

JVC

SERVICE MANUAL

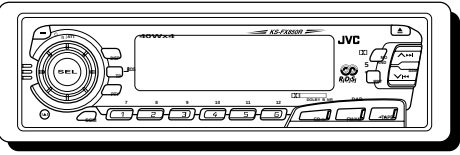
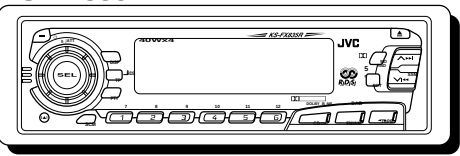
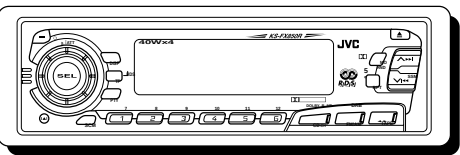
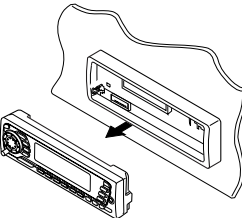
CASSETTE RECEIVER

KS-FX850R

KS-FX820R

KS-FX835R

Area Suffix
E ---- Continental Europe



	Illumination	Remote controller
KS-FX850R	Color	○
KS-FX835R	Blue & Red	○
KS-FX820R	White	×

Contents

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VICTOR COMPANY OF JAPAN, LIMITED
MOBILE ELECTRONICS DIVISION,10-1,1Chome,Ohwatari-machi,Maebashi-city,Japan

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.



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 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.

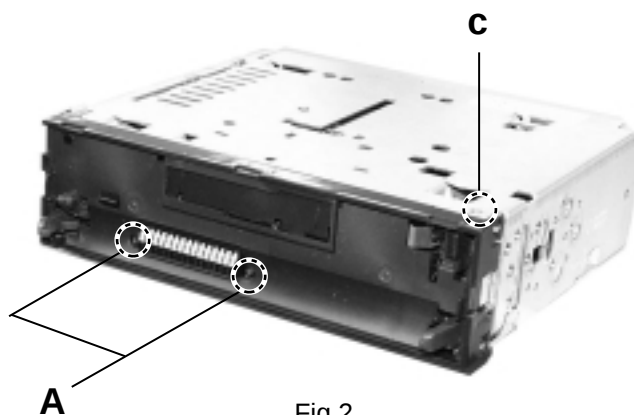


Fig.2

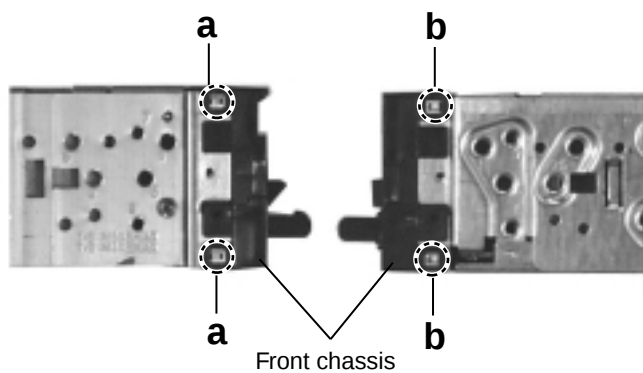


Fig. 3

■ 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.

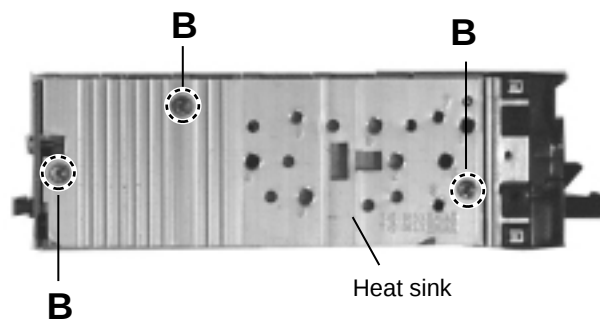


Fig. 4

■ Removing the bottom cover (See Fig.5)

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.

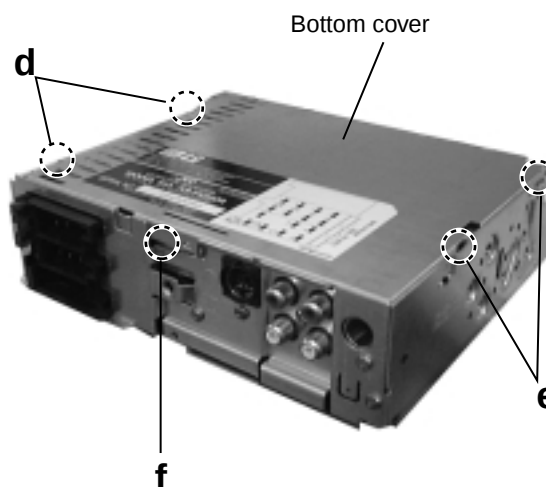


Fig. 5

■ Removing the rear panel (See Fig.6)

1. Remove the front chassis.
2. Remove the heat sink.
3. Remove the bottom cover.
4. Remove the five screws **B** attaching the rear panel and one screw **C** attaching the pine jack on the back of the body.

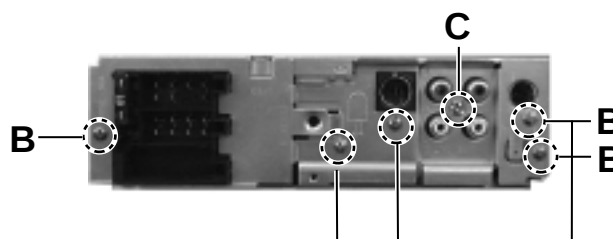


Fig. 6

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

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.

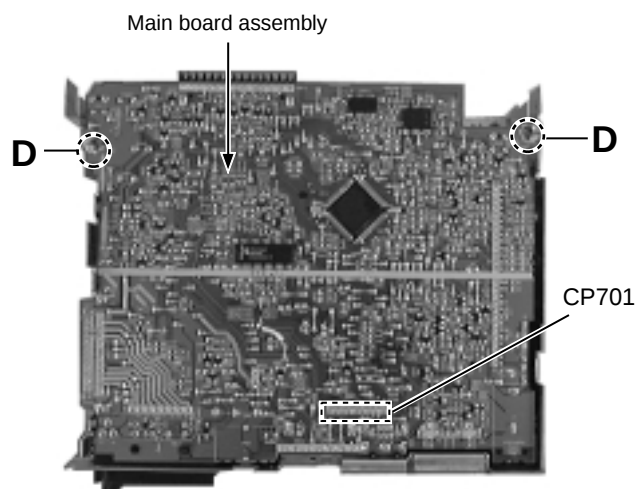
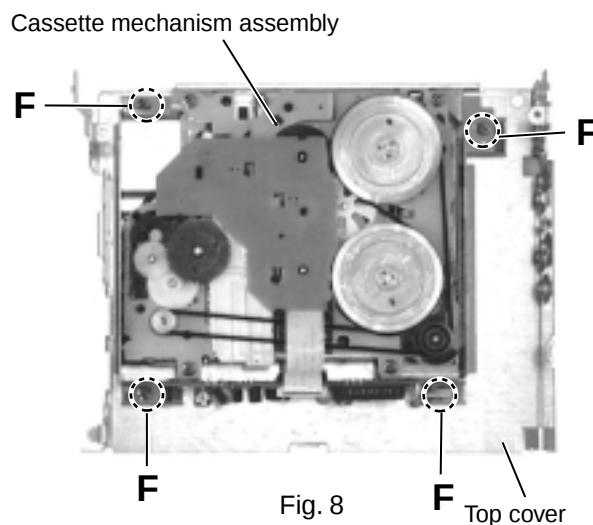


Fig. 7

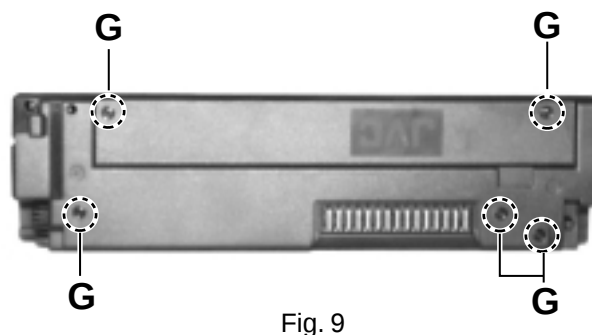
■ Removing the Cassette mechanism assembly (See Fig.8)

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.

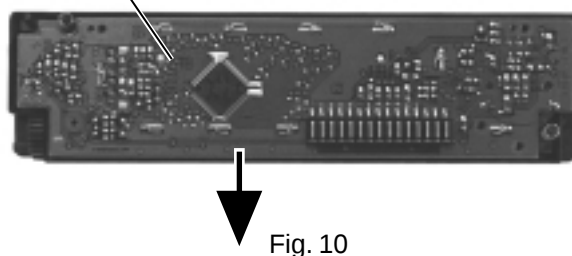


■ Removing the control switch board (See Fig.9 and 10)

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.



LCD & Key control board



<Removal of the cassette mechanism>

■ Removing the mecha control P.W.B.

(See Fig.1 and 2)

1. For the 6pin harness extending from connector CN402 on the mecha control P.W.B, disconnect it from the head relay P.W.B.
2. Disconnect the card wire from connector CN403 on the mecha control P.W.B.
3. Remove the screw A attaching the mecha control P.W.B.
4. Move the tab a as shown in Fig.2 and remove the mecha control P.W.B. while moving it in the direction of the arrow.

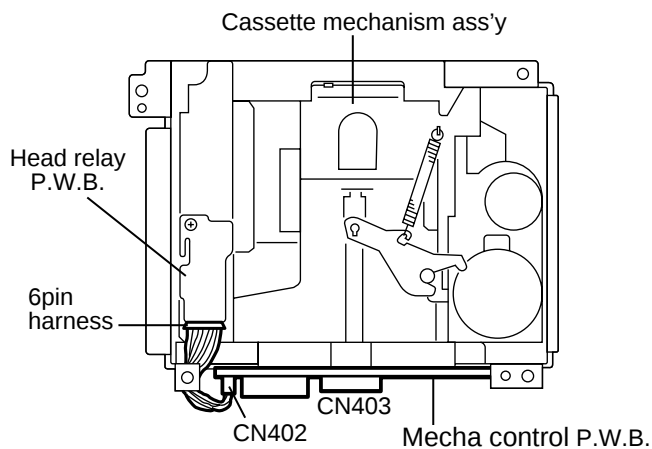


Fig.1

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

1. Disconnect the 6pin harness from connector CN402 and the card wire from CN403 on the mecha control P.W.B. (Refer to Fig.1 and 2).
2. Remove the four screws B on the bottom of the cassette mechanism.

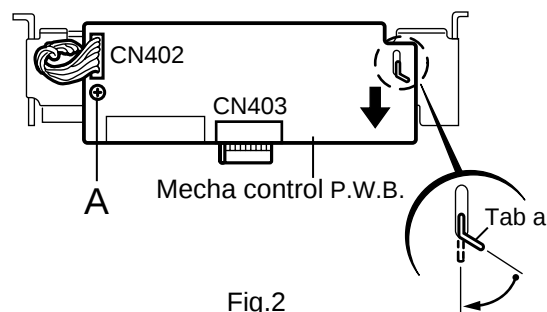


Fig.2

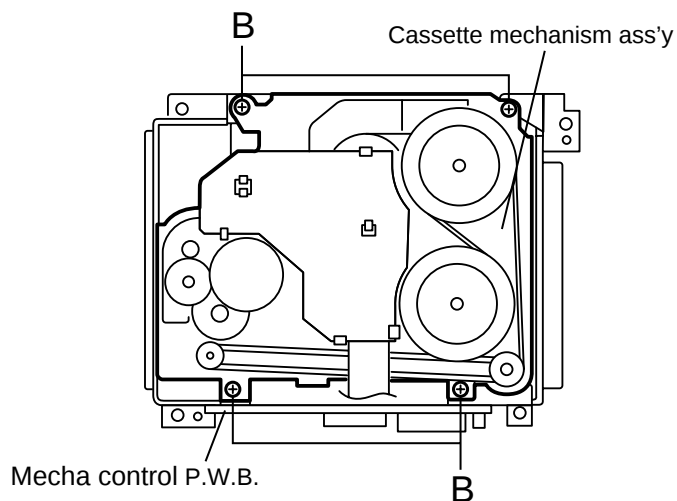


Fig.3

■ Removing the head relay P.W.B.

(See Fig.4)

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

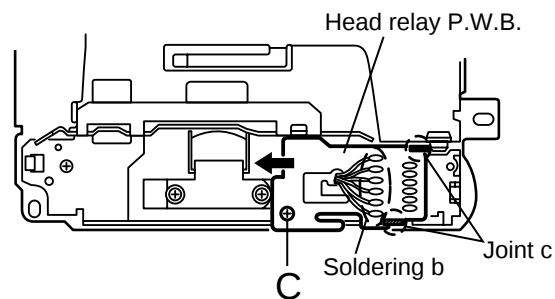


Fig.4

■ 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.

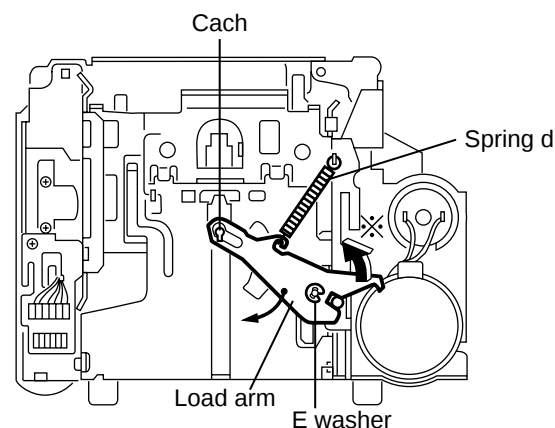


Fig.5

■ Removing the sub chassis (See Fig.6)

* Prior to performing the following procedure, remove the head relay P.W.B.

