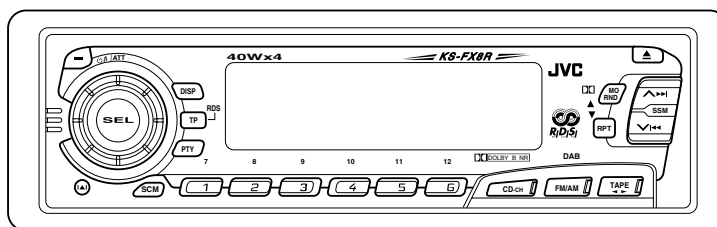
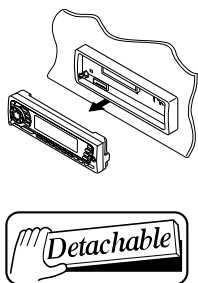


# JVC

## SERVICE MANUAL

### CASSETTE RECEIVER

## KS-FX8R




**Area Suffix**  
E ..... Continental Europe

### Contents

Safety precaution .....	1-2
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## Safety precaution

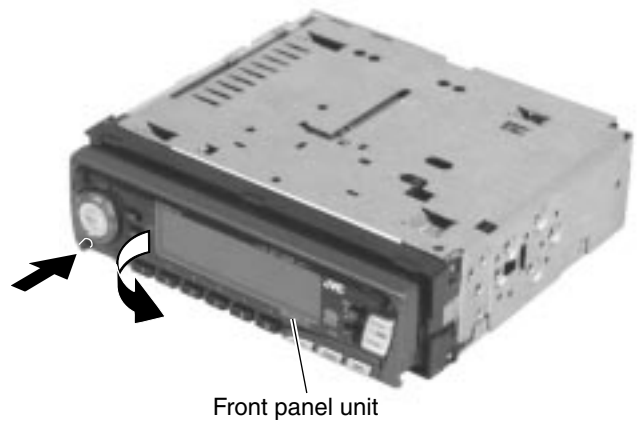
 **CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

## Disassembly method

### ■ Removing the front panel unit

(See Fig.1)

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

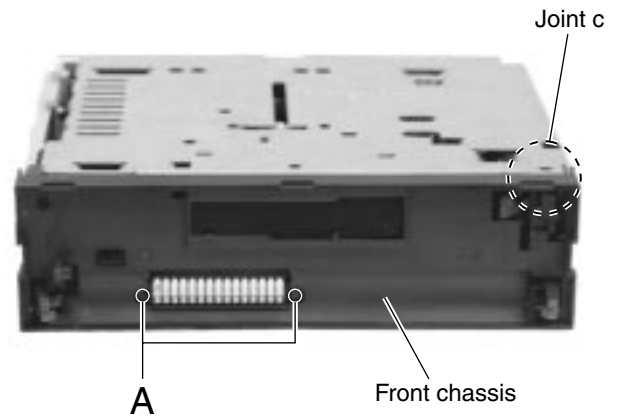


Front panel unit

Fig.1

### ■ Removing the front chassis (See Fig.2~3)

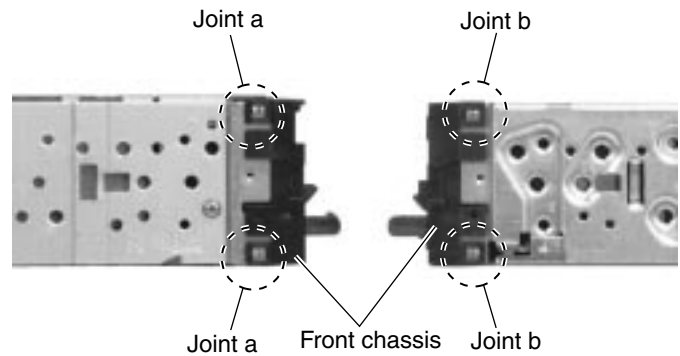
1. Remove the two screws **A** attaching the front chassis.
2. Insert a screwdriver to the two joints **a** on the left side of the front chassis, two joints **b** on the right side and one joint **c** from upside, then detach the front chassis toward the front side.



A

Fig.2

Front chassis



Joint a

Fig.3

Joint b

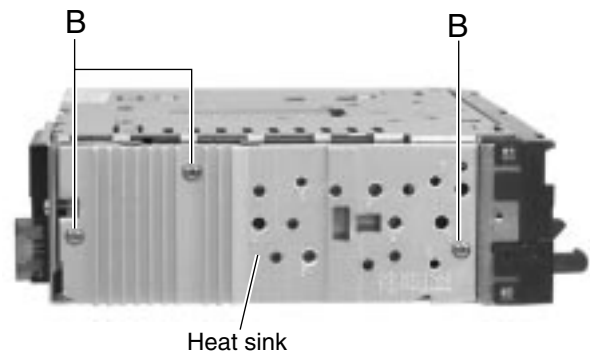
Joint a

Front chassis

Joint b

### ■ Removing the heat sink (See Fig.4)

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



Heat sink

Fig.4

### ■ Removing the bottom cover (See Fig.5)

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

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.

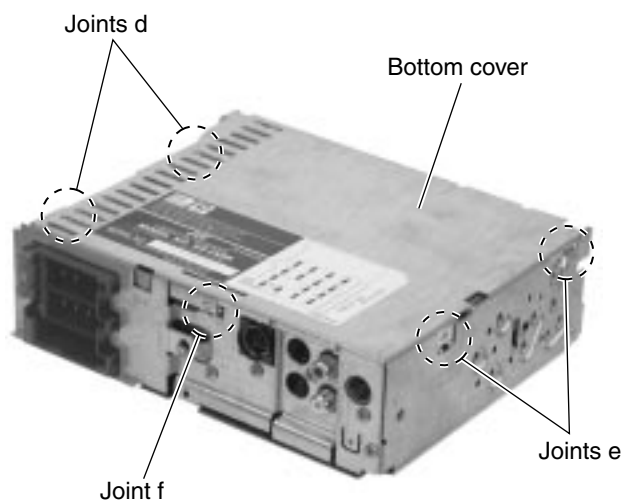


Fig. 5

### ■ Removing the rear panel (See Fig.6 )

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

1. Remove the five screws **C** attaching the rear panel and one screw **D** attaching the pine jack on the back of the body.

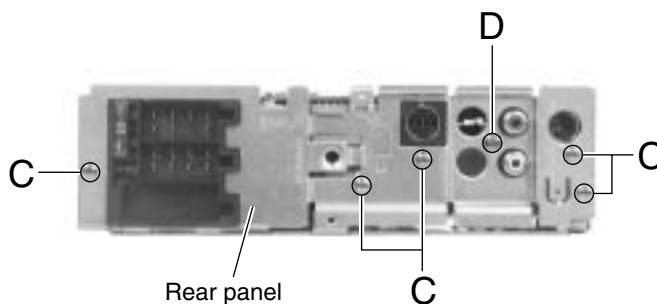


Fig. 6

### ■ Removing the main amplifier board assembly (See Fig.7)

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

1. Remove the two screws **E** attaching the main amplifier board assembly on the top cover.
2. Disconnect connector CP401 on the main amplifier board assembly from the cassette mechanism assembly.

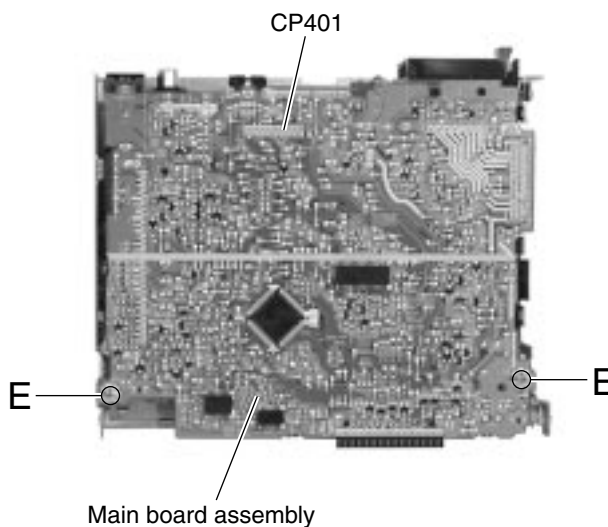


Fig. 7

### ■ Removing the cassette mechanism assembly (See Fig.8)

- Prior to performing the following procedure, remove the front chassis, the heat sink, bottom cover and the main amplifier board assembly.
1. Remove the four screws **F** attaching the cassette mechanism assembly from the top cover.

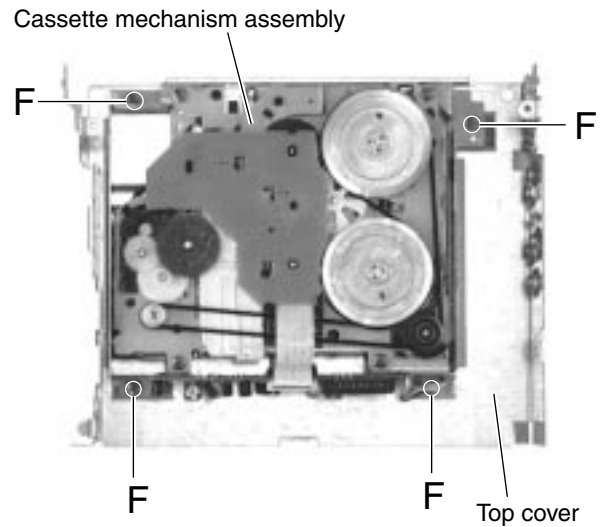


Fig. 8

### ■ Removing the (LCD & key) control switch board (See Fig.9 and 10 )

1. Remove the front panel unit from the main body.
2. Remove the five 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.

