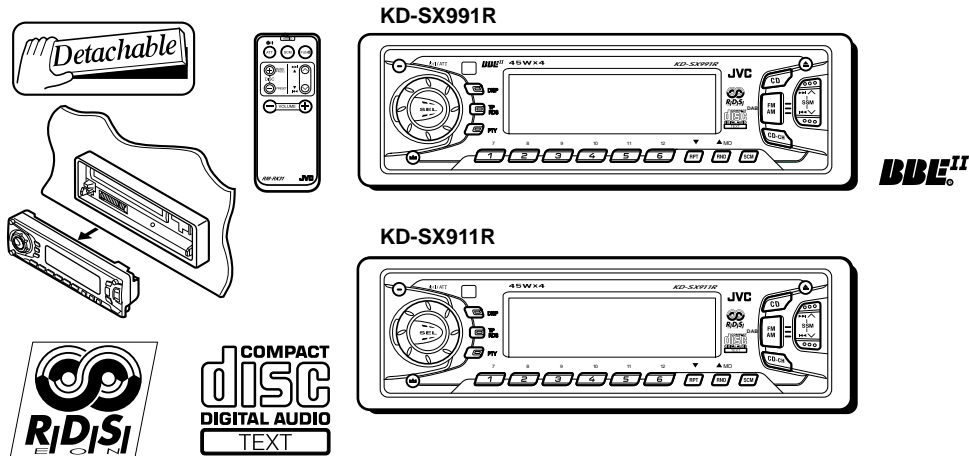


JVC

SERVICE MANUAL

CD RECEIVER

KD-SX991R / KD-SX911R




Area Suffix
E ---- Continental Europe

Contents

Safety precaution	1-2	Flow of functional	
Preventing static electricity	1-3	operation unit TOC read	1-13
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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

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.

1.1. Grounding to prevent damage by static electricity

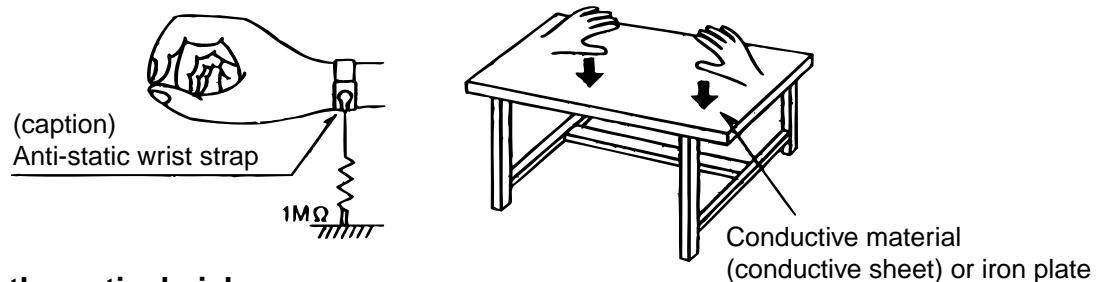
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Ground the workbench

1. 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.

1.1.2. Ground yourself

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

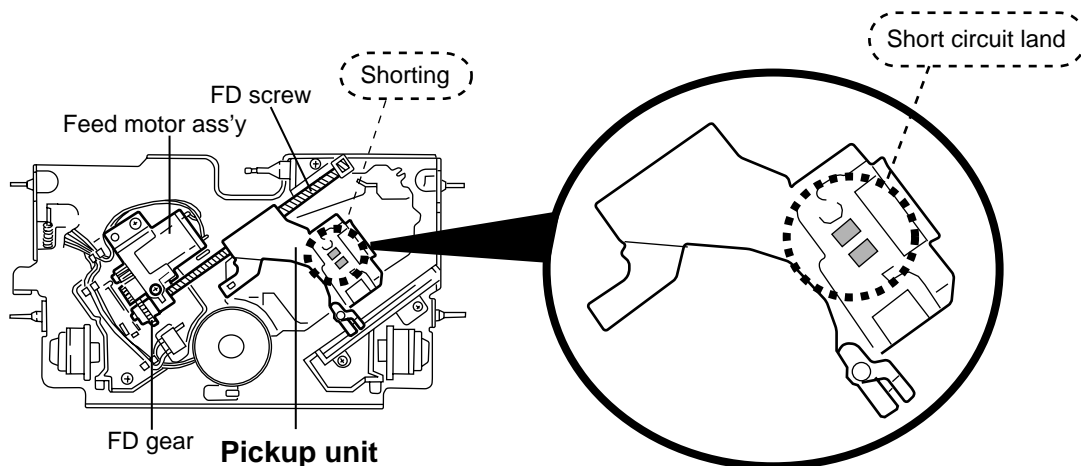


1.1.3. Handling the optical pickup

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.

1.2. 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



Important for laser products

1.CLASS 1 LASER PRODUCT

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

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

4.CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated.

It is dangerous to defeat the safety switches.

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

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



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

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alltiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstrålning ved åbning,når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

CLASS 1
LASER PRODUCT

DANGER : Invisible laser radiation when open and interlock or defeated. AVOID DIRECT EXPOSURE TO BEAM (e)

ADVARSEL :Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)

VARO : Avattaessa ja suojalukitus ohitettaessa olet alltiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (d)

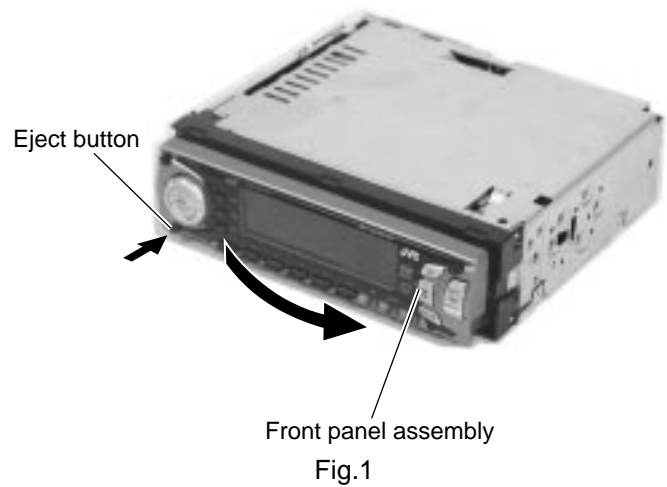


Disassembly method

<Main body>

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

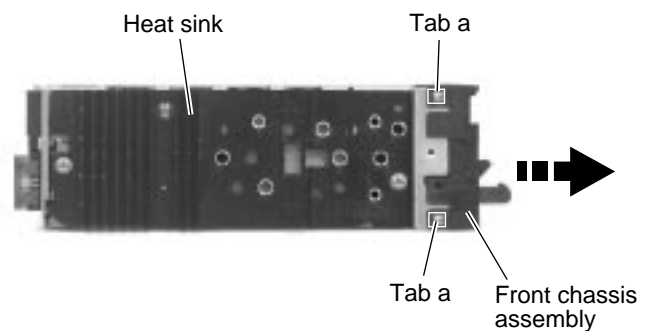
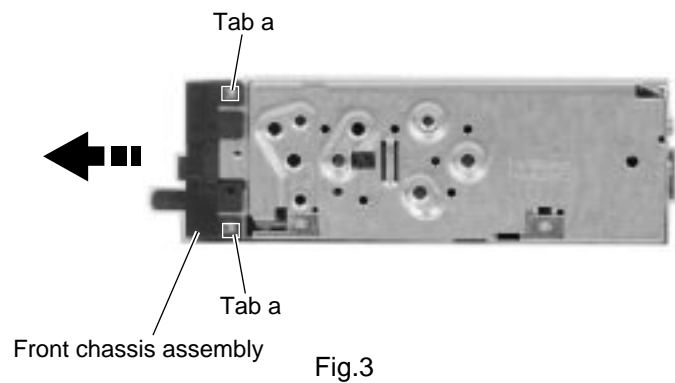
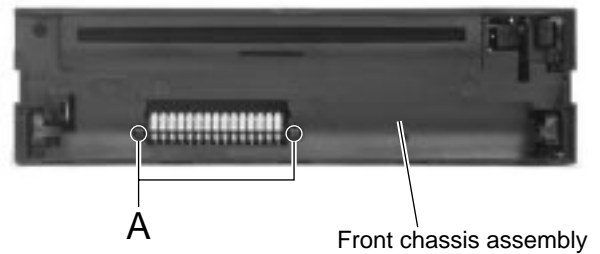
1. Press the eject button in the lower left part of the front panel. Remove the front panel assembly from the body.



■ Removing the front chassis assembly (See Fig.2 to 4)

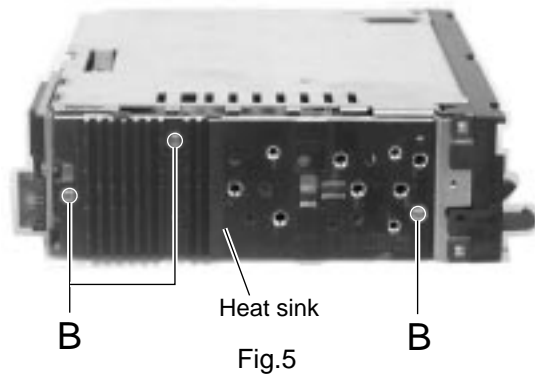
- Prior to performing the following procedure, remove the front panel assembly.

1. Remove the two screws **A** attaching the front chassis assembly on the front of the body.
2. Release the four joint tabs **a** on both sides of the front chassis assembly and remove the front chassis assembly toward the front.



■ Removing the heat sink (See Fig.5)

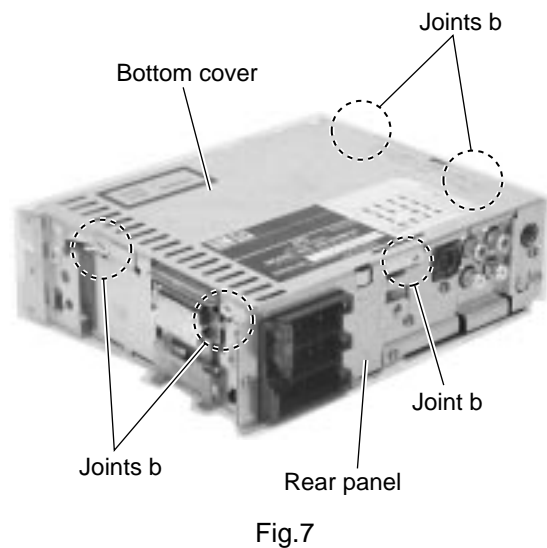
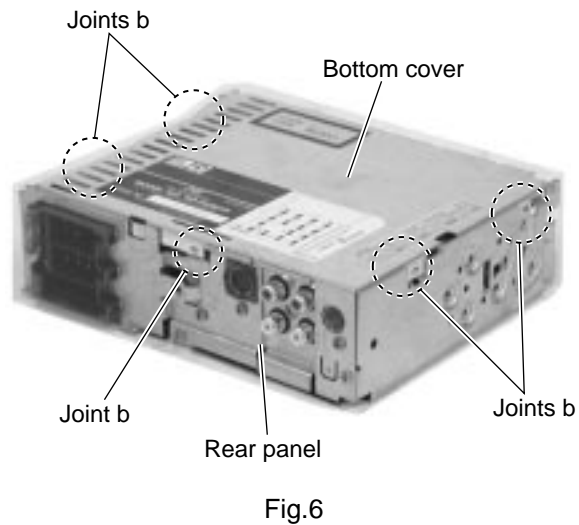
1. Remove the three screws **B** on the left side of the body.



