

HCD-H190

SERVICE MANUAL

*E Model
Tourist Model*



HCD-H190 is the tuner, deck, CD and amplifier section in FH-B190.

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SPECIFICATIONS

CD Section	Model Name Using Similar Mechanism		HCD-H170/H170K/H700
	CD Mechanism Name		CDM13B-5BD4A
	Base Unit Name		BU-5BD4A
Tape deck Section	Model Name Using Similar Mechanism		HCD-H170/H170K/H700
	Tape Transport Mechanism Type	DECK A	TCM-190RA13A
		DECK B	TCM-190RB22A

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 – 108 MHz
Antenna FM lead antenna
Antenna terminals
75 ohm unbalanced
Intermediate frequency
10.7 MHz

AM tuner section

Tuning range
MW: 531 – 1,602 kHz
SW: 5.95 – 17.9 MHz
Antenna AM loop antenna
External antenna terminals
Intermediate frequency
450 kHz

Compact disc player section

System Compact disc digital audio system
Laser Semiconductor laser
($\lambda = 780 \text{ nm}$)
Emission duration:
Continuous

Laser output Max. $44.6 \mu\text{W}^*$

* This output is the value measured at distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

Signal-to noise ratio More than 95 dB
Dynamic range More than 90 dB

Cassette deck section

Recording system
4-track 2-channel stereo
Frequency response
(DOLBY NR OFF)
60 – 13,000 Hz ($\pm 3 \text{ dB}$), using TYPE I cassette (Sony HF-S)
60 – 14,000 Hz ($\pm 3 \text{ dB}$), using TYPE II cassette
Wow and flutter
0.1% WRMS $\pm 0.3\%$ (DIN)

Amplifier section

Continuous RMS power output
85+85 watts (6 ohms at 1 kHz, 5% THD)
Peak music power output
1000 watts

Inputs

MIX MIC (minijack): Sensitivity 1 mV, impedance 600 ohms
VIDEO/AUX (phono jack): sensitivity 5 mV, impedance 47 kilohms
HEADPHONES (stereo minijack): accept headphones of 8 ohms or more.
SPEAKERS: accept impedance of 6 to 16 ohms.

Outputs

General

Power requirements 120V, 220V, 240V AC, adjustable, 50/60Hz
Power consumption 160watts
Dimensions
Approx. 225 x 285 x 283 mm (w/h/d)
(8 7/8 x 11 1/4 x 11 1/4 inches)

—Continued on page2—

**COMPACT HI-DENSITY
COMPONENT SYSTEM
SONY®**

Weight

Approx. 7.7 kg (17 lb)

Accessories supplied

- AM loop antenna (1)
- Remote commander (1)
- Sony SUM-3 (NS) batteries (2)
- FM lead antenna (1)
- Speaker cords (2)

Design and specifications subject to change without notice.



Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

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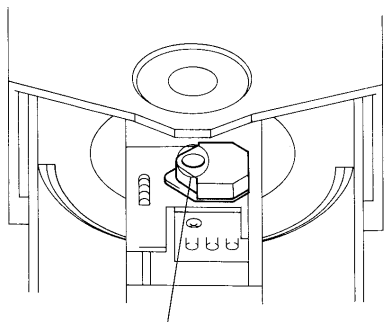
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 SERVICING NOTES

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



- ① Confirm that laser beam is spread.
- ② Up and down motion of the objective lens. (3 times)

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

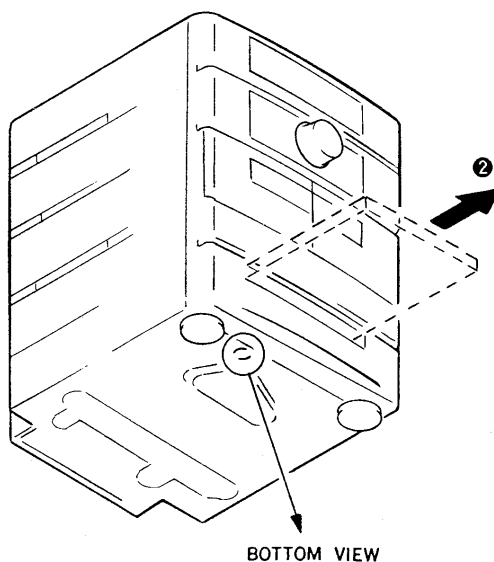
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

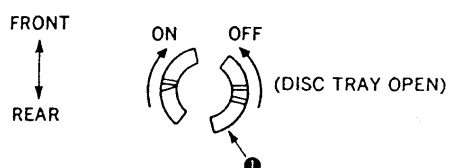
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



- (1) Insert to ① for tapering driver, etc., and turn in the direction of arrow OFF. (Disc tray open)
- (2) Tray as come out little of front panel, pull out in the direction of arrow ② by hand.



SECTION 2 GENERAL

This section is extracted from instruction manual.

Parts Identification

Refer to the pages indicated in parenthesis for use of the buttons.

Tuner Section A

- 1 POWER ON/STANDBY switch
- 2 Remote sensor
- 3 TIMER button (100)
- 4 TIMER REC button (104)
- 5 Display window
- 6 PRESET/TIMER +/- buttons (52, 100, 104)
- 7 BAND button (48)
- 8 MEMORY/NEXT button (52, 100, 104)
- 9 STEREO/MONO button (50)
- 10 TUNING +/- buttons (48)

Amplifier Section B

- 1 MIC (microphone) 1 and 2 LEVEL controls (only for FH-B170K) (112)
- 2 DBFB control (only for FH-B190) (22)
- 3 MIX MIC 1 and 2 jacks (for FH-B170K) (112)
- 4 MIX MIC jack (for other models) (112)
- 5 HEADPHONES jack (22)
- 6 ECHO LEVEL control (only for FH-B170K) (112)
- 7 BALANCE control (only for FH-B190) (22)
- 8 MPX (multiplex) button and indicator (only for FH-B170K) (114)
- 9 VOLUME control (22)
- 10 PRESET button and indicators (62)
- 11 FUNCTION button
- 12 DBFB (Dynamic Bass Feed Back) button and indicator (22)
- 13 KARAOKE PON (vocal reduction) button and indicator (for FH-B170K) (114)
- 14 S-SUR (simulated surround) button (for other models) (22)
- 15 EQ (equalizer ON/OFF) button (62)

Parts Identification

Cassette Deck Section C

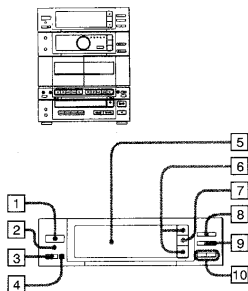
- 1 Cassette holders
- 2 HIGH SPEED button (72)
- 3 CD SYNC button (86, 94, 98)
- 4 EJECT ▲ button (for deck A) (56)
- 5 DIRECTION MODE selector (56)
- 6 Tape operating buttons (for deck A and B)
 - ▶▶ (fast wind and AMS*) button (56)
 - ◀◀ (rewind and AMS*) button (56)
 - ▶: Forward play button and direction indicator (56)
 - ◀: Reverse play button and direction indicator (56)
 - : Stop button (56)
- 7 REC ● (recording) button
- 8 PAUSE II button (56)
- 9 EJECT ▲ button (for deck B) (68)
- 10 DOLBY NR selector (56)

CD Player Section D

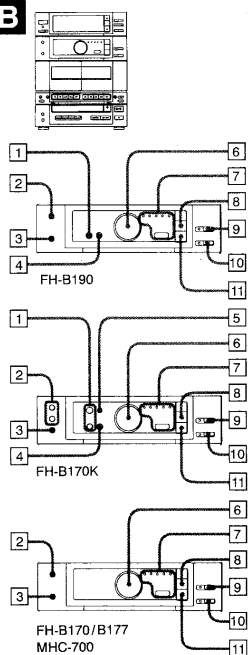
- 1 Disc tray (24)
- 2 CHECK button (42)
- 3 EDIT/TIME FADE button (78, 90)
- 4 PLAY MODE buttons
 - CONTINUE button (38)
 - SHUFFLE button (38)
 - PROGRAM button (40, 96)
- 5 ▲ OPEN/CLOSE button (24)
- 6 ▷II (play/pause) button (24)
- 7 ■ (stop) button (24)
- 8 ◀◀◀/▶▶▶ (manual search/AMS*) buttons (26, 96)
- 9 REPEAT button (32)

* AMS is the abbreviation of Automatic Music Sensor.

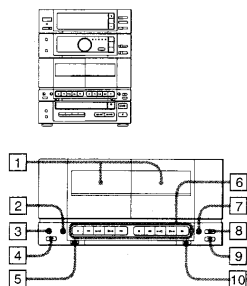
A



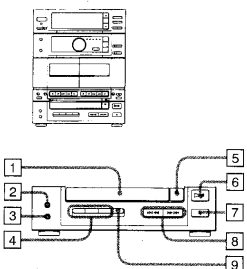
B



C

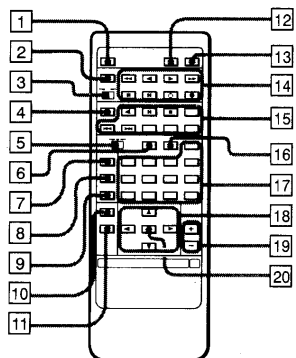


D



Parts Identification

E



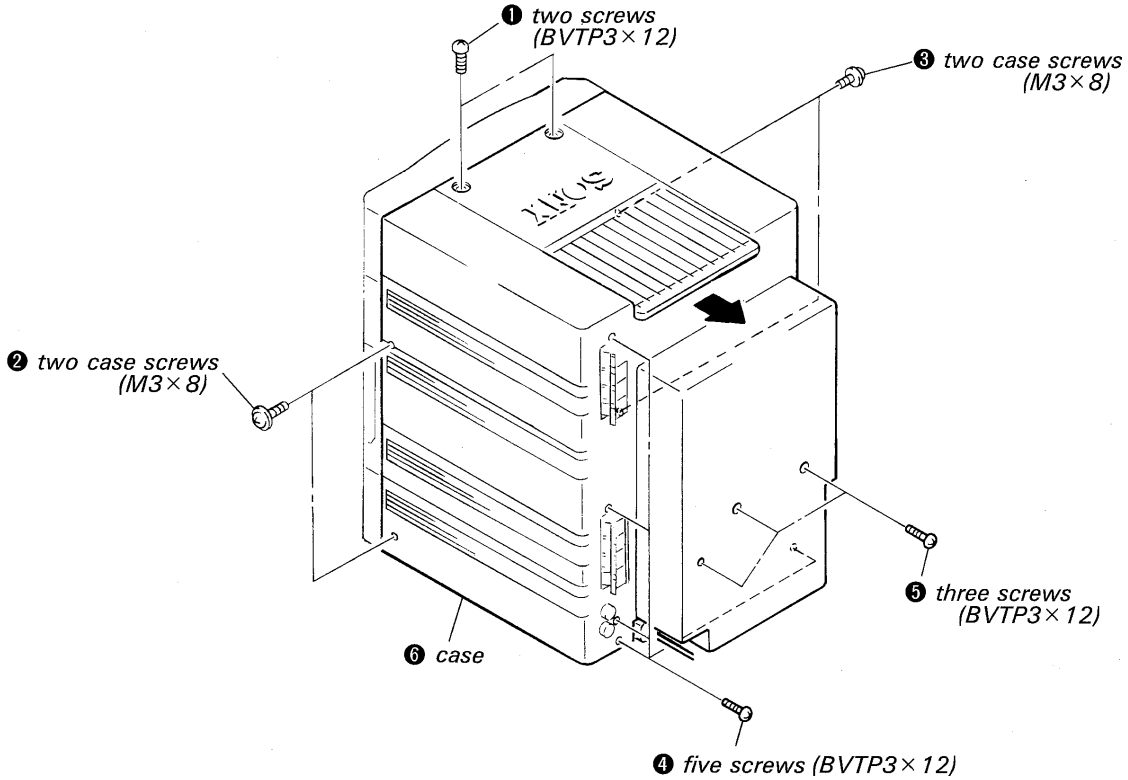
Remote Commander

- 1 CLOCK DISPLAY button (20)
- 2 TAPE function button
- 3 DECK A/B selector
- 4 CD function button
- 5 TUNER/EQ/CD selector
- 6 CHECK button (42)
- 7 TUNER function button
- 8 VIDEO function button
- 9 PHONO function button
- 10 MEMORY button (66)
- 11 DBFB button (22)
- 12 SLEEP button (110)
- 13 SYSTEM POWER button
- 14 Tape operating buttons
- 15 CD player operating buttons
- 16 CLEAR button (38)
- 17 TUNER/EQ/CD numeric buttons (28, 62)
- 18 CURSOR CONTROL buttons (64)
- 19 VOL +/- (volume control) buttons (22)
- 20 EQ button (62)

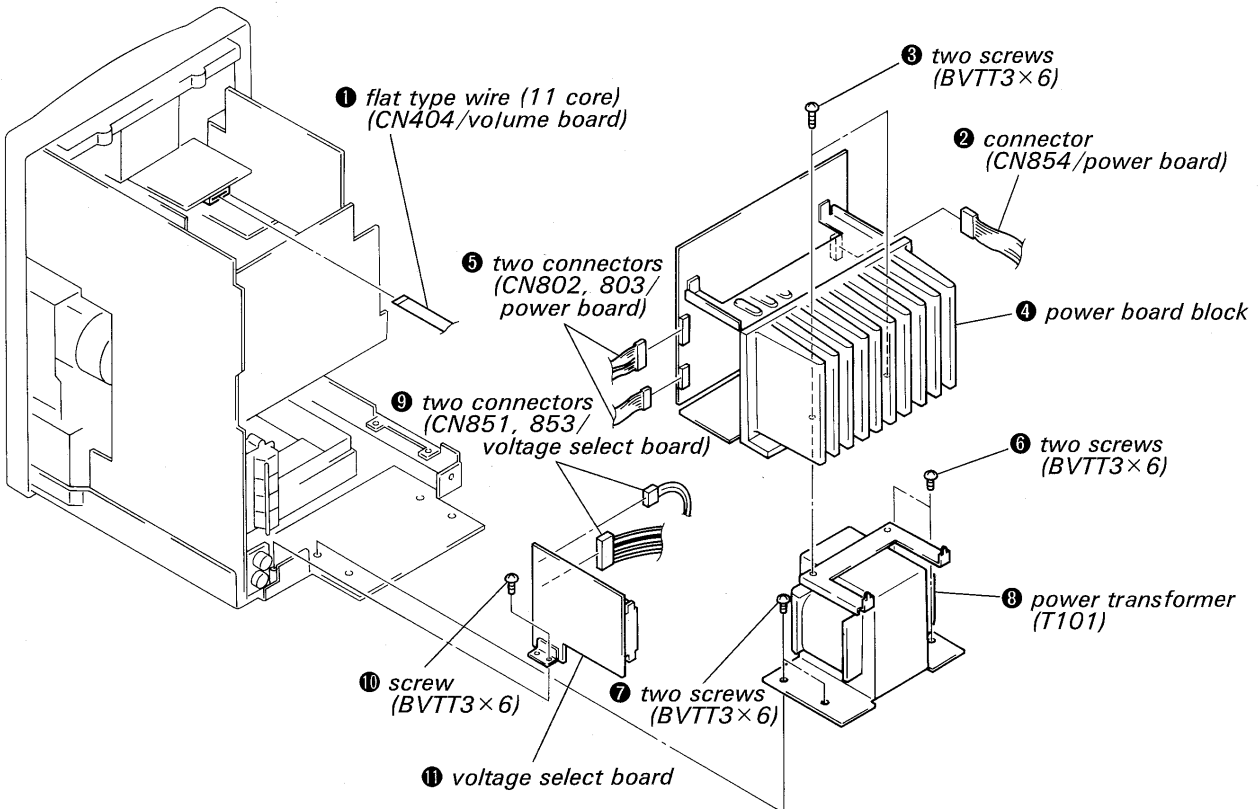
SECTION 3 DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given.

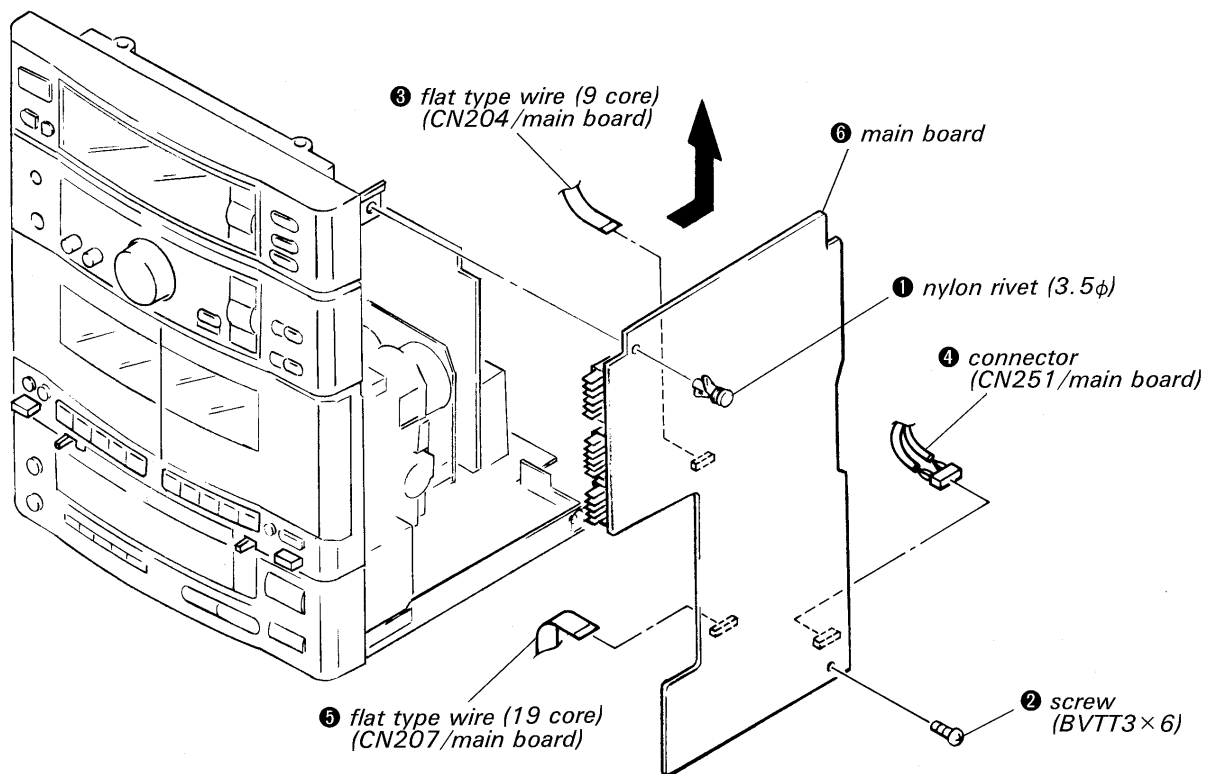
3-1. CASE REMOVAL



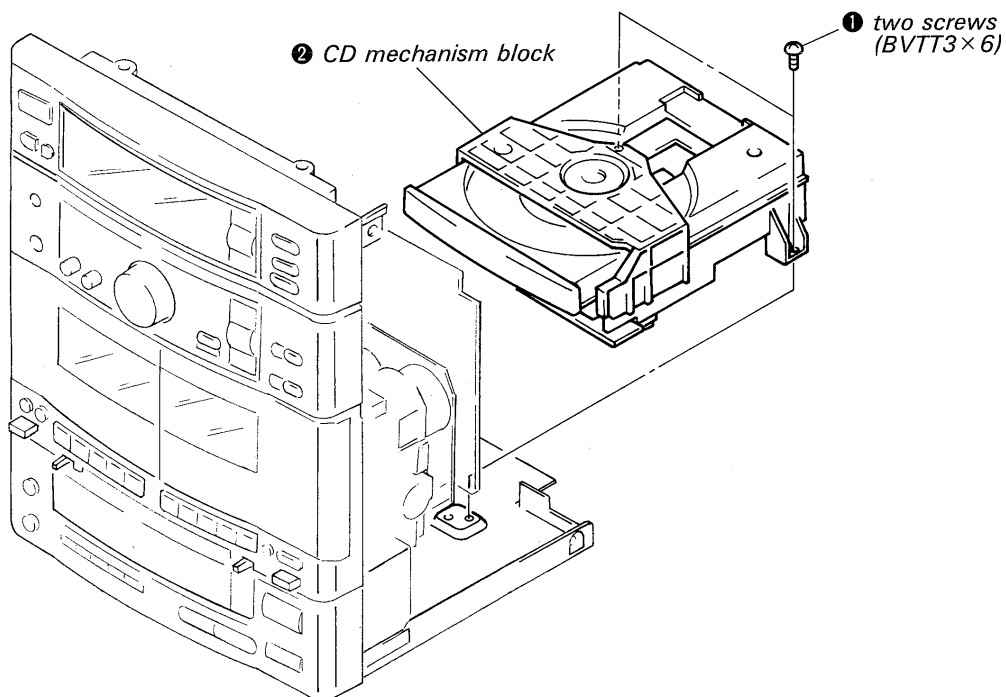
3-2. POWER BLOCK REMOVAL



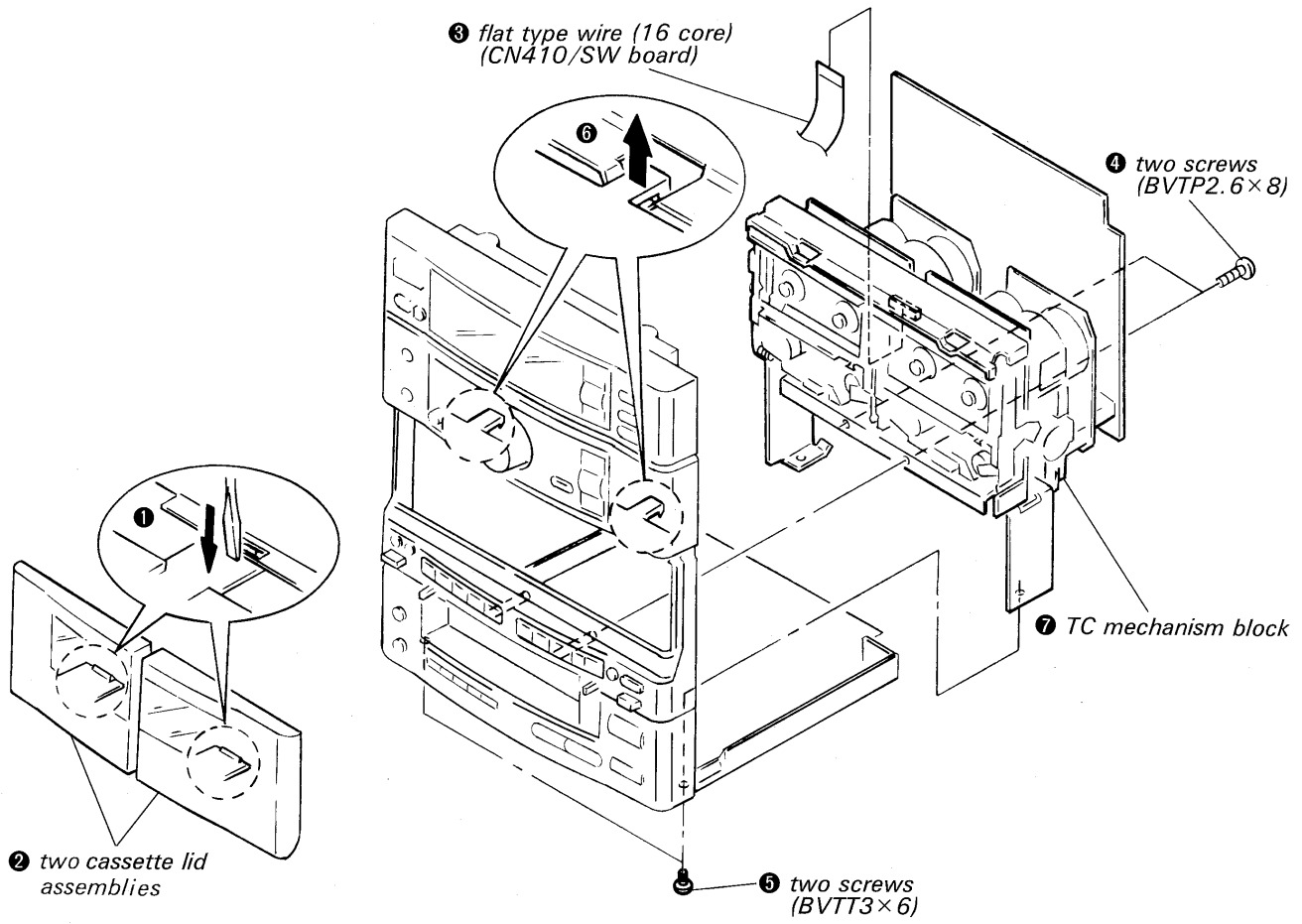
3-3. MAIN BOARD REMOVAL



3-4. CD MECHANISM BLOCK REMOVAL



3-5. TC MECHANISM BLOCK REMOVAL



SECTION 4

IC PIN DESCRIPTION

• IC401 Deck Controller (M50946-302)

Pin No.	Pin Name	I/O	Symbol	Description																																				
1	P62		G	GND																																				
2	P61		G	GND																																				
3	P60		G	GND																																				
4	P47		G	GND																																				
5	P46		G	GND																																				
6	AN5	I	B HALF	Deck B record prevention claw A, B detection input (Analog) <table border="1" style="margin-left: 20px;"> <tr> <td>Volgate (V)</td> <td>1V</td> <td>1.9V</td> <td>2.8V</td> <td>3.9V</td> <td>5V</td> </tr> <tr> <td>Harf</td> <td>ON</td> <td>ON</td> <td>ON</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>E. PROOF A</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>E. PROOF B</td> <td>ON</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>	Volgate (V)	1V	1.9V	2.8V	3.9V	5V	Harf	ON	ON	ON	ON	OFF	E. PROOF A	OFF	ON	OFF	ON	OFF	E. PROOF B	ON	ON	OFF	OFF	OFF												
Volgate (V)	1V	1.9V	2.8V	3.9V	5V																																			
Harf	ON	ON	ON	ON	OFF																																			
E. PROOF A	OFF	ON	OFF	ON	OFF																																			
E. PROOF B	ON	ON	OFF	OFF	OFF																																			
7	AN4	I	KEY Y	KEY input <table border="1" style="margin-left: 20px;"> <tr> <td>Volgate (V)</td> <td>0</td> <td>0.3</td> <td>0.7</td> <td>1.2</td> <td>1.7</td> <td>2.3</td> <td>2.8</td> <td>3.4</td> <td>4.0</td> <td>4.5</td> <td>5.0</td> </tr> <tr> <td>KEY Y</td> <td>B ■</td> <td>B ■■</td> <td>B ►</td> <td>B ◀</td> <td></td> <td>A ◀◀</td> <td>A ►►</td> <td></td> <td></td> <td>RELAY</td> <td>OFF</td> </tr> <tr> <td>KEY X</td> <td>A ■</td> <td>A ►</td> <td>A ◀</td> <td>A ◀◀</td> <td>B ◀◀</td> <td>B ●</td> <td></td> <td>B CD</td> <td></td> <td></td> <td></td> </tr> </table>	Volgate (V)	0	0.3	0.7	1.2	1.7	2.3	2.8	3.4	4.0	4.5	5.0	KEY Y	B ■	B ■■	B ►	B ◀		A ◀◀	A ►►			RELAY	OFF	KEY X	A ■	A ►	A ◀	A ◀◀	B ◀◀	B ●		B CD			
Volgate (V)	0	0.3	0.7		1.2	1.7	2.3	2.8	3.4	4.0	4.5	5.0																												
KEY Y	B ■	B ■■	B ►	B ◀		A ◀◀	A ►►			RELAY	OFF																													
KEY X	A ■	A ►	A ◀	A ◀◀	B ◀◀	B ●		B CD																																
8	AN3	I	KEY X																																					
9	AN2	I	AMS IN	AMS signal input																																				
10	P41	O	$\overline{L MUTE}$	Line mute output																																				
11	P40	O	$\overline{R MUTE}$	mute output																																				
12	P37	O	RELAY (B MD)	REC/PB change relay output																																				
13	P36	O	R/P	Dolby IC REC/PB select output																																				
14	P35	O	EQ70	Playback EQ output for playing deck																																				
15	P34	O	SEL A/ \overline{B}	Dolby IC PB input Deck A/B select output																																				
16	P33	O	AMS A/ \overline{B}	AMS AMP input Deck A/B select output																																				
17	P32	I	AU BUS	AUDIO BUS input																																				
18	P31	O	BIAS	Bias oscillation output																																				
19	P30	O	AUB OUT	AUDIO BUS output																																				
20	INT1	I	A UBUS	AUDIO BUS normal input																																				
21	NC	—	—	—																																				
22	NC	—	—	—																																				
23	NC	—	—	—																																				
24	CNVSS		CNVSS	GND																																				
25	\overline{RESET}	I	\overline{RESET}	Microcomputer reset input																																				
26	XIN	I	XIN	Clock input (4MHz)																																				
27	Xo	O	Xo	Clock output (4MHz)																																				
28	Φ	O	Φ	Not used (open)																																				
29, 65	Vss		Vss	GND																																				
30	P57	I	PW IN	POWER OFF detection input																																				
31	P56	I	A STOP	Deck A STOP switch input																																				
32	P55	I	$\overline{A HALF}$	Deck A Half switch input																																				
33	P54	I	A SHUT	Deck A Reel table signal input																																				
34	P53	I	A70 U	Deck A TYPE II switch input																																				
35	P52	I	B STOP	Deck B STOP switch input																																				
36	P51	I	B SHUT	Deck B Reel table signal input																																				
37	P50	I	B70 U	Deck B TYPE II switch input																																				
38	NC	—	—	—																																				
39	P17	O	ARM 3	Deck A Reel Motor control out																																				
40	P16	O	ARM 2	Deck A Reel Motor control out																																				

Pin No.	Pin Name	I/O	Symbol	Description
41	P15	O	ARM 1	Deck A Reel Motor control out
42	P14	O	BRM 3	Deck B Reel Motor control out
43	P13	O	BRM 2	Deck B Reel Motor control out
44	P12	O	BRM 1	Deck B Reel Motor control out
45	P11	O	H/L	Capstan motor speed select
46	P10	O	A CM	A Capstan motor ON/OFF
47	P07	O	B CM	B Capstan motor ON/OFF
48	P06	I	BS/ASCH	Deck A Reel table/BS signal input
49	P05	I	A • P/BSCH	Deck B Reel table/A • P signal input
50	P04	O	A ◁	Deck A RVS LED output
51	P03	O	A ▷	Deck A FWD LED output
52	P02	O	A PLAY	Deck B RVS/FWD LED control output
53	P01	O	DUB H	High Speed Dubbing LED output
54	P00	O	DUB N	Normal Speed Dubbing LED output
55	NC	—	—	—
56	P27	O	CD SYNC	Auto CD Synchro LED output
57	P26	O	B ◁	Deck B RVS LED output
58	P25	O	B ▷	Deck B FWD LED output
59	O24	O	B PLAY	Deck B RVS/FWD LED control output
60	P23	O	B PAUSE	Deck B PAUSE LED output
61	P22	O	B ●	Auto CD Synchro LED output
62	P21	O	PASS	PASS amplifier switch output
63	P20	I	TEST	Electrical adjustment test mode setting
64	NC	—	—	—
66	NC	—	—	—
67	Vcc		Vcc	POWER 5 ± 0.5V
68	AVss		AVss	Analog system GND
69	VREF	I	VREF	Analog system reference voltage input
70	D • A		D • A	GND
71	PWM		—	GND
72	P63		—	GND

[TEST MODE]

When making pin ③ low (connect TP1 to ground with jumper wire), following function operates.