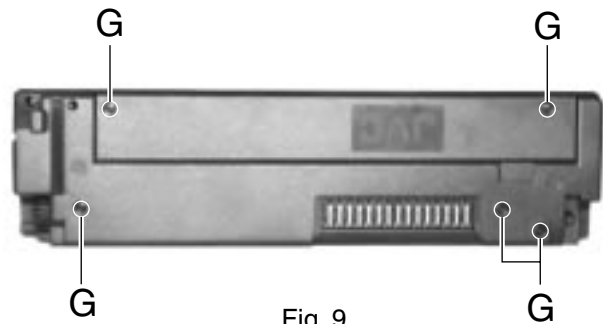


Fig. 9

LCD & Key control board

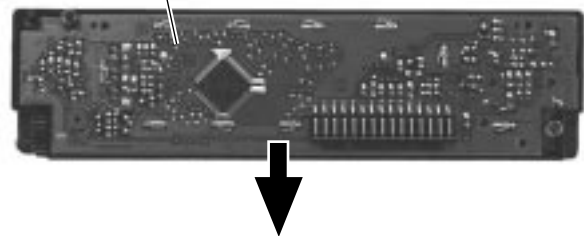


Fig. 10

**<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.

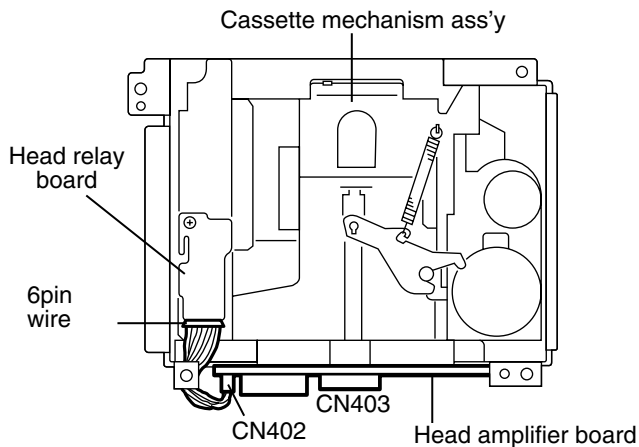


Fig.1

**■ 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.

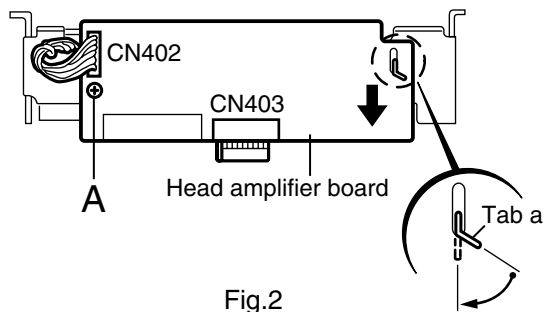


Fig.2

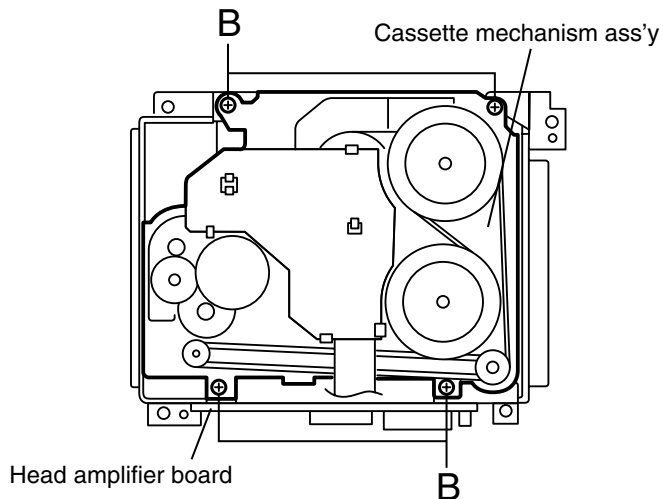


Fig.3

### ■ 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**.

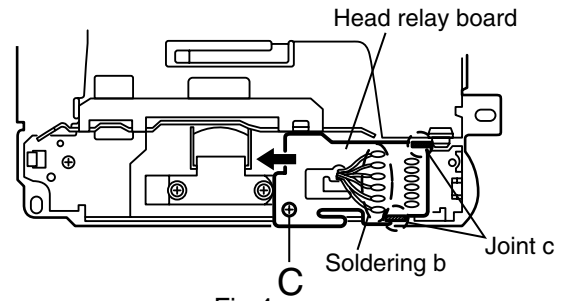


Fig.4

### ■ 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.

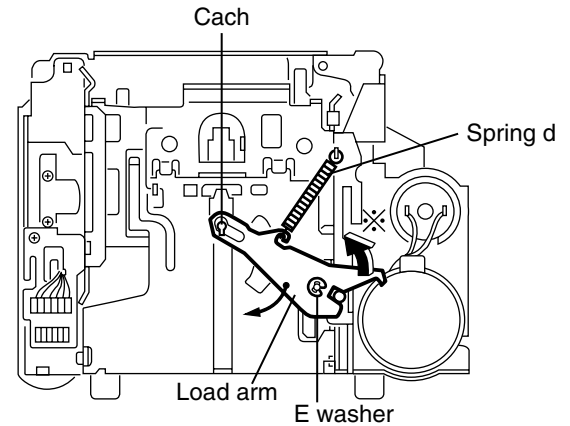


Fig.5

### ■ 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**.

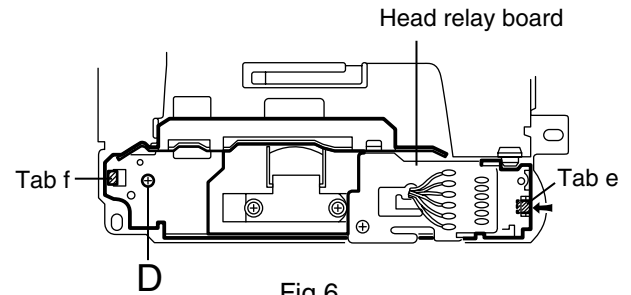


Fig.6

### ■ 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.

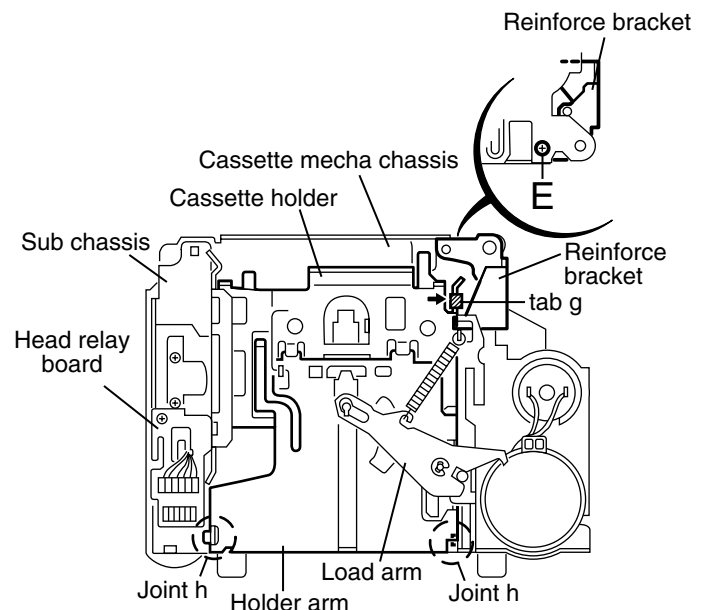


Fig.7

**■ 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.

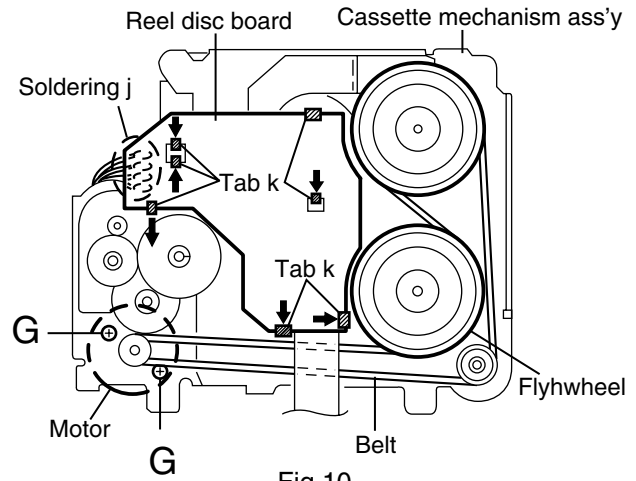


Fig.10

**■ 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.

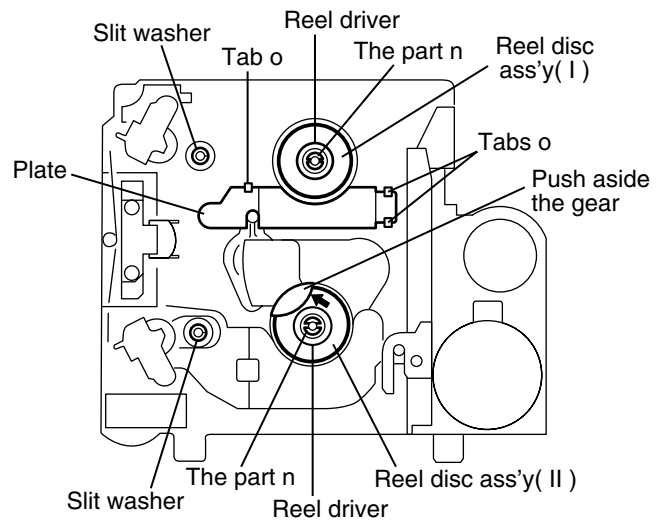


Fig.12

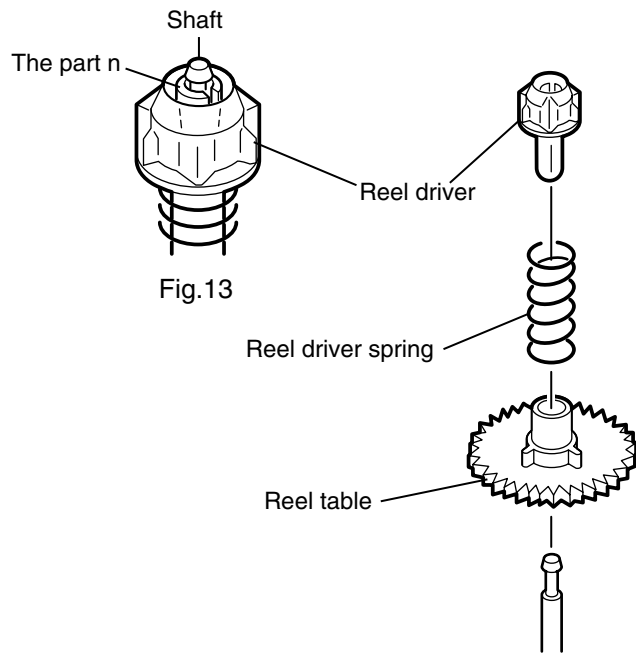


Fig.13

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.

Push aside the gear and reattach the reel disc Ass'y( I ).

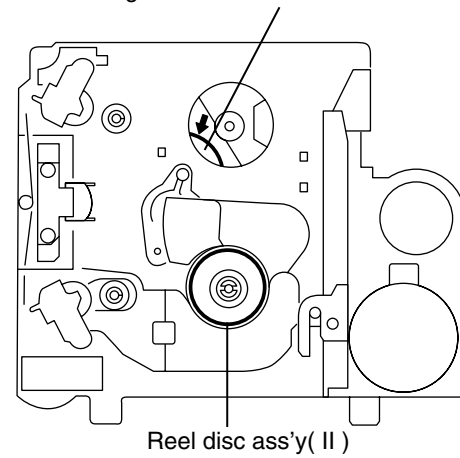


Fig.15

# 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  
 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

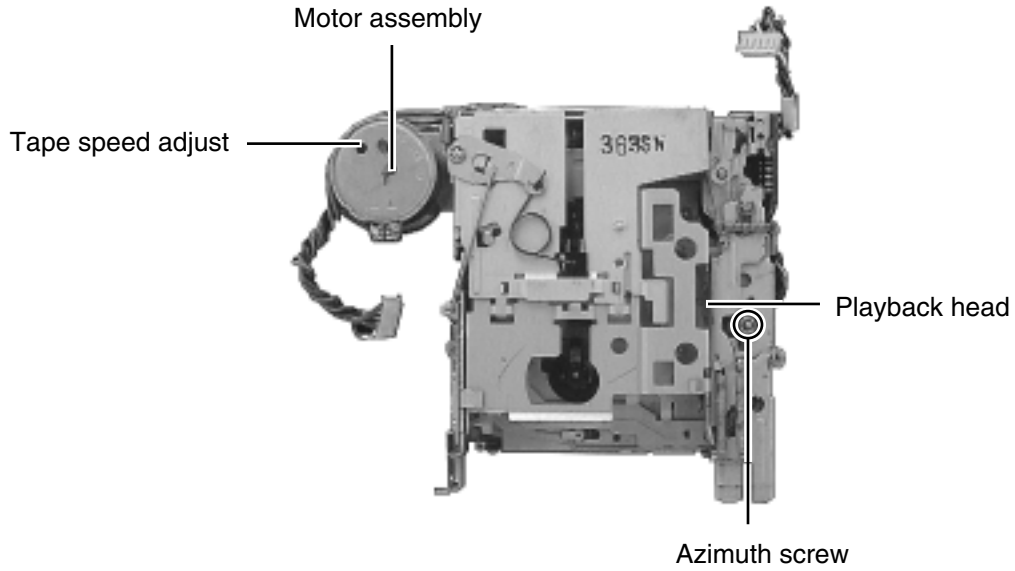
## ■ Standard volume position

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.

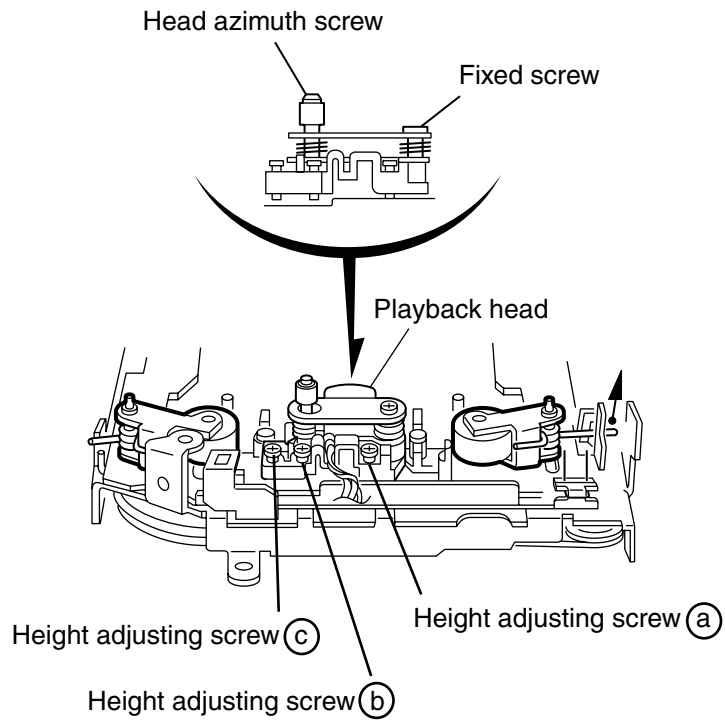
- |                |  |
|----------------|--|
| AM mode        | 999kHz/62dB,INT/400Hz,30%<br>modulation signal on recieving. |
| FM mono mode   | 97.9MHz/66dB,INT/400Hz,22.5kHz<br>deviation pilot off mono   |
| FM stereo mode | 1kHz,67.5kHz dev. pilot7.5kHz dev.                           |
| Output level   | 0dB(1 μV,50 Ω /open terminal)                                |

### ■Arrangement of adjusting & test points

Cassette mechanism  
(Surface)



Head section view



### ■ Information for using a car audio service jig

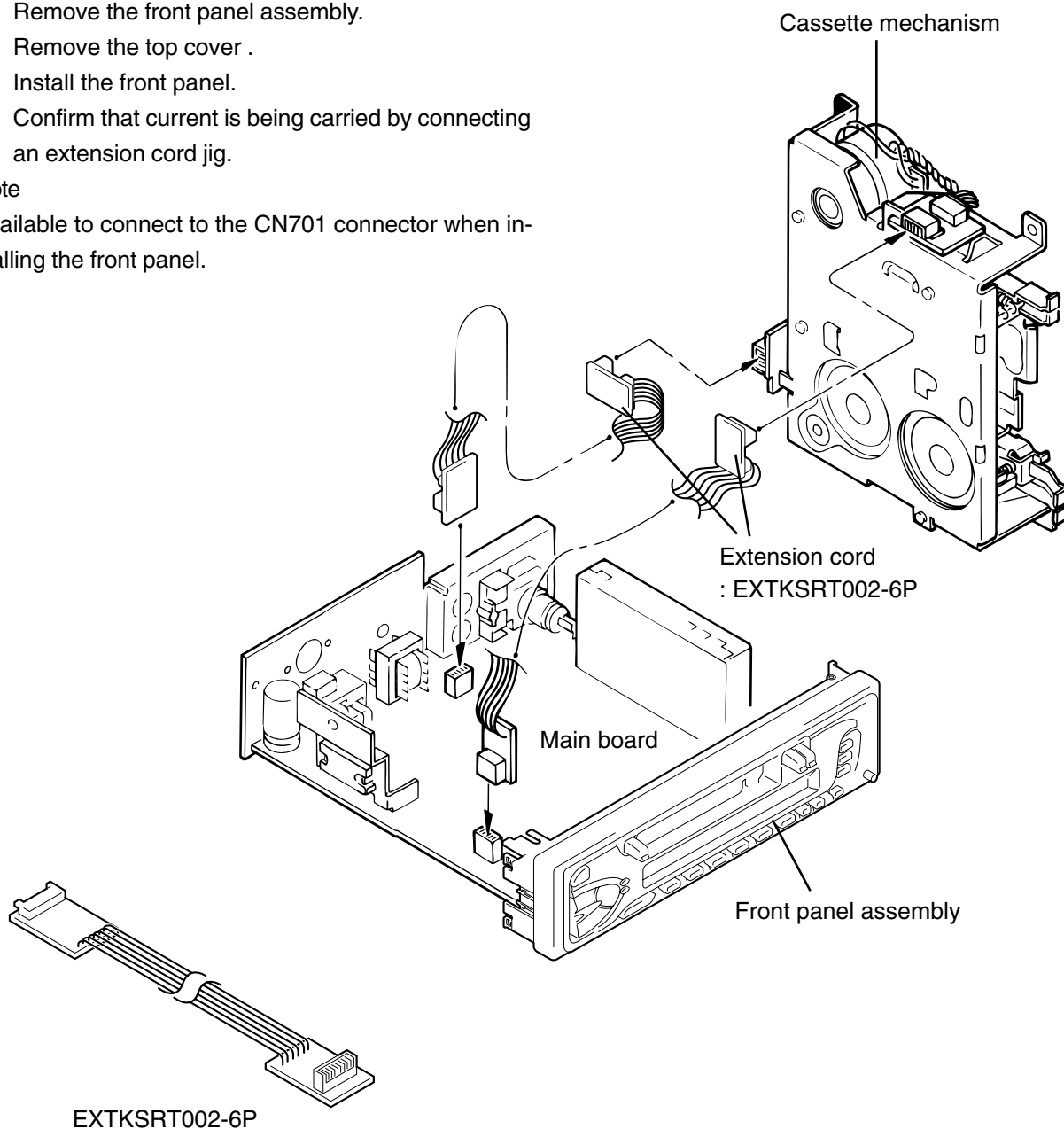
1. For 1995 and 1996 , we're advancing efforts to make our extension cords common for all car audio products. Please use this type of extension cord as follows.
2. As a U-shape type top cover is employed, this type of extension cord is needed to check operation of the mechanism assembly after disassembly.
3. Extension cord : EXTKSRT002-6P ( 6 pin extension cord ) For connection between mechanism assembly and main board assembly.  
Check for mechanism driving section such as motor ,etc..

### ■ Disassembly method

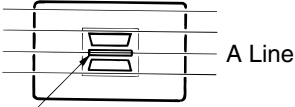
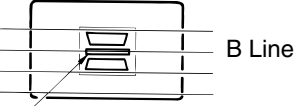
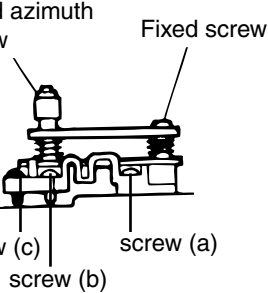
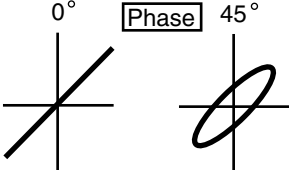
1. Remove the bottom cover.
2. Remove the front panel assembly.
3. Remove the top cover .
4. Install the front panel.
5. Confirm that current is being carried by connecting an extension cord jig.

**Note**

Available to connect to the CN701 connector when installing the front panel.



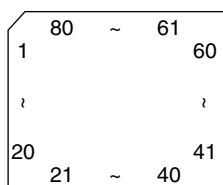
■ Mechanism adjustment section

Item	Adjusting & Confirmation Methods	Adjust	Std. Value
<p>1.Head azimuth</p>	<p>"Head Height Adjustment"                      Note                      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>load the mirror tape ( SCC-1659 ). Adjust with height adjustmentscrew (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>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>Adjust the azimuth 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"                      1.Load the test tape ( VT724: 1kHz ) and play it back in the reverse play mode. set the Rch output level to maximum.                      2.Load the test tape ( VT703: 10kHz ) and play it back in the forward play mode. Adjust the Rch and Lch output levels to maximum, with azimuth adjustment screw (b).                      In this case, the phase difference should be within 45° .                      3.Engage the reverse mode and adjust the output level to maximum, with azimuth adjustment screw (c).                      *The phase difference should be 45_Kor more.                      4.When switching between forward and reverse modes, the difference between channels should be within 3dB.                      *Between FWD Lch and Rch, REV Lch and Rch.                      5.When the test tape ( VT721 : 315Hz ) is played back, the level difference between channels should be within 1.5dB.</p>	<p>Adjust</p>  <p>A Line</p> <p>Head shield</p> <p>The head is at low position during FWD.</p>  <p>B Line</p> <p>Head shield</p> <p>The head is at height position during REV.</p>  <p>Head azimuth screw</p> <p>Fixed screw</p> <p>screw (c)</p> <p>screw (a)</p> <p>screw (b)</p> <p>0° Phase 45°</p> 	<p>Std. Value</p>
<p>2. Tape Speed and Wow &amp; Flutter</p>	<ol style="list-style-type: none"> <li>Check to see if the reading of the frequency counter &amp; Wow flutter meter is within 2940-3090 Hz( FWD/REV ), and less than 0.35% ( JIS RMS ).</li> <li>In case of out of specification, adjust the motor with a built-in volume resistor.</li> </ol>	<p>Built-in volume resistor</p>	<p>Tape Speed 2940-3090Hz                      Wow&amp;Flutter Less than 0.35% (JIS RMS)</p>
<p>3. Playback Frequency response</p>	<ol style="list-style-type: none"> <li>Play the test tape ( VT724 : 1kHz ) back and set the volume position at 2V.</li> <li>Play the test tape ( VT739 )back and confirm 0 ± 3dB at 1kHz/ 8kHz and -4+2dB at 1kHz/125Hz.</li> <li>When 8kHz is out of specification, it will be necessary to read adjust the azimuth.</li> </ol>		<p>Speaker out 1kHz/8kHz : 0dB_}3dB, 125Hz/1kHz : -4dB+2dB,</p>

