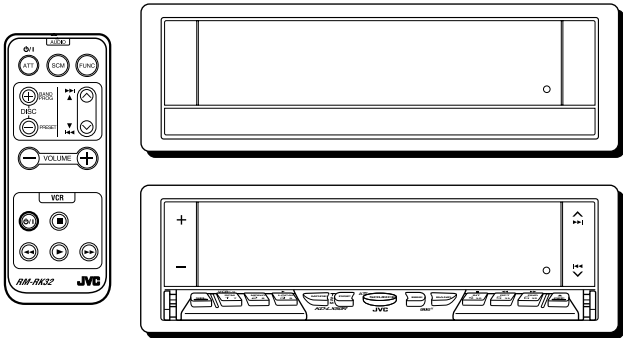


JVC

SERVICE MANUAL

CD RECEIVER

KD-LX50R



Area Suffix
E ---- Continental Europe



Contents

Safety precaution	1-2	Flow of functional operation	
Preventing static electricity	1-3	until TOC read	2-18
Instructions	1-4~	Description of major ICs	2-20
Disassembly method	2-1	Block diagram	2-
Maintenance of laser pickup	2-12	Standard schematic diagrams	2-
Extention cord connectiong method ..	2-13	Printed circuit boards	2-
Functions of the mechanism under		Parts list	3-1~19
the service mode	2-16		

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

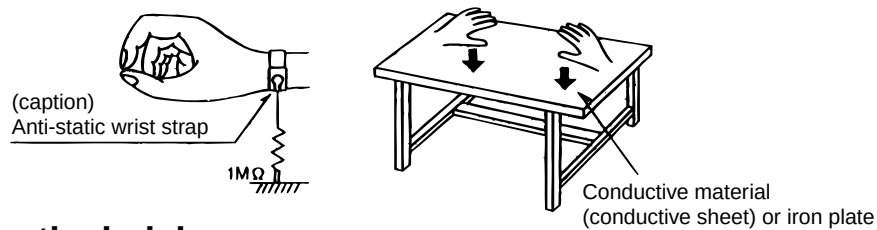
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players. Be careful to use proper grounding in the area where repairs are being performed.

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.

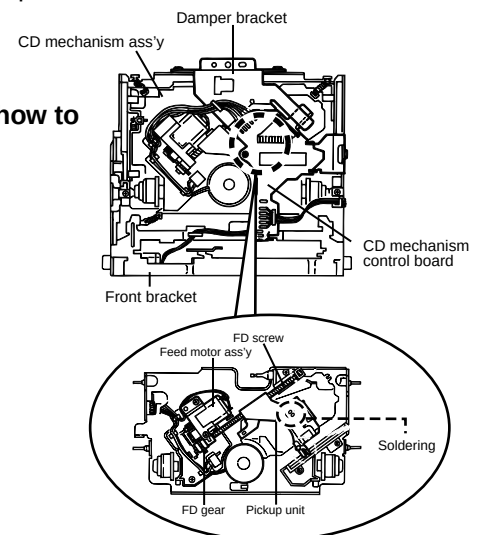
4. Handling the traverse unit (optical pickup)

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.



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 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.

VARNING : 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 laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

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

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

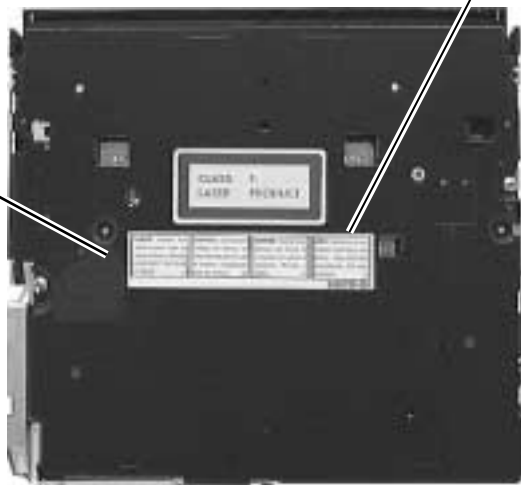
DANGER : Invisible laser radiation when open and interlock or defeated.
AVOID DIRECT EXPOSURE TO BEAM (e)

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

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

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

**CLASS 1
LASER PRODUCT**



Disassembly method

■ Removing the top chassis

(See Fig.1 to 5)

1. Remove the two screws A attaching the bottom cover to the top chassis on the bottom of the body.
2. Remove the two screws B attaching the top chassis on both sides of the body.
3. Remove the two screws C and the two screws D attaching the heat sink on the left side of the body.
4. Remove the two screws E and the screw F on the back of the body.
5. Remove the two screws G on the upper side of the body.
6. Move the top chassis upward and disconnect the CD mechanism connector from the main board connector by pulling it. Remove the top chassis from the body.

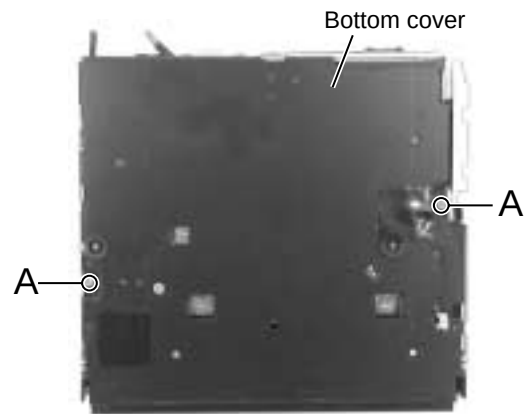


Fig.1

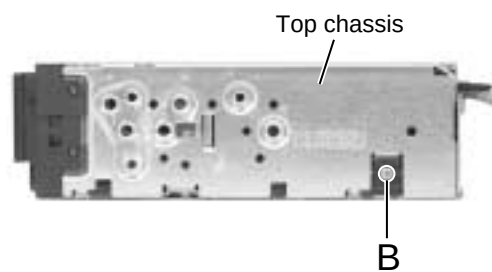


Fig.2

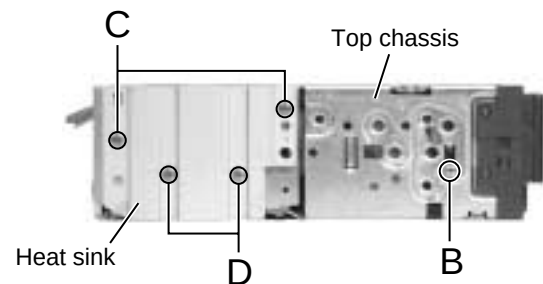


Fig.3

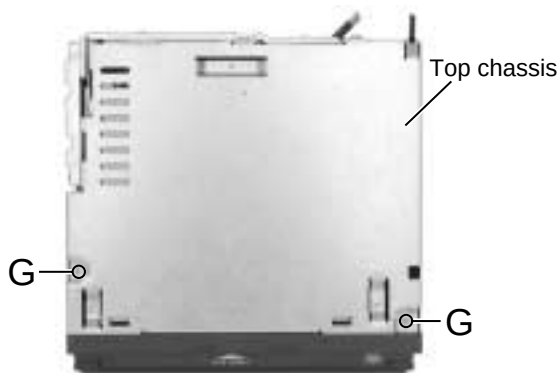


Fig.5



Fig.4

■ Removing the main board assembly (See Fig.6 and 7)

- Prior to performing the following procedure, remove the top chassis.
1. Disconnect the flexible harness from connector CN701, the card wire from CN702 on the main board and the harness from CN503 and CN504 respectively.
 2. Remove the three screws H attaching the main board assembly to the bottom cover on the upper side of the body.
 3. Remove the screw I attaching the rear panel and the bottom cover on the back of the body. Move the main board in the direction of the arrow and release the two joints a. (At this point, the main board can be removed with the rear panel and the rear heat sink.)
 4. Remove the screw J and the two screws K attaching the rear heat sink on the back of the body.
 5. Remove the three screws L and the screw M attaching the rear panel. Now, the main board assembly will be removed.

ATTENTION: when reassembling, correctly engage the switch S561 and S562 on the main board with the part e of the operation assembly (Refer to Fig.6-2,17 and 18).

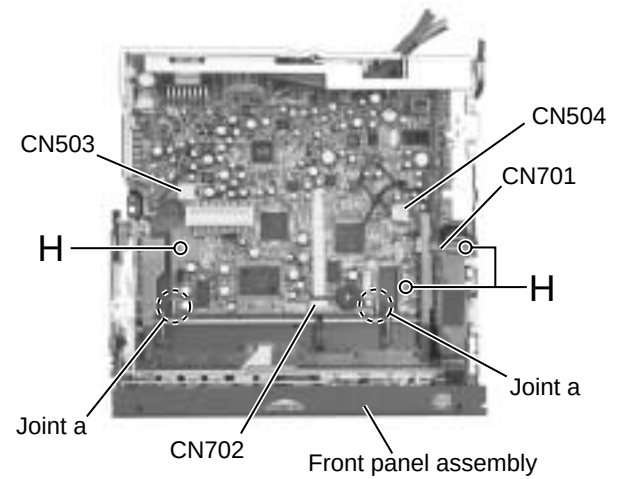


Fig.6-1

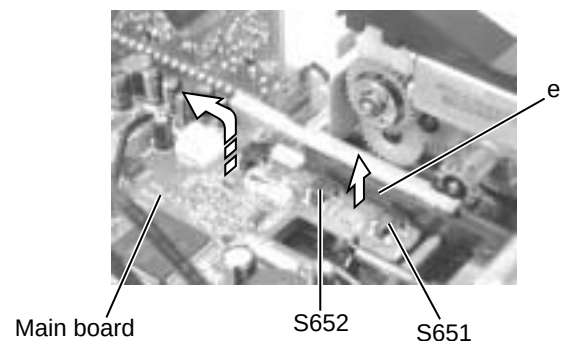


Fig.6-2

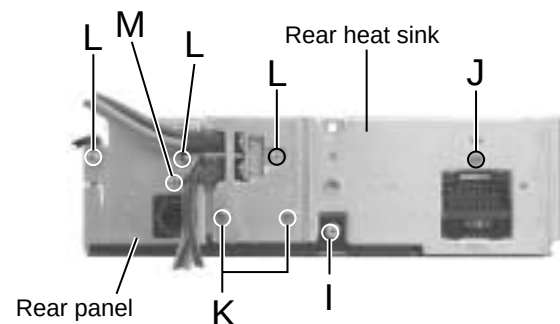


Fig.7

■ Removing the front panel assembly (See Fig.8,9 and 10)

- Prior to performing the following procedure, remove the top chassis assembly.
1. Disconnect the flexible harness from connector CN701 on the main board assembly.
 2. Remove the four screws N attaching the front panel assembly on both sides of the body. Remove the front panel toward the front.

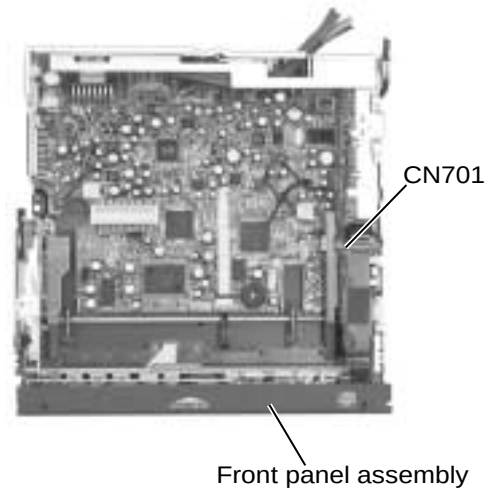


Fig.8

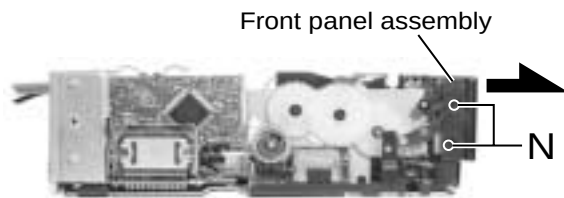


Fig.10

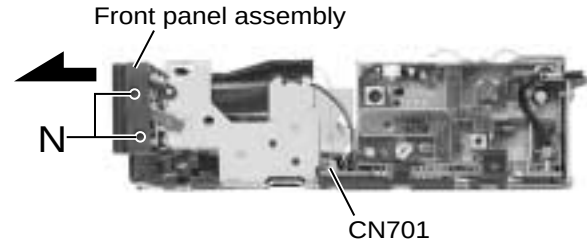


Fig.9

■ Removing the Front Board (See Fig.11)

- Prior to performing the following procedure, remove the top chassis assembly and the front panel assembly.
1. Remove the four screws O attaching the front board on the back of the front panel assembly and release the eight joints b.

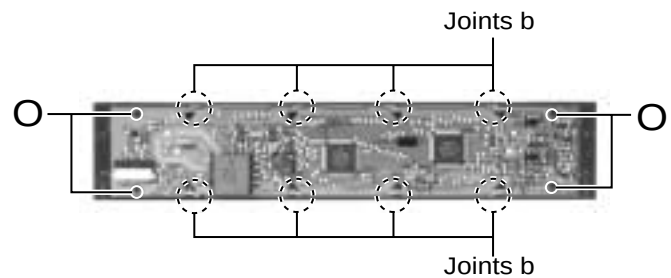


Fig.11

■ Removing the lifter unit (See Fig.12)

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

1. Disconnect the harness from connector CN503 and CN504 on the main board.
2. Remove the four screws P and detach the lifter unit from the bottom cover.

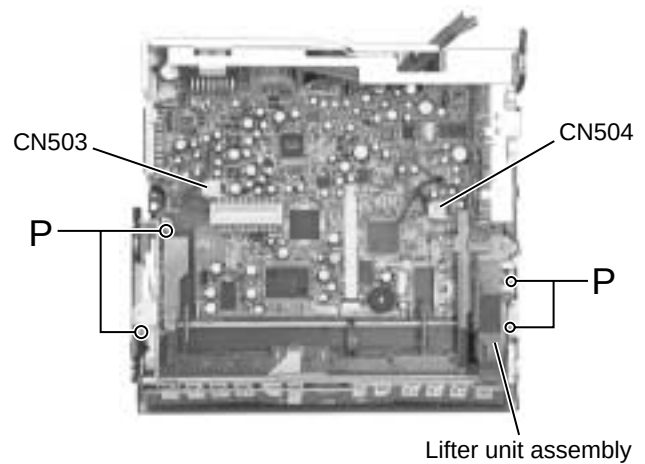


Fig.12

■ Removing the feed motor (L) (See Fig.13)

- Prior to performing the following procedure, remove the lifter unit.

1. Remove the washer attaching the clutch assembly and detach the clutch assembly from the shaft of the lifter unit.
2. Remove the two screws Q attaching the feed motor (L).

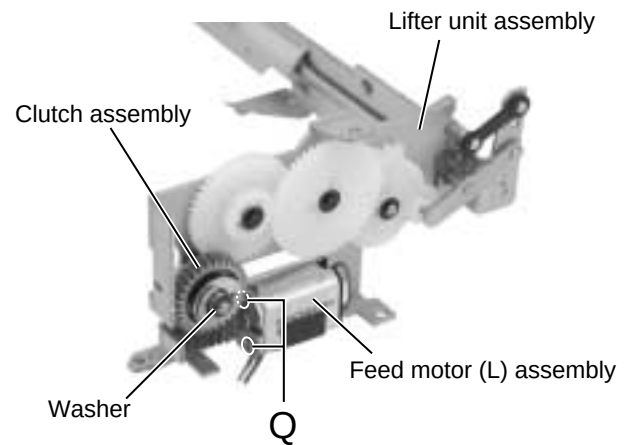


Fig.13

■ Removing the feed motor (R) (See Fig.14)

- Prior to performing the following procedure, remove the lifter unit.

1. Remove the washer attaching the clutch assembly and detach the clutch assembly from the shaft of the lifter unit.
2. Remove the two screws R attaching the feed motor (R).

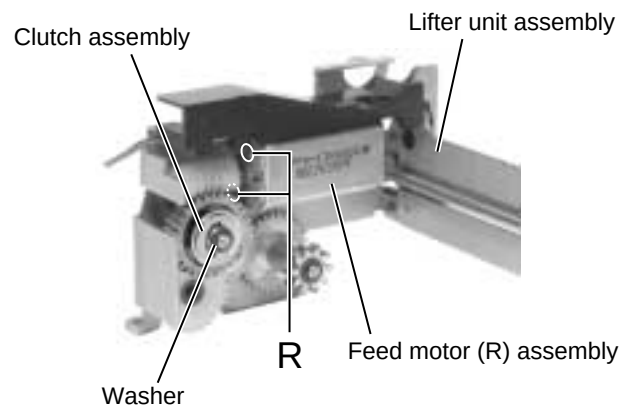


Fig.14

■ Removing the operation assembly (See Fig.15 to 18)

- Prior to performing the following procedure, remove the top chassis assembly, the front panel assembly and the lifer unit.
1. Remove the screws S attaching the right and left brackets which fix gears on both sides of the operation assembly.
 2. Remove the springs 5 and 6 from the operation assembly.
 3. Disconnect the card wire from connector CN702 on the main board and remove the operation assembly.

ATTENTION: when reassembling, correctly engage the switch S561 and S562 on the main board and the right gear with the part e of the operation assembly.

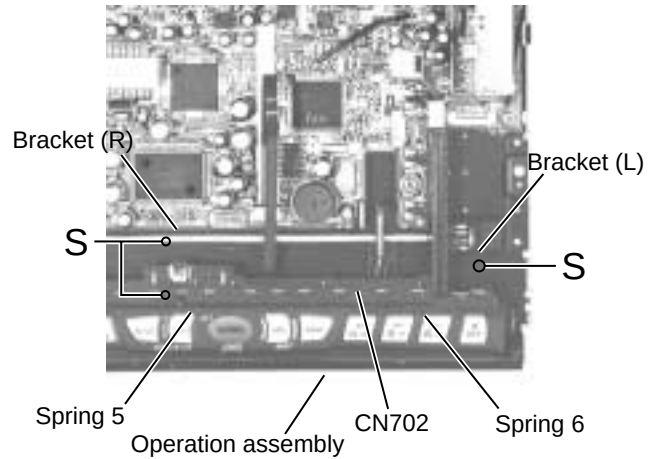


Fig.15

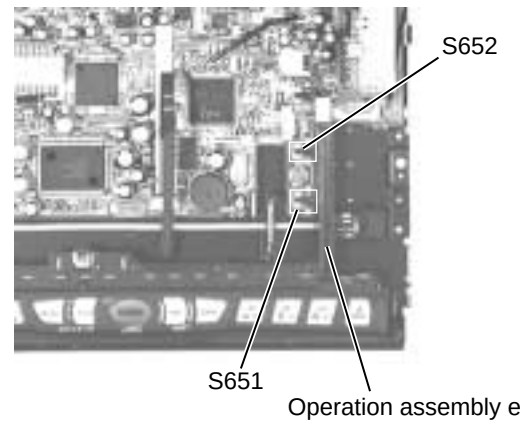


Fig.16

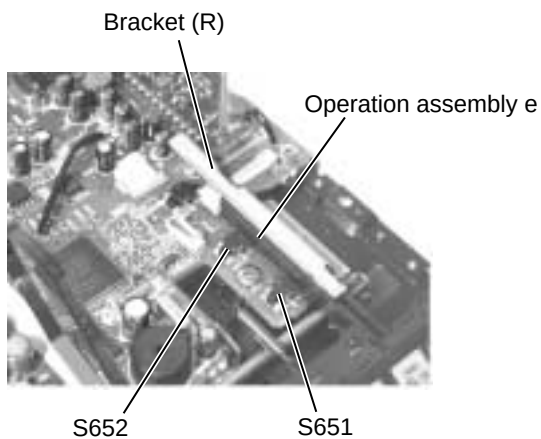


Fig.18

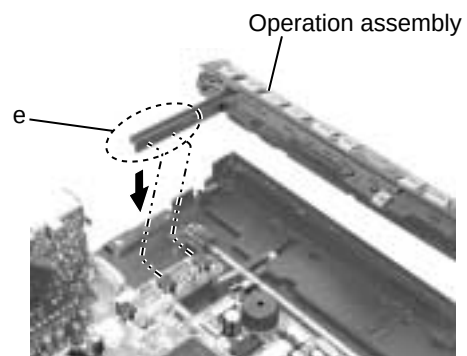


Fig.17

■ Removing the operation switch board (See Fig.19 and 20)

- Prior to performing the following procedure, remove the operation assembly.
1. Remove the six screws T attaching the button panel on the operation assembly.
 2. Pull out the operation switch board from inside of the button panel.

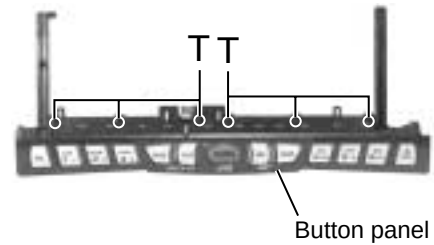


Fig.19

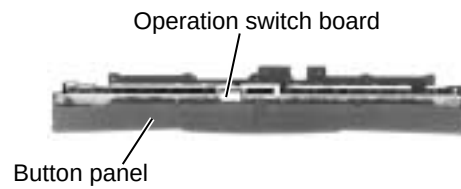


Fig.20

■ Removing the CD mechanism assembly (See Fig.21)

- Prior to performing the following procedure, remove the top chassis.
1. Remove the three screws U and the CD mechanism assembly from the top chassis.

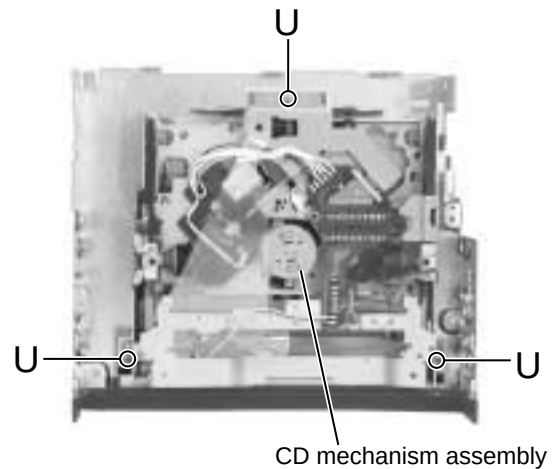


Fig.21

Disassembly method

<Voice unit>

■ Removing the voice recorder

(See Fig.1 to 3)

1. Remove the two screws A on both sides of the body and detach the top cover upward.
2. Remove the two screws B and the two screws C attaching the voice board.

Remove upward the bushing attaching the cord.
Remove the main board from the base chassis while detaching the pin jack.

3. Disconnect the sub board from connector CN851 on the main board.
4. Disconnect the harness from connector CN852 on the main board. Then disconnect the cord from the main board.

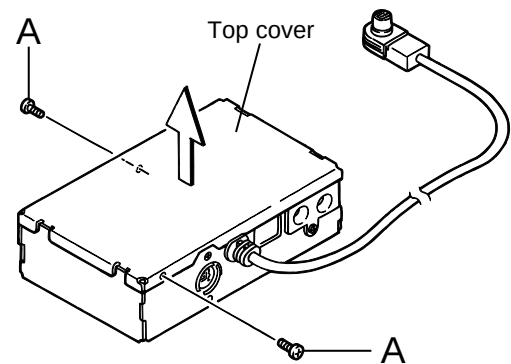


Fig.1

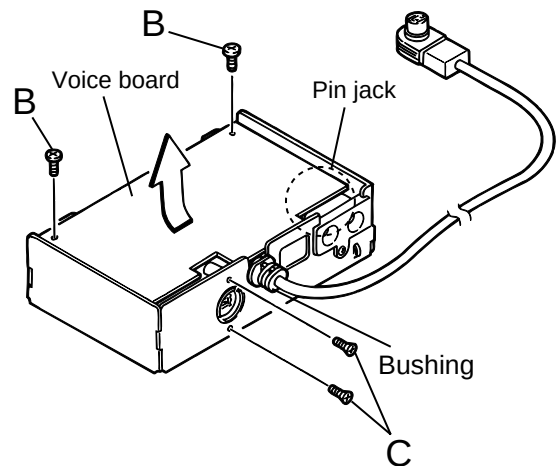


Fig.2

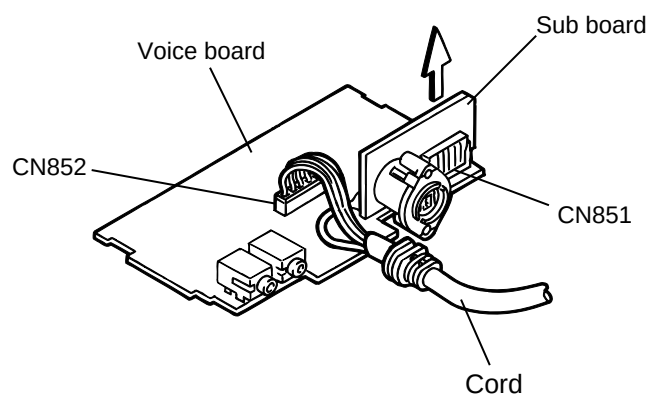


Fig.3

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

Unsolder the part a and b on the CD mechanism control board.

Remove the stator c fixing the CD mechanism control board and the damper bracket (To remove the stator smoothly, pick up the center part).

Remove the screw A 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 d and the front bracket slot e.

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.2).

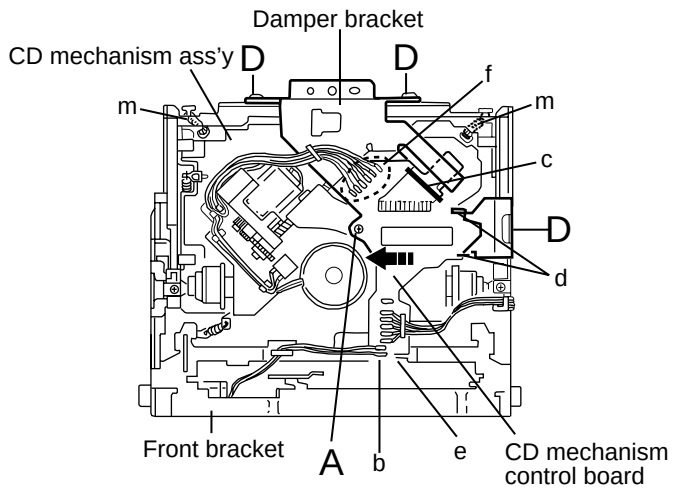


Fig.1

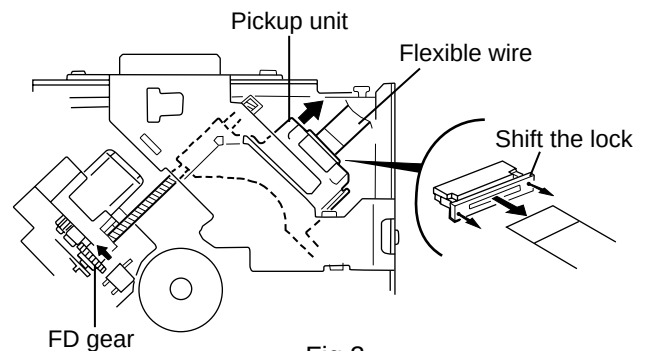


Fig.2

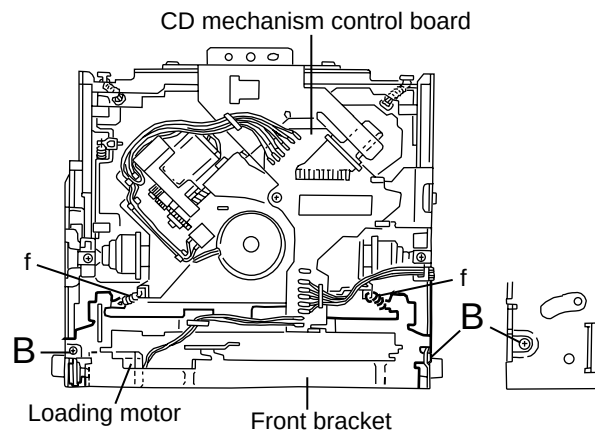


Fig.3

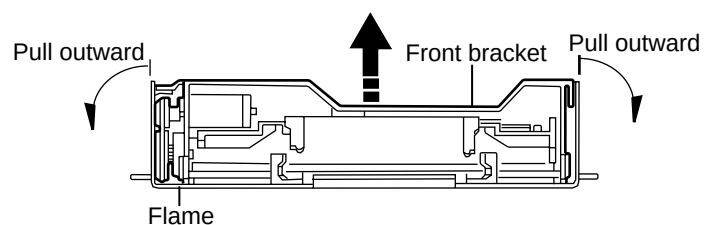


Fig.4

■ 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 ass'y 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.

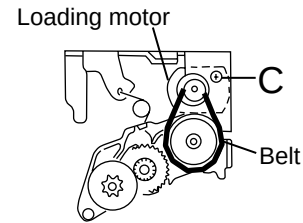


Fig.5

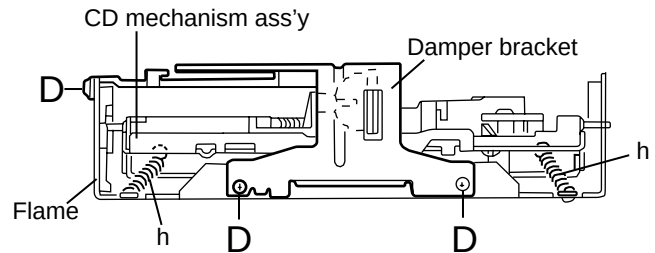


Fig.6

■ Removing the CD mechanism ass'y (See Fig.1, 6 to 9)

* Prior to performing the following procedure, remove the CD mechanism control PWB 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 ass'y 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 ass'y from the left side to the right side.