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.

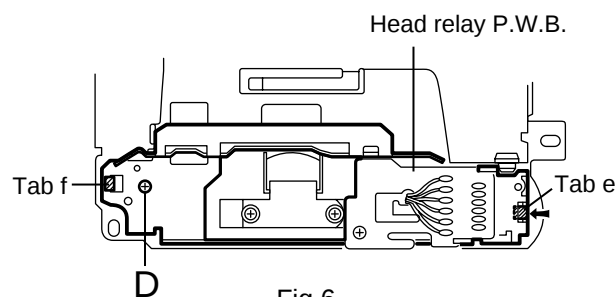


Fig.6

■ 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 P.W.B., 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.

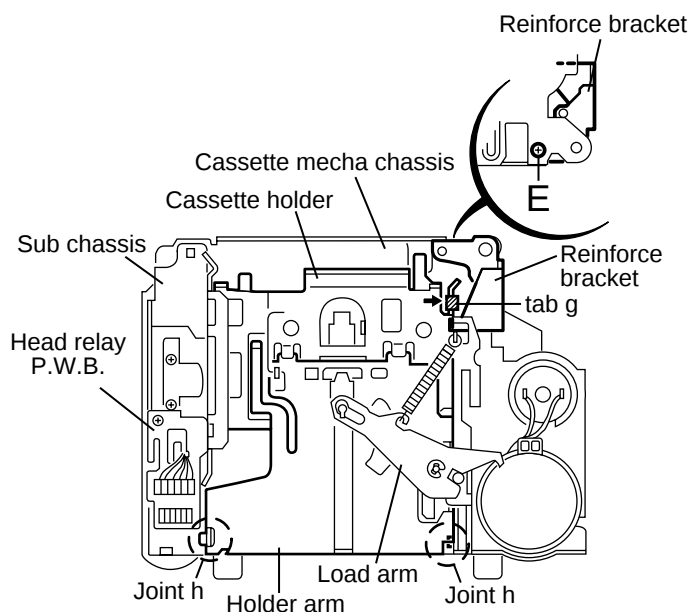


Fig.7

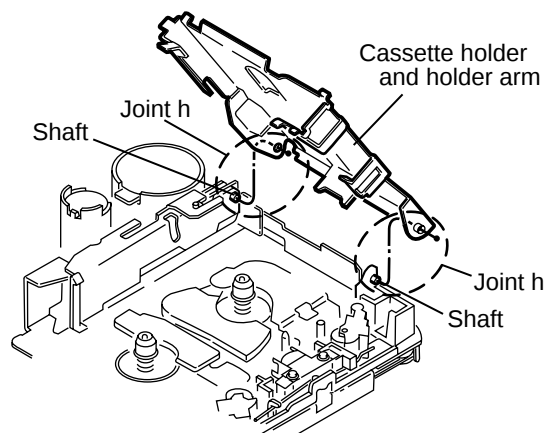


Fig.8

■ Removing the play head (See Fig.9)

* Prior to performing the following procedure, remove the head relay P.W.B. 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).

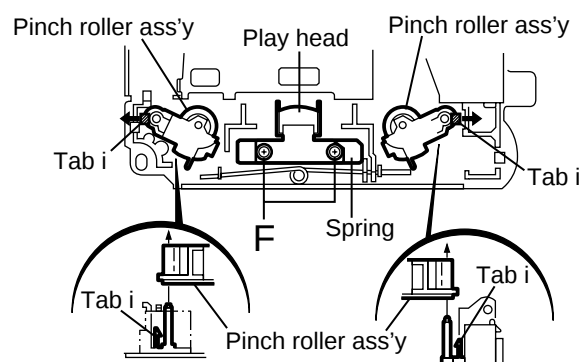


Fig.9

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

* Prior to performing the following procedure, remove the head relay P.W.B. and the sub chassis.

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

■ Removing the reel disc P.W.B. (See Fig.10)

1. Unsolder the soldering j on the reel disc P.W.B.
2. Push the seven tabs k on the bottom of the cassette mechanism assembly in the direction of the arrow.

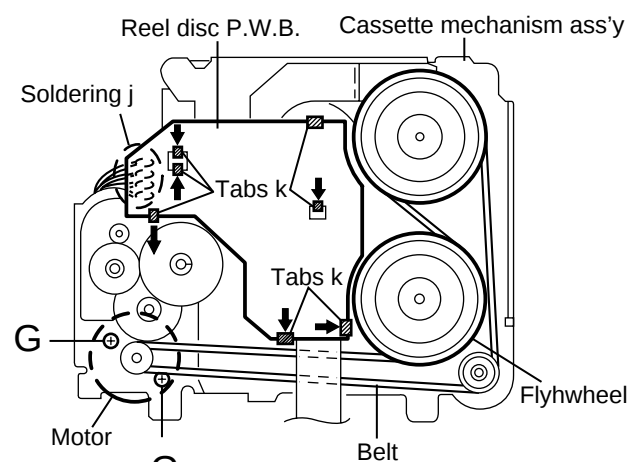


Fig.10

■ 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.

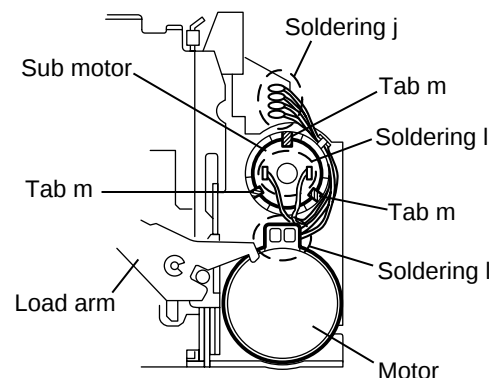


Fig.11

■ Removing the flywheel

(See Fig.10 and 12)

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

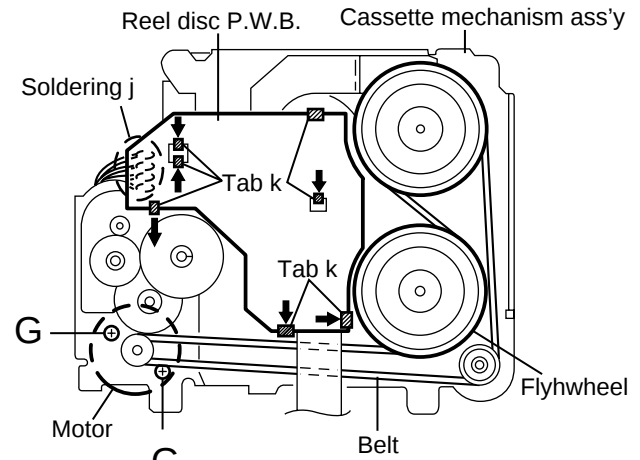


Fig.10

■ Removing the reel disc ass'y(I)

(See Fig.12 to 14)

- * Prior to performing the following procedure, remove the head relay P.W.B, 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.

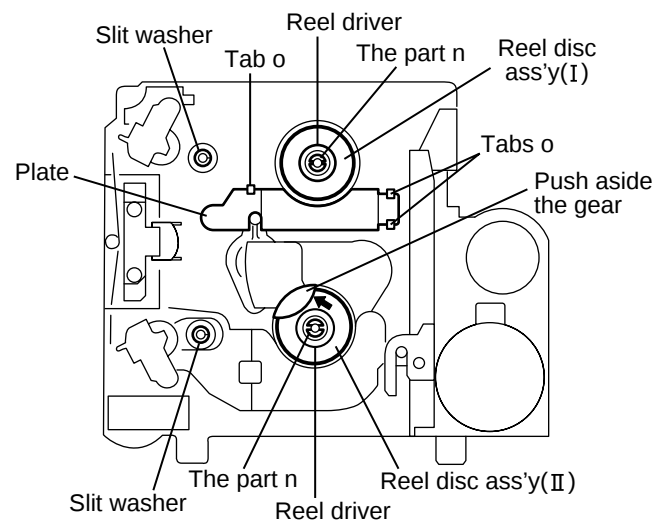


Fig.12

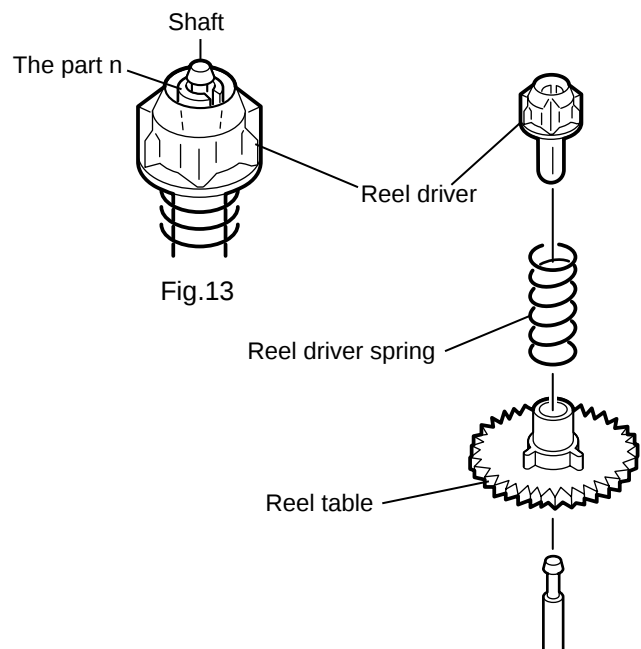


Fig.13

Fig.14

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)
 - VT724For 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)

■Standard volume position

Balance and Bass,Treble volume .Fader
:Center(Indication"0")
Loudness,Dolby NR,Sound,Cruise:Off

following conditions. Playback the test tape VT721.

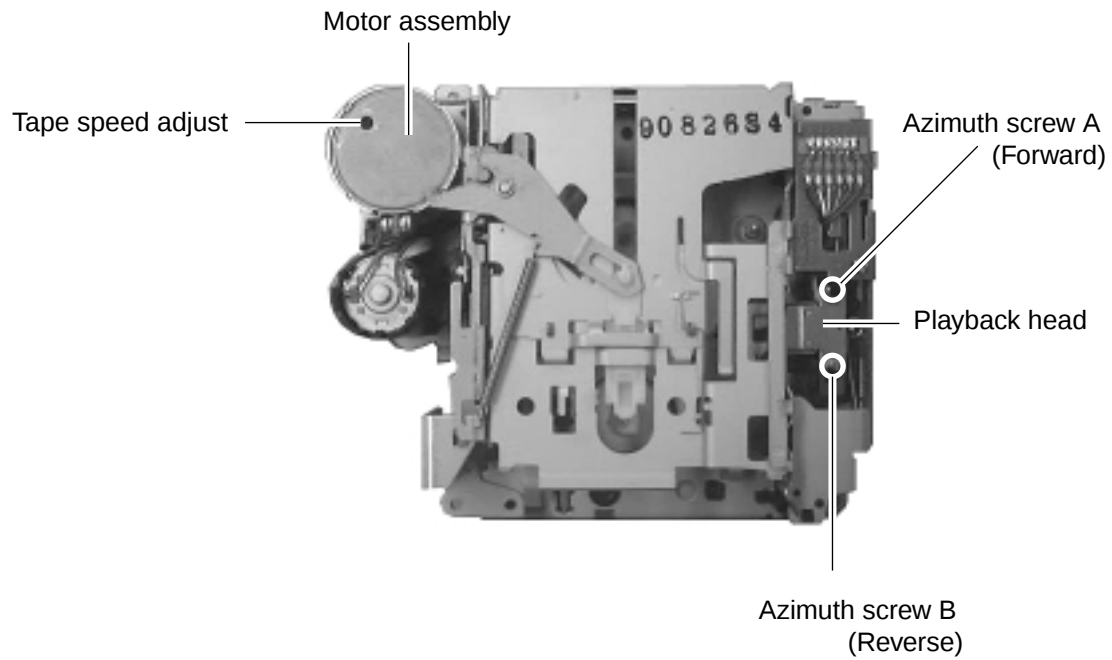
AM mode	999kHz/62dB,INT/400Hz,30% modulation signal on receiving.
FM mono mode	97.5MHz/66dB,INT/400Hz,22.5kHz deviation pilot off mono
FM stereo mode	1kHz,67.5kHz dev. pilot7.5kHz dev.
Output level	0dB(1 μ V ,50 Ω /open terminal)

■ Measuring conditions(Amplifier section)

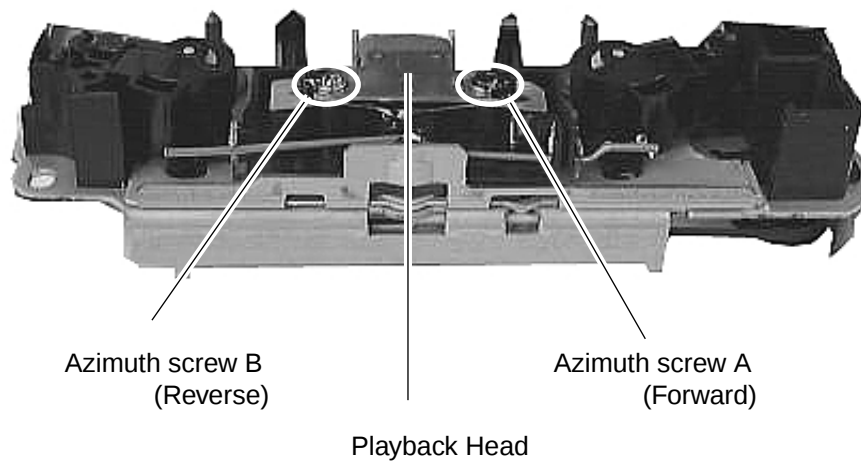
- Power supply voltage DC14.4V (10.5 - 16V)
- Load impedance 4 Ω (2Speakers connection)
- Line out..... 20k Ω