## Description of major ICs

### ■ UPD178018AGC-551 (IC701) : Main system control CPU

#### 1. Pin layout



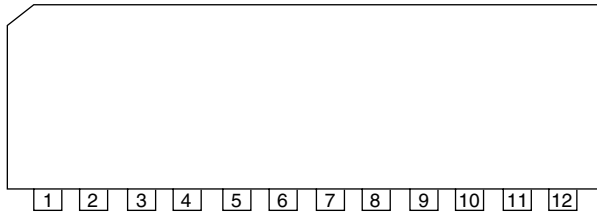
#### 2. Pin function

Pin No.	Port Name	I/O	Descriptions
1	KEY 0	I	Key input 0
2	KEY 1	I	Key input 1
3	KEY 2	I	Key input 2
4	LEVEL	I	Level meter input
5	SM	I	S.meter level input
6	SQ	I	S.Quality level input
7	LCDCE	O	CE output to LCD driver
8	LCDDA	O	Data output to LCD driver
9	LCDSCK	O	Clock output to LCD driver
10	BUSI/O	I	I/O selector output for J-BUS, H : OUT, L: INPUT
11	UNLOCK	-	Non connect
12	BUSSI	I	J-BUS Data input
13	BUSO	O	J-BUS Data output
14	BUSCK	I/O	J-BUS Clock in/output
15	NC	-	Non connect
16	NC	-	Non connect
17	NC	-	Non connect
18	NC	-	Non connect
19	NC	-	Non connect
20	NC	-	Non connect
21	GNDPORT	-	Port GND
22	VDDPORT	-	Port Vdd
23	AM	O	Non connect
24	AFCK	O	AF check output, L: AF check
25	MONO	O	Monaural on /off selecting output, H:mono on
26	FM	O	FM/AM switching output L : FM H : AM
27	SEEK/STP	O	Auto seek /stop selecting output, H: Seek, L:Stop
28	NC	I	Pulse signal input port for Cruise control
29	IFC	I	FM/AM midle frequency counter input
30	VDDPLL	-	PLL Vdd
31	FMOSC	I	FM/AM limited generator frequency input
32	AMOSC	-	None connect
33	GNDPLL	-	PLL GND
34	AMEO	O	AM error out output
35	FMEO	O	FM error out output
36	IC	-	GND
37	SD/ST	I	Station detector, Stereo signal input, H:Find Station, L:Stereo
38	STAGE0	I	Pull up
39	NC	-	Non connect
40	F/R	O	Main motor output

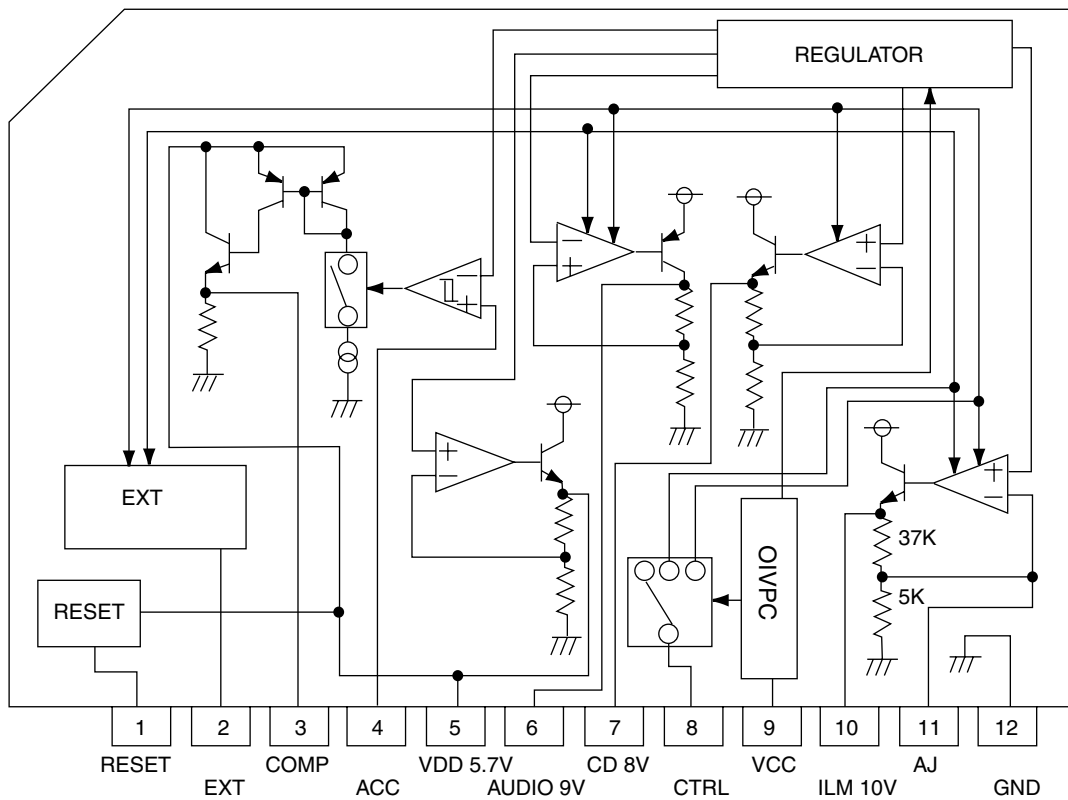
Pin No.	Port Name	I/O	Descriptions
41	NC	-	Non connect
42	NC	-	Non connect
43	TELMUTE	O	Telephone mute signal detection input
44	TAPEIN	I	TAPE input
45	I2CCLK	O	I2C information clock output
46	I2CDAO	O	I2C information data output
47	I2CDAI	I	I2C information clock input
48	NC	-	Non connect
49	NC	-	Non connect
50	NC	-	Non connect
51	NC	-	Non connect
52	NC	-	Non connect
53	NC	-	Non connect
54	NC	-	Non connect
55	TAPE	-	Non connect
56	TUNER	-	Non connect
57	CD	-	Non connect
58	NC	-	Non connect
59	NC	-	Non connect
60	MUTE	O	Mute output
61	POWER	O	Power ON /OFF switching output , H : power on
62	NC	-	Non connect
63	NC	-	Non connect
64	NC	-	Non connect
65	NC	-	Non connect
66	NC	-	Non connect
67	ON	I	CPU power supply
68	STOP	O	STOP signal output terminal
69	RDSCK	I	Clock input for RDS
70	RDSDA	I	RDS data input
71	REMOCON	I	Remocom input
72	DETACH	I	Detach signal input H : Power save
73	BUSINT	I	Cut-in input for J-BUS signal
74	REGCPU	-	Regulator for CPU power supply, Connect the GND with 0.1 $\mu$ F.
75	GND	-	Ground
76	X2	-	Connecting the crystal oscillator for system clock
77	X1	I	Connecting the crystal oscillator for system clock
78	REGOSC	-	Regulator for oscillator circuit. Connect the GND with 0.1 $\mu$ F.
79	VDD	-	Vdd
80	RESET	-	Pull up

■ BA4905-V3 (IC901) : Regulator

1.Pin layout



2.Block diagram





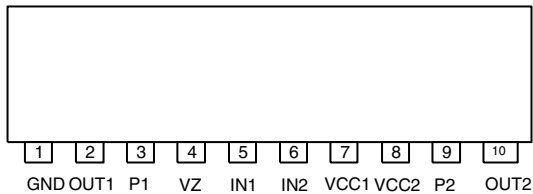
## 3.Pin function

BA4905-V3

1	RESET	If VDD voltage becomes 4V or less, RESET output becomes low level.
2	EXT output	This outout voltage is approximately 0.5V lower than VCC, and max output current is 300mA.
2	COMP output	A voltage supply for ACC block this outout 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 block 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.

## ■ LB1641 (IC402) : DC motor driver

## 1. Pin layout

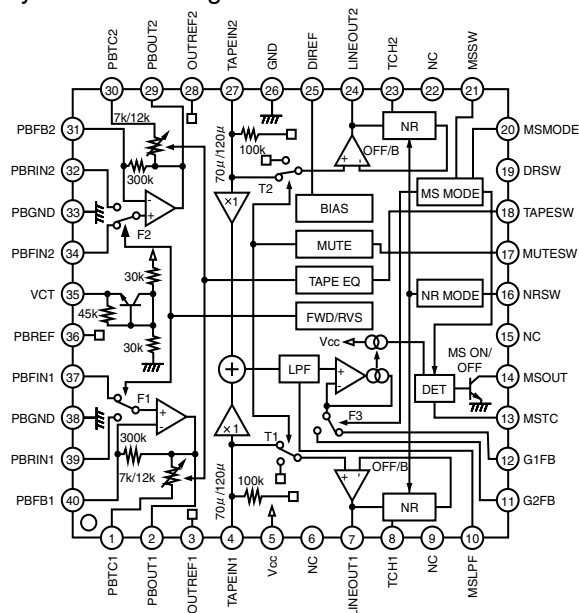


## 2. Pin function

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



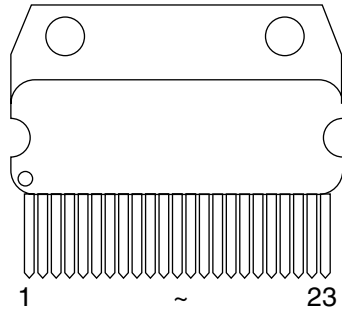
2. Pin function

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	-	
7	LINEOUT1	O	Line output
8	TCH1	-	Time constant for the HLS
9	NC	-	
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	-	
23	TCH2	-	Time constant for the HLS
24	LINEOUT2	O	Line output

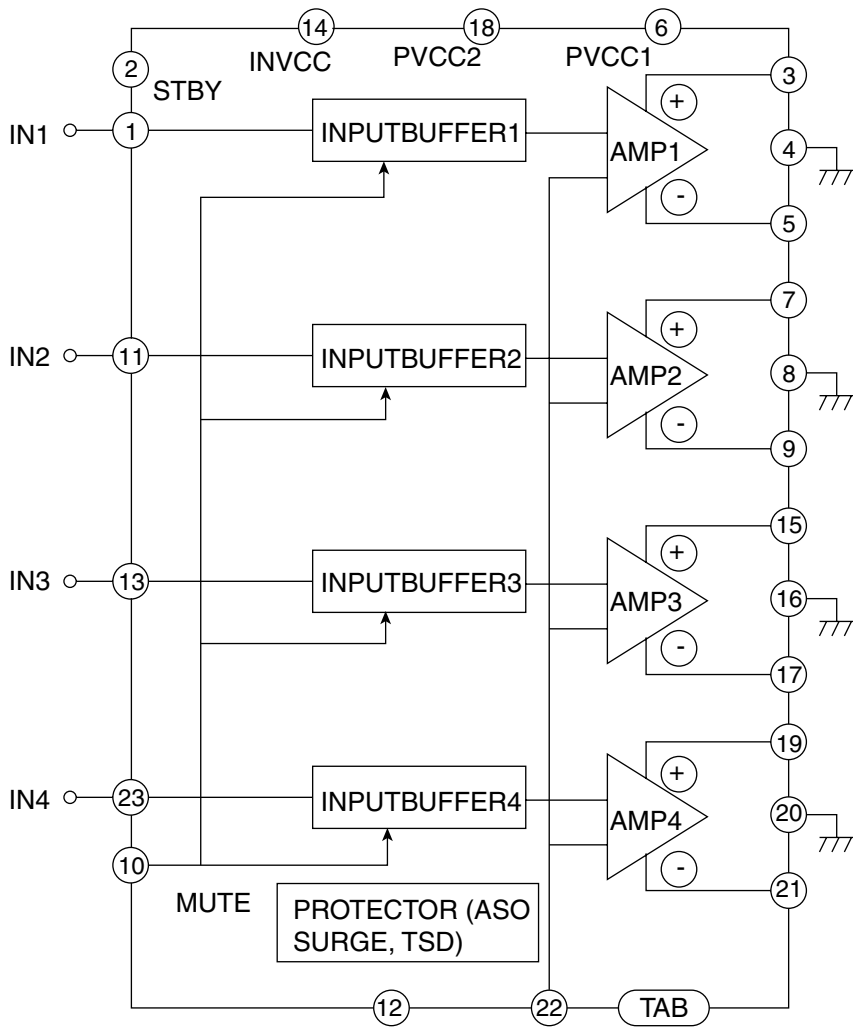
Pin No.	Symbol	I/O	Function
25	DIREF	-	Resistance for setting the reference
26	GND	-	Ground
27	TAPEIN2	I	TAPE input
28	OUTREF2	O	Output reference
29	PBOUT2	O	Playback equalizer amplifier output
30	PBTC2	-	Playback equalizer amplifier capacitance
31	PBFB2	I	Playback equalizer amplifier feedback
32	PBRIN2	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

■ HA13158A (IC301) : Power amp

1. Pin layout

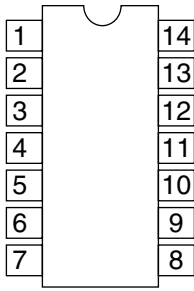


2. Block diagram



■ HD74HC126FP-X (IC801) : Buffer

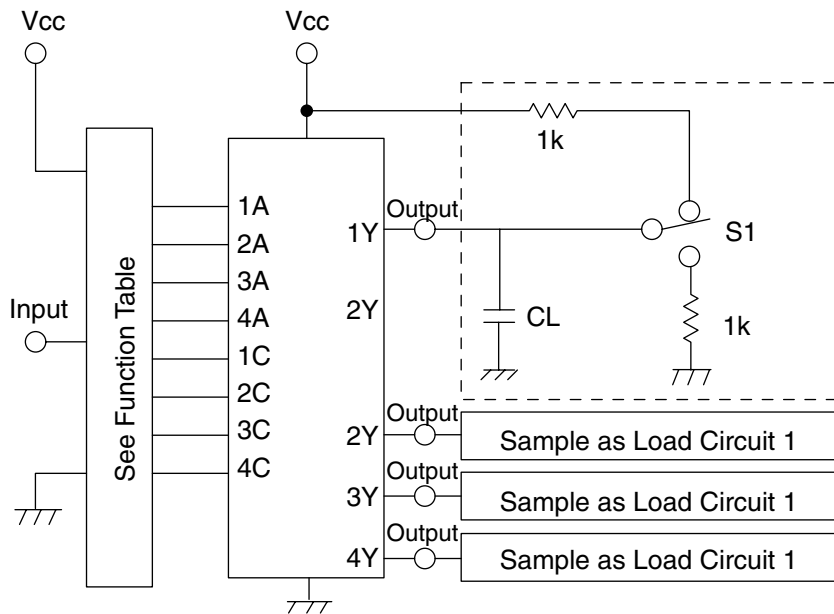
1.Pin layout



2.Pin function

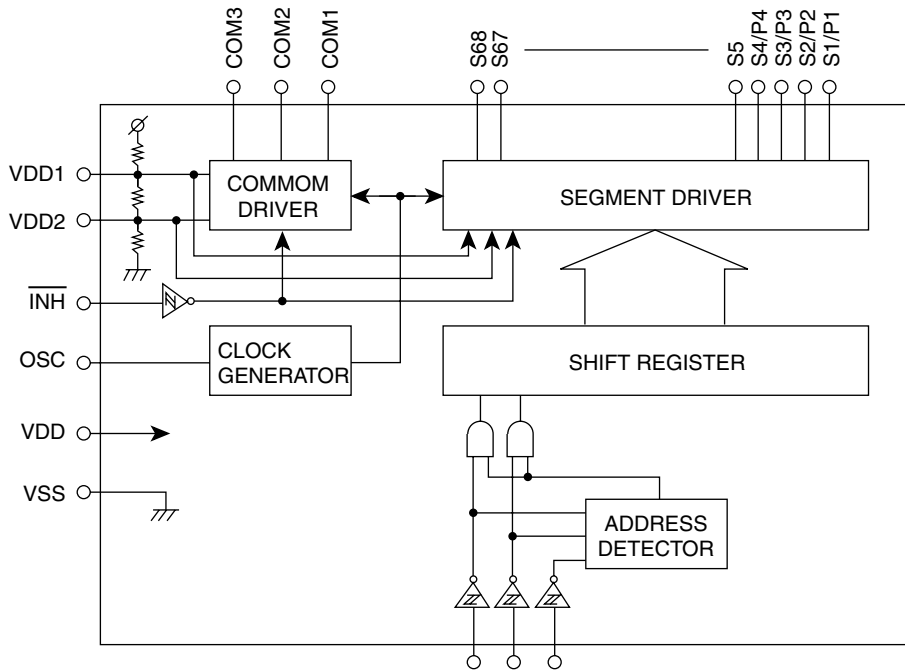
Input		Outout
C	A	Y
L	X	Z
H	L	H
H	H	L

3.Block diagram



## ■ LC75873NW (IC601) : LCD driver

### 1. Block Diagram

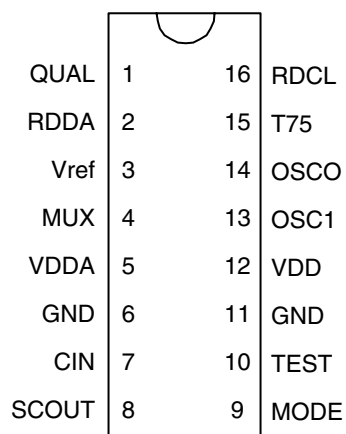


### 2. Pin Functions

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	$\overline{\text{CE}}$	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.

