

HCD-H51/H51K

SERVICE MANUAL

HCD-H51 and HCD-H51K are the tuner, deck, CD and amplifier section in FH-B500 and FH-B500K respectively.



Photo:HCD-H51K

*E Model
Australian Model*

CD Section	Model Name Using Similer Mechanism	HCD-H170/H170K/H700
	CD Mechanism Name	CDM13B-5BD4E
	Base Unit Name	BU-5BD4E
Deck Section	Model Name Using Similar Mechanism	HST-H1750
	Tape Transport Mechanism Type	TCM-210W2

SPECIFICATIONS

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 – 108.0 MHz
Antenna Telescopic antenna
Antenna terminals 75 ohm unbalanced
Intermediate frequency 10.7 MHz

AM tuner section

Tuning range
MW: 531 – 1,602 kHz (at 9 kHz step)
MW: 530 – 1,710 kHz
(at 10 kHz step except for
Middle Eastern model)
SW: 5.95 – 17.9 MHz
Antenna AM loop antenna
External antenna terminals
Intermediate frequency 450 kHz

Amplifier section

Peak music power output:
300 watts
Continuous RMS power output:
30+30 watts (6 ohms at 1 kHz, 5% THD)
Inputs
For FH-B500 MIX MIC (minijack):
Sensitivity 1 mV,
impedance 600 ohms
VIDEO/AUX (phono jack):
sensitivity 250 mV,
impedance 47 kilohms

For FH-B500K MIX MIC 1, 2 (minijack):
Sensitivity 1 mV,
impedance 600 ohms
VIDEO/AUX (phono jack):
sensitivity 250 mV,
impedance 47 kilohms

Outputs

HEADPHONES (stereo minijack):
accept headphones of 8 ohms
or more.

SPEAKERS: accept impedance of 6 to
16 ohms.

Cassette deck section

Recording system
4-track 2-channel stereo
Frequency response
(DOLBY NR OFF)
60 – 13,000 Hz (± 3 dB),
using TYPE I
cassette (Sony HF-S)
60 – 14,000 Hz (± 3 dB),
using TYPE II
cassette (Sony UX-S)

Wow and flutter
0.1% WRMS

Compact disc player section

System Compact disc digital audio system
Laser Semiconductor laser
Wavelength 780 nm – 790 nm

General

Power requirement
110V-120V/220V-240V AC,
adjustable, 50/60Hz (EXCEPT AUS)
240V AC, 50Hz (AUS)

Power consumption 90 W

Dimensions

Approx. 225 x 285 x 265 mm (w/h/d)
incl. projecting parts and controls
Mass Approx. 5.5 kg

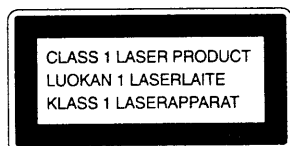
Design and specifications subject to change
without notice.

COMPACT DISK DECK RECEIVER
SONY[®]

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.



This appliance is classified as a CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

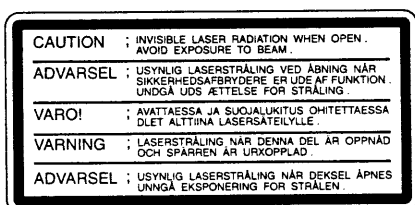


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SAFETY-RELATED COMPONENT WARNING!!

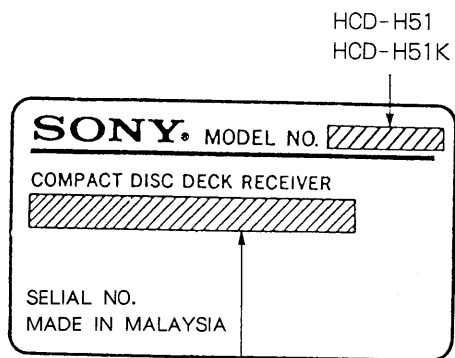
COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1

SERVICING NOTE

MODEL IDENTIFICATION

— Specification Labels —

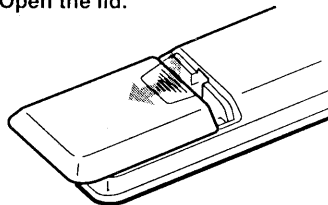


Australian model : AC : 220-240~50/60Hz 90W
EXCEPT model : AC : 110-120/220-240~50/60Hz 90W

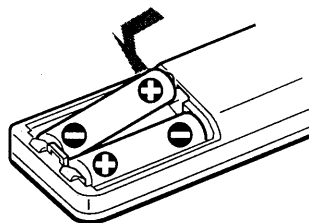
Battery Installation

Install two R6 (size AA) batteries in the supplied remote commander for remote control operation.

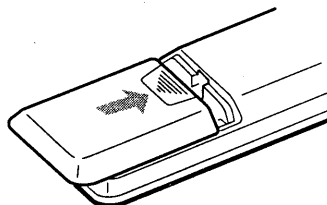
- 1 Open the lid.



- 2 Insert two R6 (size AA) batteries by matching the + and - on the batteries to the + and - indications in the battery compartment.



- 3 Close the lid.



Battery life

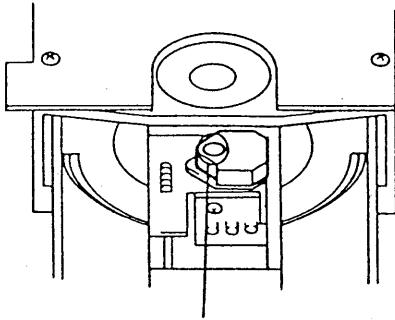
About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the commander cannot operate the stereo system. When this happens, replace all the batteries with new ones.

To avoid battery leakage

If the commander is not to be used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

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.

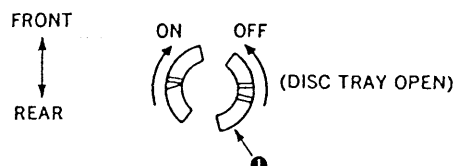
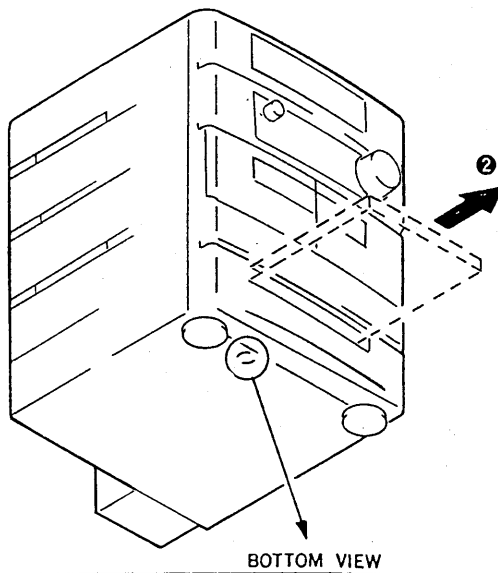
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

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.

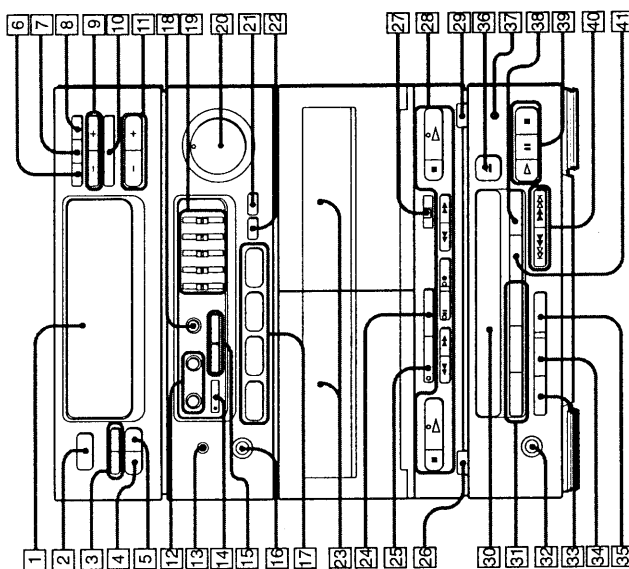
HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



- (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.

Parts Identification

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



Front Panel

- Tuner Section**
- 1 Display window
 - 2 POWER ON/STANDBY switch
 - 3 CLOCK SET buttons (8)
 - 4 TIMER SET button (8, 20)
 - 5 CLOCK DISPLAY button (8)
 - 6 SLEEP button (21)
 - 7 MEMORY/NEXT button (14, 20)
 - 8 AUTO button (13)
 - 9 MODE button (14)
 - 10 TUNING +/- buttons (13)
 - 11 BAND button (13)
 - 12 PRESET/TIMER +/- buttons (14, 20)

Amplifier section

- 12 MIC 1 LEVEL and MIC 2 LEVEL controls (only for FH-B500K) (21)
- 13 MIX MIC 1 jack (only for FH-B500K) (21)
- 14 KARAOKE PON button and indicator (22)
- 15 MULTIPLEX buttons (only for FH-B500K) (22)
- 16 MAIN button and indicator
- 17 SUB button and indicator
- 18 MIX MIC jack (for FH-B500) (21)
- 19 MIX MIC 2 jack (for FH-B500K) (21)
- 20 Function selecting buttons
- 21 Pressing these buttons with the power turned off automatically turns on the power, and selects the function.
- 22 DIGITAL ECHO control (only for FH-B500K) (21)
- 23 Graphic equalizer controls (8)
- 24 VOLUME control (8)
- 25 DBFB button and indicator (8)
- 26 S-SUR (simulated surround) button and indicator (8)

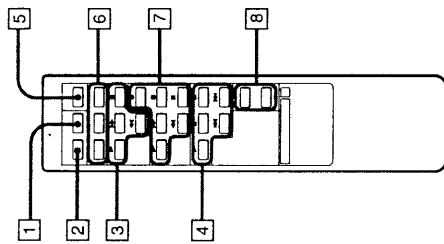
SECTION 2 GENERAL

This section is extracted from instruction manual.

Remote commander

- 1 SLEEP button (21)
- 2 FUNCTION button
- 3 Deck A operating buttons
 - ▶▶: Play button
 - ▶▶▶: Fast forward button
 - ◀◀◀: Rewind button
 - : Stop button
- 4 CD operating buttons
 - ▶▶: Play button
 - ▶▶▶▶▶: AMS* buttons
 - : pause button
 - : Stop button
- 5 SYSTEM POWER button
- 6 Tuner operating buttons
 - BAND button (13)
 - PRESET - button (15)
 - PRESET + button (15)
- 7 Deck B operating buttons
 - ▶▶: Play button
 - ▶▶▶: Fast forward button
 - ◀◀◀: Rewind button
 - : pause button
 - : Stop button
 - REC: Record button
- 8 VOL (volume) +/- buttons (8)

* AMS is the abbreviation of Automatic Music Sensor.



Cassette deck section

- 23 Cassette holders
- 24 CD SYNCHRO (synchronized) button (17, 19)
- 25 HIGH SPEED DUBBING button and indicator (17)
- 26 ▲ (eject) button (for deck A) (15)
- 27 DOLBY NR selector (15, 16)
- 28 Tape operating buttons (15 - 20)
 - ▷: Play button and indicator, ▶▶▶: Fast forward button, ◀◀◀: Rewind button, ■: Stop button, ●REC: Record button and indicator (for deck B only), ■ PAUSE: Pause button and indicator (for deck B only)
- 29 ▲ (eject) button (for deck B) (16)

CD player section

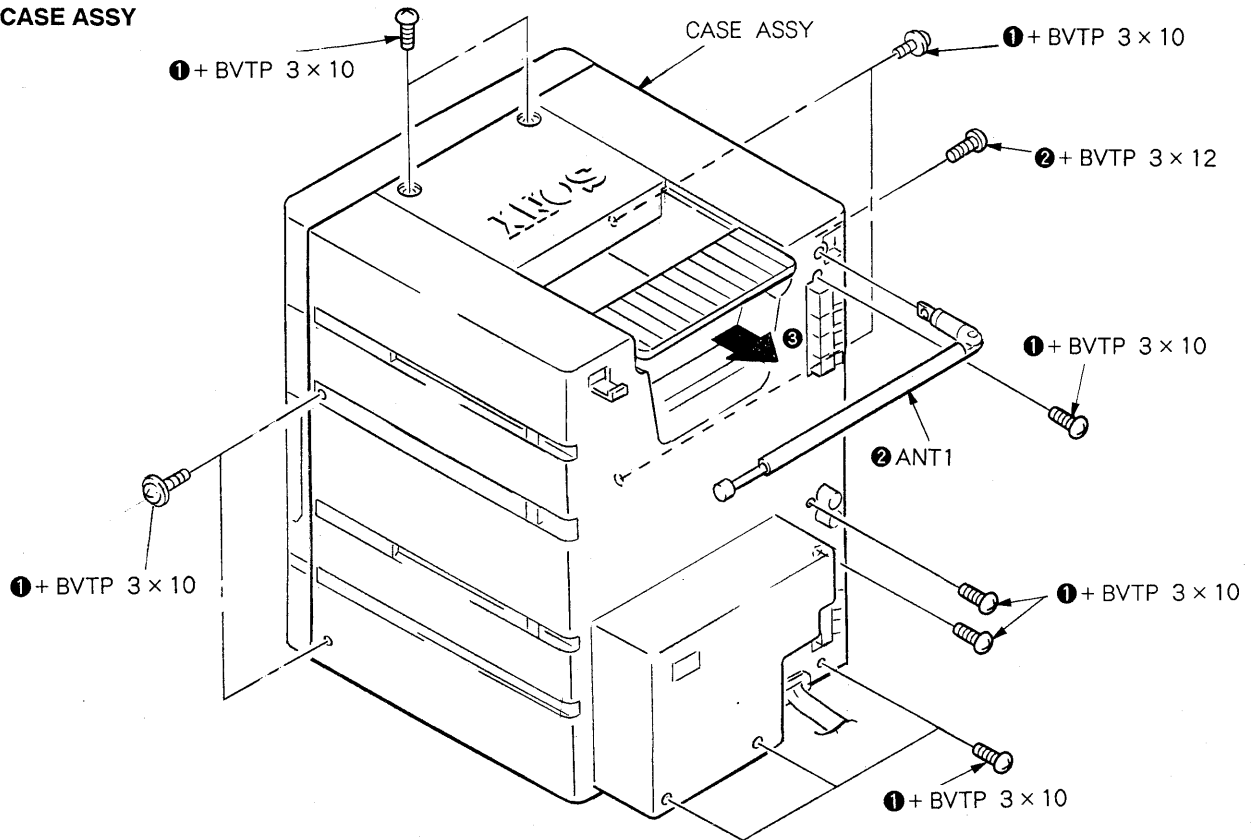
- 30 Disc tray
- 31 PLAY MODE button
- 32 CONTINUE button (10, 11, 12)
- 33 SHUFFLE button (10, 11)
- 34 PROGRAM button (11, 12)
- 35 HEADPHONES jack (8)
- 36 CHECK button (12, 13)
- 37 CLEAR button (12, 13)
- 38 EDIT button (17, 19)
- 39 OPEN/CLOSE button (9)
- 40 Remote sensor
- 41 TIME button (9)
- 42 CD player operating buttons (9 - 13, 17 - 20)
 - ▷: Play button, ■: Pause button, ■: Stop button
 - ◀◀◀◀◀▶▶▶▶▶ (manual search/AMS*) buttons (10, 11, 12, 17, 19)
 - 43 REPEAT button (10)

* AMS is the abbreviation of Automatic Music Sensor.