■ Arrangement of adjusting & test points

Cassette mechanism
(Surface)



Head section view



■Information for using a car audio service jig

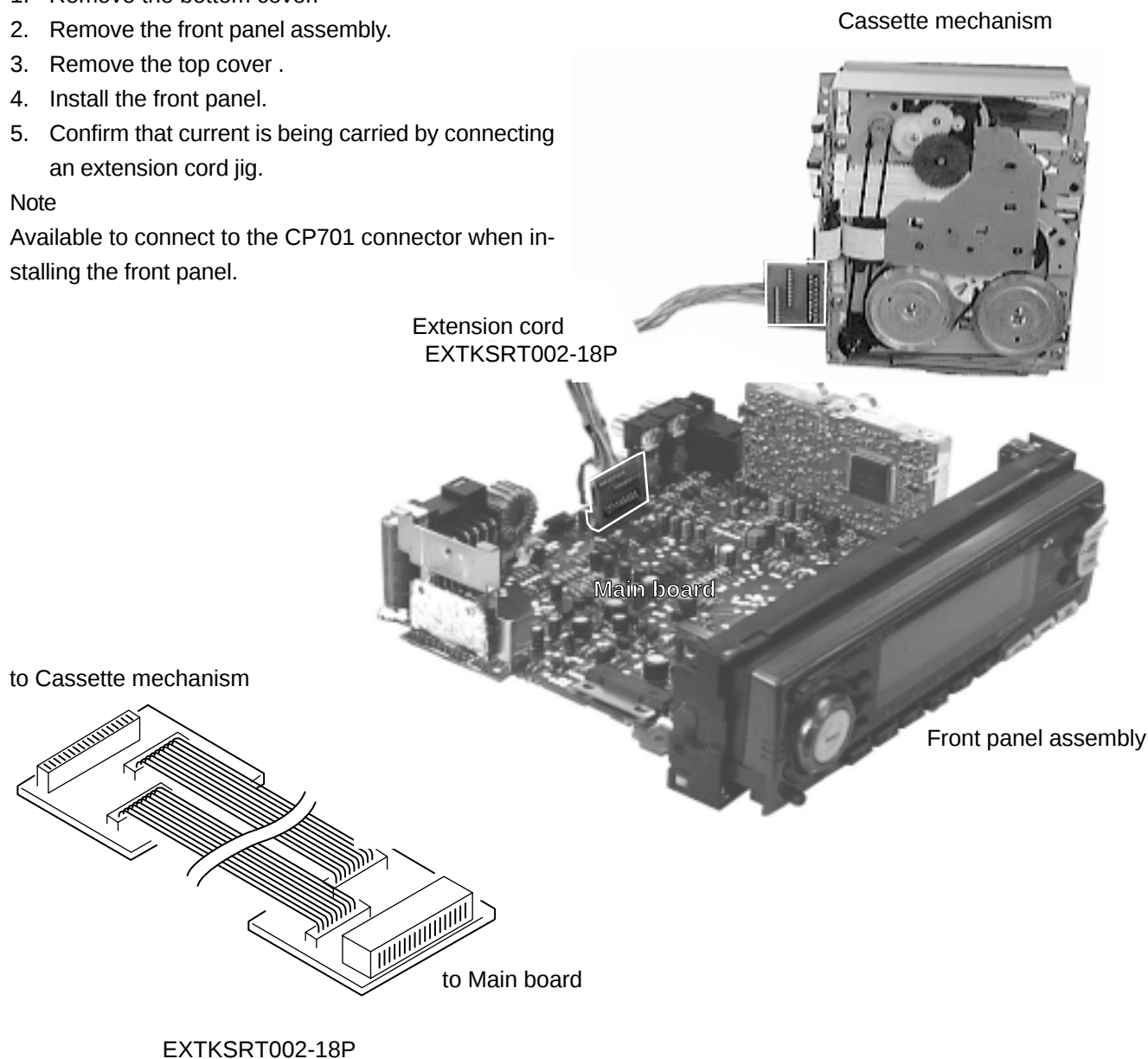
1. We're advancing efforts to make our extension cords common for all car audio products.
Please use this type of extension cord as follows.
2. As a U-shape type top cover is employed, this type of extension cord is needed to check operation of the mechanism assembly after disassembly.
3. Extension cord : 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

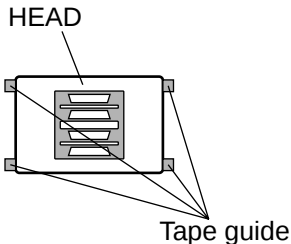
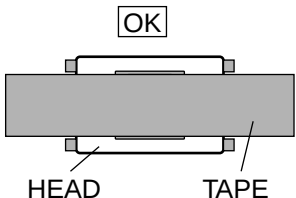
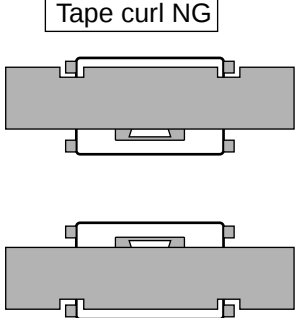
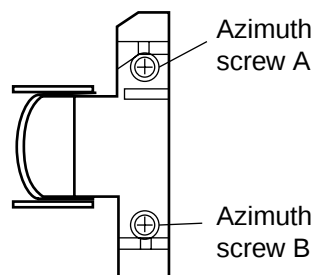
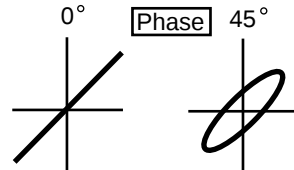
1. Remove the bottom cover.
2. Remove the front panel assembly.
3. Remove the top cover .
4. Install the front panel.
5. Confirm that current is being carried by connecting an extension cord jig.

Note

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



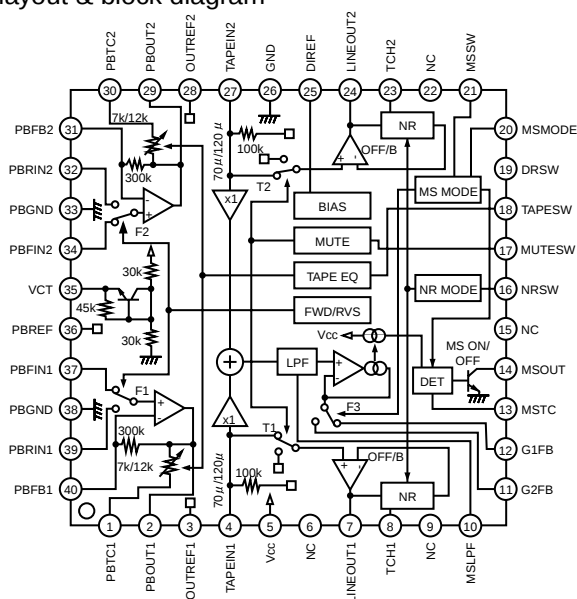
■Mechanism adjustment section

Item	Adjusting & Confirmation Methods	Adjust	Std. Value
1. Tape running adjustment 2. Azimuth adjustment confirmation	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 tape guide. c) At Forward / Reverse play mode, make confirmation of no tape curl of 4 parts of head tape guide. 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.  HEAD Tape guide  OK HEAD TAPE  Tape curl NG	 Azimuth screw A Azimuth screw B  0° Phase 45°	
2. Tape Speed and Wow & Flutter	1. Check to see if the reading of the frequency counter & Wow 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

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

1.Pin layout & block diagram



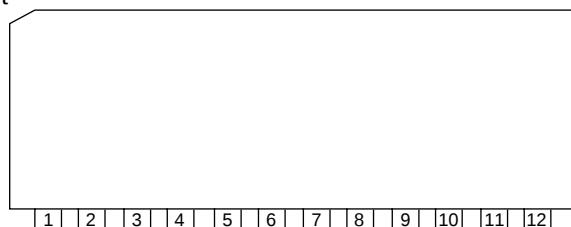
2. Pin function

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

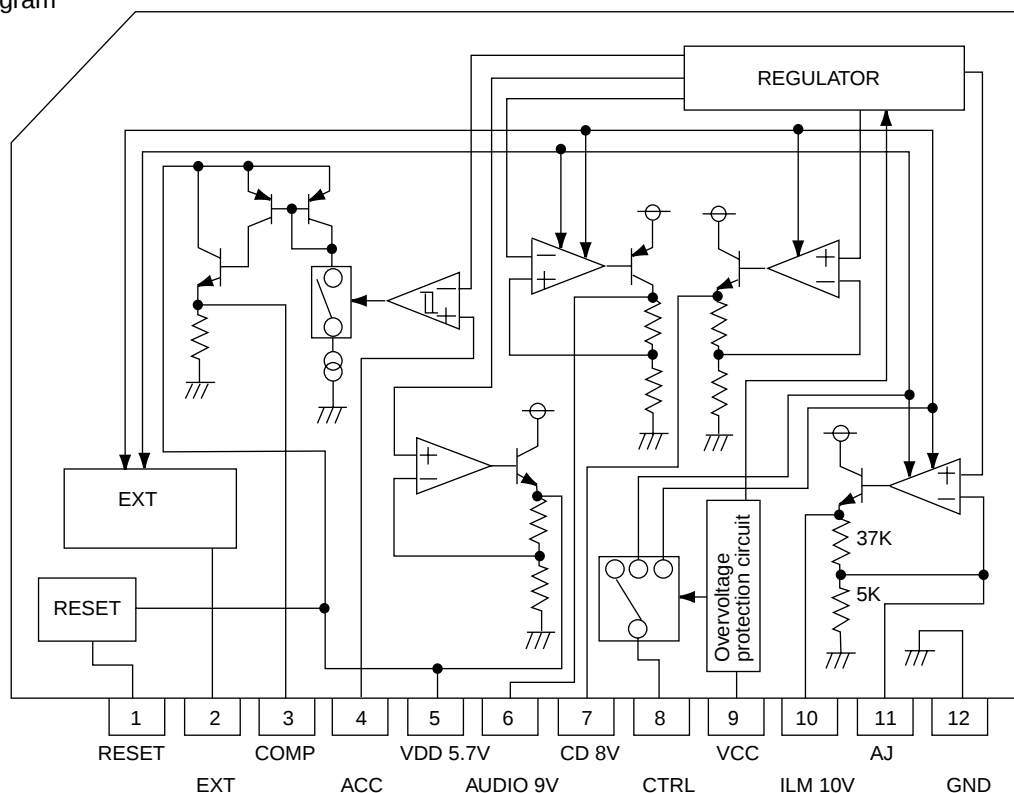
Pin No.	Symbol	I/O	Function
25	DIREF	-	Resistance for setting the reference
26	GND	-	Ground
27	TAPEIN2	I	TAPE input
28	OUTREF2	O	Output reference
29	PBOUT2	O	Playback equalizer amplifier output
30	PBTC2	-	Playback equalizer amplifier capacitance
31	PBFB2	I	Playback equalizer amplifier feedback
32	PBRIN2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

■ BA4905-V3 (IC901) : Regulator

1. Terminal layout



2. Block diagram

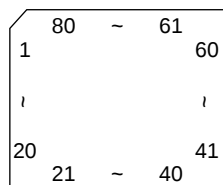


3. Pin function

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

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

1. Pin layout



2. Pin function

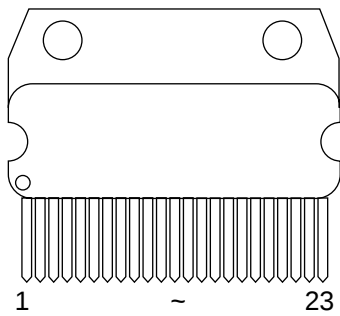
Pin No.	Port Name	I/O	Descriptions
1	KEY 0	I	Key input 0
2	KEY 1	I	Key input 1
3	KEY 2	I	Key input 2
4	LEVEL	I	Level meter input
5	SM	I	S.meter level input
6	SQ	I	S.Quality level input
7	LCDCE	O	CE output to LCD driver
8	LCDDA	O	Data output to LCD driver
9	LCDSCK	O	Clock output to LCD driver
10	BUSI/O	I	I/O selector output for J-BUS, H : OUT, L: INPUT
11	OPEN	I	Door open detect input
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	INLOCK	-	Non connect
20	NC	-	Non connect
21	GNDPORT	-	Port GND
22	VDDPORT	-	Port Vdd
23	NC	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/AM	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	NC	-	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	MOTOR	O	Main motor output