■ SAA6579T-X(IC71):RDS detector

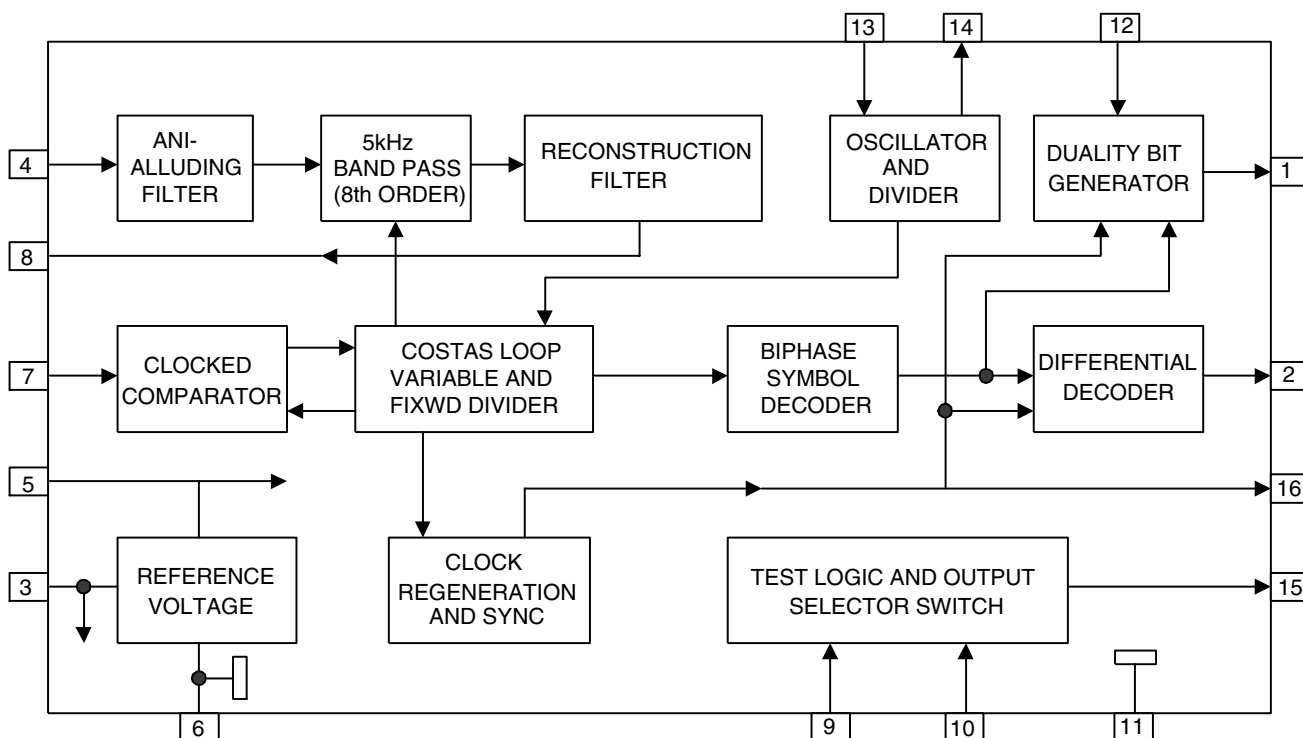
1.Terminal Layout



2.Pin Function

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

3.Block Diagram

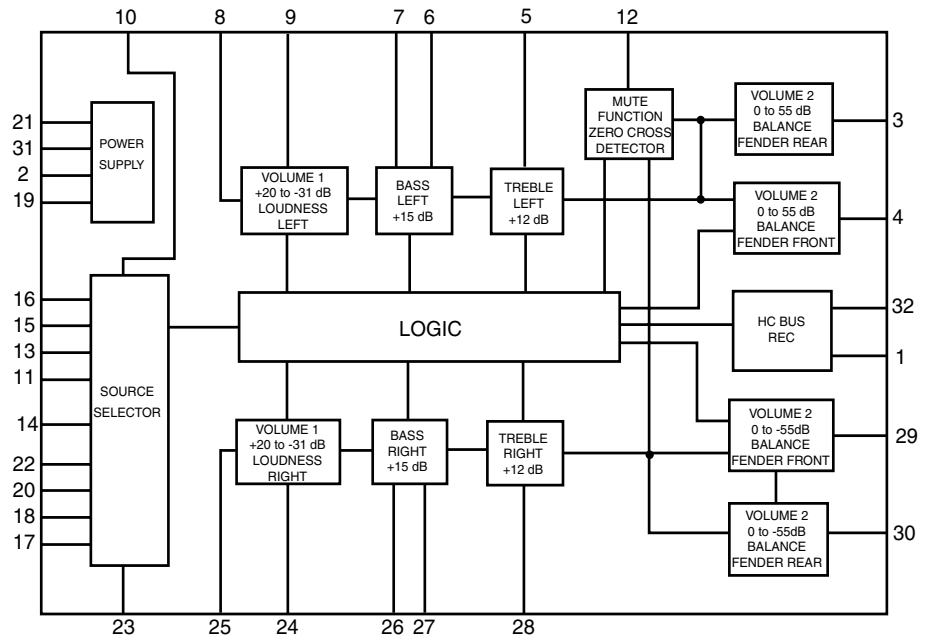


**TEA6320T-X (IC161) : E.volume**

1.Pin layout

SDA	1	32	SCL
GND	2	31	VCC
OUTLR	3	30	OUTRR
OUTLF	4	29	OUTRF
TL	5	28	TR
B2L	6	27	B2R
B1L	7	26	B1R
IVL	8	25	IVR
ILL	9	24	ILR
QSL	10	23	QSR
IDL	11	22	IDR
MUTE	12	21	Vref
ICL	13	20	ICR
IMD	14	19	CAP
IBL	15	18	IBR
IAL	16	17	IAR
			CD-CH
			TAPE
			TUNER

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.

