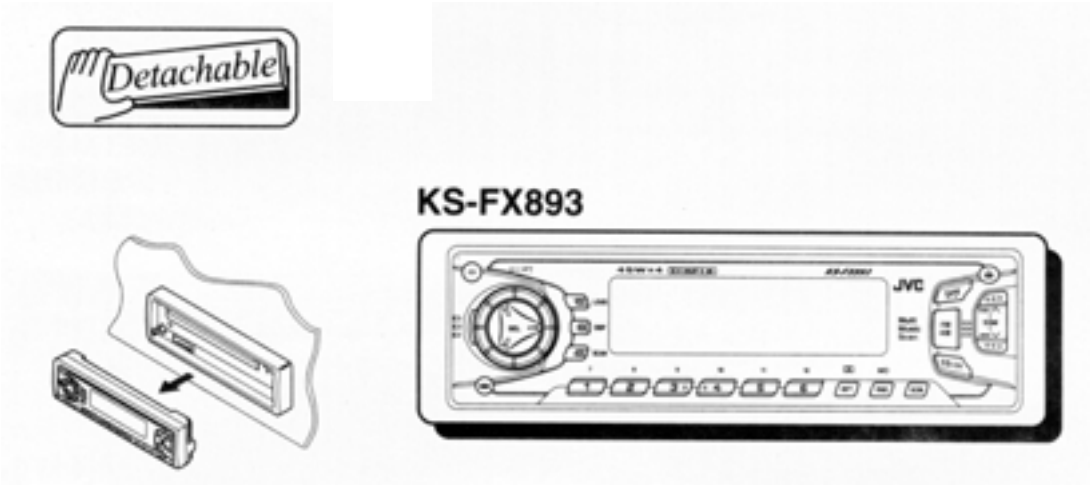
JVC

SERVICE MANUAL

CASSETTE RECEIVER

KS-FX893



Area Suffix	
UF	China

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No.49763
Nov. 2002

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 preforming repair of this system.**

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

Disassembly method

■Removing the front chassis (See Fig.1~2)

1. Remove the two screws **A** attaching the front chassis.

2. Insert a screwdriver to the two joints **a** on the side of the front chassis, two joints **b** on the right side and one joint **c** from upside, then detach the front chassis toward the front side.

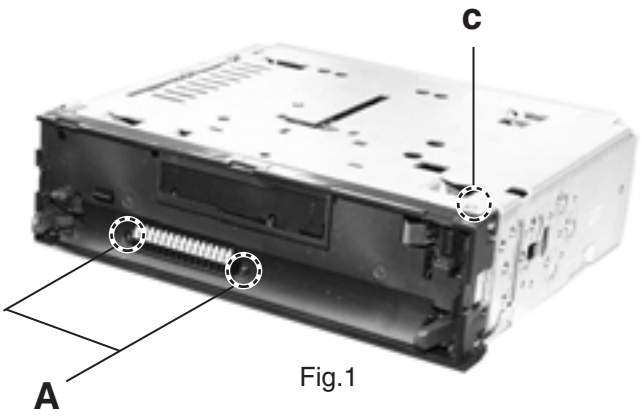


Fig.1

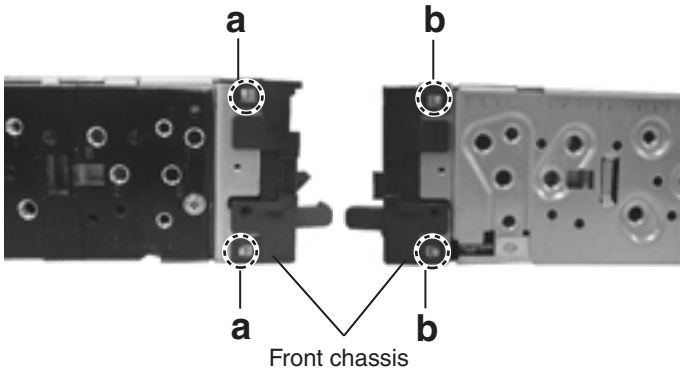


Fig.2

■Removing the heat sink (See Fig.3)

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

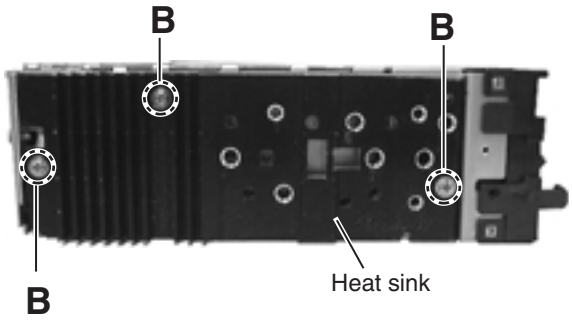


Fig. 3

■ Removing the bottom cover (See Fig.4)

1. Turn the body upside down.

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

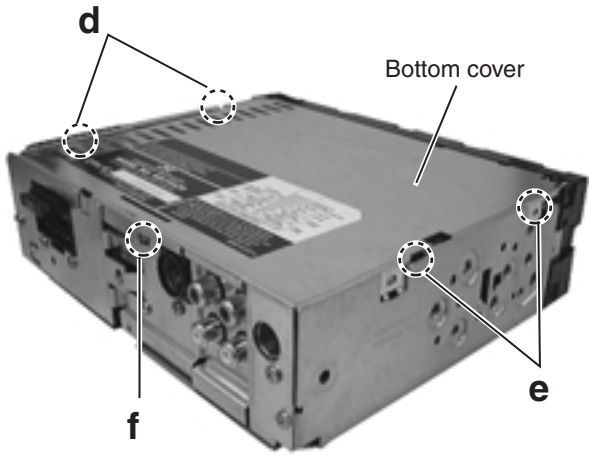


Fig. 4

■ Removing the rear panel (See Fig.5)

1. Remoe the front chassis.

2. Remove the heat sink.

3. Remove the bottom cover.

4. Remove the seven screws **B** attaching the rear panel and one screw **C** attaching the pine jack on the back of the body.

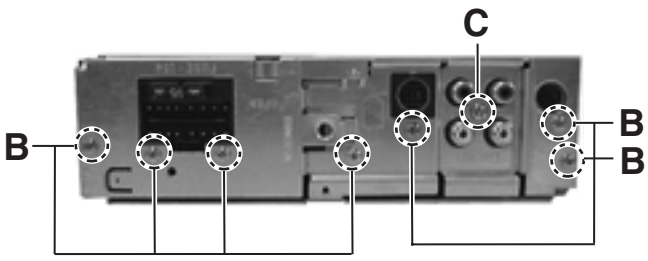


Fig. 5

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

1. Remove the front chassis.

2. Remove the bottom cover.

3. Remove the rear panel.

4. Remove the two screws **D** attaching the main amplifier board assembly on the top cover.

5. Disconnect connector CP701 on the main amplifier board assembly from the cassette mechanism assembly.

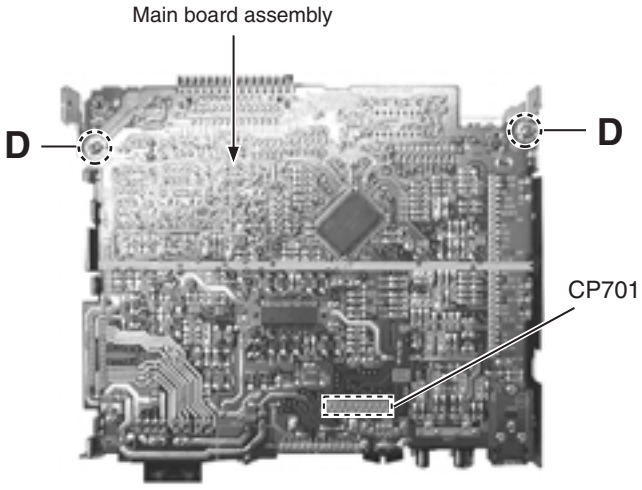


Fig. 6

■ Removing the Cassette mechanism assembly (See Fig.7)

1. Remove the front chassis.
2. Remove the bottom cover.
3. Remove the main amplifier board assembly.
4. Remove the fore screws **F** attaching the cassette mechanism assembly from the top cover.

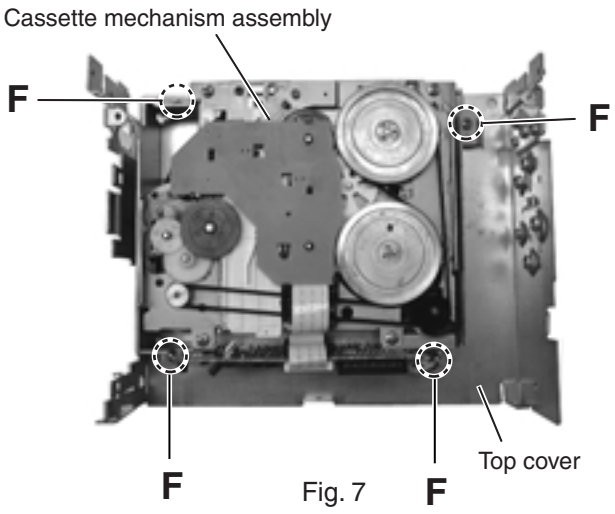


Fig. 7

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

1. Remove the front panel unit from the main body.
2. Remove the four screws **G** attaching the rear cover on the back of the front panel unit.
3. Remove the control switch board from the front panel unit.

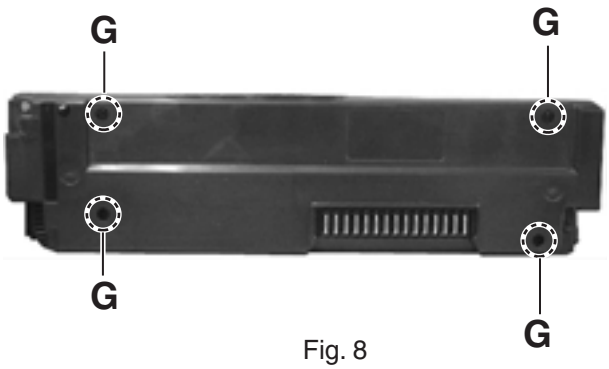


Fig. 8

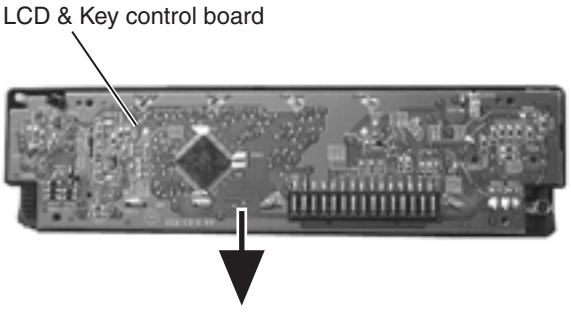


Fig. 9

<Removal of the cassette mechanism>

■ Removing the head amplifier board. (See Fig.1 and 2)

1. For the 6pin wire extending from connector CN402 on the head amplifier board, disconnect it from the head relay board.

2. Disconnect the card wire from connector CN403 on the head amplifier board.

3. Remove the screw **A** attaching the head amplifier board.

4. Move the tab **a** as shown in Fig.2 and remove the head amplifier board while moving it in the direction of the arrow.

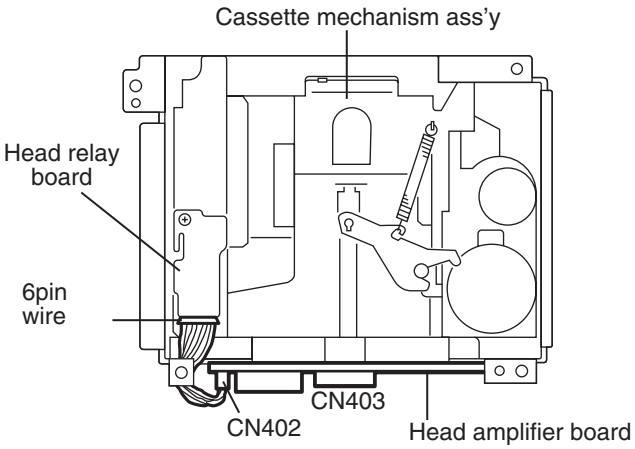


Fig.1

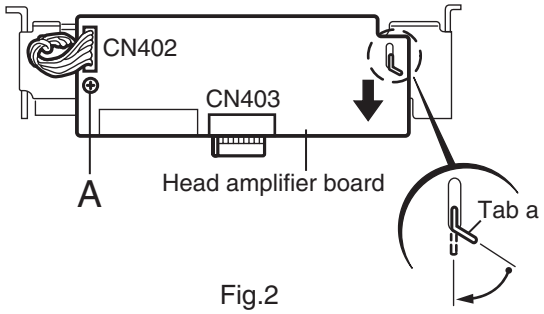


Fig.2

■ Removing the cassette mechanism assembly (See Fig.1 to 3)

1. Disconnect the 6pin wire from connector CN402 and the card wire from CN403 on the head amplifier board (Refer to Fig.1 and 2).

2. Remove the four screws **B** on the bottom of the cassette mechanism.

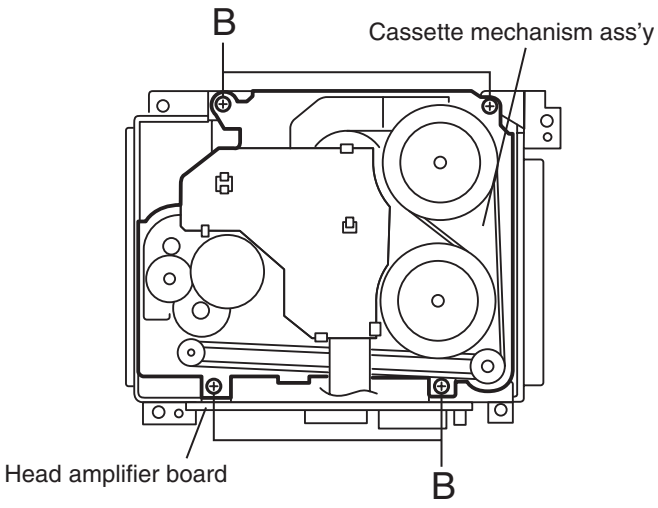


Fig.3

■Removing the head relay board (See Fig.4)

1. Unsolder the soldering **b** on the head relay board.
2. Remove the screw **C** attaching the head relay board.
3. Remove the head relay board in the direction of the arrow while releasing the two joints **c**.

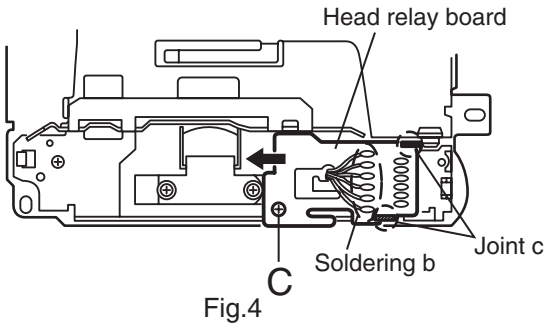


Fig.4

■Removing the load arm (See Fig.5)

1. Remove the **E** washer attaching the load arm using a pincette or something like that and remove the spring **d**.
2. Move the part of the load arm marked ※ upwards to release it from the axis of rotation. Then rotate the load arm in the direction of the arrow to remove it from the cach.

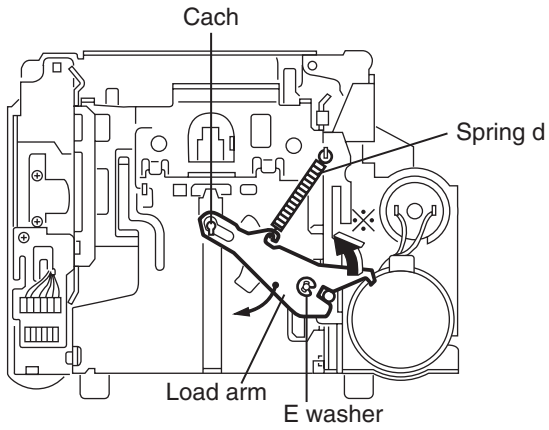


Fig.5

■Removing the sub chassis (See Fig.6)

・Prior to performing the following procedure, remove the head relay board.

1. Remove the screw **D** attaching the sub chassis.
2. Push the tab **e** in the direction of the arrow to detach the one side of the sub chassis. Then release the sub chassis from the tab **f**.

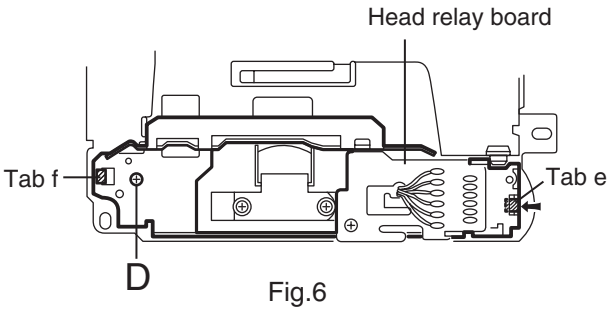


Fig.6

■Removing the cassette holder and the holder arm in the eject mode (See Fig.7 and 8)

・Prior to performing the following procedure, remove the head relay board, the load arm and the sub chassis.

1. Remove the screw **E** attaching the reinforce bracket.
2. Remove the reinforce bracket.
3. Push the tab **g** fixing the cassette holder in the direction of the arrow and open the cassette holder and the holder arm upward until they stop at an angle of 45 degrees. Move the two joints **h** to the side and remove the cassette holder and the holder arm from the shaft.

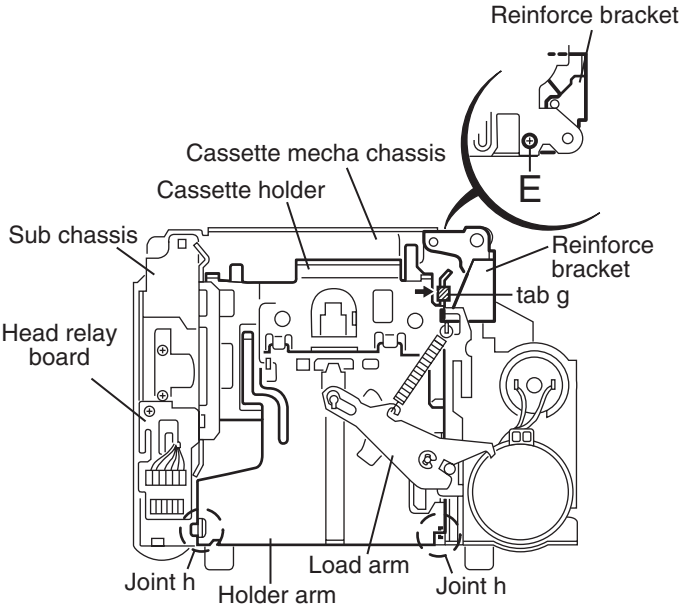


Fig.7

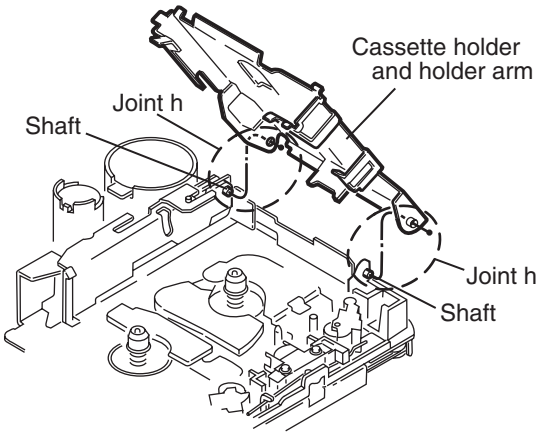


Fig.8

■ Removing the play head (See Fig.9)

・ Prior to performing the following procedure, remove the head relay board and the sub chassis.