■ Removing the bottom cover (See Fig.6 and 7)

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

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



■ Removing the main board (See Fig.8 and 9)

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

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

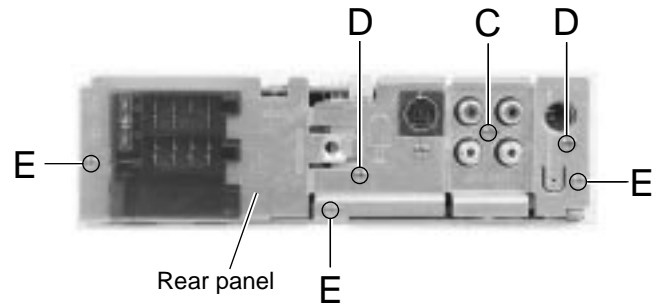


Fig.8

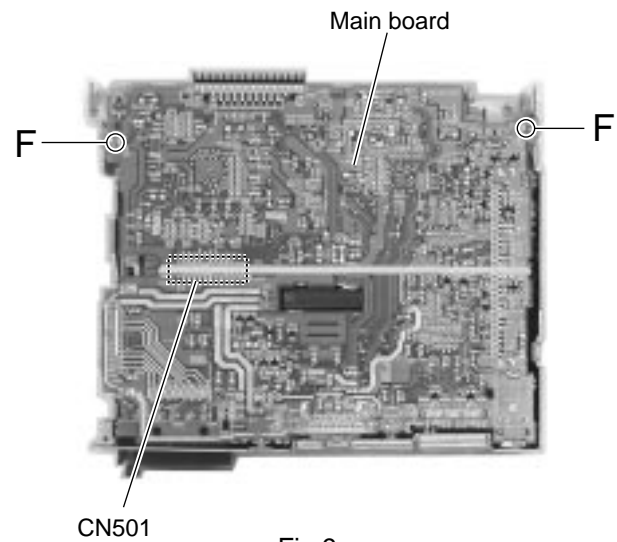


Fig.9

■ Removing the CD mechanism section (See Fig.10)

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

1. Remove the three screws **G** attaching the CD mechanism section on the back of the top chassis.

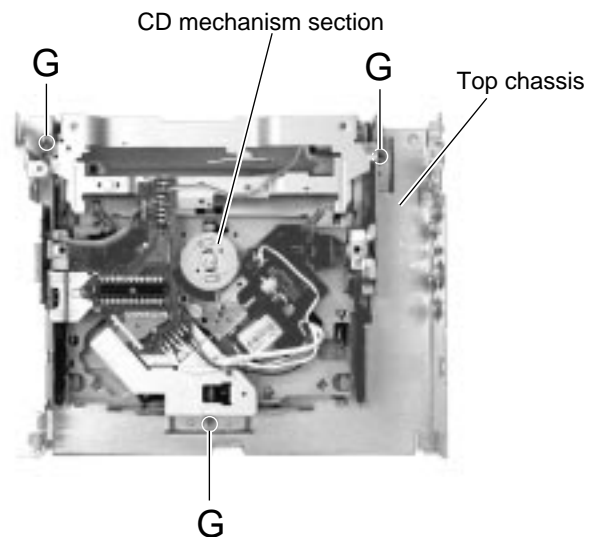


Fig.10

■ Removing the control switch board (See Fig.11 to 13)

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

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

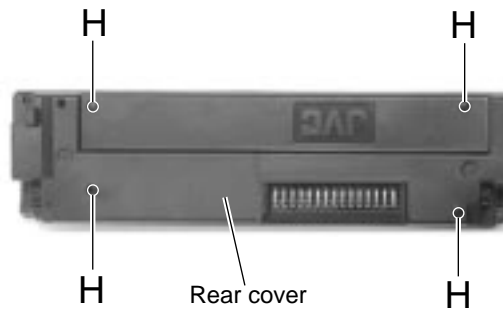


Fig.11

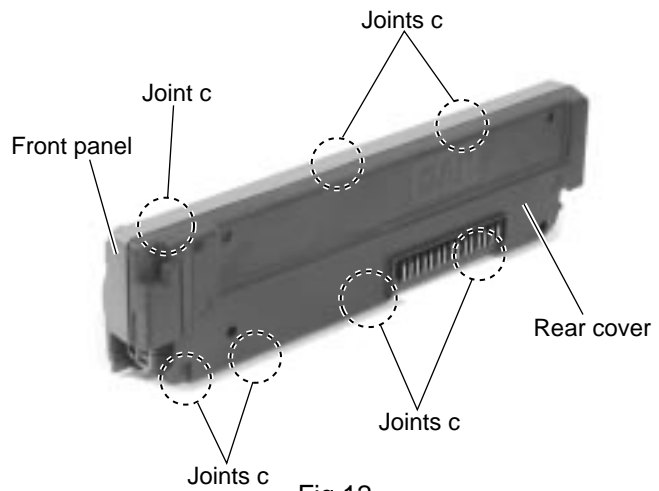


Fig.12

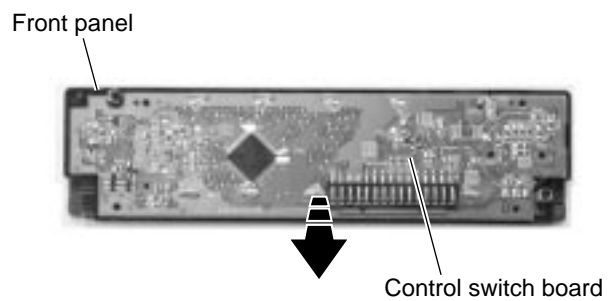


Fig.13

<CD mechanism section>

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

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

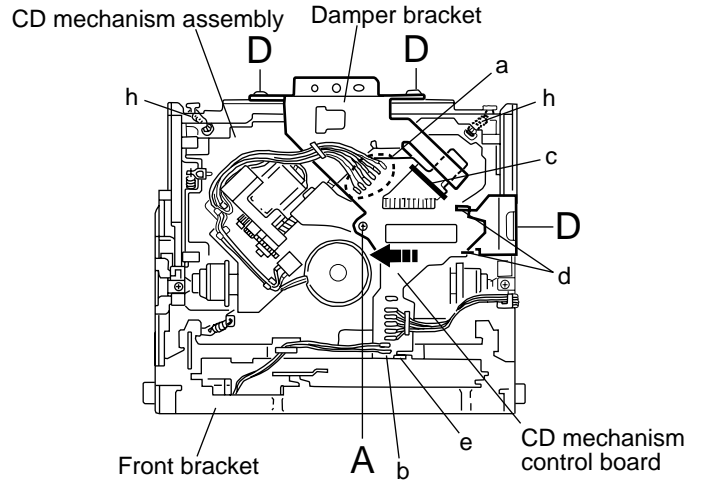


Fig.1

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

(Refer to Fig.2)

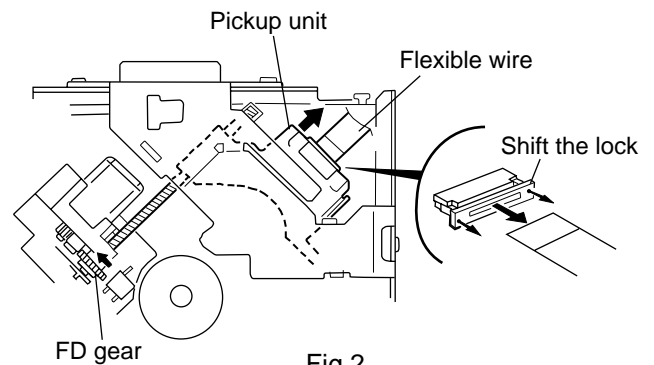


Fig.2

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

- Prior to performing the following procedure, remove the CD mechanism control board.
1. Remove the two springs **f** attaching the CD mechanism assembly and the front bracket.
 2. Remove the two screws **B** and the front bracket while pulling the flame outward.
 3. Remove the belt and the screw **C** from the loading motor.

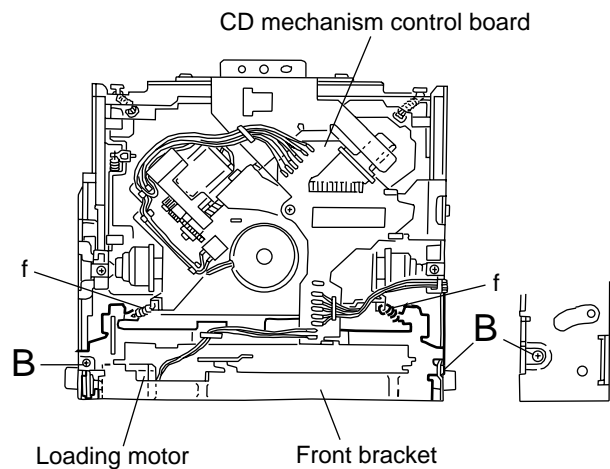


Fig.3

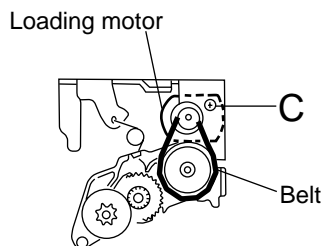


Fig.5

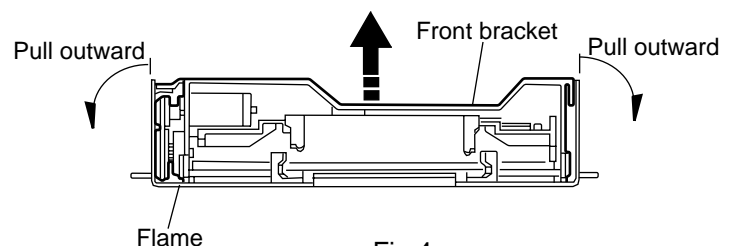


Fig.4

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

- Prior to performing the following procedure, remove the CD mechanism control board and the front bracket (loading motor).
1. Remove the three screws **D** and the damper bracket.
 2. Raise the both sides fix arms and move the fix plates in the direction of the arrow to place the four shafts **g** as shown in Fig.8 and 9.
 3. Remove the CD mechanism assembly and the two springs **h** attaching the flame.
 4. Remove the two screws **E** and both sides rear damper brackets from the dampers. Detach the CD mechanism assembly from the left side to the right side.

