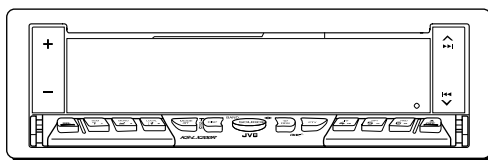
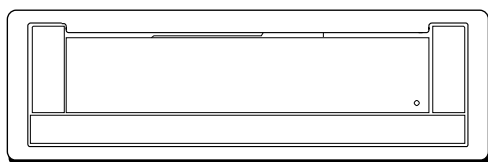
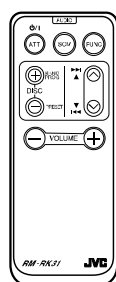


# JVC

## SERVICE MANUAL

### CASSETTE RECEIVER

## KS-LX200R



#### Area Suffix


E ..... Continental Europe  
EX ..... Central Europe



### Contents

Safety precaution .....	1-2
Disassembly method .....	1-3
Adjustment method .....	1-13
Description of major ICs .....	1-17

## Safety precaution

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

## 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 screw **C** and the three 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 cassette mechanism connector from the main board connector by pulling it. Remove the top chassis from the body.

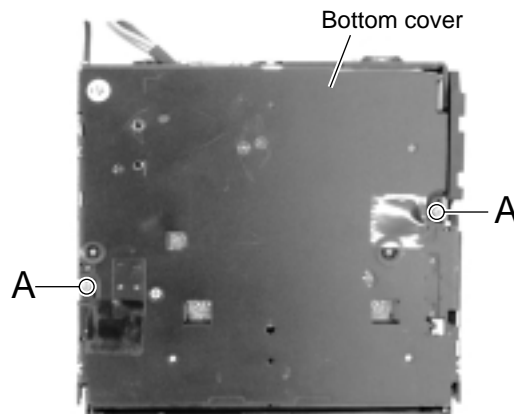


Fig.1

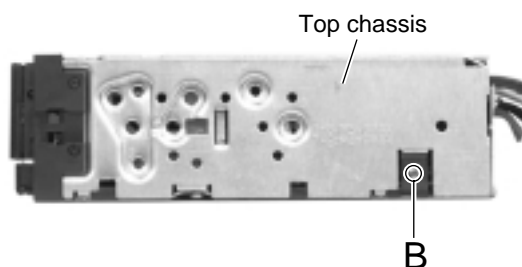


Fig.2

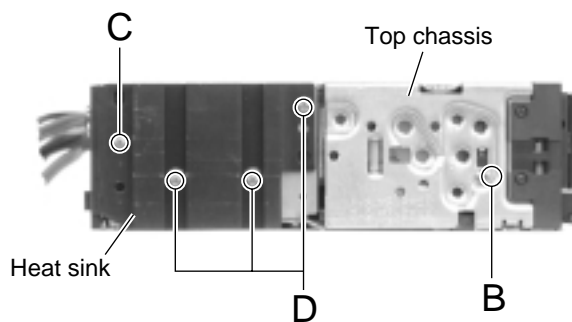


Fig.3

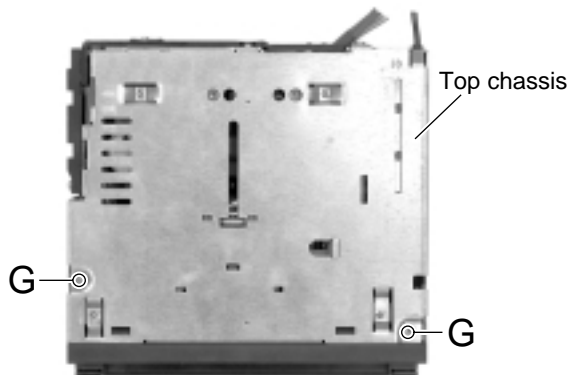


Fig.5

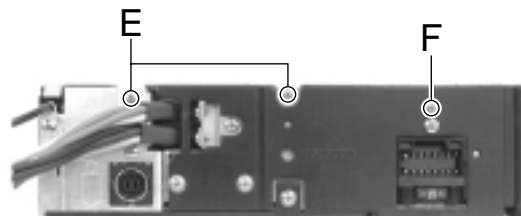


Fig.4

**■ Removing the main board assembly  
(See Fig.6 to 8)**

· Prior to performing the following procedure, remove the top chassis.

1. Remove the screw **S** attaching the bracket (L).
2. Disconnect the flexible harness from connector CN701, the card wire from CN702 on the main board and the harness from CN503 and CN504 respectively.
3. Remove the three screws **H** attaching the main board assembly to the bottom cover on the upper side of the body.
4. 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.)
5. Remove the screw **J** and the two screws **K** attaching the rear heat sink on the back of the body.
6. Remove the two 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.7, 18 and 19).

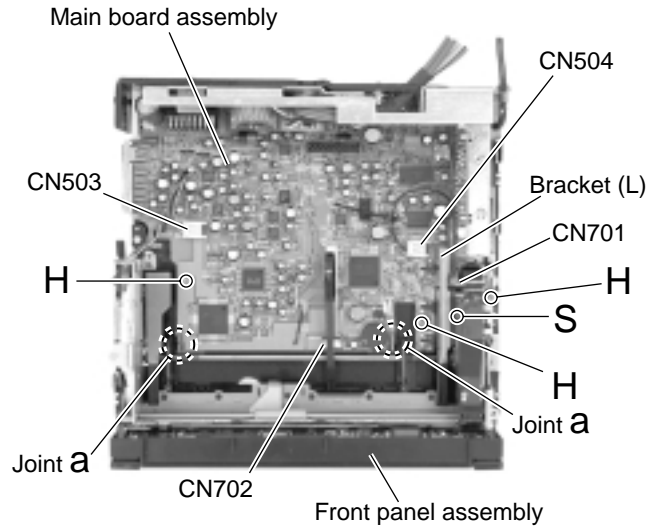


Fig.6

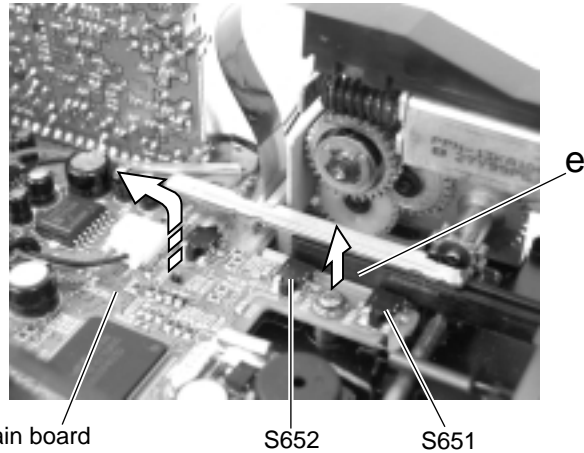


Fig.7

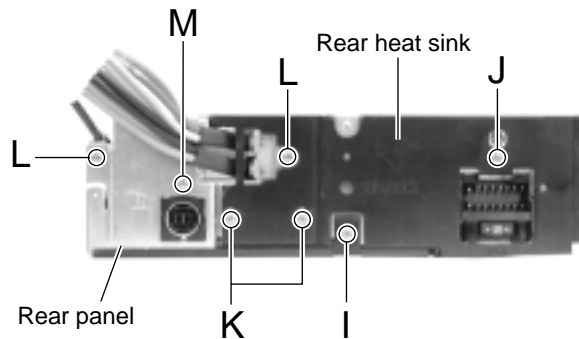


Fig.8

**■ Removing the front panel assembly  
(See Fig.9 to 11)**

- 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.

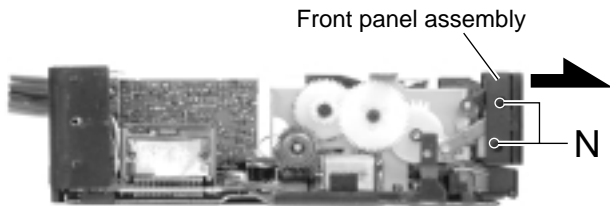
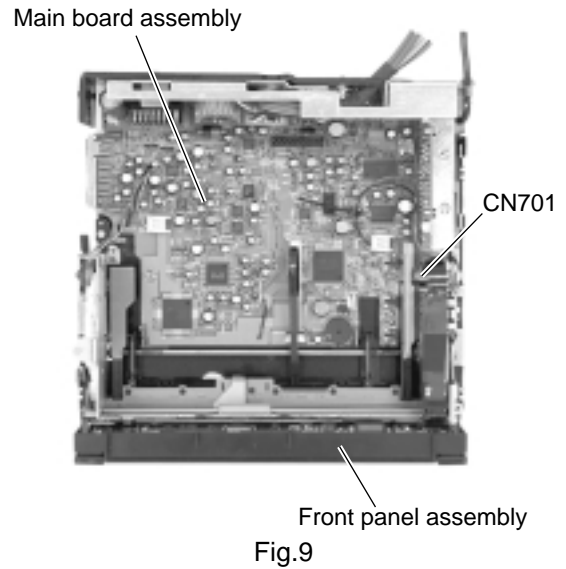


Fig.11

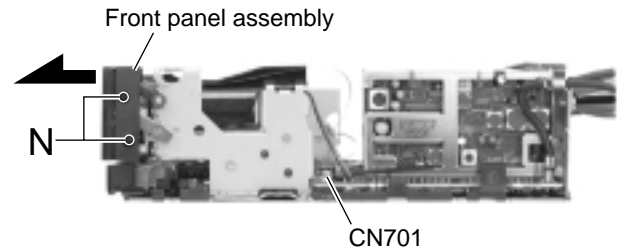


Fig.10

**■ Removing the Front Board (See Fig.12)**

- 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**.

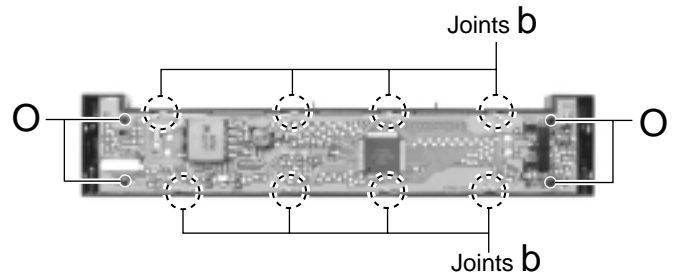


Fig.12

**■ Removing the lifter unit (See Fig.13)**

· 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.

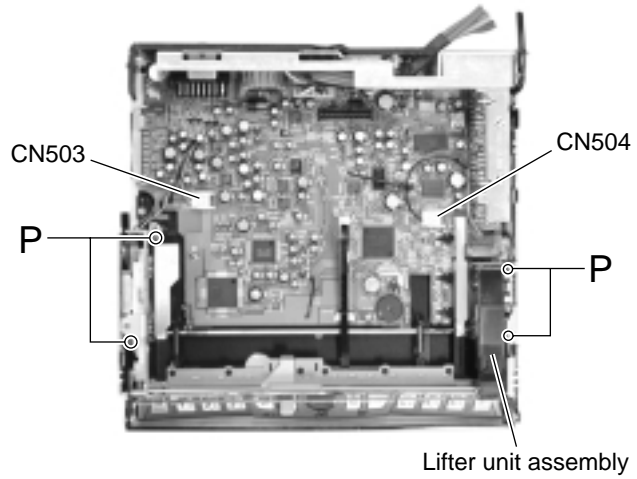


Fig.13

**■ Removing the feed motor (L) (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 **Q** attaching the feed motor (L).

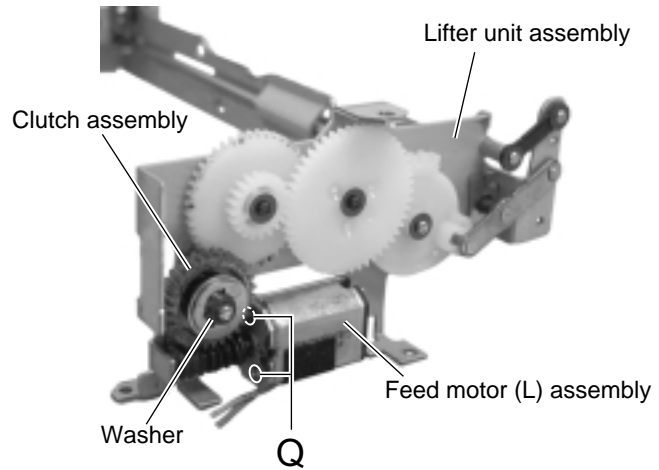


Fig.14

**■ Removing the feed motor (R) (See Fig.15)**

· 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).

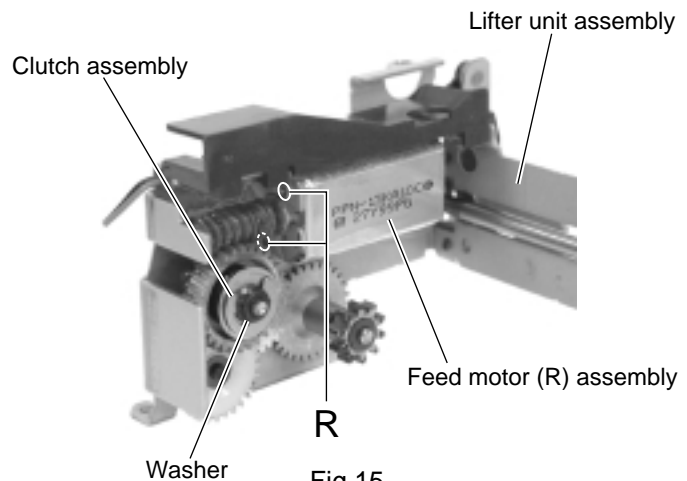


Fig.15

**■ Removing the operation assembly**  
**(See Fig.16 to 19)**

· Prior to performing the following procedure, remove the top chassis assembly, the front panel assembly and the lifer unit.

1. Remove the three 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 **c** of the operation assembly.

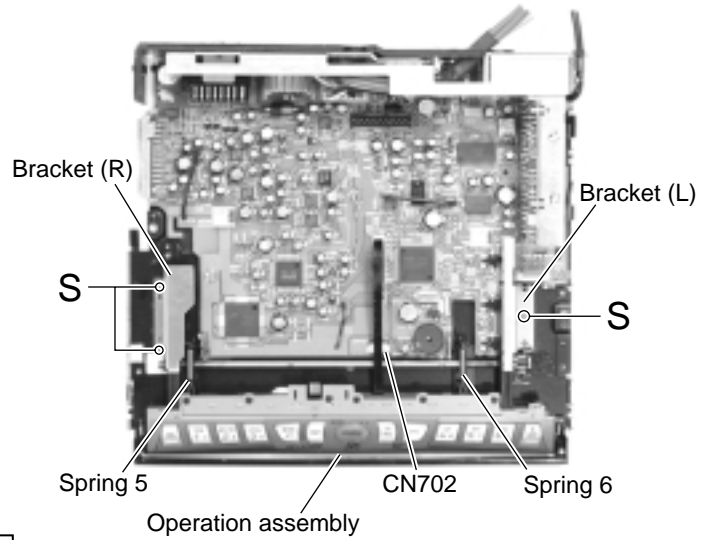


Fig.16

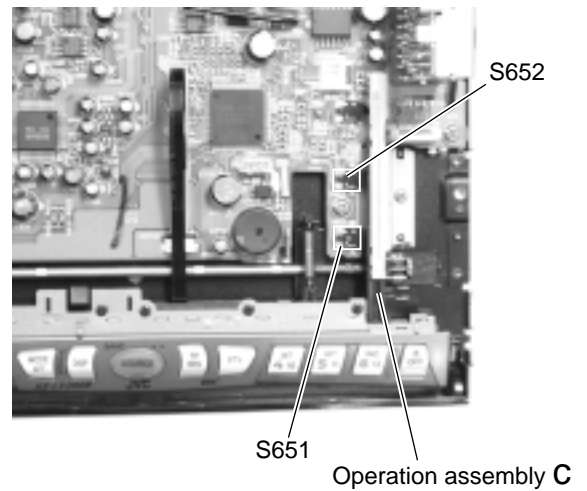


Fig.17

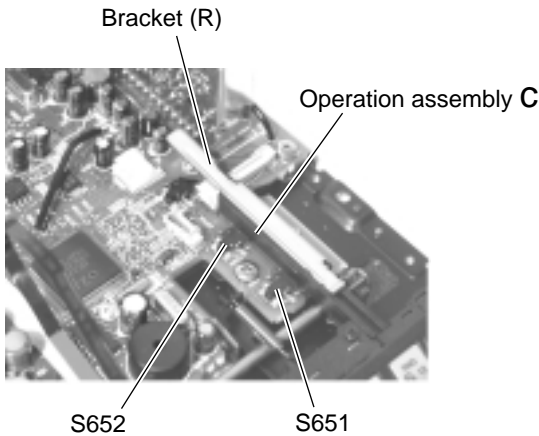


Fig.19

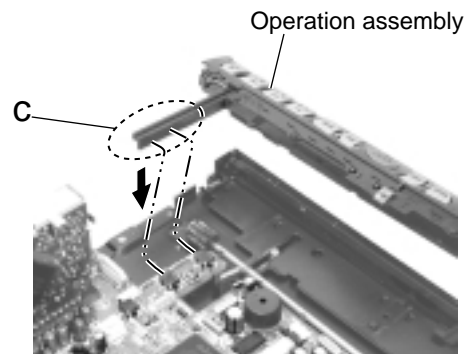


Fig.18

**■ Removing the operation switch board  
(See Fig.20 and 21)**

- 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.

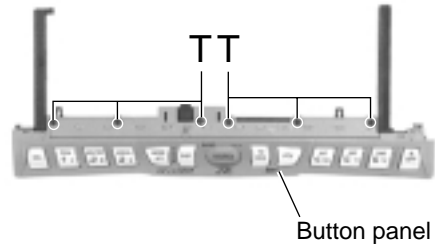


Fig.20

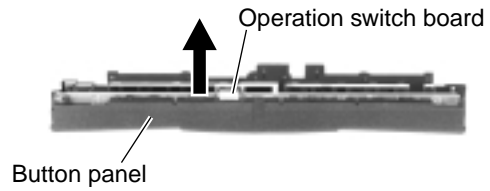


Fig.21

**■ Removing the cassette mechanism assembly (See Fig.22)**

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

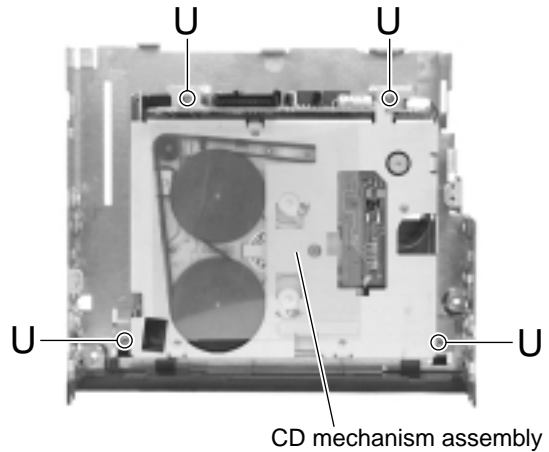


Fig.22



## Disassembly method

### <Cassette mechanism assembly>

#### ■ Removing the head amplifier board

(See Fig.1)

1. Disconnect the wire from connector CP401 on the head amplifier board.
2. Remove the screw **A**.
3. Remove the head amplifier board in the direction of the arrow to unhook two joints **a**.
4. Disconnect connector CP402 on the head amplifier board from the connector board.

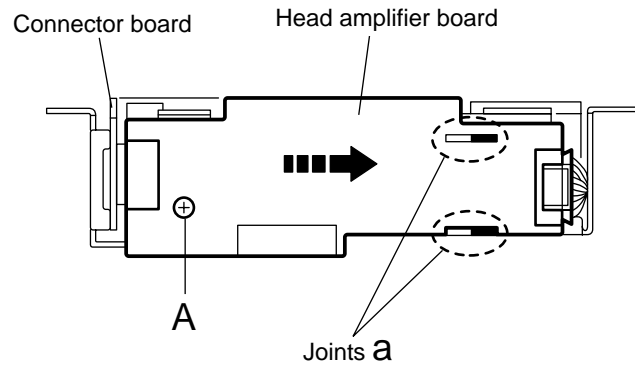


Fig.1

#### ■ Removing the mechanism bracket

(See Fig.2)

- Prior to performing the following procedure, remove the head amplifier board.
1. Remove the four screws **B** on the underside of the cassette mechanism assembly.

