

TC-WR745S/WR801ES

SERVICE MANUAL

US Model
Canadian Model
TC-WR801ES

AEP Model
E Model
Australian Model
TC-WR745S

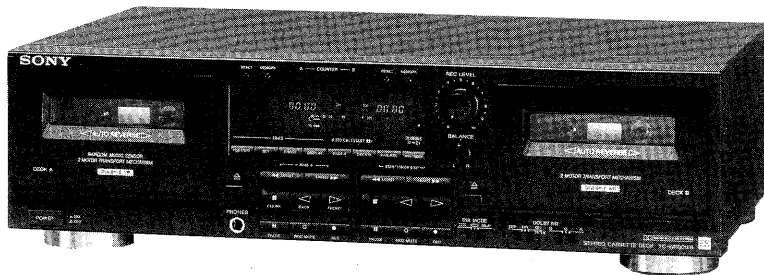


Photo : TC-WR801ES

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

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Model Name Using Similar Mechanism		TC-WR645S
Tape Transport Mechanism Type	DECK A	TCM-190RB12C7
	DECK B	

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 improvement (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
with Dolby S NR on: 10 dB at 100 Hz; 24 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)

Type IV cassette	30 - 18,000 Hz (± 3 dB, IEC) 30 - 13,000 Hz (± 3 dB (-4 dB) recording)
Type II cassette	30 - 17,000 Hz (± 3 dB, IEC)
Type I cassette	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 ± 0.13 % W.Peak (IEC)
0.07 % W.RMS (NAB)
 ± 0.18 % W.Peak (DIN)

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)	Output level	1 mW at a load impedance of 32 ohms

General

Power requirements

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

Power consumption 30 W
Dimensions

Approx. 430 $\times$ 123 $\times$ 290 mm (w/h/d)
(17 $\times$ 4 $\frac{7}{8}$ $\times$ 11 $\frac{1}{2}$ inches) including projecting parts and controls
Mass Approx. 4.5 kg (9 lbs 15 oz)

Mass

Supplied accessories

Audio connecting cords (2)

Remote commander RM-J903 (Canadian model only)

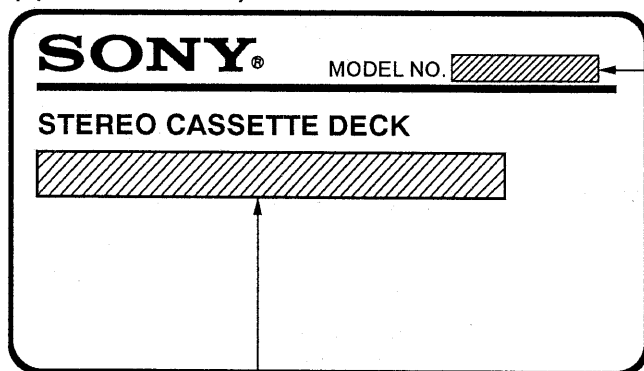
Design and specifications subject to change without notice.

STEREO CASSETTE DECK
SONY

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MODEL IDENTIFICATION (Specification Label)



TC-WR745S
TC-WR801ES

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

SAFETY CHECK-OUT

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 microamperes). 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 2 V AC range are suitable. (See Fig. A)

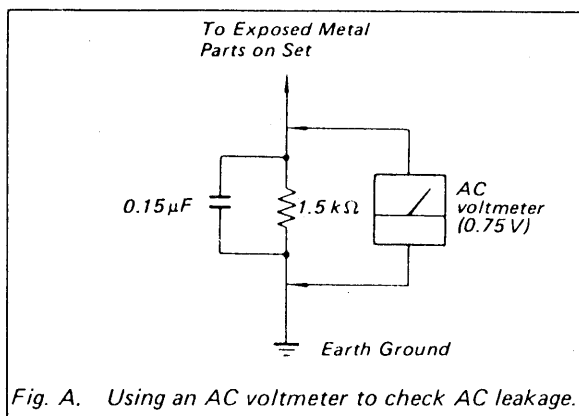


Fig. A. Using an AC voltmeter to check AC leakage.

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.

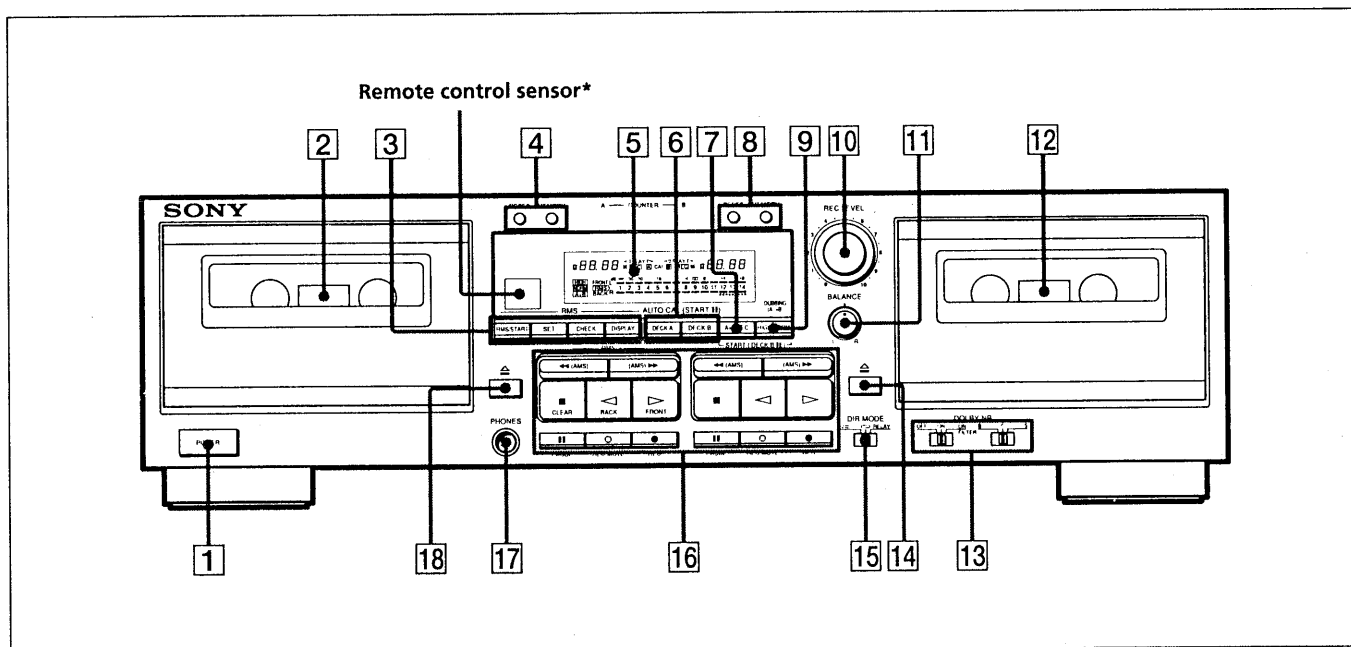
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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.

SECTION 1 GENERAL

This section is extracted from instruction manual.

1-1. IDENTIFYING THE PARTS



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

- | | |
|---|---|
| <p>1 POWER switch</p> <p>2 Deck A</p> <p>3 RMS** operation buttons
RMS/START button
SET button
CHECK button
DISPLAY button</p> <p>4 COUNTER buttons (deck A)
RESET button
MEMORY button</p> <p>5 Display panel</p> <p>6 AUTO CAL DECK A and DECK B buttons</p> <p>7 A+B REC button</p> <p>8 COUNTER buttons (deck B)
RESET button
MEMORY button</p> <p>9 DUBBING HIGH/NORM button
SYNCHRO DUBBING buttons
HIGH button</p> <p>10 REC (recording) LEVEL control</p> <p>11 BALANCE control</p> | <p>12 Deck B</p> <p>13 DOLBY NR switches
OFF/ON/FILTER ON switch
B/C/S switch</p> <p>14 Eject button (deck B)</p> <p>15 DIR (direction) MODE switch</p> <p>16 Tape operation buttons
◀◀ (leftward fastwinding)/AMS***/RMS**- button
▶▶ (rightward fastwinding)/AMS***/RMS**+ button
■ (stop)/(RMS**) CLEAR button
◁ (reverse play)/(RMS**) BACK button
▷ (forward play)/(RMS**) FRONT button
 PAUSE button
○ REC MUTE (record muting) button
● REC (recording) button</p> <p>17 PHONES jack (stereo phone jack)</p> <p>18 Eject button (deck A)</p> |
|---|---|

* 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

*** 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

FRONT PANEL ① — ④
VOLTAGE SELECTOR ① — ②

2 VOLTAGE SELECTOR

③ Remove the connector (CN801).

③ Remove the connector (CN803).

② Remove the flat cable.

④ Remove the front Panel

① $BVT3 \times 8$

② *Remove the flat cable*

$$- \textcircled{1} BVTT3 \times \varepsilon$$
$$1 \text{ } BVTP3 \times 8$$

③ Remove the connector (CN802)

2-2. MECHANISM DECK

① Press the EJECT button.

① *Cassette lid*

④ Mechanism deck

➤ ③ BVTP2.6 × 8

② $BVTP2.6 \times 8$

2-3. CAPSTAN MOTOR, REEL MOTOR

① +PTPWH2 × 23

② *Fitting base*

When installing, pull the capstan belt and put around claws.

— (When installing, pull the FR belt and put around claws.)

⑤ Capstan motor M1 (DECK-A)
M1 (DECK-B)

Ground plate

④ $+B2.6 \times 3$

⑥ $+P2.6 \times 2.8$

③ Audio board (DECK-A)
Audio board (DECK-B)

7 Reel motor M2 (DECK-A)
M2 (DECK-B)

Belt (FR)

2-4. HEAD, PINCH ROLLER

③ *Claw*

⑤ *Torsion spring*

④ Lever (pinch lever REV) assy

② Lever (pinch lever FWD) assy

Head base assy
HRPE101(DECK-A)
HRPE101(DECK-B)

SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

record/playback/erase head	pinch roller
rubber belts	capstan
idlers	
- Demagnetize the record/playback head with a head demagnetizer. (Head demagnetizer do not approach for the erase head.)
- Do not use a magnetized screwdriver for the adjustment.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The 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 60g • cm (0.42 to 0.83oz • inch)
Forward back tension	CQ-102C	1 to 5g • cm (0.014 to 0.069 oz • inch)
Reverse	CQ-102RC	30 to 60g • cm (0.42 to 0.83 oz • inch)
Reverse back tension	CQ-102RC	1 to 5g • cm (0.014 to 0.069 oz • inch)
FF/REW	CQ-201B	65 to 90g • cm (0.903 to 1.24 oz • inch)

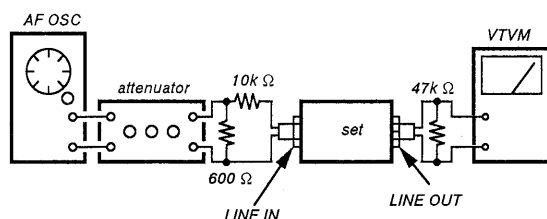
3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

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

DOLBY NR switch	: OFF
DIR MODE switch	: $\Rightarrow$
 - 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

- Insert a short-circuit plug into TP801 (2P) and turn ON the power switch. (Earth pin ④ of IC801 and turn ON the power switch.)
At first, all the fluorescent tubes light up, then the system returns to normal display.
- To release the test mode, remove the short plug and turn off the power switch.
- Remove the short plug after completion of adjustment.

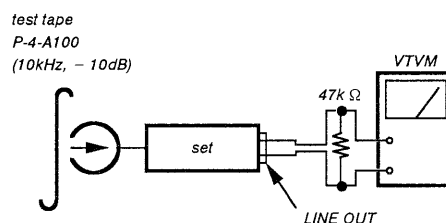
Record/Playback Head Azimuth Adjustment

DECK-A

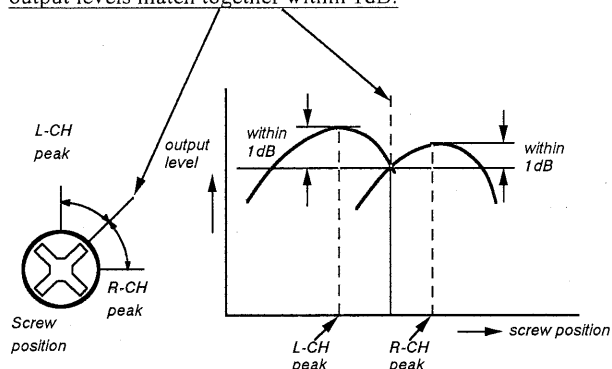
DECK-B

Procedure :

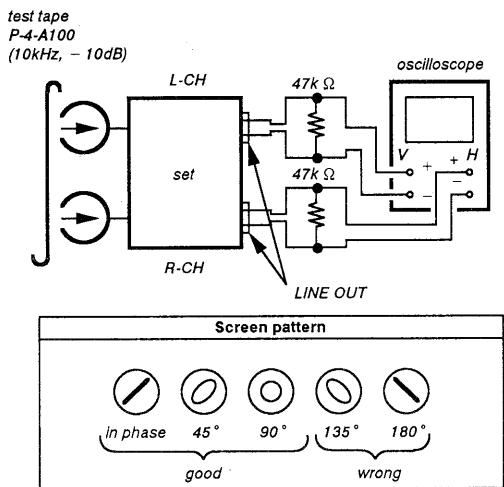
- Forward playback Mode



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

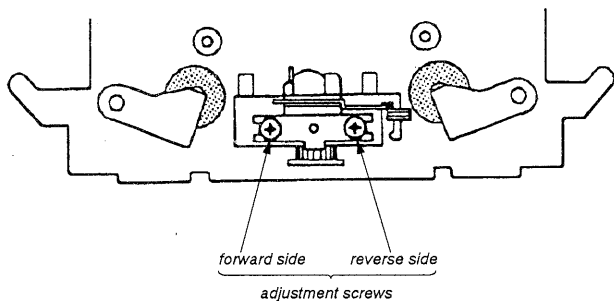


3. Playback Mode



4. Change the reverse 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 –

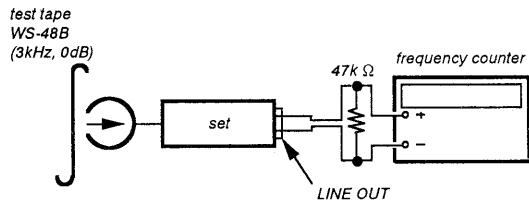


Tape Speed Adjustment

DECK-A **DECK-B**

Procedure :

– Forward Playback Mode –



(high speed adjustment)

1. Connect ④ 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 $6,000 \pm 20\text{Hz}$.

(normal speed adjustment)

1. Set to FWD playback mode.
2. Adjust RV71 so that the frequency counter reading becomes $3,000 \pm 10\text{Hz}$.

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%.

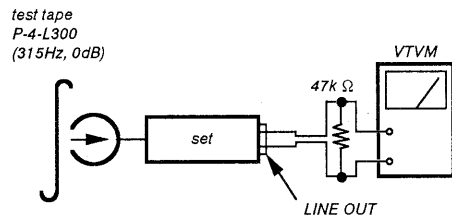
Adjustment Location : AUDIO board

Playback Level Adjustment

DECK-A **DECK-B**

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 : – $7.7 \pm 0.5\text{dB}$ (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.

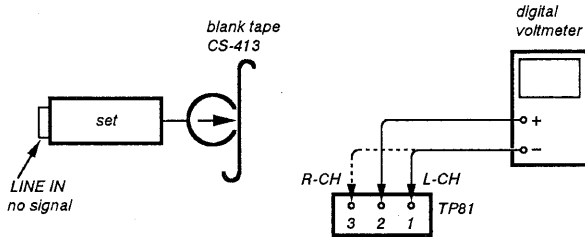
Adjustment Location : AUDIO board

Bias Consumption Current Adjustment DECK-A DECK-B

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

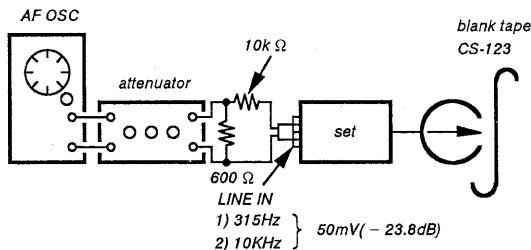
Record Bias Adjustment DECK-A DECK-B

Setting :

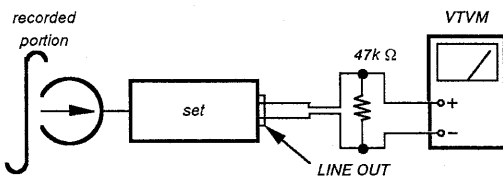
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm that the 10kHz playback output is $0 \pm 0.5\text{dB}$ relative to the 315Hz output. If necessary, adjust RV81(L-CH), RV91(R-CH) and repeat the steps given above.

