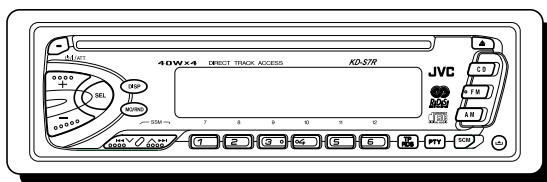
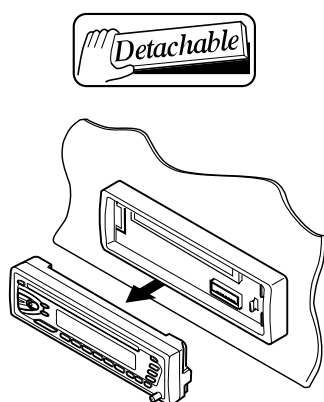


JVC

SERVICE MANUAL

CD RECEIVER

KD-S7R



COMPACT
disc
DIGITAL AUDIO




Area Suffix


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

Contents

Safety precaution	1-2	Adjustment method	1-11
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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

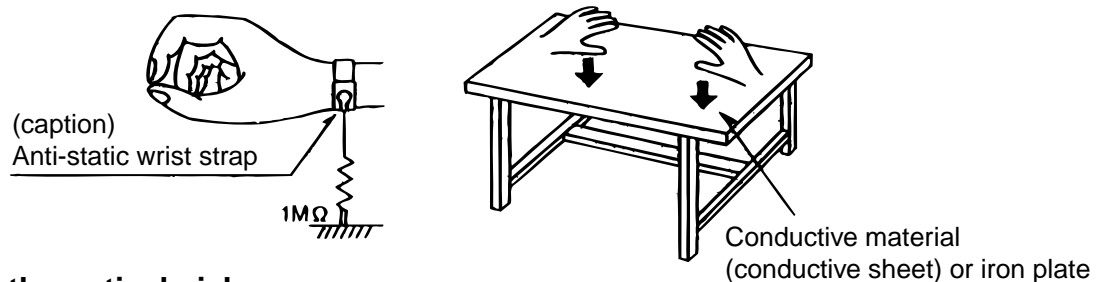
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

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.

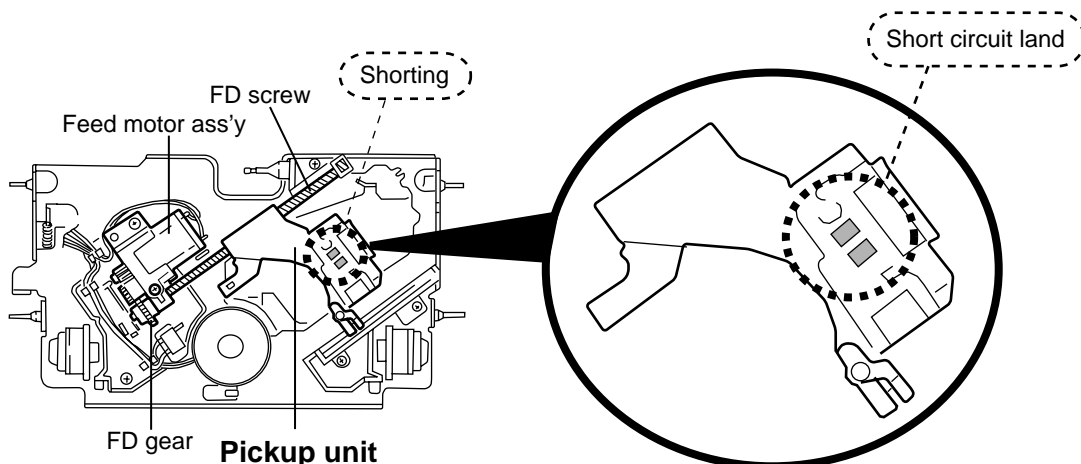


1.1.3. Handling the optical pickup

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 interlock failed or defeated. Avoid direct exposure to beam.

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

4.CAUTION : The compact disc player uses invisible laserradiation 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.

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

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

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

ADVARSEL : Usynlig laserstrålning ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

<p>CLASS 1 LASER PRODUCT</p>	<p>DANGER : Invisible laser radiation when open and interlock or defeated. AVOID DIRECT EXPOSURE TO BEAM (e)</p>	<p>ADVARSEL :Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)</p>	<p>WARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)</p>	<p>VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (d)</p>
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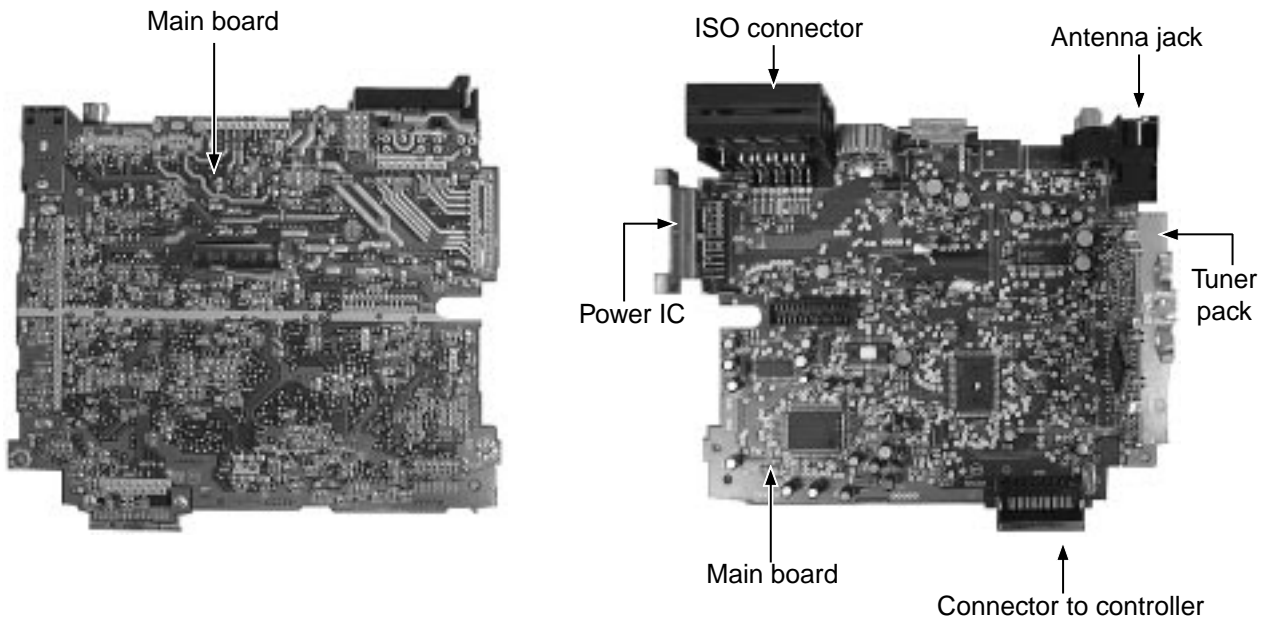


Location of main parts

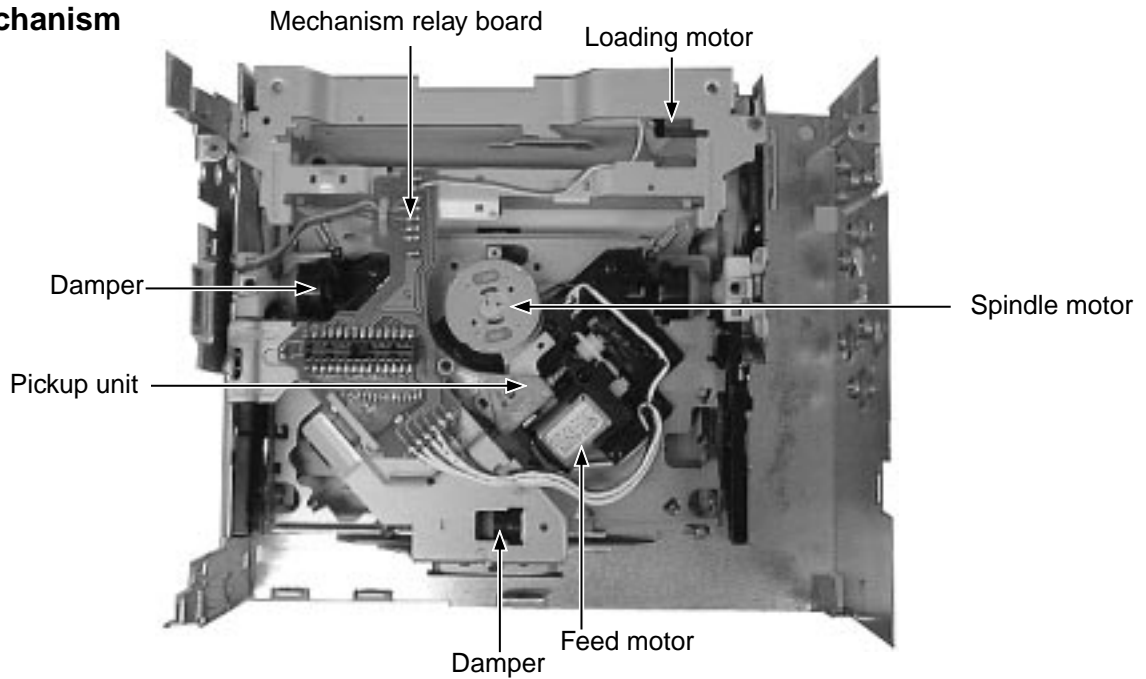
■ Control unit



■ Main unit



■ CD mechanism



Disassembly method

■ Removing the front panel unit

(See Fig.1)

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



Fig.1

■ Removing the front chassis (See Fig.2)

1. Insert a screwdriver to the joints a on the side of the front chassis and two joints b on the right side, then detach the front chassis toward the front side.