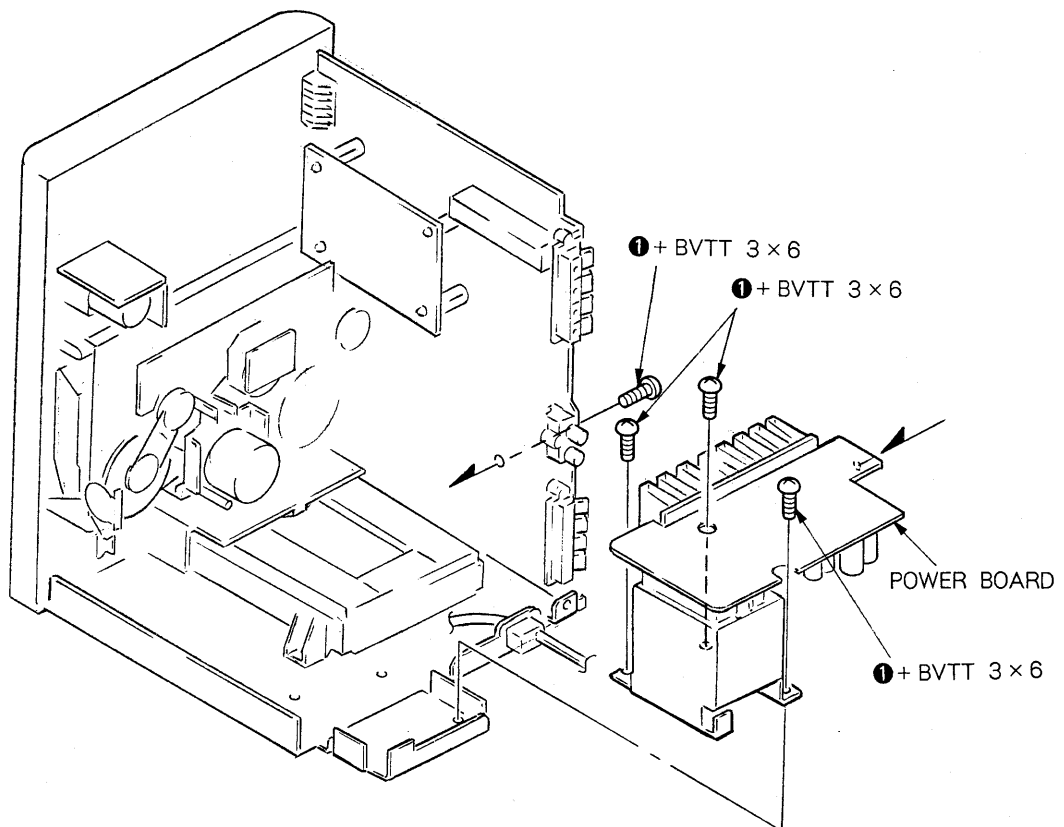
SECTION 3 DISASSEMBLY

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

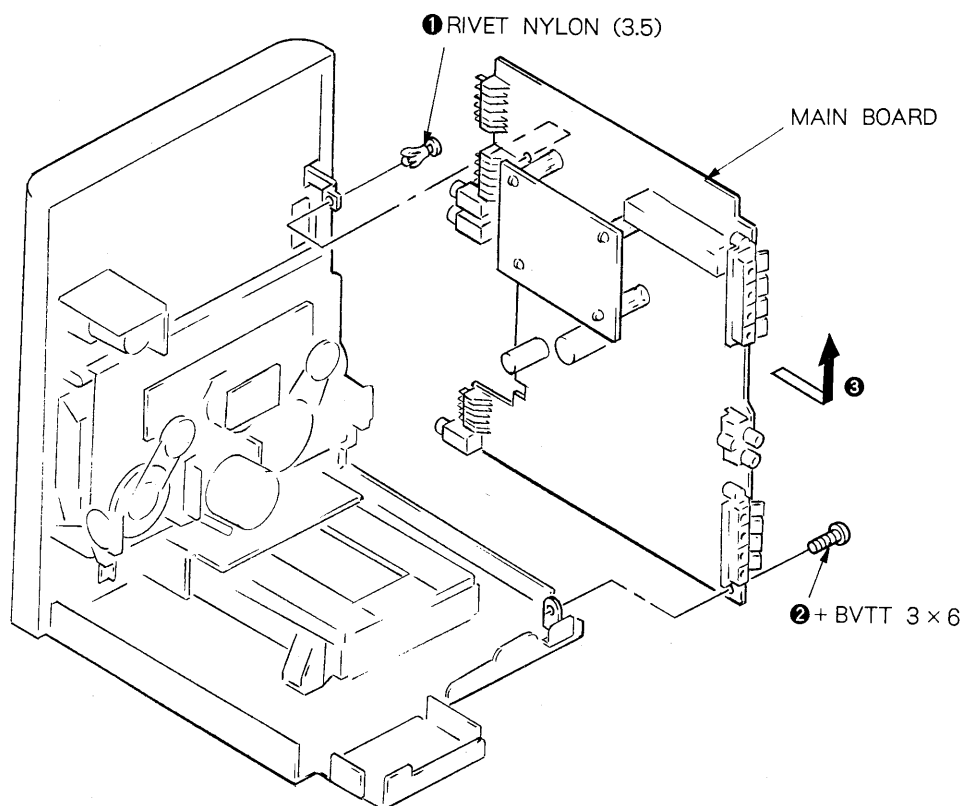
3-1. CASE ASSY



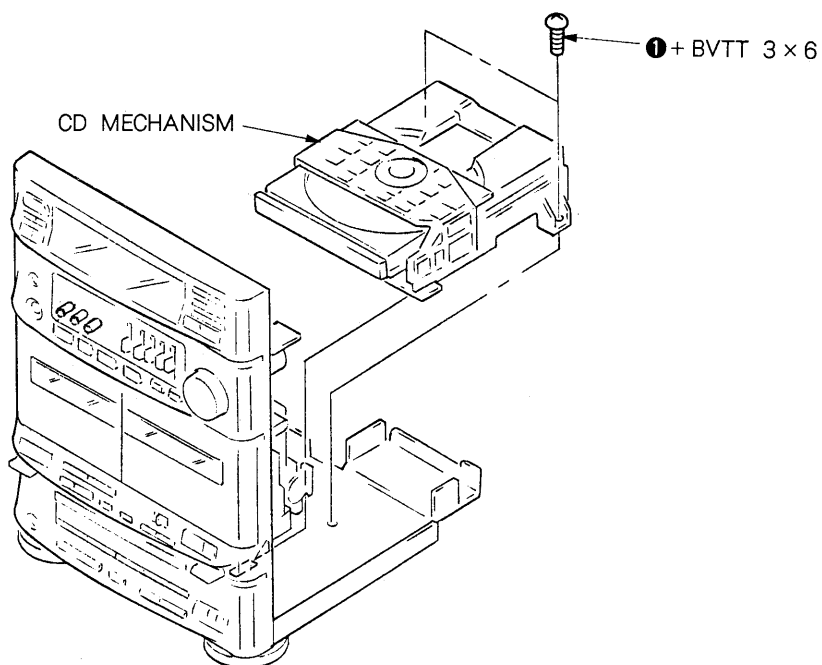
3-2. POWER BOARD



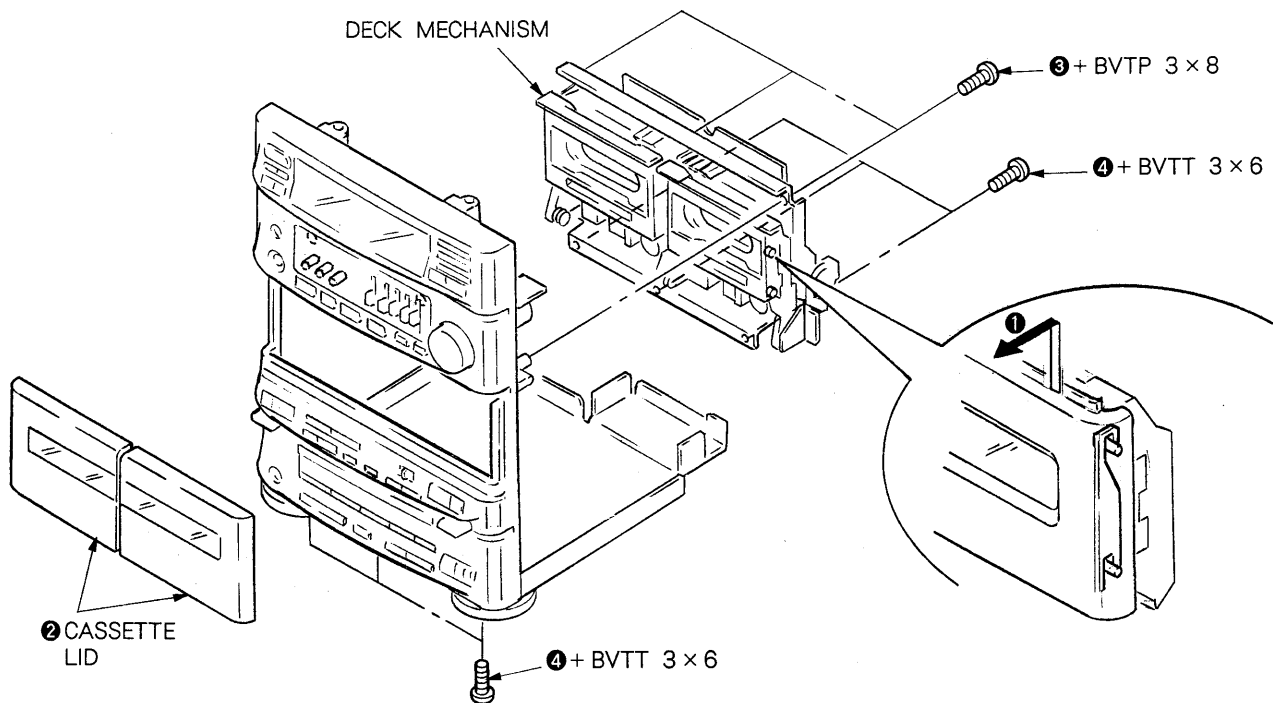
3-3. MAIN BOARD



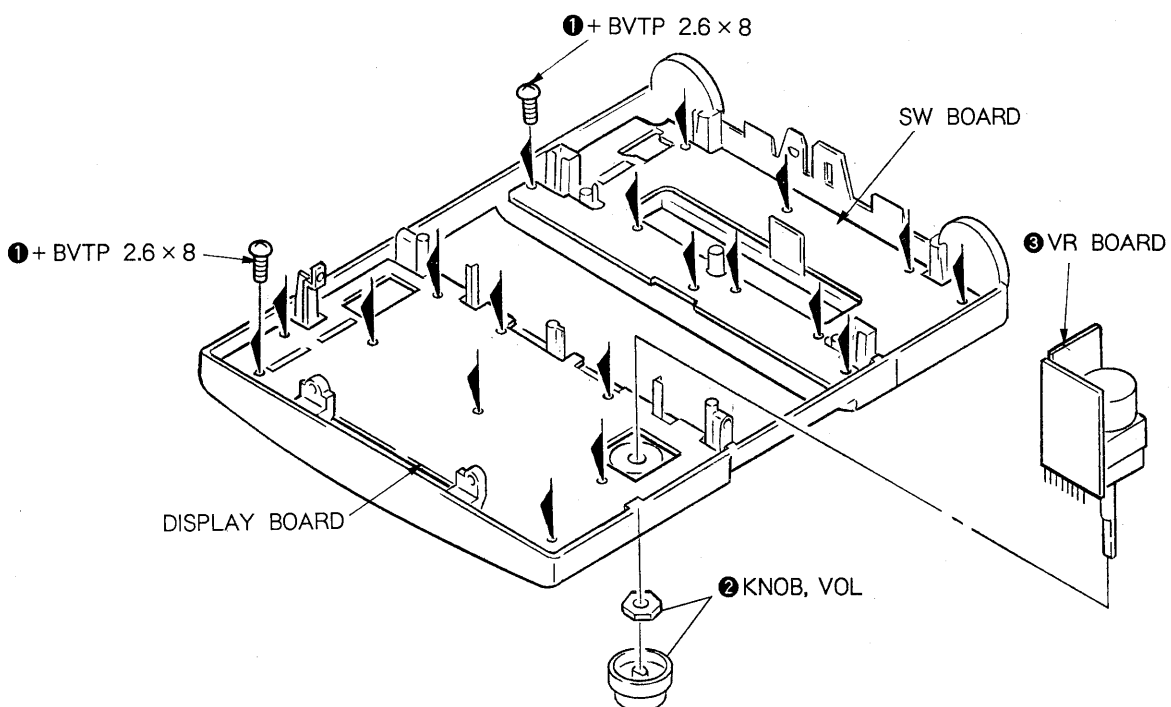
3-4. CD MECHANISM BLOCK



3-5. DECK MECHANISM BLOCK



3-6. DISPLAY/SW/VR BOARD



SECTION 4 MECHANICAL ADJUSTMENTS

PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belt
capstan	idler
2. Demagnetize the record/playback head with a head demagnetizer.
(Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. 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 4.5g · cm (0.028 to 0.063oz · inch)
FF/REW	CQ-201B	70 to 150g · cm (0.98 to 2.1oz · inch)

• Tape Driving Force Measurement

Mode	Torque meter	Meter reading
FWD	CQ-403A	More than 110g (3.1oz)

SECTION 5 ELECTRICAL ADJUSTMENTS

DECK SECTION

• Servicing Note

1. Connect short plug to TP201 before electric adjustment.
2. After DECK electric adjustment, disconnect a TP201.

Note:

1. The adjustment should be performed in the publication.
(Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.

• Switch position

TAPE switch (S503) : TAPE
 DOLBY NR switch (S371) : OFF
 GEQ Volume (RV601) : 12kHz MAX
 (RV602-604) : EXCEPT 12kHz CENTER

• Test Tape

Torque	Torque meter	Meter reading
P-4-A100	10kHz, -10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

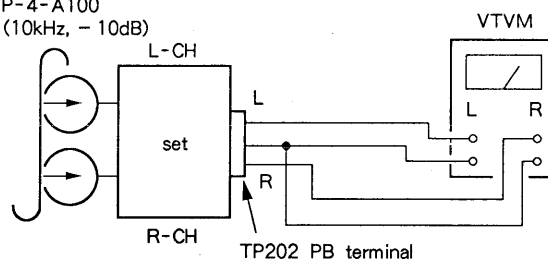
Record/Playback Head Azimuth Adjustment

DECK A DECK B

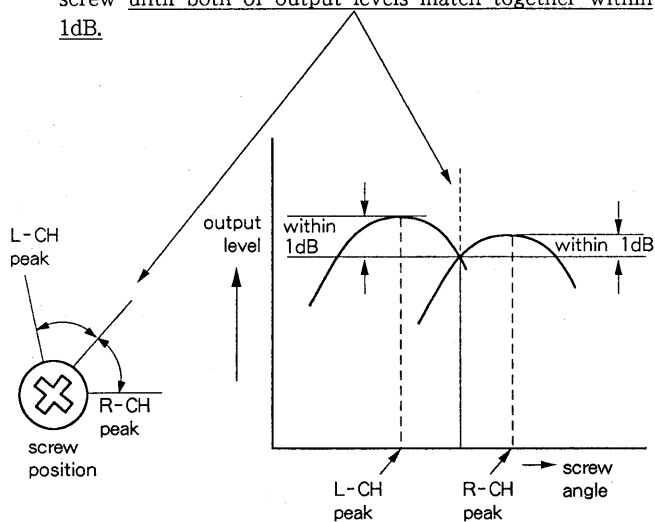
Procedure:

1. Playback Mode

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

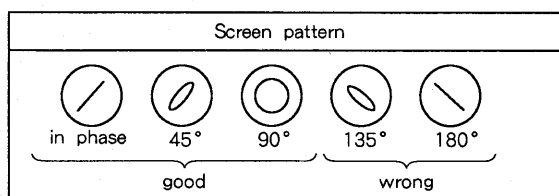
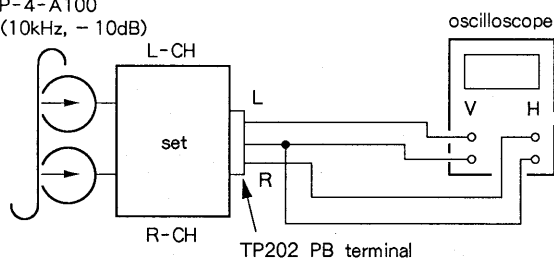


- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Playback Mode

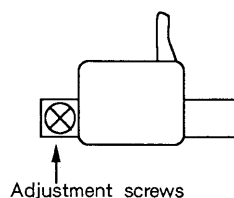
test tape
P-4-A100
(10kHz, -10dB)



- 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**

Procedure:

- Perform high speed adjustment before normal speed adjustment.

• High Speed Adjustment

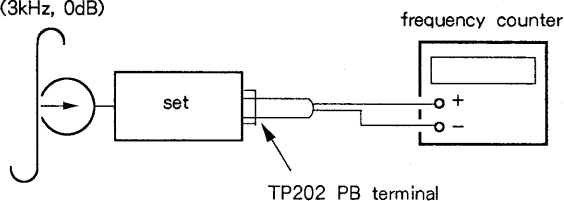
- After push the FWD button, pressing the HIGH SPEED DUBBING button (S386).
- Set to FWD playback mode.
- Adjust RV371 on Main board so that the frequency counter reading becomes $5700\text{Hz} \pm 20\text{Hz}$.

• Normal Speed Adjustment

- Set the FWD playback mode.
- Adjust RV372 on Main board so that the frequency counter reading becomes $3000\text{Hz} \pm 10\text{Hz}$.

Mode : playback

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



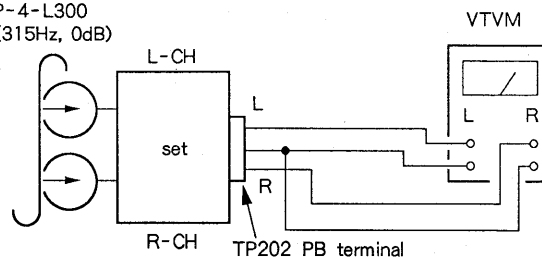
Adjustment Location: main board

Playback Level Adjustment **DECK A** **DECK B**

Procedure:

Mode : playback

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



Deck A is RV321 (L-CH) and RV421 (R-CH), deck B is RV331 (L-CH) and RV431B (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

PB OUT level : -6.5dBs to -5.5dBs (0.36 to 0.41V)

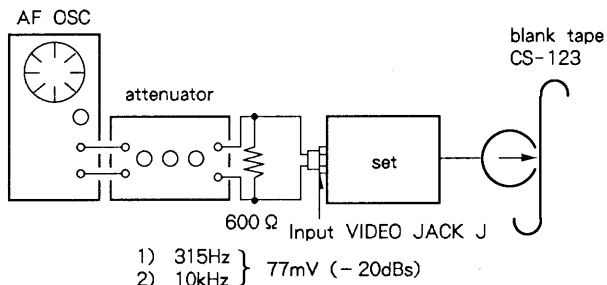
Level Difference between Channels : within 0.5dB

Adjustment Location: main board

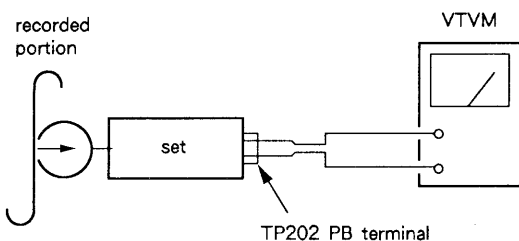
Record Bias Adjustment **DECK B**

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, adjustment the RV351 (L-CH) and RV451 (R-CH) to repeat step 1 and 2.

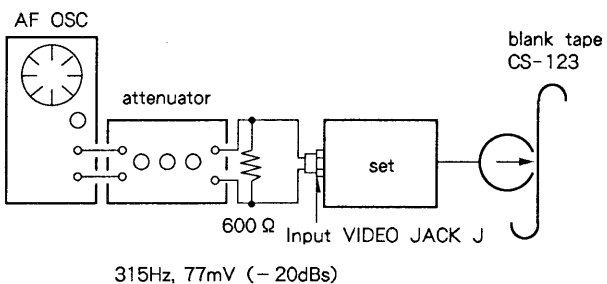
Adjustment level : Playback output of 315Hz to playback output of 10kHz : -0.5dB to 0.5dB.

Adjustment Location: main board

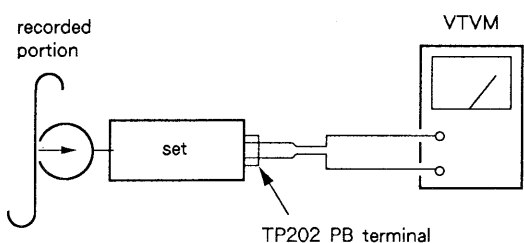
Record Level Adjustment **DECK B**

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, adjustment the RV341 (L-CH) and RV441 (R-CH) to repeat step 1 and 2.

Adjustment Location:

PB OUT level : -26dBs $\pm$ 0.5dBs (0.036 to 0.041V)

Adjustment Location: main board

Adjustment Location:

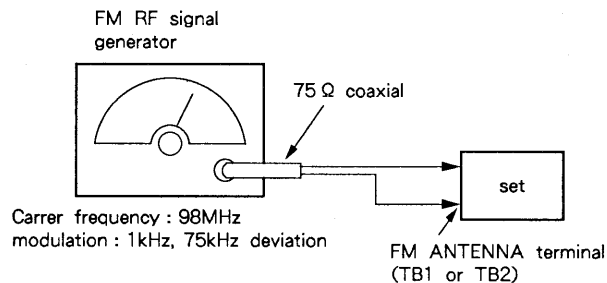
[MECHANISM DECK] - rear side -

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

TUNER SECTION

FM SECTION ADJUSTMENTS

Setting:



• TUNNER OUT CHECK POINT

Speaker out receive 98MHz 60dB μ (1mV) and set the SP out to 10dBs by VOLUME.

SP load : 6 Ω both CH

FM Tuned Indication Lighting Level Adjustment

Band : FM

Procedure:

1. Supply a $24 \pm 1 \mu V$ ($25 \pm 4dB \mu$) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV51 so that the FL501 **TUNED** light up.

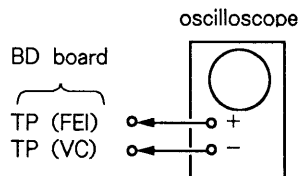
Adjustment Location: main board

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 $10M\Omega$ 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.

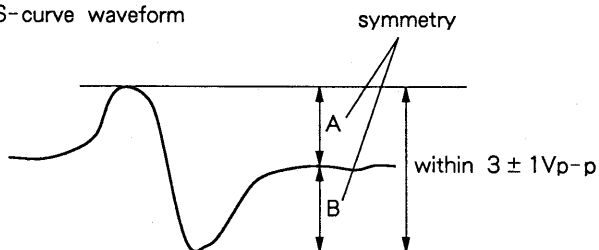
S-Curve Check



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. (actuate 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 $3 \pm 1V_{p-p}$.

S-curve waveform

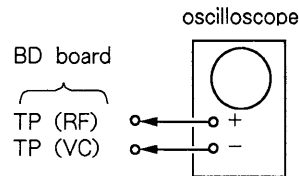


5. After check, remove the lead wire connected in step 2.

Note:

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

RF Level Check

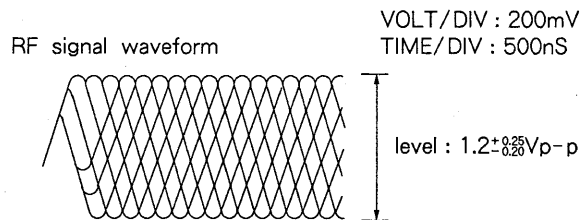


Procedure:

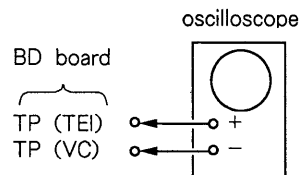
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note:

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



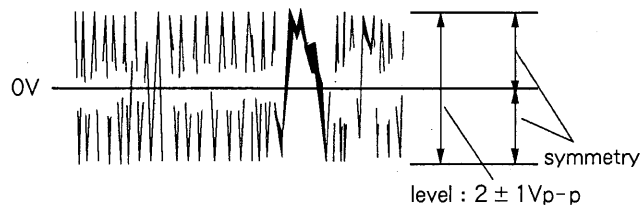
E-F Balance Check



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.

Traverse waveform

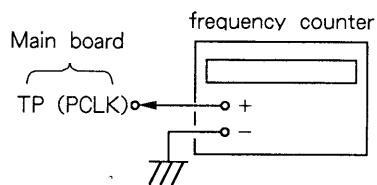


6. Remove the lead wire connected in step 1.

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

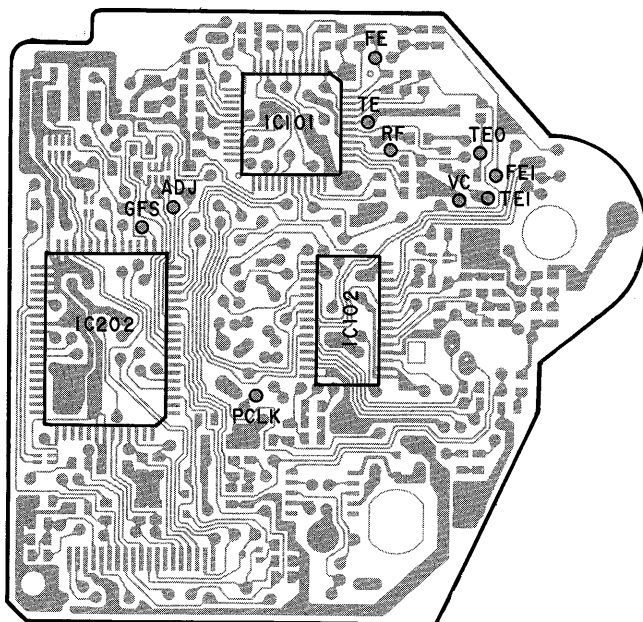
This gain has a margin, so even if it is slightly off. There is no problem.

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 Location:

[BD BOARD] – Conductor side –



Adjustment Location:

[MAIN BOARD] - Conductor side -

TUNER FM TUNED INDICATION
LIGHT LEVEL ADJ
RV51

DECK A PLAYBACK LEVEL ADJ
RV321 (L-CH)
RV421 (R-CH)

DECK B PLAYBACK LEVEL ADJ
RV331 (L-CH)
RV431 (R-CH)

DECK B RECORD BIAS ADJ
RV351 (L-CH)
RV451 (R-CH)

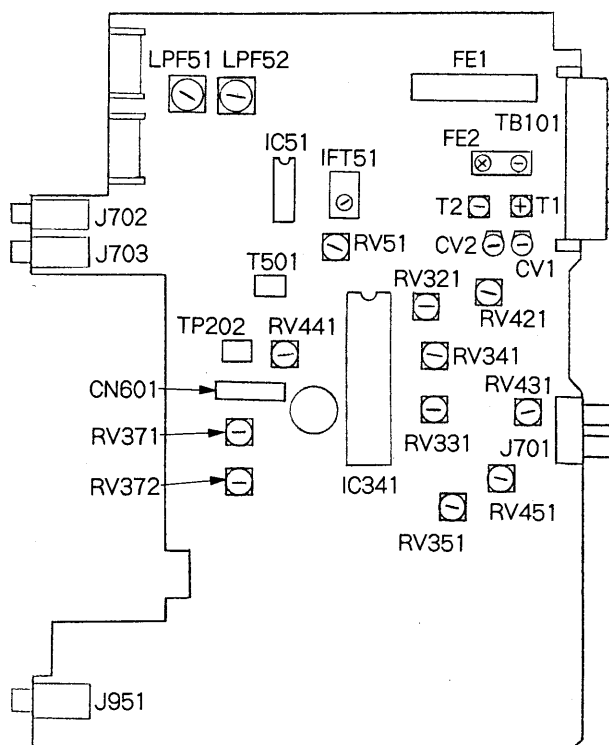
DECK B RECORD LEVEL ADJ
RV341 (L-CH)
RV441 (R-CH)

DECK A TAPE SPEED ADJ
RV371 (HIGH)
RV372 (NORMAL)

TUNER OUT
L-CH
R-CH

SW OSC VOLTAGE ADJ
CV1
CV2
T1

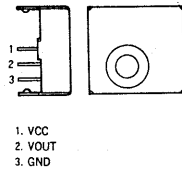
T2



SECTION 6 DIAGRAMS

6-1. SEMICONDUCTOR LEAD LAYOUTS

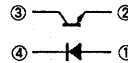
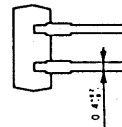
GP1U59XB



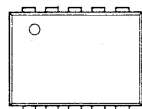
**DTA114ES
DTA144ES
DTC114ES
DTC143TS
2SC2724-CD
2SC3622A-LK**



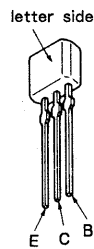
GP2S09-A



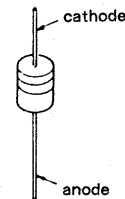
LA5601



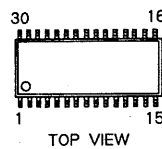
**DTC144ES
2SA1175-HFE
2SC2785-HFE**



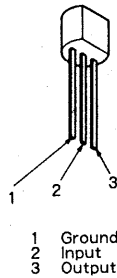
**HZS27-2L
HZS6A1L
HZS6B1L
HZS7B3L
UZL-6L3
UZP-6.2BC
11ES2**



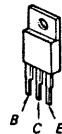
LA-6525M



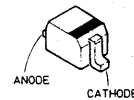
PST572D



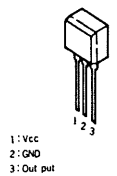
**2SA473
2SD2012**



**MA8039
1SS352**



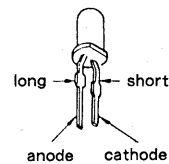
PST572K



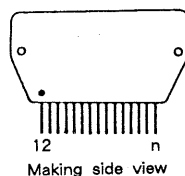
**2SB1013-4
2SC3112-B
2SC945-P
2SD1387**



