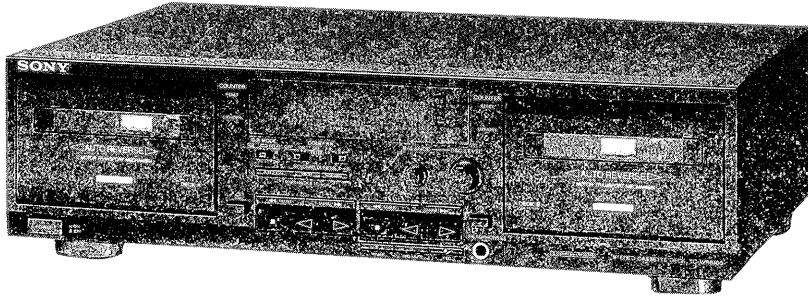


TC-WR635S

SERVICE MANUAL



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

Model Name Using Similar Mechanism		TC-WR521/WR590
Tape Transport Mechanism Type	DECK A	TCM-190RA12C
	DECK B	TCM-190RB12C

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 (Sony METAL-S)	Type II (Sony UX-S)	Type I (Sony HF-S)
	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 (Sony METAL-S)	30 - 18,000 Hz (± 3 dB, IEC) 30 - 13,000 Hz [± 3 dB (-4 dB) recording]
Type II cassette (Sony UX-S)	30 - 17,000 Hz (± 3 dB, IEC)
Type I cassette (Sony HF-S)	30 - 15,000 Hz (± 3 dB, IEC)

Wow and flutter

$\pm 0.13\%$ W.Peak (IEC)
0.07% W.RMS (NAB)
 $\pm 0.18\%$ W.Peak (DIN)

Inputs

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

— Continued on page 2 —

Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of
Dolby Laboratories Licensing Corporation.



STEREO CASSETTE DECK
SONY®

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 UK, Australian model : 240V AC, 50/60Hz AEP, Germany model : 220-230V AC, 50/60Hz E model : 120, 220, 240V AC, 50/60Hz
Power consumption	25 W
Dimensions	Approx. 430 × 123 × 310 mm (w/h/d) (17 × 4 7/8 × 12 1/4 inches) including projecting parts and controls
Mass	Approx. 4.5 kg (9 lbs 15 oz)

Supplied accessories

Audio connecting cords (2)

Design and specifications subject to change without notice.

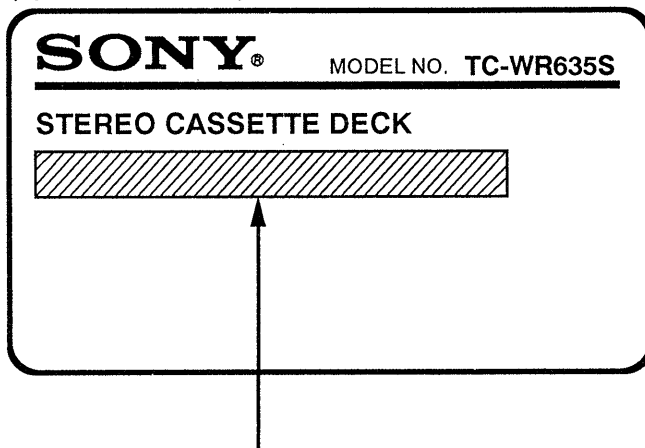
Note

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

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MODEL IDENTIFICATION (Specification Label)



US, Canadian model : AC 120V 60Hz
 UK, Australian model : AC 240V~50/60Hz
 AEP, Germany 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)

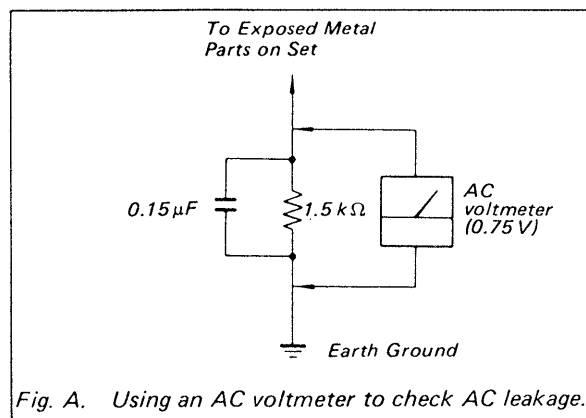


Fig. A. Using an AC voltmeter to check AC leakage.

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.

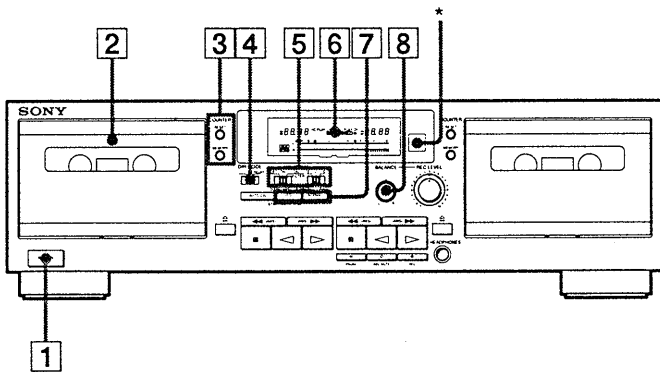
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

1-1. IDENTIFYING THE PARTS

This section is extracted from instruction manual.



