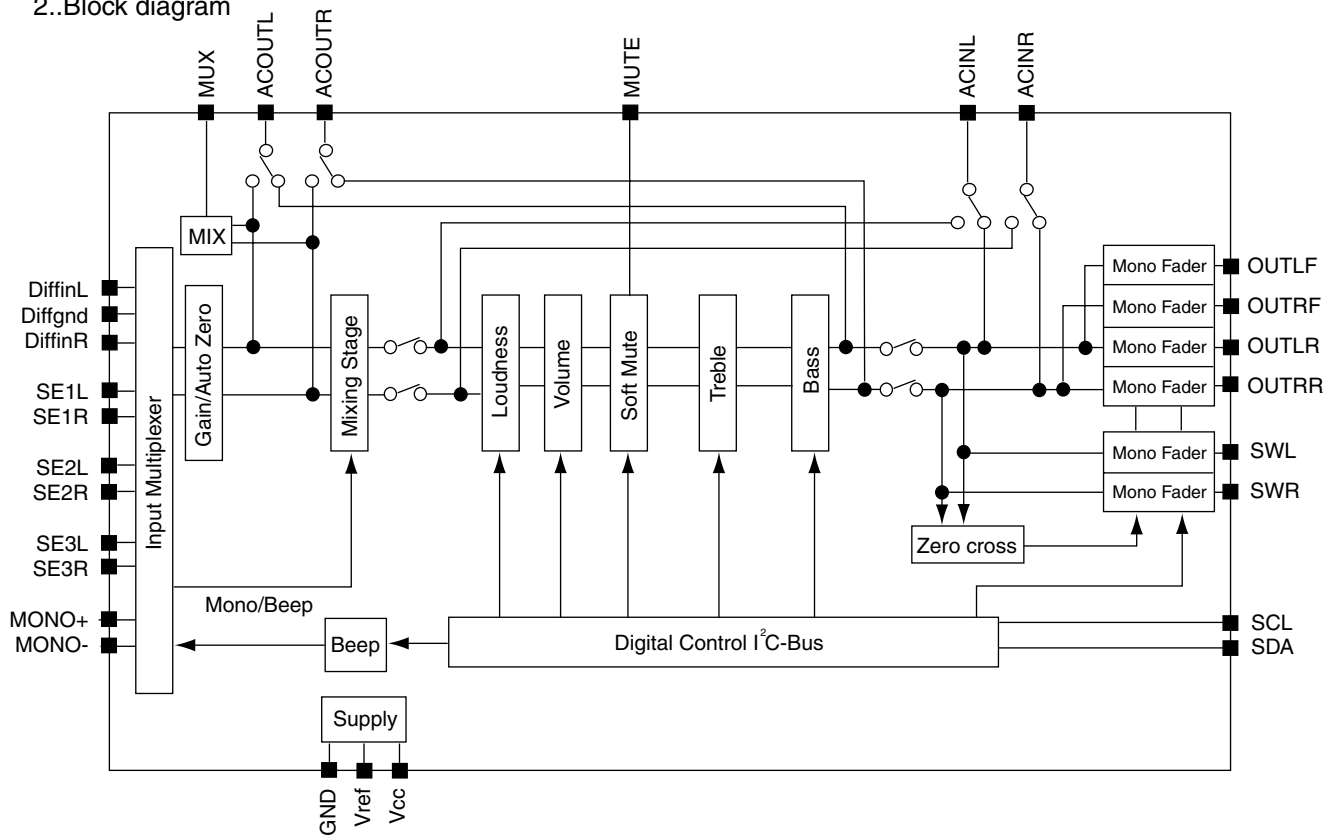
Pin No.	Symbol	Description
1	QUAL	Quality indication output
2	RDDA	RDS data output
3	Vref	Reference voltage output (0.5VDDA)
4	MUX	Multiolex signal input
5	VDDA	+5V supply voltage for analog part
6	VSSA	Ground for analog part (0V)
7	CIN	Subcarrier input to comparator
8	SCOUT	Subcarrier output of reconstruction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

■ TDA7404D-X (IC161) : Carradio signal processor

1. Terminal layout



2. Block diagram





VICTOR COMPANY OF JAPAN, LIMITED

MOBILE ELECTRONICS DIVISION

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