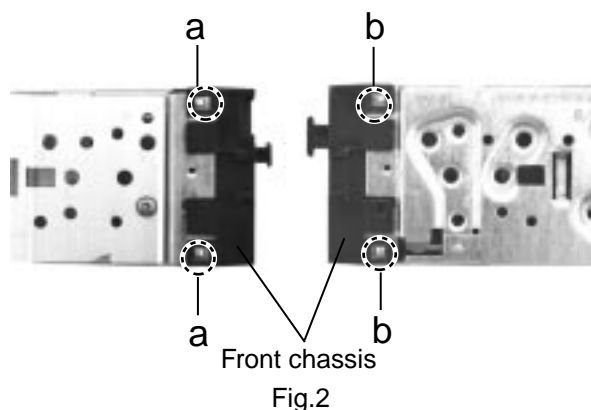


Fig.2

■ Removing the heat sink (See Fig.3)

1. Remove the three screws A attaching the heat sink on the left side of the body, and remove the heat sink.

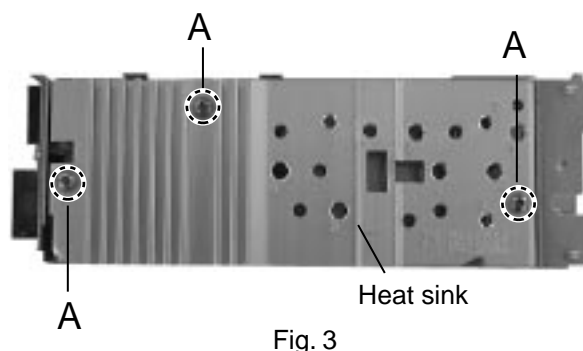


Fig. 3

■ Removing the bottom cover (See Fig.4)

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

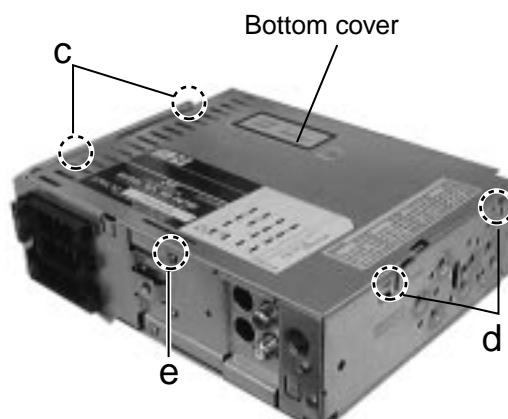


Fig. 4

**■ Removing the main amplifier board
(See Fig.5 and 6)**

1. Remove the front chassis.
2. Remove the bottom cover.
3. Remove the two screws B attaching the main amplifier board assembly on the bottom of the body.
4. Remove the three screws C attaching the main amplifier board assembly on the back of the body.
5. Disconnect connector CN501 on the main amplifier board assembly from the CD mechanism assembly.

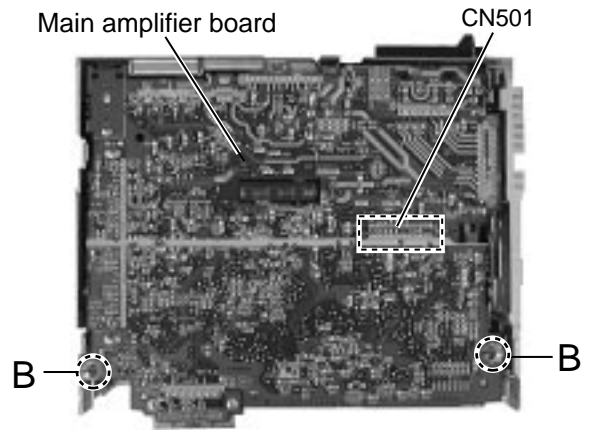


Fig.5

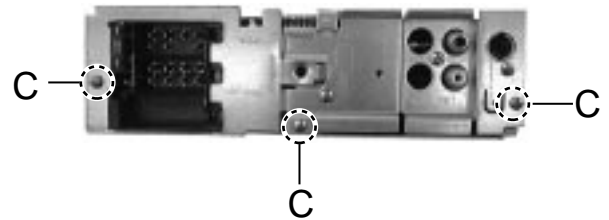


Fig. 6

**■ Removing the CD mechanism assembly
(See Fig.7)**

1. Remove the front chassis.
2. Remove the bottom cover.
3. Remove the main amplifier board assembly.
4. Remove the three screws D attaching the CD mechanism assembly from the top cover.

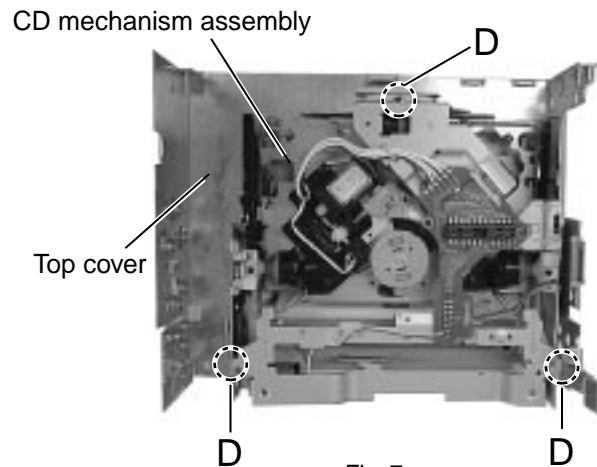


Fig. 7

**■ Removing the control switch board
(See Fig.8 and 9)**

1. Remove the front chassis.
2. Remove the four screws E attaching the rear cover on the back of the front panel unit.
3. Remove the control switch board from the front panel unit.

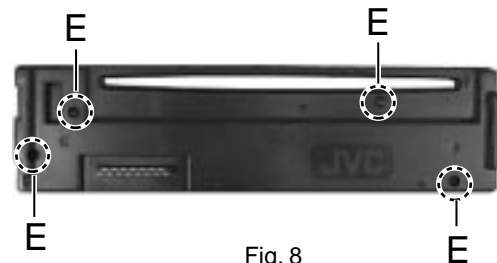


Fig. 8

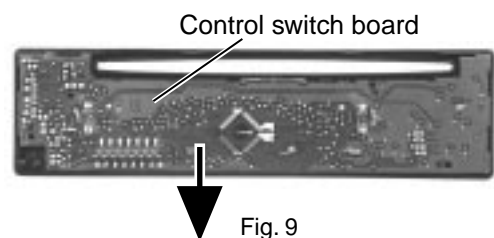


Fig. 9

<CD mechanism section>

- Prior to disassembling the CD mechanism, remove the following parts.
- The front panel unit and the front chassis (Refer to Fig.1 and 2)
- The heat sink (Refer to Fig.3)
- The bottom cover (Refer to Fig.4)
- The main amplifier board (Refer to Fig.5 and 6)
- The CD mechanism assembly (Refer to Fig.7)

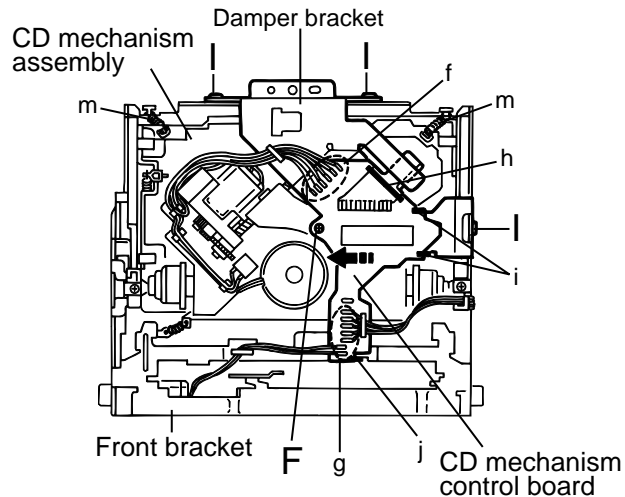


Fig.10

■Removing the CD mechanism control board(See Fig.10 and 11)

1. Unsolder the part f and g 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).

Remove the screw F attaching the CD mechanism control board.

Remove the CD mechanism control board in the direction of the arrow while releasing it from the two damper bracket slots i and the front bracket slot j.

Disconnect the flexible wire from connector on the pickup unit.

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.11).

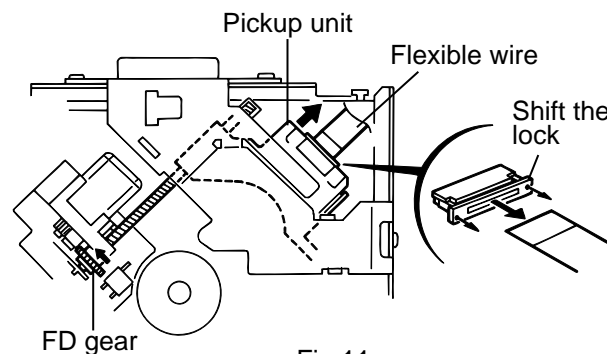


Fig.11

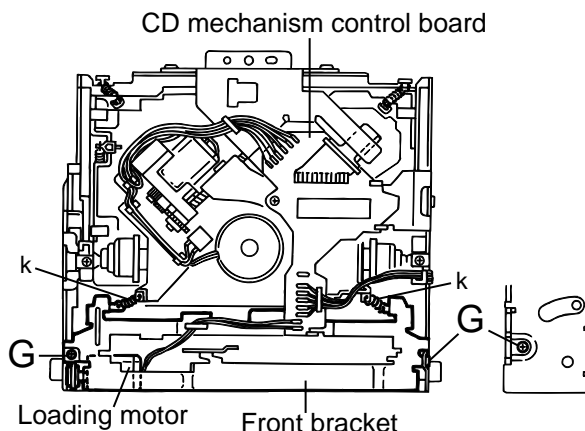


Fig.12

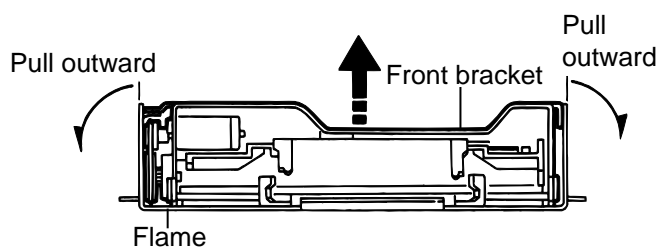


Fig.13

**■ Removing the loading motor
(See Fig.12 to 14)**

* Prior to performing the following procedure, remove the CD mechanism control board.

1. Remove the two springs k attaching the CD mechanism ass'y and the front bracket.
2. Remove the two screws G and the front bracket while pulling the flame outward.
3. Remove the belt and the screw H from the loading motor.

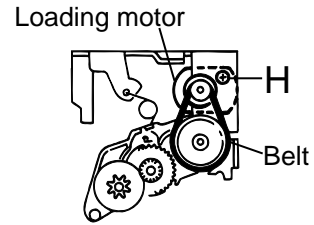


Fig.14

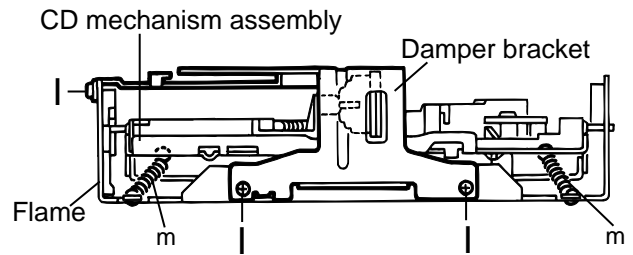


Fig.15

**■ Removing the CD mechanism ass'y
(See Fig.10, 15 to 18)**

* Prior to performing the following procedure, remove the CD mechanism control PWB and the front bracket (loading motor).

1. Remove the three screws I 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 I as shown in Fig.17 and 18.
3. Remove the CD mechanism ass'y and the two springs m attaching the flame.
4. Remove the two screws J and both sides rear damper brackets from the dampers. Detach the CD mechanism ass'y from the left side to the right side.