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

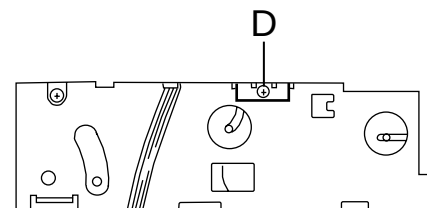


Fig.7

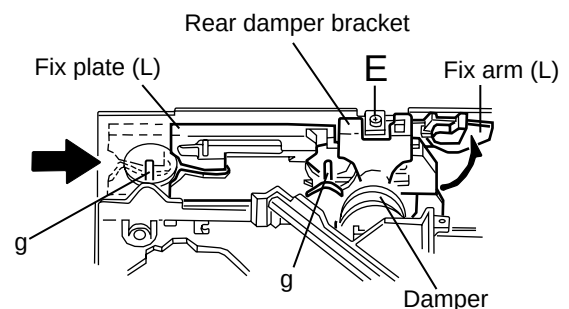


Fig.8

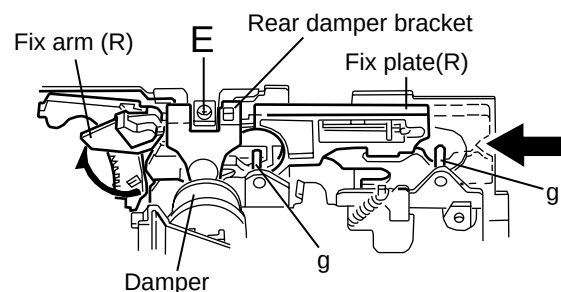


Fig.9

■ Removing the feed motor ass'y (See Fig.10)

* 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 F and the feed motor ass'y.

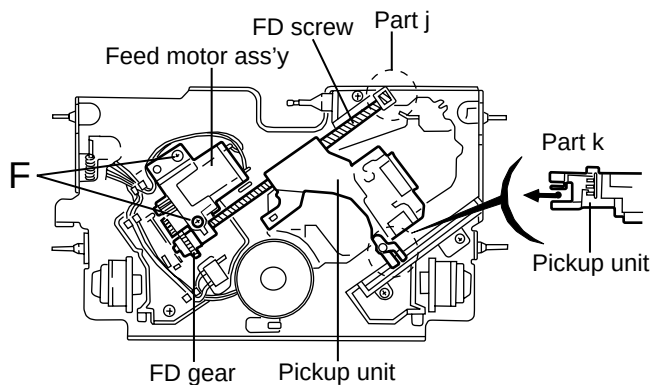


Fig.10

■ 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 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 j of the FD screw.

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

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.

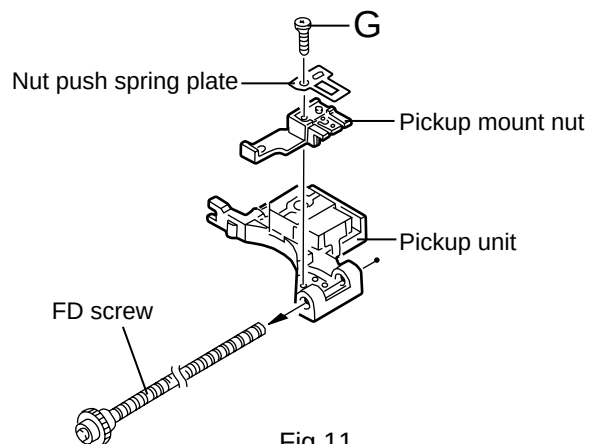


Fig.11

■ 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 ass'y and the feed motor ass'y.

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

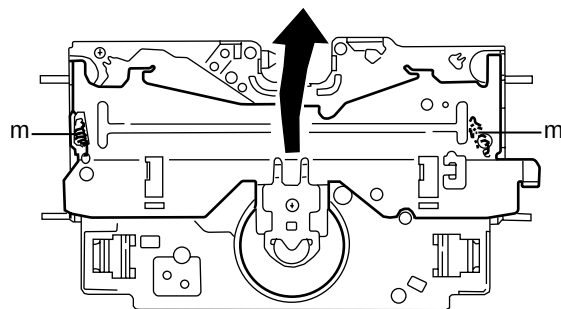


Fig.12

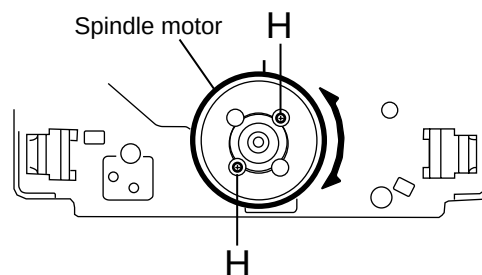


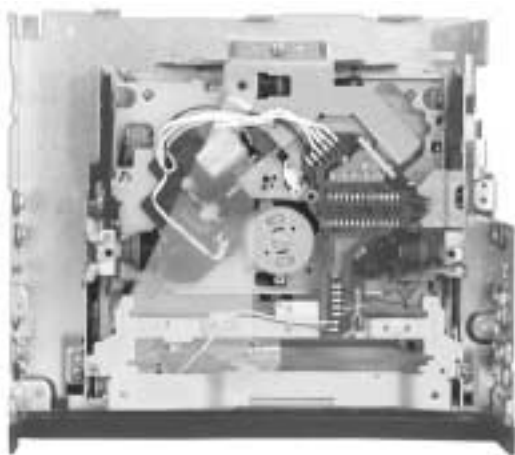
Fig.13

Adjustment method

Caution : Replacing the pickup

To prevent damage to the laser diode static electricity destroys the laser diode. Always take countermeasure to performing repairs around the laser pickup.

1. Do not touch the area around the laser diode or the actuator.
2. Do not check the laser diode with a tester or other device (the laser diode can be broken quite easily).
3. Short-circuit the laser pickup
Solder the land in the center of the flexible cable of the laser diode and help prevent damage from static electricity.



Caution :

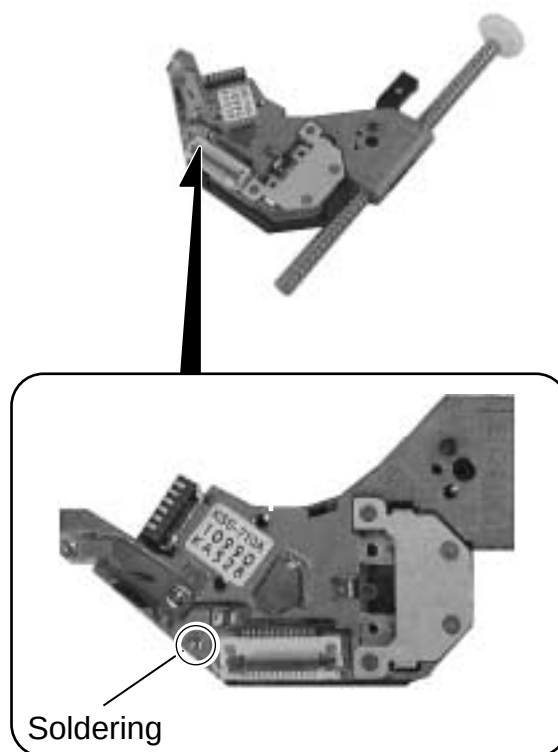
Solder rejection or cuts a pattern with nipper at shortstop point after short circuiting with clip with terminal face of flexible cable in the static electricity countermeasure soldering iron application that is not done.

And the rejection back inserts it in connector immediately and do not touch terminal side of connector either.

Recommendation

Soldering iron

HAKKO ESD countermeasures product

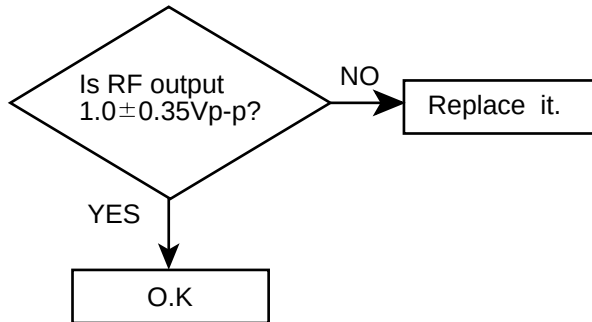


Caution :

Do not forget to remove the soldered laser diode short-circuit after finishing repair, and leave the circuit open.

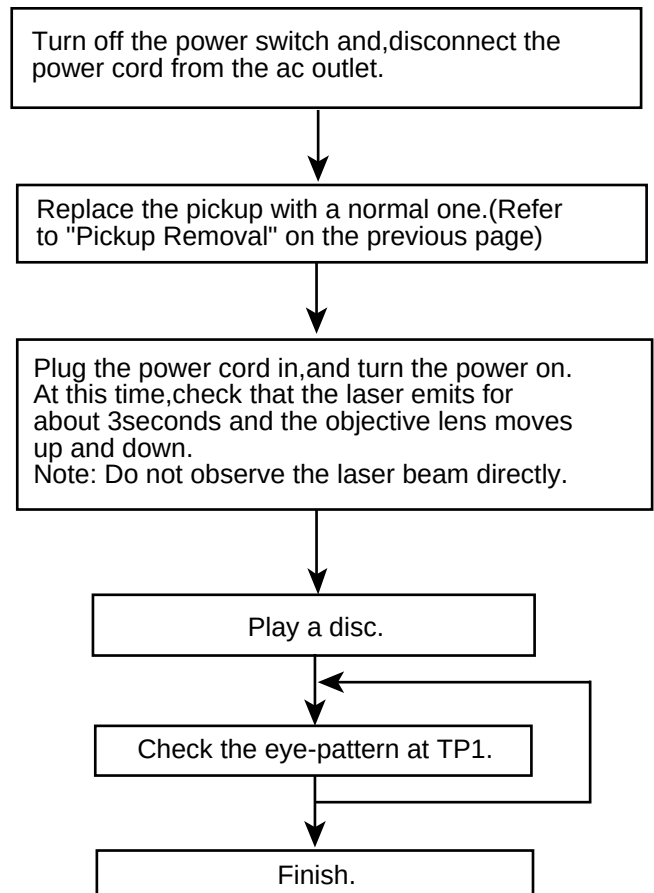
Maintenance of laser pickup

- (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

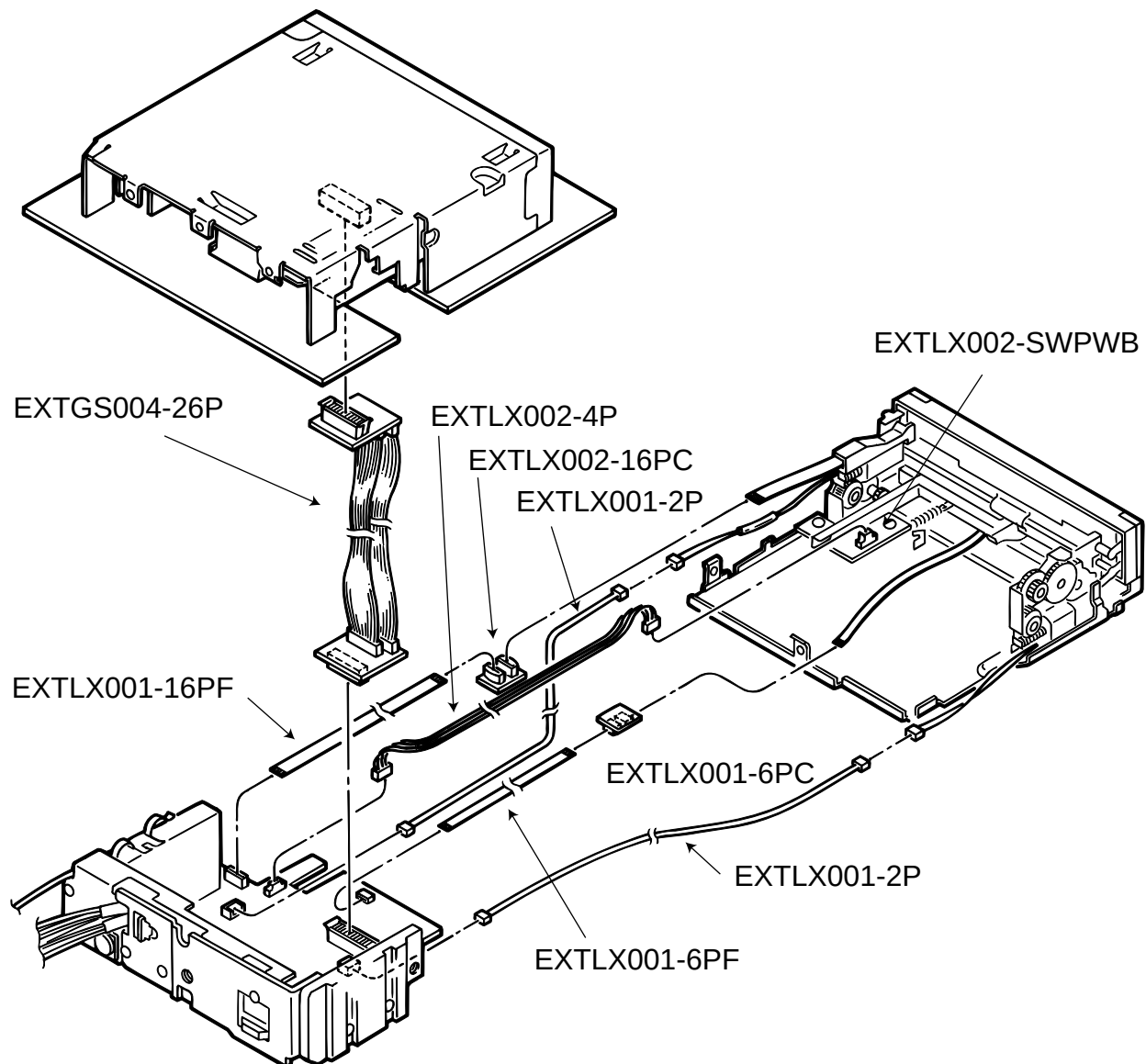


Extension cord connecting method

■ Using the extension cords to connect the front panel with the main board

Remove the main board following the disassembly method. Then reattach the heat sink to main board.

1. Using the 2pin extension cord (EXTLX001-2p), connect the harness of the feed motor (L) assembly with the connector CN503 on the main board.
2. Using the 2pin extension cord (EXTLX001-2p), connect the harness of the feed motor (R) assembly with the connector CN504 on the main board.
3. Using the jig board (EXTLX002-SWPWB), its installing to the chassis, then using 4pin extension cord (EXTLX002-4P) connect the harness of the lifter detecting board with the connector CN704 on the board.
4. Connect the connector (EXTLX001-6PC) and extension wire (EXTLX001-6PF), connect the 6pin connector CN702 on the main board.
5. Connect the connector (EXTLX002-16PC) and extension wire (EXTLX002-16PF), connect the 16pin connector CN701 on the main board.

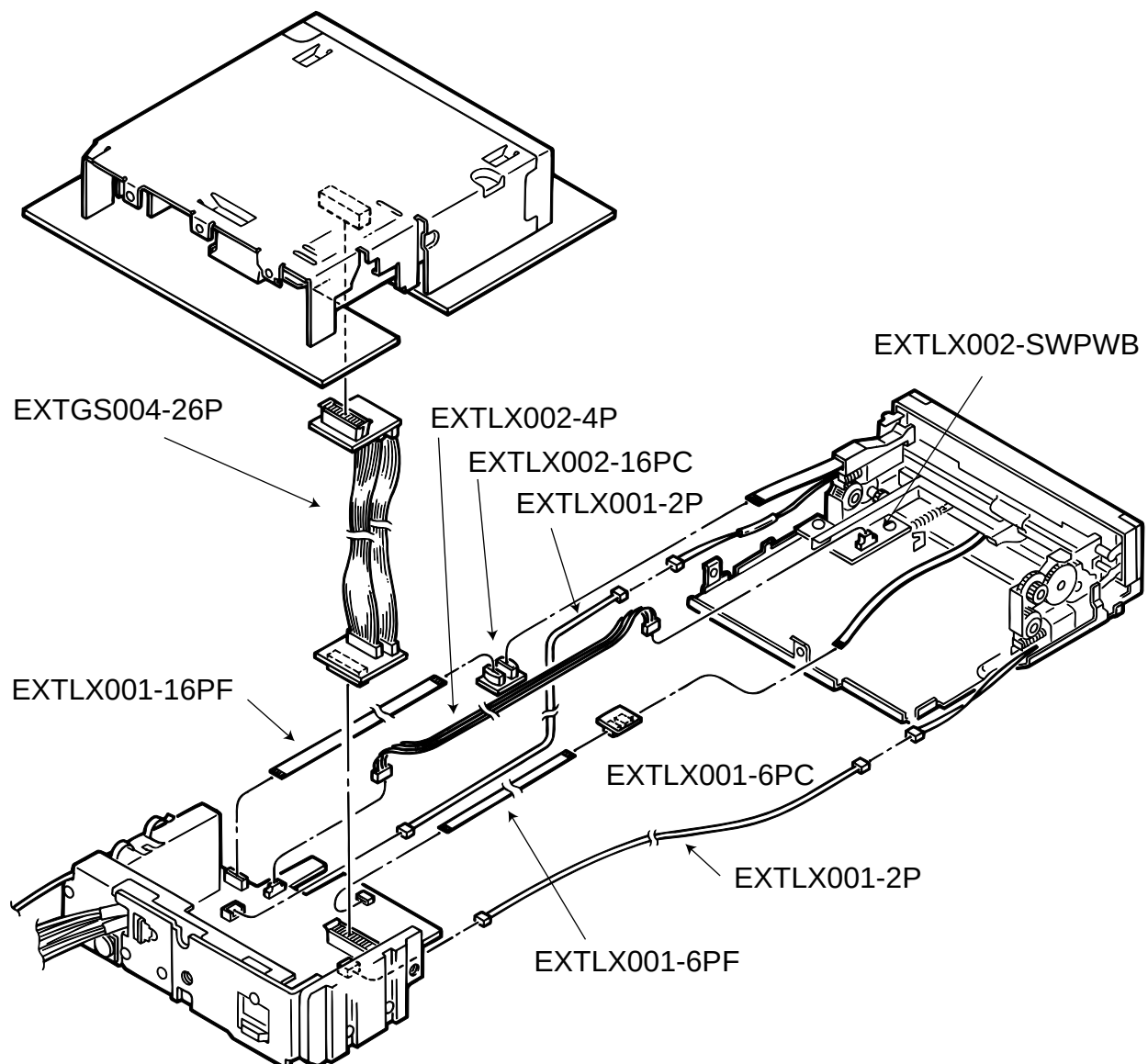


■ Extension cord list for KD-LX50R

EXTLX002-JIG : Kit including the following 8 extension parts.

No.	Parts number	Quantity	Description
1	EXTLX001-2P	2	2Pin, 30cm extension cord
2	EXTLX001-6PF	1	6Pin, 30cm flat wire
3	EXTLX001-6PC	1	6Pin x 2, interlocking connector
4	EXTLX002-16PF	1	16Pin flat wire
5	EXTLX002-16PC	1	16Pin, interlocking connector
6	EXTLX002-SWPWB	1	3 switch PWB
7	EXTLX002-4P	1	4Pin, 30cm extension cord

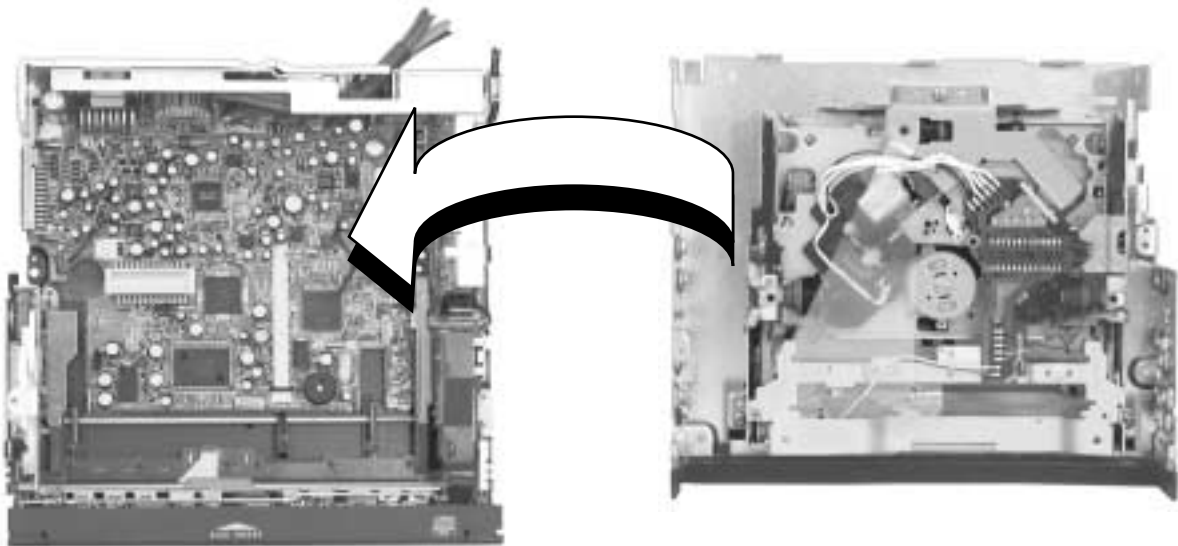
Besides the above kit, we offer the conventional extension cord for CD mechanism which are not essential to operation check or service. The mechanism should be directly connected to the board using the extension wire. EXTGS004-26P



■ Reassembly

1. Perform reassembly by reversing the removing process of "removal of main parts".

CAUTION 1: Prior to reattaching the heat sink, make sure to reattach the top chassis.

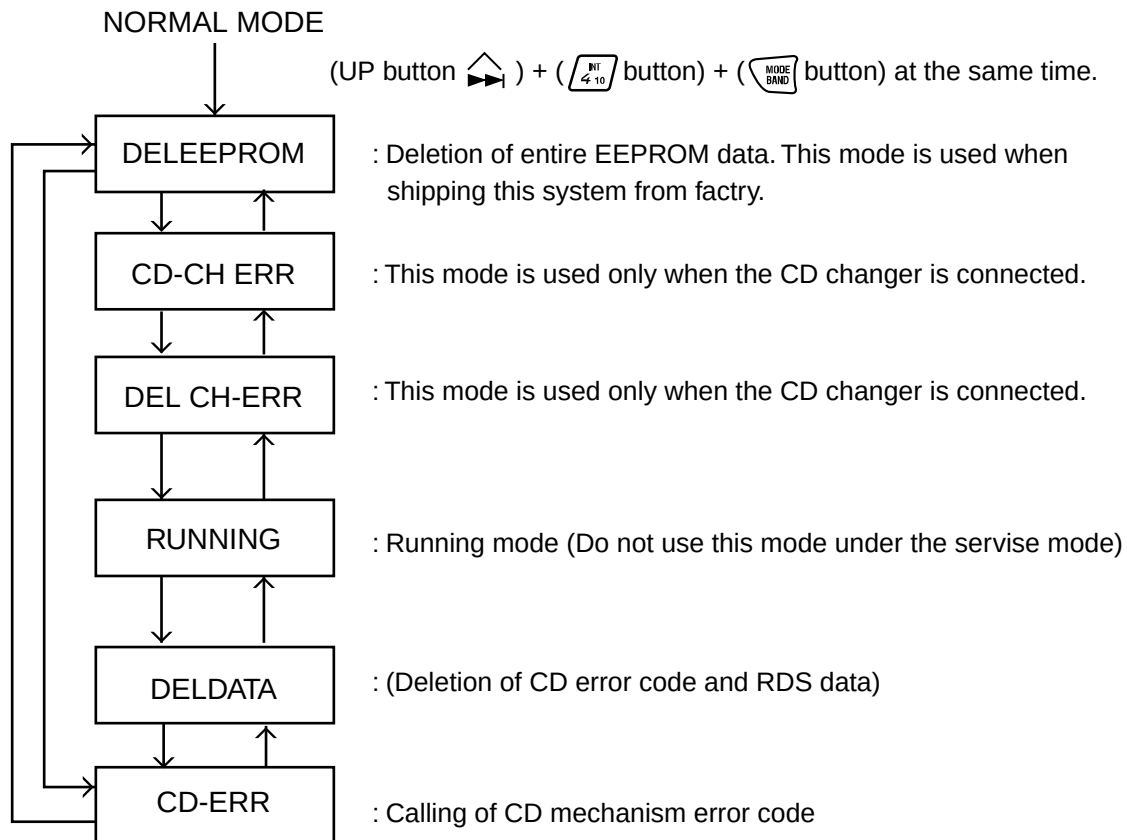


Functions of the mechanism under the service mode

With the three error modes stored in maximum in the internal memory of the mechanism in the body of this system, it is possible under the service mode to call the contents of error according to the following steps when any error has occurred.

Press the three buttons (UP button ) + () + (Func button ). Then it is possible to select the following service modes. After changing over to the service mode, press the UP button  and DOWN button  to change the mode. For executing the respective service modes, press the SEL button.

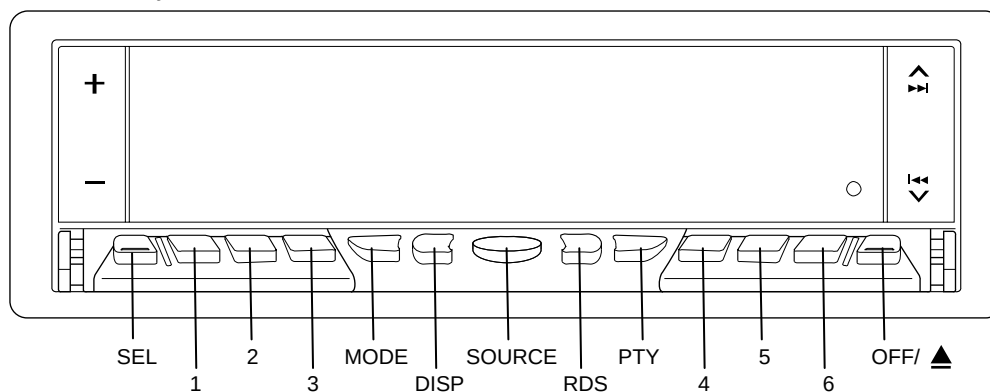
With the service mode 2 , it is possible to call the error codes of the mechanism.



Data stored in EEPROM

1. RDS data
2. CD mechanism error cord
3. Station name (to be input by user)
4. DISC name (to be input by user)
5. AUX input name

*Any data 3 to 5 above should not be deleted.



