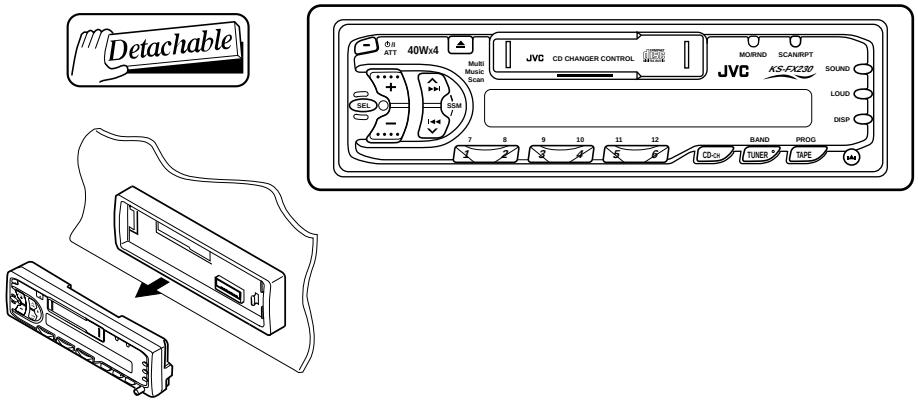
JVC

SERVICE MANUAL

CASSETTE RECEIVER

KS-FX230



Area Suffix

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

Contents

No.49565
Jul. 2000

Safety precaution

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

Disassembly method

■ Removing the front chassis (see Fig.1)

1. Disengage the four tabs in the right and left side of unit and pull the front chassis forward to remove it.

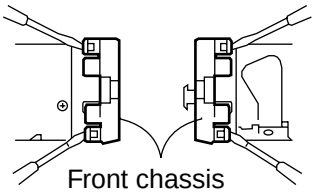


Fig. 1

■ Removing the bottom cover and heat sink (see Fig.2,3)

1. Remove one screw **A** retaining the IC to the heat sink.
2. Remove two screws **B** to remove the heat sink.
3. Turn the upside down, the insert and turn the screwdriver to remove the bottom cover and protect sheet.

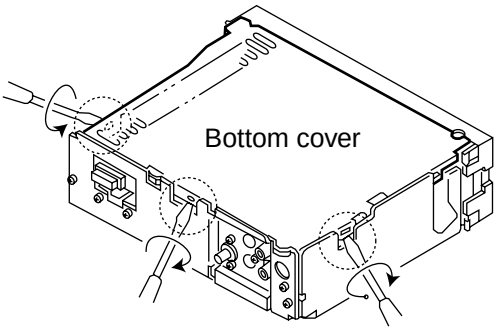


Fig. 2

■ Removing the main board (see Fig.4)

1. Remove two screws **C** retaining the rear panel to the chassis.
2. Remove two screws **D** retaining the main board.
3. Lift up the main board to remove it. At this time, remove the connector CP702 connecting the main board and mechanism assembly.

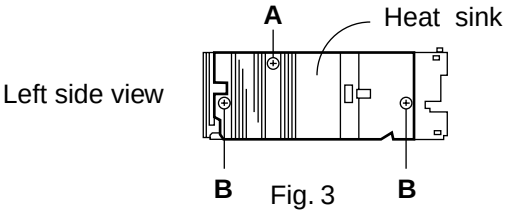


Fig. 3

■ Removing the rear panel (see Fig.4)

1. Remove six screws retaining the jacks or the like.
2. Remove two screws **E** to the 16-pin jack.
3. Remove one screw **F** to remove the line-out jack.
4. Remove one screw **G** to remove the antenna jack.

   Remove one screw **H** to remove the changer controller jack.

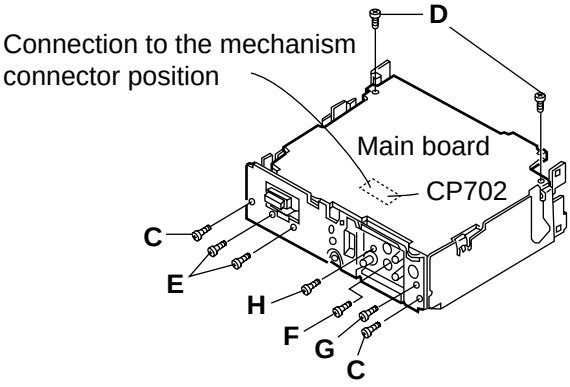


Fig. 4

■ Removing the mechanism ass'y (see Fig.5)

1. Remove four mechanism mounting screws **I** retaining the mechanism assembly.
2. Remove four screws **J** retaining the cover.
3. Remove one screw which is the fixation of top cover and the substrate.

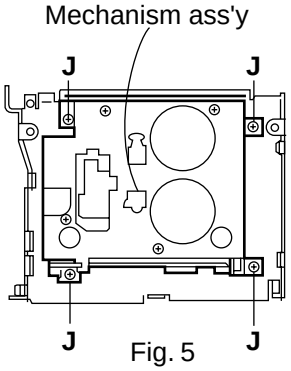


Fig. 5

■ Removing the front panel unit (see Fig.6)

1. Remove four screws **K** retaining the rear cover.

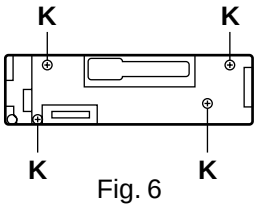


Fig. 6

<< Cassette mechanism section >>

■ Removing the head relay board (see Fig.1)

1. Desolder the lead wires of the loading motor at the 2 positions shown (Red and Black).
2. Desolder the lead wire of the head at the 3 positions shown (RED, Yellow and Black).
3. Remove the three screws **A** securing the head relay board.
4. Shift the interlocking section **a** securing the head relay board in the direction shown by the arrow to remove the board.

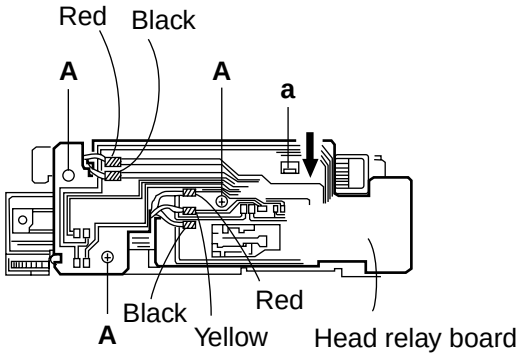


Fig. 1

■ Removing the load arm ass'y (see Fig.2)

1. Using tweezers, detach the mylar washer **1** securing the load arm ass'y and pull out the load arm ass'y.

NOTE : When reassembling, be sure to use a new mylar washer.

2. Shift the load arm ass'y counter clockwise.
3. Remove the load arm ass'y from the catch.

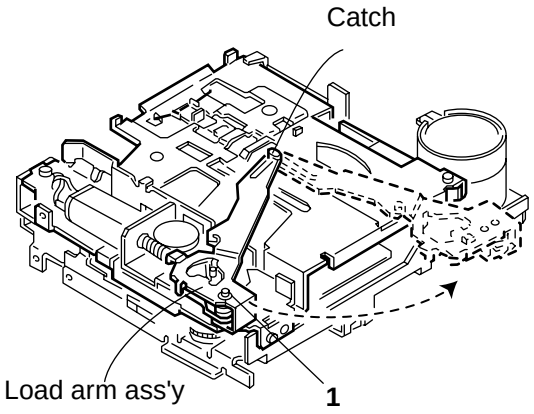


Fig. 2

■ Removing the cassette holder and arm ass'y (see Fig.3)

1. Remove the head relay board.
2. Remove the load arm ass'y.
3. Apply DC 6V to the lead wire of the loading motor ass'y and turn the load gear ass'y to the position shown in Fig. 3.
4. Remove the screw **B** securing the cassette holder and holder arm ass'y.
5. Shift the cassette holder and holder arm ass'y in the direction shown by the arrow and remove them from the interlocking section **b** of the sub chassis ass'y.

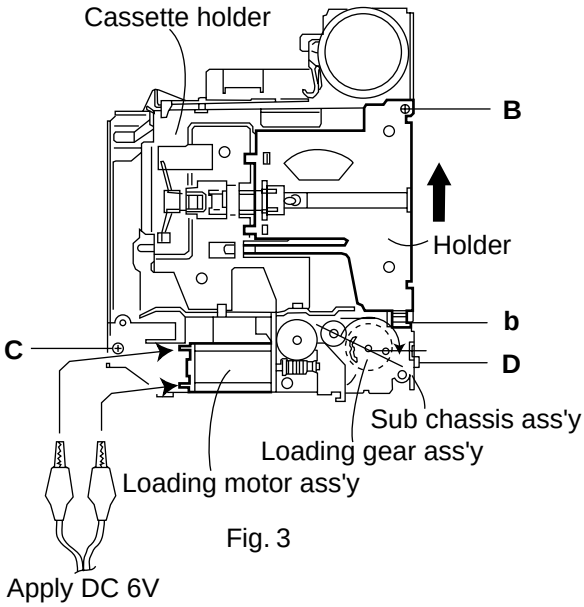


Fig. 3

■ Removing the sub chassis ass'y (see Fig.4)

1. Remove the head relay board.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the two screw **C** and **D** securing the sub chassis ass'y.

NOTE : When removing the sub chassis ass'y, the mode gear may become detached. In this case, set it back to the original position.

■ Removing the play head (see Fig.4)

1. Remove the head relay board.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the sub chassis ass'y.
5. Disengage the spring holding the play head down.
6. Remove the two screws **E** securing the play head.

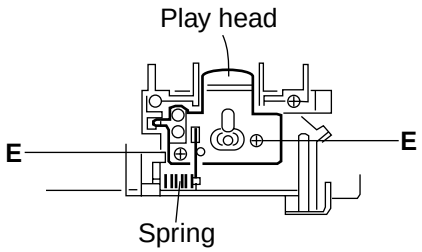


Fig.4

■ Removing the pinch roller ass'y (see Fig.5,6)

1. Remove the head relay board.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the sub chassis ass'y.
5. Detach the mylar washers **c** at the two positions securing the right and left pinch roller ass'y.

   NOTE : When reassembling, be sure to use new mylar washers. Also, make sure that grease is not adhering to the pinch rollers.
6. Pull out the pinch rollers.

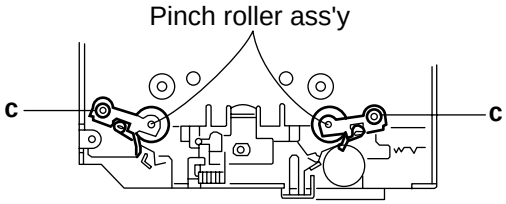


Fig.5

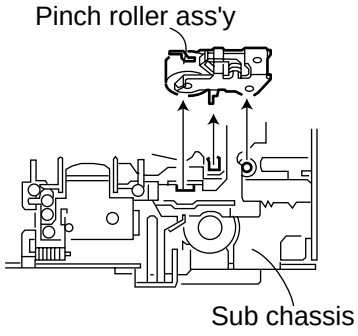


Fig.6

■ Removing the reel disk ass'y (see Fig.7)

1. Remove the head relay board.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the sub chassis ass'y.
5. Detach the mylar washer **d** from the tip by first pressing down the reel feather to expose it.

NOTE : When reassembling, be sure to use a new mylar washer

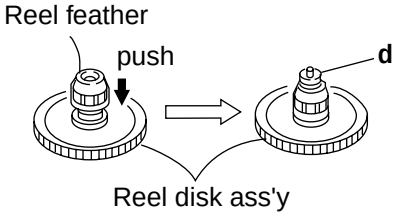


Fig.7

■ Removing the head plate (see Fig. 8,9)

1. Remove the head amp PCB.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the sub chassis ass'y.
5. Remove the right and left pinch roller ass'y.
6. From the rear of the head plate, detach the mylar washer **e** and the washer pressing the forward/ reverse plate down. (see Fig. 8)
7. Remove the screw **F** fixing the metal detection lever and removal spring as shown in Fig. 8.
8. Remove the head plate.
9. Pull out the mode gear. (see Fig. 9)

NOTE : When installing the mode gear, set it to the arrow mark.

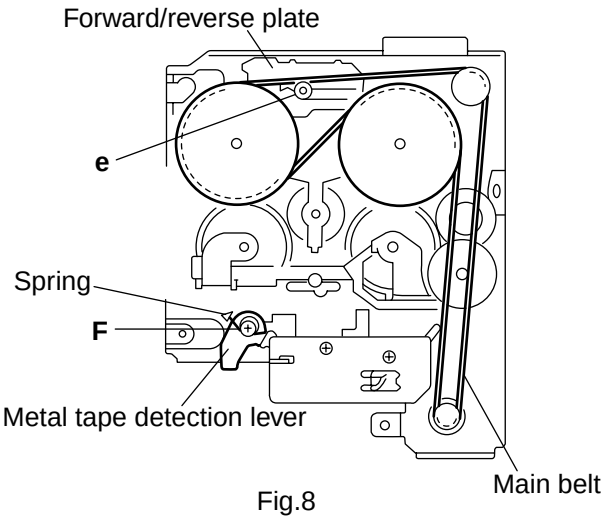


Fig.8

■ Removing the flywheel ass'y (see Fig. 9)

1. Remove the head relay PCB.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the sub chassis ass'y.
5. Remove the head plate.
6. Disengage the main belt from the flywheel ass'y. (see Fig. 8)
7. Remove E washers **f** at the two positions which secure the capstan shaft away from the surface. (see Fig. 9)
8. Pull out the flywheel ass'y from the rear.

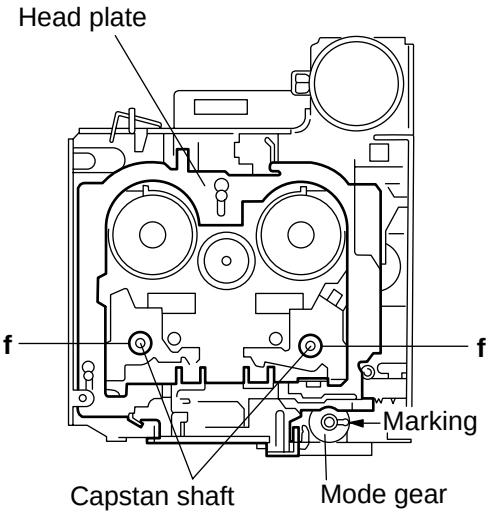


Fig.9

■ Removing the reel disk PCB (see Fig. 10)

1. Remove the head relay PCB.
2. Remove the load arm ass'y.
3. Remove the cassette holder and holder arm ass'y.
4. Remove the sub chassis ass'y.
5. Straighten the curved tab **g** securing the reel disk PCB. (see Fig. 10)
6. Remove the two screws **G** fixing the reel disc PCB.
7. Remove the reel disk PCB.

