TC-WR545/WR741

SERVICE MANUAL

US Model
Canadian Model
TC-WR545/WR741

AEP Model
UK Model
E Model
Australian Model
TC-WR545

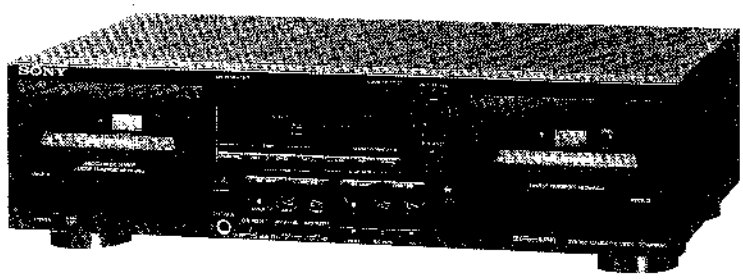


Photo : TC-WR545

Model Name Using Similar Mechanism		TC-WR535
Tape Transport Machanism Type	DECK A	TCM-190RA12CL
	DECK B	TCM-WR545 : TCM-190RB12CL
		TCM-WR741 : TCM-190RB52C

SPECIFICATIONS

Recording system 4-track 2-channel stereo
Fast winding time Approx. 90 sec. (with Sony C-60 cassette)
Bias AC bias

Signal-to-noise ratio (at peak level and weighted)

Cassette (Dolby NR OFF)	Type IV	Type II	Type I
	58 dB	57 dB	55 dB

S/N ratio improved (approximate values)
with Dolby B NR on: 5 dB at 1 kHz; 10 dB at 5 kHz
with Dolby C NR on: 15 dB at 500 Hz; 20 dB at 1 kHz

Harmonic distortion
0.4% (with Sony Type I, 160 nWb/m, 315 Hz, 3rd H.D.)
1.8% (with Sony Type IV, 250 nWb/m, 315 Hz, 3rd H.D.)

Frequency response (Dolby NR OFF)

Cassette / Model	Type IV cassette	Type II cassette	Type I cassette
TC-WR545/WR741	30 - 18,000 Hz (±3 dB, IEC) 30 - 13,000 Hz [±3 dB (-4 dB) recording]	30 - 17,000 Hz (±3 dB, IEC)	30 - 15,000 Hz (±3 dB, IEC)

Type IV: Sony Type IV (METAL)
Type II: Sony Type II (HIGH)
Type I: Sony Type I (NORMAL)

Wow and flutter ±0.14% W.Peak (IEC)
0.08% W.RMS (NAB)
±0.19% W.Peak (DIN)

— Continued on page 2 —

STEREO CASSETTE DECK

SONY®

Inputs

Line inputs (phono jacks)	Sensitivity	0.16 V
	Input impedance	47 k ohms

Outputs

Line outputs (phono jacks)	Rated output level	0.5 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phone jack) (TC-WR545 only)	Output level	1 mW at a load impedance of 32 ohms

General

Power requirements
US, Canadian model : 120V AC, 60Hz
UK model : 240V AC, 50Hz
Australian model : 240V AC, 50/60Hz
AEP, German model :
220-230V AC, 50/60Hz
E model :
120, 220 or 240V AC adjustable, 50/60Hz

Power consumption 25W

Dimensions
EXCEPT UK, Australian model :
Approx. 430 × 123 × 290 mm (w/h/d)
(17 × 4 7/8 × 11 1/2 inches)
UK, Australian model :
Approx. 430×123×300 mm (w/h/d)
(17×4 7/8×11 7/8 inches)
including projecting parts and controls

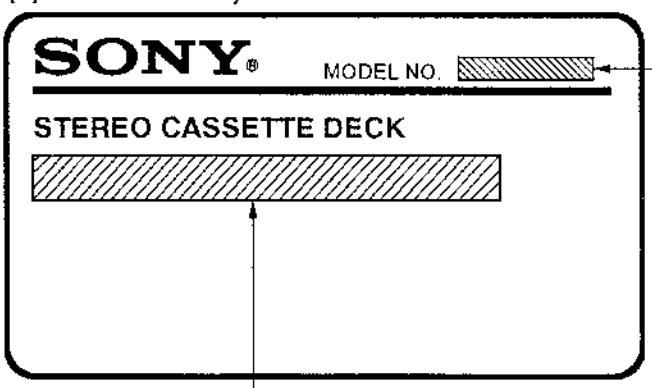
Mass Approx. 4.5 kg (9 lbs 15 oz)

Supplied accessories

Audio connecting cords (2)

Design and specifications are subject to change without notice.

MODEL IDENTIFICATION
(Specification Label)



TC-WR545, TC-WR741

US, Canadian model : AC 120V 60Hz
UK model : AC 240V 50Hz
Australian model : AC 240V~50/60Hz
AEP, German model : AC 220-230V~50/60Hz
E model : AC120, 220, 240V~50/60Hz

TABLE OF CONTENTS

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

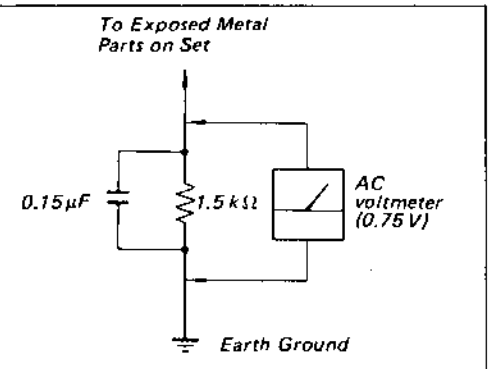


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

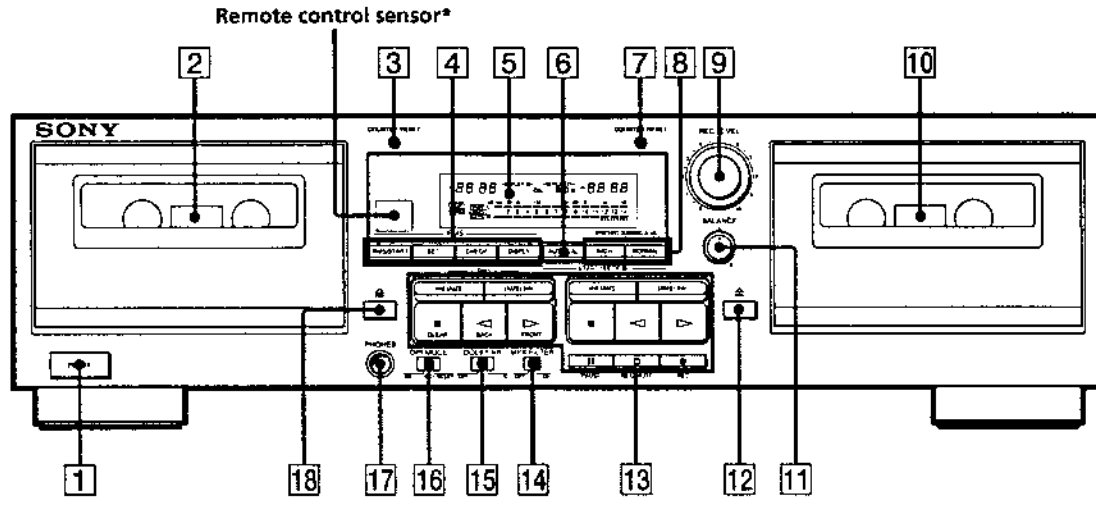
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

Identifying the Parts on the Front Panel



(The illustration shows the TC-WR545.)

For details, refer to the page number(s) indicated in parentheses.

1 POWER switch
2 Deck A
3 COUNTER RESET button (deck A)
4 RMS** operation buttons (TC-WR545 only)
RMS/START button
SET button
CHECK button
DISPLAY button
5 Display panel
6 AUTO CAL button (TC-WR545 only)
7 COUNTER RESET button (deck B)
8 SYNCHRO DUBBING buttons
HIGH button
NORMAL button
9 REC (recording) LEVEL control
10 Deck B
11 BALANCE control
12 ⏏ (eject) button (deck B)
13 Tape operation buttons
◀◀ (leftward fast-winding)/AMS***/RMS**– button
▶▶ (rightward fast-winding)/AMS***/RMS**+ button
■ (stop)/(RMS**) CLEAR button
◁ (reverse play)/(RMS**) BACK button
▷ (forward play)/(RMS**) FRONT button
II PAUSE button (deck B only)
O REC MUTE (record muting) button (deck B only)
● REC (recording) button (deck B only)
14 MPX FILTER switch (TC-WR545 only)
15 DOLBY NR (Dolby noise reduction) switch
16 DIR (direction) MODE switch
17 PHONES jack (stereo phone jack) (TC-WR545 only)
18 ⏏ (eject) button (deck A)

* Remote control sensor
You can remotely control this cassette deck with:
— A remote commander that came with a Sony amplifier or receiver if it has the ■ mark and cassette deck control capability.
— Any optional Sony remote commander with the ■ mark and cassette deck control capability.

** Random Music Sensor (TC-WR545 only)

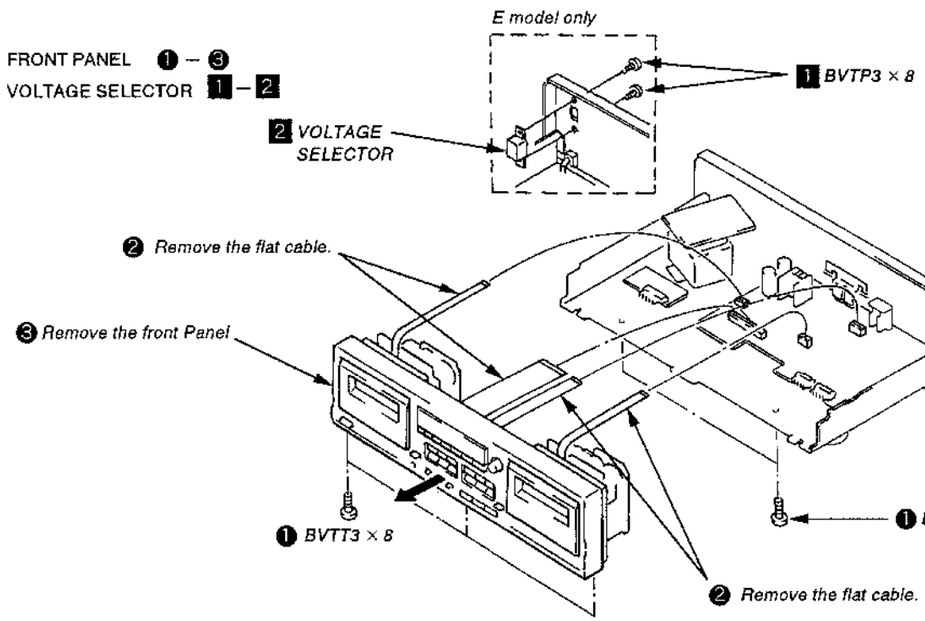
*** Automatic Music Sensor

SECTION 2
DISASSEMBLY

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

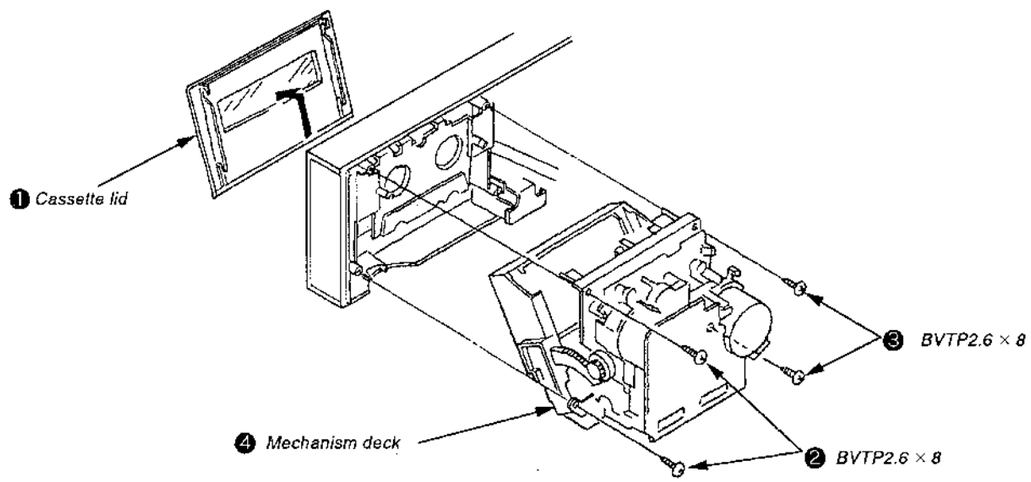
CASE
Unscrew the four case attachment screws M3 × 8 and remove the case.

2-1. FRONT PANEL



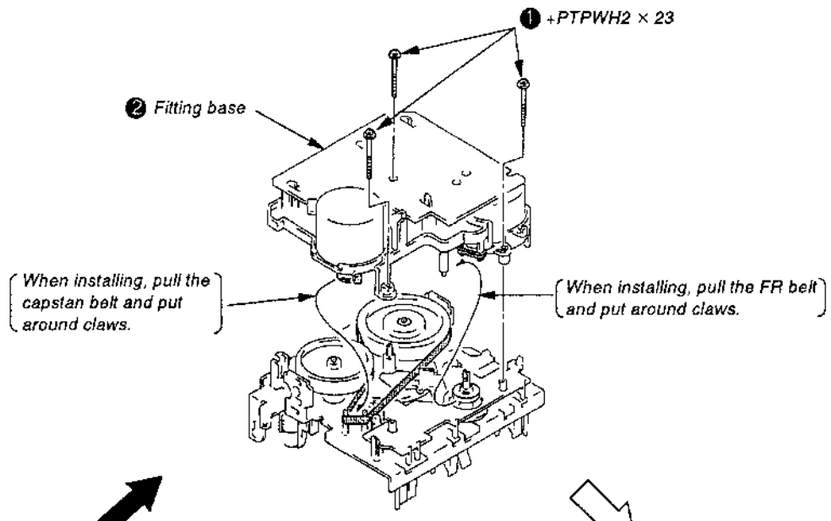
2-2. MECHANISM DECK

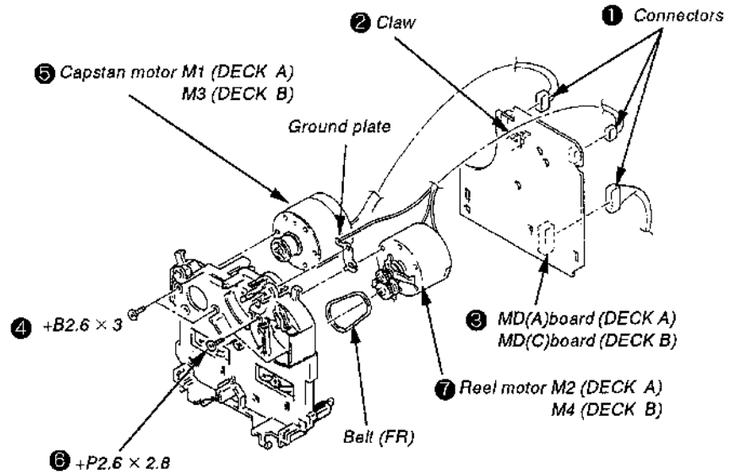
❶ Press the EJECT button.