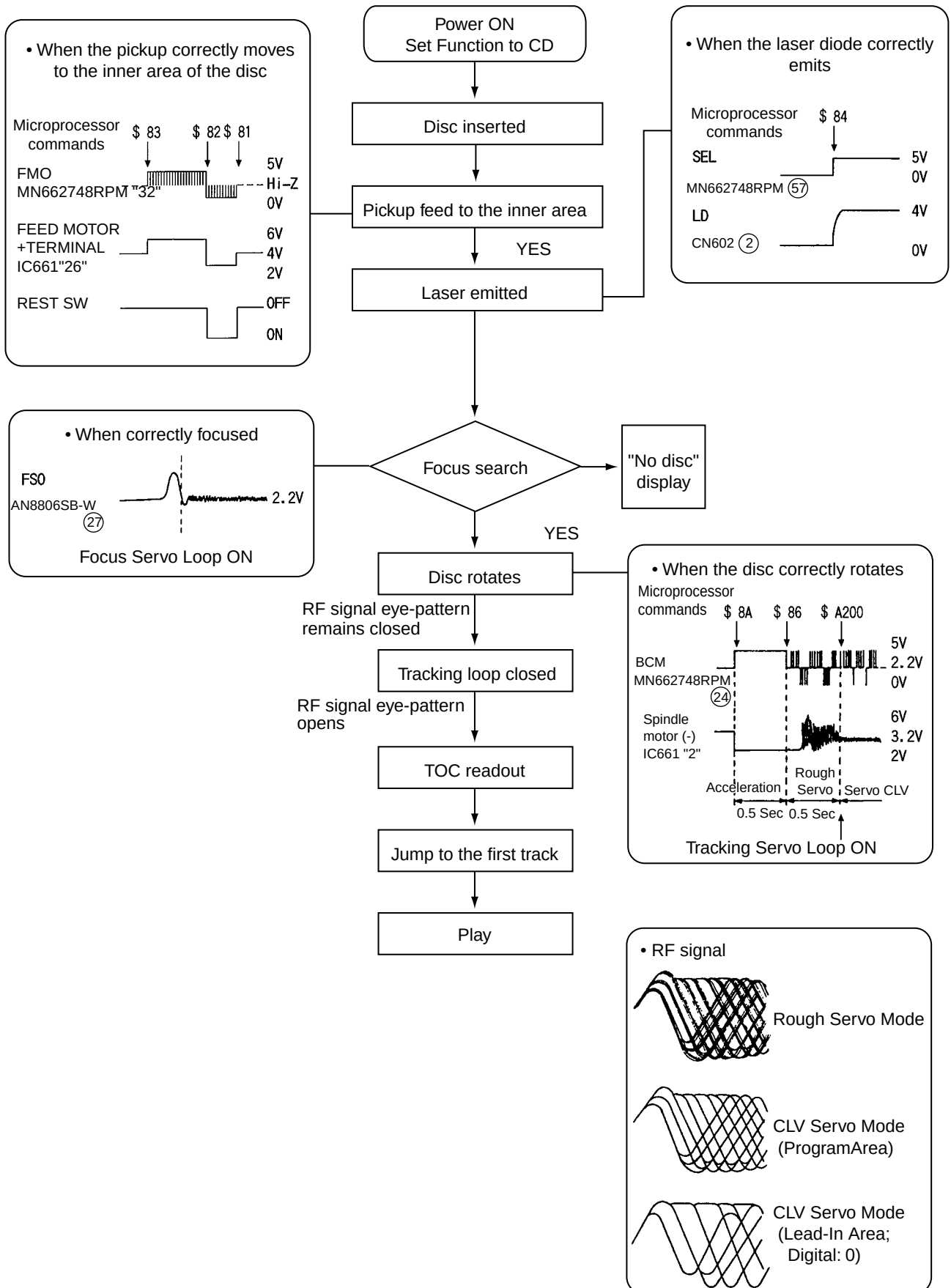
1. Display of mechanism error

Occurrence condition	Description	Error codes
Disc loading error	1. SW4 is not turned off. 2. SW3 is not turned on.	09 0011 09 0013
Eject error	1. SW# is not turned off.	01 0021
Error during standby for loading	1. In case SW2 has been positioned to "L" before starting loading during waiting for 15sec.	80 0031

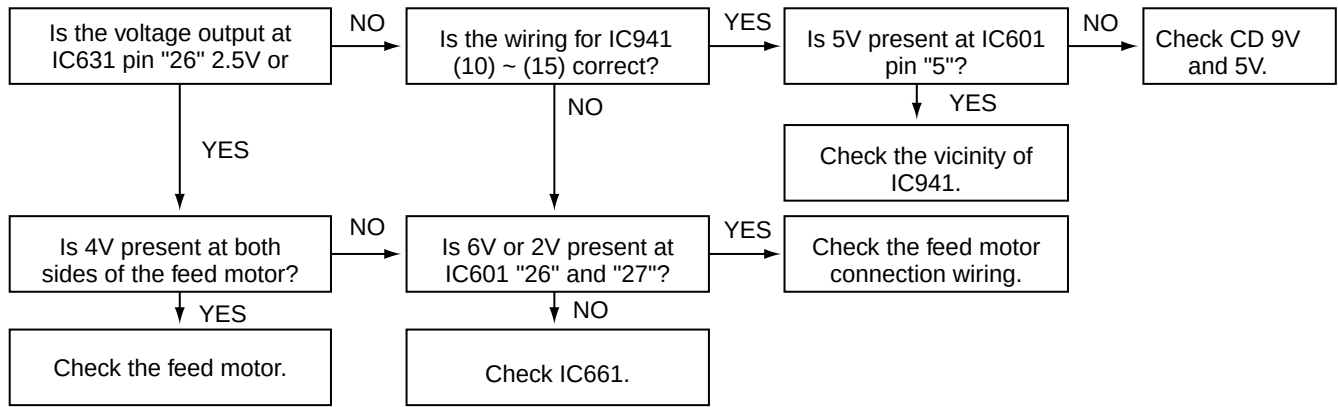
2. Display of CD error

Occurrence condition	Description	Error codes
Pickup feeding error 1. Inner peripheral feeding error (10sec.) 2. Outer peripheral feeding error (10sec.)	The pickup cannot returned to the inner peripheral, and the REST switch is not turned off. The pickup cannot be returned to the outer peripheral, and the REST switch is not turned off.	04 0051 04 0052
Focus search error In the case of focusing error after 3-way focus searching	In case the focus cannot be searched by one set of focus searching (3-way focus searching) after disc change and focus shock, judge that the focus searching system is in error.	81 0053
Tracking balance adjusting error In the case of time-over (1sec.) of timer	In case tracking balance cannot be adjusted even after elapse of 1sec. following execution of the adjusting command (TBA).	82 0054
TOC area searching error In the case of time-over (10sec.) of timer Reading error IN the case of time-over (30sec.) of timer	In case TOC area searching is not ended even after elapse of 10sec. In case reading is not ended even after elapse of 30 sec. during TOC reading action.	82 0055 84 0059
1st tracking access error In the case of time-over (10sec.) of timer	In case the first tracking access is not ended even after elapse of 10sec. following completion of TOC reading.	80 0060
Last tracking access error In the case of time-over (10sec.) of timer	In case the last tracking access is not ended even after elapse of 10sec. following completion of first tracking under the RUNNING mode.	80 0061
Q code reading error In the case of time-over (0.6sec.) of timer	In case the Q code cannot be read for 0.6sec. during playing TOC program area.	80 0062
TEXT data reading error	In case all TEXT data cannot be read.	80 0063

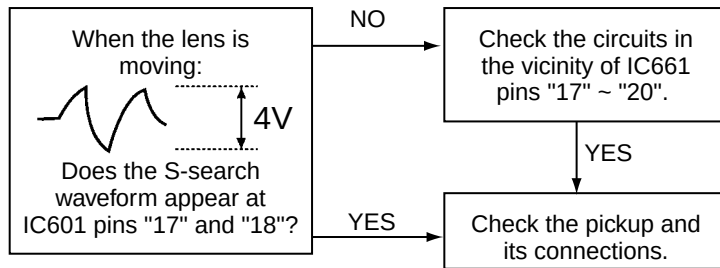
Flow of functional operation until TOC read



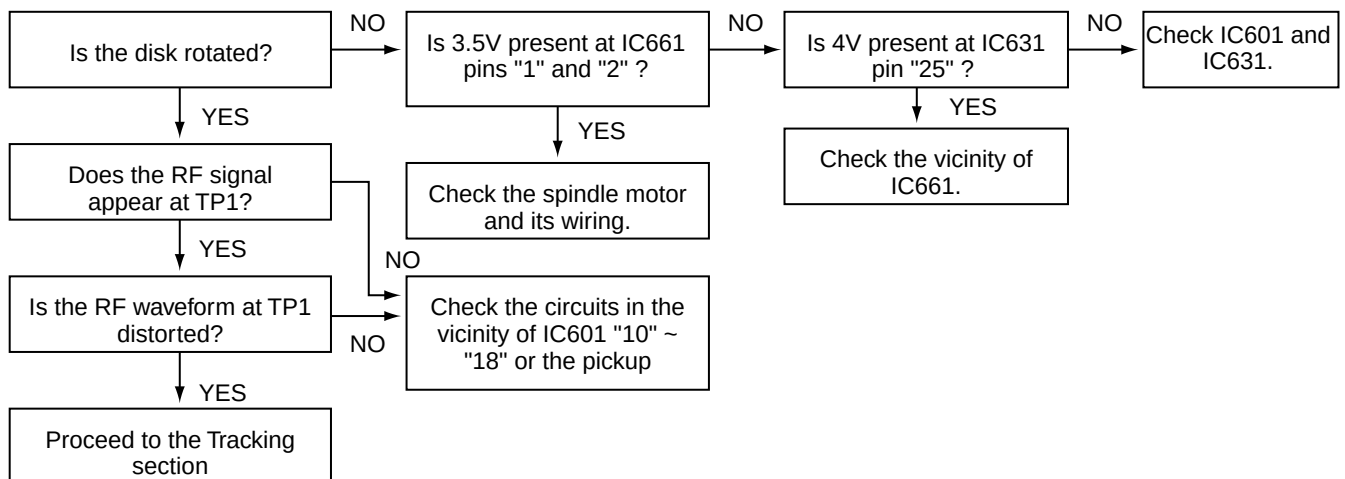
■ Feed Section



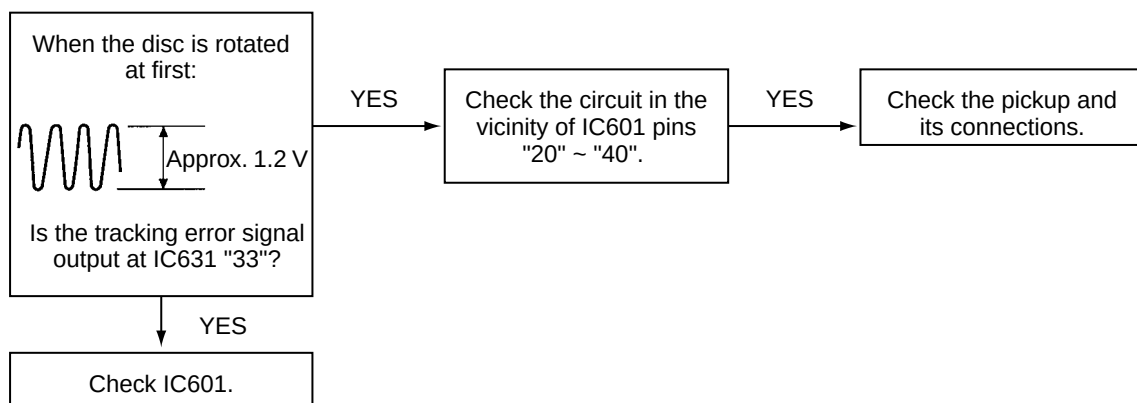
■ Focus Section



■ Spindle Section

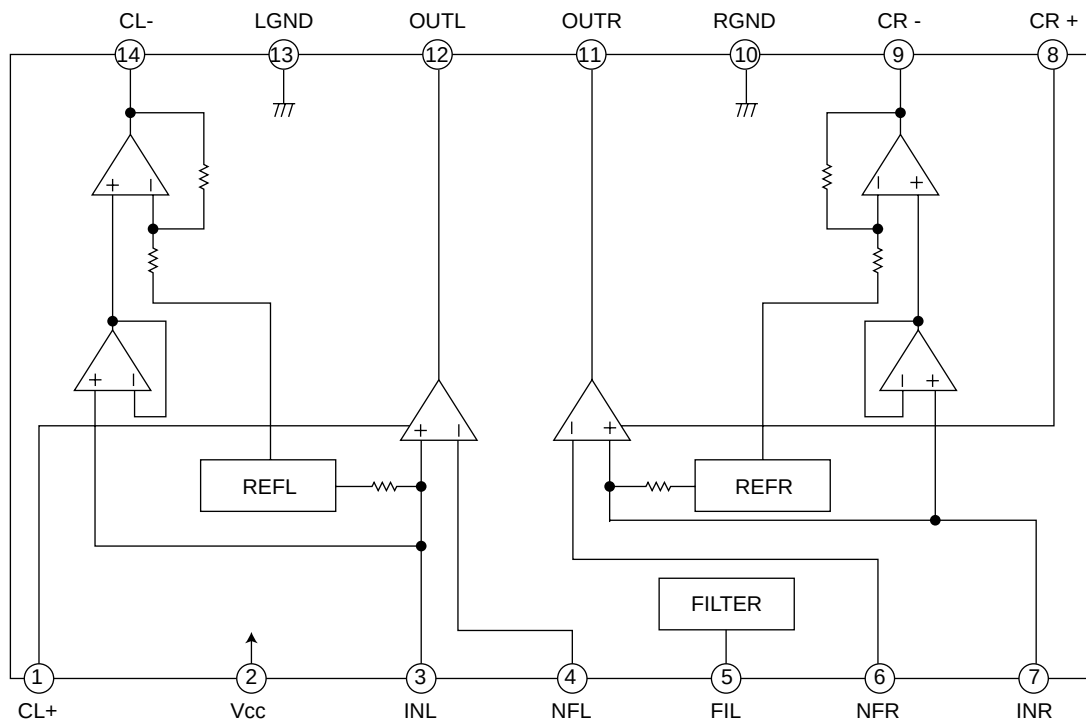


■ Tracking Section



■ BA3220FV-X (IC301,IC401) : Driver

1. Pin layout & Block diagram

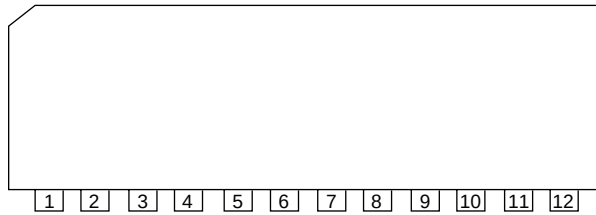


2. Pin functions

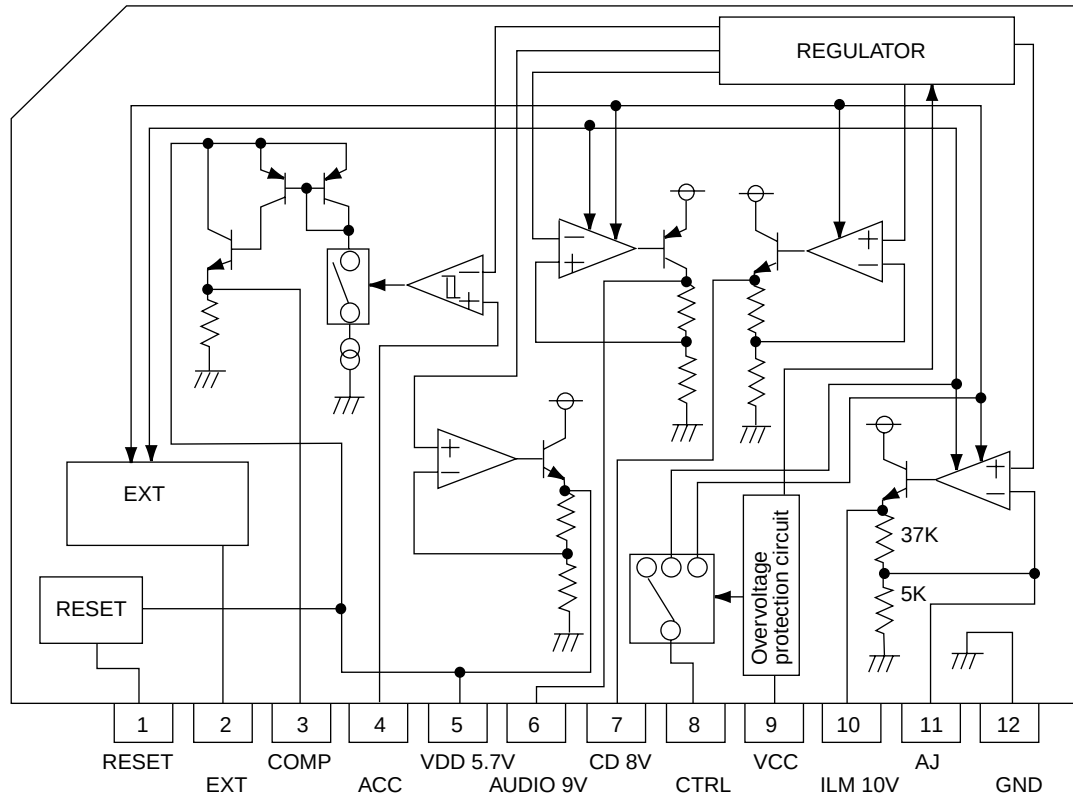
Pin No.	Symbol	Function
1	CL+	Power supply terminal for amp.
2	Vcc	power supply terminal.
3	INL	input terminal.
4	NFL	Negative feedback terminal.
5	FIL	Filter terminal.
6	NFR	Negative feedback terminal.
7	INR	Input terminal
8	CR+	Power supply terminal for amp.
9	CR-	Output terminal of internal amp.
10	RGND	Rch GND terminal.
11	OUTR	Rch output terminal.
12	OUTL	Lch output terminal.
13	LGND	Lch GND terminal.
14	CL-	Output terminal of internal amp.

■ BA4905-V3 (IC961) : Regulator

1. Terminal layout



2. Block diagram

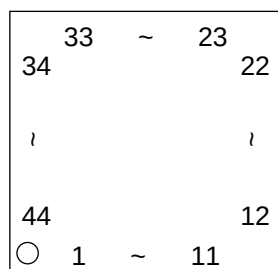


3. Pin function

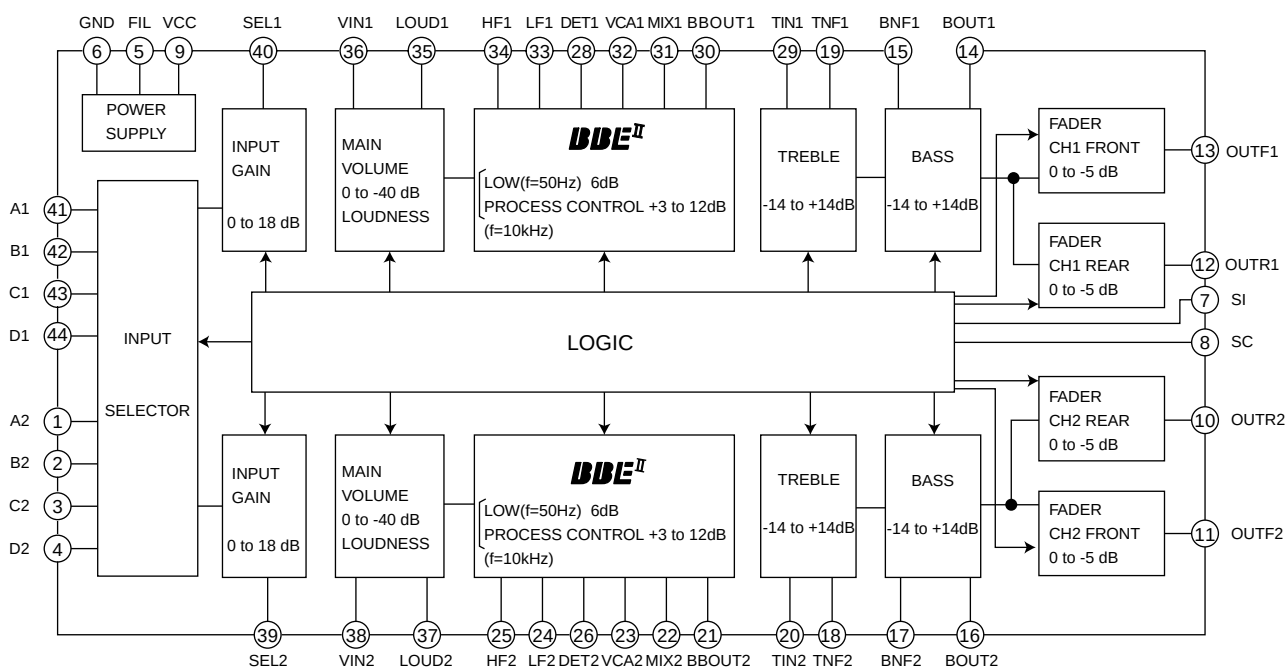
Pin no.	Symbol	Function
1	RESET	If VDD voltage becomes 4V or less. RESET output becomes low level.
2	EXT output	This output voltage is approximately 0.5V lower than VCC. and max output current is 300mA.
3	COMP output	A voltage supply for ACC block. This output voltage is approximately 0.7V lower than 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.

■ BD3860K (IC911) : E. volume

1. Pin layout



2. Block diagram

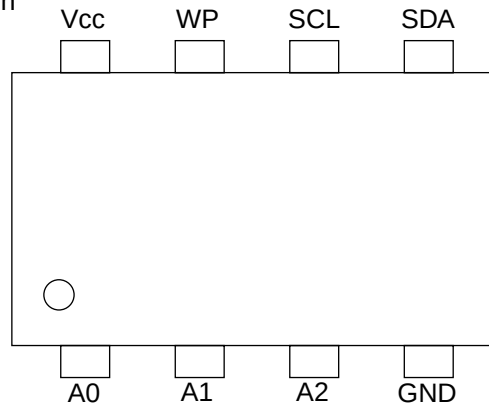


3. Pin function

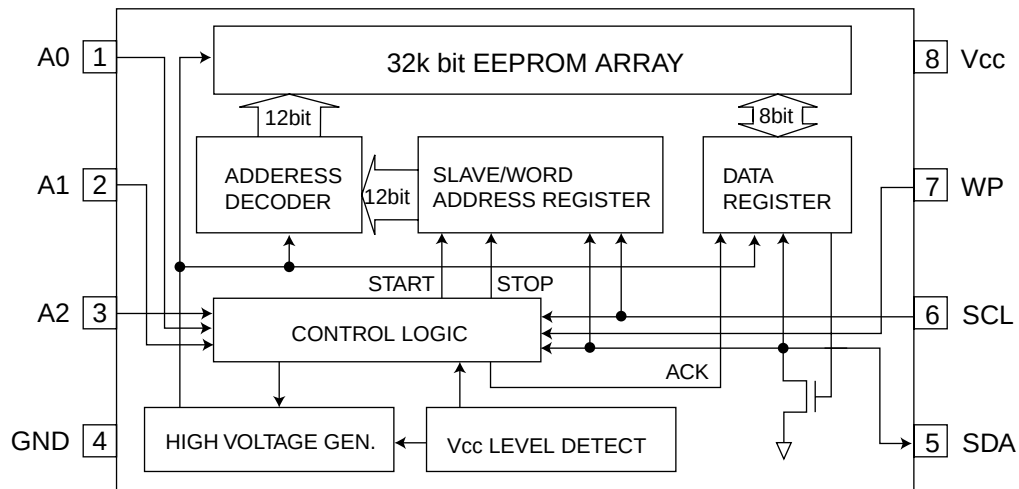
Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	A2	CH2 input terminal A	23	VCA2	CH2 high frequency VCA output terminal
2	B2	CH2 input terminal B	24	LF2	CH2 low frequency filter setting terminal
3	C2	CH2 input terminal C	25	HF2	CH2 high frequency filter setting terminal
4	D2	CH2 input terminal D	26	DET2	CH2 high frequency attack release time setting
5	FIL	1/2 VCC terminal	27	NC	Non connect
6	GND	Ground terminal	28	DET1	CH1 high frequency attack release time setting
7	SI	Serial data input terminal	29	TIN1	CH1 treble input terminal
8	SC	Serial clock input terminal	30	BBOUT1	CH1 BBE II signal output terminal
9	VCC	Power supply	31	MIX1	CH1 output mix amp. negative input terminal
10	OUTR2	CH2 rear output terminal	32	VCA1	CH1 high frequency VCA output terminal
11	OUTF2	CH2 front output terminal	33	LF1	CH1 low frequency filter setting terminal
12	OUTR1	CH1 rear output terminal	34	HF1	CH1 high frequency filter setting terminal
13	OUTF1	CH1 front output terminal	35	LOUD1	CH1 loudness filter setting terminal
14	BOUT1	CH1 bus filter setting terminal	36	VIN1	CH1 main volume input terminal
15	BNF1	CH1 bus filter setting terminal	37	LOUD2	CH2 loudness filter setting terminal
16	BOUT2	CH2 bus filter setting terminal	38	VIN2	CH2 main volume input terminal
17	BNF2	CH2 bus filter setting terminal	39	SEL2	CH2 input gain output terminal
18	TNF2	CH2 treble filter setting terminal	40	SEL1	CH1 input gain output terminal
19	TNF1	CH1 treble setting terminal	41	A1	CH1 input terminal A
20	TIN2	CH2 treble input terminal	42	B1	CH1 input terminal B
21	BBOUT2	CH2 BBE II signal output terminal	43	C1	CH1 input terminal C
22	MIX2	CH2 output mix amp negative input terminal	44	D1	CH1 input terminal D

■ BR24C32F-X (IC703) : EEPROM

1. Pin function



2. Block diagram

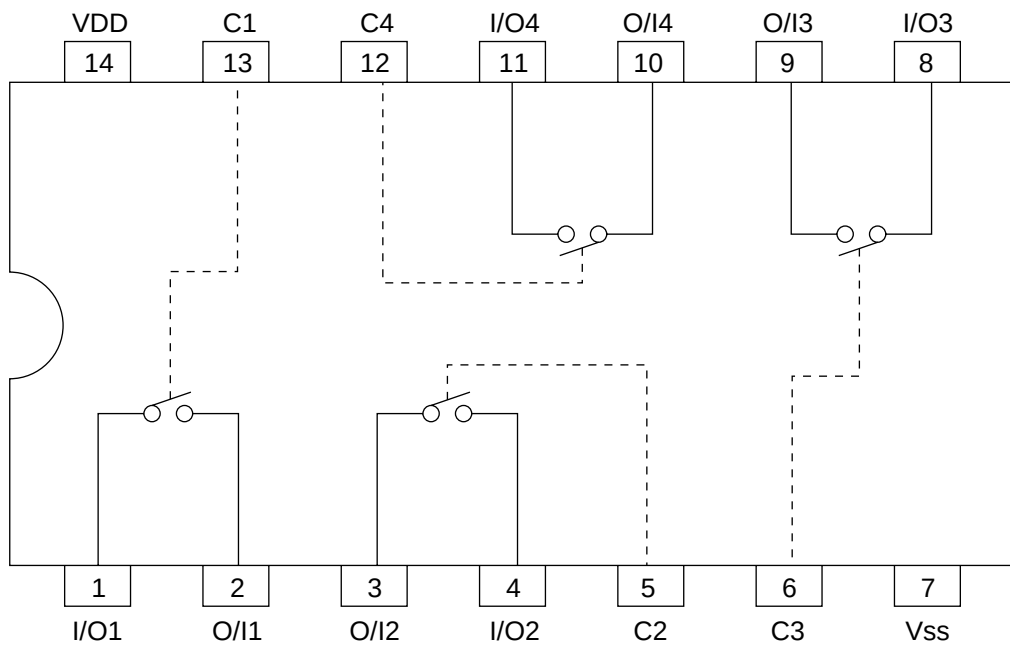


3. Pin function

Pin No.	I/O	Functions
Vcc	-	Power supply
GND	-	Ground (0V)
A0,A1,A2	IN	Slave address set
SCL	IN	Serial clock input
SDA	I/O	Slave and word address/Serial data output
WP	IN	Write protect input

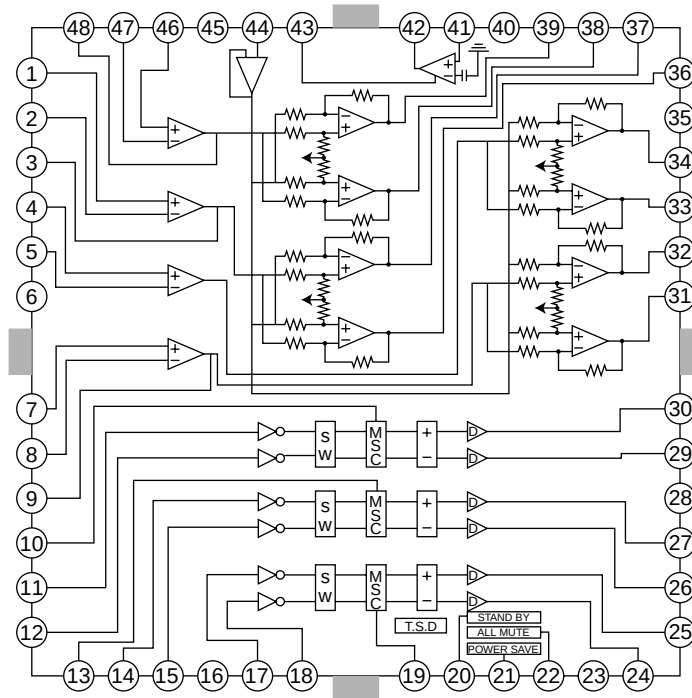
■ BU4066BCFV-X (IC322) : Quad analog switch

1. Pin layout & Block diagram



■ FAN8037 (IC581) : CD driver

1. Pin layout & Block diagram

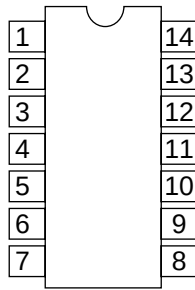


2. Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	IN2+	I	CH2 op-amp input(+)	25	DO7+	O	CH7 drive output(+)
2	IN2-	I	CH2 op-amp input(-)	26	DO6-	O	CH6 drive output(-)
3	OUT2	O	CH2 op-amp output	27	DO6+	O	CH6 drive output(+)
4	IN3+	I	CH3 op-amp input(+)	28	PGND2	-	Power ground2
5	IN3-	I	CH3 op-amp input(-)	29	DO5-	O	CH5 drive output(-)
6	OUT3	O	CH3 op-amp output	30	DO5+	O	CH5 drive output(+)
7	IN4+	I	CH4 op-amp input(+)	31	DO4-	O	CH4 drive output(-)
8	IN4-	I	CH4 op-amp input(-)	32	DO4+	O	CH4 drive output(+)
9	OUT4	O	CH4 op-amp output(+)	33	DO3-	O	CH3 drive output(-)
10	CTL1	I	CH5 motor speed control	34	DO3+	O	CH3 drive output(+)
11	FWD1	I	CH5 forward input	35	PGND1	-	Power ground1
12	REV1	I	CH5 reverse input	36	DO2-	O	CH2 drive output(-)
13	CTL2	I	CH6 motor speed control	37	DO2+	O	CH2 drive output(+)
14	FWD2	I	CH6 forward input	38	DO1-	O	CH1 drive output(-)
15	REV2	I	CH6 reverse input	39	DO1+	O	CH1 drive output(+)
16	SGND	-	Signal ground	40	PVCC1	-	Power supply voltage
17	FWD3	I	CH7 forward input	41	REGOX	I	Regulator feedback input
18	REV3	I	CH7 reverse input	42	REGX	O	Regulator output
19	CTL3	I	CH7 motor speed control	43	RESX	I	Regulator reset input
20	SB	I	Stand by	44	VREF	I	Bias voltage input
21	PS	I	Power save	45	SVCC	-	Signal supply voltage
22	MUTE	I	All mute	46	IN1+	I	CH1 op-amp input(+)
23	PVCC2	-	Power supply voltage	47	IN1-	I	CH1 op-amp input(-)
24	DO7-	O	CH7 drive output(-)	48	OUT1	O	CH1 op-amp output