1. Sourec monitor

Release the line mute while recording.

• IC202 CD Controller (μ PD75116GF)

Pin No.	Pin Name	I/O	Description
1	Not Used	O	OPEN
2	Not Used	O	OPEN
3	DPCLK	O	Display data transmission clock output
4	LATCH	O	Serial data latch pulse output for digital filter CXD2554M
5	SHIPT	O	Serial clock output for digital filter CXD2554M
6	AFT	O	Serial clock output for digital filter CXD2554M
7	RESET	I	System reset input terminal (LOW ACTIVE)
8	X2	I	System clock input 4.0MHZ
9	X1	I	System clock input 4.0MHZ
10	DFCTSW	O	For focus in till spindle kick is ON except then is OFF.
11	AMUTE	O	Muting ON/OFF output
12	BSOUT	O	Audio bus output
13	AFADJ	I	Teast mode input, and on time POWER "L" is test move ment of every kind
14	LDON	O	Laser diode ON/OFF output
15	XKT	O	Serial data latch pulse output for CXD2500AQ
16	CLK	O	Serial data output for CXD2500AQ
17	DATA	O	Serial data output for CXD2500AQ
18	Not Used	I	GND
19	ADJ	I	Test mode input, "L" is GFS no check.
20	GFS	I	GFS OK/NO Good input
21	FOK	I	Focus OK/NO Good input
22	Not Used	O	OPEN
23	Not Used	O	OPEN
24	LODOUT	O	Disc tray loading-out output
25	LODIN	O	Disc tray loading-out output
26	VSS	I	GND
27	INSW	I	Disk tray clamp-end input
28	OUTSW	I	Disk tray open-end input
29	(TIMER)	I	Timer start input
30	BSIN	I	Audio bus input
31	Not Used	I	GND
32	Not Used	I	GND
33	Not Used	I	GND
34	Not Used	I	GND
35	Not Used	I	GND
36	Not Used	I	GND
37	SENS	I	SENS input, and the state input of every kind from CXD2500Q
38	TIMER	I	(NOT-PLAY)
39	D/F 16BT	I	(NOT-PLAY)
40	Not Used	I	GND
41	SUBQ	I	Q data serial input from CXD2500AQ
42	Not Used	O	OPEN
43	SQCLK	O	Sub-code Q data read-in clock output for CXD2500AQ
44	SCOR	I	Sub-code synchro S0 and S1 detect input
45	Not Used	O	OPEN
46		O	
47	Not Used	O	OPEN
48	Not Used	O	OPEN
49	Not Used	I	OPEN
50	Not Used	I	OPEN

Pin No.	Pin Name	I/O	Description
51	Not Used	I	OPEN
52	Not Used	I	OPEN
53	Not Used	O	OPEN
54	Not Used	O	OPEN
55	Not Used	O	OPEN
56	Not Used	O	OPEN
57	Not Used	I	+ 5V
58	VDD	I	+ 5V
59	DPDAT3	O	OPEN
60	DPDAT2	O	OPEN
61	DPDAT1	O	OPEN
62	DPDAT0	O	OPEN

SECTION 5 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belt
capstan	idler
- Demagnetize the record/playback head with a head demagnetizer.
(Head demagnetizer do not approach for the erase head.)
- Do not use a magnetized screwdriver for the adjustment.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustment should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	35 to 60g · cm (0.49 to 0.83oz · inch)
Forward back tension	CQ-102C	2 to 6g · cm (0.028 to 0.08oz · inch)
Reverse	CQ-102RB	35 to 60g · cm (0.49 to 0.83oz · inch)
Reverse back tension	CQ-102RB	2 to 6g · cm (0.028 to 0.08oz · inch)
FF/REW	CQ-201B	70 to 110g · cm (0.98 to 1.52oz · inch)

• FL tube, LED, Key and SIRCS Check Mode

- At POWER ON, press "BAND", "DBFB" and "POWER" keys simultaneously to activate the Check mode.
- In the Check mode, FL tube and LEDs are all come on.
- When "TIMER" key is pressed, FL tube and a part of LEDs come on.
- Key check and one LED ON
Keys to be checked are associated with segments (1-15), one by one.
The segment associated with the pressed key goes off, and the segments associated with non-pressed keys come on. One LED comes on, and LED that comes on is shifted each time the key is pressed. when all keys are pressed at least once, "PASS" is displayed in the center, and all LEDs come on.
- SIRCS check (with RM-S150)
When CD PAUSE is received, the Pause segment comes on.
- To turn off the Check mode, press "POWER" key or send SIRCS POWER CODE.
- When LEDs are partially ON

ON LEDs :	PRESET1	OFF LEDs :	PRESET2
	PRESET3		PRESET4
	PRESET5		SURROUND
	DBFB		MPX
	PON		
- The corresponding of Segments with Keys

Segments	:	Keys
1	:	TIMER REC
2	:	+(PRESET/TIMER)
3	:	BAND
4	:	-(PRESET/TIMER)
5	:	MEMORY/NEXT
6	:	STEREO/MONO
7	:	+(TUNING)
8	:	-(TUNING)
9	:	DBFB
10	:	S-SUR
11	:	FUNCTION
12	:	EQ
13	:	PRESET
14	:	(not used)
15	:	OPEN/CLOSE

SECTION 6 ELECTRICAL ADJUSTMENTS

DECK SECTION

- The adjustment should be performed in the publication.
(Be sure to make playback adjustment at first.)
- The adjustment and measurement should be performed for both L-CH and R-CH.
 - Switch position
DOLBY NR switch : OFF

• Test Tape

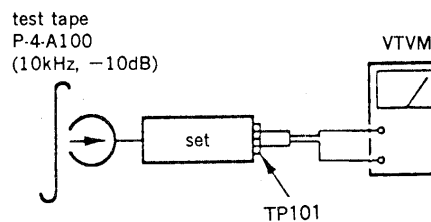
Tape	Contents	Use
P-4-A100	10kHz, -10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

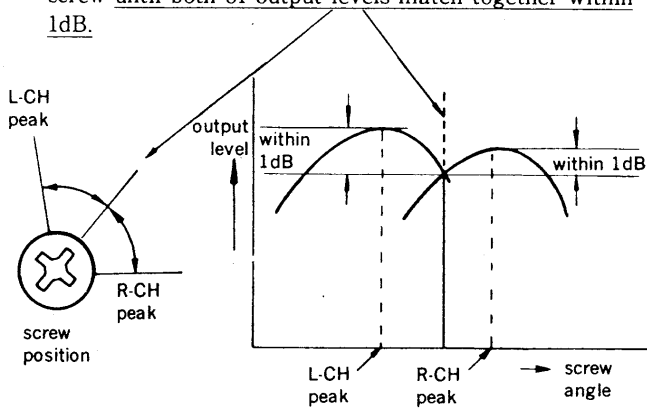
DECK A DECK B

Procedure :

- Forward Playback Mode
Reverse Playback Mode

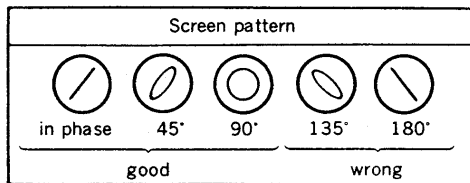
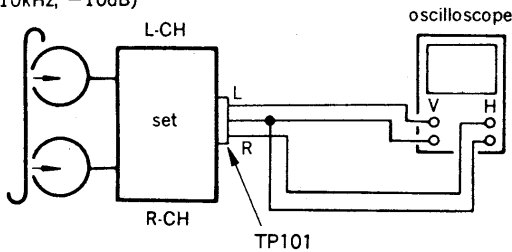


- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Playback Mode

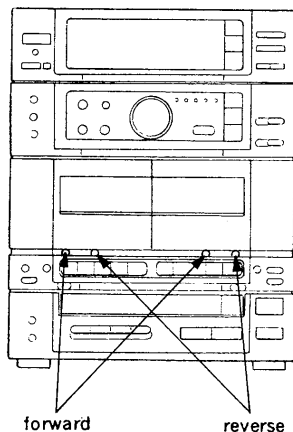
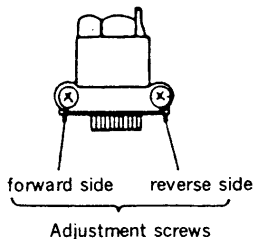
test tape
P-4-A100
(10kHz, -10dB)



- Change the review playback mode and repeat the steps 1 to 3.
- After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

—record/playback head (deck A and B)



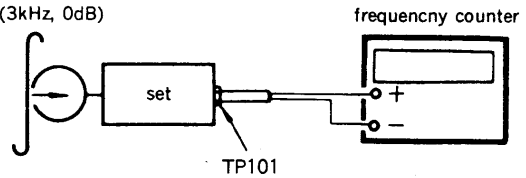
Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustment.

Mode : playback

test tape
WS-48B
(3kHz, 0dB)



Speed	Deck	Adjustment	Frequency counter
* High	A	RV72A	5,970 to 6,030Hz
	B	RV72B	
Normal	A	RV71A	2,985 to 3,015Hz
	B	RV71B	

* Continue to press HIGH SPEED DUBBING switch (S1524) in playback mode : High speed playback.

Frequency difference between the beginning and the end of the tape should be within $\pm 1.5\%$.

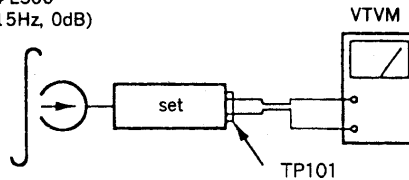
Adjustment Location: AUDIO-A and AUDIO-B boards.

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : playback

test tape
P-4-L300
(315Hz, 0dB)



Deck A is RV11A (L-CH) and RV21A (R-CH), deck B is RV11B (L-CH) and RV21B (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

LINE OUT level : -8.2dB to -7.2dB (0.301 to 0.338V)

Level Difference between Channels : within 1dB

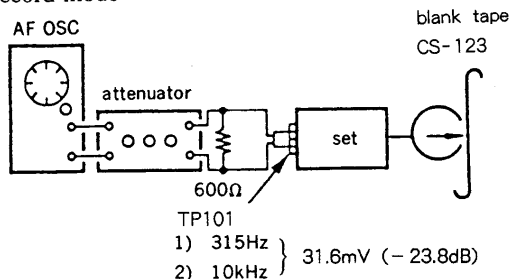
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : AUDIO-A and AUDIO-B boards

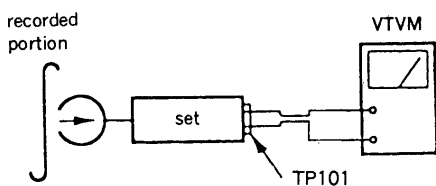
Record Bias Adjustment DECK B

Procedure :

1. record mode



2. playback mode



Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjust the RV12 (L-CH) and RV22 (R-CH) to repeat step 1 and 2.

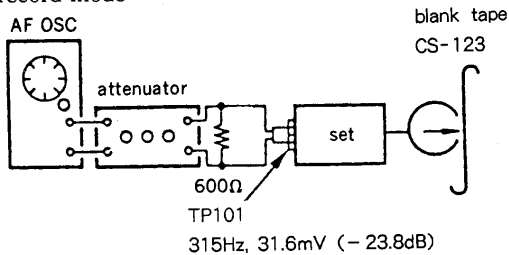
Adjustment level : Playback output of 315Hz to playback output of 10kHz : -0.5dB to 0.5dB.

Adjustment Location : AUDIO-B board

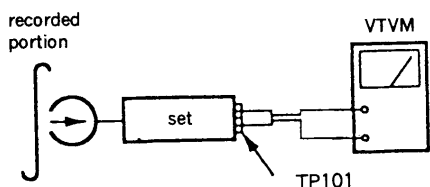
Record Level Adjustment DECK B

Procedure :

1. record mode



2. playback mode



Confirm playback the signal recorded in step become adjustment level as follows.

If these levels do not adjustment level, adjust the RV201 (L-CH) and RV301 (R-CH) to repeat step 1 and 2.

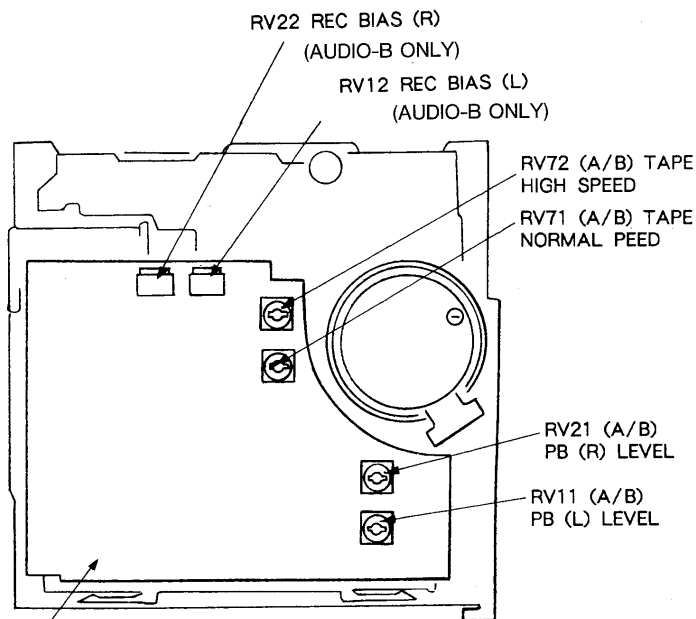
Adjustment Level :

LINE OUT level : -23.8dB ± 0.5dB (29 to 33.4mV)

Adjustment Location : main board

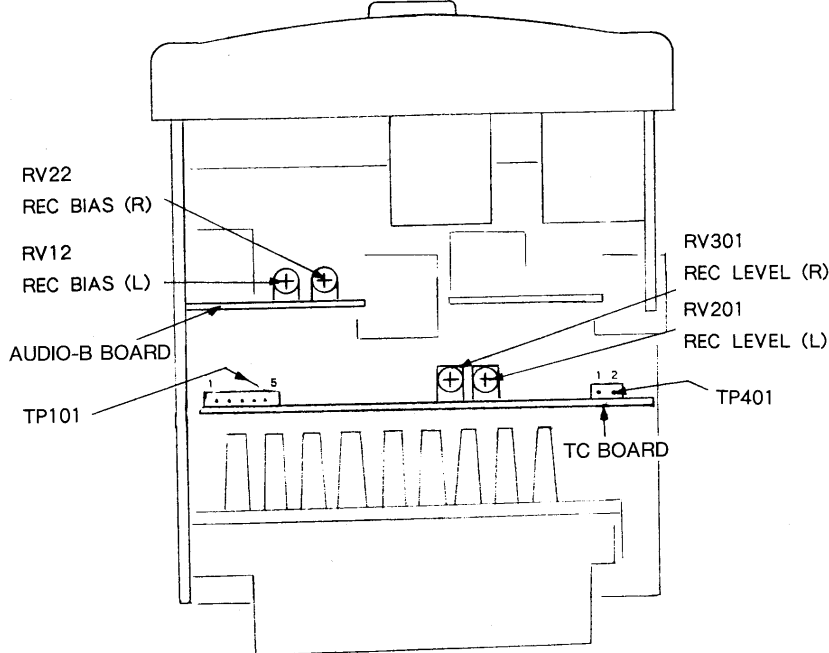
Adjustment Location :

Mechanism deck - rear side -



AUDIO BOARD (AUDIO-A, AUDIO-B) - component side -

TC board - component side -

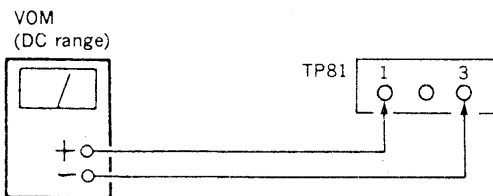
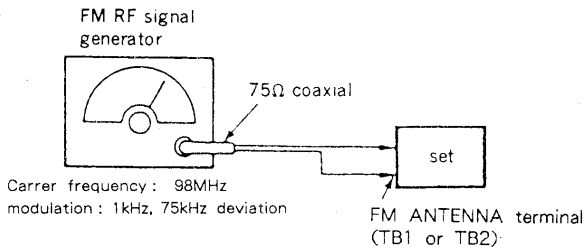


Note : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

TUNER SECTION

FM SECTION ADJUSTMENTS

Setting :



FM Discriminator Alignment (NULL Check)

Band : FM

Procedure :

1. Supply a 1mV (60dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the to 98MHz.
3. Adjust IFT82 for 0V reading on the VOM.

Note : FM tuned indication lighting level adjustment should be made after FM discriminator alignment.

Adjustment Location: main board

FM Tuned Indication Lighting Level Adjustment

Band : FM

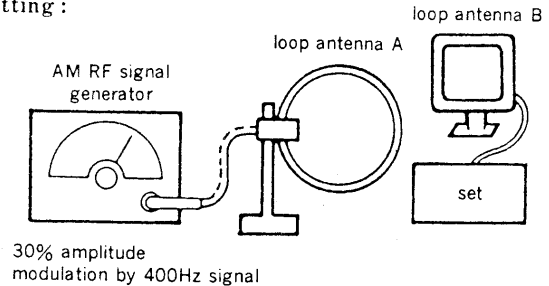
Procedure:

1. Supply a 24 μV (25dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV81 so that the **TUNED** light up.

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by trimmer capacitors.

AM SECTION ADJUSTMENTS

Setting :



MW Tuned Indication Lighting Level Adjustment

Band : MW

Procedure:

1. Set loop antenna A so that the loop antenna, B input level becomes (55dBμ) 0.45mV.
2. Tune the set to 999kHz.
3. Adjust the RV82 so that the **TUNED** light up.

SW OSC Voltage Adjustment

Band : SW

Procedure :

1. Connect the VOM to TP (OSC).
2. Tune the set to 5.95MHz.
3. Adjust T2 for 0.9 to 1.1V reading on the VOM.
4. Tune the set to 17.90MHz.
5. Adjust CT22 for 8.3 to 8.7V reading on the VOM.

SW Tracking Adjustment

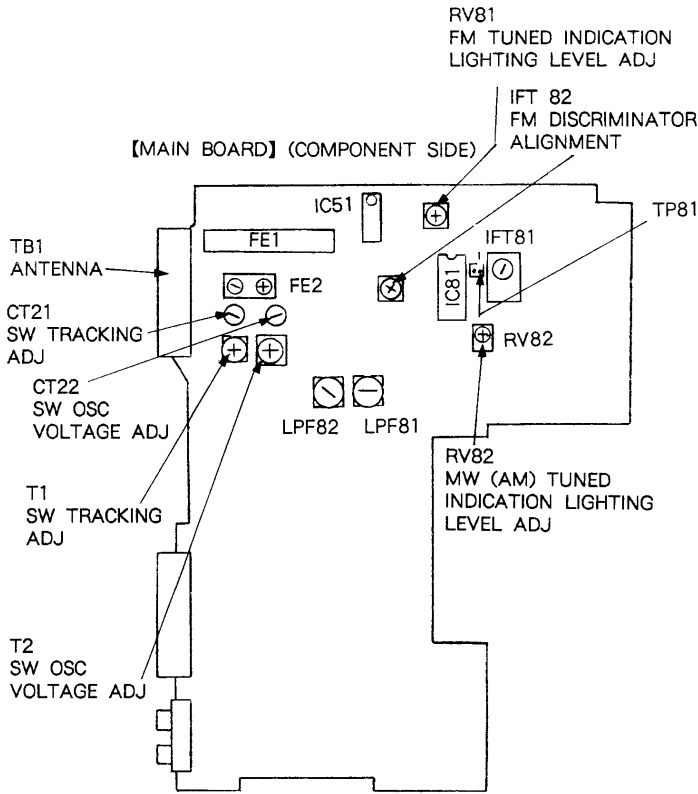
Band : SW

Procedure :

1. Connect the VOM to speaker terminal.
2. Adjust for a maximum reading on VOM.

Signal generator and Set frequency	Adjustment part
7.0MHz	T1
17.0MHz	CT21

Adjustment Location : main board —component side—

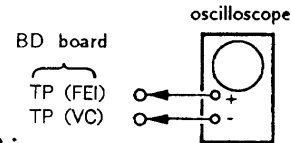


CD SECTION

Note :

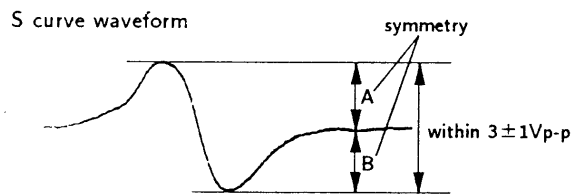
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEI) on BD board.
2. Connect between test point TP (FE) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (acutuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within $3 \pm 1Vp-p$.

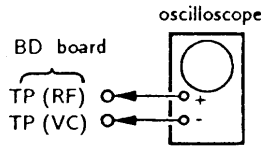


5. After check, remove the lead wire connected in step 2.

Note :

- Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

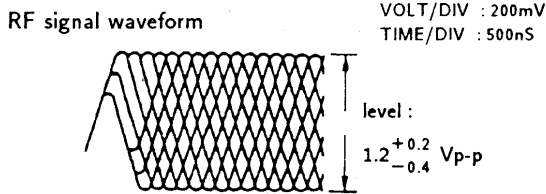


Procedure :

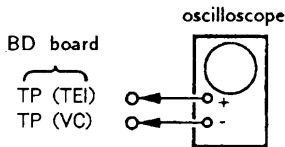
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape “◇” can be clearly distinguished at the center of the waveform.

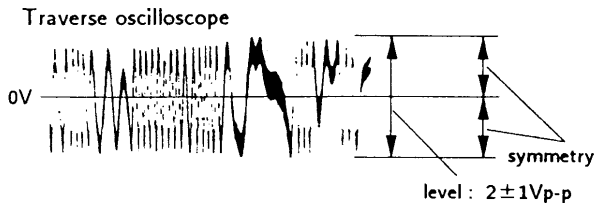


E-F Balance Check



Procedure:

1. Connect test point TP (ADJ) to ground and TP (TEO) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEI) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

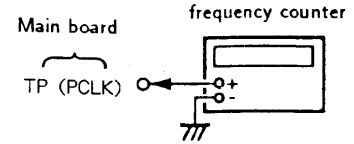


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCLK) with lead wire.