Adjustment Location : AUDIO board

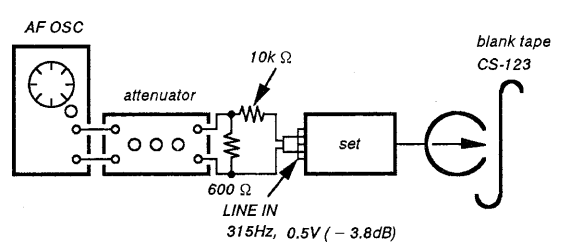
Record Level Adjustment DECK-A DECK-B

Setting :

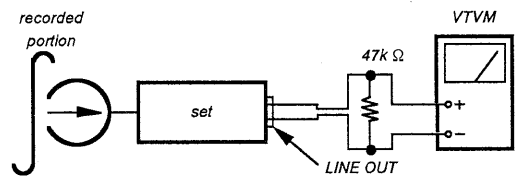
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm playback the tape recorded become adjustment level as follows.

If necessary, adjust RV102(L-CH), RV202(R-CH) and repeat the steps 1 and 2.

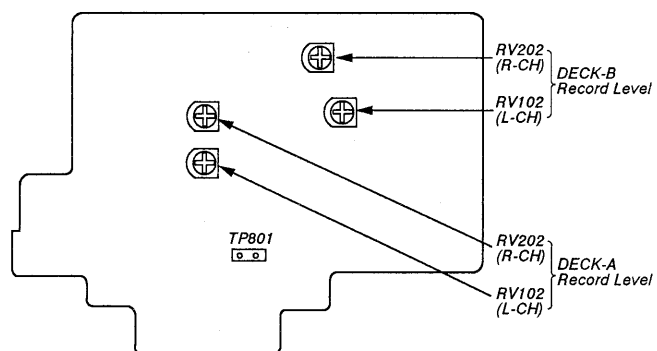
Adjustment Value :

LINE OUT level : $-3.8 \pm 0.5\text{dB}$ (0.47 to 0.53V)

Adjustment Location : MAIN board

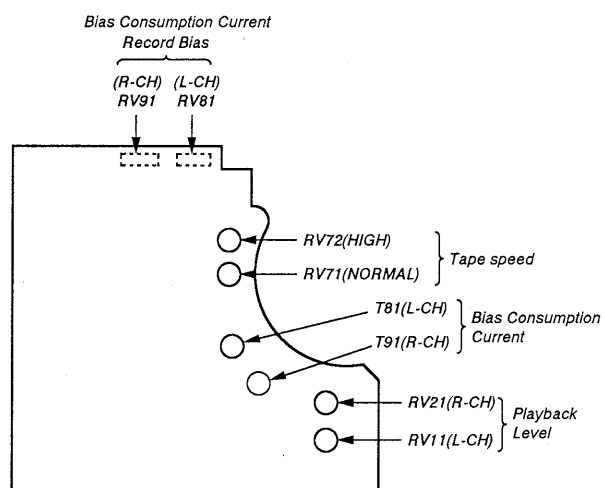
— Adjustment Parts Location Diagrams —

[MAIN BOARD]



DECK-A, DECK-B :

[AUDIO BOARD]



SECTION 4 EXPLANATION OF IC TERMINALS

IC801 CXP82220-016Q

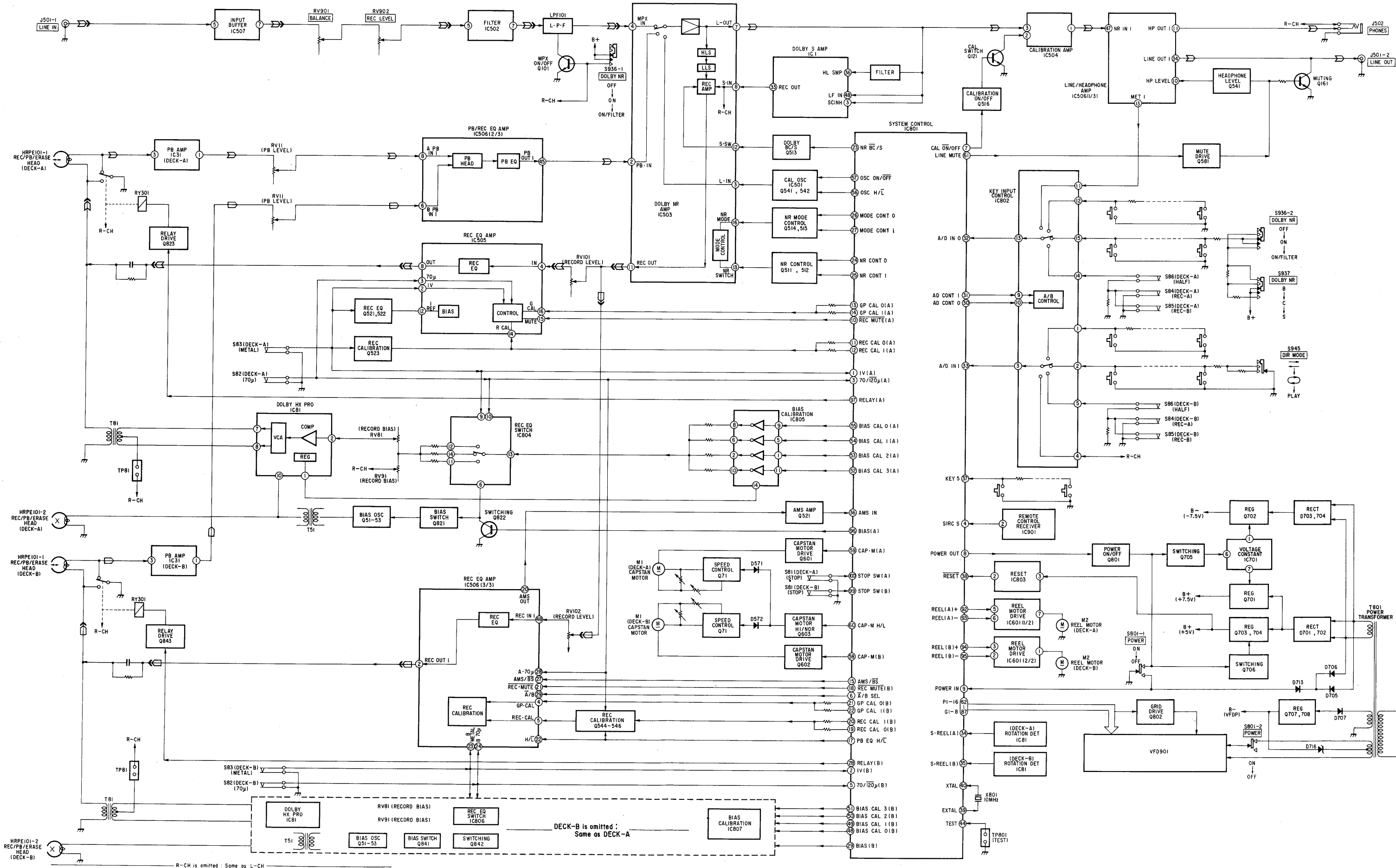
Pin No.	Pin name	I/O	Description
1	IV (A)	I	DECK-A METAL tape selector. (LEAF SW)
2	IV (B)	I	DECK-B METAL tape selector. (LEAF SW)
3	70/120 μ (A)	I	DECK-A 70/120 μ tape selector. (LEAF SW)
4	SIRCS	I	SIRCS signal in terminal.
5	70/120 μ (B)	I	DECK-B 70/120 μ tape selector. (LEAF SW)
6	A/B SEL	O	A/B selector. "L" : DECK-A, "H" : DECK-B
7	CAL $\overline{\text{ON}}$ /OFF	O	Calibration $\overline{\text{ON}}$ /OFF control. "L" : ON
8	POWER OUT	O	Power ON/OFF DET.
9	POWER IN	I	Power OFF DET. OFF : 0V
10	REC MUTE (A)	O	Recording mute ON/OFF control. "L" : ON
11	REC CAL0 (A)	O	Recording calibration. "H" : ON
12	REC CAL1 (A)	O	Recording calibration. "H" : ON
13	GP CAL0 (A)	O	GP calibration terminal.
14	GP CAL1 (A)	O	GP calibration terminal.
15	AMS/ $\overline{\text{BS}}$	O	AMS/ $\overline{\text{BS}}$ selector. "L" : BS ON
16	DIR•SW(A)	I	Direction SW (A) input terminal.
17	PB EQ H/ $\overline{\text{L}}$	O	Playback EQ H/ $\overline{\text{L}}$ selector.
18	RE MUTE ($\overline{\text{B}}$)	O	Recording mute ON/OFF control. "L" : ON
19	REC CAL0 (B)	O	Recording calibration. "H" : ON
20	REC CAL1 (B)	O	Recording calibration. "H" : ON
21	GP CAL0 (B)	O	GP calibration terminal.
22	GP CAL1 (B)	O	GP calibration terminal.
23	NR $\overline{\text{BC}}$ /S	O	Dolby NR $\overline{\text{BC}}$ /S selector.
24	NR CONT0	O	Dolby NR control terminal.
25	NR CONT1	O	Dolby NR control terminal.
26	MODE CONT0	O	Mode control terminal.
27	MODE CONT1	O	Mode control terminal.
28	RELAY (B)	O	Recording/playback selector at DECK-B.
29	BIAS (B)	O	Bias ON/OFF at DECK-B.
30	AD CONT0	O	A/D control.
31	AD CONT1	O	A/D control.
32	A/D IN0	I	A/D input terminal.
33	A/D IN1	I	A/D input terminal.
34	S•REEL (A)	I	S-side reel rotation detection at DECK-A.
35	S•REEL (B)	I	S-side reel rotation detection at DECK-B.
36	AMS IN	I	AMS signal input terminal.
37	KEY 5	I	Key 5 input.
38	$\overline{\text{RESET}}$	I	Reset terminal.
39	EXTAL	O	System clock output terminal. (10MHz)
40	XTAL	I	System clock input terminal. (10MHz)

Pin No.	Pin name	I/O	Description
41	V _{ss}	I	Power supply (GND)
42	TX	I	Connected to GND.
43	TEX	I	Connected to GND.
44	TEST	I	Test mode terminal. "L" : Test mode
45	NC	—	Connected to GND.
46	AVREF	—	AVREF terminal connected to +5V.
47	AV _{ss}	—	GND.
48	BIAS CAL0 (B)	O	EQ Bias calibration terminal. (DECK-B)
49	BIAS CAL1 (B)	O	EQ Bias calibration terminal. (DECK-B)
50	BIAS CAL2 (B)	O	EQ Bias calibration terminal. (DECK-B)
51	BIAS CAL3 (B)	O	EQ Bias calibration terminal. (DECK-B)
52	BIAS CAL0 (A)	O	EQ Bias calibration terminal. (DECK-A)
53	BIAS CAL1 (A)	O	EQ Bias calibration terminal. (DECK-A)
54	BIAS CAL2 (A)	O	EQ Bias calibration terminal. (DECK-A)
55	BIAS CAL3 (A)	O	EQ Bias calibration terminal. (DECK-A)
56	OSC H/ $\overline{L}$	O	OSC $\overline{H}/L$ control.
57	OSC ON/ $\overline{OFF}$	O	OSC ON/OFF control.
58	CAP • M (B)	O	Capstan motor at DECK-B.
59	CAP • M (A)	O	Capstan motor at DECK-A.
60	CAP • M H/L	O	Capstan motor speed selector.
61	LINE MUTE	O	Line mute control.
62	P16	O	VFD Segment drive.
63	P15	O	VFD Segment drive.
64	P14	O	VFD Segment drive.
65	P13	O	VFD Segment drive.
66	P12	O	VFD Segment drive.
67	P11	O	VFD Segment drive.
68	P10	O	VFD Segment drive.
69	P9	O	VFD Segment drive.
70	P8	O	VFD Segment drive.
71	P7	O	VFD Segment drive.
72	P6	O	VFD Segment drive.
73	P5	O	VFD Segment drive.
74	P4	O	VFD Segment drive.
75	P3	O	VFD Segment drive.
76	P2	O	VFD Segment drive.
77	P1	O	VFD Segment drive.
78	G1	O	VFD Grid drive.
79	G2	O	VFD Grid drive.
80	G3	O	VFD Grid drive.

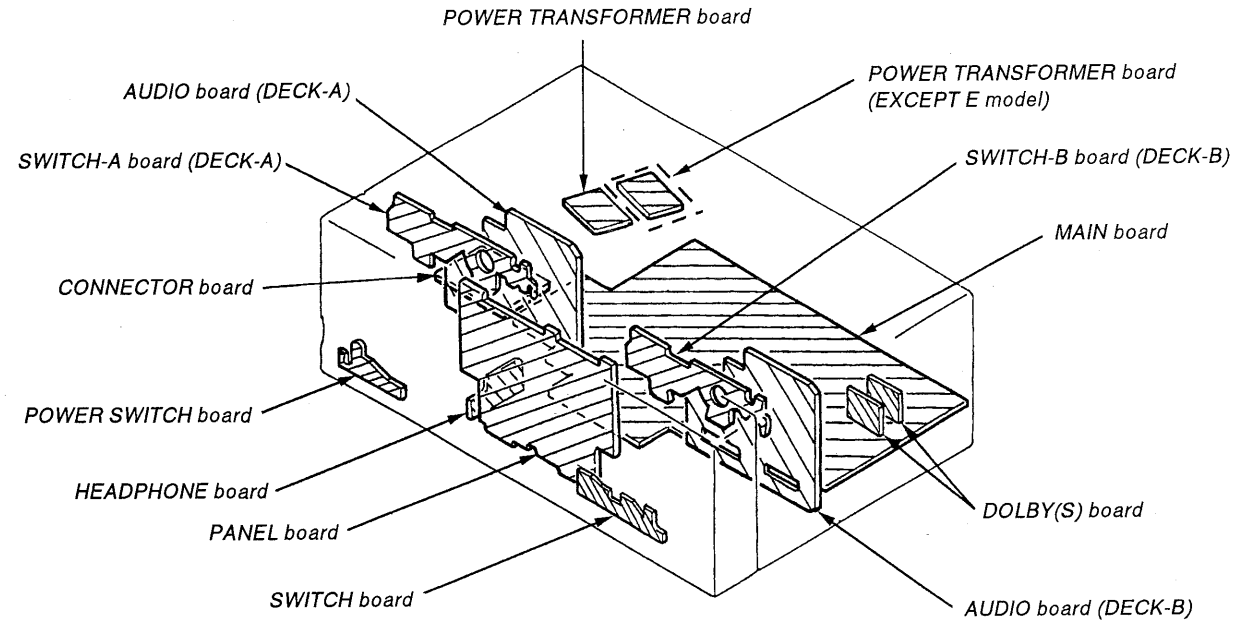
Pin No.	Pin name	I/O	Description
81	G4	O	VFD Grid drive.
82	G5	O	VFD Grid drive.
83	G6	O	VFD Grid drive.
84	G7	O	VFD Grid drive.
85	G8	O	VFD Grid drive.
86	G6, G7	O	VFD Grid drive.
87	G7, G8	O	VFD Grid drive.
88	VFDP	—	VFD Power.
89	V _{DD}	—	Power supply (+5V)
90	NC	—	Connected to +5V
91	V _{SS}	—	Power supply (GND)
92	REEL (A) +	O	Reel motor (+) output at DECK-A.
93	REEL (A) —	O	Reel motor (—) output at DECK-A.
94	REEL (B) +	O	Reel motor (+) output at DECK-B.
95	REEL (B) —	O	Reel motor (—) output at DECK-B.
96	BIAS (A)	O	Bias ON/OFF at DECK-A.
97	RELAY (A)	O	Recording/playback selector at DECK-A.
98	DIR•SW (B)	I	Direction SW(B) input terminal.
99	STOP SW(B)	I	Mechanism stop switch input for DECK-B.
100	STOP SW(A)	I	Mechanism stop switch input for DECK-A.