■HD74HC126FP-X (IC801) : Buffer

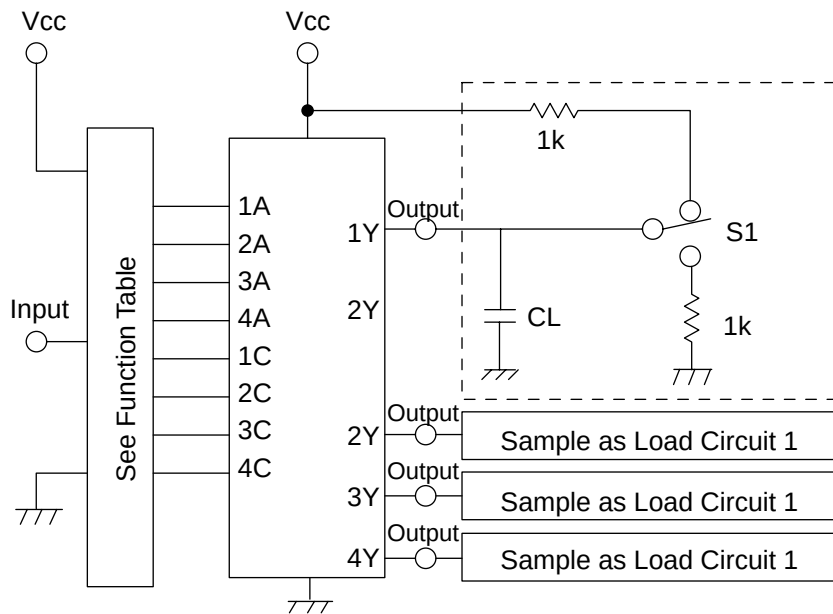
1. Pin layout



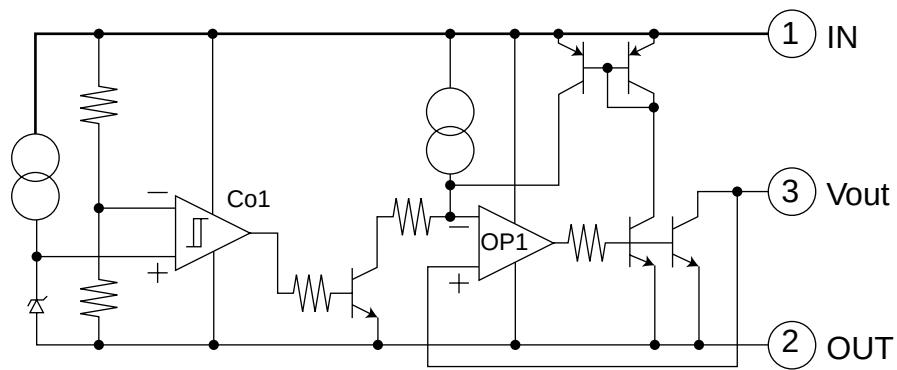
2. Function

Inputs		Outputs
C	A	Y
L	X	Z
H	L	H
H	H	L

3. Block diagram

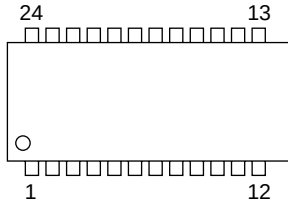


■ IC-PST600M/G/-W (IC702) : System reset

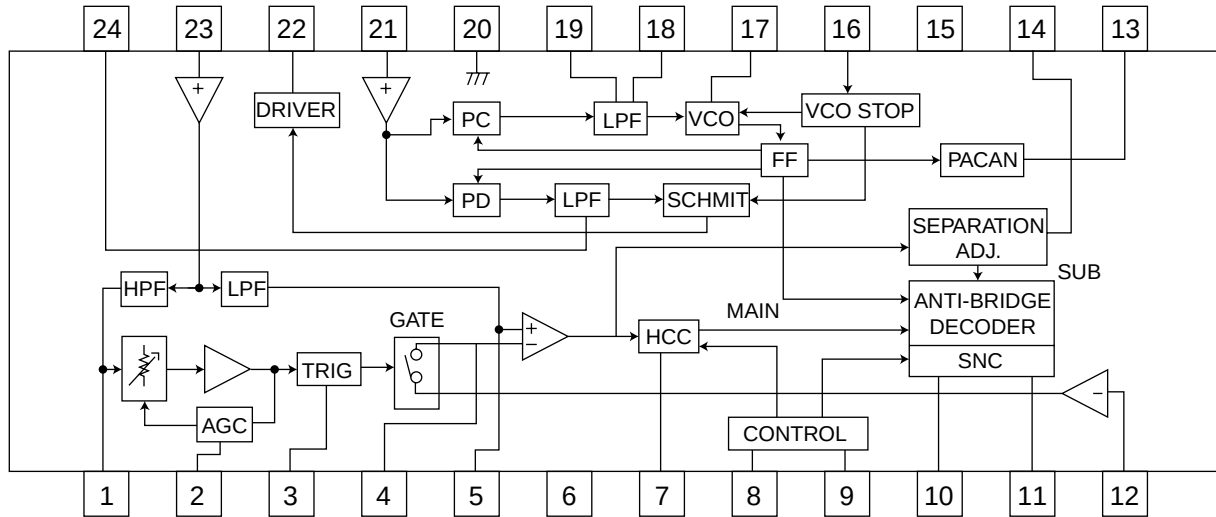


■ LA3460M-X (IC31) : FM noise canceller & Stereo MPX demodulator

1. Pin layout



2. Block diagram

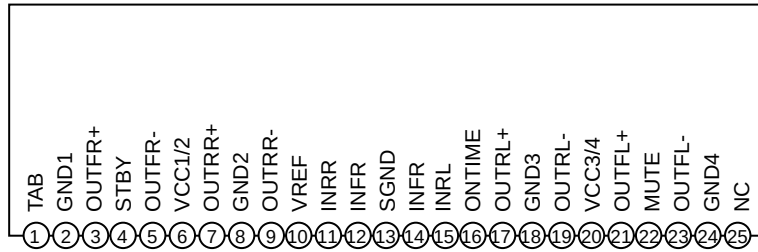


3. Pin function

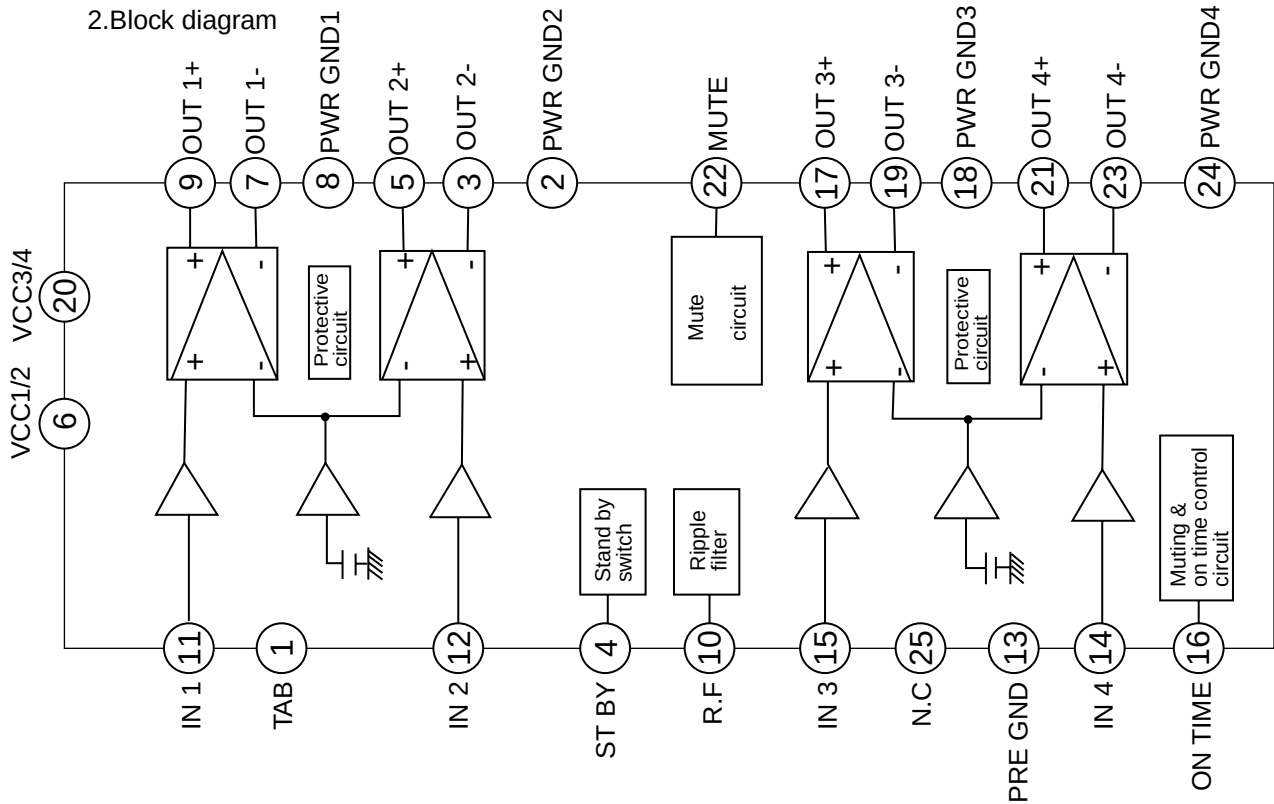
Pin No.	Function	Description
1	Noise sense	Noise sensitivity adjustment
2	Noise AGC	
3	Gate time	
4	Signal hold	
5	Pilot output	
6	Vcc	Vcc=+8.0V
7	Capacitor for HCC	High pass filter
8	SNC control	Stereo noise controlled voltage
9	HCC control	High cut controlled voltage
10	Lch output	
11	Rch output	
12	Pican input	pilot cancel signal input
13	Pican output	pilot cancel signal outpt
14	Separation ADJ	
15	NC	
16	NC	
17	456kHz OSC	Ceramic resonator
18	Phase comp LPF (+)	Phase comparator low pass filter
19	Phase comp LPF (-)	Phase comparator low pass filter
20	GND	
21	PLL input	Phase locked loop signal input
22	Stereo indicator	Active low
23	Composite input	Composite signal input
24	Pilot det LPF	

■ LA4743B (IC941) :Power amp

1.Terminal layout



2.Block diagram

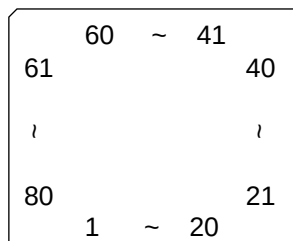


3.Pin function

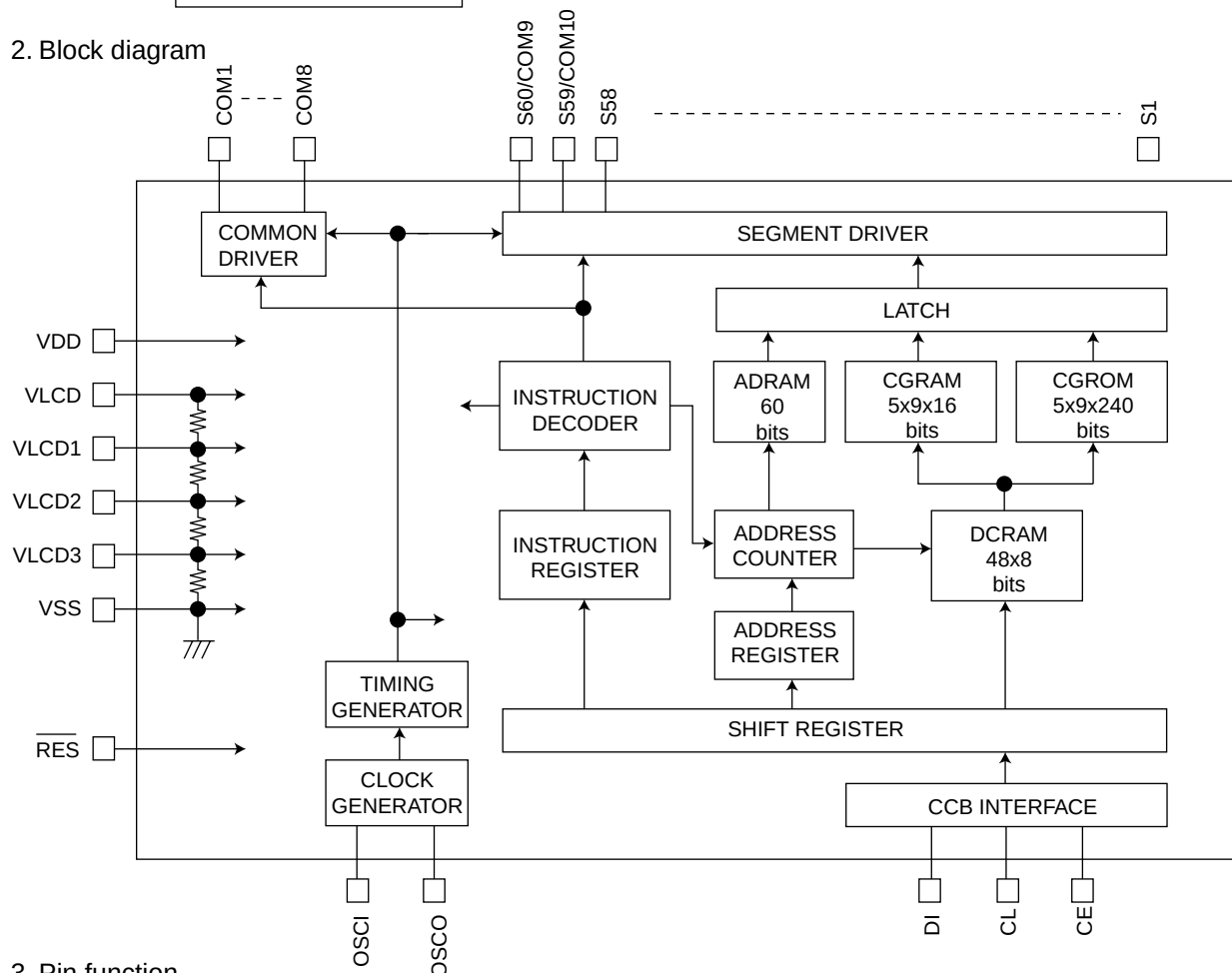
Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	TAB	Header of IC	14	LFIN	Front Lch input
2	GND1	Power GND	15	LRIN	Rear Lch input
3	RFO-	Output (-) for front Rch	16	ONTIME	Power on time control
4	STBY	Stand by input	17	LRO+	Output (+) for rear Lch
5	RFO+	Output (+) for front Rch	18	GND3	Power GND
6	VCC1/2	Power input	19	LRO-	Output (-) for rear Lch
7	RRO-	Output (-) for rear Rch	20	VCC3/4	Power input
8	GND2	Power GND	21	LFO+	Output (+) for front
9	RRO+	Output (+) for rear Rch	22	MUTE	Muting control input
10	R.F	Ripple filter	23	LFO-	Output (-) for front
11	RRIN	Rear Rch input	24	GND4	Power GND
12	RFIN	Front Rch input	25	NC	Non connection
13	SGND	Signal GND			

■ LC75811W (IC602) : LCD driver

1. Pin layout



2. Block diagram

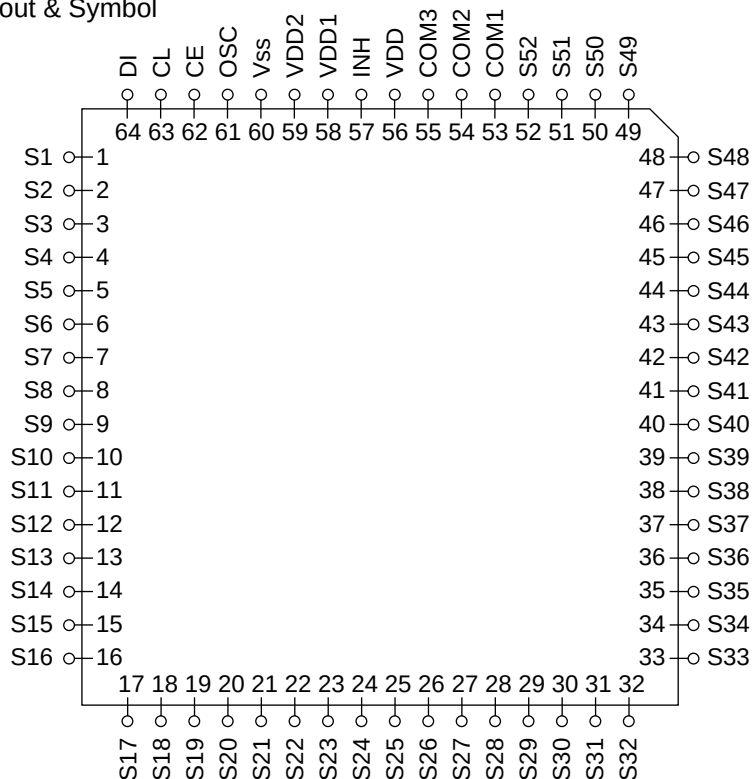


3. Pin function

Pin No.	Symbol	I/O	Function
1~58	S3~S60	O	Segment driver output terminal
59	COM0	O	Common driver output terminal
60~65	COM3~COM8	O	Common driver output terminal
66	COM1	O	Common driver output terminal
67	VDD	-	Power supply for logic section
68	VLCD	-	Power supply for LCD driver section
69~71	VLCD1~VLCD3	I	LCD voltage input terminal
72	VSS	-	Connect to ground
73	OSCO	O	Oscillation output terminal
74	OSCI	I	Oscillation input terminal
75	RES	I	Reset signal input terminal
76	CE	I	Chip enable input terminal
77	CL	I	Clock signal input terminal
78	DI	I	Serial data input terminal
79~80	S1~S2	O	Segment driver output terminal

■ LC75823W (IC601) : LCD driver

1. Pin Layout & Symbol

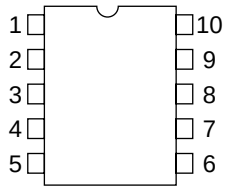


2. Pin Function

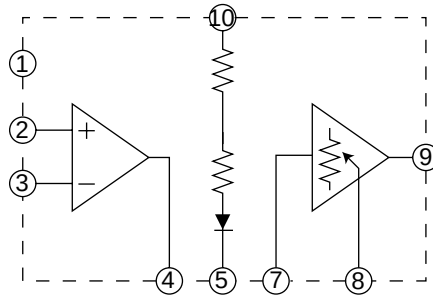
Pin No.	Symbol	I/O	Function
1 to 52	S1 to S52	O	Segment output pins used to display data transferred by serial data input.
53 to 55	COM1 to COM3	O	Common driver output pins. The frame frequency is given by : $t_0 = (f_{osc}/384)Hz$.
56	VDD	--	Power supply connection. Provide a voltage of between 4.5 and 6.0V.
57	$\overline{INH}$	I	Display turning off input pin. $\overline{INH} = "L"$ (Vss) ----- off (S1 to S52, COM1 to COM3="L" $\overline{INH} = "H"$ (VDD)----- on Serial data can be transferred in display off mode.
58	VDDD1	I	Used for applying the LCD drive 2/3 bias voltage externally. Must be connected to VDD2 when a 1/2 bias drive scheme is used.
59	VDD2	I	Used for applying the LCD drive 1/3 bias voltage externally. Must be connected to VDD1 when a 1/2 bias drive scheme is used.
60	Vss	--	Power supply connection. Connect to GND.
61	OSC	I/O	Oscillator connection. An oscillator circuit is formed by connecting an external resistor and capacitor at this pin.
62	CE	I	Serial data interface connection to the controller. CE : Chip enable
63	CL		CL : Sync clock
64	DI		DI : Transfer data

■ M5282FP-XE (IC321) : E. volume

1. Pin layout



2. Block diagram

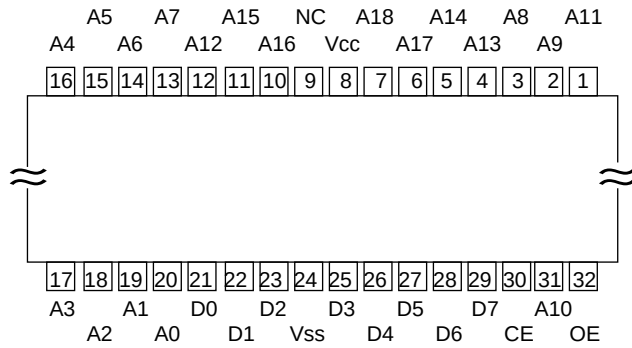


3. Pin function

Pin No.	Symbol	Function
1	Vcc/2	Vcc/2 output for microphone amp.
2	Amp+IN	Microphone amp. positive input terminal.
3	Amp-IN	Microphone amp. negative input terminal.
4	Amp OUT	Microphone amp. output terminal.
5	GND	Ground.
6	NC	Non connection.
7	VCA IN	VCA input terminal.
8	Vc	VCA control terminal.
9	VCA OUT	VCA output terminal.
10	Vcc	Power supply.

■ MSM534001E-77TS (IC854) : Flash memory

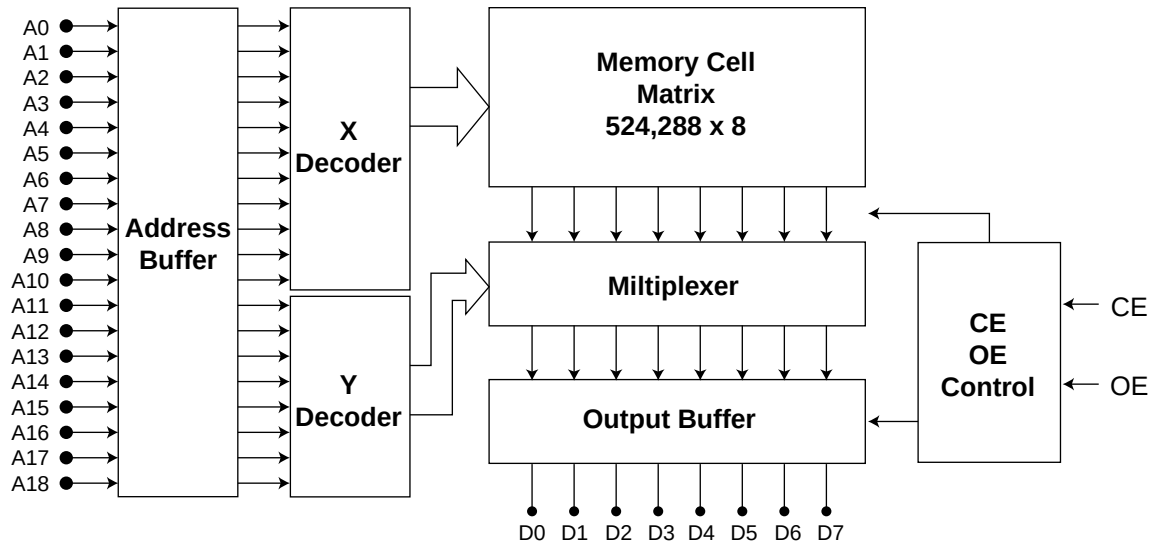
1. Pin layout



2. Pin function

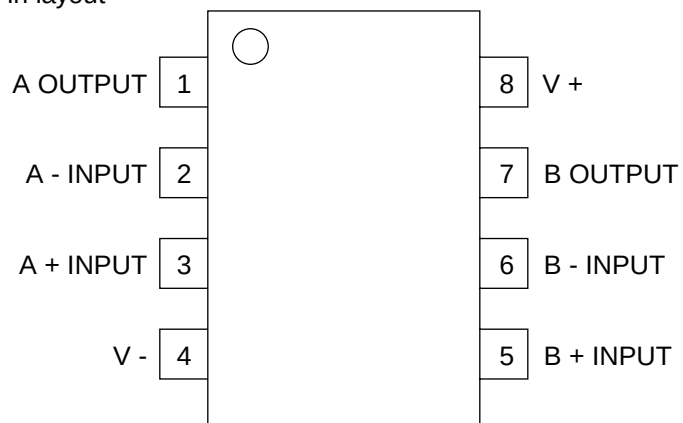
Symbol	Function
A0~A18	Address input
D0~D7	Data output
CE	Chip enable
OE	Output enable
Vcc,Vss	Power supply
NC	Non connection

3. Block diagram

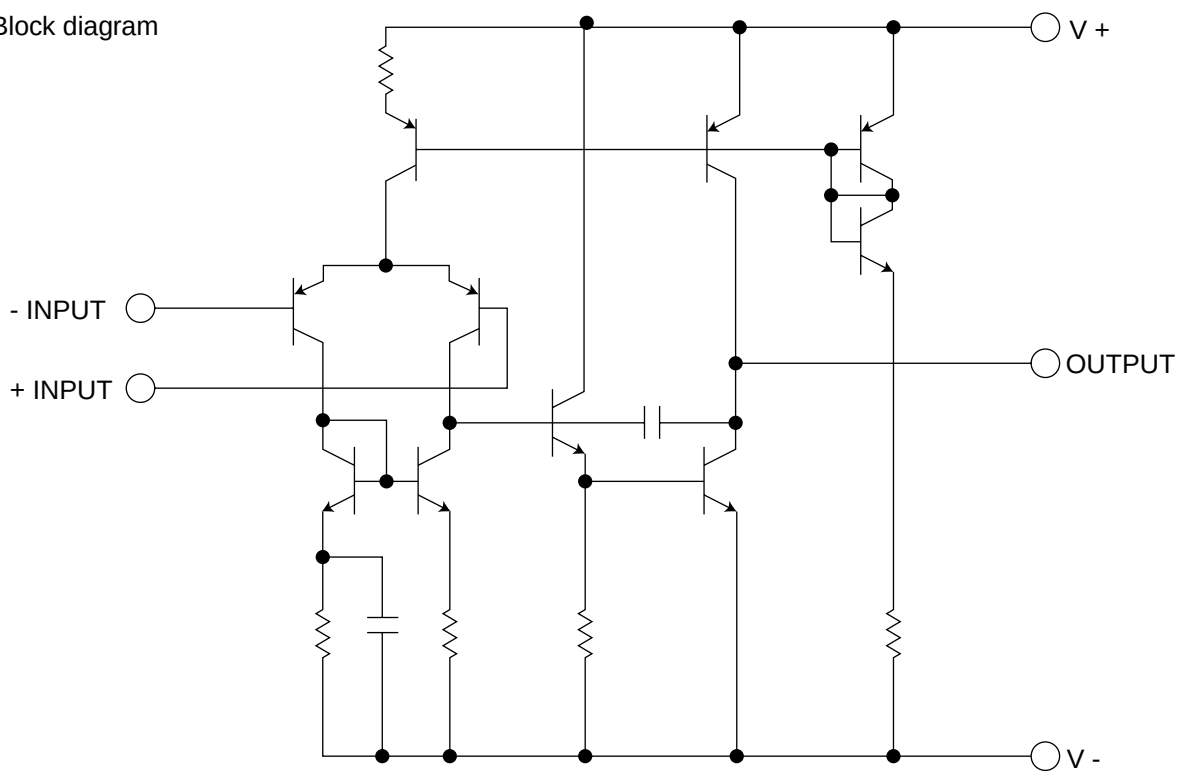


■ NJM2100M-W (IC821) : Dual operation amplifier

1. Pin layout

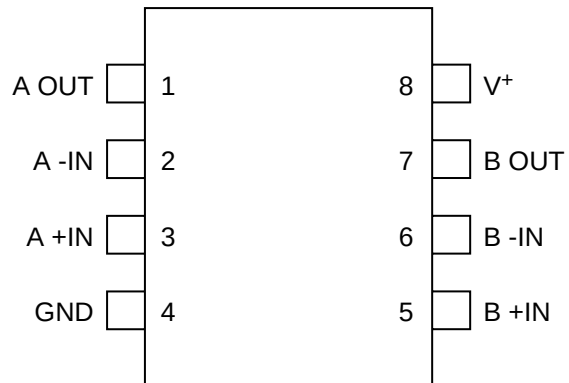


2. Block diagram

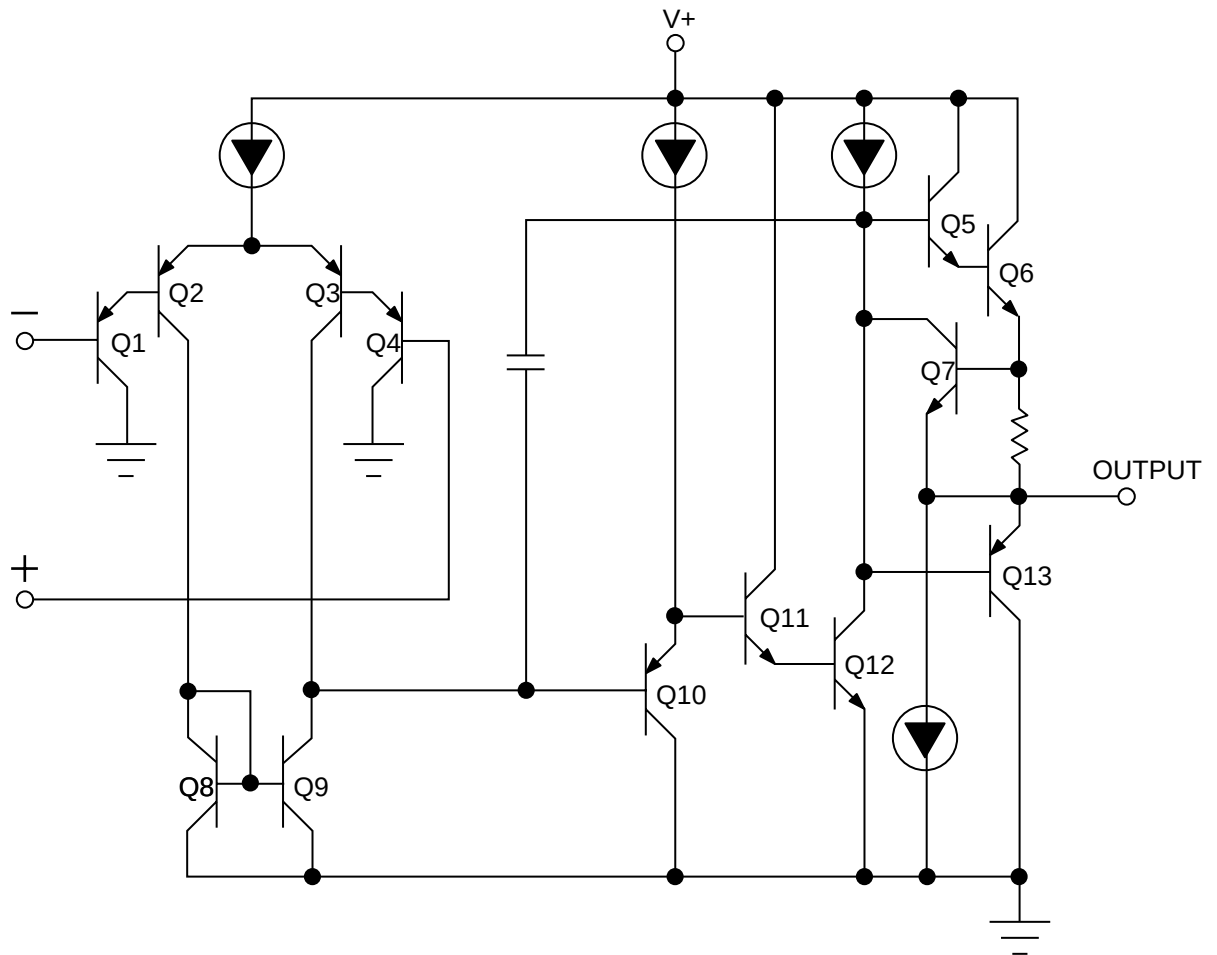


■ NJM2904M-W (IC831) : Ope amp

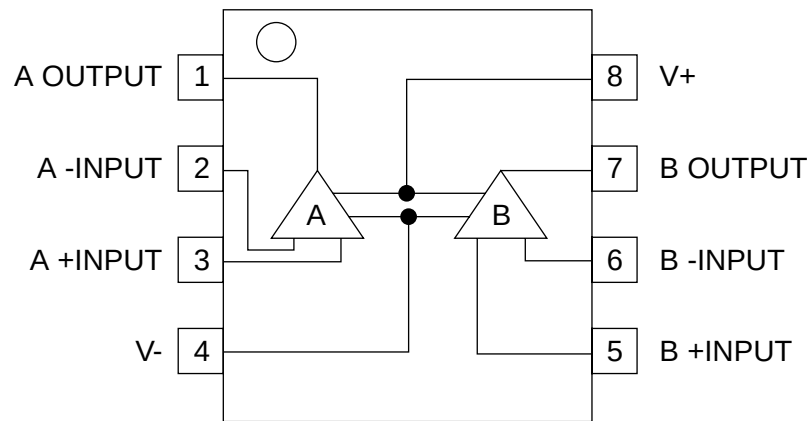
1.Pin layout



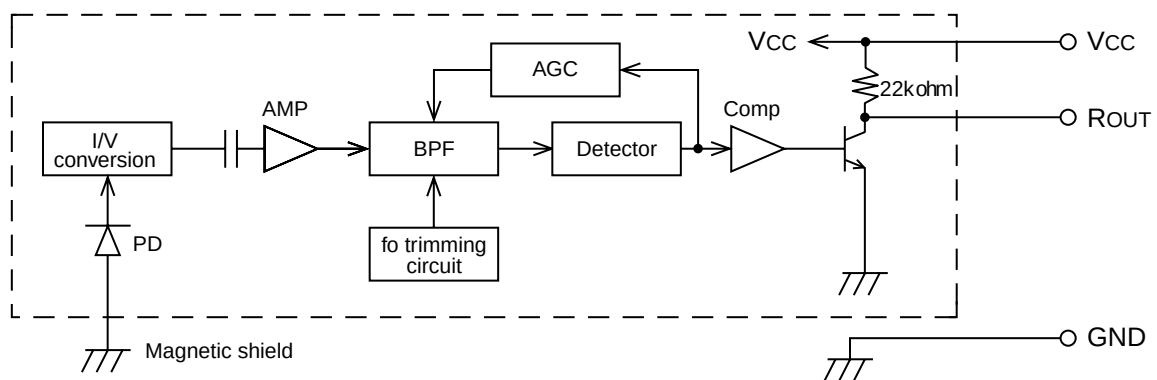
2.Block diagram



■ NJM4565M-W (IC151,IC171,IC323) : Ope amp.