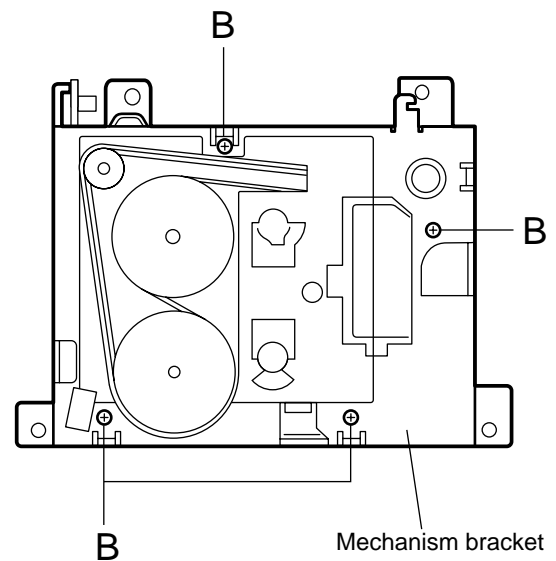


Fig.2

### <Cassette mechanism>

- Prior to performing the following procedure, remove the head amplifier board and the mechanism bracket.

#### ■ Removing the connector board

(See Fig.3)

1. Unsolder soldering **b** and **c** on the connector board.
2. Remove the three screws **C**.
3. Remove the connector board in the direction of the arrow to unhook joint **d**.

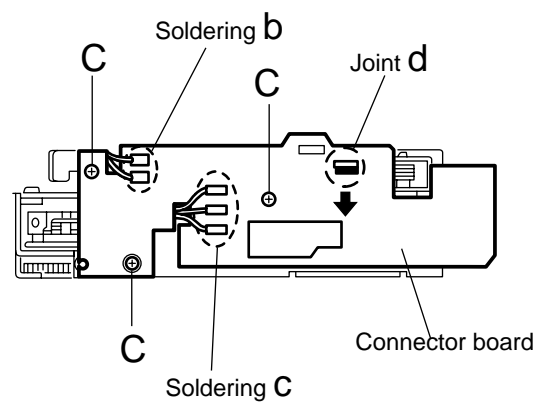


Fig.3

**■ Removing the load arm assembly (See Fig.4)**

- Prior to performing the following procedure, remove the connector board.
1. Remove the slit washer **e** retaining the load arm assembly.
  2. Remove the spring **g** in the load arm assembly marked joint **f**.
  3. Draw out the load arm assembly from the shaft and rotate in the direction of the arrow to remove it from the cach.

ATTENTION: The spring **g** comes off as the load arm assembly is drawn out from the shaft.

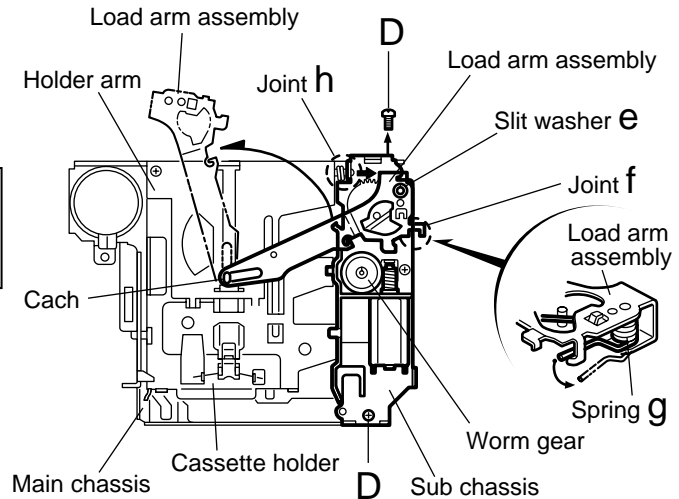


Fig.4

**■ Removing the sub chassis (See Fig.4)**

- Prior to performing the following procedure, remove the connector board and the load arm assembly.
1. Remove the two screws **D** attaching the sub chassis.
  2. Draw out the sub chassis from the holder arm shaft in the direction of the arrow (marked joint **h**). Remove the sub chassis from the main chassis upwards.

**■ Removing the cassette holder / holder arm (See Fig.5)**

- Prior to performing the following procedure, remove the connector board and the load arm assembly.
1. Remove the screw **E** attaching the cassette holder / holder arm.
  2. Draw out the holder arm shaft from the sub chassis in the direction of the arrow (marked joint **h**).
  3. Disengage two joints **i** and remove the cassette holder / holder arm.

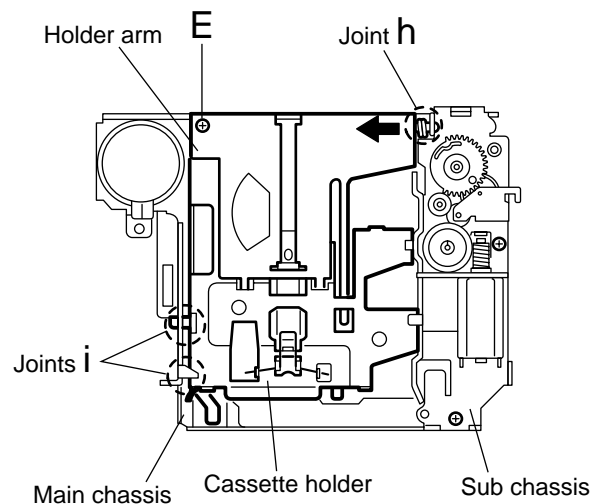


Fig.5

## ■ Removing the sub motor

(See Fig.4 and 6)

- Prior to performing the following procedure, remove the connector board and the load arm assembly.
1. Remove the slit washer **j** and the worm gear.
  2. Remove the two screws **F**.

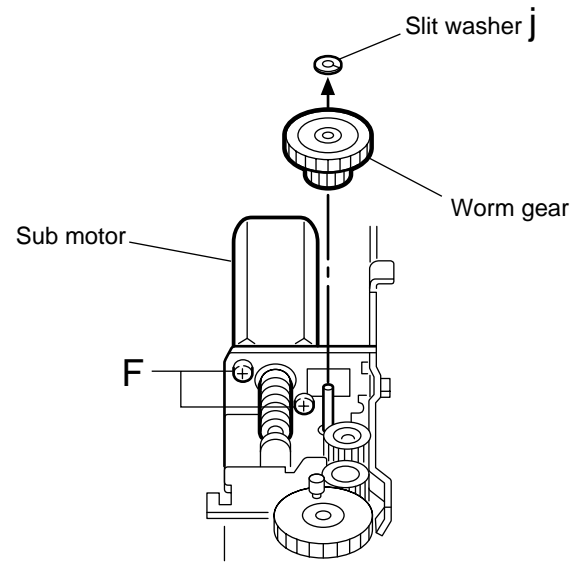


Fig.6

## ■ Removing the play head / pinch roller assembly (twin set) (See Fig.7)

- Prior to performing the following procedure, remove the connector board, the load arm assembly and the sub chassis.
1. Remove the spring **K** retaining the play head assembly and pull out the play head assembly.
  2. Remove the two screws **G**.
  3. Remove the two slit washers **I** attaching the pinch roller assembly (twin set). Pull out each pinch roller assembly.

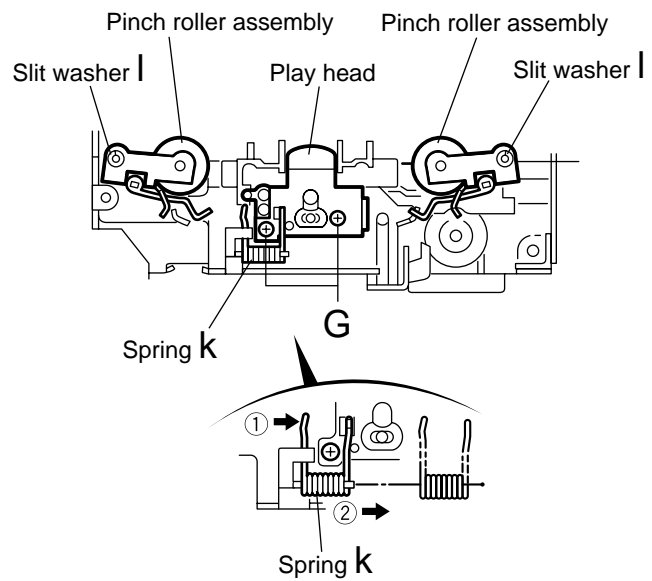


Fig.7

**■Removing the reel disc assembly (twin set) (See Fig.8 to 10)**

• Prior to performing the following procedure, remove the connector board, the load arm assembly, the sub chassis and the cassette holder / holder arm.

1. Remove the two slit washers **m** while pushing down the reel driver on the two reel disc assemblies.
2. Pull out the two screws **l** from the shaft with the reel driver and the spring respectively.

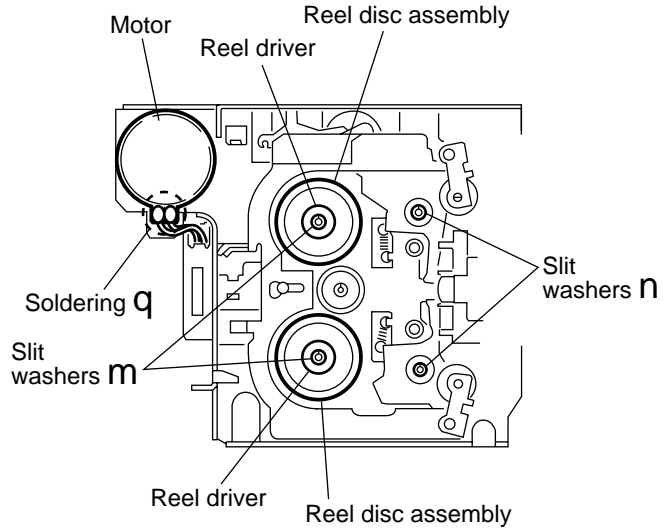


Fig.8

**■Removing the flywheel assembly (F) and (R) (See Fig.8 and 11)**

• Prior to performing the following procedure, remove the connector board, the load arm assembly, the sub chassis and the cassette holder / holder arm.

1. Remove the belt from the underside of the mechanism assembly.
2. Remove the two slit washers on the upper side of the mechanism assembly.
3. Pull out the flywheel assembly (F) and (R) from underside of the mechanism assembly.

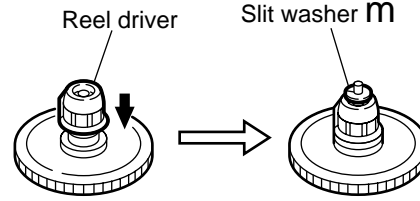


Fig.9

**■Removing the reel disc board (See Fig.11)**

1. From the underside of the mechanism assembly, unsolder soldering **o** on the reel disc board.
2. Unbend the joint hook **p** retaining the reel disc board.
3. Remove the screw **H**.

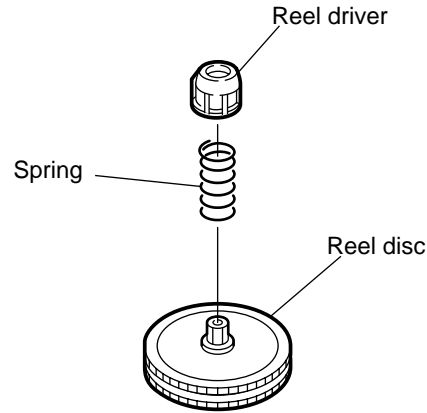


Fig.10

**■Removing the motor (See Fig.8 and 11)**

1. Unsolder soldering **q** on the motor.
2. Remove the belt from the underside of the mechanism assembly.
3. Remove the two screws **l** from the underside of the mechanism assembly.

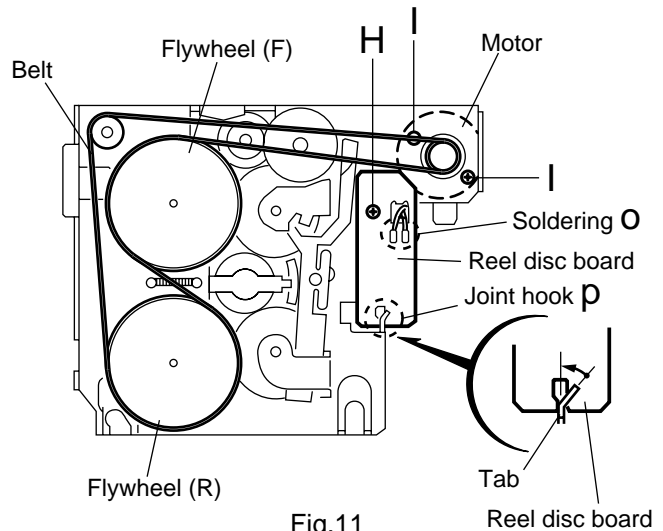


Fig.11

# Adjustment method

## ■ Test Instruments required for adjustment

1. Digital oscilloscope(100MHz)
2. Frequency Counter meter
3. Electric voltmeter
4. Wow & flutter meter
5. Test Tapes  
 VT724 ----- for DOLBY level measurement  
 VT739 ----- For playback frequency measurement  
 VT712 ----For wow flutter & tape speed measurement  
 VT703 ----- For head azimuth measurement
6. Torque gauge ----- Cassette type for CTG-N  
 (mechanism adjustment)

## ■ Measuring conditions(Amplifier section)

- Power supply voltage ----- DC14.4V(10.5~16V)  
 Load impedance ----- 4 Ω (2Speakers connection)  
 Line out ----- 20k Ω

## ■ Standard volume position

- Balance and Bass, Treble volume .Fader  
 :Center(Indication"0")  
 Loudness, Dolby NR, Sound, Cruise:Off  
 Volume position is about 2V at speaker output with  
 following conditions. Playback the test tape VT721.

- AM mode            999kHz/62dB, INT/400Hz, 30%  
                          modulation signal on receiving.
- FM mono mode    97.9MHz/66dB, INT/400Hz, 22.5kHz  
                          deviation pilot off mono.
- FM stereo mode   1kHz, 67.5kHz dev. pilot 7.5kHz dev.
- Output level      0dB(1μV, 50 Ω/open terminal).

## ■ Tuner section

### BAND STEP

FM : 100kHz (Seek), 50kHz (Manual)

AM : 9kHz step

## ■ Preset Memory Initialization

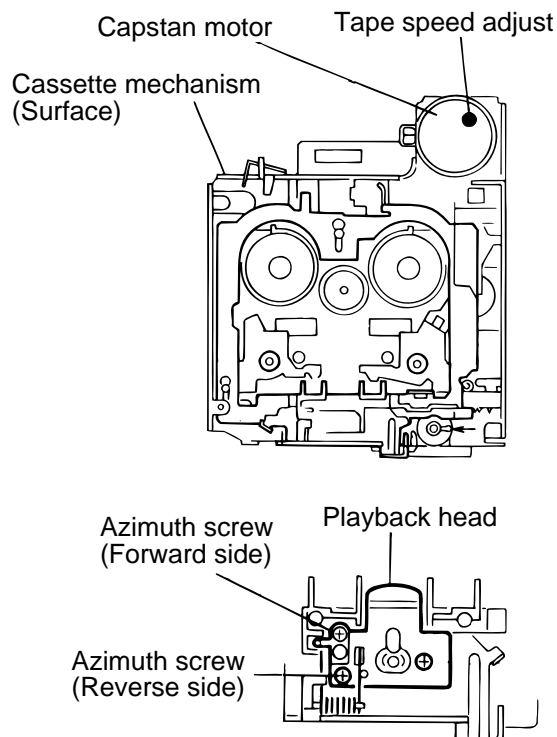
Band	Preset Memory					
	M1	M2	M3	M4	M5	M6
FM(MHz)	87.5	89.9	97.9	105.9	108.0	87.5
AM(kHz)	153	216	603	999	1404	1620

## DUMMY LOAD

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

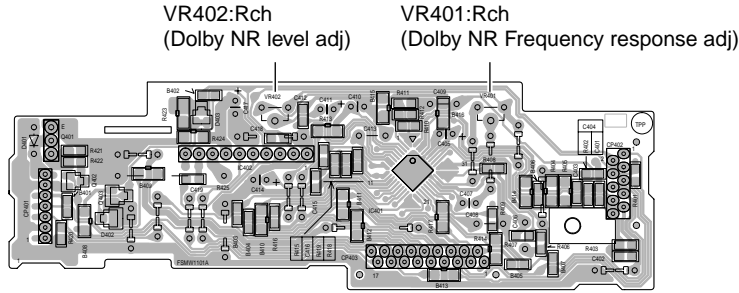
## ■ Arrangement of Adjusting

### Cassette Mechanism Section



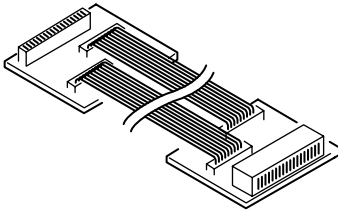
■ Arrangement of adjusting

Head amplifier board section (Reverse side)



■ Information for using a Car Stereo service jig (for adjustment and checking)

- We are advancing efforts to make our extension cords common for all Car Stereo products. Please use this type of extension cord as follows.
- As a U -shape type top cover is employed, this type of extension cord needed to check operation of the mechanism assembly after disassembly.
- Extension cords

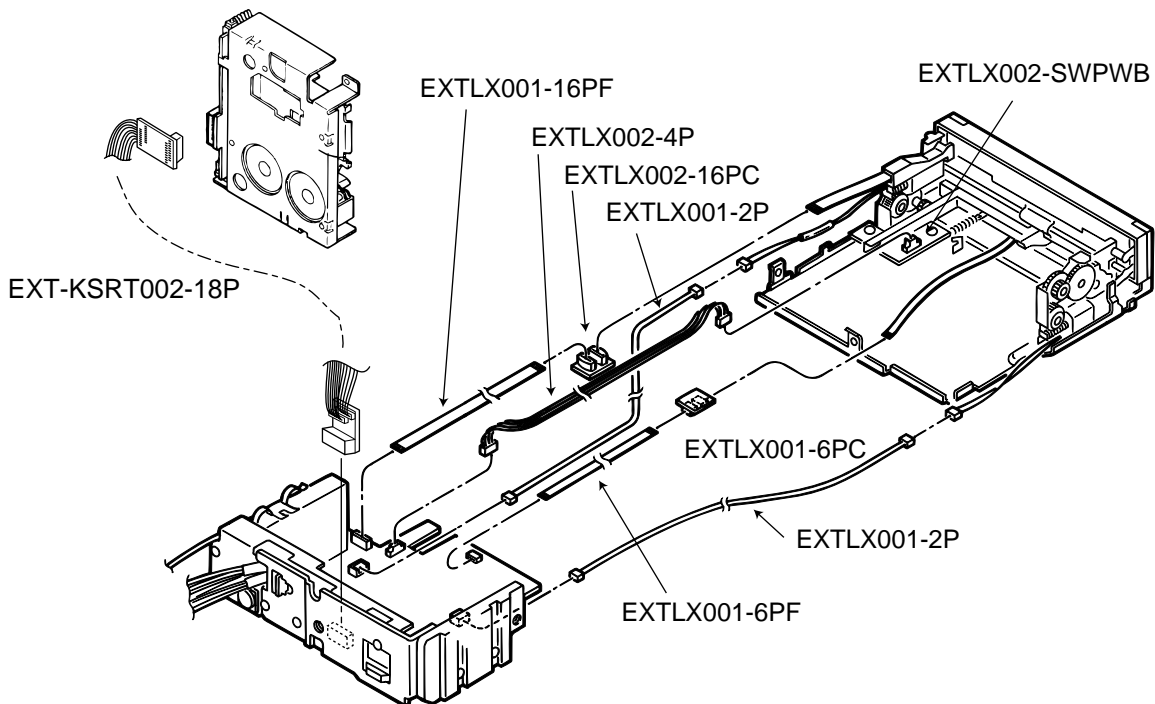


EXT-KSRT002-18P(18 pin extension cord)

For connection between mechanism assembly and main board assembly.  
Check for mechanism-driving section such as moter ,etc.