SECTION 5 DIAGRAMS

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARD LOCATION



• SEMICONDUCTOR LEAD LAYOUTS

PST600E-T



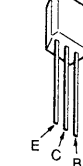
2SA1162-G



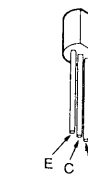
2SD1622-S



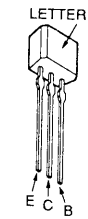
DTA114ES
DTA144ES
DTC114ES
DTC144ES
DTC143TS
2SC2603-EF
2SD144S-UVW



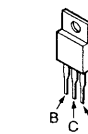
2SB1116A-L
2SD1387-3



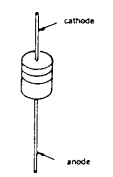
2SA1175-HFE



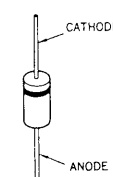
2SB1094-LK
2SD2012



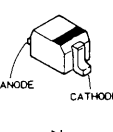
HZS6A1L
UZL-7L2
11ES2



1N4148M
10E2N



1S352



• SEMICONDUCTOR LOCATION

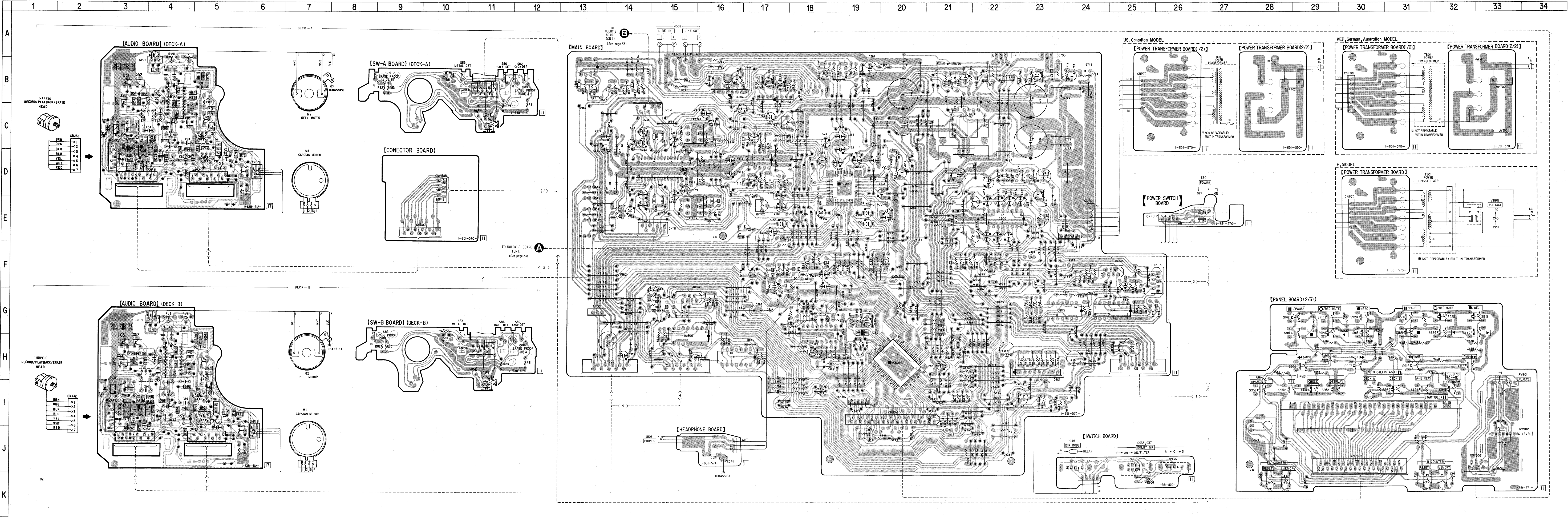
Ref. No.	Location	Ref. No.	Location
D151	G-19	Q101	E-16
D251	H-18	Q121	D-18
D501	B-14	Q181	B-18
D502	B-14	Q201	C-16
D511	C-14	Q221	C-17
D512	D-14	Q281	B-19
D513	D-14	Q301	B-14
D514	D-14	Q302	B-18
D541	F-18	Q511	E-13
D571	H-24	Q512	E-13
D572	H-14	Q513	E-13
D701	B-23	Q514	D-13
D702	D-23	Q515	E-13
D703	C-23	Q516	E-17
D704	C-23	Q521	F-24
D705	B-24	Q522	E-23
D706	B-24	Q523	F-21
D707	D-23	Q541	D-20
D708	B-20	Q542	F-17
D709	B-21	Q544	F-18
D710	B-21	Q545	F-18
D711	C-22	Q546	F-17
D712	B-23	Q581	B-19
D713	B-24	Q601	I-24
D714	D-23	Q602	I-23
D715	D-22	Q603	I-23
D716	D-23	Q701	A-22
D801	I-21	Q702	C-21
D802	I-21	Q703	A-23
D803	I-21	Q704	B-23
D804	I-21	Q705	B-22
IC501	B-13	Q706	B-23
IC502	B-17	Q707	D-22
IC503	D-15	Q708	D-23
IC504	D-17	Q801	F-23
IC505	E-22	Q802	J-21
IC506	D-19	Q821	G-25
IC507	B-16	Q822	G-26
IC601	H-23	Q823	F-25
IC701	B-22	Q841	G-15
IC801	H-20	Q842	G-15
IC802	G-18	Q843	G-15
IC803	G-19		
IC804	G-25		
IC805	G-24		
IC806	G-15		
IC807	H-16		
IC901	J-28		

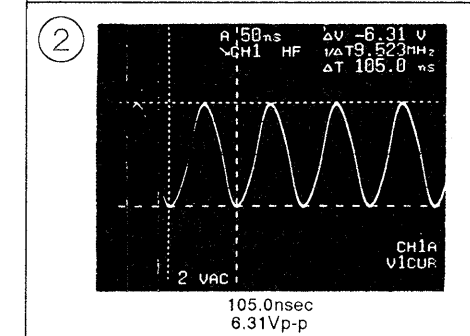
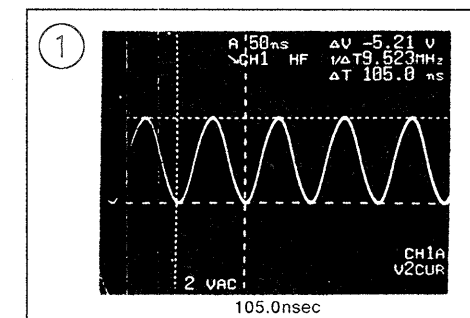
[DECK-A]		[DECK-B]	
Ref. No.	Location	Ref. No.	Location
D31	C-3	D31	I-3
IC31	D-3	IC31	I-3
IC81	B-4	IC81	H-4
	(AUDIO)		(AUDIO)
	C-11		I-11
	(SW-A)		(SW-B)
Q51	B-3	Q51	H-3
Q52	B-3	Q52	H-3
Q53	B-3	Q53	H-3
Q71	C-5	Q71	I-5

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





Note :

- All capacitors are in μF unless otherwise noted. pF : μM F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
-  : fusible resistor.

Note :

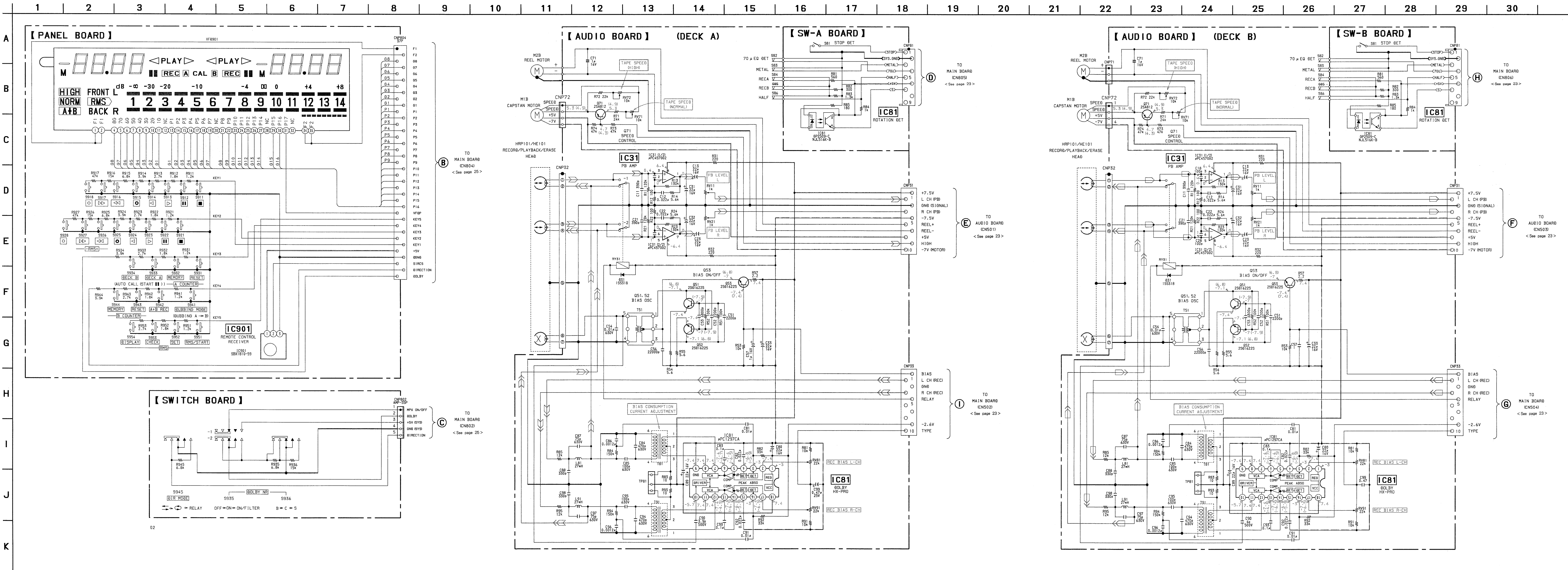
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

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 w/ no-signal conditions.
no mark : STOP
() : REC
- Voltages are taken with a VOM (f)
Voltage variations may be noted tolerances.
- Waveforms are taken with a osci
Voltage variations may be noted tolerances.
- Circled numbers refer to waveform
- Signal path.
⇒ : FM ∑ : PB (DECK)
 ∑ : REC (DECK)
 ∑ : PB (DECK)
 ∑ : REC (DECK)

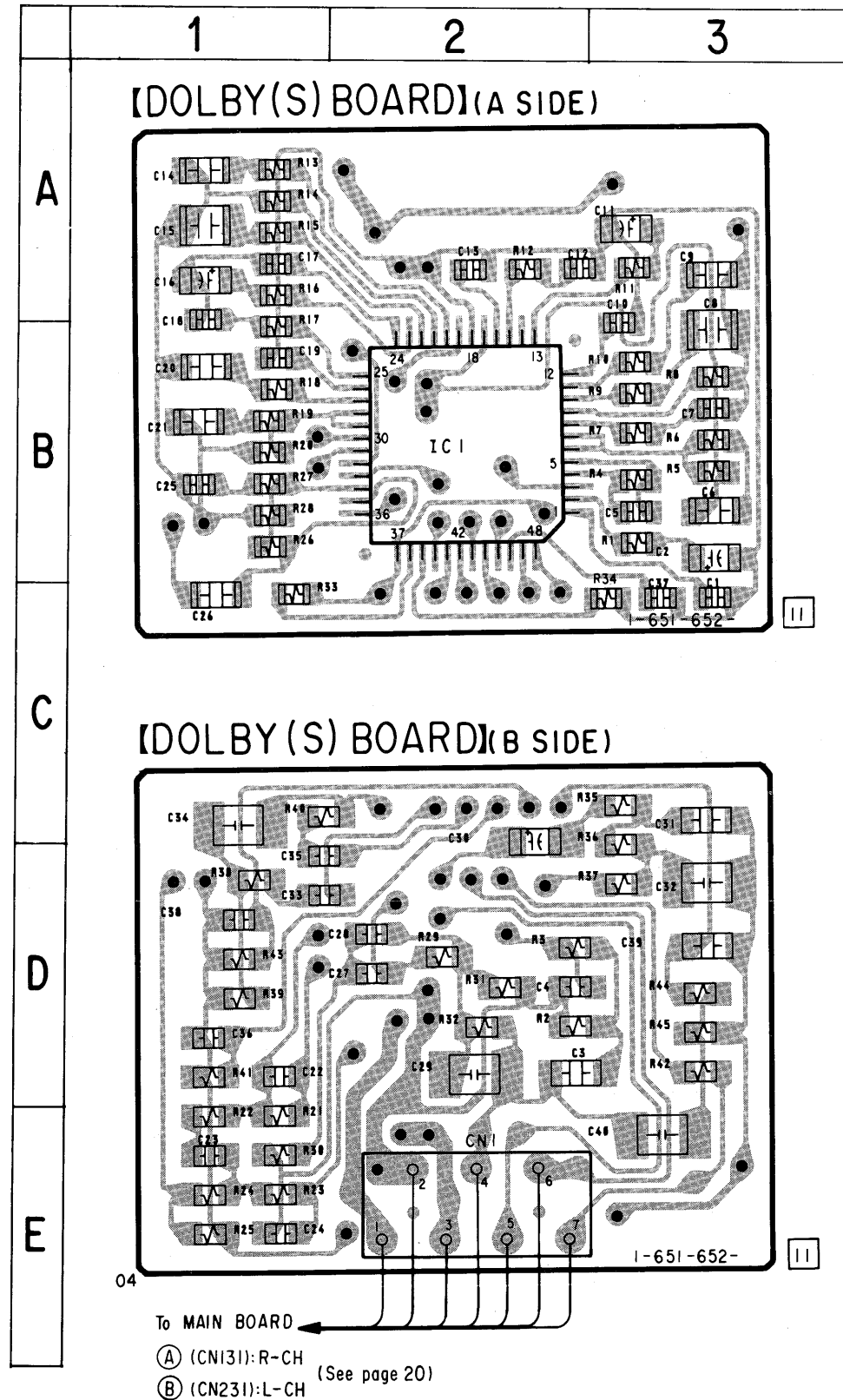
♦ G : German
AUS : Australian

5-5. SCHEMATIC DIAGRAM (AUDIO SECTION)