1. Remove the two screws **F** attaching the play head (The spring under the play head comes off at the same time).

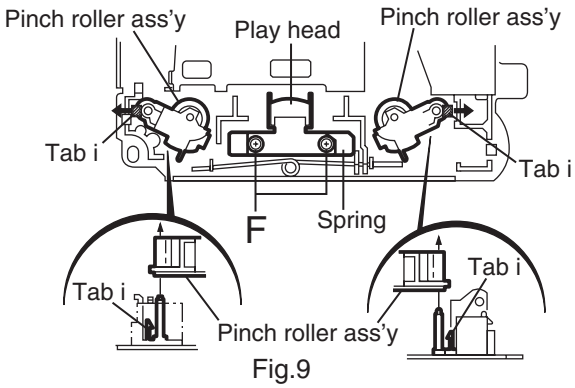


Fig.9

■ Removing the pinch roller ass'y (See Fig.9)

・ Prior to performing the following procedure, remove the head relay board and the sub chassis.

1. Push each tab **i** in the direction of the arrow and pull out the pinch rollers on both sides.

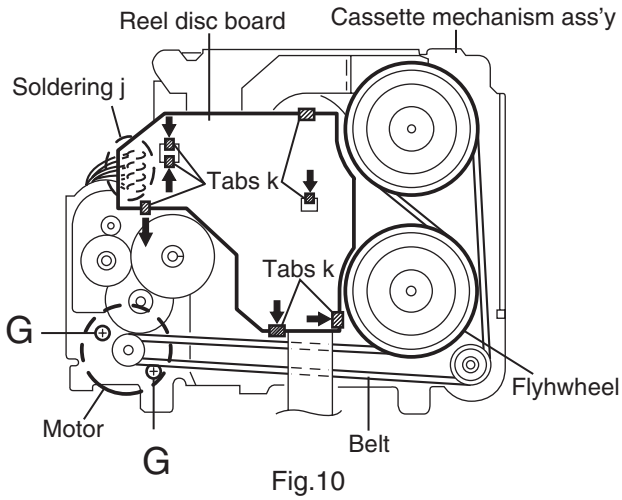


Fig.10

■ Removing the reel disc board (See Fig.10)

1. Unsolder the soldering **j** on the reel disc board.

2. Push the seven tabs **k** on the bottom of the cassette mechanism assembly in the direction of the arrow.

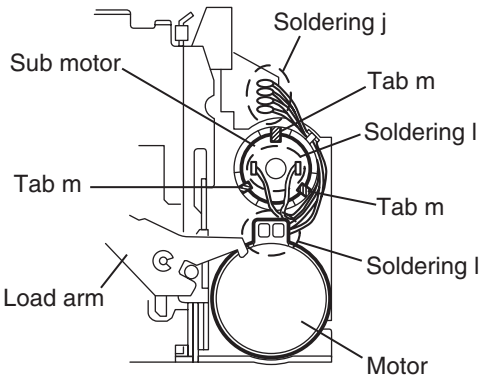


Fig.11

■ Removing the motor and the sub motor (See Fig.10 and 11)

1. Unsolder the two soldering **l** of the motor and the sub motor.

2. Release the sub motor from the three tabs **m**. Push the sub motor upward and pull out it.

3. Remove the belt on the bottom of the cassette mechanism assembly and remove the two screws **G** attaching the motor.

ATTENTION: The motors can be detached before removing the load arm.

■ Removing the flywheel
(See Fig.10 and 12)

1. Prior to performing the following procedure, remove the head relay board, the load arm, the sub chassis, the cassette holder, the holder arm and the reel disc board.

2. Remove the belt on the bottom of the cassette mechanism ass'y.

3. Remove the slit washer attaching the flywheel on the upper side of the cassette mechanism ass'y and pull out the flywheel downward. Then remove another flywheel in the same way.

ATTENTION: When reassembling, make sure to use a new slit washer.

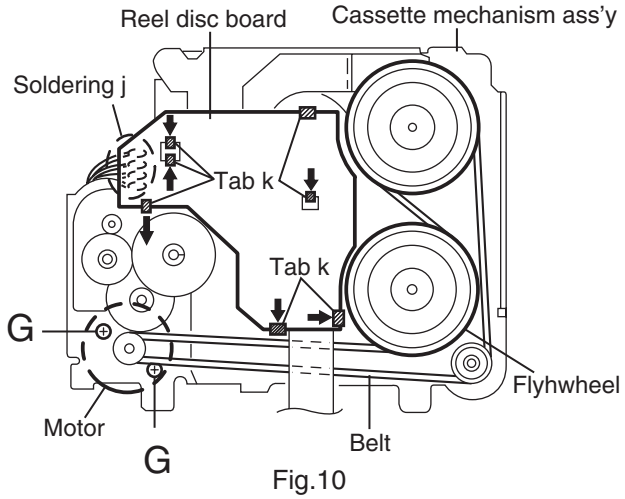


Fig.10

■ Removing the reel disc ass'y(Ⅰ)
(See Fig.12 to 14)

- Prior to performing the following procedure, remove the head relay board, the load arm, the sub chassis, the cassette holder and the holder arm.

1. Disengage the part **n** inside of the reel driver which engages with the shaft, using a pincette or something like that. Then remove the reel driver from the shaft.

2. Remove the reel driver spring and the reel table.

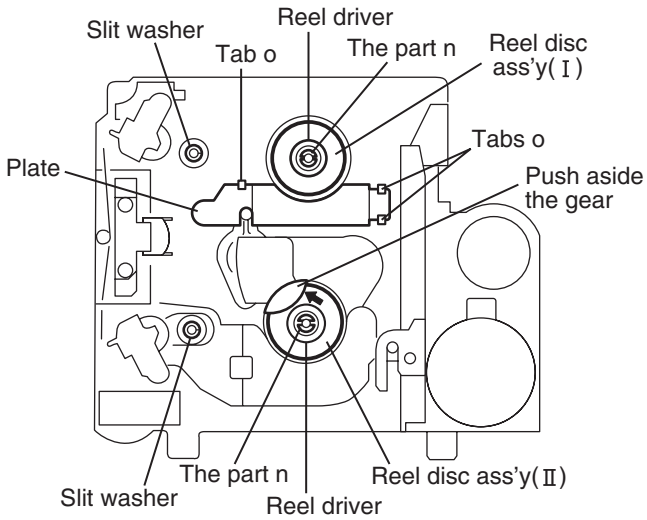


Fig.12

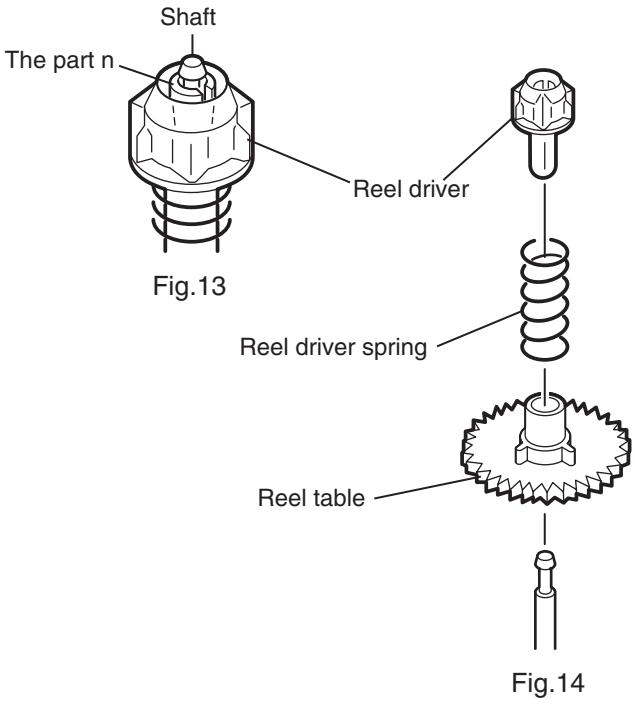


Fig.13

Fig.14

■ Removing the reel disc ass'y(Ⅱ) (See Fig.12 to 15)

ATTENTION: Prior to performing the following procedure, remove the reel disc (Ⅰ).

1. Release the plate from the three tabs **o**.

2. Push aside the gear over the reel table using a pincette or something like that.

3. Remove the reel disc ass'y (Ⅱ) as with the reel disc ass'y (Ⅰ).

ATTENTION: Do not break the front panel tab fitted to the metal cover.

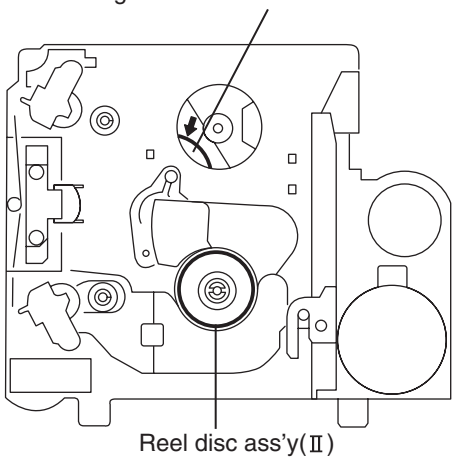


Fig.15

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

MC-109C ..... For TAPA CURL confirmation (without Padd type)
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

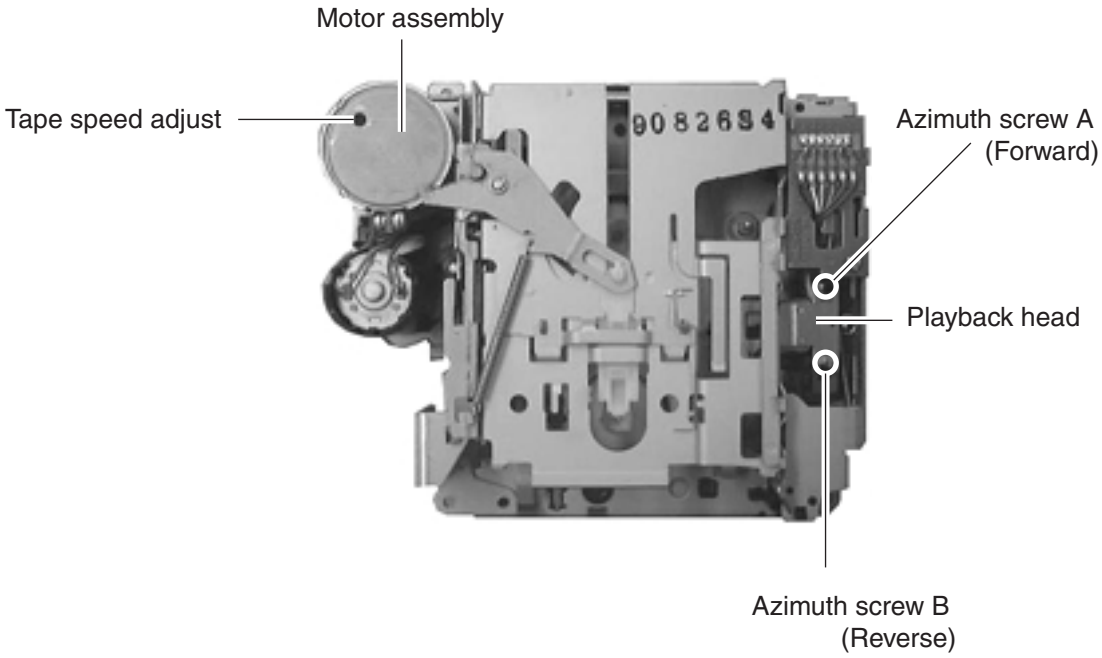
■Standard volume position

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.

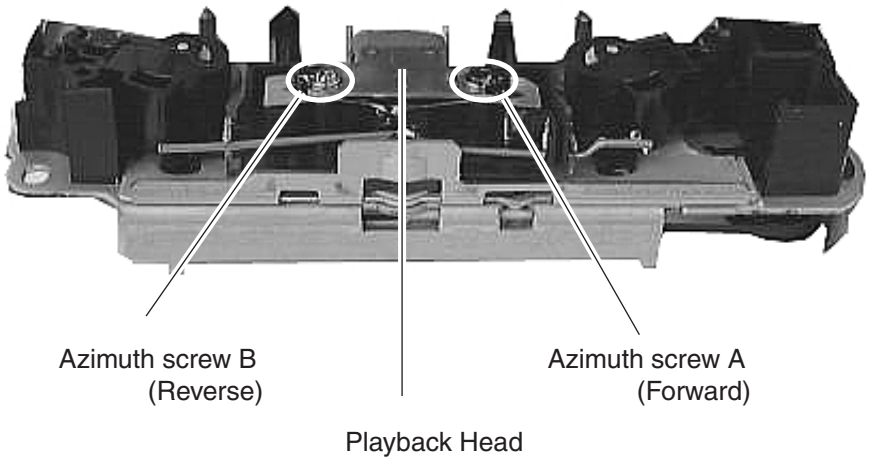
AM mode	1000kHz/62dB,INT/400Hz,30% modulation signal on receiving.
FM mono mode	97.5MHz/66dB,INT/400Hz,22.5kHz deviation pilot off mono
FM stereo mode	1kHz,67.5kHz dev. pilot7.5kHz dev.
Output level	0dB(1μV,50Ω/open terminal)

■ Arrangement of adjusting & test points

Cassette mechanism
(Surface)



Head section view



■Information for using a car audio service jig

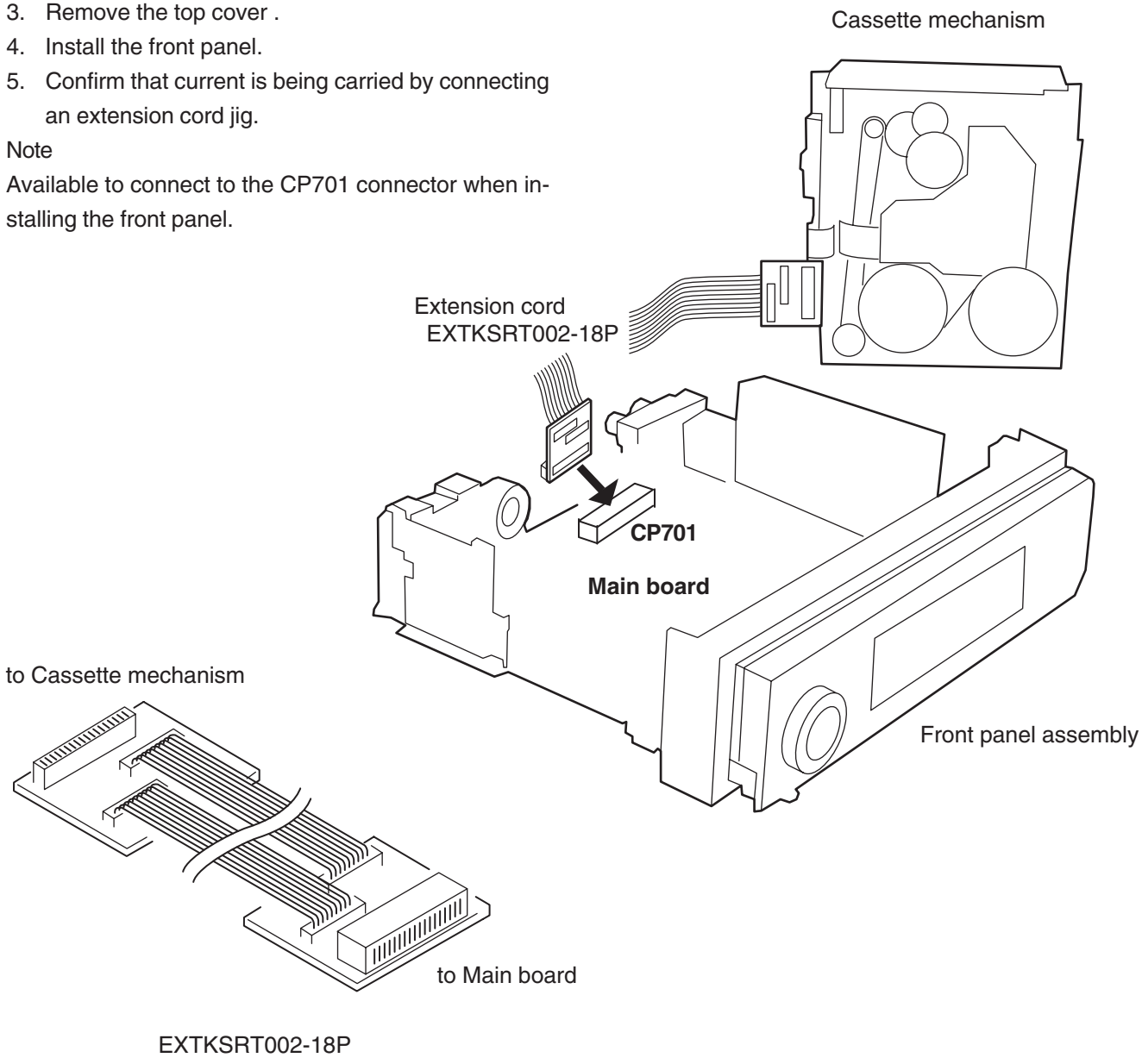
1. We're advancing efforts to make our extension cords common for all car audio products.
   Please use this type of extension cord as follows.
2. As a U-shape type top cover is employed, this type of extension cord is needed to check operation of the mechanism assembly after disassembly.
3. Extension cord : EXTKSRT002-18P (18 pin extension cord) For connection between mechanism assembly and main board assembly.
   Check for mechanism driving section such as motor ,etc..

■Disassembly method

1. Remove the bottom cover.
2. Remove the front panel assembly.
3. Remove the top cover .
4. Install the front panel.
5. Confirm that current is being carried by connecting an extension cord jig.

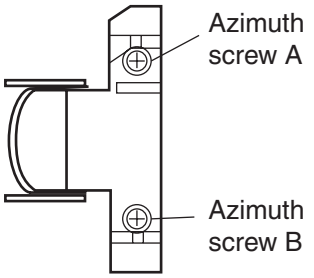
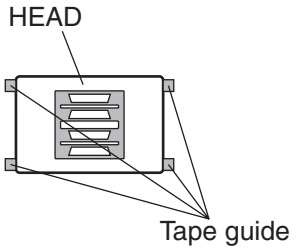
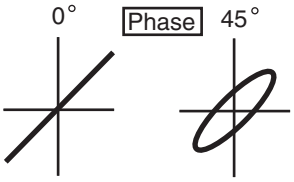
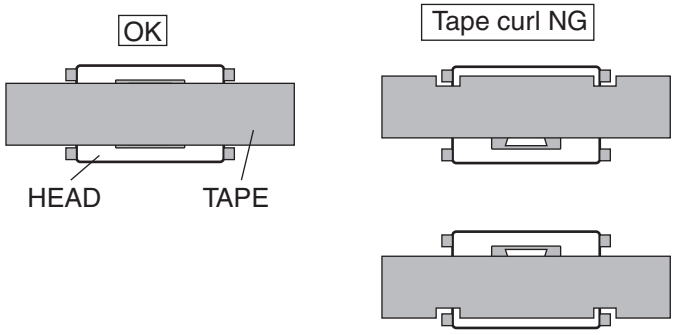
Note

Available to connect to the CP701 connector when installing the front panel.