2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

Focus/Tracking Gain

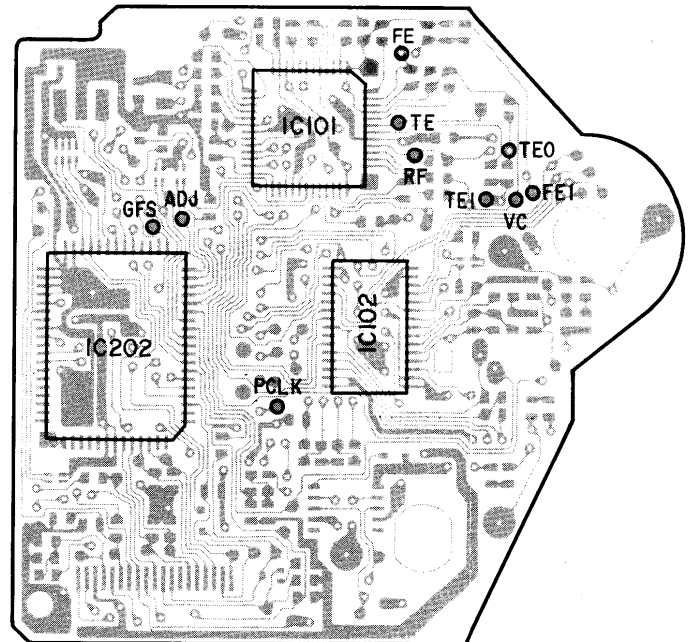
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

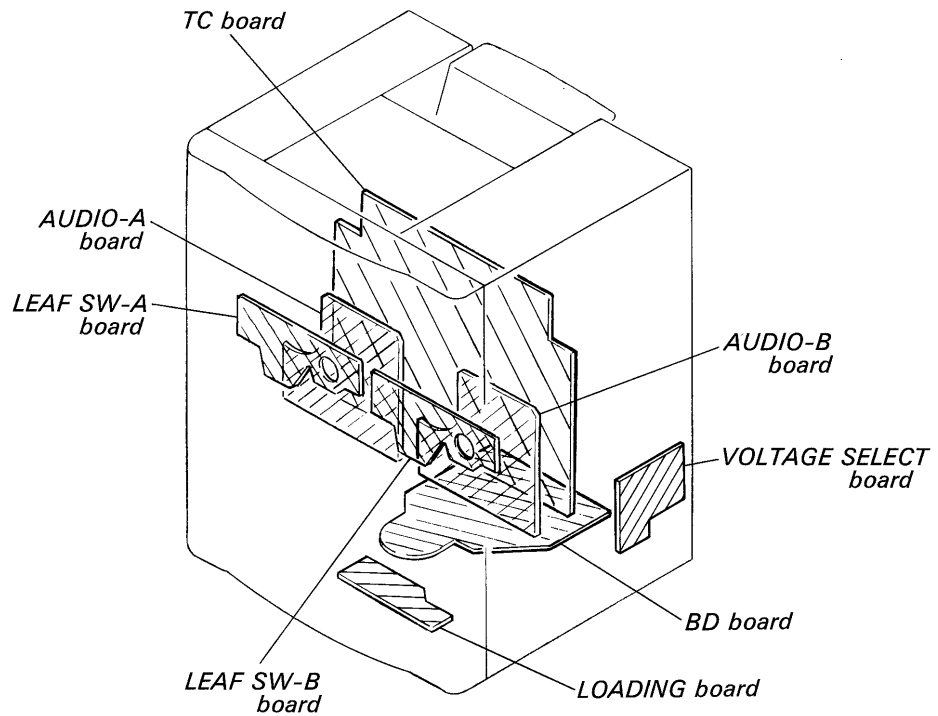
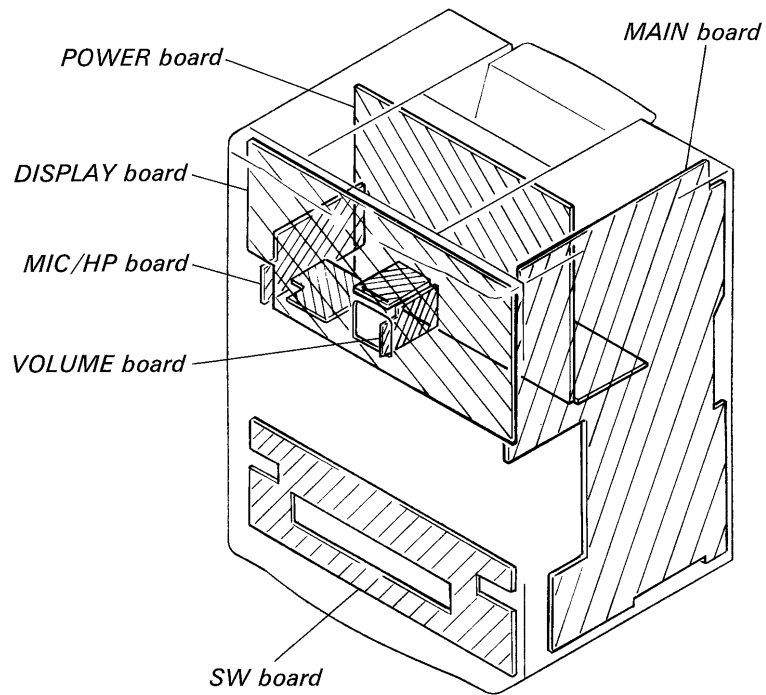
Adjustment Locations :

[BD board]



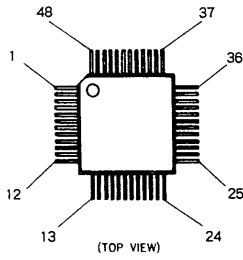
SECTION 7 DIAGRAMS

7-1. CIRCUIT BOARDS LOCATION

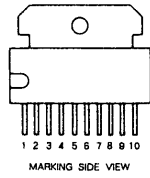


7-2. SEMICONDUCTOR LEAD LAYOUTS

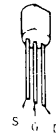
CXA1372AQ



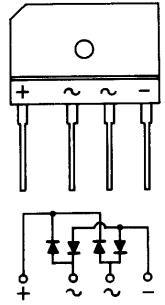
TA7272P



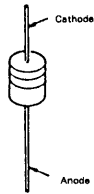
2SK246-GR3



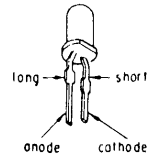
RBV-602-01



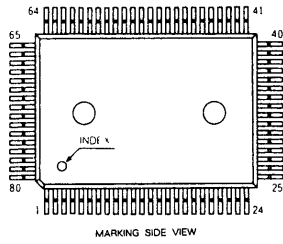
**10E2
1S1585
HZS6A1L
HZS6C3L
UZL-9M2**



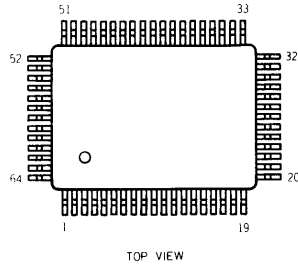
**SML1260S
SML1460E
SML1960A**



CXD2500AQ



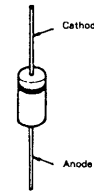
μPD75116GF-F21-3BE



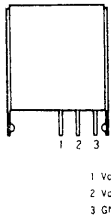
**2SA1175-HFE
DTA124ES**



**1N4148M
UZ36BSB**



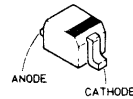
GP1U59XB



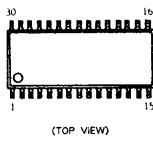
**2SB1094-LK
2SC2603-EF
2SC2724-CD
2SC3622A-LK
2SD2012
DTA114ES
DTA144ES
DTC114ES**



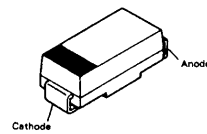
**1SS352
DTZ3.9B**



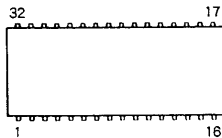
LA6525M



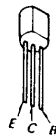
EC10DS2



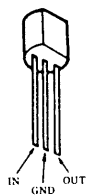
M5218AFP



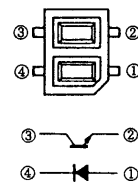
**2SC1841-PAFAEA
2SC3112**



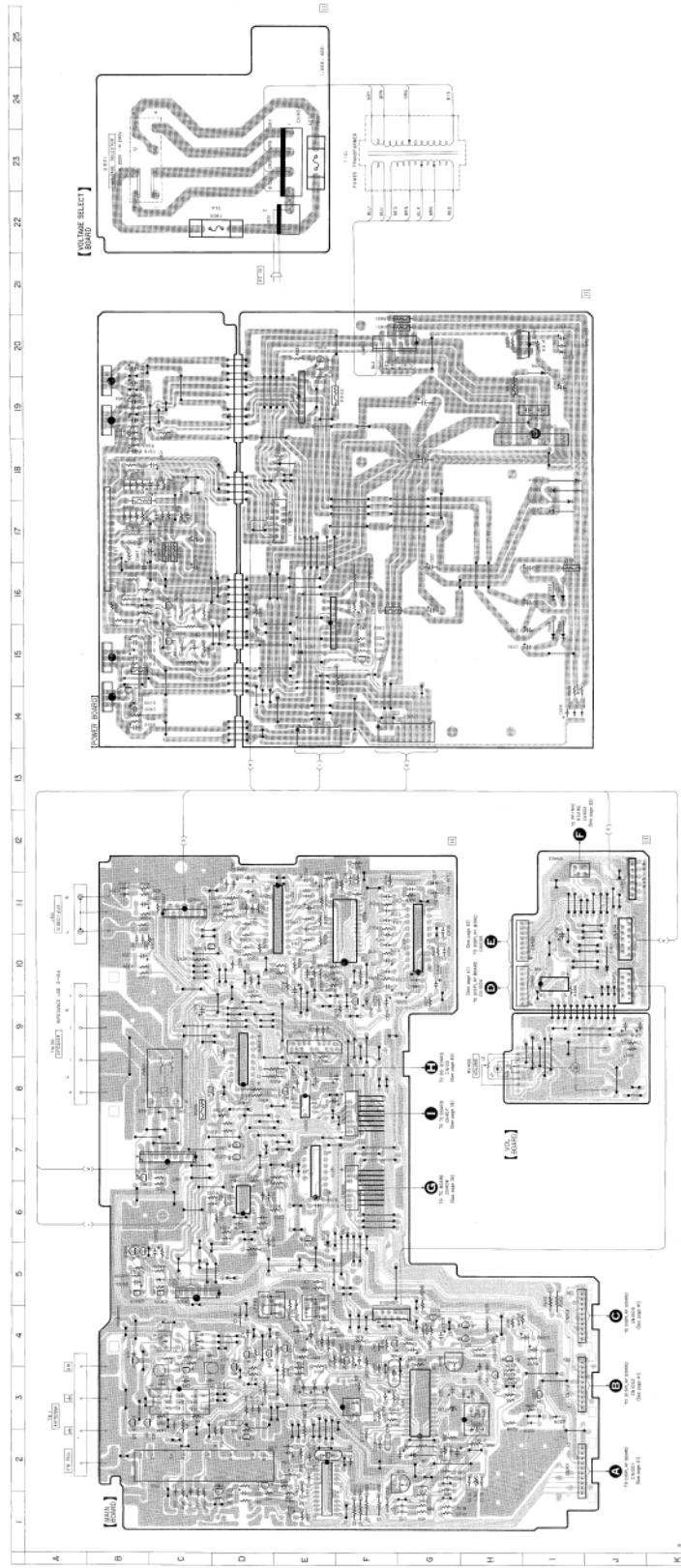
PST572E



NJL5165K-B



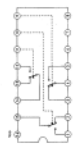
7-3. PRINTED WIRING BOARDS—MAIN SECTION—
See page 19, 20 for Circuit Boards Location and
Semiconductor Lead Layouts.



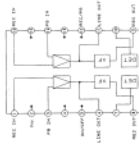
Ref. No.	Location	Ref. No.	Location
D31	C-2	O1	D-2
D32	G-2	O4	B-3
D33	I-3	O5	B-3
D34	I-3	O7	D-4
D35	I-16	O8	D-4
D36	E-15	O9	B-3
D37	I-19	O10	B-4
D38	I-19	O11	B-4
D39	E-8	O12	D-4
D40	C-8	O13	F-4
D41	B-16	O14	F-4
D42	B-16	O15	F-4
D43	I-18	O16	F-9
D44	B-15	O17	H-4
D45	I-20	O18	H-4
D46	G-23	O19	E-8
D47	B-14	O20	H-4
D48	B-14	O21	I-3
D49	E-18	O22	H-4
D50	C-3	O23	C-10
D51	C-3	O24	C-10
D52	J-14	O25	D-7
D53	F-8	O26	D-7
D54	I-17	O27	C-16
D55	I-16	O28	D-7
D56	I-16	O29	C-15
D57	I-16	O30	C-15
D58	I-16	O31	B-19
D59	I-16	O32	B-19
D60	I-16	O33	B-19
D61	I-16	O34	B-19
D62	I-16	O35	B-19
D63	I-16	O36	B-19
D64	I-16	O37	B-19
D65	I-16	O38	B-19
D66	I-16	O39	B-19
D67	I-16	O40	B-19
D68	I-16	O41	B-19
D69	I-16	O42	B-19
D70	I-16	O43	B-19
D71	I-16	O44	B-19
D72	I-16	O45	B-19
D73	I-16	O46	B-19
D74	I-16	O47	B-19
D75	I-16	O48	B-19
D76	I-16	O49	B-19
D77	I-16	O50	B-19
D78	I-16	O51	B-19
D79	I-16	O52	B-19
D80	I-16	O53	B-19
D81	I-16	O54	B-19
D82	I-16	O55	B-19
D83	I-16	O56	B-19
D84	I-16	O57	B-19
D85	I-16	O58	B-19
D86	I-16	O59	B-19
D87	I-16	O60	B-19
D88	I-16	O61	B-19
D89	I-16	O62	B-19
D90	I-16	O63	B-19
D91	I-16	O64	B-19
D92	I-16	O65	B-19
D93	I-16	O66	B-19
D94	I-16	O67	B-19
D95	I-16	O68	B-19
D96	I-16	O69	B-19
D97	I-16	O70	B-19
D98	I-16	O71	B-19
D99	I-16	O72	B-19
D100	I-16	O73	B-19
D101	I-16	O74	B-19
D102	I-16	O75	B-19
D103	I-16	O76	B-19
D104	I-16	O77	B-19
D105	I-16	O78	B-19
D106	I-16	O79	B-19
D107	I-16	O80	B-19
D108	I-16	O81	B-19
D109	I-16	O82	B-19
D110	I-16	O83	B-19
D111	I-16	O84	B-19
D112	I-16	O85	B-19
D113	I-16	O86	B-19
D114	I-16	O87	B-19
D115	I-16	O88	B-19
D116	I-16	O89	B-19
D117	I-16	O90	B-19
D118	I-16	O91	B-19
D119	I-16	O92	B-19
D120	I-16	O93	B-19
D121	I-16	O94	B-19
D122	I-16	O95	B-19
D123	I-16	O96	B-19
D124	I-16	O97	B-19
D125	I-16	O98	B-19
D126	I-16	O99	B-19
D127	I-16	O100	B-19
D128	I-16	O101	B-19
D129	I-16	O102	B-19
D130	I-16	O103	B-19
D131	I-16	O104	B-19
D132	I-16	O105	B-19
D133	I-16	O106	B-19
D134	I-16	O107	B-19
D135	I-16	O108	B-19
D136	I-16	O109	B-19
D137	I-16	O110	B-19
D138	I-16	O111	B-19
D139	I-16	O112	B-19
D140	I-16	O113	B-19
D141	I-16	O114	B-19
D142	I-16	O115	B-19
D143	I-16	O116	B-19
D144	I-16	O117	B-19
D145	I-16	O118	B-19
D146	I-16	O119	B-19
D147	I-16	O120	B-19
D148	I-16	O121	B-19
D149	I-16	O122	B-19
D150	I-16	O123	B-19
D151	I-16	O124	B-19
D152	I-16	O125	B-19
D153	I-16	O126	B-19
D154	I-16	O127	B-19
D155	I-16	O128	B-19
D156	I-16	O129	B-19
D157	I-16	O130	B-19
D158	I-16	O131	B-19
D159	I-16	O132	B-19
D160	I-16	O133	B-19
D161	I-16	O134	B-19
D162	I-16	O135	B-19
D163	I-16	O136	B-19
D164	I-16	O137	B-19
D165	I-16	O138	B-19
D166	I-16	O139	B-19
D167	I-16	O140	B-19
D168	I-16	O141	B-19
D169	I-16	O142	B-19
D170	I-16	O143	B-19
D171	I-16	O144	B-19
D172	I-16	O145	B-19
D173	I-16	O146	B-19
D174	I-16	O147	B-19
D175	I-16	O148	B-19
D176	I-16	O149	B-19
D177	I-16	O150	B-19
D178	I-16	O151	B-19
D179	I-16	O152	B-19
D180	I-16	O153	B-19
D181	I-16	O154	B-19
D182	I-16	O155	B-19
D183	I-16	O156	B-19
D184	I-16	O157	B-19
D185	I-16	O158	B-19
D186	I-16	O159	B-19
D187	I-16	O160	B-19
D188	I-16	O161	B-19
D189	I-16	O162	B-19
D190	I-16	O163	B-19
D191	I-16	O164	B-19
D192	I-16	O165	B-19
D193	I-16	O166	B-19
D194	I-16	O167	B-19
D195	I-16	O168	B-19
D196	I-16	O169	B-19
D197	I-16	O170	B-19
D198	I-16	O171	B-19
D199	I-16	O172	B-19
D200	I-16	O173	B-19
D201	I-16	O174	B-19
D202	I-16	O175	B-19
D203	I-16	O176	B-19
D204	I-16	O177	B-19
D205	I-16	O178	B-19
D206	I-16	O179	B-19
D207	I-16	O180	B-19
D208	I-16	O181	B-19
D209	I-16	O182	B-19
D210	I-16	O183	B-19
D211	I-16	O184	B-19
D212	I-16	O185	B-19
D213	I-16	O186	B-19
D214	I-16	O187	B-19
D215	I-16	O188	B-19
D216	I-16	O189	B-19
D217	I-16	O190	B-19
D218	I-16	O191	B-19
D219	I-16	O192	B-19
D220	I-16	O193	B-19
D221	I-16	O194	B-19
D222	I-16	O195	B-19
D223	I-16	O196	B-19
D224	I-16	O197	B-19
D225	I-16	O198	B-19
D226	I-16	O199	B-19
D227	I-16	O200	B-19
D228	I-16	O201	B-19
D229	I-16	O202	B-19
D230	I-16	O203	B-19
D231	I-16	O204	B-19
D232	I-16	O205	B-19
D233	I-16	O206	B-19
D234	I-16	O207	B-19
D235	I-16	O208	B-19
D236	I-16	O209	B-19
D237	I-16	O210	B-19
D238	I-16	O211	B-19
D239	I-16	O212	B-19
D240	I-16	O213	B-19
D241	I-16	O214	B-19
D242	I-16	O215	B-19
D243	I-16	O216	B-19
D244	I-16	O217	B-19
D245	I-16	O218	B-19
D246	I-16	O219	B-19
D247	I-16	O220	B-19
D248	I-16	O221	B-19
D249	I-16	O222	B-19
D250	I-16	O223	B-19
D251	I-16	O224	B-19
D252	I-16	O225	B-19
D253	I-16	O226	B-19
D254	I-16	O227	B-19
D255	I-16	O228	B-19
D256	I-16	O229	B-19
D257	I-16	O230	B-19
D258	I-16	O231	B-19
D259	I-16	O232	B-19
D260	I-16	O233	B-19
D261	I-16	O234	B-19
D262	I-16	O235	B-19
D263	I-16	O236	B-19
D264	I-16	O237	B-19
D265	I-16	O238	B-19
D266	I-16	O239	B-19
D267	I-16	O240	B-19
D268	I-16	O241	B-19
D269	I-16	O242	B-19
D270	I-16	O243	B-19
D271	I-16	O244	B-19
D272	I-16	O245	B-19
D273	I-16	O246	B-19
D274	I-16	O247	B-19
D275	I-16	O248	B-19
D276	I-16	O249	B-19
D277	I-16	O250	B-19
D278	I-16	O251	B-19
D279	I-16	O252	B-19
D280	I-16	O253	B-19
D281	I-16	O254	B-19
D282	I-16	O255	B-19
D283	I-16	O256	B-19
D284	I-16	O257	B-19
D285	I-16	O258	B-19
D286	I-16	O259	B-19
D287	I-16	O260	B-19
D288	I-16	O261	B-19
D289	I-16	O262	B-19
D290	I-16	O263	B-19
D291	I-16	O264	B-19
D292	I-16	O265	B-19
D293	I-16	O266	B-19
D294	I-16	O267	B-19
D295	I-16	O268	B-19
D296	I-16	O269	B-19
D297	I-16	O270	B-19
D298	I-16	O271	B-19
D299	I-16	O272	B-19
D300	I-16	O273	B-19
D301	I-16	O274	B-19
D302	I-16	O275	B-19
D303	I-16	O276	B-19
D304	I-16	O277	B-19
D305	I-16	O278	B-19
D306	I-16	O279	B-19
D307	I-16	O280	B-19
D308	I-16	O281	B-19
D309	I-16	O282	B-19
D310	I-16	O283	B-19
D311	I-16	O284	B-19
D312	I-16	O285	B-19
D313	I-16	O286	B-19
D314	I-16	O287	B-19
D315	I-16	O288	B-19
D316	I-16	O289	B-19
D317	I-16	O290	B-19
D318	I-16	O291	B-19
D319	I-16	O292	B-19
D320	I-16	O293	B-19
D321	I-16	O294	B-19
D322	I-16	O295	B-19
D323	I-16	O296	B-19
D324	I-16	O297	B-19
D325	I-16	O298	B-19
D326	I-16	O299	B-19
D327	I-16	O300	B-19
D328	I-16	O301	B-19
D329	I-16	O302	B-19
D330	I-16	O303	B-19
D331	I-16	O304	B-19
D332	I-16	O305	B-19
D333	I-16	O306	B-19
D334	I-16	O307	B-19
D335	I-16	O308	B-19
D336	I-16	O309	B-19
D337	I-16	O310	B-19
D338	I-16	O311	B-19
D339	I-16	O312	B-19
D340	I-16	O313	B-19
D341	I-16	O314	B-19
D342	I-16	O315	B-19
D343	I-16	O316	B-19
D344	I-16	O317	B-19
D345	I-16	O318	B-19
D346	I-16	O319	B-19
D347	I-16	O320	B-19
D348	I-16	O321	B-19
D349	I-16	O322	B-19
D350	I-16	O323	B-19
D351	I-16	O324	B-19
D352	I-16	O325	B-19
D353	I-16	O326	B-19
D354	I-16	O327	B-19
D355	I-16	O328	B-19
D356	I-16	O329	B-19
D357	I-16	O330	B-19
D358	I-16	O331	B-19
D359	I-16	O332	B-19
D360	I-16		

IC Block Diagrams

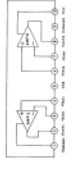
-IC01 HDK08BP



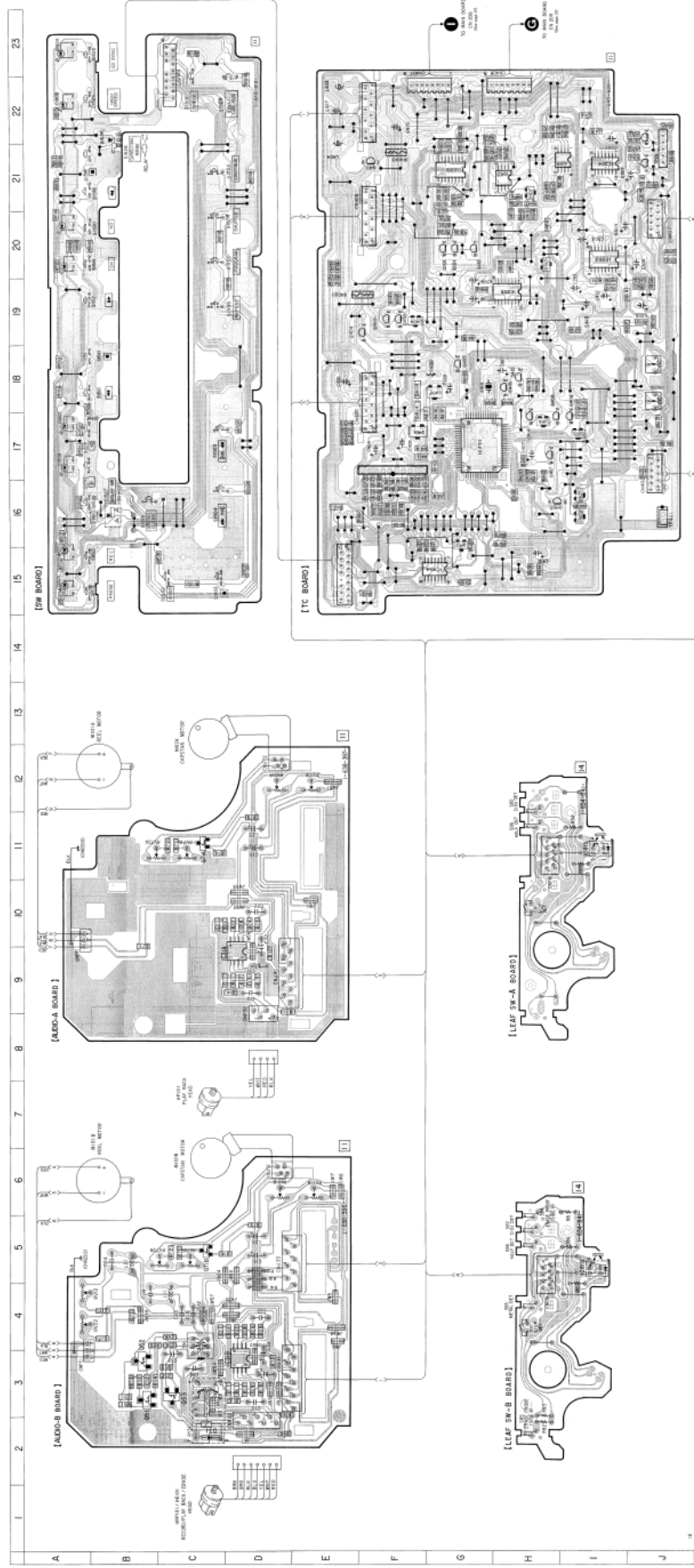
-IC02 DA110TM



-IC03 TA172P



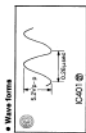
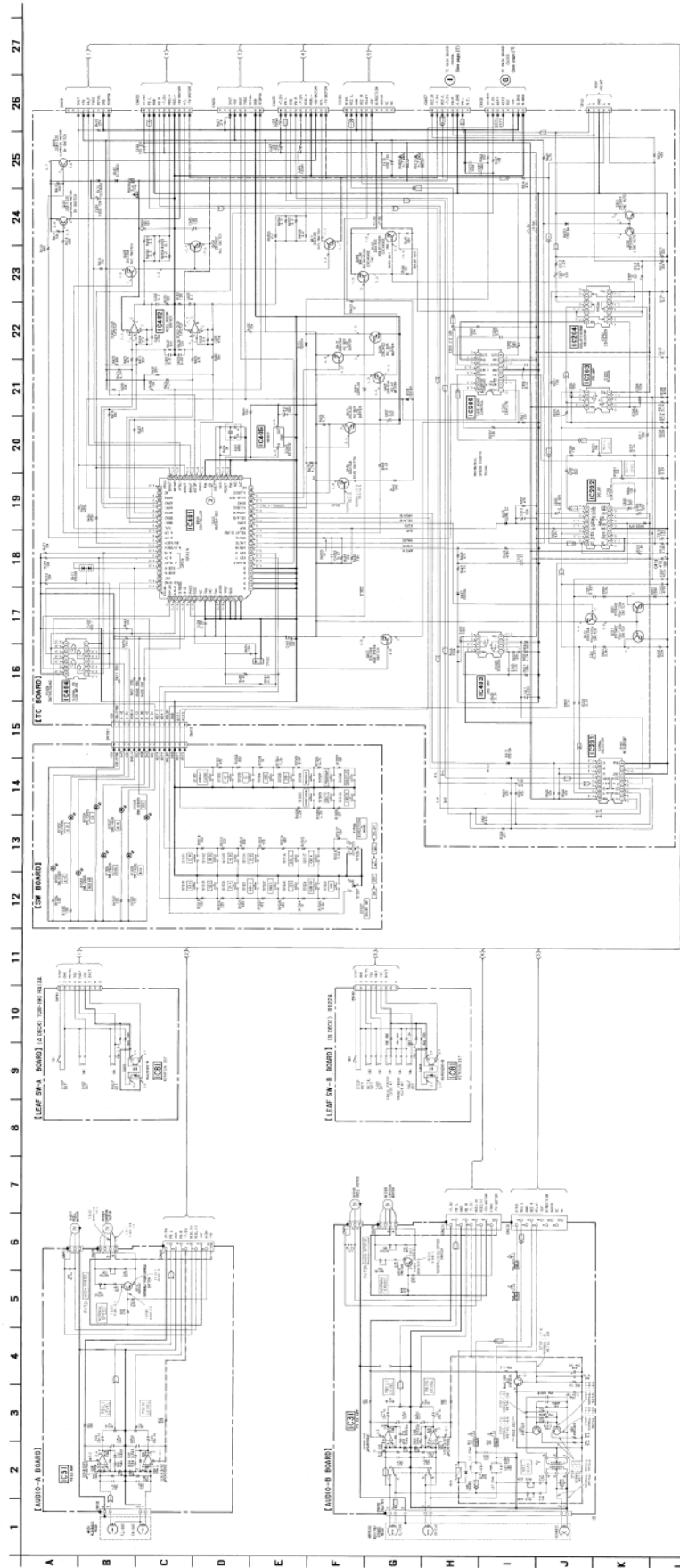
7-4. PRINTED WIRING BOARDS—TC Section—
- See page 19, 20 for Circuit Boards Location and Semiconductor Lead Layouts.