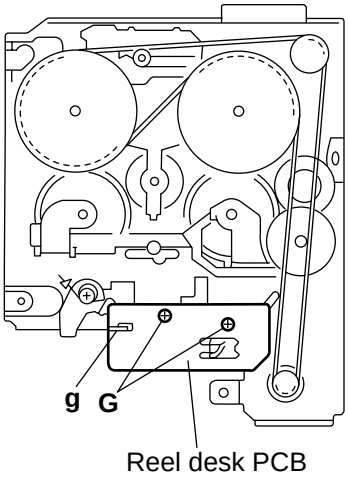


Fig.10

■ Removing the loading motor ass'y (see Fig. 11)

1. Remove the head relay ass'y.
2. Remove the load arm ass'y.
3. Remove the Mylar washer **h** fixing the worm gear. (see Fig.11)

NOTE : When reassembling, be sure to use a new mylar washer.

4. Remove the screw **H** fixing the loading motor ass'y. (see Fig.11)
5. Remove the two screws **I** fixing the loading motor ass'y. (see Fig 11)

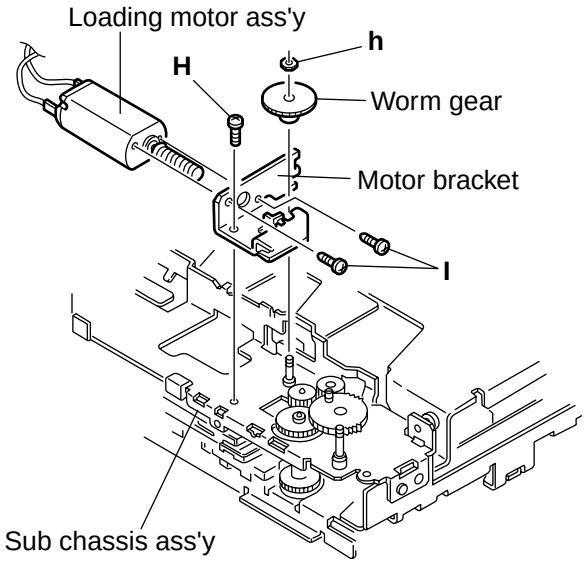


Fig.11

■ (Procedures for reassembling)

1. Insert the mode gear into the sub chassis ass'y.
2. Install the sub chassis ass'y and secure it with the two screws **C** and **D** as shown in Fig.12.

NOTE : The set arm ass'y and the mode gear should be positioned as shown in Fig.12.

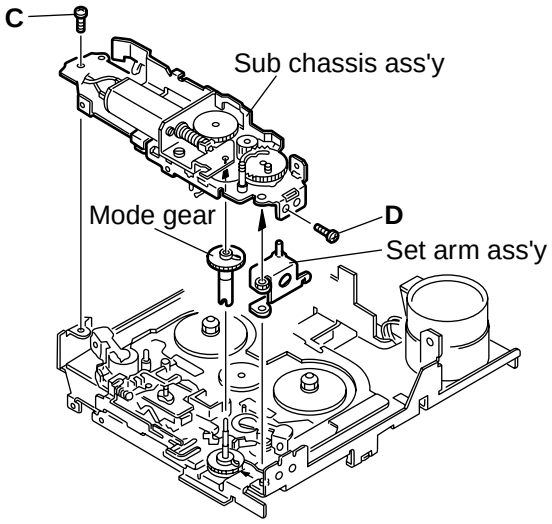


Fig.12

3. Attach the cassette holder as shown in Fig.13. In this case, first pass the tab of the section **i** through the mechanism **j**, then attach the cassette holder in the direction shown by the arrow.

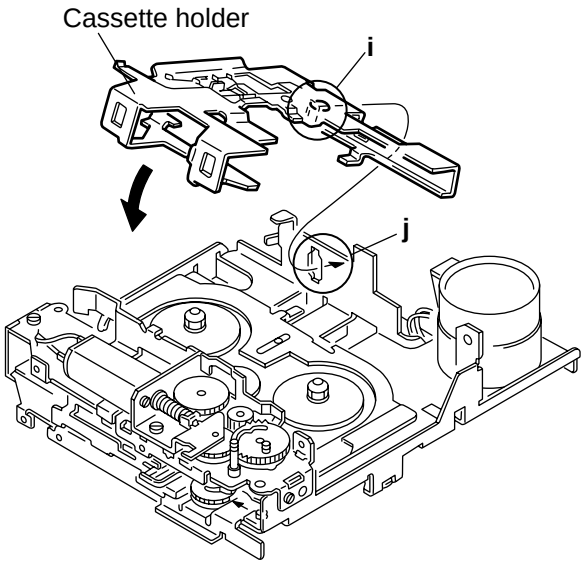


Fig.13

4. Set the catch to the holder arm ass'y as shown in Fig.14.

5. While attaching the holder arm ass'y to the cassette holder, insert the shaft of the holder arm ass'y into the interlocking section **k** of the sub chassis ass'y as shown in Fig.15.

6. Install the spring attached to the folder arm ass'y shaft over the set arm ass'y as shown in Fig.16.

7. After the holder arm ass'y is installed, secure it with the screw **B**. (see Fig.15)

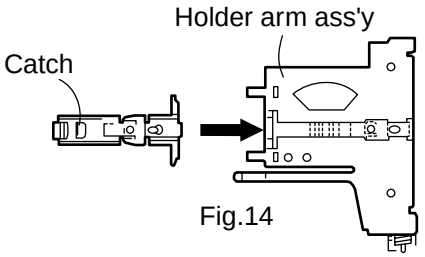


Fig.14

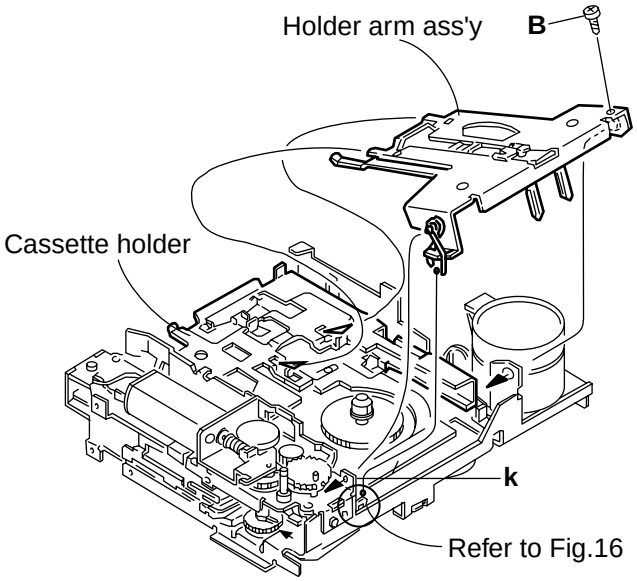


Fig.15

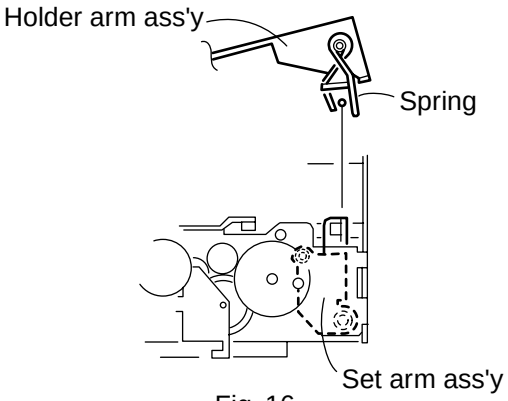


Fig. 16

8. After the installation, apply DC 6V to the lead wires of the loading motor ass'y to locate the load gear ass'y as shown in Fig.17.

9. Install the load arm ass'y.

10. Install the head relay PCB.

NOTE : Install it so that the slide switch lever of the head relay PCB is set in the PCB stay hook of the sub chassis ass'y. (see Fig.18)

11. Solder the loading motor and head lead wires to the head relay PCB, respectively. (see Fig.19)

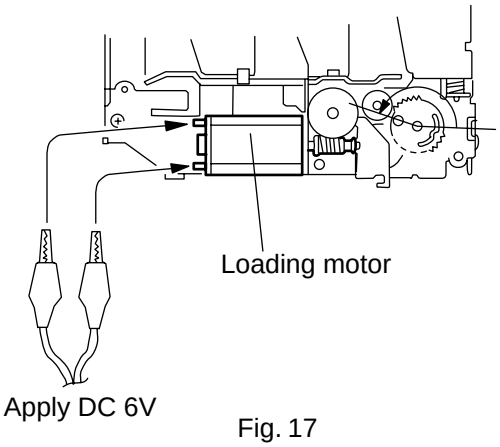


Fig. 17

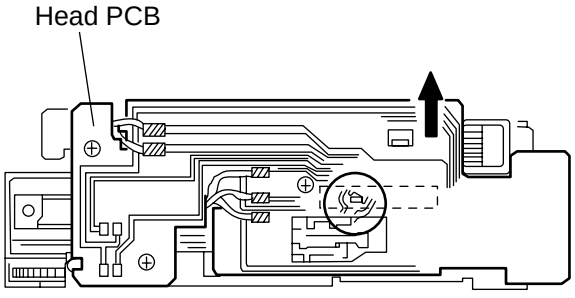


Fig.19

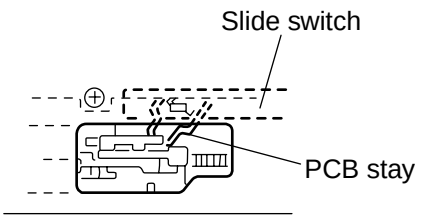


Fig.18

Adjustment method

■ Equipment and measuring instruments used for adujustment

Electoronic voltmeter

Audio frequency osillator

(range ; 50～20kHz and outp ut 0 dB with impedance of 660Ω)

Attenuator (impedance;600Ω)

Frequency counter

AM Standard signal generator

FM Standard signal generator

Wow flutter mater

Torqu testing cassette gauge

CTG － N (mechanical adjusting)

TW － 2111A (FWD play)

TW － 2121A (REV play)

Standard tape

VT712 or VTT712 (tape speed,wow & flutter adj.)

VT724 or VTT724 (reference level)

VT738 or VTT736 (playback frequency response)

VT721 or VTT721 (output level)

VT703 or VTT703 (azimuth) (10kHz part only)

■ Condition for measurement

Power Spupply · DC14.4V

(Reduced voltage ; 10.5V)

Load · 4Ω

(4-speakers connection)

BASS / TRE,FADER · · · · · · · · · · · · · · · · · Indication 0

Main volume · · · · · · · · · · · · Position with an output level of 2V during VT721 playback

■ Tuner section

FM ; 400Hz,22.5kHz deviation (MONO)

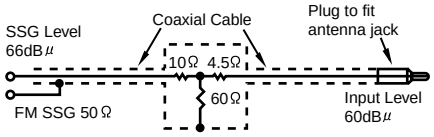
FM STEREO ; 1kHz,6.5kHz deviation,

pilotsignal 7.5kHz,66dBμV

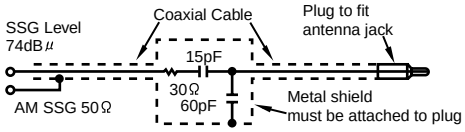
AM ; 400Hz,30% modulation,74dBμV

Output impedznce ; 50Ω

■ Dummy antenna



FM DUMMY ANTENNA



AM DUMMY ANTENNA

■ Preset Memory Initialization

For ver.U

Band	Preset Memory					
	M1	M2	M3	M4	M5	M6
FM(MHz)	87.5	89.9	97.9	105.9	108.0	87.5
AM(kHz)	531	603	999	1404	1602	531

Manual Tuning Up/Down Frequency

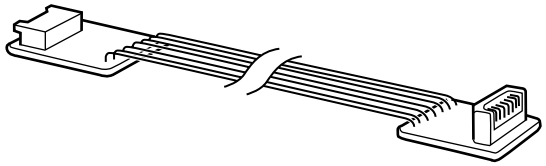
FM: 50kHz
AM: 9kHz

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

■ For 1995 and 1996,we're advancing efforts to make our extension cords common for all Car Stereo products. Please use this type of extension cord as follows.

■ As a U - shape type top cover is employed,this type of extension cord is needed to check operation of the mechanism assembly after disassembly.

■ Extension cords



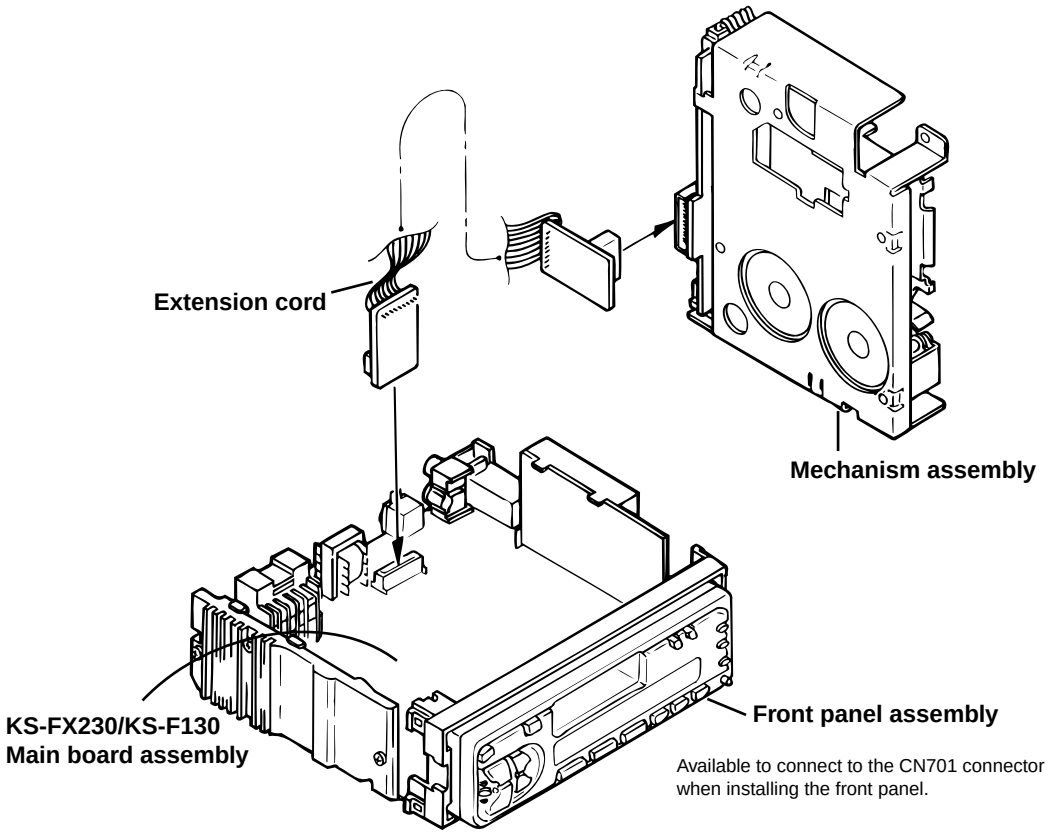
EXT- KSRT002 18P (18 pin extension cord)

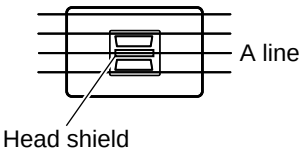
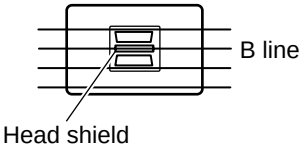
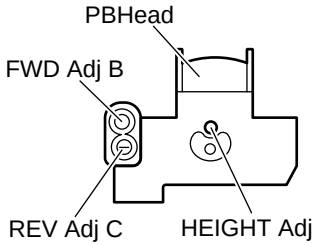
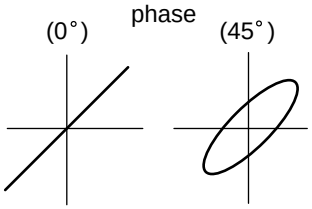
For connection between mechanism assembly and main PCB assembly.
Check for mechanism-driving section such as motor, etc.