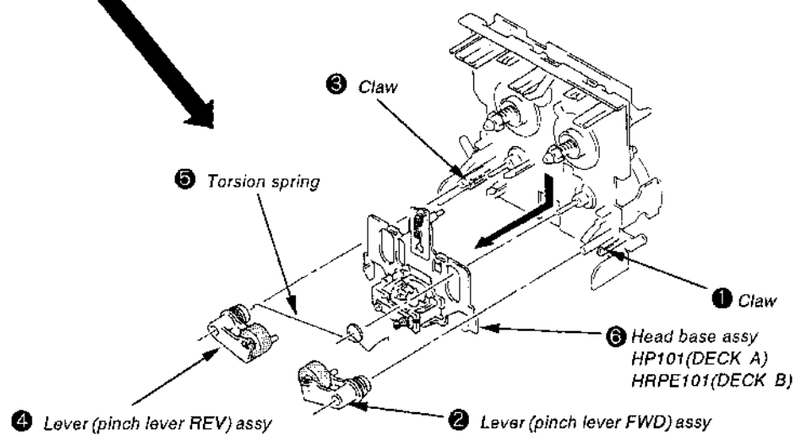
Remove the cassette holder

2-3. CAPSTAN MOTOR, REEL MOTOR





2-4. HEAD, PINCH ROLLER



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback/erase head　　pinch roller
   rubber belts　　capstan
   idlers
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 adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

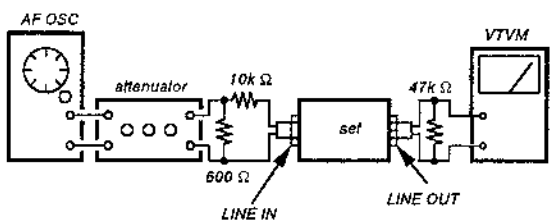
Torque	Torque meter	Meter reading
Forward	CQ-102C	30 to 65g • cm (0.42 to 0.9 oz • inch)
Forward back tension	CQ-102C	DECK A : 1 to 6g • cm (0.014 to 0.083 oz • inch) DECK B : 2 to 9g • cm (0.03 to 0.12 oz • inch)
Reverse	CQ-102RC	30 to 65g • cm (0.42 to 0.9 oz • inch)
Reverse back tension	CQ-102RC	1 to 6g • cm (0.014 to 0.083 oz • inch)
FF/REW	CQ-201B	70 to 120g•cm (0.98 to 1.66 oz•inch)

3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. The adjustment should be performed in the publication. (Be sure to male playback adjustment at first.)
2. The adjustments and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch　　: OFF
     DIR MODE switch　　: ⇄
   - Standard record position :
     Deliver the standard input signal level to input jack and set the REC LEVEL control to obtain the standard output signal level as follows.

– Record Mode –



Standard Input Level

Input terminal	LINE IN
source impedance	10k Ω
input signal level	0.5V (− 3.8dB)

Standard Output Level

Output terminal	LINE OUT
load impedance	47k Ω
output signal level	0.5V (− 3.8dB)

Test Tape

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

0dB=0.775V

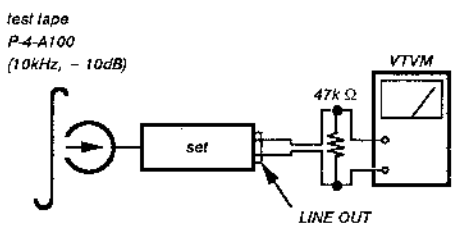
Test Mode

1. Insert a short-circuit plug into TP801 (2P) and turn ON the power switch. (Earth pin ⑲ of IC801 and turn ON the power switch.)
   At first, all the fluorescent tubes light up, then the system returns to normal display. (However, "0000" is not displayed on the counter.)
2. To release the test mode, remove the short plug and turn off the power switch.
3. Remove the short plug after completion of adjustment.

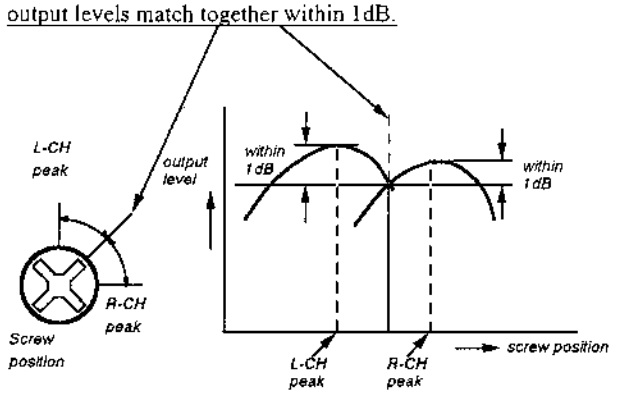
Record/Playback Head Azimuth Adjustment

Procedure :

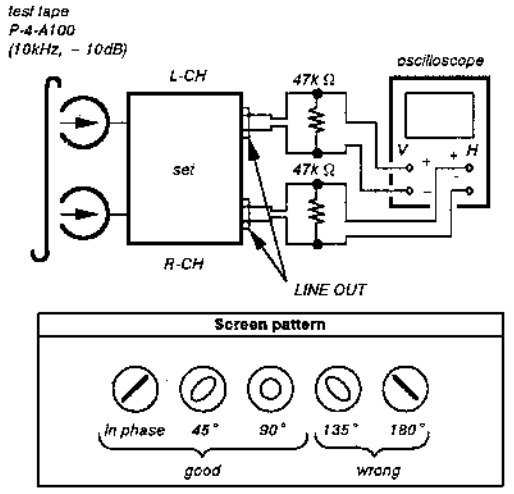
1. Forward playback Mode



2. 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.

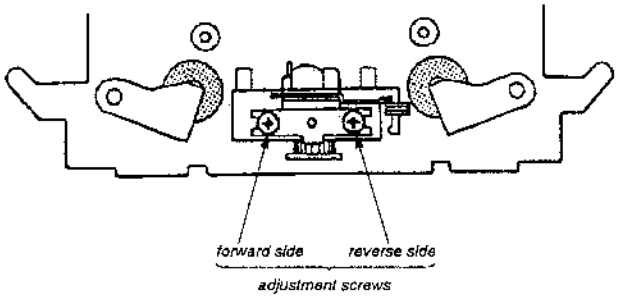


3. Playback Mode



4. Change the reveres playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screws with suitable locking compound.

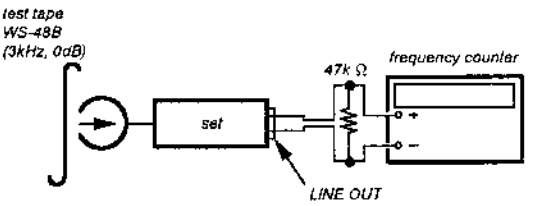
Adjustment Location : – record/playback head –



Tape Speed Adjustment

Procedure :

– Forward Playback Mode –



(high speed adjustment)

1. Connect ⑲ pin of IC801 to ground.
2. Set to FWD playback mode.
3. Keep on pressing the HIGH SPEED DUBBING switch.
4. Adjust RV72 so that the frequency counter reading becomes 6,000 ± 20Hz.

(normal speed adjustment)

1. Set to FWD playback mode.
2. Adjust RV71 so that the frequency counter reeding becomes 3,000 ± 10Hz.

Frequency difference between the beginning and the end of the tape should be within 3%.

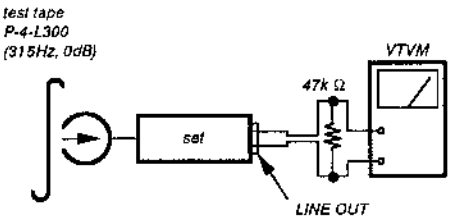
Frequency difference between the deck A and deck B the beginning of the tape should be within 1.5%.

Adjustment Location : AUDIO board

Playback Level Adjustment

Procedure :

– Forward Playback Mode –



Adjust RV11(L-CH) and RV21(R-CH) so the VTVM reading becomes the adjustment limits below.

Adjustment Value :

LINE OUT level : – 7.7 ± 0.5dB (0.301 to 0.338V)

Level difference between channels : within 0.5dB

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

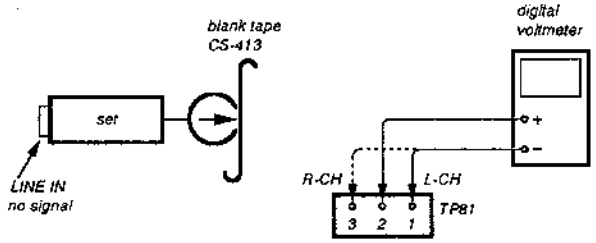
Adjustment Location : AUDIO board

Bias Consumption Current Adjustment (TC-WR545 only)

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T81, T91).

Procedure :

( ) : R-CH



1. Connect the digital voltmeter to test point TP81.
2. Set RV81 (RV91) to mechanical center.
3. Set to FWD record mode.
4. Adjust T81 (T91) so that the digital voltmeter reading becomes minimum.

Adjustment Value : Maximum 220mV

Adjustment Location : AUDIO board

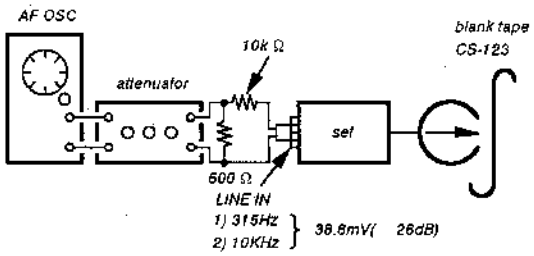
Record Bias Adjustment

Setting :

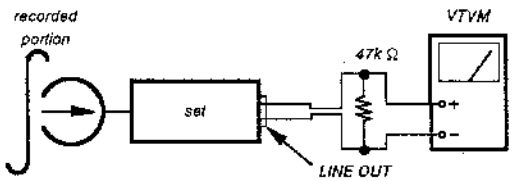
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm that the 10kHz playback output is 0 ± 0.5dB relative to the 315Hz output. If necessary, adjust RV81 (L-CH), RV9 1(R-CH) : TC-WR545, RV12 (L-CH), RV22 (R-CH) : TC-WR741 and repeat the steps given above.

Adjustment Location : AUDIO board

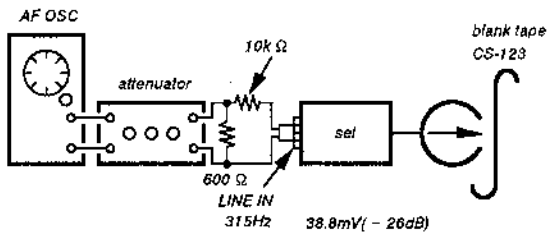
Record Level Adjustment

Setting :

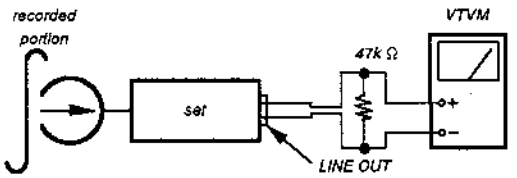
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm playback the tape recorded become adjustment level as follows.

If necessary, adjust RV101(L-CH), RV201(R-CH) and repeat the steps 1 and 2.

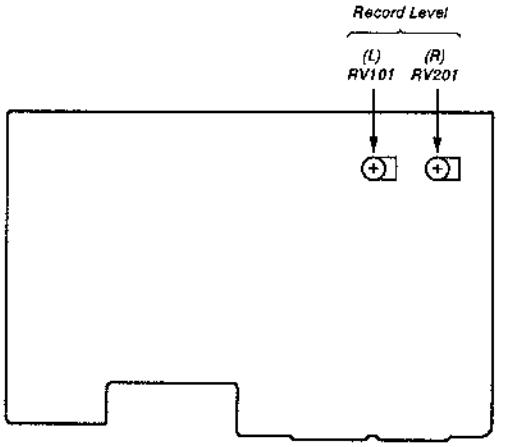
Adjustment Value :

LINE OUT level : − 26 ± 0.5dB (36.7 to 41.1mV)

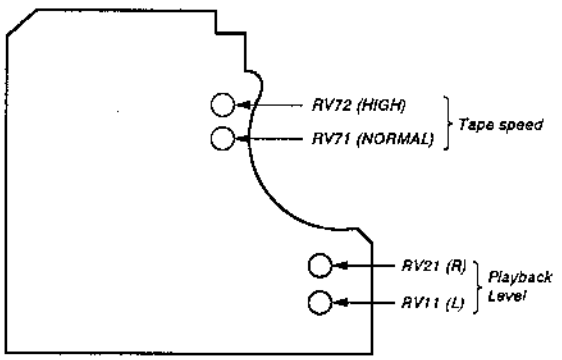
Adjustment Location : MAIN board

– Adjustment Parts Location Diagrams –

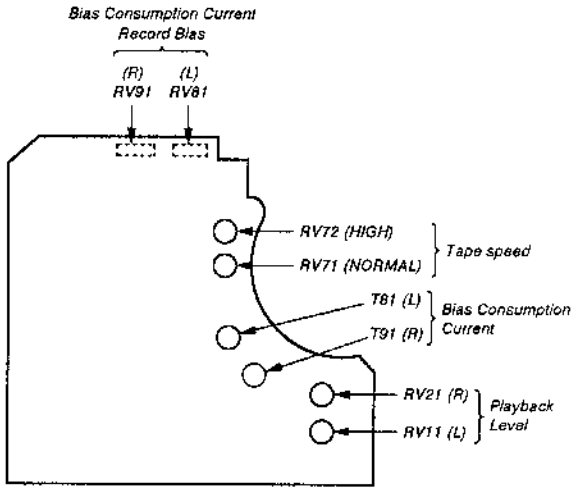
[SYSTEM CONTROL BOARD]



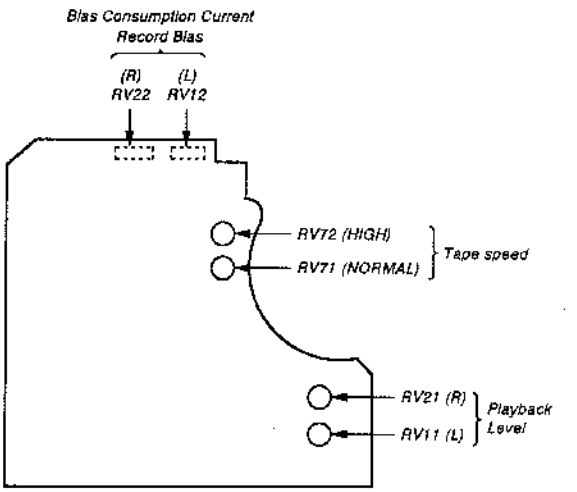
DECK-A :
[AUDIO BOARD]



DECK-B : TC-WR545
[AUDIO BOARD]



DECK-B : TC-WR741
[AUDIO BOARD]