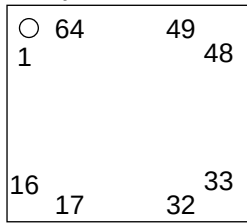


■ RPM6938-V4 (IC602) : R.M. Receiver

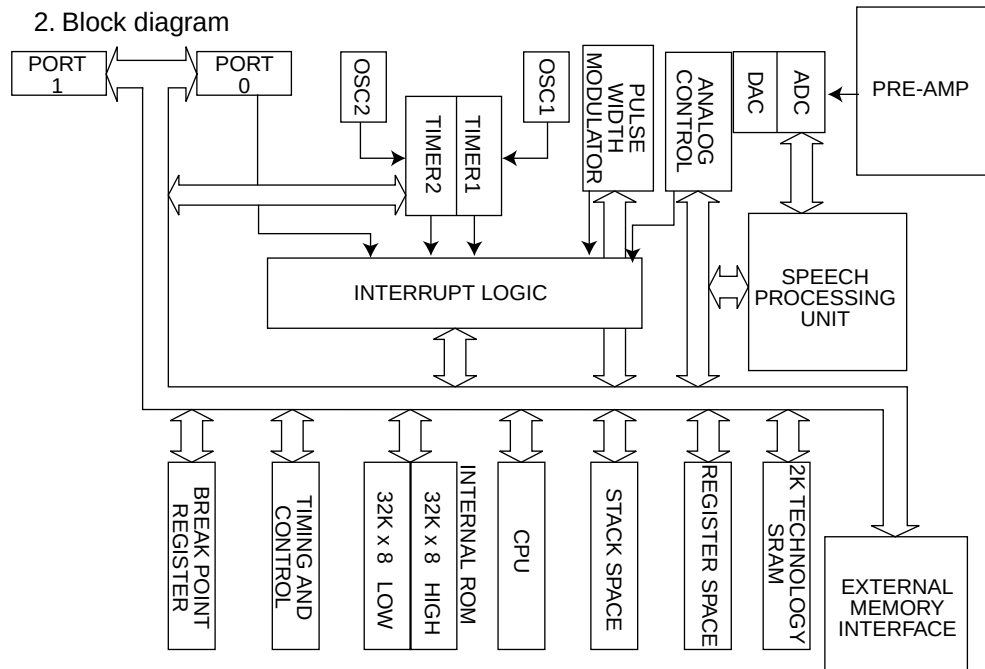


■ RSC-300-TQFP (IC851) : Voice processor

1. Pin layout



2. Block diagram

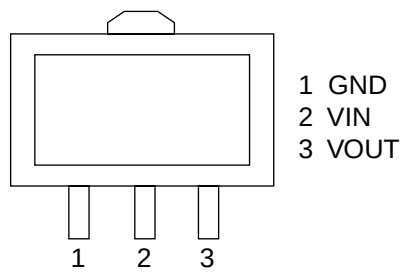


3. Pin function

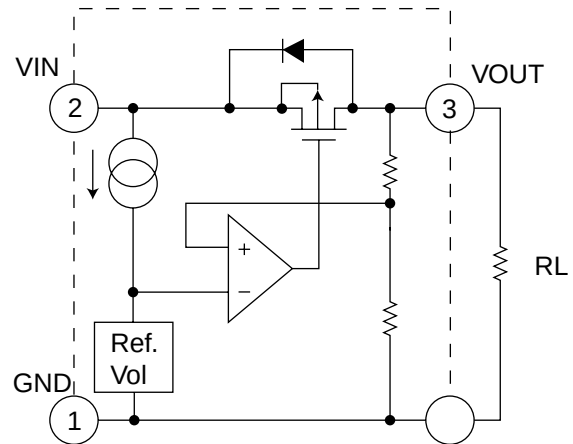
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	A15	O	Address bus for external memory	33	ENA	I	Data enable signal from 78K0
2	A14	O	Address bus for external memory	34	REQ	O	Data request signal for 78K0
3	A13	O	Address bus for external memory	35	DI	I	Data input signal from 78K0
4	A12	O	Address bus for external memory	36	DO	O	Data output signal for 78K0
5	A11	O	Address bus for external memory	37	CLK	I	Clock signal from 78K0
6	A10	O	Address bus for external memory	38	VDD	-	Digital power supply Connect to 5V
7	A9	O	Address bus for external memory	39	GND	-	Digital ground Connect to ground
8	A8	O	Address bus for external memory	40	RDC	O	Read strobe of ext. code memory
9	GND	-	Digital ground Connect to ground	41	WRC	O	Write strobe of ext. code memory
10	VDD	-	Digital power supply Connect to 5V	42	RDD	O	Read strobe of ext. data memory
11	A7	O	Address bus for external memory	43	WRD	O	Write strobe of ext. data memory
12	A6	O	Address bus for external memory	44	PDN	O	Power down signal
13	A5	O	Address bus for external memory	45	XMH	I	External high memory enable
14	A4	O	Address bus for external memory	46	XML	I	External low memory enable
15	A3	O	Address bus for external memory	47	VREF	-	Reference voltage
16	A2	O	Address bus for external memory	48	AIFE1	I	Microphone input
17	A1	O	Address bus for external memory	49	AIFE2	I	AGC pre-amp. input
18	A0	O	Address bus for external memory	50	DACOUT	O	Analog output (non buffering)
19	XO1	O	Connect to 14.31818MHz	51	AOFE3	O	3rd pre-amp. output
20	XI1	I	Connect to 14.31818MHz	52	AIN0	I	Low gain analog input
21	RESET	I	Reset detection terminal	53	AOFE2	I	2nd pre-amp. output
22	FAD4	O	Address bus 4 for flash memory	54	GND	-	Digital ground Connect to ground
23	FAD3	O	Address bus 3 for flash memory	55	BUF/PWM0	O	Buffered D/A converter output
24	FAD2	O	Address bus 2 for flash memory	56	TE/PWM1	O	Test mode or PWM output1
25	FAD1	O	Address bus 1 for flash memory	57	D7	I/O	External data bus
26	FAD0	O	Address bus 0 for flash memory	58	D6	I/O	External data bus
27	NC	-	Non connection	59	D5	I/O	External data bus
28	NC	-	Non connection	60	D4	I/O	External data bus
29	NC	-	Non connection	61	D3	I/O	External data bus
30	NC	-	Non connection	62	D2	I/O	External data bus
31	NC	-	Non connection	63	D1	I/O	External data bus
32	NC	-	Non connection	64	D0	I/O	External data bus

■ S-81250SGUP-X (IC845) : Regulator

1. Pin layout

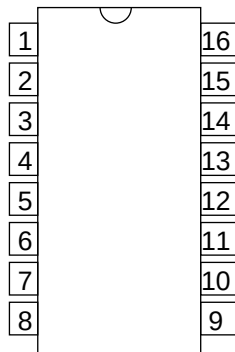


2. Block diagram



■ SAA6579T-X (IC51) : RDS demodulator

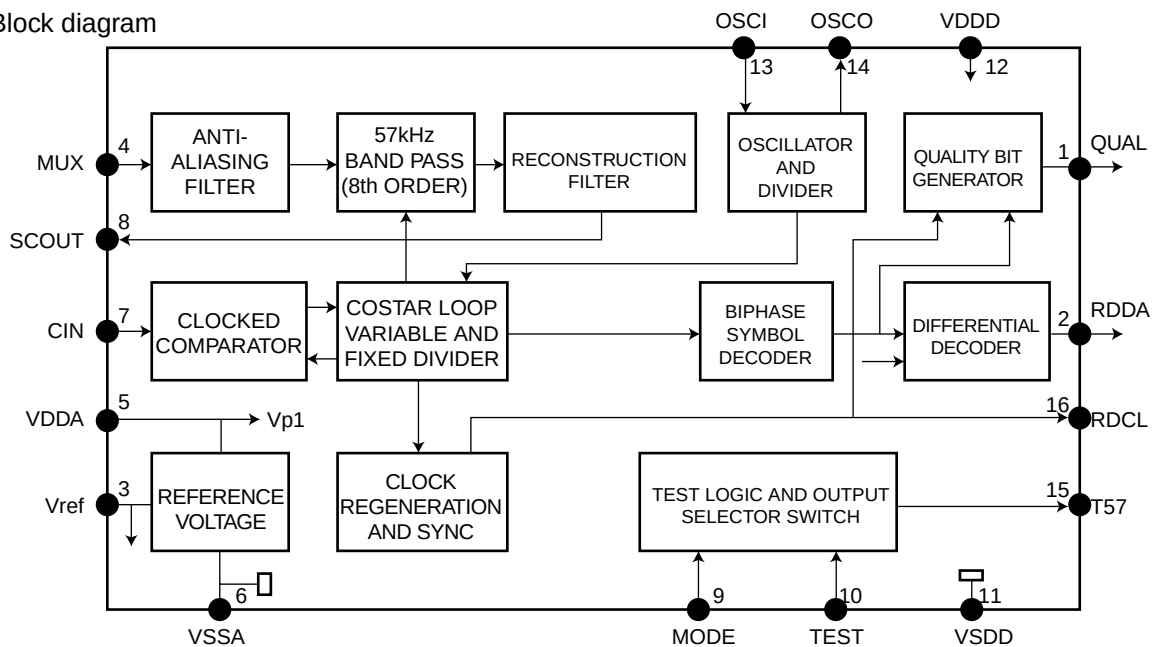
1. Pin layout



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	Sub carrier input to comparator
8	SCOUT	Sub carrier output of reconstruction filter
9	MODE	Oscillator mode / test control input
10	TEST	Test enable input
11	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

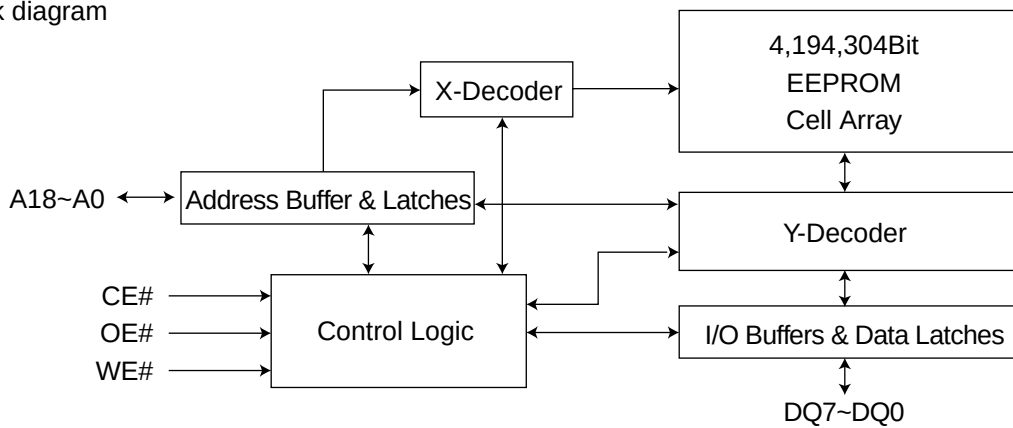


■ SST28SF040120IE (IC853) : EEPROM

1. Pin layout



2. Block diagram

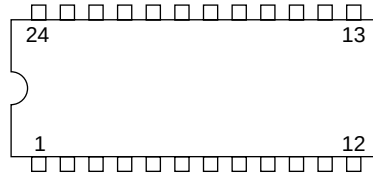


3. Pin function

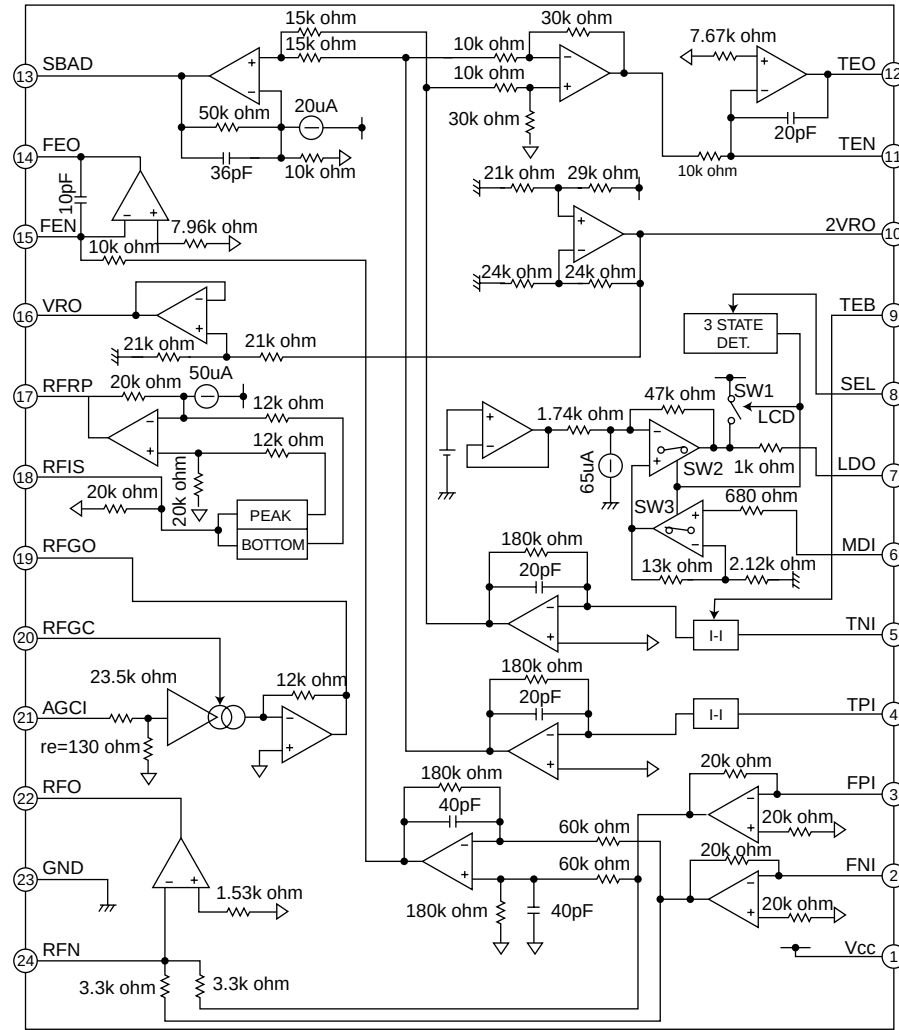
Symbol	Pin name	Function
A18~A8	Row Address Inputs	To provide memory address. Row address define a sector.
A7~A0	Column Address Inputs	Selects the byte within the sector.
DQ7~DQ0	Data Input/Output	To output data during read cycles and receive input data during write cycles. Data is internally latched during a write cycle. The outputs are in tri-state when CE#, CE# is high.
CE#	Chip Enable	To active the device when CE# is low.
OE#	Output Enable	To gate the data output buffers.
WE#	Write Enable	To control the write operations.
Vcc	Power Supply	To provide 5-volt supply.
Vss	Ground	Ground.

■ TA2109F-X (IC501) : RF amp.

1. Pin layout



2. Block diagram

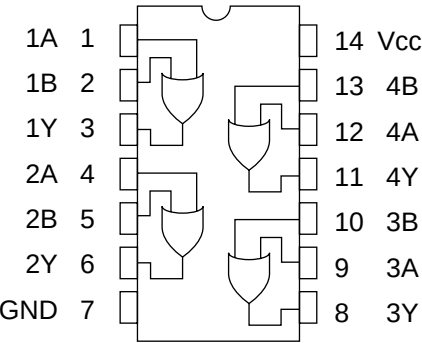


3. Pin function

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

■ TC74VHCT08AF-X (IC856) : Buffer

1. Pin layout

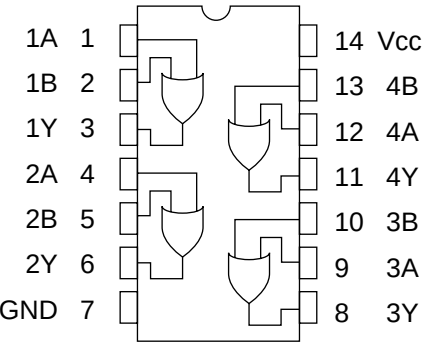


2. Truth table

A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

■ TC74VHCT32AF-X (IC857) : Buffer

1. Pin layout

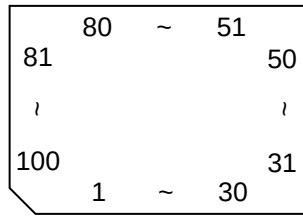


2. Truth table

A	B	Y
H	H	H
L	H	H
H	L	H
L	L	L

■ TC9462F (IC541) : DSP & DAC

1.Pin Layout



2.Pin Function (1/2)

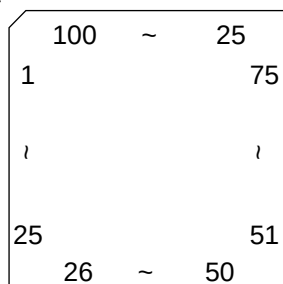
Pin No.	Symbol	I/O	Function
1	TEST0	I	Test mode terminal. Normally, keep at open
2	HSO	O	Playback speed mode flag output terminal
3	UHSO	O	Playback speed mode flag output terminal
4	EMPH	O	Sub code Q data emphasis flag output terminal. "H"=ON "L"=OFF
5	LRCK	O	Channel clock output terminal.(44.1kHz) "H"=Rch "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)

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

■ UPD784215GC-168 (IC701) : CPU

1. Pin layout



2. Pin function (1/2)

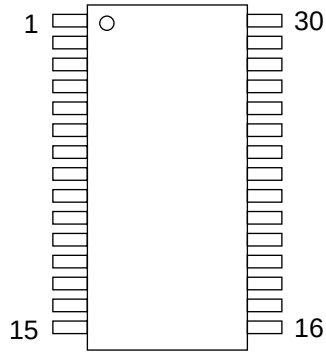
Pin No.	Symbol	I/O	Function
1	SW2	I	CD mechanism detect switch
2	SW3	I	CD mechanism detect switch
3	SW4	I	CD mechanism detect switch
4	REST-SW	I	Reset signal input terminal from CD mechanism
5	LM0	O	Loading motor control signal input terminal
6	LM1	O	Loading motor control signal input terminal
7	DIMMER-OUT	O	DIMMER signal output terminal
8	LCD-PWR	-	Non connect
9	VDD	-	Power supply terminal
10	X2	O	Connect to system main clock X'tal osc
11	X1	I	Connect to system main clock X'tal osc
12	VSS	-	Connect to ground
13	XT2	O	Connect to system sub clock X'tal osc
14	XT1	I	Connect to system sub clock X'tal osc
15	RESET	I	System reset signal input terminal
16	SW1	I	CD mechanism detect switch
17	BUS-INT	I	J-BUS signal cut in input terminal
18	PS2	I	Power save 2
19	CRUISE	I	CRUISE signal input terminal
20	RDS-SCK	I	RDS serial clock input
21	RDS-DA	I	RDS data input
22	REMOCON	I	Remote control signal input terminal
23	AVDD	-	Power supply terminal
24	AVREF0	-	Power supply terminal
25	NC	-	Connect to ground
26	NC	-	Connect to ground
27	KEY0	I	Key control 0 input terminal
28	KEY1	I	Key control 1 input terminal
29	KEY2	I	Key control 2 input terminal
30	LEVEL	I	Level meter signal input terminal
31	SQ	I	S. quality level input terminal
32	S.METER	I	S. meter level input terminal
33	AVSS	-	Connect to ground
34	W-VOL	O	Woofer volume signal output terminal(only KD-LX30)
35	DOT CONT	O	Dot contrast signal output terminal
36	AVREF	-	Power supply terminal
37	BUS-SI	I/O	J-BUS data I/O terminal
38	BUS-SO	O	J-BUS data out put terminal
39	BUS-SCK	I/O	J-BUS serial clock signal I/O terminal
40	STAGE 2	I	Initial setting (L)

2. Pin function (2/2)

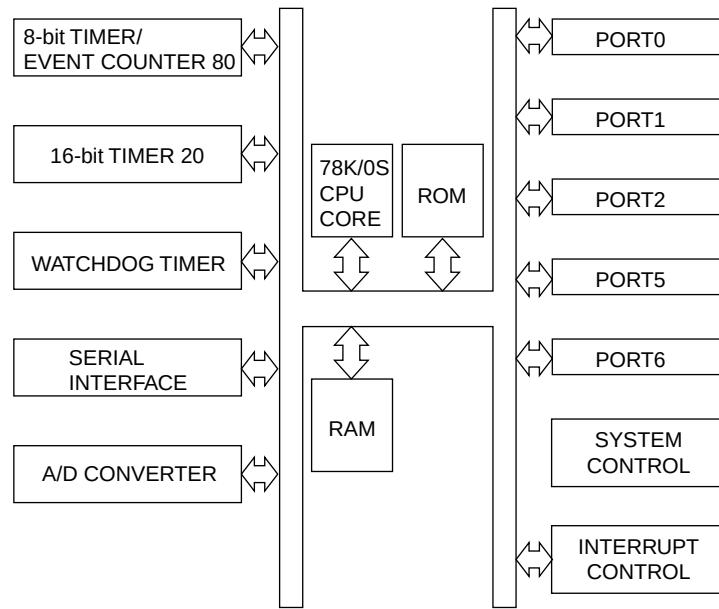
Pin No.	Symbol	I/O	Function
41	LCD-DA	O	Data output terminal for LCD driver
42	LCD-CL	O	Clock output terminal for LCD driver
43	LCD-CE1	O	Chip enable 1 output terminal for LCD driver
44	BUZZER	O	BUZZER control signal output terminal
45	E2PR-DA-I	I	Data input terminal from EEPROM
46	E2PR-DA-O	O	Data output terminal for EEPROM
47	E2PR-CLK	I/O	Clock signal I/O terminal with EEPROM
48	BUS-I/O	I/O	J-BUS I/O signal terminal
49	TM0	O	Tray motor negative signal output terminal
50	TM1	O	Tray motor positive signal output terminal
51	DM0	O	Door motor negative signal output terminal
52	DM1	O	Door motor positive signal output terminal
53	ST	I	Stereo signal input terminal
54	LOCAL	O	Local ON/OFF select signal output terminal
55	MONO	O	Monaural ON/OFF select signal output terminal
56	CA-SW1	I	DOOR/TRAY open close detect switch signal input terminal
57	CA-SW2	I	DOOR/TRAY open close detect switch signal input terminal
58	CA-SW3	I	DOOR/TRAY open close detect switch signal input terminal
59	CA-SW4	I	DOOR/TRAY open close detect switch signal input terminal
60	CA-SW5	I	DOOR/TRAY open close detect switch signal input terminal
61	VCR CONT	-	Voice controller
62	AFCK	O	AF check output
63	SEEK/STOP	O	AUTO SEEK/STOP select signal output terminal
64	SD	I	Station detector input terminal
65	FM/AM	O	FM/AM select signal output terminal
66	PLL-CE	O	Chip enable signal output terminal
67	PLL-DA	O	Data output terminal
68	PLL-CK	O	Clock signal output terminal
69	BAND IN	I	AM detect signal input terminal
70	TEL MUTE	I	Telephone mute signal detection input
71	AMP KILL	-	Amp mute
72	VSS	-	Connect to ground
73	DIMMER-IN	I	DIMMER signal input terminal
74	PS1	I	Power save 1
75	POWER	O	Power ON/OFF select signal output terminal
76	CD-ON	O	Power supply control terminal for CD
77	MUTE	O	Mute signal output terminal
78	W-LPF1	-	Non connect
79	W-LPF2	-	Non connect
80	W-MUTE	-	Non connect
81	VDD	-	Power supply terminal
82	VOL-DA	O	Data output terminal
83	VOL-CLK	O	Clock signal output terminal
84	CF-SEL	I	CF select signal input terminal
85	NC	-	Non connect
86	LCD RST	O	LCD reset signal output terminal
87	LCD-CE2	O	Chip enable 2 output terminal for LCD driver
88	DMK	O	Motor speed control signal output terminal
89	TMK	O	Tray motor control signal output terminal
90	STAGE1	I	Initial setting H:KD-LX30R L:KD-LX10R
91	BUCK	O	Micro computer interface clock signal output terminal
92	CCE	O	Chip enable signal output terminal for micro computer interface
93	RST	O	Reset signal input terminal
94	TEST	-	Test terminal
95	BUS0	I/O	Micro computer interface data I/O terminal
96	BUS1	I/O	Micro computer interface data I/O terminal
97	BUS2	I/O	Micro computer interface data I/O terminal
98	BUS3	I/O	Micro computer interface data I/O terminal
99	DISC SEL(8cmCD)	I	Initial setting (H:8cm disc uncorrespondence)
100	VOICE IN	I	Voice control signal input