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

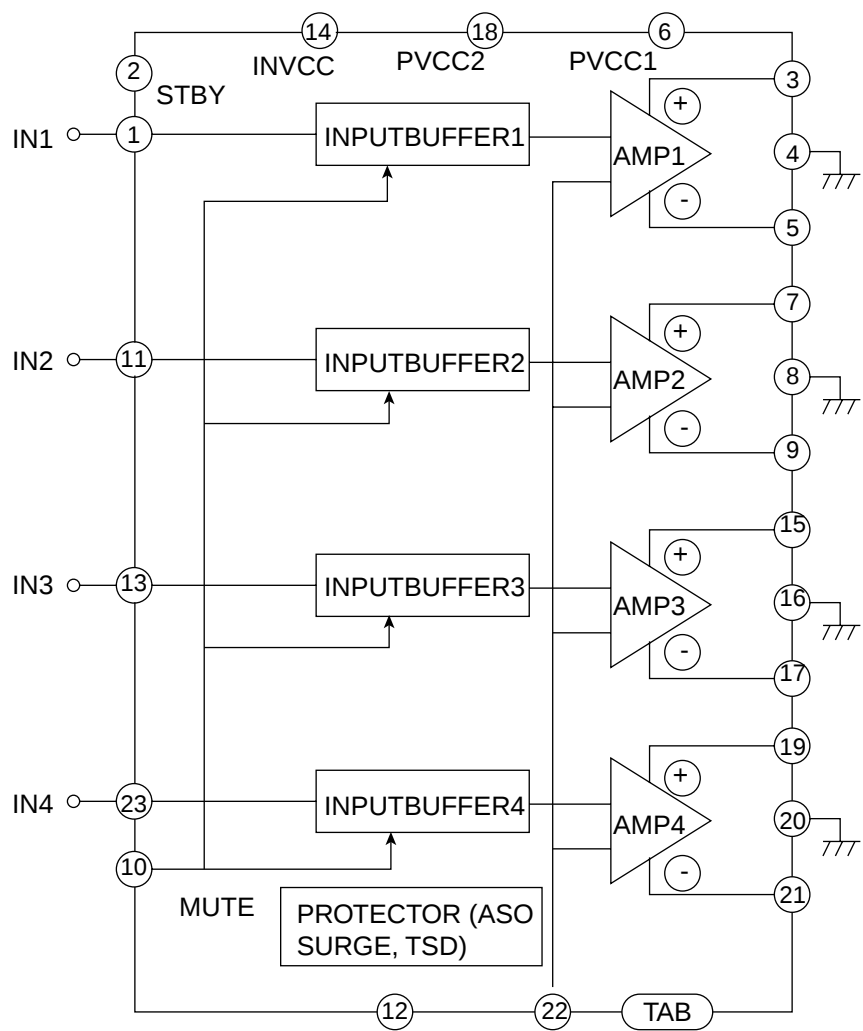
Pin No.	Port Name	I/O	Descriptions
41	FF/REW	I	Output for input signal level switching for MS L : FF,REW H : PLAY
42	F/R	O	FWD,REV running direction switch signal input
43	DOLBY	O	Dolby on "H" output
44	MSIN	I	MS input
45	I2CCLK	O	I2C information clock output
46	I2CDAO	O	I2C information data output
47	I2CDAI	I	I2C information clock input
48	REEL	O	Switch for detecting tape end position
49	SUBMO1	I	Sub motor clock direction input
50	SUBMO2	O	Sub motor clock opposite detection drive output
51	MODE	O	Mechanism mode position detection input
52	TAPEIN	O	Cassette in detection input H : cassette in L : cassette out
53	STANDBY	I	Standby position detection input H : eject side L : operation side
54	NC	-	Non connect
55	NC	-	Non connect
56	NC	-	Non connect
57	NC	-	Non connect
58	NC	-	Non connect
59	BEEP	O	Touch tone output
60	MUTE	O	Mute output , L : mute on
61	PCNT	O	Power ON /OFF switching output , H : power on
62	TELMUTE	I	Telephone mute signal detection input
63	DIMIN	I	Dimmer signal detection input L : dimmer
64	DIMOUT	O	Dimmer control output , Dimmer off L output
65	ENC1	I	Rotary volume signal 1 input Power save : L
66	ENC2	I	Rotary volume signal 2 input
67	ACCDET	I	Power save 1 Working together ACC Power save : L
68	POWER	O	Power save 2, Working together Back up by H input, stop mode
69	RDSSCK	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	J-BUSINT	I	Cut-in input for J-BUS signal
74	REGCPU	-	Regulator for CPU power supply, Connect the GND with 0.1 μ 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 μ F.
79	VDD	-	Vdd
80	RESET	-	Pull up

■ HA13158A (IC301) : Power amp

1. Pin layout

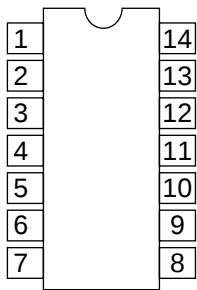


2. Block diagram



■ HD74HC126FP-X (IC801) : Buffer

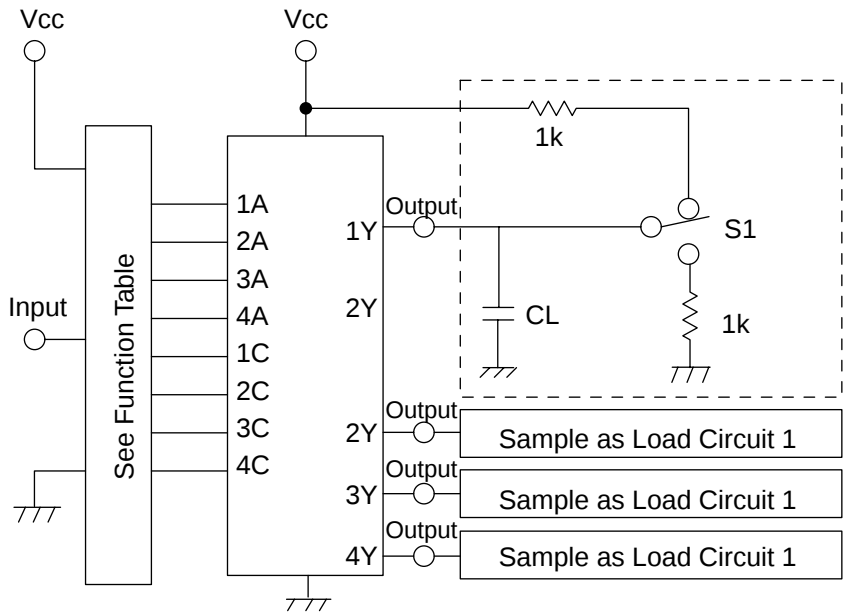
1. Pin layout



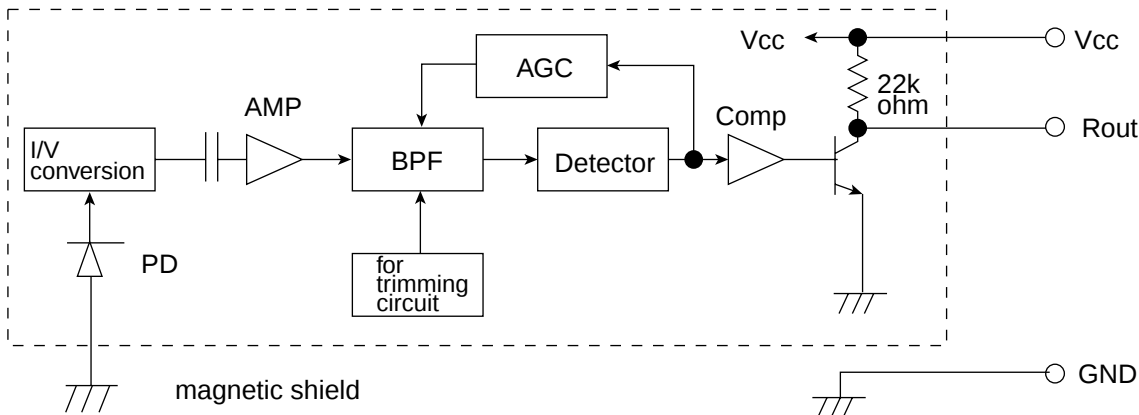
2. Function

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

3. Block diagram

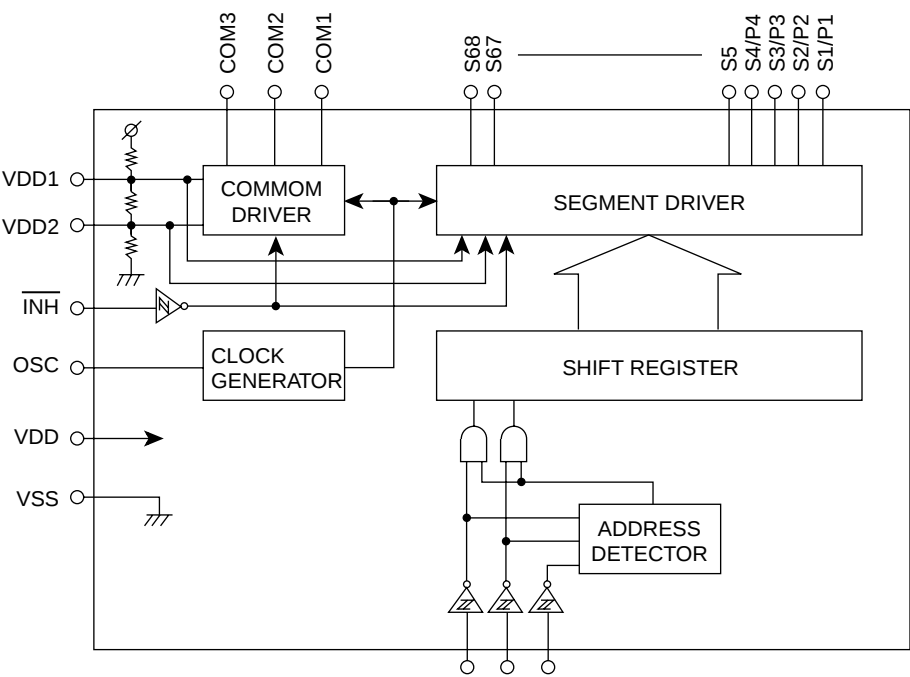


■ RPM6938-SV4 (IC602) : Remote control receiver



■ LC75873NW (IC601) : LCD Driver

1.Block Diagram

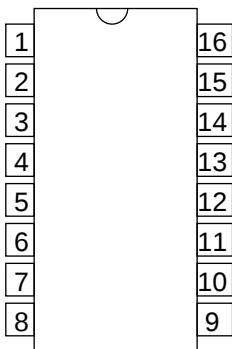


2.Pin Functions

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	$\overline{\text{CE}}$	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 demodulator

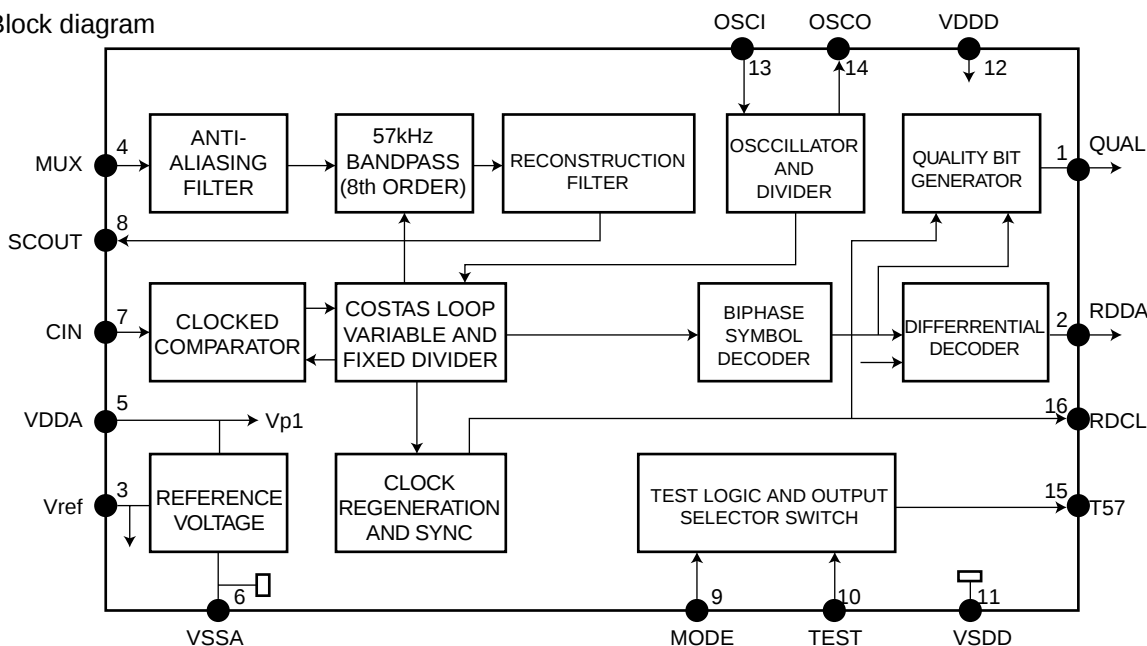
1. Pin layout



2. Pin function

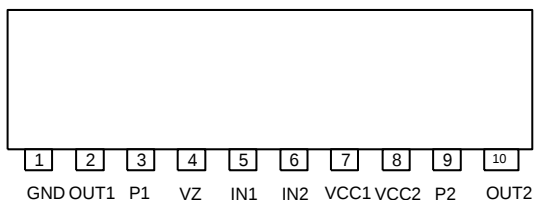
Pin No.	Symbol	Function
1	QUAL	Quality indication output
2	RDDA	RDS data output
3	Vref	Reference voltage output (0.5VDDA)
4	MUX	Multiplex signal input
5	VDDA	+5V supply voltage for analog part
6	VSSA	Ground for analog part (0V)
7	CIN	Subcarrier input to comparator
8	SCOUT	Subcarrier output of reconstruction filter
9	MODE	Oscillator mode / test control input
10	TEST	Test enable input
11	VSSD	Ground for digital part (0V)
12	VDDD	+5V supply voltage for digital part
13	OSCI	Oscillator input
14	OSCO	Oscillator output
15	T57	57kHz clock signal output
16	RDCL	RDS clock output