**SEL2210S-CD
SEL6214S-LC05
SEL6414E-LC05**



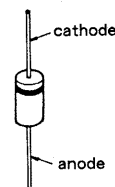
STK-4132MK2



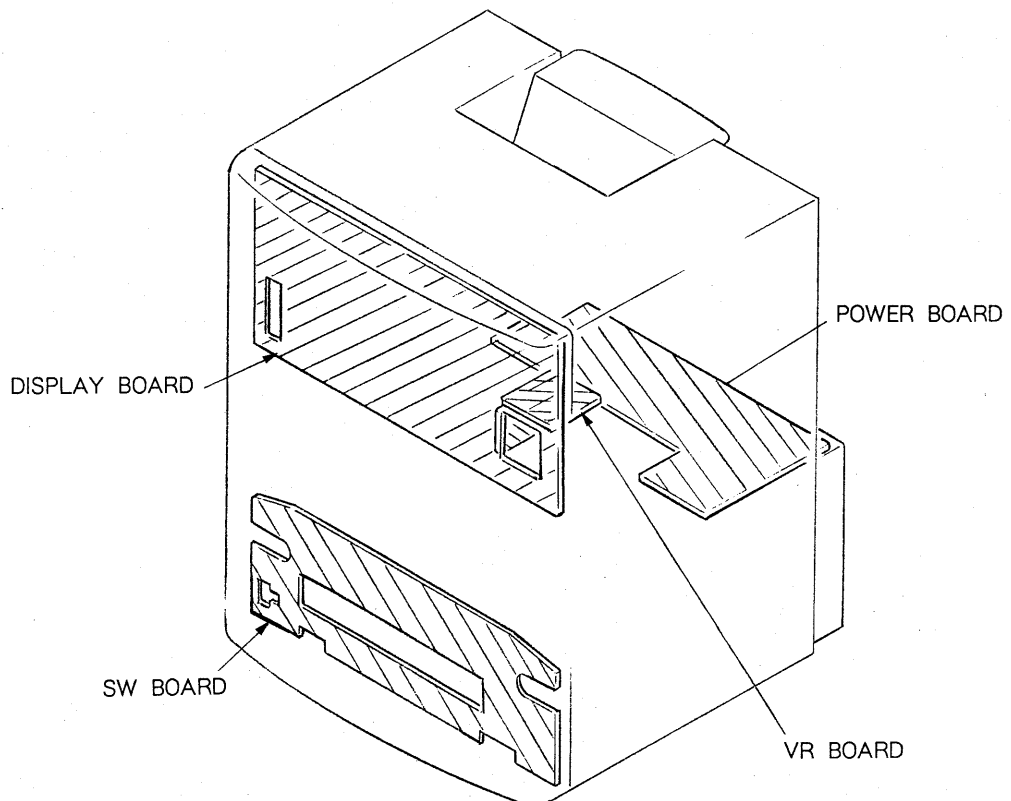
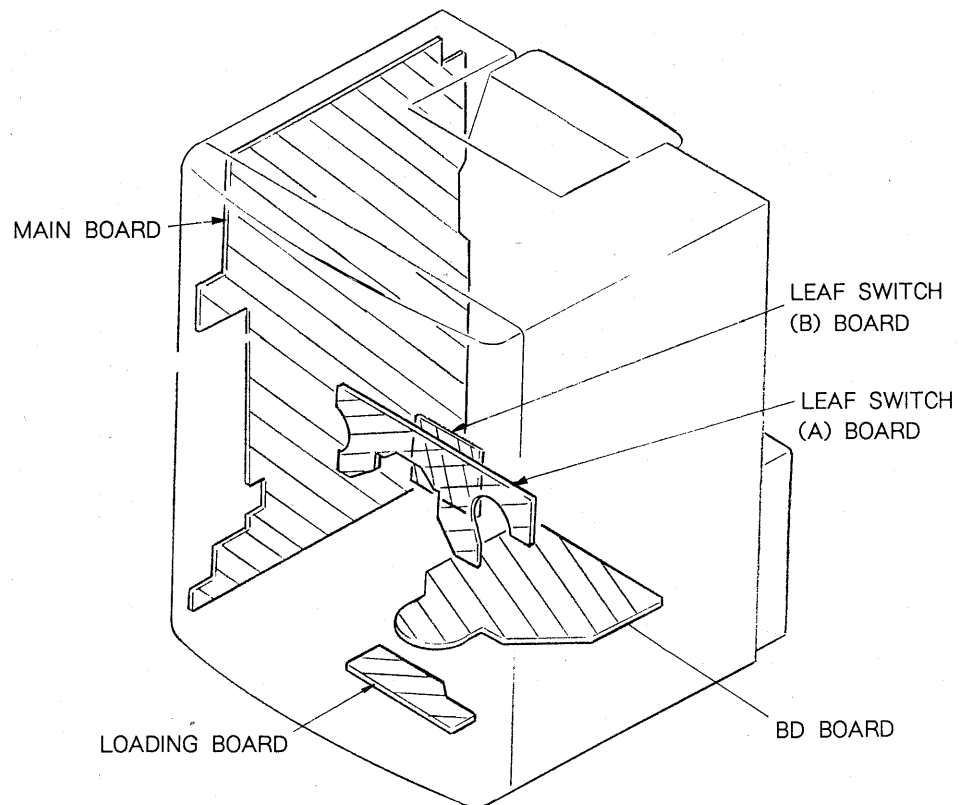
**2SK246-GR3
2SK246-Y**



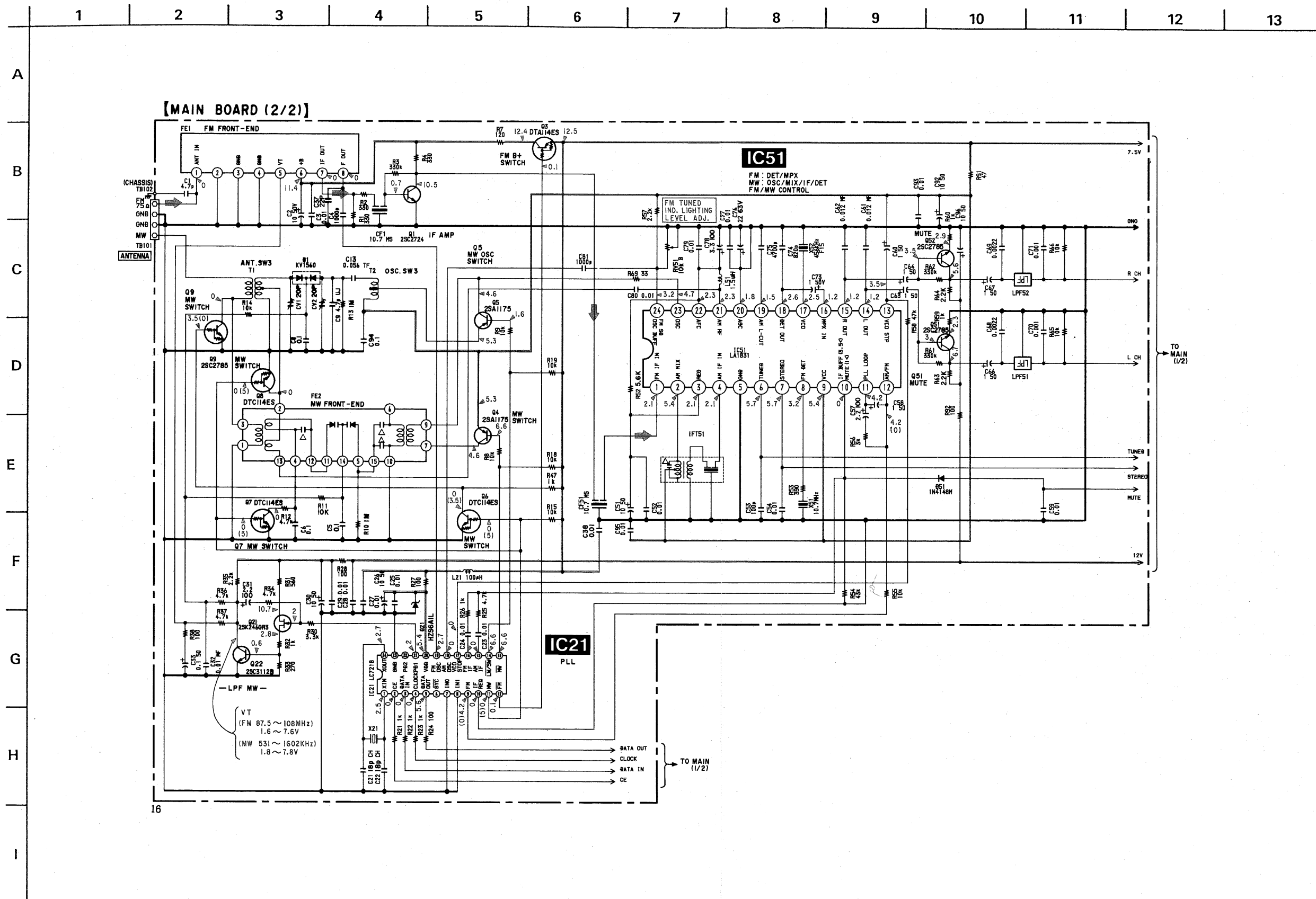
1N4148M

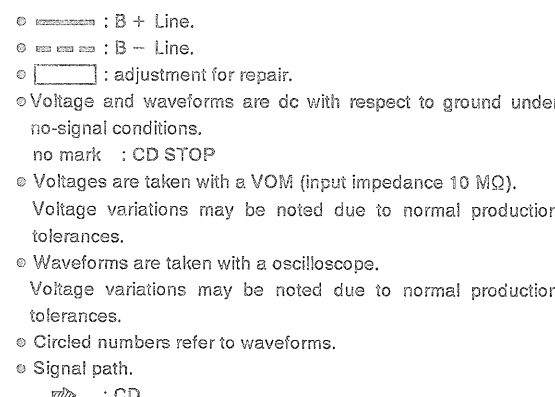
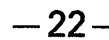


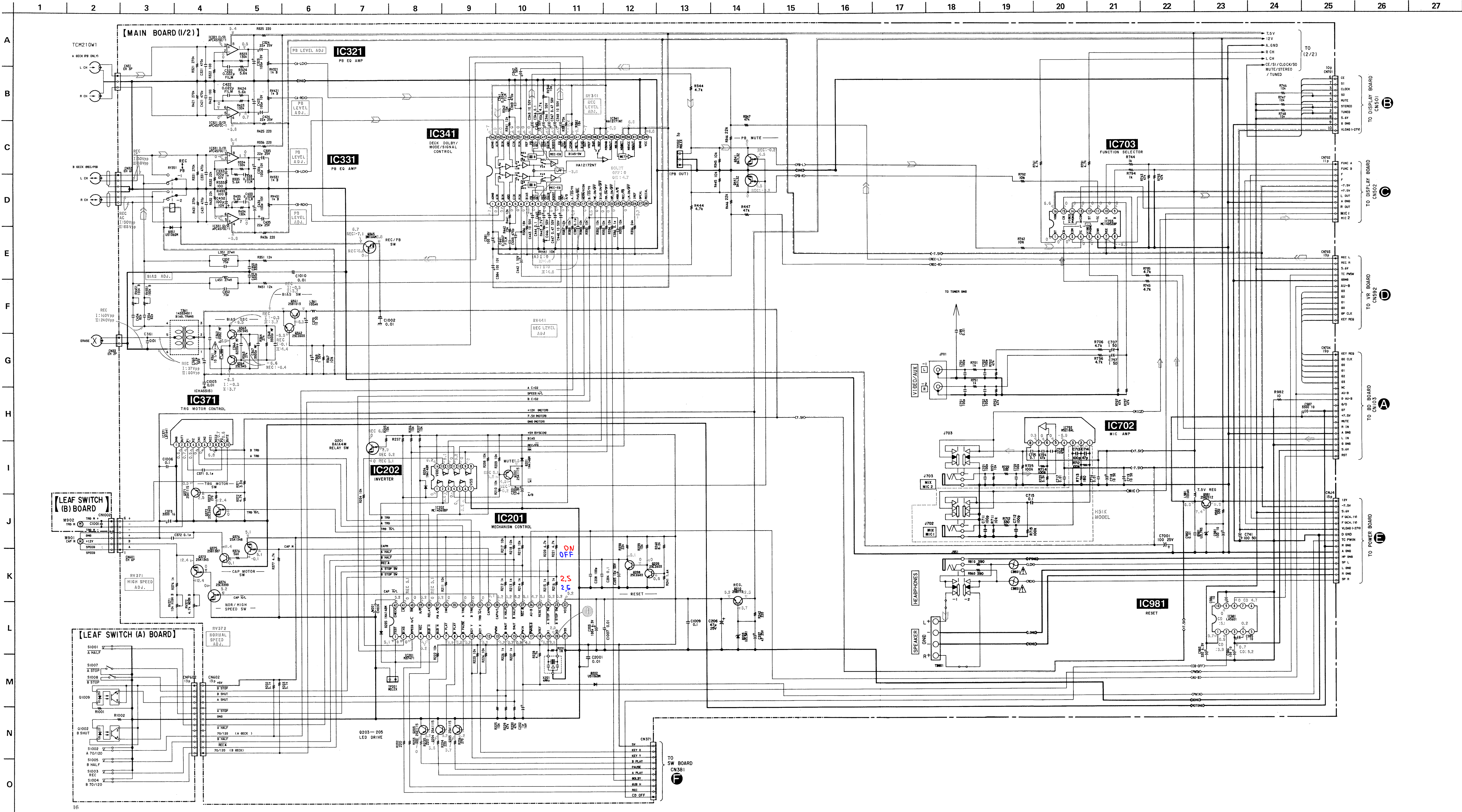
6-2. CIRCUIT BOARDS LOCATION



6-3. SCHEMATIC DIAGRAM — TUNER SECTION —







NOTE:
AUS : Australian model

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF
- All resistors are in Ω and K , M or less unless otherwise specified.
- fuses : fusible resistor.

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

- : B+ Line.
- : B- Line.
- : adjustment for repair.
- : Voltage and waveforms are dc with respect to ground under no-signal conditions.
- : FM
- : MW
- : SW
- : 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. Voltage variations may be noted due to normal production tolerances.
- : Circled numbers refer to waveforms.
- : Signal path.
- : MIC
- : PB
- : FM
- : REC

6-6. PRINTED WIRING BOARDS — MAIN SECTION — • See page 15 for Semiconductor Lead Layouts.

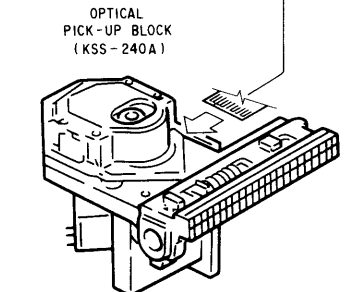
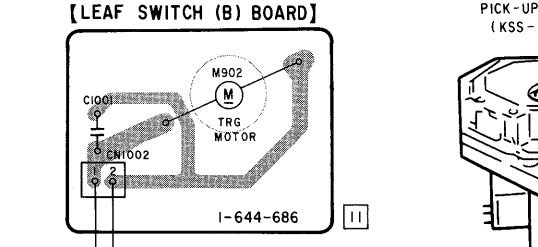
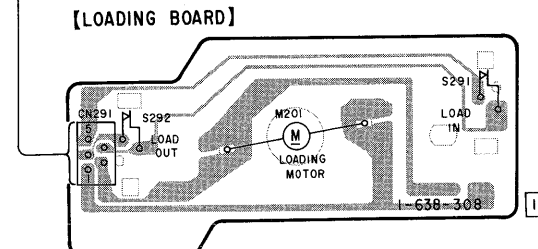
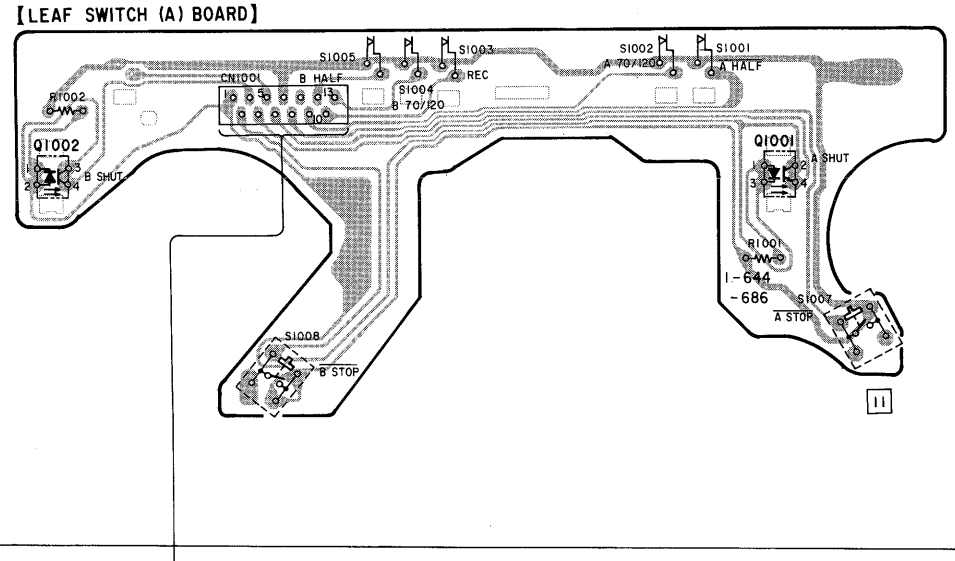
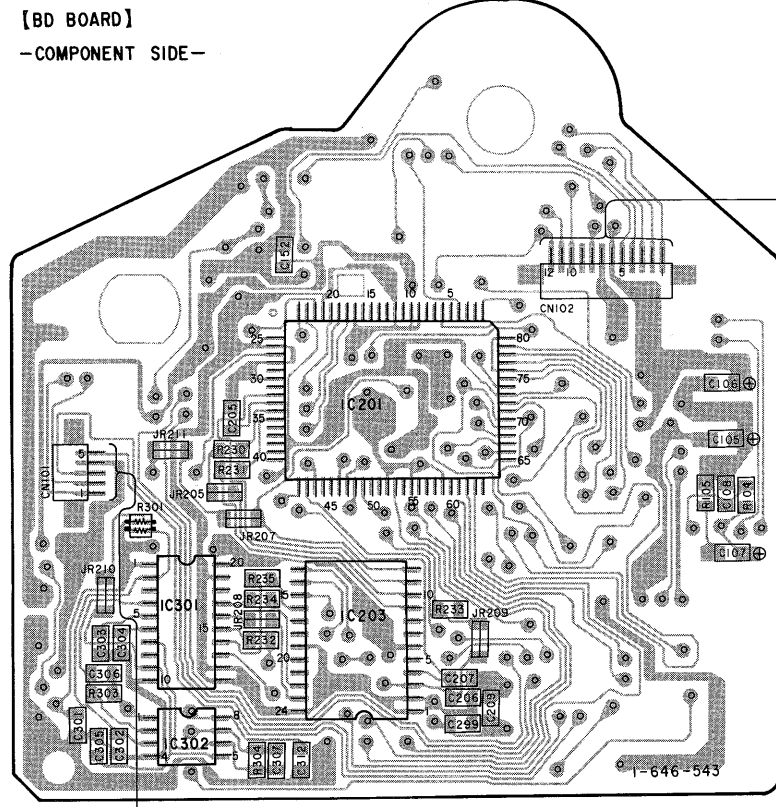
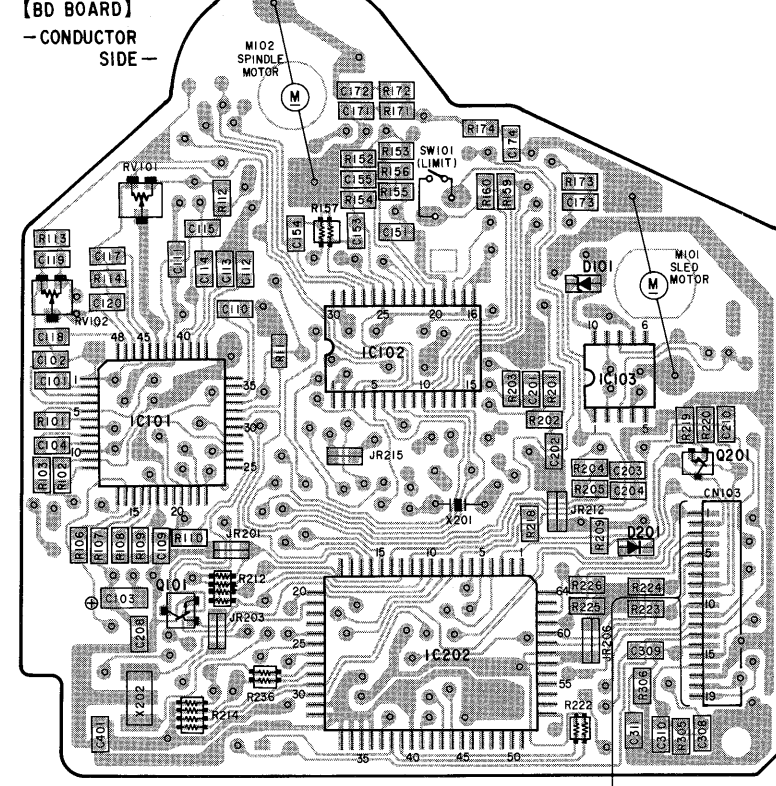
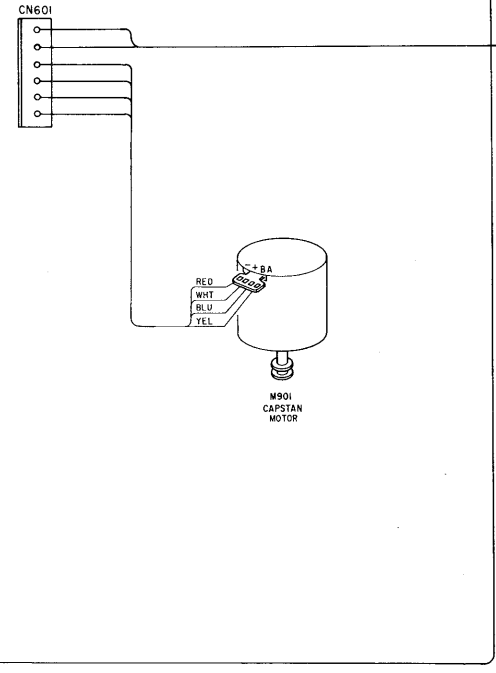
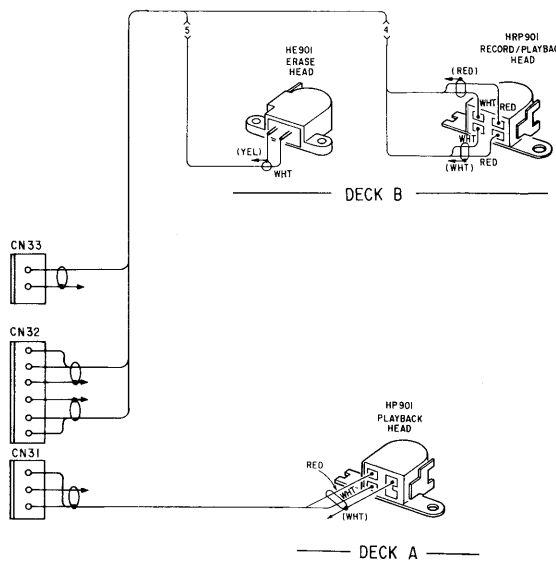
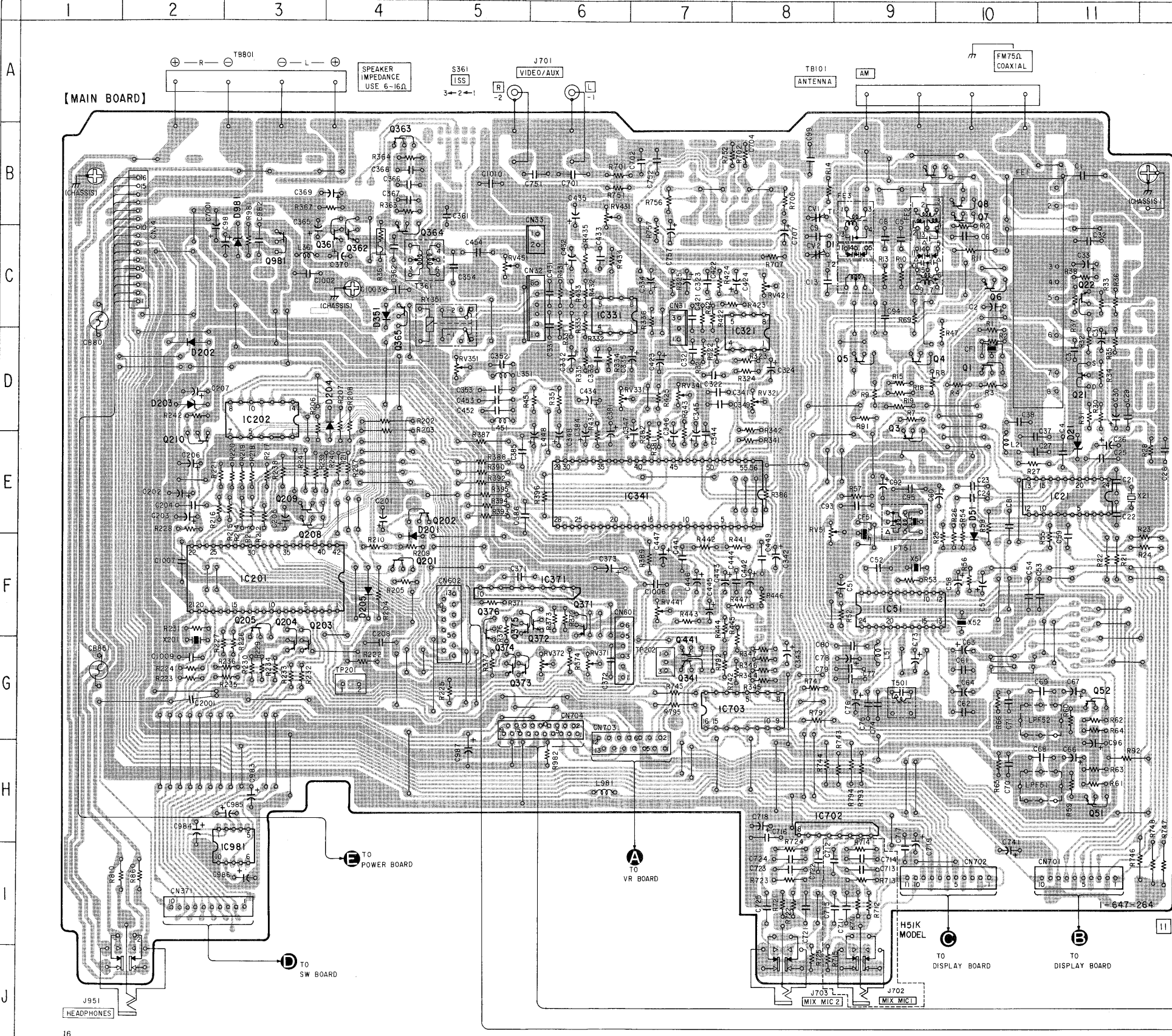
• Semiconductor Location			
Ref. No.	Location	Ref. No.	Location
D21	E-11	Q5	D-9
D51	E-10	Q6	C-10
D101	C-19	Q7	B-10
D201	F-4	Q8	B-10
D201BD	D-19	Q21	D-11
D202	D-2	Q22	C-11
D203	D-2	Q51	H-11
D204	D-4	Q52	G-11
D205	F-4	Q101	D-17
D351	C-4	Q201	F-4
D981	B-3	Q201BD	D-20
		Q202	E-5
IC21	E-11	Q203	F-3
IC51	F-9	Q204	F-3
IC101	C-16	Q205	F-3
IC102	C-18	Q209	E-3
IC103	C-19	Q210	D-2
IC201	F-3	Q341	G-7
IC201BD	C-23	Q361	C-4
IC202	D-3	Q362	C-4
IC202BD	E-18	Q363	B-4
IC203	F-23	Q364	C-5
IC301	D-22	Q365	D-4
IC302	E-22	Q371	F-6
IC321	C-8	Q372	F-6
IC331	C-6	Q373	G-5
IC341	F-7	Q374	G-5
IC371	F-6	Q375	F-5
IC702	H-8	Q376	F-5
IC703	G-7	Q441	F-7
IC981	H-3	Q981	C-3
		Q1001	G-20
Q1	D-10	Q1002	G-16
Q4	D-9		