■ Disassembly method (Refer to method to remove main parts)

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

■ Connection diagram



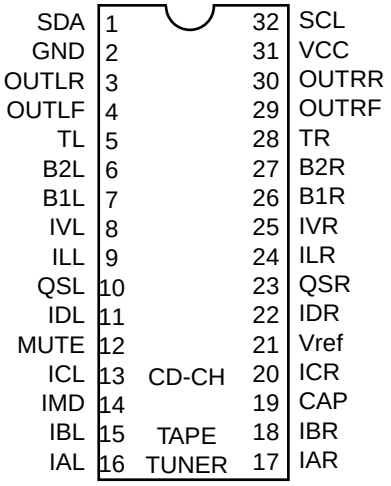
Item	Conditions	Adjustment and Confirmation methods	S.Values	Adjust
1. Head azimuth adjustment	Test tape: SCC-1659 VT703(10kHz)	◆ Head height adjustment ※ Adjust the azimuth directly. When you adjust the height using a mirror tape, remove the cassette housing from the mechanism chassis. After installing the cassette housing, perform the azimuth adjustment. 1. Load the SCC-1659 mirror tape. Adjust with height adjustment screw A and azimuth adjustment screw B so that line A of the mirror tape runs in the center between Lch and Rch in the reverse play mode. 2. After switching from REV to FWD then to REV, check that the head position set in procedure 1 is not changed. (If the position has shifted, adjust again and check.) 3. Adjust with azimuth adjustment screw B so that line B of the mirror tape runs in the center between Lch and Rch in the forward play mode. ◆ Head azimuth adjustment 1. Load VTT724 (VT724) (1kHz) and play it back in the reverse play mode. Set the Rch output level to max. 2. Load VTT703 (VT703) (10kHz) and play it back in the forward play mode. Adjust the Rch and Lch output levels to max, with azimuth adjustment screw B. In this case, the phase difference should be within 45°. 3. Engage the reverse mode and adjust the output level to max, with azimuth adjustment screw C. (The phase difference should be 45° or more.) 4. When switching between forward and reverse modes, the difference between channels should be within 3dB. (Between FWD L and R, REV L and R.) 5. When VTT721 (VT721) (315Hz) is played back, the level difference between channels should be within 1.5dB.	 The head is at low position during.  The head is at High position during REV. Output level: Maximum  	
2. Tape speed and wow flutter confirmation	Test tape: VTT712 (3kHz)	1. Check to see if the reading of the F, counter / wow flutter meter is within 3015～3045(FWD / REV), and less than 0.35% (JIS RMS). 2. In case of out of specification, adjust the motor with a built-in volume resistor.	Tape speed: 3015～3045Hz Wow flutter: less than 0.35%	Built-in volume resistor
3. Play back frequency response confiramation	Test tape: VTT724 (1kHz) VTT739 (63Hz / 1kHz / 10kHz)	1. Play test tape VTT724, and set the volume position at 2V. 2. Play test tape VTT739 and confirm. 1kHz / 10kHz: -1 ± 3dB, 1kHz / 63Hz: 0 ± 3dB, 3. When 10kHz is out of specification, it will be necessary to read adjust the azimuth.	Speaker out 1kHz / 63Hz : 0± 3db 1kHz / 10kHz : -1± 3db	

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

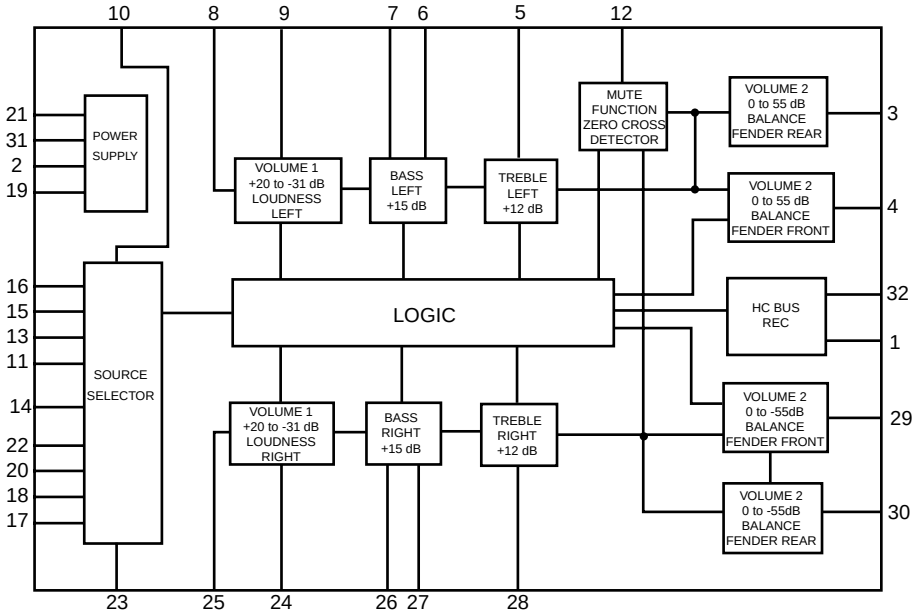
Descrption of major ICs

■ TEA6320T-X (IC931) : E.volume

1.Pin layout



2.Block diagram

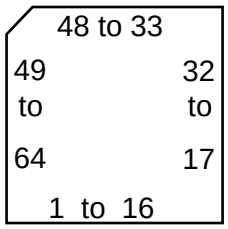


3.Pin functions

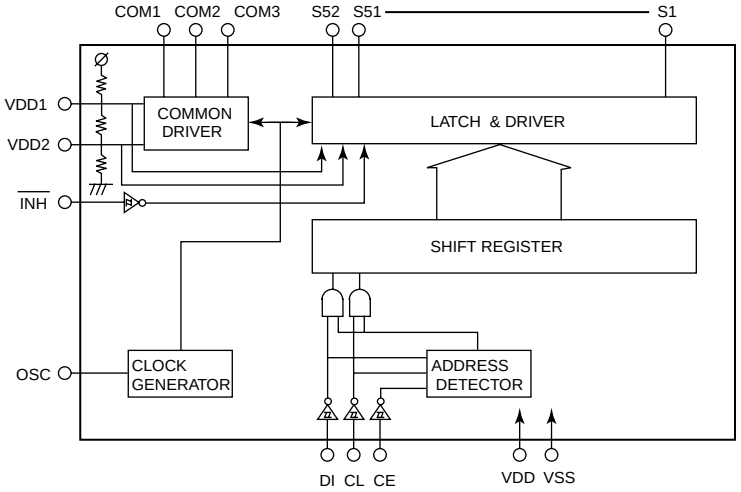
Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	SDA	I/O	Serial data input/output.	17	IAR	I	Input A right source.
2	GND	-	Ground.	18	IBR	I	Input B right source.
3	OUTLR	O	output left rear.	19	CAP	-	Electronic filtering for supply.
4	OUTLF	O	output left front.	20	ICR	I	Input C right source.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

■ LC75823E(IC651):LCD driver

1.Pin layout



2.Block diagram

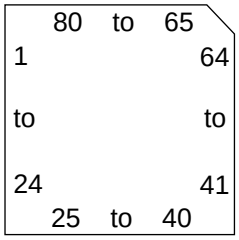


3.Pin function

PIN No.	Symbol	I/O	Functions
1 to 9		-	NOT USED
10 to 52	S10 to S52	O	Segment outputs that display data transferred from serial data.
53 to 55	COM1 to COM3	O	The frame frequency (fo) for the common driver output is (fosc/384)Hz.
56	VDD	-	Power supply
57	/INH	I	Forcibly terns off the display. regardless of internal data. Serial data can be input. whether this pin is high or low
58 59		- -	NOT USED
60	VSS	-	To GND
61	OSC	I	Oscillator connection (for the common segment alternating waveform)
62 63 64	CE CL DI	I I I	Serial data transfer pins.connected to a microprocessor. CE : Chip enable; CL : Sync.clock; DI : Transfer data

■ LC72362N-9388 (IC701) : System control

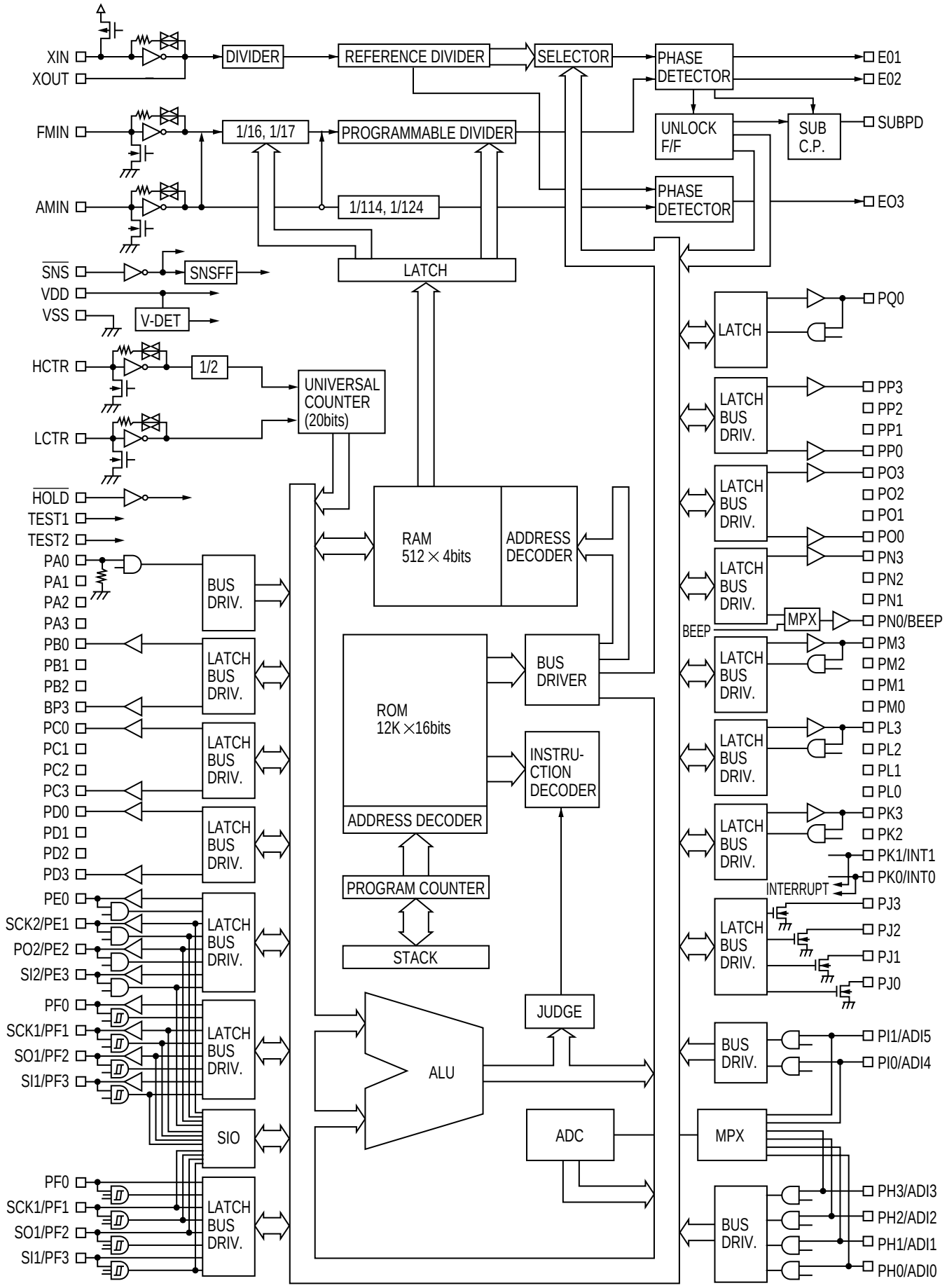
1. Pin layout



2. Pin function

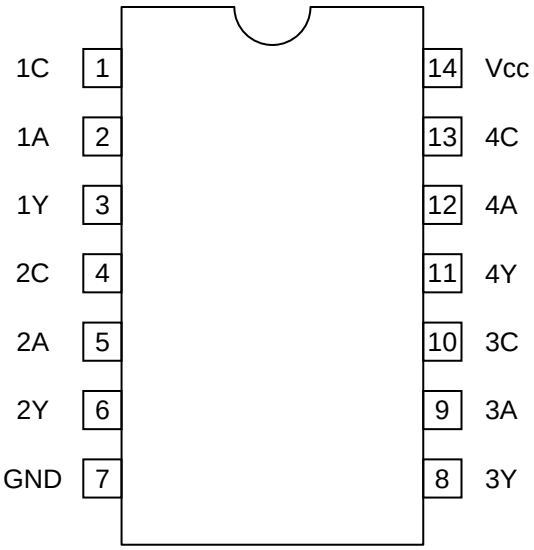
Pin No.	Symbol	I/O	Function
1	XIN	I	4.5MHz crystal oscillator connections
2	TEST2		LSI test pin.
3	PG3/SI0		
4	PG2/SO0	I/O	General-purpose input/output and serial input/output shared ports.
5	PG1/SCK0		
6	PG0		
7	PF3/SI1		
8	PF2/SO1		
9	PF1/SCK1		
10	PF0		
11	PE3/SI2		
12	PE2/SO2		
13	PE1/SCK2		
14	PE0		
15~18	PD3~PD0	O	Output only port.
19~22	PC3~PC0	O	Key source signal output only ports.
23~26	PB3~PB0		
27~30	PA3~PA0	I	Key return signal input only port, of which threshold voltage is designed to be low.
31	V DD	O	Power supply connections.
32	PQ0	O	General-purpose input/output port.
33~36	PP3~PP0	O	Output only port.
37~40	PO3~PO0		
41~43	PN3~PN1	O	General-purpose output port/BEEP tone shared output pins.
44	PN0/BEEP		
45~48	PM3~PM0	I/O	General-purpose input/output ports.
49~52	PL3~PL0		
53,54	PK3, PK2	I/O	General-purpose input-output/external interrupt shared port.
55,56	PK1/INT1, PK0/INT0		
57~60	PJ3/DAC3~PJ0/DAC0	O	General-purpose output port/DAC shared output pins.
61,62	PI1/ADI5, PI0/ADI4	I	General-purpose output port/ADC shared input pins.
63~66	PH3/ADI3~PH0/ADI0		
67	$\overline{\text{HOLD}}$	I	PLL control, CLOCK STOP mode control pin.
68	$\overline{\text{SNS}}$	I	Voltage sense/general-purpose input pin shared port.
69	LCTR	I	Universal counter (frequency, cycle measurement)/general-purpose input shared input port.
70	HCTR	I	Universal counter/general-purpose input shared input port.
71	EO3	O	2nd PLL charge pump output pin.
72	SUBPD	O	Sub-charge pump output pin.
73	V DD	O	Power supply connections.
74	AMIN	I	AM VCO (local oscillator) input pin.
75	FMIN	I	FM VCO (local oscillator) input pin.
76	V SS	O	Power supply connections.
77,78	EO2,EO1	O	Main charge pump output pins.
79	TEST1		LSI test pin.
80	XOUT	O	4.5MHz crystal oscillator connections