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

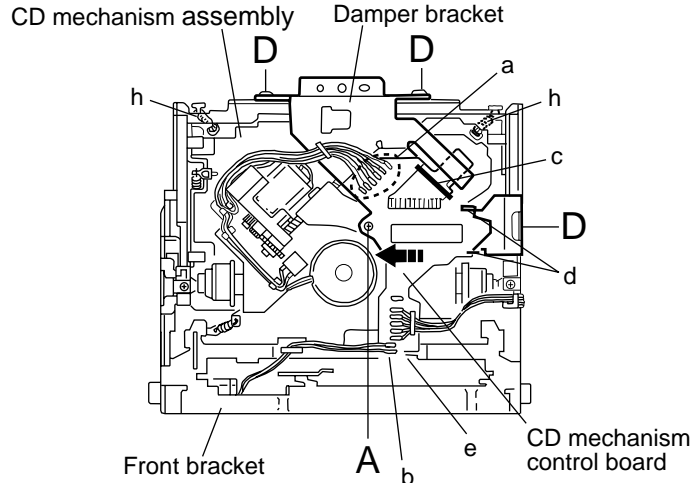


Fig.1

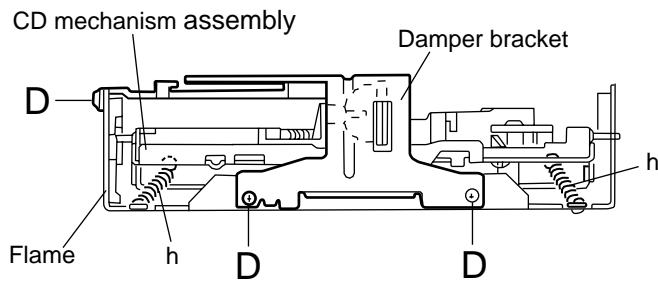


Fig.6

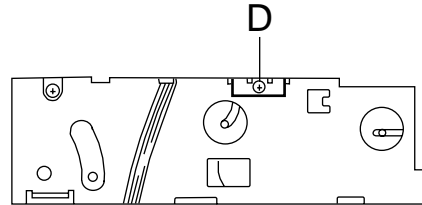


Fig.7

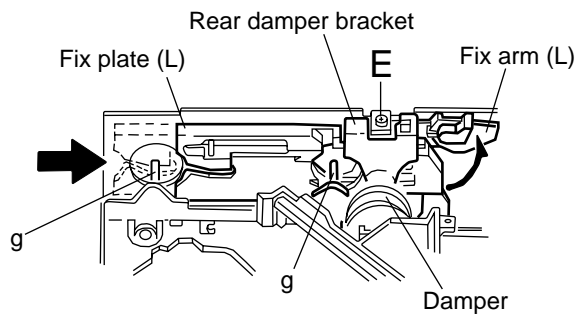


Fig.8

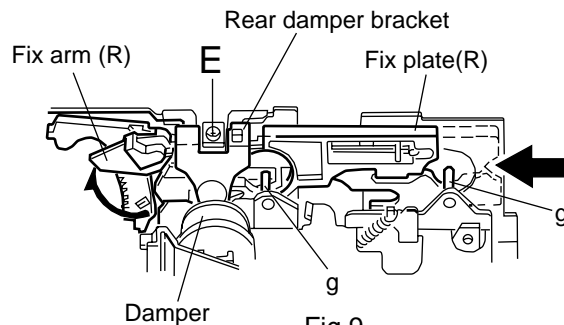


Fig.9

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

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

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

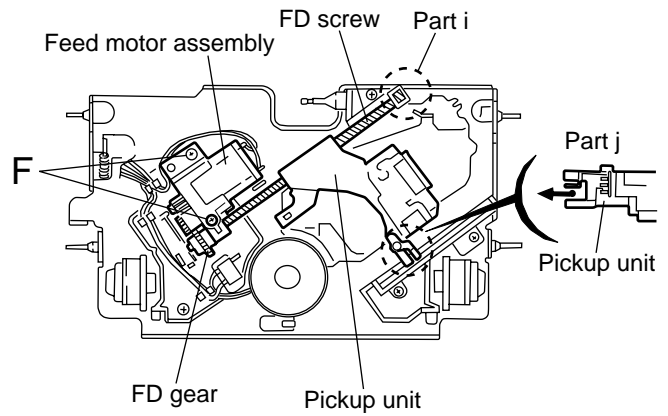


Fig.10

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

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

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

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

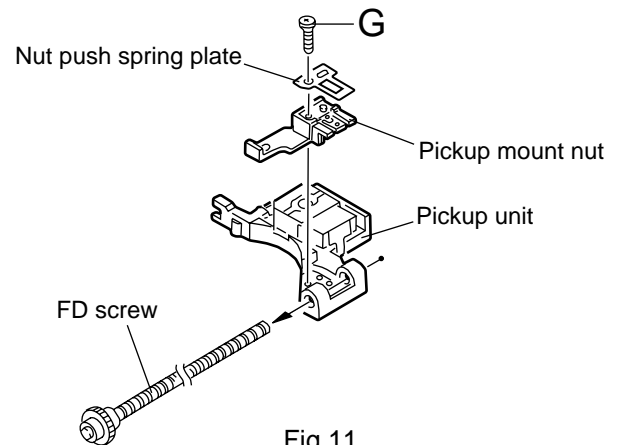


Fig.11

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

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

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

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

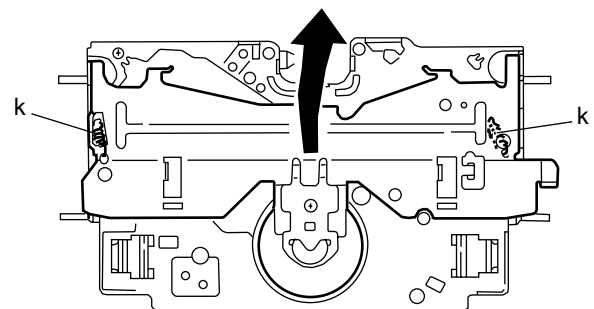


Fig.12

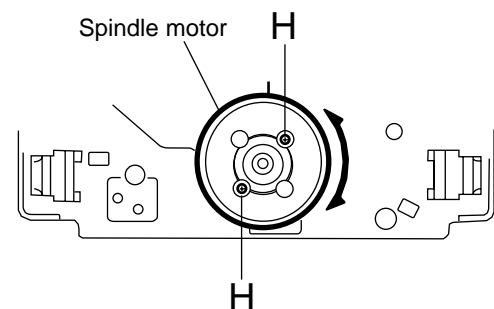


Fig.13

Adjustment method

■ Test instruments required for adjustment

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

■ Standard volume position

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

■ Frequency Band

FM 87.5MHz ~ 108.0MHz
MW 522kHz ~ 1620 kHz
LW 144kHz ~ 279kHz

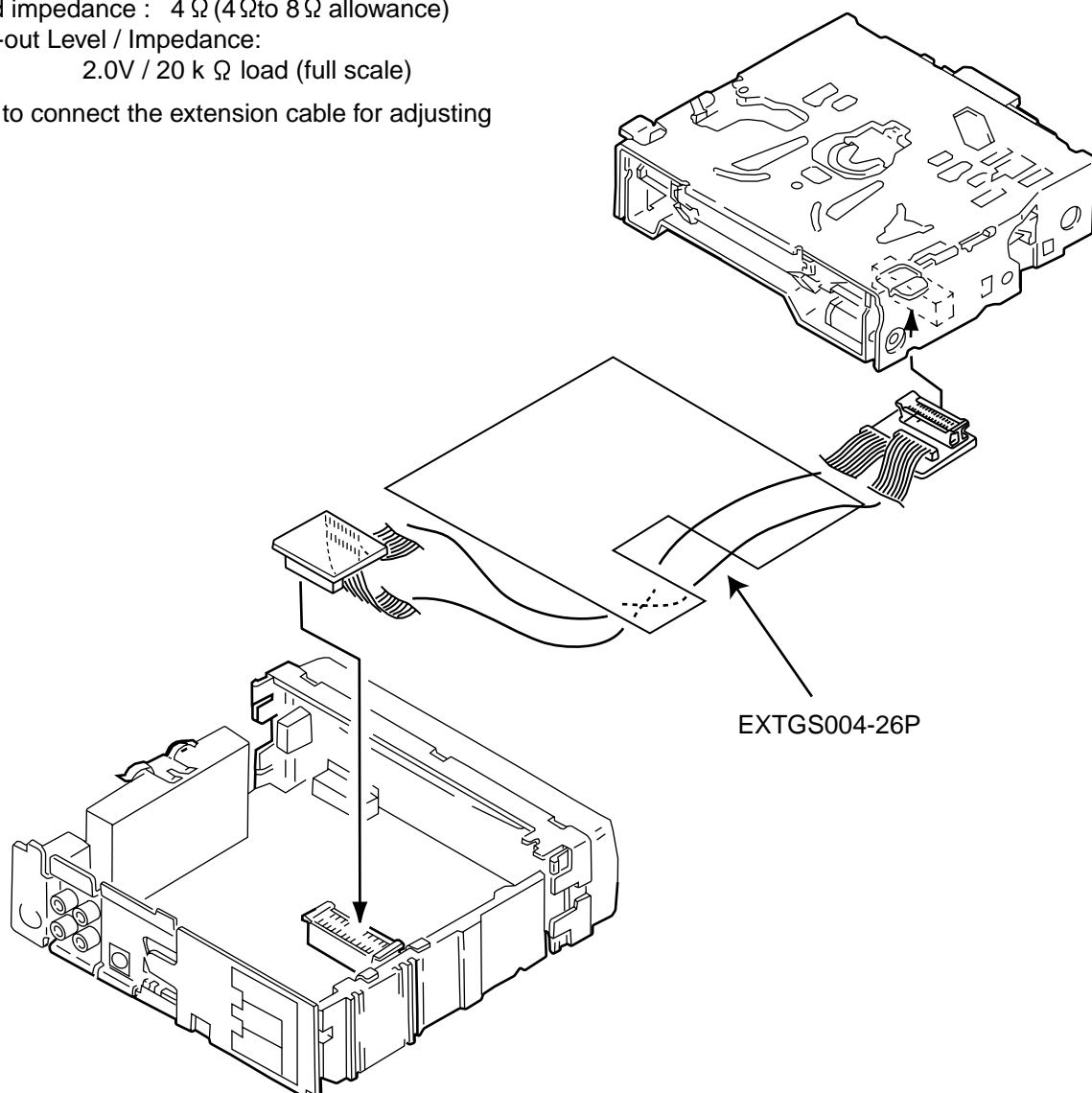
■ Dummy load

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

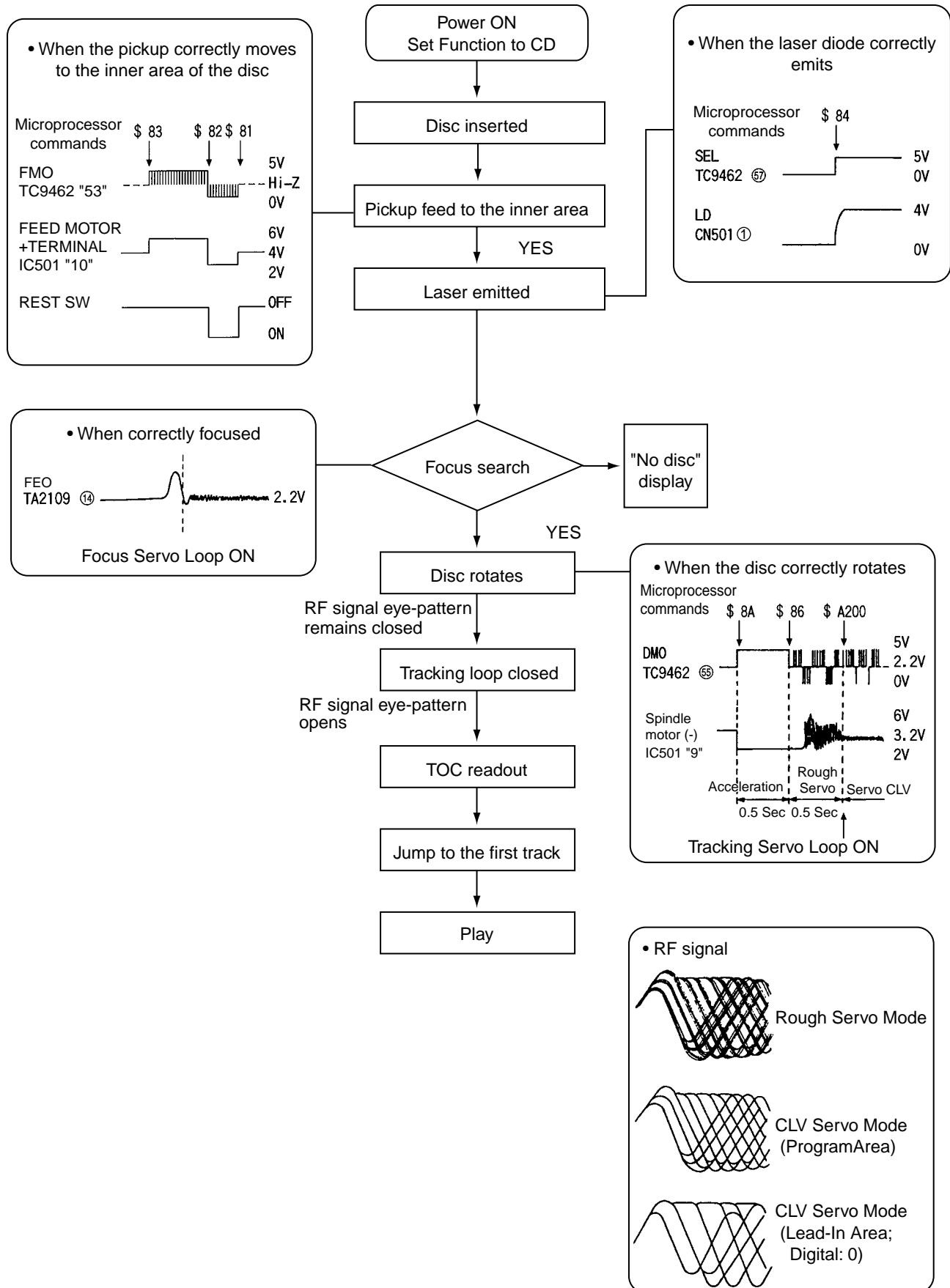
■ Standard measuring conditions

Power supply voltage : DC14.4V(10.5~16V)
Load impedance : 4 Ω (4Ω to 8Ω allowance)
Line-out Level / Impedance:
2.0V / 20 k Ω load (full scale)

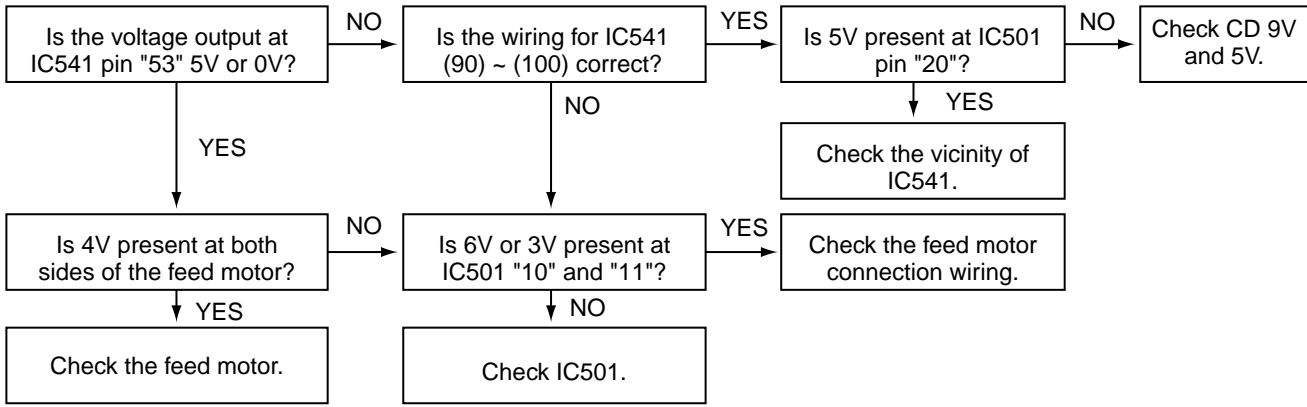
■ How to connect the extension cable for adjusting