- Disassembly method. (Refer to mthod to remove main parts)
  - 1.Remove the bottom cover.
  - 2.Remove the front panel assembly.
  - 3.Remove the top cover. (Remove the screws at each side of heat sink and rear panel)
  - 4.Install the front panel (whose assembly was removed in step 2) to the main unit.
  - 5.Confirm that current is being is carried by connecting an extension cord jig.

- Connection diagram

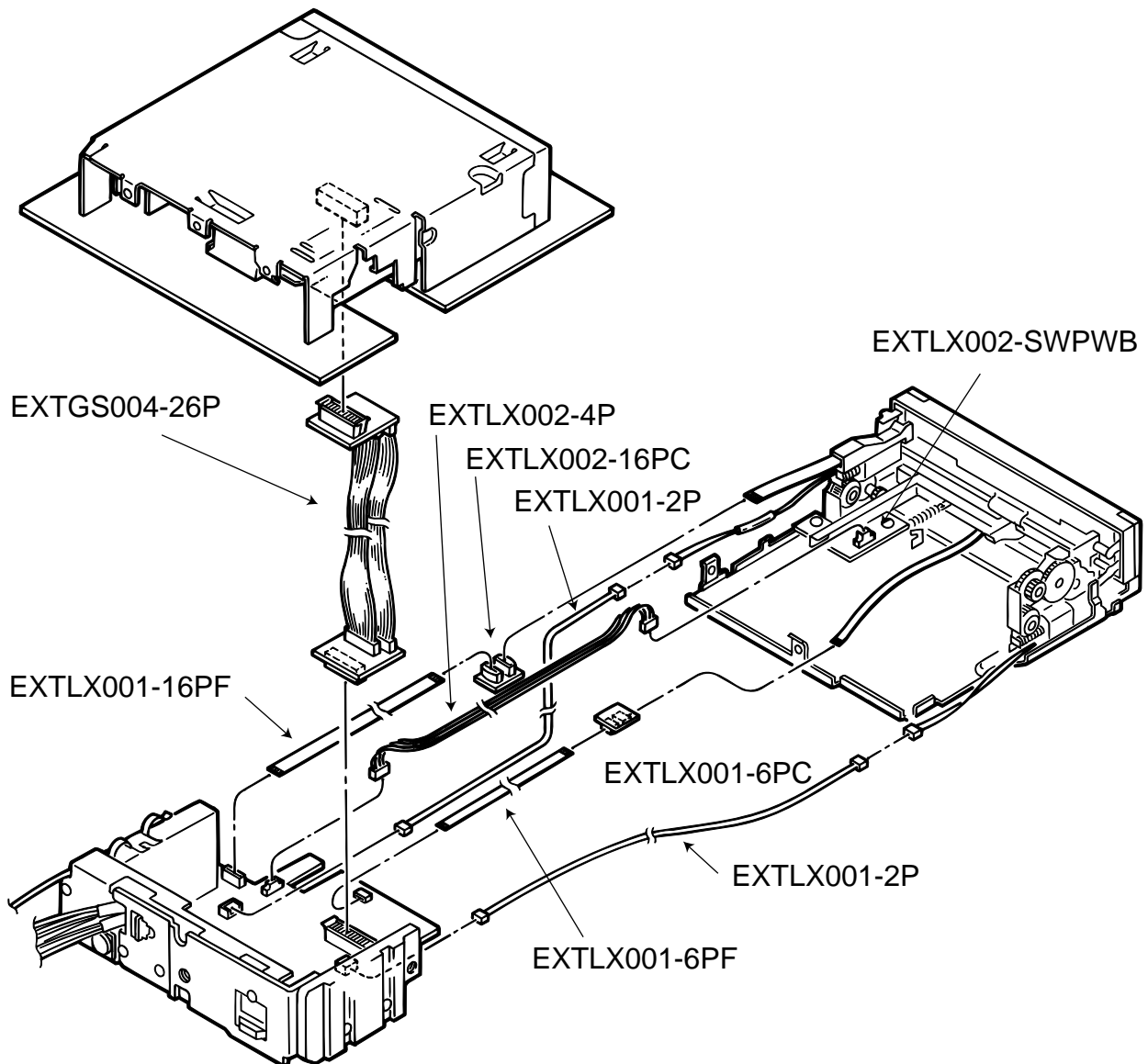


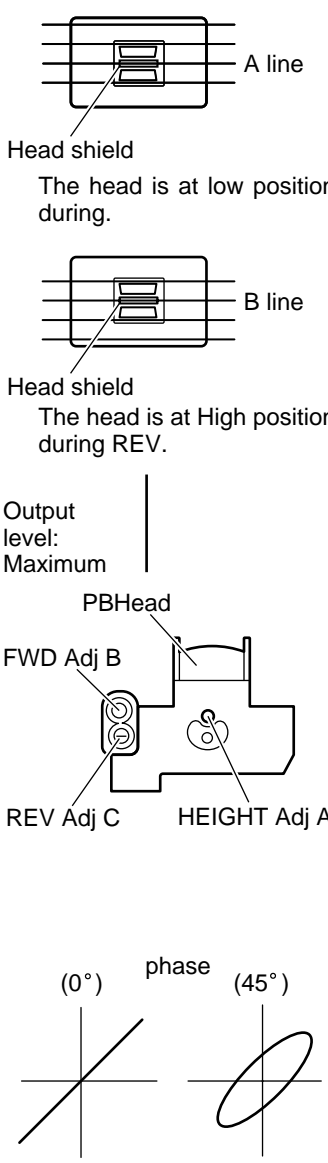
■ Extension cord list

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 CASSETTE mechanism which are not essential to operation check or service.  
The mechanism should be directly connected to the board using the extension wire.  
EXT-KSRT002-18P



Item	Conditions	Adjustment and Confirmation methods	S.Values	Adjust
<p>1. Head azimuth adjustment</p>	<p>Test tape: SCC-1659 VT703(10kHz)</p>	<p>◆ Head height adjustment                      ※ Adjust the azimuth directly. When you adjust the height using a mirror tape, remove the cassette housing from the mechanism chassis. After installing the cassette housing, perform the azimuth adjustment.</p> <ol style="list-style-type: none"> <li>1. Load the SCC-1659 mirror tape. Adjust with height adjustment screw A and azimuth adjustment screw B so that line A of the mirror tape runs in the center between Lch and Rch in the reverse play mode.</li> <li>2. After switching from REV to FWD then to REV, check that the head position set in procedure 1 is not changed. (If the position has shifted, adjust again and check.)</li> <li>3. Adjust with azimuth adjustment screw B so that line B of the mirror tape runs in the center between Lch and Rch in the forward play mode.</li> </ol> <p>◆ Head azimuth adjustment</p> <ol style="list-style-type: none"> <li>1. Load VTT724 (VT724) (1kHz) and play it back in the reverse play mode. Set the Rch output level to max.</li> <li>2. Load VTT703 (VT703) (10kHz) and play it back in the forward play mode. Adjust the Rch and Lch output levels to max, with azimuth adjustment screw B. In this case, the phase difference should be within 45°.</li> <li>3. Engage the reverse mode and adjust the output level to max, with azimuth adjustment screw C. (The phase difference should be 45° or more.)</li> <li>4. When switching between forward and reverse modes, the difference between channels should be within 3dB. (Between FWD L and R, REV L and R.)</li> <li>5. When VTT721 (VT721) (315Hz) is played back, the level difference between channels should be within 1.5dB.</li> </ol>	<p>S.Values</p>	<p>Adjust</p> 
<p>2. Tape speed and wow flutter confirmation</p>	<p>Test tape: VTT712 (3kHz)</p>	<ol style="list-style-type: none"> <li>1. Check to see if the reading of the F, counter / wow flutter meter is within 3015~3045(FWD / REV), and less than 0.35% (JIS RMS).</li> <li>2. In case of out of specification, adjust the motor with a built-in volume resistor.</li> </ol>	<p>Tape speed: 3015 ~3045Hz                      Wow flutter: less than 0.35%</p>	<p>Built-in volume resistor</p>
<p>3. Playback frequency response confirmation</p>	<p>Test tape: VTT724 (1kHz) VTT739 (63Hz / 1kHz / 10kHz)</p>	<ol style="list-style-type: none"> <li>1. Play test tape VTT724, and set the volume position at 2V.</li> <li>2. Play test tape VTT739 and confirm. 1kHz / 10kHz: <math>-1 \pm 3\text{dB}</math>, 1kHz / 63Hz: <math>0 \pm 3\text{dB}</math>,</li> <li>3. When 10kHz is out of specification, it will be necessary to read adjust the azimuth.</li> </ol>	<p>Speaker out                      1kHz / 63Hz : <math>0 \pm 3\text{db}</math>                      1kHz / 10kHz : <math>-1 \pm 3\text{db}</math></p>	

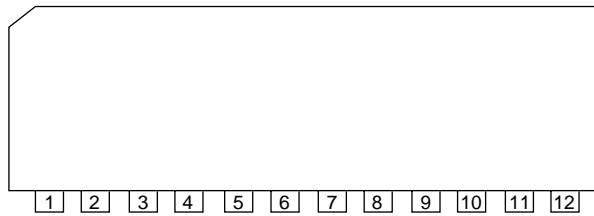
The tuner section is of an adjustment-free design. In case the tuner is in trouble, replace the tuner pack.



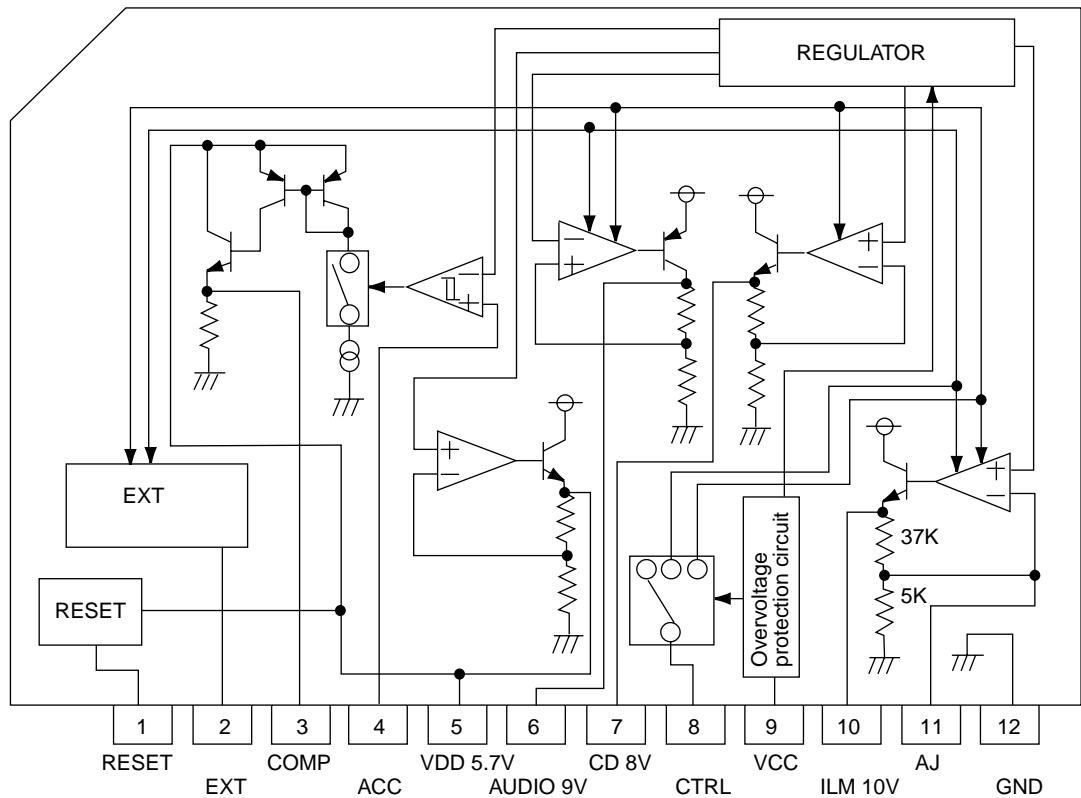
# Description of major ICs

## ■ BA4905-V3 (IC961) : Regulator

### 1.Pin layout



### 2.Block diagram

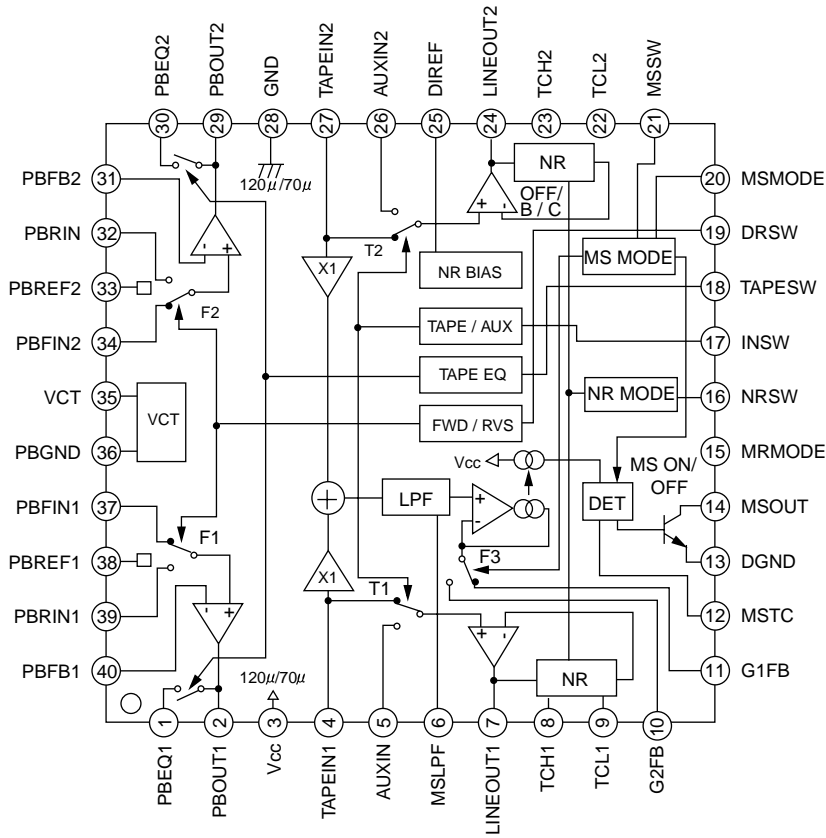


### 3.Pin function

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.

■ CXA2510AQ (IC401) : Head AMP / Dolby

1. Pin layout & Block diagram

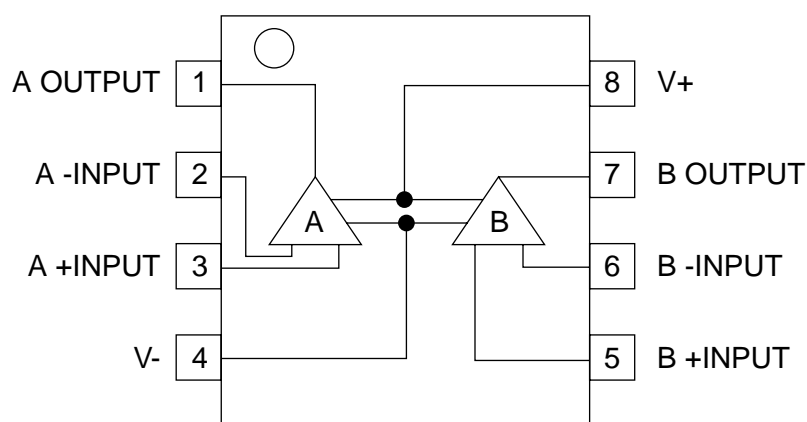


2. Pin functions

Pin No.	Symbol	I/O	Functions
1	PBEQ1	O	Resistance for selecting the equalizer amplifier time constant.
2	PBOUT1	O	Playback equalizer amplifier out put.
3	Vcc	-	Power supply
4	TAPEIN1	I	TAPE input.
5	AUXIN1	I	External input.
6	MSLPF	-	Cut-off frequency adjustment of the music sensor LPF.
7	LINEOUT1	O	Line out.
8	TCH1	-	Time constant for the HLS.
9	NC	-	Non connection.
10	G2FB	-	Music signal interval detection level setting.
11	G1FB	-	
12	MSTC	-	Time constant for detecting the music signal interval.
13	DGND	-	Logic ground (Connect to GND)
14	MSUOT	O	Music sensor output.
15	NC	I	Non connection.

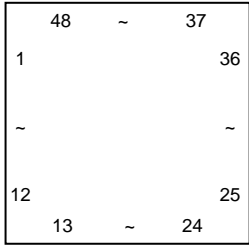
Pin No.	Symbol	I/O	Functions
16	NRSW	I	Dolby NR control L:NR OFF H:NR ON
17	INSW	I	Line amplifier input select control L:TAPE IN H:AUX IN
18	METAL	I	Playback equalizer amplifier control L:120us H:70us
19	DRSW	I	Head select control L:FORWARD H:REVERSE
20	FF/REW	I	Music sensor mode control Low(open):G1 High:G2
21	MSSW	I	Music sensor control Low(open):MS on High:MS OFF
22	NC	-	Non connection
23	TCH2	-	Time constant for the HLS
24	LINEOUT2	O	Line output
25	DIREF	-	Resistance for setting the reference current (Connects 20(18)K $\Omega$ between DIREF pin and GND for the standard setting.)
26	NC	-	Non connection.
27	TAPEIN2	I	TAPE input.
28	GND	-	To ground.
29	PBOUT2	O	Playback equalizer amplifier output.
30	PBEQ2	O	Resistance for selecting the playback equalizer amplifier time constant
31	PBFB2	I	Playback equalizer amplifier feedback.
32	NC	-	Non connection.
33	PBREF2	O	Playback equalizer amplifier reference (Vcc/2 output)
34	PBFIN2	I	Playback equalizer amplifier input (FORWARD head connected)
35	VCT	O	Center (Vcc/2 output)
36	PBGND	-	Playback equalizer amplifier ground (Connect to ground)
37	PBFIN1	I	Playback equalizer amplifier input (FORWARD head connected)
38	PBREF1	O	Playback equalizer amplifier reference (Vcc/2 output)
39	NC	-	Non connection.
40	PBFB1	I	Playback equalizer amplifier feedback.

■ NJM4565M-W (IC951,IC171,IC323) : Ope amp.