SECTION 4
EXPLANATION OF IC TERMINALS

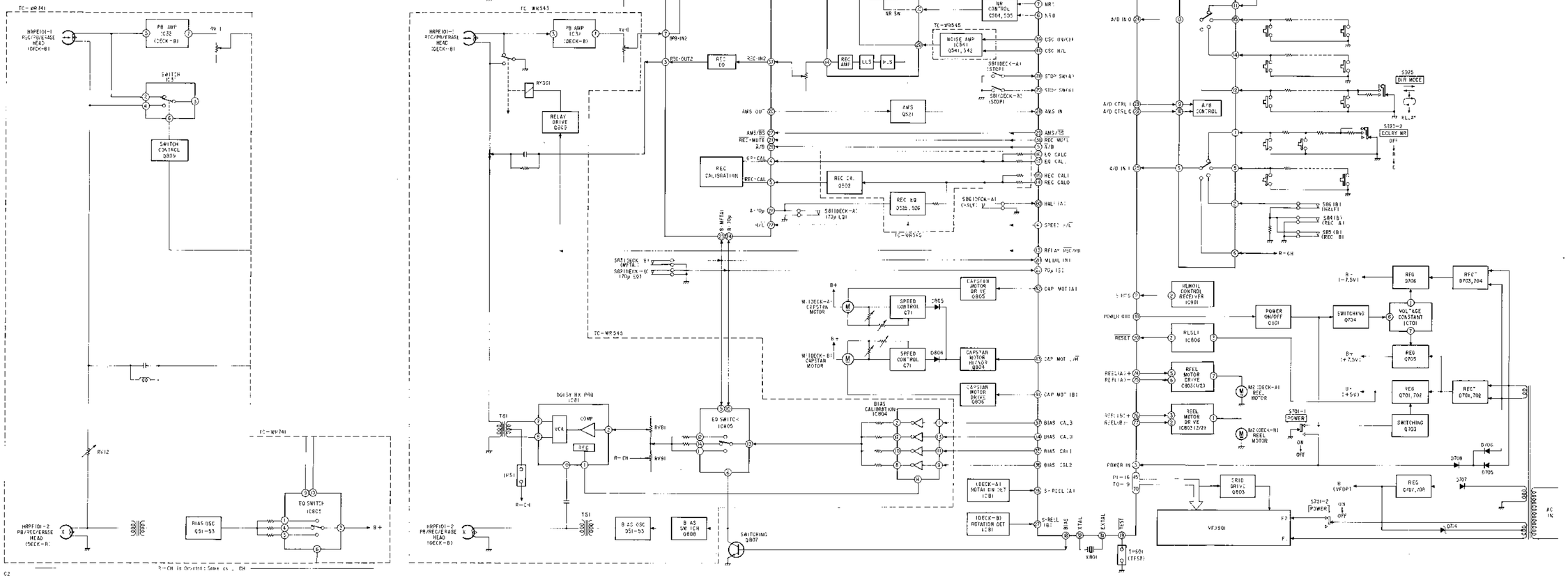
IC801 CXP82316-039Q

Pin No.	Pin name	I/O	Description
1	NC	–	Not used.
2	SIRCS IN	I	Sircs signal in terminal.
3	POWER IN	I	Power OFF. OFF = 0V
4	SPEED H/$\overline{L}$	O	Normal/High selector for equalizer.
5	$\overline{A}$/B	O	Playback A/B selector. "L" : DECK-A, "H" : DECK-B
6	NR0	O	Dolby NR control.
7	NR1	O	Dolby NR control.
8	MODE1	O	Dolby NR mode control.
9	MODE2	O	Dolby NR mode control.
10	POWER OUT	O	Power ON/OFF.
11	$\overline{\text{LIN MUTE}}$	O	Line mute ON/OFF. "L" : ON
12	$\overline{\text{IC MUTE}}$	O	Meter mute. "H" : ON
13	REALY REC/PB	O	Recording/Playback selector at DECK-B. "L" : Recording
14	REC CAL0	O	Recording calibration. "H" : ON
15	REC CAL1	O	Recording calibration. "H" : ON
16	EQ CAL0	O	EQ calibration terminal.
17	EQ CAL1	O	EQ calibration terminal.
18	$\overline{\text{BIAS (B)}}$	O	Bias ON/OFF at DECK-B. "H" : ON
19	$\overline{\text{TEST}}$	I	Test mode terminal. "L" : Test mode, "H" : Normal mode
20	METAL(B)	I	Metal tape selector terminal. "H" : Metal
21	70 μ (B)	I	CrO_2 tape selector terminal. "L" : CrO_2
22	A/D CTRL0	O	A/D converter analog switch control.
23	A/D CTRL1	O	A/D converter analog switch control.
24	A/D IN0	I	A/D converter analog input.
25	A/D IN1	I	A/D converter analog input.
26	S. REEL (A)	I	S-Side reel rotation detection at DECK-A.
27	S. REEL(B)	I	S-Side reel rotation detection at DECK-B.
28	AMS IN	I	AMS signal input terminal.
29	AMS/$\overline{\text{BS}}$	O	AMS/BS selector. "L" : BS ON
30	$\overline{\text{RESET}}$	I	Reset terminal. Reset : 0V
31	EXTAL	O	System clock output terminal.
32	XTAL	I	System clock input terminal.
33	Vss	–	Power supply (GND)
34	BIAS CAL0	O	EQ Bias calibration terminal.
35	BAIS CAL1	O	EQ Bias calibration terminal.
36	BAIS CAL2	O	EQ Bias calibration terminal.
37	BAIS CAL3	O	EQ Bias calibration terminal.
38	$\overline{\text{REC MUTE}}$	O	Recording mute ON/OFF. "L" : ON
39	OSC $\overline{\text{ON}}$/OFF	O	OSC ON/OFF control. "H" : OFF
40	OSC $\overline{\text{H}}$/L	O	OSC H/L control terminal.

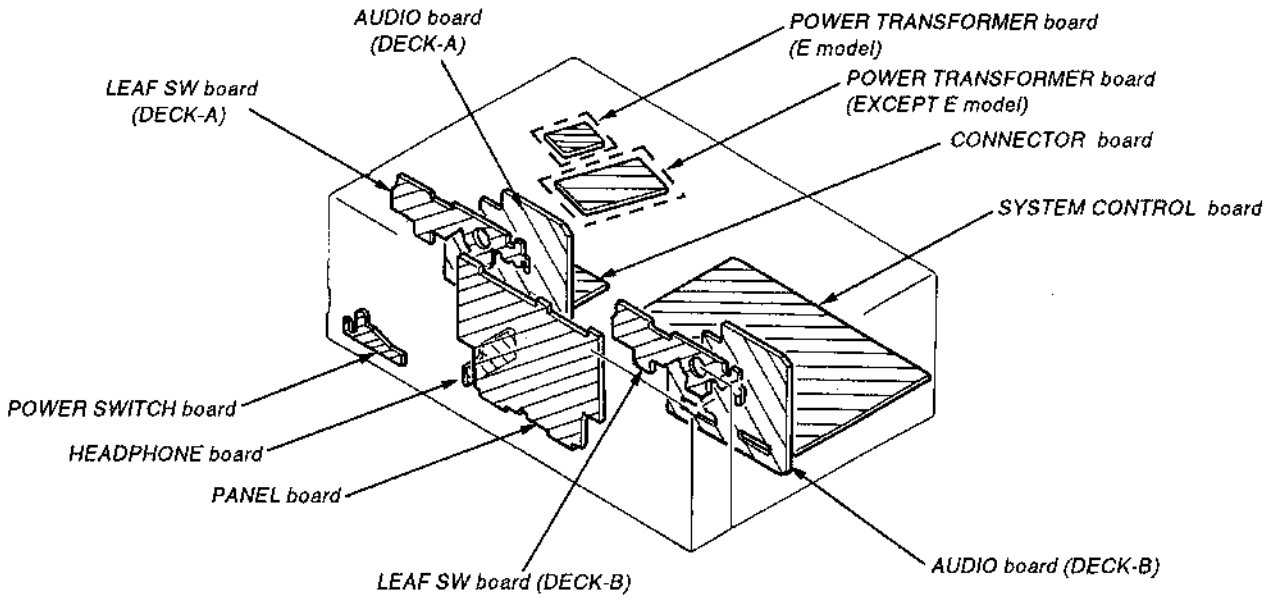
Pin No.	Pin name	I/O	Description
41	CAP. MOTOR(B)	O	Capstan motor output at DECK-B.
42	CAP. MOTOR(A)	O	Capstan motor output at DECK-A.
43	CAP. MOT (L/$\overline{H}$)	O	Capstan motor speed selector . "L" : Normal
44	NC	–	Not used.
45	P16	O	VFD Segment.
46	P15	O	VFD Segment.
47	P14	O	VFD Segment.
48	P13	O	VFD Segment.
49	P12	O	VFD Segment.
50	P11	O	VFD Segment.
51	P10	O	VFD Segment.
52	P9	O	VFD Segment.
53	P8	O	VFD Segment.
54	P7	O	VFD Segment.
55	P6	O	VFD Segment.
56	P5	O	VFD Segment.
57	P4	O	VFD Segment.
58	P3	O	VFD Segment.
59	P2	O	VFD Segment.
60	P1	O	VFD Segment.
61	T0	O	VFD Grid.
62	T1	O	VFD Grid.
63	T2	O	VFD Grid.
64	T3	O	VFD Grid.
65	T4	O	VFD Grid.
66	T5	O	VFD Grid.
67	T6	O	VFD Grid.
68	T7	O	VFD Grid.
69	T8	O	VFD Grid.
70	T9	O	VFD Grid.
71	VFDP	–	VFD Power.
72	V_{DD}	–	Power supply (+5V)
73	–	–	+5V
74	REEL MOTOR(A) +	O	Reel motor (+) output at DECK-A. "H" : FF.
75	REEL MOTOR(A) –	O	Reel motor (–) output at DECK-A. "H" : REW.
76	REEL MOTOR(B) +	O	Reel motor (+) output at DECK-B. "H" : FF.
77	REEL MOTOR(B) –	O	Reel motor (–) output at DECK-B. "H" : REW.
78	STOP SW(A)	I	Mechanism stop switch input for DECK-A.
79	STOP SW(B)	I	Mechanism stop switch input for DECK-B.
80	HALF (A)	I	Half pawl input for DECK-A. "L" : Available

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARD LOCATION

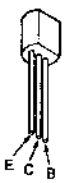


• SEMICONDUCTOR LEAD LAYOUTS

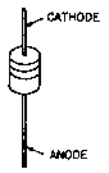
PST600E-T

DTA144ES
DTC114ES
DTC143TS
2SC2603-EF
2SD2144S

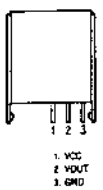
2SB1116A-L
2SD1387
2SD1616A-K



HZS6A1L
HZS7A2L
UZL-7L2
11ES2-NTA2B
1SS120

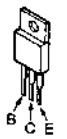


SBX1610-59

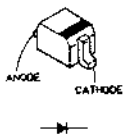


2SA1162-G

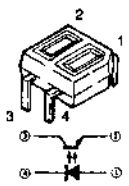
2SB1565EF
2SD2012



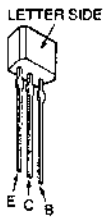
MA110



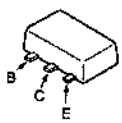
NJL5165K-B



2SA1175-HFE
2SC403SP-51



2SD1622-S



5-3. PRINTED WIRING BOARDS (SYSTEM CONTROL SECTION)

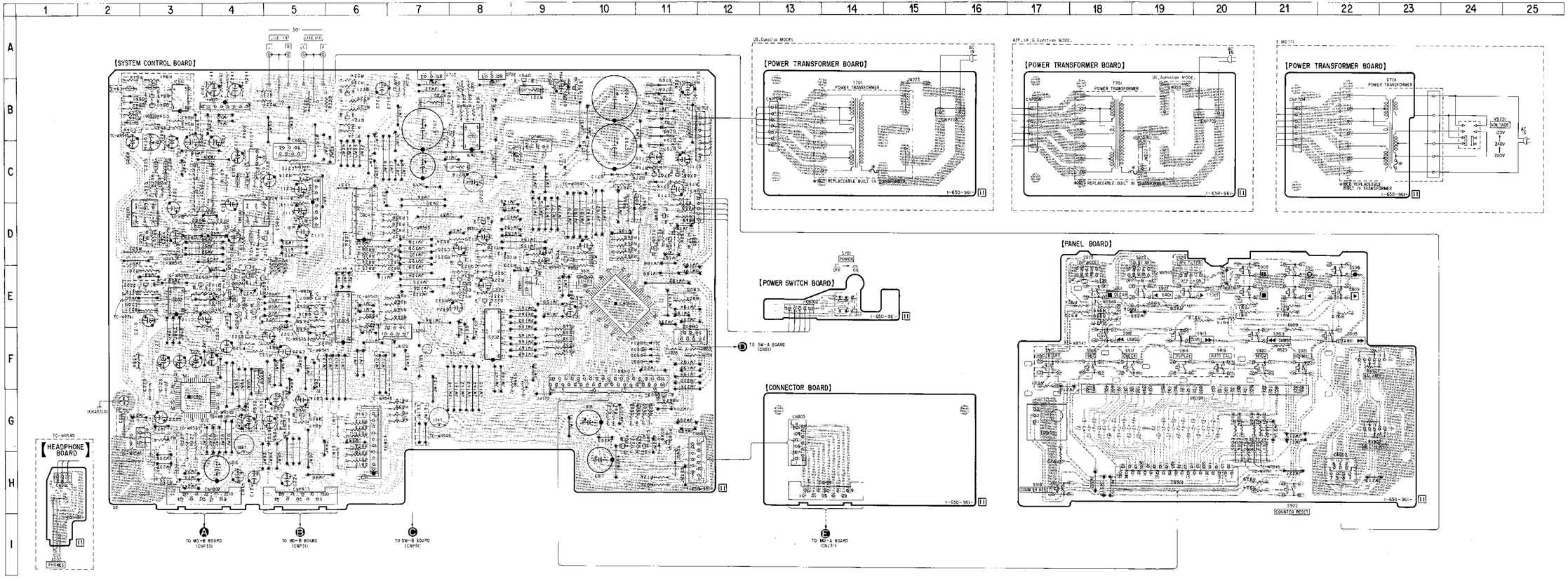
● Refer to page 16 for Semiconductor Lead Layouts.

● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D121	D-8	IC805	E-8
D221	E-8	IC806	D-9
D501	E-4	IC901	G-17
D502	E-4		
D521	E-8		
		Q101	D-5
D531	C-6	Q102	E-3
D541	B-2	Q121	B-8
D542	B-2	Q122	D-8
D701	B-11	Q201	D-3
D702	B-11		
		Q202	E-3
D703	B-11	Q221	B-6
D704	B-11	Q222	E-8
D705	B-11	Q501	E-4
D706	B-11	Q502	E-4
D707	C-11		
		Q503	E-4
D708	B-11	Q504	E-4
D709	B-9	Q505	E-4
D710	B-7	Q521	E-8
D711	C-9	Q522	F-4
D712	C-10		
		Q523	G-5
D713	C-11	Q525	D-11
D714	C-11	Q526	D-11
D715	C-9	Q527	D-8
D801	F-11	Q541	B-3
D802	F-11		
		Q542	B-3
D803	F-11	Q701	B-9
D804	F-11	Q702	A-8
D805	G-11	Q703	B-10
D806	H-11	Q704	B-7
D807	D-10		
		Q705	A-7
		Q706	C-9
IC501	C-3	Q707	C-11
IC502	E-3	Q708	C-11
IC503	C-5	Q801	D-11
IC504	B-4		
IC521	G-3	Q802	D-11
		Q803	G-11
IC541	B-3	Q804	G-11
IC701	B-8	Q805	G-11
IC801	E-10	Q806	G-10
IC802	F-8		
IC803	G-6	Q807	E-5
		Q808	E-5
IC804	D-6	Q809	G-5

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.
- G : German
  AUS : Australian



【 PANEL BOARD 1/2 】

【 MAIN BOARD 】

【 PANEL BOARD 2/2 】

【CONNECTOR BOARD】

【HEADPHONE BOARD】

【POWER TRANSFORMER BOARD】

【POWER SWITCH BOARD】

IC801 CMOS 8-BIT SYSTEM CONTROL

IC802 KEY INPUT SELECTOR

IC803 REEL MOTOR DRIVE

IC804 BIAS OSC

IC805 BIAS SELECT SWITCH

IC806 REGULATOR

IC501 DOLBY NR

IC502 FILTER

IC503 FILTER

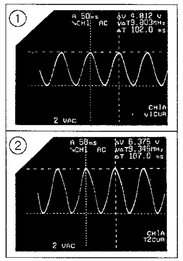
IC504 BUFFER

IC521 REC EQ/METER AMP/HEADPHONE AMP

IC701 VOLTAGE CONSTANT

IC901 REMOTE CONTROL RECEIVER

• WAVEFORMS



Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
- ⚠ : fusible resistor.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▭▭▭▭ : B+ Line
- ▭ ▭ ▭ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted dwe to normal procuction tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ▷ : PB (DECK A)
  ▷ : REC (DECK B)
  ▷ : PB (DECK B)
- G : German
  AUS : Australian

TC-WR545
50HZ/60HZ BUILTNED

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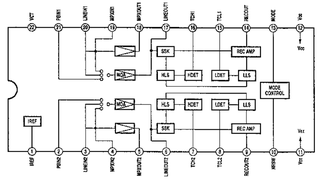
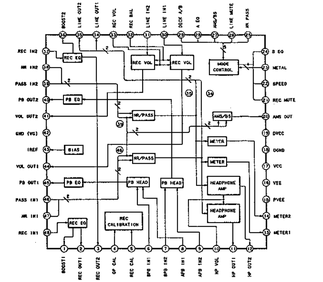
● IC BLOCK DIAGRAMS

IC501 CXA1561S



IC502 CXA1599Q



Note :

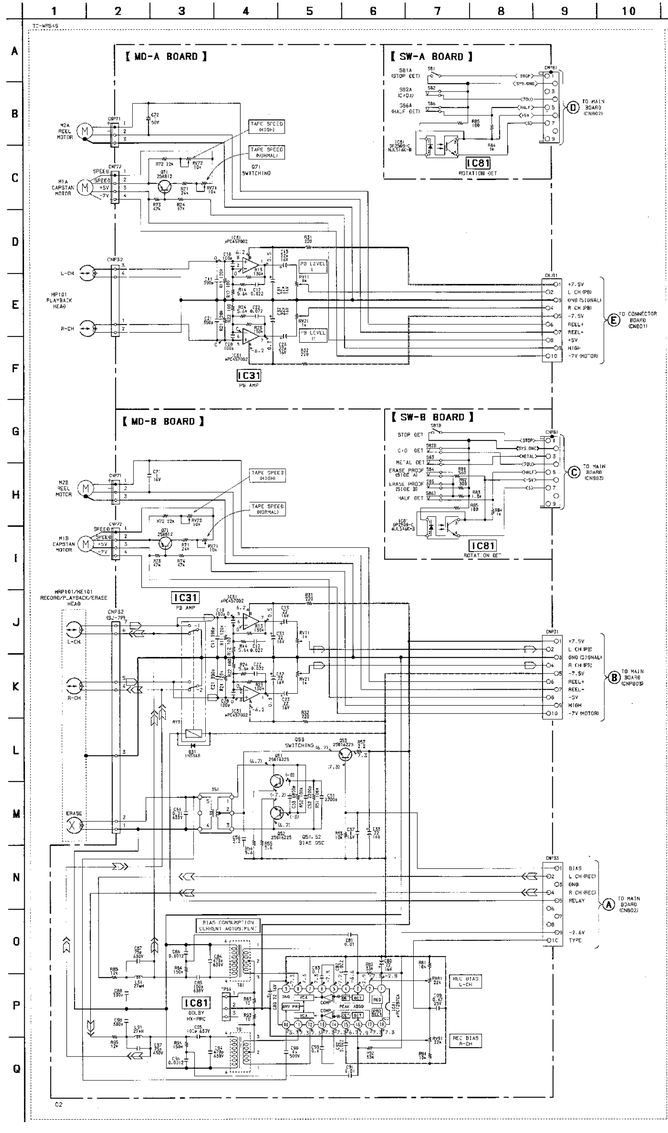
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : fusible resistor.