3. Block diagram



■ LB1641 (IC402) : DC Motor Driver

1. Pin Layout



2. Pin Functions

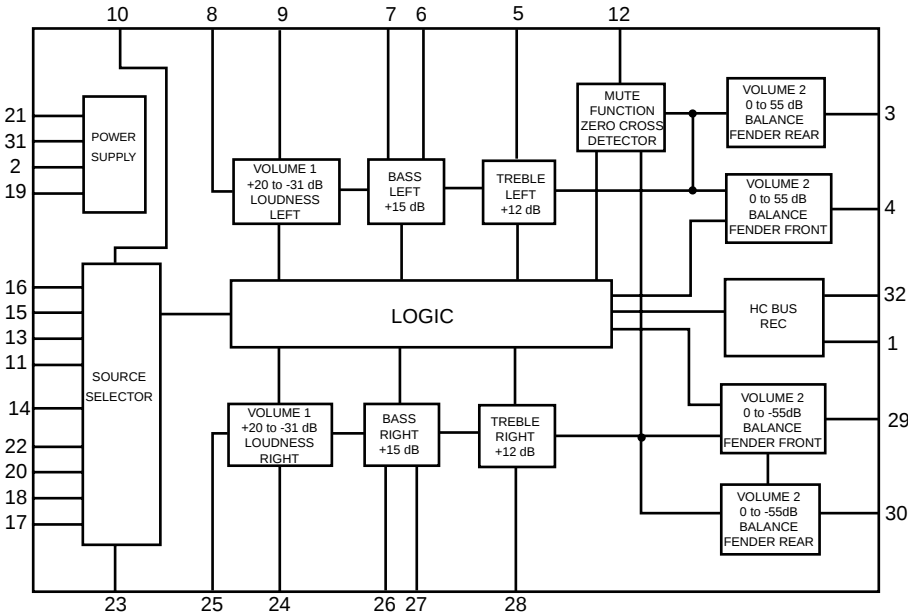
Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

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

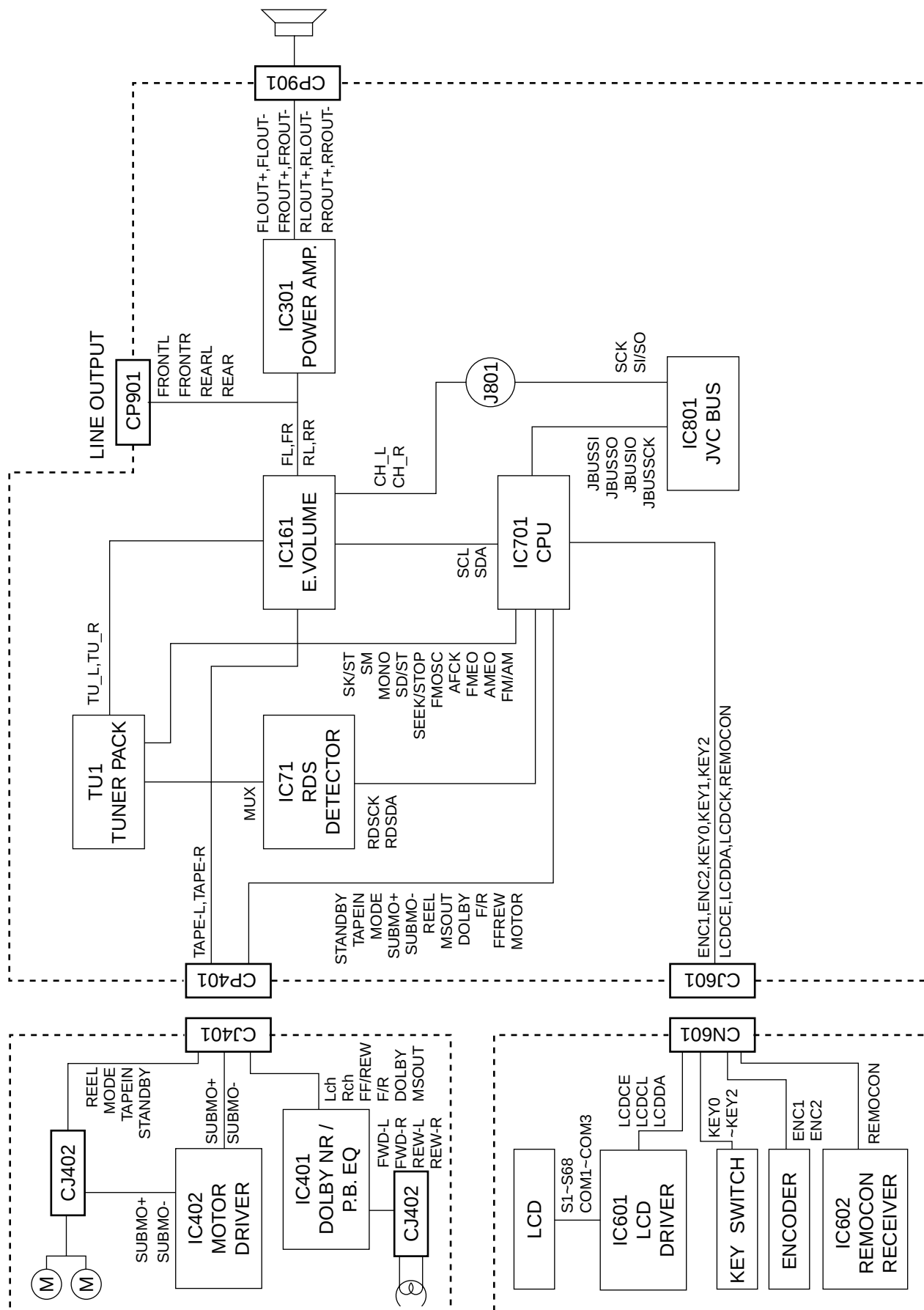
2.Block Diagram



3.Pin Functions

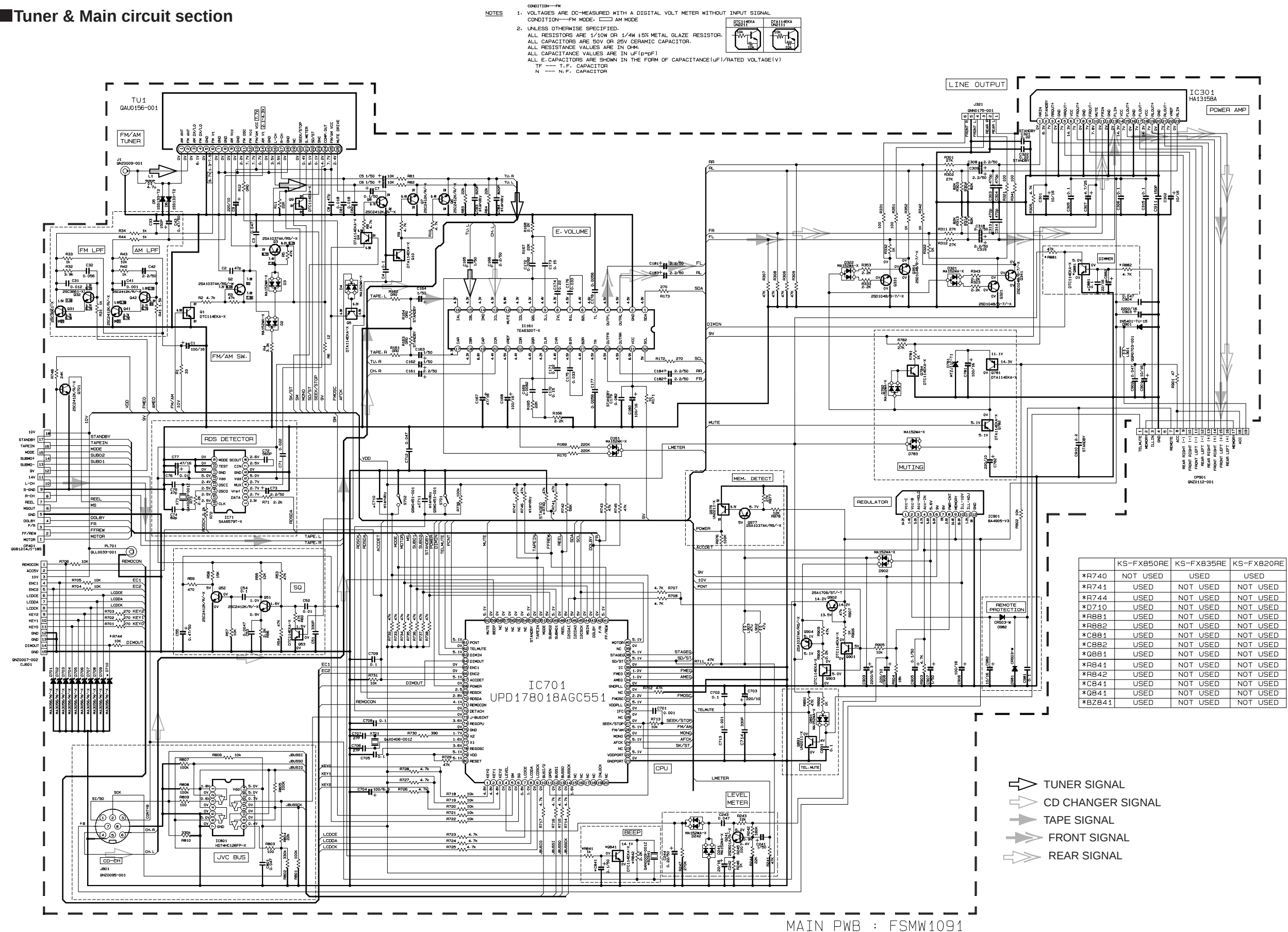
Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	SDA	I/O	Serial data input/output.	17	IAR	I	Input A right source.
2	GND	-	Ground.	18	IBR	I	Input B right source.
3	OUTLR	O	output left rear.	19	CAP	-	Electronic filtering for supply.
4	OUTLF	O	output left front.	20	ICR	I	Input C right source.
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.