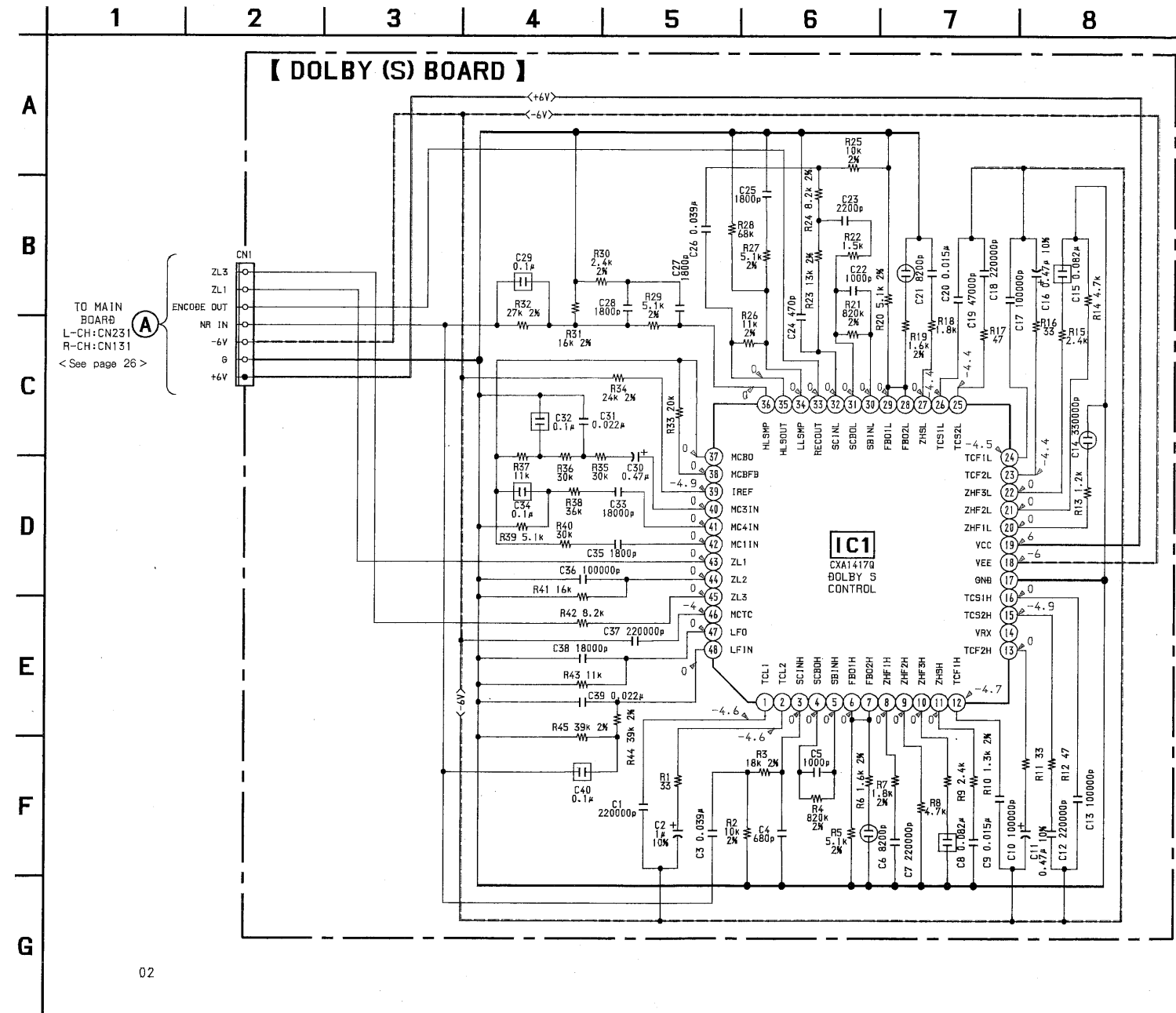


5-6. PRINTED WIRING BOARDS (DOLBY (S) SECTION) • Refer to page 18 for Note.

• Refer to page 16 for Semiconductor Lead Layouts.

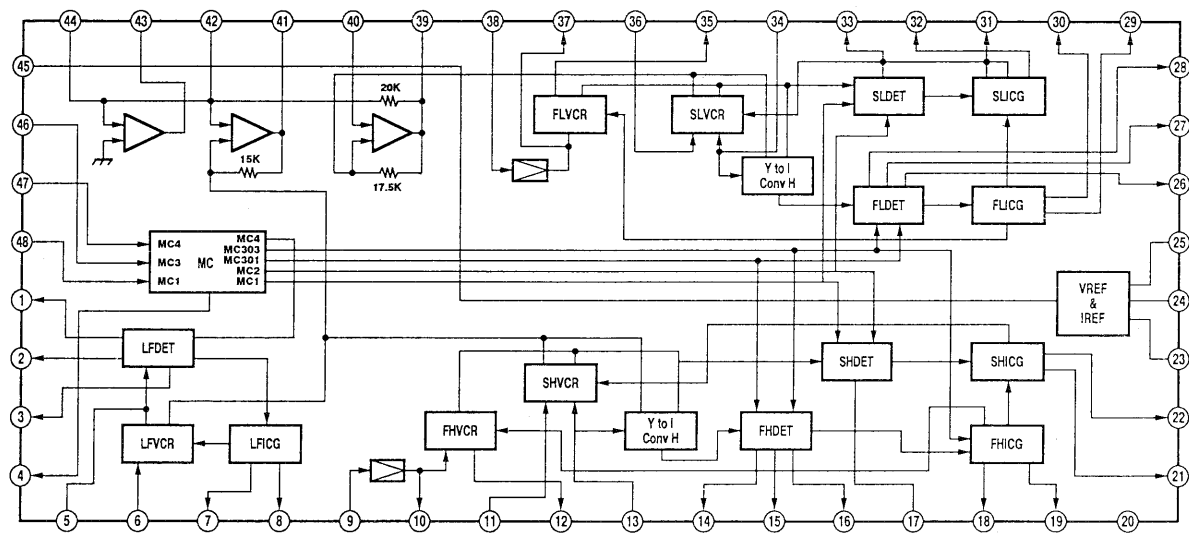


5-7. SCHEMATIC DIAGRAM (DOLBY (S) SECTION) • Refer to page 27 for Note.

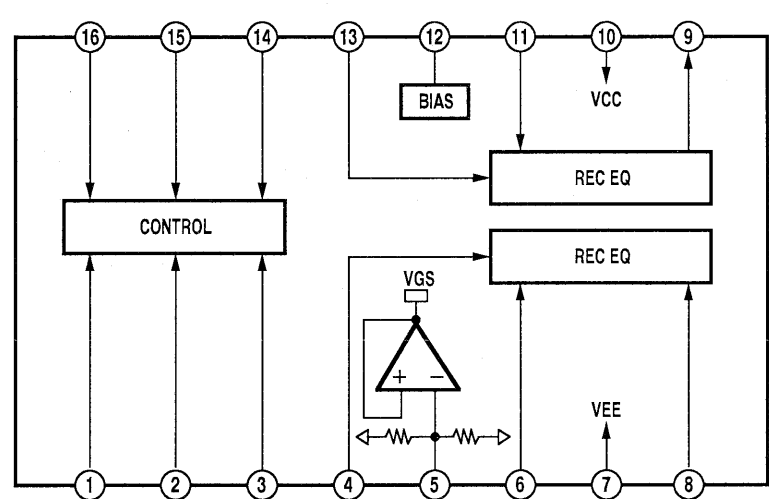


• IC BLOCK DIAGRAMS

IC1 CXA1417Q



IC505 CXA1578P



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.
- Color indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE)....(RED)

Parts color Cabinet's color

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

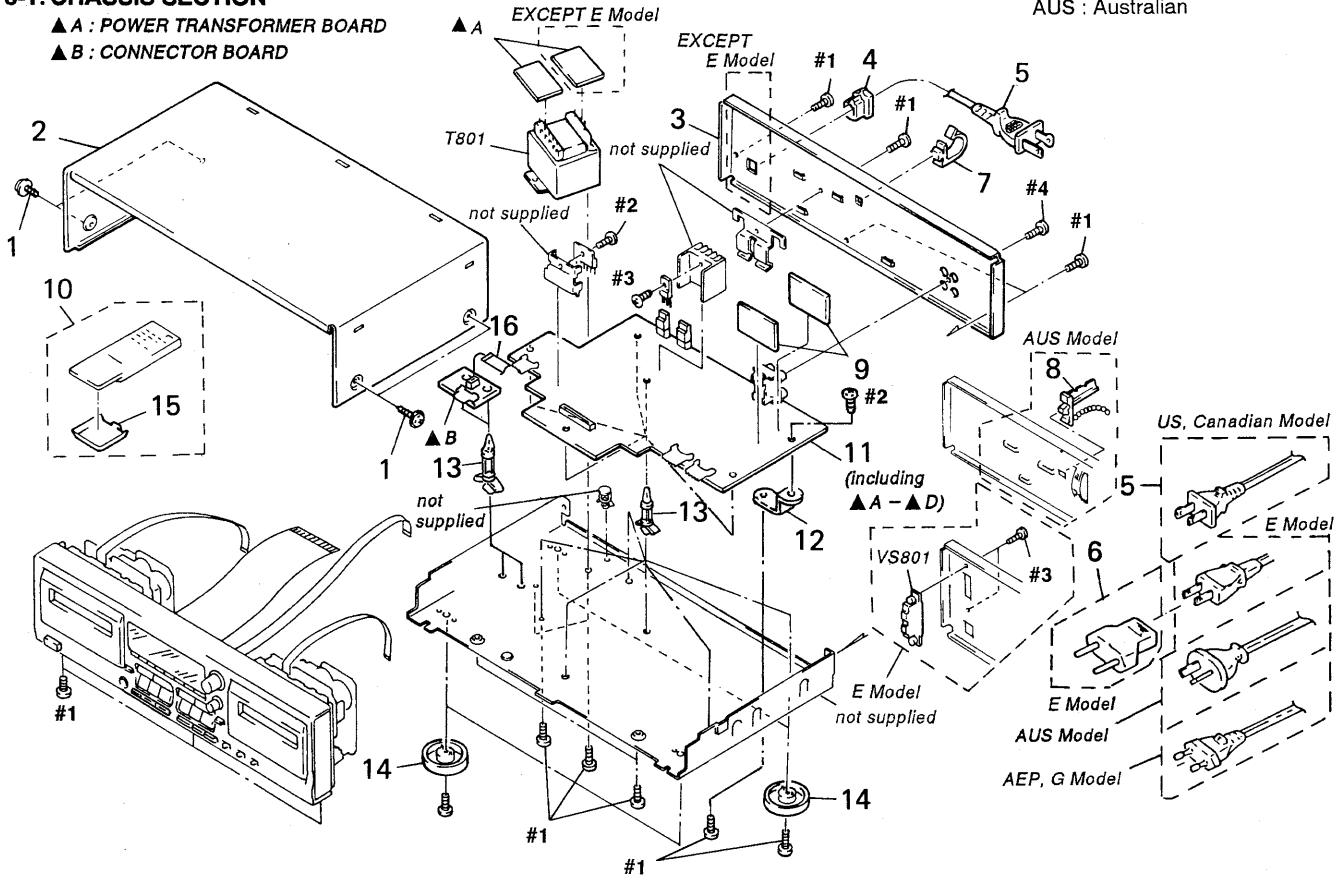
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

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

- Abbreviations
G : German
AUS : Australian

6-1. CHASSIS SECTION

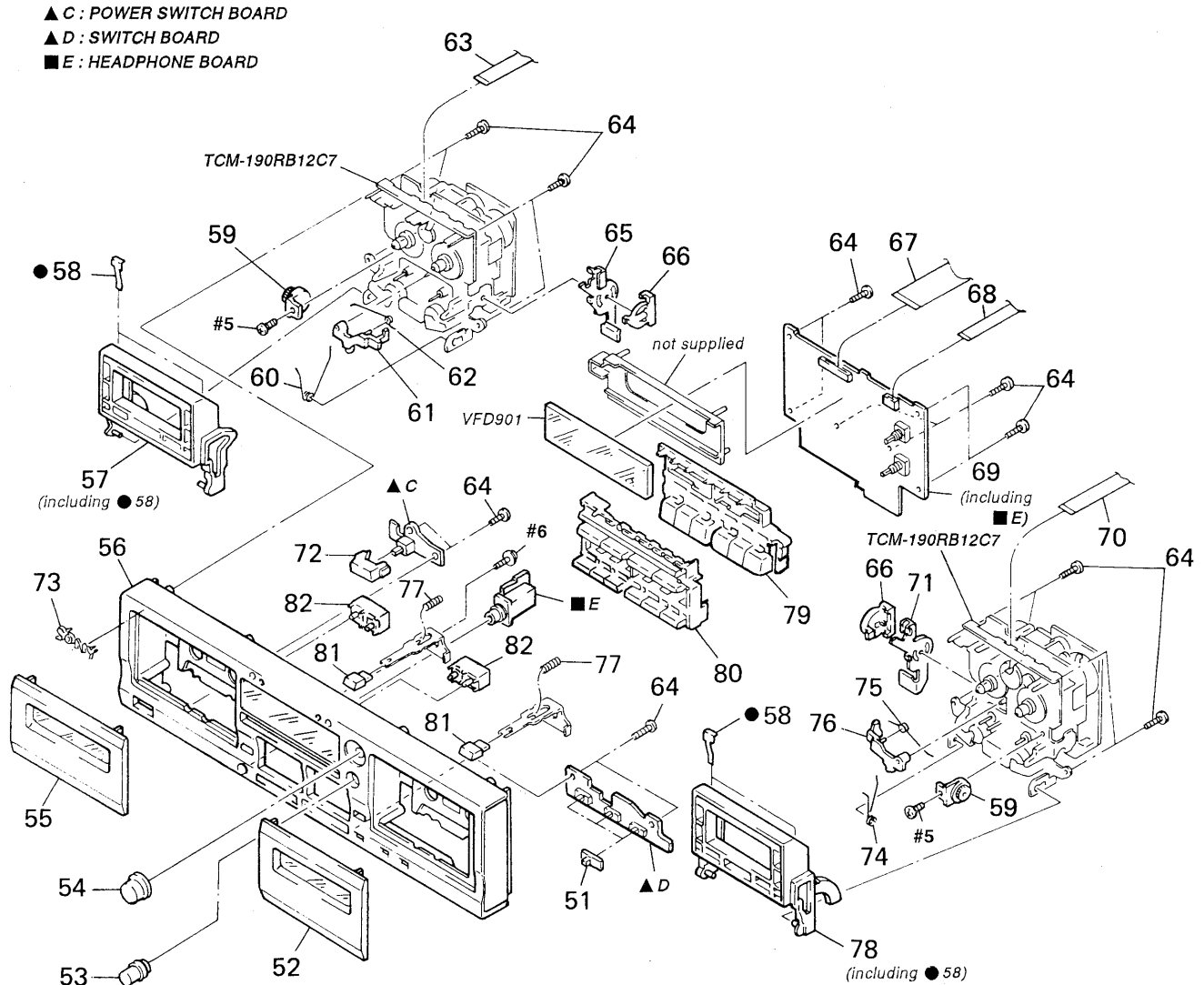
- ▲ A : POWER TRANSFORMER BOARD
- ▲ B : CONNECTOR BOARD



Ref. No.	Part No.	Description	Remark
1	3-704-366-01	SCREW (CASE) (M3X8)	
2	3-332-578-61	CASE	
* 3	3-910-808-42	PANEL, BACK (WR801ES)	
* 3	3-910-808-52	PANEL, BACK (AEP, German)	
* 3	3-910-808-61	PANEL, BACK (AUS)	
* 3	3-910-808-71	PANEL, BACK (E)	
* 4	3-703-244-00	BUSHING (2104), CORD (AEP, German, AUS)	
* 4	3-703-571-11	BUSHING (S) (4516), CORD (WR745S:E, WR801ES)	
▲ 5	1-551-188-XX	CORD, POWER (E)	
▲ 5	1-558-945-21	CORD, POWER (POLAR. SPT-1) (WR801ES)	
▲ 5	1-575-651-21	CORD, POWER (AEP, German)	
▲ 5	1-696-845-11	CORD, POWER (AUS)	
▲ 6	1-569-007-11	ADAPTER, CONVERSION 2P (E3)	
* 7	4-949-235-01	HOOK (WR745S:AEP, E, German/WR801ES)	
8	4-956-370-02	BAND, PLUG FIXED (AUS)	

Ref. No.	Part No.	Description	Remark
* 9	A-2007-173-A	DOLBY (S) BOARD COMPLETE	
10	1-465-738-11	REMOTE COMMANDER (RM-J903) (Canadian)	
* 11	A-2007-194-A	MAIN BOARD, COMPLETE (WR745S:AEP, German/WR801ES)	
* 11	A-2007-196-A	MAIN BOARD, COMPLETE (AUS)	
* 11	A-2007-197-A	MAIN BOARD, COMPLETE (E)	
* 12	3-332-563-01	BRACKET (P)	
* 13	3-346-265-11	HOLDER, PC BOARD	
14	4-956-885-11	FOOT (F58175S2W)	
15	2-181-754-21	COVER, BATTERY (Canadian)	
16	1-575-849-11	WIRE, FLAT TYPE (9 CORE)	
▲ T801	1-426-784-11	TRANSFORMER, POWER (WR801ES)	
▲ T801	1-426-785-11	TRANSFORMER, POWER (AEP, German, AUS)	
▲ T801	1-426-910-11	TRANSFORMER, POWER (E)	
▲ VS801	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR) (E)	