EXTKSRT002-18P

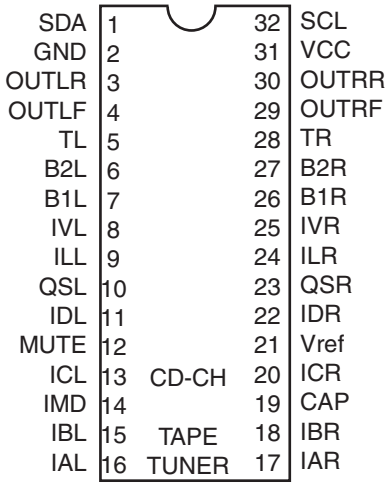
■Mechanism adjustment section

Item	Adjusting & Confirmation Methods	Adjust	Std. Value
1. Tape running adjustment	a) At Forward playmode, using mirror tape, make adjustment with Azimuth screw A and Azimuth screw B, without curl of 4 parts of head tape guide. b) At Reverse play mode, using mirror tape, make adjustment with Azimuth screw A and Azimuth screw B, without tape curl of 4 parts of head guide. c) At Forward / Reverse play mode, make confirmation of no tape curl of 4 parts of head tape guide.		
2. Azimuth adjustment confirmation	a) At forward play mode, make adjustment of peak of Lch / Rch output with Azimuth screw A. * For Oscilloscope litharge corrugation, set 45° as standard. b) At Reverse play mode, make adjustment of peak of Lch / Rch output with Azimuth screw B. * For Oscilloscope litharge corrugation, set 45 as standard. c) With AC volt meter confirm the difference of output for 4ch between Lch / Rch at forward play mode and Lch / Rch Reverse play mode being within 3.0dB. d) After operation, make confirmation of Lch / Rch azimuth output being within 1.0dB from adjustment value.   		
2. Tape Speed and Wow & Flutter	1. Check to see if the reading of the frequency counter & W ow flutter meter is within 2940-3090 Hz(FWD/REV), and less than 0.35% (JIS RMS). 2. In case of out of specification, adjust the motor with a built-in volume resistor .	Built-in volume resistor	Tape Speed 2940-3090Hz Wow&Flutter Less than 0.35% (JIS RMS)
3. Playback Frequency response	1. Play the test tape (VT724 : 1kHz) back and set the volume position at 2V . 2. Play the test tape (VT739)back and confirm 0±3dB at1kHz/ 10kHz and -4+2dB at 1kHz/63Hz. 3. When 10kHz is out of specification, it will be necessary to read adjust the azimuth.		Speaker out 1kHz/10kHz : 0dB±3dB, 63Hz/1kHz : -4dB+2dB,

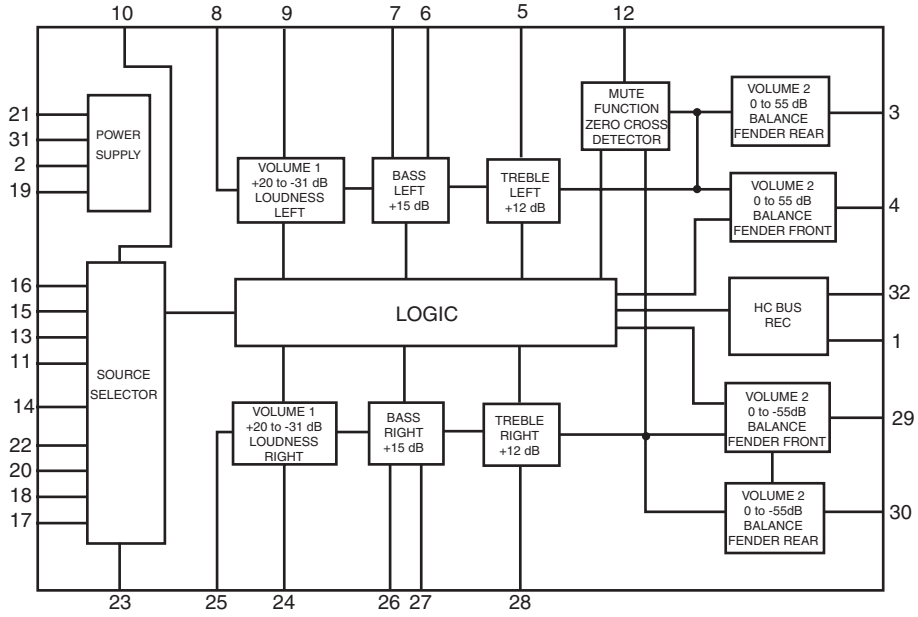
Description of major ICs

■ TEA6320T-X (IC161) : E. volume

1. Pin layout



2. Block diagram

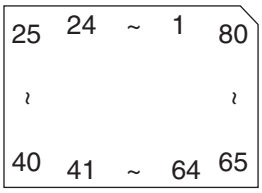


3. Pin functions

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

■ LC72366-9987 (IC701) : System CPU

1. Pin layout



2. Pin function

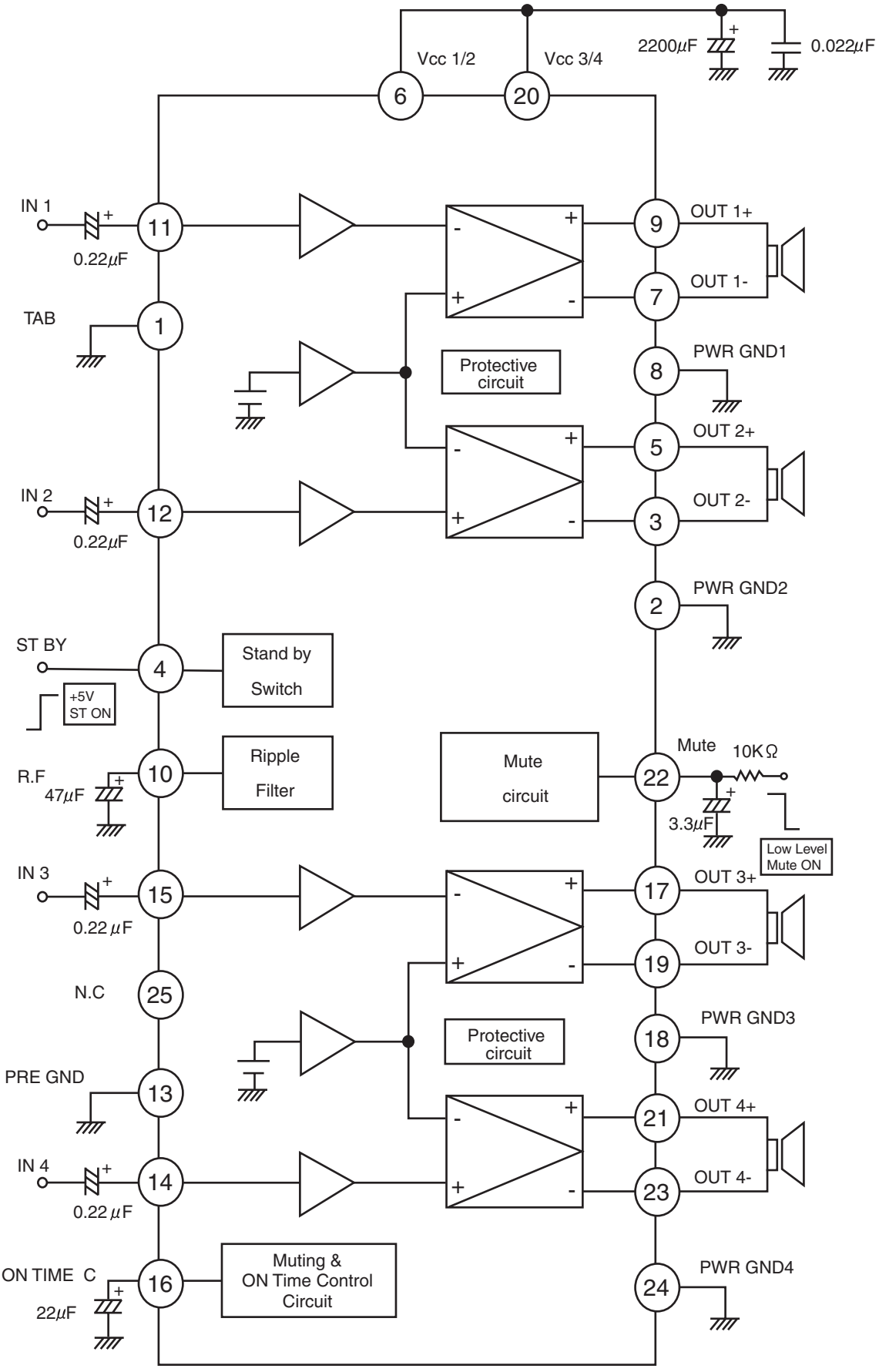
Pin No.	Symbol	I/O	Function
1	XIN	I	Crystal oscillator input port
2	GND	-	Connect to GND
3	J-BUS SI	I	Data input for J-BUS information
4	J-BUS SO	O	Data output for J-BUS information
5	J-BUS SCK	O	Clock output for J-BUS information
6	J-BUS I/O	O	Switching signal output for J-BUS information I/O, H:Out L:In
7	TEL-MUTE	I	Telephone mute signal input
8	LCD SO	O	Data output for LCD driver
9	LCD SCK	O	Information clock output for LCD driver data
10	LCD CE	O	Chip enable output for LCD driver
11	DIMMER IN	-	None connection
12	EVOL SO	O	Data output for electrical volume
13	EVOL SCK	O	Clock output for electrical volume information
14	OPEN	I	Door open detect input
15	POWER ANT	I	Power ant ON signal input
16	MUTE	I	Mute signal input
17	CD ILLUM	-	Non connection
18	DEMEROUT	O	DIMMER control signal output
19	NC	-	Non connection
20	NC	-	Non connection
21	NC	-	Non connection
22	NC	-	Non connection
23	NC	-	Non connection
24	NC	-	Non connection
25	KS1	-	Non connection
26	KS0	O	Diode matrix output port for initial establishing
27	K3	I	Diode matrix output port for initial establishing
28	K2	I	Diode matrix output port for initial establishing
29	K1	-	Non connection
30	K0	I	Diode matrix output port for initial establishing
31	Vdd	-	5V power supply port (+B)
32	TEST	I	Turn on all light indicator of LCD, L: All light a LED indicator
33	FF/REW MODE	O	FF/REW mode select signal output
34	SEEK/STOP	O	H:Auto seek, L: Stop Use both as IF count REQ and Seek/Stop
35	MONO	O	Forced monaural output port, H:Turn on Forced monaural
36	RADIO/TAPE	-	Non connection
37	BEEP LEVEL	-	Non connection
38	PWR-CNT	O	"H" : Turn on power
39	ACC	-	Non connection
40	KICK	-	Non connection

LC72366-9987(2/2)

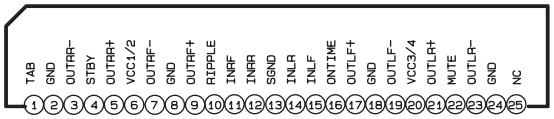
Pin No.	Port Name	I/O	Function
41	MOTOR	O	Main motor output, H:Transport L: Stop
42	SUBMO+	O	Sub-motor output(+), Loading direction to transport output
43	SUBMO-	O	Sub-motor output(-), Eject direction to transport output
44	BEEP	-	Non connection
45	TAPE IN	I	Switch for detecting to input cassette, L: Cassette in
46	STANDBY	I	Switch for detecting standby position
47	REEL	I	Switch for detecting tape end position
48	MODE	I	Detecting mode position input
49	F/R	I	Switch for detecting forward/reverse , H:FWD L:REV
50	MS	I	MS input port,
51	SD/ST	I	Station detector, Stereo signal input, H:SD
52	DETACH	O	Front panel detect
53	ENC1	I	Connect to encoder 1
54	ENC2	I	Connect to encoder 2
55	J-BUS INT	I	Cut in signal detecting port from J-Bus information
56	REMOCON	-	Non connection
57	FM/AM	O	FM/AM mode switching signal port, H:FM L:AM
58	DOLBY	-	Non connection
59	NC	-	Non connection
60	NC	-	Non connection
61	MEM DET	I	Back-up power supply detecting port, H:input L:no input
62	LEVELMETER	I	Pressure voice level voltage input for level meter.
63	S.METER	I	S meter voltage input
64	KEY2	I	Key 2 input port
65	KEY1	I	Key 1 input port
66	KEY0	I	Key 0 input port
67	ACCDET	I	Hold port for Acc detecting, L: Hold mode
68	SENSE	I	Voltage sensor port
69	AM IF COUNT	-	Non connection
70	FM IF COUNT	I	FM frequency detecting
71	NC	-	Non connection
72	NC	-	Non connection
73	Vdd	-	5V power supply (+B)
74	AM OSC	I	Non connection
75	FM OSC	I	FM limited signal input
76	VSS	-	Ground port for power supply
77	NC	-	Non connection
78	E0	O	Error signal output port for PLL
79	TEST1	-	Test port for LSI, To connect ground
80	XOUT	O	4.5MHz crystal oscillator output

■ LA4743K (IC301) : Power amp

1.Block diagram



2.Terminal layout



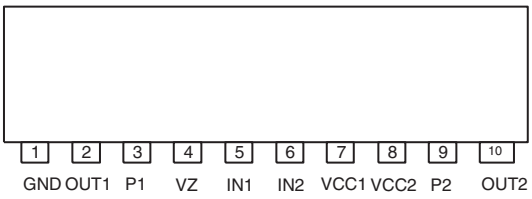
3.Pin function

LA4743B

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

■ LB1641 (IC402) : DC motor driver

1. Pin layout

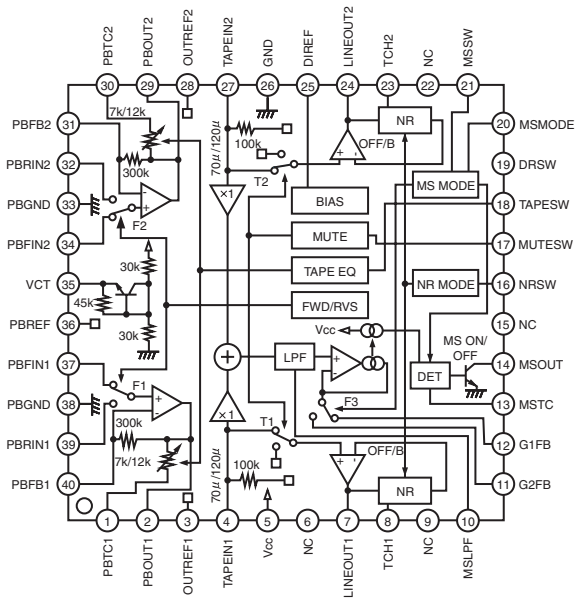


2. Pin function

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

■ CXA2560Q (IC401) : Dolby B type noise reduction system with play back equalizer amp.

1. Pin layout & Block diagram



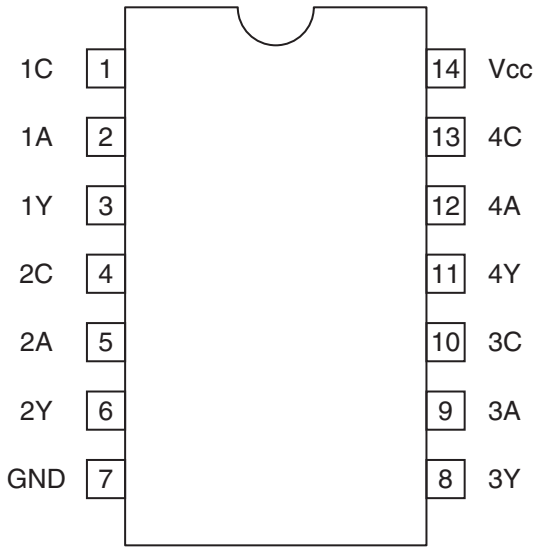
2. Pin function

Pin No.	Symbol	I/O	Function
1	PBTC1	-	Playback equalizer amplifier capacitance
2	PBOUT1	O	Playback equalizer amplifier output
3	OUTREF1	O	Output reference
4	TAPEIN1	I	TAPE input
5	Vcc	-	Power supply
6	NC	-	Non connection.
7	LINEOUT1	O	Line output
8	TCH1	-	Time constant for the HLS
9	NC	-	Non connection.
10	MSLPF	-	Cut-off frequency adjustment of the music sensor LPF
11	G2FB	-	Music signal interval detection
12	G1FB	-	Music signal interval detection
13	MSTC	-	Time constant for detecting music signal interval
14	MSOUT	O	Music sensor out
15	NC	-	No use
16	NRSW	I	Dolby NR control
17	MUTESW	I	Mute function control
18	TAPESW	I	Playback equalizer amplifier control
19	DRSW	I	Head select control
20	MSMODE	I	Music sensor mode control
21	MSSW	I	Music sensor control
22	NC	-	Non connection.
23	TCH2	-	Time constant for the HLS
24	LINEOUT2	O	Line output

Pin No.	Symbol	I/O	Function
25	DIREF	-	Resistance for setting the reference
26	GND	-	Ground
27	TAPEIN2	I	TAPE input
28	OUTREF2	O	Output reference
29	PBOUT2	O	Playback equalizer amplifier output
30	PBTC2	-	Playback equalizer amplifier capacitance
31	PBFB2	I	Playback equalizer amplifier feedback
32	PBRIN2	I	Playback equalizer amplifier input
33	PBGND	-	Playback equalizer amplifier ground
34	PBFIN2	I	Playback equalizer amplifier input
35	VCT	O	Center
36	PBREF	O	Playback equalizer amplifier reference
37	PBFIN1	I	Playback equalizer amplifier input
38	PBGND	-	Playback equalizer amplifier ground
39	PBRIN1	I	Playback equalizer amplifier input
40	PBFB1	I	Playback equalizer amplifier feedback

■ HD74HC126P (IC801) : Changer control

1. Pin arrangement

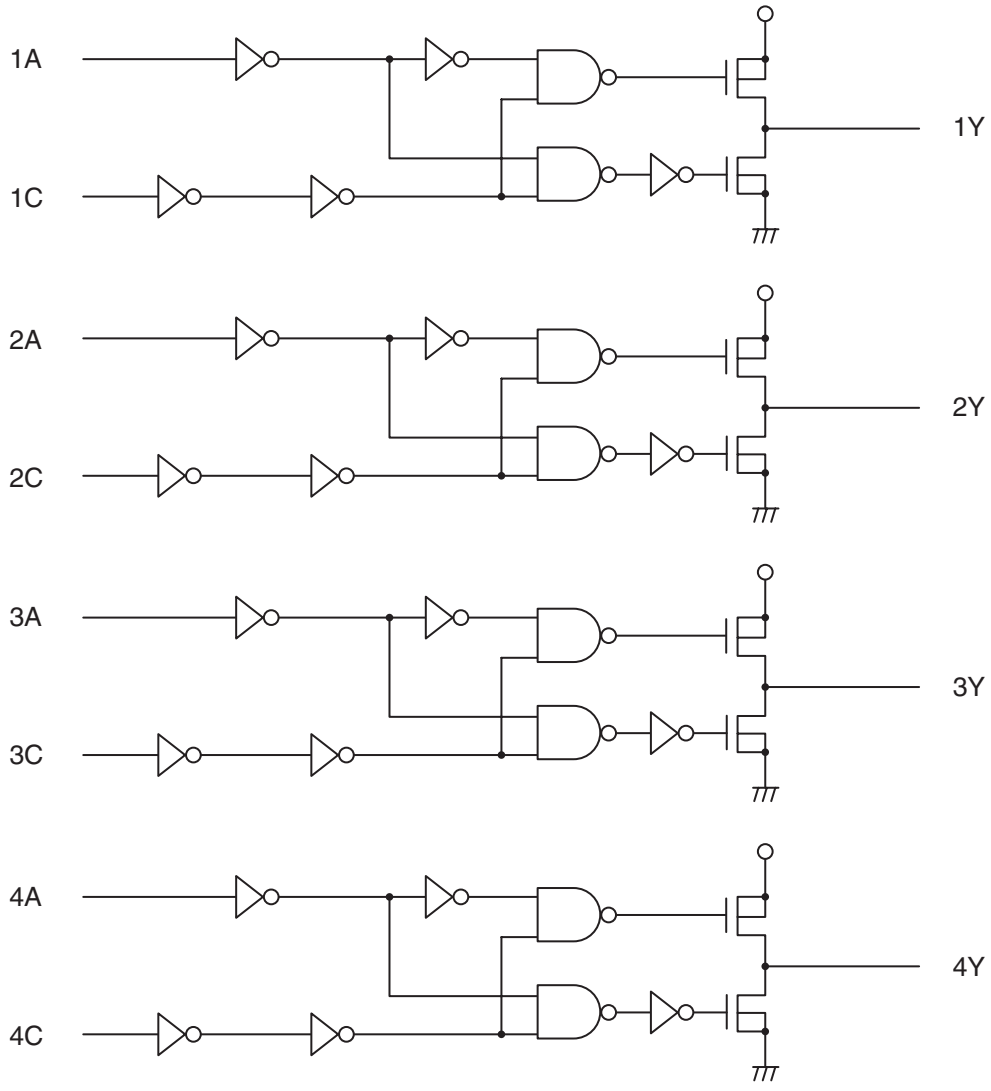


(TOP VIEW)