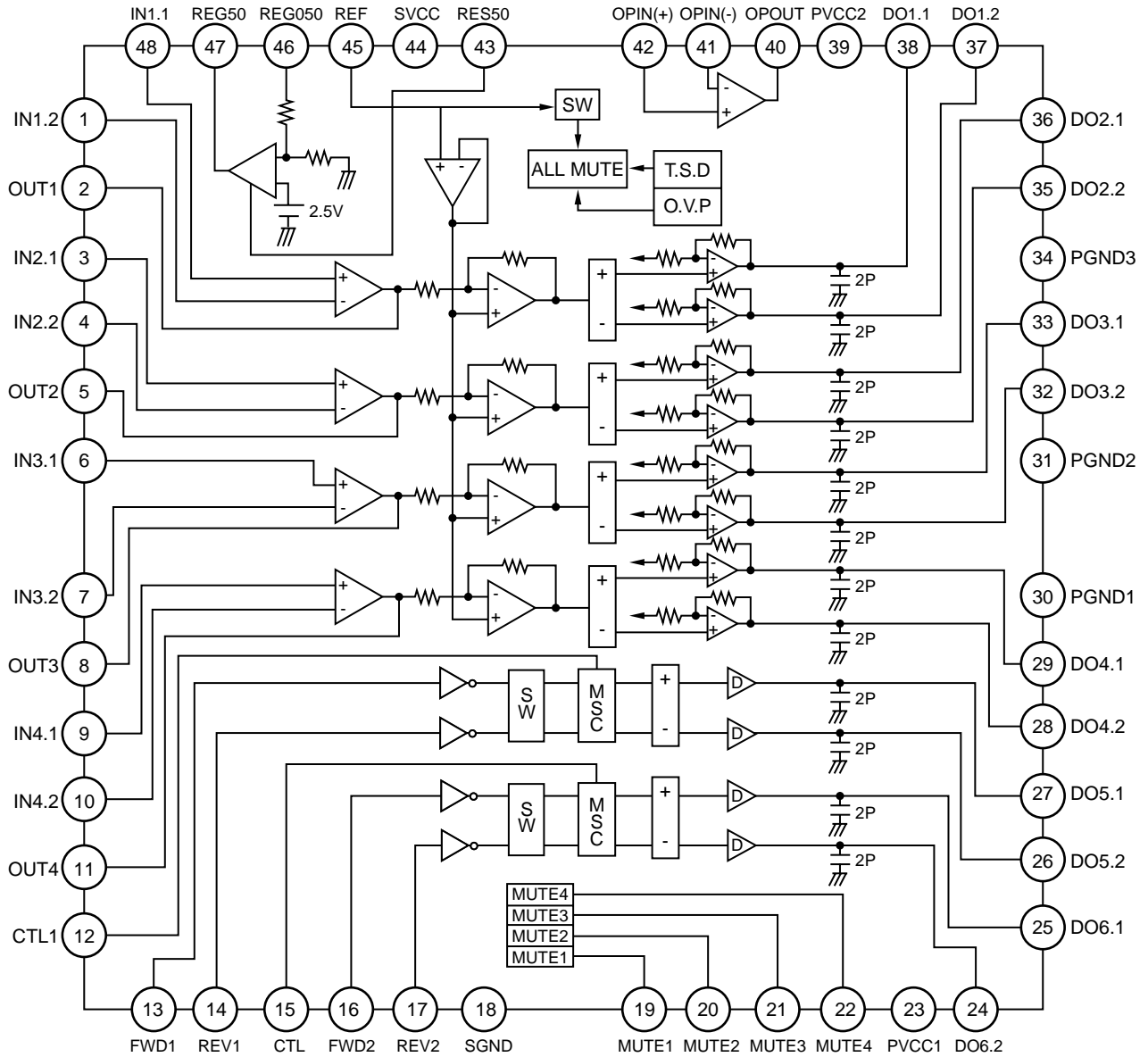


■ KA3031 (IC831) : Motor driver

1. Pin layout



2. Block diagram

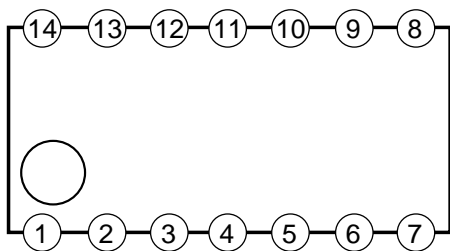


3. Pin function

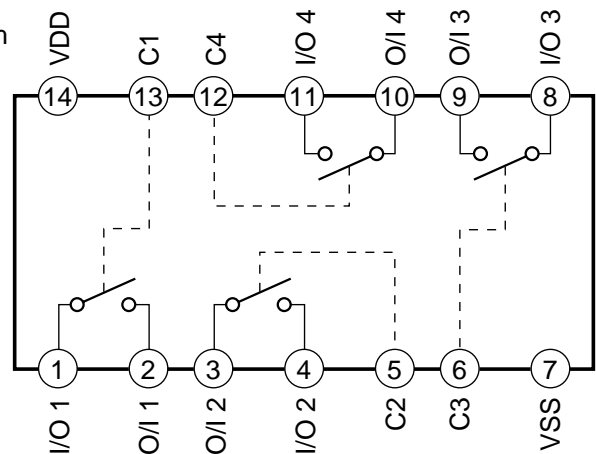
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	IN1.2	I	CH 1 op-amp input (-)	25	DO6.1	O	CH 6 drive output
2	OUT1	O	CH 1 op-amp output	26	DO5.2	O	CH 5 drive output
3	IN2.1	I	CH 2 op-amp input (+)	27	DO5.1	O	CH 5 drive output
4	IN2.2	I	CH 2 op-amp input (-)	28	SO4.2	O	CH 4 drive output
5	OUT2	O	CH 2 op-amp output	29	DO4.1	O	CH 4 drive output
6	IN3.1	I	CH 3 op-amp input (+)	30	PGND		Power ground
7	IN3.2	I	CH 3 op-amp input (-)	31	PGND	-	Power ground
8	OUT3	O	CH 3 op-amp output	32	DO3.2	O	CH 3 drive output
9	IN4.1	I	CH 4 op-amp input(+)	33	DO3.1	O	CH 3 drive output
10	IN4.2	I	CH 4 op-amp input (-)	34	PGND		Power ground
11	OUT4	O	CH 4 op-amp output	35	DO2.2	O	CH 2 drive output
12	CTL1	I	CH 5 motor speed control	36	SO2.1	O	CH 2 drive output
13	FWD1	I	CH 5 forward input	37	SO1.2	O	CH 1 drive output
14	REW1	I	CH 5 reverse input	38	DO1.1	O	CH 1 drive output
15	CTL2	I	CH 6 motor speed control	39	PVCC2	-	Power supply voltage (For CH 1, CH 2, CH 3, CH 4)
16	FED2	I	CH 6 forward input	40	OPOUT	O	Opamp output
17	REW2	I	CH 6 reverse input	41	OPIN(-)	I	Opamp input (-)
18	SGND	-	Signal ground	42	OPIN(+)	I	Opamp input (+)
19	MUTE1	I	CH 1 mute	43	RES50	I	Regulator 5V reset
20	MUTE2	I	CH 2 mute	44	SVCC	-	Signal supply voltage
21	MUTE3	I	CH 3 mute	45	REF	I	Bias voltage input
22	MUTE4	I	CH 4 mute	46	REG050	O	regulator 5V output
23	PVCC1	-	Power supply voltage (For CH 5, CH 6)	47	REG50	O	Regulator output
24	DO6.2	O	CH 6 drive output	48	IN1.1	I	CH 1 opamp onput (+)

■ BU4066BCF-X (IC322) : Switch

1.Pin layout

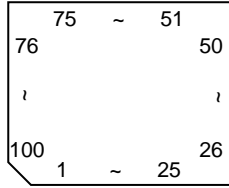


2.Block diagram



## ■ UPD784215AGC113 (IC701) : UNIT CPU

### 1.Pin layout



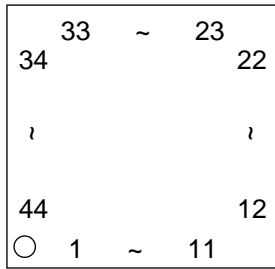
### 2.Pin function

Pin No.	Symbol	I/O	Function
1	FF/REW	O	Output for input signal level switching for MS.
2	DOLBY	O	Dolby on "H" output.
3	MS-OUT	O	MS output.
4	F/R	I	Fwd, REV direction switch signal input.
5	HOLD	-	Non connect
6	TRAYCNT	O	Tray light control signal output.
7	DIMMER-OUT	O	Dimmer signal output.
8	LCD-POWER	-	Non connect.
9	VDD	-	Power supply terminal.
10	X2	O	Connecting the crystal oscillator for system main clock.
11	X1	I	Connecting the crystal oscillator for system main clock.
12	VSS	-	Connect to GND.
13	XT2	O	Connecting the crystal oscillator for system sub clock.
14	XT1	I	Connecting the crystal oscillator for system sub clock.
15	RESET	I	System reset signal input.
16	SW1	I	Cassette mechanism detect switch.
17	BUS-IN	I	J-BUS signal cut in input.
18	PS2	I	Power save 2.
19	CURUISE	I	CRUISE signal input.
20	RDS-SCK	I	RDS serial clock input.
21	RDS-DA	I	RDS data input.
22	REMOCON	I	Remove control signal input.
23	AVDD	-	Power supply terminal.
24	AVREF0	-	Connect to GND.
25	NC	-	Connect to GND.
26	NC	-	Connect to GND.
27	KEY0	I	Key control 0 input.
28	KEY1	I	Key control 1 input.
29	KEY2	I	Key control 2 input.
30	LEVEL	I	Level meter signal input.
31	SQ	I	S.quality level input.
32	S.METER	I	S.meter level input.
33	AVSS	-	Connect to GND.
34	W-VOL	O	Woofers volume signal output.
35	DOT CONT	O	Dot contrast signal input.
36	AVREF	-	Power supply terminal.
37	BUS-SI	I/O	J-BUS data I/O terminal.
38	BUS-SO	O	J-BUS data output.
39	BUS-SCK	I/O	J-BUS serial clock signal I/O.
40	STAGE2	I	Initial setting.
41	LCD-DA	O	Data output for LCD driver.
42	LCD-CL	O	Clock output for LCD driver.
43	LCD-LEI	O	Chip enable 1 output for LCD driver.
44	BUZZER	O	BUZZER control signal output.
45	E2PR-DA-I	I	Data input terminal from EEPROM.
46	E2PR-DA-O	O	Data output terminal from EEPROM.
47	E2PR-CLK	I/O	Data input terminal from EEPROM.
48	BUS-I/O	I/O	J-BUS I/O signal terminal.
49	TM0	O	Tray motor negative signal output.
50	TM1	O	Tray motor positive signal output.

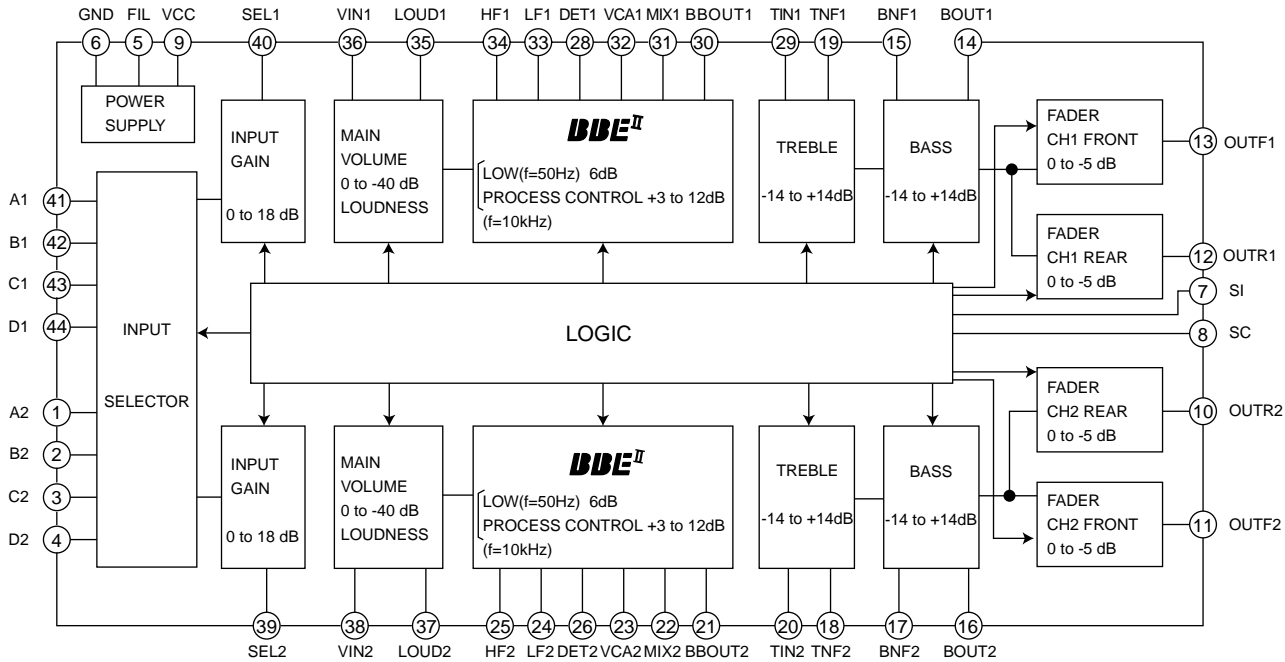
Pin No.	Symbol	I/O	Function
51	DM0	O	Door motor negative signal output.
52	DM1	O	Door motor positive signal output.
53	ST	I	Stereo signal input.
54	LOCAL	-	Non connect.
55	MONO	O	Manual ON/OFF select signal output.
56	CA-SW1	I	DOOR/TRAY open/close detect switch signal input.
57	CA-SW2	I	DOOR/TRAY open/close detect switch signal input.
58	CA-SW3	I	DOOR/TRAY open/close detect switch signal input.
59	CA-SW4	I	DOOR/TRAY open/close detect switch signal input.
60	CA-SW5	I	DOOR/TRAY open/close detect switch signal input.
61	VCR-CONT	-	Non connect.
62	AFCK	O	AF check output.
63	SEEK/STOP	O	AUTO SEEK/STOP select signal output.
64	SD	I	Station detector input.
65	FM/AM	O	FM/AM select signal output.
66	PLL-CE	O	Chip enable signal output.
67	PLL-DA	O	Data output.
68	PLL-CK	O	Clock signal output.
69	BAND IN	I	AM detect signal input.
70	TEL-MUTE	I	Telephone.
71	AMP KILL	-	Non connect.
72	VSS	-	Connect to GND
73	DIMMER-IN	I	DIMMER signal input.
74	DSI	I	Power save 1.
75	POWER	O	Power ON/OFF select signal output.
76	CD-ON	-	Non connect.
77	MUTE	O	Mute signal output.
78	W-LPF1	O	Woofer LPF 1 signal output.
79	W-LPF2	O	Woofer LPF 2 signal output.
80	W-MUTE	O	Woofer mute signal output.
81	VDD	-	Power supply.
82	VOL-DA	O	Data output.
83	VOL-CLK	O	Clock signal output.
84	CF-SEL	I	CF select signal input.
85	NC	-	Non connect.
86	LCD RST	O	LCD reset signal output.
87	LCD-CE2	O	Chip enable 2 output.
88	DMK	O	Motor speed control signal output.
89	TMK	O	Tray motor control signal output.
90	STAGE1	I	Initial setting.
91	MOTOR	O	Mecha Motor signal output.
92	MODE	I	Mecha mode position detection input.
93	STANDBY	I	Standby position detection input.
94	TEST	I	Test terminal
95	TAPE-IN	O	Cassette in detection input.
96	SUBMO-	O	Sub motor clock direction drive output.
97	SUBMO+		Sub motor clock opposite direction drive output.
98	TAPE-END	I	Tape end detection input.
99	KICK	O	Kick output.
100	VOICE IN	I	Voice control signal input.

■ **BD3860K (IC911) : E. volume**

1. Pin layout



2. Block diagram



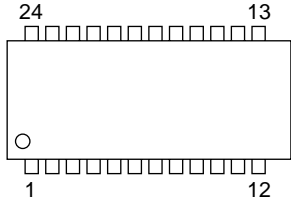
3. Pin function

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

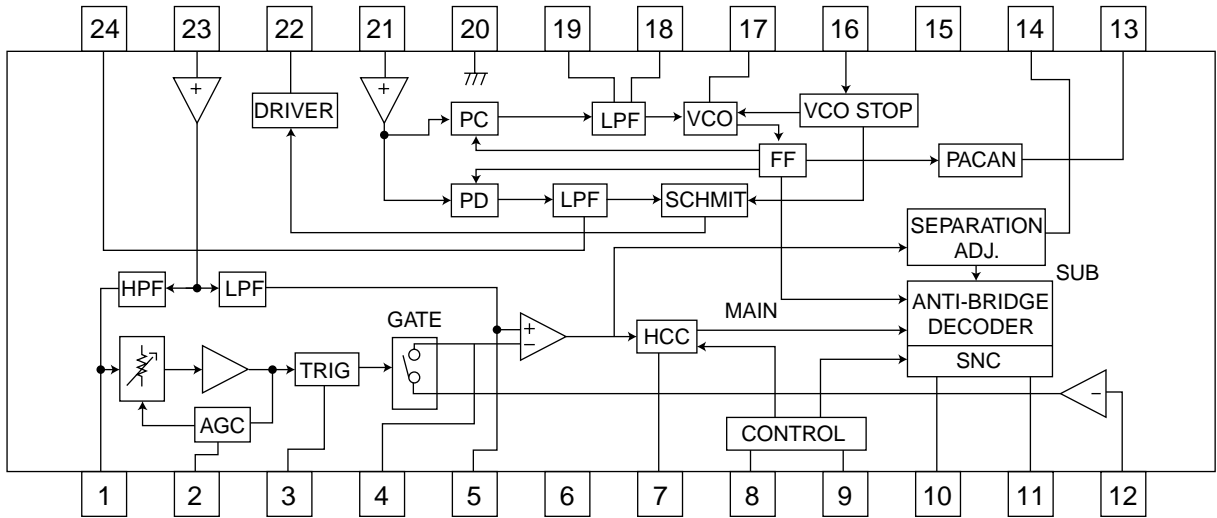


■ LA3460M-X (IC31) : FM noise canceller & Stereo MPX demodulator

1. Pin layout



2. Block diagram

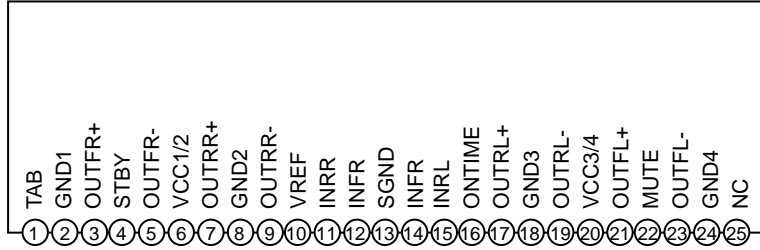


3. Pin function

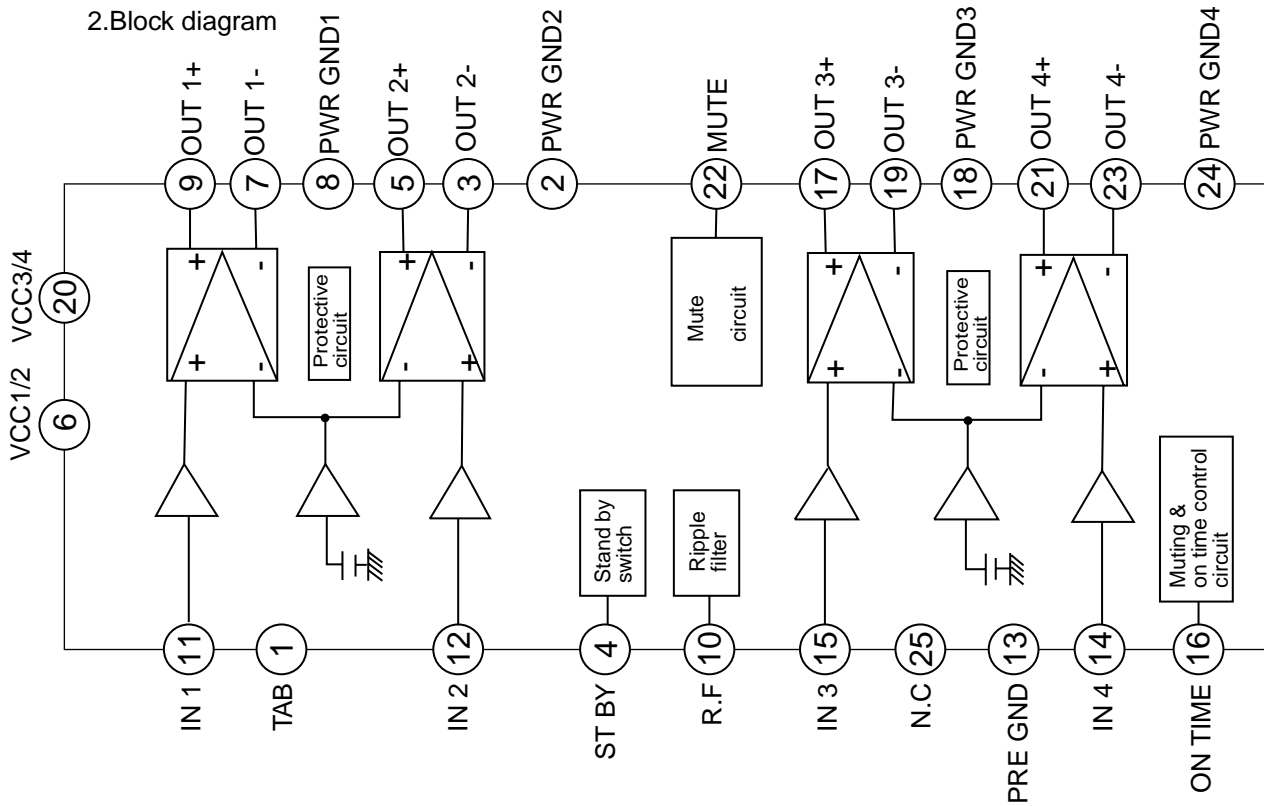
Pin No.	Function	Description
1	Noise sense	Noise sensitivity adjustment
2	Noise AGC	
3	Gate time	
4	Signal hold	
5	Pilot output	
6	Vcc	Vcc=+8.0V
7	Capacitor for HCC	High pass filter
8	SNC control	Stereo noise controlled voltage
9	HCC control	High cut controlled voltage
10	Lch output	
11	Rch output	
12	Pican input	pilot cancel signal input
13	Pican output	pilot cancel signal output
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