NOTE:
AUS : Australian model

Note on Mounting Diagram :

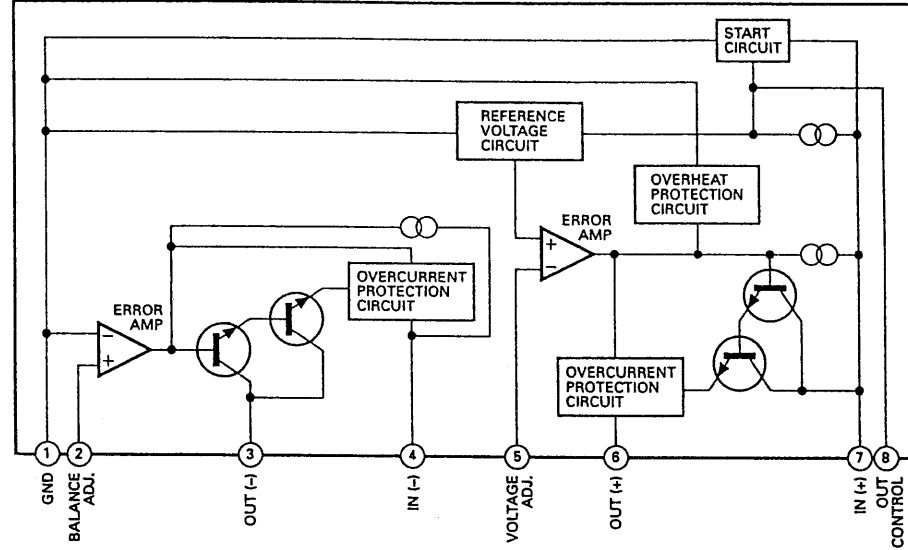
- — : Parts extracted from the component side.
- : Through hole.
- : Pattern on the side which is seen.

(Other pattern is not shown.)

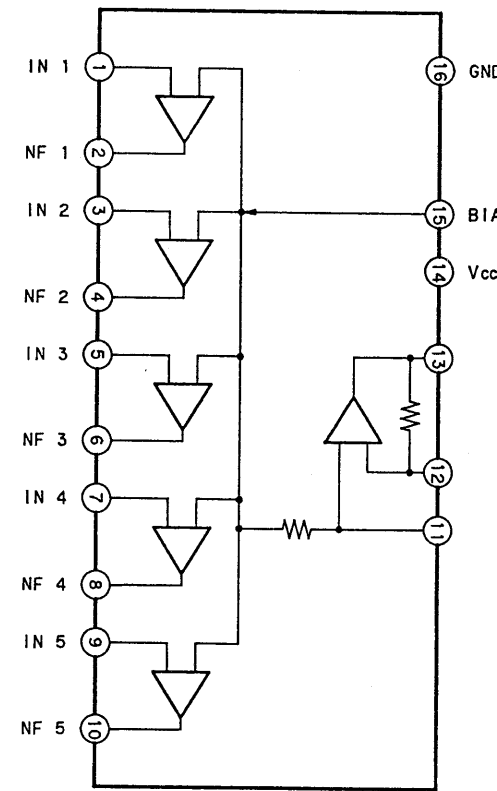


• IC Block Diagrams

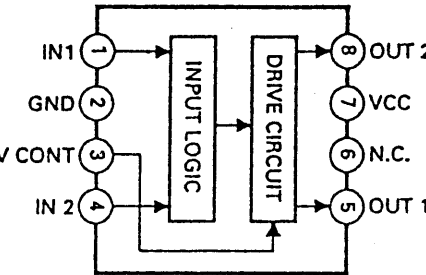
• IC901 M5230L-A



• IC601, 651 M5226FP



• IC591 LB1639



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D381	F-9	IC501	B-8
D382	F-8	IC502	B-10
D383	G-7	IC503	A-9
D384	G-6	IC504	B-10
D385	F-3	IC571	H-2
D501	E-6	IC591	C-2
D505	E-7	IC801	D-6
D506	A-11	IC802	C-6
D507	B-10	IC821	B-5
D508	B-7	IC851	D-8
D509	A-11	IC801	E-17
D510	A-11	IC901	E-15
D591	B-1		
D592	B-2	O501	B-10
D821	G-15	O502	B-7
D901	D-15	O601	C-6
D902	D-14	O602	E-7
D903	C-14	O603	D-4
D904	D-14	O604	F-5
D905	D-14	O651	C-6
D906	H-16	O652	E-7
D907	D-14	O901	G-17
D951	E-14	O902	D-17
D952	D-14	O903	C-17
D953	E-14	O904	E-15
D954	E-14		

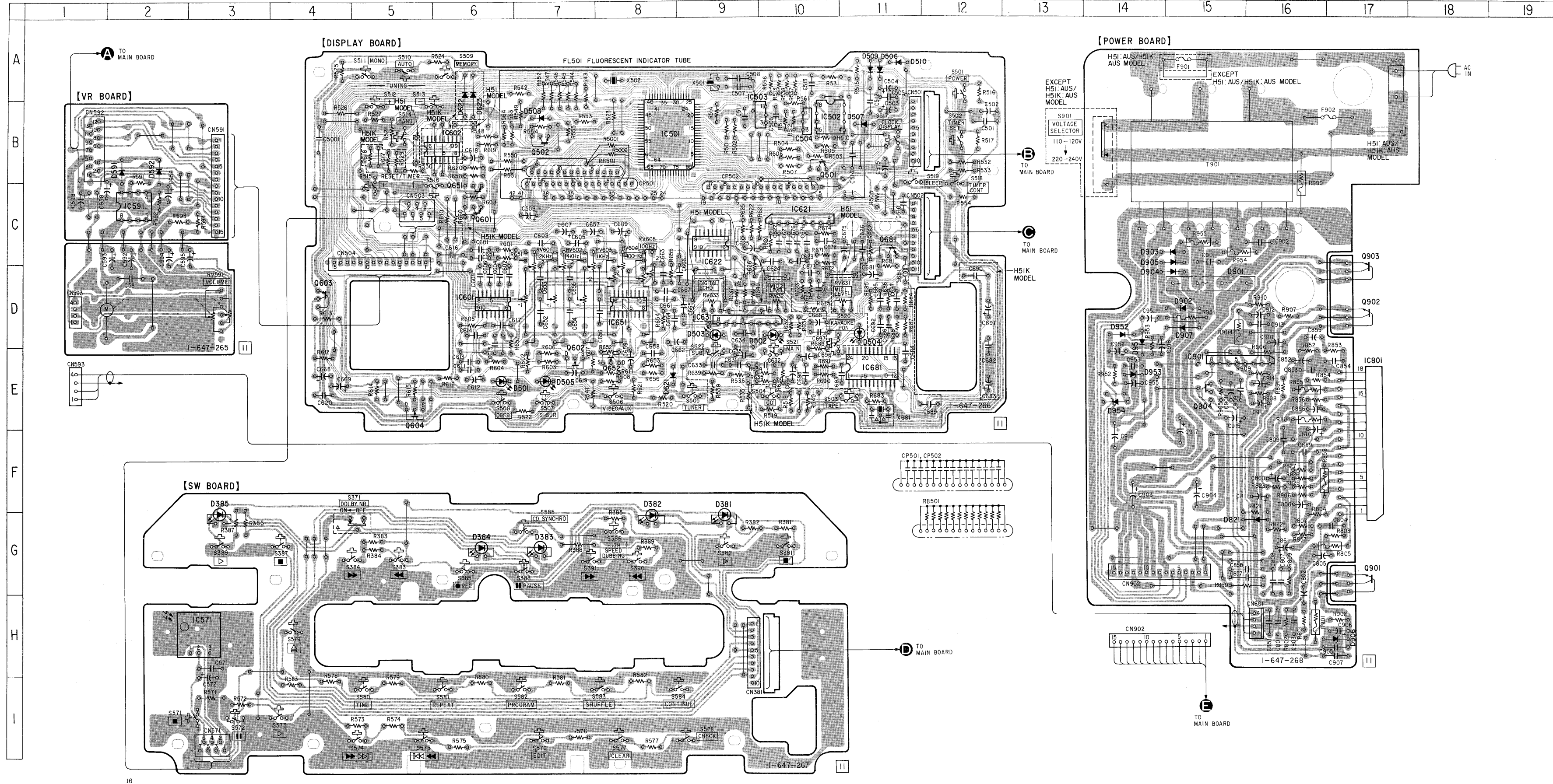
Note on Mounting Diagram :

- : Parts extracted from the component side.
 - : Through hole.
 - : Pattern on the side which is seen.
- (Other pattern is not shown.)

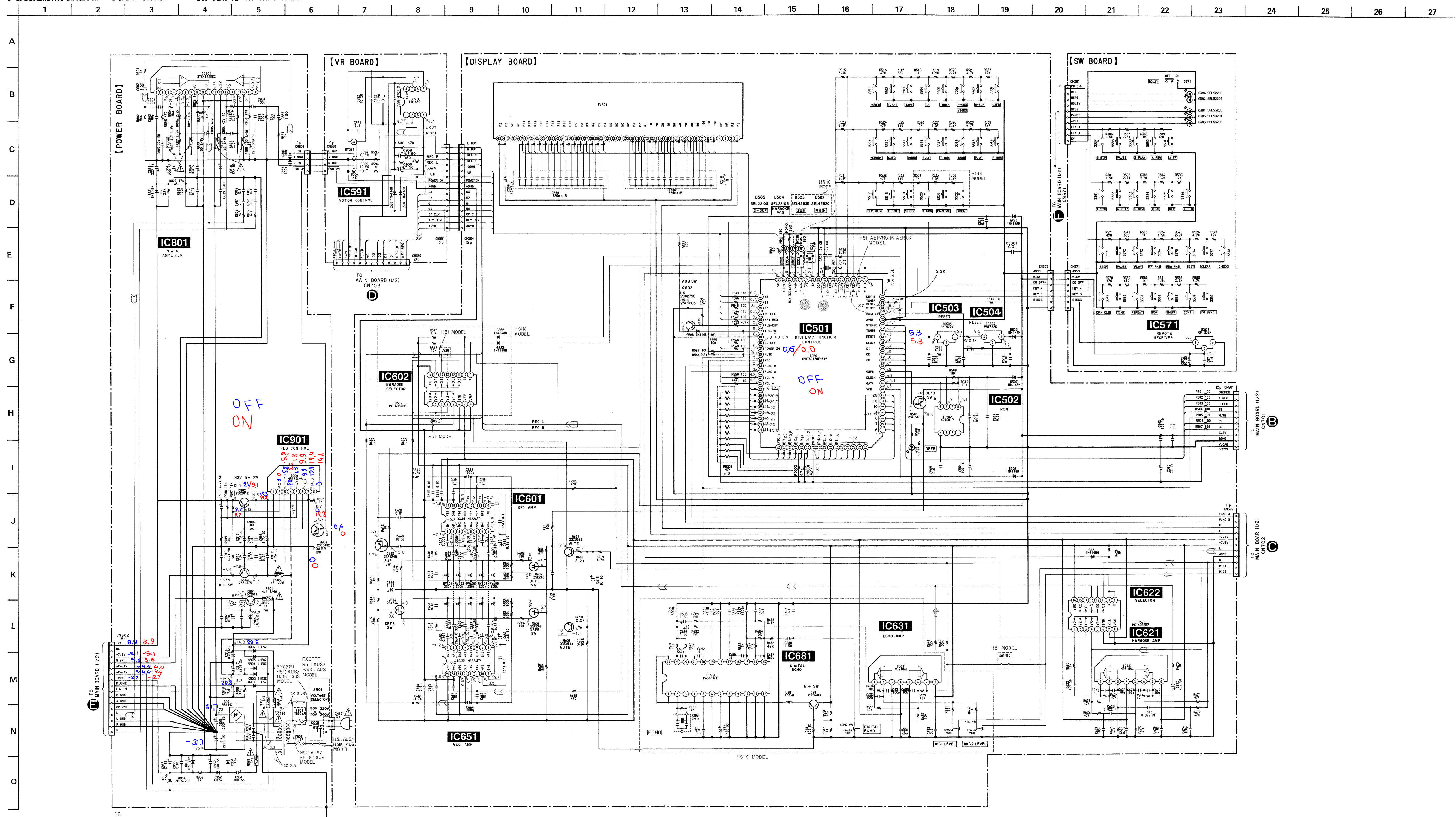
NOTE:

AUS : Australian model

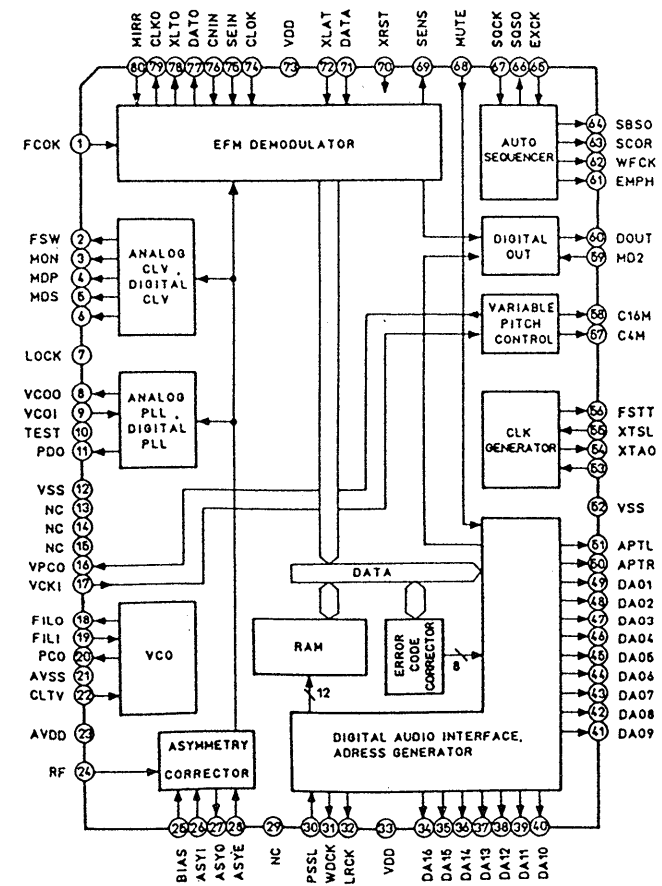
6-7. PRINTED WIRING BOARDS — DISPLAY SECTION — • See page 15 for Semiconductor Lead Layouts.



6-8. SCHEMATIC DIAGRAM — DISPLAY SECTION — • See page 19 for Wave forms.



- IC201 CXD2500AQ (BD BOARD)

[illegible]

The block diagram illustrates the control system for the 100-Watt audio amplifier. It features a central 'CONTROL' block. A 'REG' (regulator) block is connected to the 'CONTROL' block and is powered by Vcc (pin 1) and GND (pin 4). The 'CONTROL' block is also connected to two 'INPUT AMP' blocks (pins 3 and 4) and two 'POWER AMP' blocks (pins 5 and 7). The 'POWER AMP' blocks are connected to 'OUT 2' (pin 2) and 'OUT 1' (pin 7). A 'REFERENCE' input (pin 8) is also shown.

[illegible]

The block diagram illustrates the control system for the video camera, featuring a central SEQUENCER unit. The system includes various input and output modules such as FOCUS SEARCH UP/DOWN, WINDOW COMPARATOR, DIFFCT AMP, and TRACKING AMP. It also shows signal paths for DATA, CLK, LOCK, DIRG, AVEE, STP, ISET, PSET, SL-, SLO, and SL+. Key components like comparators, amplifiers, and buffers are interconnected to manage the camera's operation.

[illegible]

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
- EA : Saudi Arabia model
- MY : Malaysia_model
- Items marked "s" 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.

This exploded view diagram illustrates the assembly of the H51K model radio receiver. The components are numbered 1 through 16, with some parts labeled as 'not supplied' or 'except' for specific regions. The diagram shows the following parts and their assembly sequence:

- Top Cover (15):** The main upper housing, secured with screws #1 and #3.
- Front Panel (2):** The faceplate of the receiver, which includes the tuning dial and speaker grille.
- Speaker (4):** A circular speaker unit that is mounted into the front panel.
- Volume Control (5):** A knob that is attached to the front panel, noted as being 'Supplied with variable resistor'.
- Internal Components:**
 - Transformer (T901):** A power transformer mounted to the chassis.
 - Resistors (F901, F902):** Two fixed resistors used in the circuit.
 - Capacitors (C901, C902):** Two electrolytic capacitors used in the power supply section.
 - Antenna (ANT1):** An external antenna connected to the top of the chassis.
- Chassis (12):** The main metal frame that houses the internal electronic components.
- Base (11):** The bottom mounting plate for the chassis.
- Mounting Hardware:** Various screws and washers (labeled #1, #2, #3, #4, #6) are used to secure the components to the chassis and top cover.

Specific assembly notes include:

- Part #8 is labeled 'not supplied'.
- Parts F901 and F902 are shown in a dashed box with the note 'EXCEPT H51 : AUS/ H51K : AUS', indicating they are not required for the Australian model.
- Part #16 is labeled 'H51K MODEL', indicating it is specific to this version.