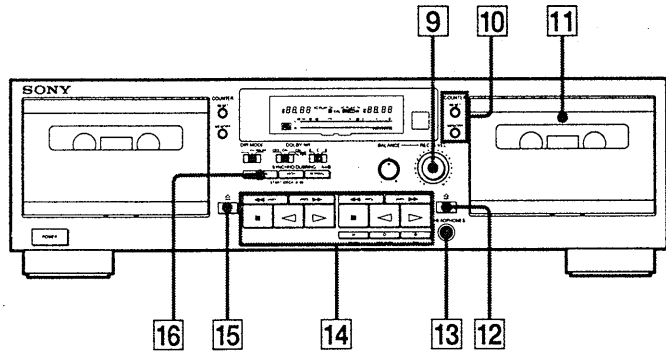
Front Panel

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

- 1** POWER switch
- 2** Deck A
- 3** COUNTER buttons (deck A)
RESET button
MEMORY button
- 4** DIR (direction) MODE switch
- 5** DOLBY NR (Dolby noise reduction) switches
OFF/ON/FILTER ON switch
B/C/S switch
- 6** Display panel
- 7** SYNCHRO DUBBING buttons
HIGH button
NORMAL button
- 8** BALANCE control

- * 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.

(Continued on next page.)



Front Panel

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

- 9** REC (recording) LEVEL control
- 10** COUNTER buttons (deck B)
RESET button
MEMORY button
- 11** Deck B
- 12**  (eject) button (deck B)
- 13** HEADPHONES jack
(stereo phone jack)
- 14** Tape operation buttons
 (leftward fast winding) (Multi-AMS**) button
 (rightward fast winding) (Multi-AMS**) button
 (stop) button
 (reverse play) button
 (forward play) button
 PAUSE button (deck B only)
 REC MUTE (record muting) button (deck B only)
 REC (recording) button (deck B only)
- 15**  (eject) button (deck A)
- 16** AUTO CAL button

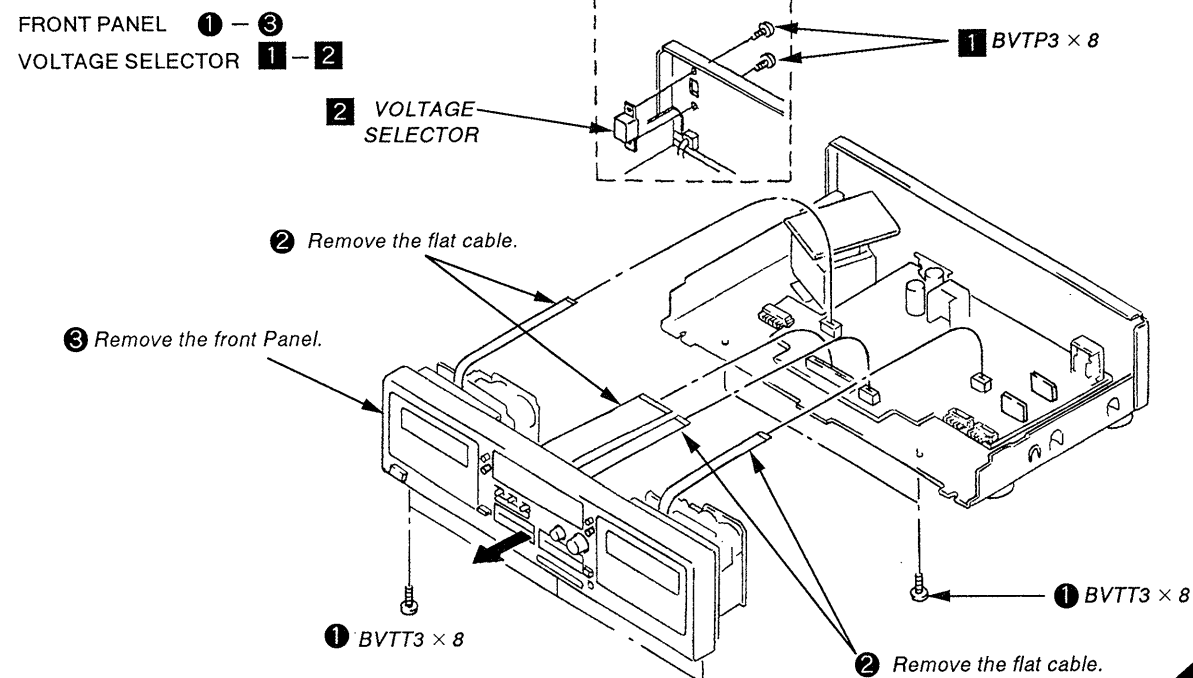
** AMS is an abbreviation for Automatic Music Sensor.

SECTION 2 DISASSEMBLY

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

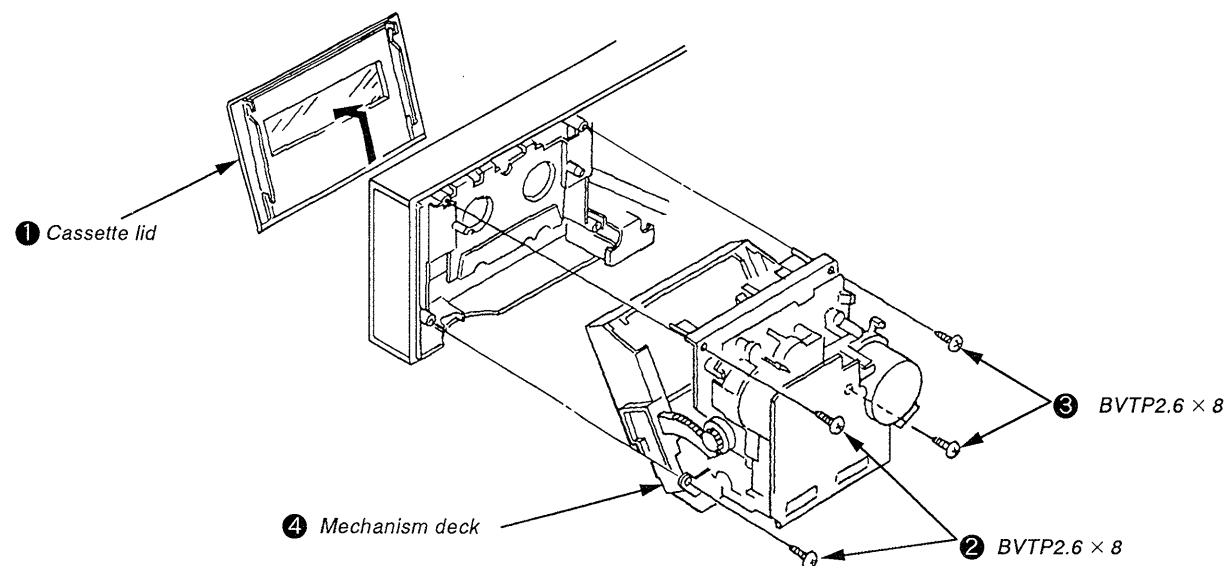
CASE
Unscrew the four case attachment screws M3 × 8 and remove the case.