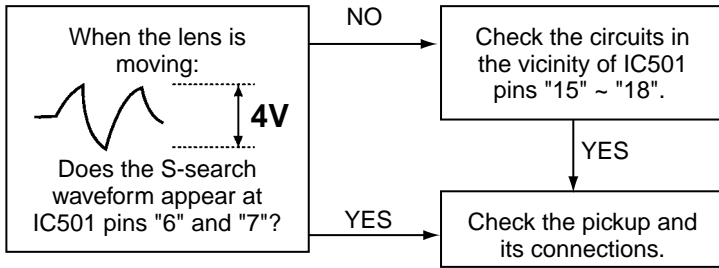
Flow of functional operation until TOC read



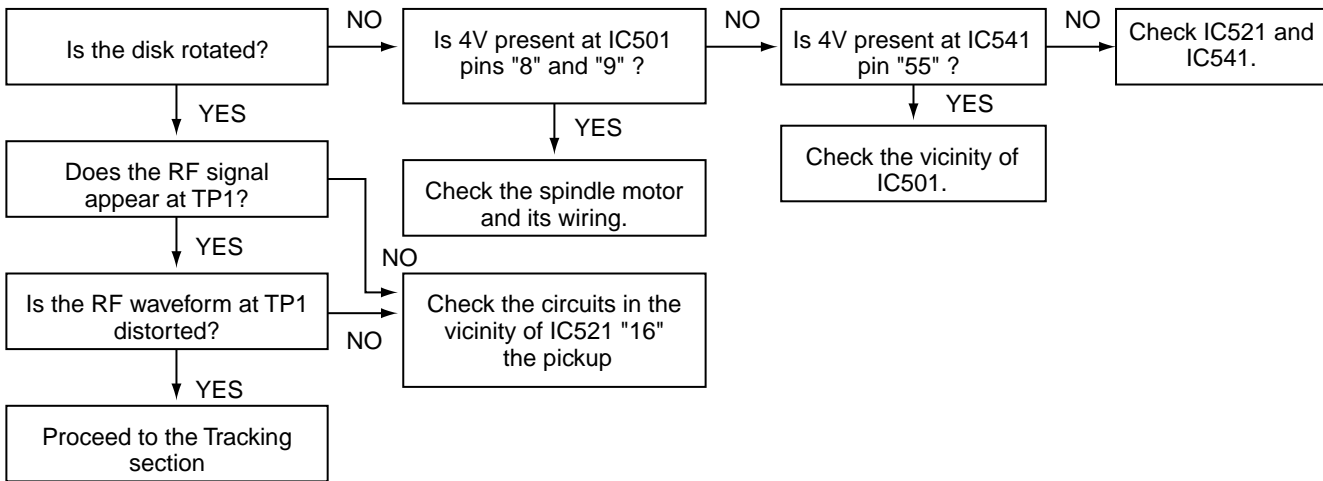
Feed Section



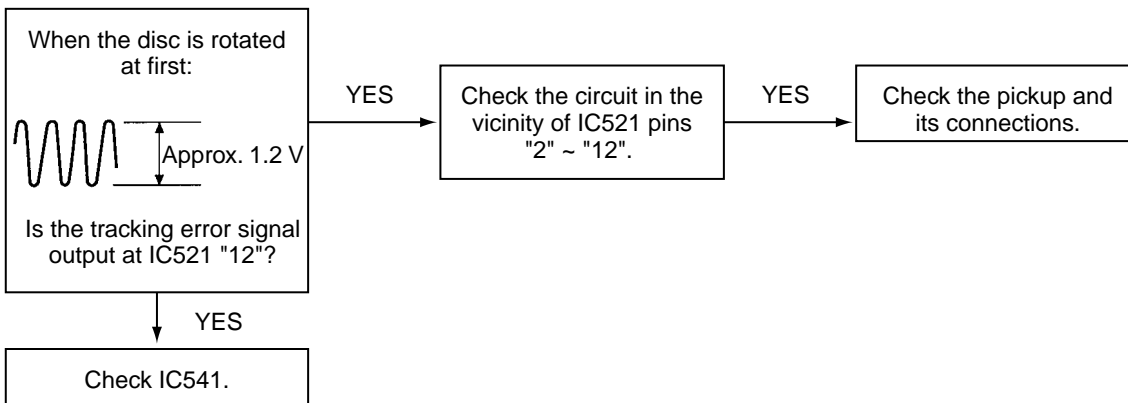
Focus Section



Spindle Section

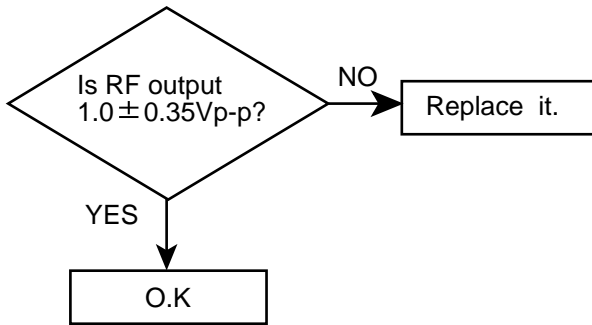


Tracking Section



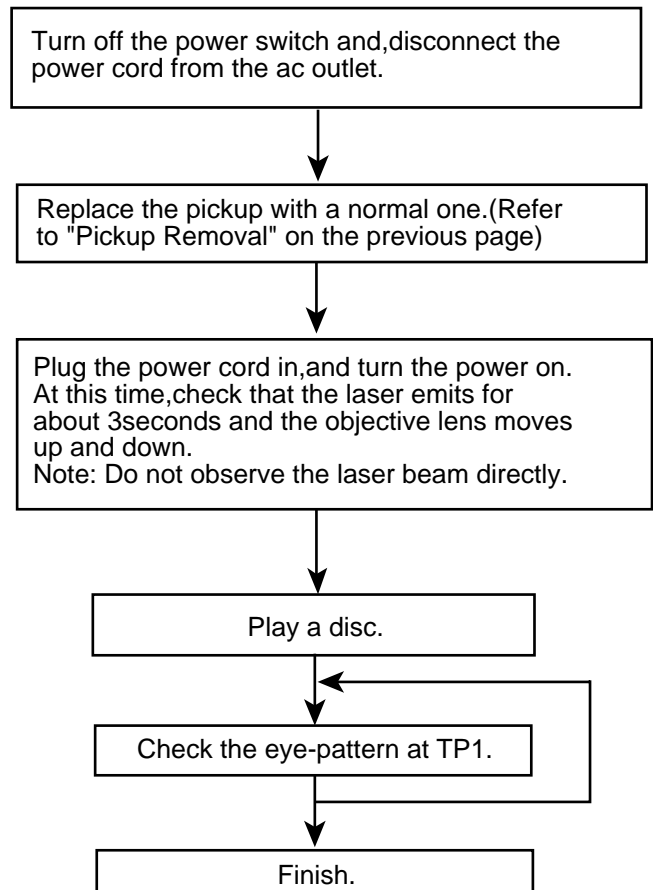
Maintenance of laser pickup

- (1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.
- (2) Life of the laser diode
When the life of the laser diode has expired, the following symptoms will appear.
 - (1) The level of RF output (EFM output:amplitude of eye pattern) will be low.



- (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.

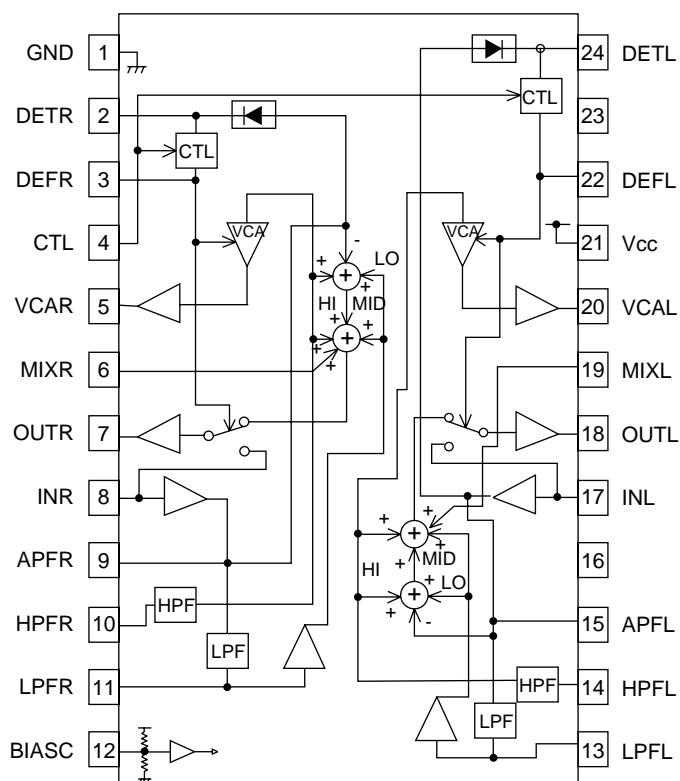
Replacement of laser pickup



Description of major ICs

BA3880FS-X(IC181) : BBE

1. Pin layout & Block Diagram

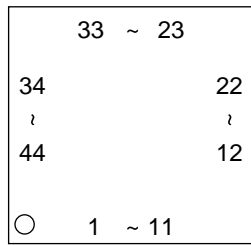


2. Pin Functions

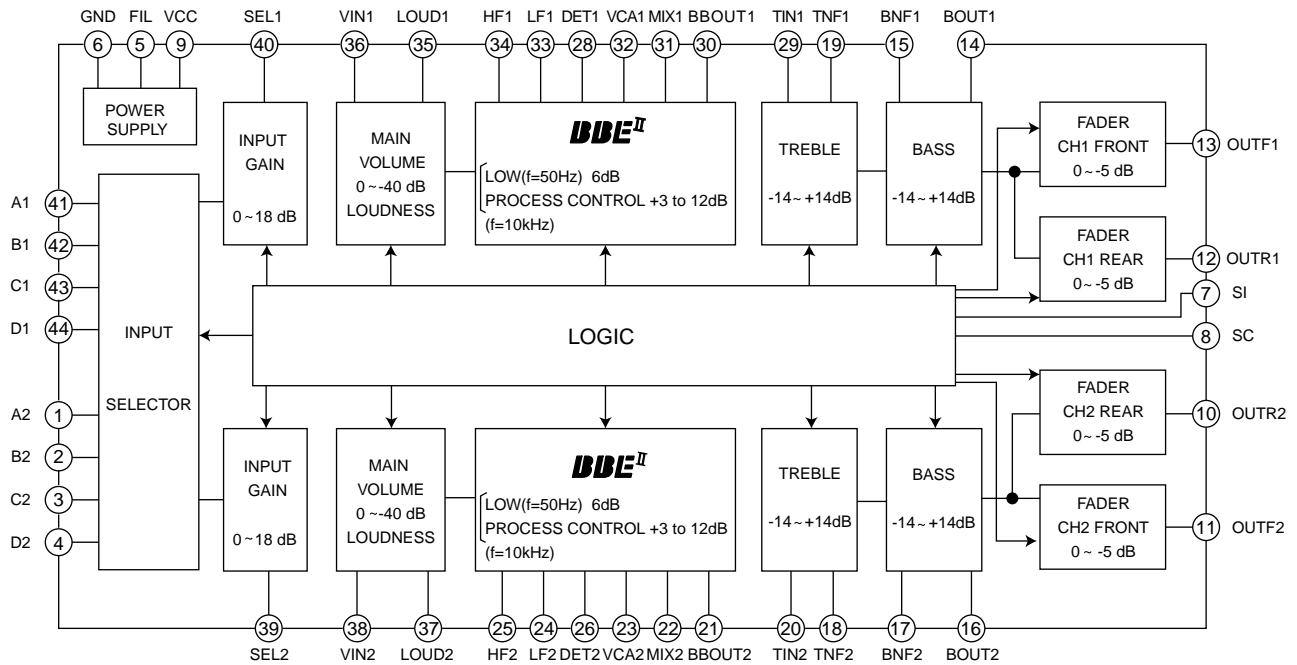
Pin No.	Symbole	Function	Pin No.	Symbole	Function
1	GND	Grounding terminal	13	LPFL	LPF output terminal
2	DETR	Peak level detector output for treble VCA control	14	HPFL	HPF output terminal
3	DEFR	Control signal time constant terminal	15	APFL	Input inversion amplifier output terminal
4	CTL	Control signal input terminal	16		Non connector
5	VCAR	Treble CA output terminal	17	INL	Signal input terminal
6	MXIR	Output MIX amplifier summing terminal	18	OUTL	Signal output terminal
7	OUTR	Signal output terminal	19	MIXL	Output MIX amplifier summing terminal
8	INR	Signal input terminal	20	VCAL	Treble CA output terminal
9	APFR	Input inversion amplifier output terminal	21	VCC	Power supply terminal
10	HPFR	HPF output terminal	22	DEFL	Control signal time constant terminal
11	LPFR	LPF output terminal	23		Non connector
12	BIAS	Reference voltage output terminal (1/2 Vcc)	24	DETL	Peak level detector output for treble VCA control