3.Block diagram



■ HD74HC126P (IC751) : Changer control

1.Pin arrangement

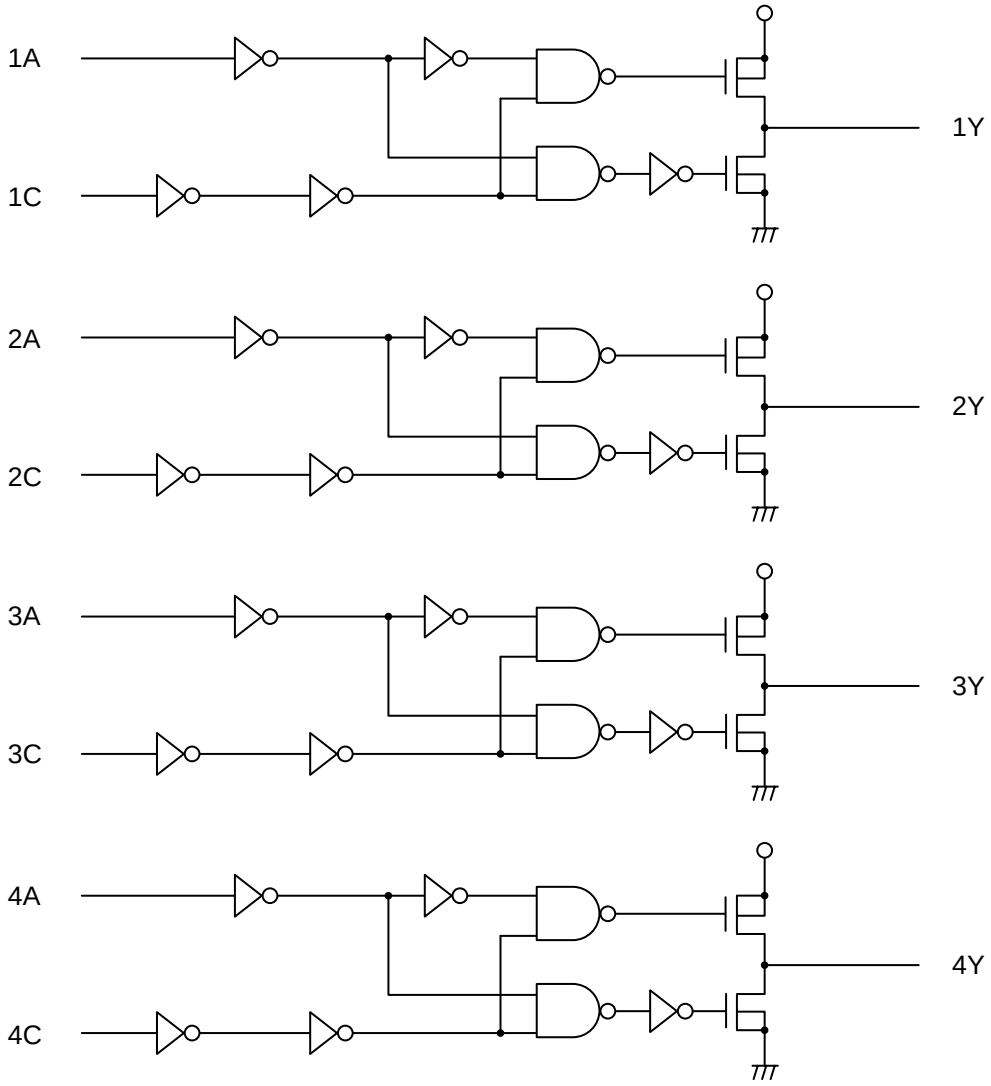


(TOP VIEW)

2. Pin function

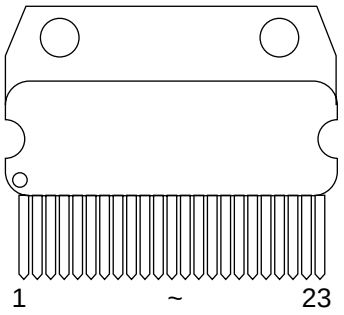
Input		Output
C	A	Y
L	X	Z
H	L	L
H	H	H

3. Block diagram

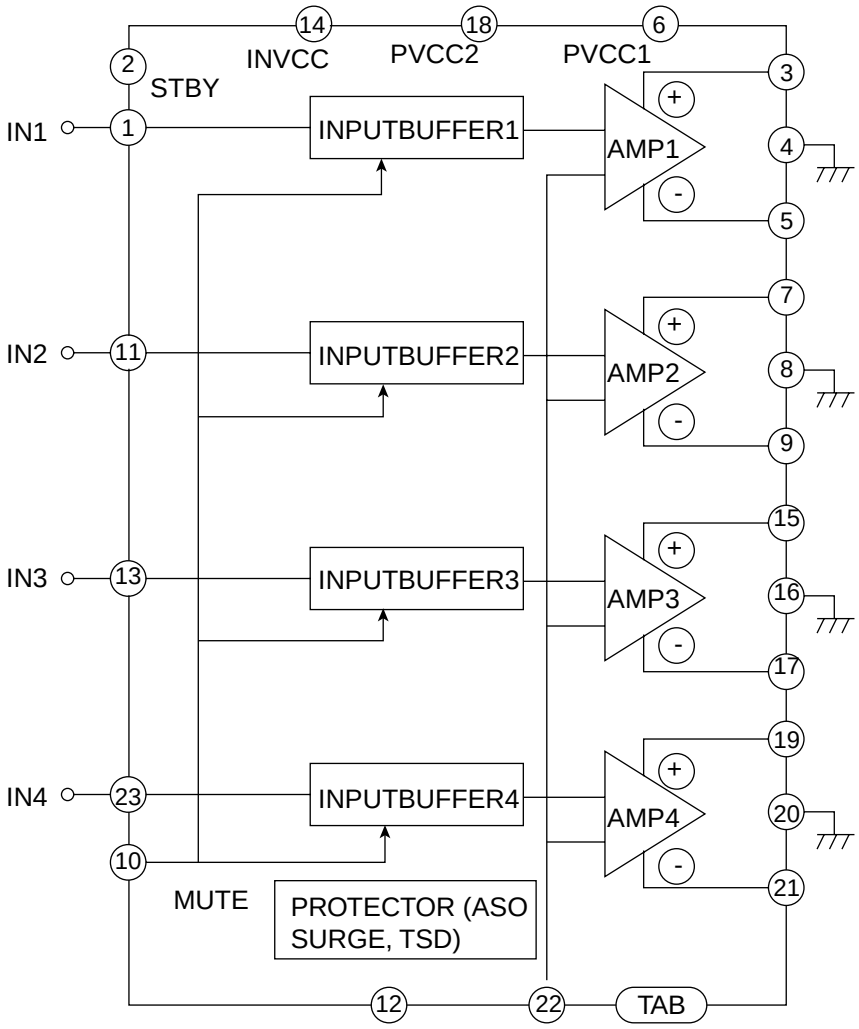


■ HA13158A (IC981) : Power amp

1. Pin layout

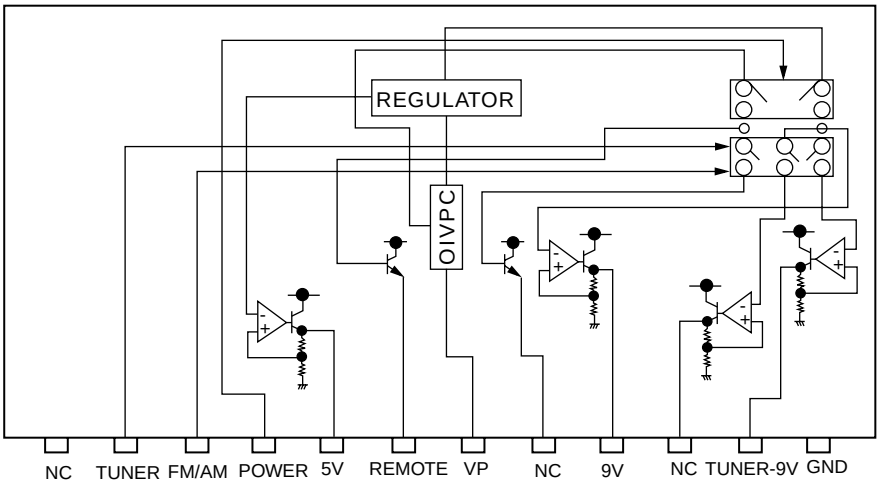


2. Block diagram



■ BA3918-V1 (IC781) : Regulator

1.Block diagram

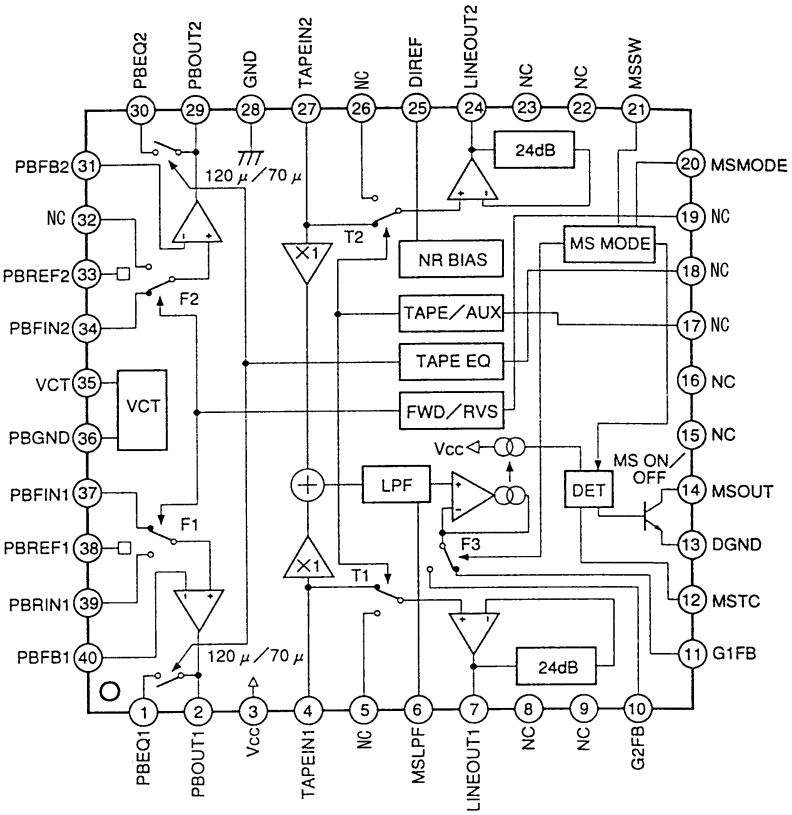


2.Pin functions

Pin No.	Symbol	I/O	Functions
1	NC	-	Not used
2	TUNER	O	Output selector of AM and ANT.
3	FM/AM	O	Output selector for AM or FM or both outputs is off.
4	POWER	O	Output selector of COM and AMP. Only VDD output is on at STAND BY.
5	5V	-	Output level is 5.6v. Output current is 100mA(min). It is voltage supply for micro computer. Whenever Vcc terminal is connected, output always keep running
6	REMOTE	-	Voltage which is about 1V lower than Vcc unit voltage. Output current is 500mA(min). Voltage supply for Remote Amp.
7	VP	O	To be continued to BACK UP and ACC of car.
8	NC	-	Not used
9	9V	-	Output level is 8.7V. Output current is 150mA(min). It can be used for system common power supply ; tone control, volume control, balance control, equalize amplifier.
10	NC	-	Not used
11	TUNER-9V	-	Output level is 8.7V. Output current is 250mA(min). Voltage supply for FM Radio Tuner.
12	GND	-	To GND

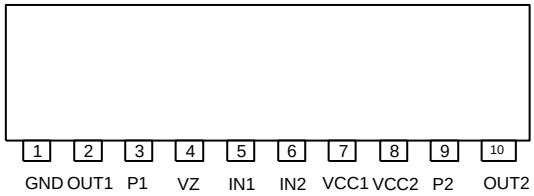
■ CXA2509AQ(IC901):Cassette mecha controler