Ref. No.	Location	Ref. No.	Location
D11	C-2	G01	B-3
DH3	F-18	G02	B-3
DH7	H-21	G1A	C-11
DH9	H-20	G1B	C-24
DH5	H-11	G022	J-21
D182	A-20	G03	J-22
D183	A-22	G01	F-17
D184	A-15	G02	F-18
D185	A-15	G03	G-18
D187	A-17	G04	F-19
D188	A-15	G05	F-19
D189	A-15	G06	F-19
DH81	I-18	G07	H-11
IC31A	D-9	G09	F-19
IC31B	D-3	G10	F-19
IC31C	I-5	G14	H-11
IC31D	I-5	G15	I-18
IC31E	I-21		
IC31F	I-21		
IC31G	H-19		
IC401	G-17		
IC402	H-21		
IC403	H-21		
IC404	G-15		
IC415	H-18		

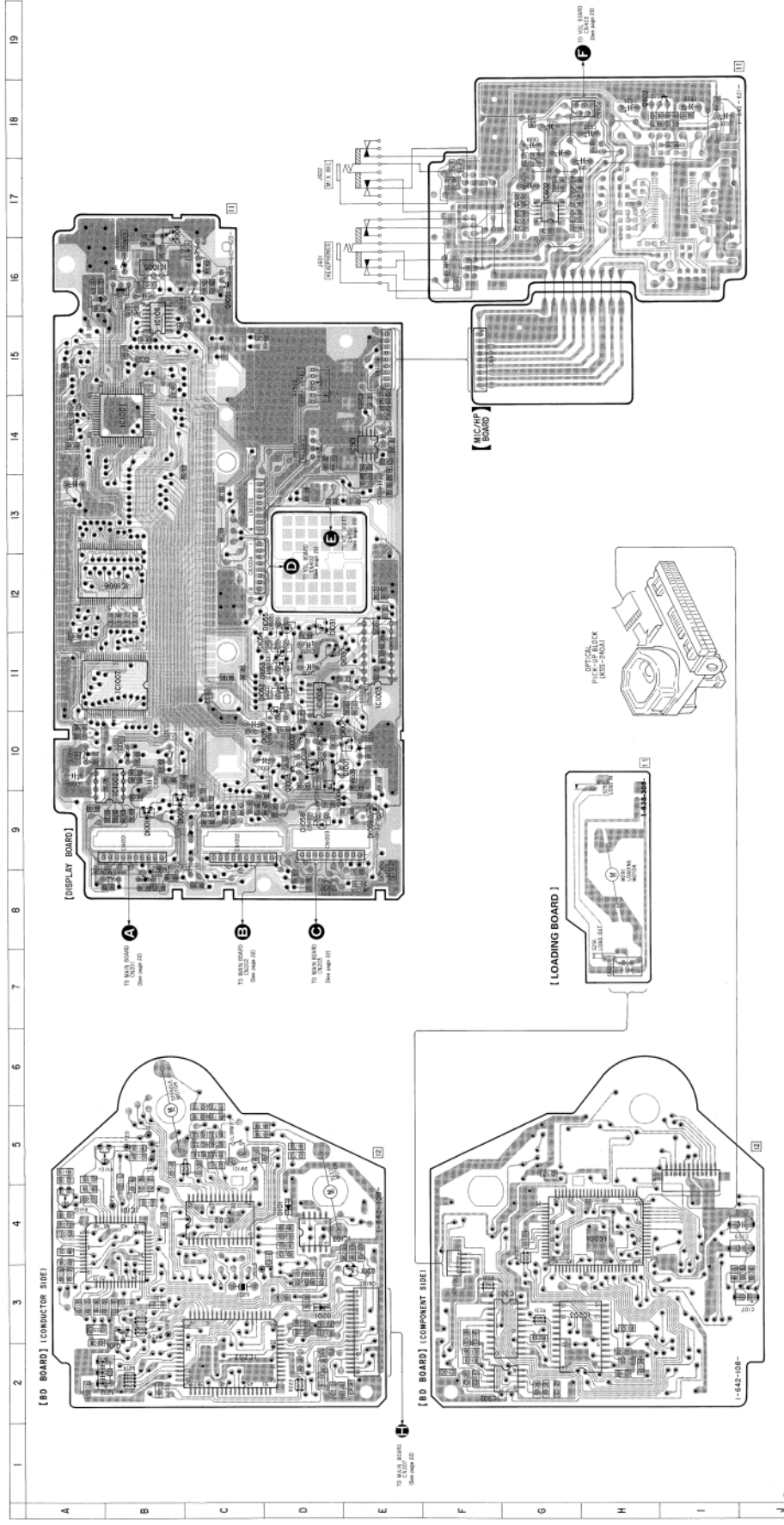
Notes:
 1. Data extracted from the component file.
 2. Data extracted from the conductor file.
 3. Indicates the reference designator.

7-6. SCHEMATIC DIAGRAMS—TC Section—



- Note:**
- All capacitors are μF unless otherwise noted. μF and μF are not indicated except for electrolytics and trimmers.
 - All resistors are in Ω and $k\Omega$ or $M\Omega$ unless otherwise noted.
 - \square Internal component.
 - \square I. fusible resistor.
- Note:** The components identified by mark \square or \square are standard components.
- \square Resistor only with letter suffix (e.g., 100R).
 - \square Resistor (B = 1/2 W).
 - \square Resistor (C = 1/4 W).
 - \square Resistor (D = 1/8 W).
 - \square Resistor (E = 1/16 W).
 - \square Resistor (F = 1/32 W).
 - \square Resistor (G = 1/64 W).
 - \square Resistor (H = 1/128 W).
 - \square Resistor (I = 1/256 W).
 - \square Resistor (J = 1/512 W).
 - \square Resistor (K = 1/1024 W).
 - \square Resistor (L = 1/2048 W).
 - \square Resistor (M = 1/4096 W).
 - \square Resistor (N = 1/8192 W).
 - \square Resistor (O = 1/16384 W).
 - \square Resistor (P = 1/32768 W).
 - \square Resistor (Q = 1/65536 W).
 - \square Resistor (R = 1/131072 W).
 - \square Resistor (S = 1/262144 W).
 - \square Resistor (T = 1/524288 W).
 - \square Resistor (U = 1/1048576 W).
 - \square Resistor (V = 1/2097152 W).
 - \square Resistor (W = 1/4194304 W).
 - \square Resistor (X = 1/8388608 W).
 - \square Resistor (Y = 1/16777216 W).
 - \square Resistor (Z = 1/33554432 W).

7-7. PRINTED WIRING BOARDS—DISPLAY/CD Section— See page 19, 20 for Circuit Boards Location and Semiconduction Lead Layouts.



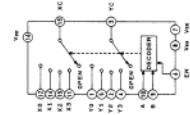
● Semiconduction Location

Ref. No.	Location
D201	D-3
B-9	B-9
D1001	D-10
D1002	B-17
D1004	B-9
D1005	E-10
D1007	D-11
D1030	D-11
D1031	D-12
D1051	D-10
D1052	D-11
D1053	D-11
D1054	D-11
D1055	D-12
D1058	D-9
D1059	E-9
IC101	B-4
IC102	C-4
IC103	D-4
IC106	B-15
IC201	H-4
IC202	C-2
IC303	F-2
IC305	F-2
IC501	E-14
IC502	G-17
IC1001	B-14
IC1002	B-10
IC1003	E-11
IC1004	D-11
IC1005	B-16
IC1006	B-12
IC1007	B-11
Q101	B-2
Q201	G-3
CR01	D-3
CR02	I-18
O1001	E-10
O1002	D-10
O1003	D-10
O1004	D-10
O1051	C-16

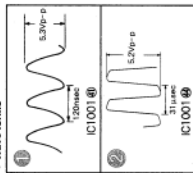
- Note:
- : parts extracted from the component side.
 - : parts extracted from the conductor side.
 - : parts mounted on the conductor side.
 - : parts mounted on the component side.
 - ◆ : indicates side identified with part number.
 - : Through hole.
 - : Pattern on the side which is seen.
 - : Pattern of the rear side.

7-8. SCHEMATIC DIAGRAMS - DISPLAY SECTION-

• IC Block Diagrams
-IC1004 CD4052BCM



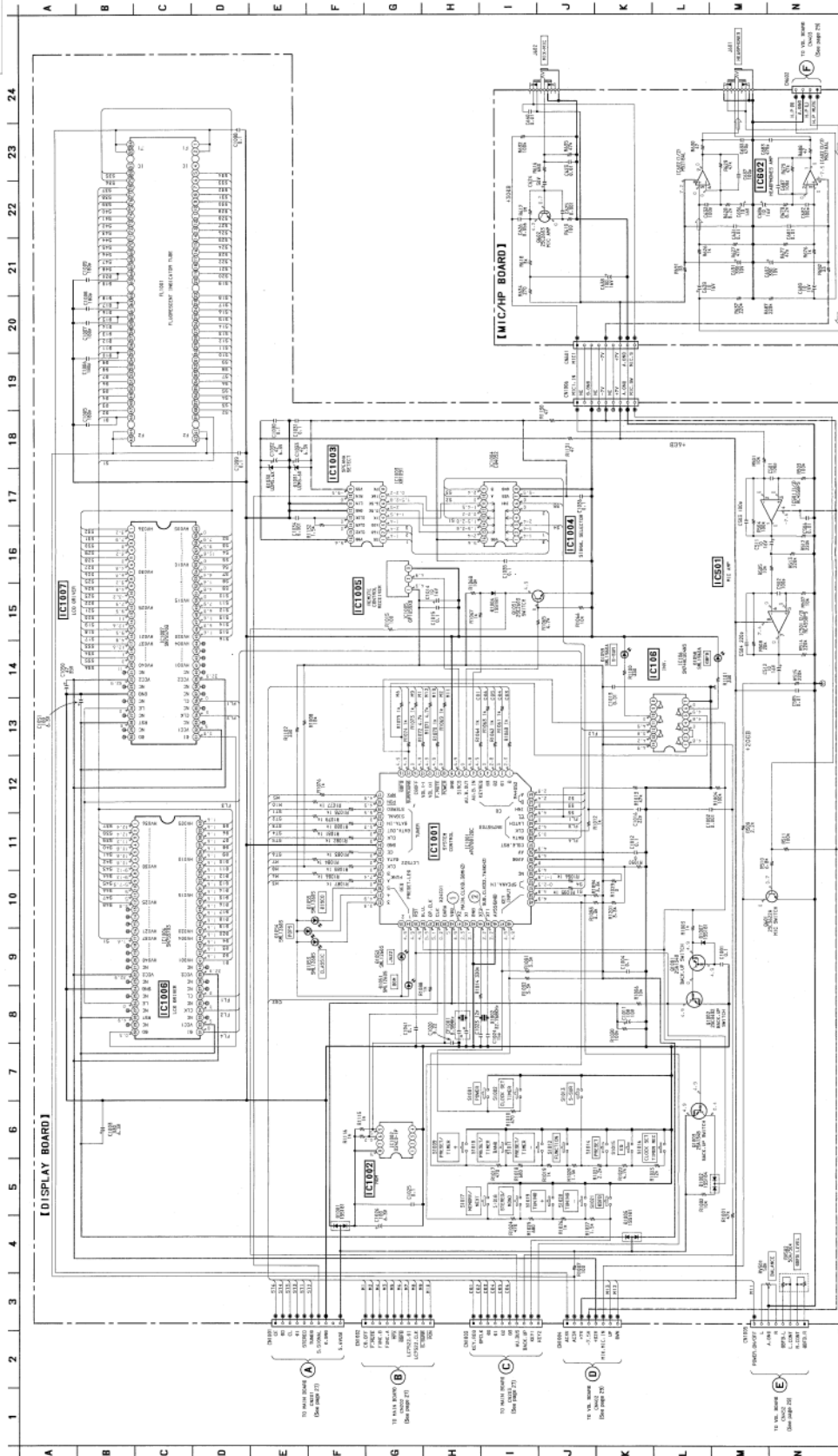
• Wave forms



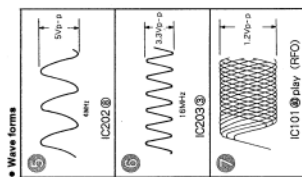
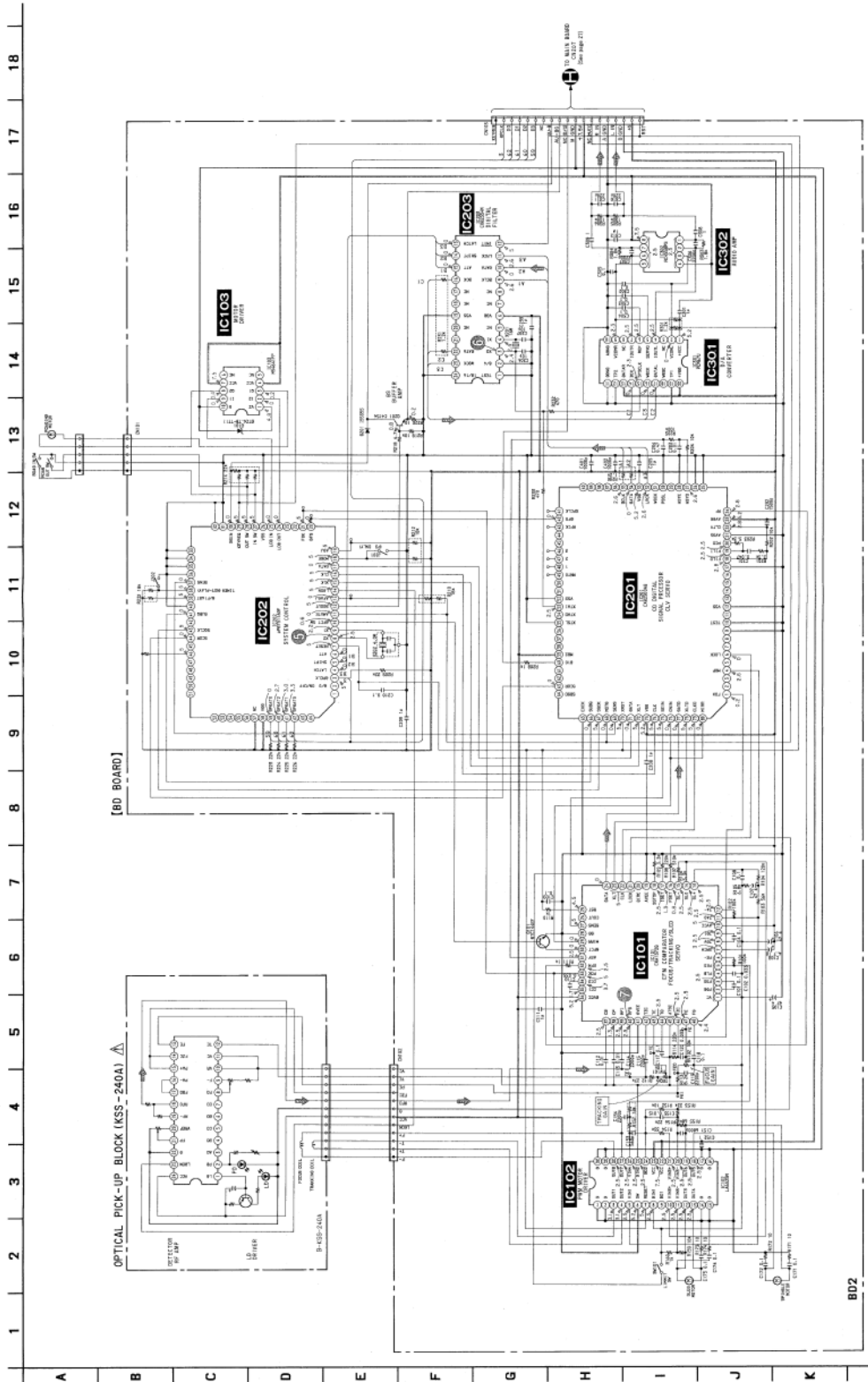
- Note:**
- All capacitors are in μF unless otherwise noted. μP , μF , μM , μH , μS , μV , μA , and μm .
 - All resistors are in Ω and $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ or less unless otherwise specified.
 - \square - fusible component.

Notes: The components identified by mark Δ or \square or \square line with part number. Replace only with part number specified.

- \square - Line
- \square - Line
- \square - adjustment for repair.
- Voltages are taken with a VOM (input impedance $10\text{M}\Omega$).
- Voltage variations may be noted due to normal production tolerances.
- Voltage variations with a specification.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.



7-9. SCHEMATIC DIAGRAMS -- CD Section --

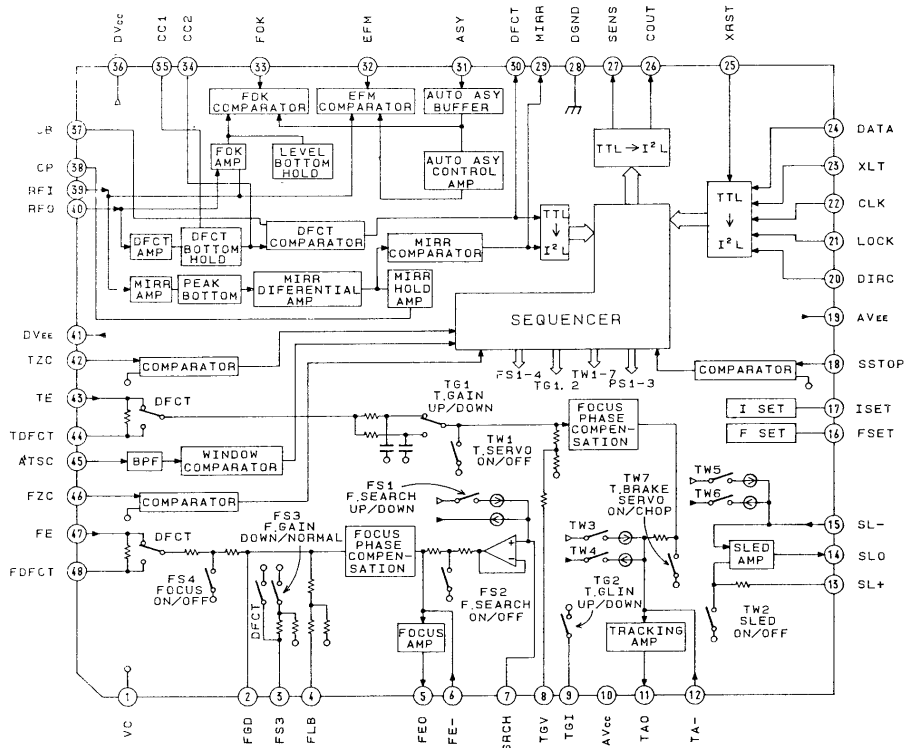


- Note:**
- All capacitors are in μF unless otherwise noted. μF , μM , μF and tantalum.
 - All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 - \square : optional component.
 - \square : fusible resistor.

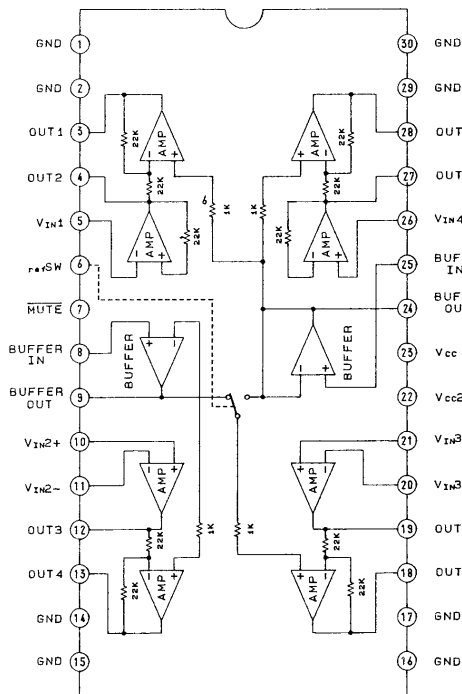
- Note:** The components identified by mark Δ or ∇ or \square are:
- \square : B+ Line
 - \square : B- Line
 - \square : adjustment for repair.
 - Voltages are taken with a VOM (input impedance $10\text{M}\Omega$).
 - Voltage variations may be noted due to normal production tolerances.
 - Waveforms are taken with an oscilloscope.
 - Waveform numbers may be noted due to normal production tolerances.
 - Circled numbers refer to waveforms.
 - Signal path.

● IC Block Diagrams

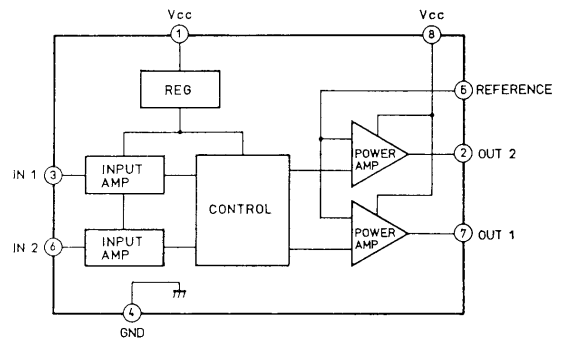
· IC101 CXA1372AQ



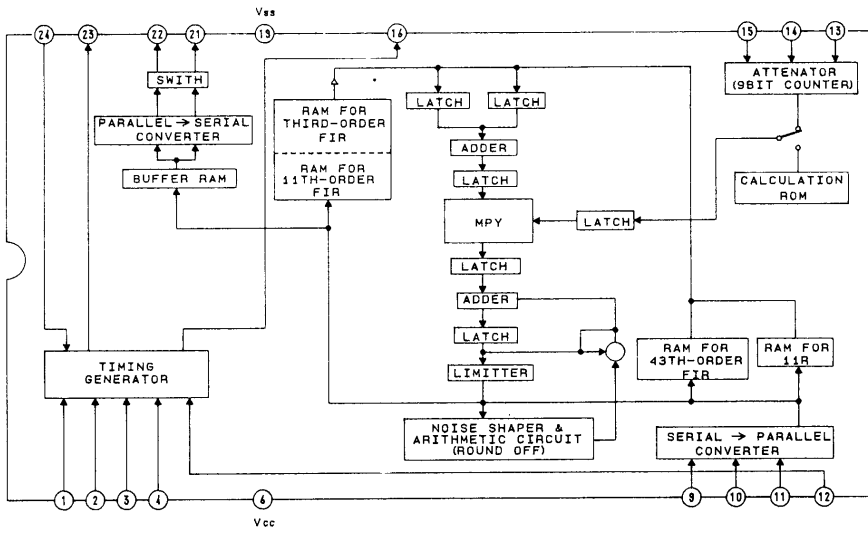
· IC102 LA6525M



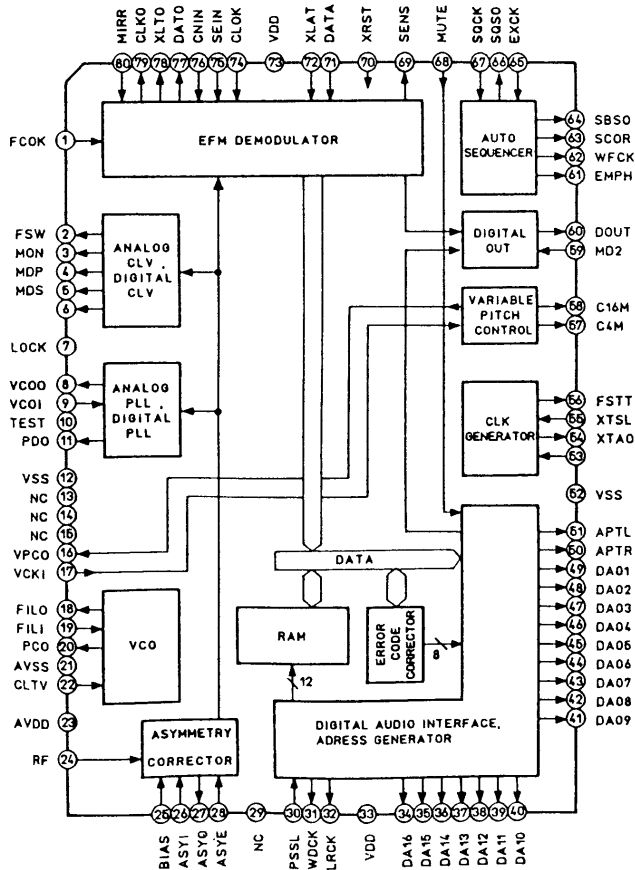
· IC103 M54641FP



• IC203 CXD2554M



• IC201 CXD2500AQ



SECTION 8 EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE(WHITE)...(RED)
 ↑ ↑
 Parts color Cabinet's color

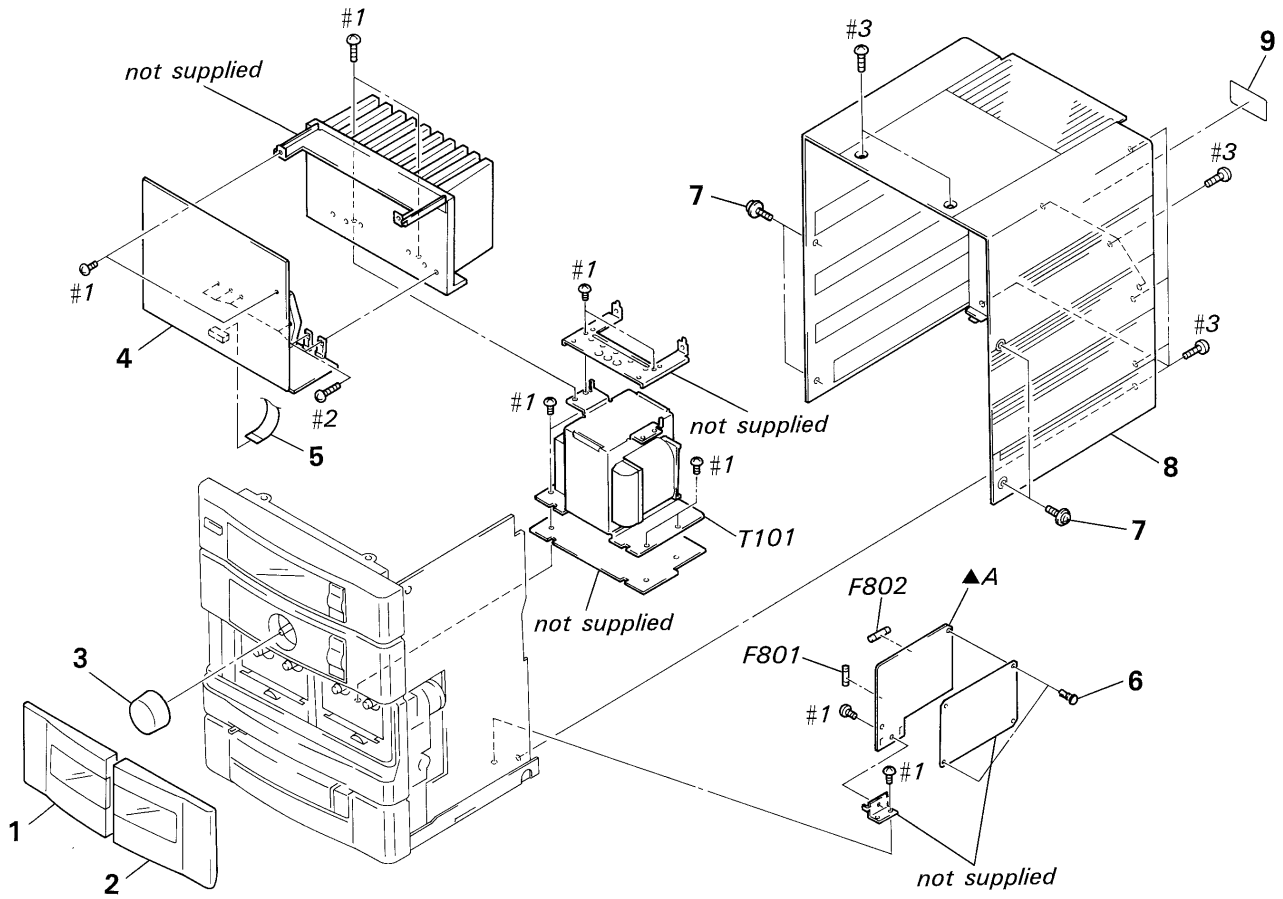
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