Note :	Note :
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

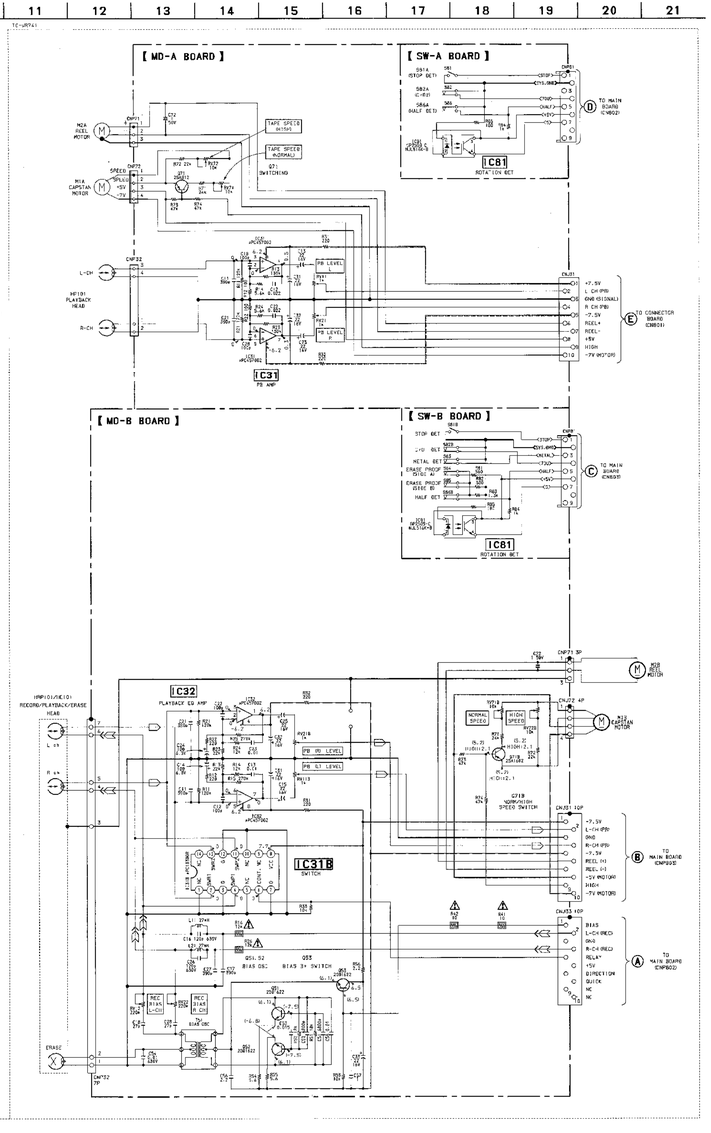
- : B+ Line
- : B − Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : PB (DECK A)
  : REC (DECK B)
  : PB (DECK B)
- G : German
  AUS : Australian

5-5. SCHEMATIC DIAGRAM (AUDIO SECTION)

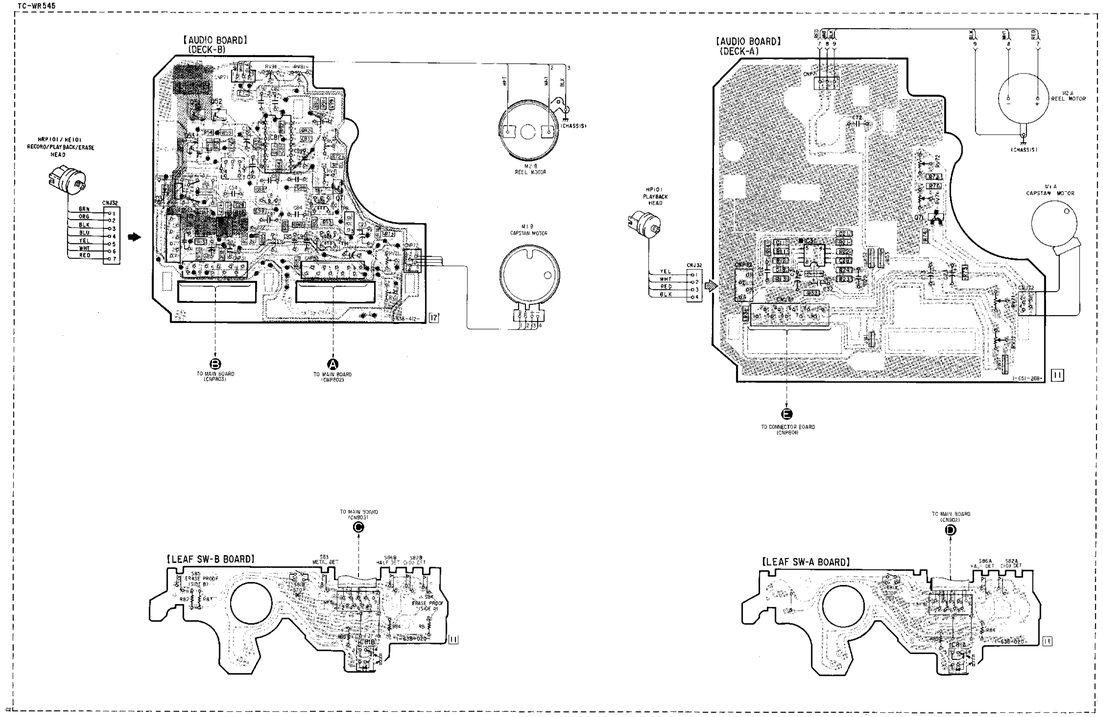
TC-WR545



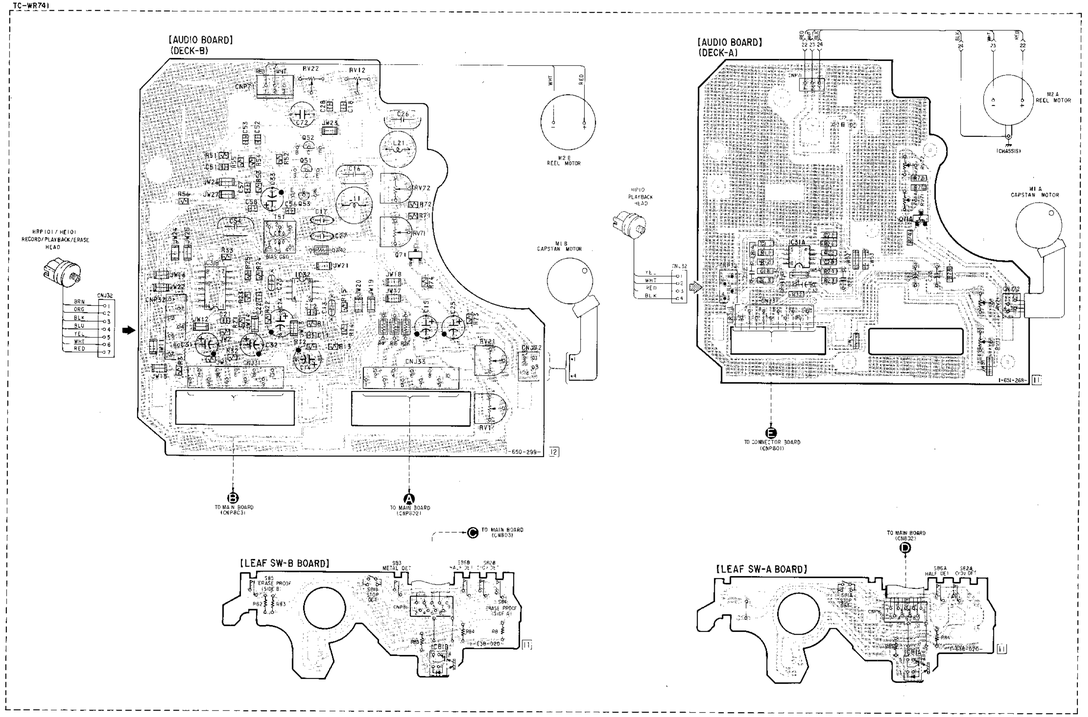
TC-WR741



TC-WR545



TC-WR741



TC-WR545

• SEMICONDUCTOR LOCATION

(DECK-A)

Ref. No.	Location
IC31	D - 11
IC81	I - 13
Q71	C - 13

(DECK-B)

Ref. No.	Location
D31	C - 3
IC31	D - 4
IC81	B - 4 (MD-B) I - 5 (SW-B)
Q51	B - 3
Q52	B - 3
Q53	C - 3
Q71	C - 5

TC-WR741

• SEMICONDUCTOR LOCATION

(DECK-A)

Ref. No.	Location
IC31	D - 28
IC81	I - 27
Q71	D - 28

(DECK-B)

Ref. No.	Location
IC31	D - 18
IC32	D - 19
IC81	I - 21
Q51	C - 19
Q52	C - 19
Q53	C - 19
Q71	D - 21

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.
- G : German
  AUS : Australian

SECTION 6
EXPLODED VIEWS

NOTE :

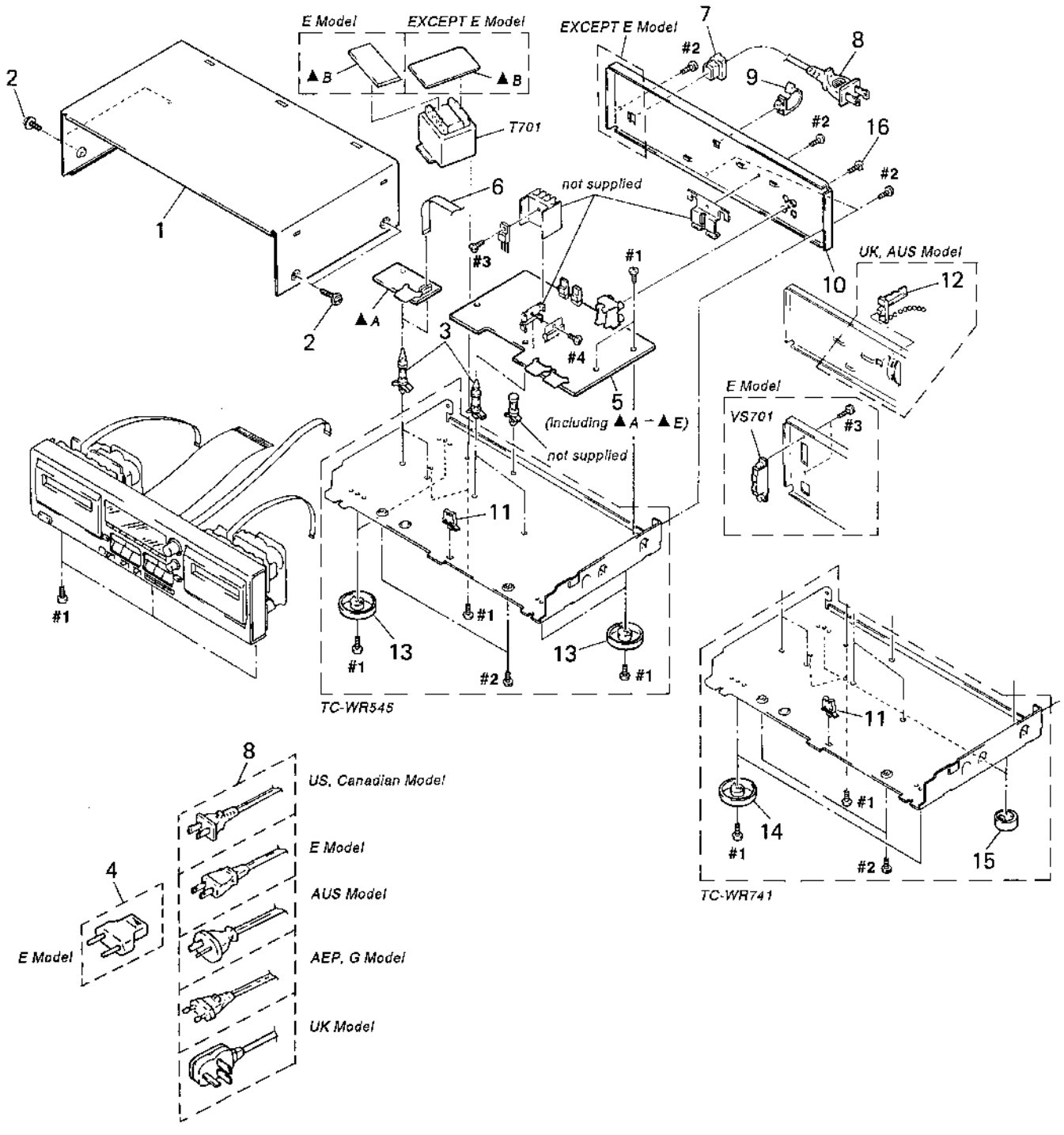
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- G : German
  AUS : Australian

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

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS SECTION

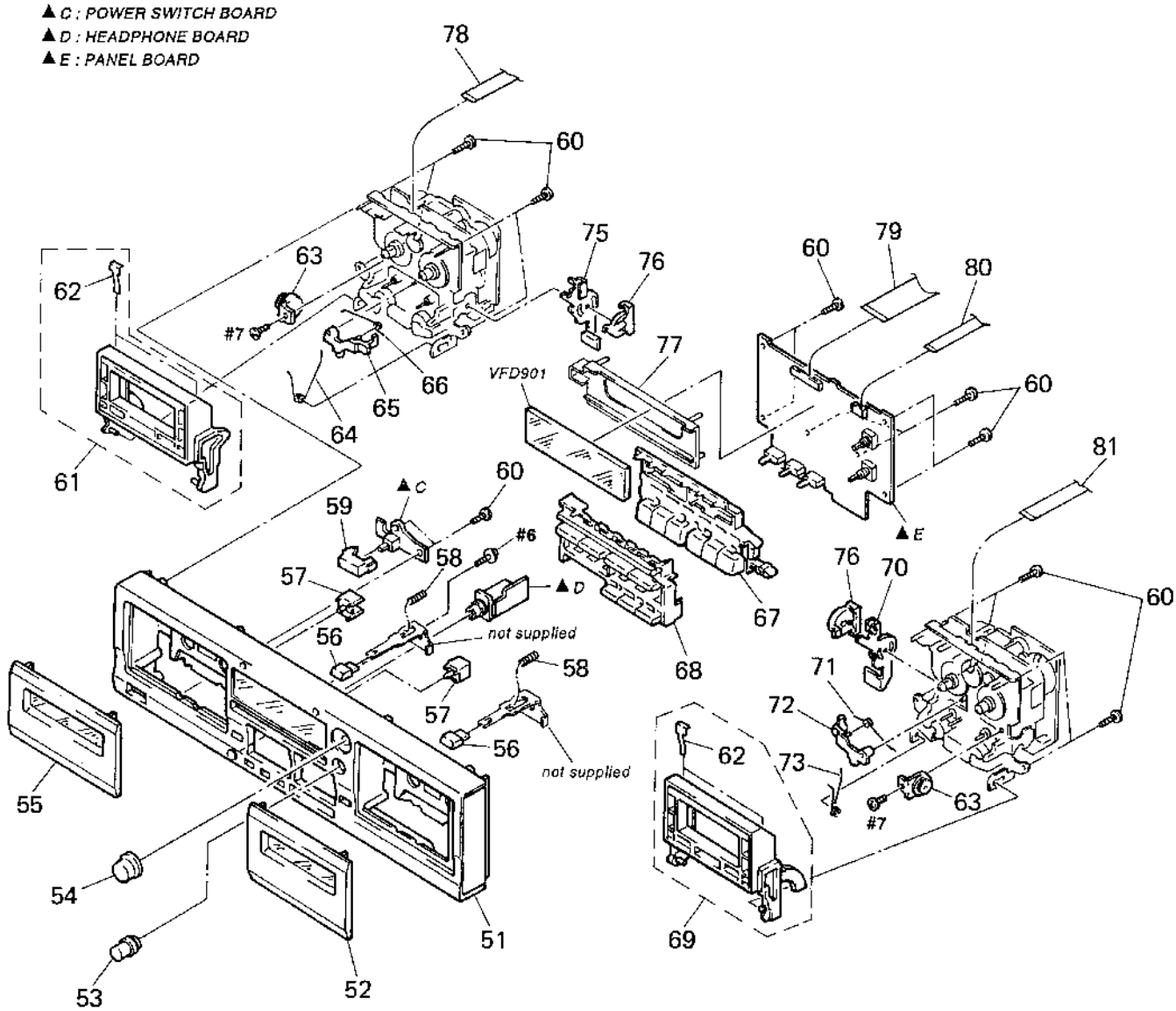
▲A : CONNECTOR BOARD
▲B : POWER TRANSFORMER BOARD