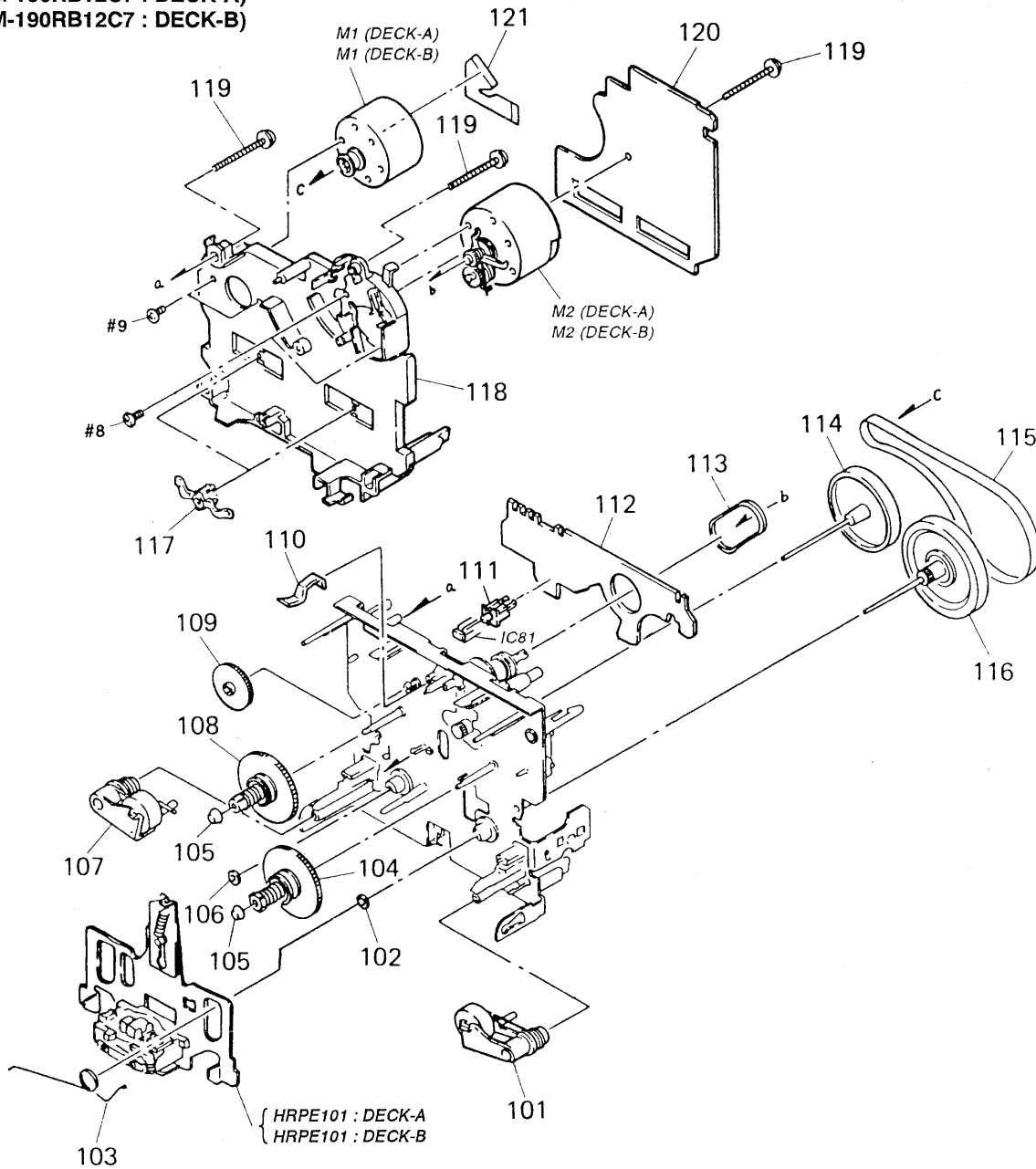
6-2. FRONT PANEL SECTION



Ref.No.	Part No.	Description	Remark
51	3-350-138-11	KNOB (SLIDE)	
52	X-3367-922-1	LID (B) ASSY, CASSETTE(WR745S)	
52	X-3367-991-1	LID (B) ASSY, CASSETTE(WR801ES)	
53	3-367-431-01	KNOB (BAL)	
54	3-909-661-11	KNOB (REC)	
55	X-3367-921-1	LID (A) ASSY, CASSETTE(WR745S)	
55	X-3367-990-1	LID (A) ASSY, CASSETTE(WR801ES)	
56	X-3367-919-1	PANEL ASSY, FRONT(US)	
56	X-3367-920-1	PANEL ASSY, FRONT(WR745S)	
56	X-3368-337-1	PANEL ASSY, FRONT(Canadian)	
57	A-4325-164-A	HOLDER (R) ASSY, CASSETTE	
58	3-308-823-11	DETENT, CASSETTE	
59	3-354-963-01	DAMPER	
60	3-354-960-01	SPRING (LOADING R), TORSION	
61	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
62	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
63	1-590-209-21	WIRE (FLAT TYPE) (7 CORE)	
64	4-951-620-01	SCREW (2.6X8), +BVTP	
* 65	3-354-954-01	LEVER (LOCK LEVER R)	

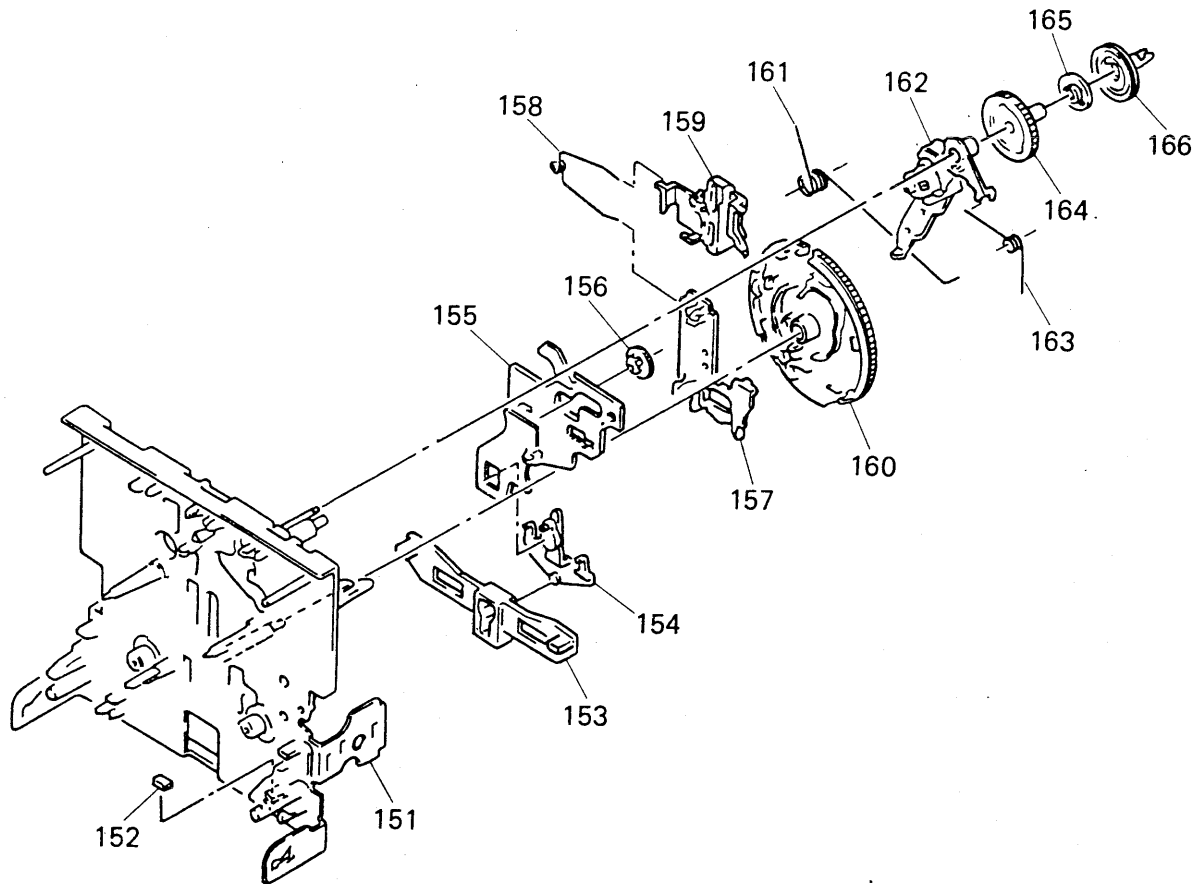
Ref.No.	Part No.	Description	Remark
66	3-354-957-01	JOINT (LOCK LEVER)	
67	1-765-406-11	WIRE (FLAT TYPE) (37 CORE)	
68	1-590-963-11	WIRE (FLAT TYPE) (7 CORE)	
* 69	A-2007-195-A	PANEL BOARD, COMPLETE	
70	1-690-420-11	WIRE, FLAT TYPE (7 CORE)	
* 71	3-354-953-01	LEVER (LOCK LEVER L)	
72	3-354-932-01	BUTTON (POWER)	
73	4-925-334-11	EMBLEM (5-A), SONY	
74	3-354-959-01	SPRING (LOADING L), TORSION	
75	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
76	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
77	3-382-382-01	SPRING, COMPRESSION	
78	A-4325-163-A	HOLDER (L) ASSY, CASSETTE	
79	3-910-810-01	BUTTON (FR-J)	
80	3-910-812-01	BUTTON (WR)	
81	3-377-328-01	BUTTON (EJECT)	
82	3-377-329-11	BUTTON (COUNTER)	
VFD901	1-517-263-11	INDICATOR TUBE, FLUORESCENT	

6-3. MECHANISM SECTION 1
(TCM-190RB12C7 : DECK-A)
(TCM-190RB12C7 : DECK-B)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY		116	X-3359-406-1	FLYWHEEL (FWD) ASSY	
102	3-356-713-01	WASHER		117	3-575-321-00	RETAINER, THRUST, CAPSTAN	
103	3-359-455-01	SPRING, TORSION		* 118	3-359-436-01	BASE (THRUST RETAINER), FITTING	
104	X-3359-404-1	TABLE (A) ASSY, REEL		119	3-359-414-01	SCREW (+PTWH 2X23)	
105	3-362-308-01	CAP (REEL)		* 120	A-2006-828-A	AUDIO BOARD, COMPLETE (DECK-A)	
106	3-356-714-01	WASHER		* 120	A-2006-828-A	AUDIO BOARD, COMPLETE (DECK-B)	
107	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY		121	1-638-983-11	MOTOR FLEXIBLE BOARD	
108	X-3362-078-1	TABLE ASSY, REEL		HRPE101A-2003-838-F	DECK ASSY, HEAD (RECORD/PLAYBACK/ ERASE) (DECK-A)		
109	3-359-424-01	GEAR (REV GEAR)		HRPE101A-2003-838-F	DECK ASSY, HEAD (RECORD/PLAYBACK/ ERASE) (DECK-B)		
110	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF		IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
111	3-343-419-01	HOLDER (S SENSER A)		M1	X-3365-377-1	MOTOR ASSY, CAPSTAN (DECK-A)	
* 112	1-634-841-14	SW-A BOARD (DECK-A)		M1	X-3365-377-1	MOTOR ASSY, CAPSTAN (DECK-B)	
* 112	1-634-841-14	SW-B BOARD (DECK-B)		M2	X-3363-501-2	MOTOR ASSY, REEL (DECK-A)	
113	3-359-466-01	BELT (FR), SQUARE		M2	X-3363-501-2	MOTOR ASSY, REEL (DECK-B)	
114	X-3359-410-1	FLYWHEEL (REV) ASSY					
115	3-359-417-01	BELT (FLAT), CAPSTAN					

6-4. MECHANISM SECTION 2
(TCM-190RB12C7 : DECK-A)
(TCM-190RB12C7 : DECK-B)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
151	X-3359-415-1	CHASIS, MECHANICAL		159	3-359-429-01	SLIDER (BRAKE PLATE)	
152	3-359-469-01	SPACER		160	3-359-420-01	GEAR (CAM GEAR)	
* 153	3-359-425-01	SLIDER (REVERSE SLIDER)		161	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
154	3-359-426-01	LEVER (REVERSE LEVER)		162	X-3359-405-1	LEVER (FR ARM) ASSY	
* 155	3-359-415-01	SLIDER (TRIGGER SLIDER)		163	3-359-453-01	SPRING (FR ARM), TORSION	
156	3-359-448-01	GEAR (TRIGGER)		164	3-359-419-01	GEAR (FR GEAR)	
* 157	3-359-427-01	SLIDER (LEVERSE SLIDER)		165	3-359-421-01	CLUTCH (REEL DISK)	
158	3-359-454-01	SPRING, TORSION		166	3-359-418-01	PULLEY (FR PULLEY)	

AUDIO

SECTION 7 ELECTRICAL PARTS LIST

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

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

Les composants identifiés par une marque Δ 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	Ref. No.	Part No.	Description	Remark
*	A-2006-828-A	AUDIO BOARD, COMPLETE(DECK-A)		C91	1-164-232-11	CERAMIC CHIP	0.01uF 50V
*	A-2006-828-A	AUDIO BOARD, COMPLETE(DECK-B)		C92	1-136-157-00	FILM	0.022uF 5% 50V
	*****			C93	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
	< CAPACITOR >			C94	1-136-478-11	FILM	470PF 5% 630V
C11	1-163-131-00	CERAMIC CHIP	390PF 5% 50V	C95	1-136-433-11	FILM	100PF 5% 630V
C12	1-136-157-00	FILM	0.022uF 5% 50V	C96	1-163-143-00	CERAMIC CHIP	0.0012uF 5% 50V
C13	1-124-234-00	ELECT	22uF 20% 16V	C97	1-136-273-91	FILM	75PF 5% 630V
C18	1-163-117-00	CERAMIC CHIP	100PF 5% 50V	C98	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C21	1-163-131-00	CERAMIC CHIP	390PF 5% 50V	C99	1-164-005-11	CERAMIC CHIP	0.47uF 25V
C22	1-136-157-00	FILM	0.022uF 5% 50V		< CONNECTOR >		
C23	1-124-234-00	ELECT	22uF 20% 16V	* CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
C28	1-163-117-00	CERAMIC CHIP	100PF 5% 50V	* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P	
C31	1-124-234-00	ELECT	22uF 20% 16V	* CNP33	1-580-782-11	CONNECTOR, BOARD TO BOARD	
C32	1-124-234-00	ELECT	22uF 20% 16V	* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
C33	1-124-234-00	ELECT	22uF 20% 16V	CNP72	1-764-902-11	CONNECTOR, FFC/FPC 4P	
C51	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V		< DIODE >		
C52	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V	D31	8-719-016-74	DIODE 1SS352	
C53	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V		< IC >		
C54	1-136-601-11	FILM	0.01uF 5% 630V	IC31	8-759-106-02	IC uPC4570G2	
C56	1-164-505-11	CERAMIC CHIP	2.2uF 16V	IC81	8-759-106-56	IC uPC1297CA	
C57	1-164-346-11	CERAMIC CHIP	1uF 16V		< COIL >		
C71	1-164-346-11	CERAMIC CHIP	1uF 16V	L81	1-410-780-11	INDUCTOR 27mH	
C80	1-124-234-00	ELECT	22uF 20% 16V	L91	1-410-780-11	INDUCTOR 27mH	
C81	1-164-232-11	CERAMIC CHIP	0.01uF 50V		< TRANSISTOR >		
C82	1-136-157-00	FILM	0.022uF 5% 50V	Q51	8-729-808-01	TRANSISTOR 2SD1622-S	
C83	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	Q52	8-729-808-01	TRANSISTOR 2SD1622-S	
C84	1-136-478-11	FILM	470PF 5% 630V	Q53	8-729-808-01	TRANSISTOR 2SD1622-S	
C85	1-136-433-11	FILM	100PF 5% 630V	Q71	8-729-216-22	TRANSISTOR 2SA1162-G	
C86	1-163-143-00	CERAMIC CHIP	0.0012uF 5% 50V				
C87	1-136-273-91	FILM	75PF 5% 630V				
C88	1-163-003-11	CERAMIC CHIP	330PF 10% 50V				
C89	1-124-234-00	ELECT	22uF 20% 16V				
C90	1-107-584-11	CERAMIC	4PF 0.25PF 500V				