JE : Tourist model

8-1. CASE, POWER SECTION

▲A : VOLTAGE SELECT board (supplied with 113)

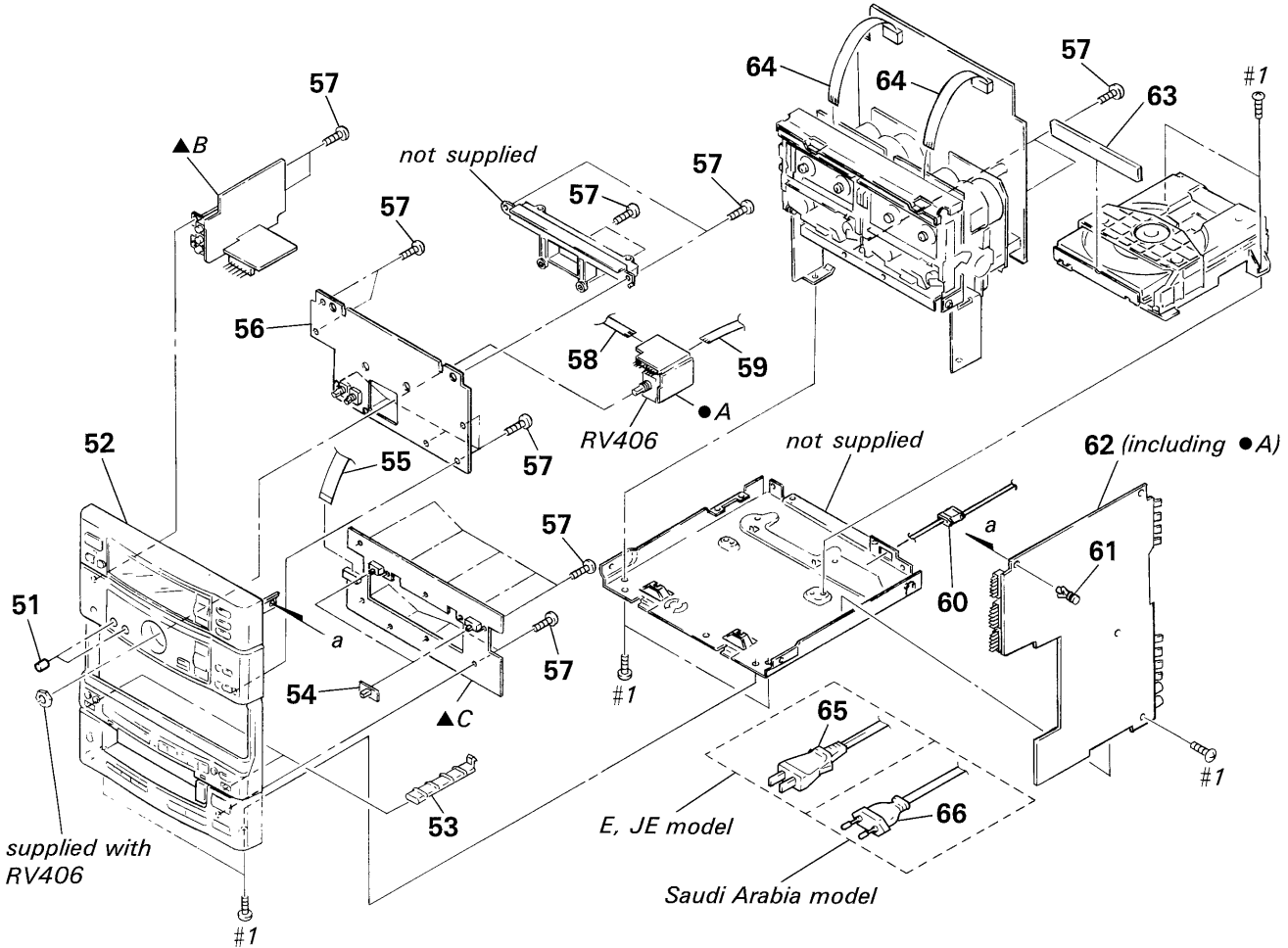


Ref. No.	Part No.	Description	Remark
1	X-4942-643-1	LID (A) ASSY, CASSETTE	
2	X-4942-644-1	LID (B) ASSY, CASSETTE	
3	X-4942-657-1	KNOB (VOLUME) ASSY	
* 4	A-4356-378-A	POWER BOARD, COMPLETE	
5	1-690-997-11	WIRE, FLAT TYPE (11 CORE)	
6	3-531-576-11	RIVET, NYLON	

Ref. No.	Part No.	Description	Remark
7	3-704-366-01	SCREW (CASE) (M3X8)	
* 8	4-953-983-01	CASE	
* 9	4-941-548-01	LABEL, CLASS 1	
▲F801	1-532-203-00	FUSE, TIME LAG (T2A, 250V)	
▲F802	1-532-350-00	FUSE, TIME LAG (T4A, 250V)	
▲T101	1-423-339-11	TRANSFORMER, POWER	

8-2. FRONT PANEL SECTION

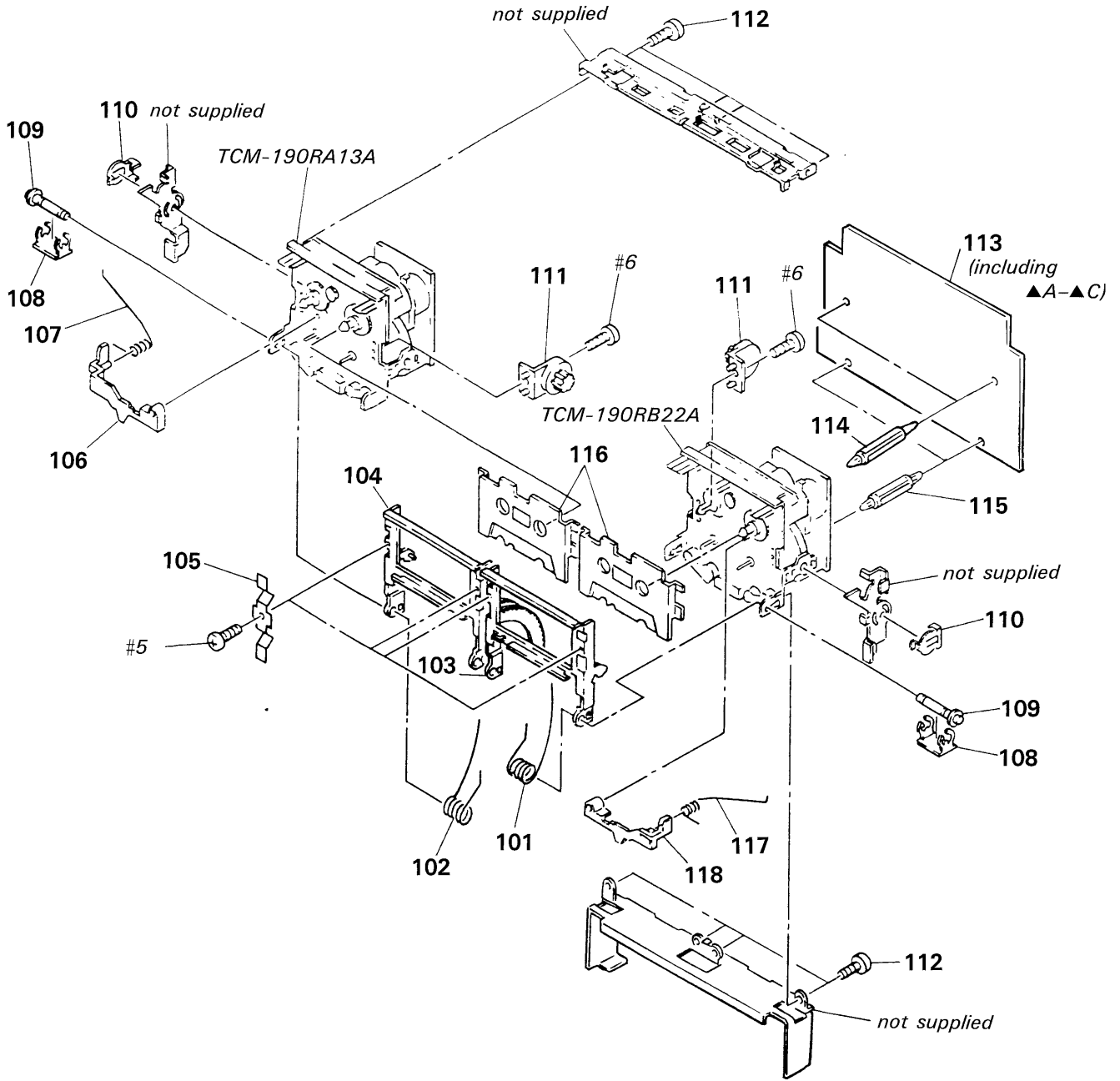
- ▲B : MIC/HP board (supplied with 113)
- ▲C : SW board (supplied with 113)
- A : VOLUME board (supplied with 62)



The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-952-011-11	KNOB (DBFB/BALANCE)		* 60	3-703-244-00	BUSHING (2104), CORD (Saudi Arabia)	
52	X-4942-868-1	PANEL ASSY, FRONT		* 60	3-703-571-11	BUSHING (S) (4516), CORD (E, JE)	
53	4-951-982-01	BUTTON (TC-E)		61	4-812-134-00	RIVET, NYLON 3.5	
54	4-951-985-01	KNOB (SLIDE)		* 62	A-4343-847-A	MAIN BOARD, COMPLETE	
55	1-690-854-31	WIRE, FLAT TYPE (16 CORE)		63	4-951-984-01	PANEL (LOADING)	
* 56	A-4356-384-A	DISPLAY BOARD, COMPLETE		64	1-690-588-31	WIRE, FLAT TYPE (9 CORE)	
57	4-951-620-01	SCREW (2.6X8), +BVTP		▲65	1-574-902-11	CORD, POWER (E, JE)	
58	1-690-996-11	WIRE, FLAT TYPE (4 CORE)		▲66	1-574-805-11	CORD, POWER (Saudi Arabia)	
* 59	1-590-240-11	WIRE, FLAT TYPE (9 CORE)		RV406	1-241-998-11	RES, VAR, CARBON 100K/100K (VOLUME)	

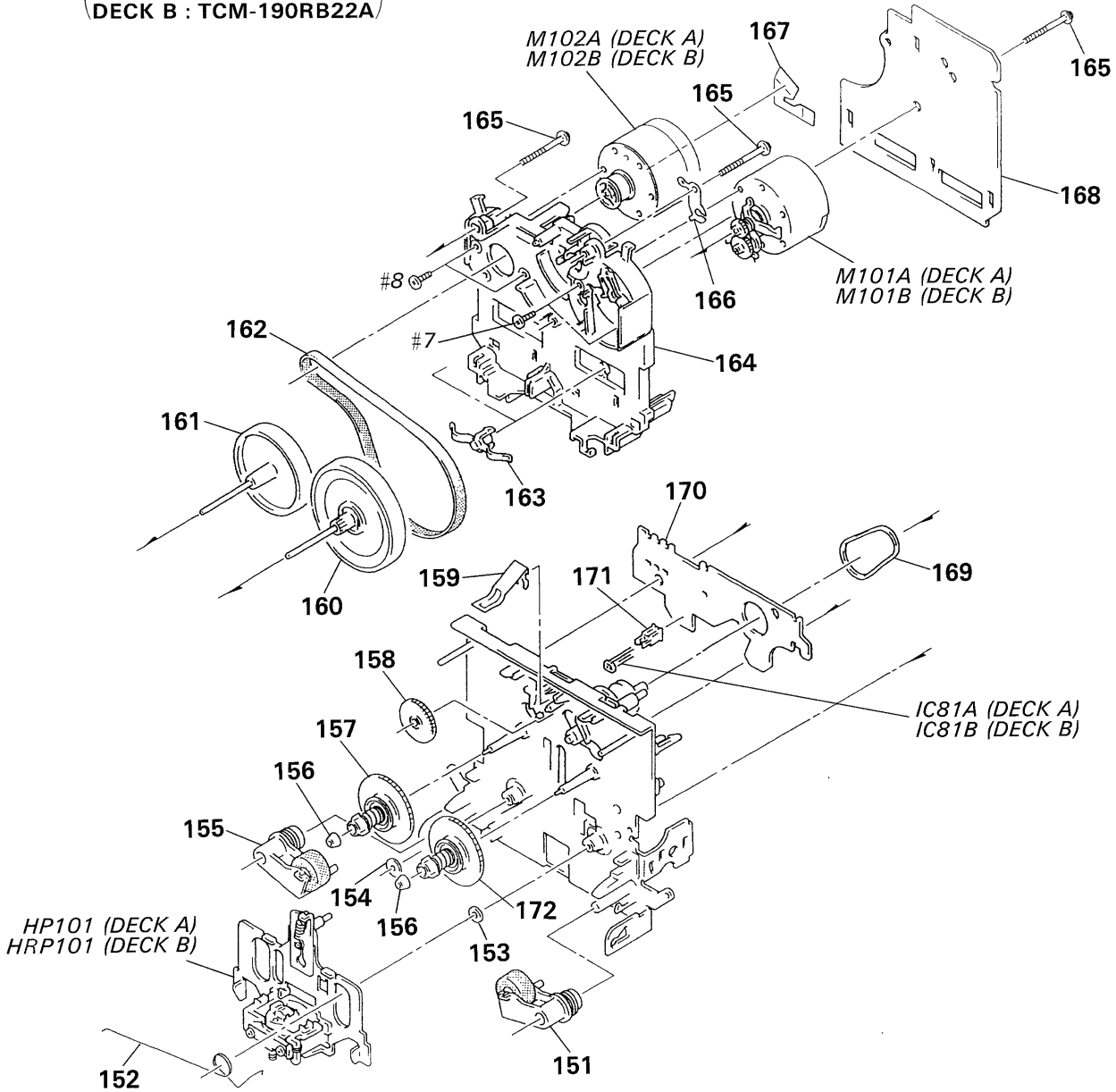
8-3. MECHANISM DECK CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	3-354-960-01	SPRING (LOADING R), TORSION	
102	3-354-959-01	SPRING (LOADING L), TORSION	
103	X-3362-856-1	HOLDER (R) ASSY, CASSETTE	
104	X-3362-857-1	HOLDER (L) ASSY, CASSETTE	
105	3-340-137-01	SPRING, CASSETTE RETAINER	
106	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
107	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
108	3-367-720-01	RING (W), RETAINING	
109	3-367-721-01	SHAFT (FULCRUM SHAFT)	

Ref. No.	Part No.	Description	Remark
110	3-354-957-01	JOINT (LOCK LEVER)	
111	3-354-963-01	DAMPER	
112	4-951-620-01	SCREW (2.6X8), +BVTP	
* 113	A-4343-848-A	TC BOARD, COMPLETE	
* 114	3-682-419-31	HOLDER, P. C. B	
* 115	3-682-419-21	HOLDER, P. C. B	
116	3-367-711-01	RETAINER, CASSETTE	
117	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
118	3-354-956-01	LEVER (EJ SAFTY LEVER R)	

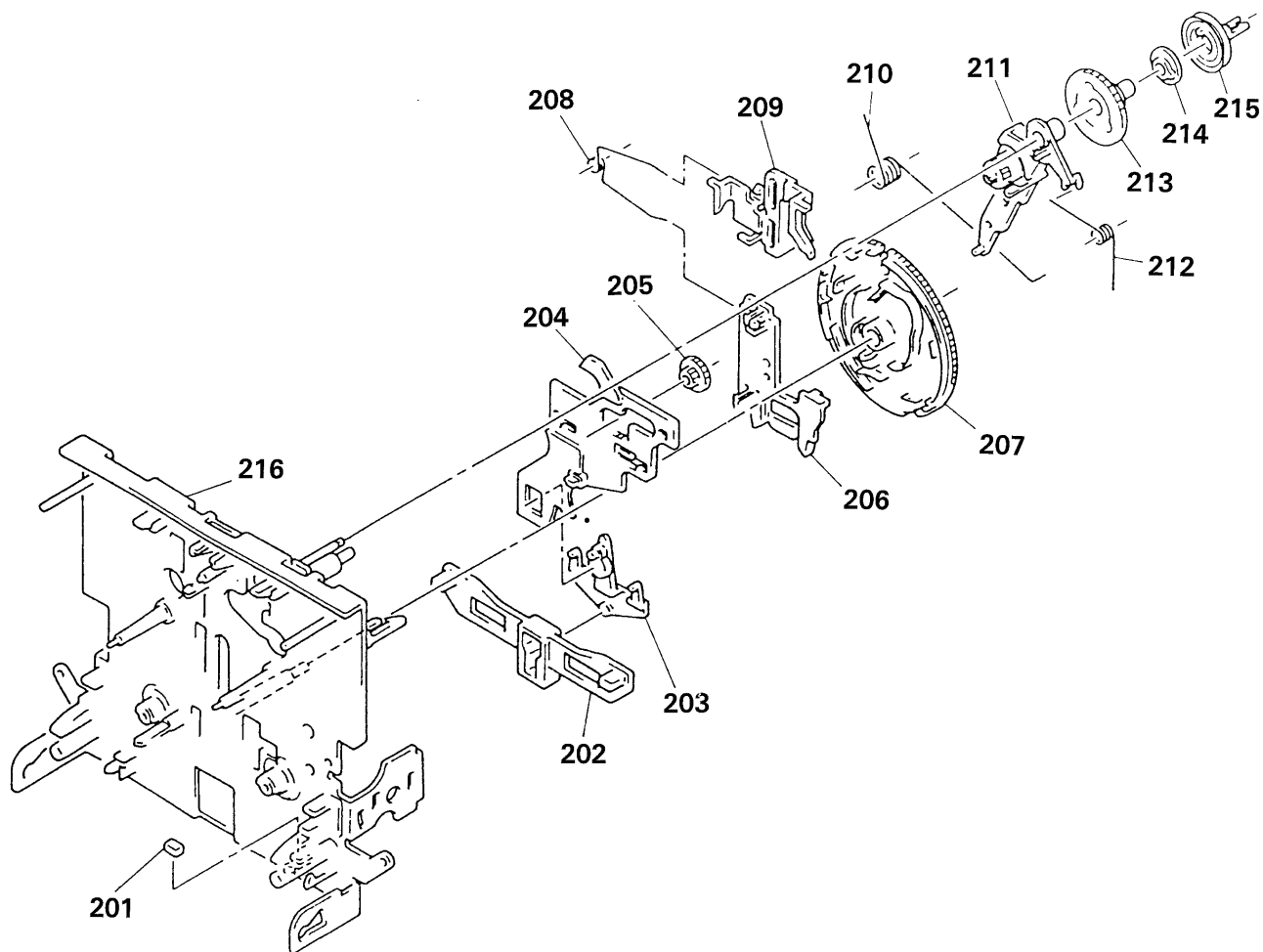
8-4. MECHANISM DECK SECTION-1
 (DECK A : TCM-190RA13A)
 (DECK B : TCM-190RB22A)



Ref. No.	Part No.	Description	Remark
151	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
152	3-359-455-01	SPRING, TORSION	
153	3-356-713-01	WASHER	
154	3-356-714-01	WASHER	
155	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
156	3-362-308-01	CAP (REEL)	
157	X-3362-078-1	TABLE ASSY (B), REEL	
158	3-359-424-01	GEAR (REV GEAR)	
159	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
160	X-3359-406-1	FLYWHEEL (FWD) ASSY	
161	X-3359-410-1	FLYWHEEL (REV) ASSY	
162	3-359-417-01	BELT (FLAT), CAPSTAN	
163	3-575-321-00	RETAINER, THRUST, CAPSTAN	
* 164	3-359-436-01	BASE (THRUST RETAINER), FITTING	
165	3-359-414-01	SCREW (+PTPWH 2X23)	
166	3-359-450-01	PLATE, GROUND	

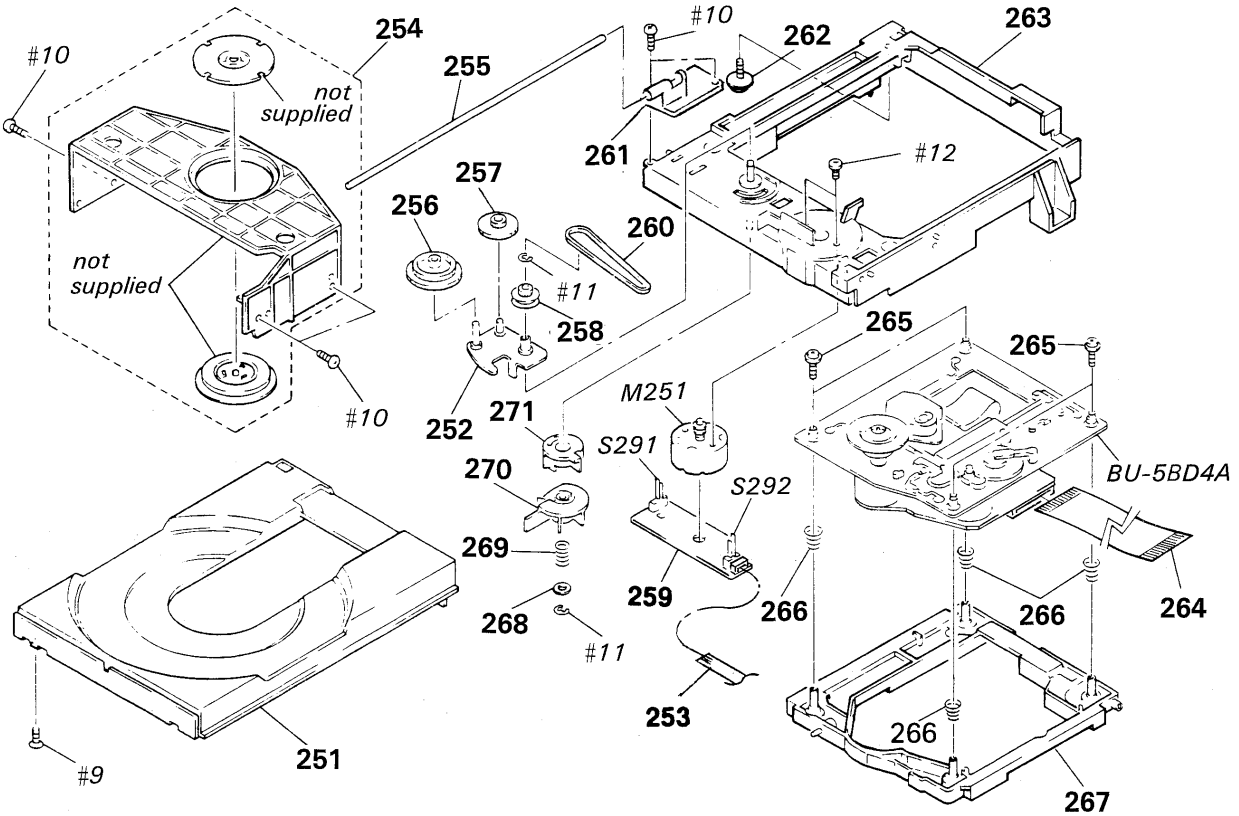
Ref. No.	Part No.	Description	Remark
167	1-638-983-11	MOTOR FLEXIBLE BOARD	
* 168	A-2006-399-A	AUDIO-A BOARD, COMPLETE (DECK A)	
* 168	A-2006-400-A	AUDIO-B BOARD, COMPLETE (DECK B)	
169	3-359-466-01	BELT (FR), SQUARE	
* 170	1-634-841-14	LEAF SW-A BOARD (DECK A)	
* 170	1-634-841-14	LEAF SW-B BOARD (DECK B)	
171	3-343-419-01	HOLDER (S SENSOR A)	
172	X-3359-404-1	TABLE ASSY, REEL	
HP101	A-2003-868-F	BASE ASSY, HEAD (DECK A)	
HRP101	A-2003-838-F	BASE ASSY, HEAD (DECK B)	
IC81A	8-719-710-03	PHOTO REFLECTOR NJL5165K-B (DECK A)	
IC81B	8-719-710-03	PHOTO REFLECTOR NJL5165K-B (DECK B)	
M101A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M101B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
M102A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M102B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	

8-5. MECHANISM DECK SECTION-2
 (DECK A : TCM-190RA13A)
 (DECK B : TCM-190RB22A)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	3-359-469-01	SPACER		209	3-359-429-01	SLIDER (BRAKE PLATE)	
* 202	3-359-425-01	SLIDER (REVERSE SLIDER)		210	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
203	3-359-426-01	LEVER (REVERSE LEVER)		211	X-3359-405-1	LEVER (FR ARM) ASSY	
* 204	3-359-415-01	SLIDER (TRIGGER SLIDER)		212	3-359-453-01	SPRING (FR ARM), TORSION	
205	3-359-448-01	GEAR (TRIGGER)		213	3-359-419-01	GEAR (FR GEAR)	
* 206	3-359-427-01	SLIDER (LEVERSE SLIDER)		214	3-359-421-01	CLUTCH (REEL DISK)	
207	3-359-420-01	GEAR (CAM GEAR)		215	3-359-418-01	PULLEY (FR PULLEY)	
208	3-359-454-01	SPRING, TORSION		216	X-3363-790-1	CHASSIS ASSY, MECHANICAL	

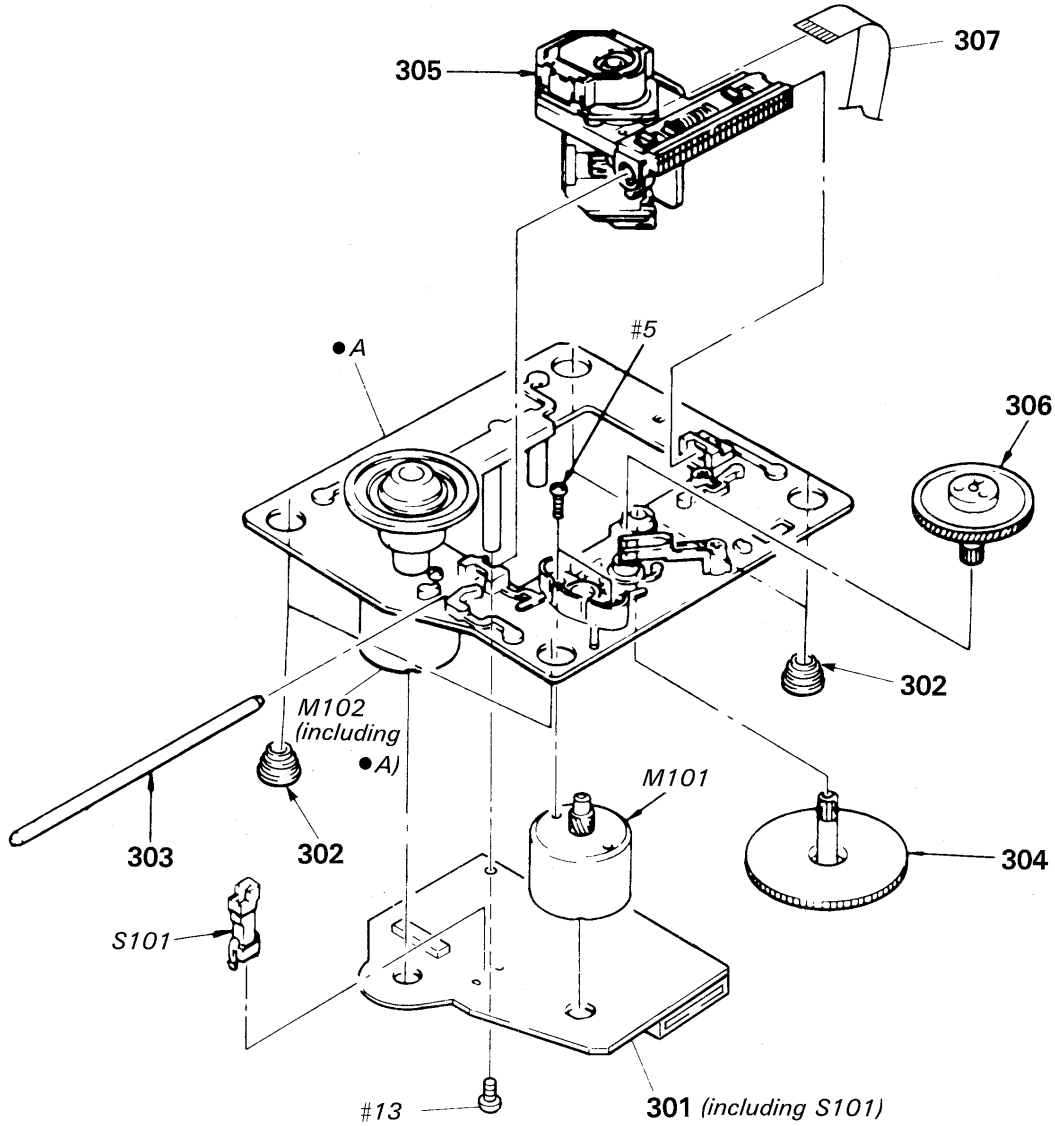
8-6. CD MECHANISM SECTION-1
(CDM13B-5BD4A)