2-1. FRONT PANEL

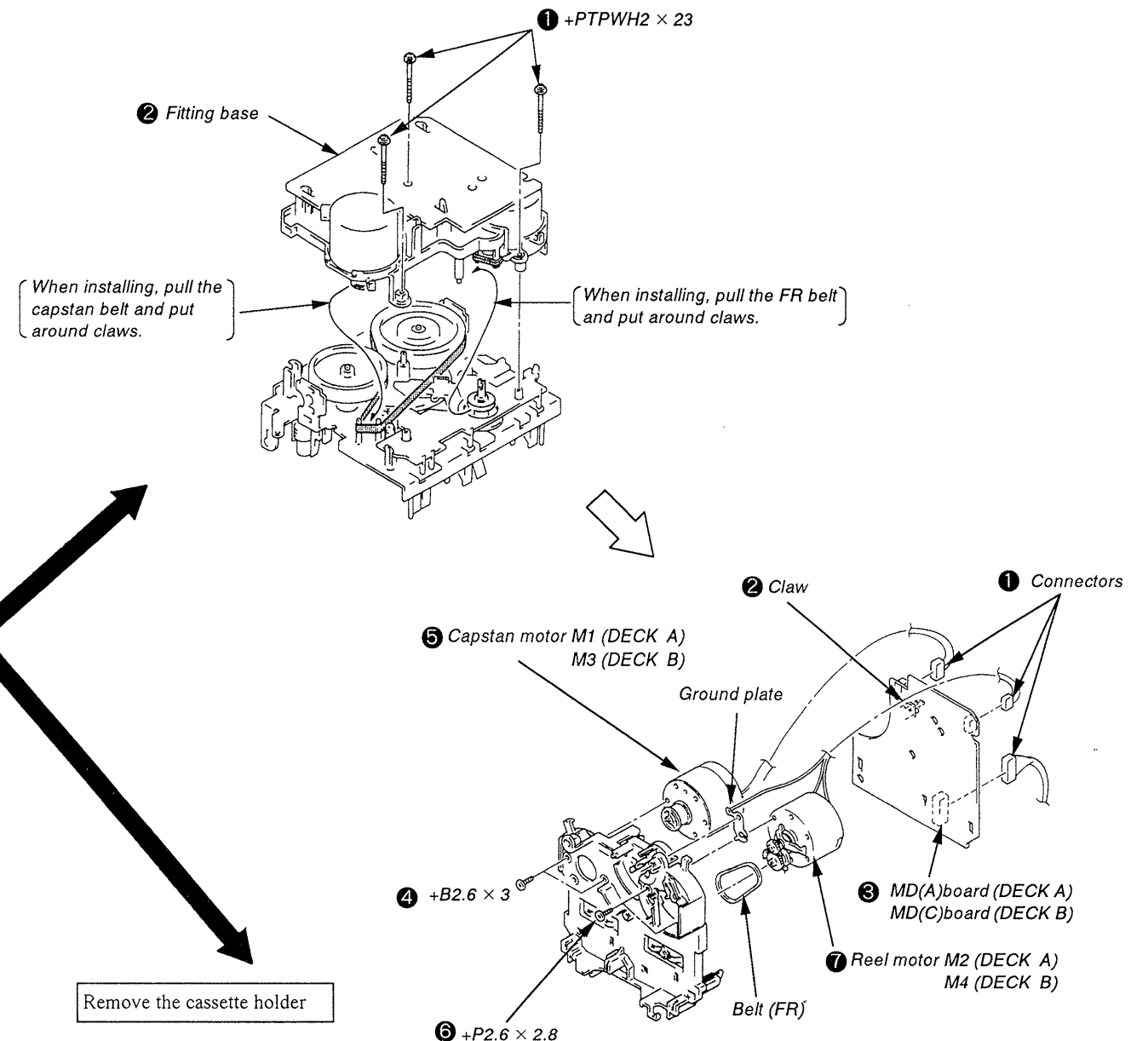


2-2. MECHANISM DECK

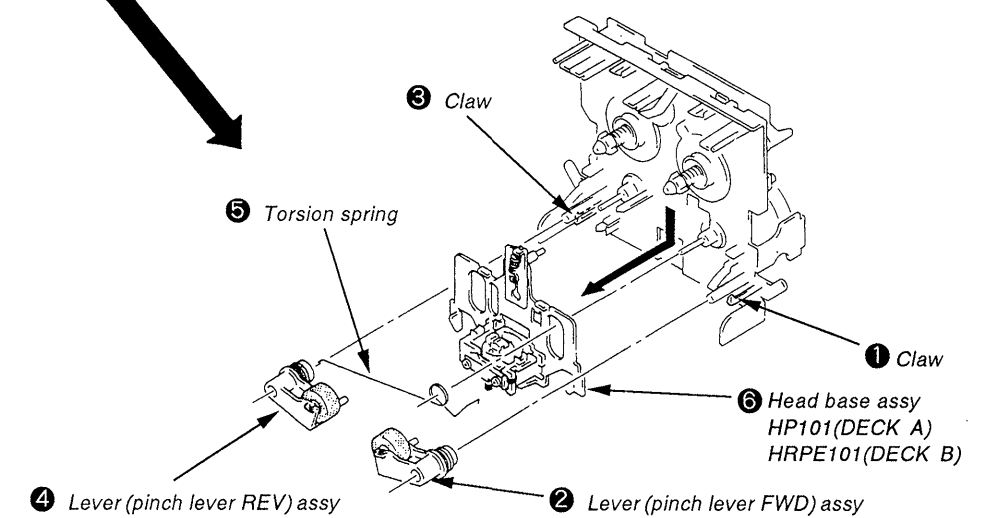
① Press the EJECT button.