Block diagram

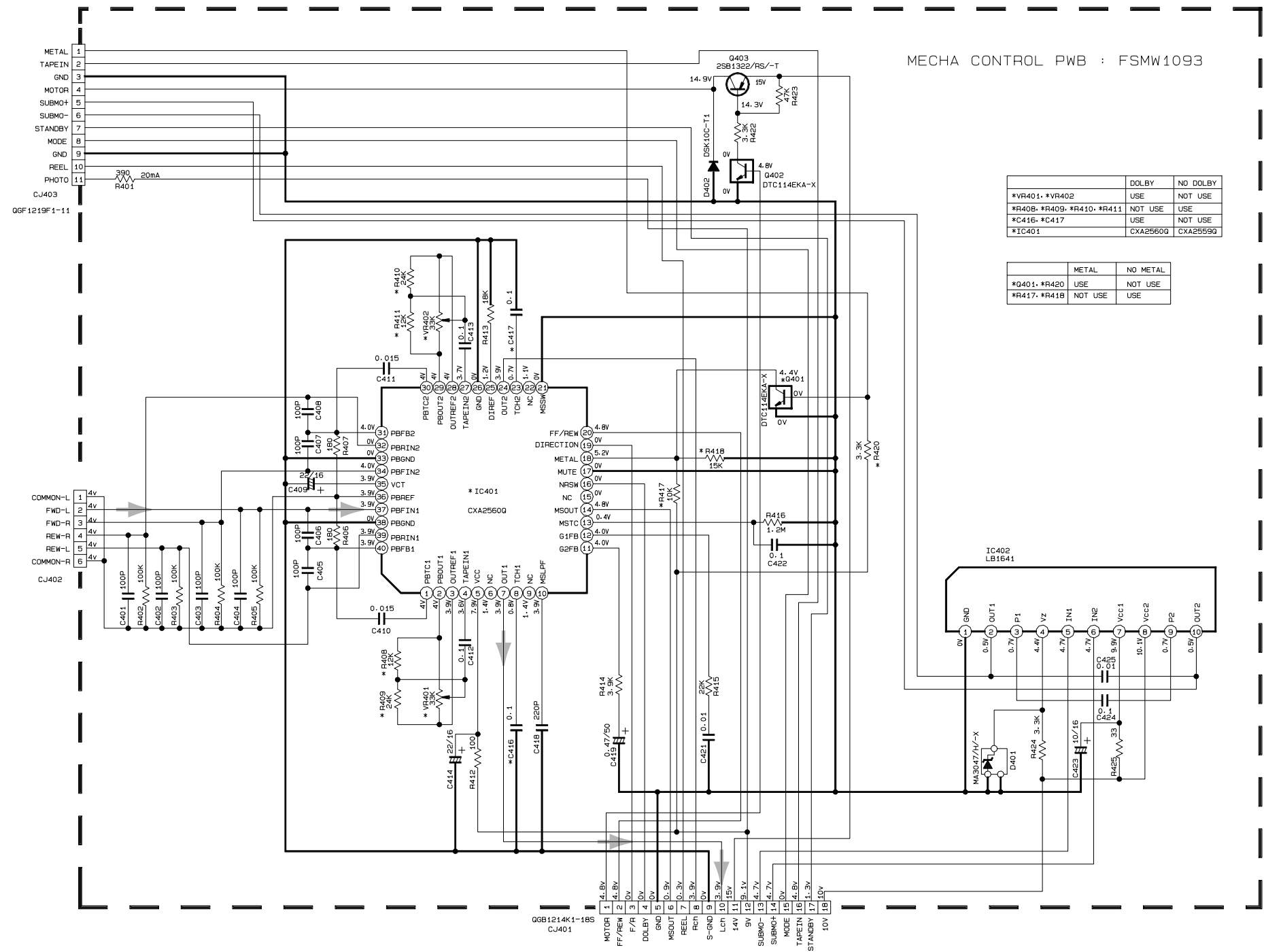


Standard schematic diagrams

■ Tuner & Main circuit section



■ Mechanism control circuit section



➡ TAPE SIGNAL

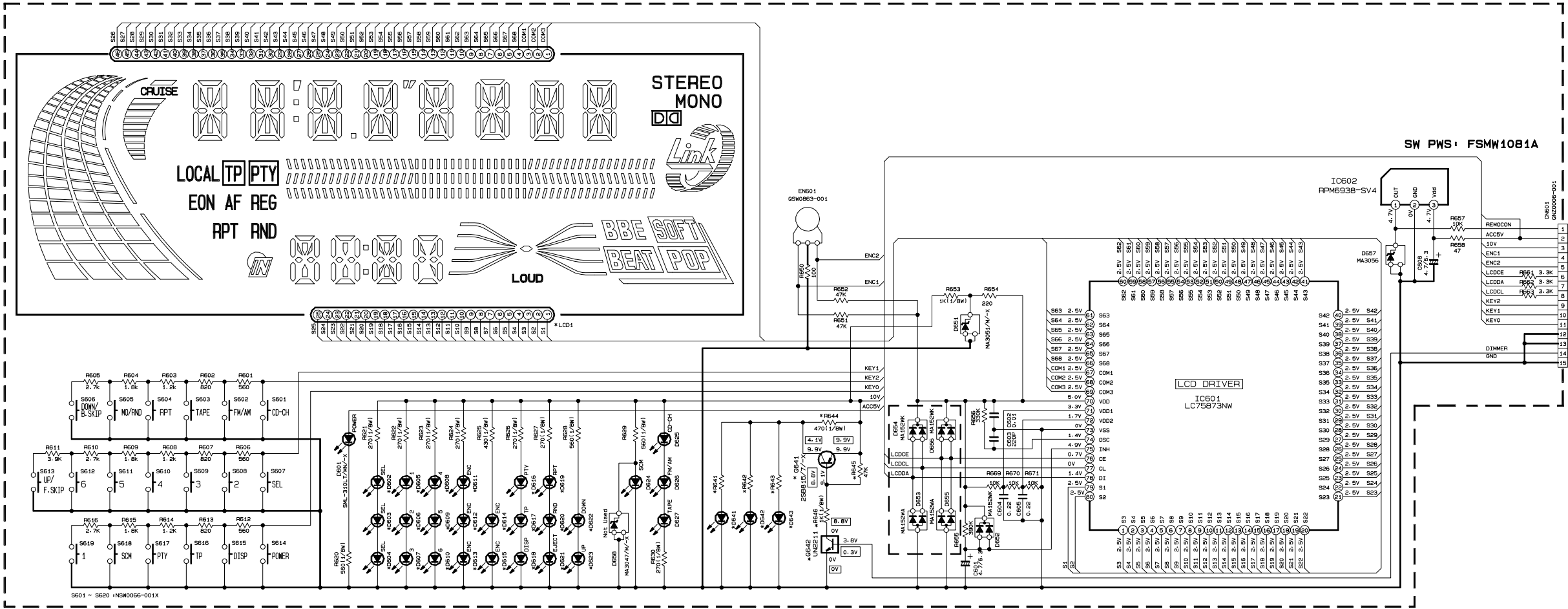
■ LCD & Key control circuit section

	KS-FX850RE	KS-FX835RE	KS-FX820RE
*LCD1	QLD0113-001	QLD0123-001	QLD0124-001
*D602, *D603, *D604, *D605, *D606 *D607, *D608, *D609, *D610, *D611 *D612, *D613, *D614, *D615, *D616 *D617, *D618, *D619, *D620, *D621 *D622, *D623, *D624, *D625, *D626 *D627	LNJ30B6B1/1-3/X	SML-310VT/JK/-X	LNJ30B6B1/1-3/X
*D641, *D642, *D643	NSPW310BS/B/	NSPB320BS/VP/	NSPW310BS/B/
*R645, *R646	USED	NOT USED	NOT USED
*Q641, *Q642	USED	NOT USED	NOT USED
*R641, *R642, *R643	470	390	1.0K
*R644	470	0R0	0R0

NOTES

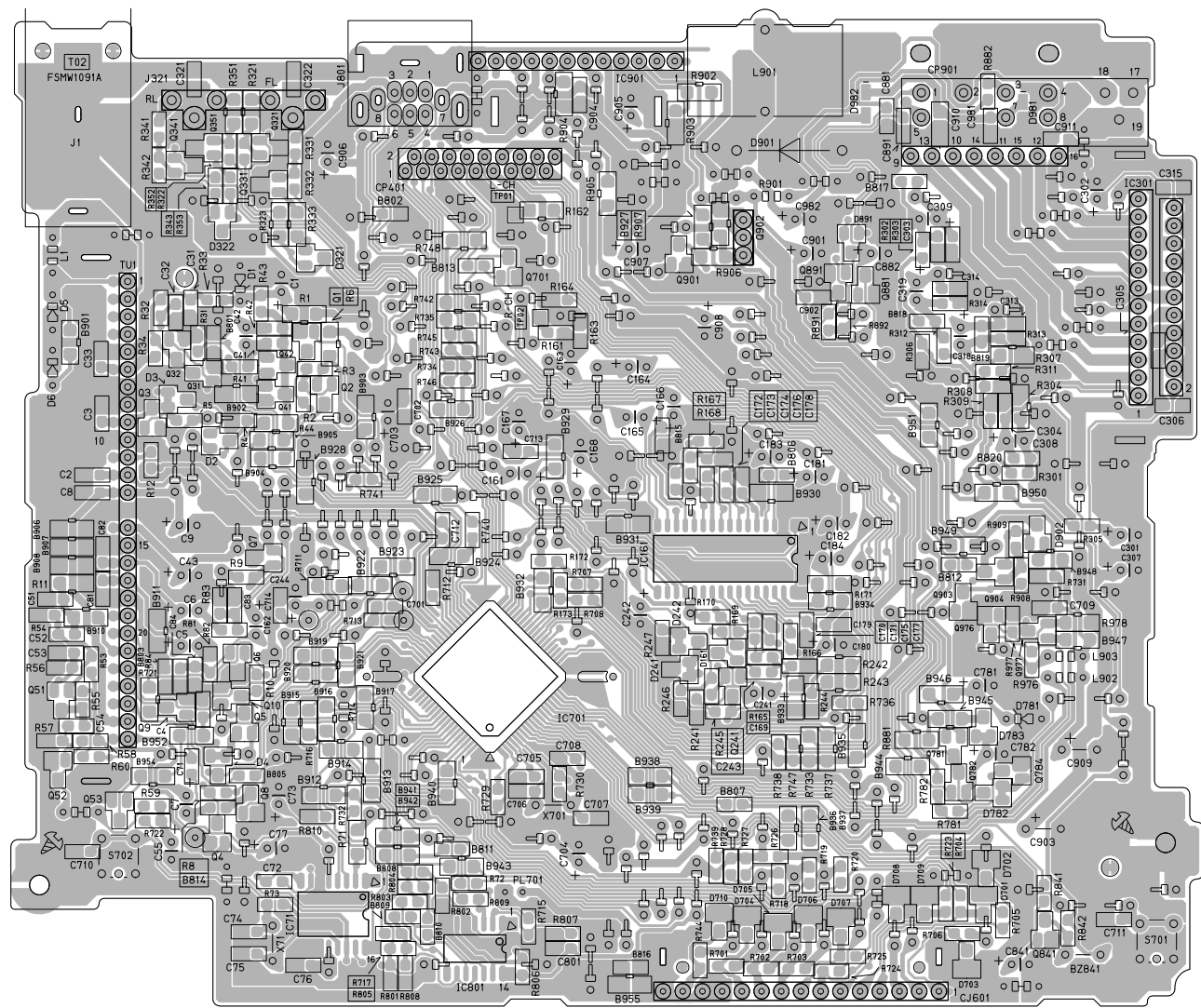
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION - - - FM MODE ☐ DIMMER ON

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 P(PpF).
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(F) / RATED VOLTAGE(V).

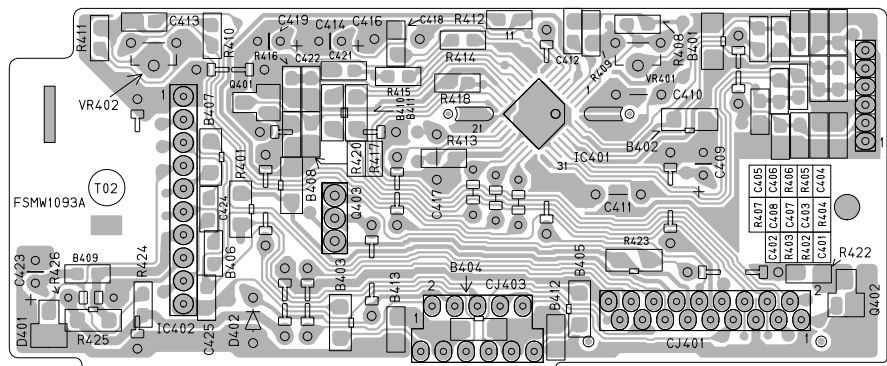


Printed circuit boards

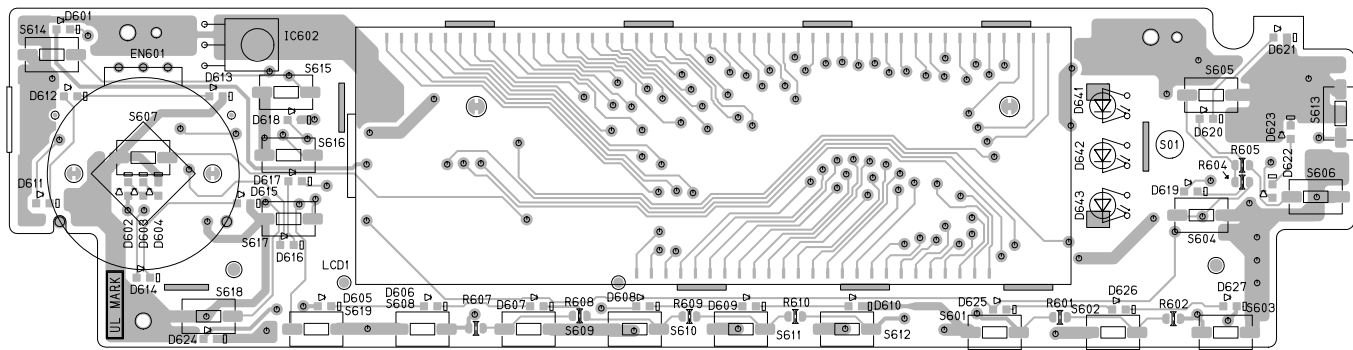
■ Main board



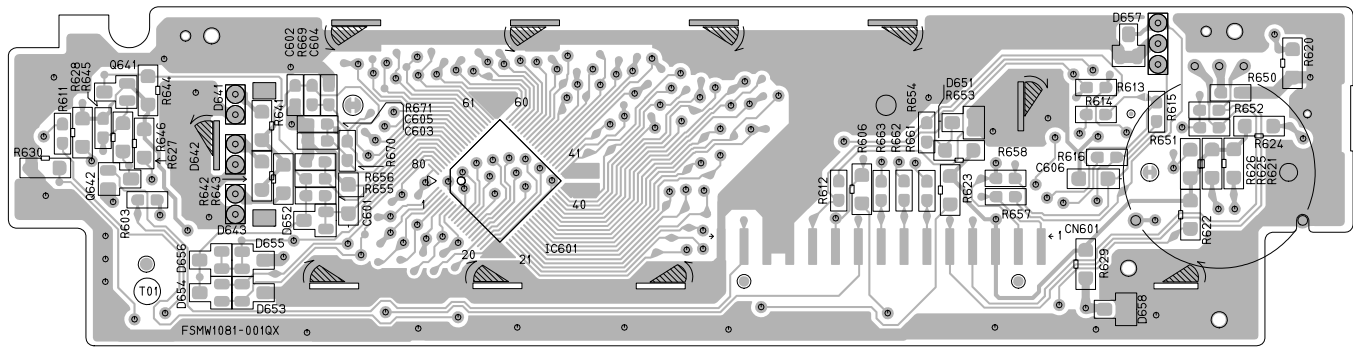
■ Mecah control board



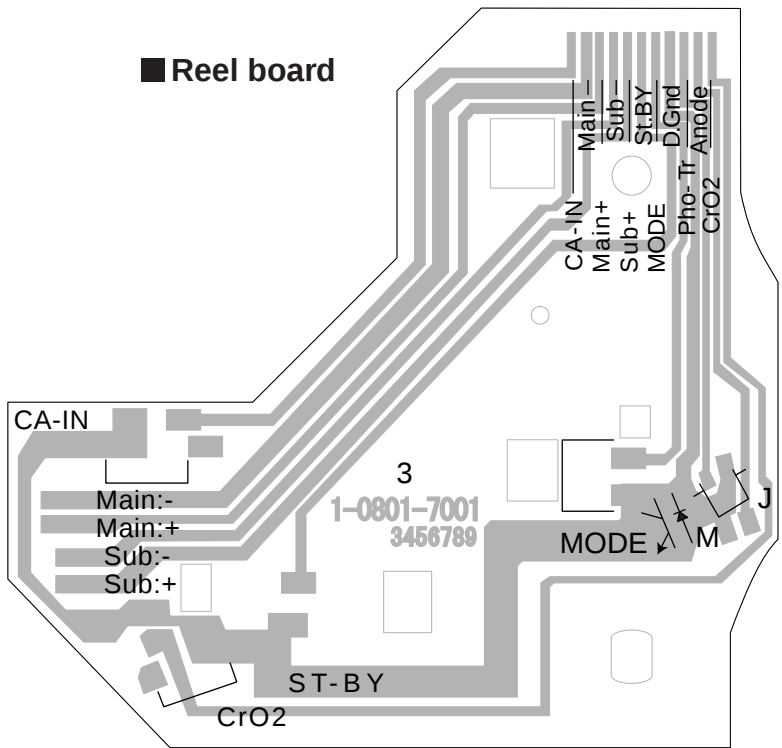
■ LCD & Key control board (Forward side)