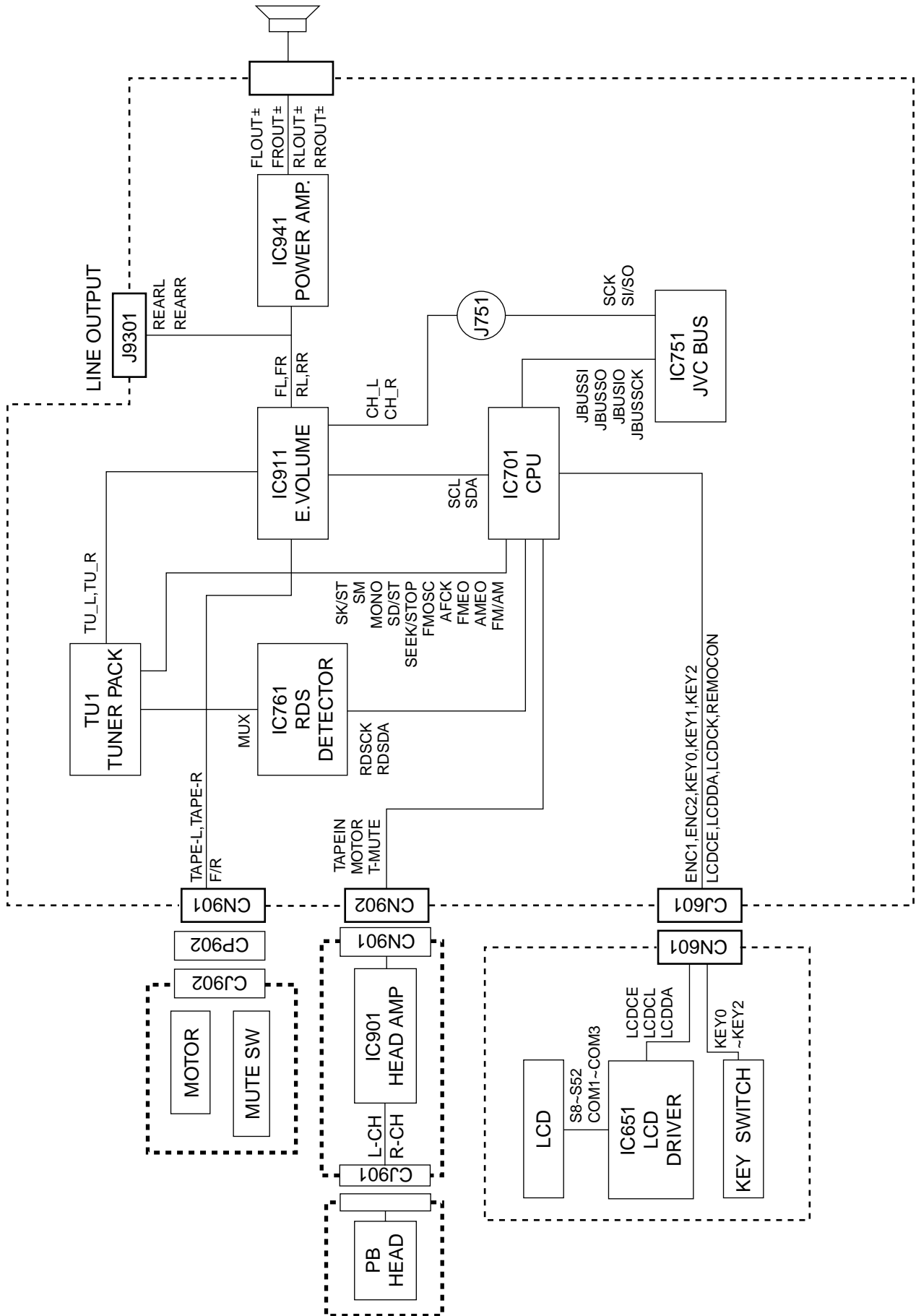
**JVC**

VICTOR COMPANY OF JAPAN, LIMITED  
MOBILE ELECTRONICS DIVISION

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



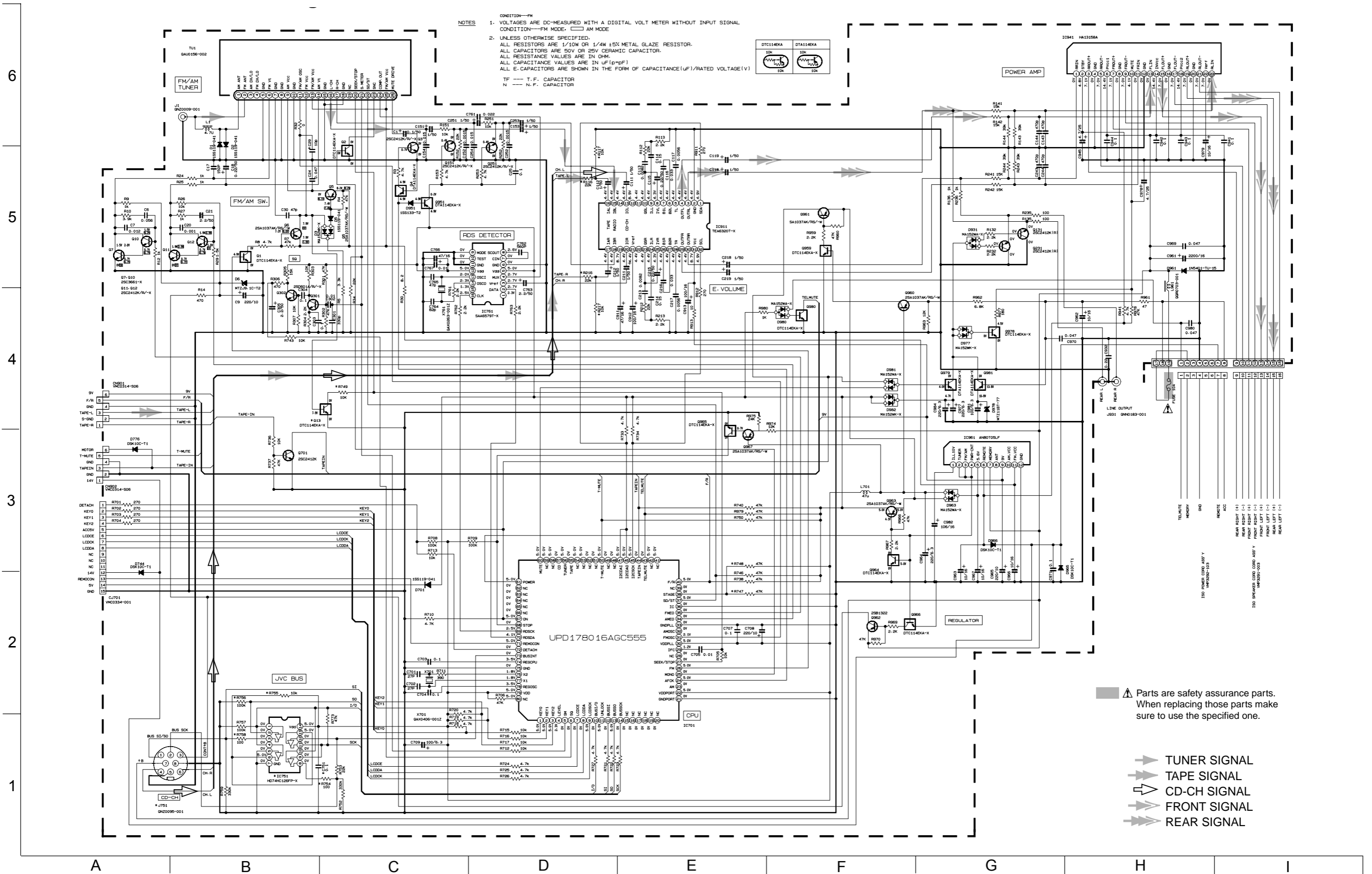
# Block diagram



< M E M O >

# Standard schematic diagrams

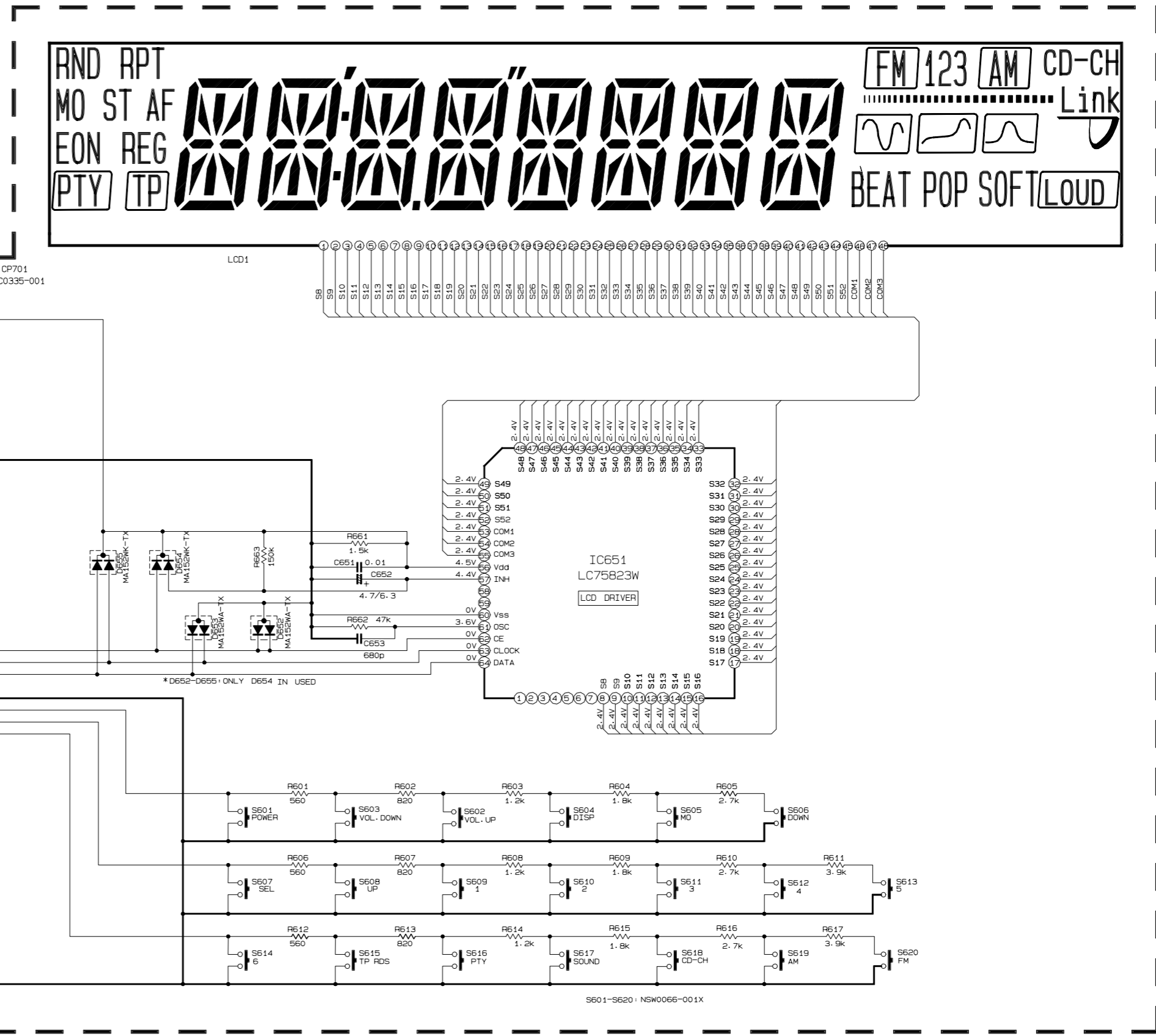
## Main amp section



■ LCD & Key control section

NOTES

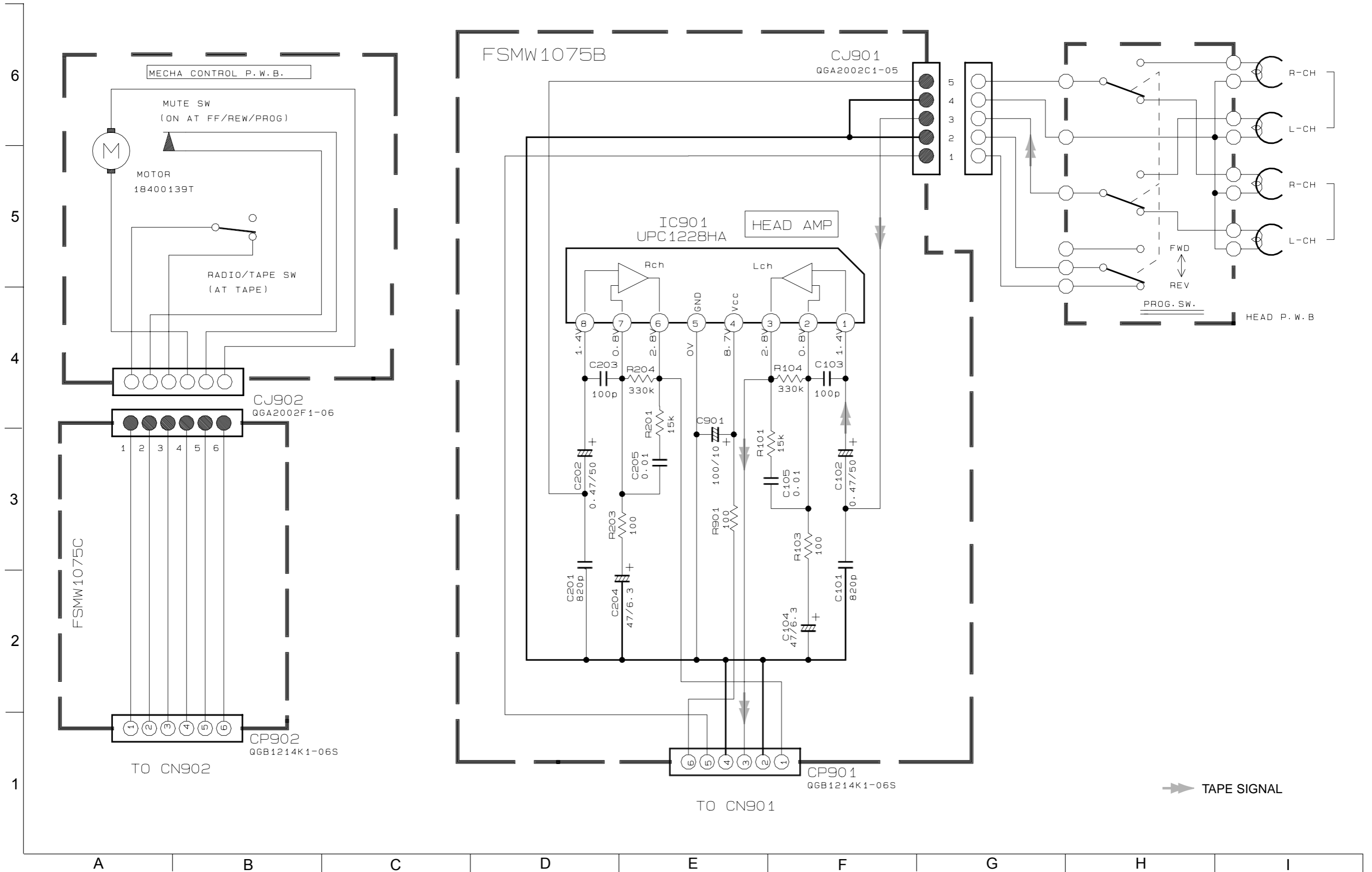
- 1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL. CONDITION - - - FM MODE
- 2. UNLESS OTHERWISE SPECIFIED. ALL RESISTORS ARE 1/4W 5% CARBON RESISTOR OR 1/4W 1/10W 5% METAL GLAZE RESISTOR. ALL CAPACITORS ARE 50V CERAMIC CAPACITOR. ALL RESISTANCE VALUES ARE IN OHM(Ω). ALL CAPACITANCE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



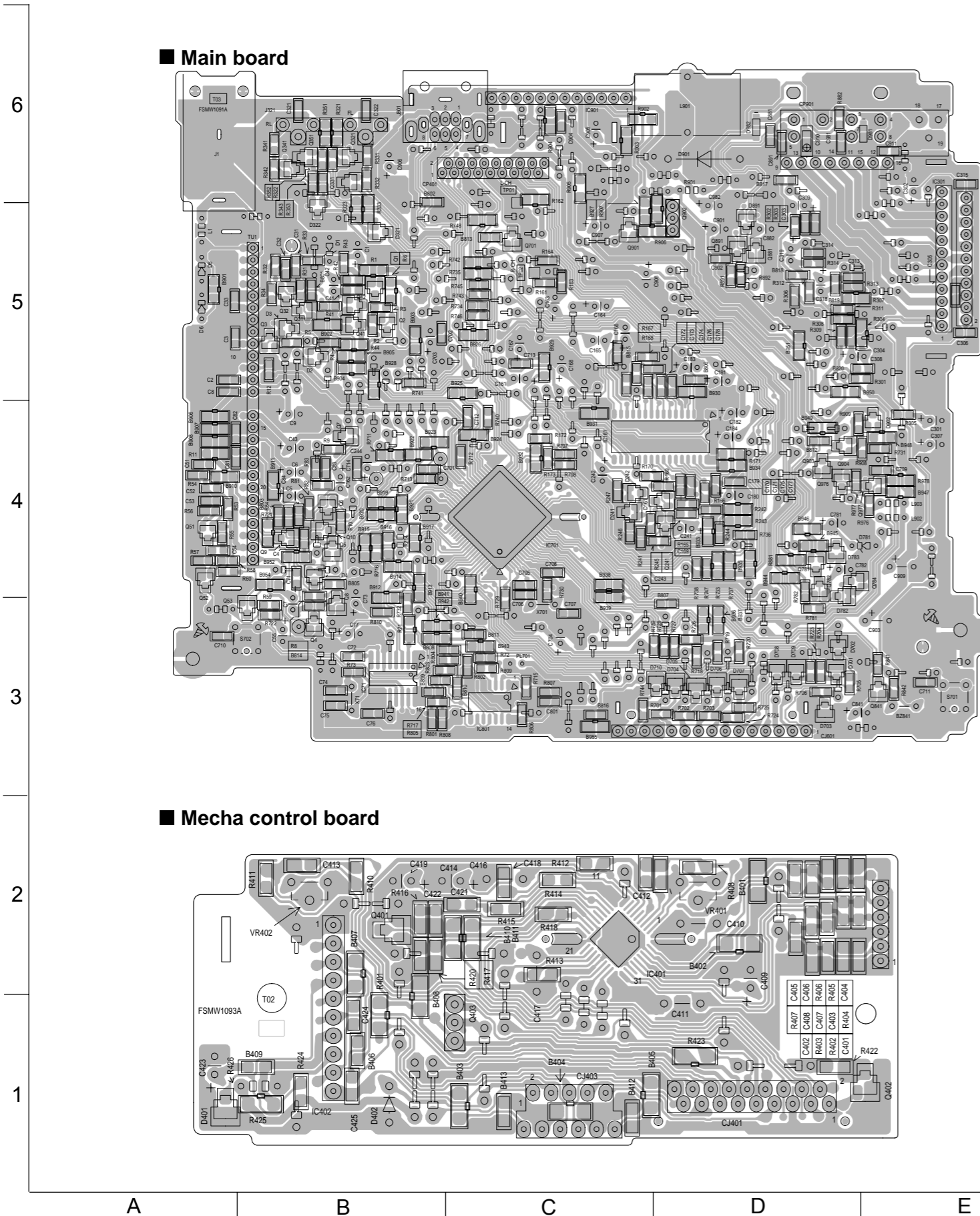
6  
5  
4  
3  
2  
1

A B C D E F G H I

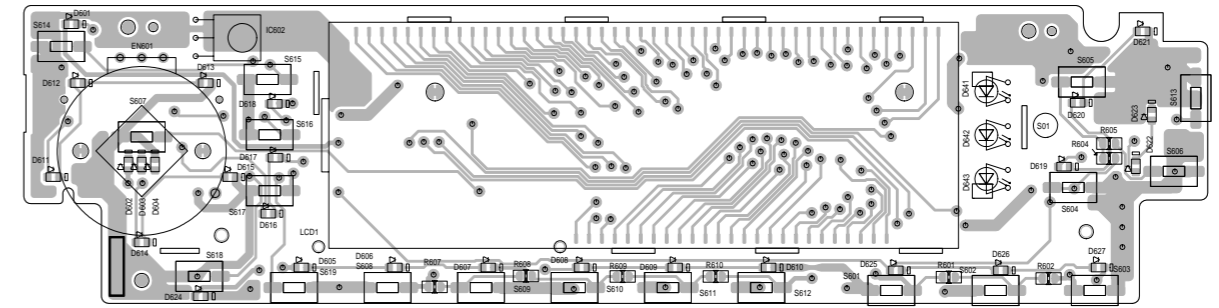
■ Mecha control & Head amp section



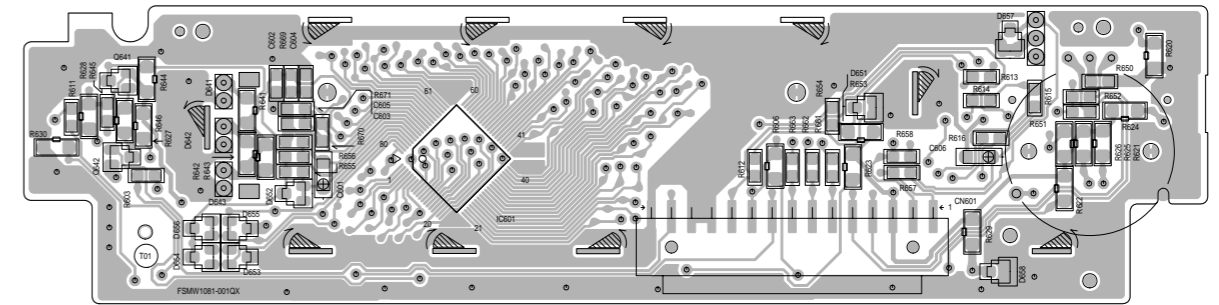
# Printed circuit boards



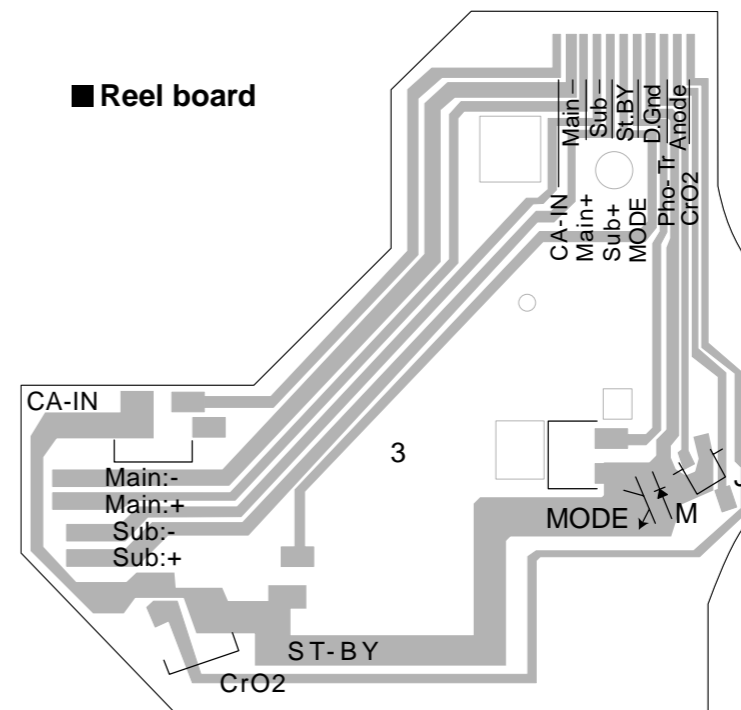
■ Front board (Foerward side)



■ Front board (Reverse side)



■ Reel board



PARTS LIST

[ KS-FX8R ]

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

Area suffix  
E ----- Continental Europe

- Contents -

Exploded view of general assembly and parts list ..... 3- 2

Cassette mechanism assembly and parts list ..... 3- 5

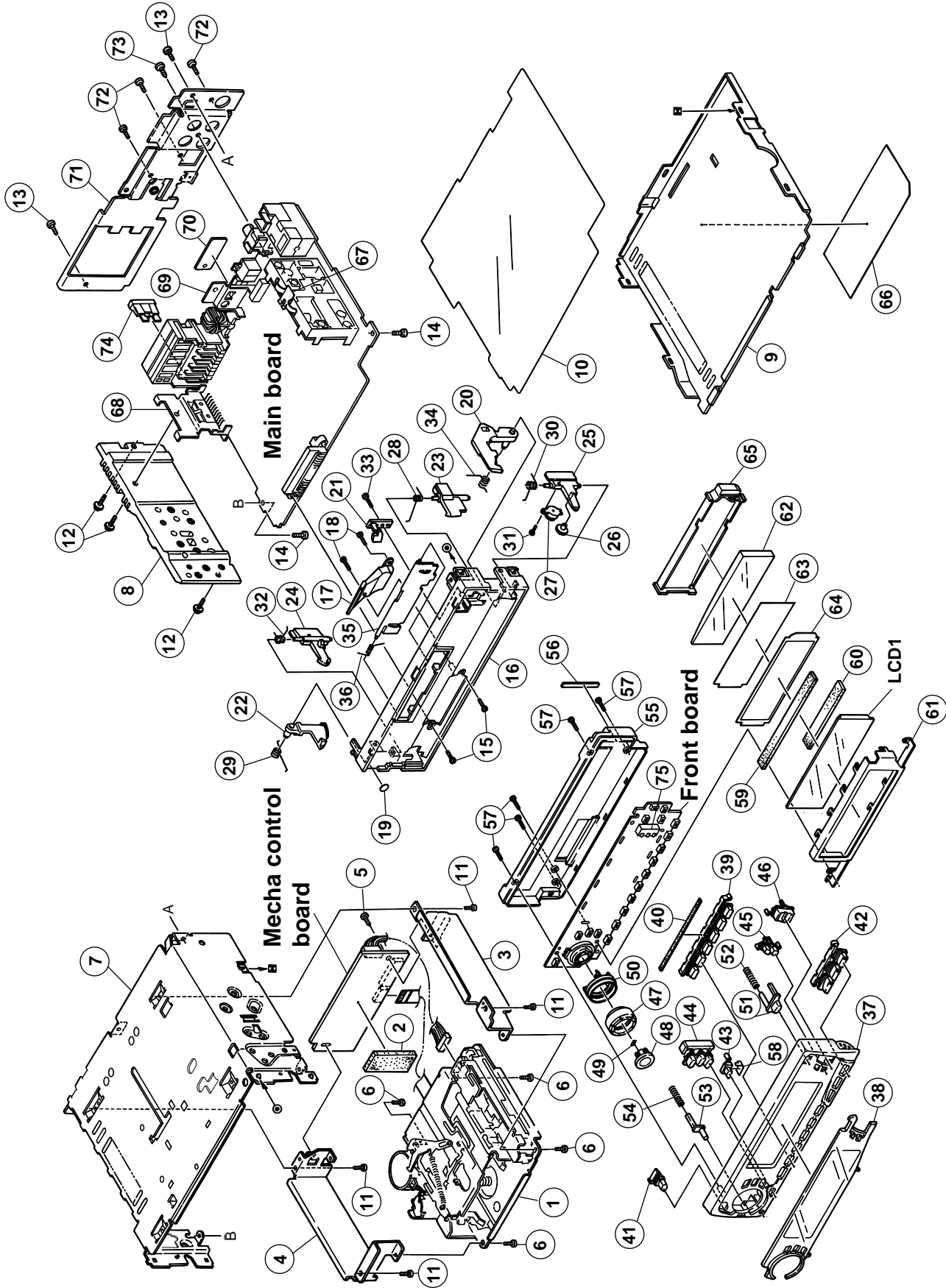
Electrical parts list ..... 3-10

Packing materials and accessories parts list ..... 3-14

# Exploded view of general assembly and parts list

Block No. 