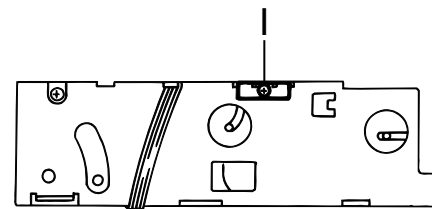


Fig.16

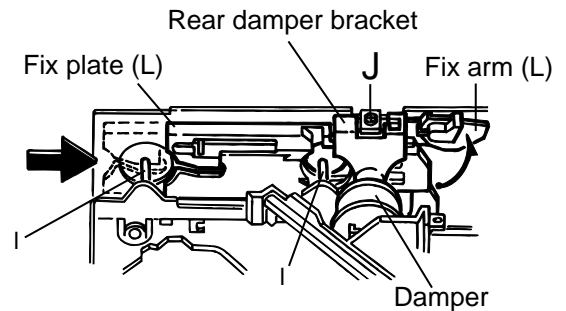


Fig.17

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

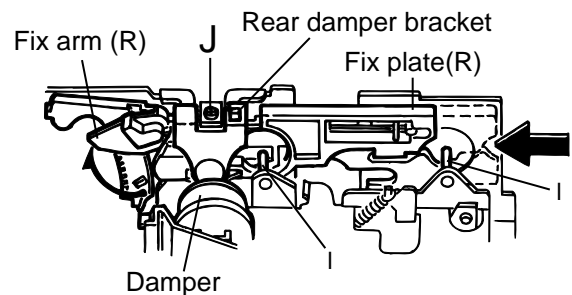


Fig.18

**■ Removing the feed motor assembly
(See Fig.19)**

* Prior to performing the following procedure, remove the CD mechanism control board, the front bracket (loading motor) and the CD mechanism ass'y.

1. Remove the two screws K and the feed motor ass'y.

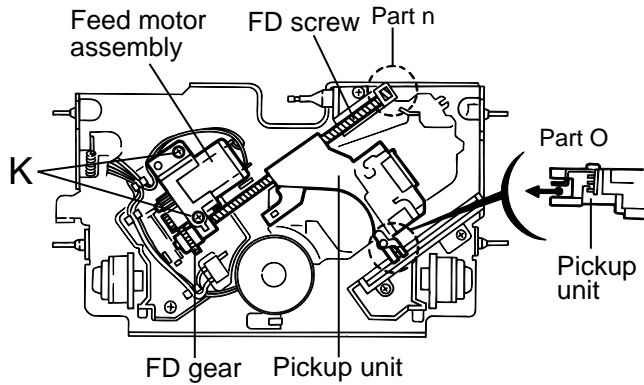


Fig.19

**■ Removing the pickup unit
(See Fig.19 and 20)**

* *Prior to performing the following procedure, remove the CD mechanism control board, the front bracket (loading motor), the CD mechanism ass'y and the feed motor ass'y.

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

ATTENTION: When reattaching the pickup unit, reattach the part o of the pickup unit, then the part n of the FD screw.

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

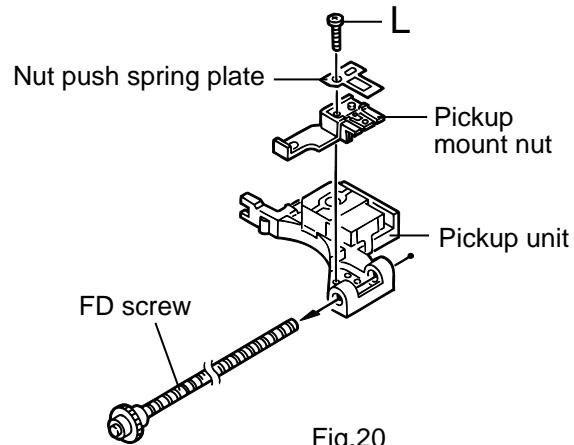


Fig.20

**■ Removing the spindle motor
(See Fig.21 and 22)**

* Prior to performing the following procedure, remove the CD mechanism control board, the front bracket (loading motor), the CD mechanism ass'y and the feed motor ass'y.

1. Turn up the CD mechanism ass'y and remove the two springs p on both sides of the clamber arms. Open the clamber arm upward.
2. Turn the turn table, and remove the two screws M and the spindle motor.

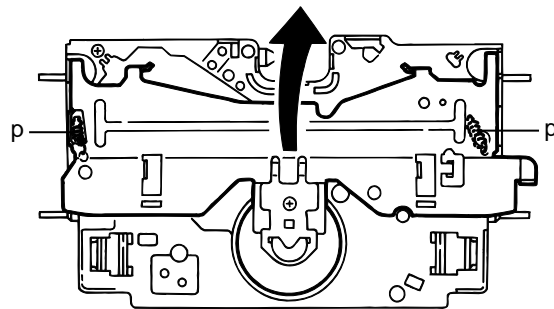


Fig.21

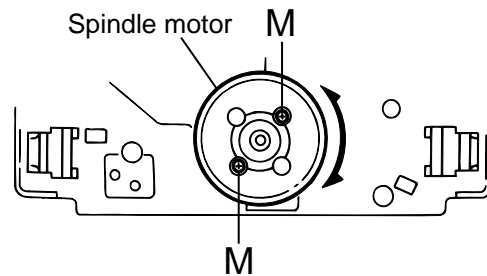


Fig.22

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

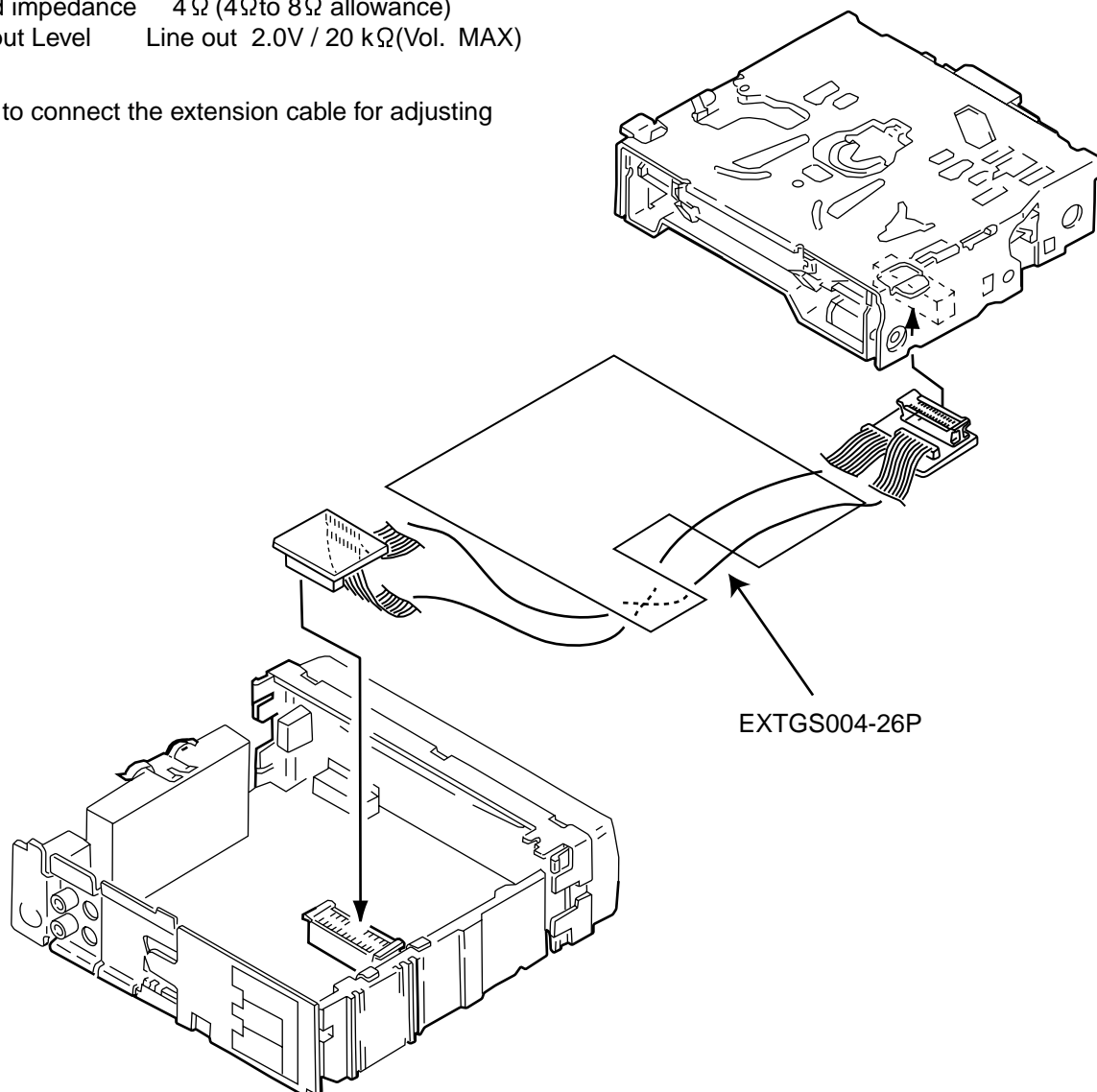
■ Dummy load

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.