■ **BD3860K (IC161):E.Volume**

1.Terminal layout



2.Block diagram



3.Pin function

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

■ UPD784215AGC127 (IC701): SYSTEM CPU

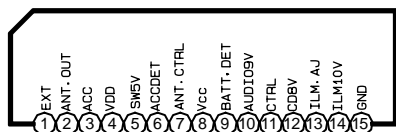
UPD784215AGC127(1/2)

Pin No.	Symbol	I/O	Function
1	SW2	I	Signal input of mechanism switch 2 detection
2	SW3	I	Signal input of mechanism switch 3 detection
3	SW4	I	Signal input of mechanism switch 4 detection
4	REST	I	Rest switch detection signal input
5	LM0	O	Loading side motor control signal output
6	LM1	O	Eject side motor control signal output
7	NC	O	Non connect
8	NC	O	Non connect
9	VDD		5V connection
10	X2		
11	X1		
12	VSS		GND connection
13	XT2		
14	XT1		
15	RESET	I	Reset detection terminal
16	SW1	I	Mechanism switch detection signal input
17	BUS-INT	I	J-BUS signal interrupt input
18	PS2	I	POWER SAVE2. BACK UP and synchronization Becomes stop mode because of the input of H.
19	CRUISE	I	Pulse signal input for cruise
20	RDS-SCK	I	RDS clock input
21	RDS DA	I	RDS data input
22	REMOCON	I	Remote control signal input
23	AVDD		5V connection
24	AVREF0		5V connection
25	VOL1	I	Rotation volume pulse signal input Pulse which actually becomes judgment of change
26	VOL2	I	Rotation volume pulse signal input
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	SQ	I	S.QUALITY level input
32	SM	I	S.METER level input
33	AVSS		GND connection
34	NC	O	Non connect
35	NC	O	Non connect
36	AVREF		5V connection
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 switch output. At output : H, At input : L
41	LCD-DA	O	Data output to LCD driver
42	LCD-SCK	O	Clock output to LCD driver
43	LCD-CE	O	Chipenable to LCD driver
44	BUZZER	OI	Buzzer output
45	E2PROM-DI	O	Communication data input of 12C
46	E2PROM-DO	O	Communication data output of 12C
47	E2PROM-CLK	I	Communication data clock output 12C
48	OPEN	O	Opening detection input
49	NC	O	Non connect
50	NC	O	Non connect

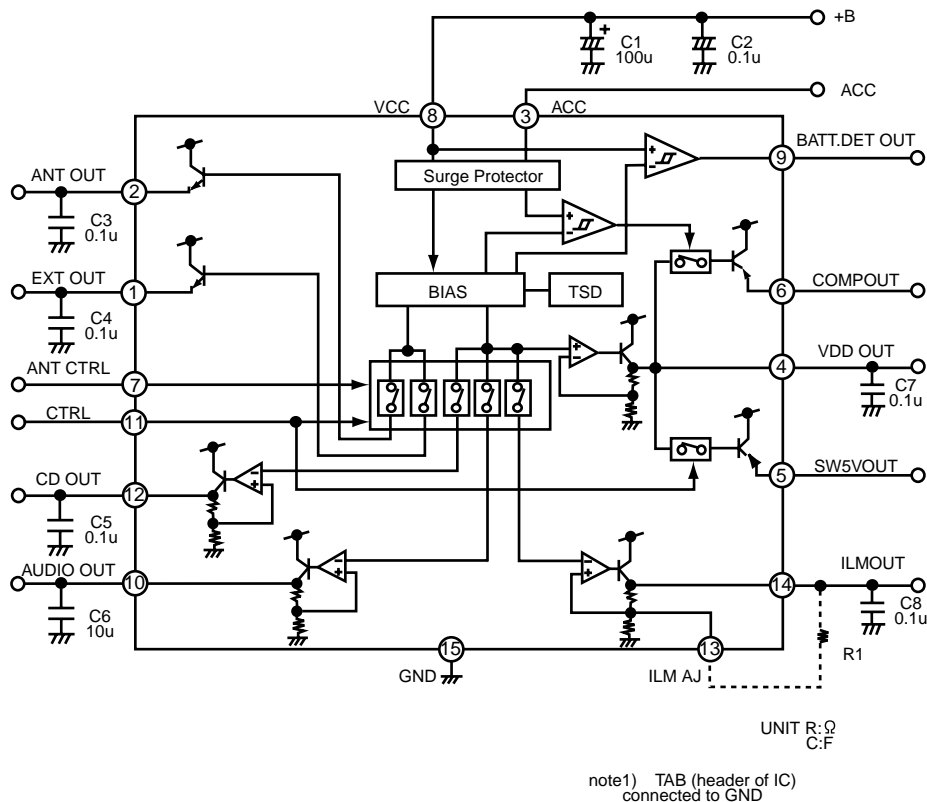
Pin No.	Symbol	I/O	Function
51	NC	O	Non connect
52	NC	O	Non connect
53	SD/ST	I	Station detector and stereo signal input. It is H and there is a bureau.It is L and a stereo.
54	NC	O	Non connect
55	MONO	O	Monaural ON/OFF switch output. At the time of the MONO ON :H.
56	NC	I	Non connect
57	NC	I	Non connect
58	NC	I	Non connect
59	NC	I	Non connect
60	NC	I	Non connect
61	DETACH	I	Detach signal input. It is L of 200ms or more and an operation mode. H:POWER SAVE
62	AFCK	O	AF check output. AF check:L
63	SEEK/STP	O	Auto seek stop switch output. At SEEK:H. At STOP:L
64	NC	O	Non connect
65	FM/AM	O	FM,AM switch output
66	PLL-CE	O	CE output for IC control for PLL
67	PLL-DO	O	Data output for IC control for PLL
68	PLL-CLK	O	Clock output for IC control PLL
69	PLL-DI	I	Data output for IC control for PLL
70	TEL-MUTE	I	Telephone mute detection input. It is L or H and MUTE(ACTIVE depends on the PSM setting)
71	NC	O	Non connect (ex:AMP-KILL output)
72	VSS		GND connection
73	DIM-IN	I	Dimmer detection input. At L:dimmer ON.
74	PS1	I	POWER SAVE 1. ACC and synchronization POWER SAVE : L. At operation:H
75	POWER	O	POWER ON/OFF switch output. At POWER ON:H
76	CD-ON	O	The CD power supply control signal output. At CD :H
77	MUTE	O	Mute output. At mute ON:L
78	NC	O	Non connect
79	NC	O	Non connect
80	NC	O	Non connect
81	VDD		5V connection
82	NC	O	Non connect
83	VOL-DA	O	Data output by which IC for electronic volume is controlled
84	VOL-CLK	O	Clock output by which IC for electronic volume is controlled
85	DIM-OUT	O	Dimmer control output. L:DIMMER ON (ex:BBE)
86	NC	O	Non connect
87	NC	O	Non connect
88	NC	O	Non connect
89	NC	O	Non connect
90	STAGE	I	H:For 991R / L:For 911R
91	BUCK	O	Clock output for data communication with CDLSI
92	CCE	O	CE output for data communication with CDLSI
93	RST	O	CDLSI reset signal output
94	TEST		connects GND with 10k Ω pull down (For flash switch)
95	BUS0	I/O	Data communication input output port 0 with CDLSI
96	BUS1	I/O	Data communication input output port 1 with CDLSI
97	BUS2	I/O	Data communication input output port 2 with CDLSI
98	BUS3	I/O	Data communication input output port 3 with CDLSI
99	DISCSEL	O	Pull-down fixation
100	J/E	I	Pull-up fixation

■ HA13164(IC901):REGULATOR

1.Terminal layout



2.Block diagram

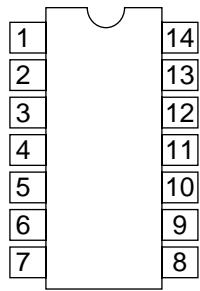


3.Pin function

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 applies to CTRL pin.
6	COMPOUT	Output for ACC detector.
7	ANT CTRL	L:ANT output OFF , H:ANT output ON
8	VCC	Connected to VCC.
9	BATT DET	Low battery detect.
10	AUDIO OUT	Output voltage is 9V when M or H level applied to CTRL pin.
11	CTRL	L:BIAS OFF, M:BIAS ON, H:CD ON
12	CD OUT	Output voltage is 8V when H level applied to CTRL pin.
13	ILM AJ	Adjustment pin for ILM output voltage.
14	ILM OUT	Output voltage is 10V when M or H level applies to CTRL pin.
15	GND	Connected to GND.