2-3. CAPSTAN MOTOR, REEL MOTOR



2-4. HEAD, PINCH ROLLER



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

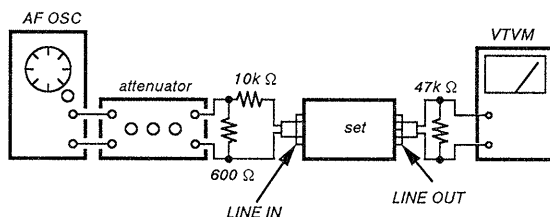
Torque	Torque	Meter reading
Forward	CQ-102C	30 to 65g • cm (0.42 to 0.9 oz • inch)
Forward back tension	CQ-102C	DECK A : 1 to 6g • cm (0.014 to 0.083 oz • inch) DECK B : 2 to 9g • cm (0.03 to 0.12 oz • inch)
Reverse	CQ-102RC	30 to 65g • cm (0.42 to 0.9 oz • inch)
Reverse back tension	CQ-102RC	1 to 6g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

- 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 : $\rightleftharpoons$
 - 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

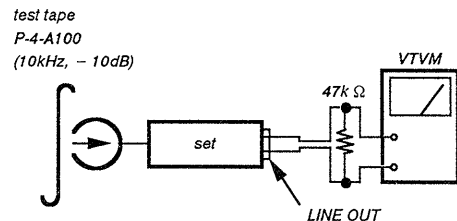
Test Mode

- Insert a short-circuit plug into TP801 (2P) and turn ON the power switch. (Earth pin ⑨ 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.)
- To release the test mode, remove the short plug and turn off the power switch.
- Remove the short plug after completion of adjustment.

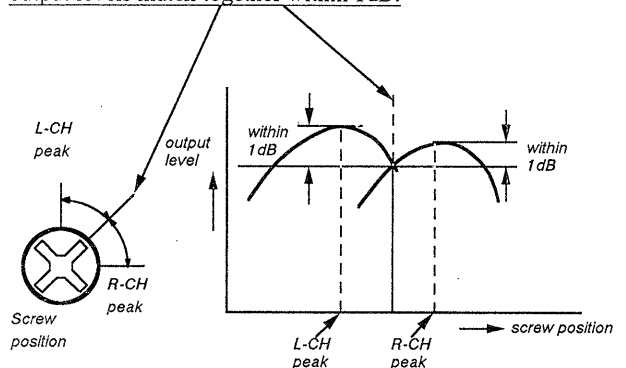
Record/Playback Head Azimuth Adjustment

Procedure :

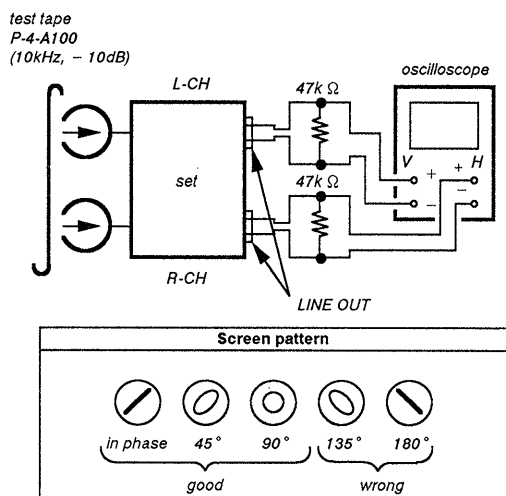
- Forward playback Mode



- 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.

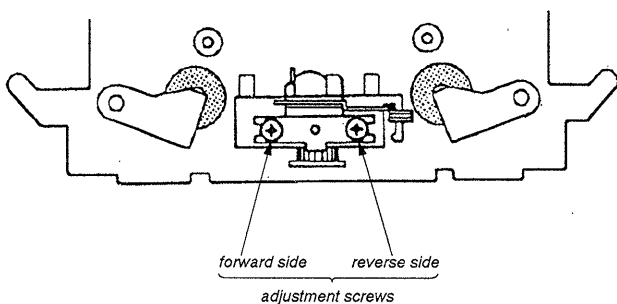


3. Playback Mode



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.

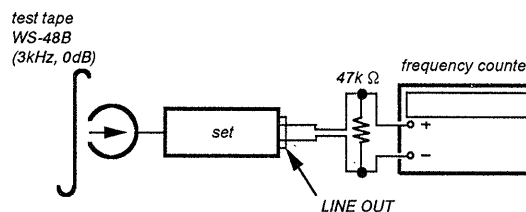
Adjustment Location : – record/playback head –



Tape Speed Adjustment

Procedure :

– Forward Playback Mode –



(high speed adjustment)

1. Connect ⑩ 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%.

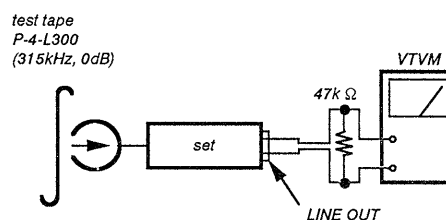
Frequency difference between the deck A and deck B the beginning of the tape should be within 1.5%.

Adjustment Location : AUDIO board

Playback Level Adjustment

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.