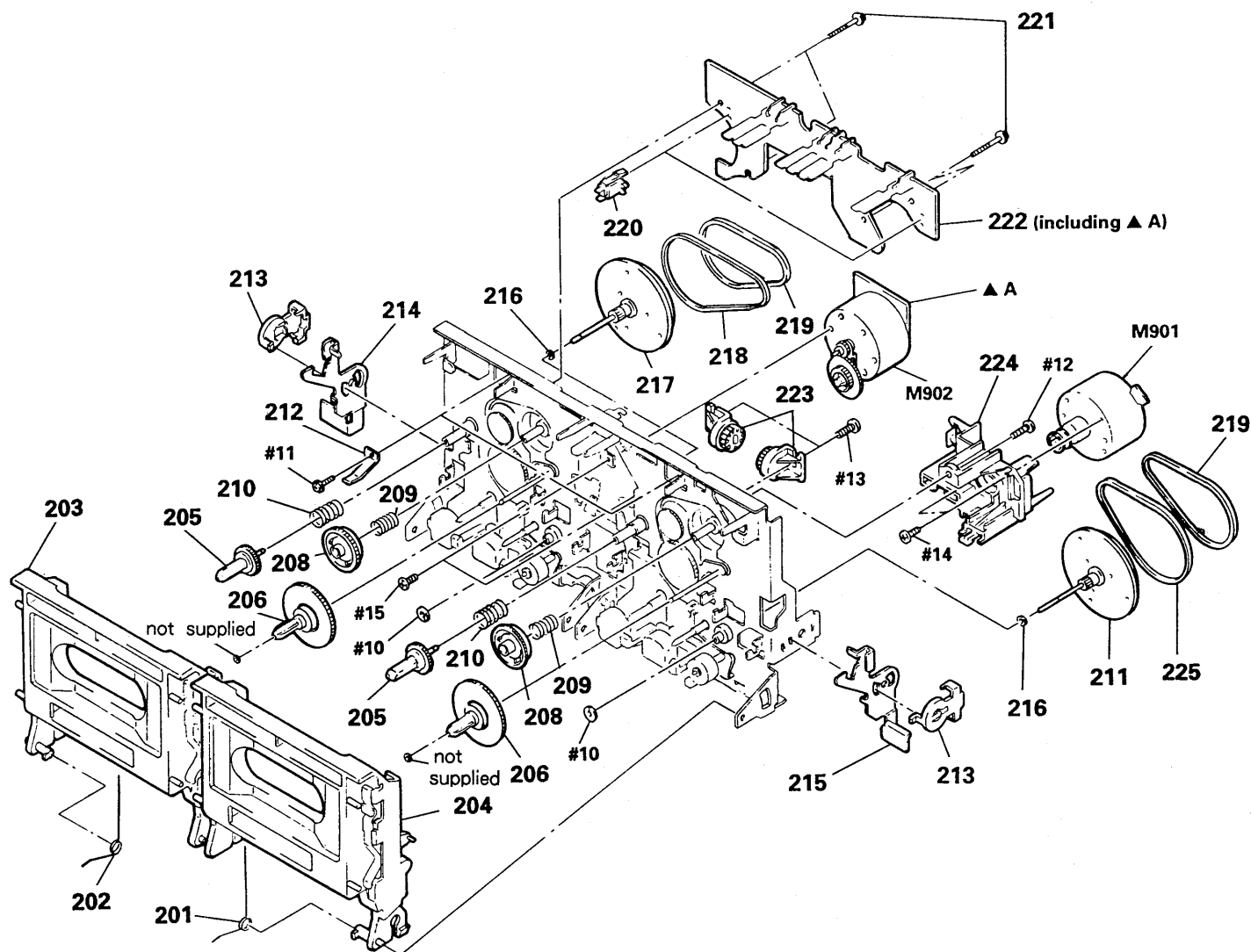
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	X-4943-231-1	LID (B) ASSY, CASSETTE (H51)		11	1-690-970-31	WIRE (FLAT TYPE) (13 CORE)	
2	X-4943-234-1	LID (B) ASSY, CASSETTE (H51K)		* 12	1-647-265-11	VR BOARD	
3	X-4943-230-1	LID (A) ASSY, CASSETTE		14	4-812-134-31	RIVET NYLON, 3.5	
2	3-319-288-01	FOOT					
4	4-936-827-31	ORNAMENT (FOOT)		15	4-958-661-01	SHEET (INSULATED)	
				16	4-956-323-01	KNOB (MIC) (H51K)	
5	4-956-322-01	KNOB (VOL)		ANT1	1-501-321-51	ANTENNA, TELESCOPIC	
6	4-956-933-01	BRACKET, GROUND		△P901	1-532-215-00	FUSE 800mA	
* 7	A-4356-768-A	POWER BOARD, COMPLETE (EXCEPT H51:AUS/H51K:AUS)		△P902	1-532-259-00	FUSE 1.6A (EXCEPT H51:AUS/H51K:AUS)	
* 7	A-4356-778-A	POWER BOARD, COMPLETE (H51:AUS/H51K:AUS)		△T901	1-423-468-11	TRANSFORMER, POWER (EXCEPT H51:AUS/H51K:AUS)	
8	1-533-217-31	HOLDER, FUSE		△T901	1-423-469-11	TRANSFORMER, POWER (H51:AUS/H51K:AUS)	
* 9	X-4943-235-1	CASE ASSY (EXCEPT H51:AUS/H51K:AUS)					
* 9	X-4943-236-1	CASE ASSY (H51:AUS/H51K:AUS)					

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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	A-4353-206-A	PANEL ASSY, FRONT (H51)		61	4-955-333-01	PLATE (CASSETTE), ORNAMENTAL	
51	A-4353-209-A	PANEL ASSY, FRONT (H51K)		62	4-956-474-11	PANEL, LOADING	
52	4-956-353-01	BUTTON (EJECT-R)					
53	4-956-349-01	BUTTON (EJECT-L)		Δ63	1-558-943-41	CORD, POWER (H51:E/H51K:E)	
54	4-812-134-31	RIVET NYLON, 3.5		Δ63	1-575-651-21	CORD, POWER (H51:EA, MY, SP/H51K:EA, MY, SP)	
				Δ63	1-696-845-11	CORD, POWER (H51:AUS/H51K:AUS)	
* 55	4-932-810-11	CUSHION (FL)		* 64	3-703-244-00	BUSHING (2104), CORD (EXCEPT H51:E/H51K:E)	
56	1-751-027-41	WIRE (FLAT TYPE) (19 CORE)		64	3-703-571-00	BUSHING (S) (4516), CORD (H51:E/H51K:E)	
57	1-751-277-11	WIRE (FLAT TYPE) (13 CORE)					
* 58	A-4356-767-A	DISPLAY BOARD, COMPLETE (H51K)		65	4-951-620-01	SCREW (2.6X8), +BYP	
* 58	A-4356-775-A	DISPLAY BOARD, COMPLETE (H51)		* 66	A-4356-769-A	SW BOARD, COMPLETE	
				67	1-751-034-11	WIRE (FLAT TYPE) (7 CORE)	
* 59	3-309-144-31	HEAT SINK		68	4-956-476-11	KNOB (DIRECTION/DOLBY)	
* 60	A-4356-772-A	MAIN BOARD, COMPLETE (H51K)		* 71	4-925-530-01	PLATE, GROUND	
* 60	A-4360-157-A	MAIN BOARD, COMPLETE (H51)		FL501	1-517-122-11	INDICATOR TUBE, FLUORESCENT	

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

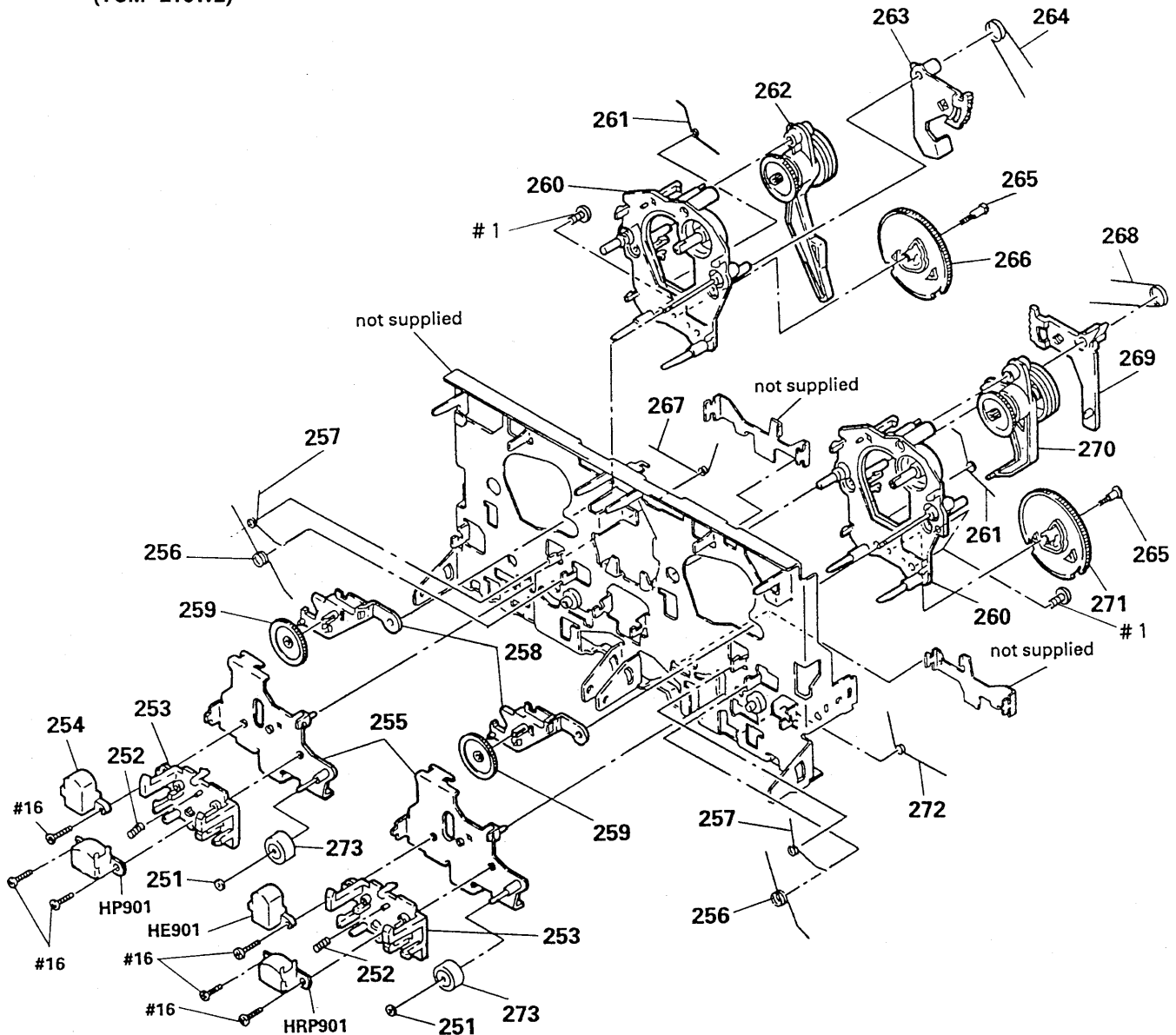
7-3. MECHANISM SECTION-1
(TCM-210W2)



Ref. No.	Part No.	Description	Remarks
201	3-381-788-01	SPRING (LOADING B), TORSION	
202	3-381-787-01	SPRING (LOADING A), TORSION	
203	X-3365-440-1	HOLDER (A) ASSY, CASSETTE	
204	X-3365-441-1	HOLDER (B) ASSY, CASSETTE	
205	3-382-524-01	GEAR (S SIDE REEL)	
206	X-3365-559-1	TABLE (T) ASSY, REEL	
208	X-3365-447-1	GEAR (FF) ASSY	
209	3-382-078-01	SPRING (FF), COMPRESSION	
210	3-358-208-01	SPRING (SUPPLY), COMPRESSION	
211	X-3365-438-1	FLYWHEEL (B) ASSY	
212	3-382-929-01	SPRING(CASSETTE DETENT), LEAF	
213	3-354-957-01	JOINT (LOCK LEVER)	
* 214	3-367-709-01	LEVER (LOCK LEVER L)	

Ref. No.	Part No.	Description	Remarks
* 215	3-367-710-01	LEVER (LOCK LEVER R)	
216	3-701-437-11	WASHER	
217	X-3365-437-1	FLYWHEEL (A) ASSYLAY	
218	3-382-859-02	BELT (CAPSTAN A)	
219	4-928-951-01	BELT (CAPSTAN)	
* 220	3-381-776-01	HOLDER (LED)	
221	3-355-801-01	SCREW (BTP 2X18)	
* 222	1-644-686-21	LEAF SWITCH BOARD	
223	4-919-393-31	DAMPER	
224	3-381-777-01	BRACKET	
225	3-382-860-02	BELT (CAPSTAN B)	
M901	X-3362-377-1	MOTOR (WH) ASSY	
M902	A-2004-188-A	MOTOR ASSY, DC	

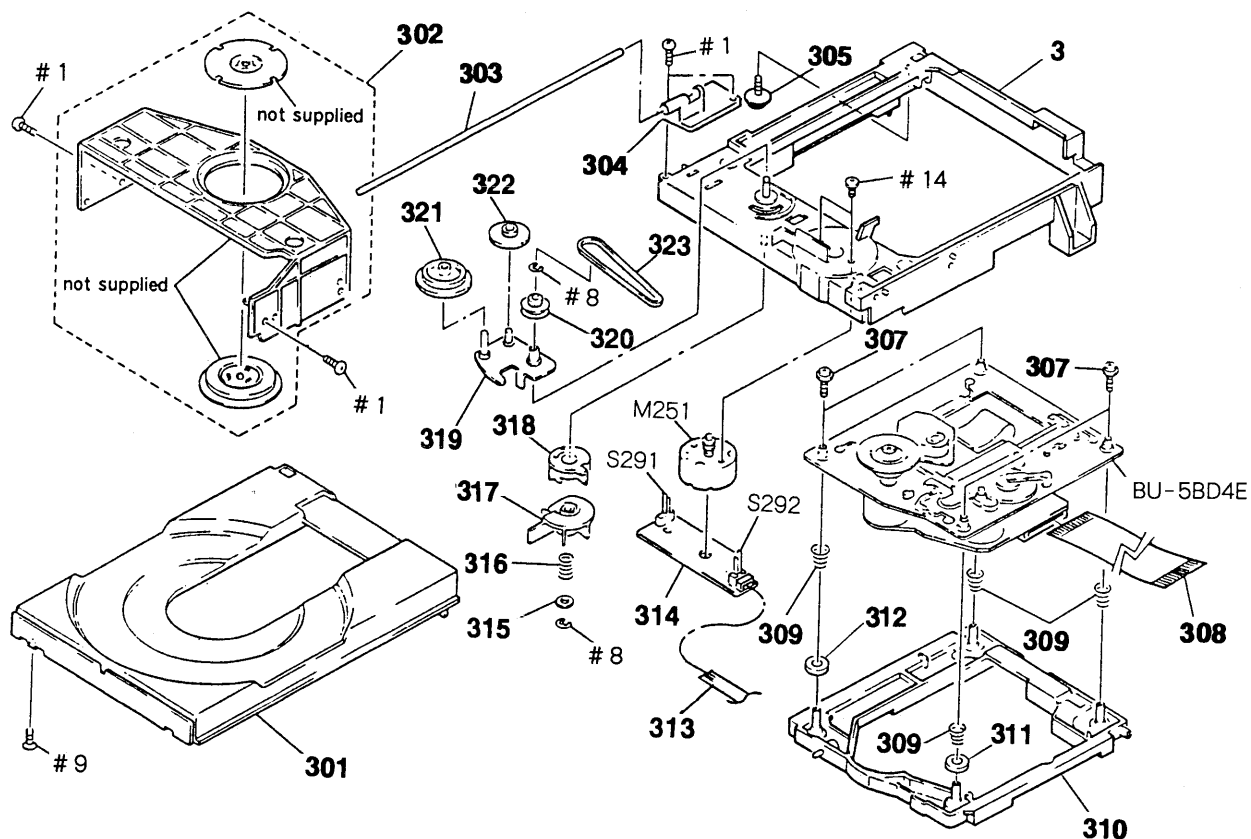
7-4. MECHANISM SECTION - 2
(TCM-210W2)



Ref. No.	Part No.	Description	Remarks
251	3-669-465-00	WASHER (1.5), STOPPER	
252	3-343-484-01	SPRING, COMPRESSION	
253	3-381-778-01	HOLDER (HEAD)	
254	3-319-716-01	GUIDE, TAPE	
255	X-3365-814-1	SLIDER (HEAD) ASSY	
256	3-382-076-01	SPRING (HEAD), TORSION	
257	3-382-077-01	SPRING (TU), TORSION	
258	3-381-785-01	LEVER (TU)	
* 259	3-358-284-01	GEAR (TU GEAR)	
* 260	X-3365-443-1	CHASSIS (M) ASSY	
261	3-383-498-01	SPRING (CAM), TORSION	
262	X-3365-444-1	LEVER (FR ARM A) ASSY	
263	3-381-781-01	LEVER (TRIGGER A)	
264	3-382-074-01	SPRING (TRIGGER A), TORSION	

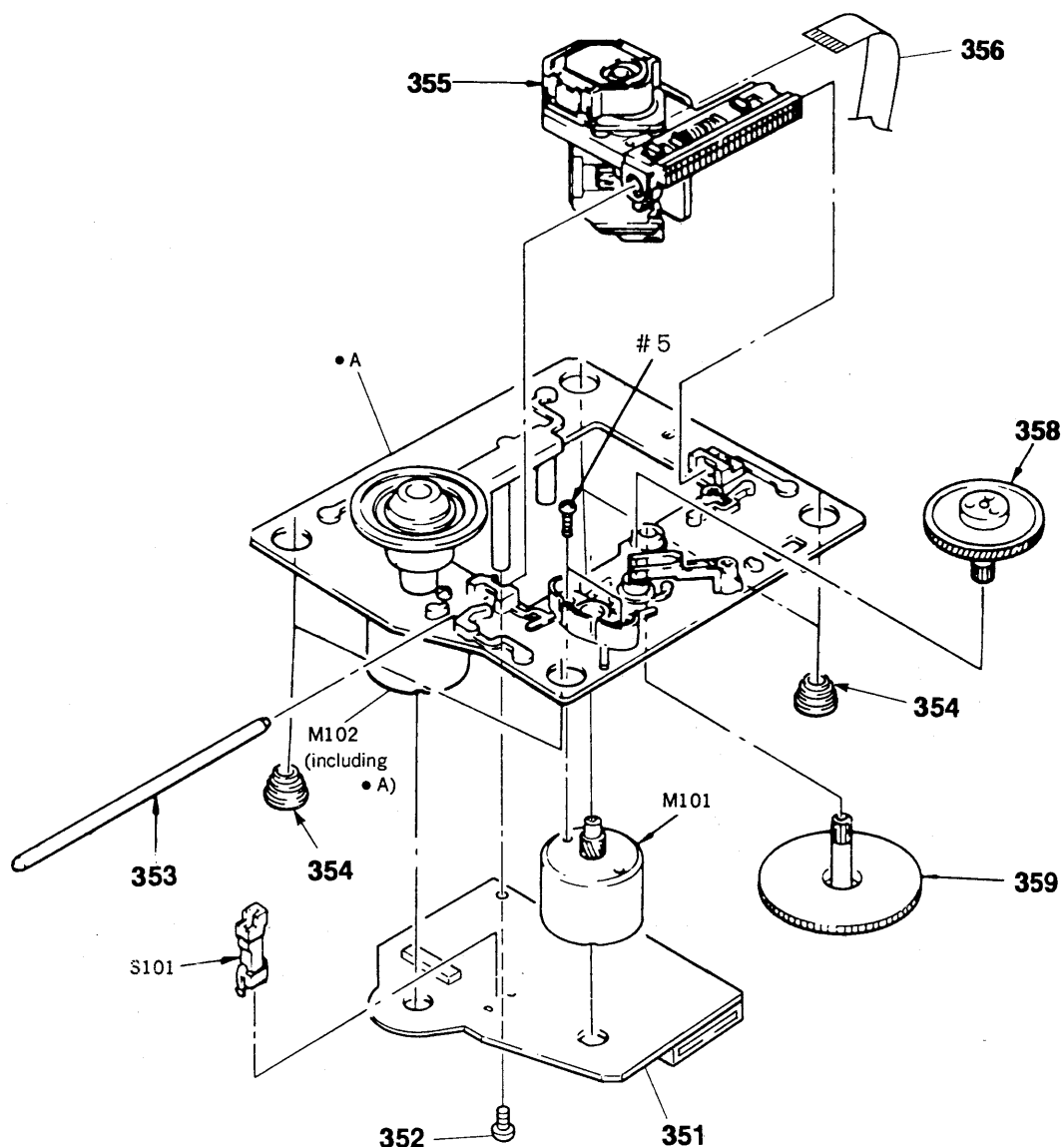
Ref. No.	Part No.	Description	Remarks
265	3-381-810-11	SCREW, STEP	
266	3-381-779-01	CAM (A)	
267	3-383-056-02	SPRING (SLIDER A), TORSION	
268	3-382-075-01	SPRING (TRIGGER B), TORSION	
269	3-381-782-01	LEVER (TRIGGER B)	
270	X-3365-445-1	LEVER (FR ARM B) ASSY	
271	3-381-780-01	CAM (B)	
272	3-383-057-02	SPRING (SLIDER B), TORSION	
273	3-355-808-21	PINCH ROLLER	
HE901	1-543-673-11	HEAD, MAGNETIC (ERASE)	
HP901	1-543-940-11	HEAD, MAGNETIC (PLAYBACK)	
HRP901	1-543-319-11	HEAD, MAGNETIC (REC/PB)	

7-5. CD SECTION - 1 (CDM138B-5BD4E)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
301	4-944-012-01	TABLE, DISC		316	3-659-338-00	SPRING, COMPRESSION	
302	A-4604-752-A	HOLDER (MG) ASSY		317	4-929-727-01	CAM (A)	
303	4-929-764-01	SHAFT (TABLE GUIDE)		318	4-929-729-01	CAM (B)	
304	4-944-006-01	BEARING		319	X-4929-703-1	ARM ASSY, SWING	
* 305	4-917-583-21	BRACKET, YOKE		320	4-929-724-01	PULLEY (B)	
306	X-4941-462-1	CHASSIS (MD) ASSY		321	4-927-620-01	GEAR (P)	
307	4-933-134-01	SCREW (+PTPWH M2.6X6)		322	4-927-628-01	GEAR (C)	
308	1-751-027-41	WIRE (FLAT TYPE) (19 CORE)		323	4-927-649-01	BELT	
309	4-958-593-01	SPRING (BU), COMPRESSION		M251	A-4660-307-A	MOTOR (L) ASSY	
310	4-929-747-01	HOLDER (BU)		S291	1-571-924-11	SWITCH, LEAF	
311	3-701-445-21	WASHER, 7		S292	1-571-924-11	SWITCH, LEAF	
312	3-701-445-11	WASHER, 7					
313	1-751-109-11	WIRE (FLAT TYPE) (5 CORE)					
* 314	1-638-308-11	LOADING BOARD					
315	4-927-654-01	WASHER (LIMITER)					

7-6. CD SECTION-2 (BU-5BD4E)