Ref. No.	Part No.	Description	Remark
* 1	4-943-088-41	CASE	
2	3-704-366-01	SCREW (CASE) (M3X8)	
* 3	3-346-265-31	HOLDER, PC BOARD	
⚠4	1-569-007-11	ADAPTER, CONVERSION 2P(E)	
* 5	A-2007-140-A	SYSTEM CONTROL BOARD, COMPLETE (WR545:US, Canadian)	
* 5	A-2007-141-A	SYSTEM CONTROL BOARD, COMPLETE (WR545:AEP)	
* 5	A-2007-142-A	SYSTEM CONTROL BOARD, COMPLETE(WR545:G)	
* 5	A-2007-143-A	SYSTEM CONTROL BOARD, COMPLETE (WR545:UK, AUS)	
* 5	A-2007-144-A	SYSTEM CONTROL BOARD, COMPLETE(WR545:E)	
* 5	A-2007-145-A	SYSTEM CONTROL BOARD, COMPLETE(WR741)	
6	1-765-216-11	WIRE (FLAT TYPE) (11 CORE)	
* 7	3-703-244-09	BUSHING(2104), CORD(AEP, UK, G, AUS)	
7	3-703-571-11	BUSHING (S) (4516), CORD (US, Canadian, E)	
⚠8	1-551-188-XX	CORD, POWER(E)	
⚠8	1-558-945-21	CORD, POWER (POLAR, SPT-1)(US, Canadian)	
⚠8	1-575-651-21	CORD, POWER (AEP, G)	
⚠8	1-696-586-11	CORD, POWER(UK)	
⚠8	1-696-845-11	CORD, POWER(AUS)	
* 9	4-949-235-01	HOOK(US, Canadian, AEP, E, G)	
* 10	3-909-660-01	PANEL, BACK(WR545:US, Canadian)	
* 10	3-909-660-11	PANEL, BACK(WR545:AEP, G)	
* 10	3-909-660-21	PANEL, BACK(WR545:UK, AUS)	
* 10	3-909-660-31	PANEL, BACK(WR545:E)	
* 10	3-909-660-51	PANEL, BACK(WR741)	
* 11	4-308-840-11	HOLDER, WIRE	
* 12	4-956-370-12	BAND, PLUG FIXED(UK, AUS)	
13	X-4941-291-1	FOOT ASSY(F58175S)(WR545:US, Canadian)	
13	X-4941-292-1	FOOT ASSY(F58175S) (WR545:AEP, UK, E, G, AUS)	
14	X-3340-138-1	FOOT ASSY(WR741)	
15	X-4941-228-1	FOOT ASSY(WR741)	
16	3-704-515-01	SCREW(BV/RING)	
⚠T701	1-450-837-51	TRANSFORMER, POWER(US, Canadian)	
⚠T701	1-450-838-51	TRANSFORMER, POWER(AEP, UK, G, AUS)	
⚠T701	1-450-839-21	TRANSFORMER, POWER(E)	
⚠VS701	1-692-155-11	SELECTOR, POWER VOLTAGE(VOLTAGE)(E)	

6-2. FRONT PANEL SECTION

▲C : POWER SWITCH BOARD
▲D : HEADPHONE BOARD
▲E : PANEL BOARD

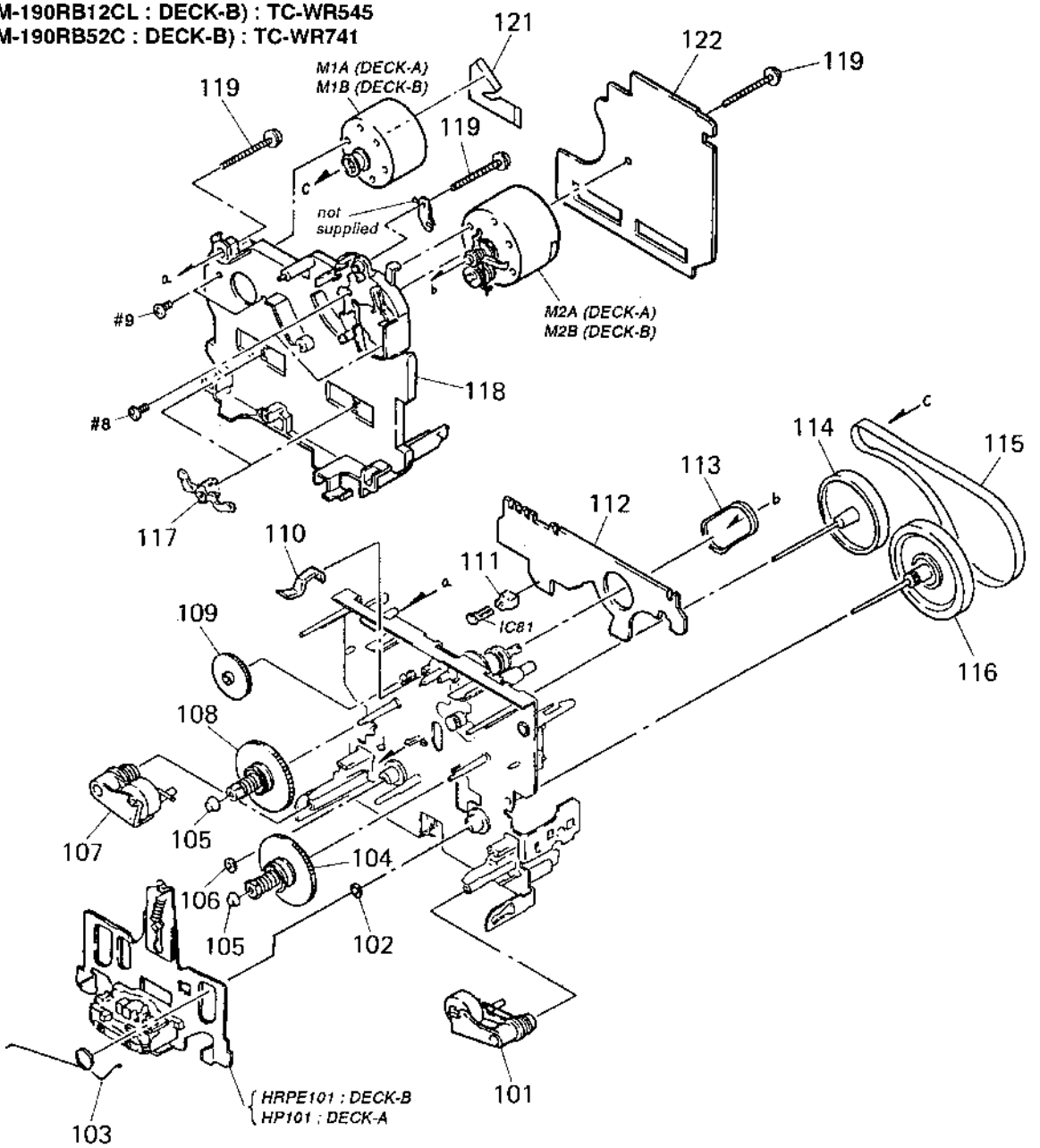


Ref. No.	Part No.	Description	Remark
51	X-3367-783-1	PANEL ASSY, FRONT(WR545:US, Canadian)	
51	X-3367-786-1	PANEL ASSY, FRONT(WR545:AEP, UK, E, G, AUS)	
51	X-3367-787-1	PANEL ASSY, FRONT(WR741)	
52	X-3367-785-1	LID (B) ASSY, CASSETTE	
53	3-367-431-01	KNOB (BAL)	
54	3-909-661-01	KNOB (REC)	
55	X-3367-784-1	LID (A) ASSY, CASSETTE(WR545)	
55	X-3368-171-1	LID (A) ASSY, CASSETTE(WR741)	
56	3-377-328-11	BUTTON (EJECT)	
57	3-377-330-01	BUTTON (COUNTER)	
58	3-382-382-11	SPRING, COMPRESSION	
59	3-354-932-01	BUTTON (POWER)	
60	4-951-629-11	SCREW (2.6X10), +BVTP	
61	A-4325-164-A	HOLDER (R) ASSY, CASSETTE	
62	3-308-823-11	DETENT, CASSETTE	
63	3-354-963-01	DAMPER	
64	3-354-960-01	SPRING (LOADING R), TORSION	
65	3-354-956-01	LEVER (EJ SAFTY LEVER R)	

Ref. No.	Part No.	Description	Remark
66	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
67	3-909-658-01	BUTTON (FR-M)(WR545)	
67	3-909-658-11	BUTTON (FR-M)(WR741)	
68	3-909-659-01	BUTTON (SR-M)(WR545)	
68	3-909-659-11	BUTTON (SR-M)(WR741)	
69	A-4325-163-A	HOLDER (L) ASSY, CASSETTE	
* 70	3-354-953-01	LEVER (LOCK LEVER L)	
71	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
72	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
73	3-354-959-01	SPRING (LOADING L), TORSION	
* 75	3-354-954-01	LEVER (LOCK LEVER R)	
76	3-354-957-01	JOINT (LOCK LEVER)	
* 77	3-377-337-11	HOLDER (FL)	
78	1-765-214-11	WIRE (FLAT TYPE) (7 CORE)	
79	1-765-217-11	WIRE (FLAT TYPE) (37 CORE)	
80	1-765-213-11	WIRE (FLAT TYPE) (7 CORE)	
81	1-765-215-11	WIRE (FLAT TYPE) (7 CORE)	
VFD901	1-517-263-11	INDICATOR TUBE, FLUORESCENT	

6-3. MECHANISM SECTION 1

(TCM-190RA12CL : DECK-A)
(TCM-190RB12CL : DECK-B) : TC-WR545
(TCM-190RB52C : DECK-B) : TC-WR741

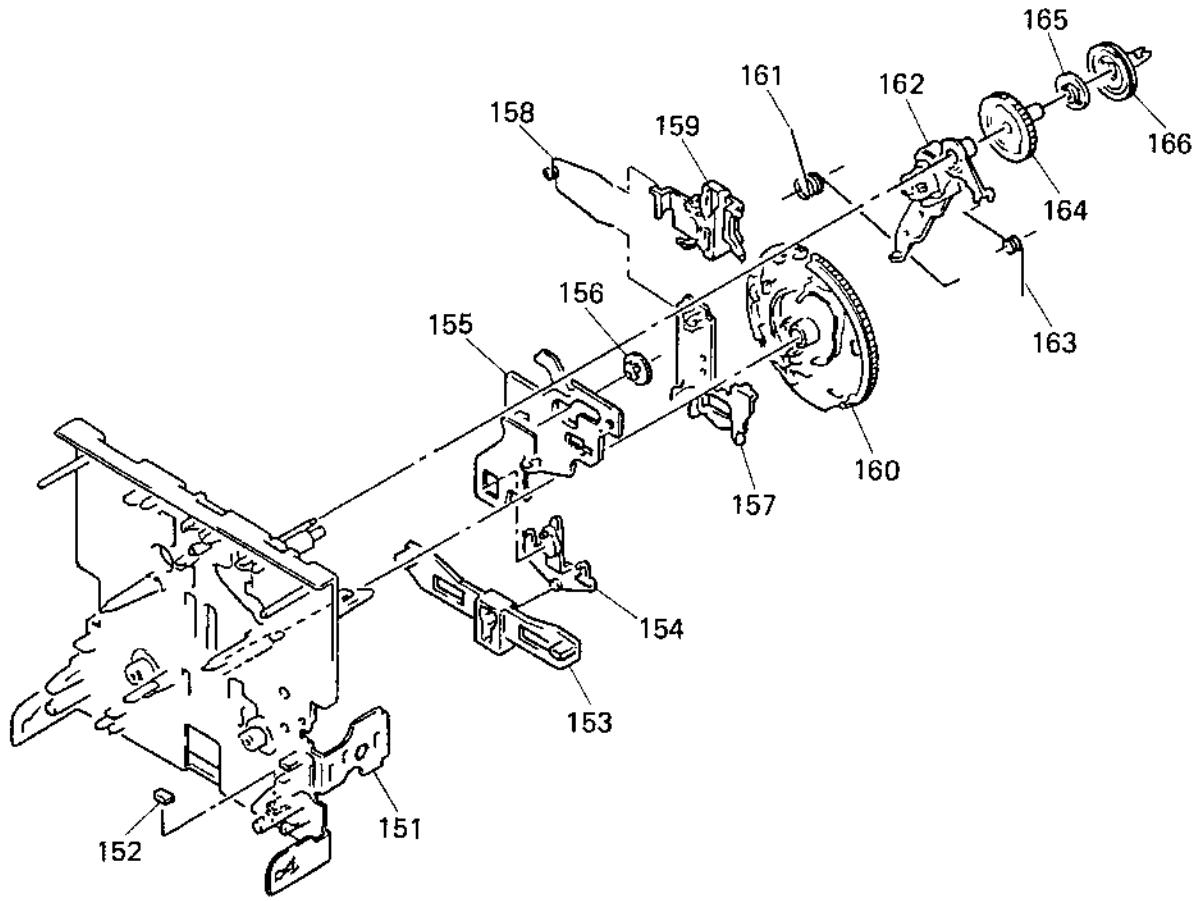


Ref. No.	Part No.	Description	Remark
101	X-3366-047-1	LEVER (PINCH F) ASSY	
102	3-356-713-01	WASHER	
103	3-907-362-01	SPRING, TORSION	
104	X-3366-970-1	TABLE ASSY, REEL	
105	3-362-308-01	CAP (REEL) (WR741:DECK-B)	
105	3-913-841-01	CAP (REEL) (WR545, WR741:DECK-A)	
106	3-356-714-01	WASHER	
107	X-3366-048-1	LEVER (PINCH R) ASSY	
108	X-3366-971-1	TABLE ASSY (B), REEL	
109	3-359-424-01	GEAR (REV GEAR)	
110	3-359-430-01	SPRING(CASSETTE RETAINER), LEAF	
111	3-343-419-01	HOLDER(S SENSOR A)	
112	1-638-020-11	LEAF SW BOARD(DECK-A)	
112	1-638-020-11	LEAF SW BOARD(DECK-B)	
113	3-359-466-01	BELT (FR), SQUARE	
114	X-3367-630-2	FLYWHEEL (REV) ASSY	
115	3-359-417-01	BELT (FLAT), CAPSTAN	

Ref. No.	Part No.	Description	Remark
116	X-3367-629-1	FLYWHEEL (FWD) ASSY	
117	3-575-321-00	RETAINER, THRUST, CAPSTAN	
118	3-359-436-11	BASE (THRUST RETAINER), FITTING	
119	3-359-414-01	SCREW (-PTPWH 2X23)	
121	1-638-983-11	MOTOR FLEXIBLE BOARD	
* 122	A-2006-623-A	AUDIO BOARD, COMPLETE(DECK-A)	
* 122	A-2007-040-A	AUDIO BOARD, COMPLETE(DECK-B) (WR545)	
* 122	A-2007-133-A	AUDIO BOARD, COMPLETE(DECK-B) (WR741)	
HP101	A-2003-757-A	BASE ASSY, HEAD(PLAYBACK) (DECK-A)	
HRPE101	A-2003-930-A	BASE ASSY, HEAD(PLAYBACK/RECORD/ERASE) (DECK-B)	
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
M1A	X-3365-377-1	MOTOR ASSY(CAPSTAN) (DECK-A)	
M1B	X-3365-377-1	MOTOR ASSY(CAPSTAN) (DECK-B)	
M2A	X-3363-501-1	MOTOR ASSY(REEL) (DECK-A)	
M2B	X-3363-501-1	MOTOR ASSY(REEL) (DECK-B)	