■ HD74HC126FP-X (IC801) : Buffer

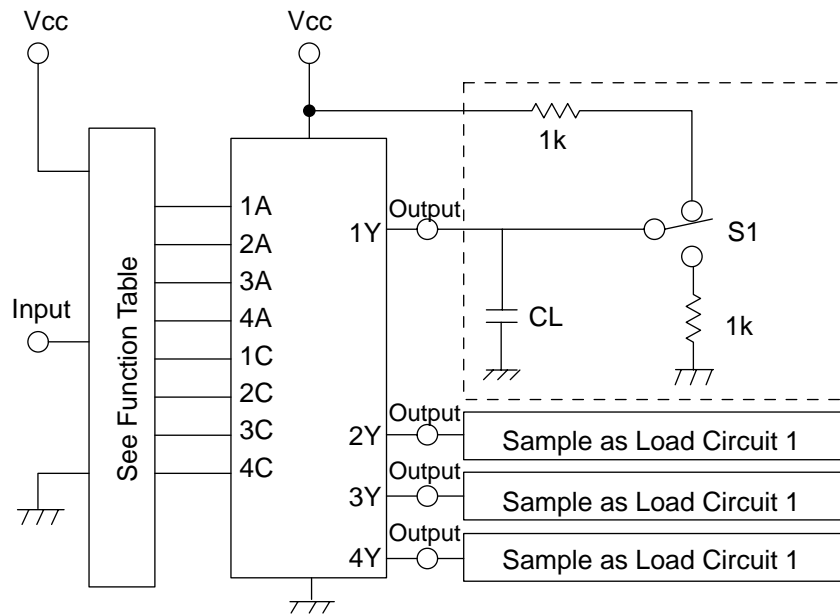
1. Terminal layout



3. Pin function

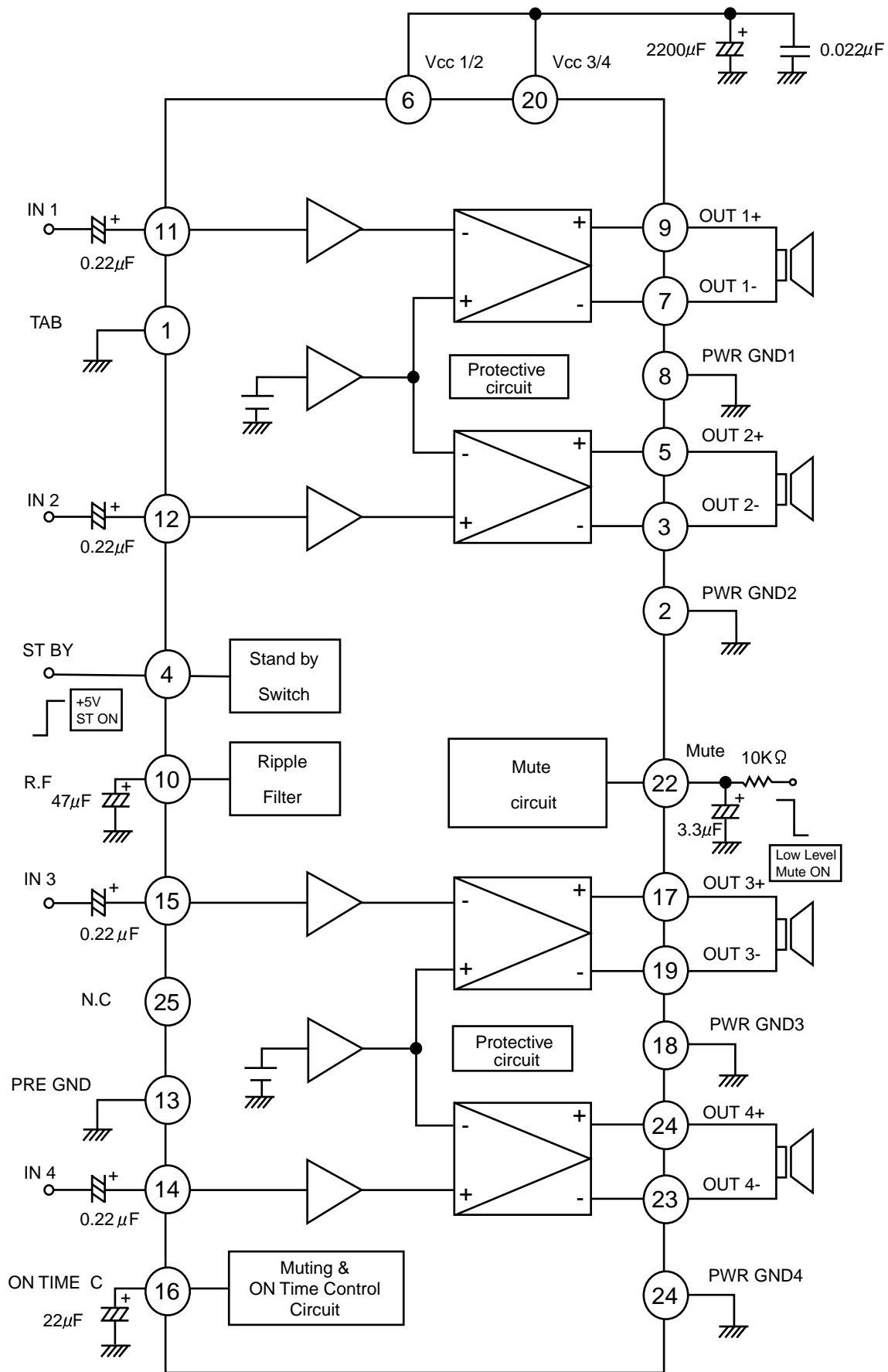
Input		Output
C	A	Y
L	X	Z
H	L	H
H	H	L

2. Block diagram

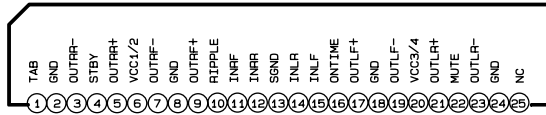


■ LA4743K(IC301):Power AMP

1. Block diagram



2. Terminal layout



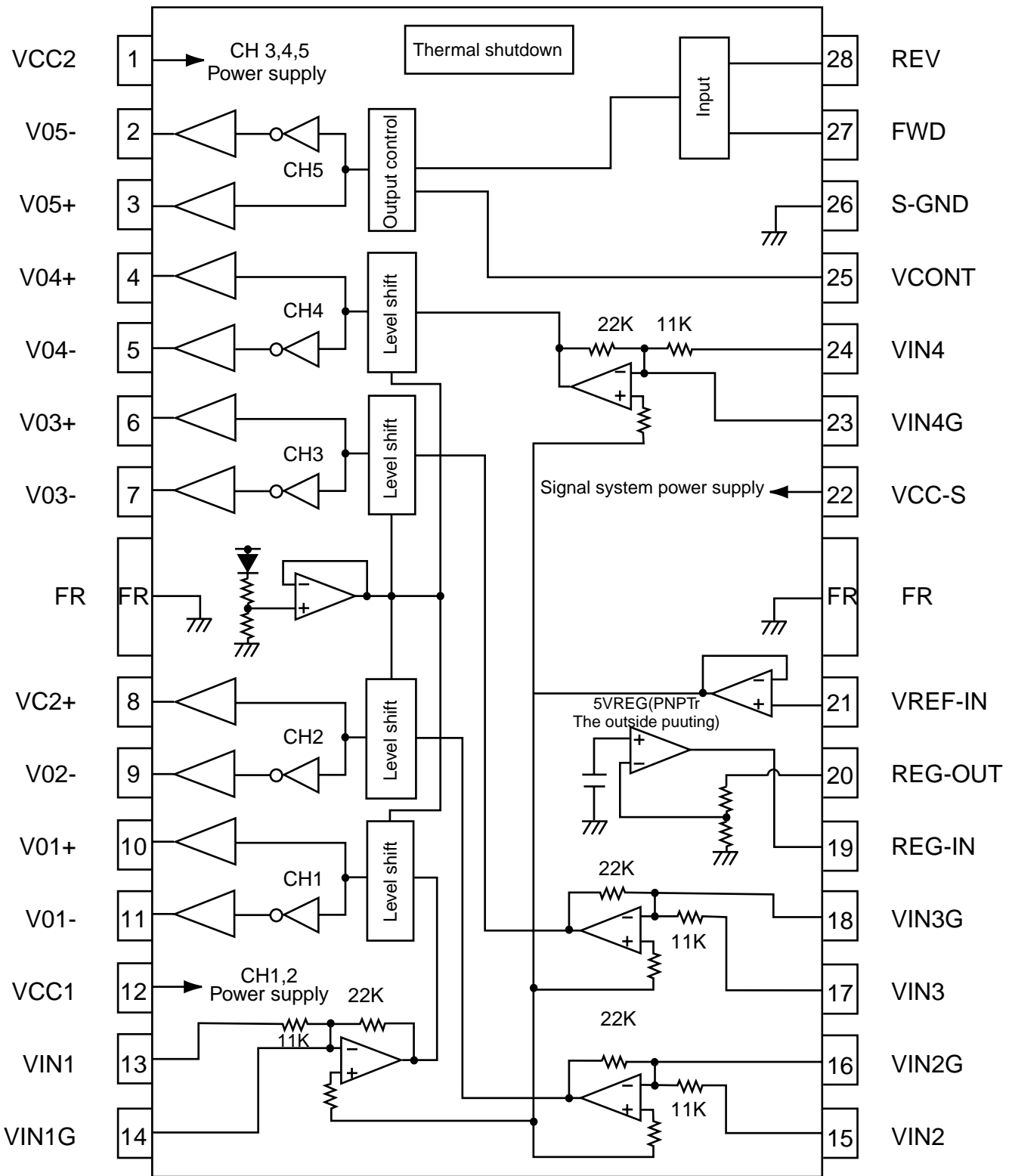
3. Pin function

LA4743B

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

■ LA6567H-X(IC501):CD DRIVE

1.Pin layout & blockdiagram



2. Pin function

LA6567H-X(2/2)

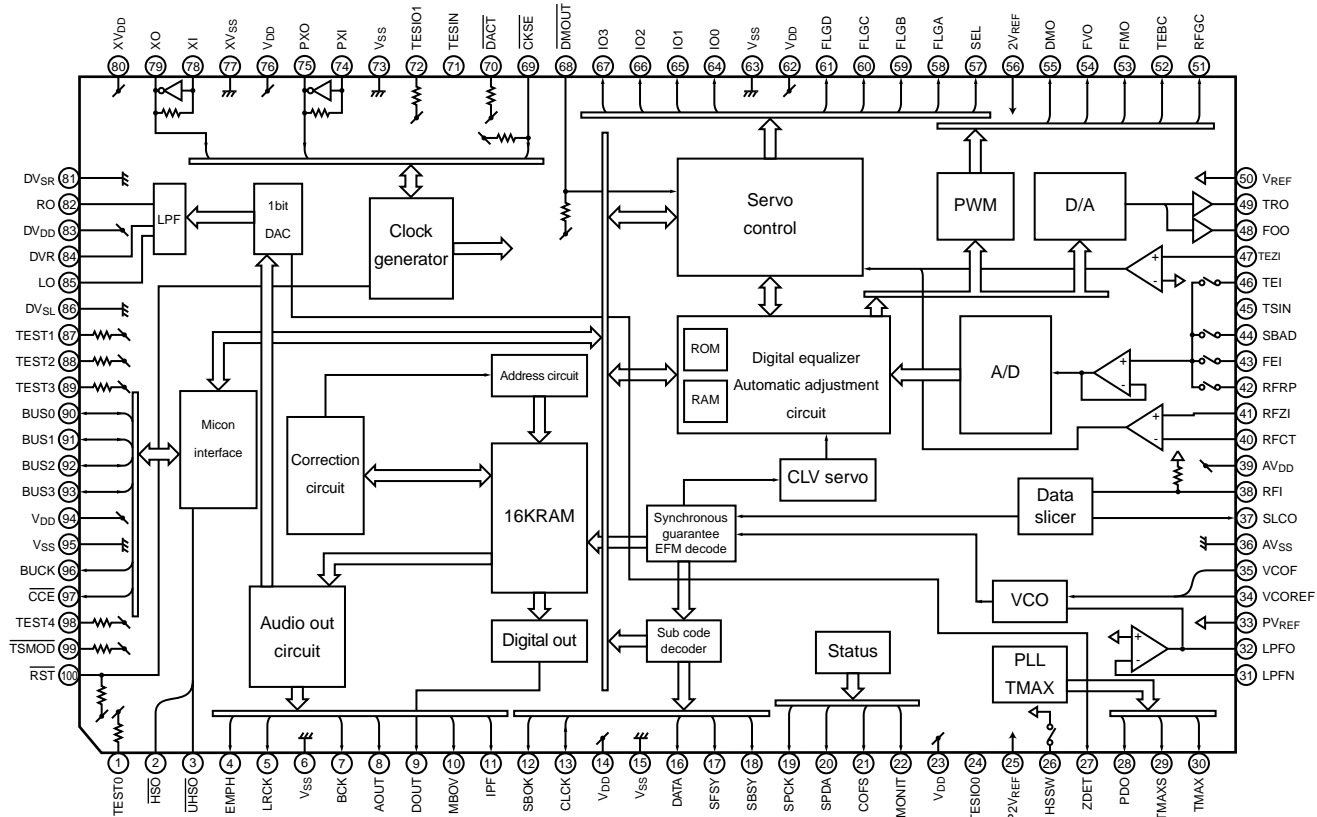
Pin no.	Symbol	Function
1	VCC2	CH3,4,5 Power supply(It is short with VCC1,VCC-S)
2	V05-	Loading output(-)
3	V05+	Loading terminal (+)
4	V04+	CH4 Output terminal(+)
5	V04-	CH4 Output terminal(-)
6	V03+	CH3 Output terminal(+)
7	V03-	CH3 Output terminal(-)
8	V02+	CH2 Output terminal(+)
9	V02-	CH2 Output terminal(-)
10	V01+	CH1 Output terminal(+)
11	V01-	CH1 Output terminal(-)
12	VCC1	CH1,2(BTL) Power supply(It is short with VCC-S,VCC2)
13	VIN1	CH1 Input terminal
14	VIN1G	CH1 Input terminal(For gain adjustment)
15	VIN2	CH2 Input terminal
16	VIN2G	CH2 Input terminal(For gain adjustment)
17	VIN3	CH3 Input terminal
18	VIN3G	CH3 Input terminal(For gain adjustment)
19	REG-IN	Regulator terminal(Outside putting PNP base)
20	REG-OUT	Regulator terminal(Outside putting PNP collector)
21	VREF-IN	Standard voltage input terminal
22	VCC-S	Signal system power supply(It is short with VCC1,VCC2)
23	VIN4G	CH4 Input terminal(For gain adjustment)
24	VIN4	CH4 Input terminal
25	VCONT	5CH(VLO) Output voltag set terminal
26	S-GND	Signal system GND
27	FWD	5CH(VLO)Signal output switch terminal(FWD),Input of logic of loading part 5CH(VLO)Signal output switch terminal(REV),
28	REV	Input of logic of loading part

* Frame(FR)at the center bocomes system GND power.

* Please be short-circuited on the outside and use the terminal of the power supply system and three teminals of VCC-S, VCC1,VCC2.