1.Block diagram and pin configuration



■ LB1641 (IC501) : 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

<<MEMO>>

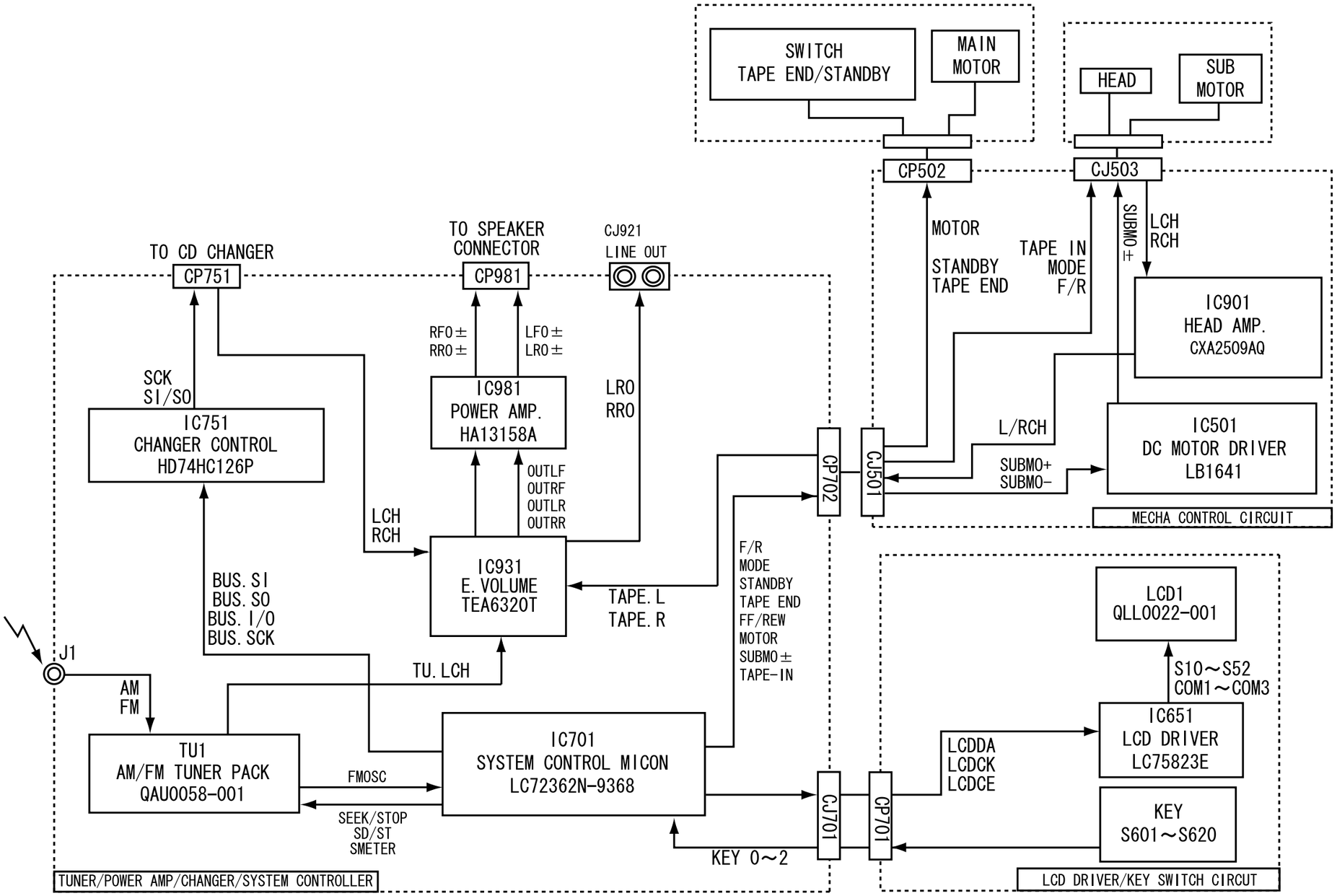
JVC

VICTOR COMPANY OF JAPAN, LIMITED
MOBILE ELECTRONICS DIVISION
PERSONAL & MOBILE NETWORK B.U. 10-1,1Chome,Ohwatari-machi,Maebashi-city,Japan

(No.49565)

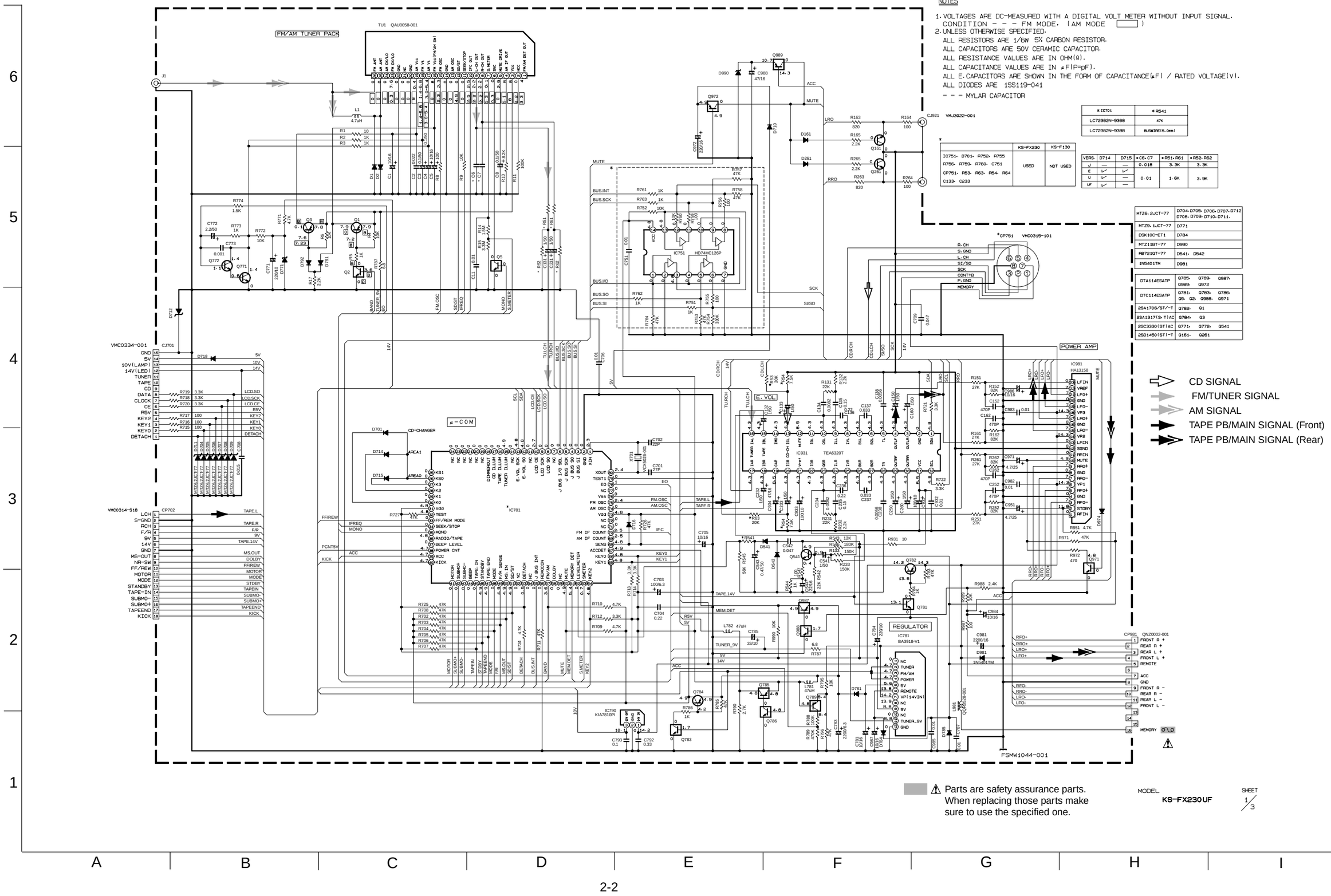
Printed in Japan
200007(O)

Block diagram



Standard schematic diagrams

■ Main amp. section



＊IC701	＊R541
LC72362N-9368	47K
LC72362N-9388	BUSWIRE(5.0mm)

＊	KS-FX230	KS-F130
IC751. D701. R752. R755 R756. R759. R760. C751 CP751. R53. R63. R54. R64 C133. C233	USED	NOT USED

VERS.	D714	D715	＊C6. C7	＊R51. R61	＊R52. R62
J	—	—	0.018	3.3K	3.3K
E	✓	✓	0.01	1.6K	3.9K
U	✓	—			
UF	✓	—			

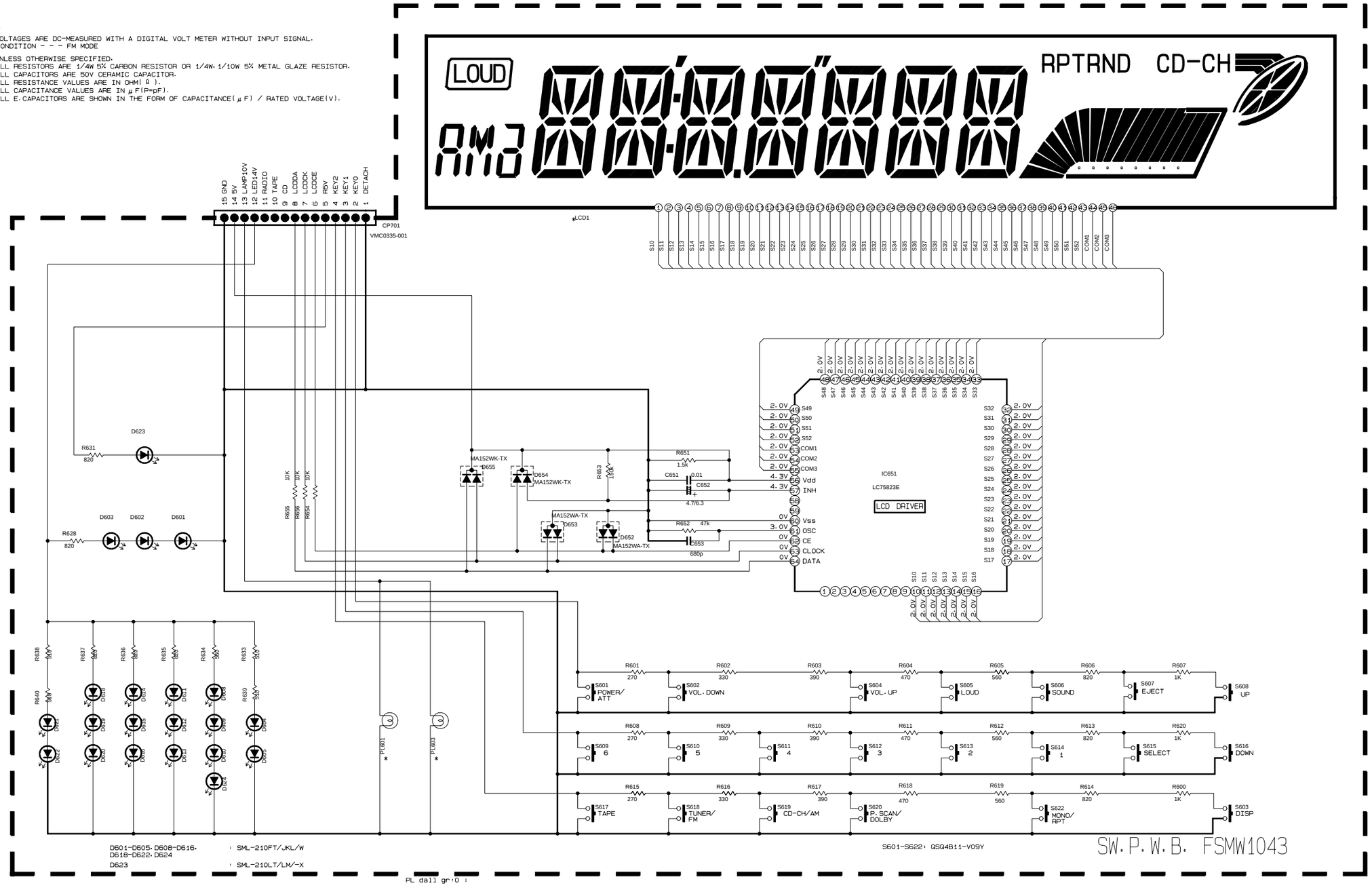
MTZ6.2JCT-77	D704. D705. D706. D707. D712 D708. D709. D710. D711.
MTZ9.1JCT-77	D771
DSK10C-ET1	D784
MTZ11BT-77	D990
RB721QT-77	D541. D542
1N5401TM	D981

DTA114ESATP	Q785. Q789. Q987. Q989. Q972
DTC114ESATP	Q781. Q783. Q786. Q5. Q2. Q988. Q971
2SA1706/ST/-T	Q782. Q1
2SA1317(S.T)AC	Q784. Q3
2SC3330(ST)AC	Q771. Q772. Q541
2SD1450(ST)-T	Q161. Q261

■ LCD & key switch section

NOTES

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

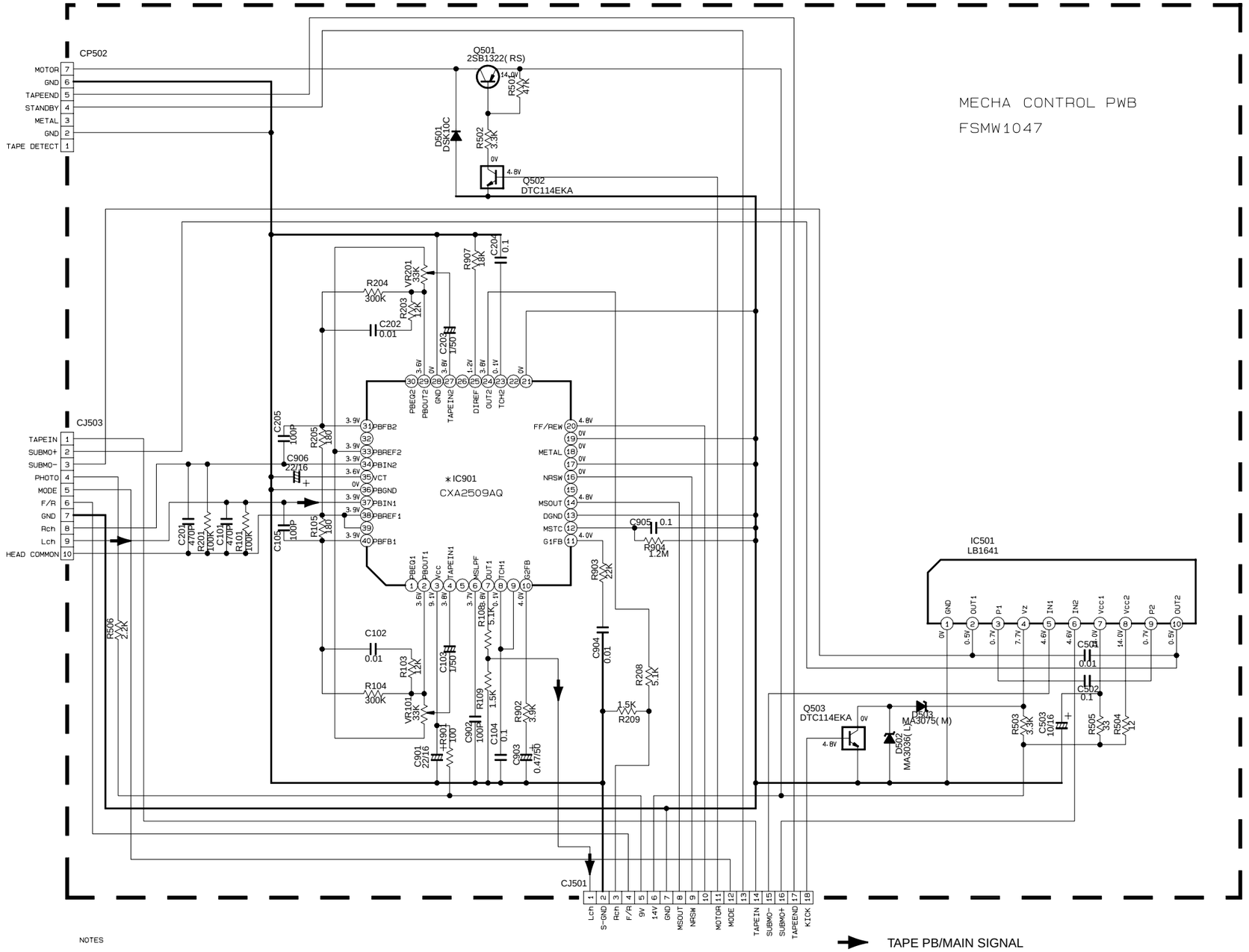


Version / Ref No.	J.U.UF	E
PL601.PL603	QLL0022-001	QLL0024-001
LCD1	QLD0034-001	QLD0023-001