2. Pin function

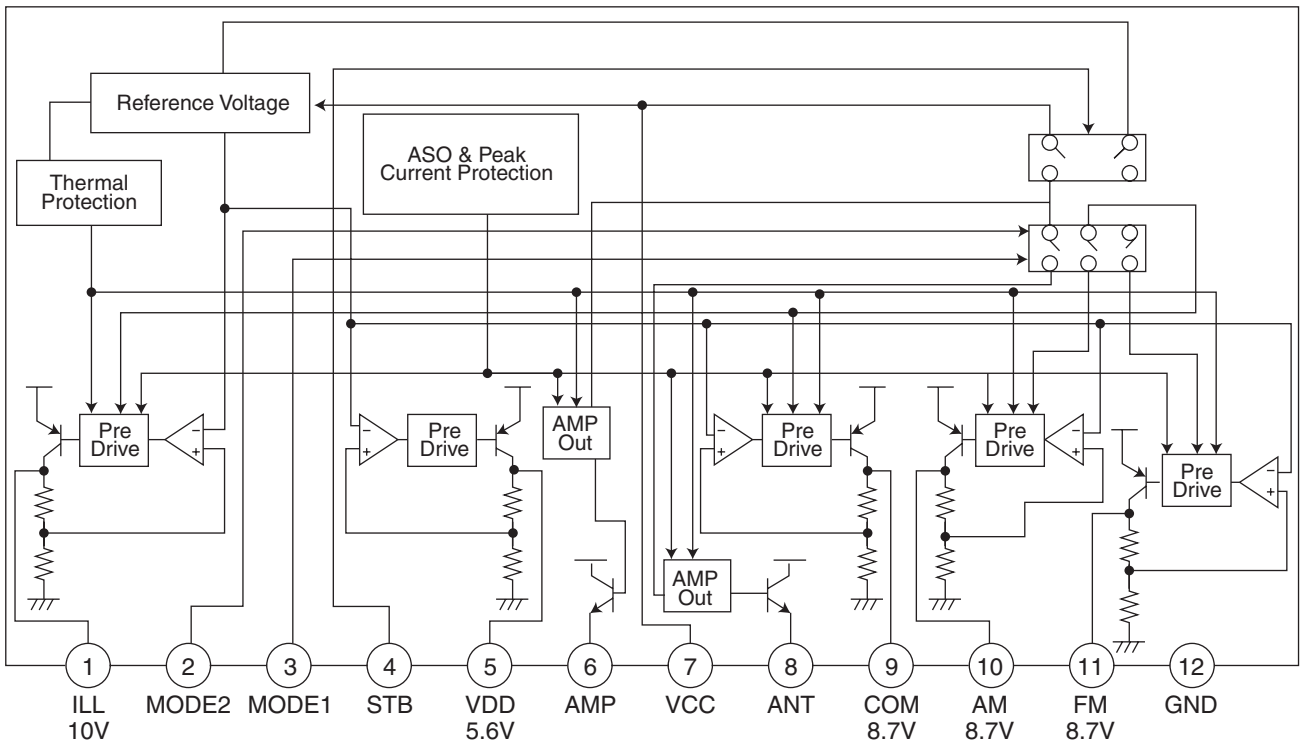
Input		Output
C	A	Y
L	X	Z
H	L	L
H	H	H

3. Block diagram



■ AN80T05 (IC901) : Regulator

1. Terminal layout & Block diagram

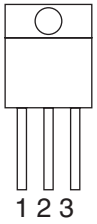


2. Pin function

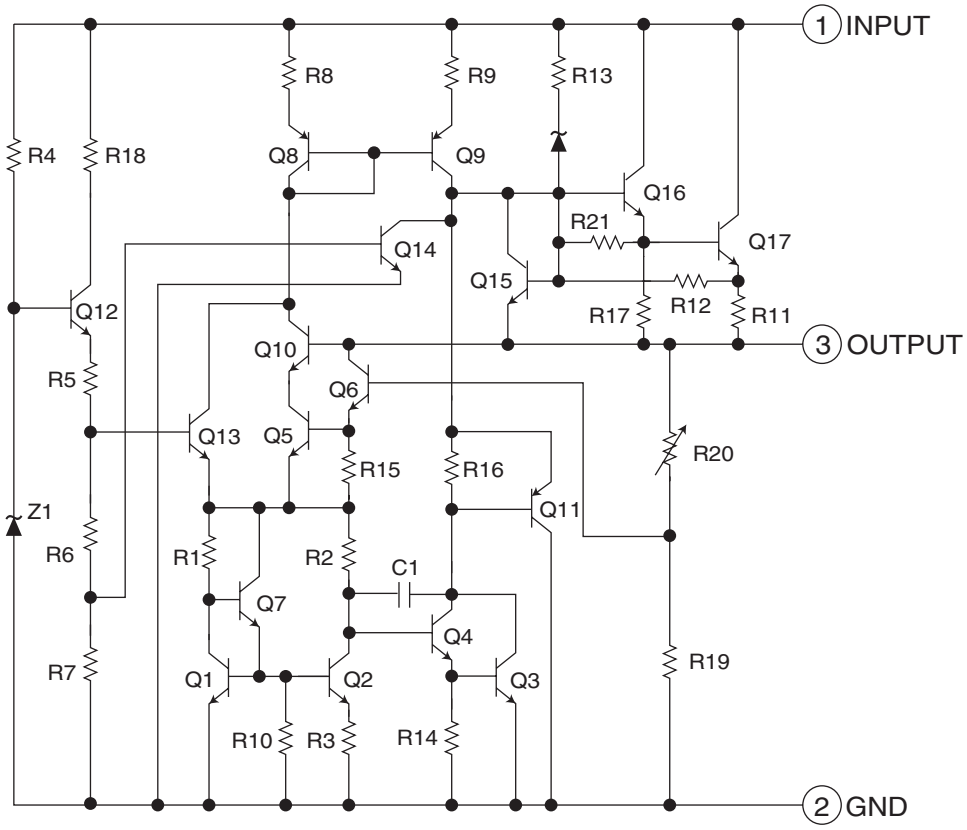
Pin No.	Symbol	Function
1	ILL	10V power supply for illumination.
2	MODE2	When 5V is input,becomes AM. and the antenna output is turned on.
3	MODE1	When 5V is input,becomes AM. and the output of FM is switched.
4	STB	When 5V is input, outputs to ILL,COM,and AMP. It is 0V usually.
5	VDD	5.6V power supply.
6	AMP	Power supply supply to remote amplifier
7	VCC	Back up. connects with ACC with it.
8	ANT	Power supply supply to auto antenna.
9	COM	8.7V power supply.
10	AM	The power supply of 8.7V to AM.
11	FM	The power supply of 8.7V to FM.
12	GND	Ground

■ KIA7810PI (IC902) : Regulator

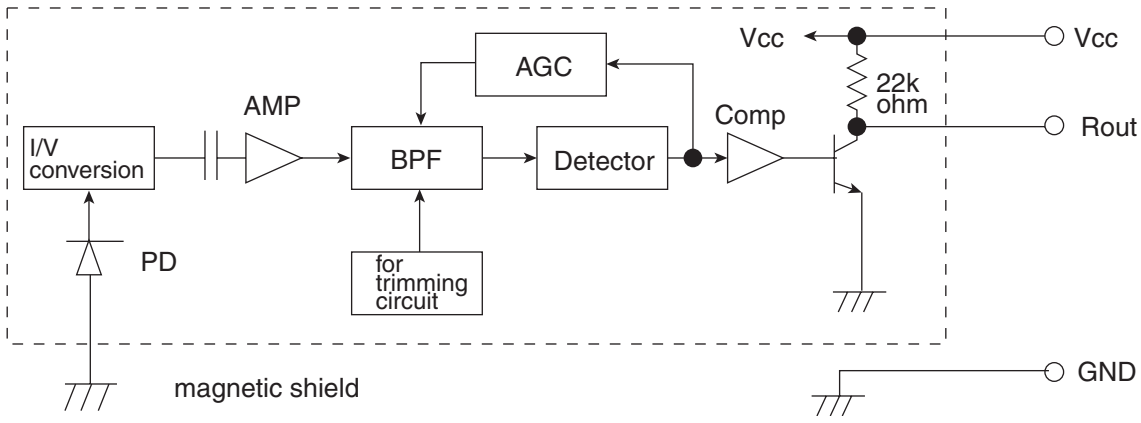
1. Pin layout



2. Block diagram

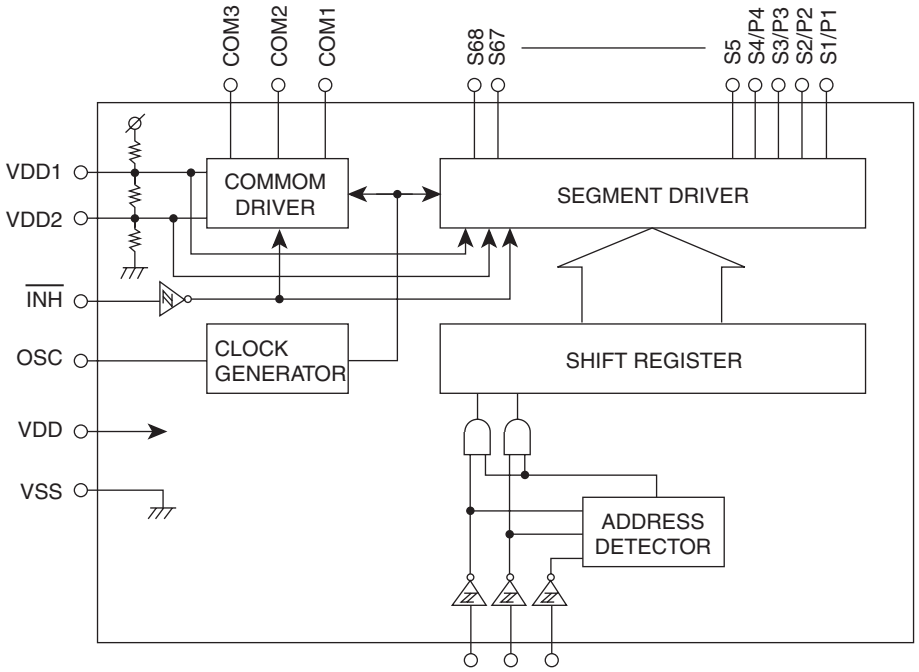


■ RPM6938-SV4 (IC602) : Remote control receiver



■ 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 in 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 in 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	$\overline{CE}$	I	Chip enable input.
77	CLOCK	I	Synchronization clock input.
78	DI	I	Serial data input.
79	DIMMER	O	DIMMER Control signal output.
80	NC	-	Non connect.

< MEMO >

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VICTOR COMPANY OF JAPAN, LIMITED
MOBILE ELECTRONICS DIVISION
PERSONAL & MOBILE NETWORK BUSINESS UNIT. 10-1,1Chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.49763)

Printed in Japan
200211

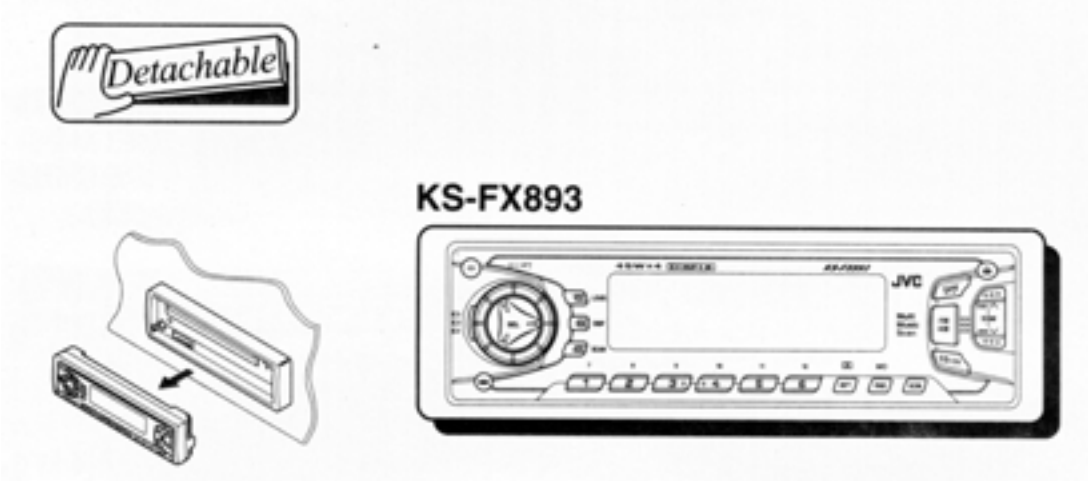
JVC

SCHEMATIC DIAGRAMS

CASSETTE RECEIVER

KS-FX893

CD-ROM No.SML200211



Area Suffix	
UF	China

Contents

Block diagram ---------- 2-1
Standard schematic diagrams --------- 2-2
Printed circuit boards ---------- 2-5~7

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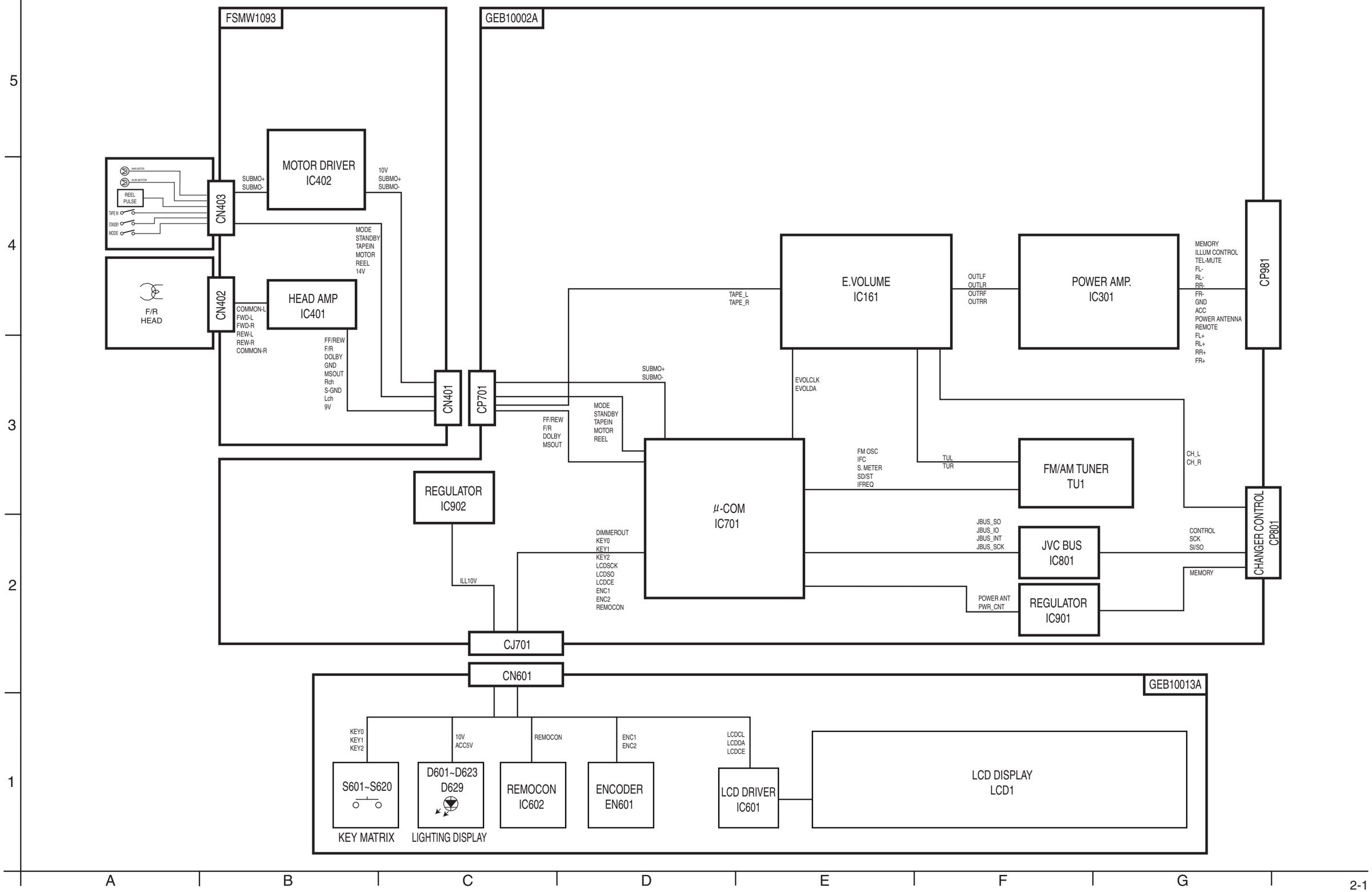
No.49763SCH
Nov. 2002

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 preforming repair of this system.**

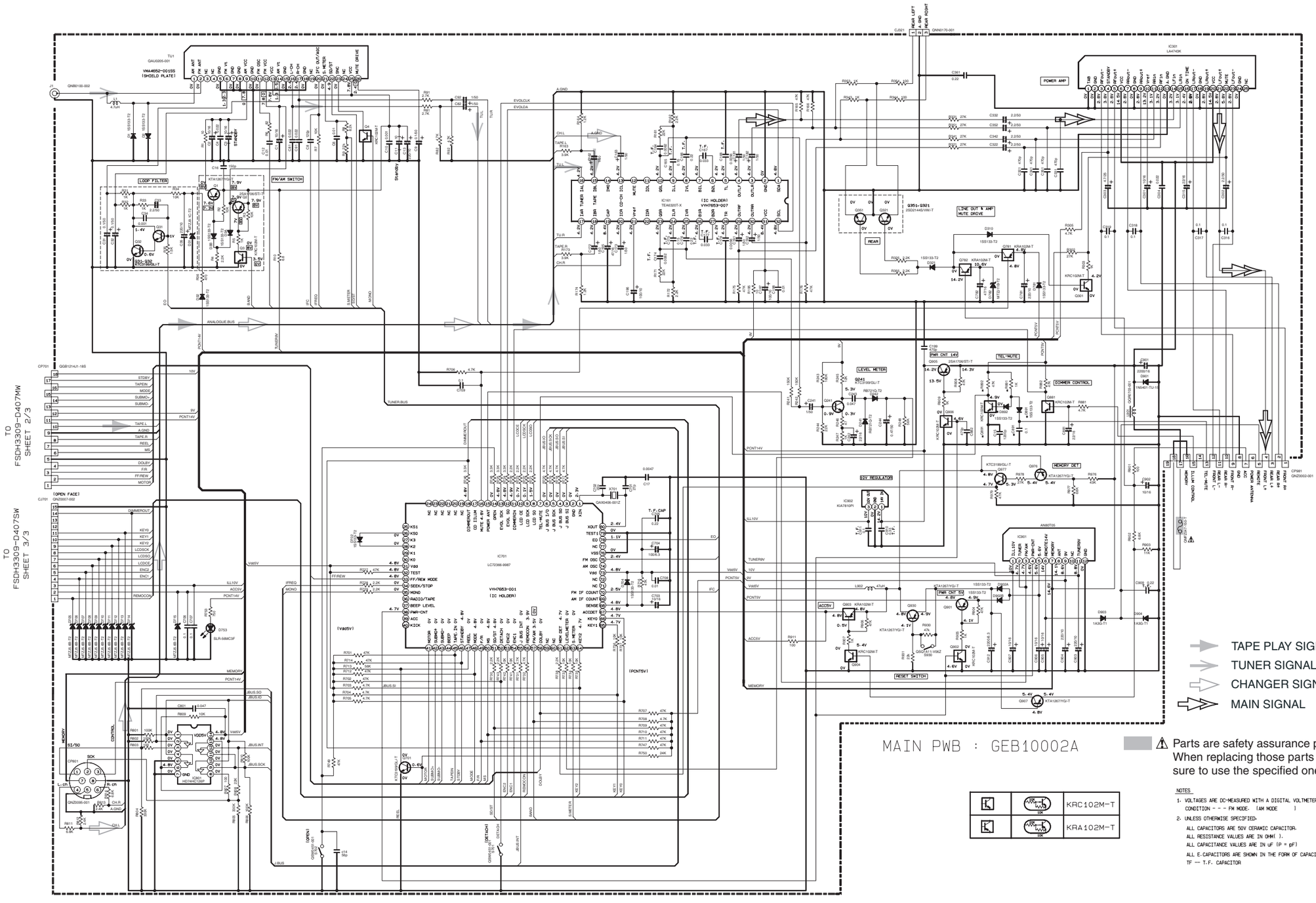
⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