Ref. No.	Part No.	Description	Remarks
* 351	A-4649-592-A	BD (A) BOARD, COMPLETE	
352	4-951-620-01	SCREW (2.6X8), +BVTP	
353	4-917-565-01	SHAFT, SLED	
354	4-951-940-01	INSULATOR (BU)	
△355	8-848-144-11	DEVICE, OPTICAL KSS-240A	

Ref. No.	Part No.	Description	Remarks
356	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
358	4-917-567-01	GEAR (M)	
359	4-917-564-01	GEAR (P), FLATNESS	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
S101	1-572-085-11	SWITCH, LEAF	

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

BD

- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
*	A-4649-592-A	BD (A) BOARD, COMPLETE *****				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
		< CAPACITOR >				C208	1-164-346-11	CERAMIC CHIP	1uF		16V
C101	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	C209	1-164-346-11	CERAMIC CHIP	1uF		16V
C102	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V	C210	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C103	1-135-155-21	TANTALUM CHIP	4. 7uF	10%	16V	C299	1-164-346-11	CERAMIC CHIP	1uF		16V
C104	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	C301	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-126-607-11	ELECT CHIP	47uF	20%	4V	C302	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C106	1-126-607-11	ELECT CHIP	47uF	20%	4V	C303	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C107	1-126-607-11	ELECT CHIP	47uF	20%	4V	C304	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C108	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	C305	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	C306	1-163-145-00	CERAMIC CHIP	0. 0015uF	5%	50V
C110	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V	C307	1-163-145-00	CERAMIC CHIP	0. 0015uF	5%	50V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V	C308	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-164-232-11	CERAMIC CHIP	0. 01uF		50V	C309	1-164-346-11	CERAMIC CHIP	1uF		16V
C113	1-164-232-11	CERAMIC CHIP	0. 01uF		50V	C310	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C114	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V	C311	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C115	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V	C312	1-164-346-11	CERAMIC CHIP	1uF		16V
C117	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	C401	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C118	1-163-038-00	CERAMIC CHIP	0. 1uF		25V			< CONNECTOR >			
C119	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V	CN101	1-580-858-11	SOCKET, CONNECTOR (SMT)	5P		
C120	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V	CN102	1-580-866-11	SOCKET, CONNECTOR (SMT)	12P		
C151	1-163-019-00	CERAMIC CHIP	0. 0068uF	10%	50V	CN103	1-580-872-41	SOCKET, CONNECTOR (SMT)	19P		
C152	1-164-346-11	CERAMIC CHIP	1uF		16V			< DIODE >			
C153	1-163-135-00	CERAMIC CHIP	560PF	5%	50V	D101	8-719-422-12	DIODE	MA8039		
C154	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V	D201	8-719-016-74	DIODE	1SS352		
C155	1-163-023-00	CERAMIC CHIP	0. 015uF	5%	50V			< IC >			
C171	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	IC101	8-752-053-73	IC	CXA1372AQ		
C172	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	IC101	8-752-058-77	IC	CXA1372AQ		
C173	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	IC101	8-752-053-73	IC	CXA1372AQ		
C174	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	IC102	8-759-823-48	IC	LA6525M		
C201	1-163-809-11	CERAMIC CHIP	0. 047uF	10%	25V	IC103	8-759-636-20	IC	M54641FP		
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						

BD	DISPLAY	POWER	SW
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Ref. No.	Part No.	Description	Remarks
IC201	8-752-352-93	IC CXD2500BQ	
IC202	8-759-059-86	IC uPD75116GF-F21-3BE	
IC203	8-759-098-27	IC MSM6538-01GS-VKR1	
IC301	8-759-155-52	IC PCM-67U-B-B	
IC302	8-759-996-43	IC RC4558PS	
< JUMPER RESISTOR >			
JR201	1-216-296-00	METAL CHIP 0 5%	1/8W
< TRANSISTOR >			
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
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
R209	1-216-081-00	METAL CHIP 22K 5%	1/10W
R212	1-239-039-11	RESISTOR, NETWORK 22KX4	
R214	1-239-039-11	RESISTOR, NETWORK 22KX4	
R218	1-216-065-00	METAL CHIP 4.7K 5%	1/10W

Ref. No.	Part No.	Description	Remarks
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	1-216-051-00	METAL CHIP 1.2K 5%	1/10W
R231	1-216-051-00	METAL CHIP 1.2K 5%	1/10W
R232	1-216-041-00	METAL CHIP 470 5%	1/10W
R233	1-216-041-00	METAL CHIP 470 5%	1/10W
R234	1-216-051-00	METAL CHIP 1.2K 5%	1/10W
R235	1-216-051-00	METAL CHIP 1.2K 5%	1/10W
R236	1-236-413-11	NETWORK, RES 1.2K	
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	
< VIBRATOR >			
X201	1-567-908-11	VIBRATOR, CRYSTAL 16MHz	
X202	1-579-216-11	VIBRATOR, CERAMIC 4MHz	

*	A-4356-767-A	DISPLAY BOARD, COMPLETE (H51K)	

*	A-4356-775-A	DISPLAY BOARD, COMPLETE (H51)	

*	A-4356-768-A	POWER BOARD, COMPLETE	

(EXCEPT H51:AUS/H51K:AUS)			
*	A-4356-778-A	POWER BOARD, COMPLETE (H51:AUS/H51K:AUS)	

*	A-4356-769-A	SW BOARD, COMPLETE	

1-533-217-31 HOLDER, FUSE			
*	4-932-810-11	CUSHION (FL)	
4-956-993-01 BRACKET, GROUND			

Ref. No.	Part No.	Description	Remarks			
< CAPACITOR >						
C501	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C502	1-124-584-00	ELECT	100uF	20%	10V	
C503	1-124-584-00	ELECT	100uF	20%	10V	
C504	1-124-584-00	ELECT	100uF	20%	10V	
C505	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C506	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C507	1-162-201-31	CERAMIC	12PF	5%	50V	
C508	1-162-201-31	CERAMIC	12PF	5%	50V	
C509	1-124-242-00	ELECT	33uF	20%	25V	
C510	1-136-161-00	FILM	0.047uF	5%	50V	
C511	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C512	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C513	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C514	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C515	1-124-248-00	ELECT	22uF	20%	35V	
C571	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C572	1-126-157-11	ELECT	10uF	20%	16V	
C601	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C602	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C603	1-161-494-00	CERAMIC	0.022uF		25V	
C604	1-161-327-00	CERAMIC	0.0033uF	30%	16V	
C605	1-164-159-11	CERAMIC	0.1uF		50V	
C606	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C607	1-124-464-11	ELECT	0.22uF	20%	50V	
C608	1-164-159-11	CERAMIC	0.1uF		50V	
C609	1-124-252-00	ELECT	0.33uF	20%	50V	
C611	1-164-159-11	CERAMIC	0.1uF		50V	
C612	1-124-254-00	ELECT	0.68uF	20%	50V	
C613	1-162-282-31	CERAMIC	100PF	10%	50V	
C614	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C615	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C616	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C617	1-162-282-31	CERAMIC	100PF	10%	50V	
C618	1-126-157-11	ELECT	10uF	20%	16V	
C619	1-126-160-11	ELECT	1uF	20%	50V	
C620	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C621	1-162-282-31	CERAMIC	100PF	10%	50V	
C622	1-162-282-31	CERAMIC	100PF	10%	50V	
C623	1-136-157-00	FILM	0.022uF	5%	50V	
C624	1-162-282-31	CERAMIC	100PF	10%	50V	
C625	1-126-163-11	ELECT	4.7uF	20%	50V	
C626	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C631	1-162-282-31	CERAMIC	100PF	10%	50V	(H51K)
C632	1-162-282-31	CERAMIC	100PF	10%	50V	(H51K)
C633	1-161-379-00	CERAMIC	0.01uF	20%	25V	(H51K)
C634	1-161-379-00	CERAMIC	0.01uF	20%	25V	(H51K)
C635	1-162-282-31	CERAMIC	100PF	10%	50V	(H51K)

Ref. No.	Part No.	Description	Remarks			
C651	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C652	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C653	1-161-494-00	CERAMIC	0.022uF		25V	
C654	1-161-327-00	CERAMIC	0.0033uF	30%	16V	
C655	1-164-159-11	CERAMIC	0.1uF		50V	
C656	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C657	1-124-464-11	ELECT	0.22uF	20%	50V	
C658	1-164-159-11	CERAMIC	0.1uF		50V	
C659	1-124-252-00	ELECT	0.33uF	20%	50V	
C661	1-164-159-11	CERAMIC	0.1uF		50V	
C662	1-124-254-00	ELECT	0.68uF	20%	50V	
C663	1-162-282-31	CERAMIC	100PF	10%	50V	
C664	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C665	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C666	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C667	1-162-282-31	CERAMIC	100PF	10%	50V	
C668	1-126-157-11	ELECT	10uF	20%	16V	
C669	1-126-160-11	ELECT	1uF	20%	50V	
C671	1-162-282-31	CERAMIC	100PF	10%	50V	
C672	1-162-282-31	CERAMIC	100PF	10%	50V	
C673	1-136-157-00	FILM	0.022uF	5%	50V	
C674	1-162-282-31	CERAMIC	100PF	10%	50V	
C675	1-126-163-11	ELECT	4.7uF	20%	50V	
C676	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C681	1-124-584-00	ELECT	100uF	20%	10V (H51K)	
C682	1-161-379-00	CERAMIC	0.01uF	20%	25V (H51K)	
C683	1-124-584-00	ELECT	100uF	20%	10V (H51K)	
C684	1-162-291-31	CERAMIC	560PF	10%	50V (H51K)	
C685	1-164-159-11	CERAMIC	0.1uF		50V (H51K)	
C686	1-164-159-11	CERAMIC	0.1uF		50V (H51K)	
C687	1-161-329-00	CERAMIC	0.0068uF	30%	16V (H51K)	
C688	1-126-160-11	ELECT	1uF	20%	50V (H51K)	
C689	1-164-159-11	CERAMIC	0.1uF		50V (H51K)	
C690	1-164-159-11	CERAMIC	0.1uF		50V (H51K)	
C691	1-124-589-11	ELECT	47uF	20%	16V (H51K)	
C692	1-164-159-11	CERAMIC	0.1uF		50V (H51K)	
C693	1-162-291-31	CERAMIC	560PF	10%	50V (H51K)	
C694	1-126-160-11	ELECT	1uF	20%	50V (H51K)	
C695	1-161-329-00	CERAMIC	0.0068uF	30%	16V (H51K)	
C696	1-126-160-11	ELECT	1uF	20%	50V (H51K)	
C697	1-164-159-11	CERAMIC	0.1uF		50V (H51K)	
C801	1-162-282-31	CERAMIC	100PF	10%	50V	
C802	1-126-160-11	ELECT	1uF	20%	50V	
C803	1-162-282-31	CERAMIC	100PF	10%	50V	
C804	1-162-282-31	CERAMIC	100PF	10%	50V	
C805	1-124-916-11	ELECT	22uF	20%	63V	
C806	1-124-910-11	ELECT	47uF	20%	50V	
C807	1-164-159-11	CERAMIC	0.1uF		50V	

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Ref. No.	Part No.	Description	Remarks
C808	1-164-159-11	CERAMIC 0.1uF	50V
C809	1-161-379-00	CERAMIC 0.01uF	20% 25V
C810	1-124-910-11	ELECT 47uF	20% 50V
C811	1-124-120-11	ELECT 220uF	20% 25V
C851	1-162-282-31	CERAMIC 100PF	10% 50V
C852	1-126-160-11	ELECT 1uF	20% 50V
C853	1-162-282-31	CERAMIC 100PF	10% 50V
C854	1-162-282-31	CERAMIC 100PF	10% 50V
C855	1-124-916-11	ELECT 22uF	20% 63V
C856	1-124-910-11	ELECT 47uF	20% 50V
C857	1-164-159-11	CERAMIC 0.1uF	50V
C858	1-164-159-11	CERAMIC 0.1uF	50V
C859	1-161-379-00	CERAMIC 0.01uF	20% 25V
C860	1-124-261-00	ELECT 10uF	20% 50V
C861	1-124-484-11	ELECT 220uF	20% 35V
C901	1-164-159-11	CERAMIC 0.1uF	50V
C902	1-164-159-11	CERAMIC 0.1uF	50V
C903	1-124-618-11	ELECT 2200uF	20% 35V
C904	1-124-618-11	ELECT 2200uF	20% 35V
C905	1-161-379-00	CERAMIC 0.01uF	20% 25V
C906	1-124-261-00	ELECT 10uF	20% 50V
C907	1-161-379-00	CERAMIC 0.01uF	20% 25V
C908	1-126-163-11	ELECT 4.7uF	20% 50V
C909	1-161-379-00	CERAMIC 0.01uF	20% 25V
C910	1-126-163-11	ELECT 4.7uF	20% 50V
C911	1-126-163-11	ELECT 4.7uF	20% 50V
C912	1-126-163-11	ELECT 4.7uF	20% 50V
C913	1-161-379-00	CERAMIC 0.01uF	20% 25V
C914	1-124-261-00	ELECT 10uF	20% 50V
C915	1-126-163-11	ELECT 4.7uF	20% 50V
C916	1-124-564-11	ELECT 4700uF	20% 25V
C917	1-124-563-11	ELECT 2200uF	20% 25V
C918	1-124-257-00	ELECT 2.2uF	20% 50V
C951	1-124-122-11	ELECT 100uF	20% 50V
C952	1-124-122-11	ELECT 100uF	20% 50V
C953	1-161-379-00	CERAMIC 0.01uF	20% 25V
C955	1-124-910-11	ELECT 47uF	20% 50V
C5001	1-161-379-00	CERAMIC 0.01uF	20% 25V

< CONNECTOR >

* CN381	1-569-156-11	SOCKET, CONNECTOR 10P
* CN501	1-569-156-11	SOCKET, CONNECTOR 10P
* CN502	1-573-049-11	SOCKET, CONNECTOR 11P
CN503	1-691-644-11	SOCKET, CONNECTOR 7P
CN504	1-750-176-11	HOUSING, CONNECTOR(PC BOARD)15P
* CN571	1-568-850-11	SOCKET, CONNECTOR 7P
* CN801	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P
* CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P
* CN902	1-564-717-11	PIN, CONNECTOR (SMALL TYPE)15P

Ref. No.	Part No.	Description	Remarks
< COMPOSITION CIRCUIT BLOCK >			
CP501	1-239-584-21	COMPOSITION CIRCUIT BLOCK 12PFX15	
CP502	1-239-584-21	COMPOSITION CIRCUIT BLOCK 12PFX15	

< DIODE >

D381	8-719-038-54	DIODE SEL6414E-LC05 (▶)
D382	8-719-038-53	DIODE SEL6214S-LC05 (HIGH SPEED DUBBING
D383	8-719-038-57	DIODE SEL6914A-LC05 (■)
D384	8-719-038-53	DIODE SEL6214S-LC05 (●)
D385	8-719-038-54	DIODE SEL6414E-LC05 (▶)
D501	8-719-301-37	LED SEL2210S-CD (DBFB)
D502	8-719-038-38	DIODE SEL4228C (H51K)
D503	8-719-038-39	DIODE SEL4428E (H51K)
D504	8-719-301-37	LED SEL2210S-CD
D505	8-719-301-37	LED SEL2210S-CD (S-SUR)
D506	8-719-987-63	DIODE 1N4148M
D507	8-719-987-63	DIODE 1N4148M
D508	8-719-987-63	DIODE 1N4148M
D509	8-719-987-63	DIODE 1N4148M
D510	8-719-987-63	DIODE 1N4148M
D621	8-719-987-63	DIODE 1N4148M
D622	8-719-987-63	DIODE 1N4148M (H51K)
D623	8-719-987-63	DIODE 1N4148M (H51K)
D821	8-719-987-63	DIODE 1N4148M
D901	8-719-312-09	DIODE RBA-402
D902	8-719-200-82	DIODE 11ES2
D903	8-719-200-82	DIODE 11ES2
D904	8-719-200-82	DIODE 11ES2
D905	8-719-200-82	DIODE 11ES2
D906	8-719-933-36	DIODE HZS6B1L
D907	8-719-200-82	DIODE 11ES2
D951	8-719-200-82	DIODE 11ES2
D952	8-719-200-82	DIODE 11ES2
D953	8-719-934-18	LED HZS27-2L
D954	8-719-014-80	DIODE UZP-6.2BC-TP

< FILTER >

FL501	1-517-122-11	INDICATOR TUBE, FLUORESCENT
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< IC >

IC501	8-759-088-85	IC uPD78042GF-SOX1064
IC502	8-759-500-31	IC X24C01P
IC503	8-759-520-98	IC PST572K
IC504	8-759-510-54	IC PST572D
IC571	8-749-923-34	IC GPIU59XB
IC601	8-759-630-99	IC M5226FP
IC602	8-759-009-06	IC MC14052BF (H51K)
IC621	8-759-634-50	IC M5218AL

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Ref. No.	Part No.	Description	Remarks
IC622	8-759-009-06	IC MC14052BF	
IC631	8-759-634-50	IC M5218AL (H51K)	
IC651	8-759-630-99	IC M5226FP	
IC681	8-759-053-13	IC M65831FP (H51K)	
IC801	8-749-920-13	IC STK-4132MK2	
IC901	8-759-602-66	IC M5230L-A	
< COIL >			
L681	1-410-521-11	INDUCTOR 100uH (H51K)	
< TRANSISTOR >			
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-119-78	TRANSISTOR 2SC2785-HFE (H51)	
Q502	8-729-620-05	TRANSISTOR 2SC2603-EF (H51K)	
Q601	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q602	8-729-224-61	TRANSISTOR 2SK246-Y	
Q603	8-729-900-61	TRANSISTOR DTA114ES	
Q604	8-729-224-61	TRANSISTOR 2SK246-Y	
Q605	8-729-900-80	TRANSISTOR DTC114ES	
Q651	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q652	8-729-224-61	TRANSISTOR 2SK246-Y	
Q681	8-729-620-05	TRANSISTOR 2SC2603-EF (H51K)	
Q901	8-729-209-15	TRANSISTOR 2SD2012	
Q902	8-729-209-15	TRANSISTOR 2SD2012	
Q903	8-729-141-83	TRANSISTOR 2SA473	
Q904	8-729-900-80	TRANSISTOR DTC114ES	
< RESISTOR >			
R381	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R382	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R383	1-249-424-11	CARBON 3.9K 5% 1/4W F	
R384	1-249-426-11	CARBON 5.6K 5% 1/4W	
R385	1-249-430-11	CARBON 12K 5% 1/4W	
R386	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R387	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R388	1-249-429-11	CARBON 10K 5% 1/4W	
R389	1-249-430-11	CARBON 12K 5% 1/4W	
R501	1-249-405-11	CARBON 100 5% 1/4W F	
R502	1-249-405-11	CARBON 100 5% 1/4W F	
R503	1-249-405-11	CARBON 100 5% 1/4W F	
R504	1-249-405-11	CARBON 100 5% 1/4W F	
R505	1-249-405-11	CARBON 100 5% 1/4W F	
R506	1-249-405-11	CARBON 100 5% 1/4W F	
R507	1-249-405-11	CARBON 100 5% 1/4W F	
R508	1-249-411-11	CARBON 330 5% 1/4W	
R509	1-249-429-11	CARBON 10K 5% 1/4W	
R510	1-249-429-11	CARBON 10K 5% 1/4W	
R511	1-249-425-11	CARBON 4.7K 5% 1/4W F	

Ref. No.	Part No.	Description	Remarks
R512	1-249-417-11	CARBON 1K 5% 1/4W F	
R513	1-249-393-11	CARBON 10 5% 1/4W F	
R514	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R515	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R516	1-249-413-11	CARBON 470 5% 1/4W F	
R517	1-249-415-11	CARBON 680 5% 1/4W F	
R518	1-249-417-11	CARBON 1K 5% 1/4W F	
R519	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R520	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R521	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R522	1-249-430-11	CARBON 12K 5% 1/4W	
R523	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R524	1-249-413-11	CARBON 470 5% 1/4W F	
R525	1-249-415-11	CARBON 680 5% 1/4W F	
R526	1-249-417-11	CARBON 1K 5% 1/4W F	
R527	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R528	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R529	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R530	1-249-430-11	CARBON 12K 5% 1/4W	
R531	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R532	1-249-413-11	CARBON 470 5% 1/4W F	
R533	1-249-415-11	CARBON 680 5% 1/4W F	
R534	1-249-417-11	CARBON 1K 5% 1/4W F	
R535	1-249-419-11	CARBON 1.5K 5% 1/4W F (H51K)	
R536	1-249-421-11	CARBON 2.2K 5% 1/4W F (H51K)	
R537	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R538	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R539	1-249-408-11	CARBON 180 5% 1/4W F (H51K)	
R540	1-249-411-11	CARBON 330 5% 1/4W	
R541	1-249-411-11	CARBON 330 5% 1/4W	
R542	1-249-405-11	CARBON 100 5% 1/4W F	
R543	1-249-405-11	CARBON 100 5% 1/4W F	
R544	1-249-405-11	CARBON 100 5% 1/4W F	
R545	1-249-405-11	CARBON 100 5% 1/4W F	
R546	1-249-405-11	CARBON 100 5% 1/4W F	
R547	1-249-405-11	CARBON 100 5% 1/4W F	
R548	1-249-405-11	CARBON 100 5% 1/4W F	
R549	1-249-405-11	CARBON 100 5% 1/4W F	
R550	1-249-405-11	CARBON 100 5% 1/4W F	
R551	1-249-405-11	CARBON 100 5% 1/4W F	
R552	1-249-405-11	CARBON 100 5% 1/4W F	
R553	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R554	1-249-429-11	CARBON 10K 5% 1/4W	
R555	1-249-429-11	CARBON 10K 5% 1/4W	
R556	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R561	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R563	1-249-429-11	CARBON 10K 5% 1/4W	
R564	1-249-421-11	CARBON 2.2K 5% 1/4W F	