MODEL KS-FK230 UF

SHEET 2/3

■ Mecha control section



NOTES

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

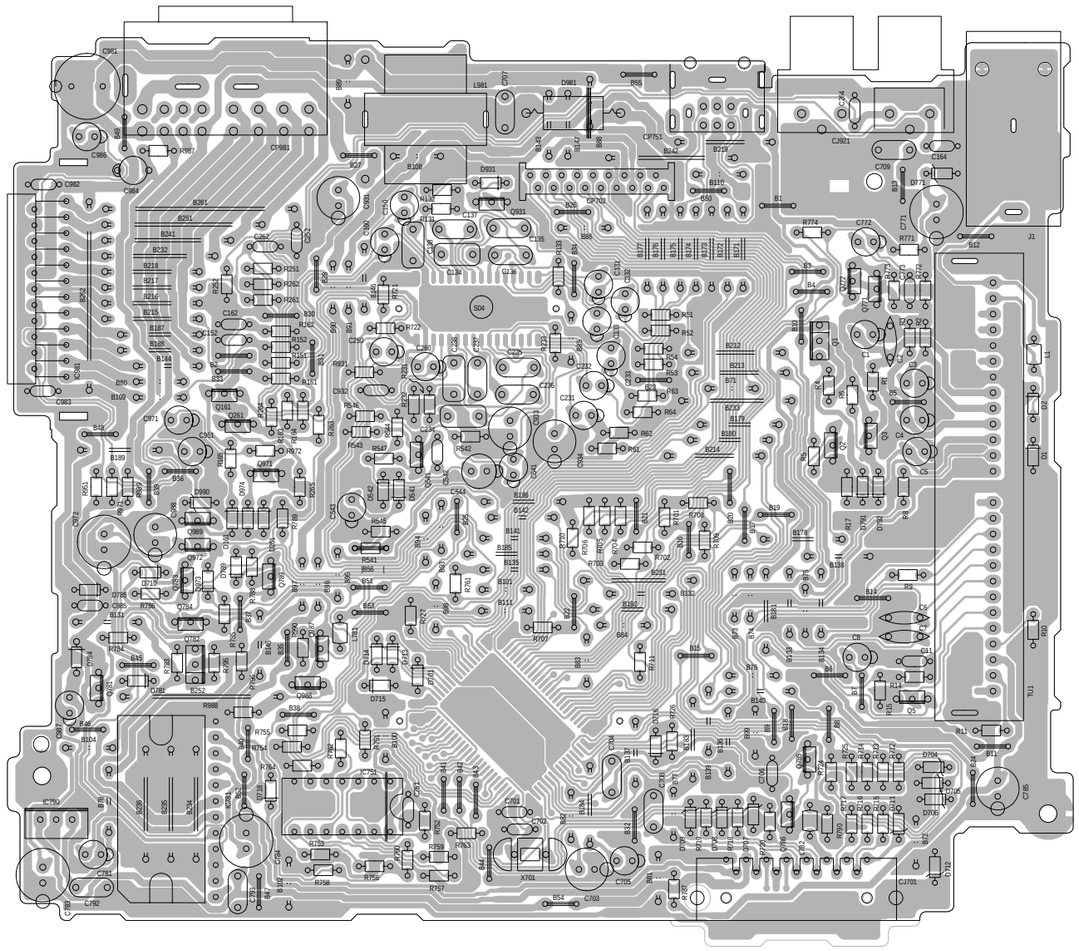
TF-----TF CAPACITOR

MODEL
KS-FX230 UF

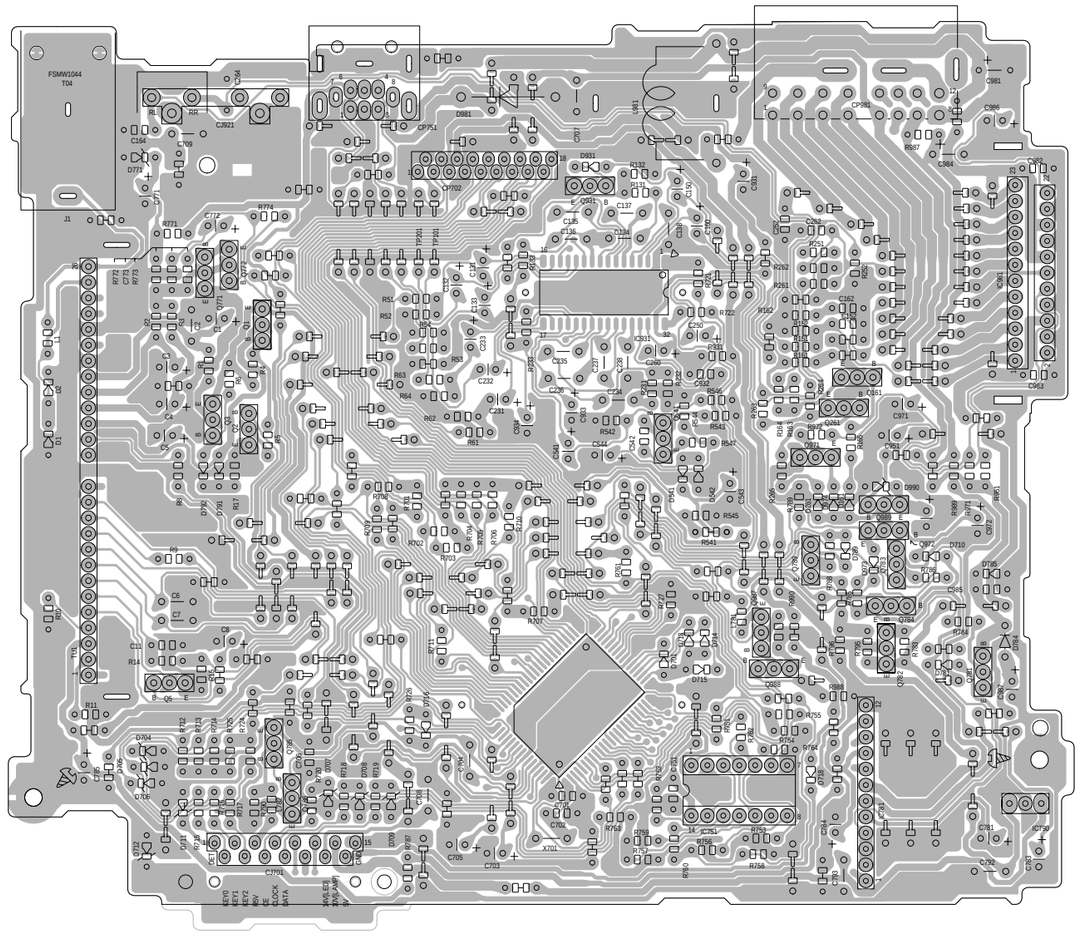
SHEET
3/3

Printed circuit boards

■ Main board (Forward side)

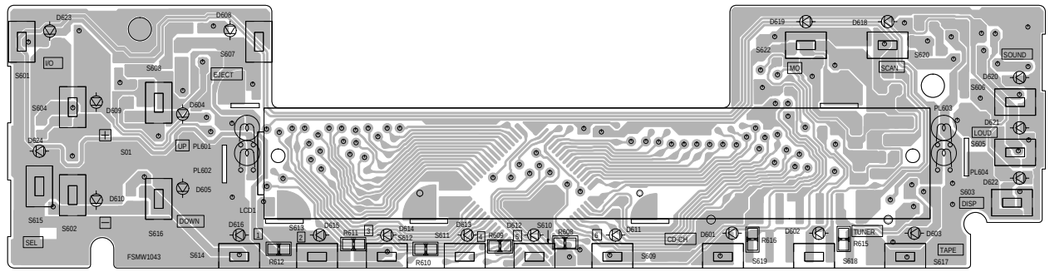


■ Main board (Reverse side)

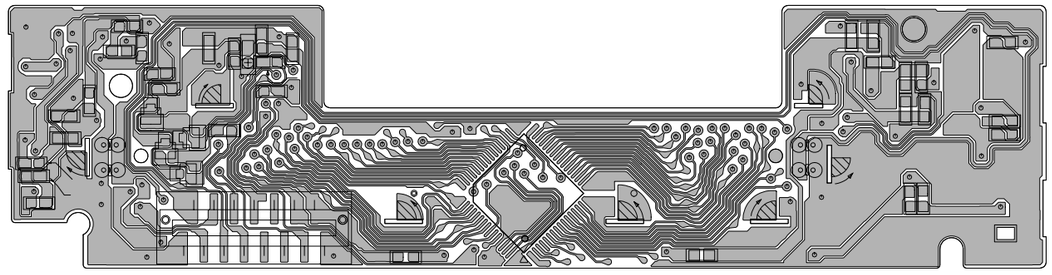


Swich board

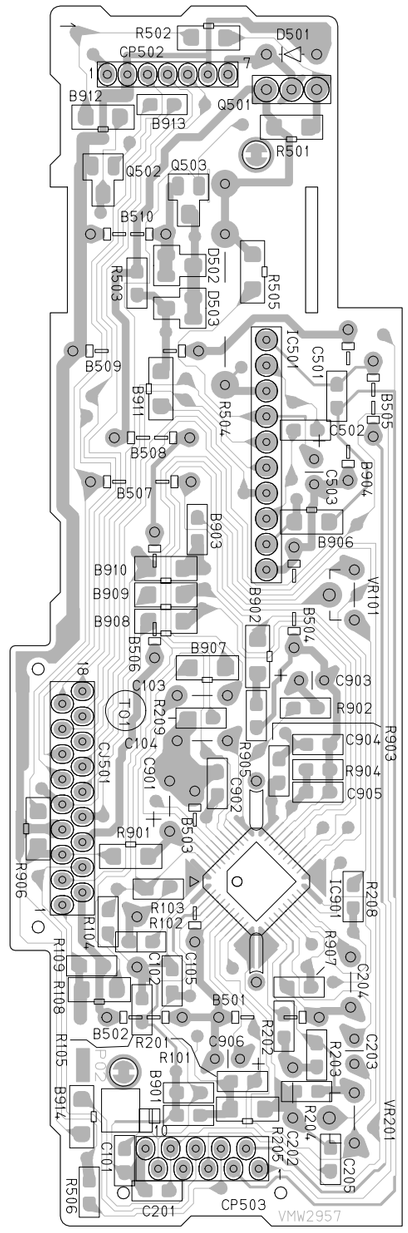
Forward side



Reverse side



Head amplifier board



PARTS LIST

[KS-FX230]