M	1	M	M
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■ 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	SPACER	1		
	3	FSKL2001-002	MECHA BRACKET(R)	1		
	4	FSKL2002-001	MECHA BRACKET(L)	1		
	5	QYSDST2606Z	SCREW	1	PCB + MECHA	
	6	QYSDST2606Z	SCREW	4	MECHA+M.BRACKET	
	7	FSJC1056-002	TOP CHASSIS	1		
	8	FSMH3001-202	SIDE PANEL	1		
	9	FSKM3011-002	BOTTOM COVER	1		
	10	FSMA3005-001	INSULATOR	1		
	11	QYSDST2604Z	SCREW	4	CHASSIS+MECHA.BKT	
	12	FSKZ4005-001	SCREW	3		
	13	QYSDST2604Z	SCREW	2	CHASSIS+REAR BKT	
	14	QYSDST2606Z	SCREW	2	CHASSIS+MAIN PWB	
	15	QYSDSF2006M	SCREW	2	F.CHASSIS+CONECTER	
	16	FSJC1060-002	FRONT CHASSIS	1		
	17	VJK3707-001	LIGHT LENS	1		
	18	QYSPSGU1745N	MINI SCREW	2	FOR LIGHT LENS	
	19	FSYH4036-057	SHEET	1		
	20	FSKS3014-001	OPEN LEVER	1		
	21	FSKS3015-001	LOCK LEVER(O.L)	1		
	22	VKS3798-002	RELEASE LEVER	1		
	23	VKS3793-001	LOCK LEVER(TOP)	1		
	24	VKS3794-003	LOCK LEVER(L)	1		
	25	VKS3795-002	LOCK LEVER(R)	1		
	26	VKS5563-001	GEAR	1		
	27	VKZ4786-002	OIL DAMPER	1		
	28	FSKW4012-002	T.SPRING	1	FOR L.LEVER(TOP)	
	29	VKW5264-005	T.SPRING	1	FOR RELEASE LEVER	
	30	VKW5262-001	T.SPRING	1	FOR L.LEVER(R)	
	31	QYSDSF2006M	SCREW	1	DAMPER+L.LEVER(R)	
	32	VKW5263-002	T.SPRING	1	FOR L.LEVER(L)	
	33	VKZ4777-001	MINI SCREW	1	LOCK LEVER(O.L.)	
	34	FSKW4013-002	T.SPRING	1	FOR OPEN LEVER	
	35	FSJC3014-001	CASSETTE LID	1	NO PRINTING	
	36	VKW4947-002	DOOR SPRING	1		
	37	FSJC1058-001	FRONT PANEL	1		
	38	FSJD3024-01M	FINDER ASSY	1		
	39	FSXP2045-012	PRESET BUTTON	1	1-6 LASER CUT	
	40	FSYH4036-031	SHEET	1		
	41	FSXP3053-002	POWER BUTTON	1		
	42	FSXP2038-001	D.FUNC BUTTON	1	CH,FM/AM,TAPE	
	43	FSXP4006-001	SCM BUTTON	1		
	44	FSXP2041-003	PUSH BUTTON(L)	1	DISP,TP,PTY	
	45	FSXP3062-001	PUSH BUTTON(R)	1	MO/RND,RPT	
	46	FSXP2043-001	UP DOWN BUTTON	1		
	47	FSXK3003-005	VOL.KNOB	1	JOG DIAL	
	48	FSXP3061-001	SEL BUTTON	1		

**■ Parts list (General assembly)**

Block No. M1MM

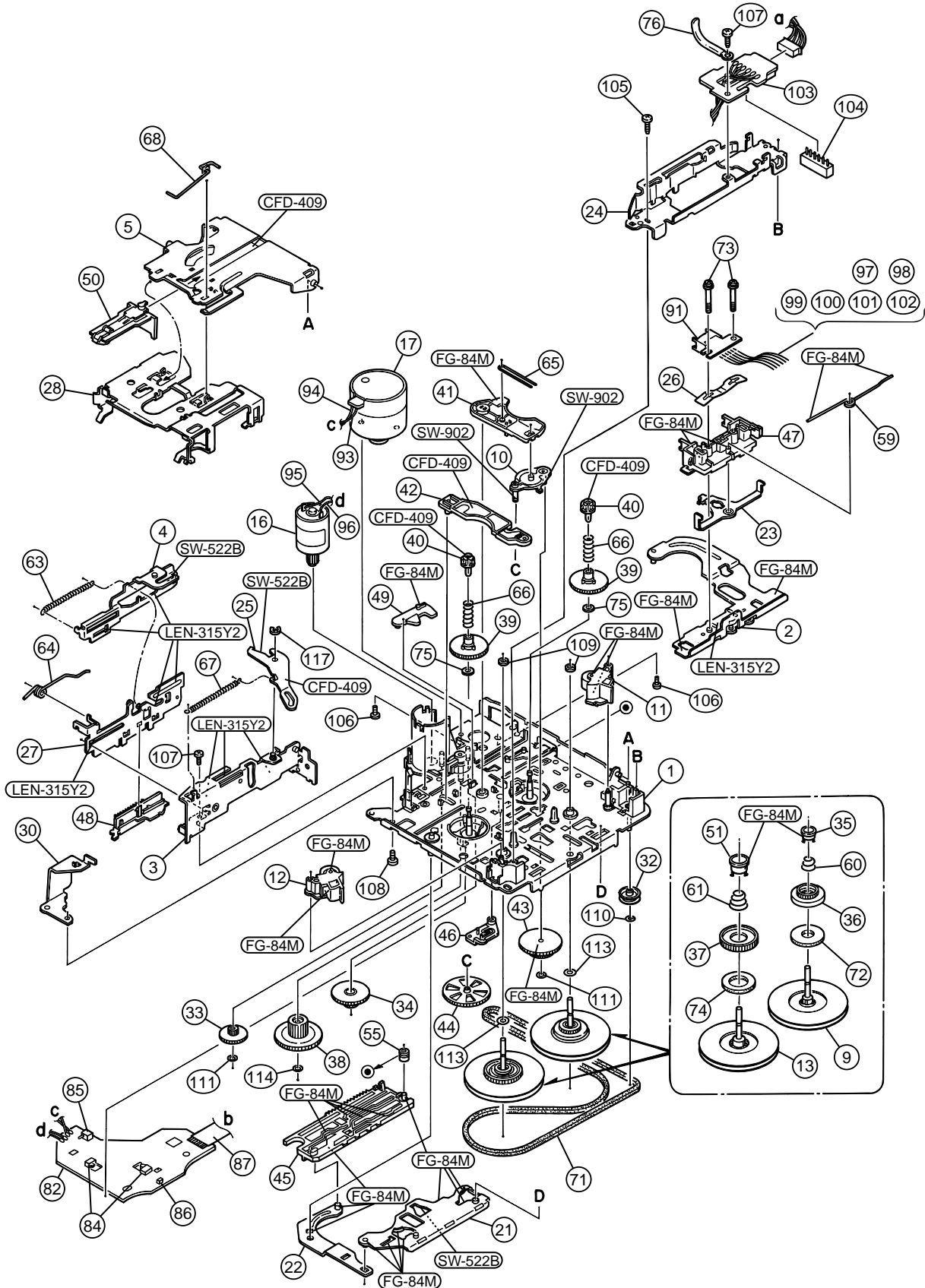
△	Item	Parts number	Parts name	Q'ty	Description	Area
	49	FSYH4036-032	SHEET	1		
	50	FSJK3027-001	RIM LENS	1	FOR KNOB	
	51	FSXP3058-001	EJECT BUTTON	1		
	52	VKW3001-330	COMP.SPRING	1	FOR EJECT BUTTON	
	53	FSXP3059-001	DETACH BUTTON	1		
	54	VKW3001-330	COMP.SPRING	1	FOR DETACH BUTTON	
	55	FSJC1059-001	REAR COVER	1		
	56	FSYH4036-035	SHEET	1	SLIDING SHEET	
	57	VKZ4777-001	MINI SCREW	5	FRONT+REAR	
	58	GE40112-001A	LIGHT COVER	1		
	59	QNZ0449-001	RUBBER CONNECTOR	1		
	60	QNZ0450-001	RUBBER CONNECTOR	1		
	61	FSYH3024-001	LCD CASE	1		
	62	FSJK3028-001	LCD LENS	1		
	63	FSYH4061-001	LIGHTING SHEET	1		
	64	FSYH4061-002	LIGHTING SHEET	1		
	65	FSKS3013-001	LENS CASE	1		
	66	GE30135-002A	NAME PLATE	1	FOR MP USE	
	67	VMA4652-001SS	EARTH PLATE	1		
	68	FSKL4018-00B	IC BRACKET	1		
	69	FSKL4023-001	REG.BRACKET	1		
	70	FSKL4014-001	HEAT SINK	1		
	71	FSKM3012-011	REAR BRACKET	1		
	72	QYSDST2606Z	SCREW	3		
	73	QYSDSF3006Z	SCREW	1	REAR BKT+PIN JACK	
△	74	QMFZ021-100-J1	FUSE	1		
	75	FSKS3017-002	LED HOLDER	1		
	LCD 1	QLD0147-001	LCD MODULE	1		

# Cassette mechanism assembly and parts list

CDS-801

Block No. 

M	2	M	M
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**■ Parts list (Cassette mechanism)**

Block No. M2MM




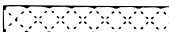

△	Item	Parts number	Parts name	Q'ty	Description	Area
	1	X-0801-1003S	MAIN CHASSIS AS	1		
	2	X-0801-1002S	SLIDE CHASSIS A	1		
	3	X-0801-1008S	SIDE BKT ASS'Y	1		
	4	X-0801-1010S	EJECT CAM LIMIT	1		
	5	X-0801-1013S	CASSETTE HANGER	1		
	9	1-0801-6002S	FLYWHEEL ASSY F	1		
	10	X-0801-2003S	GEAR BASE ASS'Y	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		

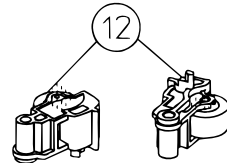
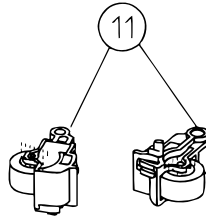
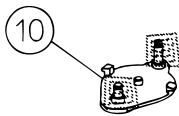
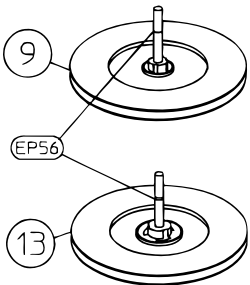
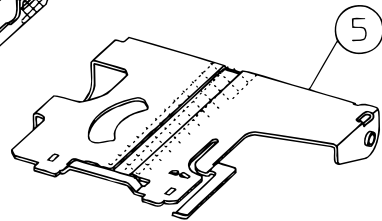
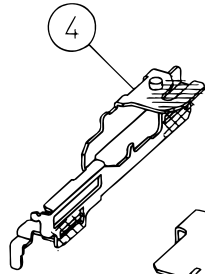
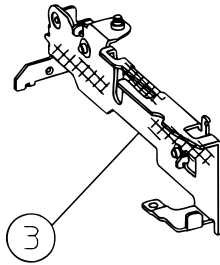
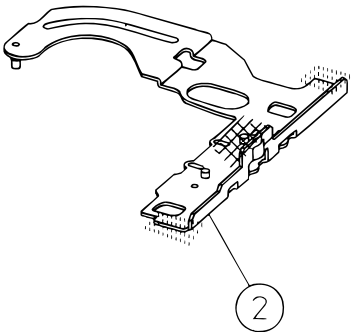
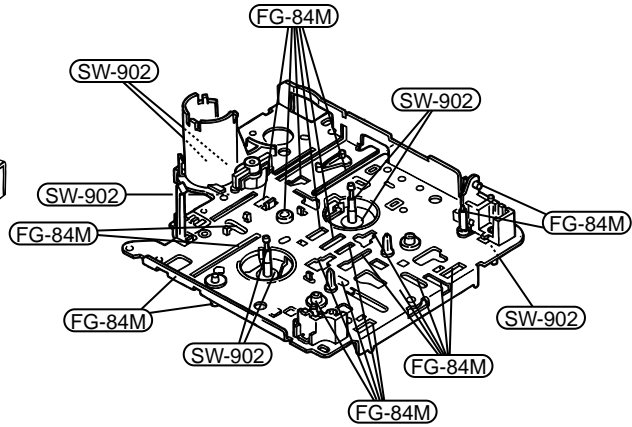
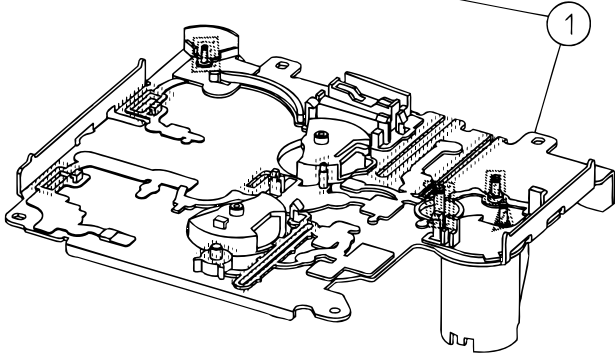
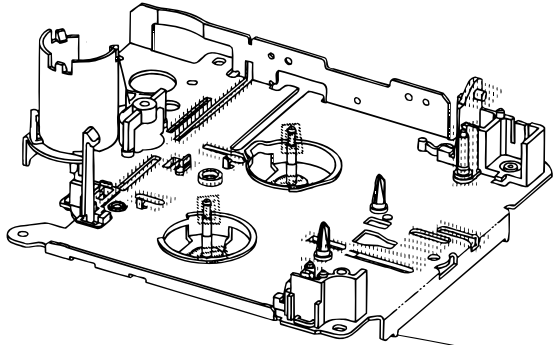
### ■ Parts list (Cassette mechanism)

Block No. M2MM

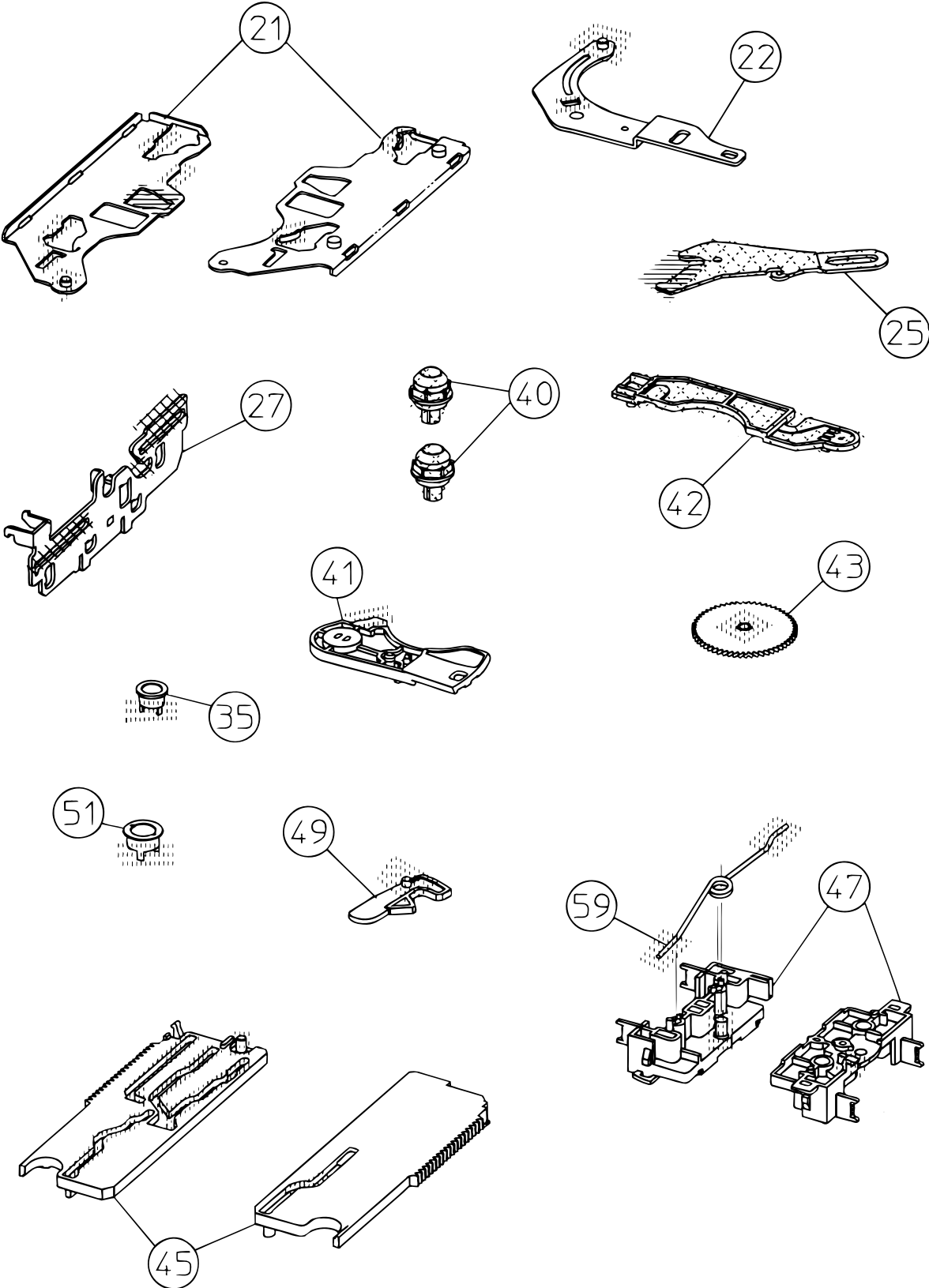
△	Item	Parts number	Parts name	Q'ty	Description	Area
	66	1-0801-4008S	REEL DRIVER SPG	2		
	67	1-0801-4009S	LOAD ARM SPG	1		
	68	1-0801-4011S	HOLDER STAB SPG	1		
	71	1-0801-5001S	BELT	1		
	72	1-0801-5002S	FELT	1	7.5*18.5*1.0	
	73	1-0801-5003S	AZIMUTH SCR	2		
	74	1-0801-5004S	FELT	1	11*18.5*1.0	
	75	1-0801-5005S	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