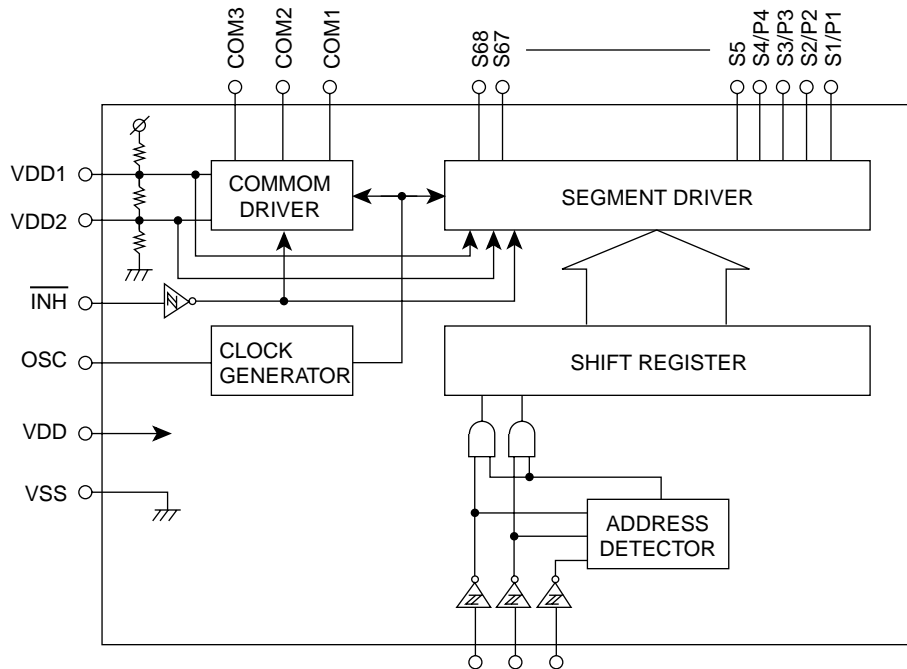


3.Pin function

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			

## ■ LC75873NW (IC601) : LCD driver

### 1. Block diagram

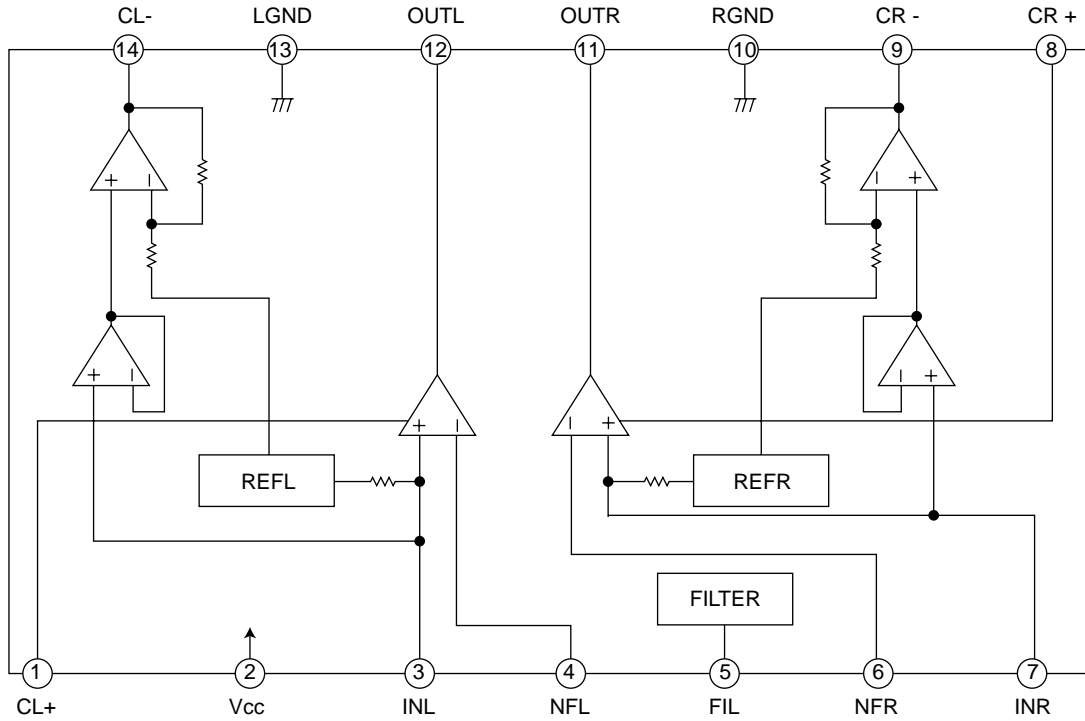


### 2. Pin functions

Pin No.	Symbol	I/O	Description
1~66	S3~S68	O	Segment Output.
67~69	COM1~3	O	Common Driver Output.
70	VDD	-	Power Supply Connection.
71	VDD1	I	Used for applying the LCD drive 2/3 bias voltage externally. Must be connected to VDD2 when a 1/2 bias drive scheme is used.
72	VDD2	I	Used for applying the LCD drive 1/3 bias voltage externally. Must be connected to VDD1 when a 1/2 bias drive scheme is used.
73	VSS	-	Power supply connection.
74	OSC	I/O	Oscillator connection. An oscillator circuit is formed by connecting an external resistor and capacitor to this pin.
75	INH	I	Display off control input.
76	$\overline{\text{CE}}$	I	Chip enable input.
77	CLOCK	I	Synchronization clock input.
78	DI	I	Serial data input.
79	S1	O	Signal output.
80	S2	O	Signal output.

■ BA3220FV-X (IC301) : Driver

1. Pin layout & Block diagram

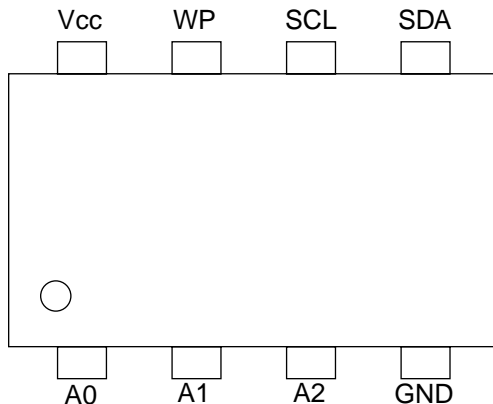


2. Pin function

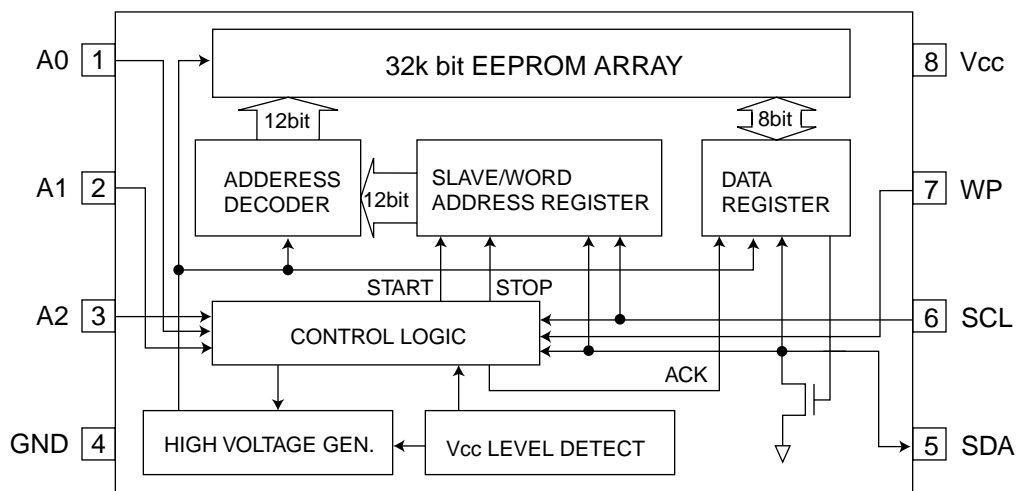
Pin No.	Symbol	Function
1	CL+	Power supply terminal for amp.
2	Vcc	power supply terminal.
3	INL	input terminal.
4	NFL	Negative feedback terminal.
5	FIL	Filter terminal.
6	NFR	Negative feedback terminal.
7	INR	Input terminal
8	CR+	Power supply terminal for amp.
9	CR-	Output terminal of internal amp.
10	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.

■ BR24C32F-X (IC703) : EEPROM

1. Pin layout



2. Block diagram

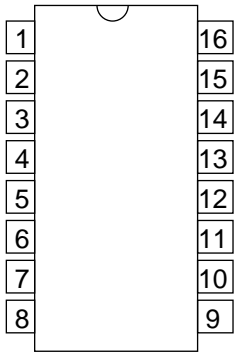


3. Pin function

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

■ SAA6579T-X (IC51) : RDS demodulator

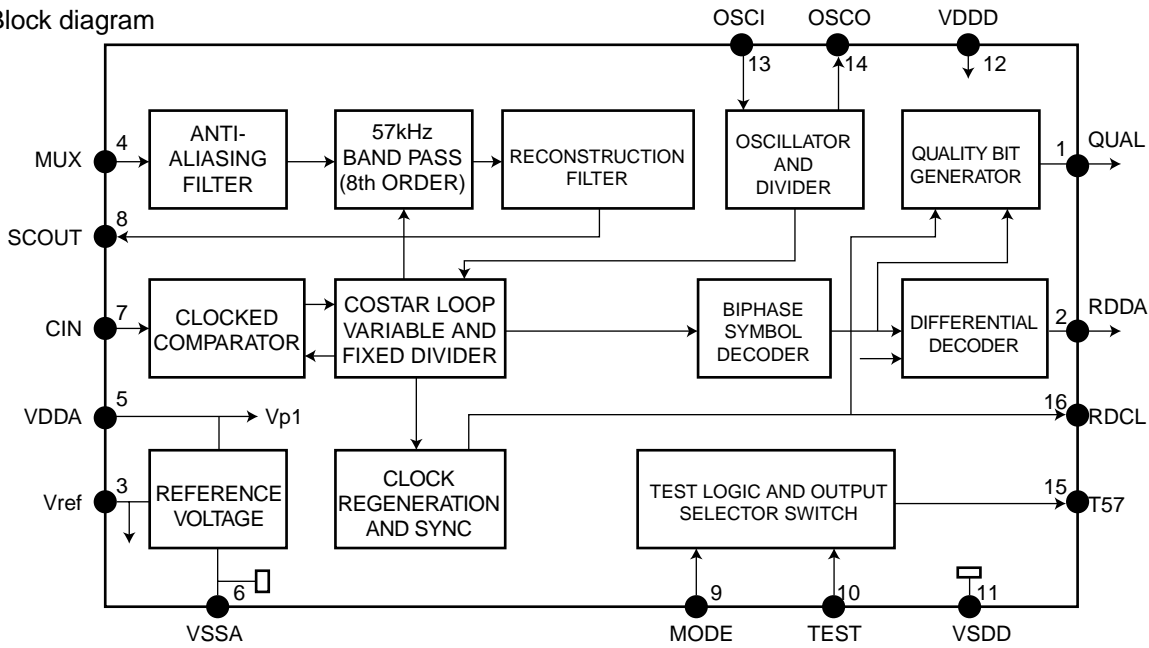
1. Pin layout



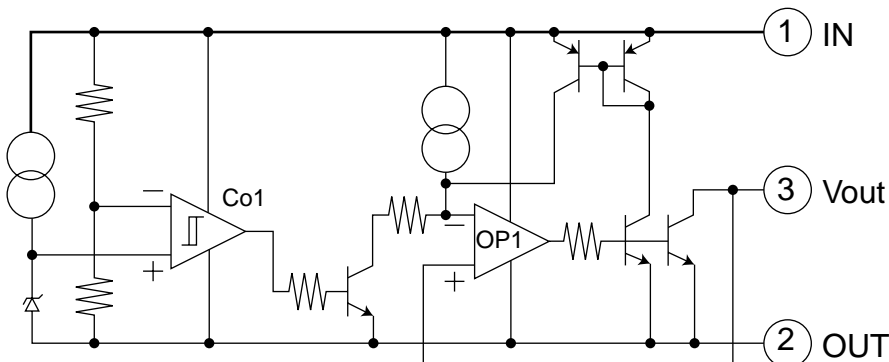
2. Pin function

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

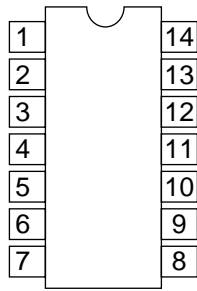


■ IC-PST600M/G/-W (IC702) : System reset



■ HD74HC126FP-X (IC771) : Buffer

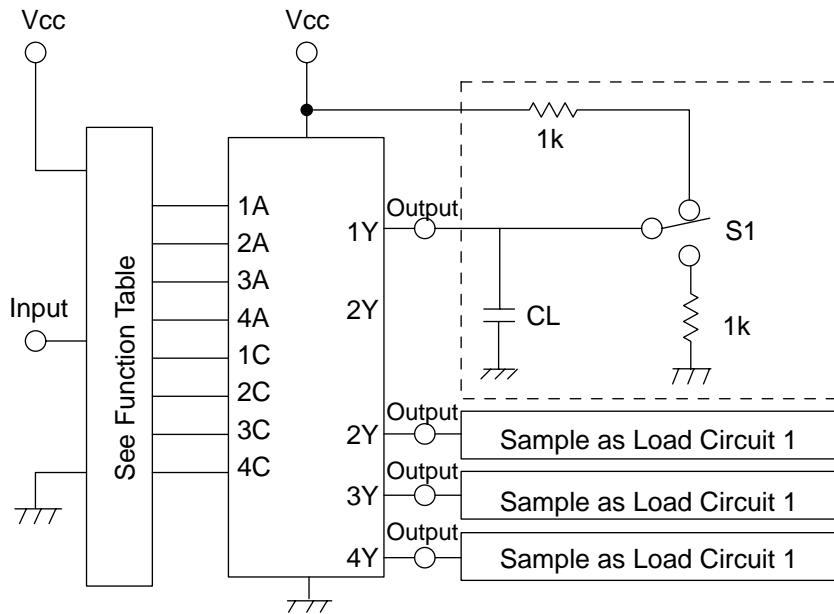
1. Pin layout



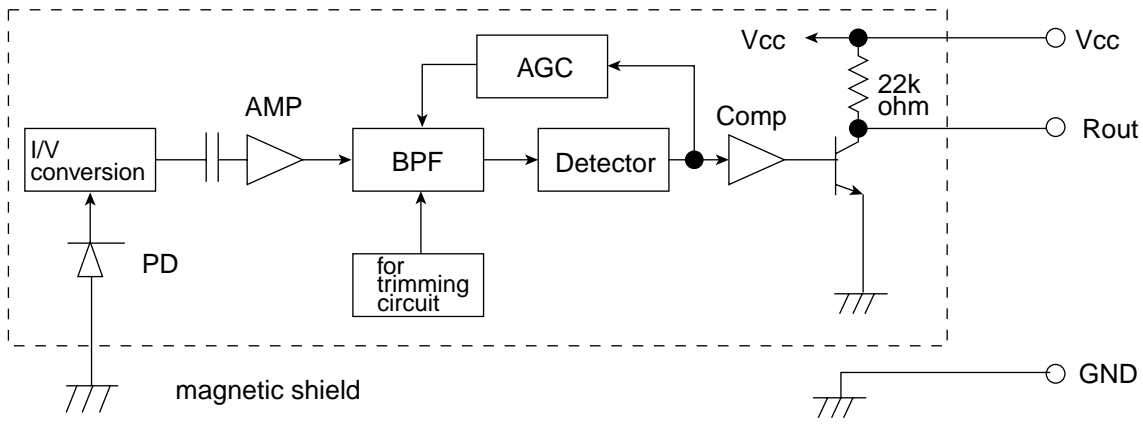
2. Pin function

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

3. Block diagram

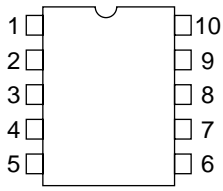


■ RPM6938-SV4 (IC602) : Remote control receiver

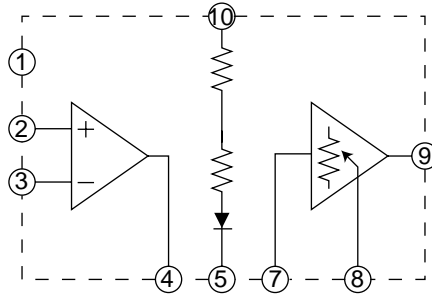


■ **M5282FP-XE (IC321) : E. volume**

1. Pin layout



2. Block diagram

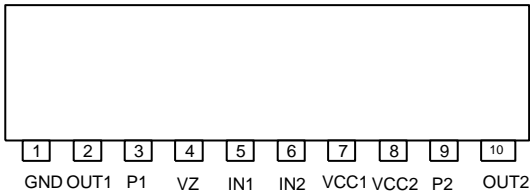


3. Pin function

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.

■ **LB1641 (IC402) : DC Motor driver**

1. Pin layout



2. Pin function

Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake



**JVC**

VICTOR COMPANY OF JAPAN, LIMITED

MOBILE ELECTRONICS DIVISION

PERSONAL & MOBILE NETWORK B.U. 10-1,1Chome,Ohwatari-machi,Maebashi-city,Japan

# PARTS LIST

[ KS-LX200R ]

\* All printed circuit boards and its assemblies are not available as service parts.