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

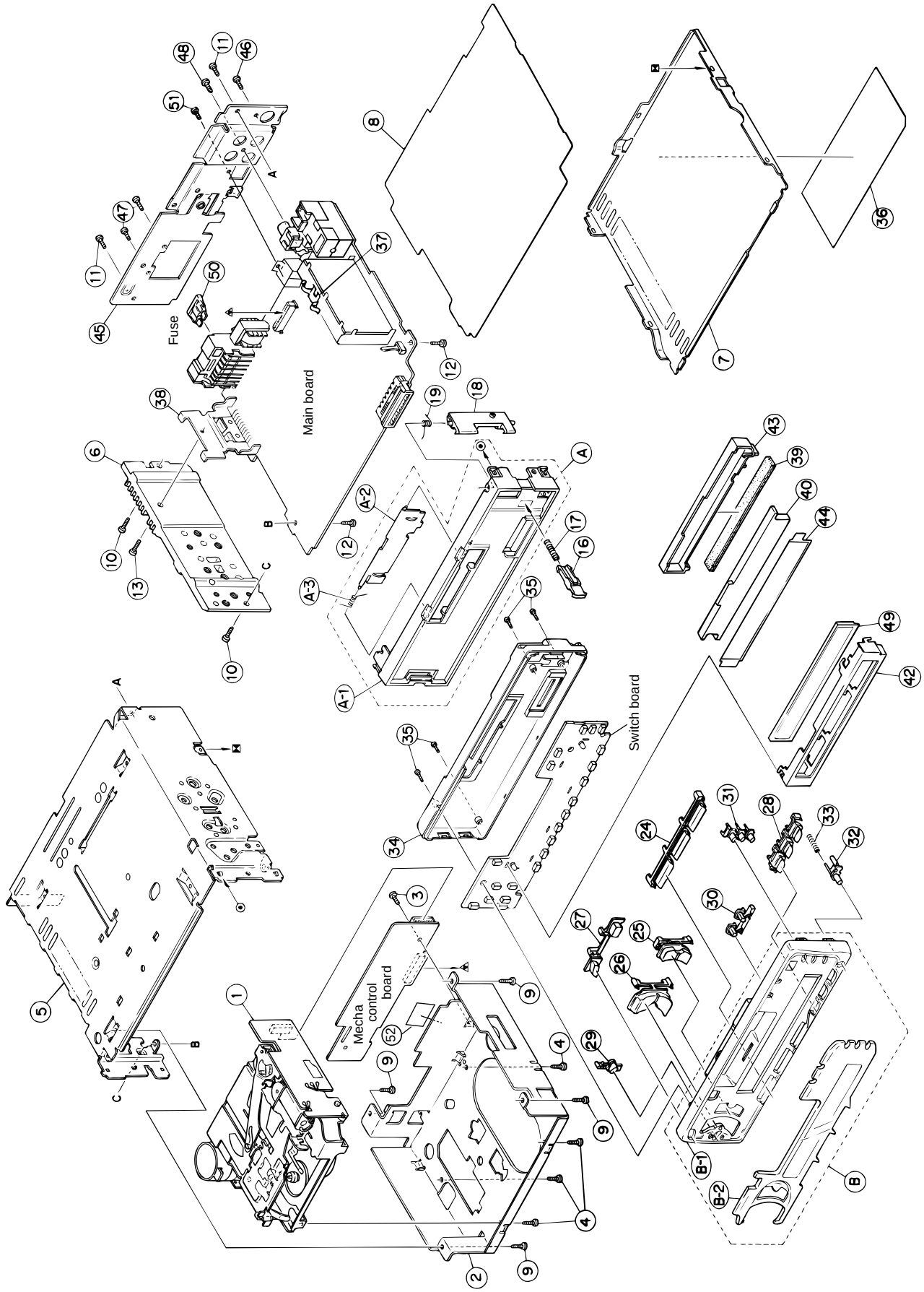
Area suffix

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

- Contents -

Exploded view of general assembly and parts list

Block No. M 1 M M



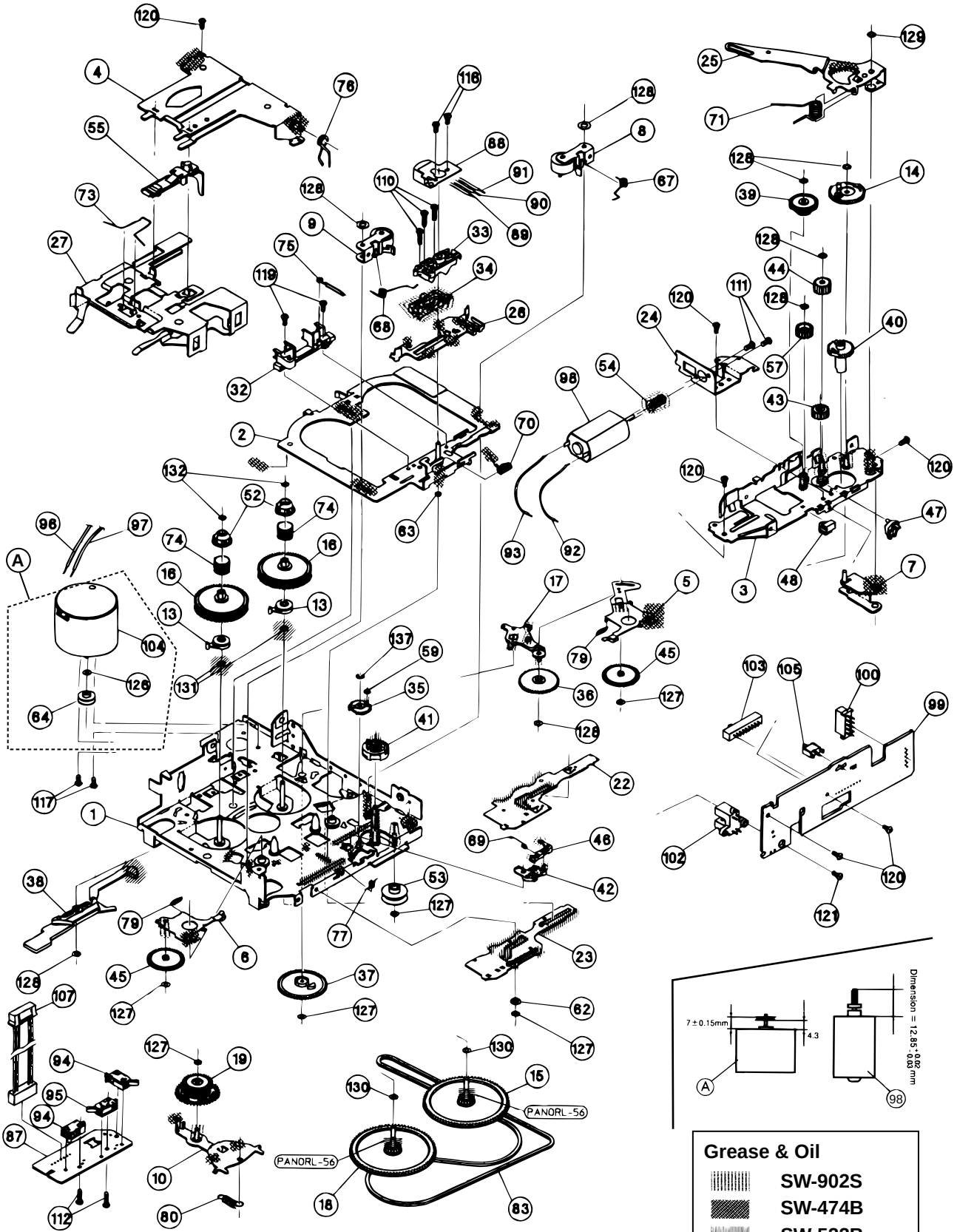
■ Parts list (Generai assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	----------	CDS-522VJ2 CASSETTE MECHA	1		
	2	FSKM2003-004	MECHA BRACKET	1		
	3	QYSDST2604Z	SCREW	1	PCB+MECHA	
	4	FSKZ4004-001	SCREW	4	MECHA+M.BKT	
	5	FSJC1029-012	TOP CHASSIS	1		
	6	FSMH3001-001	HEAT SINK	1		
	7	FSKM3011-002	BOTTOM COVER	1		
	8	FSMA3004-003	INSULATOR	1		
	9	QYSDST2604Z	SCREW	4	CHASSIS+MECHA B	
	10	FSKZ4005-001	SCREW	2	CHASSIS+SIDE PA	
	11	QYSDST2606Z	SCREW	2	CHASSIS+REAR BK	
	12	QYSDST2606Z	SCREW	2	CHASSIS+MAIN PW	
	13	FSKZ4005-001	SCREW	1	SIDE PANEL+IC B	
	16	FSXP3026-002	RLS KNOB	1		
	17	FSKW3002-004	COMP.SPRING	1		
	18	FSKS3004-202	LOCK LEVER	1		
	19	FSKW4005-003	TORSION SPRING	1		
	24	FSXP2025-031	PRESET BUTTON	1	1/2/3/4/5/6	
	25	FSXP2026-032	UP/DOWN BUTTON	1		
	26	FSXP2033-031	+/- BUTTON	1		
	27	FSXP2028-001	POWER/EJECT BUT	1		
	28	FSXP2029-001UV	OPERAT.BUTTON	1		
	29	FSXP3040-011	SEL BUTTON	1		
	30	FSXP3041-002	PUSH BUTTON	1	HORIZONTAL	
	31	FSXP3050-002	PUSH BUTTON(V)	1	VERTICAL	
	32	FSXP3049-002	DETACH BUTTON	1		
	33	FSKW3002-008	COMP.SPRING	1	FOR DETACH BUTT	
	34	FSJC1031-002	REAR COVER	1		
	35	VKZ4777-001	MINI SCREW	4	F.PANEL+REAR CO	
	36	FSYN3031-001A	NAME PLATE	1	MADE IN CHINA	
	37	VMA4652-001SS	EARTH PLATE	1		
	38	FSKL4018-00B	IC BRACKET	1		
	39	QNZ0065-001	RUBBER CONNE	1		
	40	FSJK3010-002	LCD LENS	1		
	42	FSYH3012-001	LCD CASE	1		
	43	FSKS3005-001	LENS CASE	1		
	44	FSYH4046-002	SHEET	1		
	45	FSKM3010-011	REAR BRACKET	1		
	46	QYSDST2606Z	SCREW	1	REAR BKT+ANT JA	
	47	QYSDST2606Z	SCREW	2	REAR BKT+15P CN	
	48	QYSDSF3006Z	SCREW	1	REAR BKT+PIN JA	
	49	QLD0034-001	LCD	1	LCD1	
⚠	50	QMFZ021-100-J1	FUSE	1		
	51	QYSDST2606Z	SCREW	1	REAR BKT+CD IN	
	52	FSYH4036-027	SPACER	1		
	A	ZCKSFX230J-FB	F.CHASSIS ASS'Y	1		
	A- 1	FSJC2009-003	FRONT CHASSIS	1		
	A- 2	FSJC4003-021	CASSETTE LID	1		
	A- 3	VKW4947-002	DOOR SPRING	1		
	B	ZCKSFX230J-NPA	NOSE PIEC ASS'Y	1	SAME:KS-PFX230	
	B- 1	FSJC1030-001	FRONT PANEL	1		
	B- 2	FSJD3009-00B	FINDER ASS'Y	1		

Cassette mechanism assembly and parts list

Block No. M 2 M M



Grease & Oil

- SW-902S
- SW-474B
- SW-522B
- PANORL-56
- CFD-409

MODEL:CDS522-VJ2

■ Parts list (Cassette mechanism)

Block No. M2MM

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

■ Parts list (Cassette mechanism)

Block No. M2MM

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

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

⚠	Item	Parts number	Parts name	Remarks	Area
	C 1	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 2	QDX11EK-223Z	C.CAPACITOR		
	C 3	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 4	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 5	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 6	QDX11EK-103Z	C.CAPA I.M		
	C 7	QDX11EK-103Z	C.CAPA I.M		
	C 8	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 11	QDYB1CM-103Y	C.CAPACITOR		
	C 131	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 132	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 133	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 134	QFLA1HJ-822Z	M CAPACITOR	8200PF 5% 50V	
	C 135	QFV61HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C 136	QFV61HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 137	QFV61HJ-333Z	TF CAPACITOR	.033MF 5% 50V	
	C 138	QFLK1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C 150	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 152	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 160	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 162	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 231	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 232	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 233	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 234	QFLA1HJ-822Z	M CAPACITOR	8200PF 5% 50V	
	C 235	QFV61HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C 236	QFV61HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 237	QFV61HJ-333Z	TF CAPACITOR	.033MF 5% 50V	
	C 238	QFLK1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C 250	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 252	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 260	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 262	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 541	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 542	QCF11HZ-473	C CAPACITOR	.047MF +80:-20%	
	C 543	QERF1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 544	QERF1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 701	QDUB1HJ-270Y	C CAPACITOR		
	C 702	QDCB1HJ-220Y	C CAPACITOR		
	C 703	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 704	QFV61HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 705	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 706	QDYB1CM-103Y	C.CAPACITOR		
	C 707	QFV61HJ-103Z	TF CAPACITOR	.010MF 5% 50V	
	C 708	QFV61HJ-153Z	TF CAPACITOR	.015MF 5% 50V	
	C 709	QFV41HJ-473	TF CAPACITOR	.047MF 5% 50V	
	C 751	QDYB1CM-103Y	C.CAPACITOR		
	C 771	QER41AM-227	E CAPACITOR	220MF 20% 10V	
	C 772	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 773	QDGB1HK-102Y	C CAPACITOR		
	C 781	QEDJ1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 783	QEZ0423-228	E CAPACITOR	2200MF	
	C 784	QER41AM-227	E CAPACITOR	220MF 20% 10V	
	C 785	QERF1AM-336Z	E CAPACITOR	33MF 20% 10V	
	C 792	QFV11HJ-334AZ	TF CAPACITOR	.33MF 5% 50V	
	C 793	QFV61HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 931	QER41AM-107	E CAPACITOR	100MF 20% 10V	
	C 932	QDYB1CM-103Y	C.CAPACITOR		
	C 933	QER41AM-107	E CAPACITOR	100MF 20% 10V	
	C 934	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C 951	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 971	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 972	QER41AM-227	E CAPACITOR	220MF 20% 10V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C 981	QEZ0337-228	E CAPACITOR	2200MF	
	C 982	QDYB1CM-103Y	C.CAPACITOR		
	C 983	QDYB1CM-103Y	C.CAPACITOR		
	C 984	QEK41CM-106	E.CAPA I.M	10MF 20% 16V	
	C 985	QDYB1CM-103Y	C.CAPACITOR		
	C 986	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 987	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 988	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	CJ701	VMC0334-001	CONNECTOR	TO FRONT PANEL	
	CJ921	QNN0170-001	PIN JACK (REEL)		
	CP702	QGB1214J1-18S	CONNECTOR	TO MECHA	
	CP751	QNZ0095-001	CONNECTOR	CH CONNECTOR	
	CP981	QNZ0002-001	16P CONNECTOR		
	D 1	1SS119-041	SI DIODE		
	D 2	1SS119-041	SI DIODE		
	D 161	1SS119-041	SI DIODE	REAR	
	D 261	1SS119-041	SI DIODE	REAR	
	D 541	RB721Q-T2	S.B.DIODE		
	D 542	RB721Q-T2	S.B.DIODE		
	D 701	1SS119-041	SI DIODE	CD CHANGER	
	D 704	MTZJ6.2C-T2	Z DIODE I/M		
	D 705	MTZJ6.2C-T2	Z DIODE I/M		
	D 706	MTZJ6.2C-T2	Z DIODE I/M		
	D 707	MTZJ6.2C-T2	Z DIODE I/M		
	D 708	MTZJ6.2C-T2	Z DIODE I/M		
	D 709	MTZJ6.2C-T2	Z DIODE I/M		
	D 710	1SS119-041	SI DIODE		
	D 711	MTZJ6.2C-T2	Z DIODE I/M		
	D 712	MTZJ6.2C-T2	Z DIODE I/M		
	D 714	1SS119-041	SI DIODE		
	D 716	1SS119-041	SI DIODE		
	D 718	RB721Q-T2	S.B.DIODE		
	D 771	MTZJ9.1C-T2	Z DIODE I/M		
	D 781	RB721Q-T2	S.B.DIODE		
	D 784	DSK10C-T1	DIODE		
	D 785	DSK10C-T1	DIODE		
	D 791	1SS119-041	SI DIODE		
	D 792	1SS119-041	SI DIODE		
	D 974	1SS119-041	SI DIODE		
	D 981	1N5401-TM	DIODE		
	D 990	MTZ11B-T2	SI DIODE		
	IC701	LC72362N-9388	IC		
	IC751	HD74HC126P	IC	CD-CH	
	IC781	BA3918-V1	IC	REGULATOR	
	IC790	KIA7810PI	10V REGULATOR		
	IC931	TEA6320T-X	IC		
	IC981	HA13158A	IC		
	J 1	QNZ0009-001	CAR ANT JACK		
	L 1	QQL231K-4R7Y	INDUCTOR		
	L 781	QQL231K-470Y	INDUCTOR		
	L 782	QQL231K-470Y	INDUCTOR		
	L 981	QQR0704-001	CHOKE COIL		
	O 1	2SA1706/ST/-T	TRANSISTOR		
	O 2	DTC114ESA-T	DIGITAL.TR TAPE		
	O 3	2SA1317/ST/-T	TRANSISTOR		
	O 5	DTC114ESA-T	DIGITAL.TR TAPE		
	O 161	2SD2144S/VW/-T	TRANSISTOR	REAR	
	O 261	2SD2144S/VW/-T	TRANSISTOR	REAR	
	O 541	2SC3330/ST/-T	TRANSISTOR		
	O 771	2SC3330/ST/-T	TRANSISTOR		
	O 772	2SC3330/ST/-T	TRANSISTOR		
	O 781	DTC114ESA-T	DIGITAL.TR TAPE		
	O 782	2SA1706/ST/-T	TRANSISTOR		