	SW-902
	SW-522B
	FG-84M
	CFD-409
	LEN-315Y2



# Grease point 2/2



■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	C 1	QERF1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 2	NDC21HJ-470X	C CAPACITOR		
	C 3	NCB21EK-473X	C CAPACITOR		
	C 4	NCB21EK-104X	C CAPACITOR		
	C 5	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 6	QEKJ1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 7	QEKJ1HM-104Z	E CAPACITOR	0.1MF 20% 50V	
	C 8	NDC21HJ-470X	C CAPACITOR		
	C 9	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 31	NCB21EK-123X	C CAPACITOR		
	C 32	NCB21EK-563X	C CAPACITOR		
	C 33	NDC21HJ-151X	C CAPACITOR		
	C 41	NCB21HK-102X	C CAPACITOR		
	C 42	QEQF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 43	QEKJ1HM-474Z	E CAPACITOR	0.47MF 20% 50V	
	C 51	NDC21HJ-331X	C CAPACITOR		
	C 52	NCB21EK-103X	C CAPACITOR		
	C 53	NCB21HK-472X	C CAPACITOR		
	C 54	NCB21EK-104X	C CAPACITOR		
	C 55	QERF1HM-474Z	E CAPACITOR	0.47MF 20% 50V	
	C 71	NCB21EK-223X	C CAPACITOR		
	C 72	NCB21HK-561X	C CAPACITOR		
	C 73	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 74	NDC21HJ-820X	C CAPACITOR		
	C 75	NDC21HJ-470X	C CAPACITOR		
	C 76	NCB21HK-103X	C CAPACITOR		
	C 77	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 81	NCB21EK-183X	C CAPACITOR		
	C 82	NCB21HK-183X	C CAPACITOR		
	C 161	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 162	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 163	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 164	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 165	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 166	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 167	QERF1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 168	QERF1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 169	NCB21HK-822X	C CAPACITOR		
	C 170	NCB21CK-154X	C CAPACITOR		
	C 171	NCB21CK-224X	C CAPACITOR		
	C 172	NCB21HK-822X	C CAPACITOR		
	C 173	NCB21CK-154X	C CAPACITOR		
	C 174	NCB21CK-224X	C CAPACITOR		
	C 175	NCB21EK-333X	C CAPACITOR		
	C 176	NCB21EK-333X	C CAPACITOR		
	C 177	NCB21HK-562X	C CAPACITOR		
	C 178	NCB21HK-562X	C CAPACITOR		
	C 180	QERF1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 181	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 182	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 183	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 184	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 241	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 242	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 243	NCB21EK-473X	C CAPACITOR		
	C 244	QERF1HM-224Z	E CAPACITOR	0.22MF 20% 50V	
	C 301	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 302	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 303	NCS21HJ-471X	C CAPACITOR		
	C 304	NCS21HJ-471X	C CAPACITOR		
	C 305	NCB21EK-104X	C CAPACITOR		
	C 306	NCB21EK-104X	C CAPACITOR		
	C 307	QERF1HM-475Z	E CAPACITOR	4.7MF 20% 50V	

△	Item	Parts number	Parts name	Remarks	Area
	C 308	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 309	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 313	NCS21HJ-471X	C CAPACITOR		
	C 314	NCS21HJ-471X	C CAPACITOR		
	C 315	NCB21EK-104X	C CAPACITOR		
	C 318	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 319	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 701	NCB21HK-102X	C CAPACITOR		
	C 702	NCB21EK-104X	C CAPACITOR		
	C 703	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 704	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 705	NCB21EK-104X	C CAPACITOR		
	C 706	NDC21HJ-270X	C CAPACITOR		
	C 707	NDC21HJ-270X	C CAPACITOR		
	C 708	NCB21EK-104X	C CAPACITOR		
	C 709	NCB21EK-104X	C CAPACITOR		
	C 712	NCB21EK-473X	C CAPACITOR		
	C 713	NCB21HK-102X	C CAPACITOR		
	C 714	NCB21HK-331X	C CAPACITOR		
	C 781	QERF1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 782	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 801	NCB21EK-473X	C CAPACITOR		
	C 891	NCB21EK-104X	C CAPACITOR		
	C 901	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 902	NCB21EK-473X	C CAPACITOR		
	C 903	QETB1CM-228	E CAPACITOR	2200MF 20% 16V	
	C 904	NCB21EK-473X	C CAPACITOR		
	C 905	QEKJ1HM-104Z	E CAPACITOR	0.1MF 20% 50V	
	C 906	QEKJ1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 907	QERF1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 908	QERF1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 909	QETN0JM-228Z	E CAPACITOR	2200MF 20% 6.3V	
	C 911	NCS21HJ-151X	C CAPACITOR		
	C 981	NCB21EK-104X	C CAPACITOR		
	C 982	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	CJ601	QNZ0007-002	CAR CONNECTOR		
	CP401	QGB1214J1-18S	CONNECTOR		
	CP901	QNZ0112-001	CAR CONNECTOR		
	D 2	MA152WK-X	SI DIODE		
	D 3	MA152WK-X	SI DIODE		
	D 4	MA152WK-X	SI DIODE		
	D 5	1SS133-T2	SI DIODE		
	D 6	1SS133-T2	SI DIODE		
	D 161	MA152WK-X	SI DIODE		
	D 241	MA152WA-X	DIODE		
	D 242	MA152WA-X	DIODE		
	D 321	MA152WA-X	DIODE		
	D 322	MA152WA-X	DIODE		
	D 701	MA3056/M-X	ZENER DIODE		
	D 702	MA3056/M-X	ZENER DIODE		
	D 704	MA3056/M-X	ZENER DIODE		
	D 705	MA3056/M-X	ZENER DIODE		
	D 706	MA3056/M-X	ZENER DIODE		
	D 707	MA3056/M-X	ZENER DIODE		
	D 708	MA3056/M-X	ZENER DIODE		
	D 709	MA3056/M-X	ZENER DIODE		
	D 781	MTZJ11C-T2	ZENER DIODE		
	D 782	MA152WA-X	DIODE		
	D 783	MA152WA-X	DIODE		
	D 891	MA152WA-X	DIODE		
	D 901	1N5401-TU-15	DIODE		
	D 902	MA152WA-X	DIODE		
	D 981	CRS03-W	SB DIODE		



■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	D 982	CRS03-W	SB DIODE		
	IC 71	SAA6579T-X	IC		
	IC161	TEA6320T-X	IC		
	IC301	HA13158A	IC		
	IC701	UPD178018AGC551	IC		
	IC801	HD74HC126FP-X	IC		
	IC901	BA4905-V3	IC		
	J 1	QNZ0009-001	CAR ANT JACK		
	J 321	QNN0170-001	PIN JACK (REEL)		
	J 801	QNZ0095-001	CONNECTOR		
	L 1	QQL231K-4R7Y	INDUCTOR		
	L 901	QQR0703-001	CHOKE COIL		
	L 902	QQL231K-470Y	INDUCTOR		
	L 903	QQL231K-470Y	INDUCTOR		
	PL701	QLL0033-001	LAMP		
	Q 1	DTC114EKA-X	TRANSISTOR		
	Q 2	2SA1037AK/RS/-X	TRANSISTOR		
	Q 3	2SA1037AK/RS/-X	TRANSISTOR		
	Q 4	DTA114EKA-X	TRANSISTOR		
	Q 5	DTA114EKA-X	TRANSISTOR		
	Q 6	2SC2412K/R/-X	TRANSISTOR		
	Q 7	2SC2412K/R/-X	TRANSISTOR		
	Q 8	2SC2412K/R/-X	TRANSISTOR		
	Q 9	DTC114EKA-X	TRANSISTOR		
	Q 10	DTA114EKA-X	TRANSISTOR		
	Q 31	2SC3661-X	TRANSISTOR		
	Q 32	2SC3661-X	TRANSISTOR		
	Q 41	2SC2412K/R/-X	TRANSISTOR		
	Q 42	2SC2412K/R/-X	TRANSISTOR		
	Q 51	2SC2412K/R/-X	TRANSISTOR		
	Q 52	2SC2412K/R/-X	TRANSISTOR		
	Q 53	DTC114EKA-X	TRANSISTOR		
	Q 241	2SD601A/R/-X	TRANSISTOR		
	Q 341	2SD1048/6-7/-X	TRANSISTOR		
	Q 351	2SD1048/6-7/-X	TRANSISTOR		
	Q 701	2SC2412K/R/-X	TRANSISTOR		
	Q 781	DTA114EKA-X	TRANSISTOR		
	Q 782	DTA114EKA-X	TRANSISTOR		
	Q 784	DTC114EKA-X	TRANSISTOR		
	Q 891	UN2211-X	TRANSISTOR		
	Q 901	DTC114EKA-X	TRANSISTOR		
	Q 902	2SA1706/ST-T	TRANSISTOR		
	Q 903	DTC114EKA-X	TRANSISTOR		
	Q 904	2SA1037AK/RS/-X	TRANSISTOR		
	Q 976	UN2211-X	TRANSISTOR		
	Q 977	2SA1037AK/RS/-X	TRANSISTOR		
	R 1	NRS181J-330X	MG RESISTOR		
	R 2	NRSA02J-472X	MG RESISTOR		
	R 3	NRSA02J-473X	MG RESISTOR		
	R 4	NRSA02J-332X	MG RESISTOR		
	R 5	NRSA02J-473X	MG RESISTOR		
	R 6	NRS181J-8R2X	MG RESISTOR		
	R 8	NRSA02J-472X	MG RESISTOR		
	R 9	NRSA02J-472X	MG RESISTOR		
	R 10	NRSA02J-472X	MG RESISTOR		
	R 11	NRS181J-223X	MG RESISTOR		
	R 12	NRSA02J-0R0X	MG RESISTOR		
	R 31	NRSA02J-102X	MG RESISTOR		
	R 32	NRSA02J-392X	MG RESISTOR		
	R 33	NRSA02J-102X	MG RESISTOR		
	R 34	NRSA02J-102X	MG RESISTOR		
	R 41	NRSA02J-152X	MG RESISTOR		
	R 42	NRSA02J-102X	MG RESISTOR		

△	Item	Parts number	Parts name	Remarks	Area
	R 43	NRSA02J-103X	MG RESISTOR		
	R 44	NRS181J-102X	MG RESISTOR		
	R 53	NRSA02J-473X	MG RESISTOR		
	R 54	NRSA02J-473X	MG RESISTOR		
	R 55	NRSA02J-103X	MG RESISTOR		
	R 56	NRSA02J-222X	MG RESISTOR		
	R 57	NRSA02J-103X	MG RESISTOR		
	R 58	NRSA02J-153X	MG RESISTOR		
	R 59	NRSA02J-471X	MG RESISTOR		
	R 60	NRSA02J-473X	MG RESISTOR		
	R 71	NRS181J-222X	MG RESISTOR		
	R 72	NRSA02J-222X	MG RESISTOR		
	R 73	NRSA02J-222X	MG RESISTOR		
	R 81	NRSA02J-103X	MG RESISTOR		
	R 82	NRSA02J-103X	MG RESISTOR		
	R 83	NRSA02J-223X	MG RESISTOR		
	R 84	NRSA02J-223X	MG RESISTOR		
	R 161	NRSA02J-0R0X	MG RESISTOR		
	R 162	NRS181J-0R0X	MG RESISTOR		
	R 165	NRSA02J-223X	MG RESISTOR		
	R 166	NRSA02J-222X	MG RESISTOR		
	R 167	NRSA02J-223X	MG RESISTOR		
	R 168	NRSA02J-222X	MG RESISTOR		
	R 169	NRSA02J-224X	MG RESISTOR		
	R 170	NRSA02J-224X	MG RESISTOR		
	R 171	NRS181J-100X	MG RESISTOR		
	R 172	NRSA02J-271X	MG RESISTOR		
	R 173	NRSA02J-271X	MG RESISTOR		
	R 241	NRSA02J-473X	MG RESISTOR		
	R 242	NRS181J-184X	MG RESISTOR		
	R 243	NRS181J-123X	MG RESISTOR		
	R 244	NRSA02J-223X	MG RESISTOR		
	R 245	NRSA02J-101X	MG RESISTOR		
	R 246	NRSA02J-102X	MG RESISTOR		
	R 247	NRSA02J-274X	MG RESISTOR		
	R 301	NRSA02J-273X	MG RESISTOR		
	R 302	NRSA02J-273X	MG RESISTOR		
	R 303	NRSA02J-823X	MG RESISTOR		
	R 304	NRS181J-823X	MG RESISTOR		
	R 305	NRSA02J-472X	MG RESISTOR		
	R 306	NRSA02J-473X	MG RESISTOR		
	R 307	NRS181J-473X	MG RESISTOR		
	R 308	NRSA02J-473X	MG RESISTOR		
	R 309	NRSA02J-473X	MG RESISTOR		
	R 311	NRSA02J-273X	MG RESISTOR		
	R 312	NRSA02J-273X	MG RESISTOR		
	R 313	NRSA02J-823X	MG RESISTOR		
	R 314	NRSA02J-823X	MG RESISTOR		
	R 341	NRSA02J-101X	MG RESISTOR		
	R 342	NRSA02J-102X	MG RESISTOR		
	R 343	NRSA02J-222X	MG RESISTOR		
	R 351	NRS181J-101X	MG RESISTOR		
	R 352	NRSA02J-102X	MG RESISTOR		
	R 353	NRSA02J-222X	MG RESISTOR		
	R 701	NRSA02J-0R0X	MG RESISTOR		
	R 702	NRSA02J-0R0X	MG RESISTOR		
	R 703	NRSA02J-0R0X	MG RESISTOR		
	R 704	NRSA02J-103X	MG RESISTOR		
	R 705	NRSA02J-103X	MG RESISTOR		
	R 707	NRSA02J-472X	MG RESISTOR		
	R 708	NRSA02J-472X	MG RESISTOR		
	R 709	NRSA02J-473X	MG RESISTOR		
	R 711	NRS181J-473X	MG RESISTOR		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	R 712	NRSA02J-473X	MG RESISTOR		
	R 713	NRSA02J-103X	MG RESISTOR		
	R 714	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 715	NRSA02J-472X	MG RESISTOR		
	R 716	NRS181J-472X	MG RESISTOR		
	R 717	NRSA02J-472X	MG RESISTOR		
	R 718	NRSA02J-103X	MG RESISTOR		
	R 719	NRSA02J-103X	MG RESISTOR		
	R 720	NRSA02J-103X	MG RESISTOR		
	R 721	NRS181J-103X	MG RESISTOR		
	R 722	NRSA02J-103X	MG RESISTOR		
	R 723	NRSA02J-472X	MG RESISTOR		
	R 724	NRSA02J-472X	MG RESISTOR		
	R 725	NRSA02J-472X	MG RESISTOR		
	R 726	NRSA02J-472X	MG RESISTOR		
	R 727	NRSA02J-472X	MG RESISTOR		
	R 728	NRSA02J-472X	MG RESISTOR		
	R 729	NRSA02J-473X	MG RESISTOR		
	R 730	NRSA02J-391X	MG RESISTOR		
	R 731	NRSA02J-103X	MG RESISTOR		
	R 732	NRSA02J-473X	MG RESISTOR		
	R 733	NRS181J-473X	MG RESISTOR		
	R 735	NRS181J-473X	MG RESISTOR		
	R 738	NRSA02J-473X	MG RESISTOR		
	R 739	NRSA02J-104X	MG RESISTOR		
	R 740	NRSA02J-473X	MG RESISTOR		
	R 742	NRS181J-563X	MG RESISTOR		
	R 743	NRSA02J-473X	MG RESISTOR		
	R 745	NRSA02J-473X	MG RESISTOR		
	R 747	NRSA02J-473X	MG RESISTOR		
	R 748	NRS181J-243X	MG RESISTOR		
	R 781	NRSA02J-102X	MG RESISTOR		
	R 782	NRSA02J-273X	MG RESISTOR		
	R 801	NRSA02J-104X	MG RESISTOR		
	R 802	NRSA02J-334X	MG RESISTOR		
	R 803	NRSA02J-101X	MG RESISTOR		
	R 804	NRSA02J-223X	MG RESISTOR		
	R 805	NRSA02J-104X	MG RESISTOR		
	R 806	NRSA02J-103X	MG RESISTOR		
	R 807	NRSA02J-104X	MG RESISTOR		
	R 808	NRSA02J-104X	MG RESISTOR		
	R 809	NRSA02J-101X	MG RESISTOR		
	R 810	NRSA02J-334X	MG RESISTOR		
	R 891	NRSA02J-473X	MG RESISTOR		
	R 892	NRSA02J-102X	MG RESISTOR		
	R 901	QRE141J-470Y	C RESISTOR	47 5% 1/4W	
	R 902	NRS181J-103X	MG RESISTOR		
	R 903	NRS181J-472X	MG RESISTOR		
	R 904	NRS181J-183X	MG RESISTOR		
	R 905	NRS181J-103X	MG RESISTOR		
	R 906	NRS181J-102X	MG RESISTOR		
	R 907	NRS181J-473X	MG RESISTOR		
	R 908	NRSA02J-222X	MG RESISTOR		
	R 909	NRSA02J-473X	MG RESISTOR		
	R 976	NRSA02J-104X	MG RESISTOR		
	R 977	NRSA02J-273X	MG RESISTOR		
	R 978	NRS181J-123X	MG RESISTOR		
	S 701	QSW0451-001	DETECT SWITCH		
	S 702	QSW0451-001	DETECT SWITCH		
	TU 1	QAU0156-002	TUNER		
	X 71	QAX0263-001Z	CRYSTAL		
	X 701	QAX0406-002Z	CRYSTAL		