6-4. MECHANISM SECTION 2

(TCM-190RA12CL : DECK-A)
(TCM-190RB12CL : DECK-B) : TC-WR545
(TCM-190RB52C : DECK-B) : TC-WR741



Ref. No.	Part No.	Description	Remark
151	X-3359-415-1	CHASSIS ASSY, MECHANICAL(WR545)	
151	X-3363-790-1	CHASSIS ASSY, MECHANICAL(WR741)	
152	3-359-469-01	SPACER	
* 153	3-359-425-01	SLIDER (REVERSE SLIDER)	
154	3-359-426-01	LEVER (REVERSE LEVER)	
* 155	3-359-415-01	SLIDER (TRIGGER SLIDER)	
155	3-359-415-11	SLIDER (TRIGGER SLIDER)	(WR741:DECK-B)
156	3-359-448-01	GEAR (TRIGGER)	
* 157	3-359-427-01	SLIDER (LEVERSE SLIDER)	(WR545, WR741:DECK-A)
158	3-359-454-01	SPRING, TORSION	

Ref. No.	Part No.	Description	Remark
159	3-359-429-01	SLIDER (BRAKE PLATE)	(WR545, WR741:DECK-A)
159	3-359-429-11	SLIDER (BRAKE PLATE)	(WR741:DECK-B)
160	3-359-420-01	GEAR (CAM GEAR)	
161	3-359-456-01	SPRING(TRIGGER SPRING), TORSION	
162	X-3366-569-1	ARM ASSY, FR	
163	3-359-453-01	SPRING (FR ARM), TORSION	
164	3-359-419-11	GEAR (FR GEAR)	
165	3-359-421-01	CLUTCH (REEL DISK)	(WR741:DECK-B)
165	3-359-421-11	CLUTCH (REEL DISK)	(WR545, WR741:DECK-A)
166	3-359-418-11	PULLEY (FR PULLEY)	

SECTION 7
ELECTRICAL PARTS LIST

AUDIO

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, -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
- G : German
  AUS : Australian

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

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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

Ref. No.	Part No.	Description			Remark
*	A-2006-623-A	AUDIO BOARD, COMPLETE(DECK-A)			
		**********			
		< 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	1uF	20%	50V
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P			
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< IC >			
IC31	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 >			
Q71	8-729-216-22	TRANSISTOR	2SA1162-G		

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	1-241-761-11	RES, ADJ, CARBON	1K(PB LEVEL L)		
RV21	1-241-761-11	RES, ADJ, CARBON	1K(PB LEVEL R)		
RV71	1-241-630-11	RES, ADJ, CARBON	10K(NORMAL SPEED)		
RV72	1-241-630-11	RES, ADJ, CARBON	10K(HIGH SPEED)		
**********					
*	A-2007-040-A	AUDIO BOARD, COMPLETE(DECK-B)(WR545)			
		**********			
*	A-2007-133-A	AUDIO BOARD, COMPLETE(DECK-B)(WR741)			
		**********			
		< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V(WR545)
C12	1-163-117-00	CERAMIC CHIP	100PF	5%	50V(WR741)
C13	1-124-234-00	ELECT	22uF	20%	16V(WR545)
C13	1-136-153-00	FILM	0.01uF	5%	50V(WR741)
C14	1-126-177-11	ELECT	100uF	20%	10V(WR741)

Ref.No.	Part No.	Description			Remark
C15	1-124-234-00	ELECT	22uF	20%	16V(WR741)
C16	1-136-434-11	FILM	120PF	5%	630V(WR741)
C17	1-164-080-11	CERAMIC	390PF	10%	50V(WR741)
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V(WR545)
C18	1-163-103-00	CERAMIC CHIP	27PF	5%	50V(WR741)
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V(WR545)
C22	1-163-117-00	CERAMIC CHIP	100PF	5%	50V(WR741)
C23	1-124-234-00	ELECT	22uF	20%	16V(WR545)
C23	1-136-153-00	FILM	0.01uF	5%	50V(WR741)
C24	1-126-177-11	ELECT	100uF	20%	10V(WR741)
C25	1-124-234-00	ELECT	22uF	20%	16V(WR741)
C26	1-136-434-11	FILM	120PF	5%	630V(WR741)
C27	1-164-080-11	CERAMIC	390PF	10%	50V(WR741)
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V(WR545)
C28	1-163-103-00	CERAMIC CHIP	27PF	5%	50V(WR741)
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	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V(WR545)
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V(WR741)
C52	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V(WR545)
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V(WR741)
C53	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V(WR545)
C53	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V(WR741)
C54	1-136-601-11	FILM	0.01uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-164-232-11	CERAMIC CHIP	0.01uF		50V(WR741)
C71	1-164-346-11	CERAMIC CHIP	1uF		16V(WR545)
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V(WR741)
C80	1-124-234-00	ELECT	22uF	20%	16V(WR545)
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V(WR545)
C82	1-136-157-00	FILM	0.022uF	5%	50V(WR545)
C83	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V(WR545)
C84	1-136-478-11	FILM	470PF	5%	630V(WR545)
C85	1-136-433-11	FILM	100PF	5%	630V(WR545)
C86	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V(WR545)
C87	1-136-273-91	FILM	75PF	5%	630V(WR545)
C88	1-163-003-11	CERAMIC CHIP	330PF	10%	50V(WR545)
C89	1-124-234-00	ELECT	22uF	20%	16V(WR545)
C90	1-107-584-11	CERAMIC	4PF	0.25PF	500V(WR545)
C91	1-164-232-11	CERAMIC CHIP	0.01uF		50V(WR545)
C92	1-136-157-00	FILM	0.022uF	5%	50V(WR545)
C93	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V(WR545)
C94	1-136-478-11	FILM	470PF	5%	630V(WR545)
C95	1-136-433-11	FILM	100PF	5%	630V(WR545)
C96	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V(WR545)
C97	1-136-273-91	FILM	75PF	5%	630V(WR545)

Ref.No.	Part No.	Description			Remark
C98	1-163-003-11	CERAMIC CHIP	330PF	10%	50V(WR545)
C99	1-164-005-11	CERAMIC CHIP	0.47uF		25V(WR545)
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD(WR741)			
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD(WR741)			
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P(WR741)			
* CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD(WR545)			
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P			
* CNP33	1-580-782-11	CONNECTOR, BOARD TO BOARD(WR545)			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
* CNP72	1-580-411-11	SOCKET, CONNECTOR 4P(WR545)			
* CNP75	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P(WR545)			
		< DIODE >			
D31	8-719-404-46	DIODE MA110(WR545)			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2(WR545)			
IC31	8-759-249-21	IC uPC1330AGR(WR741)			
IC32	8-759-106-02	IC uPC4570G2(WR741)			
IC81	8-759-106-56	IC uPC1297CA(WR545)			
		< JUMPER RESISTOR >			
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W(WR741)
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W(WR741)
JW11	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW12	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW13	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW14	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW15	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW16	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW17	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW18	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW19	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW20	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW21	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW22	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW23	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW24	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW25	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW26	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
JW27	1-216-296-00	METAL CHIP	0	5%	1/8W(WR741)
		< COIL >			
L11	1-410-780-11	INDUCTOR	27mH(WR741)		
L21	1-410-780-11	INDUCTOR	27mH(WR741)		
L81	1-410-780-11	INDUCTOR	27mH(WR545)		
L91	1-410-780-11	INDUCTOR	27mH(WR545)		

AUDIO LEAF SW-A

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q51	8-729-808-01	TRANSISTOR	2SD1622-S(WR545)		
Q51	8-729-111-29	TRANSISTOR	2SD1616A-K(WR741)		
Q52	8-729-808-01	TRANSISTOR	2SD1622-S(WR545)		
Q52	8-729-111-29	TRANSISTOR	2SD1616A-K(WR741)		
Q53	8-729-808-01	TRANSISTOR	2SD1622-S(WR545)		
Q53	8-729-111-29	TRANSISTOR	2SD1616A-K(WR741)		
Q71	8-729-216-22	TRANSISTOR	2SA1162-G		
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W(WR545)
R12	1-216-033-00	METAL CHIP	220	5%	1/10W(WR741)
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W(WR545)
R13	1-216-081-00	METAL CHIP	22K	5%	1/10W(WR741)
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W(WR545)
R14	1-216-075-00	METAL CHIP	12K	5%	1/10W(WR741)
R15	1-216-107-00	METAL CHIP	270K	5%	1/10W(WR741)
R16	1-249-430-11	CARBON	12K	5%	1/4W(WR741)
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W(WR545)
R22	1-216-033-00	METAL CHIP	220	5%	1/10W(WR741)
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W(WR545)
R23	1-216-081-00	METAL CHIP	22K	5%	1/10W(WR741)
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W(WR545)
R24	1-216-075-00	METAL CHIP	12K	5%	1/10W(WR741)
R25	1-216-107-00	METAL CHIP	270K	5%	1/10W(WR741)
R26	1-249-430-11	CARBON	12K	5%	1/4W(WR741)
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R33	1-216-065-00	METAL CHIP	4.7K	5%	1/10W(WR545)
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W(WR741)
R41	1-249-393-11	CARBON	10	5%	1/4W(WR741)
R42	1-249-393-11	CARBON	10	5%	1/4W(WR741)
R51	1-216-097-00	METAL CHIP	100K	5%	1/10W(WR545)
R51	1-216-079-00	METAL CHIP	18K	5%	1/10W(WR741)
R52	1-216-097-00	METAL CHIP	100K	5%	1/10W(WR545)
R52	1-216-079-00	METAL CHIP	18K	5%	1/10W(WR741)
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(WR741)
R57	1-216-298-00	METAL CHIP	2.2	5%	1/10W(WR545)
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
R81	1-216-073-00	METAL CHIP	10K	5%	1/10W(WR545)
R82	1-216-085-00	METAL CHIP	33K	5%	1/10W(WR545)
R83	1-216-001-00	METAL CHIP	10	5%	1/10W(WR545)
R84	1-216-101-00	METAL CHIP	150K	5%	1/10W(WR545)
R85	1-216-075-00	METAL CHIP	12K	5%	1/10W(WR545)
R91	1-216-073-00	METAL CHIP	10K	5%	1/10W(WR545)
R92	1-216-085-00	METAL CHIP	33K	5%	1/10W(WR545)
R93	1-216-001-00	METAL CHIP	10	5%	1/10W(WR545)
R94	1-216-101-00	METAL CHIP	150K	5%	1/10W(WR545)
R95	1-216-075-00	METAL CHIP	12K	5%	1/10W(WR545)
		< VARIABLE RESISTOR >			
RV11	1-241-761-11	RES, ADJ, CARBON 1K(PB LEVEL L)			
RV12	1-238-551-11	RES, ADJ, CARBON 220K(PB LEVEL L)			(WR741)
RV21	1-241-761-11	RES, ADJ, CARBON 1K(PB LEVEL R)			
RV22	1-238-551-11	RES, ADJ, CARBON 220K(PB LEVEL R)			(WR741)
RV71	1-241-630-11	RES, ADJ, CARBON 10K(NORMAL SPEED)			
RV72	1-241-630-11	RES, ADJ, CARBON 10K(HIGH SPEED)			
RV81	1-241-786-11	RES, ADJ, CARBON 22K(RECORD BIAS L)			(WR545)
RV91	1-241-786-11	RES, ADJ, CARBON 22K(RECORD BIAS R)			(WR545)
		< RELAY >			
RY31	1-515-913-11	RELAY(WR545)			
		< TRANSFORMER >			
T51	1-406-417-11	COIL, BIAS OSCILLATION(WR545)			
T51	1-423-980-11	TRANSFORMER, BIAS OSCILLATION(WR741)			
T81	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR(WR545)			
T91	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR(WR545)			
		< TEST PIN >			
* TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P(WR545)			
**********					
*	1-638-020-11	LEAF SW-A BOARD(DECK-A)			
		**********			
		< CONNECTOR >			
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P			
		< IC >			
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)			
		< RESISTOR >			
R84	1-249-417-11	CARBON	1K	5%	1/4W
R85	1-249-408-11	CARBON	180	5%	1/4W

LEAF SW-A | LEAF SW-B | SYSTEM CONTROL

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)			
S82	1-571-281-21	SWITCH, LEAF (CrO2)			
S86	1-571-281-21	SWITCH, LEAF (HALF)			
**********					
*	1-638-020-11	LEAF SW-B BOARD (DECK-B)			
		**********			
		< CONNECTOR >			
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P			
		< IC >			
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B (H1)			
		< RESISTOR >			
R81	1-249-414-11	CARBON	560	5% 1/4W	
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	
R85	1-249-408-11	CARBON	180	5% 1/4W	
		< SWITCH >			
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)			
S82	1-571-281-21	SWITCH, LEAF (CrO_2)			
S83	1-571-281-21	SWITCH, LEAF (METAL)			
S84	1-571-281-21	SWITCH, LEAF (REC A)			
S85	1-571-281-21	SWITCH, LEAF (REC B)			
S86	1-571-281-21	SWITCH, LEAF (HALF)			
**********					
*	A-2007-140-A	SYSTEM CONTROL BOARD, COMPLETE			
		**********			(WR545:US, Canadian)
*	A-2007-141-A	SYSTEM CONTROL BOARD, COMPLETE			
		**********			(WR545:AEP)
*	A-2007-142-A	SYSTEM CONTROL BOARD, COMPLETE (WR545:G)			
		**********			
*	A-2007-143-A	SYSTEM CONTROL BOARD, COMPLETE			(WR545:UK, AUS)
*	A-2007-144-A	SYSTEM CONTROL BOARD, COMPLETE (WR545:E)			
		**********			
*	A-2007-145-A	SYSTEM CONTROL BOARD, COMPLETE (WR741)			
		**********			
*	3-377-337-11	HOLDER (FL)			
	7-685-646-79	SCREW -BVTP 3X8 TYPE2 IT-3			
	7-682-547-09	SCREW -BVTI 3X6 (S)			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C101	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C102	1-124-907-11	ELECT	10uF	20%	50V
C103	1-124-907-11	ELECT	10uF	20%	50V (WR545)
C104	1-137-457-11	FILM	0.0027uF	5%	50V
C105	1-136-165-00	FILM	0.1uF	5%	50V
C106	1-136-163-00	FILM	0.068uF	5%	50V
C107	1-124-907-11	ELECT	10uF	20%	50V
C108	1-124-925-11	ELECT	2.2uF	20%	100V
C109	1-162-283-31	CERAMIC	120PF	10%	50V (WR545)
C110	1-124-925-11	ELECT	2.2uF	20%	100V
C111	1-124-927-11	ELECT	4.7uF	20%	100V
C112	1-124-925-11	ELECT	2.2uF	20%	100V
C121	1-124-927-11	ELECT	4.7uF	20%	100V
C122	1-124-902-00	ELECT	0.47uF	20%	50V
C123	1-164-159-11	CERAMIC	0.1uF		50V
C124	1-124-927-11	ELECT	4.7uF	20%	100V
C125	1-126-962-11	ELECT	3.3uF	20%	50V
C141	1-124-907-11	ELECT	10uF	20%	50V
C201	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C202	1-124-907-11	ELECT	10uF	20%	50V
C203	1-124-907-11	ELECT	10uF	20%	50V (WR545)
C204	1-137-457-11	FILM	0.0027uF	5%	50V
C205	1-136-165-00	FILM	0.1uF	5%	50V
C206	1-136-163-00	FILM	0.068uF	5%	50V
C207	1-124-907-11	ELECT	10uF	20%	50V
C208	1-124-925-11	ELECT	2.2uF	20%	100V
C209	1-162-283-31	CERAMIC	120PF	10%	50V (WR545)
C210	1-124-925-11	ELECT	2.2uF	20%	100V
C211	1-124-927-11	ELECT	4.7uF	20%	100V
C212	1-124-925-11	ELECT	2.2uF	20%	100V
C221	1-124-927-11	ELECT	4.7uF	20%	100V
C222	1-124-902-00	ELECT	0.47uF	20%	50V
C223	1-164-159-11	CERAMIC	0.1uF		50V
C224	1-124-927-11	ELECT	4.7uF	20%	100V
C225	1-126-962-11	ELECT	3.3uF	20%	50V
C241	1-124-907-11	ELECT	10uF	20%	50V
C501	1-124-907-11	ELECT	10uF	20%	50V
C502	1-126-176-11	ELECT	220uF	20%	10V
C503	1-161-494-00	CERAMIC	0.022uF		25V
C521	1-124-443-00	ELECT	100uF	20%	10V
C522	1-124-443-00	ELECT	100uF	20%	10V
C523	1-124-443-00	ELECT	100uF	20%	10V
C524	1-124-902-00	ELECT	0.47uF	20%	50V
C525	1-124-925-11	ELECT	2.2uF	20%	100V
C526	1-124-916-11	ELECT	22uF	20%	63V
C527	1-126-916-11	ELECT	1000uF	20%	6.3V
C528	1-124-902-00	ELECT	0.47uF	20%	50V (WR545)