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

⚠	Item	Parts number	Parts name	Remarks	Area
	O 783	DTC114ESA-T	DIGITAL.TR TAPE		
	O 784	2SA1317/ST/-T	TRANSISTOR		
	O 785	DTA114ESA-T	DIGITAL.TR TAPE		
	Q 786	DTC114ESA-T	DIGITAL.TR TAPE		
	O 789	DTA114ESA-T	DIGITAL.TR TAPE		
	O 971	DTC114ESA-T	DIGITAL.TR TAPE		
	O 972	DTA114ESA-T	DIGITAL.TR TAPE		
	O 987	DTA114ESA-T	DIGITAL.TR TAPE		
	O 988	DTC114ESA-T	DIGITAL.TR TAPE		
	Q 989	DTA114ESA-T	DIGITAL.TR TAPE		
	R 1	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 2	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 3	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 4	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 5	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 6	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 8	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 9	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 10	QRE141J-822Y	C RESISTOR	8.2K 5% 1/4W	
	R 11	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 14	QRE141J-155Y	C RESISTOR	1.5M 5% 1/4W	
	R 15	QRE141J-335Y	C RESISTOR	3.3M 5% 1/4W	
	R 17	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 51	QRE141J-162Y	C RESISTOR	1.6K 5% 1/4W	
	R 52	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R 53	QRE141J-203Y	C RESISTOR	20K 5% 1/4W	
	R 54	QRE141J-752Y	C RESISTOR	7.5K 5% 1/4W	
	R 61	QRE141J-162Y	C RESISTOR	1.6K 5% 1/4W	
	R 62	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R 63	QRE141J-203Y	C RESISTOR	20K 5% 1/4W	
	R 64	QRE141J-752Y	C RESISTOR	7.5K 5% 1/4W	
	R 131	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 132	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 133	QRE141J-154Y	C RESISTOR	150K 5% 1/4W	
	R 151	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 152	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	
	R 161	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 162	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	
	R 163	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R 164	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 165	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 231	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 232	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 233	QRE141J-154Y	C RESISTOR	150K 5% 1/4W	
	R 251	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 252	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	
	R 261	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 262	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	
	R 263	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R 264	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 265	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 542	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 543	QRE141J-123Y	C RESISTOR	12K 5% 1/4W	
	R 544	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 545	QRE141J-563Y	C RESISTOR	56K 5% 1/4W	
	R 546	QRE141J-184Y	C RESISTOR	180K 5% 1/4W	
	R 547	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 702	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 703	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 704	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 705	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 706	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 707	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
	R 708	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 709	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 710	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 711	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 712	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 713	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 714	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 715	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 716	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 717	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 718	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 719	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 720	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 721	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 722	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 724	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 725	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 726	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 727	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 751	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 752	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 753	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 754	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	
	R 755	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 756	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 757	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 758	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 759	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 760	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 761	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 762	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 763	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 764	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 771	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 772	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 773	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 774	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R 783	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 784	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 785	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 786	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 787	QRE141J-6R8Y	C RESISTOR	6.8 5% 1/4W	
	R 788	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 789	QRE141J-474Y	C RESISTOR	470K 5% 1/4W	
	R 790	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R 795	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 796	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 931	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 951	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 971	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 972	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 987	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 988	QRE141J-242Y	C RESISTOR	2.4K 5% 1/4W	
	R 989	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 990	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	TU 1	QAU0058-001	TUNER		
	X 701	QAX0406-001Z	CRYSTAL		

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

⚠	Item	Parts number	Parts name	Remarks	Area
	C 651	NCB21HK-103X	C CAPACITOR		
	C 652	NBE20JM-475X	TS E CAPACITOR		
	C 653	NCB21HK-681X	C CAPACITOR		
	CP701	VMC0335-001	CONNECTOR		
	D 601	SML-210FT/JKL/W	LED		
	D 602	SML-210FT/JKL/W	LED		
	D 603	SML-210FT/JKL/W	LED		
	D 604	SML-210FT/JKL/W	LED		
	D 605	SML-210FT/JKL/W	LED		
	D 608	SML-210FT/JKL/W	LED		
	D 609	SML-210FT/JKL/W	LED		
	D 610	SML-210FT/JKL/W	LED		
	D 611	SML-210FT/JKL/W	LED		
	D 612	SML-210FT/JKL/W	LED		
	D 613	SML-210FT/JKL/W	LED		
	D 614	SML-210FT/JKL/W	LED		
	D 615	SML-210FT/JKL/W	LED		
	D 616	SML-210FT/JKL/W	LED		
	D 618	SML-210FT/JKL/W	LED		
	D 619	SML-210FT/JKL/W	LED		
	D 620	SML-210FT/JKL/W	LED		
	D 621	SML-210FT/JKL/W	LED		
	D 622	SML-210FT/JKL/W	LED		
	D 623	SML-210LT/LM/-X	LED		
	D 624	SML-210FT/JKL/W	LED		
	D 652	MA152WA-X	DIODE		
	D 653	MA152WA-X	DIODE		
	D 654	MA152WK-X	SI DIODE		
	D 655	MA152WK-X	SI DIODE		
	IC651	LC75823E	IC		
	PL601	QLL0033-001	LAMP		
	PL603	QLL0033-001	LAMP		
	R 600	NRSA02J-102X	MG RESISTOR		
	R 601	NRSA02J-271X	MG RESISTOR		
	R 602	NRSA02J-331X	MG RESISTOR		
	R 603	NRSA02J-391X	MG RESISTOR		
	R 604	NRSA02J-471X	MG RESISTOR		
	R 605	NRSA02J-561X	MG RESISTOR		
	R 606	NRSA02J-821X	MG RESISTOR		
	R 607	NRSA02J-102X	MG RESISTOR		
	R 608	NRSA02J-271X	MG RESISTOR		
	R 609	NRSA02J-331X	MG RESISTOR		
	R 610	NRSA02J-391X	MG RESISTOR		
	R 611	NRSA02J-471X	MG RESISTOR		
	R 612	NRSA02J-561X	MG RESISTOR		
	R 613	NRSA02J-821X	MG RESISTOR		
	R 614	NRSA02J-821X	MG RESISTOR		
	R 615	NRSA02J-271X	MG RESISTOR		
	R 616	NRSA02J-331X	MG RESISTOR		
	R 617	NRSA02J-391X	MG RESISTOR		
	R 618	NRSA02J-471X	MG RESISTOR		
	R 619	NRSA02J-561X	MG RESISTOR		
	R 620	NRSA02J-102X	MG RESISTOR		
	R 628	NRSA02J-821X	MG RESISTOR		
	R 631	NRSA02J-821X	MG RESISTOR		
	R 633	NRSA02J-511X	MG RESISTOR		
	R 634	NRSA02J-561X	MG RESISTOR		
	R 635	NRSA02J-821X	MG RESISTOR		
	R 636	NRSA02J-821X	MG RESISTOR		
	R 637	NRSA02J-821X	MG RESISTOR		
	R 638	NRSA02J-511X	MG RESISTOR		
	R 639	NRSA02J-511X	MG RESISTOR		
	R 640	NRSA02J-511X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R 651	NRSA02J-152X	MG RESISTOR		
	R 652	NRSA02J-473X	MG RESISTOR		
	R 653	NRSA02J-154X	MG RESISTOR		
	R 654	NRSA02J-103X	MG RESISTOR		
	R 655	NRSA02J-103X	MG RESISTOR		
	R 656	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		
	S 620	NSW0066-001X	TACT SWITCH		
	S 622	NSW0066-001X	TACT SWITCH		

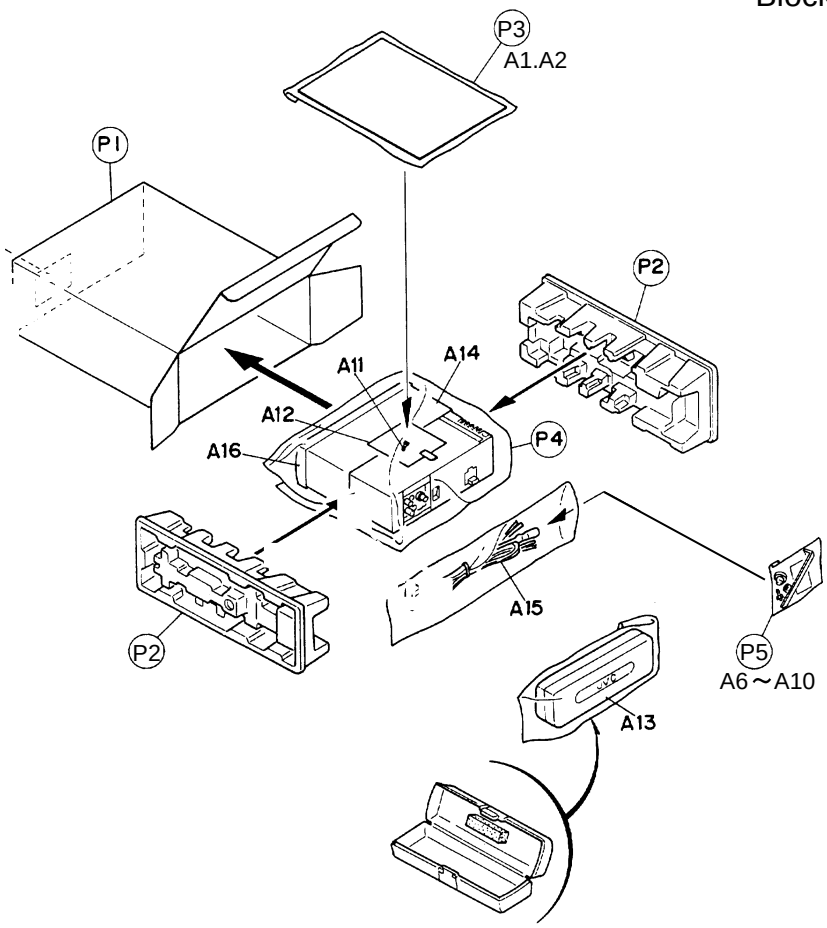
■ **Electrical parts list (Mecha control board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 101	NCS21HJ-471X	C CAPACITOR		
	C 102	QFV61HJ-103Z	TF CAPACITOR	.010MF 5% 50V	
	C 103	QEQ61HM-105Z	NP E CAPACITOR	1.0MF 20% 50V	
	C 104	QFV61HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 105	NCS21HJ-470X	C CAPACITOR		
	C 201	NCS21HJ-471X	C CAPACITOR		
	C 202	QFV61HJ-103Z	TF CAPACITOR	.010MF 5% 50V	
	C 203	QEQF1HM-105Z	NP E CAPACITOR	1.0MF 20% 50V	
	C 204	QFV61HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 205	NCS21HJ-470X	C CAPACITOR		
	C 501	NCB21HK-103X	C CAPACITOR		
	C 502	NCB21EK-104X	C CAPACITOR		
	C 503	QEK41CM-106	E.CAPA I.M	10MF 20% 16V	
	C 901	QER61CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 902	NCS21HJ-221X	C CAPACITOR		
	C 903	QEK41HM-474	E.CAPA I.M	.47MF 20% 50V	
	C 904	NCB21HK-103X	C CAPACITOR		
	C 905	NCB21EK-104X	C CAPACITOR		
	C 906	QEKJ1CM-226Z	E.CAPA I.M	22MF 20% 16V	
	CJ501	QGB1214K1-18S	CONNECTOR		
	CJ503	QGB1214K1-10S	CONNECTOR		
	CP502	QGA2001F1-07	CONNECTOR		
	D 501	DSK10C-T1	DIODE		
	D 502	MA3036/L/-X	ZENER DIODE		
	D 503	MA3075/M/-X	ZENER DIODE		
	IC501	LB1641	IC		
	IC901	CXA2509AQ	IC		
	Q 501	2SA1706/ST/-T	TRANSISTOR		
	O 502	DTC114EKA-X	TRANSISTOR		
	O 503	DTC114EKA-X	TRANSISTOR		
	R 101	NRSA02J-104X	MG RESISTOR		
	R 103	NRSA02J-123X	MG RESISTOR		
	R 104	NRSA02J-304X	MG RESISTOR		
	R 105	NRSA02J-181X	MG RESISTOR		
	R 108	NRS181J-512X	MG RESISTOR		
	R 109	NRSA02J-152X	MG RESISTOR		
	R 201	NRSA02J-104X	MG RESISTOR		
	R 203	NRSA02J-123X	MG RESISTOR		
	R 204	NRSA02J-304X	MG RESISTOR		
	R 205	NRS181J-181X	MG RESISTOR		
	R 208	NRSA02J-512X	MG RESISTOR		
	R 209	NRSA02J-152X	MG RESISTOR		
	R 501	NRS181J-473X	MG RESISTOR		
	R 502	NRS181J-332X	MG RESISTOR		
	R 503	NRSA02J-332X	MG RESISTOR		
	R 504	QRT036J-8R2	OMF RESISTOR	8.2 5% 1/3W	
	R 505	NRS181J-330X	MG RESISTOR		
	R 506	NRSA02J-222X	MG RESISTOR		
	R 901	NRS181J-101X	MG RESISTOR		
	R 902	NRSA02J-392X	MG RESISTOR		
	R 903	NRSA02J-223X	MG RESISTOR		
	R 904	NRSA02J-125X	MG RESISTOR		
	R 905	NRSA02J-153X	MG RESISTOR		
	R 906	NRS181J-103X	MG RESISTOR		
	R 907	NRSA02J-183X	MG RESISTOR		
	VR101	QVP0009-333Z	SEMI V RESISTOR		
	VR201	QVP0009-333Z	SEMI V RESISTOR		

Packing materials and accessories parts list

Block No. M 3 M M

Block No. M 4 M M



■ Parts list (Packing)

Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	FSPE3001-129	CARTON	1	REGISTERED MARK	
	P 2	FSPH1014-001	PAPER CUSHION	2		
	P 3	QPA01703505P	POLY BAG	1	INST BOOK	
	P 4	VPE3005-064	POLY BAG	1	SET	
	P 5	QPA00801205	POLY BAG	1		

■ Parts list (Accessories)

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	FSUN3029-181S	INST BOOK	1	ENG,SPA,CHI,ARA,POR	
	A 2	FSUN3029-T181S	INSTALL MANUAL	1	ENG,SPA,CHI,ARA,POR	
	A 6	VKZ4027-202	PLUG NUT	1		
	A 7	VKH4871-001	MOUNT BOLT	1		
	A 8	VKZ4328-001	LOCK NUT	1		
	A 9	WNS5000Z	WASHER	1		
	A 10	FSKL4010-002	HOOK	2		
	A 13	FSJB3001-00A	HARD CASE	1		
	A 14	FSKM2004-003SSF	MOUNTING SLEEVE	1	TRANSPORT PACKI	
	A 15	QAM0013-006	16P CORD ASS'Y	1		
	A 16	FSJD2019-002SSF	TRIM PLATE	1		
	KIT 1	KDGS717K-SCREW1	SCREW PARTS KIT	1	A6-A10	
	KIT 2	KDGS727J-SCREW2	SCREW PARTS KIT	1	A11.A12	