■ TC9462F(IC541): DSP & DAC

1.Pin layout & Block Diagram



2.Pin function

PIN No.	SYMBOL	I/O	FUNCTIONAL DESCRIPTION	REMARKS															
1	TEST0	I	Test mode terminal. Normally, Keep at open.	With pull-up resistor.															
2	$\overline{\text{HSO}}$	O	Playback speed mode flag output terminal.	-															
			<table border="1"> <thead> <tr> <th>$\overline{\text{UHSO}}$</th> <th>$\overline{\text{HSO}}$</th> <th>PLAYBACK SPEED</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>H</td> <td>Normal</td> </tr> <tr> <td>H</td> <td>L</td> <td>2 times</td> </tr> <tr> <td>L</td> <td>H</td> <td>4 times</td> </tr> <tr> <td>L</td> <td>L</td> <td>--</td> </tr> </tbody> </table>		$\overline{\text{UHSO}}$	$\overline{\text{HSO}}$	PLAYBACK SPEED	H	H	Normal	H	L	2 times	L	H	4 times	L	L	--
			$\overline{\text{UHSO}}$		$\overline{\text{HSO}}$	PLAYBACK SPEED													
			H		H	Normal													
H	L	2 times																	
L	H	4 times																	
L	L	--																	
3	$\overline{\text{UHSO}}$	O																	
4	EMPH	O	Subcode Q data emphasis flag output terminal. Emphasis ON at "H" level and OFF at "L" level. The output polarity can invert by command.	--															
5	LRCK	O	Channel clock output terminal. (44.1kHz) L-ch at "L" level and R-ch at "H" level. the output polarity can invert by command.	--															
6	VSS	--	Digital GND terminal.	--															
7	BCK	O	Bit clock output terminal. (1.4122MHz)	--															
8	AOUT	O	Audio data output terminal.	--															
9	DOUT	O	Digital data output terminal.	--															
10	MBOV	O	Buffer memory over signal output terminal. Over at "H" level.	--															
11	IPF	O	Correction flag output terminal. At "H" level, AOUT output is made to correction impossibility by C2 correction processing.	--															
12	SBOK	O	Subcode Q data CRCC check adjusting result output terminal. The adjusting result is OK at "H" level.	--															
13	CLKK	I/O	Subcode P~W data reabout clock input/output terminal. This terminal can select by command bit.	--															
14	VDD	--	Digital power supply voltage terminal.	--															
15	VSS	--	Digital GND terminal.	--															
16	DATA	O	Subcode P~W data output terminal.	--															
17	SFSY	O	Play-back frame sync signal output terminal.	--															
18	SBSY	O	Subcode block sync signal output terminal.	--															
19	SPCK	O	Processor status signal reabout clock output terminal.	--															
20	SADA	O	Processor status signal output terminal.	--															
21	COFS	O	Correction frame clock output terminal. (7.35kHz)	--															
22	MONIT	O	Internal signal (DSP internal flag and PLL clock) output terminal. Selected by command. This terminal output the text data with serial by command.	--															
23	VDD	--	Digital power supply voltage terminal.	--															
24	TESIO0	I	Test input/output terminal. Normally, keep at "L" level. The terminal that inputted the clock for read of text data by command.	--															
25	P2VREF	--	PLL double reference voltage supply terminal.	--															

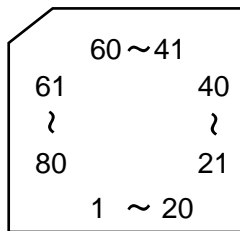
2.Pin Function

TC9462F(2/2)

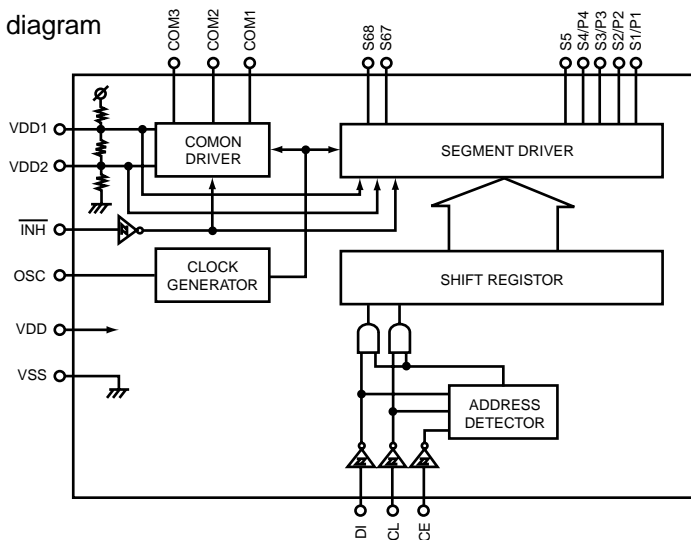
Pin No.	Symbol	I/O	Function
40	RFCT	I	RFRP signal center level input terminal
41	RFZI	I	RFRP zero cross input terminal
42	RFRP	I	RF ripple signal input terminal
43	FEI	I	Focus error signal input terminal
44	SBAD	I	Sub-beam adder signal input terminal
45	TSIN	I	Test input terminal Normally, keep at "vref" level
46	TEI	I	Tracking error signal input terminal. Take in at tracking servo ON.
47	TEZI	I	Tracking error zero cross input terminal
48	FOO	O	Focus servo equalizer output terminal
49	TRO	O	Tracking servo equalizer output terminal
50	VREF	-	Analog reference voltage supply terminal
51	RFGC	O	RF amplitude adjustment control signal output terminal
52	TEBC	O	Tracking balance control signal output terminal
53	FMO	O	Feed equalizer output terminal
54	FVO	O	Speed error signal or feed search equalizer output terminal
55	DMO	O	Disk equalizer output terminal (PWM carrier=88.2kHz for DSP, Synchronize to PXO)
56	2VREF	-	Analog double reference voltage supply terminal
57	SEL	O	APC circuit ON/OFF indication signal output terminal
58~61	FLGA~D	O	External flag output terminal for internal signal
62	VDD	-	Digital power supply voltage terminal
63	VSS	-	Digital GND terminal
64~67	IO0~3	I/O	General I/O terminal
68	DMOUT	I	This terminal control IO0~IO3 terminal
69	CKSE	I	Normally, keep at open
70	DACT	I	DAC test mode terminal. Normally, keep at open
71	TESIN	I	Test input terminal, Normally, keep at "L" level
72	TESIO1	I	Test input/output terminal. Normally, keep at "L" level
73	VSS	-	Digital GND terminal
74	PXI	I	Crystal oscillator connecting input terminal for DSP
75	PXO	O	Crystal oscillator connecting output terminal for DSP
76	VDD	-	Digital power supply voltage terminal
77	XVSS	-	Oscillator GND terminal for system clock
78	XI	I	Crystal oscillator connecting input terminal for system clock
79	XO	O	Crystal oscillator connecting output terminal for system clock
80	XVDD	-	Oscillator power supply voltage terminal for system clock
81	DVSR	-	Analog GND terminal for DA converter (Rch)
82	RO	O	R channel data forward output terminal
83	DVDD	-	Analog supply voltage terminal for DA converter
84	DVR	-	Reference voltage terminal for DA converter
85	LO	O	L channel data forward output terminal
86	DVSL	-	Analog GND terminal for DA converter (Lch)
87~89	TEST1~3	I	Test mode terminal . Normal keep at open
90~93	BUS0~3	I/O	Micon interface data input/output terminal
94	VDD	-	Digital power supply voltage terminal
95	VSS	-	Digital GND terminal
96	BUCK	I	Micon interface clock input terminal
97	CCE	I	Command and data sending/receiving chip enable signal input terminal
98	TEST4	I	Test mode terminal. Normal, keep at open
99	TSMOD	I	Local test mode selection terminal
100	RST	I	Reset signal input terminal. Reset at "L" level

■ LC75873NW(IC601):LCD Driver

1.Pin layout



2.Block diagram

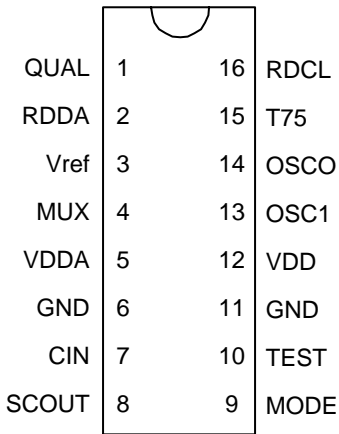


3.Pin function

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" $\overline{INH} = "H"(VDD)$... 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.

■ SAA6579T-X(IC71):RDS Detector

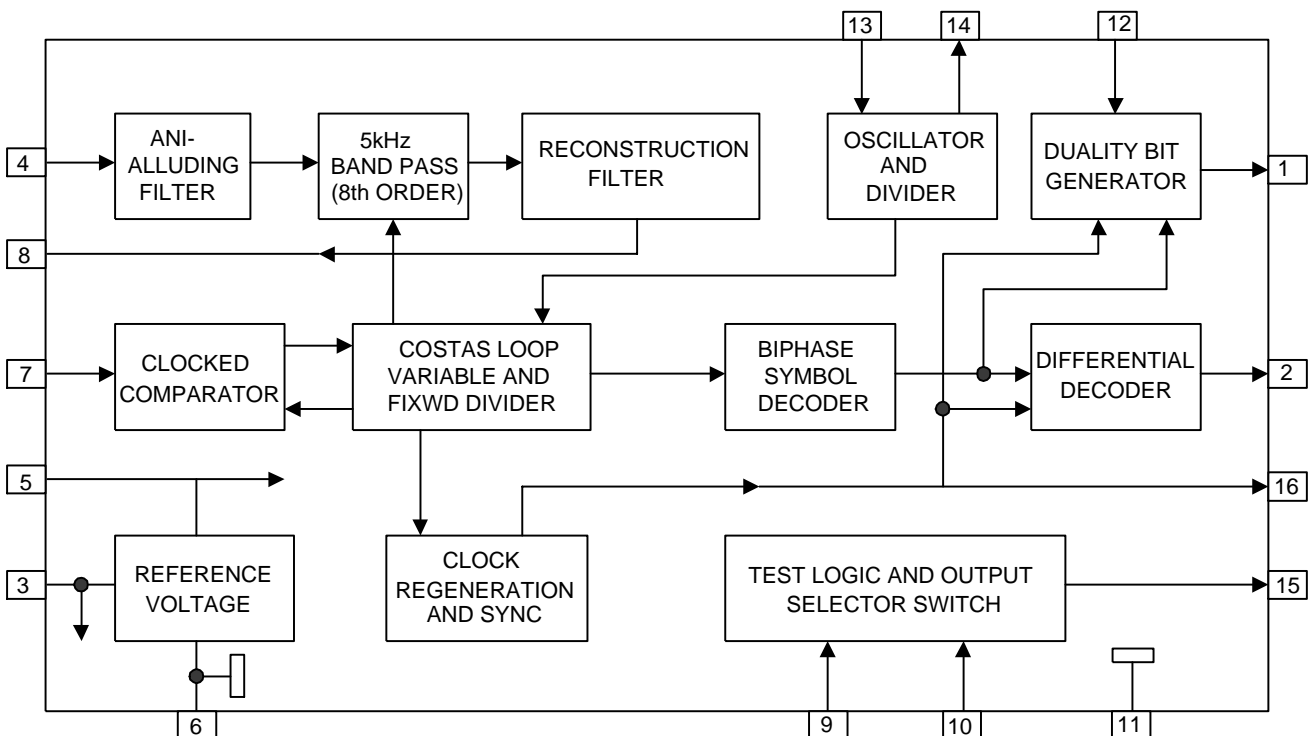
1.Terminal Layout



2.Pin Function

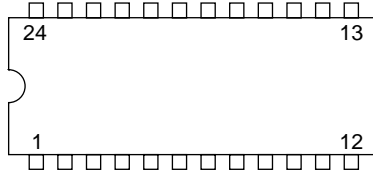
Pin No.	Symbol	I/O	Function
1	QUAL	-	Non connect
2	RDDA	O	RDS data output
3	Vref	O	Reference voltage output
4	MUX	I	Multiplex signal input
5	VDDA	-	+5V Supply voltage for analog
6	GND	-	Ground for analog part (0V)
7	CIN	I	Sub carrier output of reconstruction filter
8	SCOUT	O	Ground for digital part (0V)
9	MODE	-	Ground for digital part (0V)
10	TEST	-	Ground for digital part (0V)
11	GND	-	Ground for digital part (0V)
12	VDD	-	+5V supply voltage for digital part
13	OSC1	I	Oscillator input
14	OSC0	O	Oscillator output
15	T75	-	Non connect
16	RDCL	O	RDS clock output

3.Block Diagram

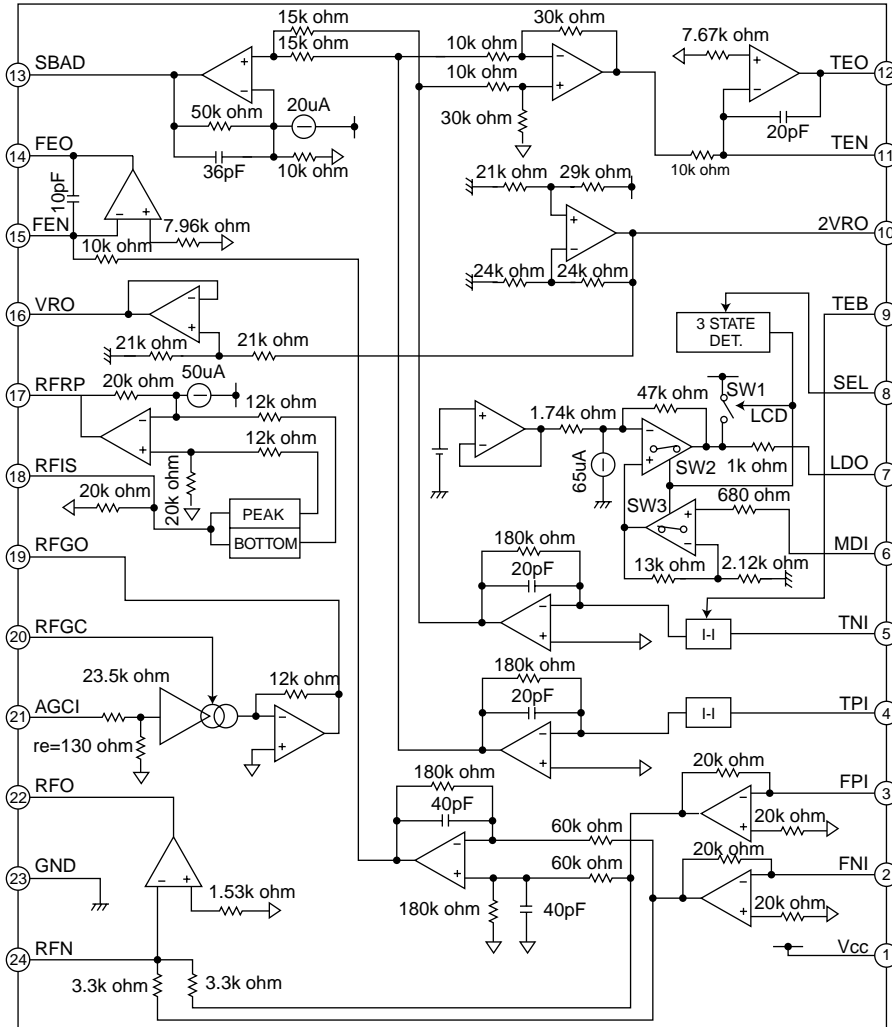


■ TA2109F-X (IC521) : RF amp.