■ LCD & Key control board (Reverse side)



■ Reel board



PARTS LIST

[KS-FX850R]

[KS-FX835R]

[KS-FX820R]

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

Areas suffix

E ----- Continental Europe

- Contents -

Exploded view of general assembly and parts list	3-3
Cassette mechanism assembly and parts list	3-5
Electrical parts list	3-10
Packing materials and accessories parts list	3-16

Parts list (General assembly)

Block No. M1MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	1	ZCKSFX850R-FB	FRONT CHASSIS	1	KS-FX850R	
		ZCKSFX820R-FB	FRONT CHASSIS	1	KS-FX820R/835R	
	1-1	FSJC1060-001	FRONT CHASSIS	1		
	1-2	FSJC3014-001	CASSETTE LID	1	KS-FX850R	
		FSJC4003-031	CASSETTE LID	1	KS-FX820R/835R	
	1-3	VKW4947-002	DOOR SPRING	1		
	2	ZCKSFX820R-NPA	NOSE PIECE	1	KS-FX820R	
		ZCKSFX850R-NPA	NOSE PIECE	1	KS-FX850R	
		ZCKSFX835R-NPA	NOSE PIECE	1	KS-FX835R	
	2-1	FSJC1058-001	FRONT PANEL	1		
	2-2	FSJD3024-00B	FINDER LENS	1	KS-FX850R	
		FSJD3024-00C	FINDER LENS	1	KS-FX820R	
		FSJD3024-00D	FINDER LENS	1	KS-FX835R	
	3	FSMH3001-002	HEAT SINK	1		
	4	FSKM3011-002	BOTTOM COVER	1		
	5	FSMA3005-001	INSULATOR	1		
	6	OYSDST2604Z	SCREW	4	CHASSIS+MECHA.B	
	7	FSKZ4005-001	SCREW	3		
	8	OYSDST2606Z	SCREW	2	CHASSIS+REAR BK	
	9	OYSDST2606Z	SCREW	2	CHASSIS+MAIN PW	
	11	OYSDSF2006M	SCREW	2		
	13	FSJC1056-002	CHASSIS BASE	1		
	14	OYSDST2606Z	SCREW	4	MECHA+M.BKT	
	15	OYSDST2606Z	SCREW	1	PCB+MECHA	
	17	-----	CDS-801 JV	1	CASSETTE MECHA	
	18	FSXK3003-005	VOL.KNOB	1	JOG DIAL	
	21	FSXP2045-002	PRESET BUTTON	1	1-6 LASER CUT	
	22	FSXP3053-002	POWER BUTTON	1		
	23	FSXP3058-001	EJECT BUTTON	1		
	24	FSXP3062-001	PUSH BUTTON(R)	1	MO/RND RPT	
	26	FSXP2041-003	PUSH BUTTON(L)	1	DISP TP PTY	
	27	FSXP3061-001	SEL BUTTON	1		
	28	FSJK3027-001	RIM LENS	1	FOR KNOB	
	30	FSJK4009-001	REMOTE LENS	1	FOR REMOTE CON.	
	31	VKW3001-330	COMP.SPRING	1	FOR EJECT BUTTO	
	32	VKW3001-330	COMP.SPRING	1	FOR DETACH BUTT	
	33	FSJC1059-001	REAR COVER	1		
	34	VKZ4777-001	MINI SCREW	5	FRONT+SW.PWB	
	35	FSYN3113-005	NAME PLATE	1	KS-FX850R	
		FSYN3110-D005	NAME PLATE	1	KS-FX835R	
		FSYN3111-D005	NAME PLATE	1	KS-FX820R	
	40	FSYH4061-002	LIGHTNG SHEET	1	KS-FX820R	
	41	FSYH4080-001	LIGHTNG SHEET	1	KS-FX835R	
	42	FSJK3028-001	LCD LENS	1		
	43	FSKS3013-001	LENS CASE	1		
	45	FSYH3024-001	LCD CASE	1		
	46	QNZ0450-001	RUBB.CONNECTOR	1		
	47	QNZ0449-001	RUBB.CONNECTOR	1		

Parts list (General assembly)
Block No. M1MM

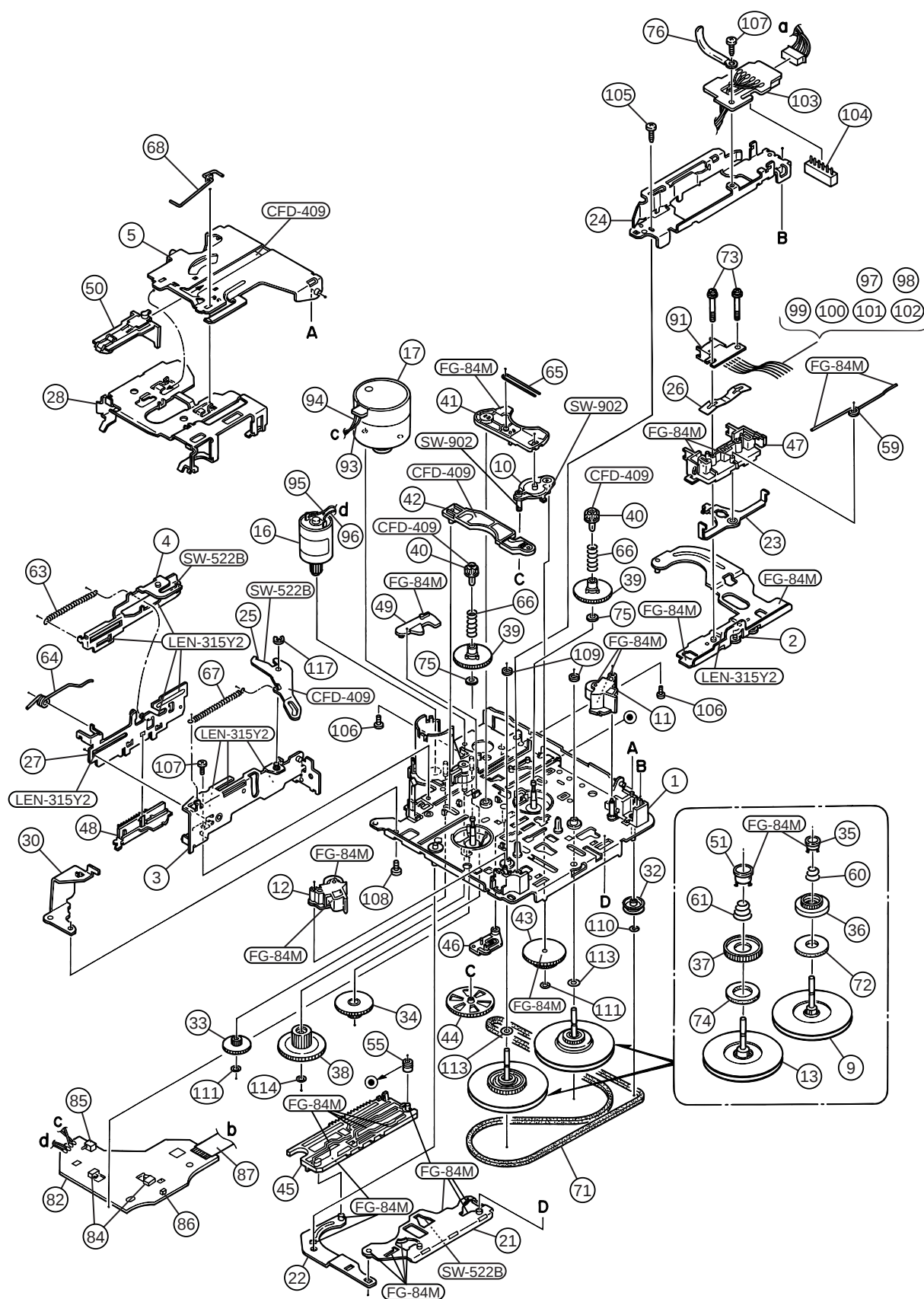
A	Item	Parts number	Parts name	Q'ty	Description	Area
A	48	FSYH4061-001	LIGHTNG SHEET	1		
	51	FSXP2038-001	OPERAT.BUTTON	1	LENS+D.FUNC CAP	
	52	FSXP3060-001	RELEASE LEVER	1		
	53	FSKW3002-016	COMP.SPRING	1	FOR RELEASE KNO	
	54	VJK3707-001	LIGHT LENS	1		
	55	QYSPSGU1745N	MINI SCREW	2	FOR LIGHT LENS	
	57	VKS3793-001	LOCK LEVER(TOP)	1		
	58	FSKS3015-001	LOCK LEVER(O.L)	1		
	59	VKS3798-002	RELEASE LEVER	1		
	60	FSXP2043-001	UP DOWN BUTTON	1		
	61	VKS3794-003	LOCK LEVER(L)	1		
	62	VKS3795-002	LOCK LEVER(R)	1		
	64	VKS5563-001	GEAR	1		
	65	VKZ4786-002	OIL DAMPER	1		
	67	FSKW4012-002	T.SPRING	1	FOR L.LEVER(TOP	
	68	FSKW4013-002	T.SPRING	1	FOR OPEN LEVER	
	69	VKW5262-001	T.SPRING	1	FOR L.LEVER(R)	
	70	VKW5263-002	T.SPRING	1	FOR L.LEVER(L)	
	71	VKW5264-005	T.SPRING	1	FOR RELEASE LEV	
	72	OYSDSF2006M	SCREW	1	DAMPER+L.LEVER(	
	74	VKZ4777-001	MINI SCREW	1	LOCK LEVER(O.L.	
	82	FSKL4018-00B	IC BRACKET	1		
	83	FSKL4023-001	P.W.B.BRACKET	1		
	84	FSKL4014-001	HEAT SINK	1		
	85	VMA4652-001SS	EARTH PLATE	1		
	86	QMFZ021-100-J1	FUSE	1		
	87	FSKS3017-002	LED HOLDER	1		
	88	FSXP4006-001	SCM BUTTON	1		
	89	FSKS3014-001	OPEN LEVER	1		
	90	FSYH4036-035	SHEET	1	SLIDING SHEET	
	93	FSYH4036-049	KNOB SHEET	1		
	94	FSYH4036-050	MECHA SHEET	1		
	96	FSYH4036-032	SHEET	1		
	99	FSKL2001-001	MECHA BRACKET	1		
	LCD1	QLD0113-001	LCD MODULE	1	KS-FX850R	
		OLD0124-001	LCD MODULE	1	KS-FX820R	
		QLD0123-001	LCD MODULE	1	KS-FX835R	
	100	FSKL2002-001	MECHA BRACKET	1		
	101	FSYH4036-031	SHEET	1		
	102	FSXP3059-001	DETACH BUTTON	1		
	104	FSKM3012-011	REAR BRACKET	1		
	105	QYSDST2606Z	SCREW	1	REAR BKT+ANT JA	
	106	QYSDST2606Z	SCREW	1	REAR BKT+REG B	
	107	QYSDSF3006Z	SCREW	1	REAR BKT+PIN JA	
	108	QYSDST2606Z	SCREW	1	REAR BKT+CD IN	