## Area suffix

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

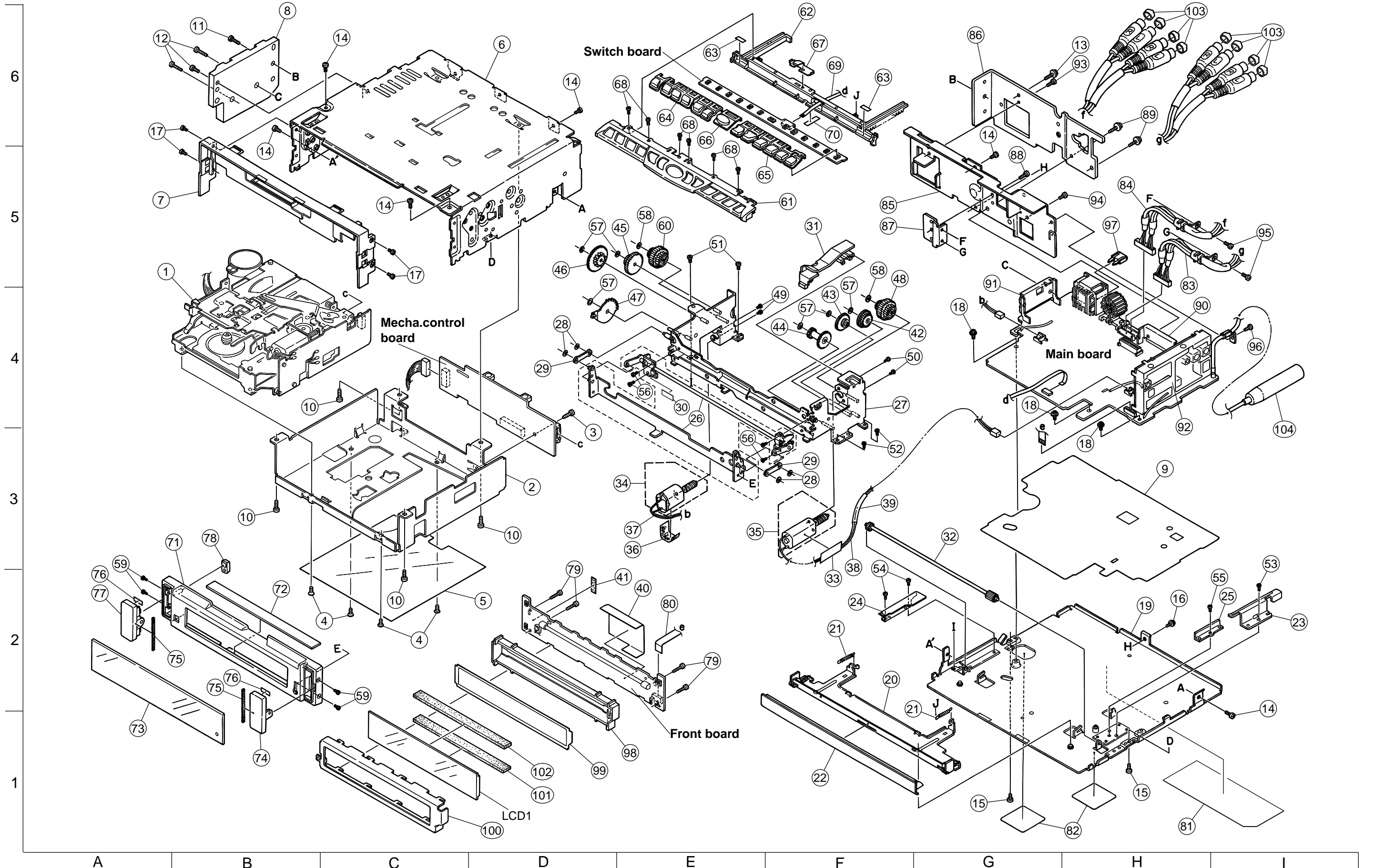
## - Contents -

Exploded view of general assembly and parts list .....	3-3
Cassette mechanism assembly and parts list .....	3-6
Electrical parts list .....	3-9
Packing materials and accessories parts list .....	3-16

<<MEMO>>

# Exploded view of general assembly and parts list

Block No. **M 1 M M**



## ■ Parts list (General assembly)

Block No. M1MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	1	-----	CDS-522VJ2	1	CASSETTE MECHA	
	2	FSKM2006-001	MECHA BRACKET	1		
	3	QYSDST2604Z	SCREW	1	PCB+MECHA	
	4	FSKZ4004-002	SCREW	4	MECHA+M.BKT	
	5	FSMA4010-002	INSULATOR	1	M.BKT+SCREW	
	6	FSJC1065-001	TOP CHASSIS	1		
	7	FSJC1064-001	FRONT COVER	1		
	8	LV31602-003A	SIDE HEAT SINK	1		
	9	FSMA3007-001	INSULATOR	1		
	10	QYSDST2604Z	SCREW	4	T.CHAS+CS MECHA	
	11	QYSDSF2610Z	TAPPING SCREW	1	T.CHAS+S H.SINK	
	12	LV41200-003A	SPECIAL SCREW	3	T.CHAS+S H.SINK	
	13	LV41200-003A	SPECIAL SCREW	1	T.CHAS+REAR	
	14	QYSDST2604Z	SCREW	6	T.CHAS+B.CHAS	
	15	QYSDST2604Z	SCREW	2	T.CHAS+R.BKT	
	16	LV41200-001A	SPECIAL SCREW	1	BOTTOM CHA.+REAR BKT	
	17	QYSPSP2003M	SCREW	4	T.CHAS+F.COVER	
	18	LV41200-001A	SPECIAL SCREW	3	MAIN PWB+BOTTOM CHA.	
	19	LV31604-002A	BOTTOM ASS'Y	1		
	20	LV31605-001A	DOOR BASE ASS'Y	1		
	21	LV41452-001A	TENS SPRING BTM	2		
	22	LV31607-001A	PANEL COVER	1		
	23	LV31965-001A	BUTTON BASE BKT	1		
	24	LV41500-001A	BUTTON B.SUPPORT	1		
	25	LV41545-001A	BUTTON B.GUIDE	1		
	26	FSKL3014-001A	FRONT BKT ASS'Y	1		
	27	LV20614-002A	BRACKET ASS'Y	1		
	28	WDM215025	WASHER	4		
	29	LV41503-001A	ARM 3	2		
	30	FSYH4036-015	SHEET	1		
	31	LV31777-001A	FFC GUIDE	1		
	32	LV31610-001A	ROD GEAR	1		
	33	LV40847-002A	SPACER	1	MOTOR L	
	34	QAR0029001-SA2	FEED MOTOR	1	FOR BKT MOTOR L	
	35	PPN13KA10C-SA6	FEED MOTOR	1	FOR BKT MOTOR R	
	36	LV40847-002A	SPACER	1	MOTOR R	
	37	WJM0137-001A	E-SI CARD WIRE	1	FOR MOTOR L	
	38	WJM0136-001A	E-SI CARD WIRE	1	FOR MOTOR R	
	39	QWTA20H-030	UL VINYL TUBE	1	FOR R WIRE	
	40	QE40110-001A	SHIELD CASE	1		
	41	FSYH4036-064	SPACER	1		
	42	LV41463-001A	GEAR 1	1	R SIDE	
	43	LV41464-001A	GEAR 2	1	R SIDE	
	44	LV31611-001A	GEAR 3	1	R SIDE	
	45	LV41466-001A	GEAR 4	1	L SIDE	
	46	LV41467-001A	GEAR 5	1	L SIDE	
	47	LV31612-001A	GEAR 6	1	L SIDE	
	48	LV30981-004A	CLUTCH ASS'Y	1	RIGHT SIDE	

## ■ Parts list (General assembly)

Block No. M1MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	49	QYSPSPT2020Z	MINI SCREW	2	F.MOTOR+B.M. L	
	50	QYSPSPT2020Z	MINI SCREW	2	F.MOTOR+B.M. R	
	51	LV40865-001A	MINI SCREW	2	ROD BKT(L)+LO.BKT	
	52	LV40865-001A	MINI SCREW	2	ROD BKT(R)+LO.BKT	
	53	LV40865-001A	MINI SCREW	1	B.BASE BKT+BO.CHAS	
	54	LV40865-001A	MINI SCREW	2	B.B.SUPPO+BO.CHAS	
	55	LV40865-001A	MINI SCREW	1	B.B.GUIDE+BO.CHAS	
	56	LV40865-001A	MINI SCREW	4	BKT.M.L&R+C.BOTTOM	
	57	WDM215025	WASHER	6	FOR GEAR 1-6	
	58	WDM214540	WASHER	2	FOR CLUTCH ASSY	
	59	QYSPSPU1725M	SCREW	4	LO.UNIT A+DIS.PANEL	
	60	LV30981-005A	CLUTCH ASS'Y	1	LEFT SIDE	
	61	LV10317-007A	BUTTON PANEL	1	KS-LX200R	
	62	LV10318-001A	BUTTON BASE	1		
	63	LV40848-007A	SPACER(P)	2		
	64	LV20615-003A	PRESET BUTTON	1	LEFT PRESET BUTTON	
	65	LV20616-002A	PRESET BUTTON 2	1		
	66	LV31613-001A	FUNCTION BUTTON	1		
	67	LV41825-002A	PLATE SPRING	1		
	68	VKZ4777-004	MINI SCREW	6		
	69	WJT0030-001A	E-CARD WIRE	1		
	70	FSYH4036-035	SHEET	1	FOR E-CARD WIRE	
	71	FSJC1066-002	DISPLAY PANEL	1		
	72	LV32035-001A	D.P. PLATE	1		
	73	FSJD3026-001A	FINDER LENS	1		
	74	LV41469-001A	UP DOWN B.ASS'Y	1		
	75	VYSH1R5-007	SPACER	2		
	76	LV40848-009A	SPACER(P)	2		
	77	LV41471-001A	+/- BUTTON ASSY	1		
	78	LV41505-001A	REMOTE LENS	1		
	79	VKZ4777-001	MINI SCREW	4	D.PANEL+SW.PWB	
	80	WJT0031-001A	E-CARD WIRE	1		
	81	FSYN3148-105	NAME PLATE	1		
	82	LV41143-001A	SHEET	2		
	83	QAM0178-001	PIN CORD ASS'Y	1		
	84	QAM0179-001	CAR CABLE	1		
	85	LV30943-201A	REAR BRACKET	1		
	86	LV30946-005A	REAR HEAT SINK	1	BLACK ANODISED	
	87	LV40790-001A	PIN CORD BRACKET	1		
	88	QYSDST2604Z	SCREW	1		
	89	LV41200-003A	SPECIAL SCREW	2		
	90	LV40792-001A	REG.IC BRACKET	1		
	91	LV41863-001A	POWER IC BRACKET	1		
	92	VMA4652-001SS	SHIELD PLATE	1		
	93	QYSDST2606Z	SCREW	1		
	94	QYSDST2606Z	SCREW	1		
	95	QYSDST2604Z	SCREW	2		
	96	QYSDST2604Z	SCREW	1		

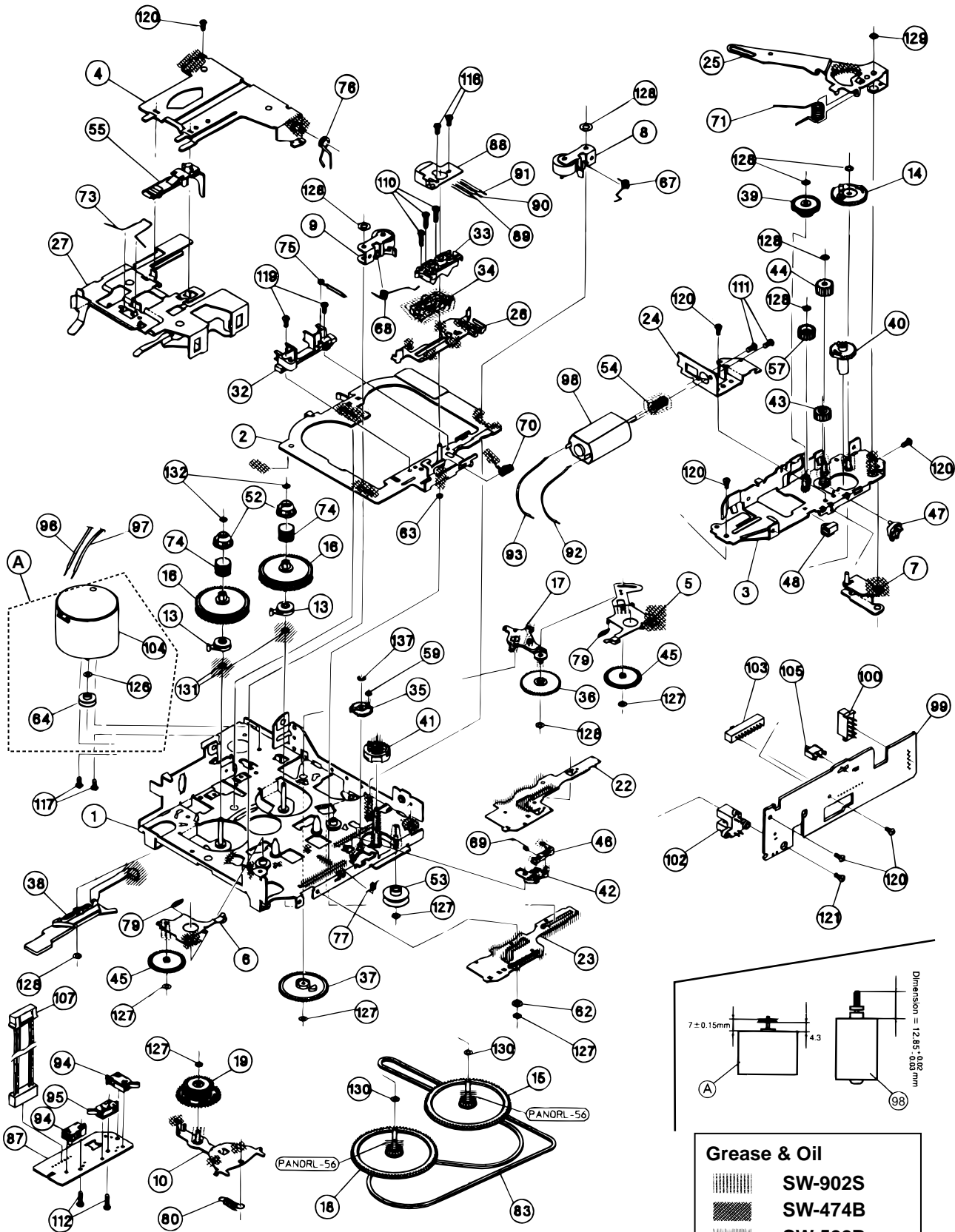
**Parts list (General assembly)**

Block No. M1MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
△	97	QMFZ039-150-T	FUSE	1	D105	
	98	FSKS3023-001	LIGHTING CASE	1		
	99	FSYH4081-002	LIGHTING SHEET	1		
	100	FSYH2006-001	LCD CASE	1		
	101	QNZ0495-001	RUBBER CONNECTOR	1		
	102	QNZ0494-001	RUBBER CONNECTOR	1	J1	
	103	VYTA500-001	PIN CAP	8		
	104	QAM0105-002	CAR CABLE	1		
	LCD 1	QLD0149-001	LCD MODULE	1		

# Cassette mechanism assembly and parts list

Block No. M 2 M M



MODEL: CDS522-VJ2

**Parts list (Cassette mechanism)**

Block No. M2MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	A	100367057S-SA1	DC MOTOR ASS'Y	1	(NO.64.104.126)	
	1	1-0522-6001-02S	CHASSIS ASS'Y	1		
	2	1-0522-6002-02S	HEAD PLATE ASSY	1		
	3	1-0522-6003-11S	SUB CHASSIS ASY	1		
	4	X-0522-1004S	HOLDER ARM ASSY	1		
	5	X-0522-1006-02S	T.U.ARM(F)ASS'Y	1		
	6	X-0522-1007S	T.U.ARM(R)ASS'Y	1		
	7	X-0522-1010S	SET ARM ASS'Y	1		
	8	X-0522-1019S	PINCH ARM(F)ASY	1		
	9	X-0522-1020S	PINCH ARM(R)ASY	1		
	10	X-0522-1022S	FR ARM ASS'Y	1		
	13	X-0522-2008S	DETECT ARM ASSY	2		
	14	X-0522-2010S	LOAD GEAR ASS'Y	1		
	15	X-0522-2016-6S	FLYWHEEL ASY(FN	1		
	16	X-0522-2018S	REEL TABLE ASSY	2		
	17	X-0522-2020S	REDUCT.GEAR ARM	1		
	18	X-0522-2021-6S	FLYWHEEL ASY(RN	1		
	19	X-0052-2001S	F.R. GEAR ASS'Y	1		
	22	1-0522-1008S	DIR.PLATE	1		
	23	1-0522-1031S	FF/REW PLATE	1		
	24	1-0522-1027S	MOTOR BKT	1		
	25	1-0522-1013-30S	LOAD ARM	1		
	26	1-0522-1014S	SHIFT CAM LINK	1		
	27	1-0522-1017-50S	CASSETTE HOLDER	1		
	32	1-0522-2001S	TAPE GUIDE	1		
	33	1-0522-2002S	HEAD BKT	1		
	34	1-0522-2003S	HEAD SHIFT CAM	1		
	35	1-0522-2004-03S	SELECT GEAR	1		
	36	1-0522-2005S	REDUCTION GEAR	1		
	37	1-0522-2006S	DETECT GEAR	1		
	38	1-0522-2007-50S	DETECTOR	1		
	39	1-0522-2009S	WORM GEAR	1		
	40	1-0522-2011S	MODE GEAR	1		
	41	1-0522-2012S	MODE GEAR(2)	1		
	42	1-0522-2013S	GEAR LATCH	1		
	43	1-0522-2014S	IDLE GEAR(1)	1		
	44	1-0522-2015S	IDLE GEAR(2)	1		
	45	1-0522-2017S	TU GEAR	2		
	46	1-0522-2019S	RACHET	1		
	47	1-0522-2022S	SW ACTUATER	1		
	48	1-0522-2024S	PWB STAY	1		
	52	1-0052-2004S	REEL DRIVER	2		
	53	1-0052-2006S	IDLE PULLEY	1		
	54	1-0522-2023S	WORM	1		
	55	1-0052-2032S	CATCH(K)	1		
	57	1-0052-2041S	COUNTER GEAR	1		
	59	1-0522-3005S	SELECT GEAR COL	1		
	62	1-0052-3028S	H.B. ROLLER(L)	1		



## ■ Parts list (Cassette mechanism)

Block No. M2MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	63	1-0052-3029S	H.B. ROLLER(S)	1		
	64	-----	MOTOR PULLEY	1		
	67	1-0522-4001S	PINCH ARM(F)SPG	1		
	68	1-0522-4002S	PINCH ARM(R)SPG	1		
	69	1-0522-4003S	GEAR LATCH SPG	1		
	70	1-0522-4004S	HEAD SPRING	1		
	71	1-0522-4006S	LOAD ARM SPG	1		
	73	1-0522-4008S	CATCH SPRING	1		
	74	1-0522-4010S	REEL DRIVER SPG	2		
	75	1-0522-4011S	DASH SPRING	1		
	76	1-0522-4014S	HOLDER ARM SPG	1		
	77	1-0522-4016S	HOLD SPRING	1		
	79	1-0522-4017S	TU ARM SPRING	2		
	80	1-0522-4015S	FR ARM SPRING	1		
	83	1-0052-5022S	BELT	1		
	87	1-0522-7042S	REEL PWB	1		
	88	1-0522-7003S	2CH HEAD	1	P-7742-HG	
	89	1-0522-7004S	HEAD WIRE(A)	1		
	90	1-0522-7005S	HEAD WIRE(B)	1		
	91	1-0522-7006S	HEAD WIRE(C)	1		
	92	1-0522-7007-04S	SUB MOTOR WIRE	1	RED	
	93	1-0522-7008-04S	SUB MOTOR WIRE	1	BLACK	
	94	1-0522-7038S	LEAF SW	2	10920	
	95	1-0522-7039S	LEAF SW	1	11610	
	96	1-0522-7013S	MOTOR WIRE	1	RED	
	97	1-0522-7014S	MOTOR WIRE	1	BLACK	
	98	1-0522-7040S	SUB MOTOR	1	FF-050SK-10200	
	99	1-0522-7022-01S	HEAD PWB(JV)	1		
	100	1-0522-7024S	CONNECTOR 10P	1	TKC-F10X-K1	
	102	X-0052-7040S	PHOTO COUPLER	1		
	103	1-0036-7007-1S	SLIDE SWITCH	1	SLD-32-710S	
	104	-----	MOTOR ASS'Y	1	EG-520ED-3B	
	105	1-0056-7011S	SWITCH	1	SW-112-5	
	107	1-0052-7013S	JOINT WIRE (7P)	1		
	110	1-0522-5003S	AZIMUTH SCREW	3		
	111	1-0052-5023S	MOTOR SCREW	2	M2X2.5	
	112	1-0101-5006S	SCREW PLAIN	2	M1.7X7	
	116	1-0522-5005S	SPECIAL SCREW(2	2		
	117	2-1032-0022-C2S	MACHINE SCREW	2	M2X2.2	
	119	1-0522-5006S	SPECIAL SCREW(3	2		
	120	2-1332-0030-C1S	SCREW	6	M2X3	
	121	2-1382-0050-C2S	PLAIN	1	M2X5	
	126	-----	MYLAR WASHER	1		
	127	2-1812-0030-D2S	POLY WASHER(S)	6	1.2X3X0.25	
	128	2-1816-0032-D2S	POLY WASHER(S)	8	1.6X3.2X0.25	
	129	2-1817-5040-D8S	LMW-S	1	1.75X4X0.25	
	130	2-1816-0032-E8S	MYLAR WASHER(S)	2	1.6X3.2X0.35	
	131	2-1821-0040-D1S	POLY WASHER	2	2.1X4X0.25	
	132	1-0053-5005S	LMW-S	2	1.5X3.2X0.25	
	137	2-1711-5040-16S	E RING	1	1.5	