AUDIO DOLBY (S)

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
R51	1-216-097-00	METAL CHIP 100K 5%	1/10W
R52	1-216-097-00	METAL CHIP 100K 5%	1/10W
R53	1-216-073-00	METAL CHIP 10K 5%	1/10W
R54	1-216-309-00	METAL CHIP 5.6 5%	1/10W
R55	1-216-309-00	METAL CHIP 5.6 5%	1/10W
R57	1-216-298-00	METAL CHIP 2.2 5%	1/10W
R71	1-216-082-00	METAL GLAZE 24K 5%	1/10W
R72	1-216-081-00	METAL CHIP 22K 5%	1/10W
R73	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R74	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R81	1-216-073-00	METAL CHIP 10K 5%	1/10W
R82	1-216-085-00	METAL CHIP 33K 5%	1/10W
R83	1-216-001-00	METAL CHIP 10 5%	1/10W
R84	1-216-101-00	METAL CHIP 150K 5%	1/10W
R85	1-216-075-00	METAL CHIP 12K 5%	1/10W
R91	1-216-073-00	METAL CHIP 10K 5%	1/10W
R92	1-216-085-00	METAL CHIP 33K 5%	1/10W
R93	1-216-001-00	METAL CHIP 10 5%	1/10W
R94	1-216-101-00	METAL CHIP 150K 5%	1/10W
R95	1-216-075-00	METAL CHIP 12K 5%	1/10W
< VARIABLE RESISTOR >			
RV11	1-241-761-11	RES, ADJ, CARBON 1K (PB LEVEL L-CH)	
RV21	1-241-761-11	RES, ADJ, CARBON 1K (PB LEVEL R-CH)	
RV71	1-241-630-11	RES, ADJ, CARBON 10K (TAPE SPEED NORMAL)	
RV72	1-241-630-11	RES, ADJ, CARBON 10K (TAPE SPEED HIGH)	
RV81	1-241-786-11	RES, ADJ, CARBON 22K (REC BIAS L-CH)	
RV91	1-241-786-11	RES, ADJ, CARBON 22K (REC BIAS R-CH)	
< RELAY >			
RY31	1-515-803-11	RELAY	
< TRANSFORMER >			
T51	1-406-417-11	COIL, BIAS OSCILLATION	
T81	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
T91	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	

Ref.No.	Part No.	Description	Remark
< TEST PIN >			
* TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	

*	A-2007-173-A	DOLBY (S) BOARD, COMPLETE	

< CAPACITOR >			
C1	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C2	1-135-177-21	TANTALUM CHIP 1uF	20% 20V
C3	1-104-558-11	FILM CHIP 0.039uF	5% 16V
C4	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
C5	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C6	1-164-717-11	CERAMIC CHIP 0.0082uF	5% 50V
C7	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C8	1-104-562-11	FILM CHIP 0.082uF	5% 16V
C9	1-104-553-11	FILM CHIP 0.015uF	5% 16V
C10	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C11	1-135-145-11	TANTALUM CHIP 0.47uF	10% 35V
C12	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C13	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C14	1-162-568-11	CERAMIC CHIP 0.33uF	10% 16V
C15	1-104-562-11	FILM CHIP 0.082uF	5% 16V
C16	1-135-145-11	TANTALUM CHIP 0.47uF	10% 35V
C17	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C18	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C19	1-163-035-00	CERAMIC CHIP 0.047uF	50V
C20	1-104-553-11	FILM CHIP 0.015uF	5% 16V
C21	1-164-717-11	CERAMIC CHIP 0.0082uF	5% 50V
C22	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C23	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C24	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C25	1-163-012-00	CERAMIC CHIP 0.0018uF	10% 50V
C26	1-104-558-11	FILM CHIP 0.039uF	5% 16V
C27	1-163-012-00	CERAMIC CHIP 0.0018uF	10% 50V
C28	1-163-012-00	CERAMIC CHIP 0.0018uF	10% 50V
C29	1-104-563-11	FILM CHIP 0.1uF	5% 16V
C30	1-135-145-11	TANTALUM CHIP 0.47uF	10% 35V
C31	1-104-555-11	FILM CHIP 0.022uF	5% 16V
C32	1-104-563-11	FILM CHIP 0.1uF	5% 16V
C33	1-163-024-00	CERAMIC CHIP 0.018uF	10% 50V
C34	1-104-563-11	FILM CHIP 0.1uF	5% 16V
C35	1-163-012-00	CERAMIC CHIP 0.0018uF	10% 50V
C36	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C37	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C38	1-163-024-00	CERAMIC CHIP 0.018uF	10% 50V
C39	1-104-555-11	FILM CHIP 0.022uF	5% 16V
C40	1-104-563-11	FILM CHIP 0.1uF	5% 16V

DOLBY (S)**MAIN**

Ref.No.	Part No.	Description	Remark
< CONNECTOR >			
CN1	1-695-092-11	SOCKET, CONNECTOR 7P	
< IC >			
IC1	8-752-056-51	IC CXA1417Q	
< RESISTOR >			
R1	1-208-353-41	METAL GLAZE 33 2% 1/10W	
R2	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R3	1-208-812-11	METAL GLAZE 18K 2% 1/10W	
R4	1-208-556-41	METAL GLAZE 820K 2% 1/10W	
R5	1-216-668-11	METAL CHIP 5.1K 0.5% 1/10W	
R6	1-208-442-41	METAL GLAZE 1.6K 2% 1/10W	
R7	1-216-657-11	METAL CHIP 1.8K 0.5% 1/10W	
R8	1-216-667-11	METAL CHIP 4.7K 0.5% 1/10W	
R9	1-208-446-41	METAL GLAZE 2.4K 2% 1/10W	
R10	1-208-440-41	METAL GLAZE 1.3K 2% 1/10W	
R11	1-208-353-41	METAL GLAZE 33 2% 1/10W	
R12	1-208-357-41	METAL GLAZE 47 2% 1/10W	
R13	1-216-653-11	METAL CHIP 1.2K 0.5% 1/10W	
R14	1-216-667-11	METAL CHIP 4.7K 0.5% 1/10W	
R15	1-208-446-41	METAL GLAZE 2.4K 2% 1/10W	
R16	1-208-353-41	METAL GLAZE 33 2% 1/10W	
R17	1-208-357-41	METAL GLAZE 47 2% 1/10W	
R18	1-216-657-11	METAL CHIP 1.8K 0.5% 1/10W	
R19	1-208-442-41	METAL GLAZE 1.6K 2% 1/10W	
R20	1-216-668-11	METAL CHIP 5.1K 0.5% 1/10W	
R21	1-208-556-41	METAL GLAZE 820K 2% 1/10W	
R22	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
R23	1-216-678-11	METAL CHIP 13K 0.5% 1/10W	
R24	1-216-673-11	METAL CHIP 8.2K 0.5% 1/10W	
R25	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R26	1-216-676-11	METAL CHIP 11K 0.5% 1/10W	
R27	1-216-668-11	METAL CHIP 5.1K 0.5% 1/10W	
R28	1-216-695-11	METAL CHIP 68K 0.5% 1/10W	
R29	1-216-668-11	METAL CHIP 5.1K 0.5% 1/10W	
R30	1-208-446-41	METAL GLAZE 2.4K 2% 1/10W	
R31	1-216-680-11	METAL CHIP 16K 0.5% 1/10W	
R32	1-216-685-11	METAL CHIP 27K 0.5% 1/10W	
R33	1-208-469-41	METAL GLAZE 20K 2% 1/10W	
R34	1-216-684-11	METAL CHIP 24K 0.5% 1/10W	
R35	1-208-521-41	METAL GLAZE 30K 2% 1/10W	
R36	1-208-521-41	METAL GLAZE 30K 2% 1/10W	
R37	1-216-676-11	METAL CHIP 11K 0.5% 1/10W	
R38	1-208-523-41	METAL GLAZE 36K 2% 1/10W	
R39	1-216-668-11	METAL CHIP 5.1K 0.5% 1/10W	
R40	1-208-521-41	METAL GLAZE 30K 2% 1/10W	

Ref.No.	Part No.	Description	Remark
R41	1-216-680-11	METAL CHIP 16K 0.5% 1/10W	
R42	1-216-673-11	METAL CHIP 8.2K 0.5% 1/10W	
R43	1-216-676-11	METAL CHIP 11K 0.5% 1/10W	
R44	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R45	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	

* A-2007-194-A MAIN BOARD, COMPLETE
(WR745S:AEP, German, WR801ES)

* A-2007-196-A MAIN BOARD, COMPLETE(AUS)

* A-2007-197-A MAIN BOARD, COMPLETE(E)

7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3

7-682-547-09 SCREW +BVTT 3X6 (S)

< CAPACITOR >

C101	1-124-927-11	ELECT 4.7uF 20% 100V	
C102	1-124-907-11	ELECT 10uF 20% 50V	
C103	1-130-476-00	MYLAR 0.0027uF 5% 50V	
C104	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C105	1-124-907-11	ELECT 10uF 20% 50V	
C106	1-124-907-11	ELECT 10uF 20% 50V	
C107	1-136-165-00	FILM 0.1uF 5% 50V	
C108	1-136-163-00	FILM 0.068uF 5% 50V	
C109	1-124-907-11	ELECT 10uF 20% 50V	
C121	1-124-927-11	ELECT 4.7uF 20% 100V	
C122	1-162-282-31	CERAMIC 100PF 10% 50V	
C131	1-124-916-11	ELECT 22uF 20% 63V	
C132	1-124-907-11	ELECT 10uF 20% 50V	
C141	1-126-962-11	ELECT 3.3uF 20% 50V	
C142	1-124-902-00	ELECT 0.47uF 20% 50V	
C143	1-124-927-11	ELECT 4.7uF 20% 100V	
C151	1-124-907-11	ELECT 10uF 20% 50V	
C152	1-124-925-11	ELECT 2.2uF 20% 100V	
C153	1-164-159-11	CERAMIC 0.1uF 50V	
C154	1-124-902-00	ELECT 0.47uF 20% 50V	
C155	1-124-927-11	ELECT 4.7uF 20% 100V	
C156	1-124-927-11	ELECT 4.7uF 20% 100V	
C157	1-124-925-11	ELECT 2.2uF 20% 100V	
C158	1-124-443-00	ELECT 100uF 20% 10V	
C161	1-124-927-11	ELECT 4.7uF 20% 100V	
C201	1-124-927-11	ELECT 4.7uF 20% 100V	
C202	1-124-907-11	ELECT 10uF 20% 50V	
C203	1-130-476-00	MYLAR 0.0027uF 5% 50V	
C204	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C205	1-124-907-11	ELECT 10uF 20% 50V	
C206	1-124-907-11	ELECT 10uF 20% 50V	
C207	1-136-165-00	FILM 0.1uF 5% 50V	
C208	1-136-163-00	FILM 0.068uF 5% 50V	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C209	1-124-907-11	ELECT	10uF 20% 50V	C707	1-124-473-11	ELECT	1000uF 20% 10V
C221	1-124-927-11	ELECT	4. 7uF 20% 100V	C708	1-124-927-11	ELECT	4. 7uF 20% 100V
C222	1-162-282-31	CERAMIC	100PF 10% 50V	C709	1-124-927-11	ELECT	4. 7uF 20% 100V
C231	1-124-916-11	ELECT	22uF 20% 63V	C710	1-124-472-11	ELECT	470uF 20% 10V
C232	1-124-907-11	ELECT	10uF 20% 50V	C711	1-124-910-11	ELECT	47uF 20% 50V
C241	1-126-962-11	ELECT	3. 3uF 20% 50V	C801	1-124-443-00	ELECT	100uF 20% 10V
C242	1-124-902-00	ELECT	0. 47uF 20% 50V	C802	1-164-159-11	CERAMIC	0. 1uF 50V
C243	1-124-927-11	ELECT	4. 7uF 20% 100V	C804	1-124-902-00	ELECT	0. 47uF 20% 50V
C251	1-124-907-11	ELECT	10uF 20% 50V	C805	1-161-494-00	CERAMIC	0. 022uF 25V
C252	1-124-925-11	ELECT	2. 2uF 20% 100V	C806	1-161-494-00	CERAMIC	0. 022uF 25V
C253	1-164-159-11	CERAMIC	0. 1uF 50V	C807	1-161-494-00	CERAMIC	0. 022uF 25V
C254	1-124-902-00	ELECT	0. 47uF 20% 50V	C808	1-161-494-00	CERAMIC	0. 022uF 25V
C255	1-124-927-11	ELECT	4. 7uF 20% 100V	C809	1-161-494-00	CERAMIC	0. 022uF 25V
C256	1-124-927-11	ELECT	4. 7uF 20% 100V	C810	1-164-159-11	CERAMIC	0. 1uF 50V
C257	1-124-925-11	ELECT	2. 2uF 20% 100V	C821	1-124-907-11	ELECT	10uF 20% 50V
C258	1-124-443-00	ELECT	100uF 20% 10V	C841	1-124-907-11	ELECT	10uF 20% 50V
C261	1-124-927-11	ELECT	4. 7uF 20% 100V	C861	1-162-294-31	CERAMIC	0. 001uF 10% 50V
C501	1-130-476-00	MYLAR	0. 0027uF 5% 50V	C862	1-162-294-31	CERAMIC	0. 001uF 10% 50V
C502	1-136-164-00	FILM	0. 082uF 5% 50V			(WR745S:AEP, German, WR801)	
C503	1-136-161-00	FILM	0. 047uF 5% 50V	C864	1-162-294-31	CERAMIC	0. 001uF 10% 50V (E)
C504	1-130-475-00	MYLAR	0. 0022uF 5% 50V	< CONNECTOR >			
C511	1-124-907-11	ELECT	10uF 20% 50V	CN131	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
C512	1-124-907-11	ELECT	10uF 20% 50V	CN231	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
C513	1-124-907-11	ELECT	10uF 20% 50V	* CN501	1-691-916-11	CONNECTOR, BOARD TO BOARD	
C514	1-124-907-11	ELECT	10uF 20% 50V	* CN502	1-691-916-11	CONNECTOR, BOARD TO BOARD	(CONNECTOR BOARD)
C515	1-124-903-11	ELECT	1uF 20% 50V	* CN503	1-691-916-11	CONNECTOR, BOARD TO BOARD	
C521	1-124-916-11	ELECT	22uF 20% 63V	* CN504	1-691-916-11	CONNECTOR, BOARD TO BOARD	
C541	1-124-443-00	ELECT	100uF 20% 10V	CN505	1-750-414-11	CONNECTOR, FFC/FPC 9P	
C542	1-124-443-00	ELECT	100uF 20% 10V	CN506	1-568-826-11	CONNECTOR, FFC/FPC 7P	
C544	1-124-902-00	ELECT	0. 47uF 20% 50V	CN701	1-766-280-11	PIN, CONNECTOR (PC BOARD) 7P	
C545	1-124-443-00	ELECT	100uF 20% 10V	CN801	1-506-468-11	PIN, CONNECTOR 3P	
C547	1-124-916-11	ELECT	22uF 20% 63V	* CN802	1-568-954-11	PIN, CONNECTOR 5P	
C548	1-124-902-00	ELECT	0. 47uF 20% 50V	* CN803	1-568-954-11	PIN, CONNECTOR 5P	
C549	1-124-925-11	ELECT	2. 2uF 20% 100V	CN804	1-750-442-11	CONNECTOR, FFC/FPC 37P	
C571	1-124-360-00	ELECT	1000uF 20% 16V	CN805	1-568-826-11	CONNECTOR, FFC/FPC 7P	
C572	1-124-360-00	ELECT	1000uF 20% 16V	CN806	1-568-826-11	CONNECTOR, FFC/FPC 7P	
C573	1-124-360-00	ELECT	1000uF 20% 16V	< CONNECTOR >			
C574	1-124-902-00	ELECT	0. 47uF 20% 50V	CNP505	1-750-414-11	CONNECTOR, FFC/FPC 9P (CONNECTOR BOARD)	
C581	1-126-916-11	ELECT	1000uF 20% 6. 3V	CNP701	1-766-280-11	PIN, CONNECTOR (PC BOARD) 7P	
C601	1-164-159-11	CERAMIC	0. 1uF 50V			(POWER TRANSFORMER BOARD)	
C602	1-164-159-11	CERAMIC	0. 1uF 50V	* CNP702	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
C603	1-162-288-31	CERAMIC	330PF 10% 50V			(WR745S:AEP, German, AUS/WR801ES)	
C604	1-162-288-31	CERAMIC	330PF 10% 50V	< DIODE >			
C701	1-124-898-11	ELECT	4700uF 20% 16V	D151	8-719-933-33	DIODE	HZS6A1L
C702	1-124-898-11	ELECT	4700uF 20% 16V	D251	8-719-933-33	DIODE	HZS6A1L
C703	1-124-903-11	ELECT	1uF 20% 50V	D501	8-719-987-63	DIODE	1N4148M
C704	1-124-122-11	ELECT	100uF 20% 50V				
C705	1-124-927-11	ELECT	4. 7uF 20% 100V				
C706	1-124-762-00	ELECT	4700uF 20% 10V				