■ UPD789104AMC504 (IC855) : Voice control CPU

1. Pin layout



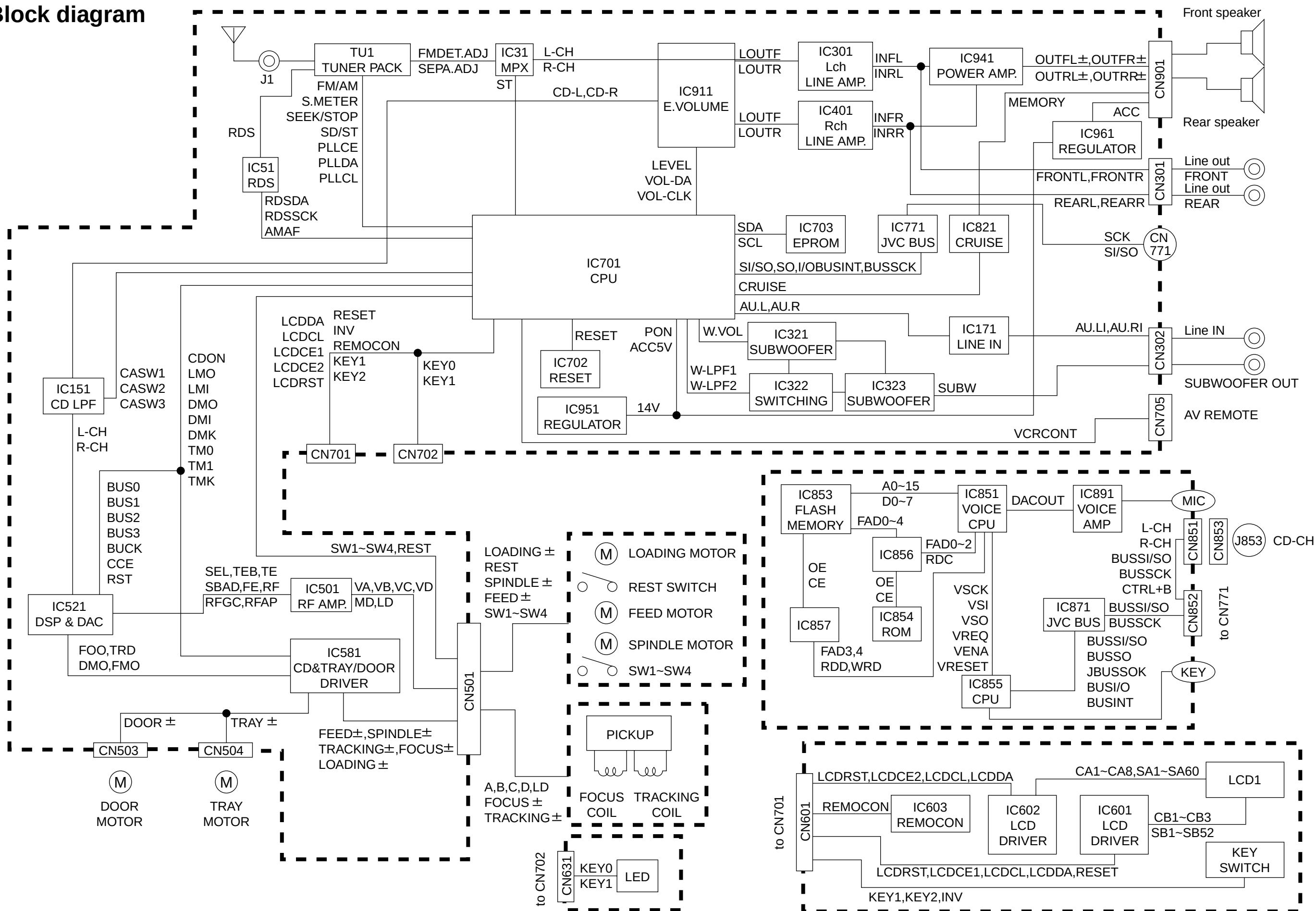
2. Block diagram



3. Pin function

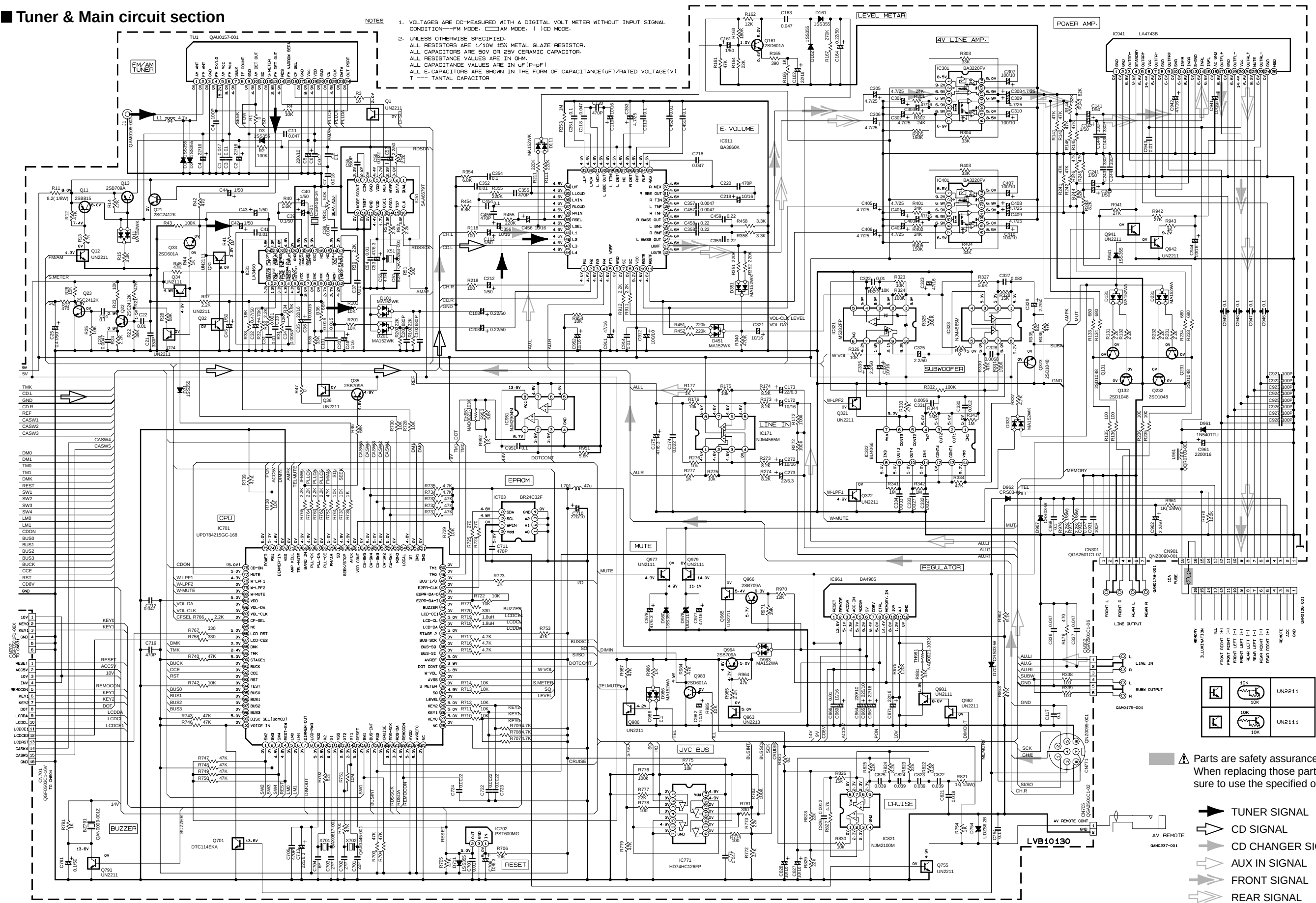
Pin No.	Symbol	I/O	Function
1	BUS-INT	I	J-BUS signal interruption input.
2	PWR SW	I	CTRL+B input H : Normal L:Power save mode.
3	NC	O	Non connection.
4	AVDD	-	Analog power supply. Connect to VDD.
5	KEY	I	Analog key input.
6	NC	I	Non connection.
7	VREQ	I	Data request input from RSC300.
8	TEST	I	When REST is H, in to the TEST mode.
9	AVSS	-	Analog ground. Connect to ground.
10	ICO	-	Connect to ground.
11	VSCK	O	Serial colck output for RSC300.
12	VSI	I	Data input from RSC300.
13	VSO	O	Data output for RSC300.
14	MUTE	O	Mute output. L : Mute on.
15	POWER	O	Power supply control output for RSC300. H : Power supply.
16	VENA	O	Data output for RSC300.
17	VRESET	O	Reset signal output for RSC300.
18	BUS-I/O	O	J-BUS I/O select output. H : Output, L : Input.
19	RESET	I	Reset detection terminal.
20	ICO	-	Connect to ground.
21	ICO	-	Connect to ground.
22	X2	-	X'tal oscillation terminal (4.1943MHz).
23	X1	-	X'tal oscillation terminal (4.1943MHz).
24	VSS	-	Connect to ground.
25	VDD	-	Connect to 5V.
26	CNT+B OUT	O	CTRL+B output.
27	SELECT	O	VOICE/CH voice select output. L : CH.
28	BUS-SCK	I/O	J-BUS clock input/output.
29	BUS-SO	O	J-BUS data output.
30	BUS-SI	I	J-BUS data input.

Block diagram

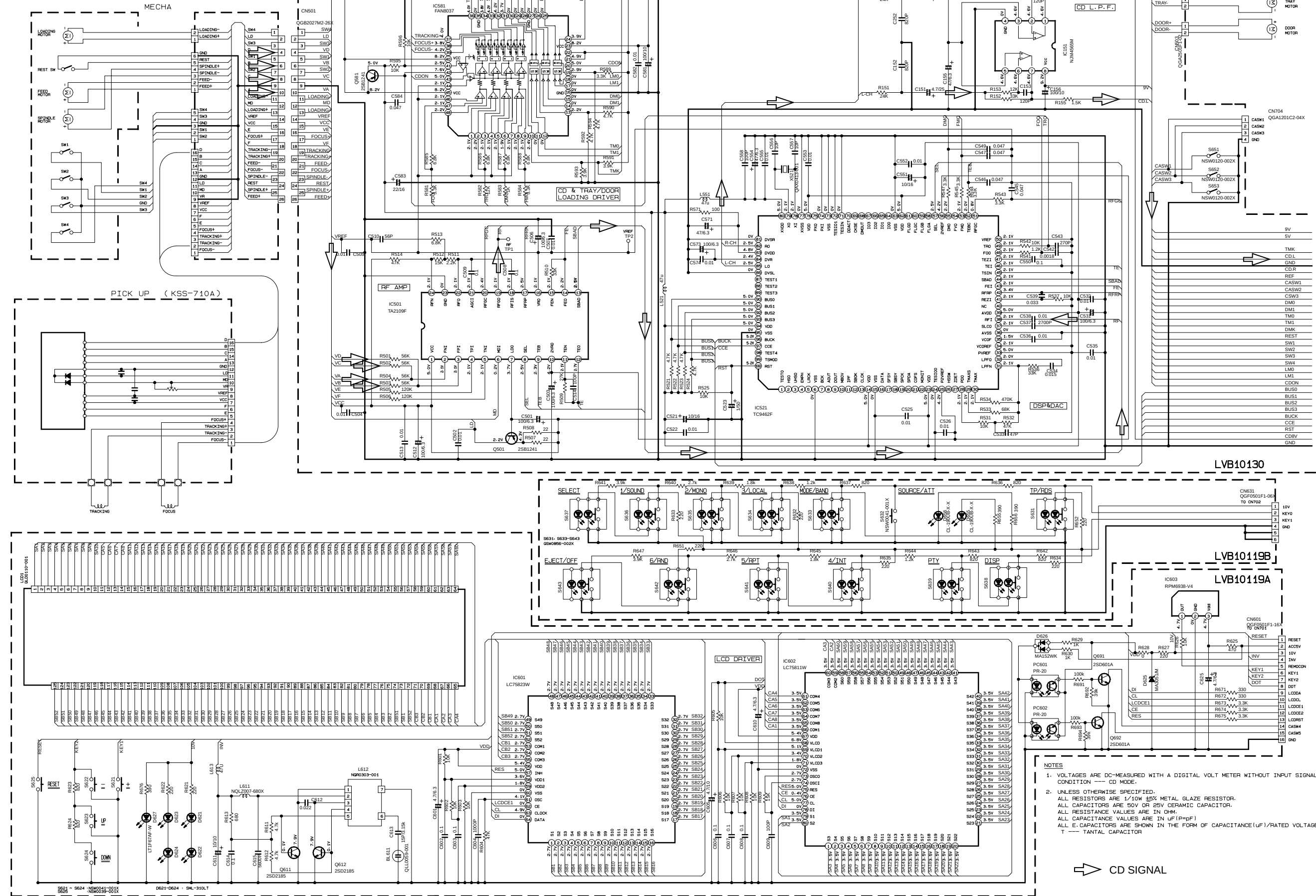


Standard schematic diagrams

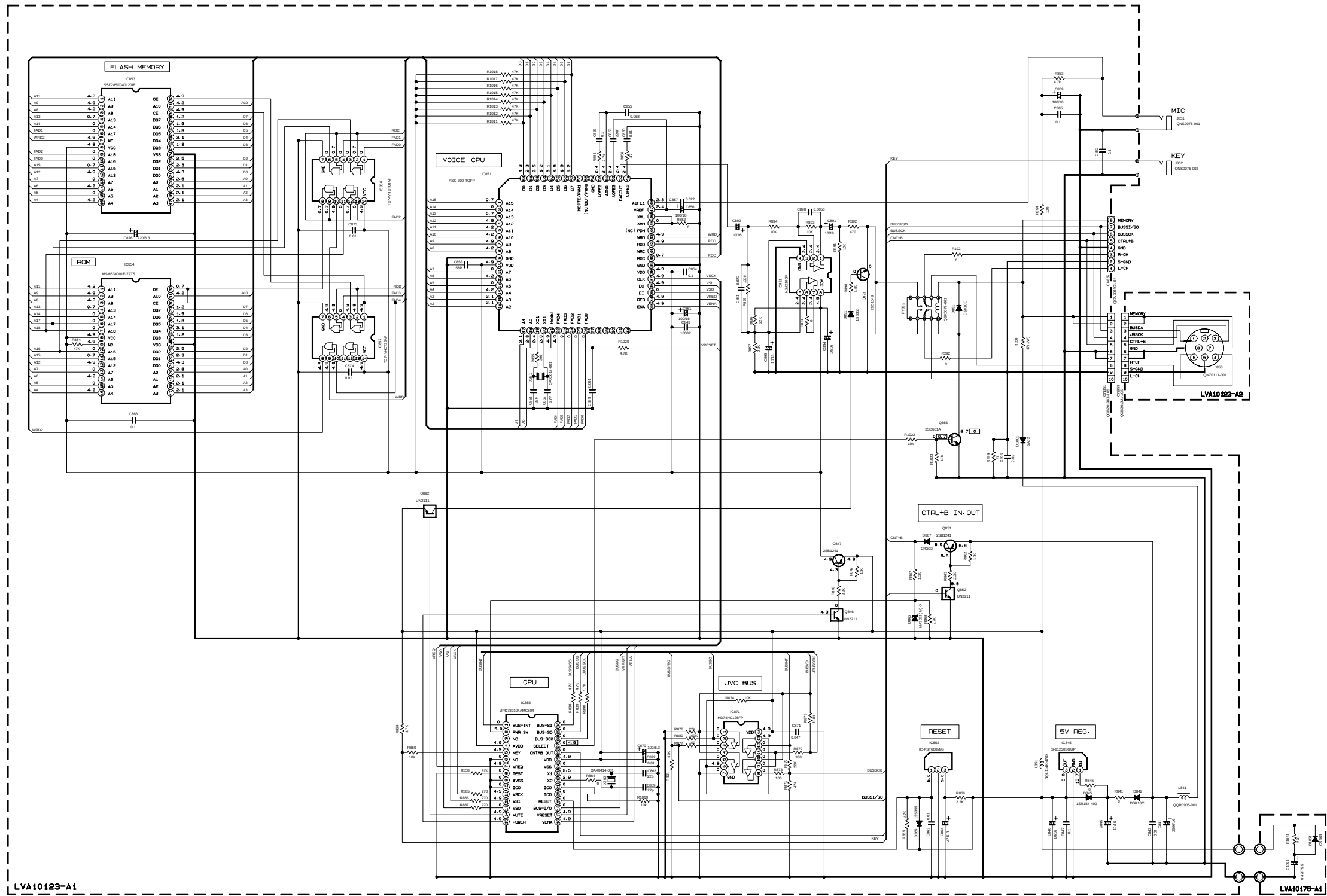
Tuner & Main circuit section



■ LCD & CD servo control section



■ Voice control section



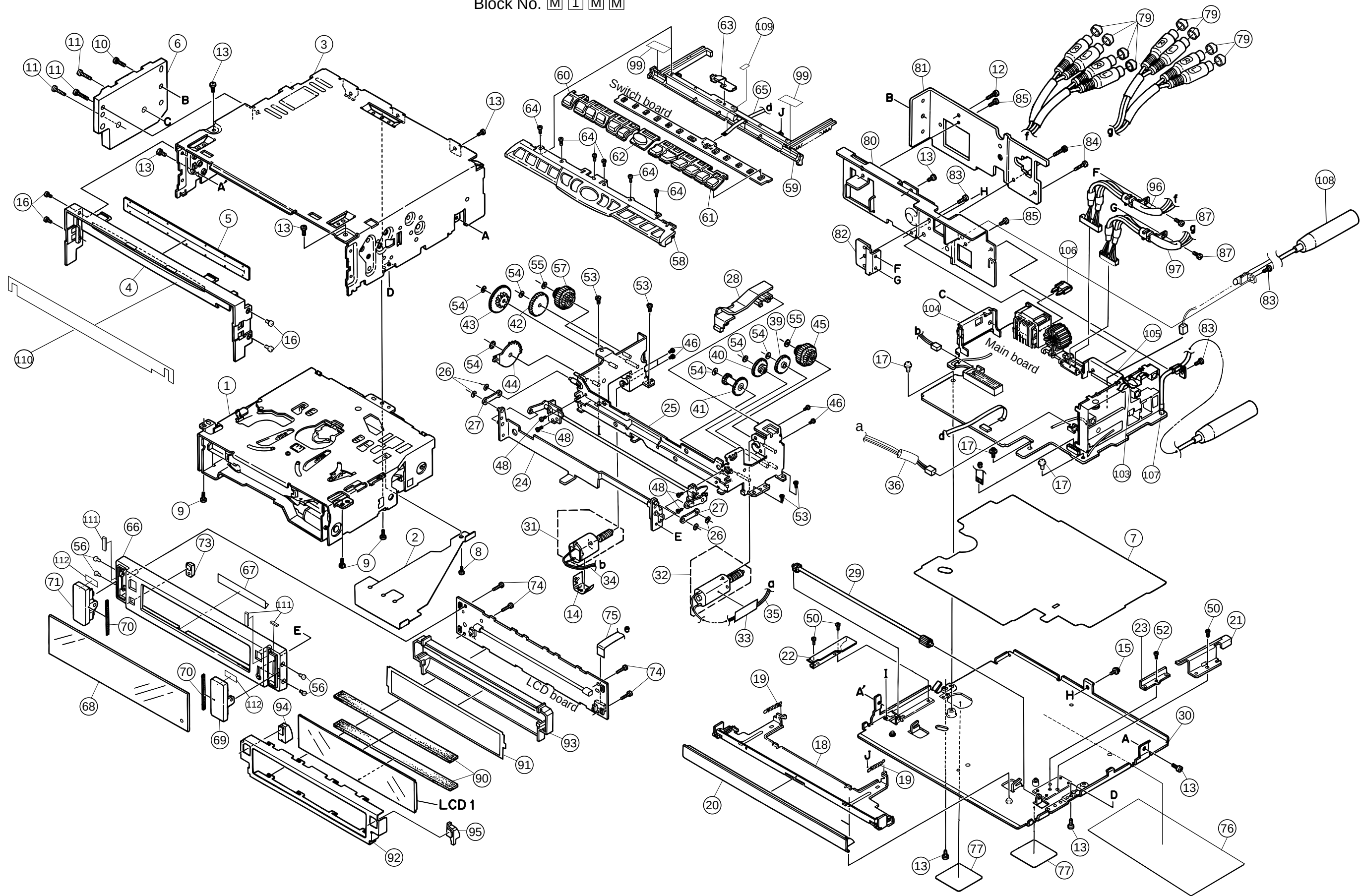
	10K	UN211
	10K	UN211

NOTES

- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL CONDITION—FM MODE. □ VOICE MODE.
- UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/10W 25K METAL GLAZE RESISTOR. ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR. ALL RESISTANCE VALUES ARE IN OHM. ALL CAPACITANCE VALUES ARE IN μ F (PPF) ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μ F)/RATED VOLTAGE(V) T — TANTALUM CAPACITOR

Exploded view of general assembly and parts list

Block No. M 1 M M



■ Parts list (General assembly)
Block No. M1MM

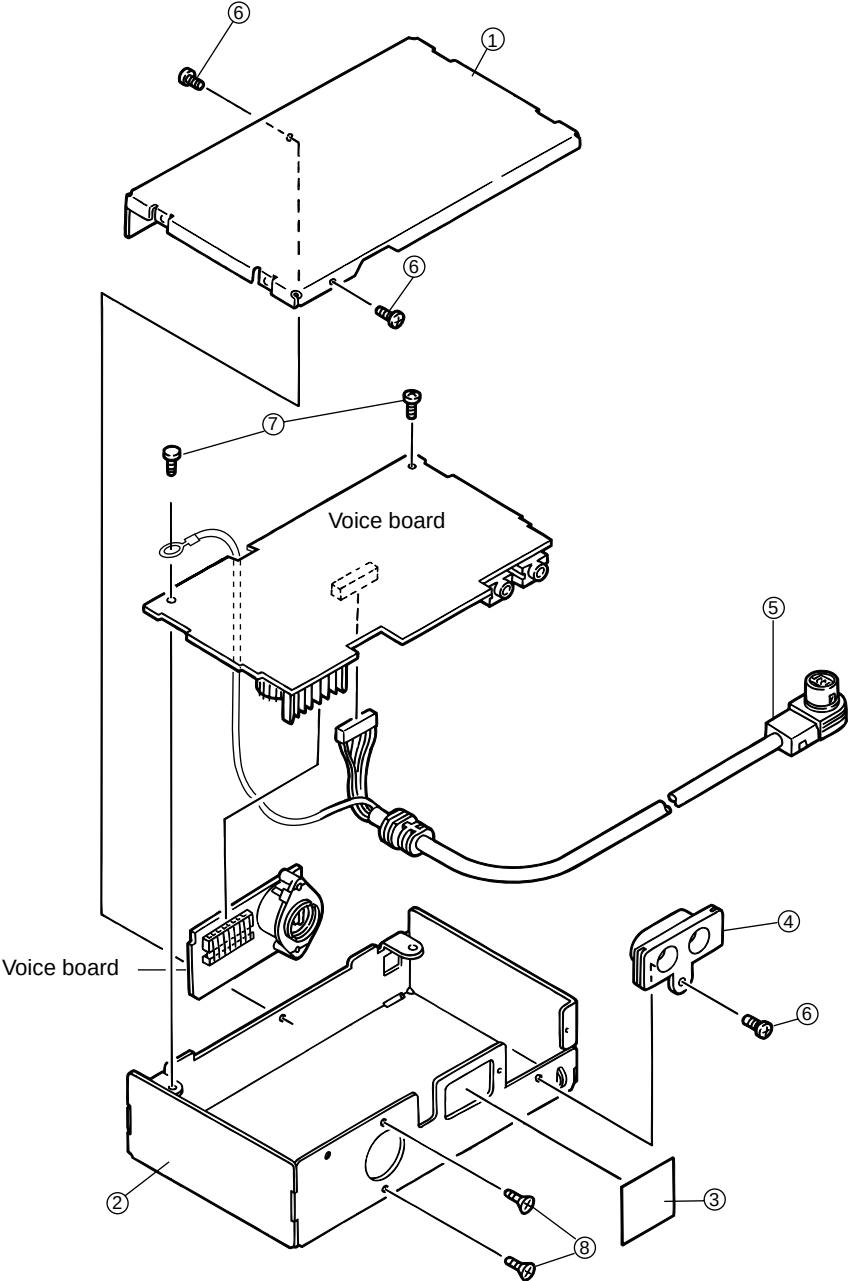
A	Item	Parts number	Parts name	Q'ty	Description	Area
	1	-----	CD MECHA	1		
	2	LV41606-001A	FFC P.MECHA	1		
	3	LV10189-001A-N	CHASSIS TOP	1		
	4	LV10188-001A	FRONT COVER	1		
	5	LV40828-002A	BLIND	1		
	6	LV31602-003A	SIDE HEAT SINK	1		
	7	LV31603-001A	INSULATOR	1		
	8	QYSPST2004M	SCREW	1		
	9	QYSDST2604Z	SCREW	3	T. CHAS+CD MECH	
	10	QYSDSF2610Z	TAPPING SCREW	1	T. CHAS+S HEAT	
	11	LV41200-003A	SPECIAL SCREW	3	T. CHAS+S HEAT	
	12	LV41200-003A	SPECIAL SCREW	1	T.CHASS+REAR	
	13	QYSDST2604Z	SCREW	8	T. CHAS+B. CHAS	
	14	LV40847-002A	SPACER	1	MOTOR L	
	15	LV41200-001A	SPECIAL SCREW	1	BOTTOM CHA.+REA	
	16	QYSPSP2003M	SCREW	4	T. CHAS+F. COVE	
	17	LV41200-001A	SPECIAL SCREW	3	MAIN PWB+BOTTOM	
	18	LV31605-001A	DOOR BASE ASS'Y	1		
	19	LV41452-001A	TENS SPRING BTM	2		
	20	LV31607-001A	PANEL COVER	1		
	21	LV31965-001A	BUTTON BASE BKT	1		
	22	LV41500-001A	BUTTON B.SUPPORT	1		
	23	LV41545-001A	BUTTON B.GUIDE	1		
	24	LV31609-001A	FRONT BKT ASS'Y	1		
	25	LV20614-001A	LOADING BKT ASS	1		
	26	WDM215025	WASHER	4		
	27	LV41503-001A	ARM 3	2		
	28	LV31777-001A	FFC GUIDE	1		
	29	LV31610-001A	ROD GEAR	1		
	30	LV31604-001A	BOTTOM ASS'Y	1		
	31	QAR0029001-SA2	FEED MOTOR	1	FOR BKT MOTOR L	
	32	PPN13KA10C-SA6	MOTOR	1	FOR BKT MOTOR R	
	33	LV40847-002A	SPACER	1	MOTOR R	
	34	WJM0137-001A	E-SI C WIRE C-F	1	FOR MOTOR L	
	35	WJM0136-001A	E-SI C WIRE C-F	1	FOR MOTOR R	
	36	QWTA20H-030	UL VINYL TUBE	1		
	39	LV41463-001A	GEAR 1	1	R SIDE	
	40	LV41464-001A	GEAR 2	1	R SIDE	
	41	LV31611-001A	GEAR 3	1	R SIDE	
	42	LV41467-001A	GEAR 5	1	L SIDE	
	43	LV41466-001A	GEAR 4	1	L SIDE	
	44	LV31612-001A	GEAR 6	1	L SIDE	
	45	LV30981-005A	*CLUTCH ASS'Y	1		
	46	QYSPSPT2020Z	MINI SCREW	4	F.MOTOR+B.M. L	
	48	LV40865-001A	MINI SCREW	4	ROD BKT(L)+LO.B	
	50	LV40865-001A	MINI SCREW	3	B.BASE BKT+BO.C	
	52	LV40865-001A	MINI SCREW	1	B.B.GUIDE+BOT.C	
	53	LV40865-001A	MINI SCREW	4	BKT.M.L&R+C.BOT	
	54	WDM215025	WASHER	6		

■ Parts list (General assembly)
Block No. M1MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	55	WDM214540	WASHER	2	FOR CLUTCH ASS'	
	56	QYSPSPU1725M	SCREW	4	LO.UNIT A+DIS.P	
	57	LV30981-004A	*CLUTCH ASS'Y	1		
	58	LV10317-006A	BUTTON PANEL	1		
	59	LV10318-001A	BUTTON BASE	1		
	60	LV20615-002A	PRESET BUTTON 1	1		
	61	LV20616-002A	PRESET BUTTON 2	1		
	62	LV31613-001A	FUNCTION BUTTON	1		
	63	LV41825-001A	PLATE SPRING	1		
	64	VKZ4777-004	MINI SCREW	6		
	65	WJT0030-001A	E-CARD WIRE	1		
	66	LV20617-004A	DISPLAY PANEL	1		
	67	LV32035-001A	D.P. PLATE	1		
	68	LV31614-001A	FINDER	1		
	69	LV41469-001A	UP DOWN B.ASS'Y	1		
	70	VYSH1R5-007	SPACER	2		
	71	LV41471-001A	+ - BUTTON ASSY	1		
	73	LV41505-001A	REMOTE LENS	1		
	74	VKZ4777-001	MINI SCREW	4	D.PANEL+SW.PWB	
	75	WJT0031-001A	E-CARD WIRE	1		
	76	LV31734-001A	NAME PLATE	1		
	77	LV41143-001A	SHEET	2		
	79	GE40101-001A	PIN CAP	8		
	80	LV30943-201A	REAR BRACKET	1		
	81	LV30946-005A	REAR HEAT SINK	1		
	82	LV40790-001A	PIN CORD BRKT	1		
	83	QYSDST2604Z	SCREW	3		
	84	LV41200-003A	SPECIAL SCREW	2		
	85	QYSDST2606Z	SCREW	2		
	87	QYSDST2604Z	SCREW	2		
	90	QNZ0392-001	RUBBER CONNECTO	2		
	91	LV41450-001A	LCD FILTER	1		
	92	LV31601-001A	LCD CASE	1		
	93	LV31600-001A	LIGHTING CASE	1		
	94	LV41447-001A	LIGHTING LENS(L	1		
	95	LV41448-001A	LIGHTING LENS(R	1		
	96	QAM0178-001	PIN CORD ASS'Y	1		
	97	QAM0179-001	CAR CABLE	1		
	99	LV40848-007A	SPACER(P)	2		
	103	VMA4652-001SS	EARTH PLATE	1		
	104	LV41863-001A	POWER IC BRACKE	1		
	105	LV40792-001A	REG.IC BRACKET	1		
	106	QMFZ039-150-T	FUSE	1		
	107	QAM0105-002	CAR CABLE	1		
	108	QAM0237-001	CAR CABLE	1		
	109	FSYH4036-035	SHEET	1		
	110	LV32029-002A	FRONT SHEET	1		
	111	LV40846-005A	SPACER(F)	3		
	112	LV40848-009A	SPACER(p)	2		
	LCD 1	QLD0110-001	LCD MODULE	1		

Voice unit assembly and parts list

Block No. M 2 M M



■ Parts list (General assembly) Voice unit

Block No. M2MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV31826-001A	TOP COVER	1		
	2	LV31827-001A	BOTTOM CASE	1		
	3	LV41143-001A	SHEET	1		
	4	LV41624-001A	HOLE BASE	1		
	5	QAM0249-002	DIN CORD CABLE	1		
	6	QYSDST2606Z	SCREW	3		
	7	QYSDST2606Z	SCREW	2		
	8	LV41152-001B	SPECIAL SCREW	2		