Block diagram

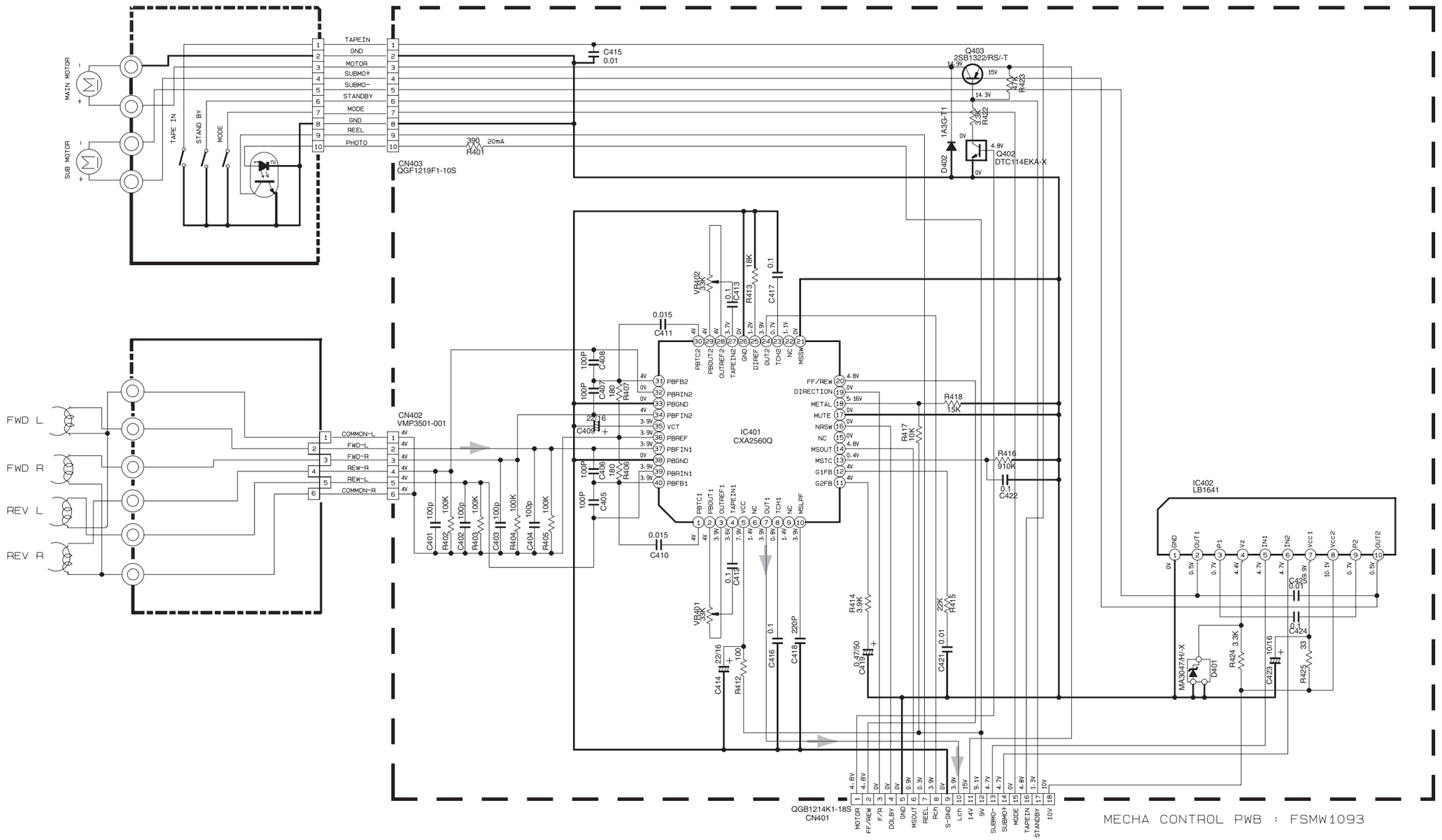


Standard schematic diagrams

■ Main amp. section



■Mecha control section



MECHA CONTROL PWB : FSMW1093

TO
FSDH3309-D407BW
SHEET 1/3

TAPE PLAY SIGNAL

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION----TAPE MODE.
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/4W ±5% OR 1/10W ±5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN ⌀F(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(⌀F)/RATED VOLTAGE(V)
   M.M. -- M.M. CAPACITOR

■LCD & Key switch section

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.

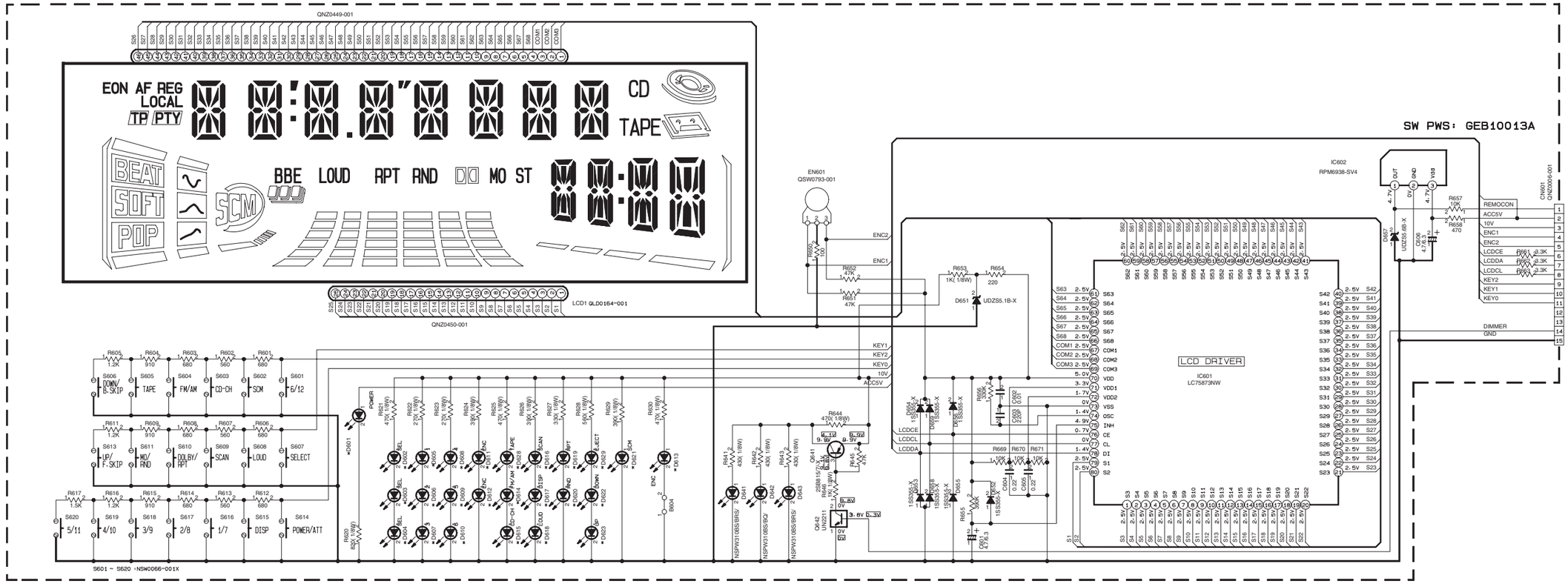
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/4W 5% CARBON RESISTOR OR 1/4W, 1/10W 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE(V).

NOTE:

SML-310LT/MN/-X --- RED LED(POWER)
SML-310VT/JK/-X --- RED LED(OTHERS)
LNJ308G81/1-3/-X --- GREEN LED

*REMARK

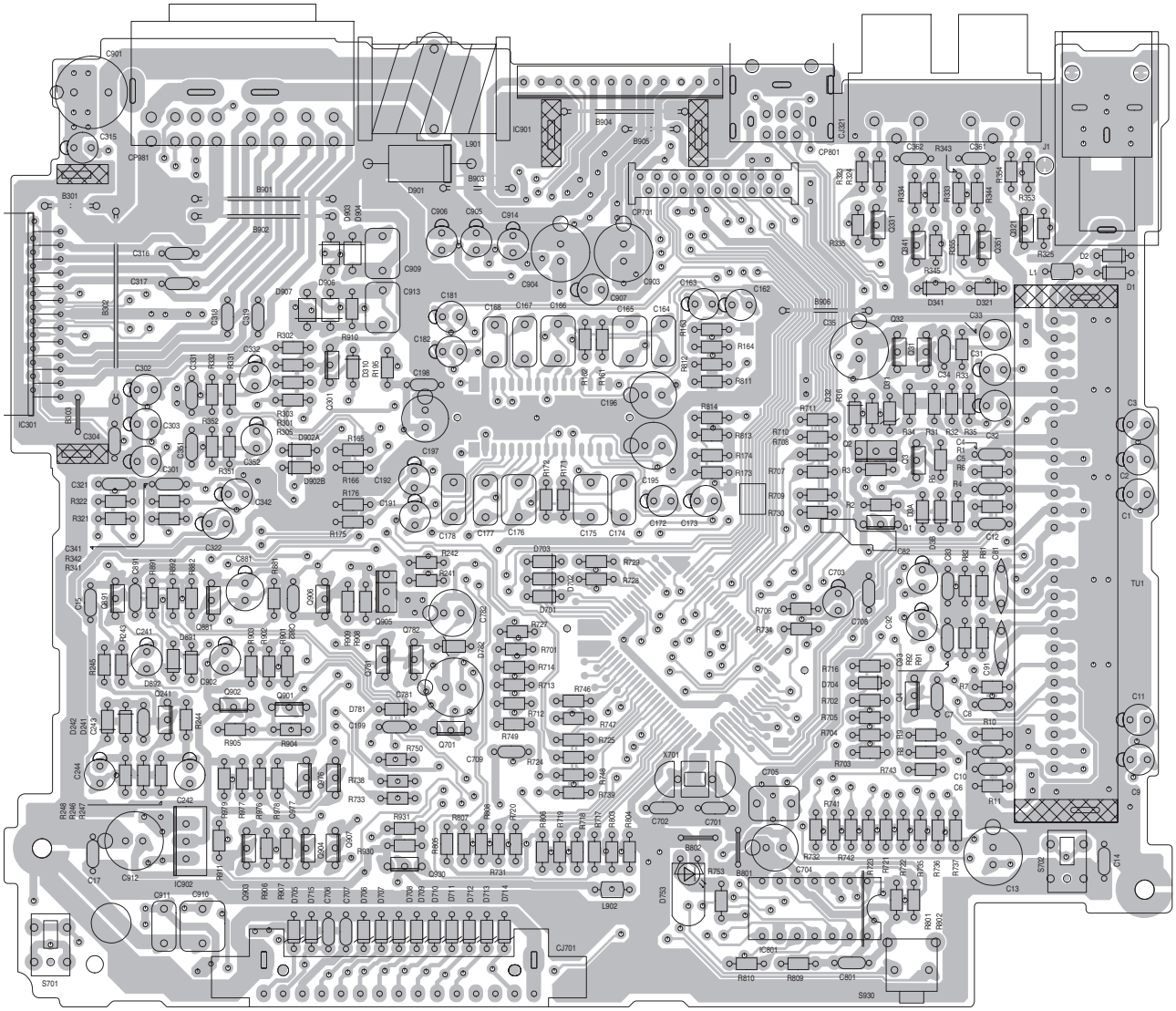
D601	SML-310LT/MN/-X
D602 - D620 D622 - D623 D628 - D629	SML-310VT/JK/-X
D621	LNJ308G81/1-3/-X



Printed circuit boards

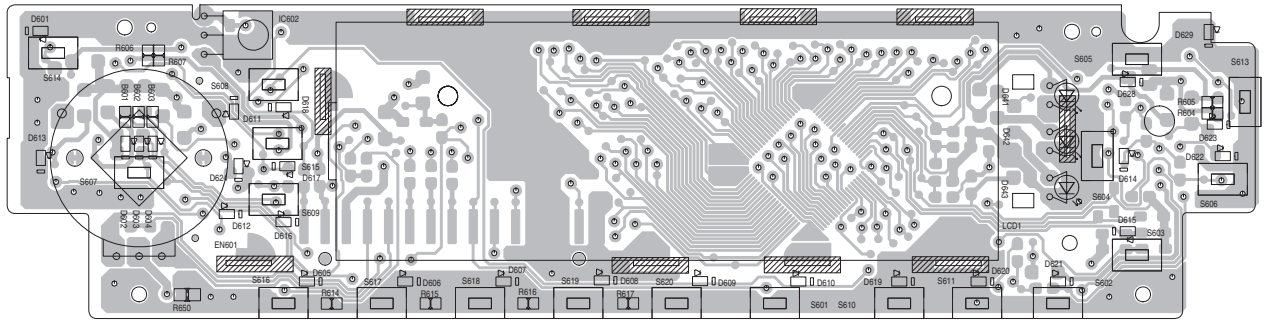
■ Main board

(Forward side)



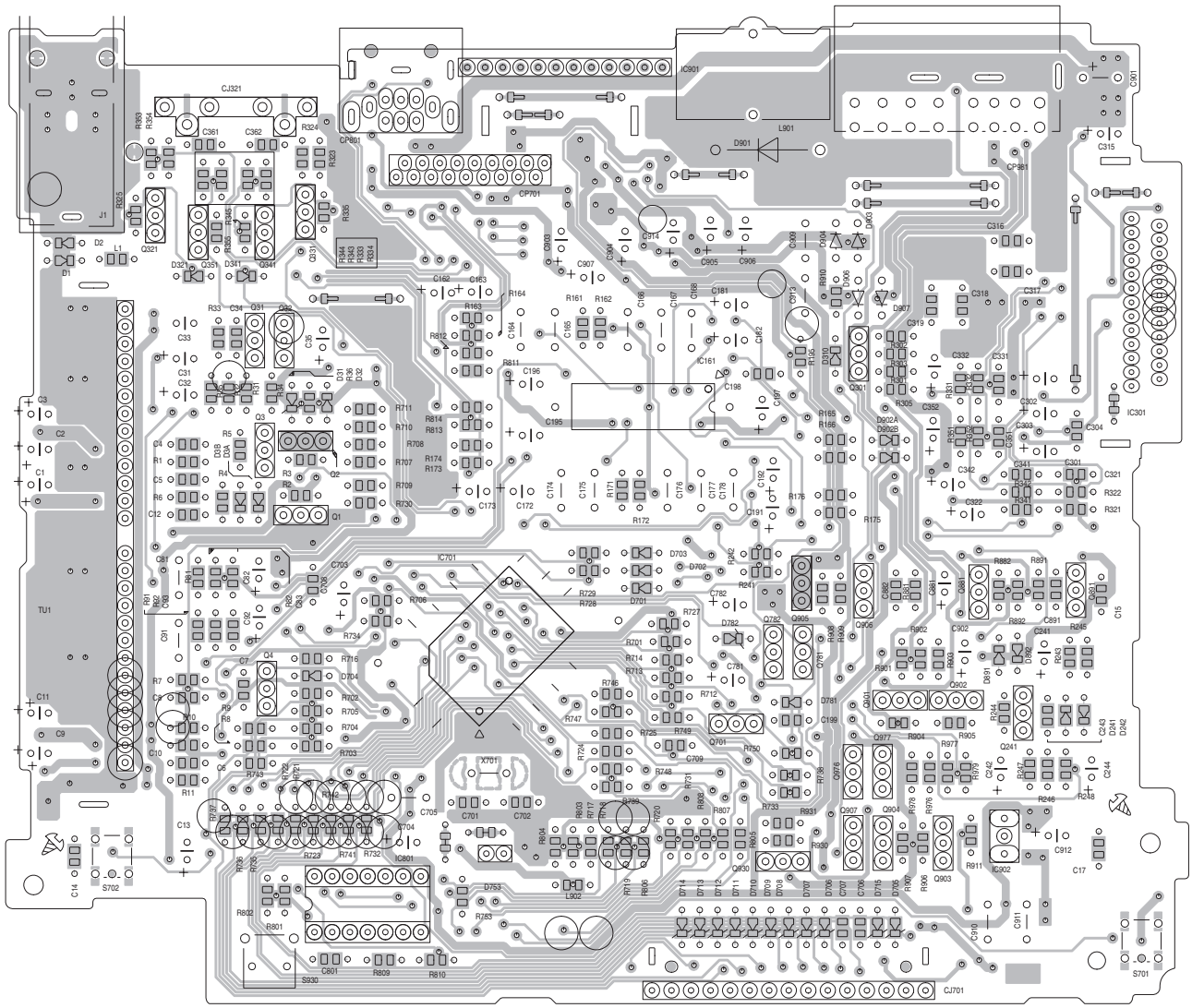
■ Front board

(Forward side)



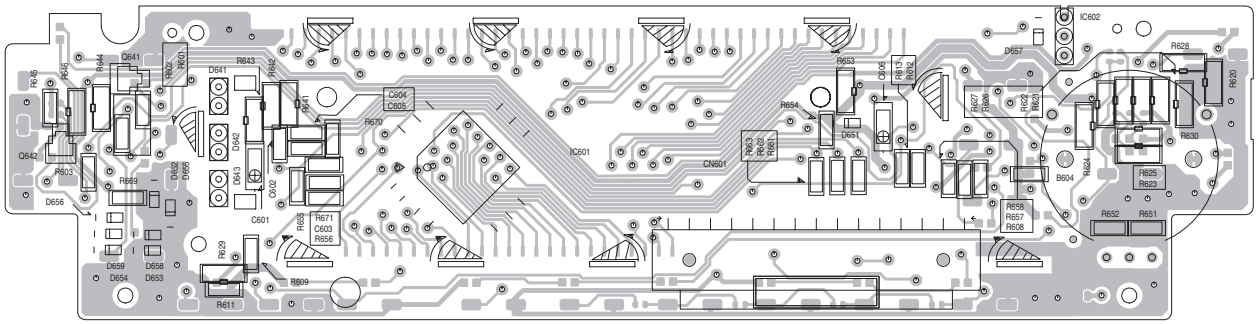
■ Main board

(Reverse side)



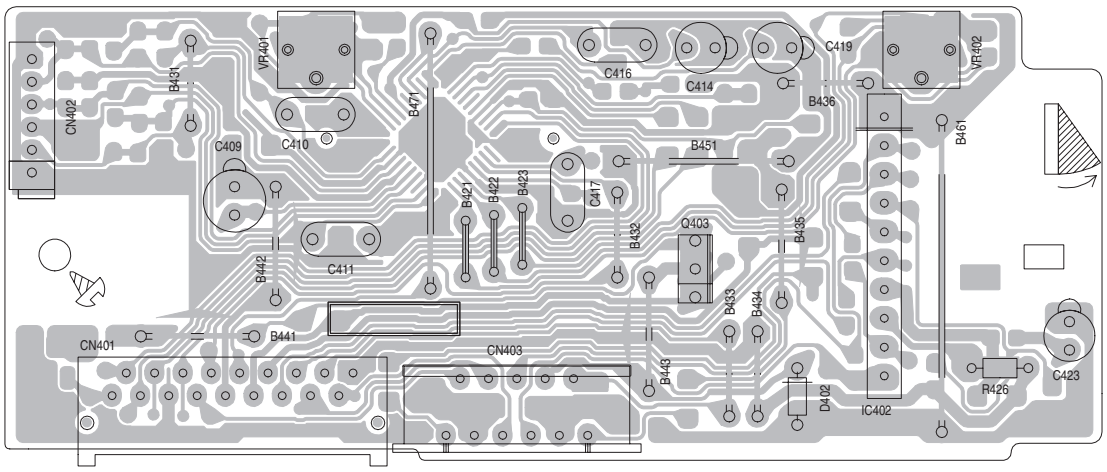
■ Front board

(Reverse side)