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Ref. No.	Part No.	Description	Remarks
R571	1-249-413-11	CARBON 470 5%	1/4W F
R572	1-249-415-11	CARBON 680 5%	1/4W F
R573	1-249-417-11	CARBON 1K 5%	1/4W F
R574	1-249-419-11	CARBON 1.5K 5%	1/4W F
R575	1-249-421-11	CARBON 2.2K 5%	1/4W F
R576	1-249-425-11	CARBON 4.7K 5%	1/4W F
R577	1-249-430-11	CARBON 12K 5%	1/4W F
R578	1-249-413-11	CARBON 470 5%	1/4W F
R579	1-249-415-11	CARBON 680 5%	1/4W F
R580	1-249-417-11	CARBON 1K 5%	1/4W F
R581	1-249-419-11	CARBON 1.5K 5%	1/4W F
R582	1-249-421-11	CARBON 2.2K 5%	1/4W F
R583	1-249-425-11	CARBON 4.7K 5%	1/4W F
R601	1-249-419-11	CARBON 1.5K 5%	1/4W F
R602	1-249-441-11	CARBON 100K 5%	1/4W
R603	1-249-441-11	CARBON 100K 5%	1/4W
R604	1-249-425-11	CARBON 4.7K 5%	1/4W F
R605	1-249-413-11	CARBON 470 5%	1/4W F
R606	1-249-405-11	CARBON 100 5%	1/4W F
R607	1-249-441-11	CARBON 100K 5%	1/4W (H51K)
R608	1-249-421-11	CARBON 2.2K 5%	1/4W F
R610	1-249-418-11	CARBON 1.2K 5%	1/4W F
R611	1-249-429-11	CARBON 10K 5%	1/4W
R612	1-249-429-11	CARBON 10K 5%	1/4W
R613	1-249-429-11	CARBON 10K 5%	1/4W
R614	1-249-441-11	CARBON 100K 5%	1/4W
R615	1-247-891-00	CARBON 330K 5%	1/4W
R616	1-249-425-11	CARBON 4.7K 5%	1/4W F
R617	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R618	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R619	1-249-425-11	CARBON 4.7K 5%	1/4W F
R620	1-249-433-11	CARBON 22K 5%	1/4W
R621	1-249-437-11	CARBON 47K 5%	1/4W
R622	1-249-437-11	CARBON 47K 5%	1/4W
R623	1-249-437-11	CARBON 47K 5%	1/4W
R624	1-249-437-11	CARBON 47K 5%	1/4W
R625	1-249-429-11	CARBON 10K 5%	1/4W
R626	1-249-429-11	CARBON 10K 5%	1/4W
R631	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R632	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R634	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R635	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R637	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R639	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R640	1-249-433-11	CARBON 22K 5%	1/4W
R641	1-249-433-11	CARBON 22K 5%	1/4W
R651	1-249-419-11	CARBON 1.5K 5%	1/4W F
R652	1-249-441-11	CARBON 100K 5%	1/4W
R653	1-249-441-11	CARBON 100K 5%	1/4W

Ref. No.	Part No.	Description	Remarks
R654	1-249-425-11	CARBON 4.7K 5%	1/4W F
R655	1-249-413-11	CARBON 470 5%	1/4W F
R656	1-249-405-11	CARBON 100 5%	1/4W F
R657	1-247-891-00	CARBON 330K 5%	1/4W
R658	1-249-421-11	CARBON 2.2K 5%	1/4W F
R660	1-249-418-11	CARBON 1.2K 5%	1/4W F
R671	1-249-437-11	CARBON 47K 5%	1/4W
R672	1-249-437-11	CARBON 47K 5%	1/4W
R673	1-249-437-11	CARBON 47K 5%	1/4W
R674	1-249-437-11	CARBON 47K 5%	1/4W
R675	1-249-429-11	CARBON 10K 5%	1/4W
R681	1-249-411-11	CARBON 330 5%	1/4W (H51K)
R682	1-249-417-11	CARBON 1K 5%	1/4W F (H51K)
R683	1-247-903-00	CARBON 1M 5%	1/4W (H51K)
R684	1-249-431-11	CARBON 15K 5%	1/4W (H51K)
R685	1-249-437-11	CARBON 47K 5%	1/4W (H51K)
R686	1-249-423-11	CARBON 3.3K 5%	1/4W F (H51K)
R687	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R688	1-249-431-11	CARBON 15K 5%	1/4W (H51K)
R689	1-249-431-11	CARBON 15K 5%	1/4W (H51K)
R690	1-249-431-11	CARBON 15K 5%	1/4W (H51K)
R691	1-249-429-11	CARBON 10K 5%	1/4W (H51K)
R692	1-249-431-11	CARBON 15K 5%	1/4W (H51K)
R801	1-249-417-11	CARBON 1K 5%	1/4W F
R802	1-249-438-11	CARBON 56K 5%	1/4W
R803	1-249-413-11	CARBON 470 5%	1/4W F
R804	1-249-438-11	CARBON 56K 5%	1/4W
△R805	1-212-849-00	FUSIBLE 4.7 5%	1/4W F
R806	1-249-421-11	CARBON 2.2K 5%	1/4W F
R807	1-249-421-11	CARBON 2.2K 5%	1/4W F
△R808	1-212-881-11	FUSIBLE 100 5%	1/4W F
R809	1-249-389-11	CARBON 4.7 5%	1/4W F
R821	1-249-433-11	CARBON 22K 5%	1/4W
R822	1-249-437-11	CARBON 47K 5%	1/4W
R823	1-247-883-00	CARBON 150K 5%	1/4W
R825	1-249-429-11	CARBON 10K 5%	1/4W
R826	1-249-417-11	CARBON 1K 5%	1/4W F
R827	1-249-417-11	CARBON 1K 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	1-249-413-11	CARBON 470 5%	1/4W F
R854	1-249-438-11	CARBON 56K 5%	1/4W
△R855	1-212-881-11	FUSIBLE 100 5%	1/4W F
R856	1-249-421-11	CARBON 2.2K 5%	1/4W F
R857	1-249-421-11	CARBON 2.2K 5%	1/4W F
△R858	1-212-881-11	FUSIBLE 100 5%	1/4W F
R859	1-249-389-11	CARBON 4.7 5%	1/4W F
△R901	1-212-849-00	FUSIBLE 4.7 5%	1/4W F

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

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Ref. No.	Part No.	Description	Remarks
R902	1-249-417-11	CARBON 1K 5% 1/4W F	
△R904	1-212-974-00	FUSIBLE 47 5% 1/2W F	
R905	1-247-903-00	CARBON 1M 5% 1/4W	
R906	1-249-405-11	CARBON 100 5% 1/4W F	
R907	1-249-432-11	CARBON 18K 5% 1/4W	
R908	1-249-432-11	CARBON 18K 5% 1/4W	
R909	1-247-842-11	CARBON 3K 5% 1/4W	
R910	1-249-429-11	CARBON 10K 5% 1/4W	
△R951	1-212-934-00	FUSIBLE 1 5% 1/2W F	
R952	1-249-417-11	CARBON 1K 5% 1/4W F	
R953	1-249-423-11	CARBON 3.3K 5% 1/4W F	
△R954	1-219-134-11	FUSIBLE 0.1 10% 1/4W	
△R955	1-219-134-11	FUSIBLE 0.1 10% 1/4W	
R5001	1-249-437-11	CARBON 47K 5% 1/4W	
R5002	1-249-437-11	CARBON 47K 5% 1/4W	
< COMPOSITION CIRCUIT BLOCK >			
RB501	1-239-585-11	COMPOSITION CIRCUIT BLOCK	
< VARIABLE RESISTOR >			
RV601	1-223-296-11	RES, VAR, SLIDE 250K/250K (12KHz)	
RV602	1-223-296-11	RES, VAR, SLIDE 250K/250K (4KHz)	
RV603	1-223-296-11	RES, VAR, SLIDE 250K/250K (1KHz)	
RV604	1-223-296-11	RES, VAR, SLIDE 250K/250K (400Hz)	
RV605	1-223-296-11	RES, VAR, SLIDE 250K/250K (100Hz)	
RV631	1-238-069-11	REA, VAR, CARBON 50K (H51K)	
RV632	1-238-069-11	REA, VAR, CARBON 50K (H51K)	
RV633	1-238-069-11	REA, VAR, CARBON 50K (H51K)	
< SWITCH >			
S371	1-572-347-21	SWITCH, SLIDE (DOLBY NR)	
S381	1-572-198-11	SWITCH, KEY BOARD (■)	
S382	1-572-198-11	SWITCH, KEY BOARD (▶)	
S383	1-572-198-11	SWITCH, KEY BOARD (◀◀)	
S384	1-572-198-11	SWITCH, KEY BOARD (▶▶)	
S385	1-572-198-11	SWITCH, KEY BOARD (• REC)	
S386	1-572-198-11	SWITCH, KEY BOARD (HIGH SPEED DUBBING)	
S387	1-572-198-11	SWITCH, KEY BOARD (■)	
S388	1-572-198-11	SWITCH, KEY BOARD (■ PAUSE)	
S389	1-572-198-11	SWITCH, KEY BOARD (▶)	
S390	1-572-198-11	SWITCH, KEY BOARD (◀◀)	
S391	1-572-198-11	SWITCH, KEY BOARD (▶▶)	
S501	1-572-198-11	SWITCH, KEY BOARD (POWER)	
S502	1-572-198-11	SWITCH, KEY BOARD (TIMER SET)	
S503	1-572-198-11	SWITCH, KEY BOARD (TAPE)	

Ref. No.	Part No.	Description	Remarks
S504	1-572-198-11	SWITCH, KEY BOARD (CD)	
S505	1-572-198-11	SWITCH, KEY BOARD (TUNER)	
S506	1-572-198-11	SWITCH, KEY BOARD (VIDEO/AUX)	
S507	1-572-198-11	SWITCH, KEY BOARD (S-SUR)	
S508	1-572-198-11	SWITCH, KEY BOARD (DBFB)	
S509	1-572-198-11	SWITCH, KEY BOARD (MEMORY)	
S510	1-572-198-11	SWITCH, KEY BOARD (AUTO)	
S511	1-572-198-11	SWITCH, KEY BOARD (MONO)	
S512	1-572-198-11	SWITCH, KEY BOARD (+)	
S513	1-572-198-11	SWITCH, KEY BOARD (-)	
S514	1-572-198-11	SWITCH, KEY BOARD (BAND)	
S515	1-572-198-11	SWITCH, KEY BOARD (+)	
S516	1-572-198-11	SWITCH, KEY BOARD (-)	
S517	1-572-198-11	SWITCH, KEY BOARD (CLOCK DISPLAY)	
S518	1-572-198-11	SWITCH, KEY BOARD (TIMER CONT)	
S519	1-572-198-11	SWITCH, KEY BOARD (SLEEP)	
S520	1-572-198-11	SWITCH, KEY BOARD	
S521	1-572-198-11	SWITCH, KEY BOARD (H51K)	
S522	1-572-198-11	SWITCH, KEY BOARD (H51K)	
S571	1-572-198-11	SWITCH, KEY BOARD (■)	
S572	1-572-198-11	SWITCH, KEY BOARD (■)	
S573	1-572-198-11	SWITCH, KEY BOARD (▶)	
S574	1-572-198-11	SWITCH, KEY BOARD (▶▶▶▶)	
S575	1-572-198-11	SWITCH, KEY BOARD (◀◀◀◀)	
S576	1-572-198-11	SWITCH, KEY BOARD (EDIT)	
S577	1-572-198-11	SWITCH, KEY BOARD (CLEAR)	
S578	1-572-198-11	SWITCH, KEY BOARD (CHECK)	
S579	1-572-198-11	SWITCH, KEY BOARD (▲)	
S580	1-572-198-11	SWITCH, KEY BOARD (TIME)	
S581	1-572-198-11	SWITCH, KEY BOARD (REPEAT)	
S582	1-572-198-11	SWITCH, KEY BOARD (PROGRAM)	
S583	1-572-198-11	SWITCH, KEY BOARD (SHUFFLE)	
S584	1-572-198-11	SWITCH, KEY BOARD (CONTINUE)	
S585	1-572-198-11	SWITCH, KEY BOARD (CD SYNCHRO)	
△S901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (EXCEPT H51:AUS/(H51K):AUS)	
< VIBRATOR >			
X501	1-527-997-21	VIBRATOR, CRYSTAL	
X502	1-577-101-11	VIBRATOR, CERAMIC	
X681	1-577-358-21	VIBRATOR, SERAMIC 2MHz (H51K)	

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

LEAF SWITCH

LOADING

MAIN

VR

Ref. No.	Part No.	Description	Remarks
*	1-644-686-21	LEAF SWITCH BOARD *****	
*	3-381-776-01	HOLDER (LED) < CAPACITOR >	
C1001	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
* CN1001	1-568-856-11	SOCKET, CONNECTOR 13P	
* CN1002	1-564-517-11	PLUG, CONNECTOR 2P < TRANSISTOR >	
Q1001	8-749-924-12	TRANSISTOR PHOTO INTERRUPTER GP2S09-A	
Q1002	8-749-924-12	TRANSISTOR PHOTO INTERRUPTER GP2S09-A < RESISTOR >	
R1001	1-249-407-11	CARBON 150 5% 1/4W F	
R1002	1-249-407-11	CARBON 150 5% 1/4W F < SWITCH >	
S1001	1-572-202-11	SWITCH, LEAF	
S1002	1-572-125-11	SWITCH, LEAF	
S1003	1-572-125-11	SWITCH, LEAF	
S1004	1-572-125-11	SWITCH, LEAF	
S1005	1-572-202-11	SWITCH, LEAF	
S1007	1-692-193-11	SWITCH, PUSH (1 KEY)	
S1008	1-692-193-11	SWITCH, PUSH (1 KEY)	

*	1-638-308-11	LOADING BOARD ***** < CONNECTOR >	
CN291	1-580-918-11	HOUSING, CONNECTOR 5P < SWITCH >	
S291	1-571-924-11	SWITCH, LEAF	
S292	1-571-924-11	SWITCH, LEAF	

Ref. No.	Part No.	Description	Remarks
*	A-4356-772-A	MAIN BOARD, COMPLETE ((H51K)) *****	
*	A-4360-157-A	MAIN BOARD, COMPLETE (H51) *****	
*	1-647-265-11	VR BOARD *****	
*	3-309-144-31	HEAT SINK	
*	4-925-530-01	PLATE, GROUND	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S < CAPACITOR >	
C1	1-162-195-31	CERAMIC 4.7PF	10% 50V
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	1-164-159-11	CERAMIC 0.1uF	50V
C6	1-164-159-11	CERAMIC 0.1uF	50V
C8	1-164-159-11	CERAMIC 0.1uF	50V
C9	1-162-195-31	CERAMIC 4.7PF	10% 50V
C13	1-136-162-00	FILM 0.056uF	5% 50V
C21	1-162-205-31	CERAMIC 18PF	5% 50V
C22	1-162-205-31	CERAMIC 18PF	5% 50V
C23	1-161-379-00	CERAMIC 0.01uF	20% 25V
C24	1-161-379-00	CERAMIC 0.01uF	20% 25V
C25	1-161-379-00	CERAMIC 0.01uF	20% 25V
C26	1-124-907-11	ELECT 10uF	20% 50V
C27	1-161-379-00	CERAMIC 0.01uF	20% 25V
C28	1-161-379-00	CERAMIC 0.01uF	20% 25V
C29	1-161-379-00	CERAMIC 0.01uF	20% 25V
C30	1-124-907-11	ELECT 10uF	20% 50V
C31	1-124-925-11	ELECT 2.2uF	20% 100V
C32	1-136-153-00	FILM 0.01uF	5% 50V
C33	1-124-463-00	ELECT 0.1uF	20% 50V
C37	1-162-207-31	CERAMIC 22PF	5% 50V
C38	1-161-379-00	CERAMIC 0.01uF	20% 25V
C51	1-124-907-11	ELECT 10uF	20% 50V
C52	1-161-379-00	CERAMIC 0.01uF	20% 25V
C53	1-162-282-31	CERAMIC 100PF	10% 50V
C54	1-161-379-00	CERAMIC 0.01uF	20% 25V
C57	1-124-925-11	ELECT 2.2uF	20% 100V
C58	1-124-903-11	ELECT 1uF	20% 50V
C59	1-161-379-00	CERAMIC 0.01uF	20% 25V
C60	1-124-903-11	ELECT 1uF	20% 50V
C61	1-136-154-00	FILM 0.012uF	5% 50V
C62	1-136-154-00	FILM 0.012uF	5% 50V
C63	1-124-903-11	ELECT 1uF	20% 50V

Ref. No.	Part No.	Description	Remarks			
C64	1-124-903-11	ELECT	1uF	20%	50V	
C66	1-124-903-11	ELECT	1uF	20%	50V	
C67	1-124-903-11	ELECT	1uF	20%	50V	
C68	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C69	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C70	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C71	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C73	1-124-903-11	ELECT	1uF	20%	50V	
C74	1-162-293-31	CERAMIC	820PF	10%	50V	
C75	1-161-377-00	CERAMIC	0.0047uF	30%	16V	
C76	1-124-916-11	ELECT	22uF	20%	63V	
C77	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C78	1-123-382-00	ELECT	3.3uF	20%	100V	
C79	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C80	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C81	1-162-294-11	CERAMIC	0.01uF	10%	50V	
C92	1-124-907-11	ELECT	10uF	20%	50V	
C93	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C94	1-164-159-11	CERAMIC	0.1uF		50V	
C95	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C96	1-124-907-11	ELECT	10uF	20%	50V	
C99	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C201	1-124-471-00	ELECT	1000uF	20%	6.3V	
C202	1-124-903-11	ELECT	1uF	20%	50V	
C203	1-124-443-00	ELECT	100uF	20%	10V	
C204	1-164-159-11	CERAMIC	0.1uF		50V	
C205	1-124-907-11	ELECT	10uF	20%	50V	
C206	1-124-477-11	ELECT	47uF	20%	25V	
C207	1-124-477-11	ELECT	47uF	20%	25V	
C208	1-162-282-31	CERAMIC	100PF	10%	50V	
C321	1-162-290-31	CERAMIC	470PF	10%	50V	
C322	1-136-157-00	FILM	0.022uF	5%	50V	
C323	1-124-443-00	ELECT	100uF	20%	10V	
C324	1-124-916-11	ELECT	22uF	20%	63V	
C331	1-162-290-31	CERAMIC	470PF	10%	50V	
C332	1-124-443-00	ELECT	100uF	20%	10V	
C333	1-136-157-00	FILM	0.022uF	5%	50V	
C334	1-124-443-00	ELECT	100uF	20%	10V	
C335	1-124-916-11	ELECT	22uF	20%	63V	
C341	1-130-479-00	MYLAR	0.0047uF	5%	50V	
C342	1-124-903-11	ELECT	1uF	20%	50V	
C343	1-124-907-11	ELECT	10uF	20%	50V	
C344	1-164-159-11	CERAMIC	0.1uF		50V	
C345	1-124-907-11	ELECT	10uF	20%	50V	
C346	1-124-903-11	ELECT	1uF	20%	50V	
C347	1-124-902-00	ELECT	0.47uF	20%	50V	

Ref. No.	Part No.	Description	Remarks			
C348	1-124-907-11	ELECT	10uF	20%	50V	
C349	1-162-290-31	CERAMIC	470PF	10%	50V	
C352	1-162-279-31	CERAMIC	75PF	10%	50V	
C353	1-162-288-31	CERAMIC	330PF	10%	50V	
C354	1-162-280-31	CERAMIC	82PF	10%	50V	
C361	1-136-601-11	FILM	0.01uF	5%	630V	
C362	1-130-482-00	MYLAR	0.0082uF	5%	50V	
C365	1-124-925-11	ELECT	2.2uF	20%	100V	
C366	1-130-482-00	MYLAR	0.0082uF	5%	50V	
C367	1-130-478-00	MYLAR	0.0039uF	5%	50V	
C368	1-130-478-00	MYLAR	0.0039uF	5%	50V	
C369	1-124-903-11	ELECT	1uF	20%	50V	
C370	1-124-907-11	ELECT	10uF	20%	50V	
C371	1-164-159-11	CERAMIC	0.1uF		50V	
C372	1-164-159-11	CERAMIC	0.1uF		50V	
C373	1-124-887-00	ELECT	3300uF	20%	16V	
C381	1-124-443-00	ELECT	100uF	20%	10V	
C384	1-124-443-00	ELECT	100uF	20%	10V	
C385	1-164-159-11	CERAMIC	0.1uF		50V	
C386	1-164-159-11	CERAMIC	0.1uF		50V	
C421	1-162-290-31	CERAMIC	470PF	10%	50V	
C422	1-136-157-00	FILM	0.022uF	5%	50V	
C423	1-124-443-00	ELECT	100uF	20%	10V	
C424	1-124-916-11	ELECT	22uF	20%	63V	
C431	1-162-290-31	CERAMIC	470PF	10%	50V	
C432	1-124-443-00	ELECT	100uF	20%	10V	
C433	1-136-157-00	FILM	0.022uF	5%	50V	
C434	1-124-443-00	ELECT	100uF	20%	10V	
C435	1-124-916-11	ELECT	22uF	20%	63V	
C441	1-130-479-00	MYLAR	0.0047uF	5%	50V	
C442	1-124-903-11	ELECT	1uF	20%	50V	
C443	1-124-907-11	ELECT	10uF	20%	50V	
C444	1-164-159-11	CERAMIC	0.1uF		50V	
C445	1-124-907-11	ELECT	10uF	20%	50V	
C446	1-124-903-11	ELECT	1uF	20%	50V	
C447	1-124-902-00	ELECT	0.47uF	20%	50V	
C448	1-124-907-11	ELECT	10uF	20%	50V	
C449	1-162-290-31	CERAMIC	470PF	10%	50V	
C452	1-162-279-31	CERAMIC	75PF	10%	50V	
C453	1-162-288-31	CERAMIC	330PF	10%	50V	
C454	1-162-280-31	CERAMIC	82PF	10%	50V	
C591	1-164-159-11	CERAMIC	0.1uF		50V	
C592	1-124-907-11	ELECT	10uF	20%	50V	
C593	1-124-907-11	ELECT	10uF	20%	50V	
C594	1-124-907-11	ELECT	10uF	20%	50V	

MAIN	VR
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Ref. No.	Part No.	Description	Remarks
C595	1-124-907-11	ELECT 10uF 20% 50V	
C598	1-124-472-11	ELECT 470uF 20% 10V	
C701	1-162-282-31	CERAMIC 100PF 10% 50V	
C702	1-162-282-31	CERAMIC 100PF 10% 50V	
C707	1-124-903-11	ELECT 1uF 20% 50V	
C711	1-162-282-31	CERAMIC 100PF 10% 50V (H51K)	
C712	1-162-282-31	CERAMIC 100PF 10% 50V (H51K)	
C713	1-162-282-31	CERAMIC 100PF 10% 50V (H51K)	
C714	1-162-215-31	CERAMIC 47PF 5% 50V (H51K)	
C715	1-164-159-11	CERAMIC 0. 1uF 50V (H51K)	
C716	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C717	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C718	1-124-907-11	ELECT 10uF 20% 50V	
C719	1-124-907-11	ELECT 10uF 20% 50V	
C721	1-162-282-31	CERAMIC 100PF 10% 50V	
C722	1-162-282-31	CERAMIC 100PF 10% 50V	
C723	1-162-282-31	CERAMIC 100PF 10% 50V	
C724	1-162-215-31	CERAMIC 47PF 5% 50V	
C725	1-164-159-11	CERAMIC 0. 1uF 50V	
C741	1-124-122-11	ELECT 100uF 20% 50V	
C751	1-162-282-31	CERAMIC 100PF 10% 50V	
C752	1-162-282-31	CERAMIC 100PF 10% 50V	
C757	1-124-903-11	ELECT 1uF 20% 50V	
C958	1-126-163-11	ELECT 4. 7uF 20% 50V	
C959	1-126-163-11	ELECT 4. 7uF 20% 50V	
C981	1-124-443-00	ELECT 100uF 20% 10V	
C982	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C983	1-124-442-00	ELECT 330uF 20% 6. 3V	
C984	1-124-443-00	ELECT 100uF 20% 10V	
C985	1-124-903-11	ELECT 1uF 20% 50V	
C986	1-124-903-11	ELECT 1uF 20% 50V	
C987	1-124-585-11	ELECT 3300uF 20% 10V	
C1002	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C1003	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C1006	1-164-159-11	CERAMIC 0. 1uF 50V	
C1007	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C1009	1-164-159-11	CERAMIC 0. 1uF 50V	
C1010	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C2001	1-161-379-00	CERAMIC 0. 01uF 20% 25V	
C7001	1-124-478-11	ELECT 100uF 20% 25V	