## ■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	BZ791	QAN0009-001Z	BUZZER				C 202	NCS21HJ-681X	C CAPACITOR		
	C 1	NCB21EK-473X	C CAPACITOR				C 203	QERF1HM-224Z	E CAPACITOR	0.22MF 20% 50V	
	C 2	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V			C 204	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 3	NCB21HK-103X	C CAPACITOR				C 212	QERF1CM-475Z	E CAPACITOR	4.7MF 20% 16V	
	C 4	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V			C 218	NCB21HK-472X	C CAPACITOR		
	C 5	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V			C 219	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 6	NCB21EK-473X	C CAPACITOR				C 220	NCB21HK-471X	C CAPACITOR		
	C 7	NCB21HK-183X	C CAPACITOR				C 241	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 8	NCB21HK-104X	C CAPACITOR				C 242	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 10	NCS21HJ-101X	C CAPACITOR				C 243	NCS21HJ-331X	C CAPACITOR		
	C 11	NCB21HK-473X	C CAPACITOR				C 244	NCS21HJ-331X	C CAPACITOR		
	C 21	NCS21HJ-331X	C CAPACITOR				C 272	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 22	NCB21HK-103X	C CAPACITOR				C 273	QERF0JM-226Z	E CAPACITOR	22MF 20% 6.3V	
	C 23	NCB21HK-472X	C CAPACITOR				C 301	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 24	NCB21EK-104X	C CAPACITOR				C 302	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 25	QERF1HM-474Z	E CAPACITOR	0.47MF 20% 50V			C 303	QERF1CM-476Z	E CAPACITOR	4.7MF 20% 16V	
	C 31	NCB21HK-103X	C CAPACITOR				C 305	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 32	QERF1HM-474Z	E CAPACITOR	0.47MF 20% 50V			C 306	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 33	NCB21HK-102X	C CAPACITOR				C 307	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 34	NCB21HK-682X	C CAPACITOR				C 308	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 35	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V			C 309	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 36	NCB21HK-152X	C CAPACITOR				C 310	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 37	NCB21HK-103X	C CAPACITOR				C 321	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 38	NCB21EK-473X	C CAPACITOR				C 322	NCB21HK-103X	C CAPACITOR		
	C 39	QERF1HM-104Z	E CAPACITOR	0.1MF 20% 50V			C 323	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 40	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 324	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 41	NCB21HK-103X	C CAPACITOR				C 325	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 42	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 327	NCB21EK-823X	C CAPACITOR		
	C 43	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 328	NCB21HK-682X	C CAPACITOR		
	C 44	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 329	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 45	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 330	NCB21HK-123X	C CAPACITOR		
	C 46	NBE21CM-105X	E CAPACITOR				C 331	NCB21HK-562X	C CAPACITOR		
	C 51	NDC21HJ-820X	C CAPACITOR				C 332	NCB21HK-273X	C CAPACITOR		
	C 52	NDC21HJ-470X	C CAPACITOR				C 333	NCB21HK-273X	C CAPACITOR		
	C 53	QERF0JM-476Z	E CAPACITOR	47MF 20% 6.3V			C 334	NCB21HK-333X	C CAPACITOR		
	C 54	NCB21HK-103X	C CAPACITOR				C 335	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 55	NCS21HJ-561X	C CAPACITOR				C 336	NCB21HK-473X	C CAPACITOR		
	C 56	NCB21EK-223X	C CAPACITOR				C 337	NCB21HK-473X	C CAPACITOR		
	C 57	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V			C 351	NCB21HK-104X	C CAPACITOR		
	C 101	NCB21HK-153X	C CAPACITOR				C 352	NCB21HK-103X	C CAPACITOR		
	C 102	NCS21HJ-681X	C CAPACITOR				C 353	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 103	QERF1HM-224Z	E CAPACITOR	0.22MF 20% 50V			C 354	NCB21HK-104X	C CAPACITOR		
	C 104	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 355	NCB21HK-471X	C CAPACITOR		
	C 112	QERF1CM-475Z	E CAPACITOR	4.7MF 20% 16V			C 356	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 117	NCB21HK-104X	C CAPACITOR				C 357	NCB21HK-472X	C CAPACITOR		
	C 118	NCB21HK-472X	C CAPACITOR				C 358	NCB21CK-224X	C CAPACITOR		
	C 119	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V			C 359	NCB21CK-224X	C CAPACITOR		
	C 120	NCB21HK-471X	C CAPACITOR				C 401	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 121	NCB31HK-332X	C CAPACITOR				C 402	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 122	NCB31HK-332X	C CAPACITOR				C 403	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 141	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 405	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 142	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 406	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 143	NCS21HJ-331X	C CAPACITOR				C 407	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 144	NCS21HJ-331X	C CAPACITOR				C 408	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 161	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V			C 409	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 162	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V			C 410	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 163	NCB21EK-473X	C CAPACITOR				C 451	NCB21HK-104X	C CAPACITOR		
	C 164	QERF1HM-224Z	E CAPACITOR	0.22MF 20% 50V			C 452	NCB21HK-103X	C CAPACITOR		
	C 172	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V			C 454	NCB21HK-104X	C CAPACITOR		
	C 173	QERF0JM-226Z	E CAPACITOR	22MF 20% 6.3V			C 455	NCB21HK-471X	C CAPACITOR		
	C 174	NCB21EK-223X	C CAPACITOR				C 456	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 175	QERF0JM-476Z	E CAPACITOR	47MF 20% 6.3V			C 457	NCB21HK-472X	C CAPACITOR		
	C 201	NCB21HK-153X	C CAPACITOR				C 458	NCB21CK-224X	C CAPACITOR		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	C 459	NCB21CK-224X	C CAPACITOR				CN901	QNZ0090-001	CAR CONNECTOR		
	C 701	NDC21HJ-220X	C CAPACITOR				D 1	1SS355-X	DIODE		
	C 702	NDC21HJ-270X	C CAPACITOR				D 2	1SS355-X	DIODE		
	C 703	NDC21HJ-270X	C CAPACITOR				D 3	1SS355-X	DIODE		
	C 704	NDC21HJ-8R0X	C CAPACITOR				D 11	MA152WK-X	SI DIODE		
	C 705	NCS21HJ-471X	C CAPACITOR				D 31	1SS355-X	DIODE		
	C 707	NCB21EK-103X	C CAPACITOR				D 101	MA152WK-X	SI DIODE		
	C 708	NBE21AM-106X	E CAPACITOR				D 111	MA152WK-X	SI DIODE		
	C 710	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V			D 131	MA152WA-X	DIODE		
	C 711	NCS21HJ-471X	C CAPACITOR				D 161	1SS355-X	DIODE		
	C 713	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V			D 162	1SS355-X	DIODE		
	C 722	NCB21HK-222X	C CAPACITOR				D 201	MA152WK-X	SI DIODE		
	C 723	NCB21HK-222X	C CAPACITOR				D 231	MA152WA-X	DIODE		
	C 724	NCB21HK-222X	C CAPACITOR				D 332	MA152WK-X	SI DIODE		
	C 771	NCB21EK-473X	C CAPACITOR				D 351	MA152WK-X	SI DIODE		
	C 791	QERF1HM-104Z	E CAPACITOR	0.1MF 20% 50V			D 451	MA152WK-X	SI DIODE		
	C 831	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V			D 701	CRS03-W	SB DIODE		
	C 832	NCB21HK-103X	C CAPACITOR				D 702	UDZS5.1B-X	ZENER DIODE		
	C 911	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V			D 703	UDZS5.1B-X	ZENER DIODE		
	C 912	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V			D 711	1SS355-X	DIODE		
	C 913	NCB21EK-104X	C CAPACITOR				D 941	1SS355-X	DIODE		
	C 914	NCB21EK-473X	C CAPACITOR				D 961	1N5404-TU-15	DIODE		
	C 921	NCS21HJ-101X	C CAPACITOR				D 962	CRS03-W	SB DIODE		
	C 922	NCS21HJ-101X	C CAPACITOR				D 963	MA152WA-X	DIODE		
	C 923	NCS21HJ-101X	C CAPACITOR				D 967	CRS03-W	SB DIODE		
	C 924	NCS21HJ-101X	C CAPACITOR				D 978	UDZ11B-X	ZENER DIODE		
	C 925	NCS21HJ-101X	C CAPACITOR				D 980	1SS355-X	DIODE		
	C 926	NCS21HJ-101X	C CAPACITOR				D 986	MA152WA-X	DIODE		
	C 927	NCS21HJ-101X	C CAPACITOR				IC 31	LA3460M-X	IC		
	C 928	NCS21HJ-101X	C CAPACITOR				IC 51	SAA6579T-X	IC		
	C 931	NDC21HJ-101X	C CAPACITOR				IC171	NJM4565M-W	IC		
	C 932	NCB21EK-473X	C CAPACITOR				IC301	BA3220FV-X	IC		
	C 941	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V			IC321	M5282FP-XE	IC		
	C 942	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V			IC322	BU4066BCFV-X	IC		
	C 943	NCB21HK-103X	C CAPACITOR				IC323	NJM4565M-W	IC		
	C 944	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V			IC401	BA3220FV-X	IC		
	C 946	NCB21EK-104X	C CAPACITOR				IC701	UPD784215AGC113	IC		
	C 947	NCB21EK-104X	C CAPACITOR				IC702	IC-PST600M/G/-W	IC(1197)		
	C 948	NCB21EK-104X	C CAPACITOR				IC703	BR24C32F-X	IC(EEPROM)		
	C 949	NCB21EK-104X	C CAPACITOR				IC771	HD74HC126FP-X	IC		
	C 961	QEZ0337-228	E CAPACITOR	2200MF			IC831	KA3031	IC		
	C 962	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V			IC911	BD3860K	IC		
	C 964	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V			IC941	LA4743B	IC		
	C 965	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V			IC951	NJM4565M-W	IC		
	C 966	NCB21HK-103X	C CAPACITOR				IC961	BA4905-V3	IC		
	C 967	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V			L 1	NQL334J-4R7X	INDUCTOR		
	C 968	NCB21EK-104X	C CAPACITOR				L 701	NQL114K-470X	INDUCTOR		
	C 969	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V			L 961	QQR0703-001	CHOKE COIL		
	C 971	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V			PP 1	QZW0010-001	STYLE PIN		
	C 977	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V			PP 3	QZW0010-001	STYLE PIN		
	C 978	QERF0JM-476Z	E CAPACITOR	47MF 20% 6.3V			PP 4	QZW0010-001	STYLE PIN		
	C 982	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V			Q 1	UN2211-X	TRANSISTOR		
	C 986	NCB21EK-104X	C CAPACITOR				Q 11	2SB815/7/-X	TRANSISTOR		
	CF 31	QAX0605-001	CRYSTAL				Q 12	UN2211-X	TRANSISTOR		
	CN301	QGA2501C1-07	7P CONNECTOR				Q 13	2SB709A/R/-X	TRANSISTOR		
	CN302	QGA2501C1-06	6P CONNECTOR				Q 21	2SC2412K/R/-X	TRANSISTOR		
	CN503	QGA2501F1-02	CONNECTOR				Q 22	2SC2412K/R/-X	TRANSISTOR		
	CN504	QGA2501F1-02	CONNECTOR				Q 23	2SC2412K/R/-X	TRANSISTOR		
	CN701	QGF0503C1-16V	FPC CONNECTOR				Q 24	UN2211-X	TRANSISTOR		
	CN702	QGF0501F1-06X	CONNECTOR				Q 31	UN2111-X	TRANSISTOR		
	CN703	QGB1214J1-18S	CONNECTOR				Q 32	UN2211-X	TRANSISTOR		
	CN704	QGA1201C2-04X	CONNECTOR				Q 33	2SD601A/R/-X	TRANSISTOR		
	CN771	QNZ0095-001	CONNECTOR				Q 34	UN2111-X	TRANSISTOR		

## ■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	Q 35	2SB709A/R/-X	TRANSISTOR				R 52	NRSA02J-222X	MG RESISTOR		
	Q 36	UN2211-X	TRANSISTOR				R 53	NRSA02J-222X	MG RESISTOR		
	Q 131	2SD1048/6-7/-X	TRANSISTOR				R 54	NRSA02J-222X	MG RESISTOR		
	Q 132	2SD1048/6-7/-X	TRANSISTOR				R 101	NRSA02J-103X	MG RESISTOR		
	Q 161	2SD601A/R/-X	TRANSISTOR				R 102	NRSA02J-223X	MG RESISTOR		
	Q 231	2SD1048/6-7/-X	TRANSISTOR				R 111	NRSA02J-224X	MG RESISTOR		
	Q 232	2SD1048/6-7/-X	TRANSISTOR				R 118	NRSA02J-101X	MG RESISTOR		
	Q 321	UN2211-X	TRANSISTOR				R 119	NRSA02J-102X	MG RESISTOR		
	Q 322	UN2211-X	TRANSISTOR				R 120	NCB21HK-332X	C CAPACITOR		
	Q 323	2SD1048/6-7/-X	TRANSISTOR				R 131	NRSA02J-222X	MG RESISTOR		
	Q 324	UN2211-X	TRANSISTOR				R 132	NRSA02J-222X	MG RESISTOR		
	Q 325	UN2111-X	TRANSISTOR				R 133	NRSA63J-681X	MG RESISTOR		
	Q 701	UN2211-X	TRANSISTOR				R 134	NRSA63J-681X	MG RESISTOR		
	Q 702	2SB8157/-X	TRANSISTOR				R 135	NRSA02J-101X	MG RESISTOR		
	Q 791	UN2211-X	TRANSISTOR				R 136	NRSA02J-101X	MG RESISTOR		
	Q 942	UN2211-X	TRANSISTOR				R 141	NRSA02J-473X	MG RESISTOR		
	Q 963	UN2213-X	TRANSISTOR				R 142	NRSA02J-473X	MG RESISTOR		
	Q 964	2SB709A/R/-X	TRANSISTOR				R 143	NRSA02J-823X	MG RESISTOR		
	Q 965	UN2211-X	TRANSISTOR				R 144	NRSA02J-823X	MG RESISTOR		
	Q 966	2SB709A/R/-X	TRANSISTOR				R 145	NRSA02J-473X	MG RESISTOR		
	Q 977	UN2111-X	TRANSISTOR				R 146	NRSA02J-473X	MG RESISTOR		
	Q 979	UN2111-X	TRANSISTOR				R 161	NRSA02J-473X	MG RESISTOR		
	Q 981	UN2111-X	TRANSISTOR				R 162	NRSA02J-123X	MG RESISTOR		
	Q 982	UN2211-X	TRANSISTOR				R 163	NRSA02J-184X	MG RESISTOR		
	Q 983	2SD601A/R/-X	TRANSISTOR				R 164	NRSA02J-223X	MG RESISTOR		
	Q 986	UN2211-X	TRANSISTOR				R 165	NRSA02J-391X	MG RESISTOR		
	Q 991	2SA1706/ST/-T	TRANSISTOR				R 166	NRSA02J-102X	MG RESISTOR		
	Q 992	UN2211-X	TRANSISTOR				R 167	NRSA02J-274X	MG RESISTOR		
	R 1	NRSA02J-0R0X	MG RESISTOR				R 172	NRSA02J-104X	MG RESISTOR		
	R 2	NRSA02J-104X	MG RESISTOR				R 173	NRSA02J-822X	MG RESISTOR		
	R 3	NRSA02J-100X	MG RESISTOR				R 174	NRSA02J-822X	MG RESISTOR		
	R 4	NRSA02J-103X	MG RESISTOR				R 175	NRSA02J-103X	MG RESISTOR		
	R 11	NRS181J-8R2X	MG RESISTOR				R 176	NRSA02J-103X	MG RESISTOR		
	R 12	NRSA02J-473X	MG RESISTOR				R 177	NRSA02J-102X	MG RESISTOR		
	R 13	NRSA02J-472X	MG RESISTOR				R 178	NRSA02J-471X	MG RESISTOR		
	R 14	NRSA02J-473X	MG RESISTOR				R 201	NRSA02J-103X	MG RESISTOR		
	R 15	NRSA02J-332X	MG RESISTOR				R 202	NRSA02J-223X	MG RESISTOR		
	R 21	NRSA02J-473X	MG RESISTOR				R 211	NRSA02J-224X	MG RESISTOR		
	R 22	NRSA02J-473X	MG RESISTOR				R 218	NRSA02J-101X	MG RESISTOR		
	R 23	NRSA02J-103X	MG RESISTOR				R 219	NRSA02J-102X	MG RESISTOR		
	R 24	NRSA02J-222X	MG RESISTOR				R 220	NCB21HK-332X	C CAPACITOR		
	R 25	NRSA02J-103X	MG RESISTOR				R 231	NRSA02J-222X	MG RESISTOR		
	R 26	NRSA02J-153X	MG RESISTOR				R 232	NRSA02J-222X	MG RESISTOR		
	R 27	NRSA02J-471X	MG RESISTOR				R 233	NRSA63J-681X	MG RESISTOR		
	R 28	NRSA02J-683X	MG RESISTOR				R 234	NRSA63J-681X	MG RESISTOR		
	R 31	NRSA02J-123X	MG RESISTOR				R 235	NRSA02J-101X	MG RESISTOR		
	R 32	NRSA02J-474X	MG RESISTOR				R 236	NRSA02J-101X	MG RESISTOR		
	R 33	NRSA02J-222X	MG RESISTOR				R 241	NRSA02J-473X	MG RESISTOR		
	R 34	NRSA02J-392X	MG RESISTOR				R 242	NRSA02J-473X	MG RESISTOR		
	R 35	NRSA02J-333X	MG RESISTOR				R 243	NRSA02J-823X	MG RESISTOR		
	R 36	NRSA02J-683X	MG RESISTOR				R 244	NRSA02J-823X	MG RESISTOR		
	R 37	NRSA02J-222X	MG RESISTOR				R 245	NRSA02J-473X	MG RESISTOR		
	R 38	NRSA02J-183X	MG RESISTOR				R 246	NRSA02J-473X	MG RESISTOR		
	R 39	NRSA02J-223X	MG RESISTOR				R 272	NRSA02J-104X	MG RESISTOR		
	R 40	NRSA02J-562X	MG RESISTOR				R 273	NRSA02J-822X	MG RESISTOR		
	R 41	NRSA02J-105X	MG RESISTOR				R 274	NRSA02J-822X	MG RESISTOR		
	R 42	NRSA02J-471X	MG RESISTOR				R 275	NRSA02J-103X	MG RESISTOR		
	R 43	NRSA02J-104X	MG RESISTOR				R 276	NRSA02J-103X	MG RESISTOR		
	R 44	NRSA02J-102X	MG RESISTOR				R 277	NRSA02J-102X	MG RESISTOR		
	R 45	NRSA02J-473X	MG RESISTOR				R 301	NRSA02J-243X	MG RESISTOR		
	R 46	NRSA02J-683X	MG RESISTOR				R 302	NRSA02J-243X	MG RESISTOR		
	R 47	NRSA02J-0R0X	MG RESISTOR				R 303	NRSA02J-333X	MG RESISTOR		
	R 51	NRSA02J-101X	MG RESISTOR				R 304	NRSA02J-333X	MG RESISTOR		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	R 305	NRSA02J-154X	MG RESISTOR		
	R 321	NRSA02J-102X	MG RESISTOR		
	R 322	NRSA02J-103X	MG RESISTOR		
	R 323	NRSA02J-103X	MG RESISTOR		
	R 324	NRSA02J-104X	MG RESISTOR		
	R 325	NRSA02J-104X	MG RESISTOR		
	R 326	NRSA02J-103X	MG RESISTOR		
	R 327	NRSA02J-562X	MG RESISTOR		
	R 328	NRSA02J-153X	MG RESISTOR		
	R 329	NRSA02J-0R0X	MG RESISTOR		
	R 330	NRSA02J-473X	MG RESISTOR		
	R 331	NRSA02J-104X	MG RESISTOR		
	R 332	NRSA02J-104X	MG RESISTOR		
	R 333	NRSA02J-473X	MG RESISTOR		
	R 334	NRSA02J-473X	MG RESISTOR		
	R 335	NRSA02J-821X	MG RESISTOR		
	R 336	NRSA02J-473X	MG RESISTOR		
	R 337	NRSA02J-472X	MG RESISTOR		
	R 338	NRSA02J-101X	MG RESISTOR		
	R 339	NRSA02J-101X	MG RESISTOR		
	R 340	NRSA02J-474X	MG RESISTOR		
	R 341	NRSA02J-105X	MG RESISTOR		
	R 342	NRSA02J-105X	MG RESISTOR		
	R 343	NRSA02J-105X	MG RESISTOR		
	R 344	NRSA02J-105X	MG RESISTOR		
	R 351	NRSA02J-224X	MG RESISTOR		
	R 352	NRSA02J-224X	MG RESISTOR		
	R 353	NRSA02J-105X	MG RESISTOR		
	R 354	NRSA02J-682X	MG RESISTOR		
	R 355	NRSA02J-224X	MG RESISTOR		
	R 358	NRSA02J-332X	MG RESISTOR		
	R 401	NRSA02J-243X	MG RESISTOR		
	R 402	NRSA02J-243X	MG RESISTOR		
	R 403	NRSA02J-333X	MG RESISTOR		
	R 404	NRSA02J-333X	MG RESISTOR		
	R 405	NRSA02J-154X	MG RESISTOR		
	R 451	NRSA02J-224X	MG RESISTOR		
	R 452	NRSA02J-224X	MG RESISTOR		
	R 454	NRSA02J-682X	MG RESISTOR		
	R 455	NRSA02J-224X	MG RESISTOR		
	R 458	NRSA02J-332X	MG RESISTOR		
	R 701	NRSA02J-473X	MG RESISTOR		
	R 702	NRSA02J-821X	MG RESISTOR		
	R 703	NRSA02J-473X	MG RESISTOR		
	R 704	NRSA02J-473X	MG RESISTOR		
	R 705	NRSA02J-473X	MG RESISTOR		
	R 706	NRSA02J-103X	MG RESISTOR		
	R 707	NRSA02J-472X	MG RESISTOR		
	R 708	NRSA02J-472X	MG RESISTOR		
	R 709	NRSA02J-472X	MG RESISTOR		
	R 710	NRSA02J-103X	MG RESISTOR		
	R 711	NRSA02J-103X	MG RESISTOR		
	R 712	NRSA02J-103X	MG RESISTOR		
	R 713	NRSA02J-103X	MG RESISTOR		
	R 714	NRSA02J-103X	MG RESISTOR		
	R 715	NRSA02J-472X	MG RESISTOR		
	R 716	NRSA02J-472X	MG RESISTOR		
	R 717	NRSA02J-472X	MG RESISTOR		
	R 718	NQL012K-1R8X	INDUCTOR		
	R 719	NQL012K-1R8X	INDUCTOR		
	R 720	NRSA02J-331X	MG RESISTOR		
	R 721	NRSA02J-103X	MG RESISTOR		
	R 722	NRSA02J-103X	MG RESISTOR		