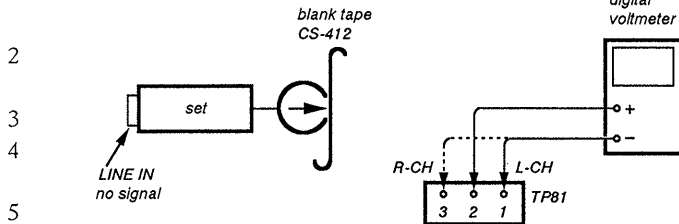
Adjustment Location : AUDIO board

3 Bias Consumption Current Adjustment

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

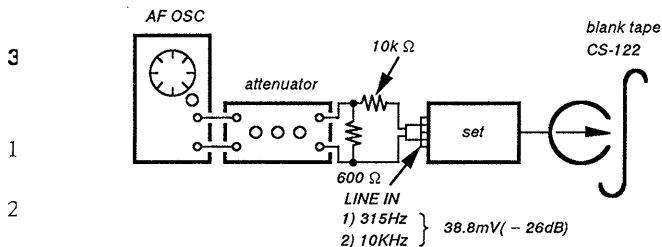
Record Bias Adjustment

Setting :

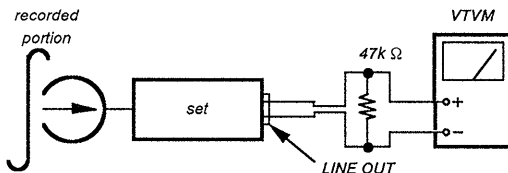
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



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

Adjustment Location : AUDIO board

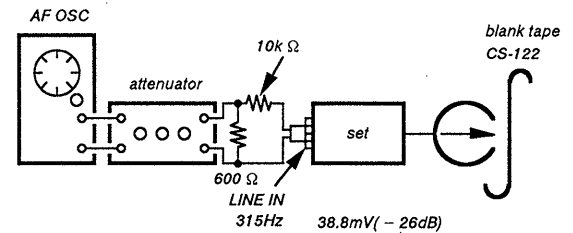
Record Level Adjustment

Setting :

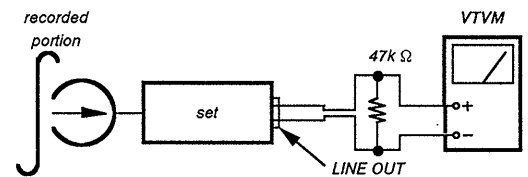
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm playback the tape recorded become adjustment level as follows.

If necessary, adjust RV131(L-CH), RV231(R-CH) and repeat the steps 1 and 2.

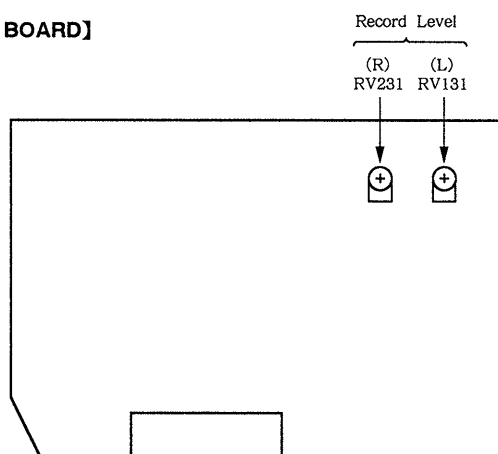
Adjustment Value :

LINE OUT level : $-26 \pm 0.5\text{dB}$ (36.7 to 41.1mV)

Adjustment Location : MAIN board

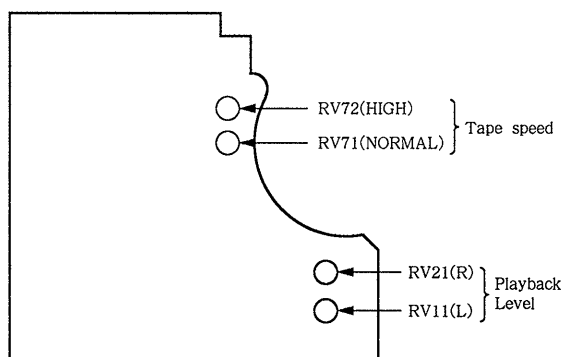
— Adjustment Parts Location Diagrams —

【MAIN BOARD】



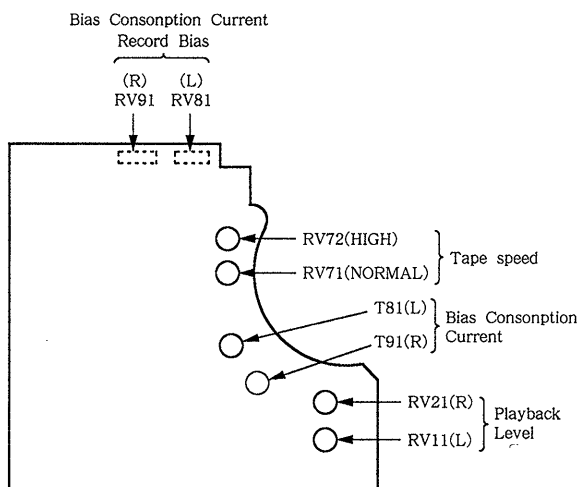
DECK A :

【AUDIO BOARD】



DECK B :