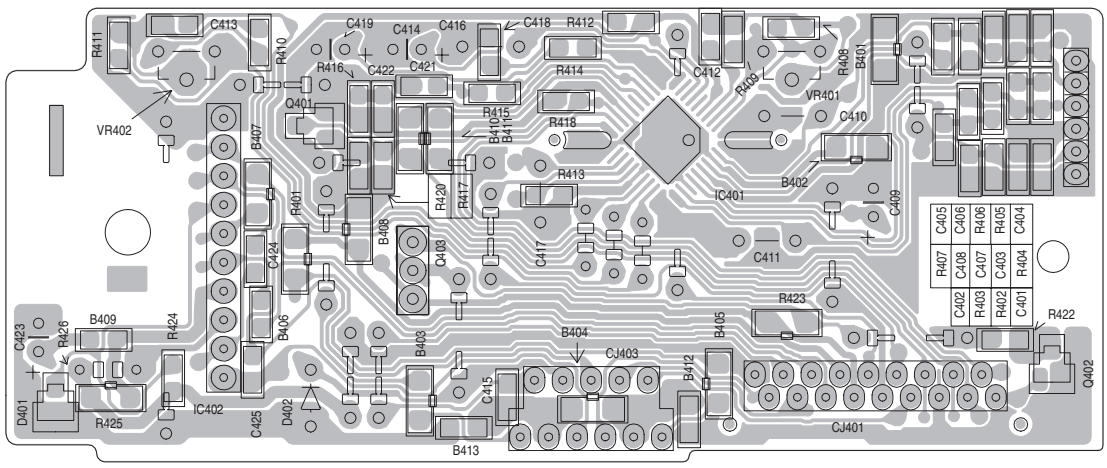


■ Cassette mecha control board

(Forward side)



(Reverse side)



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No.49763SCH

Printed in Japan
200211

PARTS LIST

[KS-FX893]

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

Areas suffix

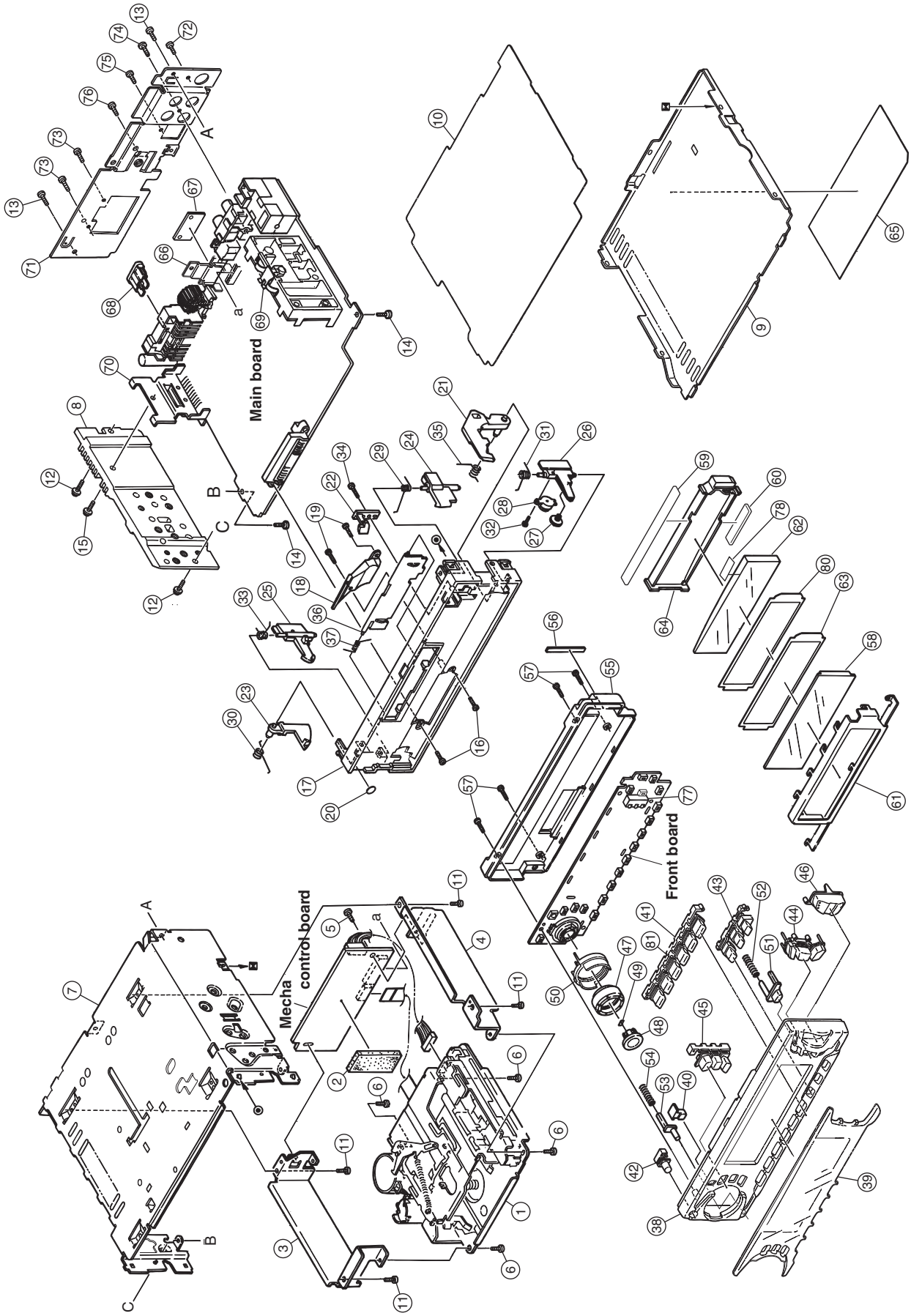
UF ---------- China

- Contents -

Exploded view of general assembly and parts list (Block No.M1) ---------- 3- 2
Cassette mechanism assembly and parts list (Block No.MP) ---------- 3- 5
Electrical parts list (Block No.01~03) ---------- 3-10
Packing materials and accessories parts list (Block No.M3,M5) ---------- 3-14

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	----------	CASSETTE MECHA	1	CDS-801	
	2	FSYH4036-050	SHEET	1		
	3	FSKL2001-004	MECHA BRACKET(L)	1		
	4	FSKL2002-002	MECHA BRACKET(R)	1		
	5	QYSDST2606Z	SCREW	1		
	6	QYSDST2606Z	SCREW	4		
	7	FSJC1056-001	TOP CHASSIS	1		
	8	FSMH3001-204	HEAT SINK	1		
	9	FSKM3011-002SSF	BOTTOM COVER	1		
	10	FSMA3005-001	INSULATOR	1		
	11	QYSDST2604Z	SCREW	4	CHASSIS+MECHA BKT	
	12	FSKZ4005-001	SCREW	2	CHASSIS+SIDE PANEL	
	13	QYSDST2604Z	SCREW	2	CHASSIS+REAR BKT	
	14	QYSDST2606Z	SCREW	2	CHASSIS+MAIN PWB	
	15	FSKZ4005-001	SCREW	1	SIDE PANEL+IC BKT	
	16	QYSDSF2006M	SCREW	2	F.CHASSIS+CONNECTOR	
	17	FSJC1060-002	FRONT CHASSIS	1		
	18	VJK3707-001	LIGHT LENS	1		
	19	QYSPSGU1745N	MINI SCREW	2	FOR LIGHT LENS	
	20	FSYH4036-046	SHEET	1		
	21	FSKS3014-001	OPEN LEVER	1		
	22	FSKS3015-001	LOCK LEVER(O.L)	1		
	23	VKS3798-002	RELEASE LEVER	1		
	24	VKS3793-001	LOCK LEVER(TOP)	1		
	25	VKS3794-003	LOCK LEVER(L)	1		
	26	VKS3795-002	LOCK LEVER(R)	1		
	27	VKS5563-001	GEAR	1		
	28	VKZ4786-002	OIL DAMPER	1		
	29	FSKW4012-001	T.SPRING	1	FOR L.LEVER(TOP)	
	30	VKW5264-005	T.SPRING	1	FOR RELEASE LEVER	
	31	VKW5262-001	T.SPRING	1	FOR L.LEVER(R)	
	32	QYSDSF2006M	SCREW	1	DAMPER+L.LEVER(R)	
	33	VKW5263-002	T.SPRING	1	FOR L.LEVER(L)	
	34	VKZ4777-001	MINI SCREW	1	LOCK LEVER(O.L.)	
	35	FSKW4013-002	T.SPRING	1	FOR OPEN LEVER	
	36	FSJC3014-001	CASS.LID	1	NO PRINTING	
	37	VKW4947-002	DOOR SPRING	1		
	38	GE10005-006B	FRONT PANEL	1		
	39	GE30113-016B	FINDER ASSY	1		
	40	FSJK4009-001	REMOTE LENS	1	FOR REMOTE CON.	
	41	GE20104-002A	PRESET BUTTON	1	1-6 (2 COLOUR)	
	42	GE30105-002B	POWER BUTTON	1		
	43	GE30106-001A	SND FUNC BUTTON	1	RPT,RND,SCM	
	44	GE20110-001C	D.FUNCT BUTTON	1	TAPE,F/A,CD-CH	
	45	GE20103-001A	PUSH BUTTON(3)	1		
	46	GE20109-001C	UP DOWN BUTTON	1		
	47	GE30546-002A	KNOB	1	JOG DIAL	
	48	GE30366-001A	SEL BUTTON	1		

■ Parts list (General assembly)

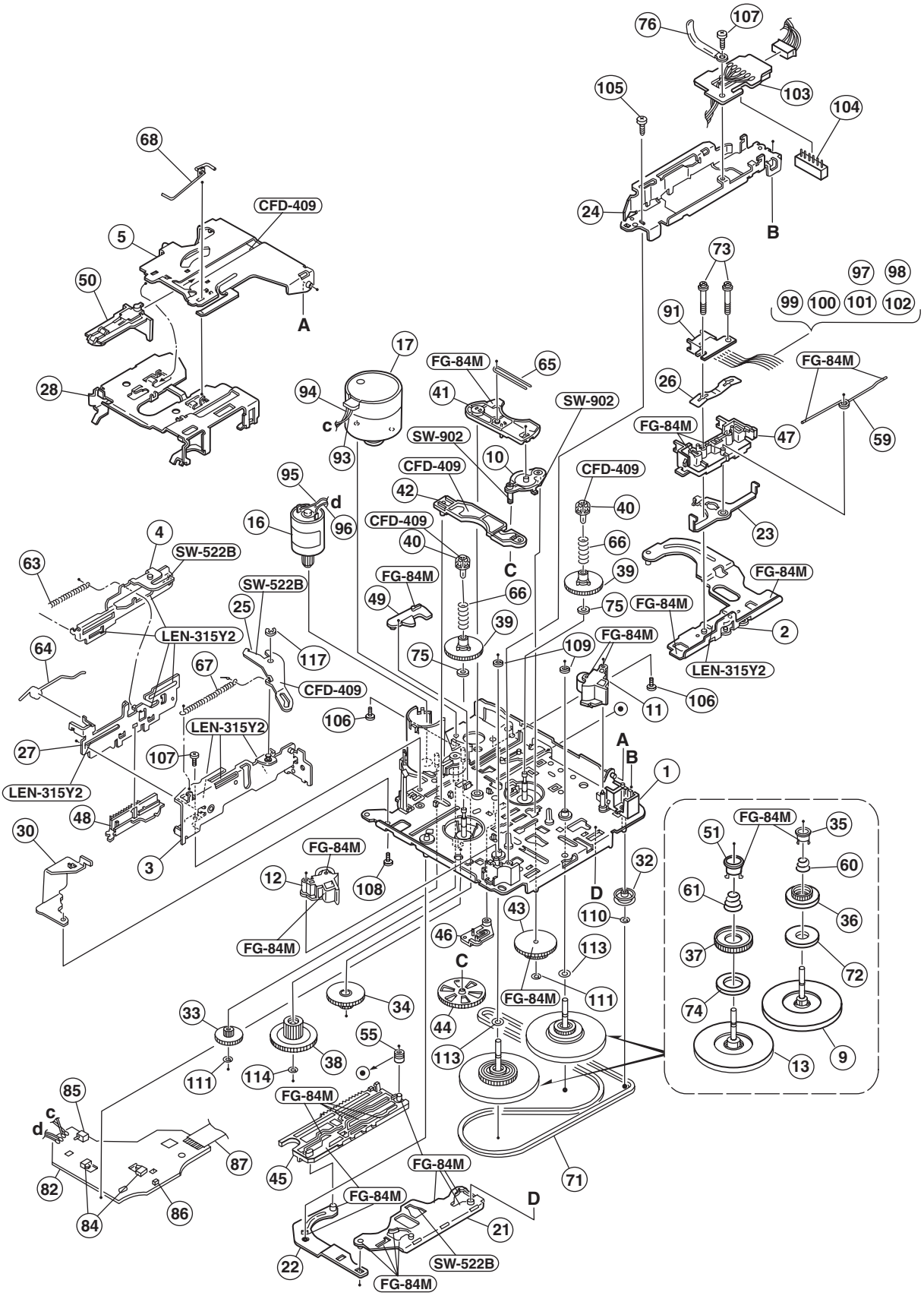
Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	49	FSYH4036-032	SHEET	1	SEL BUTTON	
	50	GE30104-001A	RIM LENS	1	FOR KNOB	
	51	GE30115-002A	EJECT BUTTON	1		
	52	VKW3001-330	COMP.SPRING	1	FOR EJECT BUTTON	
	53	GE30116-001A	DETACH BUTTON	1		
	54	VKW3001-330	COMP.SPRING	1	FOR DETACH BUTTON	
	55	GE10006-001B	REAR COVER	1		
	56	FSYH4036-035	SHEET	1	REAR COVER	
	57	VKZ4777-001	MINI SCREW	4	FRONT PANEL+REAR COVER	
	58	QLD0164-001	LCD MODULE	1		
	59	QNZ0449-001	RUBBER CONNECTOR	1		
	60	QNZ0450-001	RUBBER CONNECTOR	1		
	61	GE30114-001A	LCD CASE	1		
	62	FSJK3028-001	LCD LENS	1		
	63	FSYH4061-001	LIGHTNG SHEET	1		
	64	FSKS3013-001	LENS CASE	1		
	65	GE30846-001A	NAME PLATE	1		
	66	GE40103-002A	REG BRACKET	1		
	67	GE40107-002A	HEAT SINK	1		
⚠	68	QMFZ047-150-T	FUSE	1		
	69	VMA4652-001SS	EARTH PLATE	1		
	70	FSKL4024-001	IC BRACKET	1		
	71	FSKM3010-017SSF	REAR BRACKET	1		
	72	QYSDST2606Z	SCREW	1	REAR BKT+ANT JACK	
	73	QYSDST2606Z	SCREW	2	REAR BKT+16P CN	
	74	QYSDSF3006Z	SCREW	1	REAR BKT+PIN JACK	
	75	QYSDST2606Z	SCREW	1	REAR BKT+CD IN	
	76	QYSDST2606Z	SCREW	1	REAR BKT+REG BKT	
	77	FSKS3017-002	LED HOLDER	1		
	78	FSYH4036-087	SHEET	1		
	80	FSYH4061-002	LIGHTNG SHEET	1		
	81	FSYH4036-031	SHEET	1	PRESET BUTTON	

Cassette mechanism assembly and parts list

Block No. M P M M

CDS-801



■ Parts list (Cassette mechanism)

Block No. MPMM

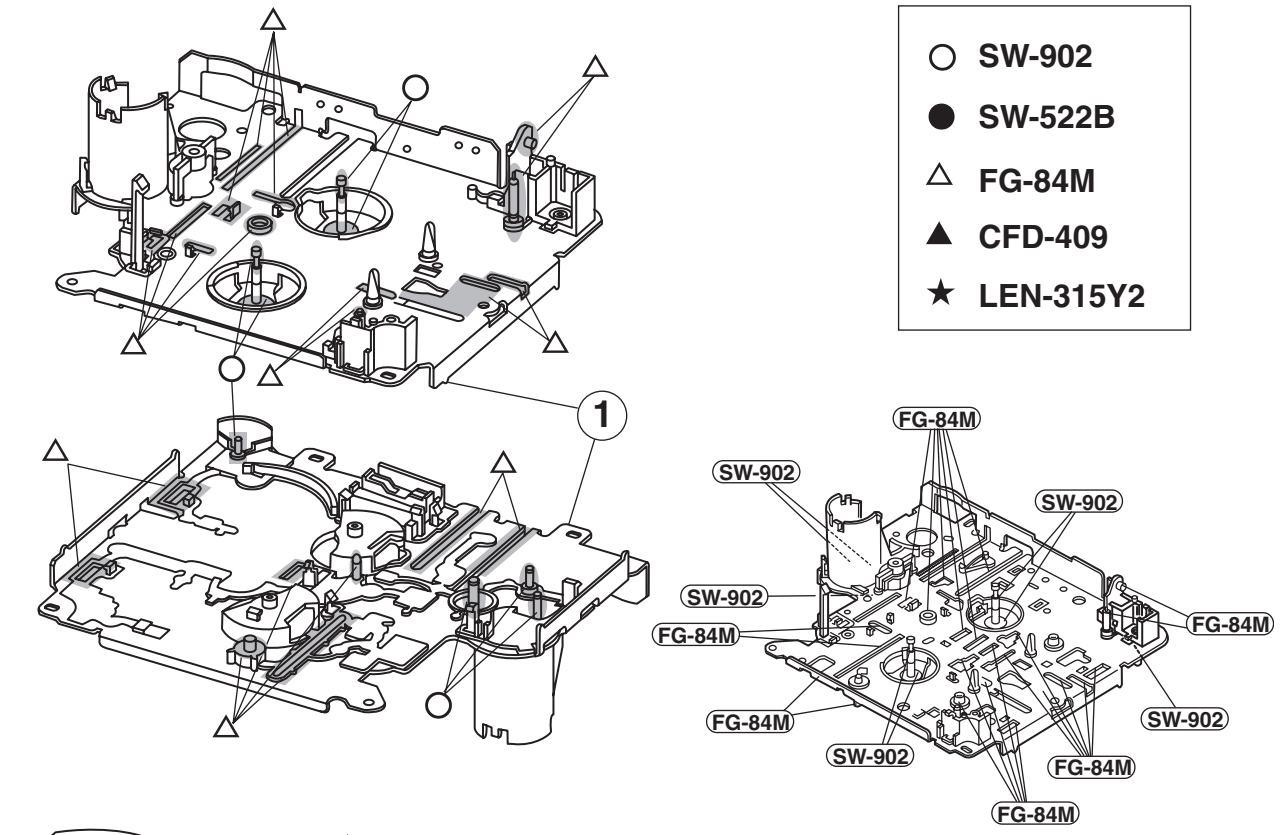
⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	X-0801-1003S	MAIN CHASSIS AS	1		
	2	X-0801-1002S	SLIDE CHASSIS A	1		
	3	X-0801-1008S	SIDE BKT ASS'Y	1		
	4	X-0801-1010S	EJECT CAM LIMIT	1		
	5	X-0801-1013S	CASSETTE HANGER	1		
	9	1-0801-6002S	FLYWHEEL ASSY F	1		
	10	X-0801-2003S	GEAR BASE ASS'Y	1		
	11	X-0801-2021S	PINCH ARM F ASS	1		
	12	X-0801-2022S	PINCH ARM R ASS	1		
	13	1-0801-6003S	FLYWHEEL ASSY R	1		
	16	X-0801-7006S	SUB MOTOR ASS'Y	1		
	17	X-0801-7057S	MAIN MOTOR ASSY	1		
	21	1-0801-1003S	DIRECTION PLATE	1		
	22	1-0801-1004S	DIRECTION LINK	1		
	23	1-0801-1005S	PINCH SPG ARM	1		
	24	1-0801-1006S	CASSETTE GUIDE	1		
	25	1-0801-1007S	LOAD ARM	1		
	26	1-0801-1009S	HEAD SUPT SPG	1		
	27	1-0801-1011S	EJECT CAM PLATE	1		
	28	1-0801-1012S	CASSETTE HOLDER	1		
	30	1-0801-1020S	REINFORCE BRKT	1		
	32	1-0101-2056S	IDLE PULLEY(A1)	1		
	33	1-0801-2004S	REDUCTION GEARA	1		
	34	1-0801-2005S	REDUCTION GEARB	1		
	35	1-0801-2006S	SPG HOLDER F	1		
	36	1-0801-2007S	FRICTION GEARPL	1		
	37	1-0801-2008S	FRICTION GEARFF	1		
	38	1-0801-2009S	MODE GEAR	1		
	39	1-0801-2010S	REEL SPINDLE	2		
	40	1-0801-2011S	REEL DRIVER	2		
	41	1-0801-2014S	GEAR BASE ARM	1		
	42	1-0801-2015S	GEAR BASE LINK	1		
	43	1-0801-2016S	TAKE UP GEAR	1		
	44	1-0801-2017S	REFLECTOR GEAR	1		
	45	1-0801-2018S	MODE RACK	1		
	46	1-0801-2019S	MODE SW ACTUATR	1		
	47	1-0801-2020S	TAPE GUIDE	1		
	48	1-0801-2023S	LOAD RACK	1		
	49	1-0801-2024S	RACK LINK	1		
	50	1-0801-2025S	CASSETTE CATCH	1		
	51	1-0801-2030S	SPG HOLDER R	1		
	55	1-0801-3005S	RACK COLLAR	1		
	59	1-0801-4001S	PINCH ARM SPG	1		
	60	1-0801-4002S	TU SPG	1		
	61	1-0801-4003S	FF SPG	1		
	63	1-0801-4005S	EJECTCAM PLT SP	1		
	64	1-0801-4006S	HOLDER CUSH SPG	1		
	65	1-0801-4007S	GEAR BASE SPG	1		