Ref. No.	Part No.	Description	Remark
251	4-944-012-01	TABLE, DISC	
252	X-4929-703-1	ARM ASSY, SWING	
253	1-590-530-11	WIRE, FLAT TYPE	
254	A-4604-752-A	HOLDER (MG) ASSY	
255	4-929-764-01	SHAFT (TABLE GUIDE)	
256	4-927-620-01	GEAR (P)	
257	4-927-628-01	GEAR (C)	
258	4-929-724-01	PULLEY (B)	
* 259	1-638-308-11	LOADING BOARD	
260	4-927-649-01	BELT	
261	4-944-006-01	BEARING	
* 262	4-917-583-21	BRACKET, YOKE	

Ref. No.	Part No.	Description	Remark
263	X-4941-462-1	CHASSIS (MD) ASSY	
264	1-690-853-11	WIRE, FLAT TYPE (19 CORE)	
265	4-933-134-01	SCREW (+PTPWH M2. 6X6)	
266	4-917-541-01	SPRING (B)	
267	4-929-747-01	HOLDER (BU)	
268	4-927-654-01	WASHER (LIMITER)	
269	3-659-338-00	SPRING, COMPRESSION	
270	4-929-729-01	CAM (B)	
271	4-929-727-01	CAM (A)	
M251	A-4608-362-A	MOTOR ASSY (LOADING)	
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)	
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)	

8-7. CD MECHANISM SECTION-2
(BU-5BD4A)



The components identified by mark **A** or dotted line with mark **A** are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 301	A-4617-936-A	BD BOARD, COMPLETE		306	4-917-567-01	GEAR (M)	
302	4-933-126-01	INSULATOR (A)		307	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
303	4-917-565-01	SHAFT, SLED		M101	X-4917-504-1	MOTOR ASSY (SLED)	
304	4-917-564-01	GEAR (P), FLATNESS		M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
A 305	8-848-144-11	DEVICE, OPTICAL KSS-240A		S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)	

SECTION 9 ELECTRICAL PARTS LIST

AUDIO-A

AUDIO-B

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA.: μ A.. uPA.: μ PA..
uPB.: μ PB.. uPC.: μ PC.. uPD.: μ PD..
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

JE: Tourist model

Ref. No.	Part No.	Description	Remark
*	A-2006-399-A	AUDIO-A BOARD, COMPLETE *****	
		< CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF	5% 50V
C12	1-136-157-00	FILM 0.022uF	5% 50V
C13	1-124-234-00	ELECT 22uF	20% 16V
C18	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C21	1-163-131-00	CERAMIC CHIP 390PF	5% 50V
C22	1-136-157-00	FILM 0.022uF	5% 50V
C23	1-124-234-00	ELECT 22uF	20% 16V
C28	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C31	1-124-234-00	ELECT 22uF	20% 16V
C32	1-124-234-00	ELECT 22uF	20% 16V
C72	1-124-499-11	ELECT, NONPOLAR R 1uF	20% 50V
		< JACK >	
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P	
		< CONNECTOR >	
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< IC >	
IC31A	8-759-106-02	IC uPC4570G2	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0	5% 1/10W
JW51	1-216-296-00	METAL CHIP 0	5% 1/8W
JW52	1-216-296-00	METAL CHIP 0	5% 1/8W
JW53	1-216-296-00	METAL CHIP 0	5% 1/8W
JW54	1-216-296-00	METAL CHIP 0	5% 1/8W
		< TRANSISTOR >	
Q71A	8-729-602-36	TRANSISTOR 2SA1602	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R11	1-216-099-00	METAL CHIP	120K 5% 1/10W
R12	1-216-025-00	METAL CHIP	100 5% 1/10W
R13	1-216-100-00	METAL GLAZE	130K 5% 1/10W
R14	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R21	1-216-099-00	METAL CHIP	120K 5% 1/10W
R22	1-216-025-00	METAL CHIP	100 5% 1/10W
R23	1-216-100-00	METAL GLAZE	130K 5% 1/10W
R24	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R31	1-216-033-00	METAL CHIP	220 5% 1/10W
R32	1-216-033-00	METAL CHIP	220 5% 1/10W
R71	1-216-082-00	METAL GLAZE	24K 5% 1/10W
R72	1-216-081-00	METAL CHIP	22K 5% 1/10W
R73	1-216-089-00	METAL CHIP	47K 5% 1/10W
R74	1-216-089-00	METAL CHIP	47K 5% 1/10W
		< VARIABLE RESISTOR >	
RV11	1-241-627-11	RES, ADJ, CARBON 1K	
RV21	1-241-627-11	RES, ADJ, CARBON 1K	
RV71	1-241-630-11	RES, ADJ, CARBON 10K	
RV72	1-241-630-11	RES, ADJ, CARBON 10K	

*	A-2006-400-A	AUDIO-B BOARD, COMPLETE *****	
		< CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF	5% 50V
C12	1-136-157-00	FILM 0.022uF	5% 50V
C13	1-124-234-00	ELECT 22uF	20% 16V
C14	1-136-273-91	FILM 75PF	5% 630V
C15	1-164-080-11	CERAMIC 390PF	10% 50V
C17	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C18	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C21	1-163-131-00	CERAMIC CHIP 390PF	5% 50V
C22	1-136-157-00	FILM 0.022uF	5% 50V
C23	1-124-234-00	ELECT 22uF	20% 16V
C24	1-136-273-91	FILM 75PF	5% 630V
C25	1-164-080-11	CERAMIC 390PF	10% 50V

AUDIO-B

Ref. No.	Part No.	Description	Remark
C27	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C28	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C31	1-124-234-00	ELECT 22uF	20% 16V
C32	1-124-234-00	ELECT 22uF	20% 16V
C33	1-124-234-00	ELECT 22uF	20% 16V
C51	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
C52	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
C53	1-163-022-00	CERAMIC CHIP 0.012uF	10% 50V
C54	1-136-559-11	FILM 0.0047uF	5% 630V
C56	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C57	1-164-346-11	CERAMIC CHIP 1uF	16V
C58	1-163-024-00	CERAMIC CHIP 0.018uF	10% 50V
C72	1-124-499-11	ELECT, NONPOLAR R 1uF	20% 50V
< JACK >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P	
< CONNECTOR >			
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
< DIODE >			
D31	8-719-016-74	DIODE 1SS352	
< IC >			
IC31B	8-759-106-02	IC uPC4570G2	
< JUMPER RESISTOR >			
JW1	1-216-296-00	METAL CHIP 0	5% 1/8W
JW2	1-216-295-00	METAL CHIP 0	5% 1/10W
JW3	1-216-295-00	METAL CHIP 0	5% 1/10W
JW4	1-216-295-00	METAL CHIP 0	5% 1/10W
JW5	1-216-295-00	METAL CHIP 0	5% 1/10W
JW6	1-216-295-00	METAL CHIP 0	5% 1/10W
JW7	1-216-295-00	METAL CHIP 0	5% 1/10W
JW52	1-216-296-00	METAL CHIP 0	5% 1/8W
JW53	1-216-296-00	METAL CHIP 0	5% 1/8W
JW54	1-216-296-00	METAL CHIP 0	5% 1/8W
JW55	1-216-296-00	METAL CHIP 0	5% 1/8W
JW56	1-216-296-00	METAL CHIP 0	5% 1/8W
JW57	1-216-296-00	METAL CHIP 0	5% 1/8W
JW58	1-216-296-00	METAL CHIP 0	5% 1/8W
JW59	1-216-296-00	METAL CHIP 0	5% 1/8W
JW60	1-216-296-00	METAL CHIP 0	5% 1/8W
JW61	1-216-296-00	METAL CHIP 0	5% 1/8W

Ref. No.	Part No.	Description	Remark
< COIL >			
L11	1-410-780-11	INDUCTOR	27mH
L21	1-410-780-11	INDUCTOR	27mH
< TRANSISTOR >			
Q51	8-729-808-01	TRANSISTOR 2SD1622-S	
Q52	8-729-808-01	TRANSISTOR 2SD1622-S	
Q53	8-729-808-01	TRANSISTOR 2SD1622-S	
Q71B	8-729-602-36	TRANSISTOR 2SA1602	
< RESISTOR >			
R11	1-216-099-00	METAL CHIP 120K	5% 1/10W
R12	1-216-025-00	METAL CHIP 100	5% 1/10W
R13	1-216-100-00	METAL GLAZE 130K	5% 1/10W
R14	1-216-067-00	METAL CHIP 5.6K	5% 1/10W
R15	1-249-430-11	CARBON 12K	5% 1/4W
R21	1-216-099-00	METAL CHIP 120K	5% 1/10W
R22	1-216-025-00	METAL CHIP 100	5% 1/10W
R23	1-216-100-00	METAL GLAZE 130K	5% 1/10W
R24	1-216-067-00	METAL CHIP 5.6K	5% 1/10W
R25	1-249-430-11	CARBON 12K	5% 1/4W
R31	1-216-033-00	METAL CHIP 220	5% 1/10W
R32	1-216-033-00	METAL CHIP 220	5% 1/10W
△R41	1-249-393-11	CARBON 10	5% 1/4W F
△R42	1-249-393-11	CARBON 10	5% 1/4W F
R51	1-216-075-00	METAL CHIP 12K	5% 1/10W
R52	1-216-075-00	METAL CHIP 12K	5% 1/10W
R53	1-216-073-00	METAL CHIP 10K	5% 1/10W
R54	1-216-309-00	METAL CHIP 5.6	5% 1/10W
R55	1-216-309-00	METAL CHIP 5.6	5% 1/10W
R56	1-216-298-00	METAL CHIP 2.2	5% 1/10W
R71	1-216-082-00	METAL GLAZE 24K	5% 1/10W
R72	1-216-081-00	METAL CHIP 22K	5% 1/10W
R73	1-216-089-00	METAL CHIP 47K	5% 1/10W
R74	1-216-089-00	METAL CHIP 47K	5% 1/10W
< VARIABLE RESISTOR >			
RV11	1-241-627-11	RES, ADJ, CARBON 1K	
RV12	1-238-551-11	RES, ADJ, CARBON 220K	
RV21	1-241-627-11	RES, ADJ, CARBON 1K	
RV22	1-238-551-11	RES, ADJ, CARBON 220K	
RV71	1-241-630-11	RES, ADJ, CARBON 10K	
RV72	1-241-630-11	RES, ADJ, CARBON 10K	
< RELAY >			
RY31	1-515-726-11	RELAY	

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

AUDIO-B

BD BOARD

Ref. No.	Part No.	Description	Remark
< TRANSFORMER >			
T51	1-406-419-11	COIL, BIAS OSCILLATION	

*	A-4617-936-A	BD BOARD, COMPLETE	

< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C102	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V
C103	1-135-155-21	TANTALUM CHIP 4.7uF	10% 16V
C104	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C105	1-126-607-11	ELECT CHIP 47uF	20% 4V
C106	1-126-607-11	ELECT CHIP 47uF	20% 4V
C107	1-126-607-11	ELECT CHIP 47uF	20% 4V
C108	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C109	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C110	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V
C111	1-164-346-11	CERAMIC CHIP 1uF	16V
C112	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C113	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C114	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V
C115	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V
C117	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C118	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C119	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V
C120	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V
C151	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
C152	1-164-346-11	CERAMIC CHIP 1uF	16V
C153	1-163-135-00	CERAMIC CHIP 560PF	5% 50V
C154	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V
C155	1-163-023-00	CERAMIC CHIP 0.015uF	5% 50V
C171	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C172	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C173	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C174	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C201	1-163-809-11	CERAMIC CHIP 0.047uF	10% 25V
C202	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V
C203	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C204	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C205	1-164-346-11	CERAMIC CHIP 1uF	16V
C206	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C207	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C208	1-164-346-11	CERAMIC CHIP 1uF	16V
C209	1-164-346-11	CERAMIC CHIP 1uF	16V
C210	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C299	1-164-346-11	CERAMIC CHIP 1uF	16V
C301	1-164-346-11	CERAMIC CHIP 1uF	16V

Ref. No.	Part No.	Description	Remark
C302	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C303	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C304	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C305	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C306	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V
C307	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V
C308	1-164-346-11	CERAMIC CHIP 1uF	16V
C309	1-164-346-11	CERAMIC CHIP 1uF	16V
C310	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C311	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C312	1-164-346-11	CERAMIC CHIP 1uF	16V
C401	1-164-232-11	CERAMIC CHIP 0.01uF	50V
< CONNECTOR >			
CN101	1-580-858-11	SOCKET, CONNECTOR (SMT) 5P	
CN102	1-580-866-11	SOCKET, CONNECTOR (SMT) 12P	
CN103	1-580-872-41	SOCKET, CONNECTOR (SMT) 19P	
< DIODE >			
D101	8-719-976-88	DIODE DTZ3.9B	
D201	8-719-016-74	DIODE 1SS352	
< IC >			
IC101	8-752-053-73	IC CXA1372AQ	
IC102	8-759-823-48	IC LA6525M	
IC103	8-759-636-20	IC M54641FP	
IC201	8-752-337-26	IC CXD2500AQ	
IC202	8-759-059-86	IC uPD75116GF-F21-3BE	
IC203	8-752-337-10	IC CXD2554M	
IC301	8-759-070-98	IC PCM67U-T1A	
IC302	8-759-996-43	IC RC4558PS	
< TRANSISTOR >			
Q101	8-729-805-45	TRANSISTOR 2SC3395	
Q201	8-729-602-21	TRANSISTOR 2SC4154	
< RESISTOR >			
R101	1-216-097-00	METAL CHIP 100K 5%	1/10W
R102	1-216-097-00	METAL CHIP 100K 5%	1/10W
R103	1-216-091-00	METAL CHIP 56K 5%	1/10W
R104	1-216-099-00	METAL CHIP 120K 5%	1/10W
R105	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R106	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R107	1-216-114-00	METAL GLAZE 510K 5%	1/10W
R108	1-216-105-00	METAL CHIP 220K 5%	1/10W
R109	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R110	1-216-049-00	METAL CHIP 1K 5%	1/10W
R111	1-216-049-00	METAL CHIP 1K 5%	1/10W

BD BOARD

DISPLAY

Ref. No.	Part No.	Description	Remark		
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-236-427-11	NETWORK, RES	18K		
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
R201	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W
R203	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R204	1-216-073-00	METAL CHIP	10K	5%	1/10W
R205	1-216-097-00	METAL CHIP	100K	5%	1/10W
R208	1-216-033-00	METAL CHIP	220	5%	1/10W
R209	1-216-081-00	METAL CHIP	22K	5%	1/10W
R210	1-236-427-11	NETWORK, RES	18K		
R212	1-236-427-11	NETWORK, RES	18K		
R214	1-239-039-11	NETWORK, RES	22K		
R218	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-001-00	METAL CHIP	10	5%	1/10W
R222	1-236-427-11	NETWORK, RES	18K		
R223	1-216-081-00	METAL CHIP	22K	5%	1/10W
R224	1-216-081-00	METAL CHIP	22K	5%	1/10W
R225	1-216-081-00	METAL CHIP	22K	5%	1/10W
R226	1-216-081-00	METAL CHIP	22K	5%	1/10W
R230	1-236-413-11	NETWORK, RES	1.2K		
R231	1-236-413-11	NETWORK, RES	1.2K		
R232	1-216-041-00	METAL CHIP	470	5%	1/10W
R233	1-216-041-00	METAL CHIP	470	5%	1/10W
R301	1-236-413-11	NETWORK, RES	1.2K		
R303	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R304	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R305	1-216-097-00	METAL CHIP	100K	5%	1/10W
R306	1-216-097-00	METAL CHIP	100K	5%	1/10W

< VARIABLE RESISTOR >

RV101	1-241-395-11	RES, ADJ, METAL GLAZE	10K		
RV102	1-241-395-11	RES, ADJ, METAL GLAZE	10K		

Ref. No.	Part No.	Description	Remark		
		< SWITCH >			
SW101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			
		< VIBRATOR >			
X201	1-579-280-11	VIBRATOR, CRYSTAL (16MHz)			
X202	1-579-216-11	VIBRATOR, CERAMIC (4MHz)			

*	A-4356-384-A	DISPLAY BOARD, COMPLETE			

		< CAPACITOR >			
C501	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C502	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C503	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C504	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C505	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C506	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C511	1-126-157-11	ELECT	10uF	20%	16V
C512	1-126-157-11	ELECT	10uF	20%	16V
C1001	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1002	1-163-025-11	CERAMIC CHIP	0.001uF		50V
C1003	1-124-442-00	ELECT	330uF	20%	6.3V
C1004	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1005	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1006	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1007	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1008	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1009	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1011	1-124-584-00	ELECT	100uF	20%	10V
C1012	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1013	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1014	1-126-157-11	ELECT	10uF	20%	16V
C1015	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1016	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1020	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C1023	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C1024	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C1025	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1026	1-126-177-11	ELECT	100uF	20%	10V
C1030	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1031	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1032	1-126-154-11	ELECT	47uF	20%	6.3V
C1033	1-126-154-11	ELECT	47uF	20%	6.3V
C1034	1-163-025-11	CERAMIC CHIP	0.001uF		50V
C1035	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1036	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1041	1-163-038-00	CERAMIC CHIP	0.1uF		25V

DISPLAY

Ref. No.	Part No.	Description	Remark
C1050	1-124-910-11	ELECT 47uF 20%	50V
C1051	1-124-443-00	ELECT 100uF 20%	10V
C1098	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C1099	1-163-038-00	CERAMIC CHIP 0.1uF	25V
< FILTER >			
CF1001	1-579-599-21	VIBRATOR, CERAMIC	
< CONNECTOR >			
* CN1001	1-569-156-11	SOCKET, CONNECTOR 10P	
* CN1002	1-569-156-11	SOCKET, CONNECTOR 10P	
CN1003	1-695-027-11	PLUG, CONNECTOR 10P	
* CN1004	1-566-970-11	HOUSING, CONNECTOR(PC BOARD) 8P	
* CN1005	1-566-970-11	HOUSING, CONNECTOR(PC BOARD) 8P	
* CN1006	1-565-980-21	HOUSING, CONNECTOR(PC BOARD) 9P	
< DIODE >			
D1001	8-719-820-05	DIODE 1SS181	
D1002	8-719-801-78	DIODE 1SS184	
D1003	8-719-820-05	DIODE 1SS181	
D1004	8-719-820-05	DIODE 1SS181	
D1005	8-719-820-05	DIODE 1SS181	
D1007	8-719-820-05	DIODE 1SS181	
D1030	8-719-021-41	DIODE UZM5. 6X	
D1031	8-719-021-41	DIODE UZM5. 6X	
D1051	8-719-026-64	LED SML1260S (BGM)	
D1052	8-719-026-64	LED SML1260S (JAZZ)	
D1053	8-719-026-64	LED SML1260S (CLASSIC)	
D1054	8-719-026-64	LED SML1260S (POPS)	
D1055	8-719-026-64	LED SML1260S (DISCO)	
D1058	8-719-026-68	LED SML1960A (DBFB)	
D1059	8-719-026-68	LED SML1960A (S-SUR)	
< FLUORESCENT INDICATOR TUBE >			
FL1001	1-519-718-11	INDICATOR TUBE, FLUORESCENT	
< IC >			
IC106	8-759-927-29	IC SN74HCU04ANS	
IC501	8-759-996-43	IC RC4558PS	
IC1001	8-759-074-90	IC uPD78012GC-506-AB8	
IC1002	8-759-500-31	IC X24C01P	
IC1003	8-759-991-11	IC XR1091DCP	
IC1004	8-759-516-41	IC CD4052BCM	
IC1005	8-749-923-34	IC PHOTO DIODE GP1U59XB	
IC1006	8-759-512-44	IC SN755703FT	
IC1007	8-759-512-44	IC SN755703FT	

Ref. No.	Part No.	Description	Remark
< JUMPER RESISTOR >			
JW1002	1-216-295-00	METAL CHIP 0 5%	1/10W
JW1004	1-216-295-00	METAL CHIP 0 5%	1/10W
JW1005	1-216-295-00	METAL CHIP 0 5%	1/10W
< TRANSISTOR >			
Q601	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1001	8-729-900-61	TRANSISTOR DTA114ES	
Q1002	8-729-900-80	TRANSISTOR DTC114ES	
Q1003	8-729-900-61	TRANSISTOR DTA114ES	
Q1051	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R501	1-216-073-00	METAL CHIP 10K 5%	1/10W
R503	1-216-097-00	METAL CHIP 100K 5%	1/10W
R504	1-216-097-00	METAL CHIP 100K 5%	1/10W
R505	1-216-073-00	METAL CHIP 10K 5%	1/10W
R507	1-216-073-00	METAL CHIP 10K 5%	1/10W
R508	1-216-080-00	METAL CHIP 20K 5%	1/10W
R509	1-216-057-00	METAL CHIP 2. 2K 5%	1/10W
R510	1-216-069-00	METAL CHIP 6. 8K 5%	1/10W
R511	1-216-097-00	METAL CHIP 100K 5%	1/10W
R512	1-216-105-00	METAL CHIP 220K 5%	1/10W
R513	1-216-105-00	METAL CHIP 220K 5%	1/10W
R514	1-216-105-00	METAL CHIP 220K 5%	1/10W
R515	1-216-105-00	METAL CHIP 220K 5%	1/10W
R1001	1-216-089-00	METAL CHIP 47K 5%	1/10W
R1002	1-216-073-00	METAL CHIP 10K 5%	1/10W
R1003	1-216-049-00	METAL CHIP 1K 5%	1/10W
R1004	1-216-097-00	METAL CHIP 100K 5%	1/10W
R1006	1-216-073-00	METAL CHIP 10K 5%	1/10W
R1007	1-216-025-00	METAL CHIP 100 5%	1/10W
R1008	1-216-073-00	METAL CHIP 10K 5%	1/10W
R1010	1-216-041-00	METAL CHIP 470 5%	1/10W
R1011	1-216-045-00	METAL CHIP 680 5%	1/10W
R1012	1-216-049-00	METAL CHIP 1K 5%	1/10W
R1013	1-216-089-00	METAL CHIP 47K 5%	1/10W
R1014	1-216-109-00	METAL CHIP 330K 5%	1/10W
R1015	1-216-025-00	METAL CHIP 100 5%	1/10W
R1017	1-216-041-00	METAL CHIP 470 5%	1/10W
R1018	1-216-045-00	METAL CHIP 680 5%	1/10W
R1019	1-216-049-00	METAL CHIP 1K 5%	1/10W
R1020	1-216-053-00	METAL CHIP 1. 5K 5%	1/10W
R1021	1-216-057-00	METAL CHIP 2. 2K 5%	1/10W
R1022	1-216-065-00	METAL CHIP 4. 7K 5%	1/10W
R1023	1-216-075-00	METAL CHIP 12K 5%	1/10W
R1024	1-216-041-00	METAL CHIP 470 5%	1/10W
R1025	1-216-045-00	METAL CHIP 680 5%	1/10W

DISPLAY

LEAF SW-A

Ref. No.	Part No.	Description			Remark
R1026	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1027	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R1029	1-216-295-00	METAL CHIP	0	5%	1/10W
R1030	1-216-097-00	METAL CHIP	100K	5%	1/10W
R1050	1-216-295-00	METAL CHIP	0	5%	1/10W
R1060	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1061	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1062	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1063	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1064	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1065	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R1066	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1067	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1068	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1069	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1070	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1071	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R1072	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R1073	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1074	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1075	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1076	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1077	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1078	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1079	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1080	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1081	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1082	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1083	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1084	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1085	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1086	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1087	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1088	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1091	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R1092	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R1093	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R1094	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R1095	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1096	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1100	1-216-037-00	METAL CHIP	330	5%	1/10W
R1101	1-216-037-00	METAL CHIP	330	5%	1/10W
R1102	1-216-037-00	METAL CHIP	330	5%	1/10W
R1115	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1116	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1130	1-216-017-00	METAL CHIP	47	5%	1/10W
R1131	1-216-017-00	METAL CHIP	47	5%	1/10W
R1132	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R1201	1-216-061-00	METAL CHIP	3.3K	5%	1/10W

Ref. No.	Part No.	Description			Remark
< VARIABLE RESISTOR >					
RV501	1-223-197-11	RES, VAR, CARBON 50K (BALANCE)			
RV502	1-223-284-11	RES, VAR, CARBON 20K/20K (DBFB LEVEL)			
< SWITCH >					
S1001	1-572-184-11	SWITCH, KEYBOARD (POWER)			
S1002	1-572-184-11	SWITCH, KEYBOARD (TIMER)			
S1009	1-572-184-11	SWITCH, KEYBOARD (+)			
S1010	1-572-184-11	SWITCH, KEYBOARD (BAND)			
S1011	1-572-184-11	SWITCH, KEYBOARD (-)			
S1012	1-572-184-11	SWITCH, KEYBOARD (FUNCTION)			
S1013	1-572-184-11	SWITCH, KEYBOARD (S-SUR)			
S1014	1-572-184-11	SWITCH, KEYBOARD (PRESET)			
S1015	1-572-184-11	SWITCH, KEYBOARD (EQ)			
S1016	1-572-184-11	SWITCH, KEYBOARD (TIMER REC)			
S1017	1-572-184-11	SWITCH, KEYBOARD (MEMORY/NEXT)			
S1018	1-572-184-11	SWITCH, KEYBOARD (STEREO/MONO)			
S1019	1-572-184-11	SWITCH, KEYBOARD (+)			
S1020	1-572-184-11	SWITCH, KEYBOARD (-)			
S1021	1-572-184-11	SWITCH, KEYBOARD (DBFB)			
< VIBRATOR >					
X1002	1-527-997-21	VIBRATOR, CRYSTAL (32.768KHz)			

*	1-634-841-14	LEAF SW-A BOARD			

	3-343-419-01	HOLDER (S SENSER A)			
< CONNECTOR >					
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P			
< IC >					
IC81A	8-719-710-03	DIODE		NJL5165K-B	
< RESISTOR >					
R84	1-249-417-11	CARBON	1K	5%	1/4W F
R85	1-249-408-11	CARBON	180	5%	1/4W F
< SWITCH >					
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)			
S82	1-571-281-21	SWITCH, LEAF (CrO2 DET)			
S86	1-571-281-21	SWITCH, LEAF (HALF DET)			