MAIN

Ref.No.	Part No.	Description	Remark
D502	8-719-987-63	DIODE 1N4148M	
D511	8-719-200-82	DIODE 11ES2	
D512	8-719-200-82	DIODE 11ES2	
D513	8-719-200-82	DIODE 11ES2	
D514	8-719-200-82	DIODE 11ES2	
D541	8-719-987-63	DIODE 1N4148M	
D571	8-719-987-63	DIODE 1N4148M	
D572	8-719-987-63	DIODE 1N4148M	
D701	8-719-200-77	DIODE 10E2N	
D702	8-719-200-77	DIODE 10E2N	
D703	8-719-200-77	DIODE 10E2N	
D704	8-719-200-77	DIODE 10E2N	
D705	8-719-987-63	DIODE 1N4148M	
D706	8-719-987-63	DIODE 1N4148M	
D707	8-719-200-77	DIODE 10E2N	
D708	8-719-987-63	DIODE 1N4148M	
D709	8-719-933-33	DIODE HZS6A1L	
D710	8-719-933-33	DIODE HZS6A1L	
D711	8-719-933-33	DIODE HZS6A1L	
D712	8-719-000-78	DIODE UZL-7L2	
D713	8-719-987-63	DIODE 1N4148M	
D714	8-719-987-63	DIODE 1N4148M	
D715	8-719-987-63	DIODE 1N4148M	
D716	8-719-000-78	DIODE UZL-7L2	
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-987-63	DIODE 1N4148M	
D803	8-719-987-63	DIODE 1N4148M	
D804	8-719-987-63	DIODE 1N4148M	
< IC >			
IC501	8-759-145-58	IC uPC4558C	
IC502	8-759-634-50	IC M5218AL	
IC503	8-752-066-35	IC CXA1563S	
IC504	8-759-145-58	IC uPC4558C	
IC505	8-752-055-61	IC CXA1578P	
IC506	8-752-058-57	IC CXA1599Q	
IC507	8-759-634-50	IC M5218AL	
IC601	8-759-207-05	IC TA7272P	
IC701	8-759-145-58	IC uPC4558C	
IC801	8-752-853-35	IC CXP82220-021Q	
IC802	8-759-000-48	IC MC14052BCP	
IC803	8-759-165-82	IC PST600E-T	
IC804	8-759-000-48	IC MC14052BCP	
IC805	8-759-916-14	IC SN74HC04AN	
IC806	8-759-000-48	IC MC14052BCP	
IC807	8-759-916-14	IC SN74HC04AN	

Ref.No.	Part No.	Description	Remark
< JACK >			
J501	1-565-258-11	JACK, PIN 4P(LINE IN/OUT)	
< COIL >			
* L601	1-420-872-00	COIL, AIR CORE	
* L602	1-420-872-00	COIL, AIR CORE	
< FILTER >			
LPF101	1-231-388-00	FILTER, LOW PASS	
LPF201	1-231-388-00	FILTER, LOW PASS	
< TRANSISTOR >			
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q121	8-729-900-74	TRANSISTOR DTC143TS	
Q161	8-729-922-37	TRANSISTOR 2SD2144S	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q221	8-729-900-74	TRANSISTOR DTC143TS	
Q261	8-729-922-37	TRANSISTOR 2SD2144S	
Q501	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q502	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q511	8-729-900-65	TRANSISTOR DTA144ES	
Q512	8-729-900-65	TRANSISTOR DTA144ES	
Q513	8-729-900-65	TRANSISTOR DTA144ES	
Q514	8-729-900-65	TRANSISTOR DTA144ES	
Q515	8-729-900-65	TRANSISTOR DTA144ES	
Q516	8-729-900-65	TRANSISTOR DTA144ES	
Q521	8-729-900-61	TRANSISTOR DTA144ES	
Q522	8-729-900-80	TRANSISTOR DTC114ES	
Q523	8-729-900-89	TRANSISTOR DTC114ES	
Q541	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q542	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q544	8-729-900-65	TRANSISTOR DTA144ES	
Q545	8-729-900-89	TRANSISTOR DTC114ES	
Q546	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q581	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q601	8-729-801-93	TRANSISTOR 2SD1387	
Q602	8-729-801-93	TRANSISTOR 2SD1387	
Q603	8-729-900-80	TRANSISTOR DTC114ES	
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-209-15	TRANSISTOR 2SD2012	
Q704	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q705	8-729-900-80	TRANSISTOR DTC114ES	
Q706	8-729-900-80	TRANSISTOR DTC114ES	
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q708	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q801	8-729-900-80	TRANSISTOR DTC114ES	

Ref. No.	Part No.	Description	Remark
Q802	8-729-900-89	TRANSISTOR DTC144ES	
Q821	8-729-900-61	TRANSISTOR DTA114ES	
Q822	8-729-900-80	TRANSISTOR DTC114ES	
Q823	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q841	8-729-900-61	TRANSISTOR DTA114ES	
Q842	8-729-900-80	TRANSISTOR DTC114ES	
Q843	8-729-119-76	TRANSISTOR 2SA1175-HFE	
< RESISTOR >			
R101	1-249-437-11	CARBON 47K 5%	1/4W
R102	1-249-429-11	CARBON 10K 5%	1/4W
R103	1-249-433-11	CARBON 22K 5%	1/4W
R104	1-249-423-11	CARBON 3.3K 5%	1/4W
R105	1-249-441-11	CARBON 100K 5%	1/4W
R106	1-249-428-11	CARBON 8.2K 5%	1/4W
R107	1-249-432-11	CARBON 18K 5%	1/4W
R108	1-249-421-11	CARBON 2.2K 5%	1/4W
R109	1-249-433-11	CARBON 22K 5%	1/4W
R110	1-249-425-11	CARBON 4.7K 5%	1/4W
R111	1-249-431-11	CARBON 15K 5%	1/4W
R112	1-249-429-11	CARBON 10K 5%	1/4W
R121	1-249-437-11	CARBON 47K 5%	1/4W
R122	1-247-846-11	CARBON 4.3K 5%	1/4W
R123	1-249-435-11	CARBON 33K 5%	1/4W
R124	1-249-425-11	CARBON 4.7K 5%	1/4W
R125	1-249-429-11	CARBON 10K 5%	1/4W
R151	1-247-807-31	CARBON 100 5%	1/4W
R152	1-247-807-31	CARBON 100 5%	1/4W
R153	1-249-439-11	CARBON 68K 5%	1/4W
R154	1-249-421-11	CARBON 2.2K 5%	1/4W
R156	1-249-409-11	CARBON 220 5%	1/4W
R157	1-247-887-00	CARBON 220K 5%	1/4W
R161	1-249-434-11	CARBON 27K 5%	1/4W
R162	1-249-441-11	CARBON 100K 5%	1/4W
R163	1-249-435-11	CARBON 33K 5%	1/4W
R164	1-249-417-11	CARBON 1K 5%	1/4W
R165	1-249-421-11	CARBON 2.2K 5%	1/4W
R166	1-247-887-00	CARBON 220K 5%	1/4W
R167	1-249-421-11	CARBON 2.2K 5%	1/4W
R201	1-249-437-11	CARBON 47K 5%	1/4W
R202	1-249-429-11	CARBON 10K 5%	1/4W
R203	1-249-433-11	CARBON 22K 5%	1/4W
R204	1-249-423-11	CARBON 3.3K 5%	1/4W
R205	1-249-441-11	CARBON 100K 5%	1/4W
R206	1-249-428-11	CARBON 8.2K 5%	1/4W
R207	1-249-432-11	CARBON 18K 5%	1/4W
R208	1-249-421-11	CARBON 2.2K 5%	1/4W
R209	1-249-433-11	CARBON 22K 5%	1/4W
R210	1-249-425-11	CARBON 4.7K 5%	1/4W

Ref. No.	Part No.	Description	Remark
R211	1-249-431-11	CARBON 15K 5%	1/4W
R212	1-249-429-11	CARBON 10K 5%	1/4W
R221	1-249-437-11	CARBON 47K 5%	1/4W
R222	1-247-846-11	CARBON 4.3K 5%	1/4W
R223	1-249-435-11	CARBON 33K 5%	1/4W
R224	1-249-425-11	CARBON 4.7K 5%	1/4W
R225	1-249-429-11	CARBON 10K 5%	1/4W
R251	1-247-807-31	CARBON 100 5%	1/4W
R252	1-247-807-31	CARBON 100 5%	1/4W
R253	1-249-439-11	CARBON 68K 5%	1/4W
R254	1-249-421-11	CARBON 2.2K 5%	1/4W
R256	1-249-409-11	CARBON 220 5%	1/4W
R257	1-247-887-00	CARBON 220K 5%	1/4W
R261	1-249-434-11	CARBON 27K 5%	1/4W
R262	1-249-441-11	CARBON 100K 5%	1/4W
R263	1-249-435-11	CARBON 33K 5%	1/4W
R264	1-249-417-11	CARBON 1K 5%	1/4W
R265	1-249-421-11	CARBON 2.2K 5%	1/4W
R266	1-247-887-00	CARBON 220K 5%	1/4W
R267	1-249-421-11	CARBON 2.2K 5%	1/4W
R501	1-249-433-11	CARBON 22K 5%	1/4W
R502	1-249-426-11	CARBON 5.6K 5%	1/4W
R503	1-249-436-11	CARBON 39K 5%	1/4W
R504	1-249-441-11	CARBON 100K 5%	1/4W
R505	1-249-441-11	CARBON 100K 5%	1/4W
R506	1-247-846-11	CARBON 4.3K 5%	1/4W
R507	1-249-425-11	CARBON 4.7K 5%	1/4W
R508	1-249-425-11	CARBON 4.7K 5%	1/4W
R511	1-215-452-00	METAL 20K 1%	1/6W
R512	1-249-417-11	CARBON 1K 5%	1/4W
R513	1-249-433-11	CARBON 22K 5%	1/4W
R514	1-249-435-11	CARBON 33K 5%	1/4W
R515	1-249-433-11	CARBON 22K 5%	1/4W
R516	1-249-433-11	CARBON 22K 5%	1/4W
R517	1-249-435-11	CARBON 33K 5%	1/4W
R521	1-215-455-00	METAL 27K 1%	1/6W
R522	1-249-422-11	CARBON 2.7K 5%	1/4W
R523	1-249-413-11	CARBON 470 5%	1/4W
R524	1-249-429-11	CARBON 10K 5%	1/4W
R525	1-249-441-11	CARBON 100K 5%	1/4W
R526	1-249-429-11	CARBON 10K 5%	1/4W
R527	1-247-852-11	CARBON 7.5K 5%	1/4W
R528	1-247-852-11	CARBON 7.5K 5%	1/4W
R529	1-247-852-11	CARBON 7.5K 5%	1/4W
R530	1-247-858-11	CARBON 13K 5%	1/4W
R531	1-249-429-11	CARBON 10K 5%	1/4W
R532	1-249-429-11	CARBON 10K 5%	1/4W
R533	1-249-422-11	CARBON 2.7K 5%	1/4W
R534	1-249-426-11	CARBON 5.6K 5%	1/4W

MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R541	1-215-455-00	METAL	27K	1%	1/6W	R709	1-249-425-11	CARBON	4.7K	5%	1/4W
△R542	1-212-863-00	FUSIBLE	18	5%	1/4W F	R710	1-249-417-11	CARBON	1K	5%	1/4W
R543	1-249-432-11	CARBON	18K	5%	1/4W	R711	1-249-427-11	CARBON	6.8K	5%	1/4W
R544	1-249-430-11	CARBON	12K	5%	1/4W	R712	1-249-427-11	CARBON	6.8K	5%	1/4W
R545	1-249-417-11	CARBON	1K	5%	1/4W	R713	1-249-417-11	CARBON	1K	5%	1/4W
R546	1-249-425-11	CARBON	4.7K	5%	1/4W	R714	1-249-429-11	CARBON	10K	5%	1/4W
R547	1-249-413-11	CARBON	470	5%	1/4W	R715	1-249-422-11	CARBON	2.7K	5%	1/4W
R548	1-249-429-11	CARBON	10K	5%	1/4W	R716	1-249-433-11	CARBON	22K	5%	1/4W
R549	1-249-429-11	CARBON	10K	5%	1/4W	R717	1-249-429-11	CARBON	10K	5%	1/4W
R550	1-249-429-11	CARBON	10K	5%	1/4W	R718	1-249-436-11	CARBON	39K	5%	1/4W
R551	1-249-417-11	CARBON	1K	5%	1/4W	R719	1-249-430-11	CARBON	12K	5%	1/4W
R552	1-247-872-11	CARBON	51K	5%	1/4W	△R720	1-219-136-11	FUSIBLE	0.22	10%	1/4W
R554	1-249-429-11	CARBON	10K	5%	1/4W	△R721	1-219-136-11	FUSIBLE	0.22	10%	1/4W
R555	1-247-840-00	CARBON	2.4K	5%	1/4W	△R722	1-219-136-11	FUSIBLE	0.22	10%	1/4W
R556	1-249-437-11	CARBON	47K	5%	1/4W	R801	1-249-441-11	CARBON	100K	5%	1/4W
R557	1-247-852-11	CARBON	7.5K	5%	1/4W	R802	1-249-417-11	CARBON	1K	5%	1/4W
R558	1-247-852-11	CARBON	7.5K	5%	1/4W	R803	1-249-435-11	CARBON	33K	5%	1/4W
R559	1-247-858-11	CARBON	13K	5%	1/4W	R804	1-247-807-31	CARBON	100	5%	1/4W
R560	1-249-425-11	CARBON	4.7K	5%	1/4W	R805	1-247-807-31	CARBON	100	5%	1/4W
R561	1-249-430-11	CARBON	12K	5%	1/4W	R806	1-247-807-31	CARBON	100	5%	1/4W
R562	1-249-430-11	CARBON	12K	5%	1/4W	R807	1-247-807-31	CARBON	100	5%	1/4W
R563	1-249-422-11	CARBON	2.7K	5%	1/4W	R808	1-249-429-11	CARBON	10K	5%	1/4W
R564	1-249-426-11	CARBON	5.6K	5%	1/4W	R809	1-249-429-11	CARBON	10K	5%	1/4W
R581	1-249-437-11	CARBON	47K	5%	1/4W	R810	1-247-807-31	CARBON	100	5%	1/4W
R582	1-249-429-11	CARBON	10K	5%	1/4W	R811	1-247-807-31	CARBON	100	5%	1/4W
R583	1-249-437-11	CARBON	47K	5%	1/4W	R812	1-247-807-31	CARBON	100	5%	1/4W
R584	1-249-413-11	CARBON	470	5%	1/4W	R813	1-247-807-31	CARBON	100	5%	1/4W
R601	1-247-807-31	CARBON	100	5%	1/4W	R814	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-247-807-31	CARBON	100	5%	1/4W	R815	1-249-429-11	CARBON	10K	5%	1/4W
R603	1-249-433-11	CARBON	22K	5%	1/4W	R816	1-249-429-11	CARBON	10K	5%	1/4W
R604	1-249-433-11	CARBON	22K	5%	1/4W	R817	1-247-807-31	CARBON	100	5%	1/4W
R605	1-249-433-11	CARBON	22K	5%	1/4W	R818	1-249-441-11	CARBON	100K	5%	1/4W
R606	1-249-433-11	CARBON	22K	5%	1/4W	R819	1-249-441-11	CARBON	100K	5%	1/4W
R607	1-249-430-11	CARBON	12K	5%	1/4W	R821	1-247-862-11	CARBON	20K	5%	1/4W
R608	1-249-430-11	CARBON	12K	5%	1/4W	R822	1-249-426-11	CARBON	5.6K	5%	1/4W
R609	1-249-433-11	CARBON	22K	5%	1/4W	R824	1-249-421-11	CARBON	2.2K	5%	1/4W
R610	1-249-433-11	CARBON	22K	5%	1/4W	R825	1-247-852-11	CARBON	7.5K	5%	1/4W
R611	1-249-421-11	CARBON	2.2K	5%	1/4W	R826	1-249-431-11	CARBON	15K	5%	1/4W
R612	1-249-421-11	CARBON	2.2K	5%	1/4W	R827	1-247-866-11	CARBON	30K	5%	1/4W
R613	1-249-429-11	CARBON	10K	5%	1/4W	R828	1-247-874-11	CARBON	62K	5%	1/4W
R614	1-249-429-11	CARBON	10K	5%	1/4W	R829	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-249-414-11	CARBON	560	5%	1/4W	R830	1-249-429-11	CARBON	10K	5%	1/4W
R702	1-249-429-11	CARBON	10K	5%	1/4W	R831	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-422-11	CARBON	2.7K	5%	1/4W	R832	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-249-425-11	CARBON	4.7K	5%	1/4W	R833	1-249-434-11	CARBON	27K	5%	1/4W
R705	1-249-427-11	CARBON	6.8K	5%	1/4W	R834	1-249-434-11	CARBON	27K	5%	1/4W
R706	1-249-419-11	CARBON	1.5K	5%	1/4W	R835	1-249-434-11	CARBON	27K	5%	1/4W
R707	1-249-429-11	CARBON	10K	5%	1/4W	R836	1-249-434-11	CARBON	27K	5%	1/4W
R708	1-249-419-11	CARBON	1.5K	5%	1/4W	R837	1-249-422-11	CARBON	2.7K	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.