SYSTEM CONTROL

Ref.No.	Part No.	Description			Remark
C529	1-124-443-00	ELECT	100uF	20%	10V(WR545)
C541	1-130-494-11	MYLAR	0.082uF	5%	50V(WR545)
C542	1-137-457-11	FILM	0.0027uF	5%	50V(WR545)
C543	1-136-161-00	FILM	0.047uF	5%	50V(WR545)
C544	1-137-366-11	FILM	0.0022uF	5%	50V(WR545)
C551	1-161-494-00	CERAMIC	0.022uF		25V(WR545)
C701	1-124-927-11	ELECT	4.7uF	20%	100V
C702	1-124-898-11	ELECT	4700uF	20%	16V
C703	1-124-898-11	ELECT	4700uF	20%	16V
C704	1-124-927-11	ELECT	4.7uF	20%	100V
C705	1-124-472-11	ELECT	470uF	20%	10V
C706	1-124-927-11	ELECT	4.7uF	20%	100V
C707	1-124-762-00	ELECT	4700uF	20%	10V
C708	1-124-473-11	ELECT	1000uF	20%	10V
C709	1-124-910-11	ELECT	47uF	20%	50V
C710	1-124-907-11	ELECT	10uF	20%	50V
C711	1-124-927-11	ELECT	4.7uF	20%	100V
C801	1-164-159-11	CERAMIC	0.1uF		50V
C802	1-124-902-00	ELECT	0.47uF	20%	50V
C803	1-124-443-00	ELECT	100uF	20%	10V
C804	1-164-159-11	CERAMIC	0.1uF		50V
C805	1-164-159-11	CERAMIC	0.1uF		50V
C810	1-162-288-31	CERAMIC	330PF	10%	50V
C811	1-164-159-11	CERAMIC	0.1uF		50V
C812	1-162-288-31	CERAMIC	330PF	10%	50V
C813	1-164-159-11	CERAMIC	0.1uF		50V
C814	1-124-907-11	ELECT	10uF	20%	50V
C815	1-124-902-00	ELECT	0.47uF	20%	50V
C816	1-126-103-11	ELECT	470uF	20%	16V
C817	1-126-103-11	ELECT	470uF	20%	16V
C818	1-124-360-00	ELECT	1000uF	20%	16V
C901	1-161-494-00	CERAMIC	0.022uF		25V (PANEL BOARD)
C902	1-161-494-00	CERAMIC	0.022uF		25V (PANEL BOARD)
C903	1-161-494-00	CERAMIC	0.022uF		25V(WR545) (PANEL BOARD)
C904	1-161-494-00	CERAMIC	0.022uF		25V (PANEL BOARD)
C905	1-161-494-00	CERAMIC	0.022uF		25V (PANEL BOARD)

< CONNECTOR >

* CN502	1-568-826-11	SOCKET, CONNECTOR 7P(CONNECTOR BOARD)	
* CN801	1-764-700-11	SOCKET, CONNECTOR 37P(PANEL BOARD)	
* CN802	1-568-826-11	SOCKET, CONNECTOR 7P(PANEL BOARD)	
* CN803	1-568-826-11	SOCKET, CONNECTOR 7P	
* CN804	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN805	1-568-830-11	SOCKET, CONNECTOR 11P(CONNECTOR BOARD)	

Ref.No.	Part No.	Description	Remark
* CN901	1-764-701-11	SOCKET, CONNECTOR 37P(PANEL BOARD)	
* CN902	1-568-850-11	SOCKET, CONNECTOR 7P(PANEL BOARD)	
CNP501	1-506-468-11	PIN, CONNECTOR 3P(WR545)	
CNP701	1-766-280-11	PIN, CONNECTOR (PC BOARD) 7P	
* CNP702	1-568-954-11	PIN, CONNECTOR 5P	
* CNP703	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P (EXCEPT E)	(POWER TRANSFORMER BOARD)
CNP704	1-766-280-11	PIN, CONNECTOR (PC BOARD) 7P	(POWER TRANSFORMER BOARD)
* CNP801	1-691-916-11	CONNECTOR, BOARD TO BOARD	(CONNECTOR BOARD)
* CNP802	1-691-916-11	CONNECTOR, BOARD TO BOARD	
* CNP803	1-691-916-11	CONNECTOR, BOARD TO BOARD	

< DIODE >

D121	8-719-933-33	DIODE	HZS6A1L
D221	8-719-933-33	DIODE	HZS6A1L
D501	8-719-912-20	DIODE	1SS120(WR545)
D502	8-719-912-20	DIODE	1SS120(WR545)
D521	8-719-912-20	DIODE	1SS120
D531	8-719-912-20	DIODE	1SS120
D541	8-719-912-20	DIODE	1SS120(WR545)
D542	8-719-912-20	DIODE	1SS120(WR545)
D701	8-719-024-99	DIODE	11ES2-NTA2B
D702	8-719-024-99	DIODE	11ES2-NTA2B
D703	8-719-024-99	DIODE	11ES2-NTA2B
D704	8-719-024-99	DIODE	11ES2-NTA2B
D705	8-719-024-99	DIODE	11ES2-NTA2B
D706	8-719-024-99	DIODE	11ES2-NTA2B
D707	8-719-024-99	DIODE	11ES2-NTA2B
D708	8-719-912-20	DIODE	1SS120
D709	8-719-000-78	DIODE	uZL-7L2
D710	8-719-933-33	DIODE	HZS6A1L
D711	8-719-933-33	DIODE	HZS6A1L
D712	8-719-912-20	DIODE	1SS120
D713	8-719-912-20	DIODE	1SS120
D714	8-719-000-78	DIODE	uZL-7L2
D715	8-719-933-33	DIODE	HZS6A1L
D801	8-719-912-20	DIODE	1SS120
D802	8-719-912-20	DIODE	1SS120
D803	8-719-912-20	DIODE	1SS120
D804	8-719-912-20	DIODE	1SS120
D805	8-719-912-20	DIODE	1SS120
D806	8-719-912-20	DIODE	1SS120
D807	8-719-912-20	DIODE	1SS120(WR545)

< IC >

IC501	8-752-060-46	IC	CXA1561S
IC502	8-759-145-58	IC	uPC4558C(WR545)
IC503	8-759-505-55	IC	NJM4558L

SYSTEM CONTROL

Ref.No.	Part No.	Description	Remark
IC504	8-759-505-55	IC NJM4558L	
IC521	8-752-058-57	IC CXA1599Q	
IC541	8-759-145-58	IC uPC4558C(WR545)	
IC701	8-759-145-58	IC uPC4558C	
IC801	8-752-851-66	IC CXP82316-039Q	
IC802	8-759-000-48	IC MC14052BCP	
IC803	8-759-207-05	IC TA7272P	
IC804	8-759-916-14	IC SN74HC04AN(WR545)	
IC805	8-759-000-48	IC MC14052BCP	
IC806	8-759-165-82	IC PST600E-T	
IC901	8-741-100-48	IC SBX1610-59(PANEL BOARD)	
		< JACK >	
J501	1-565-258-11	JACK, PIN 4P(LINE IN/OUT)	
J502	1-507-796-71	JACK(PHONES)(WR545)(HEADPHONES BOARD)	
		< COIL >	
L801	1-420-872-00	COIL, AIR-CORE	
L802	1-420-872-00	COIL, AIR-CORE	
		< FILTER >	
LPF101	1-231-388-00	FILTER, LOW PASS(WR545)	
LPF101	1-239-355-11	FILTER, LOW PASS(WR741)	
LPF201	1-231-388-00	FILTER, LOW PASS(WR545)	
LPF201	1-239-355-11	FILTER, LOW PASS(WR741)	
		< TRANSISTOR >	
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q102	8-729-900-74	TRANSISTOR DTC143TS(WR545)	
Q121	8-729-922-37	TRANSISTOR 2SD2144S	
Q122	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q202	8-729-900-74	TRANSISTOR DTC143TS(WR545)	
Q221	8-729-922-37	TRANSISTOR 2SD2144S	
Q222	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q501	8-729-900-65	TRANSISTOR DTA144ES	
Q502	8-729-900-65	TRANSISTOR DTA144ES(WR545)	
Q503	8-729-900-65	TRANSISTOR DTA144ES(WR545)	
Q504	8-729-900-65	TRANSISTOR DTA144ES	
Q505	8-729-900-65	TRANSISTOR DTA144ES	
Q521	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q522	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q523	8-729-119-78	TRANSISTOR 2SC403SP-51(WR545)	
Q525	8-729-900-89	TRANSISTOR DTC144ES(WR545)	
Q526	8-729-900-65	TRANSISTOR DTA144ES(WR545)	
Q527	8-729-900-89	TRANSISTOR DTC144ES	
Q541	8-729-900-89	TRANSISTOR DTC144ES(WR545)	
Q542	8-729-119-78	TRANSISTOR 2SC403SP-51(WR545)	

Ref.No.	Part No.	Description	Remark
Q701	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q702	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q703	8-729-900-74	TRANSISTOR DTC143TS	
Q704	8-729-900-74	TRANSISTOR DTC143TS	
Q705	8-729-024-95	TRANSISTOR 2SB1565EF	
Q706	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q708	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-119-78	TRANSISTOR 2SC403SP-51(WR545)	
Q803	8-729-900-89	TRANSISTOR DTC144ES	
Q804	8-729-900-80	TRANSISTOR DTC114ES	
Q805	8-729-801-93	TRANSISTOR 2SD1387	
Q806	8-729-801-93	TRANSISTOR 2SD1387	
Q807	8-729-900-89	TRANSISTOR DTC144ES	
Q808	8-729-900-65	TRANSISTOR DTA144ES(WR545)	
Q809	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		< RESISTOR >	
R101	1-249-432-11	CARBON 18K 5% 1/4W	
R102	1-247-838-00	CARBON 2K 5% 1/4W	
R103	1-249-423-11	CARBON 3.3K 5% 1/4W	
R104	1-249-441-11	CARBON 100K 5% 1/4W	
R105	1-249-428-11	CARBON 8.2K 5% 1/4W	
R107	1-247-856-00	CARBON 11K 5% 1/4W	
R108	1-249-429-11	CARBON 10K 5% 1/4W(WR545)	
R108	1-247-858-11	CARBON 13K 5% 1/4W(WR741)	
R109	1-249-429-11	CARBON 10K 5% 1/4W	
R110	1-249-429-11	CARBON 10K 5% 1/4W(WR545)	
R110	1-247-844-11	CARBON 3.6K 5% 1/4W(WR741)	
R111	1-247-866-11	CARBON 30K 5% 1/4W(WR545)	
R112	1-247-846-11	CARBON 4.3K 5% 1/4W(WR545)	
R113	1-247-887-00	CARBON 220K 5% 1/4W	
R114	1-249-429-11	CARBON 10K 5% 1/4W	
R115	1-249-433-11	CARBON 22K 5% 1/4W	
R121	1-249-434-11	CARBON 27K 5% 1/4W	
R122	1-249-417-11	CARBON 1K 5% 1/4W	
R123	1-249-421-11	CARBON 2.2K 5% 1/4W	
R124	1-247-887-00	CARBON 220K 5% 1/4W	
R125	1-249-421-11	CARBON 2.2K 5% 1/4W	
R126	1-247-807-31	CARBON 100 5% 1/4W	
R127	1-247-807-31	CARBON 100 5% 1/4W	
R128	1-249-421-11	CARBON 2.2K 5% 1/4W	
R129	1-249-439-11	CARBON 68K 5% 1/4W	
R131	1-249-437-11	CARBON 47K 5% 1/4W	
R132	1-249-409-11	CARBON 220 5% 1/4W(WR545)	
R141	1-249-441-11	CARBON 100K 5% 1/4W	
R142	1-249-435-11	CARBON 33K 5% 1/4W	
R201	1-249-432-11	CARBON 18K 5% 1/4W	

SYSTEM CONTROL

Ref.No.	Part No.	Description				Remark
R202	1-247-838-00	CARBON	2K	5%	1/4W	
R203	1-249-423-11	CARBON	3.3K	5%	1/4W	
R204	1-249-441-11	CARBON	100K	5%	1/4W	
R205	1-249-428-11	CARBON	8.2K	5%	1/4W	
R207	1-247-856-00	CARBON	11K	5%	1/4W	
R208	1-249-429-11	CARBON	10K	5%	1/4W(WR545)	
R208	1-247-858-11	CARBON	13K	5%	1/4W(WR741)	
R209	1-249-429-11	CARBON	10K	5%	1/4W	
R210	1-249-429-11	CARBON	10K	5%	1/4W(WR545)	
R210	1-247-844-11	CARBON	3.6K	5%	1/4W(WR741)	
R211	1-247-866-11	CARBON	30K	5%	1/4W(WR545)	
R212	1-247-846-11	CARBON	4.3K	5%	1/4W(WR545)	
R213	1-247-887-00	CARBON	220K	5%	1/4W	
R214	1-249-429-11	CARBON	10K	5%	1/4W	
R215	1-249-433-11	CARBON	22K	5%	1/4W	
R221	1-249-434-11	CARBON	27K	5%	1/4W	
R222	1-249-417-11	CARBON	1K	5%	1/4W	
R223	1-249-421-11	CARBON	2.2K	5%	1/4W	
R224	1-247-887-00	CARBON	220K	5%	1/4W	
R225	1-249-421-11	CARBON	2.2K	5%	1/4W	
R226	1-247-807-31	CARBON	100	5%	1/4W	
R227	1-247-807-31	CARBON	100	5%	1/4W	
R228	1-249-421-11	CARBON	2.2K	5%	1/4W	
R229	1-249-439-11	CARBON	68K	5%	1/4W	
R231	1-249-437-11	CARBON	47K	5%	1/4W	
R232	1-249-409-11	CARBON	220	5%	1/4W(WR545)	
R241	1-249-441-11	CARBON	100K	5%	1/4W	
R242	1-249-435-11	CARBON	33K	5%	1/4W	
R501	1-215-452-00	METAL	20K	1%	1/6W	
R502	1-249-417-11	CARBON	1K	5%	1/4W	
R503	1-249-435-11	CARBON	33K	5%	1/4W(WR545)	
R505	1-249-435-11	CARBON	33K	5%	1/4W	
R506	1-249-433-11	CARBON	22K	5%	1/4W(WR545)	
R508	1-249-433-11	CARBON	22K	5%	1/4W	
R509	1-249-435-11	CARBON	33K	5%	1/4W	
R521	1-215-455-00	METAL	27K	1%	1/6W	
R522	1-249-429-11	CARBON	10K	5%	1/4W	
R523	1-249-429-11	CARBON	10K	5%	1/4W	
R524	1-249-417-11	CARBON	1K	5%	1/4W	
R525	1-247-872-11	CARBON	51K	5%	1/4W	
R526	1-249-417-11	CARBON	1K	5%	1/4W	
R527	1-249-413-11	CARBON	470	5%	1/4W	
⚠R528	1-212-863-00	FUSIBLE	18	5%	1/4W	F
R529	1-249-437-11	CARBON	47K	5%	1/4W	
R530	1-249-429-11	CARBON	10K	5%	1/4W	
R531	1-249-437-11	CARBON	47K	5%	1/4W	
R532	1-249-417-11	CARBON	1K	5%	1/4W(WR545)	
R533	1-249-432-11	CARBON	18K	5%	1/4W(WR545)	
R534	1-249-430-11	CARBON	12K	5%	1/4W(WR545)	