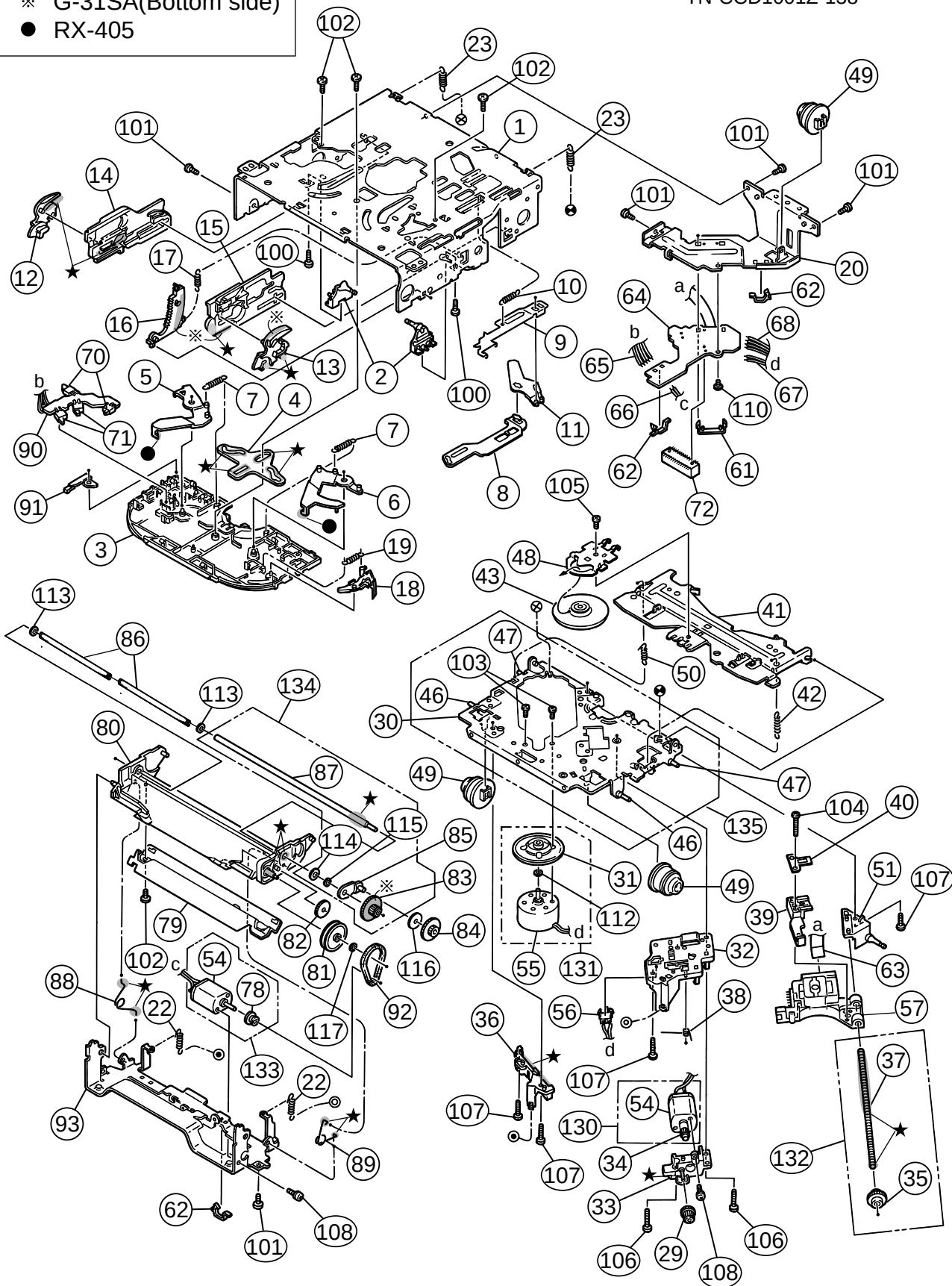
CD mechanism assembly and parts list

Block No. M 3 M M

TN-CCD1001Z-138

Grease

- ★ G-31SA
- ※ G-31SA(Bottom side)
- RX-405



■ Parts list (CD mechanism)
Block No. M3MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	1	30310101T	FRAME	1		
	2	30310103T	DANPER PIN	2		
	3	30310107T	UPPER PLATE	1		
	4	30310108T	SEL STOP PLATE	1		
	5	30310142T	SEL ARM (L)L	1		
	6	30310143T	SEL ARM (R)L	1		
	7	30310145T	S ARM SPRING(L)	2		
	8	30310112T	TRIG LEVER	1		
	9	30310155T	TRIG PL(Z)	1		
	10	30310115T	TRIG PL SPRING	1		
	11	30310116T	TRIG ARM	1		
	12	30310134T	FIX ARM (L)B	1		
	13	30310159T	FIX ARM (R)Z	1		
	14	30310150T	FIX PL (L)Z	1		
	15	30310156T	FIX PL (R) Z	1		
	16	30310138T	LDG GR (6)B	1		
	17	30310122T	LDG GEAR (6)SP	1		
	18	30310148T	S.L ARM(N)	1		
	19	30310125T	S.L ARM SPRING	1		
	20	30310149T	REAR DAM BKT(Z)	1		
	22	30310151T	HUNG UP SP (FZ)	2		
	23	30310129T	HUNG UP SP (R)	2		
	29	30300510T	PU GEAR(B)	1		
	30	-----	T.T.BASE(Z)	1		
	31	-----	TURN TABLE(Z)	1		
	32	30310544T	F.M.BASE(Z)	1		
	33	30310547T	FD GR BLK(Z)	1		
	34	-----	FD GR AZ	1		
	35	-----	FD GR CZ	1		
	36	30310546T	PU GUIDE(Z)	1		
	37	-----	FD SCREW(Z)	1		
	38	30310533T	THRUST SPR(M)	1		
	39	30310548T	PU M NUT(Z)	1		
	40	30310512T	NUT PUSH SPR PL	1		
	41	30310558T	CLP ARM(Z)	1		
	42	30310514T	CLP ARM SPRING	1		
	43	30310552T	CLAMPER(Z)	1		
	46	-----	LOCK PIN(FZ)	2		
	47	-----	LOCK PIN(RZ)	2		
	48	30310557T	CLAMPER PLATE(Z)	1		
	49	30310524T	DAMPER (J)	3		
	50	30310525T	CLP ARM SPR (L)	1		
	51	30310545T	F SCREW GUIDE(Z)	1		
	54	-----	FEED MOTOR	1	FF030PK-09210	
	55	-----	SPINDLE MOTOR	1	RF300CA-11440D	
	56	64180405T	DET SW	1	ESE11SF4	
	57	QAL0230-001	C.D PICK (SONY)	1		
	61	30311035T	FPC HOLDER(Z)	1		

■ Parts list (CD mechanism)
Block No. M3MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	62	19501403T	WIRE CLAMPER	3		
	63	30311037T	PICK UP FPC(Z)	1		
	64	30311036T	CONNECT.PCB(Z-J	1		
	65	30311038T	WIRE (5P-Z)	1		
	66	30311039T	WIRE (LD-Z)	1		
	67	30311040T	WIRE (FD-Z)	1		
	68	30311041T	WIRE (RS-Z)	1		
	70	64180402T	DET SWITCH	2	ESE22MH1	
	71	64180403T	DET SWITCH	2	ESE22MH3	
	72	68150232T	CONNECTOR	1	TKC-W26X-C1	
	78	-----	LDG PULLEY	1		
	79	30311105T	SOPPORT PLATE	1		
	80	30311138T	GR MT BLK(N)	1		
	81	30311109T	LDG GEAR (2)	1		
	82	30311110T	LDG GEAR (3)	1		
	83	-----	LDG GEAR (4)	1		
	84	30311112T	LDG GEAR (5)	1		
	85	-----	LDG GR ARM	1		
	86	30311136T	LDG ROLLER	2		
	87	-----	LDG RLR SHAFT	1		
	88	30311118T	L.P SPRING (L)	1		
	89	30311119T	L.P SPRING (R)	1		
	90	30311123T	SW PCB	1		
	91	30311124T	SW ACTUATOR	1		
	92	30311129T	LDG BELT	1		
	93	30311140T	FRONT BRKT (J)	1		
	100	9C0620503T	C B TAP SCREW	2	M2X5	
	101	9C2020401T	C SCREW TS.G	5	M2X4	
	102	9C4320403T	C B TAP SCREW	4	M2X4	
	103	9C0117223T	SCREW	2	M1.7X2.2	
	104	9C4217703T	C TAP SCREW S3	1	M1.7X7	
	105	9C0320201T	C TAP SCREW S3	1	M2X2	
	106	9C4920013T	C TAP SCREW S3	2	M2X10	
	107	9C4920603T	C TAP SCREW B3	4	M2X6	
	108	9P0220031T	TAMS SCREW	2	M2X3	
	110	9C0420253	C TAP SCREW	1	M2X2.5	
	112	-----	POLY WASHER	1	2.1X3.5X0.3	
	113	9W0330276	NW BLUE	2	2.9X5X0.3	
	114	-----	WAVE WASHER	1		
	115	-----	LUMILAR WASHER	1	2.5X6X0.1	
	116	9W0735080T	LUMILAR W	1	2.3X9.8X0.35	
	117	9W0640030T	WASHER	1	1.4X3.2X0.4	
	130	303105310T	FEED MO ASSY	1	NO.34 54	
	131	303105311T	SPINDLE MO ASSY	1	NO.31 55 112	
	132	303105312T	FEED SCREW ASSY	1	NO.35 37	
	133	303111301T	LDG MOTOR ASSY	1	NO.54 78	
	134	303111302T	RDG RLR SFT ASY	1	NO.114 115	
		303111302T	RDG RLR SFT ASY	1	NO.83 85 87	
	135	303105502T	T.T.BASE ASSY	1	NO.30 46 47	

■ Electrical parts list (Main board)

Block No. 01

A	Item	Parts number	Parts name	Remarks	Area
	C 1	NCB21EK-473X	C CAPACITOR		
	C 2	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 3	NCB21HK-103X	C CAPACITOR		
	C 4	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 5	QER41AM-227	E CAPACITOR	220MF 20% 10V	
	C 6	NCB21EK-473X	C CAPACITOR		
	C 7	NCB21HK-183X	C CAPACITOR		
	C 8	NCB21HK-104X	C CAPACITOR		
	C 10	NCS21HJ-101X	C CAPACITOR		
	C 11	NCB21HK-473X	C CAPACITOR		
	C 21	NCS21HJ-331X	C CAPACITOR		
	C 22	NCB21HK-103X	C CAPACITOR		
	C 23	NCB21HK-472X	C CAPACITOR		
	C 24	NCB21EK-104X	C CAPACITOR		
	C 25	QERF1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 31	NCB21HK-103X	C CAPACITOR		
	C 32	QEK41HM-474	E CAPACITOR	.47MF 20% 50V	
	C 33	NCB21HK-102X	C CAPACITOR		
	C 34	NCB21HK-682X	C CAPACITOR		
	C 35	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 36	NCB21HK-152X	C CAPACITOR		
	C 37	NCB21HK-103X	C CAPACITOR		
	C 38	NCB21EK-473X	C CAPACITOR		
	C 39	QEKJ1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 40	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 41	NCB21HK-103X	C CAPACITOR		
	C 42	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 43	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 44	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 45	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 46	NBE21CM-105X	C CAPACITORM		
	C 51	NDC21HJ-820X	C CAPACITOR		
	C 52	NDC21HJ-470X	C CAPACITOR		
	C 53	QEKJ0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 54	NCB21HK-103X	C CAPACITOR		
	C 55	NCS21HJ-561X	C CAPACITOR		
	C 56	NCB21EK-223X	C CAPACITOR		
	C 57	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 101	NCB21HK-153X	C CAPACITOR		
	C 102	NCS21HJ-681X	C CAPACITOR		
	C 103	QEKJ1HM-224Z	E CAPACITOR	.22MF 20% 50V	
	C 112	NBE21AM-475X	TS E CAPACITOR		
	C 117	NCB21HK-104X	C CAPACITOR		
	C 118	NCB21HK-472X	C CAPACITOR		
	C 119	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 120	NCB21HK-471X	C CAPACITOR		
	C 141	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 142	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 143	NCS21HJ-331X	C CAPACITOR		
	C 144	NCS21HJ-331X	C CAPACITOR		
	C 151	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 152	NCS21HJ-821X	C CAPACITOR		
	C 153	NCS21HJ-121X	C CAPACITOR		
	C 155	QEKJ0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 156	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 161	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 162	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 163	NCB21EK-473X	C CAPACITOR		
	C 164	QEKJ1HM-224Z	E CAPACITOR	.22MF 20% 50V	
	C 172	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 173	QERF0JM-226Z	E CAPACITOR	22MF 20% 6.3V	
	C 174	NCB21EK-223X	C CAPACITOR		
	C 175	QEKJ0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 201	NCB21HK-153X	C CAPACITOR		

A	Item	Parts number	Parts name	Remarks	Area
	C 202	NCS21HJ-681X	C CAPACITOR		
	C 203	QEKJ1HM-224Z	E CAPACITOR	.22MF 20% 50V	
	C 212	NBE21AM-475X	TS E CAPACITOR		
	C 218	NCB21HK-472X	C CAPACITOR		
	C 219	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 220	NCB21HK-471X	C CAPACITOR		
	C 241	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 242	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 243	NCS21HJ-331X	C CAPACITOR		
	C 244	NCS21HJ-331X	C CAPACITOR		
	C 251	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 252	NCS21HJ-821X	C CAPACITOR		
	C 253	NCS21HJ-121X	C CAPACITOR		
	C 272	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 273	QERF0JM-226Z	E CAPACITOR	22MF 20% 6.3V	
	C 301	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 302	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 303	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 305	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 306	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 307	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 308	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 309	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 310	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 321	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 322	NCB21HK-103X	C CAPACITOR		
	C 323	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 324	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 325	QEKJ1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 327	NCB21EK-823X	C CAPACITOR		
	C 328	NCB21HK-682X	C CAPACITOR		
	C 329	QEKJ1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 330	NCB21HK-123X	C CAPACITOR		
	C 331	NCB21HK-562X	C CAPACITOR		
	C 332	NCB21HK-273X	C CAPACITOR		
	C 333	NCB21HK-273X	C CAPACITOR		
	C 334	NCB21HK-333X	C CAPACITOR		
	C 335	QEKJ1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 336	NCB21HK-473X	C CAPACITOR		
	C 337	NCB21HK-473X	C CAPACITOR		
	C 351	NCB21HK-104X	C CAPACITOR		
	C 352	NCB21HK-103X	C CAPACITOR		
	C 353	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 354	NCB21HK-104X	C CAPACITOR		
	C 355	NCB21HK-471X	C CAPACITOR		
	C 356	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 357	NCB21HK-472X	C CAPACITOR		
	C 358	NCB21CK-224X	C CAPACITOR		
	C 359	NCB21CK-224X	C CAPACITOR		
	C 401	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 402	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 403	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 405	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 406	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 407	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 408	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 409	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 410	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 451	NCB21HK-104X	C CAPACITOR		
	C 452	NCB21HK-103X	C CAPACITOR		
	C 454	NCB21HK-104X	C CAPACITOR		
	C 455	NCB21HK-471X	C CAPACITOR		
	C 456	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 457	NCB21HK-472X	C CAPACITOR		

■ Electrical parts list (Main board)
Block No. 01

A	Item	Parts number	Parts name	Remarks	Area	A	Item	Parts number	Parts name	Remarks	Area
	C 458	NCB21CK-224X	C CAPACITOR				C 724	NCB21HK-222X	C CAPACITOR		
	C 459	NCB21CK-224X	C CAPACITOR				C 754	NCB21EK-104X	C CAPACITOR		
	C 501	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 771	NCB21EK-473X	C CAPACITOR		
	C 502	NCB21HK-103X	C CAPACITOR				C 791	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 503	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 821	NCB21HK-183X	C CAPACITOR		
	C 504	NCB21HK-103X	C CAPACITOR				C 822	NCB21EK-393X	C CAPACITOR		
	C 505	NCB21HK-103X	C CAPACITOR				C 823	NCB21EK-393X	C CAPACITOR		
	C 506	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 824	NCB21EK-393X	C CAPACITOR		
	C 507	NCB21HK-103X	C CAPACITOR				C 825	NCB21EK-393X	C CAPACITOR		
	C 508	NCB21EK-104X	C CAPACITOR				C 826	NCB21HK-122X	C CAPACITOR		
	C 509	NCB21EK-104X	C CAPACITOR				C 827	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 510	NDC21HJ-560X	C CAPACITOR				C 828	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 512	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 911	QEKJ1CM-476	E CAPACITOR	47MF 20% 16V	
	C 513	NCB21HK-103X	C CAPACITOR				C 912	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 514	NCS21HJ-101X	C CAPACITOR				C 913	NCB21EK-104X	C CAPACITOR		
	C 521	QEK41CM-106	E CAPACITOR	10MF 20% 16V			C 914	NCB21EK-473X	C CAPACITOR		
	C 522	NCB21HK-103X	C CAPACITOR				C 921	NCS21HJ-101X	C CAPACITOR		
	C 523	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 922	NCS21HJ-101X	C CAPACITOR		
	C 525	NCB21HK-103X	C CAPACITOR				C 923	NCS21HJ-101X	C CAPACITOR		
	C 526	NCB21HK-103X	C CAPACITOR				C 924	NCS21HJ-101X	C CAPACITOR		
	C 531	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 925	NCS21HJ-101X	C CAPACITOR		
	C 532	NCB21HK-103X	C CAPACITOR				C 926	NCS21HJ-101X	C CAPACITOR		
	C 533	NCS21HJ-470X	C CAPACITOR				C 927	NCS21HJ-101X	C CAPACITOR		
	C 534	NCB21HK-153X	C CAPACITOR				C 928	NCS21HJ-101X	C CAPACITOR		
	C 535	NCB21HK-103X	C CAPACITOR				C 931	NDC21HJ-101X	C CAPACITOR		
	C 536	NCB21HK-103X	C CAPACITOR				C 932	NCB21EK-473X	C CAPACITOR		
	C 537	NCB21HK-272X	C CAPACITOR				C 941	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 538	NCB21HK-103X	C CAPACITOR				C 942	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 539	NCB21HK-333X	C CAPACITOR				C 943	NCB21HK-103X	C CAPACITOR		
	C 542	NCB21HK-182X	C CAPACITOR				C 944	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 543	NCS21HJ-271X	C CAPACITOR				C 946	NCB21EK-104X	C CAPACITOR		
	C 545	NCB21EK-473X	C CAPACITOR				C 947	NCB21EK-104X	C CAPACITOR		
	C 546	NCB21EK-473X	C CAPACITOR				C 948	NCB21EK-104X	C CAPACITOR		
	C 547	NCB21EK-473X	C CAPACITOR				C 949	NCB21EK-104X	C CAPACITOR		
	C 549	NCB21EK-473X	C CAPACITOR				C 951	NCB21HK-104X	C CAPACITOR		
	C 550	NCB21EK-104X	C CAPACITOR				C 952	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 551	QER41CM-106	E CAPACITOR	10MF 20% 16V			C 961	QEZ0337-228	E CAPACITOR	2200MF	
	C 552	NCB21HK-103X	C CAPACITOR				C 962	QEKJ1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 553	NCB21HK-103X	C CAPACITOR				C 964	QER41AM-227	E CAPACITOR	220MF 20% 10V	
	C 554	QERF0JM-476Z	E CAPACITOR	47MF 20% 6.3V			C 965	QER41AM-227	E CAPACITOR	220MF 20% 10V	
	C 555	NCB21HK-103X	C CAPACITOR				C 966	NCB21HK-103X	C CAPACITOR		
	C 556	NDC21HJ-100X	C CAPACITOR				C 967	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 557	NDC21HJ-100X	C CAPACITOR				C 968	NCB21EK-104X	C CAPACITOR		
	C 558	NCS21HJ-101X	C CAPACITOR				C 969	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 571	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 971	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 573	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 977	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 574	NCB21HK-103X	C CAPACITOR				C 978	QEKJ0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 581	QEKJ1CM-107Z	E CAPACITOR	100MF 20% 16V			C 982	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 582	NCB21HK-103X	C CAPACITOR				C 986	NCB21EK-104X	C CAPACITOR		
	C 583	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V			CF 31	QAX0605-001	CRYSTAL		
	C 584	NCB21HK-473X	C CAPACITOR				CN301	QGA2501C1-07	7P CONNECTOR		
	C 701	NDC21HJ-220X	C CAPACITOR				CN302	QGA2501C1-06	6P CONNECTOR		
	C 702	NDC21HJ-270X	C CAPACITOR				CN501	QGB2027M2-26X	CONNECTOR		
	C 703	NDC21HJ-270X	C CAPACITOR				CN503	QGA2501F1-02	CONNECTOR		
	C 704	NDC21HJ-8R0X	C CAPACITOR				CN504	QGA2501F1-02	CONNECTOR		
	C 705	NCS21HJ-471X	C CAPACITOR				CN701	QGF0503C1-16V	FPC CONNE		
	C 707	NCB21EK-103X	C CAPACITOR				CN702	QGF0501F1-06X	CONNECTOR C.M		
	C 708	NBE21AM-106X	E CAPACITOR				CN704	QGA1201C2-04X	CONNECTOR		
	C 710	QER41AM-227	E CAPACITOR	220MF 20% 10V			CN705	QGA2006C1-02	CONNECTOR		
	C 711	NCS21HJ-471X	C CAPACITOR				CN771	QNZ0095-001	CONNECTOR		
	C 713	QER41AM-227	E CAPACITOR	220MF 20% 10V			CN901	QNZ0090-001	CAR CONNECTOR		
	C 719	NCS21HJ-471X	C CAPACITOR				D 1	1SS355-X	DIODE		
	C 722	NCB21HK-222X	C CAPACITOR				D 2	1SS355-X	DIODE		
	C 723	NCB21HK-222X	C CAPACITOR				D 3	1SS355-X	DIODE		

■ Electrical parts list (Main board)

Block No. 01

A	Item	Parts number	Parts name	Remarks	Area	A	Item	Parts number	Parts name	Remarks	Area
	D 11	MA152WK-X	SI DIODE				O 35	2SB709A/R/-X	TRANSISTOR		
	D 31	1SS355-X	DIODE				O 36	UN2211-X	TRANSISTOR		
	D 101	MA152WK-X	SI DIODE				O 131	2SD1048/6-7/-X	TRANSISTOR		
	D 111	MA152WK-X	SI DIODE				O 132	2SD1048/6-7/-X	TRANSISTOR		
	D 131	MA152WA-X	DIODE				Q 161	2SD601A/R/-X	TRANSISTOR		
	D 161	1SS355-X	DIODE				O 231	2SD1048/6-7/-X	TRANSISTOR		
	D 162	1SS355-X	DIODE				O 232	2SD1048/6-7/-X	TRANSISTOR		
	D 201	MA152WK-X	SI DIODE				O 321	UN2211-X	TRANSISTOR		
	D 231	MA152WA-X	DIODE				O 322	UN2211-X	TRANSISTOR		
	D 332	MA152WK-X	SI DIODE				O 323	2SD1048/6-7/-X	TRANSISTOR		
	D 351	MA152WK-X	SI DIODE				O 501	2SB1241/QR/-T	TRANSISTOR		
	D 451	MA152WK-X	SI DIODE				O 581	2SB1241/QR/-T	TRANSISTOR		
	D 701	CRS03-W	SB DIODE				O 701	DTC114EKA-X	TRANSISTOR		
	D 711	1SS355-X	DIODE				O 755	UN2211-X	TRANSISTOR		
	D 754	UDZS6.2B-X	SI DIODE				O 791	UN2211-X	TRANSISTOR		
	D 941	1SS355-X	DIODE				O 941	UN2211-X	TRANSISTOR		
	D 961	1N5404-TU-15	DIODE				O 942	UN2211-X	TRANSISTOR		
	D 962	CRS03-W	SB DIODE				Q 963	UN2213-X	TRANSISTOR		
	D 963	MA152WA-X	DIODE				O 964	2SB709A/R/-X	TRANSISTOR		
	D 967	CRS03-W	SB DIODE				O 965	UN2211-X	TRANSISTOR		
	D 978	UDZ11B-X	Z.DIODE				O 966	2SB709A/R/-X	TRANSISTOR		
	D 980	1SS355-X	DIODE				O 977	UN2111-X	TRANSISTOR		
	D 986	MA152WA-X	DIODE				Q 979	UN2111-X	TRANSISTOR		
	IC 31	LA3460M-X	IC				Q 981	UN2111-X	TRANSISTOR		
	IC 51	SAA6579T-X	IC				O 982	UN2211-X	TRANSISTOR		
	IC151	NJM4565M-W	IC				O 983	2SD601A/R/-X	TRANSISTOR		
	IC171	NJM4565M-W	IC				O 986	UN2211-X	TRANSISTOR		
	IC301	BA3220FV-X	IC				R 1	NRSA02J-0R0X	MG RESISTOR		
	IC321	M5282FP-XE	IC				R 2	NRSA02J-104X	MG RESISTOR		
	IC322	BU4066BCFV-X	IC				R 3	NRSA02J-100X	MG RESISTOR		
	IC323	NJM4565M-W	IC				R 4	NRSA02J-103X	MG RESISTOR		
	IC401	BA3220FV-X	IC				R 11	NRS181J-8R2X	MG RESISTOR		
	IC501	TA2109F-X	IC				R 12	NRSA02J-473X	MG RESISTOR		
	IC521	TC9462F	IC				R 13	NRSA02J-472X	MG RESISTOR		
	IC581	FAN8037	IC				R 14	NRSA02J-473X	MG RESISTOR		
	IC701	UPD784215GC-168	IC				R 15	NRSA02J-332X	MG RESISTOR		
	IC702	IC-PST600M/G/-W	IC				R 21	NRSA02J-473X	MG RESISTOR		
	IC703	BR24C32F-X	IC(EEPROM)				R 22	NRSA02J-393X	MG RESISTOR		
	IC771	HD74HC126FP-X	IC				R 23	NRSA02J-103X	MG RESISTOR		
	IC821	NJM2100M-W	IC				R 24	NRSA02J-222X	MG RESISTOR		
	IC911	BD3860K	IC (1008)				R 25	NRSA02J-103X	MG RESISTOR		
	IC941	LA4743B	IC				R 26	NRSA02J-153X	MG RESISTOR		
	IC951	NJM2904M-W	IC				R 27	NRSA02J-471X	MG RESISTOR		
	IC961	BA4905-V3	IC				R 28	NRSA02J-683X	MG RESISTOR		
	L 1	NQL334J-4R7X	INDUCTOR				R 31	NRSA02J-123X	MG RESISTOR		
	L 521	NQL114K-470X	INDUCTOR				R 32	NRSA02J-474X	MG RESISTOR		
	L 551	NQL114K-470X	INDUCTOR				R 33	NRSA02J-222X	MG RESISTOR		
	L 701	NQL114K-470X	INDUCTOR				R 34	NRSA02J-392X	MG RESISTOR		
	L 961	QQR0703-001	CHOKE COIL				R 35	NRSA02J-333X	MG RESISTOR		
	PP 1	QZW0010-001	STYLE PIN				R 36	NRSA02J-683X	MG RESISTOR		
	PP 3	QZW0010-001	STYLE PIN				R 37	NRSA02J-222X	MG RESISTOR		
	PP 4	QZW0010-001	STYLE PIN				R 38	NRSA02J-183X	MG RESISTOR		
	Q 1	UN2211-X	TRANSISTOR				R 39	NRSA02J-223X	MG RESISTOR		
	O 11	2SB815/7/-X	TRANSISTOR				R 40	NRSA02J-562X	MG RESISTOR		
	O 12	UN2211-X	TRANSISTOR				R 41	NRSA02J-105X	MG RESISTOR		
	O 13	2SB709A/R/-X	TRANSISTOR				R 42	NRSA02J-471X	MG RESISTOR		
	O 21	2SC2412K/R/-X	TRANSISTOR				R 43	NRSA02J-104X	MG RESISTOR		
	O 22	2SC2412K/R/-X	TRANSISTOR				R 44	NRSA02J-102X	MG RESISTOR		
	O 23	2SC2412K/R/-X	TRANSISTOR				R 45	NRSA02J-473X	MG RESISTOR		
	Q 24	UN2211-X	TRANSISTOR				R 46	NRSA02J-683X	MG RESISTOR		
	O 31	UN2111-X	TRANSISTOR				R 47	NRSA02J-0R0X	MG RESISTOR		
	O 32	UN2211-X	TRANSISTOR				R 51	NRSA02J-101X	MG RESISTOR		
	O 33	2SD601A/R/-X	TRANSISTOR				R 52	NRSA02J-222X	MG RESISTOR		
	O 34	UN2111-X	TRANSISTOR				R 53	NRSA02J-222X	MG RESISTOR		

■ Electrical parts list (Main board)