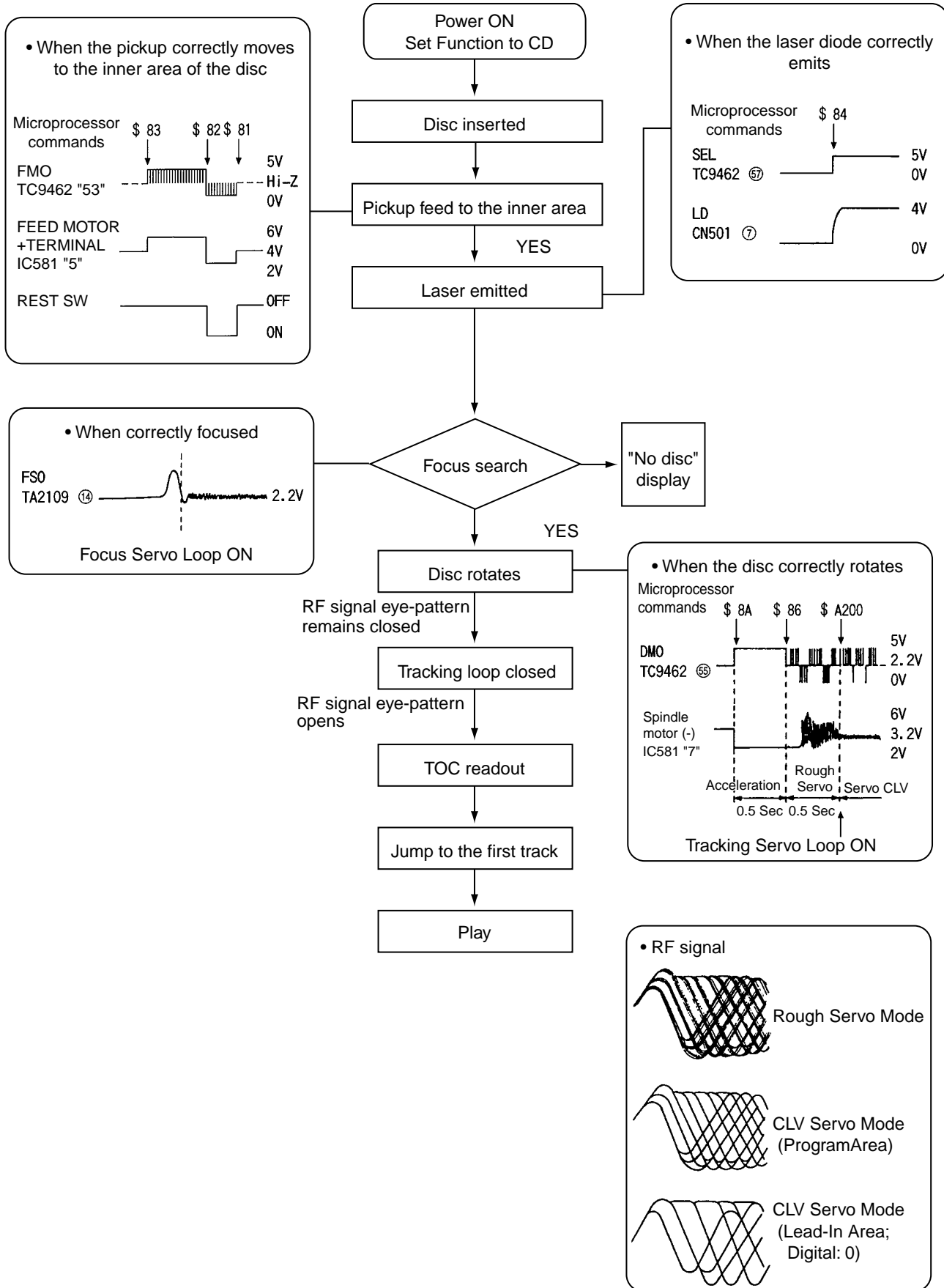
■ Standard measuring conditions

Power supply voltage DC14.4V(10.5~16V)
Load impedance 4Ω (4Ω to 8Ω allowance)
Output Level Line out 2.0V / 20 kΩ (Vol. MAX)

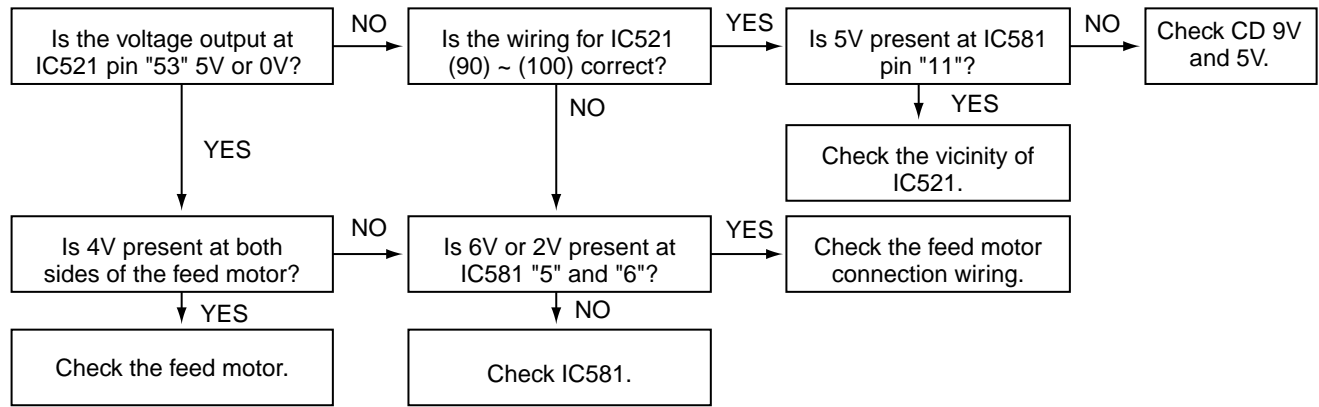
■ How to connect the extension cable for adjusting



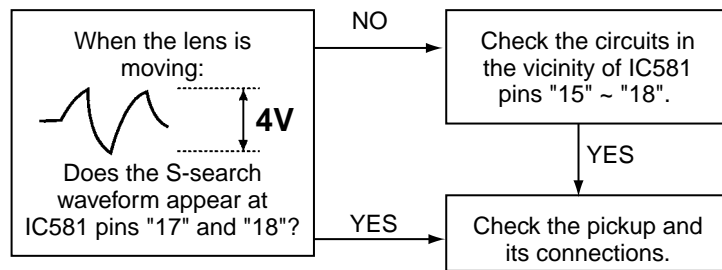
Flow of functional operation until TOC read



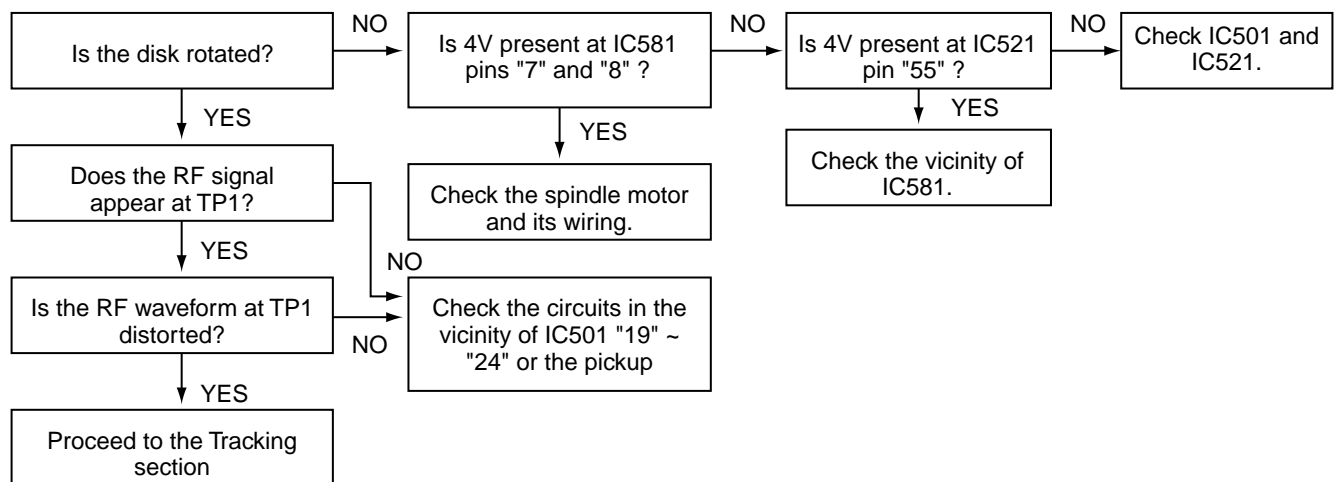
■ Feed Section



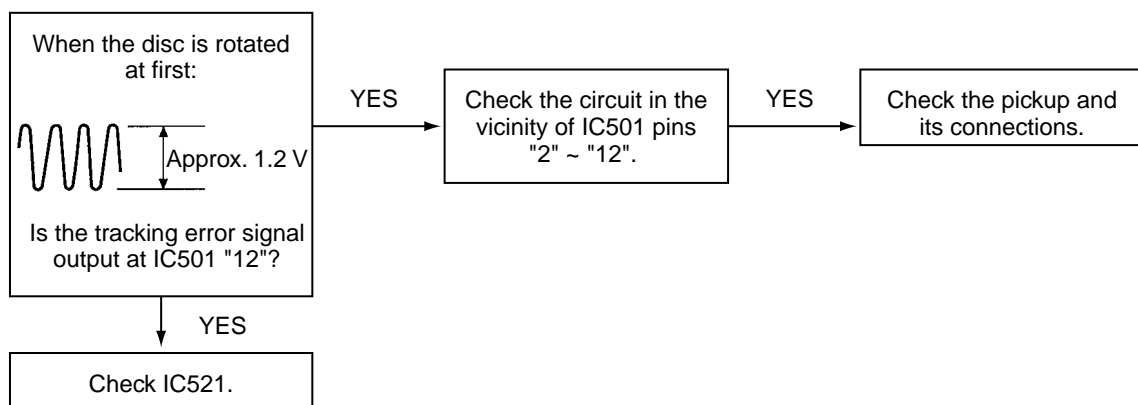
■ Focus Section



■ Spindle Section



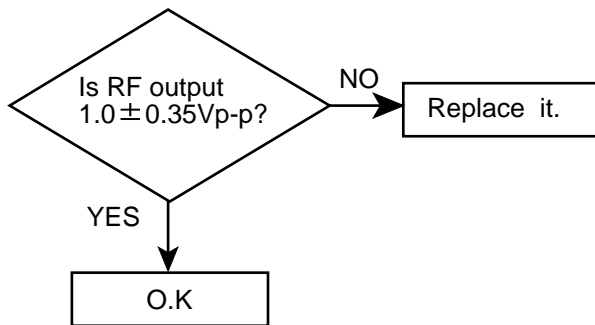
■ Tracking Section



Maintenance of laser pickup

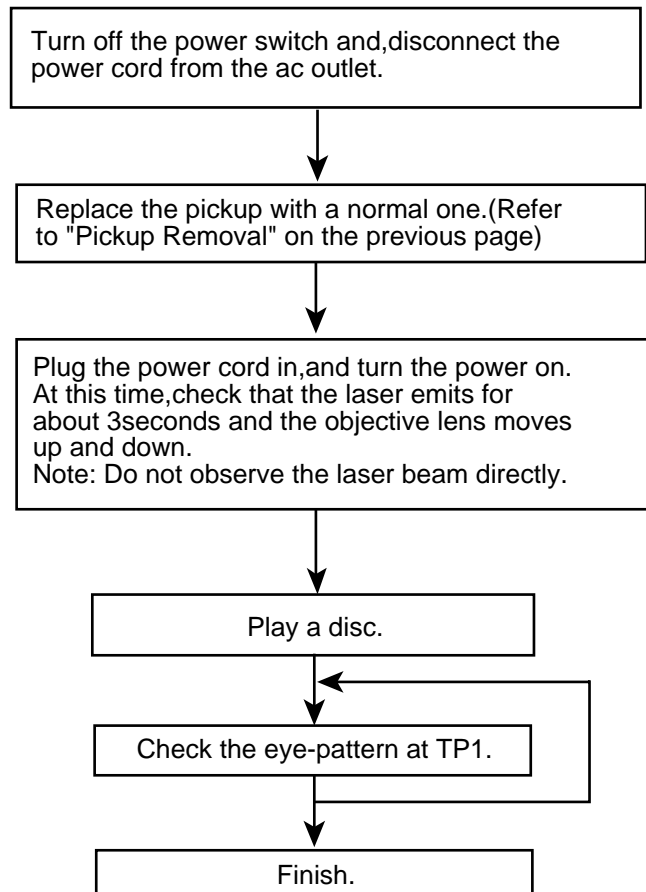
(1) Cleaning the pick up lens
 Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(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.