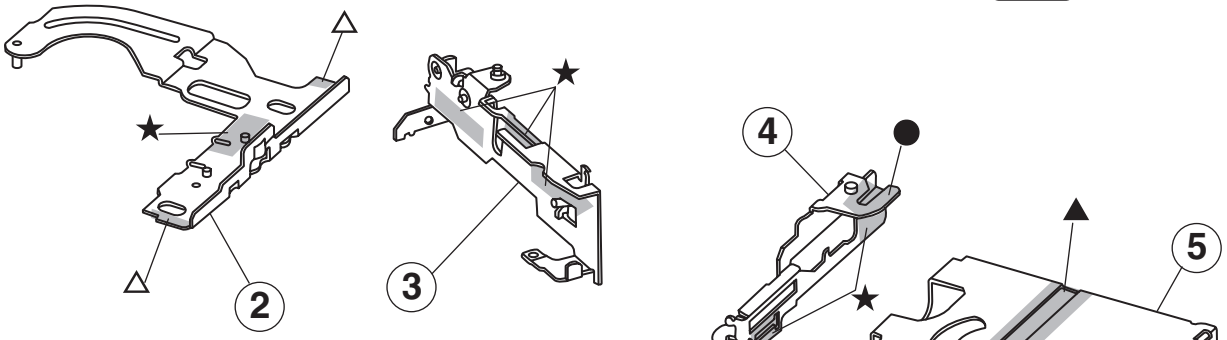
■ Parts list (Cassette mechanism)

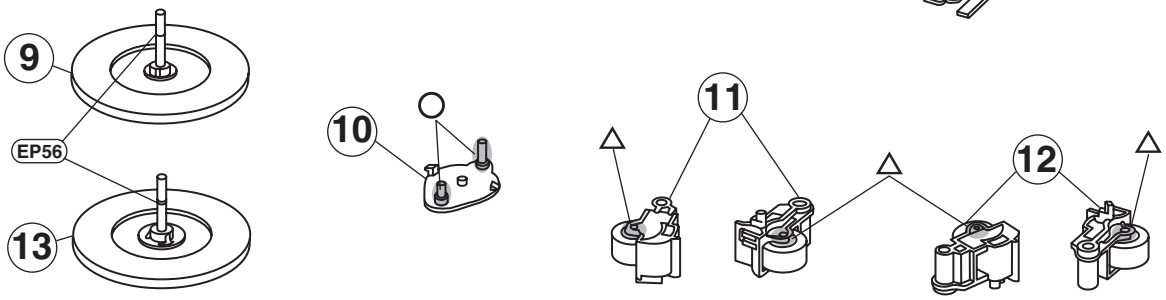
Block No. MPMM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	66	1-0801-4008S	REEL DRIVER SPG	2		
	67	1-0801-4009S	LOAD ARM SPG	1		
	68	1-0801-4011S	HOLDER STAB SPG	1		
	71	1-0801-5001S	BELT	1		
	72	1-0801-5002S	FELT	1	7.5*18.5*1.0	
	73	1-0801-5003S	AZIMUTH SCR	2		
	74	1-0801-5004S	FELT	1	11*18.5*1.0	
	75	1-0801-5005S	REEL WASHER	2		
	76	21732-6280-36S	LUG PLATE	1		
	82	1-0801-7001S	REEL PCB DL	1		
	84	1-0801-7003S	SW(MATSUSHITA)	2	(ESE22MH2L)	
	85	1-0801-7005S	SW	1	(ALPS SPPB64)	
	86	1-0801-7024S	PHOTO SENSOR	1	(ON2170-QR FS)	
	87	1-0801-7026S	FLAT CABLE 10P	1		
	91	1-0801-7014S	HEAD	1	(MITSUMIP-5544)	
	93	10801-7009-0S	M.MOTOR WIRE	1	BLACK	
	94	10801-7009-1S	M.MOTOR WIRE	1	RED	
	95	10801-7010-0S	S.MOTOR WIRE	1	ORANGE	
	96	10801-7010-1S	S.MOTOR WIRE	1	BROWN	
	97	10801-7015-0S	HEAD WIRE BLACK	1		
	98	10801-7015-1S	HEAD WIRE BROWN	1		
	99	10801-7015-2S	HEAD WIRE RED	1		
	100	10801-7015-3S	HEAD WIRE ORANG	1		
	101	10801-7015-4S	HEAD WIRE YELLO	1		
	102	10801-7015-5S	HEAD WIRE WHITE	1		
	103	1-0801-7016S	HEAD PCB	1		
	104	1-0801-7025S	CONN S6B-PH-K-S	1		
	105	21382-3060-C2S	+PLAIN B-TYPE	1	M2.3*6.0	
	106	2-1032-0025-C2S	+SCREW PLAIN	2	M2*2.5	
	107	21332-0035-P1S	S-TYPE PRECISIO	2	M2*3.5	
	108	21112-6035-C2S	+SCREW PLAIN	1	M2.6*3.5	
	109	2-1816-0032-E8S	LMW-S	2	1.6*3.2*0.35	
	110	21812-0032-D2S	PSW-S	1	1.2*3.2*0.25	
	111	1-0036-5024S	PSW-S(REEL B)	2	1.5*3.2*0.25	
	113	2-1821-0040-D1S	PSW	2	2.1*4.0*0.25	
	114	21821-0040-D2S	PSW-S	1	2.1*4.0*0.25	
	117	2-1711-5040-16S	E-RING	1	1.5	

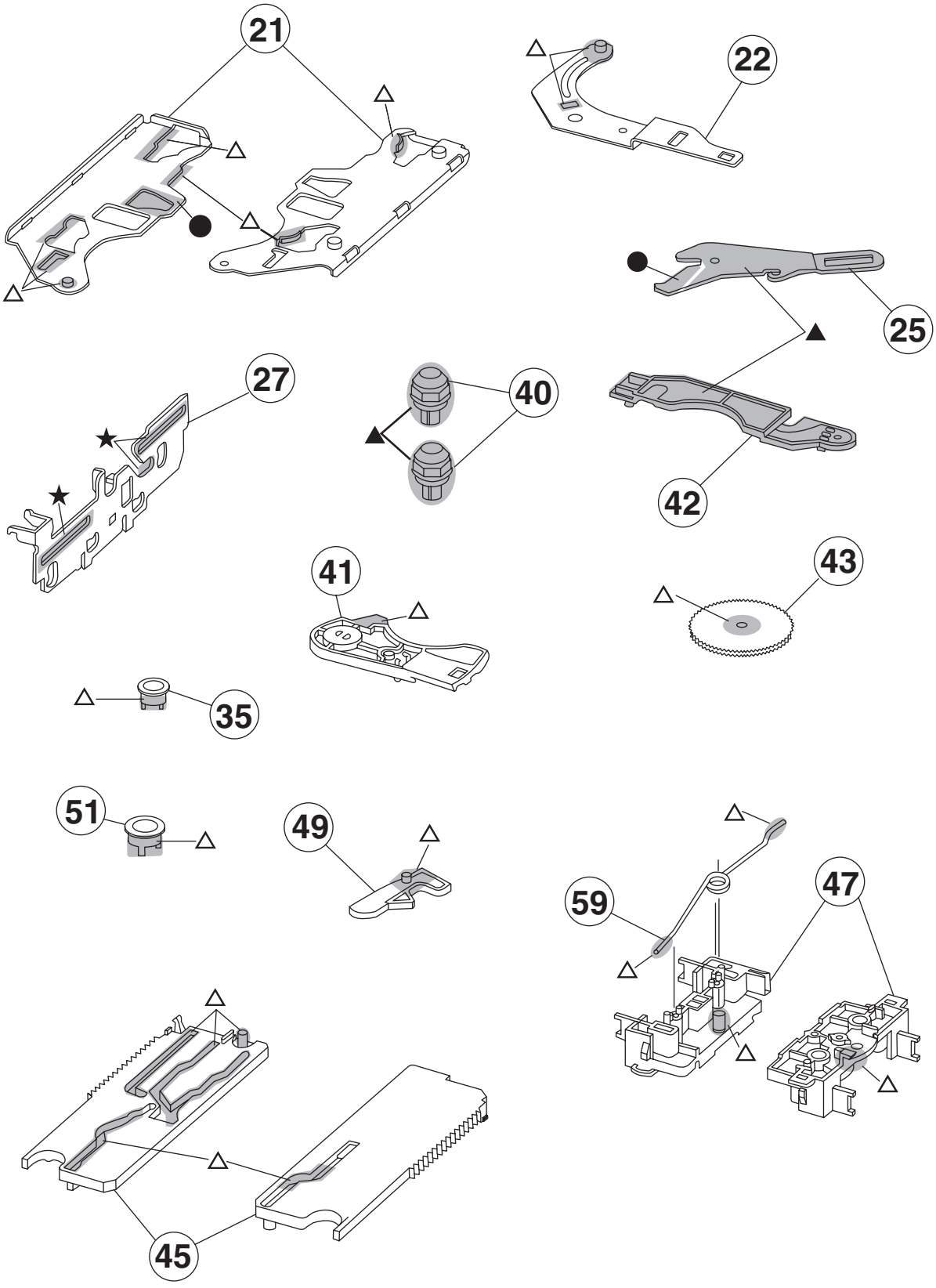
Grease point 1/2







Grease point 2/2



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

⚠	Item	Parts number	Parts name	Remarks	Area
	C 1	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 2	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 4	QDVB1EZ-223Y	C CAPACITOR		
	C 6	QDYB1CM-103Y	C CAPACITOR		
	C 8	QCBB1HK-121Y	C CAPACITOR	120PF 10% 50V	
	C 9	QEKJ1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 10	QDGB1HK-102Y	C CAPACITOR		
	C 12	QDYB1CM-103Y	C CAPACITOR		
	C 13	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 14	QCSB1HJ-560Y	C CAPACITOR	56PF 5% 50V	
	C 15	QDXB1CM-122Y	C CAPACITOR		
	C 16	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C 17	QDXB1CM-472Y	C CAPACITOR		
	C 31	QEKJ1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 32	QEKJ1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 33	QEQF1HM-225Z	NP E CAPACITOR	2.2MF 20% 50V	
	C 34	QDGB1HK-102Y	C CAPACITOR		
	C 35	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 81	QDX11EK-223Z	C CAPACITOR		
	C 82	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 91	QDX11EK-223Z	C CAPACITOR		
	C 92	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 162	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 163	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 164	QFLA1HJ-822Z	M CAPACITOR	8200PF 5% 50V	
	C 165	QFVD1HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C 166	QFVD1HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 167	QFV61HJ-333Z	MF CAPACITOR	.033MF 5% 50V	
	C 168	QFLK1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C 172	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 173	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 174	QFLA1HJ-822Z	M CAPACITOR	8200PF 5% 50V	
	C 175	QFVD1HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C 176	QFVD1HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 177	QFV61HJ-333Z	MF CAPACITOR	.033MF 5% 50V	
	C 178	QFLK1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C 181	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 182	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 191	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 192	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 195	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 196	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 197	QERF1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 198	QDYB1CM-103Y	C CAPACITOR		
	C 199	QCBB1HK-471Y	C CAPACITOR	STANDBY MUTE	
	C 241	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 242	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 243	QCFB1HZ-473Y	C CAPACITOR	.047MF +80:-20%	
	C 244	QERF1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 301	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 302	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 303	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 304	QCBB1HK-223Y	C CAPACITOR	.022MF 10% 50V	
	C 315	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 316	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 317	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 318	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 319	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 321	QCBB1HK-471Y	C CAPACITOR	RIGHT	
	C 322	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 331	QCBB1HK-471Y	C CAPACITOR	LEFT	
	C 332	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 341	QCBB1HK-471Y	C CAPACITOR	RIGHT	
	C 342	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 351	QCBB1HK-471Y	C CAPACITOR	LEFT	
	C 352	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C 361	QCBB1HK-223Y	C CAPACITOR	.022MF 10% 50V	
	C 701	QDUB1HJ-270Y	C CAPACITOR		
	C 702	QDCB1HJ-220Y	C CAPACITOR		
	C 703	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 704	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 705	QFVD1HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 706	QCFB1HZ-104Y	C CAPACITOR	ACC5V	
	C 707	QCFB1HZ-104Y	C CAPACITOR	ILL10V	
	C 708	QDYB1CM-103Y	C CAPACITOR		
	C 709	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 781	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 782	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 801	QCFB1HZ-473Y	C CAPACITOR	.047MF +80:-20%	
	C 881	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 882	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 891	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 901	QEZ0518-228	E CAPACITOR	2200MF	
	C 902	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 903	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 904	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 905	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 906	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 907	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 909	QFVD1HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 910	QFV11HJ-334AZ	MF CAPACITOR	.33MF 5% 50V	
	C 911	QFVD1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 912	QEZ0423-228	E CAPACITOR	2200MF	
	CJ321	QNN0170-001	PIN JACK (REEL)		
	CJ701	QNZ0007-002	CAR CONNECTOR		
	CP701	QGB1214J1-18S	CONNECTOR		
	CP801	QNZ0095-001	CONNECTOR		
	CP981	QNZ0002-001	JACK UNIT		
	D 1	1SS133-T2	SI DIODE		
	D 2	1SS133-T2	SI DIODE		
	D 3 A	1SS133-T2	SI DIODE		
	D 3 B	1SS133-T2	SI DIODE		
	D 31	MTZJ9.1C-T2	Z DIODE		
	D 32	1SS133-T2	SI DIODE		
	D 241	RB721Q-T2	S.B.DIODE		
	D 242	RB721Q-T2	S.B.DIODE		
	D 310	1SS133-T2	SI DIODE		
	D 321	1SS133-T2	SI DIODE		
	D 702	1SS133-T2	SI DIODE	K2	
	D 704	1SS133-T2	SI DIODE		
	D 705	MTZJ5.6B-T2	ZENER DIODE	REMOCON	
	D 706	MTZJ5.6B-T2	ZENER DIODE	ENC1	
	D 707	MTZJ5.6B-T2	ZENER DIODE	ENC2	
	D 708	MTZJ5.6B-T2	ZENER DIODE	LCDCE	
	D 709	MTZJ5.6B-T2	ZENER DIODE	LCDSO	
	D 710	MTZJ5.6B-T2	ZENER DIODE	LCDSCK	
	D 711	MTZJ5.6B-T2	ZENER DIODE	KEY2	
	D 712	MTZJ5.6B-T2	ZENER DIODE	KEY1	
	D 713	MTZJ5.6B-T2	ZENER DIODE	KEY0	
	D 714	MTZJ5.6B-T2	ZENER DIODE	DIMMEROUT	
	D 715	MTZJ5.6B-T2	ZENER DIODE	ACC5V	
	D 753	SLR-56MC3F	LED		
	D 781	1SS133-T2	SI DIODE		
	D 782	MTZJ11B-T2	ZENER DIODE		
	D 891	1SS133-T2	SI DIODE		
	D 892	1SS133-T2	SI DIODE		
	D 901	1N5401-TU-15	DIODE		
	D902A	1SS133-T2	SI DIODE		
	D902B	1SS133-T2	SI DIODE		
	D 903	1A3G-T1	SI DIODE		
	D 904	1A3G-T1	SI DIODE		
	IC161	TEA6320T-X	IC		