■ Electrical parts list (Mecha control board)

Block No. 02

△	Item	Parts number	Parts name	Remarks	Area
	C 401	NDC21HJ-101X	C CAPACITOR		
	C 402	NDC21HJ-101X	C CAPACITOR		
	C 403	NDC21HJ-101X	C CAPACITOR		
	C 404	NDC21HJ-101X	C CAPACITOR		
	C 405	NDC21HJ-101X	C CAPACITOR		
	C 406	NDC21HJ-101X	C CAPACITOR		
	C 407	NDC21HJ-101X	C CAPACITOR		
	C 408	NDC21HJ-101X	C CAPACITOR		
	C 409	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 410	QFV61HJ-153Z	MF CAPACITOR	0.015MF 5% 50V	
	C 411	QFV61HJ-153Z	MF CAPACITOR	0.015MF 5% 50V	
	C 412	NCB21EK-104X	C CAPACITOR		
	C 413	NCB21EK-104X	C CAPACITOR		
	C 414	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 416	QFV61HJ-104Z	MF CAPACITOR	0.1MF 5% 50V	
	C 417	QFV61HJ-104Z	MF CAPACITOR	0.1MF 5% 50V	
	C 418	NDC21HJ-221X	C CAPACITOR		
	C 419	QEKJ1HM-474Z	E CAPACITOR	0.47MF 20% 50V	
	C 421	NCB21HK-103X	C CAPACITOR		
	C 422	NCB21EK-104X	C CAPACITOR		
	C 423	QERF1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 424	NCB21EK-104X	C CAPACITOR		
	C 425	NCB21HK-103X	C CAPACITOR		
	CN401	QGB1214K1-18S	CONNECTOR		
	CN402	VMP3501-001	CONNECTOR		
	CN403	QGF1219F1-10S	CONNECTOR		
	D 401	MA3047/H/-X	ZENER DIODE		
	D 402	DSK10C-T1	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	NRSA02J-104X	MG RESISTOR		
	R 403	NRSA02J-104X	MG RESISTOR		
	R 404	NRSA02J-104X	MG RESISTOR		
	R 405	NRSA02J-104X	MG RESISTOR		
	R 406	NRSA02J-181X	MG RESISTOR		
	R 407	NRSA02J-181X	MG RESISTOR		
	R 412	NRSA02J-101X	MG RESISTOR		
	R 413	NRSA02J-183X	MG RESISTOR		
	R 414	NRSA02J-392X	MG RESISTOR		
	R 415	NRSA02J-223X	MG RESISTOR		
	R 416	NRSA02J-125X	MG RESISTOR		
	R 417	NRSA02J-103X	MG RESISTOR		
	R 418	NRSA02J-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		
	VR401	QVP0009-333Z	SEMI V RESISTOR		
	VR402	QVP0009-333Z	SEMI V RESISTOR		

■ Electrical parts list (Front board)

Block No. 03

△	Item	Parts number	Parts name	Remarks	Area
	C 601	NBE20JM-475X	TS E CAPACITOR		
	C 602	NCB21HK-103X	C CAPACITOR		
	C 603	NCS21HJ-221X	C CAPACITOR		
	C 604	NCB21CK-224X	C CAPACITOR		
	C 605	NCB21CK-224X	C 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	SML-310VT/JK/-X	LED		
	D 622	SML-310VT/JK/-X	LED		
	D 623	SML-310VT/JK/-X	LED		
	D 624	LNJ308G81/1-3/X	LED		
	D 625	SML-310VT/JK/-X	LED		
	D 626	SML-310VT/JK/-X	LED		
	D 627	SML-310VT/JK/-X	LED		
	D 641	NSPW310BS/BRS/	LED		
	D 642	NSPW310BS/BRS/	LED		
	D 643	NSPW310BS/BRS/	LED		
	D 651	MA3051/M/-X	ZENER DIODE		
	D 652	MA152WK-X	SI DIODE		
	D 653	MA152WA-X	DIODE		
	D 654	MA152WK-X	SI DIODE		
	D 655	MA152WA-X	DIODE		
	D 656	MA152WK-X	SI DIODE		
	EN601	QSW0863-001	JOG SHUTTLE SW		
	IC601	LC75873NW	IC		
	R 601	NRSA02J-821X	MG RESISTOR		
	R 602	NRSA02J-821X	MG RESISTOR		
	R 603	NRSA02J-122X	MG RESISTOR		
	R 604	NRSA02J-182X	MG RESISTOR		
	R 605	NRSA02J-272X	MG RESISTOR		
	R 606	NRS181J-821X	MG RESISTOR		
	R 607	NRSA02J-821X	MG RESISTOR		
	R 608	NRSA02J-122X	MG RESISTOR		
	R 609	NRSA02J-182X	MG RESISTOR		
	R 610	NRSA02J-272X	MG RESISTOR		
	R 611	NRSA02J-392X	MG RESISTOR		
	R 612	NRSA02J-821X	MG RESISTOR		
	R 613	NRSA02J-821X	MG RESISTOR		
	R 614	NRSA02J-122X	MG RESISTOR		
	R 615	NRSA02J-182X	MG RESISTOR		
	R 616	NRSA02J-272X	MG RESISTOR		
	R 620	NRS181J-561X	MG RESISTOR		
	R 621	NRS181J-271X	MG RESISTOR		
	R 622	NRS181J-271X	MG RESISTOR		

△	Item	Parts number	Parts name	Remarks	Area
	R 623	NRS181J-271X	MG RESISTOR		
	R 624	NRS181J-271X	MG RESISTOR		
	R 625	NRS181J-431X	MG RESISTOR		
	R 626	NRS181J-271X	MG RESISTOR		
	R 627	NRS181J-271X	MG RESISTOR		
	R 628	NRS181J-561X	MG RESISTOR		
	R 629	NRS181J-561X	MG RESISTOR		
	R 630	NRS181J-271X	MG RESISTOR		
	R 641	NRS181J-102X	MG RESISTOR		
	R 642	NRS181J-102X	MG RESISTOR		
	R 643	NRS181J-102X	MG RESISTOR		
	R 644	NRS181J-0R0X	MG RESISTOR		
	R 650	NRSA02J-101X	MG RESISTOR		
	R 651	NRSA02J-473X	MG RESISTOR		
	R 652	NRSA02J-473X	MG RESISTOR		
	R 653	NRS181J-102X	MG RESISTOR		
	R 654	NRSA02J-221X	MG RESISTOR		
	R 655	NRSA02J-394X	MG RESISTOR		
	R 656	NRSA02J-334X	MG RESISTOR		
	R 661	NRSA02J-332X	MG RESISTOR		
	R 662	NRSA02J-332X	MG RESISTOR		
	R 663	NRSA02J-332X	MG RESISTOR		
	R 669	NRSA02J-103X	MG RESISTOR		
	R 670	NRSA02J-103X	MG RESISTOR		
	R 671	NRSA02J-103X	MG RESISTOR		
	S 601	NSW0066-001X	TACT SWITCH		
	S 602	NSW0066-001X	TACT SWITCH		
	S 603	NSW0066-001X	TACT SWITCH		
	S 604	NSW0066-001X	TACT SWITCH		
	S 605	NSW0066-001X	TACT SWITCH		
	S 606	NSW0066-001X	TACT SWITCH		
	S 607	NSW0066-001X	TACT SWITCH		
	S 608	NSW0066-001X	TACT SWITCH		
	S 609	NSW0066-001X	TACT SWITCH		
	S 610	NSW0066-001X	TACT SWITCH		
	S 611	NSW0066-001X	TACT SWITCH		
	S 612	NSW0066-001X	TACT SWITCH		
	S 613	NSW0066-001X	TACT SWITCH		
	S 614	NSW0066-001X	TACT SWITCH		
	S 615	NSW0066-001X	TACT SWITCH		
	S 616	NSW0066-001X	TACT SWITCH		
	S 617	NSW0066-001X	TACT SWITCH		
	S 618	NSW0066-001X	TACT SWITCH		
	S 619	NSW0066-001X	TACT SWITCH		

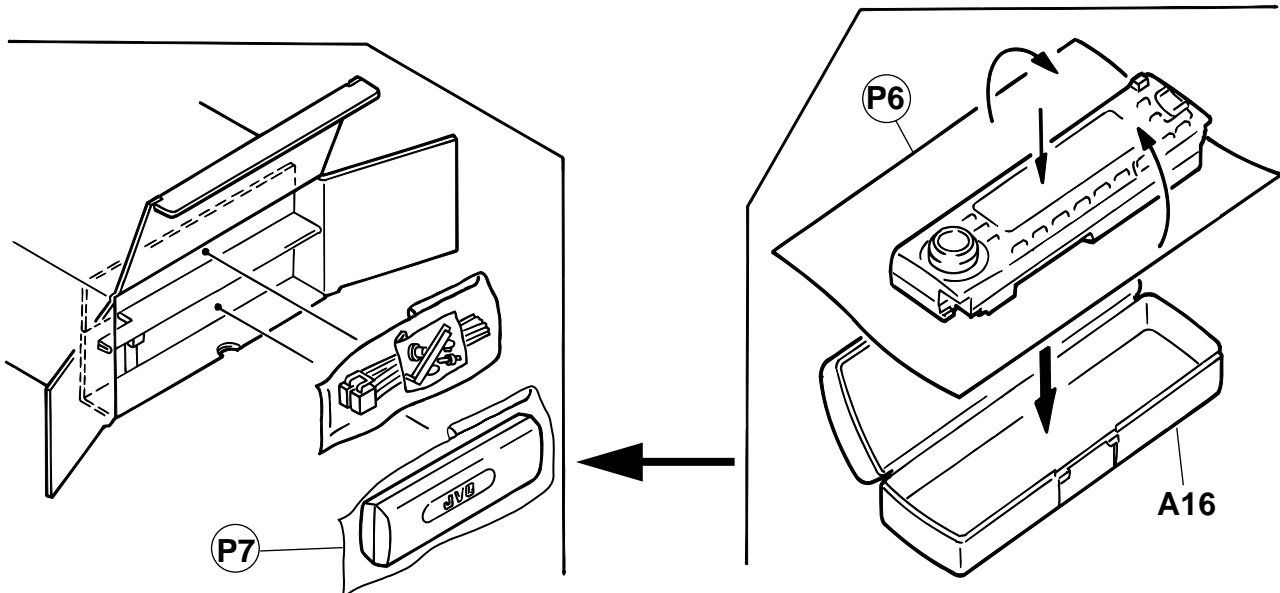
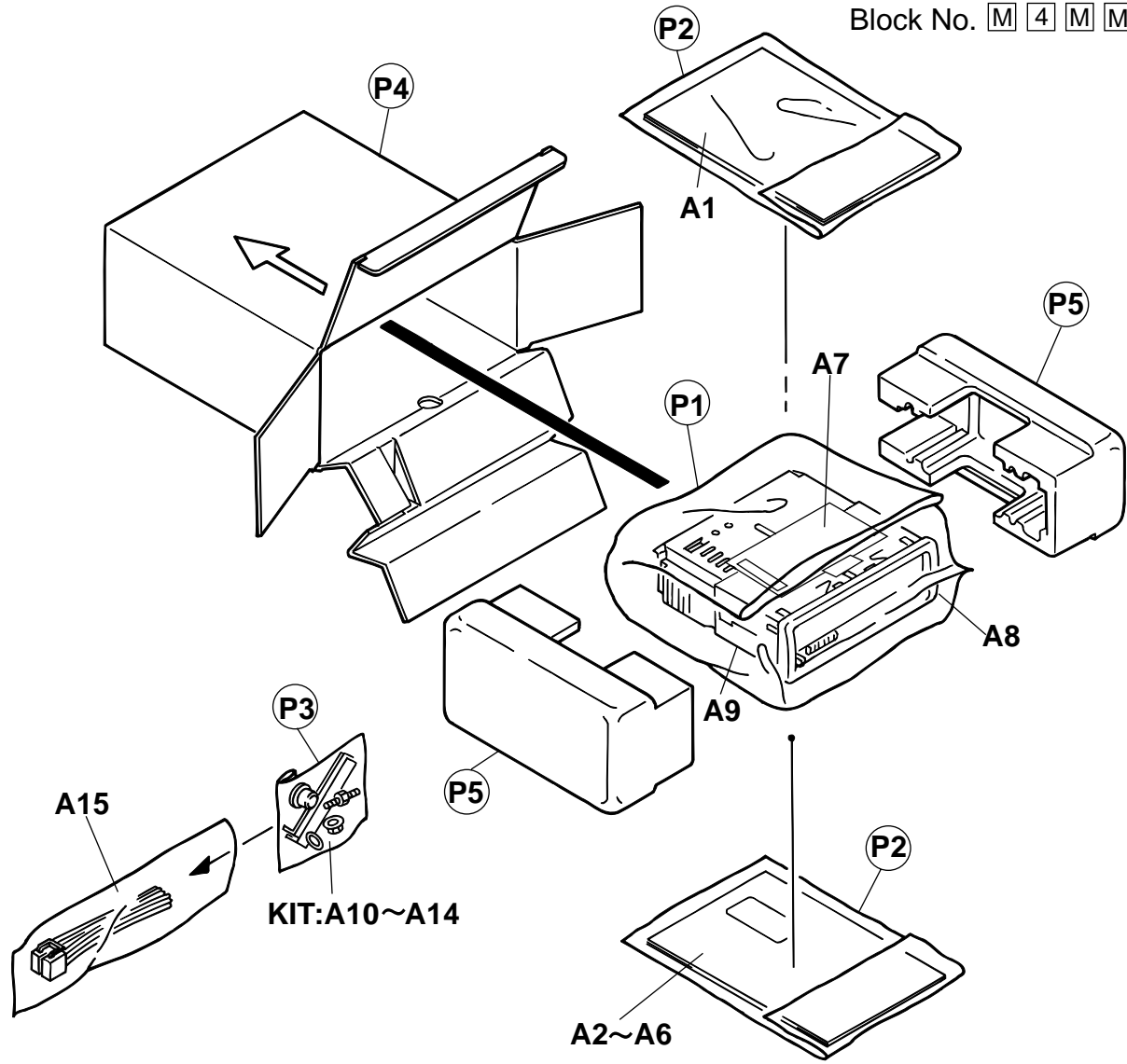
# Packing materials and accessories parts list

Block No. 

M	3	M	M
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Block No. 

M	4	M	M
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**Parts list (Packing)**

Block No. M3MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	QPC03004315P	POLY BAG	1	SET	
	P 2	FSPG4002-001	POLY BAG	2	INSTRUCTIONS	
	P 3	QPA00801205	POLY BAG	1	KIT	
	P 4	GE30123-033A	CARTON	1		
	P 5	GE10008-001A	CUSHION	2		
	P 6	FSYH4036-068	SHEET	1		
	P 7	QPA01003003	POLY BAG	1	HARD CASE	

**Parts list (Accessories)**

Block No. M4MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	GET0006-001A	INSTRUCTIONS	1	ENG,GER,FRE,DUT	
	A 2	GET0006-002A	INSTRUCTIONS	1	SPA,ITA,SWE,FIN	
	A 3	GET0006-005A	INSTALL MANUAL	1	SWE,FIN	
		GET0006-003A	INSTALL MANUAL	1	ENG,GER,FRE	
		GET0006-004A	INSTALL MANUAL	1	DUT,SPA,ITA	
	A 4	BT-54013-1	WARRANTY CARD	1		
	A 5	VND3046-001	SERIAL TICKET	1		
	A 6	VND3050-002	IDENTITY CARD	1		
	A 7	LV40978-001A	CAUTION SHEET	1		
	A 8	FSJD2034-001	TRIM PLATE	1		
	A 9	FSKM2004-202	MOUNTING SLEEVE	1		
	A 10	VKZ4027-202	PLUG NUT	1		
	A 11	VKH4871-001SS	MOUNT BOLT	1		
	A 12	VKZ4328-001	LOCK NUT	1		
	A 13	WNS5000Z	WASHER	1		
	A 14	FSKL4010-002	HOOK	2		
	A 15	QAM0175-001	POWER CORD	1		
	A 16	FSJB3001-30C	HARD CASE	1		
	KIT	KDGS717K-SCREW1	SCREW PARTS KIT	1	A10-A14	