Replacement of laser pickup

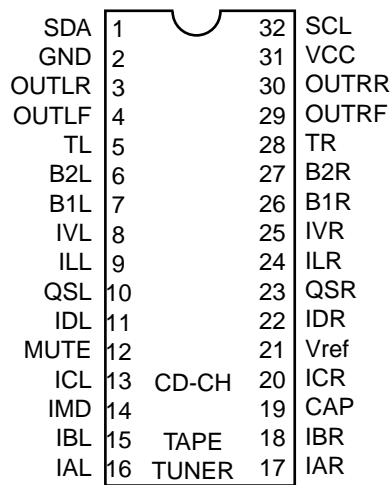
(3) Semi-fixed resistor on the APC PC board
 The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
 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.



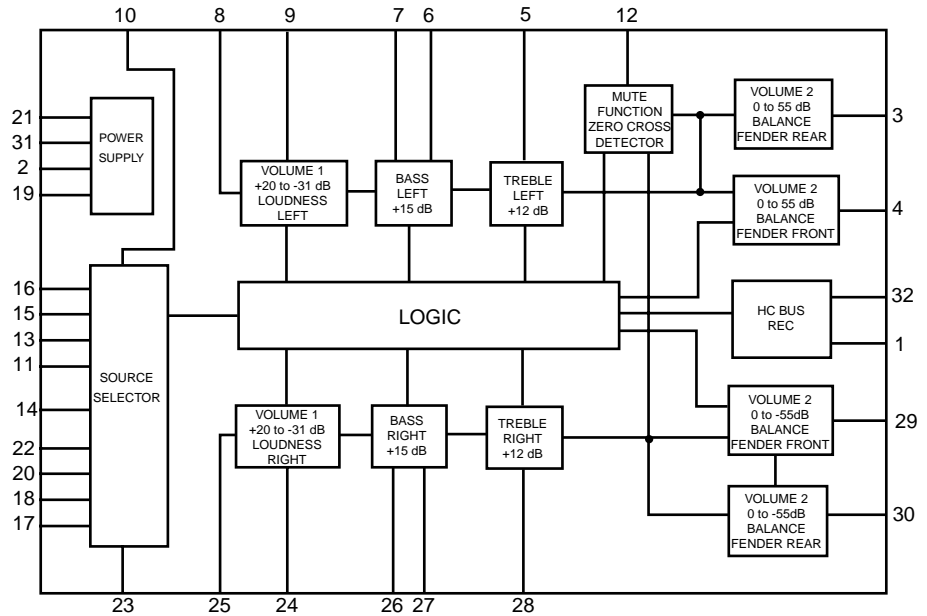
Description of major ICs

TEA6320T-X (IC161) : E.volume

1.Pin Layout



2.Block Diagram

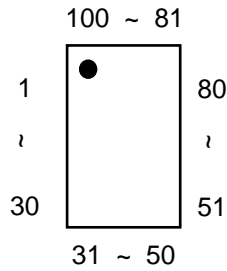


3.Pin Functions

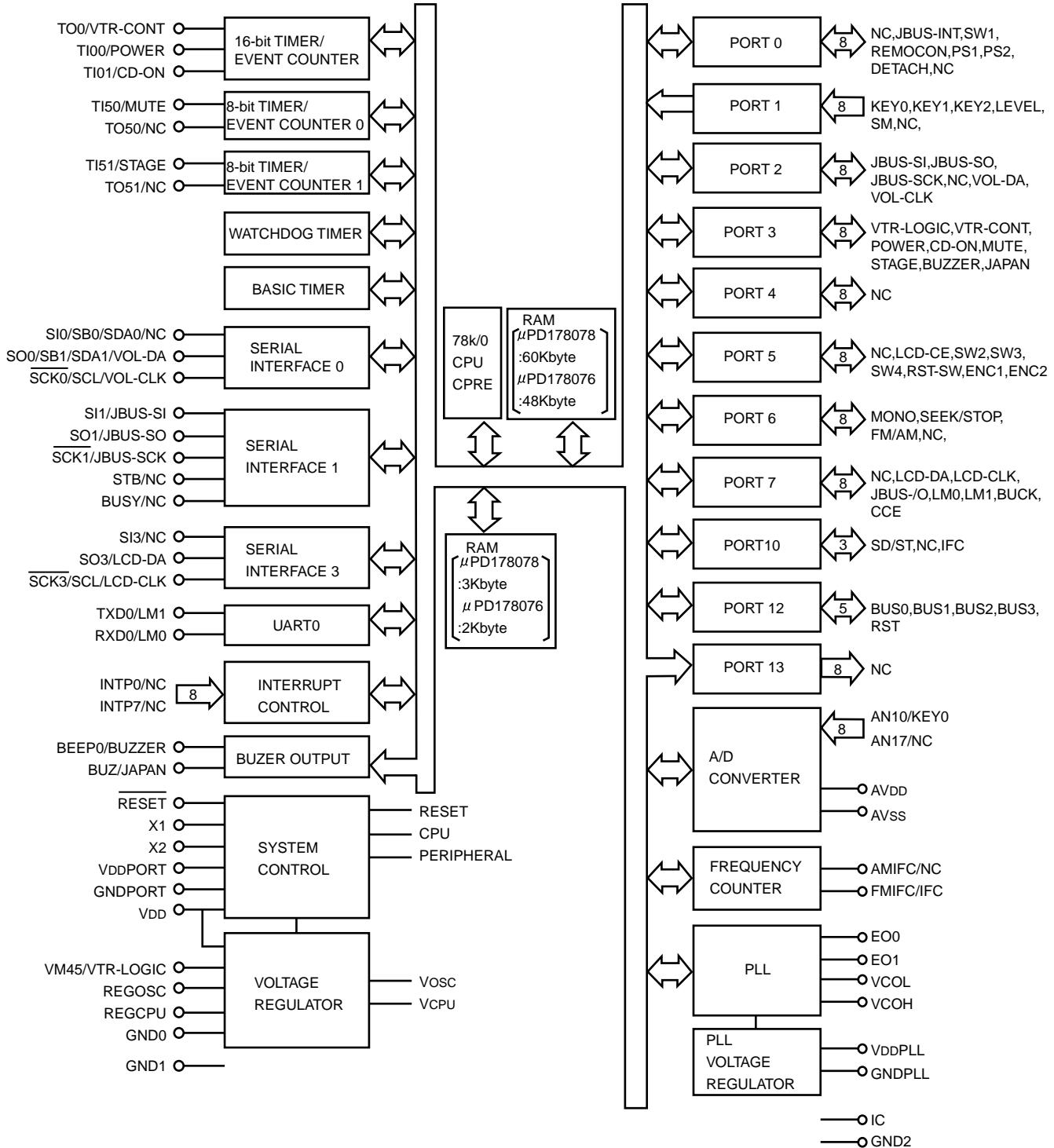
Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	SDA	I/O	Serial data input/output.	17	IAR	I	Input A right source.
2	GND	-	Ground.	18	IBR	I	Input B right source.
3	OUTLR	O	output left rear.	19	CAP	-	Electronic filtering for supply.
4	OUTLF	O	output left front.	20	ICR	I	Input C right source.
5	TL	I	Treble control capacitor left channel or input from an external equalizer.	21	Vref	-	Reference voltage (0.5Vcc)
6	B2L	-	Bass control capacitor left channel or output to an external equalizer.	22	IDR	-	Not used
7	B1L	-	Bass control capacitor left channel.	23	QSR	O	Output source selector right channel.
8	IVL	I	Input volume 1. left control part.	24	ILR	I	Input loudness right channel.
9	ILL	I	Input loudness. left control part.	25	IVR	I	Input volume 1. right control part.
10	QSL	O	Output source selector. left channel.	26	B1R	-	Bass control capacitor right channel
11	IDL	-	Not used	27	B2R	O	Bass control capacitor right channel or output to an external equalizer.
12	MUTE	-	Not used	28	TR	I	Treble control capacitor right channel or input from an external equalizer.
13	ICL	I	Input C left source.	29	OUTRF	O	Output right front.
14	IMO	-	Not used	30	OUTRR	O	Output right rear.
15	IBL	I	Input B left source.	31	Vcc	-	Supply voltage.
16	IAL	I	Input A left source.	32	SCL	I	Serial clock input.

■ UPD178076GF-525 (IC701): System CPU

1. Terminal layout



2. Block diagram



3.Pin function

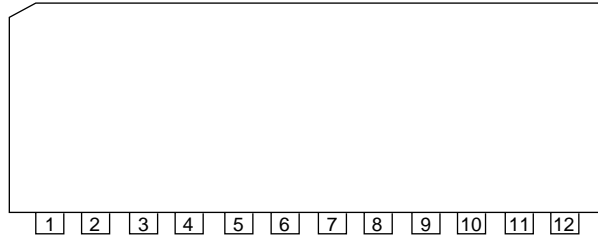
UPD178076GF-525(1/2)

Pin NO.	Symbol	I/O	FUNCTION
1	NC	-	Non connection
2	BUSINT	I	JVC BUS COMMUNICATION LINE
3	BUSSI	I	JVC BUS COMMUNICATION LINE
4	BUSO	O	JVC BUS COMMUNICATION LINE
5	JBUS-SCK	O	JVC BUS COMMUNICATION LINE
6	NC	-	Non connection
7	NC	-	Non connection
8	I2CDAI	I	SERIAL DATA INPUT
9	I2CDAO	O	SERIAL DATA OUTPUT
10	I2CCLK	O	SERIAL CLOCK OUTPUT
11	NC	-	Non connection
12	LCDDA	O	LCD DRIVER SERIAL DATA OUTPUT
13	LCDSC	O	LCD DRIVER SERIAL CLOCK OUTPUT
14	BUSI/O	O	JVC BUS OUTPUT SELECT
15	NC	-	Non connection
16	LCDCE	O	LCD DRIVER COMMUNICATION LINE
17	SW2	I	CD MECHA SW
18	SW3	I	CD MECHA SW
19	SW4	I	CD MECHA SW
20	RSTSW	I	TRAVERSE MECHA REST SW
21	ENC1	I	ENCODER INPUT
22	ENC2	I	ENCORDER INPUT
23	KEY0	I	KEY INPUT
24	KEY1	I	KEY INPUT
25	KEY2	I	KEY INPUT
26	LEVEL	I	AUDIO LEVEL INPUT
27	AVDD	-	---
28	SM	I	SIGNAL LEVEL METER INPUT
29	SQ	I	SIGNAL QUALITY INPUT
30	NC	-	Non connection
31	NC	-	Non connection
32	AVSS	-	---
33	REGCPU	-	---
34	VDD	-	---
35	REGOSC	-	---
36	X2	-	SYSTEM CLOCK
37	X1	I	SYSTEM CLOCK
38	GND0	-	---
39	SD/ST	I	STATION DETECTOR & STEREO IND.
40	GND2	-	---
41	NC	-	Non connection
42	IFC	I	IF COUNT INPUT
43	VDDPLL	-	---
44	OSC	I	FM,AM OSC INPUT
45	NC	-	Non connection
46	GNDPLL	-	---
47	AMEQ	O	PLL ERROR OUTPUT FOR AM
48	FMEQ	O	PLL ERROR OUTPUT FOR FM
49	IC(VPP)	-	SETTING TO WRITE FOR FLASH
50	RESET	I	SYSTEM RESET