LEAF SW-B LOADING MAIN VOL

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	LEAF SW-B BOARD *****	
	3-343-419-01	HOLDER (S SENSER A) < CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P < IC >	
IC81B	8-719-710-03	DIODE NJL5165K-B < RESISTOR >	
△R81	1-249-414-11	CARBON 560 5% 1/4W F	
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
△R84	1-249-417-11	CARBON 1K 5% 1/4W F	
△R85	1-249-408-11	CARBON 180 5% 1/4W F	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)	
S82	1-571-281-21	SWITCH, LEAF (CrO2 DET)	
S83	1-571-281-21	SWITCH, LEAF (METAL HALE)	
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF)	
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF)	
S86	1-571-281-21	SWITCH, LEAF (HALF DET)	

*	1-638-308-11	LOADING BOARD ***** < CONNECTOR >	
CN201	1-580-918-11	HOUSING, CONNECTOR 5P < SWITCH >	
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)	
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)	

*	A-4343-847-A	MAIN BOARD, COMPLETE ***** VOL BOARD ***** < CAPACITOR >	
C2	1-124-907-11	ELECT 10uF 20% 50V	
C3	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C4	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C5	1-101-005-00	CERAMIC 22000PF 50V	
C6	1-162-851-11	CERAMIC 0.1uF 20% 16V	

Ref. No.	Part No.	Description	Remark
C7	1-101-005-00	CERAMIC 22000PF 50V	
C21	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C22	1-102-947-00	CERAMIC 10PF 5% 50V	
C23	1-136-162-00	FILM 0.056uF 5% 50V	
C24	1-101-005-00	CERAMIC 22000PF 50V	
C51	1-164-052-11	CERAMIC 18PF 5% 50V	
C52	1-164-052-11	CERAMIC 18PF 5% 50V	
C53	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C54	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C55	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C56	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C57	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C58	1-124-907-11	ELECT 10uF 20% 50V	
C59	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C60	1-124-477-11	ELECT 47uF 20% 25V	
C61	1-124-925-11	ELECT 2.2uF 20% 100V	
C62	1-136-153-00	FILM 0.01uF 5% 50V	
C63	1-124-463-00	ELECT 0.1uF 20% 50V	
C81	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C82	1-124-472-11	ELECT 470uF 20% 10V	
C83	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C84	1-124-907-11	ELECT 10uF 20% 50V	
C85	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C86	1-162-282-31	CERAMIC 100PF 10% 50V	
C87	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C88	1-124-907-11	ELECT 10uF 20% 50V	
C89	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C90	1-124-477-11	ELECT 47uF 20% 25V	
C91	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C92	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C93	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C94	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C95	1-124-903-11	ELECT 1uF 20% 50V	
C96	1-124-903-11	ELECT 1uF 20% 50V	
C97	1-124-903-11	ELECT 1uF 20% 50V	
C98	1-124-903-11	ELECT 1uF 20% 50V	
C99	1-136-154-00	FILM 0.012uF 5% 50V	
C100	1-136-154-00	FILM 0.012uF 5% 50V	
C101	1-124-907-11	ELECT 10uF 20% 50V	
C102	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C103	1-124-463-00	ELECT 0.1uF 20% 50V	
C104	1-126-160-11	ELECT 1uF 20% 50V	
C105	1-126-160-11	ELECT 1uF 20% 50V	
C106	1-124-903-11	ELECT 1uF 20% 50V	
C108	1-162-211-31	CERAMIC 33PF 5% 50V	
C109	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C110	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C111	1-123-382-00	ELECT 3.3uF 20% 100V	
C112	1-161-379-00	CERAMIC 0.01uF 20% 25V	

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

MAIN	VOL
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Ref. No.	Part No.	Description	Remark		
C114	1-161-379-00	CERAMIC	0.01uF	20%	25V
C115	1-164-159-11	CERAMIC	0.1uF		50V
C116	1-161-379-00	CERAMIC	0.01uF	20%	25V
C140	1-126-926-11	ELECT	1000uF	20%	10V
C141	1-162-282-31	CERAMIC	100PF	10%	50V
C142	1-162-282-31	CERAMIC	100PF	10%	50V
C201	1-162-282-31	CERAMIC	100PF	10%	50V
C202	1-162-215-31	CERAMIC	47PF	5%	50V
C205	1-124-927-11	ELECT	4.7uF	20%	100V
C206	1-162-286-31	CERAMIC	220PF	10%	50V
C207	1-124-254-00	ELECT	0.68uF	20%	50V
C208	1-124-252-00	ELECT	0.33uF	20%	50V
C209	1-124-252-00	ELECT	0.33uF	20%	50V
C210	1-136-167-00	FILM	0.15uF	5%	50V
C211	1-136-166-00	FILM	0.12uF	5%	50V
C212	1-136-162-00	FILM	0.056uF	5%	50V
C213	1-136-161-00	FILM	0.047uF	5%	50V
C214	1-136-157-00	FILM	0.022uF	5%	50V
C215	1-136-156-00	FILM	0.018uF	5%	50V
C216	1-130-482-00	MYLAR	0.0082uF	5%	50V
C217	1-130-481-00	MYLAR	0.0068uF	5%	50V
C218	1-130-477-00	MYLAR	0.0033uF	5%	50V
C219	1-136-157-00	FILM	0.022uF	5%	50V
C220	1-126-096-11	ELECT	10uF	20%	35V
C221	1-162-286-31	CERAMIC	220PF	10%	50V
C222	1-162-294-31	CERAMIC	0.001uF	10%	50V
C224	1-124-465-00	ELECT	0.47uF	20%	50V
C225	1-124-464-11	ELECT	0.22uF	20%	50V
C227	1-164-159-11	CERAMIC	0.1uF		50V
C228	1-124-907-11	ELECT	10uF	20%	50V
C231	1-161-379-00	CERAMIC	0.01uF	20%	25V
C241	1-161-379-00	CERAMIC	0.01uF	20%	25V
C242	1-161-379-00	CERAMIC	0.01uF	20%	25V
C243	1-161-379-00	CERAMIC	0.01uF	20%	25V
C247	1-124-925-11	ELECT	2.2uF	20%	100V
C251	1-162-282-31	CERAMIC	100PF	10%	50V
C252	1-162-215-31	CERAMIC	47PF	5%	50V
C255	1-124-927-11	ELECT	4.7uF	20%	100V
C256	1-162-286-31	CERAMIC	220PF	10%	50V
C257	1-124-254-00	ELECT	0.68uF	20%	50V
C258	1-124-252-00	ELECT	0.33uF	20%	50V
C259	1-124-252-00	ELECT	0.33uF	20%	50V
C260	1-136-167-00	FILM	0.15uF	5%	50V
C261	1-136-166-00	FILM	0.12uF	5%	50V
C262	1-136-162-00	FILM	0.056uF	5%	50V
C263	1-136-161-00	FILM	0.047uF	5%	50V
C264	1-136-157-00	FILM	0.022uF	5%	50V
C265	1-136-156-00	FILM	0.018uF	5%	50V

Ref. No.	Part No.	Description	Remark		
C266	1-130-482-00	MYLAR	0.0082uF	5%	50V
C267	1-130-481-00	MYLAR	0.0068uF	5%	50V
C268	1-130-477-00	MYLAR	0.0033uF	5%	50V
C269	1-136-157-00	FILM	0.022uF	5%	50V
C270	1-126-096-11	ELECT	10uF	20%	35V
C271	1-162-286-31	CERAMIC	220PF	10%	50V
C272	1-162-294-31	CERAMIC	0.001uF	10%	50V
C274	1-124-465-00	ELECT	0.47uF	20%	50V
C275	1-124-464-11	ELECT	0.22uF	20%	50V
C277	1-164-159-11	CERAMIC	0.1uF		50V
C281	1-161-379-00	CERAMIC	0.01uF	20%	25V
C290	1-164-159-11	CERAMIC	0.1uF		50V
C291	1-164-159-11	CERAMIC	0.1uF		50V
C292	1-164-159-11	CERAMIC	0.1uF		50V
C293	1-164-159-11	CERAMIC	0.1uF		50V
C301	1-162-282-31	CERAMIC	100PF	10%	50V
C302	1-162-282-31	CERAMIC	100PF	10%	50V
C306	1-124-903-11	ELECT	1uF	20%	50V
C307	1-164-159-11	CERAMIC	0.1uF		50V
C351	1-162-282-31	CERAMIC	100PF	10%	50V
C352	1-162-282-31	CERAMIC	100PF	10%	50V
C356	1-124-903-11	ELECT	1uF	20%	50V
C357	1-164-159-11	CERAMIC	0.1uF		50V
C418	1-126-916-11	ELECT	1000uF	20%	6.3V
C419	1-126-157-11	ELECT	10uF	20%	16V
C420	1-126-157-11	ELECT	10uF	20%	16V
C951	1-124-907-11	ELECT	10uF	20%	50V
C952	1-126-160-11	ELECT	1uF	20%	50V
C953	1-124-903-11	ELECT	1uF	20%	50V
C954	1-124-120-11	ELECT	220uF	20%	25V
C2002	1-124-907-11	ELECT	10uF	20%	50V
C2052	1-124-907-11	ELECT	10uF	20%	50V
C9001	1-124-907-11	ELECT	10uF	20%	50V
C9002	1-124-034-51	ELECT	33uF	20%	16V
< FILTER >					
CF1	1-567-389-11	FILTER, CERAMIC			
CF81	1-567-389-11	FILTER, CERAMIC			
< CONNECTOR >					
* CN201	1-569-155-11	PLUG, CONNECTOR 10P			
* CN202	1-569-155-11	PLUG, CONNECTOR 10P			
CN203	1-695-026-11	SOCKET, CONNECTOR 10P			
* CN204	1-568-828-11	SOCKET, CONNECTOR 9P			
* CN205	1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P			
* CN206	1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P			
* CN207	1-573-085-11	CONNECTOR, FPC (NON ZIF) 19P			
* CN251	1-564-509-11	PLUG, CONNECTOR 6P			

MAIN

VOL

Ref. No.	Part No.	Description	Remark
* CN401	1-568-852-11	SOCKET, CONNECTOR 9P	
* CN402	1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P	
* CN403	1-568-847-11	SOCKET, CONNECTOR 4P	
* CN404	1-695-070-12	CONNECTOR, FFC/FPC 11P	
* CN451	1-564-521-11	PLUG, CONNECTOR 6P	
* CN452	1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P	
* CN901	1-564-511-11	PLUG, CONNECTOR 8P	
* CN902	1-564-509-11	PLUG, CONNECTOR 6P	
< TRIMMER >			
CT21	1-141-227-00	CAP, TRIMMER 20PF	
CT22	1-141-227-00	CAP, TRIMMER 20PF	
< DIODE >			
D21	8-719-976-30	DIODE KV1560N	
D81	8-719-987-63	DIODE 1N4148M	
D202	8-719-987-63	DIODE 1N4148M	
D206	8-719-933-33	DIODE HZS6A1L	
D208	8-719-987-63	DIODE 1N4148M	
D401	8-719-987-63	DIODE 1N4148M	
D821	8-719-815-85	DIODE 1S1585	
D822	8-719-815-85	DIODE 1S1585	
D914	8-719-987-63	DIODE 1N4148M	
D921	8-719-987-63	DIODE 1N4148M	
< FRONTEND >			
FE1	1-465-673-11	FRONTEND (2 BAND)	
FE2	1-236-777-11	ENCAPSULATED COMPONENT	
< IC >			
IC51	8-759-820-91	IC LC7218	
IC81	8-759-821-45	IC LA1851N	
IC201	8-759-603-14	IC M5229P	
IC231	8-759-000-49	IC MC14066BCP	
IC232	8-759-634-51	IC M5218AP	
IC234	8-759-822-26	IC LC7522K	
IC251	8-759-603-14	IC M5229P	
IC302	8-759-000-48	IC MC14052BCP	
IC406	8-759-820-62	IC LB1639	
IC902	8-759-821-93	IC LA5601	
IC9001	8-759-520-90	IC PST572E	
< IFT >			
IFT81	1-404-713-11	TRANSFORMER, IF	
IFT82	1-404-807-11	TRANSFORMER, DISCRIMINATOR	

Ref. No.	Part No.	Description	Remark
< JACK >			
J301	1-569-181-11	JACK, PIN 2P	
< COIL >			
L81	1-408-399-00	INDUCTOR 1.5uH	
L83	1-410-489-11	INDUCTOR 390uH	
< FILTER >			
LPF81	1-235-164-00	FILTER, LOW PASS	
LPF82	1-235-164-00	FILTER, LOW PASS	
< TRANSISTOR >			
Q1	8-729-620-19	TRANSISTOR 2SC2724-CD	
Q4	8-729-900-61	TRANSISTOR DTA114ES	
Q5	8-729-900-80	TRANSISTOR DTC114ES	
Q7	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q8	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q9	8-729-900-80	TRANSISTOR DTC114ES	
Q10	8-729-900-80	TRANSISTOR DTC114ES	
Q11	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q51	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q52	8-729-201-83	TRANSISTOR 2SC3112	
Q101	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q103	8-729-900-80	TRANSISTOR DTC114ES	
Q201	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q202	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q232	8-729-900-63	TRANSISTOR DTA124ES	
Q233	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q234	8-729-900-63	TRANSISTOR DTA124ES	
Q237	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q251	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q252	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q301	8-729-900-61	TRANSISTOR DTA114ES	
Q302	8-729-900-61	TRANSISTOR DTA114ES	
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q911	8-729-900-80	TRANSISTOR DTC114ES	
Q999	8-729-900-61	TRANSISTOR DTA114ES	
Q9001	8-729-900-80	TRANSISTOR DTC114ES	
Q9002	8-729-900-80	TRANSISTOR DTC114ES	
Q9003	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R1	1-249-411-11	CARBON 330 5% 1/4W	
R2	1-249-411-11	CARBON 330 5% 1/4W	
R3	1-247-891-00	CARBON 330K 5% 1/4W	
R4	1-249-411-11	CARBON 330 5% 1/4W	
△R7	1-249-405-11	CARBON 100 5% 1/4W F	

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MAIN	VOL
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Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R8	1-249-441-11	CARBON	100K	5%	1/4W	R100	1-247-848-11	CARBON	5.1K	5%	1/4W
R9	1-249-437-11	CARBON	47K	5%	1/4W	R102	1-249-430-11	CARBON	12K	5%	1/4W
R10	1-249-429-11	CARBON	10K	5%	1/4W	△R103	1-249-428-11	CARBON	8.2K	5%	1/4W F
△R11	1-249-421-11	CARBON	2.2K	5%	1/4W F	R104	1-249-435-11	CARBON	33K	5%	1/4W
△R12	1-249-421-11	CARBON	2.2K	5%	1/4W F	△R108	1-249-417-11	CARBON	1K	5%	1/4W F
△R20	1-249-425-11	CARBON	4.7K	5%	1/4W F	△R142	1-249-417-11	CARBON	1K	5%	1/4W F
R21	1-249-437-11	CARBON	47K	5%	1/4W	R143	1-249-431-11	CARBON	15K	5%	1/4W
R31	1-249-429-11	CARBON	10K	5%	1/4W	△R144	1-249-393-11	CARBON	10	5%	1/4W F
R32	1-249-429-11	CARBON	10K	5%	1/4W	R200	1-247-887-00	CARBON	220K	5%	1/4W
R39	1-247-903-00	CARBON	1M	5%	1/4W	R201	1-249-429-11	CARBON	10K	5%	1/4W
R41	1-249-429-11	CARBON	10K	5%	1/4W	R202	1-247-862-11	CARBON	20K	5%	1/4W
R48	1-249-429-11	CARBON	10K	5%	1/4W	R203	1-247-862-11	CARBON	20K	5%	1/4W
R49	1-249-437-11	CARBON	47K	5%	1/4W	△R206	1-249-427-11	CARBON	6.8K	5%	1/4W F
△R50	1-249-417-11	CARBON	1K	5%	1/4W F	R209	1-247-903-00	CARBON	1M	5%	1/4W
△R51	1-249-417-11	CARBON	1K	5%	1/4W F	R210	1-247-903-00	CARBON	1M	5%	1/4W
△R52	1-249-417-11	CARBON	1K	5%	1/4W F	R211	1-247-903-00	CARBON	1M	5%	1/4W
△R53	1-249-417-11	CARBON	1K	5%	1/4W F	R212	1-247-903-00	CARBON	1M	5%	1/4W
△R54	1-249-417-11	CARBON	1K	5%	1/4W F	R213	1-247-903-00	CARBON	1M	5%	1/4W
△R55	1-249-425-11	CARBON	4.7K	5%	1/4W F	R214	1-247-903-00	CARBON	1M	5%	1/4W
△R56	1-249-405-11	CARBON	100	5%	1/4W F	△R215	1-249-423-11	CARBON	3.3K	5%	1/4W F
△R57	1-249-401-11	CARBON	47	5%	1/4W F	R216	1-247-903-00	CARBON	1M	5%	1/4W
△R58	1-249-423-11	CARBON	3.3K	5%	1/4W F	△R217	1-249-427-11	CARBON	6.8K	5%	1/4W F
△R59	1-249-414-11	CARBON	560	5%	1/4W F	R221	1-249-441-11	CARBON	100K	5%	1/4W
△R60	1-249-417-11	CARBON	1K	5%	1/4W F	△R222	1-249-428-11	CARBON	8.2K	5%	1/4W F
△R61	1-249-410-11	CARBON	270	5%	1/4W F	R227	1-247-887-00	CARBON	220K	5%	1/4W
△R62	1-249-425-11	CARBON	4.7K	5%	1/4W F	R228	1-247-887-00	CARBON	220K	5%	1/4W
△R63	1-249-421-11	CARBON	2.2K	5%	1/4W F	R233	1-249-441-11	CARBON	100K	5%	1/4W
△R64	1-249-425-11	CARBON	4.7K	5%	1/4W F	R235	1-249-887-00	CARBON	220K	5%	1/4W
△R65	1-249-425-11	CARBON	4.7K	5%	1/4W F	△R236	1-249-417-11	CARBON	1K	5%	1/4W F
△R66	1-249-405-11	CARBON	100	5%	1/4W F	R237	1-247-862-11	CARBON	20K	5%	1/4W
R81	1-249-433-11	CARBON	22K	5%	1/4W	R241	1-249-433-11	CARBON	22K	5%	1/4W
△R82	1-249-417-11	CARBON	1K	5%	1/4W F	△R242	1-249-417-11	CARBON	1K	5%	1/4W F
△R83	1-249-399-11	CARBON	33	5%	1/4W F	△R243	1-249-417-11	CARBON	1K	5%	1/4W F
R84	1-249-429-11	CARBON	10K	5%	1/4W	R244	1-247-816-11	CARBON	240	5%	1/4W
R85	1-249-429-11	CARBON	10K	5%	1/4W	R245	1-249-433-11	CARBON	22K	5%	1/4W
R86	1-249-437-11	CARBON	47K	5%	1/4W	R246	1-247-903-00	CARBON	1M	5%	1/4W
△R87	1-249-409-11	CARBON	220	5%	1/4W F	R247	1-247-854-11	CARBON	9.1K	5%	1/4W
R88	1-249-429-11	CARBON	10K	5%	1/4W	R248	1-249-437-11	CARBON	47K	5%	1/4W
R89	1-249-429-11	CARBON	10K	5%	1/4W	R250	1-247-887-00	CARBON	220K	5%	1/4W
△R90	1-249-421-11	CARBON	2.2K	5%	1/4W F	R251	1-249-429-11	CARBON	10K	5%	1/4W
△R91	1-249-421-11	CARBON	2.2K	5%	1/4W F	R252	1-247-862-11	CARBON	20K	5%	1/4W
R92	1-247-891-00	CARBON	330K	5%	1/4W	R253	1-247-862-11	CARBON	20K	5%	1/4W
R93	1-247-891-00	CARBON	330K	5%	1/4W	△R256	1-249-427-11	CARBON	6.8K	5%	1/4W F
△R94	1-249-420-11	CARBON	1.8K	5%	1/4W F	R259	1-247-903-00	CARBON	1M	5%	1/4W
△R95	1-249-420-11	CARBON	1.8K	5%	1/4W F	R260	1-247-903-00	CARBON	1M	5%	1/4W
△R96	1-249-425-11	CARBON	4.7K	5%	1/4W F	R261	1-247-903-00	CARBON	1M	5%	1/4W
△R97	1-249-425-11	CARBON	4.7K	5%	1/4W F	R262	1-247-903-00	CARBON	1M	5%	1/4W
R98	1-249-404-00	CARBON	82	5%	1/4W	R263	1-247-903-00	CARBON	1M	5%	1/4W
△R99	1-249-417-11	CARBON	1K	5%	1/4W F						

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

MAIN

VOL

POWER

Ref. No.	Part No.	Description			Remark
R264	1-247-903-00	CARBON	1M	5%	1/4W
<u>△</u> R265	1-249-423-11	CARBON	3.3K	5%	1/4W F
R266	1-247-903-00	CARBON	1M	5%	1/4W
<u>△</u> R267	1-249-427-11	CARBON	6.8K	5%	1/4W F
R271	1-249-441-11	CARBON	100K	5%	1/4W
<u>△</u> R272	1-249-428-11	CARBON	8.2K	5%	1/4W F
R277	1-247-887-00	CARBON	220K	5%	1/4W
R278	1-247-887-00	CARBON	220K	5%	1/4W
R283	1-249-441-11	CARBON	100K	5%	1/4W
R285	1-249-887-00	CARBON	220K	5%	1/4W
R287	1-247-862-11	CARBON	20K	5%	1/4W
R290	1-249-437-11	CARBON	47K	5%	1/4W
R294	1-249-442-11	CARBON	510	5%	1/4W
R297	1-249-433-11	CARBON	22K	5%	1/4W
R298	1-249-441-11	CARBON	100K	5%	1/4W
<u>△</u> R301	1-249-417-11	CARBON	1K	5%	1/4W F
R302	1-249-437-11	CARBON	47K	5%	1/4W
<u>△</u> R306	1-249-417-11	CARBON	1K	5%	1/4W F
R307	1-249-437-11	CARBON	47K	5%	1/4W
<u>△</u> R308	1-249-417-11	CARBON	1K	5%	1/4W F
<u>△</u> R309	1-249-417-11	CARBON	1K	5%	1/4W F
<u>△</u> R310	1-249-417-11	CARBON	1K	5%	1/4W F
R340	1-249-433-11	CARBON	22K	5%	1/4W
R341	1-249-433-11	CARBON	22K	5%	1/4W
<u>△</u> R351	1-249-417-11	CARBON	1K	5%	1/4W F
R352	1-249-437-11	CARBON	47K	5%	1/4W
<u>△</u> R356	1-249-417-11	CARBON	1K	5%	1/4W F
R357	1-249-437-11	CARBON	47K	5%	1/4W
<u>△</u> R358	1-249-417-11	CARBON	1K	5%	1/4W F
<u>△</u> R359	1-249-417-11	CARBON	1K	5%	1/4W F
<u>△</u> R360	1-249-417-11	CARBON	1K	5%	1/4W F
R407	1-247-887-00	CARBON	220K	5%	1/4W
R457	1-247-887-00	CARBON	220K	5%	1/4W
<u>△</u> R486	1-249-413-11	CARBON	470	5%	1/4W F
R831	1-249-433-11	CARBON	22K	5%	1/4W
<u>△</u> R832	1-249-417-11	CARBON	1K	5%	1/4W F
R923	1-249-429-11	CARBON	10K	5%	1/4W
<u>△</u> R924	1-217-637-00	FUSIBLE	1	5%	1/4W F
R2001	1-249-441-11	CARBON	100K	5%	1/4W
<u>△</u> R2002	1-249-425-11	CARBON	4.7K	5%	1/4W F
R2003	1-249-433-11	CARBON	22K	5%	1/4W
R2004	1-249-433-11	CARBON	22K	5%	1/4W
<u>△</u> R2052	1-249-425-11	CARBON	4.7K	5%	1/4W F
R9001	1-249-429-11	CARBON	10K	5%	1/4W
R9002	1-249-429-11	CARBON	10K	5%	1/4W
R9003	1-249-429-11	CARBON	10K	5%	1/4W
R9004	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description				Remark
		< VARIABLE RESISTOR >				
RV81	1-238-601-11	RES, ADJ, CARBON	22K			
RV82	1-238-601-11	RES, ADJ, CARBON	22K			
RV406	1-241-998-11	RES, VAR, CARBON	100K/100K		(VOLUME)	
		< RELAY >				
RY801	1-515-790-11	RELAY				
		< TRANSFORMER >				
T1	1-402-424-11	COIL (ANT, SW3)				
T2	1-406-346-11	COIL (OSC, SW3)				
		< TERMINAL >				
TB1	1-537-238-21	TERMINAL BOARD				
* TB3	4-942-204-01	PLATE, GROUND				
		< TERMINAL >				
TM301	1-537-238-11	TERMINAL BOARD				
		< TEST PIN >				
* TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P				
		< VIBRATOR >				
X51	1-579-585-11	VIBRATOR, CRYSTAL (7.2MHz)				
X81	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)				

* A-4356-378-A	POWER BOARD, COMPLETE					

		< CAPACITOR >				
C801	1-124-907-11	ELECT	10uF	20%	50V	
C802	1-162-282-31	CERAMIC	100PF	10%	50V	
C803	1-124-443-00	ELECT	100uF	20%	10V	
C811	1-136-163-00	FILM	0.068uF	5%	50V	
C812	1-136-163-00	FILM	0.068uF	5%	50V	
C821	1-126-176-11	ELECT	220uF	20%	10V	
C822	1-126-176-11	ELECT	220uF	20%	10V	
C824	1-124-443-00	ELECT	100uF	20%	10V	
C851	1-124-907-11	ELECT	10uF	20%	50V	
C852	1-162-282-31	CERAMIC	100PF	10%	50V	
C853	1-124-443-00	ELECT	100uF	20%	10V	
C861	1-136-163-00	FILM	0.068uF	5%	50V	
C862	1-136-163-00	FILM	0.068uF	5%	50V	
C871	1-126-258-11	ELECT	4700uF	20%	56V	
C872	1-126-258-11	ELECT	4700uF	20%	56V	
C875	1-126-233-11	ELECT	22uF	20%	50V	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
C876	1-124-572-11	ELECT	100uF 20% 63V
C877	1-126-233-11	ELECT	22uF 20% 50V
C878	1-124-572-11	ELECT	100uF 20% 63V
C881	1-162-286-31	CERAMIC	220PF 10% 50V
C882	1-162-286-31	CERAMIC	220PF 10% 50V
C883	1-162-207-31	CERAMIC	22PF 5% 50V
C884	1-162-207-31	CERAMIC	22PF 5% 50V
C885	1-126-233-11	ELECT	22uF 20% 50V
C886	1-126-233-11	ELECT	22uF 20% 50V
C899	1-136-157-00	FILM	0.022uF 5% 50V
△C901	1-124-564-11	ELECT	4700uF 20% 25V
C902	1-124-927-11	ELECT	4.7uF 20% 100V
C903	1-124-927-11	ELECT	4.7uF 20% 100V
C904	1-126-233-11	ELECT	22uF 20% 50V
C905	1-124-927-11	ELECT	4.7uF 20% 100V
C906	1-124-927-11	ELECT	4.7uF 20% 100V
C908	1-124-907-11	ELECT	10uF 20% 50V
C909	1-124-907-11	ELECT	10uF 20% 50V
C911	1-124-572-11	ELECT	100uF 20% 63V
C912	1-124-910-11	ELECT	47uF 20% 50V
C913	1-161-379-00	CERAMIC	0.01uF 20% 25V
C915	1-124-927-11	ELECT	4.7uF 20% 100V
C916	1-124-927-11	ELECT	4.7uF 20% 100V
△C922	1-124-564-11	ELECT	4700uF 20% 25V
C923	1-124-252-00	ELECT	0.33uF 20% 50V
C924	1-124-464-11	ELECT	0.22uF 20% 50V
C930	1-124-907-11	ELECT	10uF 20% 50V
C931	1-124-913-11	ELECT	470uF 20% 50V
C932	1-126-233-11	ELECT	22uF 20% 50V
C933	1-124-913-11	ELECT	470uF 20% 50V
C934	1-126-233-11	ELECT	22uF 20% 50V
C999	1-101-005-00	CERAMIC	22000PF 50V
< CONNECTOR >			
* CN802	1-564-523-11	PLUG, CONNECTOR	8P
* CN803	1-564-521-11	PLUG, CONNECTOR	6P
* CN804	1-695-069-21	CONNECTOR, FFC/FPC	11P
* CN854	1-560-338-00	PIN, CONNECTOR	7P
< COMPOSITION CIRCUIT BLOCK >			
CP801	1-102-394-11	CERAMIC	0.01uF 250V
< DIODE >			
D802	8-719-815-85	DIODE	1S1585
D810	8-719-302-38	DIODE	RBV-602-01
D811	8-719-815-85	DIODE	1S1585
D861	8-719-815-85	DIODE	1S1585
D901	8-719-200-02	DIODE	10E2