1. Pin layout



2. Block diagram

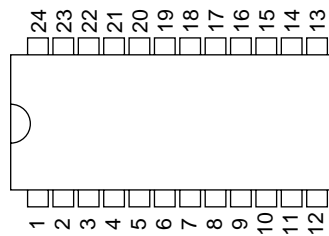


3. Pin function

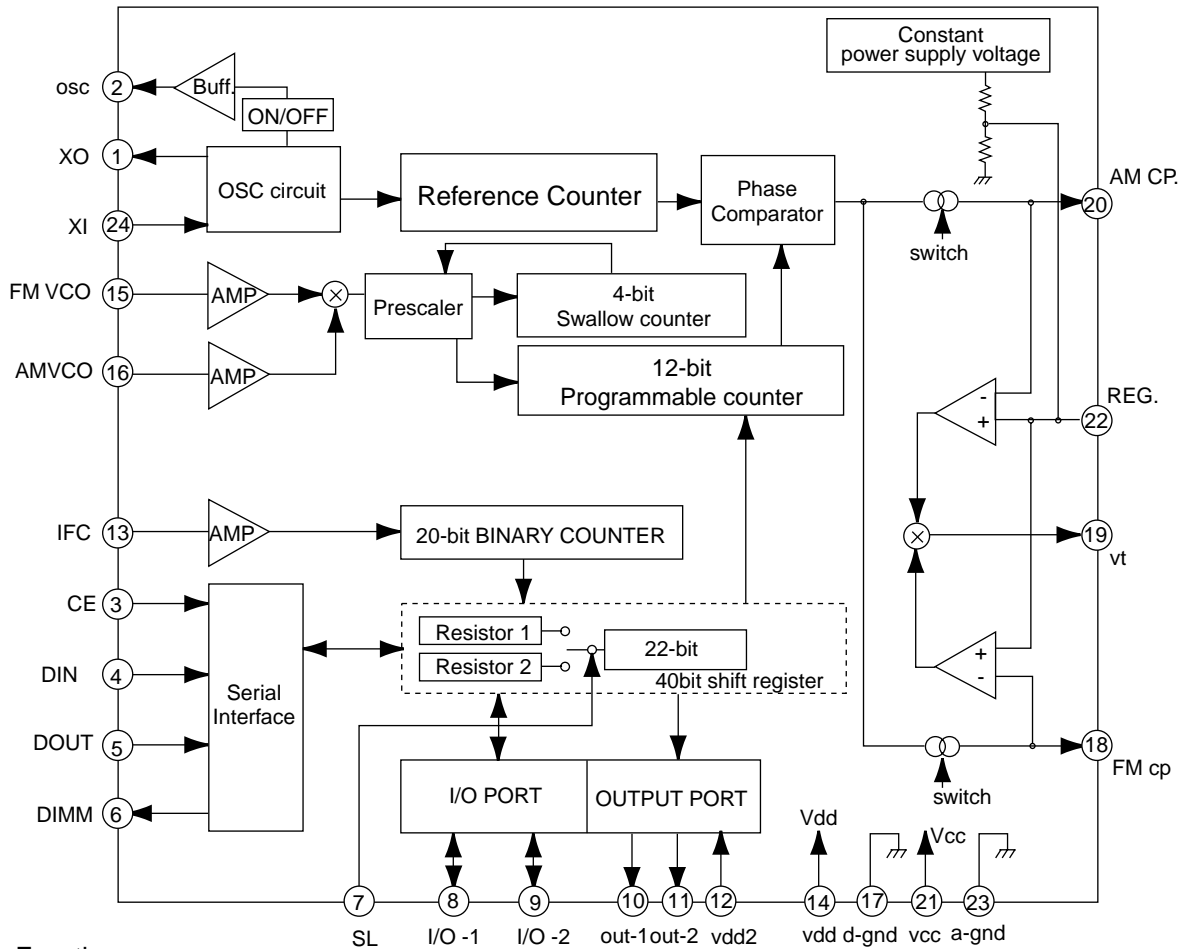
Pin No.	Symbol	I/O	Pin function	Pin No.	Symbol	I/O	Pin function
1	Vcc	-	Power supply input terminal	13	SBAD	O	Sub beam adder signal output terminal
2	FNI	I	Main beam I-V amp input terminal	14	FEO	O	Focus error signal output terminal
3	FPI	I	Main beam I-V amp input terminal	15	FEN	I	FE amp negative input terminal
4	TPI	I	Sub beam I-v input terminal	16	VRO	O	Reference voltage (VREF) output terminal
5	TNI	I	Sub beam I-V input terminal	17	RFRP	O	Track count signal output terminal
6	MDI	I	Monitor photo diode amp input terminal	18	RFIS	I	RFRP detect circuit input terminal
7	LDO	O	Laser diode amp output terminal	19	RFGO	O	RF gain signal output terminal
8	SEL	I	Laser diode control signal input terminal	20	RFGC	I	RF amplitude adj. control signal input terminal
9	TEB	I	T. error balance adj. signal input terminal	21	AGCI	I	RF signal amplitude adj. amp input terminal
10	2VRO	O	Reference voltage output terminal	22	RFO	O	RF signal output terminal
11	TEN	I	TE amp negative input terminal	23	GND	-	Ground terminal
12	TEO	O	TE error signal output terminal	24	RFN	I	RF amp negative input terminal

■TB2118F-X (IC31) : PLL

1. Terminal Layout



2. Block diagram

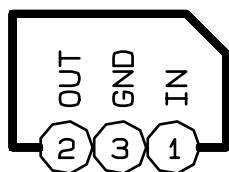


3. Pin Function

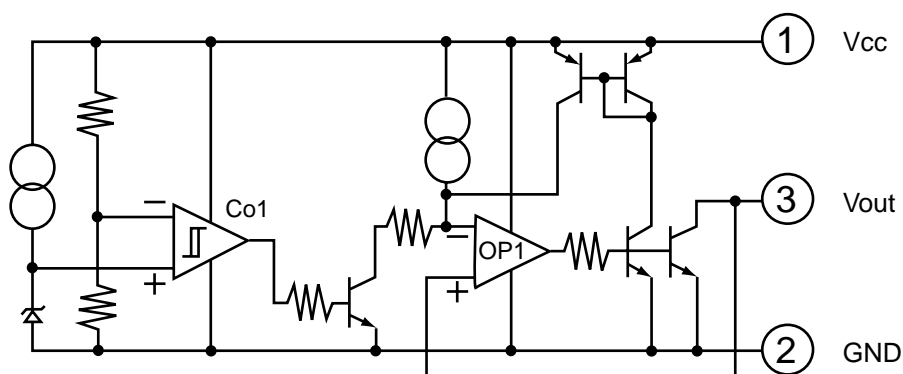
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XOUT	O	Crystal oscillator pin	13	IFC	I	IF signal input
2	OSC	-	Non connect	14	VDD	-	Power pins for digital block
3	CE	I	Chip enable input	15	FMIN	I	FM band local signal input
4	DI	I	Serial data input	16	AMIN	I	AM band local signal input
5	CK	I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

■ IC-PST600M/G/-W1197(IC702):Reset

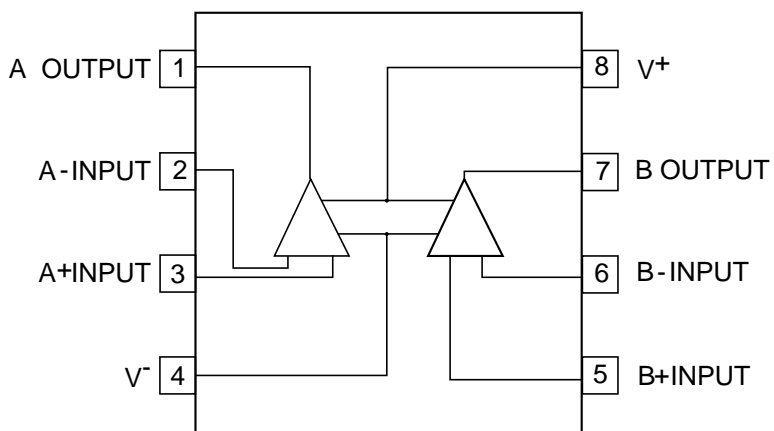
1.Terminal layout



2.Block diagram

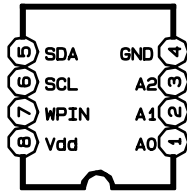


■ NJM4565M-WE (IC581,IC171) : Ope. amp

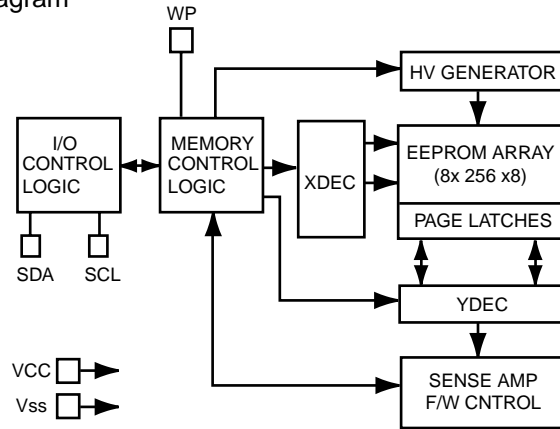


■ M24C16-WMN6-X(IC771):EPROM

1.Terminal layout



2.Block diagram

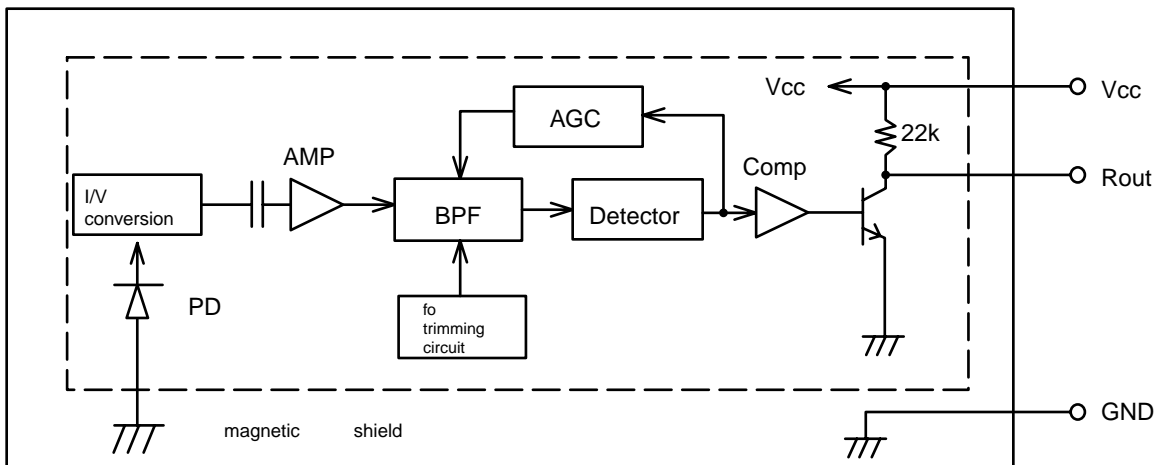


3.Pin function

Pin No.	Symbol	Function
1 ~ 3	A0 ~ A2	No internal connection
4	GND	+2.5V to 5.5V Power supply
5	SDA	Write protect input
6	SCL	Serial clock
7	WPIN	Serial address / data I/O
8	Vdd	Ground

■ RPM6938-SV4(IC602) : Remote sensor

1.Block diagram





JVC

VICTOR COMPANY OF JAPAN, LIMITED

MOBILE ELECTRONICS DIVISION

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