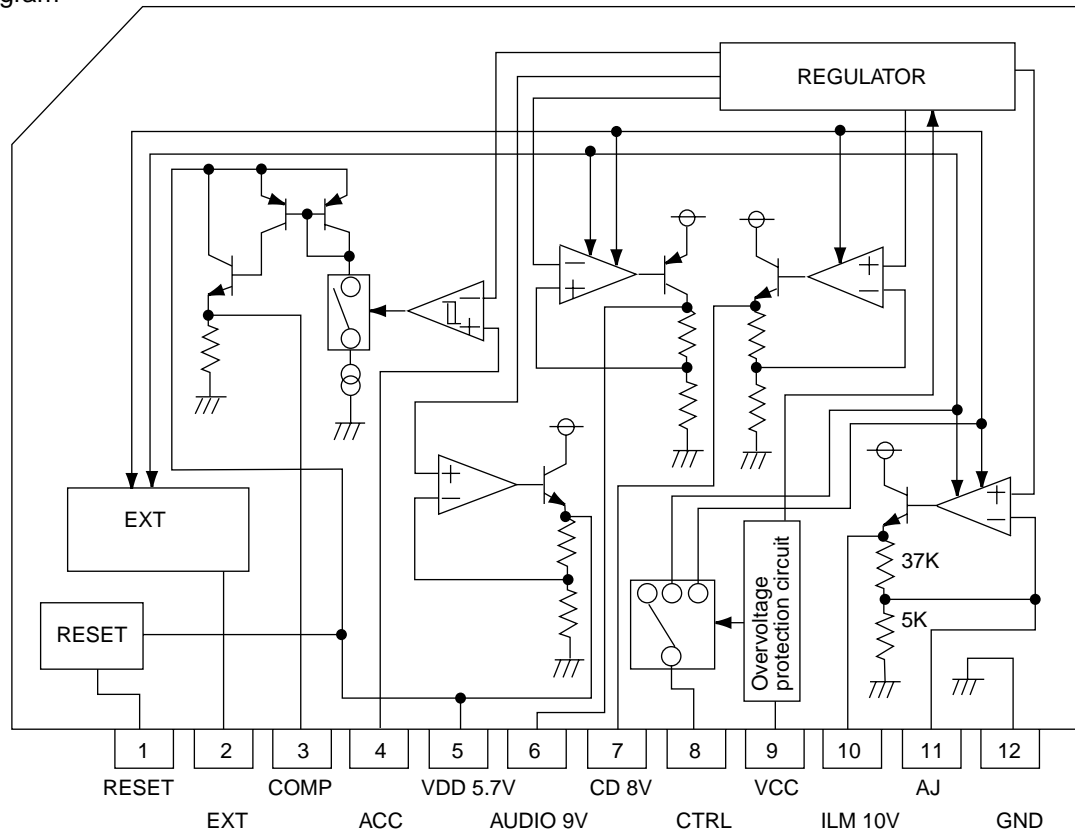
Pin NO.	Symbol	I/O	FUNCTION
51	SW1	I	CD MECHA SW
52	REMOCON	I	REMOCON INPUT
53	NC	-	Non connection
54	TEL_MUTE	O	TEL MUTE OUTPUT
55	POWER	O	POWER CONT.
56	CDON	O	CD POWER CONT.
57	MUTE	O	MUTE CONT
58	STAGE 1	-	---
59	BUZZER	-	Non connection
60	STAGE 2	-	---
61	NC	-	Non connection
62	NC	-	Non connection
63	NC	-	Non connection
64	NC	-	Non connection
65	NC	-	Non connection
66	NC	-	Non connection
67	NC	-	Non connection
68	NC	-	Non connection
69	LM0	O	CD MECHA DRIVER CONT.
70	LM1	O	CD MECHA DRIVER CONT.
71	BUCK	O	CD LSI COMMUNICATION LINE
72	CCE	O	CD LSI COMMUNICATION LINE
73	BUS0	I/O	CD LSI COMMUNICATION LINE
74	BUS1	I/O	CD LSI COMMUNICATION LINE
75	BUS2	I/O	CD LSI COMMUNICATION LINE
76	BUS3	I/O	CD LSI COMMUNICATION LINE
77	RST	O	CD LSI COMMUNICATION LINE
78	PS1	I	ACC DETECTION INPUT
79	PS2	I	MEMORY DETECTION
80	DETACH	I	DETACH DETECTION
81	RDSSCK	I	CLOCK INPUT FOR RDS
82	GND1	-	---
83	MONO	O	MONO BY FORCE
84	SEEK/STOP	O	SWITCHING SEEK & STOP
85	FM/AM	O	BAND SW
86	AFCK	O	AF CHECK OUTPUT
87	RDSDATA	I	RDS DATA INPUT
88	PLLMONITOR	-	Non connection
89	NC	-	Non connection
90	NC	-	Non connection
91	NC	-	Non connection
92	NC	-	Non connection
93	NC	-	Non connection
94	NC	-	Non connection
95	NC	-	Non connection
96	NC	-	Non connection
97	NC	-	Non connection
98	NC	-	Non connection
99	VDDPORT	-	---
100	GNDPORT	-	---

■ BA4905-V3 (IC961) : Regulator

1. Terminal layout



2. Block daigram

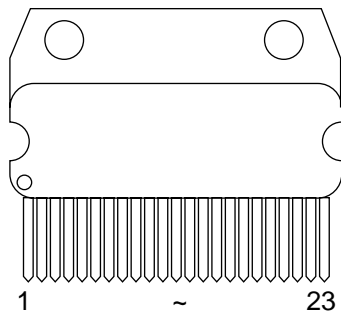


3. Pin function

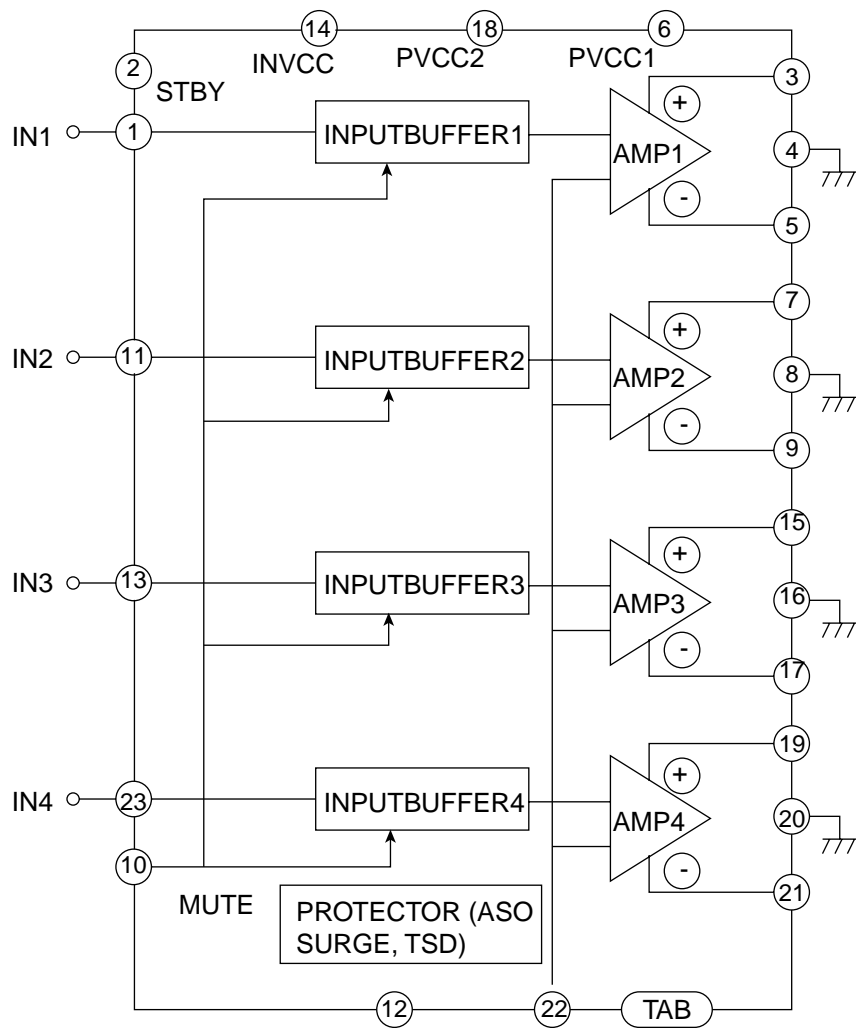
Pin no.	Symbol	Function
1	RESET	If VDD voltage becomes 4V or less. RESET output becomes low level.
2	EXT output	This output voltage is approximately 0.5V lower than VCC. and max output current is 300mA.
3	COMP output	A voltage supply for ACC block. This output voltage is approximately 0.7V lower than VDD'S. The max output current is 100mA.
4	ACC	Control of the COMP output by inputting voltage.
5	VDD output	This output voltage is 5.7V, and max output current is 100mA. This voltage supply is for microcomputer. Whenever back up voltage supply is connected, the output keeps on running.
6	AUDIO output	This output voltage is 9.0v, and max output current is 500mA. This voltage supply for AUDIO.
7	CD output	This output voltage is 8.0V, and max output current is 1A. This voltage supply for CD.
8	CTRL	Output selector of CD. AUDIO, ILM and EXT.
9	VCC	To be connected with the BACK UP of car.
10	ILM output	This output voltage is 10V, and max output current is 500mA. Output voltage is adjustable.
11	AJ	Putting a resistance between ILM and AJ or between AJ and GND makes ILM output voltage adjustable.
12	GND	Ground.