MAIN	PANEL
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Ref.No.	Part No.	Description	Remark
R838	1-249-422-11	CARBON 2.7K 5%	1/4W
R839	1-249-422-11	CARBON 2.7K 5%	1/4W
R841	1-249-432-11	CARBON 18K 5%	1/4W
R842	1-249-425-11	CARBON 4.7K 5%	1/4W
R844	1-249-421-11	CARBON 2.2K 5%	1/4W
R845	1-247-852-11	CARBON 7.5K 5%	1/4W
R846	1-249-431-11	CARBON 15K 5%	1/4W
R847	1-247-866-11	CARBON 30K 5%	1/4W
R848	1-247-874-11	CARBON 62K 5%	1/4W
R849	1-249-429-11	CARBON 10K 5%	1/4W
R850	1-249-429-11	CARBON 10K 5%	1/4W
R851	1-249-429-11	CARBON 10K 5%	1/4W
R852	1-249-429-11	CARBON 10K 5%	1/4W
R853	1-249-434-11	CARBON 27K 5%	1/4W
R854	1-249-434-11	CARBON 27K 5%	1/4W
R855	1-249-434-11	CARBON 27K 5%	1/4W
R856	1-249-434-11	CARBON 27K 5%	1/4W
R857	1-249-422-11	CARBON 2.7K 5%	1/4W
R858	1-249-422-11	CARBON 2.7K 5%	1/4W
R859	1-249-422-11	CARBON 2.7K 5%	1/4W
R861	1-249-421-11	CARBON 2.2K 5%	1/4W
R862	1-249-421-11	CARBON 2.2K 5%	1/4W
R863	1-249-421-11	CARBON 2.2K 5%	1/4W
R864	1-249-434-11	CARBON 27K 5%	1/4W
R865	1-249-421-11	CARBON 2.2K 5%	1/4W
R866	1-249-421-11	CARBON 2.2K 5%	1/4W
R867	1-249-421-11	CARBON 2.2K 5%	1/4W
R868	1-249-434-11	CARBON 27K 5%	1/4W
R869	1-249-421-11	CARBON 2.2K 5%	1/4W
R870	1-249-421-11	CARBON 2.2K 5%	1/4W
R871	1-249-433-11	CARBON 22K 5%	1/4W
R872	1-249-429-11	CARBON 10K 5%	1/4W(E, AUS)
R873	1-249-433-11	CARBON 22K 5%	1/4W
R874	1-249-429-11	CARBON 10K 5%	1/4W
R935	1-249-427-11	CARBON 6.8K 5%	1/4W
R936	1-249-431-11	CARBON 15K 5%	1/4W
R945	1-249-427-11	CARBON 6.8K 5%	1/4W
< VARIABLE RESISTOR >			
RV101	1-241-765-11	RES, ADJ, CARBON 22K(REC LEVEL L-CH)	
RV102	1-241-765-11	RES, ADJ, CARBON 22K(REC LEVEL R-CH)	
RV201	1-241-765-11	RES, ADJ, CARBON 22K(REC LEVEL L-CH)	
RV202	1-241-765-11	RES, ADJ, CARBON 22K(REC LEVEL R-CH)	
< SWITCH >			
S801	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER ON/OFF) (POWER SWITCH BOARD)	
S935	1-570-837-11	SWITCH, SLIDE(DOLBY NR ON/OFF) (SWITCH BOARD)	

Ref.No.	Part No.	Description	Remark
S936	1-570-855-11	SWITCH, SLIDE(DOLBY NR B/C/S) (SWITCH BOARD)	
S945	1-570-855-11	SWITCH, SLIDE(DIR MODE)(SWITCH BOARD)	
< TEST PIN >			
* TP501	1-564-506-11	PLUG, CONNECTOR 3P	
* TP801	1-564-505-11	PLUG, CONNECTOR 2P	
< CRYSTAL >			
X801	1-579-175-11	VIBRATOR, CERAMIC(10MHz)	

*	A-2007-195-A	PANEL BOARD, COMPLETE *****	
< CAPACITOR >			
C591	1-164-159-11	CERAMIC 0.1uF 50V (HEADPHONE BOARD)	
< CONNECTOR >			
CNP507	1-568-850-11	CONNECTOR, FFC/FPC 7P	
CNP804	1-750-478-11	CONNECTOR, FFC/FPC 37P	
< IC >			
IC901	8-741-100-48	IC SBX1610-59	
IC901	8-741-810-59	IC ELEMENT, RAY-CATCHER SBX1810-59	
< JACK >			
J801	1-507-796-71	JACK(PHONES)(HEADPHONE BOARD)	
< RESISTOR >			
R911	1-249-418-11	CARBON 1.2K 5%	1/4W
R912	1-249-420-11	CARBON 1.8K 5%	1/4W
R913	1-249-422-11	CARBON 2.7K 5%	1/4W
R914	1-249-424-11	CARBON 3.9K 5%	1/4W
R915	1-249-427-11	CARBON 6.8K 5%	1/4W
R916	1-249-431-11	CARBON 15K 5%	1/4W
R917	1-249-437-11	CARBON 47K 5%	1/4W
R921	1-249-418-11	CARBON 1.2K 5%	1/4W
R922	1-249-420-11	CARBON 1.8K 5%	1/4W
R923	1-249-422-11	CARBON 2.7K 5%	1/4W
R924	1-249-424-11	CARBON 3.9K 5%	1/4W
R925	1-249-427-11	CARBON 6.8K 5%	1/4W
R926	1-249-431-11	CARBON 15K 5%	1/4W
R927	1-249-437-11	CARBON 47K 5%	1/4W
R931	1-249-418-11	CARBON 1.2K 5%	1/4W
R932	1-249-420-11	CARBON 1.8K 5%	1/4W
R933	1-249-422-11	CARBON 2.7K 5%	1/4W

PANEL

SW-A, SW-B

Ref. No.	Part No.	Description	Remark
R934	1-249-424-11	CARBON	3. 9K 5% 1/4W
R941	1-249-418-11	CARBON	1. 2K 5% 1/4W
R942	1-249-420-11	CARBON	1. 8K 5% 1/4W
R943	1-249-422-11	CARBON	2. 7K 5% 1/4W
R944	1-249-424-11	CARBON	3. 9K 5% 1/4W
R951	1-249-418-11	CARBON	1. 2K 5% 1/4W
R952	1-249-420-11	CARBON	1. 8K 5% 1/4W
R953	1-249-422-11	CARBON	2. 7K 5% 1/4W

< VARIABLE RESISTOR >

RV901	1-223-616-11	RES, VAR, CARBON 5K/5K(BALANCE)
RV902	1-223-617-11	RES, VAR, CARBON 5K/5K(REC LEVEL)

< SWITCH >

S911	1-554-303-21	SWITCH, TACTILE(■/CLEAR) (DECK-A)
S912	1-554-303-21	SWITCH, TACTILE(■/PAUSE) (DECK-A)
S913	1-554-303-21	SWITCH, TACTILE(>/FRONT) (DECK-A)
S914	1-554-303-21	SWITCH, TACTILE(</BACK) (DECK-A)
S915	1-554-303-21	SWITCH, TACTILE(●/REC MUTE) (DECK-A)
S916	1-554-303-21	SWITCH, TACTILE(<</AMS>) (DECK-B)
S917	1-554-303-21	SWITCH, TACTILE(<AMS>>) (DECK-B)
S918	1-554-303-21	SWITCH, TACTILE(●/REC) (DECK-B)
S921	1-554-303-21	SWITCH, TACTILE(■/CLEAR) (DECK-B)
S922	1-554-303-21	SWITCH, TACTILE(■/PAUSE) (DECK-B)
S923	1-554-303-21	SWITCH, TACTILE(>/FRONT) (DECK-B)
S924	1-554-303-21	SWITCH, TACTILE(</BACK) (DECK-B)
S925	1-554-303-21	SWITCH, TACTILE(●/REC MUTE) (DECK-B)
S926	1-554-303-21	SWITCH, TACTILE(<</AMS>) (DECK-A)
S927	1-554-303-21	SWITCH, TACTILE(<AMS>>) (DECK-A)
S928	1-554-303-21	SWITCH, TACTILE(●/REC) (DECK-A)
S931	1-554-303-21	SWITCH, TACTILE(COUNTER A RESET)
S932	1-554-303-21	SWITCH, TACTILE(COUNTER A MEMORY)
S933	1-554-303-21	SWITCH, TACTILE(DECK-A)
S934	1-554-303-21	SWITCH, TACTILE(DECK-B)
S941	1-554-303-21	SWITCH, TACTILE(DUBBING MODE HIGH/NORM) (START<DECK-B■>)
S942	1-554-303-21	SWITCH, TACTILE(A+B REC) (START<DECK-B■>)
S943	1-554-303-21	SWITCH, TACTILE(COUNTER B RESET)
S944	1-554-303-21	SWITCH, TACTILE(COUNTER B MEMORY)
S951	1-554-303-21	SWITCH, TACTILE(RMS/START)
S952	1-554-303-21	SWITCH, TACTILE(SET)
S953	1-554-303-21	SWITCH, TACTILE(CHECK)
S954	1-554-303-21	SWITCH, TACTILE(DISPLAY)

< FILTER >

VFD901	1-517-263-11	INDICATOR TUBE, FLUORESCENT
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Ref. No.	Part No.	Description	Remark
*	1-634-841-14	SW-A BOARD(DECK-A)	
*	1-634-841-14	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)
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< 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 DET)
S82	1-571-281-21	SWITCH, LEAF(70μ EQ DET)
S83	1-571-281-21	SWITCH, LEAF(METAL)
S84	1-571-281-21	SWITCH, LEAF(ERASE PROOF SIDE A)
S85	1-571-281-21	SWITCH, LEAF(ERASE PROOF SIDE B)

S86	1-571-281-21	SWITCH, LEAF(HALF)
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MISCELLANEOUS

△5	1-551-188-XX	CORD, POWER(E)
△5	1-558-945-21	CORD, POWER (POLAR. SPT-1) (WR801ES)
△5	1-575-651-21	CORD, POWER(AEP, German)
△5	1-696-845-11	CORD, POWER(AUS)
△6	1-569-007-11	ADAPTER, CONVERSION 2P(E)

16	1-575-849-11	WIRE, FLAT TYPE (9 CORE)
63	1-590-209-21	WIRE (FLAT TYPE) (7 CORE)
67	1-765-406-11	WIRE (FLAT TYPE) (37 CORE)
68	1-590-963-11	WIRE (FLAT TYPE) (7 CORE)
70	1-690-420-11	WIRE, FLAT TYPE (7 CORE)

HRPE101A-2003-838-F	DECK ASSY, HEAD (RECORD/PLAYBACK/ERASE) (DECK-A)
HRPE101A-2003-838-F	DECK ASSY, HEAD (RECORD/PLAYBACK/ERASE) (DECK-B)

IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)
M1	X-3365-377-1	MOTOR ASSY, CAPSTAN (DECK-A)
M1	X-3365-377-1	MOTOR ASSY, CAPSTAN (DECK-B)

M2	X-3363-501-2	MOTOR ASSY, REEL (DECK-A)
M2	X-3363-501-2	MOTOR ASSY, REEL (DECK-B)
△T801	1-426-784-11	TRANSFORMER, POWER(WR801ES)
△T801	1-426-785-11	TRANSFORMER, POWER(AEP, German, AUS)

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	Ref. No.	Part No.	Description	Remark
△T801	1-426-910-11	TRANSFORMER, POWER(E)				***** HARDWARE LIST *****	
△VS801	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR) (E)					
*****				#1	7-682-548-09	SCREW +BVT 3X8 (S)	
ACCESSORIES & PACKING MATERIALS				#2	7-682-547-09	SCREW +BVT 3X6 (S)	
*****				#3	7-685-646-79	SCREW +BVT 3X8 TYPE2 IT-3	
	1-558-271-11	CORD, CONNECTION		#4	7-621-849-00	SCREW (BV/RING)	
	1-558-271-11	CORD, CONNECTION		#5	7-621-773-95	SCREW +BVT 2.6X6 (S)	
	1-558-271-11	CORD, CONNECTION		#6	7-685-134-19	SCREW (+ PTPWH) (2.6X8)	
*	3-376-446-01	CUSHION		#8	7-627-556-08	SCREW +P 2.6X2.8	
*	3-388-322-51	INDIVIDUAL CARTON(WR745S)		#9	7-621-775-00	SCREW +B 2.6X3	
*	3-388-322-91	INDIVIDUAL CARTON(WR801ES)					
	3-755-288-11	MANUAL, INSTRUCTION (RM-J903) (ENGLISH/FRENCH) (Canadian)					
	3-758-386-11	MANUAL, INSTRUCTION(ENGLISH/FRENCH/ SPANISH/PORTUGUESE) (AEP, E)					
	3-758-386-21	MANUAL, INSTRUCTION(ENGLISH) (WR745S:AUS, WR801ES)					
	3-758-386-31	MANUAL, INSTRUCTION(FRENCH) (Canadian)					
	3-758-386-41	MANUAL, INSTRUCTION(GERMAN/DUTCH/ SWEDISH/ITALIAN) (AEP)					
	3-758-386-51	MANUAL, INSTRUCTION(GERMAN) (German)					
	1-465-738-11	REMOTE COMMANDER(RM-J903) (Canadian)					
	2-181-754-21	COVER, BATTERY(for RM-J903) (Canadian)					

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