< CIRCUIT BREAKER >

CB801	1-532-564-00	BREAKER, CIRCUIT
CB851	1-532-564-00	BREAKER, CIRCUIT

Ref. No.	Part No.	Description	Remarks
		< FILTER >	
CF1	1-527-968-11	FILTER, CERAMIC	
CF51	1-527-968-11	FILTER, CERAMIC	
		< CONNECTOR >	
* CN31	1-564-506-11	PLUG, CONNECTOR 3P	
* CN32	1-564-509-11	PLUG, CONNECTOR 6P	
* CN33	1-564-505-11	PLUG, CONNECTOR 2P	
* CN371	1-569-155-11	PLUG, CONNECTOR 10P	
CN591	1-750-177-11	PIN, CONNECTOR (PC BOARD) 15P	
CN592	1-691-892-21	CONNECTOR, FFC/FPC 13P	
* CN593	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN601	1-564-509-11	PLUG, CONNECTOR 6P	
* CN602	1-568-832-11	SOCKET, CONNECTOR 13P	
* CN701	1-569-155-11	PLUG, CONNECTOR 10P	
* CN702	1-573-048-11	PLUG, CONNECTOR 11P	
CN703	1-695-072-21	CONNECTOR, FFC/FPC 13P	
* CN704	1-573-085-11	CONNECTOR, FPC (NON ZIF) 19P	

< VARIABLE CAPACITOR >

CV1	1-141-227-00	CAP, TRIMMER 20PF
CV2	1-141-227-00	CAP, TRIMMER 20PF

< DIODE >

D1	8-719-976-30	DIODE KV1560N
D21	8-719-933-33	DIODE HZS6A1L
D51	8-719-987-63	DIODE 1N4148M
D201	8-719-987-63	DIODE 1N4148M
D202	8-719-987-63	DIODE 1N4148M
D203	8-719-000-54	DIODE UZL-6L3
D204	8-719-987-63	DIODE 1N4148M
D205	8-719-987-63	DIODE 1N4148M
D351	8-719-987-63	DIODE 1N4148M
D591	8-719-987-63	DIODE 1N4148M
D592	8-719-987-63	DIODE 1N4148M
D981	8-719-933-48	DIODE HZS7B3L

< FRONTEND >

FE1	1-465-673-11	FRONT END (2 BAND)
FE2	1-236-777-11	ENCAPSULATED COMPONENT

< IC >

IC21	8-759-820-91	IC LC7218
IC51	8-759-090-40	IC LA1831
IC201	8-759-093-00	IC M37471M2-128SP
IC202	8-759-240-69	IC TC4069UBP
IC321	8-759-111-44	IC uPC4570C

Ref. No.	Part No.	Description	Remarks
IC331	8-759-111-44	IC uPC4570C	
IC341	8-759-098-73	IC HA12172NT	
IC371	8-759-822-09	IC LB1641	
IC591	8-759-820-62	IC LB1639	
IC702	8-759-634-50	IC M5218AL	
IC703	8-759-000-48	IC MC14052BCP	
IC981	8-759-821-93	IC LA5601	
< IFT >			
IFT51	1-404-713-11	TRANSFORMER, IF	
< JACK >			
J701	1-750-178-21	JACK, PIN 2P (VIDEO/AUX) (H51)	
J701	1-750-178-11	JACK, PIN 2P (VIDEO/AUX) (H51K)	
J702	1-750-032-11	JACK (DIA. 3.5) (MIX MIC1) (H51K)	
J703	1-750-032-11	JACK (DIA. 3.5) (MIX MIC2)	
J951	1-750-032-11	JACK (DIA. 3.5) (HEADPHONES)	
< COIL >			
L21	1-410-482-31	INDUCTOR 100uH	
L51	1-408-399-00	INDUCTOR 1.5uH	
L351	1-410-780-11	INDUCTOR 27mH	
L361	1-410-482-31	INDUCTOR 100uH	
L451	1-410-780-11	INDUCTOR 27mH	
L981	1-410-482-31	INDUCTOR 100uH	
< FILTER >			
LPF51	1-235-164-00	FILTER, LOW PASS	
LPF52	1-235-164-00	FILTER, LOW PASS	
< TRANSISTOR >			
Q1	8-729-620-19	TRANSISTOR 2SC2724-CD	
Q3	8-729-900-61	TRANSISTOR DTA114ES	
Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q5	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q6	8-729-900-80	TRANSISTOR DTC114ES	
Q7	8-729-900-80	TRANSISTOR DTC114ES	
Q8	8-729-900-80	TRANSISTOR DTC114ES	
Q9	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q21	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q22	8-729-201-84	TRANSISTOR 2SC3112-B	
Q51	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q52	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q201	8-729-900-80	TRANSISTOR DTC114ES	
Q202	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q203	8-729-119-76	TRANSISTOR 2SA1175-HFE	

Ref. No.	Part No.	Description	Remarks
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q205	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q208	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q209	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q210	8-729-140-98	TRANSISTOR 2SD773	
Q341	8-729-900-74	TRANSISTOR DTC143TS	
Q361	8-729-801-84	TRANSISTOR 2SB1013-4	
Q362	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q363	8-729-194-57	TRANSISTOR 2SC945-P	
Q364	8-729-194-57	TRANSISTOR 2SC945-P	
Q365	8-729-900-61	TRANSISTOR DTA114ES	
Q371	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q372	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q373	8-729-900-65	TRANSISTOR DTA144ES	
Q374	8-729-900-89	TRANSISTOR DTC144ES	
Q375	8-729-801-93	TRANSISTOR 2SD1387	
Q376	8-729-900-61	TRANSISTOR DTA114ES	
Q441	8-729-900-74	TRANSISTOR DTC143TS	
Q981	8-729-209-15	TRANSISTOR 2SD2012	
< 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	1-249-406-11	CARBON 120 5% 1/4W	F
R8	1-249-429-11	CARBON 10K 5% 1/4W	
R9	1-249-429-11	CARBON 10K 5% 1/4W	
R10	1-247-903-00	CARBON 1M 5% 1/4W	
R11	1-249-429-11	CARBON 10K 5% 1/4W	
R12	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R13	1-247-903-00	CARBON 1M 5% 1/4W	
R14	1-249-429-11	CARBON 10K 5% 1/4W	
R15	1-249-429-11	CARBON 10K 5% 1/4W	
R18	1-249-429-11	CARBON 10K 5% 1/4W	
R19	1-249-429-11	CARBON 10K 5% 1/4W	
R21	1-249-417-11	CARBON 1K 5% 1/4W	F
R22	1-249-417-11	CARBON 1K 5% 1/4W	F
R23	1-249-417-11	CARBON 1K 5% 1/4W	F
R24	1-249-405-11	CARBON 100 5% 1/4W	F
R25	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R26	1-249-417-11	CARBON 1K 5% 1/4W	F
R27	1-249-405-11	CARBON 100 5% 1/4W	F
R28	1-249-405-11	CARBON 100 5% 1/4W	F
R30	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R31	1-249-414-11	CARBON 560 5% 1/4W	F

Ref. No.	Part No.	Description	Remarks			
R32	1-249-417-11	CARBON	1K	5%	1/4W	F
R33	1-249-410-11	CARBON	270	5%	1/4W	F
R34	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R35	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R36	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R37	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R38	1-249-405-11	CARBON	100	5%	1/4W	F
R47	1-249-417-11	CARBON	1K	5%	1/4W	F
R52	1-249-426-11	CARBON	5.6K	5%	1/4W	
R53	1-249-412-11	CARBON	390	5%	1/4W	F
R54	1-247-870-11	CARBON	43K	5%	1/4W	
R55	1-249-429-11	CARBON	10K	5%	1/4W	
R56	1-247-842-11	CARBON	3K	5%	1/4W	
R57	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R58	1-249-437-11	CARBON	47K	5%	1/4W	
R59	1-249-417-11	CARBON	1K	5%	1/4W	F
R60	1-249-417-11	CARBON	1K	5%	1/4W	F
R61	1-247-891-00	CARBON	330K	5%	1/4W	
R62	1-247-891-00	CARBON	330K	5%	1/4W	
R63	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R64	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R65	1-249-429-11	CARBON	10K	5%	1/4W	
R66	1-249-429-11	CARBON	10K	5%	1/4W	
R69	1-249-399-11	CARBON	33	5%	1/4W	F
R91	1-249-401-11	CARBON	47	5%	1/4W	F
R92	1-249-405-11	CARBON	100	5%	1/4W	F
R202	1-247-848-11	CARBON	5.1K	5%	1/4W	
R203	1-247-848-11	CARBON	5.1K	5%	1/4W	
R204	1-249-429-11	CARBON	10K	5%	1/4W	
R205	1-249-429-11	CARBON	10K	5%	1/4W	
R206	1-249-429-11	CARBON	10K	5%	1/4W	
R207	1-249-429-11	CARBON	10K	5%	1/4W	
R208	1-249-429-11	CARBON	10K	5%	1/4W	
R209	1-249-429-11	CARBON	10K	5%	1/4W	
R210	1-249-429-11	CARBON	10K	5%	1/4W	
R211	1-249-429-11	CARBON	10K	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	F
R213	1-249-417-11	CARBON	1K	5%	1/4W	F
R214	1-249-417-11	CARBON	1K	5%	1/4W	F
R215	1-249-417-11	CARBON	1K	5%	1/4W	F
R216	1-249-417-11	CARBON	1K	5%	1/4W	F
R217	1-249-429-11	CARBON	10K	5%	1/4W	
R218	1-249-429-11	CARBON	10K	5%	1/4W	
R219	1-249-429-11	CARBON	10K	5%	1/4W	
R220	1-249-425-11	CARBON	4.7K	5%	1/4W	F

Ref. No.	Part No.	Description	Remarks			
R221	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R222	1-249-429-11	CARBON	10K	5%	1/4W	
R223	1-249-429-11	CARBON	10K	5%	1/4W	
R224	1-249-429-11	CARBON	10K	5%	1/4W	
R225	1-249-429-11	CARBON	10K	5%	1/4W	
R226	1-249-417-11	CARBON	1K	5%	1/4W	F
R227	1-249-417-11	CARBON	1K	5%	1/4W	F
R228	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R229	1-249-437-11	CARBON	47K	5%	1/4W	
R230	1-249-437-11	CARBON	47K	5%	1/4W	
R231	1-247-903-00	CARBON	1M	5%	1/4W	
R232	1-249-409-11	CARBON	220	5%	1/4W	F
R233	1-249-411-11	CARBON	330	5%	1/4W	
R234	1-249-409-11	CARBON	220	5%	1/4W	F
R235	1-249-409-11	CARBON	220	5%	1/4W	F
R236	1-249-410-11	CARBON	270	5%	1/4W	F
R237	1-249-429-11	CARBON	10K	5%	1/4W	
R238	1-249-433-11	CARBON	22K	5%	1/4W	
R239	1-249-429-11	CARBON	10K	5%	1/4W	
R240	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R241	1-247-836-11	CARBON	1.6K	5%	1/4W	
R242	1-249-409-11	CARBON	220	5%	1/4W	F
R321	1-247-889-00	CARBON	270K	5%	1/4W	
R322	1-249-405-11	CARBON	100	5%	1/4W	F
R323	1-247-882-11	CARBON	130K	5%	1/4W	
R324	1-249-426-11	CARBON	5.6K	5%	1/4W	
R325	1-249-409-11	CARBON	220	5%	1/4W	F
R331	1-247-889-00	CARBON	270K	5%	1/4W	
R332	1-249-433-11	CARBON	22K	5%	1/4W	
R333	1-249-405-11	CARBON	100	5%	1/4W	F
R334	1-247-882-11	CARBON	130K	5%	1/4W	
R335	1-249-426-11	CARBON	5.6K	5%	1/4W	
R336	1-249-409-11	CARBON	220	5%	1/4W	F
R341	1-249-430-11	CARBON	12K	5%	1/4W	
R342	1-249-431-11	CARBON	15K	5%	1/4W	
R343	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R344	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R345	1-249-429-11	CARBON	10K	5%	1/4W	
R346	1-249-433-11	CARBON	22K	5%	1/4W	
R347	1-249-437-11	CARBON	47K	5%	1/4W	
R351	1-249-430-11	CARBON	12K	5%	1/4W	
R361	1-212-857-00	FUSIBLE	10	5%	1/4W	F
R363	1-249-434-11	CARBON	27K	5%	1/4W	
R364	1-249-434-11	CARBON	27K	5%	1/4W	
R367	1-249-429-11	CARBON	10K	5%	1/4W	

Ref. No.	Part No.	Description	Remarks
R371	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R372	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R373	1-249-408-11	CARBON 180 5% 1/4W	F
R374	1-249-417-11	CARBON 1K 5% 1/4W	F
R376	1-249-414-11	CARBON 560 5% 1/4W	F
R377	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R381	1-247-876-11	CARBON 75K 5% 1/4W	
R382	1-249-432-11	CARBON 18K 5% 1/4W	
R386	1-249-432-11	CARBON 18K 5% 1/4W	
R387	1-249-429-11	CARBON 10K 5% 1/4W	
R388	1-249-429-11	CARBON 10K 5% 1/4W	
R389	1-249-429-11	CARBON 10K 5% 1/4W	
R390	1-249-429-11	CARBON 10K 5% 1/4W	
R392	1-249-429-11	CARBON 10K 5% 1/4W	
R393	1-249-429-11	CARBON 10K 5% 1/4W	
R394	1-249-429-11	CARBON 10K 5% 1/4W	
R395	1-249-429-11	CARBON 10K 5% 1/4W	
R396	1-247-864-11	CARBON 24K 5% 1/4W	
R421	1-247-889-00	CARBON 270K 5% 1/4W	
R422	1-249-405-11	CARBON 100 5% 1/4W	F
R423	1-247-882-11	CARBON 130K 5% 1/4W	
R424	1-249-426-11	CARBON 5.6K 5% 1/4W	
R425	1-249-409-11	CARBON 220 5% 1/4W	F
R431	1-247-889-00	CARBON 270K 5% 1/4W	
R432	1-249-433-11	CARBON 22K 5% 1/4W	
R433	1-249-405-11	CARBON 100 5% 1/4W	F
R434	1-247-882-11	CARBON 130K 5% 1/4W	
R435	1-249-426-11	CARBON 5.6K 5% 1/4W	
R436	1-249-409-11	CARBON 220 5% 1/4W	F
R441	1-249-430-11	CARBON 12K 5% 1/4W	
R442	1-249-431-11	CARBON 15K 5% 1/4W	
R443	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R444	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R445	1-249-429-11	CARBON 10K 5% 1/4W	
R446	1-249-433-11	CARBON 22K 5% 1/4W	
R447	1-249-437-11	CARBON 47K 5% 1/4W	
R451	1-249-430-11	CARBON 12K 5% 1/4W	
R591	1-249-437-11	CARBON 47K 5% 1/4W	
R592	1-249-437-11	CARBON 47K 5% 1/4W	
R593	1-249-417-11	CARBON 1K 5% 1/4W	F
R594	1-249-417-11	CARBON 1K 5% 1/4W	F
R701	1-249-417-11	CARBON 1K 5% 1/4W	F
R702	1-249-437-11	CARBON 47K 5% 1/4W	
R706	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R707	1-249-437-11	CARBON 47K 5% 1/4W	

Ref. No.	Part No.	Description	Remarks
R711	1-249-429-11	CARBON 10K 5% 1/4W	(H51K)
R712	1-249-411-11	CARBON 330 5% 1/4W	(H51K)
R713	1-249-408-11	CARBON 180 5% 1/4W	F (H51K)
R714	1-249-441-11	CARBON 100K 5% 1/4W	(H51K)
R715	1-249-441-11	CARBON 100K 5% 1/4W	(H51K)
R721	1-249-429-11	CARBON 10K 5% 1/4W	
R722	1-249-411-11	CARBON 330 5% 1/4W	
R723	1-249-408-11	CARBON 180 5% 1/4W	F
R724	1-249-441-11	CARBON 100K 5% 1/4W	
R725	1-249-441-11	CARBON 100K 5% 1/4W	
R741	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R742	1-249-429-11	CARBON 10K 5% 1/4W	
R743	1-249-437-11	CARBON 47K 5% 1/4W	
R744	1-249-417-11	CARBON 1K 5% 1/4W	F
R745	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R746	1-249-429-11	CARBON 10K 5% 1/4W	
R747	1-249-429-11	CARBON 10K 5% 1/4W	
R748	1-249-429-11	CARBON 10K 5% 1/4W	
R751	1-249-417-11	CARBON 1K 5% 1/4W	F
R752	1-249-437-11	CARBON 47K 5% 1/4W	
R756	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R757	1-249-437-11	CARBON 47K 5% 1/4W	
R791	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R792	1-249-429-11	CARBON 10K 5% 1/4W	
R793	1-249-437-11	CARBON 47K 5% 1/4W	
R794	1-249-417-11	CARBON 1K 5% 1/4W	F
R795	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R810	1-249-412-11	CARBON 390 5% 1/4W	F
R860	1-249-412-11	CARBON 390 5% 1/4W	F
R981	1-249-411-11	CARBON 330 5% 1/4W	
R982	1-249-393-11	CARBON 10 5% 1/4W	F
< VARIABLE RESISTOR >			
RV51	1-241-630-11	RES, ADJ, CARBON 10K	
RV321	1-241-627-11	RES, ADJ, CARBON 1K	
RV331	1-241-627-11	RES, ADJ, CARBON 1K	
RV341	1-241-630-11	RES, ADJ, CARBON 10K	
RV351	1-238-020-11	RES, ADJ, CARBON 100K	
RV371	1-241-630-11	RES, ADJ, CARBON 10K	
RV372	1-241-629-11	RES, ADJ, CARBON 4.7K	
RV421	1-241-627-11	RES, ADJ, CARBON 1K	
RV431	1-241-627-11	RES, ADJ, CARBON 1K	
RV441	1-241-630-11	RES, ADJ, CARBON 10K	
RV451	1-238-020-11	RES, ADJ, CARBON 100K	
RV591	1-223-308-11	RES, VAR, CARBON 100K/100K	

MAIN	VR
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Ref. No.	Part No.	Description	Remarks
< RELAY >			
RY351	1-515-614-11	RELAY	
< TRANSFORMER >			
T1	1-402-424-11	COIL (ANT, SW3)	
T2	1-402-960-11	COIL (OSC SW3)	
T361	1-433-349-11	TRANSFORMER, BIAS OSCILLATION	
< TERMINAL >			
TB101	1-537-238-21	TERMINAL BOARD	
TB801	1-537-238-11	TERMINAL BOARD	
< TEST PIN >			
* TP201	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
* TP202	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
< VIBRATOR >			
X21	1-579-585-11	VIBRATOR, CRYSTAL	
X51	1-579-777-11	DISCRIMINATOR, CERAMIC 10.7MHz	
X52	1-577-075-11	OSCILLATOR, CERAMIC 456KHz	
X201	1-577-358-21	VIBRATOR, CERAMIC	

MISCELLANEOUS			

11	1-690-970-31	WIRE (FLAT TYPE) (13 CORE)	
56	1-751-027-41	WIRE (FLAT TYPE) (19 CORE)	
57	1-751-277-11	WIRE (FLAT TYPE) (13 CORE)	
△63	1-558-943-41	CORD, POWER(H51:E/H51K:E)	
△63	1-575-651-21	CORD, POWER(H51:EA, MY, SP/H51K:EA, MY, SP)	
△63	1-696-845-11	CORD, POWER(H51:AUS/H51K:AUS)	
67	1-751-034-11	WIRE (FLAT TYPE) (7 CORE)	
308	1-751-027-41	WIRE (FLAT TYPE) (19 CORE)	
313	1-751-109-11	WIRE (FLAT TYPE) (5 CORE)	
△355	8-848-144-11	DEVICE, OPTICAL KSS-240A	
356	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
ANT1	1-501-321-51	ANTENNA, TELESCOPIC	
△F901	1-532-215-00	FUSE 800mA	
△F902	1-532-259-00	FUSE 1.6A (EXCEPT H51:AUS/H51K:AUS)	
HE901	1-543-673-11	HEAD, MAGNETIC (ERASE)	
HP901	1-543-940-11	HEAD, MAGNETIC (PLAYBACK)	
HRP901	1-543-319-11	HEAD, MAGNETIC (REC/PB)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M251	A-4660-307-A	MOTOR (L) ASSY	

Ref. No.	Part No.	Description	Remarks
M901	X-3362-377-1	MOTOR (WH) ASSY	
M902	A-2004-188-A	MOTOR ASSY, DC	
S101	1-572-085-11	SWITCH, LEAF	
△T901	1-423-468-11	TRANSFORMER, POWER	
△T901	1-423-469-11	TRANSFORMER, POWER (H51:AUS/H51K:AUS)	

ACCESSORIES & PACKING MATERIALS

4-958-213-01 CUSHION (LOWER)

4-958-214-01 CUSHION (UPPER)

△ 1-569-007-11 ADAPTER, CONVERSION 2P (H51/H51K:E3)

△ 1-569-008-11 ADAPTER, CONVERSION 2P

(EXCEPT H51/H51K:E3)

HERDWERE LIST

#1	7-685-646-79	SCREW +BVTP	3X8 TYPE2 N-S
#2	7-685-871-01	SCREW +BVTT	3X6 (S)
#3	7-685-650-79	SCREW +BVTP	3X16 TYPE2 IT-3
#4	7-685-647-79	SCREW +BVTP	3X10 TYPE2 N-S
#5	7-621-255-15	SCREW +P	2X3
#6	7-685-649-79	SCREW +BVTP	3X14 TYPE2 N-S
#7	7-685-133-19	SCREW +BTP	2.6X6 TYPE2 N-S
#8	7-624-105-04	STOP RING 2.3, TYPE -E	
#9	7-685-234-19	SCREW +KTP	2.6X8 TYPE2NON-SLIT
#10	7-623-921-01	RING, RETAINING, CAPSTAN	
#11	7-621-255-25	SCREW +BVTT	2X4 (S)
#12	7-621-770-XX	SCREW +BVTT	2.6X8 (S)
#13	7-621-770-67	SCREW +BVTT	2.6X6 (S)
#14	7-621-775-10	SCREW +B	2.6X4
#15	7-621-775-00	SCREW +B	2.6X3
#16	7-621-772-48	SCREW +B	2X8
#17	7-682-550-09	SCREW +BVTT	3X12 (S)

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