■ HA13158A (IC301) : Power amp

1. Pin layout

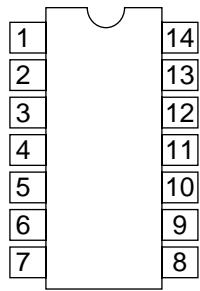


2. Block diagram



■ HD74HC126FP-X (IC801) : Buffer

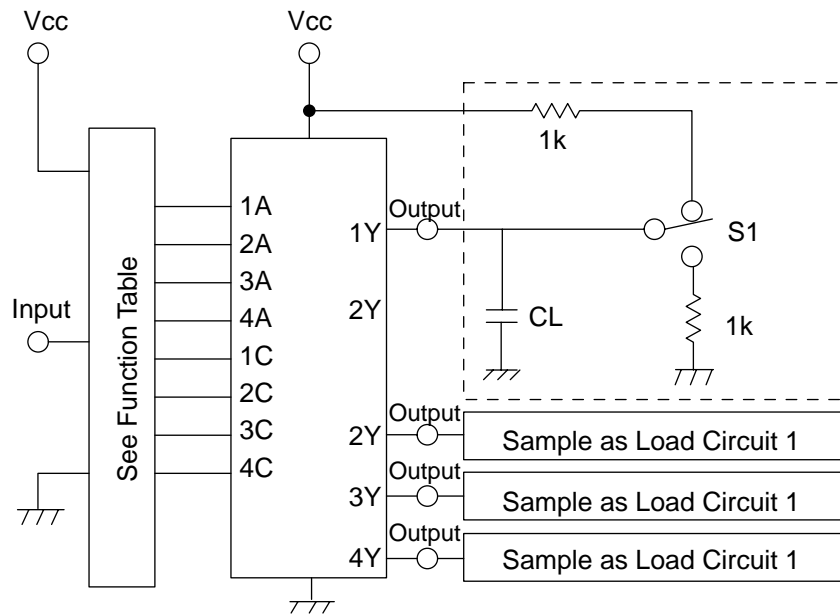
1. Terminal layout



3. Pin function

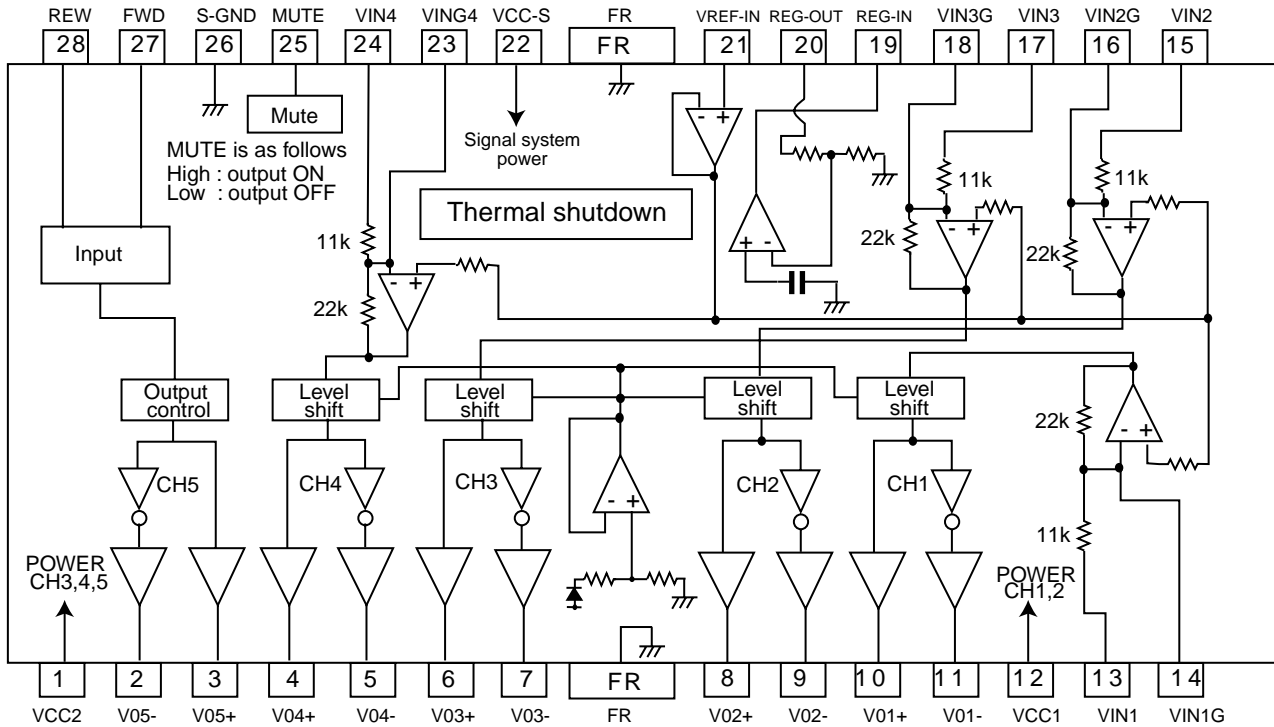
Input		Outout
C	A	Y
L	X	Z
H	L	H
H	H	L

2. Block diagram



LA6557-X(IC501) : Servo BTL driver

1. Block diagram

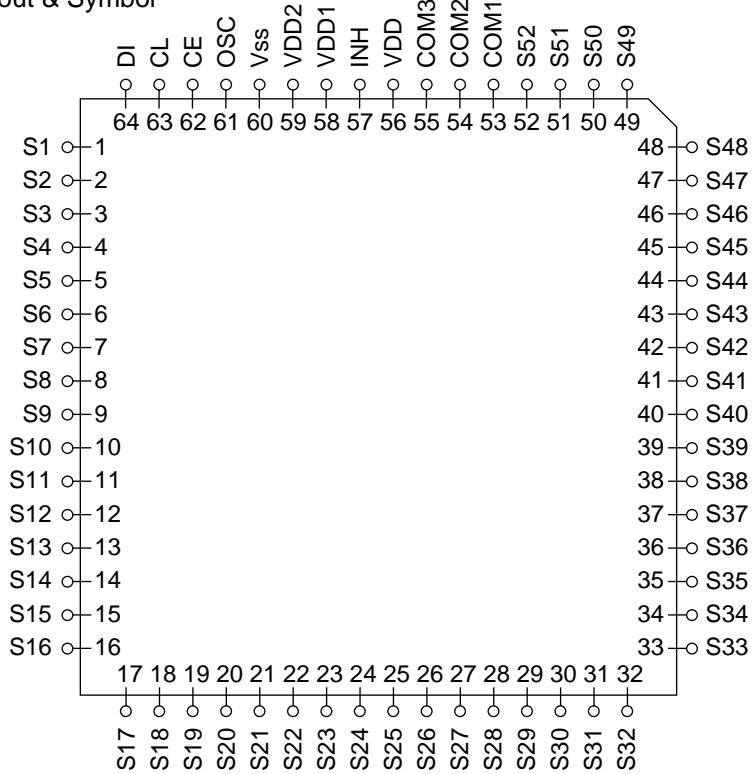


2. Pin function

Pin No.	Pin Name	Description
1	VCC2	Power for channels 3, 4, and 5 (VCC1 and VCC-S short-circuited)
2	V05-	Loading output (-)
3	V05+	Loading output (+)
4	V04+	Output pin (+) for channel 4
5	V04-	Output pin (-) for channel 4
6	V03+	Output pin (+) for channel 3
7	V03-	Output pin (-) for channel 3
8	V02+	Output pin (+) for channel 2
9	V02-	Output pin (-) for channel 2
10	V01+	Output pin (+) for channel 1
11	V01-	Output pin (-) for channel 1
12	VCC1	Power for channels 1 and 2 (BTL), (VCC-S and VCC2 short-circuited)
13	VIN1	Input pin for channel 1
14	VIN1G	Input pin for channel 1 (for gain control)
15	VIN2	Input pin for channel 2
16	VIN2G	Input pin for channel 2 (for gain control)
17	VIN3	Input pin for channel 3
18	VIN3G	Input pin for channel 3 (for gain control)
19	REG-IN	Regulator pin (External PNP base)
20	REG-OUT	Regulator pin (External PNP collector)
21	VREFE-IN	Reference voltage input pin
22	VCC-S	Signal system power (VCC1 and VCC2 short-circuited)
23	VIN4G	Input pin for channel 4 (for gain control)
24	VIN4	Input pin for channel 4
25	MUTE	Output ON/OFF, channels 1 to 4 (BTL AMP)
26	S-GND	Signal system GND
27	FWD	5CH(VL0) Output change pin (FWD), Logic input for loading block
28	REV	5CH(VL0) Output change pin (REW), Logic input for loading block

■ LC75823W (IC601) : LCD driver

1. Pin Layout & Symbol

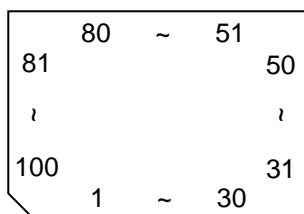


2. Pin Function

Pin No.	Symbol	I/O	Function
1 to 52	S1 to S52	O	Segment output pins used to display data transferred by serial data input.
53 to 55	COM1 to COM3	O	Common driver output pins. The frame frequency is given by : $t_0=(f_{osc}/384)\text{Hz}$.
56	VDD	--	Power supply connection. Provide a voltage of between 4.5 and 6.0V.
57	$\overline{\text{INH}}$	I	Display turning off input pin. $\overline{\text{INT}}=\text{"L"}$ (Vss) ----- off (S1 to S52, COM1 to COM3="L" $\overline{\text{INT}}=\text{"H"}$ (VDD)----- on Serial data can be transferred in display off mode.
58	VDD1	I	Used for applying the LCD drive 2/3 bias voltage externally. Must be connected to VDD2 when a 1/2 bias drive scheme is used.
59	VDD2	I	Used for applying the LCD drive 1/3 bias voltage externally. Must be connected to VDD1 when a 1/2 bias drive scheme is used.
60	Vss	--	Power supply connection. Connect to GND.
61	OSC	I/O	Oscillator connection. An oscillator circuit is formed by connecting an external resistor and capacitor at this pin.
62	CE		Serial data interface connection CE : Chip enable
63	CL	I	to the controller. CL : Sync clock
64	DI		DI : Transfer data

■ TC9462F (IC541) : DSP & DAC

1.Pin Layout



2.Pin Function (1/2)

Pin No.	Symbol	I/O	Function
1	TEST0	I	Test mode terminal. Normally, keep at open
2	HSO	O	Playback speed mode flag output terminal
3	UHSO	O	Playback speed mode flag output terminal
4	EMPH	O	Sub code Q data emphasis flag output terminal. "H"=ON "L"=OFF
5	LRCK	O	Channel clock output terminal.(44.1kHz) "H"=Rch "L"=Lch
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.
11	IPF	O	Correction flag output terminal
12	SBOK	O	Sub code Q data CRCC check adjusting result output terminal. "H"=result OK
13	CLCK	I/O	Sub code P~W data readout input/output terminal
14	Vdd	-	Digital power supply voltage terminal
15	Vss	-	Digital GND terminal
16	DATA	O	Sub code P~W data output terminal
17	SFSY	O	Play-back frame sync signal output terminal
18	SBSY	O	Sub code block sync signal output terminal
19	SPCK	O	Processor status signal readout clock output terminal
20	SPDA	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
23	Vdd	-	Digital power supply voltage terminal
24	TESIO0	I	Test input/output terminal. Normally, keep at "L" level
25	P2VREF	-	PLL double reference voltage supply terminal
26	HSSW	O	2/4 times speed at "Vref" voltage
27	ZDET	O	1bit DA converter zero detect flag output terminal
28	PDO	O	Phase difference signal output terminal of EFM signal and PLCK signal
29	TMAXS	O	TMAX detection result output terminal. Selected by command bit (TMPS)
30	TMAX	O	TMAX detection result output terminal. Selected by command bit (TMPS)
31	LPFN	I	LPF amplifier inverting input terminal for PLL
32	LPFO	O	LPF amplifier output terminal for PLL
33	PVREF	-	PLL reference voltage supply terminal
34	VCOREF	I	VCO center frequency reference level terminal
35	VCOF	O	VCO filter terminal
36	AVss	-	Analog GND terminal
37	SLCO	O	Data slice level output terminal
38	RFI	I	RF signal input terminal
39	AVDD	-	Analog power supply voltage terminal