Ref.No.	Part No.	Description				Remark
R535	1-249-437-11	CARBON	47K	5%	1/4W(WR545)	
R536	1-249-437-11	CARBON	47K	5%	1/4W(WR545)	
R538	1-249-435-11	CARBON	33K	5%	1/4W	
R541	1-249-426-11	CARBON	5.6K	5%	1/4W(WR545)	
R542	1-249-433-11	CARBON	22K	5%	1/4W(WR545)	
R543	1-249-436-11	CARBON	39K	5%	1/4W(WR545)	
R544	1-249-441-11	CARBON	100K	5%	1/4W(WR545)	
R545	1-249-437-11	CARBON	47K	5%	1/4W(WR545)	
R546	1-249-441-11	CARBON	100K	5%	1/4W(WR545)	
R547	1-247-846-11	CARBON	4.3K	5%	1/4W(WR545)	
R701	1-249-421-11	CARBON	2.2K	5%	1/4W	
R702	1-249-422-11	CARBON	2.7K	5%	1/4W	
R703	1-249-429-11	CARBON	10K	5%	1/4W	
R704	1-249-422-11	CARBON	2.7K	5%	1/4W	
R705	1-249-425-11	CARBON	4.7K	5%	1/4W	
R706	1-249-427-11	CARBON	6.8K	5%	1/4W	
R707	1-249-419-11	CARBON	1.5K	5%	1/4W	
R708	1-249-429-11	CARBON	10K	5%	1/4W	
R709	1-249-419-11	CARBON	1.5K	5%	1/4W	
R710	1-249-425-11	CARBON	4.7K	5%	1/4W	
R711	1-249-427-11	CARBON	6.8K	5%	1/4W	
R712	1-249-427-11	CARBON	6.8K	5%	1/4W	
R713	1-249-417-11	CARBON	1K	5%	1/4W	
R714	1-249-422-11	CARBON	2.7K	5%	1/4W	
R715	1-249-431-11	CARBON	15K	5%	1/4W	
R716	1-249-430-11	CARBON	12K	5%	1/4W	
R717	1-249-437-11	CARBON	47K	5%	1/4W	
⚠R718	1-219-137-11	FUSIBLE	0.33	10%	1/4W	F
R719	1-249-414-11	CARBON	560	5%	1/4W	
⚠R720	1-219-139-11	FUSIBLE	0.68	10%	1/4W	F
⚠R721	1-219-139-11	FUSIBLE	0.68	10%	1/4W	F
R801	1-249-417-11	CARBON	1K	5%	1/4W	
R802	1-249-441-11	CARBON	100K	5%	1/4W	
R803	1-249-435-11	CARBON	33K	5%	1/4W	
R804	1-249-433-11	CARBON	22K	5%	1/4W	
R805	1-249-433-11	CARBON	22K	5%	1/4W	
R806	1-249-429-11	CARBON	10K	5%	1/4W	
R807	1-249-429-11	CARBON	10K	5%	1/4W	
R808	1-249-433-11	CARBON	22K	5%	1/4W	
R809	1-249-430-11	CARBON	12K	5%	1/4W	
R810	1-249-433-11	CARBON	22K	5%	1/4W	
R811	1-249-433-11	CARBON	22K	5%	1/4W	
R812	1-249-433-11	CARBON	22K	5%	1/4W	
R813	1-247-807-31	CARBON	100	5%	1/4W	
R814	1-249-430-11	CARBON	12K	5%	1/4W	
R815	1-249-433-11	CARBON	22K	5%	1/4W	
R816	1-249-433-11	CARBON	22K	5%	1/4W	
R817	1-249-433-11	CARBON	22K	5%	1/4W	
R818	1-247-807-31	CARBON	100	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			Remark
R819	1-249-434-11	CARBON	27K	5%	1/4W(WR545)
R820	1-249-434-11	CARBON	27K	5%	1/4W(WR545)
R821	1-249-434-11	CARBON	27K	5%	1/4W(WR545)
R822	1-249-434-11	CARBON	27K	5%	1/4W(WR545)
R823	1-249-429-11	CARBON	10K	5%	1/4W(WR545)
R824	1-249-429-11	CARBON	10K	5%	1/4W(WR545)
R825	1-249-429-11	CARBON	10K	5%	1/4W(WR545)
R826	1-249-429-11	CARBON	10K	5%	1/4W(WR545)
R827	1-249-421-11	CARBON	2.2K	5%	1/4W(WR545)
R828	1-247-874-11	CARBON	62K	5%	1/4W(WR545)
R829	1-247-866-11	CARBON	30K	5%	1/4W(WR545)
R830	1-249-431-11	CARBON	15K	5%	1/4W(WR545)
R831	1-247-852-11	CARBON	7.5K	5%	1/4W(WR545)
R835	1-249-433-11	CARBON	22K	5%	1/4W(WR545)
R836	1-247-852-11	CARBON	7.5K	5%	1/4W(WR545)
R837	1-249-431-11	CARBON	15K	5%	1/4W(WR741)
R838	1-249-428-11	CARBON	8.2K	5%	1/4W(WR741)
R839	1-249-421-11	CARBON	2.2K	5%	1/4W(WR741)
R840	1-249-435-11	CARBON	33K	5%	1/4W(WR741)
R841	1-249-421-11	CARBON	2.2K	5%	1/4W
R842	1-249-429-11	CARBON	10K	5%	1/4W
R843	1-249-421-11	CARBON	2.2K	5%	1/4W
R844	1-249-429-11	CARBON	10K	5%	1/4W
R845	1-249-422-11	CARBON	2.7K	5%	1/4W
R846	1-249-422-11	CARBON	2.7K	5%	1/4W
R847	1-249-422-11	CARBON	2.7K	5%	1/4W
R848	1-249-434-11	CARBON	27K	5%	1/4W
R849	1-249-421-11	CARBON	2.2K	5%	1/4W
R850	1-249-421-11	CARBON	2.2K	5%	1/4W
R851	1-249-421-11	CARBON	2.2K	5%	1/4W
R852	1-249-434-11	CARBON	27K	5%	1/4W
R853	1-249-421-11	CARBON	2.2K	5%	1/4W
R854	1-249-421-11	CARBON	2.2K	5%	1/4W
R855	1-249-433-11	CARBON	22K	5%	1/4W
R856	1-247-807-31	CARBON	100	5%	1/4W
R857	1-247-807-31	CARBON	100	5%	1/4W
R858	1-247-807-31	CARBON	100	5%	1/4W
R859	1-247-807-31	CARBON	100	5%	1/4W
R860	1-247-807-31	CARBON	100	5%	1/4W
R861	1-249-441-11	CARBON	100K	5%	1/4W
R862	1-249-422-11	CARBON	2.7K	5%	1/4W(WR545)
R863	1-249-426-11	CARBON	5.6K	5%	1/4W(WR545)
R864	1-247-852-11	CARBON	7.5K	5%	1/4W(WR545)
R865	1-247-858-11	CARBON	13K	5%	1/4W(WR545)
R866	1-249-429-11	CARBON	10K	5%	1/4W(WR545)
R867	1-247-840-00	CARBON	2.4K	5%	1/4W(WR545)
R868	1-247-852-11	CARBON	7.5K	5%	1/4W(WR545)
R869	1-249-425-11	CARBON	4.7K	5%	1/4W(WR545)
R870	1-249-430-11	CARBON	12K	5%	1/4W(WR545)

Ref.No.	Part No.	Description			Remark
R871	1-249-430-11	CARBON	12K	5%	1/4W(WR545)
R872	1-249-436-11	CARBON	39K	5%	1/4W(WR545)
R901	1-249-429-11	CARBON	10K	5%	1/4W(PANEL BOARD)
R902	1-249-429-11	CARBON	10K	5%	1/4W(PANEL BOARD)
R903	1-249-429-11	CARBON	10K	5%	1/4W(PANEL BOARD)
R904	1-249-429-11	CARBON	10K	5%	1/4W(PANEL BOARD)
R905	1-249-429-11	CARBON	10K	5%	1/4W(PANEL BOARD)
R906	1-249-418-11	CARBON	1.2K	5%	1/4W(PANEL BOARD)
R907	1-249-420-11	CARBON	1.8K	5%	1/4W(PANEL BOARD)
R908	1-249-422-11	CARBON	2.7K	5%	1/4W(PANEL BOARD)
R909	1-249-424-11	CARBON	3.9K	5%	1/4W(PANEL BOARD)
R910	1-249-427-11	CARBON	6.8K	5%	1/4W(PANEL BOARD)
R911	1-249-418-11	CARBON	1.2K	5%	1/4W(PANEL BOARD)
R912	1-249-420-11	CARBON	1.8K	5%	1/4W(PANEL BOARD)
R913	1-249-422-11	CARBON	2.7K	5%	1/4W(PANEL BOARD)
R914	1-249-424-11	CARBON	3.9K	5%	1/4W(PANEL BOARD)
R915	1-249-427-11	CARBON	6.8K	5%	1/4W(PANEL BOARD)
R916	1-249-431-11	CARBON	15K	5%	1/4W(PANEL BOARD)
R917	1-249-418-11	CARBON	1.2K	5%	1/4W(WR545) (PANEL BOARD)
R918	1-249-420-11	CARBON	1.8K	5%	1/4W(WR545) (PANEL BOARD)
R919	1-249-422-11	CARBON	2.7K	5%	1/4W(WR545) (PANEL BOARD)
R920	1-249-418-11	CARBON	1.2K	5%	1/4W(PANEL BOARD)
R921	1-249-420-11	CARBON	1.8K	5%	1/4W(PANEL BOARD)
R922	1-249-422-11	CARBON	2.7K	5%	1/4W(PANEL BOARD)
R923	1-249-418-11	CARBON	1.2K	5%	1/4W(PANEL BOARD)
R924	1-249-420-11	CARBON	1.8K	5%	1/4W(PANEL BOARD)
R925	1-249-422-11	CARBON	2.7K	5%	1/4W(PANEL BOARD)
R926	1-249-424-11	CARBON	3.9K	5%	1/4W(PANEL BOARD)
R927	1-249-429-11	CARBON	10K	5%	1/4W(WR741) (PANEL BOARD)

< VARIABLE RESISTOR >

RV101	1-241-630-11	RES, ADJ, CARBON 10K(REC LEVEL L)
RV201	1-241-630-11	RES, ADJ, CARBON 10K(REC LEVEL R)
RV901	1-223-616-11	RES, VAR, CARBON 5K/5K(BALANCE) (PANEL BOARD)
RV902	1-223-617-11	RES, VAR, CARBON 5K/5K(REC LEVEL) (PANEL BOARD)

< SWITCH >

S701	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER ON/OFF) (POWER SWITCH BOARD)
S901	1-554-303-21	SWITCH, TACTILE(■/CLEAR)(DECK-A) (PANEL BOARD)
S902	1-554-303-21	SWITCH, TACTILE(▷/FRONT)(DECK-A) (PANEL BOARD)
S903	1-554-303-21	SWITCH, TACTILE(◁/BACK)(DECK-A) (PANEL BOARD)

SYSTEM CONTROL

Ref. No.	Part No.	Description	Remark
S904	1-554-303-21	SWITCH, TACTILE(◀◀/AMS) (DECK-B)	(PANEL BOARD)
S905	1-554-303-21	SWITCH, TACTILE(▶▶/AMS) (DECK-B)	(PANEL BOARD)
S906	1-554-303-21	SWITCH, TACTILE(●/REC) (DECK-B)	(PANEL BOARD)
S907	1-554-303-21	SWITCH, TACTILE(■) (DECK-B)	(PANEL BOARD)
S908	1-554-303-21	SWITCH, TACTILE(❚❚/PAUSE) (DECK-B)	(PANEL BOARD)
S909	1-554-303-21	SWITCH, TACTILE(▷) (DECK-B)	(PANEL BOARD)
S910	1-554-303-21	SWITCH, TACTILE(◁) (DECK-B)	(PANEL BOARD)
S911	1-554-303-21	SWITCH, TACTILE(○ /REC MUTE) (DECK-B)	(PANEL BOARD)
S912	1-554-303-21	SWITCH, TACTILE(◀◀/AMS) (DECK-A)	(PANEL BOARD)
S913	1-554-303-21	SWITCH, TACTILE(▶▶/AMS) (DECK-A)	(PANEL BOARD)
S914	1-554-303-21	SWITCH, TACTILE(DISPLAY) (WR545)	(PANEL BOARD)
S915	1-554-303-21	SWITCH, TACTILE(RMS/START) (WR545)	(PANEL BOARD)
S916	1-554-303-21	SWITCH, TACTILE(SET) (WR545)	(PANEL BOARD)
S917	1-554-303-21	SWITCH, TACTILE(CHECK) (WR545)	(PANEL BOARD)
S918	1-554-303-21	SWITCH, TACTILE(COUNTER RESET) (DECK-A)	(PANEL BOARD)
S919	1-554-303-21	SWITCH, TACTILE(AUTO CAL) (WR545)	(PANEL BOARD)
S920	1-554-303-21	SWITCH, TACTILE(HIGH) (PANEL BOARD)	
S921	1-554-303-21	SWITCH, TACTILE(NORMAL) (PANEL BOARD)	
S922	1-554-303-21	SWITCH, TACTILE(COUNTER RESET) (DECK-B)	(PANEL BOARD)
S923	1-692-126-11	SWITCH, SLIDE(DOLBY NR) (PANEL BOARD)	
S924	1-692-665-11	SWITCH, SLIDE(MIX FILTER) (WR545)	(PANEL BOARD)
S925	1-692-126-11	SWITCH, SLIDE(DIR MODE) (PANEL BOARD)	
		< TRANSFORMER >	
⚠T701	1-450-837-51	TRANSFORMER, POWER(US, Canadian)	(POWER TRANSFORMER BOARD)
⚠T701	1-450-838-51	TRANSFORMER, POWER(AEP, UK, G, AUS)	(POWER TRANSFORMER BOARD)
⚠T701	1-450-839-21	TRANSFORMER, POWER(E)	(POWER TRANSFORMER BOARD)
		< TEST PIN >	
* TP801	1-564-505-11	PLUG, CONNECTOR 2P	

Ref. No.	Part No.	Description	Remark
		< INDICATOR TUBE >	
VFD901	1-517-263-11	INDICATOR TUBE, FLUORESCENT (PANEL BOARD)	
		< CRYSTAL >	
X801	1-579-175-11	VIBRATOR, CERAMIC (10MHz)	
**********			
		MISCELLANEOUS **********	
⚠4	1-569-007-11	ADAPTER, CONVERSION 2P(E)	
6	1-765-216-11	WIRE (FLAT TYPE) (11 CORE)	
⚠8	1-551-188-XX	CORD, POWER(E)	
⚠8	1-558-945-21	CORD, POWER (POLAR. SPT-1) (US, Canadian)	
⚠8	1-575-651-21	CORD, POWER(AEP, G)	
⚠8	1-696-586-11	CORD, POWER(UK)	
⚠8	1-696-845-11	CORD, POWER(AUS)	
78	1-765-214-11	WIRE (FLAT TYPE) (7 CORE)	
79	1-765-217-11	WIRE (FLAT TYPE) (37 CORE)	
80	1-765-213-11	WIRE (FLAT TYPE) (7 CORE)	
81	1-765-215-11	WIRE (FLAT TYPE) (7 CORE)	
HP101	A-2003-757-A	BASE ASSY, HEAD(PLAYBACK) (DECK-A)	
HRPE101	A-2003-930-A	BASE ASSY, HEAD(PLAYBACK/RECORD/ERASE)	(DECK-B)
M1A	X-3365-377-1	MOTOR ASSY(CAPSTAN) (DECK-A)	
M1B	X-3365-377-1	MOTOR ASSY(CAPSTAN) (DECK-B)	
M2A	X-3363-501-1	MOTOR ASSY(REEL) (DECK-A)	
M2B	X-3363-501-1	MOTOR ASSY(REEL) (DECK-B)	
⚠VS701	1-692-155-11	SELECTOR, POWER VOLTAGE(VOLTAGE) (E)	
**********			
		ACCESSORIES & PACKING MATERIALS **********	
	1-551-734-11	CORD, CONNECTION	
*	3-383-198-81	INDIVIDUAL CARTON	(WR545:US, Canadian, E, AUS)
*	3-383-198-91	INDIVIDUAL CARTON(WR545:AEP, UK, G)	
	3-758-385-11	MANUAL, INSTRUCTION(AEP, E)	(ENGLISH/FRENCH/SPANISH/PORTUGUESE)
	3-758-385-21	MANUAL, INSTRUCTION	(US, Canadian, UK, AUS) (ENGLISH)
	3-758-385-31	MANUAL, INSTRUCTION(Canadian) (FRENCH)	
	3-758-385-41	MANUAL, INSTRUCTION(AEP)	(GERMAN/DUTCH/SWEDISH/ITALIAN)
	3-758-385-51	MANUAL, INSTRUCTION(G) (GERMAN)	
	3-758-385-61	MANUAL, INSTRUCTION(E) (DANISH/FINNISH)	
*	3-907-886-81	INDIVIDUAL CARTON(WR741)	
*	3-907-887-01	CUSHION	
**********			

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Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-682-548-09	SCREW +BVTT 3X8 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#4	7-682-547-09	SCREW +BVTT 3X6 (S)	
#6	7-685-134-19	SCREW (+ PTPWH) (2.6X8)	
#7	7-621-773-95	SCREW +BVTT 2.6X6 (S)	
#8	7-627-556-08	SCREW +P 2.6X2.8	
#9	7-621-775-00	SCREW +B 2.6X3	

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