△	Item	Parts number	Parts name	Remarks	Area
	R 723	NRSA02J-102X	MG RESISTOR		
	R 724	NRSA02J-271X	MG RESISTOR		
	R 725	NRSA02J-271X	MG RESISTOR		
	R 728	NRSA02J-103X	MG RESISTOR		
	R 730	NRSA02J-103X	MG RESISTOR		
	R 731	NRSA63J-473X	MG RESISTOR		
	R 732	NRSA63J-473X	MG RESISTOR		
	R 733	NRSA63J-473X	MG RESISTOR		
	R 734	NRSA63J-472X	MG RESISTOR		
	R 735	NRSA63J-472X	MG RESISTOR		
	R 736	NRSA02J-102X	MG RESISTOR		
	R 737	NRSA02J-103X	MG RESISTOR		
	R 738	NRSA02J-103X	MG RESISTOR		
	R 739	NRSA02J-473X	MG RESISTOR		
	R 740	NRSA02J-473X	MG RESISTOR		
	R 742	NRSA02J-103X	MG RESISTOR		
	R 746	NRSA02J-473X	MG RESISTOR		
	R 747	NRSA02J-473X	MG RESISTOR		
	R 748	NRSA02J-473X	MG RESISTOR		
	R 749	NRSA02J-473X	MG RESISTOR		
	R 750	NRSA02J-473X	MG RESISTOR		
	R 751	NRSA02J-106X	MG RESISTOR		
	R 752	NRSA02J-473X	MG RESISTOR		
	R 757	NRSA02J-103X	MG RESISTOR		
	R 758	NRSA02J-331X	MG RESISTOR		
	R 761	NRSA02J-103X	MG RESISTOR		
	R 762	NRSA02J-222X	MG RESISTOR		
	R 763	NRSA02J-222X	MG RESISTOR		
	R 764	NRSA02J-222X	MG RESISTOR		
	R 765	NRSA02J-222X	MG RESISTOR		
	R 766	NRSA02J-222X	MG RESISTOR		
	R 767	NRSA02J-331X	MG RESISTOR		
	R 768	NRSA02J-473X	MG RESISTOR		
	R 772	NRSA02J-473X	MG RESISTOR		
	R 773	NRSA02J-223X	MG RESISTOR		
	R 774	NRSA02J-101X	MG RESISTOR		
	R 775	NRSA02J-103X	MG RESISTOR		
	R 776	NRSA02J-104X	MG RESISTOR		
	R 777	NRSA02J-223X	MG RESISTOR		
	R 778	NRSA02J-101X	MG RESISTOR		
	R 779	NRSA02J-473X	MG RESISTOR		
	R 781	NRSA02J-331X	MG RESISTOR		
	R 782	NRSA02J-104X	MG RESISTOR		
	R 783	NRSA02J-473X	MG RESISTOR		
	R 784	NRSA02J-473X	MG RESISTOR		
	R 785	NRSA02J-473X	MG RESISTOR		
	R 786	NRSA02J-473X	MG RESISTOR		
	R 787	NRSA02J-473X	MG RESISTOR		
	R 788	NRSA02J-473X	MG RESISTOR		
	R 789	NRSA02J-473X	MG RESISTOR		
	R 790	NRSA02J-473X	MG RESISTOR		
	R 791	NRSA02J-102X	MG RESISTOR		
	R 793	NRSA02J-0R0X	MG RESISTOR		
	R 794	NRSA02J-102X	MG RESISTOR		
	R 831	NRSA02J-472X	MG RESISTOR		
	R 832	NRSA02J-472X	MG RESISTOR		
	R 833	NRSA02J-332X	MG RESISTOR		
	R 834	NRSA02J-332X	MG RESISTOR		
	R 911	NRSA02J-222X	MG RESISTOR		
	R 912	NRSA02J-222X	MG RESISTOR		
	R 941	NRSA02J-273X	MG RESISTOR		
	R 942	NRSA02J-273X	MG RESISTOR		
	R 943	NRSA02J-102X	MG RESISTOR		

## ■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	R 954	NRSA02J-103X	MG RESISTOR		
	R 961	QRE142J-102X	C RESISTOR	1.0K 5% 1/4W	
	R 962	NRSA02J-912X	MG RESISTOR		
	R 963	NRSA02J-472X	MG RESISTOR		
	R 964	NRSA02J-473X	MG RESISTOR		
	R 965	NRSA02J-222X	MG RESISTOR		
	R 970	NRSA02J-123X	MG RESISTOR		
	R 971	NRSA02J-393X	MG RESISTOR		
	R 975	NRSA02J-124X	MG RESISTOR		
	R 976	NRS181J-222X	MG RESISTOR		
	R 977	NRS181J-222X	MG RESISTOR		
	R 978	NRSA02J-104X	MG RESISTOR		
	R 981	NRSA02J-473X	MG RESISTOR		
	R 984	NRSA02J-473X	MG RESISTOR		
	R 985	NRSA02J-103X	MG RESISTOR		
	R 986	NRSA02J-102X	MG RESISTOR		
	R 987	NRSA02J-473X	MG RESISTOR		
	R 991	NRSA02J-183X	MG RESISTOR		
	R 992	NRSA02J-473X	MG RESISTOR		
	R 993	NRSA02J-103X	MG RESISTOR		
	R 994	NRSA02J-102X	MG RESISTOR		
	S 651	NSW0120-002X	PUSH SWITCH		
	S 652	NSW0120-002X	PUSH SWITCH		
	S 653	NSW0120-002X	PUSH SWITCH		
	TH981	NAD0021-103X	THERMISTOR		
	TU 1	QAU0157-002	TUNER PACK		
	VR 31	QVP0004-503Z	SEMI.V.RESISTOR		
	X 51	QAX0263-001Z	CRYSTAL		
	X 701	QAX0617-001Z	CRYSTAL		
	X 702	QAX0401-001	CRYSTAL		

■ Electrical parts list (Front&switch board) Block No. 02

△	Item	Parts number	Parts name	Remarks	Area
	BL611	QLL0059-001	BACK LIGHT		
	C 601	NBE20JM-475X	E CAPACITOR		
	C 602	NCB21HK-104X	C CAPACITOR		
	C 603	NCB21HK-104X	C CAPACITOR		
	C 604	NCS21HJ-221X	C 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	E CAPACITOR		
	CN601	QGF0501F1-16X	FPC CONNECTOR		
	CN631	QGF0501F1-06X	CONNECTOR		
	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	LC75873NW	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/B-E/-W	PHOTO REF.		
	PC602	PR-20/B-E/-W	PHOTO REF.		
	Q 611	2SD2185/R/-X	TRANSISTOR		
	Q 612	2SD2185/R/-X	TRANSISTOR		
	Q 691	2SD601A/R/-X	TRANSISTOR		
	Q 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-224X	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-121X	MG RESISTOR		
	R 628	NRSA02J-0R0X	MG RESISTOR		
	R 629	NRSA02J-471X	MG RESISTOR		
	R 632	NRSA02J-221X	MG RESISTOR		
	R 633	NRSA02J-221X	MG RESISTOR		
	R 634	NRSA02J-221X	MG RESISTOR		
	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		

△	Item	Parts number	Parts name	Remarks	Area
	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 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 (Mecha.control board) Block No. 03

△	Item	Parts number	Parts name	Remarks	Area
	C 401	NCB21HK-122X	C CAPACITOR		
	C 402	NCB21HK-122X	C CAPACITOR		
	C 403	NDC21HJ-101X	C CAPACITOR		
	C 404	NDC21HJ-101X	C CAPACITOR		
	C 405	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 406	QFV61HJ-103Z	MF CAPACITOR	0.01MF 5% 50V	
	C 407	QEQF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 408	QFV61HJ-104Z	MF CAPACITOR	0.1MF 5% 50V	
	C 409	QFV61HJ-103Z	MF CAPACITOR	0.01MF 5% 50V	
	C 410	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 411	QEQF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 412	NDC21HJ-221X	C CAPACITOR		
	C 413	QFV61HJ-104Z	MF CAPACITOR	0.1MF 5% 50V	
	C 414	QEKJ1HM-474Z	E CAPACITOR	0.47MF 20% 50V	
	C 415	NCB21HK-103X	C CAPACITOR		
	C 416	NCB21EK-104X	C CAPACITOR		
	C 417	QEKJ1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 418	NCB21HK-103X	C CAPACITOR		
	C 419	NCB21EK-104X	C CAPACITOR		
	CP401	QGA2001F1-07	CONNECTOR		
	CP402	QGB1214K1-10S	CONNECTOR		
	CP403	QGB1214K1-18S	CONNECTOR		
	D 401	DSK10C-T1	DIODE		
	D 402	MA3036/L-X	ZENER DIODE		
	D 403	MA3075/M-X	ZENER DIODE		
	IC401	CXA2510AQ	IC		
	IC402	LB1641	IC		
	Q 401	2SB1322/RS-T	TRANSISTOR		
	Q 402	DTC114EKA-X	TRANSISTOR		
	Q 403	DTC144EKA-X	TRANSISTOR		
	R 401	NRSA02J-222X	MG RESISTOR		
	R 402	NRSA02J-104X	MG RESISTOR		
	R 403	NRSA02J-104X	MG RESISTOR		
	R 404	NRS181J-181X	MG RESISTOR		
	R 405	NRS181J-181X	MG RESISTOR		
	R 406	NRSA02J-304X	MG RESISTOR		
	R 407	NRSA02J-123X	MG RESISTOR		
	R 408	NRSA02J-183X	MG RESISTOR		
	R 409	NRSA02J-183X	MG RESISTOR		
	R 410	NRSA02J-304X	MG RESISTOR		
	R 411	NRSA02J-183X	MG RESISTOR		
	R 412	NRSA02J-123X	MG RESISTOR		
	R 413	NRS181J-101X	MG RESISTOR		
	R 414	NRS181J-102X	MG RESISTOR		
	R 415	NRSA02J-392X	MG RESISTOR		
	R 417	NRS181J-102X	MG RESISTOR		
	R 418	NRSA02J-223X	MG RESISTOR		
	R 419	NRSA02J-125X	MG RESISTOR		
	R 421	NRSA02J-473X	MG RESISTOR		
	R 422	NRSA02J-332X	MG RESISTOR		
	R 423	NRS181J-332X	MG RESISTOR		
	R 424	NRS181J-330X	MG RESISTOR		
	R 425	QRT036J-8R2	OMF RESISTOR	8.2 5% 1/3W	
	VR401	QVP0009-333Z	SEMI V RESISTOR		
	VR402	QVP0009-333Z	SEMI V RESISTOR		



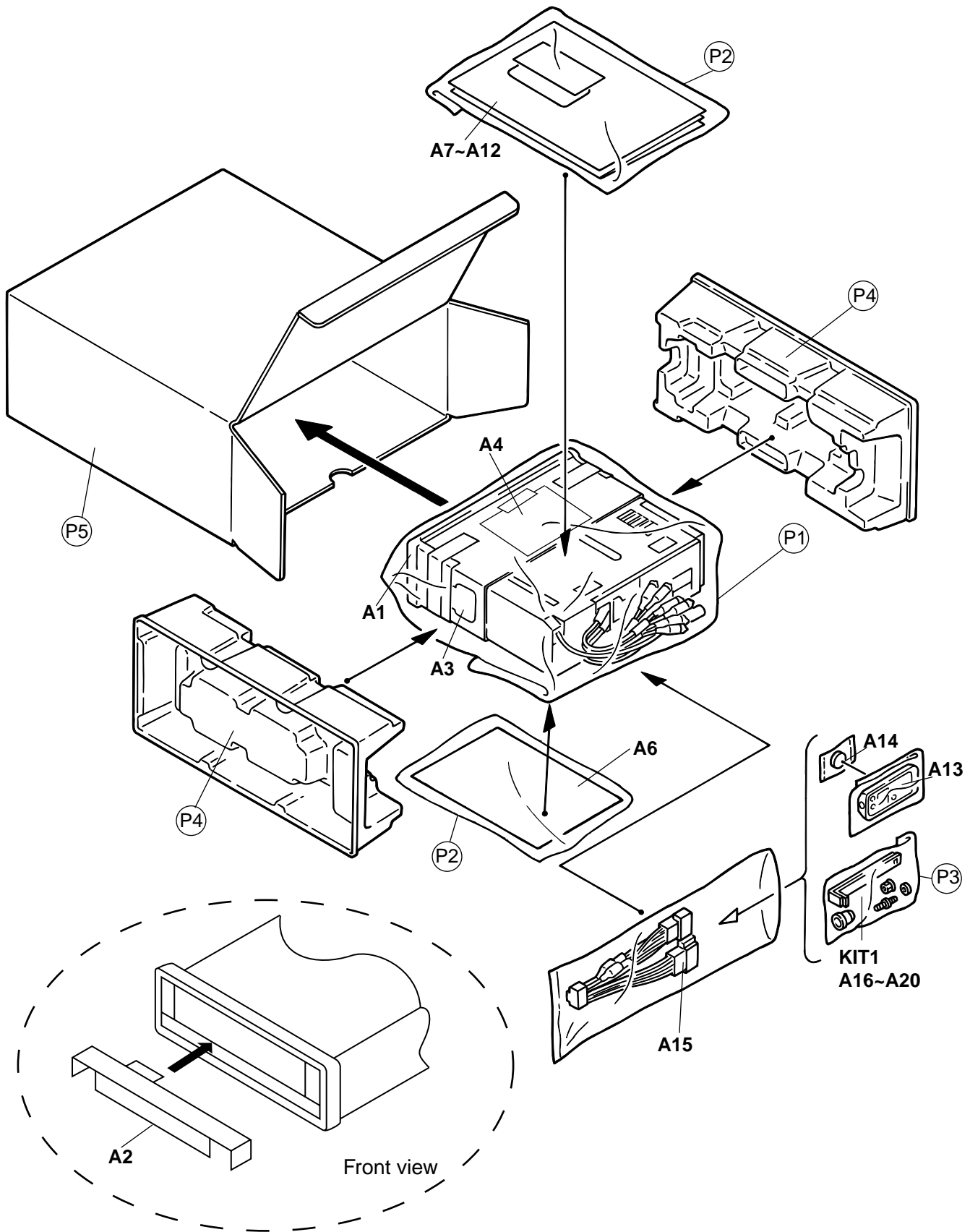
# Packing materials and accessories parts list

Block No. 

M	3	M	M
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Block No. 

M	4	M	M
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**Parts list (Packng)**

Block No. M3MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	VPE3005-066	POLY BAG	1	SET	
	P 2	QPA01703505P	POLY BAG	2	INSTRUCTIONS	
	P 3	QPA00801205	POLY BAG	1	SCREW KIT	
	P 4	LV10193-201A	PAPER CUSHION	2		
	P 5	FSPE3001-198	CARTON	1		

**Parts list (Accessories)**

Block No. M4MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	FSJD1007-001	TRIM PLATE	1		
	A 2	LV41820-002A	TRANSPORT SHEET	1		
	A 3	FSKM2004-003SSF	MOUNTING SLEEVE	1		
	A 4	LV40978-001A	CAUTION SHEET	1		
	A 6	FSUN3148-311	INSTRUCTIONS	1	ENG,GER,FRE,DUT	
	A 7	FSUN3148-321	INSTRUCTIONS	1	SPA,ITA,SWE,FIN	
	A 8	FSUN3148-T211	INST.MANUAL	1	ENG,GER,FRE	
		FSUN3148-T481	INST.MANUAL	1	SWE,FIN	
		FSUN3148-T451	INST.MANUAL	1	DUT,SPA,ITA	
	A 9	LV41144-001A	LABEL(CODE)	1		
	A 10	BT-54013-1	WARRANTY CARD	1		
	A 11	VND3046-001	SERIAL TICKET	1		
	A 12	GET0037-001A	CAUTION SHEET	1		
	A 13	RM-RK31	REMOCON	1		
	A 14	QAB0014-001	BATTERY	1		
	A 15	QAM0267-001	CAR CABLE	1		
	A 16	VKZ4027-202	PLUG NUT	1		
	A 17	VKH4871-001	MOUNT BOLT	1		
	A 18	VKZ4328-001	LOCK NUT	1		
	A 19	WNS5000Z	WASHER	1		
	A 20	FSKL4010-002	HOOK	2		
	KIT 1	KDGS717K-SCREW1	SCREW PARTS KIT	1	A16-A20	