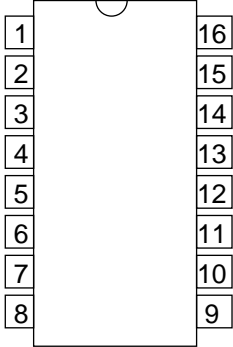
2.Pin Function (2/2)

TC9462F

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

■ SAA6579T-X (IC71) : RDS demodulator

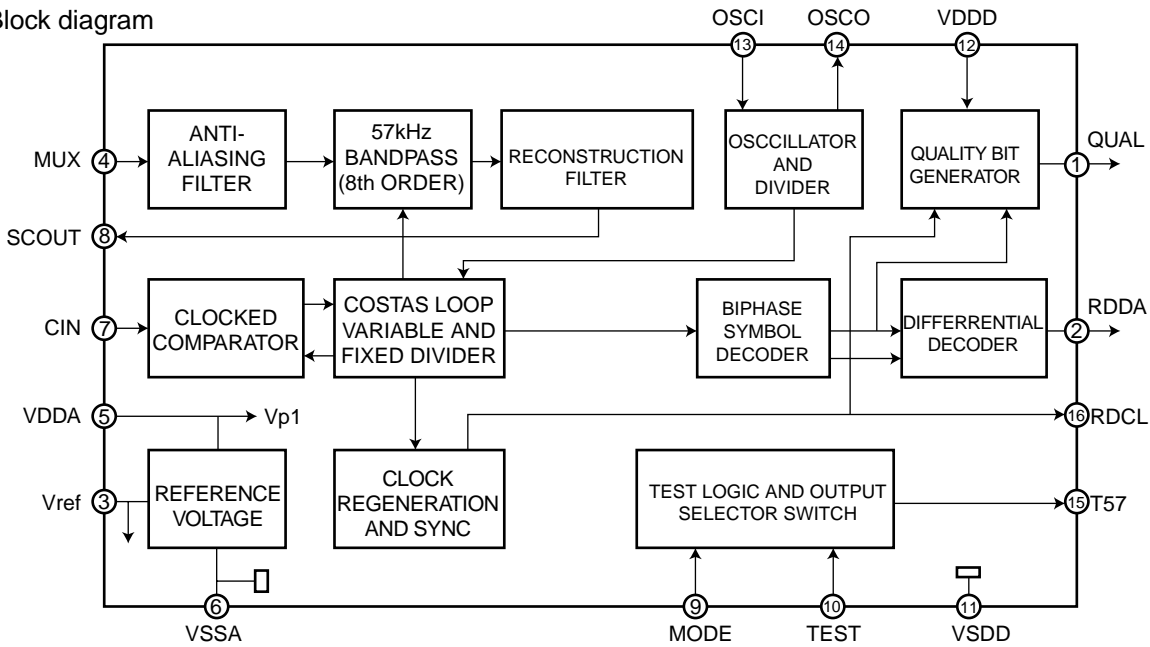
1. Pin layout



2. Pin function

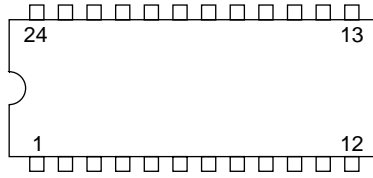
Pin No.	Symbol	Function
1	QUAL	Quality indication output
2	RDDA	RDS data output
3	Vref	Reference voltage output (0.5VDDA)
4	MUX	Multiplex signal input
5	VDDA	+5V supply voltage for analog part
6	VSSA	Ground for analog part (0V)
7	CIN	Subcarrier input to comparator
8	SCOUT	Subcarrier output of reconstruction 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	57kHz clock signal output
16	RDCL	RDS clock output

3. Block diagram

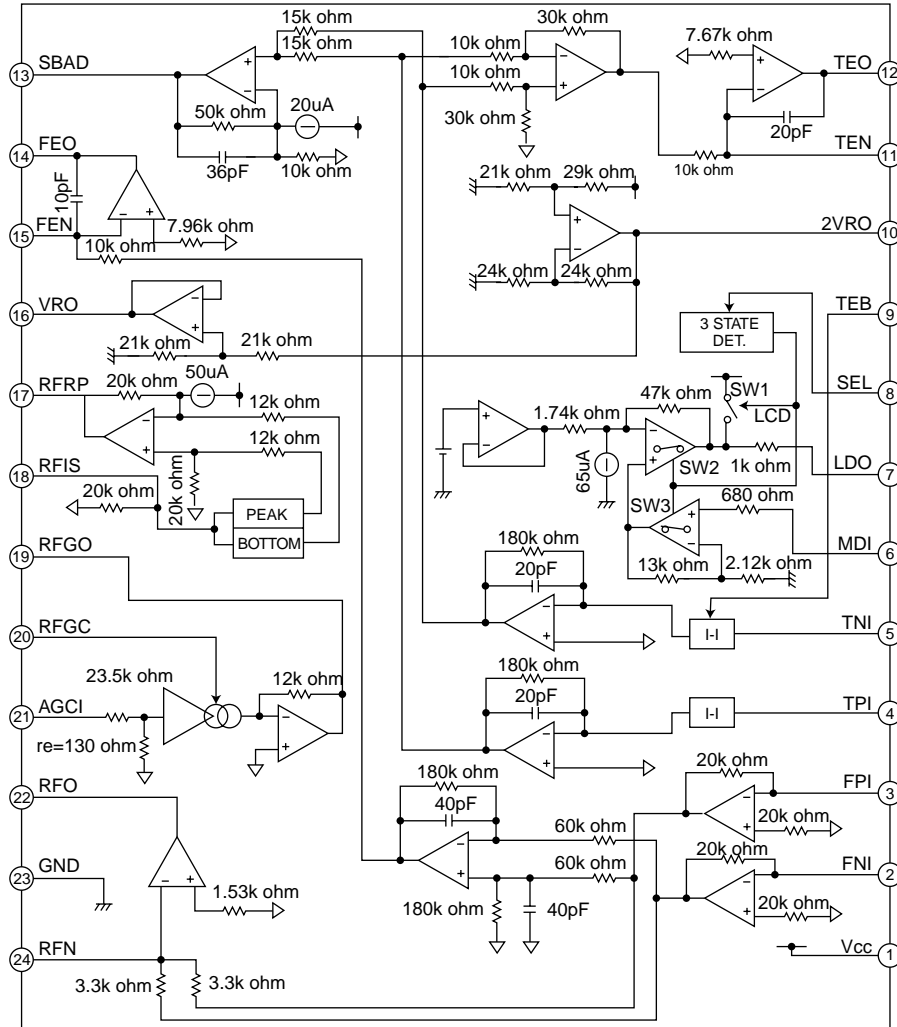


■ TA2109F-X (IC521) : RF amp.

1. Pin layout



2. Block diagram

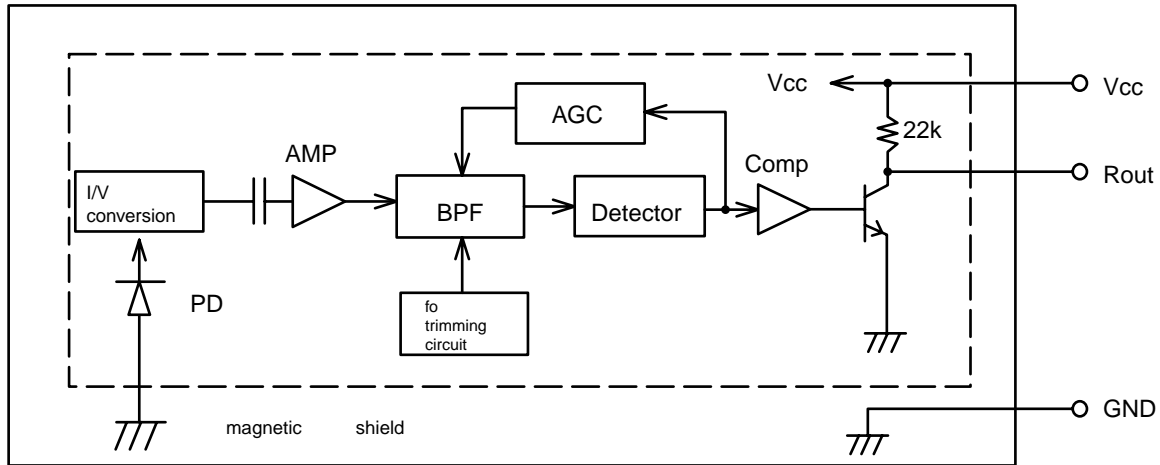


3. Pin function

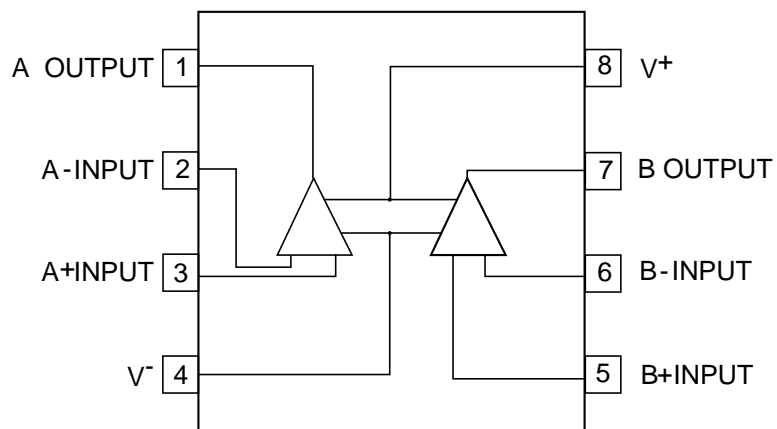
Pin No.	Symbol	I/O	Pin function	Pin No.	Symbol	I/O	Pin function
1	Vcc	-	Power supply input terminal	13	SBAD	O	Sub beam adder signal output terminal
2	FNI	I	Main beam I-V amp input terminal	14	FEO	O	Focus error signal output terminal
3	FPI	I	Main beam I-V amp input terminal	15	FEN	I	FE amp negative input 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

■ RPM6938-SV4(IC652) : Remote sensor

1. Block diagram



■ NJM4565M-WE (IC581) : Ope. amp



JVC

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