【AUDIO BOARD】



SECTION 4

EXPLANATION OF IC TERMINALS

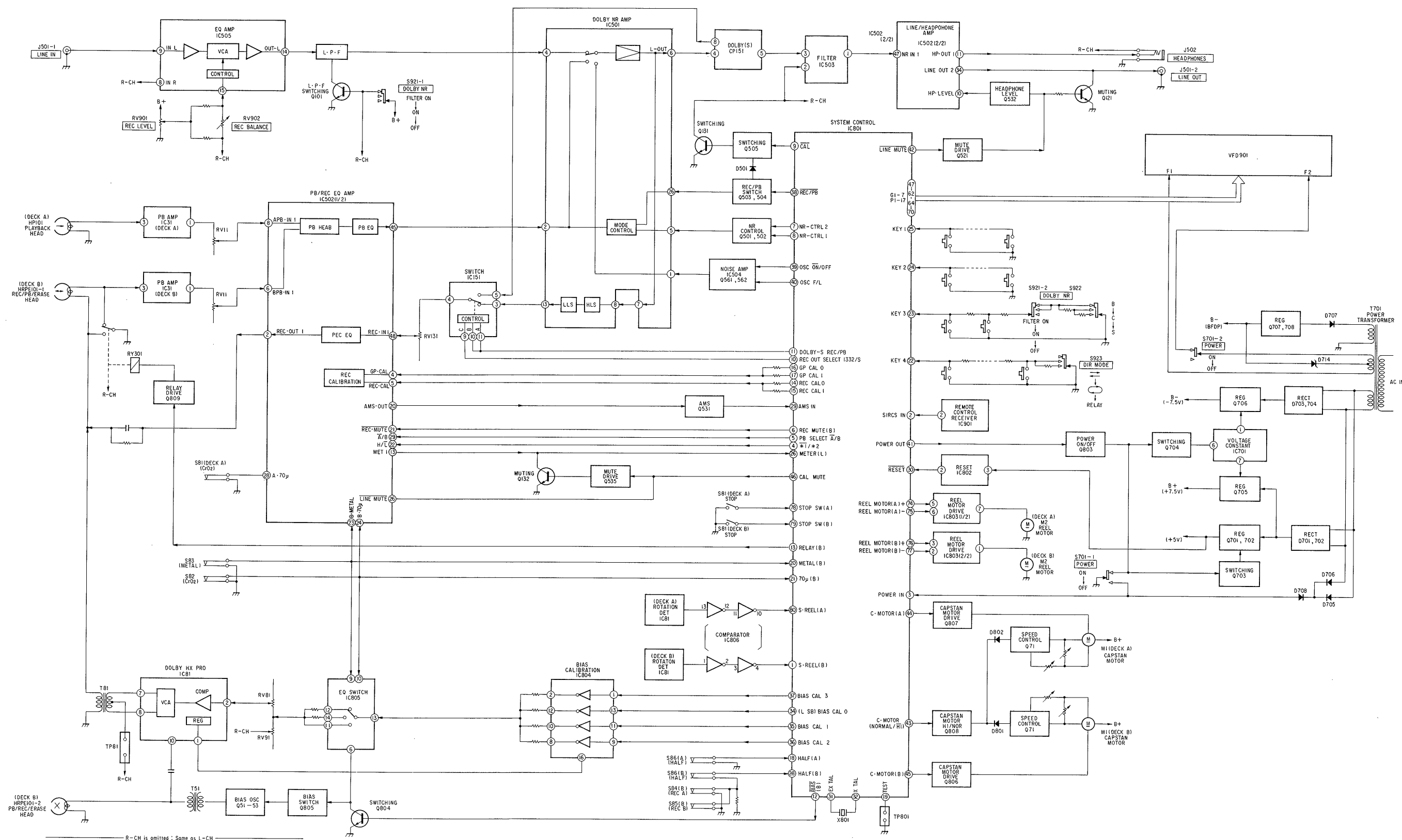
IC801 CXP82316-017Q

Pin No.	Terminal name	I/O	Terminal explanation
1	S. REEL(B)	I	S-Side reel rotation detection at B-deck.
2	SIRCS IN	I	Sircs signal in terminal.
3	POWER IN	I	Power OFF. OFF = 0V
4	$\overline{*1} / *2$	O	Normal/High selector for equalizer.
5	PB SELECT $\overline{A/B}$	O	Playback A/B selector. "L" : A-deck, "H" : B-deck
6	REC MUTE(B)	O	Recording mute ON/OFF. "L" : ON
7	NR-CTRL2	O	Dolby NR control. "L" : OFF, "M" : B, "H" : C
8	NR-CTRL1	O	Dolby NR control. "L" : OFF, "M" : B, "H" : C
9	$\overline{CAL}$	O	Calibration ON/OFF control.
10	REC OUT SELECT 1332/s	O	Recording 1332/s selector.
11	DOLBY-S REC/ $\overline{PB}$	O	Dolby-S Playback/Recording selector.
12	$\overline{BIAS(B)}$	O	Bias ON/OFF at B-deck. "H" : ON
13	RELAY (B)	O	Recording/Playback selector at B-deck. "L" : Recording
14	REC CAL0	O	Recording calibration. "H" : ON
15	REC CAL1	O	Recording calibration. "H" : ON
16	GP CAL0	O	GP calibration terminal.
17	GP CAL1	O	Gp calibration terminal.
18	HALF (A)	I	Half pawl input for A-deck. "L" : Available
19	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	KEY 4	I	Key input.
23	KEY 3	I	Key input.
24	KEY 2	I	Key input.
25	KEY 1	I	Key input.
26	METER(L)	I	Meter L-CH input.
27	METER(R)	I	Meter R-CH input.
28	HALF(B)	I	Half pawl input for B-deck. "L" : Available
29	AMS IN	I	AMS signal input terminal.
30	$\overline{RESET}$	I	Reset terminal. Reset : 0V
31	EXTAL	O	System clock output terminal.
32	XTAL	I	System clock input terminal.
33	V _{ss}	—	Power supply (GND)
34	(LSB) 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	$\overline{REC/PB}$	O	Recording/Playback selector for Dolby IC. "H" : Playback
39	OSC $\overline{ON/OFF}$	O	OSC ON/OFF control. "H" : OFF
40	OSC $\overline{H/L}$	O	OSC H/L control terminal.