Cassette mechanism assembly and parts list

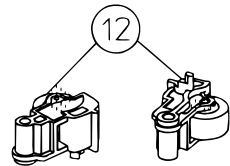
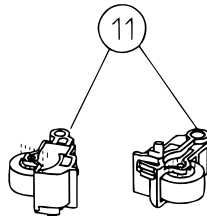
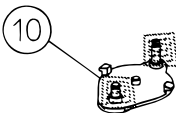
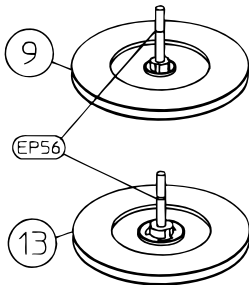
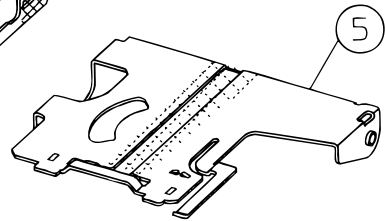
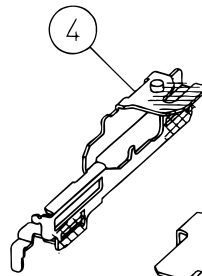
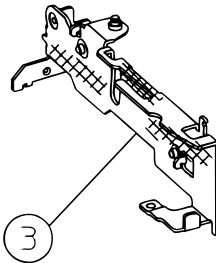
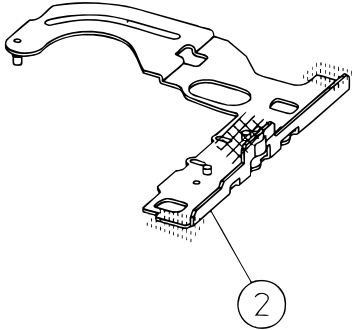
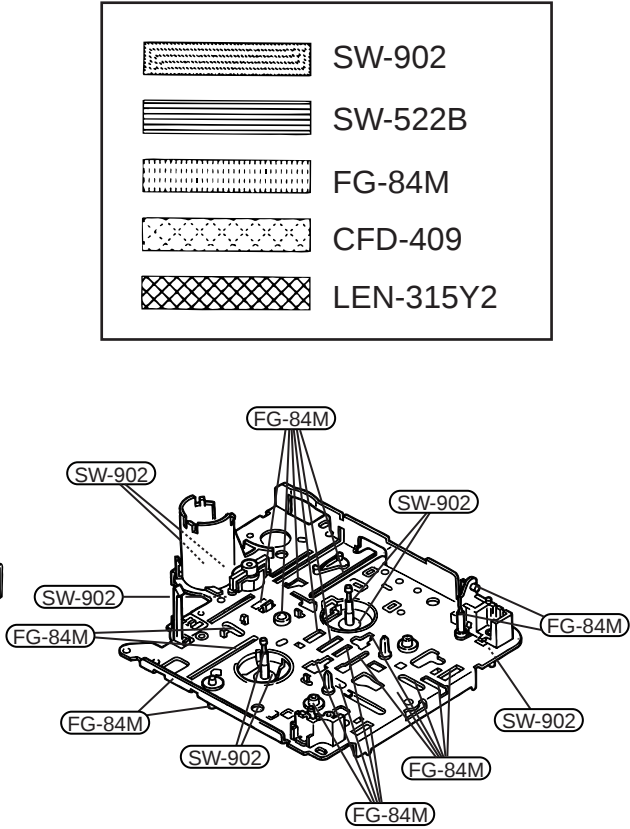
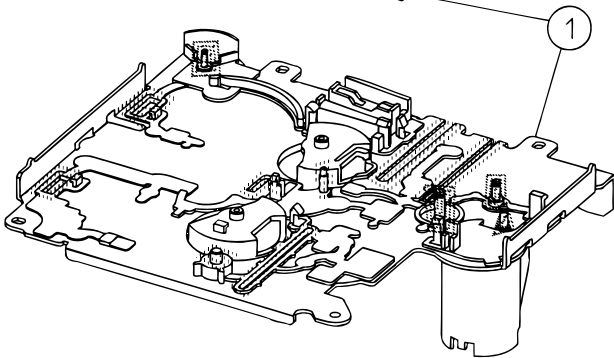
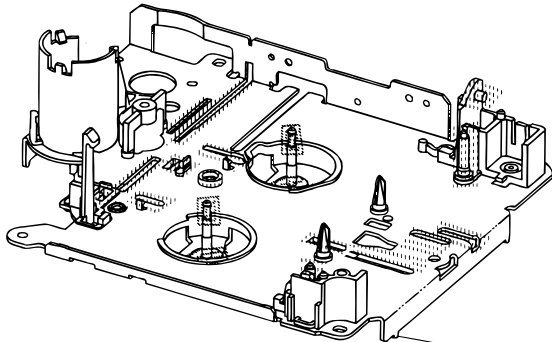
CDS-801

Block No.

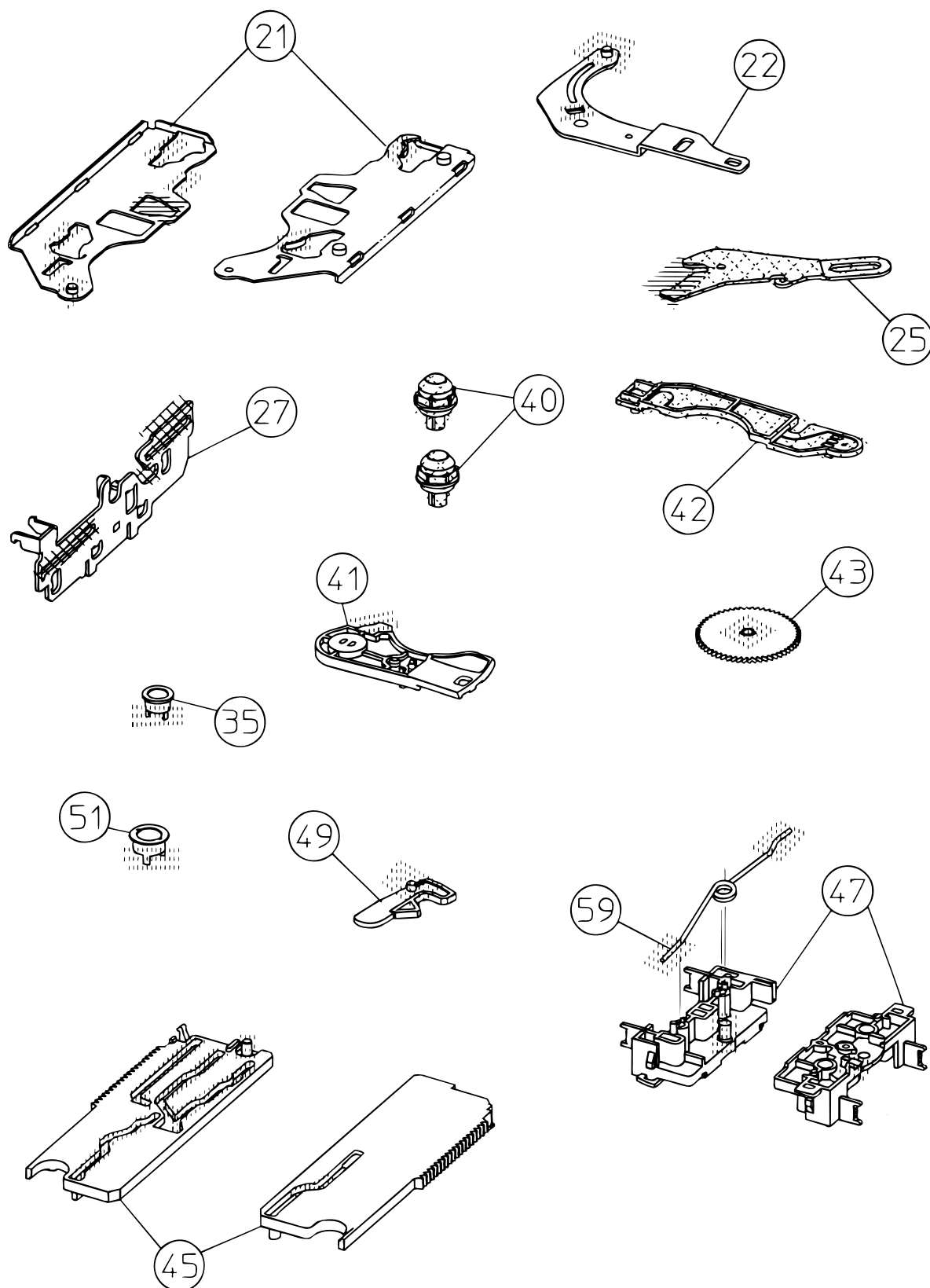
M	2	M	M
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Grease point 1/2



Grease point 2/2



Parts list (Cassette mechanism)

Block No. M2MM

A	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		

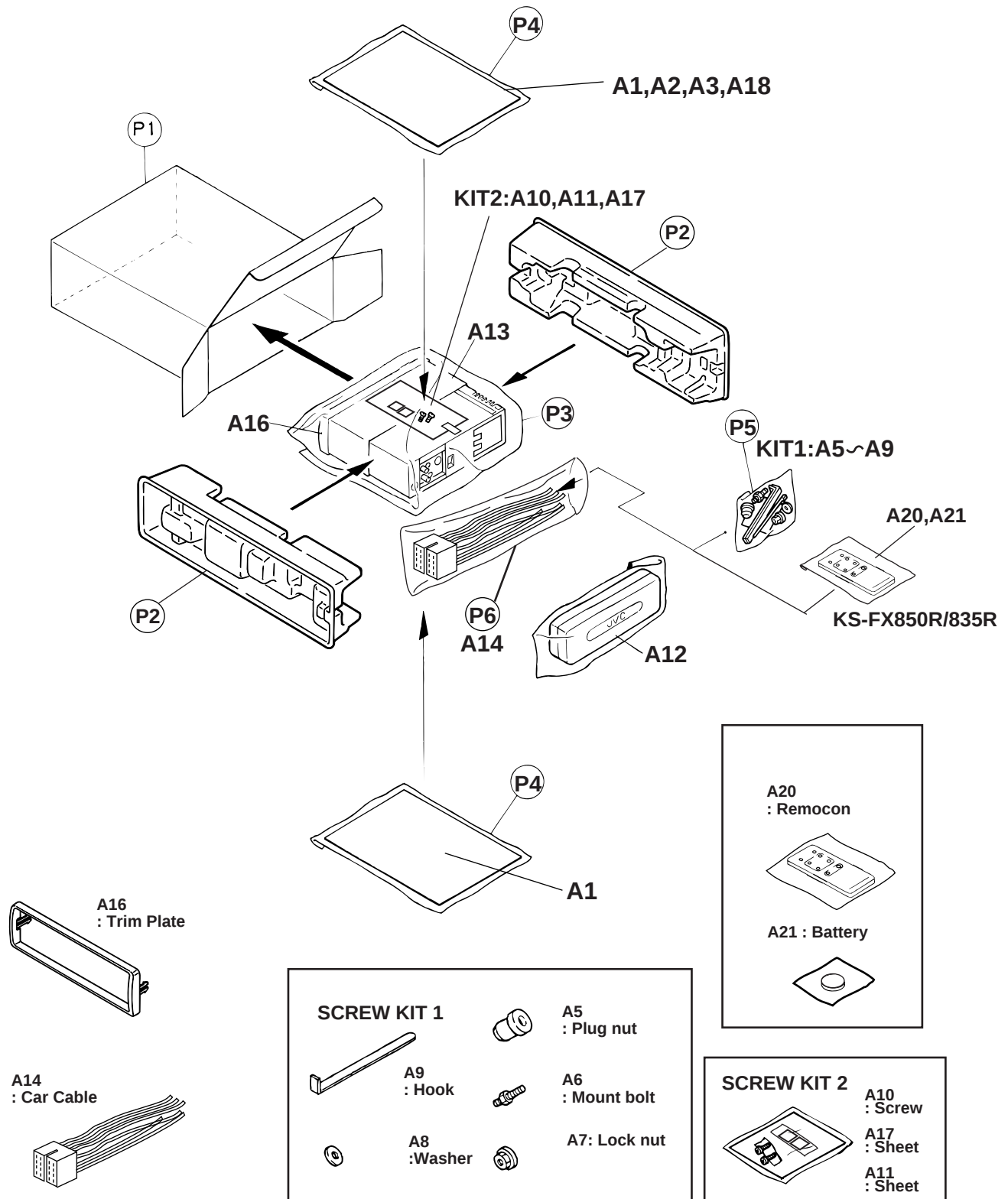
Parts list (Cassette mechanism)
Block No. M2MM

A	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	

Packing materials and accessories parts list

Block No. M 3 M M

Block No. M 4 M M



■ Packing parts list

Block No. M3MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	FSPE3001-174	PACKING CASE	1	KS-FX850R	
		FSPE3004-061	PACKING CASE	1	KS-FX820R	
		FSPE3004-060	PACKING CASE	1	KS-FX835R	
	P 2	FSPH1018-002	PAPER CUSHION	2		
	P 3	VPE3005-064	POLY BAG	1		
	P 4	QPA01703505P	POLY BAG	2	FOR INST. BOOK	
	P 5	QPA00801205	POLY BAG	1		
	P 6	QPA01003003	POLY BAG	1		

■ Accessories parts list

Block No. M4MM

A	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	FSUN3113-321	INST.BOOK	1	SPA ITA SWE FIN	
		FSUN3113-311	INST.BOOK	1	ENG GER FRE DUT	
	A 2	FSUN3113-T481	INSTRUCT.SHEET	1	SWE FIN	
		FSUN3113-T451	INSTRUCT.SHEET	1	DUT SPA ITA	
		FSUN3113-T211	INSTRUCT.SHEET	1	ENG GER FRE	
	A 3	BT-54013-1	WARRANTY CARD	1		
	A 5	VKZ4027-202	PLUG NUT	1		
	A 6	VKH4871-001SS	MOUNT BOLT	1		
	A 7	VKZ4328-001	LOCK NUT	1		
	A 8	WNS5000Z	WASHER	1		
	A 9	FSKL4010-002	HOOK	2		
	A 10	VKZ4777-001	MINI SCREW	2	THEFT PREVENTIO	
	A 11	FSYA4002-001	SHEET	1	THEFT PREVENTIO	
	A 12	FSJB3001-00A	HARD CASE	1		
	A 13	FSKM2004-002SSF	MOUNTING SLEEVE	1		
	A 14	OAM0160-001	CAR CABLE	1	KS-FX850R	
		QAM0158-001	CAR PLUG CORD	1	KS-FX820R/835R	
	A 16	FSJD2034-001	TRIM PLATE	1		
	A 17	FSYH4036-043	SHEET	2		
	A 18	VND3046-001	SERIAL TICKET	1		
	A 20	RM-RK31	REMOCON	1	KS-FX850R/835R	
	A 21	-----	BATTERY	1	KS-FX850R/835R	
	KIT 1	KDGS717K-SCREW1	SCREW PARTS KIT	1	A5 - A9	
	KIT 2	KDSX959-SCREW2	SCREW PARTS KIT	1	A10 A11 A17	