Ref. No.	Part No.	Description	Remark
D902	8-719-200-02	DIODE	10E2
D904	8-719-933-41	DIODE	HZS6C3L
D906	8-719-200-02	DIODE	10E2
D907	8-719-011-22	DIODE	UZ-36BSB
D909	8-719-001-15	DIODE	UZL-9M2
D910	8-719-987-63	DIODE	1N4148M
D915	8-719-987-63	DIODE	1N4148M
D916	8-719-987-63	DIODE	1N4148M
D923	8-719-200-02	DIODE	10E2
D924	8-719-200-02	DIODE	10E2
D931	8-719-200-02	DIODE	10E2
D932	8-719-200-02	DIODE	10E2
D933	8-719-200-02	DIODE	10E2
D934	8-719-200-02	DIODE	10E2
< CONNECTOR >			
* DIP801	1-562-327-00	SOCKET, CONNECTOR	3P
* DIP802	1-562-327-00	SOCKET, CONNECTOR	3P
* DIP803	1-562-327-00	SOCKET, CONNECTOR	3P
* DIP804	1-562-327-00	SOCKET, CONNECTOR	3P
< IC >			
IC801	8-749-922-97	IC	STK401-110
IC851	8-759-111-68	IC	uPC1237HA
IC901	8-759-602-66	IC	M5230L-A
< TRANSISTOR >			
Q801	8-729-900-63	TRANSISTOR	DTA124ES
Q811	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA
Q861	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA
Q901	8-729-620-05	TRANSISTOR	2SC2603-EF
Q903	8-729-209-15	TRANSISTOR	2SD2012
Q904	8-729-141-83	TRANSISTOR	2SB1094-LK
Q905	8-729-620-05	TRANSISTOR	2SC2603-EF
Q906	8-729-209-15	TRANSISTOR	2SD2012
Q907	8-729-209-15	TRANSISTOR	2SD2012
Q908	8-729-209-15	TRANSISTOR	2SD2012
< RESISTOR >			
△R801	1-249-417-11	CARBON	1K 5% 1/4W F
R802	1-249-438-11	CARBON	56K 5% 1/4W
△R803	1-249-414-11	CARBON	560 5% 1/4W F
R804	1-249-438-11	CARBON	56K 5% 1/4W
△R811	1-217-156-00	METAL PLATE	0.22
△R812	1-249-417-11	CARBON	1K 5% 1/4W F
R813	1-249-431-11	CARBON	15K 5% 1/4W
R814	1-249-441-11	CARBON	100K 5% 1/4W
R815	1-247-727-11	CARBON	10 5% 1/2W
R816	1-249-438-11	CARBON	56K 5% 1/4W

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

POWER

TC

MIC/HP

SW

VOLTAGE SELECT

Ref. No.	Part No.	Description	Remark			
△R821	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R822	1-249-487-11	CARBON	15K	5%	1/2W	
R823	1-249-429-11	CARBON	10K	5%	1/4W	
R824	1-249-432-11	CARBON	18K	5%	1/4W	
R825	1-249-441-11	CARBON	100K	5%	1/4W	
R826	1-249-437-11	CARBON	47K	5%	1/4W	
△R831	1-219-134-11	FUSIBLE	0.1	5%	1/4W	F
△R851	1-249-417-11	CARBON	1K	5%	1/4W	F
R852	1-249-438-11	CARBON	56K	5%	1/4W	
△R853	1-249-414-11	CARBON	560	5%	1/4W	F
R854	1-249-438-11	CARBON	56K	5%	1/4W	
△R861	1-217-156-00	METAL PLATE	0.22			
△R862	1-249-417-11	CARBON	1K	5%	1/4W	F
R863	1-249-431-11	CARBON	15K	5%	1/4W	
R864	1-249-441-11	CARBON	100K	5%	1/4W	
R865	1-247-727-11	CARBON	10	5%	1/2W	
R866	1-249-437-11	CARBON	47K	5%	1/4W	
△R879	1-212-881-11	FUSIBLE	100	5%	1/4W	F
△R880	1-212-881-11	FUSIBLE	100	5%	1/4W	F
△R881	1-219-134-11	FUSIBLE	0.1	5%	1/4W	F
△R889	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
△R902	1-219-108-11	FUSIBLE	1.5	5%	1W	F
R903	1-247-903-00	CARBON	1M	5%	1/4W	
△R904	1-249-405-11	CARBON	100	5%	1/4W	F
R905	1-249-432-11	CARBON	18K	5%	1/4W	
R906	1-247-842-11	CARBON	3K	5%	1/4W	
R907	1-249-431-11	CARBON	15K	5%	1/4W	
R908	1-247-854-11	CARBON	9.1K	5%	1/4W	
△R909	1-219-153-11	FUSIBLE	10	5%	1/4W	F
△R910	1-249-417-11	CARBON	1K	5%	1/4W	F
△R911	1-249-417-11	CARBON	1K	5%	1/4W	F
△R913	1-212-865-00	FUSIBLE	22	5%	1/4W	F
△R914	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R921	1-249-429-11	CARBON	10K	5%	1/4W	
R922	1-249-441-11	CARBON	100K	5%	1/4W	
△R927	1-249-417-11	CARBON	1K	5%	1/4W	F
△R928	1-249-417-11	CARBON	1K	5%	1/4W	F
△R931	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R952	1-247-903-00	CARBON	1M	5%	1/4W	
R953	1-247-903-00	CARBON	1M	5%	1/4W	
R954	1-247-903-00	CARBON	1M	5%	1/4W	
R955	1-249-429-11	CARBON	10K	5%	1/4W	
△R999	9-910-999-33	FUSIBLE	0.22	5%	1/4W	F

Ref. No.	Part No.	Description	Remark			
*	A-4343-848-A	TC BOARD, COMPLETE				

		MIC/HP BOARD				

		SW BOARD				

		VOLTAGE SELECT BOARD				

*	1-533-213-31	HOLDER, FUSE				
		< CAPACITOR >				
C201	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V	
C202	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C203	1-124-254-00	ELECT	0.68uF	20%	50V	
C204	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C205	1-124-257-00	ELECT	2.2uF	20%	50V	
C206	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C207	1-126-157-11	ELECT	10uF	20%	16V	
C208	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C209	1-124-257-00	ELECT	2.2uF	20%	50V	
C301	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V	
C302	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C303	1-124-254-00	ELECT	0.68uF	20%	50V	
C304	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C305	1-124-257-00	ELECT	2.2uF	20%	50V	
C306	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C307	1-126-157-11	ELECT	10uF	20%	16V	
C308	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C309	1-124-257-00	ELECT	2.2uF	20%	50V	
C401	1-126-933-11	ELECT	100uF	20%	16V	
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C404	1-124-443-00	ELECT	100uF	20%	10V	
C405	1-124-443-00	ELECT	100uF	20%	10V	
C407	1-124-257-00	ELECT	2.2uF	20%	50V	
C408	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C409	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C410	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C411	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C412	1-124-903-11	ELECT	1uF	20%	50V	
C413	1-126-925-11	ELECT	470uF	20%	10V	
C414	1-124-443-00	ELECT	100uF	20%	10V	
C415	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C416	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C417	1-124-482-11	ELECT	33uF	20%	35V	
C419	1-126-926-11	ELECT	1000uF	20%	10V	
C420	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C421	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C422	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	

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TC	MIC/HP	SW	VOLTAGE SELECT
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Ref. No.	Part No.	Description	Remark
C424	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C425	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C426	1-124-478-11	ELECT 100uF 20%	25V
C427	1-124-478-11	ELECT 100uF 20%	25V
C428	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V
C429	1-126-926-11	ELECT 1000uF 20%	10V
C623	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C624	1-124-903-11	ELECT 1uF 20%	50V
C625	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C626	1-136-162-00	FILM 0.056uF 5%	50V
C631	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C632	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C633	1-163-005-11	CERAMIC CHIP 470PF 10%	50V
C636	1-126-157-11	ELECT 10uF 20%	16V
C637	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C638	1-126-101-11	ELECT 100uF 20%	16V
C639	1-126-157-11	ELECT 10uF 20%	16V
C640	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C681	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C682	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C683	1-163-005-11	CERAMIC CHIP 470PF 10%	50V
C686	1-126-157-11	ELECT 10uF 20%	16V
C687	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C689	1-126-157-11	ELECT 10uF 20%	16V
C691	1-124-604-00	ELECT 330uF 20%	10V
C692	1-124-604-00	ELECT 330uF 20%	10V
C4001	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C4002	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C4003	1-164-005-11	CERAMIC CHIP 0.47uF	25V
< CONNECTOR >			
CN402	1-573-101-11	SOCKET, CONNECTOR 9P	
CN403	1-580-783-11	CONNECTOR, BOARD TO BOARD	
CN404	1-573-101-11	SOCKET, CONNECTOR 9P	
CN405	1-580-783-11	CONNECTOR, BOARD TO BOARD	
CN406	1-580-783-11	CONNECTOR, BOARD TO BOARD	
* CN407	1-566-970-11	HOUSING, CONNECTOR(PC BOARD)8P	
* CN408	1-566-970-11	HOUSING, CONNECTOR(PC BOARD)8P	
CN410	1-695-068-21	CONNECTOR, FFC/FPC 15P	
* CN601	1-568-454-11	PIN, CONNECTOR (PC BOARD) 9P	
* CN602	1-573-100-11	SOCKET, CONNECTOR 4P	
* CN851	1-564-321-00	PIN, CONNECTOR 2P	
CN853	1-568-106-11	PIN, CONNECTOR 4P	
* CN1501	1-691-894-11	CONNECTOR, FFC/FPC 15P	
< DIODE >			
D401	8-719-210-33	DIODE EC10DS2	
D403	8-719-801-78	DIODE 1SS184	

Ref. No.	Part No.	Description	Remark
D404	8-719-021-41	DIODE UZM5.6X	
D405	8-719-021-77	DIODE UZM8.2Z	
D407	8-719-801-78	DIODE 1SS184	
D410	8-719-801-78	DIODE 1SS184	
D411	8-719-820-05	DIODE 1SS181	
D414	8-719-210-33	DIODE EC10DS2	
D416	8-719-801-78	DIODE 1SS184	
D1501	8-719-026-66	LED SML1460E (<C>)	
D1502	8-719-026-66	LED SML1460E (>D>)	
D1503	8-719-026-64	LED SML1260S (HIGH SPEED)	
D1504	8-719-026-64	LED SML1260S (CD SYNC)	
D1506	8-719-026-68	LED SML1960A (PAUSE)	
D1507	8-719-026-66	LED SML1460E (<C>)	
D1508	8-719-026-66	LED SML1460E (>D>)	
D1509	8-719-026-64	LED SML1260S (REC)	
D4001	8-719-801-78	DIODE 1SS184	
< FUSE >			
△F801	1-532-203-00	FUSE, TIME LAG (T2A, 250V)	
△F802	1-532-350-00	FUSE, TIME LAG (T4A, 250V)	
< IC >			
IC201	8-759-300-71	IC HD14053BFP	
IC202	8-752-050-13	IC CXA1101M	
IC203	8-759-996-43	IC RC4558PS	
IC204	8-759-516-47	IC CD4066BCM	
IC205	8-752-055-60	IC CXA1578M	
IC401	8-759-061-36	IC M50964-302	
IC402	8-759-207-05	IC TA7272P	
IC403	8-759-996-43	IC RC4558PS	
IC404	8-759-925-85	IC SN74HC32ANS	
IC405	8-759-520-90	IC PST572E	
IC602	8-759-636-55	IC M5218AFP	
< JACK >			
J601	1-562-837-21	JACK (HEADPHONES)	
J602	1-562-837-21	JACK (MIX MIC)	
< COIL >			
L403	1-410-482-31	INDUCTOR 100uH	
L404	1-410-482-31	INDUCTOR 100uH	
< TRANSISTOR >			
Q201	8-729-900-80	TRANSISTOR DTC114ES	
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q301	8-729-900-80	TRANSISTOR DTC114ES	
Q302	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q401	8-729-804-41	TRANSISTOR 2SB1122-S	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

TC **MIC/HP** **SW** **VOLTAGE SELECT**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q402	8-729-804-41	TRANSISTOR	2SB1122-S	R404	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q403	8-729-900-61	TRANSISTOR	DTA114ES	R405	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q404	8-729-900-80	TRANSISTOR	DTC114ES	R406	1-216-113-00	METAL CHIP	470K 5% 1/10W
Q405	8-729-900-61	TRANSISTOR	DTA114ES	R407	1-216-113-00	METAL CHIP	470K 5% 1/10W
Q406	8-729-900-61	TRANSISTOR	DTA114ES	R408	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q407	8-729-900-61	TRANSISTOR	DTA114ES	R409	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q408	8-729-900-80	TRANSISTOR	DTC114ES	R410	1-216-045-00	METAL CHIP	680 5% 1/10W
Q409	8-729-900-65	TRANSISTOR	DTA144ES	R411	1-216-037-00	METAL CHIP	330 5% 1/10W
Q410	8-729-900-65	TRANSISTOR	DTA144ES	R412	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q411	8-729-900-80	TRANSISTOR	DTC114ES	R413	1-216-045-00	METAL CHIP	680 5% 1/10W
Q412	8-729-900-61	TRANSISTOR	DTA114ES	R414	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q414	8-729-900-80	TRANSISTOR	DTC114ES	R415	1-216-083-00	METAL CHIP	27K 5% 1/10W
Q415	8-729-900-61	TRANSISTOR	DTA114ES	R416	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q602	8-729-620-05	TRANSISTOR	2SC2603-EF	R417	1-216-083-00	METAL CHIP	27K 5% 1/10W
< RESISTOR >				R418	1-216-085-00	METAL CHIP	33K 5% 1/10W
R201	1-216-089-00	METAL CHIP	47K 5% 1/10W	R419	1-216-084-00	METAL CHIP	30K 5% 1/10W
R202	1-216-089-00	METAL CHIP	47K 5% 1/10W	R420	1-216-089-00	METAL CHIP	47K 5% 1/10W
R203	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R421	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R204	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	R422	1-216-090-00	METAL CHIP	51K 5% 1/10W
R205	1-216-105-00	METAL CHIP	220K 5% 1/10W	R423	1-216-080-00	METAL CHIP	20K 5% 1/10W
R206	1-216-025-00	METAL CHIP	100 5% 1/10W	R424	1-216-090-00	METAL CHIP	51K 5% 1/10W
R207	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R425	1-216-025-00	METAL CHIP	100 5% 1/10W
R208	1-216-105-00	METAL CHIP	220K 5% 1/10W	R426	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R209	1-216-097-00	METAL CHIP	100K 5% 1/10W	R427	1-216-085-00	METAL CHIP	33K 5% 1/10W
R210	1-216-066-00	METAL CHIP	5.1K 5% 1/10W	R428	1-216-089-00	METAL CHIP	47K 5% 1/10W
R211	1-216-025-00	METAL CHIP	100 5% 1/10W	R429	1-216-090-00	METAL CHIP	51K 5% 1/10W
R212	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R430	1-216-084-00	METAL CHIP	30K 5% 1/10W
R213	1-216-081-00	METAL CHIP	22K 5% 1/10W	R431	1-216-080-00	METAL CHIP	20K 5% 1/10W
R214	1-216-089-00	METAL CHIP	47K 5% 1/10W	R432	1-216-090-00	METAL CHIP	51K 5% 1/10W
R215	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R433	1-216-025-00	METAL CHIP	100 5% 1/10W
R301	1-216-089-00	METAL CHIP	47K 5% 1/10W	R434	1-216-121-00	METAL CHIP	1M 5% 1/10W
R302	1-216-089-00	METAL CHIP	47K 5% 1/10W	R435	1-216-073-00	METAL CHIP	10K 5% 1/10W
R303	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R436	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R304	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	R437	1-216-073-00	METAL CHIP	10K 5% 1/10W
R305	1-216-105-00	METAL CHIP	220K 5% 1/10W	R438	1-216-073-00	METAL CHIP	10K 5% 1/10W
R306	1-216-025-00	METAL CHIP	100 5% 1/10W	R440	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R307	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R441	1-216-041-00	METAL CHIP	470 5% 1/10W
R308	1-216-105-00	METAL CHIP	220K 5% 1/10W	R444	1-216-073-00	METAL CHIP	10K 5% 1/10W
R309	1-216-097-00	METAL CHIP	100K 5% 1/10W	R445	1-216-073-00	METAL CHIP	10K 5% 1/10W
R310	1-216-066-00	METAL CHIP	5.1K 5% 1/10W	R446	1-216-097-00	METAL CHIP	100K 5% 1/10W
R311	1-216-025-00	METAL CHIP	100 5% 1/10W	R447	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R312	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R448	1-216-089-00	METAL CHIP	47K 5% 1/10W
R313	1-216-081-00	METAL CHIP	22K 5% 1/10W	R449	1-216-113-00	METAL CHIP	470K 5% 1/10W
R314	1-216-089-00	METAL CHIP	47K 5% 1/10W	R450	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R315	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R451	1-216-097-00	METAL CHIP	100K 5% 1/10W
R401	1-216-037-00	METAL CHIP	330 5% 1/10W	R452	1-216-097-00	METAL CHIP	100K 5% 1/10W
R402	1-216-037-00	METAL CHIP	330 5% 1/10W	R453	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R403	1-216-037-00	METAL CHIP	330 5% 1/10W	R454	1-216-097-00	METAL CHIP	100K 5% 1/10W

TC

MIC/HP

SW

VOLTAGE SELECT

Ref. No.	Part No.	Description	Remark		
R455	1-216-089-00	METAL CHIP	47K	5%	1/10W
R456	1-216-089-00	METAL CHIP	47K	5%	1/10W
R457	1-216-089-00	METAL CHIP	47K	5%	1/10W
R458	1-216-088-00	METAL CHIP	43K	5%	1/10W
R459	1-216-089-00	METAL CHIP	47K	5%	1/10W
R460	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R461	1-216-081-00	METAL CHIP	22K	5%	1/10W
R462	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R463	1-216-073-00	METAL CHIP	10K	5%	1/10W
R464	1-216-073-00	METAL CHIP	10K	5%	1/10W
R466	1-216-025-00	METAL CHIP	100	5%	1/10W
R467	1-216-025-00	METAL CHIP	100	5%	1/10W
R470	1-216-073-00	METAL CHIP	10K	5%	1/10W
R471	1-216-073-00	METAL CHIP	10K	5%	1/10W
R472	1-216-073-00	METAL CHIP	10K	5%	1/10W
R473	1-216-073-00	METAL CHIP	10K	5%	1/10W
R474	1-216-073-00	METAL CHIP	10K	5%	1/10W
R475	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R616	1-216-045-00	METAL CHIP	680	5%	1/10W
R617	1-216-121-00	METAL CHIP	1M	5%	1/10W
R618	1-216-060-00	METAL GLAZE	3K	5%	1/10W
R619	1-216-025-00	METAL CHIP	100	5%	1/10W
R623	1-216-025-00	METAL CHIP	100	5%	1/10W
R626	1-216-049-00	METAL CHIP	1K	5%	1/10W
R627	1-216-089-00	METAL CHIP	47K	5%	1/10W
R628	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R629	1-216-089-00	METAL CHIP	47K	5%	1/10W
R630	1-216-017-00	METAL CHIP	47	5%	1/10W
R632	1-216-097-00	METAL CHIP	100K	5%	1/10W
R634	1-216-035-00	METAL CHIP	270	5%	1/10W
R635	1-216-089-00	METAL CHIP	47K	5%	1/10W
R637	1-216-105-00	METAL CHIP	220K	5%	1/10W
R676	1-216-049-00	METAL CHIP	1K	5%	1/10W
R677	1-216-089-00	METAL CHIP	47K	5%	1/10W
R678	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R679	1-216-089-00	METAL CHIP	47K	5%	1/10W
R687	1-216-105-00	METAL CHIP	220K	5%	1/10W
R688	1-216-017-00	METAL CHIP	47	5%	1/10W
R691	1-216-013-00	METAL CHIP	33	5%	1/10W
R692	1-216-013-00	METAL CHIP	33	5%	1/10W
R1028	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R1501	1-216-041-00	METAL CHIP	470	5%	1/10W
R1502	1-216-045-00	METAL CHIP	680	5%	1/10W
R1503	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1504	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R1505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R1506	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R1507	1-216-075-00	METAL CHIP	12K	5%	1/10W
R1508	1-216-065-00	METAL CHIP	4.7K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R1509	1-216-075-00	METAL CHIP	12K	5%	1/10W
R1510	1-216-029-00	METAL CHIP	150	5%	1/10W
R1511	1-216-033-00	METAL CHIP	220	5%	1/10W
R1512	1-216-037-00	METAL CHIP	330	5%	1/10W
R1513	1-216-041-00	METAL CHIP	470	5%	1/10W
R1514	1-216-045-00	METAL CHIP	680	5%	1/10W
R1515	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1517	1-216-075-00	METAL CHIP	12K	5%	1/10W
R1518	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1519	1-216-029-00	METAL CHIP	150	5%	1/10W
R1520	1-216-033-00	METAL CHIP	220	5%	1/10W
R1521	1-216-037-00	METAL CHIP	330	5%	1/10W
R1522	1-216-041-00	METAL CHIP	470	5%	1/10W
R1523	1-216-045-00	METAL CHIP	680	5%	1/10W
R1524	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1525	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1526	1-216-029-00	METAL CHIP	150	5%	1/10W
R1527	1-216-029-00	METAL CHIP	150	5%	1/10W
R1530	1-216-029-00	METAL CHIP	150	5%	1/10W
R1531	1-216-029-00	METAL CHIP	150	5%	1/10W
R2001	1-216-073-00	METAL CHIP	10K	5%	1/10W
R4000	1-216-049-00	METAL CHIP	1K	5%	1/10W
R4001	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4002	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4003	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4004	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4005	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4006	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4007	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R4008	1-216-298-00	METAL CHIP	2.2	5%	1/10W
△R4009	1-212-849-00	FUSIBLE	4.7	5%	1/4W F
△R4010	1-212-849-00	FUSIBLE	4.7	5%	1/4W F
△R4099	1-249-390-11	CARBON	5.6	5%	1/6W F
R4421	1-216-049-00	METAL CHIP	1K	5%	1/10W
< VARIABLE RESISTOR >					
RV201	1-241-136-11	RES, ADJ, CARBON 10K			
RV301	1-241-136-11	RES, ADJ, CARBON 10K			
< SWITCH >					
△S801	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR)			
S1022	1-572-184-11	SWITCH, KEYBOARD (CONTINUE)			
S1501	1-572-184-11	SWITCH, KEYBOARD (△)			
S1502	1-572-184-11	SWITCH, KEYBOARD (▶)			
S1503	1-572-184-11	SWITCH, KEYBOARD (■)			
S1504	1-572-184-11	SWITCH, KEYBOARD (▶▶▶▶)			
S1505	1-572-184-11	SWITCH, KEYBOARD (◀◀◀◀)			
S1506	1-572-184-11	SWITCH, KEYBOARD (REPEAT)			
S1507	1-572-184-11	SWITCH, KEYBOARD (PROGRAM)			

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

TC MIC/HP SW VOLTAGE SELECT

Ref. No.	Part No.	Description	Remark
S1508	1-572-184-11	SWITCH, KEYBOARD (SHUFFLE)	
S1509	1-572-184-11	SWITCH, KEYBOARD (EDIT/TIME FADE)	
S1510	1-572-184-11	SWITCH, KEYBOARD (CHECK)	
S1511	1-572-184-11	SWITCH, KEYBOARD (■)	
S1512	1-572-184-11	SWITCH, KEYBOARD (PAUSE)	
S1513	1-572-184-11	SWITCH, KEYBOARD (>)	
S1514	1-572-184-11	SWITCH, KEYBOARD (<)	
S1516	1-572-184-11	SWITCH, KEYBOARD (◀)	
S1517	1-572-184-11	SWITCH, KEYBOARD (▶)	
S1518	1-572-184-11	SWITCH, KEYBOARD (■)	
S1519	1-572-184-11	SWITCH, KEYBOARD (>)	
S1520	1-572-184-11	SWITCH, KEYBOARD (<)	
S1521	1-572-184-11	SWITCH, KEYBOARD (◀)	
S1522	1-572-184-11	SWITCH, KEYBOARD (▶)	
S1523	1-572-184-11	SWITCH, KEYBOARD (REC)	
S1524	1-572-184-11	SWITCH, KEYBOARD (HIGH SPEED)	
S1525	1-572-184-11	SWITCH, KEYBOARD (CD SYNC)	
S1526	1-572-378-11	SWITCH, SLIDE (DIRECTION MODE)	
S1527	1-572-347-31	SWITCH, SLIDE (DOLBY NR)	
		< TEST PIN >	
* TP101	1-564-520-11	PLUG, CONNECTOR 5P	
* TP401	1-564-517-11	PLUG, CONNECTOR 2P	
		< VIBRATOR >	
X401	1-567-819-11	VIBRATOR, CERAMIC (4MHz)	

		MISCELLANEOUS	

5	1-690-997-11	WIRE, FLAT TYPE (11 CORE)	
55	1-690-854-31	WIRE, FLAT TYPE (16 CORE)	
58	1-690-996-11	WIRE, FLAT TYPE (4 CORE)	
* 59	1-590-240-11	WIRE, FLAT TYPE (9 CORE)	
64	1-690-588-31	WIRE, FLAT TYPE (9 CORE)	
△65	1-574-902-11	CORD, POWER (E, JE)	
△66	1-574-805-11	CORD, POWER (Saudi Arabia)	
167	1-638-983-11	MOTOR FLEXIBLE BOARD	
253	1-590-530-11	WIRE, FLAT TYPE	
264	1-690-853-11	WIRE, FLAT TYPE (19 CORE)	
△305	8-848-144-11	DEVICE, OPTICAL KSS-240A	
307	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
△F801	1-532-203-00	FUSE, TIME LAG (T2A, 250V)	
△F802	1-532-350-00	FUSE, TIME LAG (T4A, 250V)	
HP101	A-2003-868-F	BASE ASSY, HEAD (DECK A)	
HRP101	A-2003-838-F	BASE ASSY, HEAD (DECK B)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M101A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	

Ref. No.	Part No.	Description	Remark
M101B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M102B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M251	A-4608-362-A	MOTOR ASSY (LOADING)	
△T101	1-423-339-11	TRANSFORMER, POWER	

		ACCESSORIES & PACKING MATERIALS	

		1-693-057-11	COMMANDER, STANDARD (RM-S150)
*		4-954-955-01	CUSHION, LOWER
*		4-954-956-01	CUSHION, UPPER

		HARDWARE LIST	

#1	7-682-547-04	SCREW +BVTT 3X6 (S)	
#2	7-685-649-79	SCREW +BVTP 3X14 TYPE2 IT-3	
#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
#4	7-685-873-01	SCREW +BVTT 3X10	
#5	7-621-255-15	SCREW +P 2X3	
#6	7-621-770-67	SCREW +PTI 2.6X6 (S)	
#7	7-627-556-08	SCREW +P 2.6X2.8	
#8	7-621-775-00	SCREW +B 2.6X3	
#9	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT	
#10	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#11	7-624-105-04	STOP RING 2.3, TYPE-E	
#12	7-621-775-10	SCREW +B 2.6X4	
#13	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.