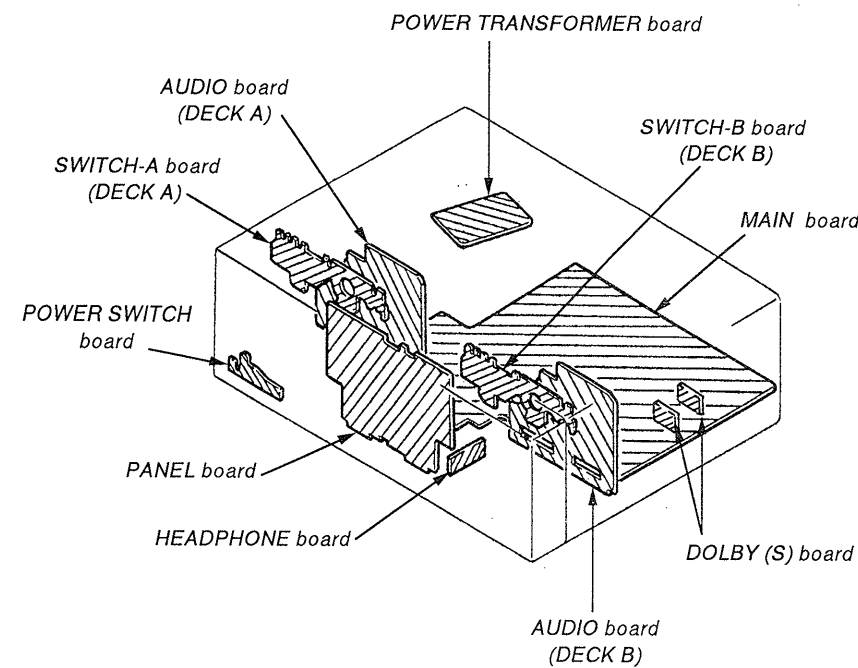
Pin No.	Terminal name	I/O	Terminal explanation
41	POWER OUT	O	Power ON/OFF
42	LIN MUTE	O	Line mute ON/OFF. "L" : ON
43	C. MOT(NORMAL/HI)	O	Capstan motor speed selector. "L" : Normal
44	C. MOTOR(A)	O	Capstan motor output at A-deck.
45	C. MOTOR(B)	O	Capstan motor output at B-deck.
46	CAL MUTE	O	Calibration mute. "H" : ON
47	P17	O	VFD Segment.
48	P15	O	VFD Segment.
49	P14	O	VFD Segment.
50	P13	O	VFD Segment.
51	P12	O	VFD Segment.
52	P11	O	VFD Segment.
53	P10	O	VFD Segment.
54	P9	O	VFD Segment.
55	P8	O	VFD Segment.
56	P7	O	VFD Segment.
57	P6	O	VFD Segment.
58	P5	O	VFD Segment.
59	P4	O	VFD Segment.
60	P3	O	VFD Segment.
61	P2	O	VFD Segment.
62	P1	O	VFD Segment.
63	—	—	Not used.
64	G1	O	VFD Grid.
65	G2	O	VFD Grid.
66	G4	O	VFD Grid.
67	G5	O	VFD Grid.
68	G3	O	VFD Grid.
69	G7	O	VFD Grid.
70	G6	O	VFD Grid.
71	VFDP	—	VFD Power.
72	VDD	—	Power supply (+5V)
73	—	—	+5V
74	REEL MOTOR(A) +	O	Reel motor (+) output at A-deck. "H" : FF.
75	REEL MOTOR(A) —	O	Reel motor (—) output at A-deck. "H" : REW.
76	REEL MOTOR(B) +	O	Reel motor (+) output at B-deck. "H" : FF.
77	REEL MOTOR(B) —	O	Reel motor (—) output at B-deck. "H" : REW.
78	STOP SW(A)	I	Mechanism stop switch input for A-deck.
79	STOP SW(B)	I	Mechanism stop switch input for B-deck.
80	S. REEL(A)	I	S-Side reel rotation detection at A-deck.

SECTION 5 DIAGRAMS

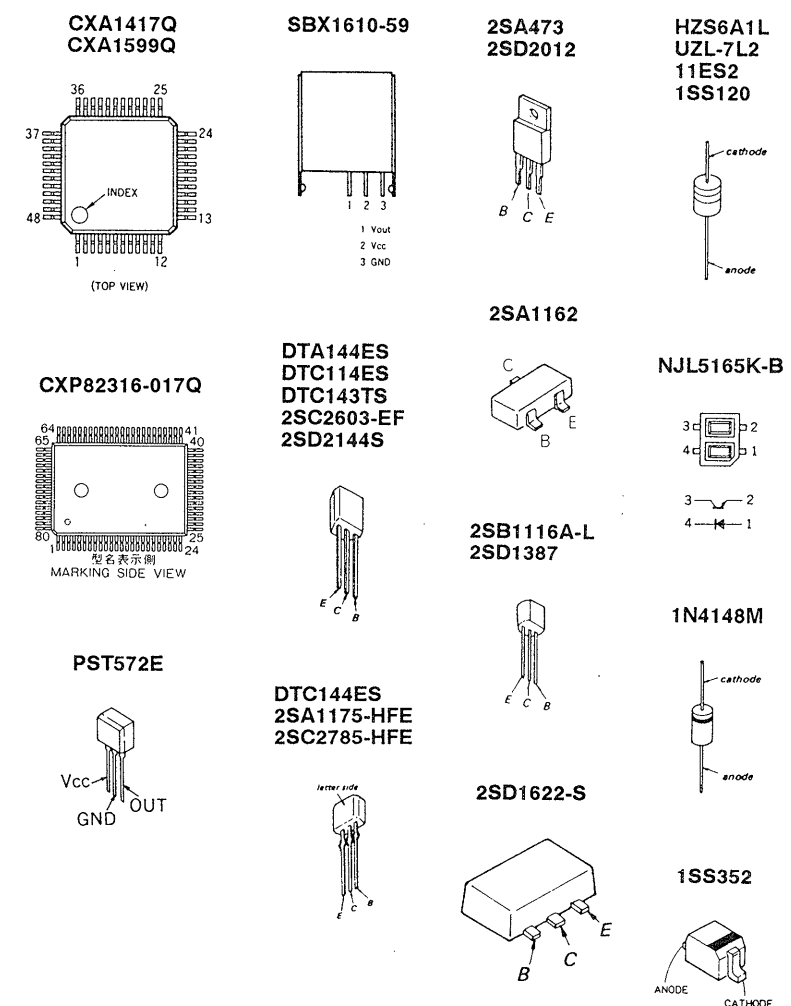
5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARDS LOCATION