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

⚠	Item	Parts number	Parts name	Remarks	Area
	IC301	LA4743K	IC		
	IC701	LC72366-9987	IC		
	IC801	HD74HC126P	IC		
	IC901	AN80T05	IC		
	IC902	KIA7810PI	10V REGULATOR		
	J 1	QNB0100-002	ANT TERMINAL		
	L 1	QQL231K-4R7Y	INDUCTOR		
	L 901	QQR0703-001	CHOKE COIL		
	L 902	QQL231K-470Y	INDUCTOR		
	Q 1	KTA1267/YG/-T	TRANSISTOR		
	Q 2	2SA1706/ST/-T	TRANSISTOR		
	Q 3	KRC102M-T	D TRANSISTOR		
	Q 4	KRC102M-T	D TRANSISTOR		
	Q 31	KTC3199/GL/-T	TRANSISTOR		
	Q 32	KTC3199/GL/-T	TRANSISTOR		
	Q 241	KTC3199/GL/-T	TRANSISTOR		
	Q 301	KRC102M-T	D TRANSISTOR		
	Q 321	2SD2144S/VW/-T	TRANSISTOR	REAR	
	Q 351	2SD2144S/VW/-T	TRANSISTOR	REAR	
	Q 701	KTC3199/GL/-T	TRANSISTOR		
	Q 781	KRA102M-T	D TRANSISTOR		
	Q 782	KRA102M-T	D TRANSISTOR		
	Q 881	KRC102M-T	D TRANSISTOR		
	Q 891	KRC102M-T	D TRANSISTOR		
	Q 901	KTA1267/YG/-T	TRANSISTOR		
	Q 902	KRC102M-T	D TRANSISTOR		
	Q 903	KRA102M-T	D TRANSISTOR		
	Q 904	KRC102M-T	D TRANSISTOR		
	Q 905	2SA1706/ST/-T	TRANSISTOR		
	Q 906	KRC102M-T	D TRANSISTOR		
	Q 907	KTA1267/YG/-T	TRANSISTOR		
	Q 930	KTA1267/YG/-T	TRANSISTOR		
	Q 976	KTA1267/YG/-T	TRANSISTOR		
	Q 977	KTC3199/GL/-T	TRANSISTOR		
	R 1	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 2	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 3	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 4	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 5	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 6	QRE141J-820Y	C RESISTOR	82 5% 1/4W	
	R 7	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 8	QRE141J-822Y	C RESISTOR	8.2K 5% 1/4W	
	R 9	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 10	QRE141J-6R8Y	C RESISTOR	6.8 5% 1/4W	
	R 31	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 32	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 33	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 34	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 35	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R 36	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 81	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R 82	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 91	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R 92	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 161	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 162	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 163	QRE141J-392Y	C RESISTOR	TAPE LEVEL	
	R 164	QRE141J-122Y	C RESISTOR	TAPE LEVEL	
	R 165	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 166	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 171	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 172	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 173	QRE141J-392Y	C RESISTOR	TAPE LEVEL	
	R 174	QRE141J-122Y	C RESISTOR	TAPE LEVEL	
	R 175	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 176	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
	R 195	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 241	QRE141J-154Y	C RESISTOR	150K 5% 1/4W	
	R 242	QRE141J-154Y	C RESISTOR	150K 5% 1/4W	
	R 243	QRE141J-184Y	C RESISTOR	180K 5% 1/4W	
	R 244	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 245	QRE141J-123Y	C RESISTOR	12K 5% 1/4W	
	R 246	QRE141J-470Y	C RESISTOR	47 5% 1/4W	
	R 247	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 248	QRE141J-563Y	C RESISTOR	56K 5% 1/4W	
	R 302	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 303	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 305	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 321	QRE141J-273Y	C RESISTOR	RIGHT	
	R 325	QRE141J-222Y	C RESISTOR	REAR	
	R 331	QRE141J-273Y	C RESISTOR	LEFT	
	R 341	QRE141J-273Y	C RESISTOR	RIGHT	
	R 343	QRE141J-102Y	C RESISTOR	REAR	
	R 344	QRE141J-101Y	C RESISTOR	REAR	
	R 351	QRE141J-273Y	C RESISTOR	LEFT	
	R 353	QRE141J-102Y	C RESISTOR	REAR	
	R 354	QRE141J-101Y	C RESISTOR	REAR	
	R 355	QRE141J-222Y	C RESISTOR	REAR	
	R 701	QRE141J-473Y	C RESISTOR	TAPEIN	
	R 702	QRE141J-473Y	C RESISTOR	DETACH	
	R 703	QRE141J-472Y	C RESISTOR	KEY2	
	R 704	QRE141J-472Y	C RESISTOR	KEY1	
	R 705	QRE141J-472Y	C RESISTOR	KEY0	
	R 706	QRE141J-472Y	C RESISTOR	MUTE	
	R 707	QRE141J-473Y	C RESISTOR	DOLBY	
	R 708	QRE141J-472Y	C RESISTOR	FM/AM	
	R 709	QRE141J-473Y	C RESISTOR	SD/ST	
	R 710	QRE141J-473Y	C RESISTOR	MS	
	R 711	QRE141J-473Y	C RESISTOR	F/R	
	R 712	QRE141J-473Y	C RESISTOR	MODE	
	R 713	QRE141J-563Y	C RESISTOR	REEL	
	R 714	QRE141J-473Y	C RESISTOR	STANDBY	
	R 716	QRE141J-473Y	C RESISTOR	SENSE	
	R 717	QRE141J-472Y	C RESISTOR	JBUS.SI	
	R 718	QRE141J-472Y	C RESISTOR	JBUS.SO	
	R 719	QRE141J-472Y	C RESISTOR	JBUS.SCK	
	R 720	QRE141J-472Y	C RESISTOR	JBUS.IO	
	R 721	QRE141J-222Y	C RESISTOR	LCDSO	
	R 722	QRE141J-222Y	C RESISTOR	LCDSCK	
	R 723	QRE141J-222Y	C RESISTOR	LCDCE	
	R 724	QRE141J-332Y	C RESISTOR	EVOL.SO	
	R 725	QRE141J-332Y	C RESISTOR	EVOL.SCK	
	R 727	QRE141J-473Y	C RESISTOR	TEST	
	R 728	QRE141J-222Y	C RESISTOR	SEEK/STOP	
	R 729	QRE141J-222Y	C RESISTOR	MONO	
	R 730	QRE141J-222Y	C RESISTOR	SD/ST	
	R 731	QRE141J-472Y	C RESISTOR	JBUS.INT	
	R 732	QRE141J-472Y	C RESISTOR	REMOCON	
	R 733	QRE141J-103Y	C RESISTOR	LEVEL METER	
	R 734	QRE141J-103Y	C RESISTOR	S.METER	
	R 735	QRE141J-103Y	C RESISTOR	KEY2	
	R 736	QRE141J-103Y	C RESISTOR	KEY1	
	R 737	QRE141J-103Y	C RESISTOR	KEY0	
	R 738	QRE141J-222Y	C RESISTOR	MEM.DET	
	R 739	QRE141J-222Y	C RESISTOR	DIMMERIN	
	R 741	QRE141J-103Y	C RESISTOR	ENC1	
	R 742	QRE141J-103Y	C RESISTOR	ENC2	
	R 743	QRE141J-222Y	C RESISTOR	DETACH	
	R 746	QRE141J-332Y	C RESISTOR	DIMMEROUT	
	R 747	QRE141J-473Y	C RESISTOR	DIMMEROUT	
	R 748	QRE141J-332Y	C RESISTOR	OPEN	
	R 749	QRE141J-473Y	C RESISTOR	OPEN	

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

⚠	Item	Parts number	Parts name	Remarks	Area
	R 750	QRE141J-243Y	C RESISTOR	REEL	
	R 753	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 801	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 802	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 803	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 804	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	
	R 805	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	
	R 806	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 807	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 808	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 809	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 810	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 811	QRE141J-682Y	C RESISTOR	CD-CH LEVEL	
	R 812	QRE141J-242Y	C RESISTOR	CD-CH LEVEL	
	R 813	QRE141J-242Y	C RESISTOR	CD-CH LEVEL	
	R 814	QRE141J-682Y	C RESISTOR	CD-CH LEVEL	
	R 881	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 882	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 891	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 892	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 901	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 902	QRE141J-682Y	C RESISTOR	6.8K 5% 1/4W	
	R 903	QRE141J-113Y	C RESISTOR	11K 5% 1/4W	
	R 904	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 905	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 906	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 907	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 908	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 909	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 911	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 930	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 931	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 976	QRE141J-433Y	C RESISTOR	43K 5% 1/4W	
	R 977	QRE141J-683Y	C RESISTOR	68K 5% 1/4W	
	R 978	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 979	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	S 701	QSW0451-001	DETECT SWITCH	DETACH/OPEN	
	S 702	QSW0451-001	DETECT SWITCH	DETACH/OPEN	
	S 930	QSQ1A11-V06Z	TACT SWITCH		
	TU 1	QAU0205-002	TUNER		
	X 701	QAX0406-001Z	CRYSTAL		

■ **Electrical parts list (Mecha control board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 401	NDC31HJ-101X	C CAPACITOR		
	C 402	NDC31HJ-101X	C CAPACITOR		
	C 403	NDC31HJ-101X	C CAPACITOR		
	C 404	NDC31HJ-101X	C CAPACITOR		
	C 405	NDC31HJ-101X	C CAPACITOR		
	C 406	NDC31HJ-101X	C CAPACITOR		
	C 407	NDC31HJ-101X	C CAPACITOR		
	C 408	NDC31HJ-101X	C CAPACITOR		
	C 409	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 410	QFV61HJ-153Z	MF CAPACITOR	.015MF 5% 50V	
	C 411	QFV61HJ-153Z	MF CAPACITOR	.015MF 5% 50V	
	C 412	NCB31EK-104X	C CAPACITOR		
	C 413	NCB31EK-104X	C CAPACITOR		
	C 414	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 415	NCB31EK-103X	C CAPACITOR		
	C 416	QFVD1HJ-104Z	TF CAPACITOR	DOLBY	
	C 417	QFVD1HJ-104Z	TF CAPACITOR	DOLBY	
	C 418	NDC31HJ-221X	C CAPACITOR		
	C 419	QEKJ1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 421	NCB31HK-103X	C CAPACITOR		
	C 422	NCB31EK-104X	C CAPACITOR		
	C 423	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 424	NCB31EK-104X	C CAPACITOR		
	C 425	NCB31HK-103X	C CAPACITOR		
	CN401	QGB1214K1-18S	CONNECTOR		
	CN402	VMP3501-001	WIRE		
	CN403	QGF1219F1-10S	CONNECTOR		
	D 401	MA3047/H/-X	ZENER DIODE		
	D 402	1A3G-T1	SI DIODE		
	IC401	CXA2560Q	IC		
	IC402	LB1641	IC		
	Q 402	DTC114EKA-X	TRANSISTOR		
	Q 403	2SB1322/RS/-T	TRANSISTOR		
	R 401	NRS181J-391X	MG RESISTOR		
	R 402	NRSA63J-104X	MG RESISTOR		
	R 403	NRSA63J-104X	MG RESISTOR		
	R 404	NRSA63J-104X	MG RESISTOR		
	R 405	NRSA63J-104X	MG RESISTOR		
	R 406	NRSA63J-181X	MG RESISTOR		
	R 407	NRSA63J-181X	MG RESISTOR		
	R 412	NRSA02J-101X	MG RESISTOR		
	R 413	NRSA63J-183X	MG RESISTOR		
	R 414	NRSA63J-392X	MG RESISTOR		
	R 415	NRSA63J-223X	MG RESISTOR		
	R 416	NRSA63J-914X	MG RESISTOR		
	R 417	NRSA63J-103X	MG RESISTOR		
	R 418	NRSA63J-153X	MG RESISTOR		
	R 422	NRSA02J-332X	MG RESISTOR		
	R 423	NRS181J-473X	MG RESISTOR		
	R 424	NRSA02J-332X	MG RESISTOR		
	R 425	NRS181J-330X	MG RESISTOR		
	R 426	QUY150-050Y	BUS WIRE		
	VR401	QVP0009-333Z	SEMI V RESISTOR	DOLBY	
	VR402	QVP0009-333Z	SEMI V RESISTOR	DOLBY	

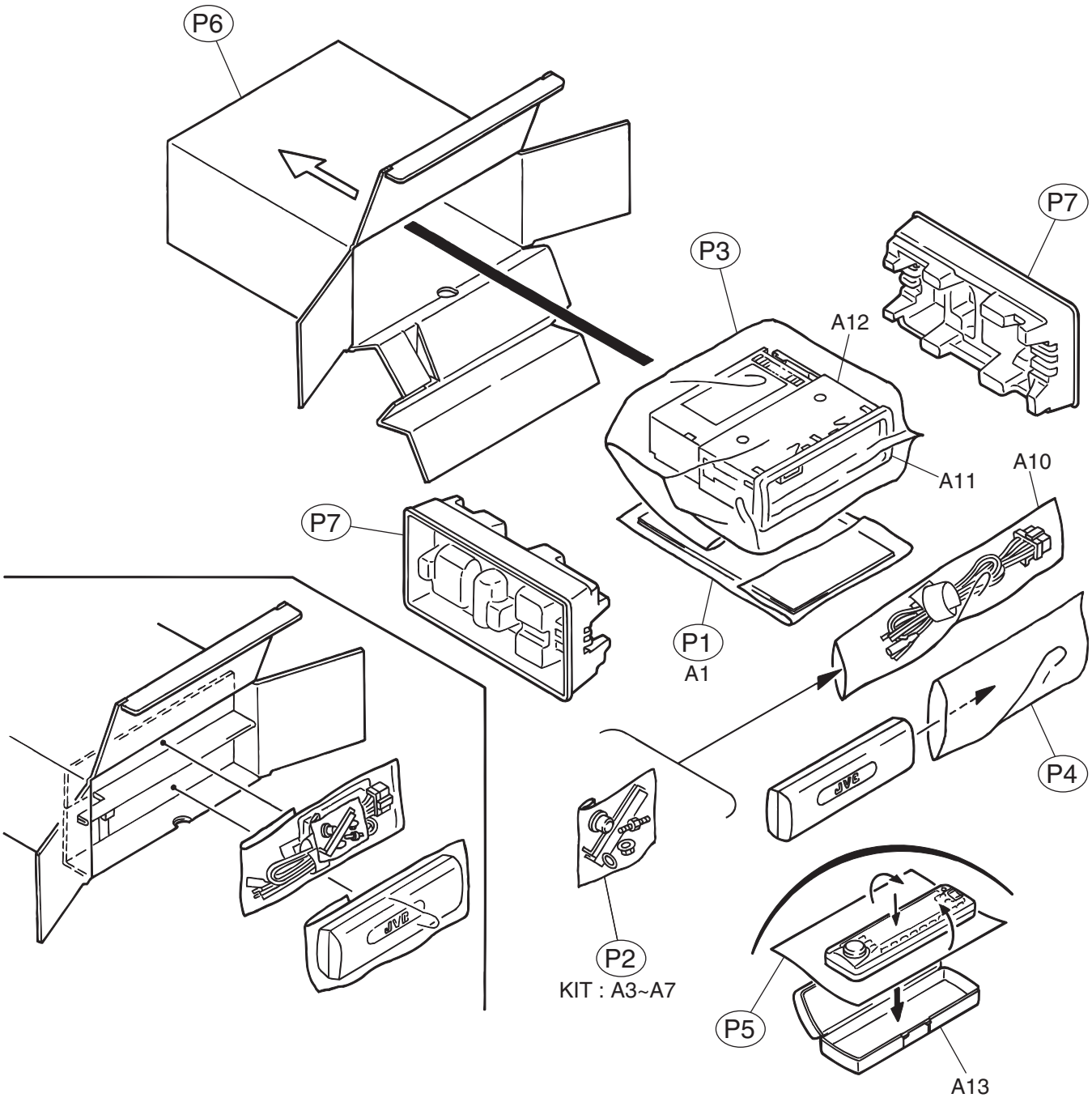
■ **Electrical parts list (Front board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 601	NBE20JM-475X	TS E CAPACITOR		
	C 602	NCB31HK-103X	C CAPACITOR		
	C 603	NCS31HJ-221X	C CAPACITOR		
	C 604	NCB31AK-224X	C CAPACITOR		
	C 605	NCB31AK-224X	C CAPACITOR		
	C 606	NBE20JM-475X	TS E CAPACITOR		
	CN601	QNZ0006-001	CAR CONNECTOR		
	D 601	SML-310LT/MN/-X	LED		
	D 602	SML-310VT/JK/-X	LED		
	D 603	SML-310VT/JK/-X	LED		
	D 604	SML-310VT/JK/-X	LED		
	D 605	SML-310VT/JK/-X	LED		
	D 606	SML-310VT/JK/-X	LED		
	D 607	SML-310VT/JK/-X	LED		
	D 608	SML-310VT/JK/-X	LED		
	D 609	SML-310VT/JK/-X	LED		
	D 610	SML-310VT/JK/-X	LED		
	D 611	SML-310VT/JK/-X	LED		
	D 612	SML-310VT/JK/-X	LED		
	D 613	SML-310VT/JK/-X	LED		
	D 614	SML-310VT/JK/-X	LED		
	D 615	SML-310VT/JK/-X	LED		
	D 616	SML-310VT/JK/-X	LED		
	D 617	SML-310VT/JK/-X	LED		
	D 618	SML-310VT/JK/-X	LED		
	D 619	SML-310VT/JK/-X	LED		
	D 620	SML-310VT/JK/-X	LED		
	D 621	LNJ308G81/1-3/X	LED		
	D 622	SML-310VT/JK/-X	LED		
	D 623	SML-310VT/JK/-X	LED		
	D 628	SML-310VT/JK/-X	LED		
	D 629	SML-310VT/JK/-X	LED		
	D 641	NSPW310BS/BRS/	LED		
	D 642	NSPW310BS/BRS/	LED		
	D 643	NSPW310BS/BRS/	LED		
	D 651	UDZS5.1B-X	Z DIODE		
	D 652	1SS355-X	DIODE		
	D 653	1SS355-X	DIODE		
	D 654	1SS355-X	DIODE		
	D 655	1SS355-X	DIODE		
	D 656	1SS355-X	DIODE		
	D 657	UDZS5.6B-X	Z DIODE		
	D 658	1SS355-X	DIODE		
	D 659	1SS355-X	DIODE		
	EN601	QSW0793-001	ROTARY ENCODER		
	IC601	LC75873NW	IC		
	IC602	RPM6938-SV4	IC		
	Q 641	2SB815/7/-X	TRANSISTOR		
	Q 642	UN2211-X	TRANSISTOR		
	R 601	NRSA63J-681X	MG RESISTOR		
	R 602	NRSA63J-561X	MG RESISTOR		
	R 603	NRSA63J-681X	MG RESISTOR		
	R 604	NRSA63J-911X	MG RESISTOR		
	R 605	NRSA63J-122X	MG RESISTOR		
	R 606	NRSA63J-681X	MG RESISTOR		
	R 607	NRSA63J-561X	MG RESISTOR		
	R 608	NRSA63J-681X	MG RESISTOR		
	R 609	NRSA63J-911X	MG RESISTOR		
	R 611	NRSA63J-122X	MG RESISTOR		
	R 612	NRSA63J-681X	MG RESISTOR		
	R 613	NRSA63J-561X	MG RESISTOR		
	R 614	NRSA63J-681X	MG RESISTOR		
	R 615	NRSA63J-911X	MG RESISTOR		
	R 616	NRSA63J-122X	MG RESISTOR		
	R 617	NRSA63J-152X	MG RESISTOR		
	R 620	NRS181J-821X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R 621	NRS181J-471X	MG RESISTOR		
	R 622	NRS181J-271X	MG RESISTOR		
	R 623	NRS181J-271X	MG RESISTOR		
	R 624	NRS181J-391X	MG RESISTOR		
	R 625	NRS181J-471X	MG RESISTOR		
	R 626	NRS181J-391X	MG RESISTOR		
	R 627	NRS181J-331X	MG RESISTOR		
	R 628	NRS181J-561X	MG RESISTOR		
	R 629	NRS181J-391X	MG RESISTOR		
	R 630	NRS181J-471X	MG RESISTOR		
	R 641	NRS181J-431X	MG RESISTOR		
	R 642	NRS181J-431X	MG RESISTOR		
	R 643	NRS181J-431X	MG RESISTOR		
	R 644	NRS181J-471X	MG RESISTOR		
	R 645	NRSA63J-473X	MG RESISTOR		
	R 646	NRS181J-102X	MG RESISTOR		
	R 650	NRSA02J-101X	MG RESISTOR		
	R 651	NRSA63J-473X	MG RESISTOR		
	R 652	NRSA63J-473X	MG RESISTOR		
	R 653	NRS181J-102X	MG RESISTOR		
	R 654	NRSA02J-221X	MG RESISTOR		
	R 655	NRSA02J-394X	MG RESISTOR		
	R 656	NRSA63J-334X	MG RESISTOR		
	R 657	NRSA63J-103X	MG RESISTOR		
	R 658	NRSA63J-470X	MG RESISTOR		
	R 661	NRSA63J-332X	MG RESISTOR		
	R 662	NRSA63J-332X	MG RESISTOR		
	R 663	NRSA63J-332X	MG RESISTOR		
	R 669	NRSA63J-103X	MG RESISTOR		
	R 670	NRSA63J-103X	MG RESISTOR		
	R 671	NRSA63J-103X	MG RESISTOR		
	S 601	NSW0066-001X	TACT SW		
	S 602	NSW0066-001X	TACT SW		
	S 603	NSW0066-001X	TACT SW		
	S 604	NSW0066-001X	TACT SW		
	S 605	NSW0066-001X	TACT SW		
	S 606	NSW0066-001X	TACT SW		
	S 607	NSW0066-001X	TACT SW		
	S 608	NSW0066-001X	TACT SW		
	S 609	NSW0066-001X	TACT SW		
	S 610	NSW0066-001X	TACT SW		
	S 611	NSW0066-001X	TACT SW		
	S 613	NSW0066-001X	TACT SW		
	S 614	NSW0066-001X	TACT SW		
	S 615	NSW0066-001X	TACT SW		
	S 616	NSW0066-001X	TACT SW		
	S 617	NSW0066-001X	TACT SW		
	S 618	NSW0066-001X	TACT SW		
	S 619	NSW0066-001X	TACT SW		
	S 620	NSW0066-001X	TACT SW		

Packing materials and accessories parts list

Block No. M 3 M M
Block No. M 5 M M



■ Parts list (Packing)

Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	FSPG4002-001	POLY BAG	1	INST.BOOK	
	P 2	QPA00801205	POLY BAG	1	SCREW KIT	
	P 3	QPC03004315P	POLY BAG	1	SET	
	P 4	----------	POLY BAG	1	HARD CASE	
	P 5	----------	SHEET	1		
	P 6	----------	CARTON BOX	1		
	P 7	----------	CUSHION	2		

■ Parts list (Accessories)

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	----------	INST.BOOK	1		
	A 3	VKZ4027-202	PLUG NUT	1		
	A 4	VKH4871-001SS	MOUNT BOLT	1		
	A 5	VKZ4328-001	LOCK NUT	1		
	A 6	WNS5000Z	WASHER	1		
	A 7	FSKL4010-002	HOOK	2		
	A 10	QAM0337-001	16P CORD ASSY	1		
	A 11	FSJD2034-001SSF	TRIM PLATE	1		
	A 12	FSKM2004-202SSF	MOUNTING SLEEVE	1		
	A 13	FSJB3001-30A	HARD CASE	1		
	K I T	KDGS717K-SCREW1	SCREW PARTS KIT	1	A3-A7	