Block No. 01

A	Item	Parts number	Parts name	Remarks	Area	A	Item	Parts number	Parts name	Remarks	Area
	R 54	NRSA02J-222X	MG RESISTOR				R 304	NRSA02J-333X	MG RESISTOR		
	R 101	NRSA02J-103X	MG RESISTOR				R 305	NRSA02J-154X	MG RESISTOR		
	R 102	NRSA02J-223X	MG RESISTOR				R 322	NRSA02J-103X	MG RESISTOR		
	R 111	NRSA02J-224X	MG RESISTOR				R 323	NRSA02J-103X	MG RESISTOR		
	R 118	NRSA02J-101X	MG RESISTOR				R 324	NRSA02J-104X	MG RESISTOR		
	R 131	NRSA02J-222X	MG RESISTOR				R 325	NRSA02J-104X	MG RESISTOR		
	R 132	NRSA02J-222X	MG RESISTOR				R 326	NRSA02J-103X	MG RESISTOR		
	R 133	NRSA02J-681X	MG RESISTOR				R 327	NRSA02J-562X	MG RESISTOR		
	R 134	NRSA02J-681X	MG RESISTOR				R 328	NRSA02J-153X	MG RESISTOR		
	R 135	NRSA02J-101X	MG RESISTOR				R 329	NRSA02J-0R0X	MG RESISTOR		
	R 136	NRSA02J-101X	MG RESISTOR				R 330	NRSA02J-473X	MG RESISTOR		
	R 141	NRSA02J-473X	MG RESISTOR				R 331	NRSA02J-104X	MG RESISTOR		
	R 142	NRSA02J-473X	MG RESISTOR				R 332	NRSA02J-104X	MG RESISTOR		
	R 143	NRSA02J-823X	MG RESISTOR				R 333	NRSA02J-473X	MG RESISTOR		
	R 144	NRSA02J-823X	MG RESISTOR				R 334	NRSA02J-473X	MG RESISTOR		
	R 145	NRSA02J-473X	MG RESISTOR				R 335	NRSA02J-821X	MG RESISTOR		
	R 146	NRSA02J-473X	MG RESISTOR				R 336	NRSA02J-473X	MG RESISTOR		
	R 151	NRSA02J-243X	MG RESISTOR				R 337	NRSA02J-472X	MG RESISTOR		
	R 152	NRSA02J-333X	MG RESISTOR				R 338	NRSA02J-101X	MG RESISTOR		
	R 153	NRSA02J-123X	MG RESISTOR				R 339	NRSA02J-101X	MG RESISTOR		
	R 155	NRSA02J-152X	MG RESISTOR				R 340	NRSA02J-474X	MG RESISTOR		
	R 161	NRSA02J-473X	MG RESISTOR				R 341	NRSA02J-105X	MG RESISTOR		
	R 162	NRSA02J-123X	MG RESISTOR				R 342	NRSA02J-105X	MG RESISTOR		
	R 163	NRSA02J-184X	MG RESISTOR				R 343	NRSA02J-105X	MG RESISTOR		
	R 164	NRSA02J-223X	MG RESISTOR				R 344	NRSA02J-105X	MG RESISTOR		
	R 165	NRSA02J-391X	MG RESISTOR				R 351	NRSA02J-224X	MG RESISTOR		
	R 166	NRSA02J-102X	MG RESISTOR				R 352	NRSA02J-224X	MG RESISTOR		
	R 167	NRSA02J-274X	MG RESISTOR				R 353	NRSA02J-105X	MG RESISTOR		
	R 172	NRSA02J-104X	MG RESISTOR				R 354	NRSA02J-682X	MG RESISTOR		
	R 173	NRSA02J-822X	MG RESISTOR				R 355	NRSA02J-224X	MG RESISTOR		
	R 174	NRSA02J-822X	MG RESISTOR				R 358	NRSA02J-332X	MG RESISTOR		
	R 175	NRSA02J-103X	MG RESISTOR				R 401	NRSA02J-243X	MG RESISTOR		
	R 176	NRSA02J-103X	MG RESISTOR				R 402	NRSA02J-243X	MG RESISTOR		
	R 177	NRSA02J-102X	MG RESISTOR				R 403	NRSA02J-333X	MG RESISTOR		
	R 178	NRSA02J-471X	MG RESISTOR				R 404	NRSA02J-333X	MG RESISTOR		
	R 201	NRSA02J-103X	MG RESISTOR				R 405	NRSA02J-154X	MG RESISTOR		
	R 202	NRSA02J-223X	MG RESISTOR				R 451	NRSA02J-224X	MG RESISTOR		
	R 211	NRSA02J-224X	MG RESISTOR				R 452	NRSA02J-224X	MG RESISTOR		
	R 218	NRSA02J-101X	MG RESISTOR				R 454	NRSA02J-682X	MG RESISTOR		
	R 231	NRSA02J-222X	MG RESISTOR				R 455	NRSA02J-224X	MG RESISTOR		
	R 232	NRSA02J-222X	MG RESISTOR				R 458	NRSA02J-332X	MG RESISTOR		
	R 233	NRSA02J-681X	MG RESISTOR				R 501	NRSA02J-563X	MG RESISTOR		
	R 234	NRSA02J-681X	MG RESISTOR				R 502	NRSA02J-563X	MG RESISTOR		
	R 235	NRSA02J-101X	MG RESISTOR				R 503	NRSA02J-563X	MG RESISTOR		
	R 236	NRSA02J-101X	MG RESISTOR				R 504	NRSA02J-563X	MG RESISTOR		
	R 241	NRSA02J-473X	MG RESISTOR				R 505	NRSA02J-124X	MG RESISTOR		
	R 242	NRSA02J-473X	MG RESISTOR				R 506	NRSA02J-124X	MG RESISTOR		
	R 243	NRSA02J-823X	MG RESISTOR				R 507	NRSA02J-220X	MG RESISTOR		
	R 244	NRSA02J-823X	MG RESISTOR				R 508	NRSA02J-220X	MG RESISTOR		
	R 245	NRSA02J-473X	MG RESISTOR				R 509	NRSA02J-273X	MG RESISTOR		
	R 246	NRSA02J-473X	MG RESISTOR				R 510	NRSA02J-333X	MG RESISTOR		
	R 251	NRSA02J-243X	MG RESISTOR				R 511	NRSA02J-222X	MG RESISTOR		
	R 252	NRSA02J-333X	MG RESISTOR				R 512	NRSA02J-153X	MG RESISTOR		
	R 253	NRSA02J-123X	MG RESISTOR				R 513	NRSA02J-682X	MG RESISTOR		
	R 255	NRSA02J-152X	MG RESISTOR				R 514	NRSA02J-473X	MG RESISTOR		
	R 272	NRSA02J-104X	MG RESISTOR				R 521	NRSA02J-472X	MG RESISTOR		
	R 273	NRSA02J-822X	MG RESISTOR				R 522	NRSA02J-472X	MG RESISTOR		
	R 274	NRSA02J-822X	MG RESISTOR				R 523	NRSA02J-472X	MG RESISTOR		
	R 275	NRSA02J-103X	MG RESISTOR				R 524	NRSA02J-472X	MG RESISTOR		
	R 276	NRSA02J-103X	MG RESISTOR				R 525	NRSA02J-103X	MG RESISTOR		
	R 277	NRSA02J-102X	MG RESISTOR				R 531	NRSA02J-103X	MG RESISTOR		
	R 301	NRSA02J-243X	MG RESISTOR				R 532	NRSA02J-473X	MG RESISTOR		
	R 302	NRSA02J-243X	MG RESISTOR				R 533	NRSA02J-683X	MG RESISTOR		
	R 303	NRSA02J-333X	MG RESISTOR				R 534	NRSA02J-474X	MG RESISTOR		

■ Electrical parts list (Main board)

Block No. 01

A	Item	Parts number	Parts name	Remarks	Area	A	Item	Parts number	Parts name	Remarks	Area
	R 536	NRSA02J-333X	MG RESISTOR				R 743	NRSA02J-473X	MG RESISTOR		
	R 537	NRSA02J-103X	MG RESISTOR				R 746	NRSA02J-473X	MG RESISTOR		
	R 541	NRSA02J-122X	MG RESISTOR				R 747	NRSA02J-473X	MG RESISTOR		
	R 542	NRSA02J-103X	MG RESISTOR				R 748	NRSA02J-473X	MG RESISTOR		
	R 543	NRSA02J-332X	MG RESISTOR				R 749	NRSA02J-473X	MG RESISTOR		
	R 544	NRSA02J-332X	MG RESISTOR				R 750	NRSA02J-473X	MG RESISTOR		
	R 545	NRSA02J-332X	MG RESISTOR				R 751	NRSA02J-106X	MG RESISTOR		
	R 547	NRSA02J-332X	MG RESISTOR				R 753	NRSA02J-473X	MG RESISTOR		
	R 571	NRSA02J-101X	MG RESISTOR				R 754	NRS181J-102X	MG RESISTOR		
	R 581	NRSA02J-332X	MG RESISTOR				R 757	NRSA02J-473X	MG RESISTOR		
	R 582	NRSA02J-123X	MG RESISTOR				R 758	NRSA02J-331X	MG RESISTOR		
	R 583	NRSA02J-102X	MG RESISTOR				R 761	NRSA02J-103X	MG RESISTOR		
	R 584	NRSA02J-332X	MG RESISTOR				R 762	NRSA02J-222X	MG RESISTOR		
	R 585	NRSA02J-682X	MG RESISTOR				R 763	NRSA02J-222X	MG RESISTOR		
	R 586	NRSA02J-682X	MG RESISTOR				R 764	NRSA02J-222X	MG RESISTOR		
	R 587	NRSA02J-682X	MG RESISTOR				R 765	NRSA02J-222X	MG RESISTOR		
	R 588	NRSA02J-682X	MG RESISTOR				R 766	NRSA02J-222X	MG RESISTOR		
	R 589	NRSA02J-332X	MG RESISTOR				R 767	NRSA02J-331X	MG RESISTOR		
	R 590	NRSA02J-472X	MG RESISTOR				R 772	NRSA02J-473X	MG RESISTOR		
	R 591	NRSA02J-392X	MG RESISTOR				R 773	NRSA02J-223X	MG RESISTOR		
	R 592	NRSA02J-472X	MG RESISTOR				R 774	NRSA02J-101X	MG RESISTOR		
	R 593	NRSA02J-392X	MG RESISTOR				R 775	NRSA02J-103X	MG RESISTOR		
	R 594	NRSA02J-472X	MG RESISTOR				R 776	NRSA02J-104X	MG RESISTOR		
	R 595	NRSA02J-103X	MG RESISTOR				R 777	NRSA02J-223X	MG RESISTOR		
	R 596	NRSA02J-103X	MG RESISTOR				R 778	NRSA02J-101X	MG RESISTOR		
	R 701	NRSA02J-473X	MG RESISTOR				R 779	NRSA02J-473X	MG RESISTOR		
	R 702	NRSA02J-821X	MG RESISTOR				R 781	NRSA02J-331X	MG RESISTOR		
	R 703	NRSA02J-473X	MG RESISTOR				R 782	NRSA02J-104X	MG RESISTOR		
	R 704	NRSA02J-473X	MG RESISTOR				R 791	NRSA02J-102X	MG RESISTOR		
	R 705	NRSA02J-473X	MG RESISTOR				R 821	QRE142J-102X	C RESISTOR	1.0K 5% 1/4W	
	R 706	NRSA02J-103X	MG RESISTOR				R 822	NRSA02J-822X	MG RESISTOR		
	R 707	NRSA02J-472X	MG RESISTOR				R 823	NRSA02J-223X	MG RESISTOR		
	R 708	NRSA02J-472X	MG RESISTOR				R 824	NRSA02J-822X	MG RESISTOR		
	R 709	NRSA02J-472X	MG RESISTOR				R 825	NRSA02J-223X	MG RESISTOR		
	R 710	NRSA02J-103X	MG RESISTOR				R 826	NRSA02J-153X	MG RESISTOR		
	R 711	NRSA02J-103X	MG RESISTOR				R 827	NRSA02J-472X	MG RESISTOR		
	R 712	NRSA02J-103X	MG RESISTOR				R 828	NRSA02J-223X	MG RESISTOR		
	R 713	NRSA02J-103X	MG RESISTOR				R 829	NRSA02J-223X	MG RESISTOR		
	R 714	NRSA02J-103X	MG RESISTOR				R 830	NRSA02J-103X	MG RESISTOR		
	R 715	NRSA02J-472X	MG RESISTOR				R 831	NRSA02J-820X	MG RESISTOR		
	R 716	NRSA02J-472X	MG RESISTOR				R 911	NRSA02J-222X	MG RESISTOR		
	R 717	NRSA02J-472X	MG RESISTOR				R 912	NRSA02J-222X	MG RESISTOR		
	R 718	NQL012K-1R8X	INDUCTOR				R 941	NRSA02J-273X	MG RESISTOR		
	R 719	NQL012K-1R8X	INDUCTOR				R 942	NRSA02J-273X	MG RESISTOR		
	R 720	NRSA02J-331X	MG RESISTOR				R 943	NRSA02J-102X	MG RESISTOR		
	R 721	NRSA02J-103X	MG RESISTOR				R 951	NRSA02J-562X	MG RESISTOR		
	R 722	NRSA02J-103X	MG RESISTOR				R 952	NRSA02J-102X	MG RESISTOR		
	R 723	NRSA02J-102X	MG RESISTOR				R 953	NRSA02J-562X	MG RESISTOR		
	R 724	NRSA02J-271X	MG RESISTOR				R 954	NRSA02J-103X	MG RESISTOR		
	R 725	NRSA02J-271X	MG RESISTOR				R 961	QRE142J-102X	C RESISTOR	1.0K 5% 1/4W	
	R 728	NRSA02J-103X	MG RESISTOR				R 962	NRSA02J-912X	MG RESISTOR		
	R 729	NRSA02J-103X	MG RESISTOR				R 963	NRSA02J-472X	MG RESISTOR		
	R 730	NRSA02J-103X	MG RESISTOR				R 964	NRSA02J-473X	MG RESISTOR		
	R 731	NRSA63J-473X	MG RESISTOR				R 965	NRSA02J-222X	MG RESISTOR		
	R 732	NRSA63J-473X	MG RESISTOR				R 970	NRSA02J-123X	MG RESISTOR		
	R 733	NRSA63J-473X	MG RESISTOR				R 971	NRSA02J-393X	MG RESISTOR		
	R 734	NRSA63J-472X	MG RESISTOR				R 975	NRSA02J-124X	MG RESISTOR		
	R 735	NRSA63J-472X	MG RESISTOR				R 976	NRS181J-222X	MG RESISTOR		
	R 736	NRSA02J-102X	MG RESISTOR				R 977	NRS181J-222X	MG RESISTOR		
	R 737	NRSA02J-103X	MG RESISTOR				R 978	NRSA02J-104X	MG RESISTOR		
	R 738	NRSA02J-103X	MG RESISTOR				R 981	NRSA02J-473X	MG RESISTOR		
	R 739	NRSA02J-473X	MG RESISTOR				R 984	NRSA02J-473X	MG RESISTOR		
	R 740	NRSA02J-473X	MG RESISTOR				R 985	NRSA02J-103X	MG RESISTOR		
	R 742	NRSA02J-103X	MG RESISTOR				R 986	NRSA02J-102X	MG RESISTOR		

■ Electrical parts list (Main board)

Block No. 01

A	Item	Parts number	Parts name	Remarks	Area
	R 987	NRSA02J-473X	MG RESISTOR		
	S 651	NSW0120-002X	PUSH SWITCH		
	S 652	NSW0120-002X	PUSH SWITCH		
	S 653	NSW0120-002X	PUSH SWITCH		
	TH951	NAD0021-103X	THERMISTOR		
	TH981	NAD0021-103X	THERMISTOR		
	TU 1	QAU0157-001	TUNER PACK		
	VR 31	QVP0004-503Z	SEMI.V.RESISTOR		
	X 51	QAX0263-001Z	CRYSTAL		
	X 521	QAX0413-001Z	CRYSTAL		
	X 701	QAX0617-001Z	CRYSTAL		
	X 702	QAX0401-001	CRYSTAL		

■ Electrical parts list (LCD&Switch Board)
Block No. 02

A	Item	Parts number	Parts name	Remarks	Area
	C 601	NBE20JM-475X	TS E CAPACITOR		
	C 602	NCB21HK-104X	C CAPACITOR		
	C 603	NCB21HK-104X	C CAPACITOR		
	C 604	NCB21HK-102X	C CAPACITOR		
	C 605	NBE21AM-475X	TS E CAPACITOR		
	C 606	NCB21HK-104X	C CAPACITOR		
	C 607	NCB21HK-104X	C CAPACITOR		
	C 608	NCB21HK-104X	C CAPACITOR		
	C 609	NDC21HJ-101X	C CAPACITOR		
	C 610	NBE20JM-475X	TS E CAPACITOR		
	C 611	NBE21AM-106X	E CAPACITOR		
	C 612	NFV41CG-393X	MPPS CAPACITOR		
	C 613	NCZ1011-180X	C CAPACITOR		
	C 614	NCB21EK-104X	C CAPACITOR		
	C 615	NCB21HK-562X	C CAPACITOR		
	C 625	NBE20JM-475X	TS E CAPACITOR		
	CN601	QGF0501F1-16X	FPC CONNECTOR		
	CN631	QGF0501F1-06X	CONNECTOR C.M		
	D 621	SML-310LT/MN/-X	LED		
	D 622	SML-310LT/MN/-X	LED		
	D 623	SML-310LT/MN/-X	LED		
	D 624	SML-310LT/MN/-X	LED		
	D 625	MA3051/M/-X	ZENER DIODE		
	D 626	MA152WK-X	SI DIODE		
	D 627	LT1F67AF-W	LED		
	D 655	CL-190UB-X-X	LED		
	D 656	CL-190UB-X-X	LED		
	IC601	LC75823W	IC		
	IC602	LC75811W	IC		
	IC603	RPM6938-SV4	IC		
	L 611	NQLZ007-680X	INDUCTOR		
	L 612	NQR0372-001X	C FL TRANSF		
	L 613	NQL114K-470X	INDUCTOR		
	PC601	PR-20-W	PHOTO REF.		
	PC602	PR-20-W	PHOTO REF.		
	O 611	2SD2185/R/-X	TRANSISTOR		
	O 612	2SD2185/R/-X	TRANSISTOR		
	O 691	2SD601A/R/-X	TRANSISTOR		
	O 692	2SD601A/R/-X	TRANSISTOR		
	R 601	NRSA02J-103X	MG RESISTOR		
	R 602	NRSA02J-103X	MG RESISTOR		
	R 603	NRSA02J-103X	MG RESISTOR		
	R 604	NRSA02J-473X	MG RESISTOR		
	R 605	NRSA02J-103X	MG RESISTOR		
	R 606	NRSA02J-103X	MG RESISTOR		
	R 607	NRSA02J-103X	MG RESISTOR		
	R 608	NRSA02J-103X	MG RESISTOR		
	R 609	NRSA02J-153X	MG RESISTOR		
	R 611	NRSA02J-472X	MG RESISTOR		
	R 612	NRSA02J-472X	MG RESISTOR		
	R 613	NRSA02J-681X	MG RESISTOR		
	R 621	NRSA02J-221X	MG RESISTOR		
	R 622	NRSA02J-221X	MG RESISTOR		
	R 623	NRSA02J-821X	MG RESISTOR		
	R 624	NRSA02J-821X	MG RESISTOR		
	R 625	NRSA02J-471X	MG RESISTOR		
	R 626	NRSA02J-103X	MG RESISTOR		
	R 627	NRSA02J-221X	MG RESISTOR		
	R 628	NRSA02J-0R0X	MG RESISTOR		
	R 629	NRSA02J-102X	MG RESISTOR		
	R 630	NRSA02J-102X	MG RESISTOR		
	R 632	NRSA02J-221X	MG RESISTOR		
	R 633	NRSA02J-221X	MG RESISTOR		
	R 634	NRSA02J-221X	MG RESISTOR		

A	Item	Parts number	Parts name	Remarks	Area
	R 635	NRSA02J-221X	MG RESISTOR		
	R 636	NRSA02J-821X	MG RESISTOR		
	R 637	NRSA02J-821X	MG RESISTOR		
	R 638	NRSA02J-122X	MG RESISTOR		
	R 639	NRSA02J-182X	MG RESISTOR		
	R 640	NRSA02J-272X	MG RESISTOR		
	R 641	NRSA02J-392X	MG RESISTOR		
	R 642	NRSA02J-821X	MG RESISTOR		
	R 643	NRSA02J-821X	MG RESISTOR		
	R 644	NRSA02J-122X	MG RESISTOR		
	R 645	NRSA02J-182X	MG RESISTOR		
	R 646	NRSA02J-272X	MG RESISTOR		
	R 647	NRSA02J-392X	MG RESISTOR		
	R 651	NRSA02J-221X	MG RESISTOR		
	R 652	NRSA02J-221X	MG RESISTOR		
	R 655	NRSA02J-391X	MG RESISTOR		
	R 656	NRSA02J-391X	MG RESISTOR		
	R 671	NRSA02J-331X	MG RESISTOR		
	R 672	NRSA02J-331X	MG RESISTOR		
	R 673	NRSA02J-332X	MG RESISTOR		
	R 674	NRSA02J-332X	MG RESISTOR		
	R 675	NRSA02J-332X	MG RESISTOR		
	R 676	NRSA02J-391X	MG RESISTOR		
	R 691	NRSA02J-104X	MG RESISTOR		
	R 692	NRSA02J-393X	MG RESISTOR		
	R 693	NRSA02J-104X	MG RESISTOR		
	R 694	NRSA02J-393X	MG RESISTOR		
	S 621	NSW0041-001X	TACT SWITCH		
	S 622	NSW0041-001X	TACT SWITCH		
	S 623	NSW0041-001X	TACT SWITCH		
	S 624	NSW0041-001X	TACT SWITCH		
	S 625	NSW0039-001X	TACT SWITCH		
	S 631	QSW0856-002X	TACT SWITCH		
	S 632	NSW0041-001X	TACT SWITCH		
	S 633	QSW0856-002X	TACT SWITCH		
	S 634	QSW0856-002X	TACT SWITCH		
	S 635	QSW0856-002X	TACT SWITCH		
	S 636	QSW0856-002X	TACT SWITCH		
	S 637	QSW0856-002X	TACT SWITCH		
	S 638	QSW0856-002X	TACT SWITCH		
	S 639	QSW0856-002X	TACT SWITCH		
	S 640	QSW0856-002X	TACT SWITCH		
	S 641	QSW0856-002X	TACT SWITCH		
	S 642	QSW0856-002X	TACT SWITCH		
	S 643	QSW0856-002X	TACT SWITCH		

■ Electrical parts list (Boice board)

Block No. 03

A	Item	Parts number	Parts name	Remarks	Area	A	Item	Parts number	Parts name	Remarks	Area
	C 841	QETM1CM-228	E CAPACITOR	2200MF 20% 16V			J 853	QNZ0111-001	JACK		
	C 842	NCB21HK-103X	C CAPACITOR				L 841	QQR0905-001	CHOKE COIL		
	C 843	NCB21HK-102X	C CAPACITOR				L 851	NQL114K-470X	INDUCTOR		
	C 845	QEK41CM-106	E CAPACITOR	10MF 20% 16V			O 846	UN2211-X	TRANSISTOR		
	C 846	QEK41CM-106	E CAPACITOR	10MF 20% 16V			Q 847	2SB1241/QR/-T	TRANSISTOR		
	C 847	NCB21HK-104X	C CAPACITOR				O 851	2SB1241/QR/-T	TRANSISTOR		
	C 851	NDC21HJ-270X	C CAPACITOR				O 852	UN2211-X	TRANSISTOR		
	C 852	NDC21HJ-270X	C CAPACITOR				O 855	2SD601A/R/-X	TRANSISTOR		
	C 853	NDC21HJ-680X	C CAPACITOR				O 891	2SD1048X-6HL	TRANSISTOR		
	C 854	NCB21HK-104X	C CAPACITOR				O 892	UN2111-X	TRANSISTOR		
	C 855	NCB21HK-683X	C CAPACITOR				R 192	NRSA02J-0R0X	MG RESISTOR		
	C 856	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V			R 292	NRSA02J-0R0X	MG RESISTOR		
	C 857	NCB21HK-223X	C CAPACITOR				R 841	NRSA02J-0R0X	MG RESISTOR		
	C 858	NCS21HJ-221X	C CAPACITOR				R 845	NRSA02J-0R0X	MG RESISTOR		
	C 859	QEKJ1CM-107Z	E CAPACITOR	100MF 20% 16V			R 847	NRSA02J-103X	MG RESISTOR		
	C 860	NCB21HK-103X	C CAPACITOR				R 848	NRSA02J-222X	MG RESISTOR		
	C 861	QEKJ1CM-107Z	E CAPACITOR	100MF 20% 16V			R 850	QRL01DJ-470X	OMF RESISTOR	47 5% 1/1W	
	C 862	NCB21HK-104X	C CAPACITOR				R 851	NRSA02J-272X	MG RESISTOR		
	C 863	NCB21HK-103X	C CAPACITOR				R 852	NRSA02J-0R0X	MG RESISTOR		
	C 864	QEKJ0JM-476Z	E CAPACITOR	47MF 20% 6.3V			R 853	NRSA02J-472X	MG RESISTOR		
	C 865	NCB21HK-104X	C CAPACITOR				R 854	NRSA02J-101X	MG RESISTOR		
	C 866	NCB21HK-104X	C CAPACITOR				R 855	NRSA02J-391X	MG RESISTOR		
	C 867	NCB21HK-104X	C CAPACITOR				R 856	NRSA02J-470X	MG RESISTOR		
	C 868	NDC21HJ-220X	C CAPACITOR				R 858	NRSA02J-473X	MG RESISTOR		
	C 869	NDC21HJ-220X	C CAPACITOR				R 859	NRSA02J-472X	MG RESISTOR		
	C 870	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V			R 860	NRSA02J-103X	MG RESISTOR		
	C 871	NCB21HK-473X	C CAPACITOR				R 862	NRSA02J-103X	MG RESISTOR		
	C 872	NCB21HK-103X	C CAPACITOR				R 863	NRSA02J-222X	MG RESISTOR		
	C 873	NCB21HK-103X	C CAPACITOR				R 864	NRSA02J-0R0X	MG RESISTOR		
	C 874	NCB21HK-103X	C CAPACITOR				R 865	NRSA02J-473X	MG RESISTOR		
	C 876	QETC0JM-477Z	E CAPACITOR	470MF 20% 6.3V			R 866	NRSA02J-222X	MG RESISTOR		
	C 881	NCB21HK-223X	C CAPACITOR				R 867	NRSA02J-122X	MG RESISTOR		
	C 891	QEK41CM-106	E CAPACITOR	10MF 20% 16V			R 868	NRSA02J-272X	MG RESISTOR		
	C 892	QEK41CM-106	E CAPACITOR	10MF 20% 16V			R 871	NRSA02J-473X	MG RESISTOR		
	C 893	QEK41CM-106	E CAPACITOR	10MF 20% 16V			R 872	NRSA02J-223X	MG RESISTOR		
	C 894	QEK41CM-106	E CAPACITOR	10MF 20% 16V			R 873	NRSA02J-101X	MG RESISTOR		
	C 895	NCB21HK-103X	C CAPACITOR				R 874	NRSA02J-103X	MG RESISTOR		
	C 898	NCB21HK-562X	C CAPACITOR				R 875	NRSA02J-104X	MG RESISTOR		
	C 899	NCB21HK-102X	C CAPACITOR				R 876	NRSA02J-223X	MG RESISTOR		
	CN851	QGB2019K1-10S	CONNECTOR				R 877	NRSA02J-101X	MG RESISTOR		
	CN852	QGA2006C1-08	CONNECTOR				R 878	NRSA02J-473X	MG RESISTOR		
	CN853	QGB2019J1-10S	CONNECTOR				R 879	NRSA02J-331X	MG RESISTOR		
	C1051	QEZ0509-47A	EDL CAPACITOR	PF			R 880	NRSA02J-104X	MG RESISTOR		
	D 842	DSK10C-T1	DIODE				R 881	NRSA02J-0R0X	MG RESISTOR		
	D 845	1SR154-400-X	DIODE				R 884	NRSA02J-473X	MG RESISTOR		
	D 851	DSK10C-T1	DIODE				R 885	NRSA02J-271X	MG RESISTOR		
	D 865	1SS355-X	DIODE				R 886	NRSA02J-271X	MG RESISTOR		
	D 866	MA3051/M/-X	ZENER DIODE				R 887	NRSA02J-271X	MG RESISTOR		
	D 867	CRS03-W	SB DIODE				R 888	NRSA02J-472X	MG RESISTOR		
	D 891	1SS355-X	DIODE				R 889	NRSA02J-472X	MG RESISTOR		
	D1001	2A02	DIODE				R 890	NRSA02J-472X	MG RESISTOR		
	D1051	CRS03-W	SB DIODE				R 891	NRSA02J-103X	MG RESISTOR		
	IC845	S-81250SGUP-X	IC				R 892	NRSA02J-471X	MG RESISTOR		
	IC851	RSC-300-TQFP	VOICE IC				R 893	NRSA02J-103X	MG RESISTOR		
	IC852	IC-PST600M/G/-W	IC				R 894	NRSA02J-103X	MG RESISTOR		
	IC853	SST28SF040120IE	FLASH MEMORY				R 895	NRSA02J-104X	MG RESISTOR		
	IC854	MSM534001E-77TS	IC				R 896	NRSA02J-223X	MG RESISTOR		
	IC855	UPD789104AMC504	IC				R 897	NRSA02J-223X	MG RESISTOR		
	IC856	TC74VHCT08AF-X	IC				R 898	NRSA02J-682X	MG RESISTOR		
	IC857	TC74VHCT32AF-X	IC				R 899	NRSA02J-470X	MG RESISTOR		
	IC871	HD74HC126FP-X	IC				RY851	QSK0079-001	RELAY		
	IC891	NJM2100M-W	IC				R1011	NRSA02J-473X	MG RESISTOR		
	J 851	QNS0076-001	DCS JACK				R1012	NRSA02J-473X	MG RESISTOR		
	J 852	QNS0076-002	CONNECTOR				R1013	NRSA02J-473X	MG RESISTOR		

■ Electrical parts list (Voice board)

Block No. 03

A	Item	Parts number	Parts name	Remarks	Area
	R1014	NRSA02J-473X	MG RESISTOR		
	R1015	NRSA02J-473X	MG RESISTOR		
	R1016	NRSA02J-473X	MG RESISTOR		
	R1017	NRSA02J-473X	MG RESISTOR		
	R1018	NRSA02J-473X	MG RESISTOR		
	R1019	NRSA02J-103X	MG RESISTOR		
	R1020	NRSA02J-472X	MG RESISTOR		
	R1022	NRSA02J-103X	MG RESISTOR		
	R1023	NRSA02J-103X	MG RESISTOR		
	R1051	NRSA02J-271X	MG RESISTOR		
	X 851	QAX0612-001Z	XTAL(14.31818M)		
	X 852	QAX0414-001Z	CRYSTAL		