• SEMICONDUCTOR LEAD LAYOUTS



● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D131	G-22	Q101	E-16
D231	G-22	Q121	B-18
D501	F-17	Q131	E-17
D502	E-18	Q132	E-22
D531	D-22	Q201	C-16
D581	B-13	Q221	B-17
D582	B-13	Q231	D-17
D701	B-23	Q232	E-21
D702	B-23	Q501	F-17
D703	C-23	Q502	F-17
D704	C-23	Q503	F-18
D705	B-23	Q504	F-16
D706	B-23	Q505	F-17
D707	D-23	Q521	B-18
D708	E-23	Q531	D-22
D709	B-23	Q532	F-19
D710	B-21	Q535	F-22
D711	C-21	Q561	B-13
D712	C-20	Q562	B-13
D713	D-22	Q701	B-22
D714	D-22	Q702	B-22
D715	B-24	Q703	B-23
D716	B-21	Q704	B-21
D801	G-13	Q705	B-21
D802	I-17	Q706	D-21
IC151	D-13	Q707	D-22
IC251	C-13	Q708	D-22
IC501	D-15	Q803	J-18
IC502	D-19	Q804	G-14
IC503	D-17	Q805	G-14
IC504	B-13	Q806	I-17
IC505	B-16	Q807	I-17
IC701	C-20	Q808	I-17
IC801	I-21	Q809	F-15
IC802	H-23	Q810	G-21
IC803	G-24	CP151	E-13
IC804	H-16	CP251	C-13
IC805	H-15		
IC806	G-22		
IC901	J-32		

● SEMICONDUCTOR LOCATION (DECK A)

Ref. No.	Location
IC31	D-3
IC81	C-10
Q71	D-5

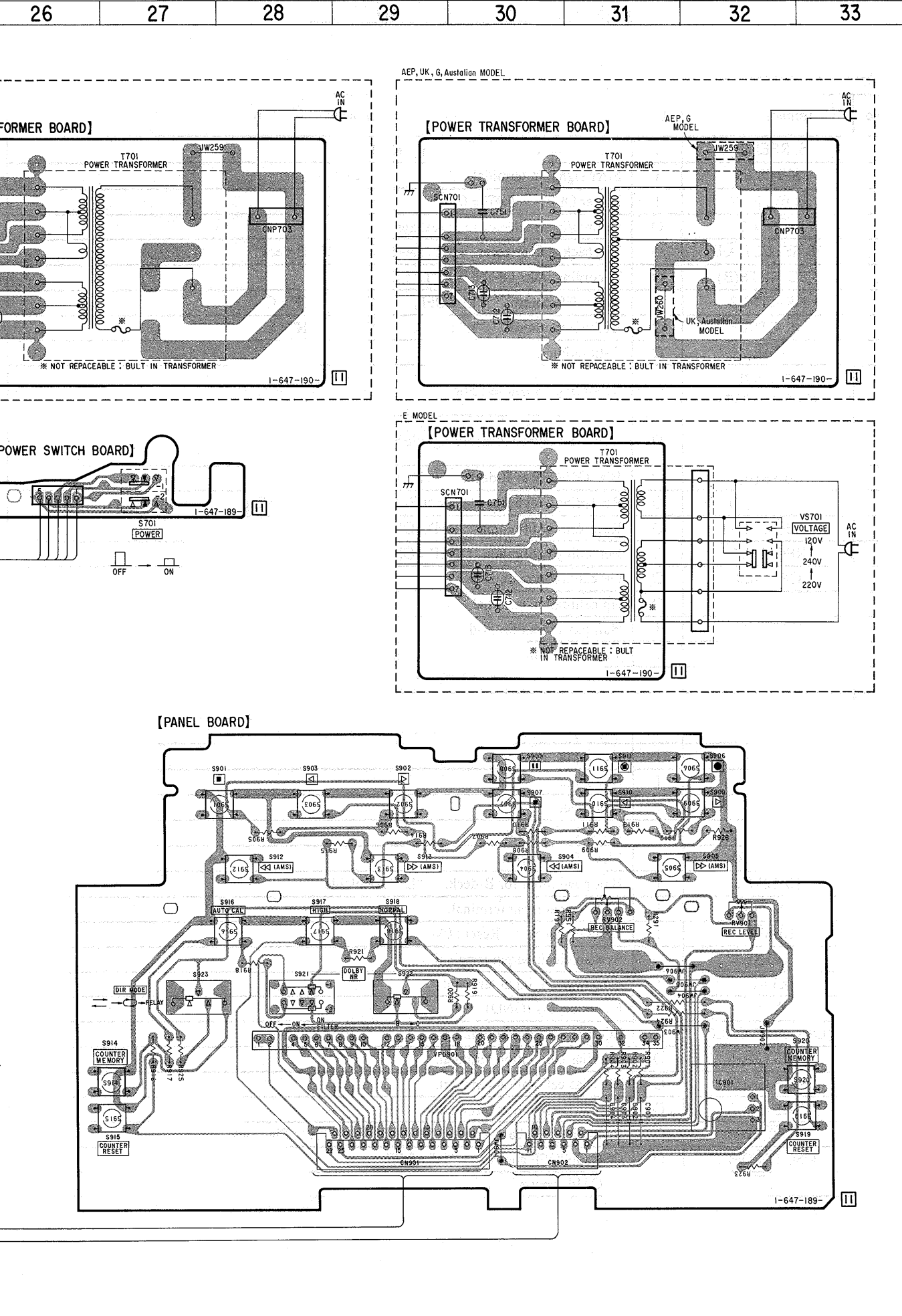
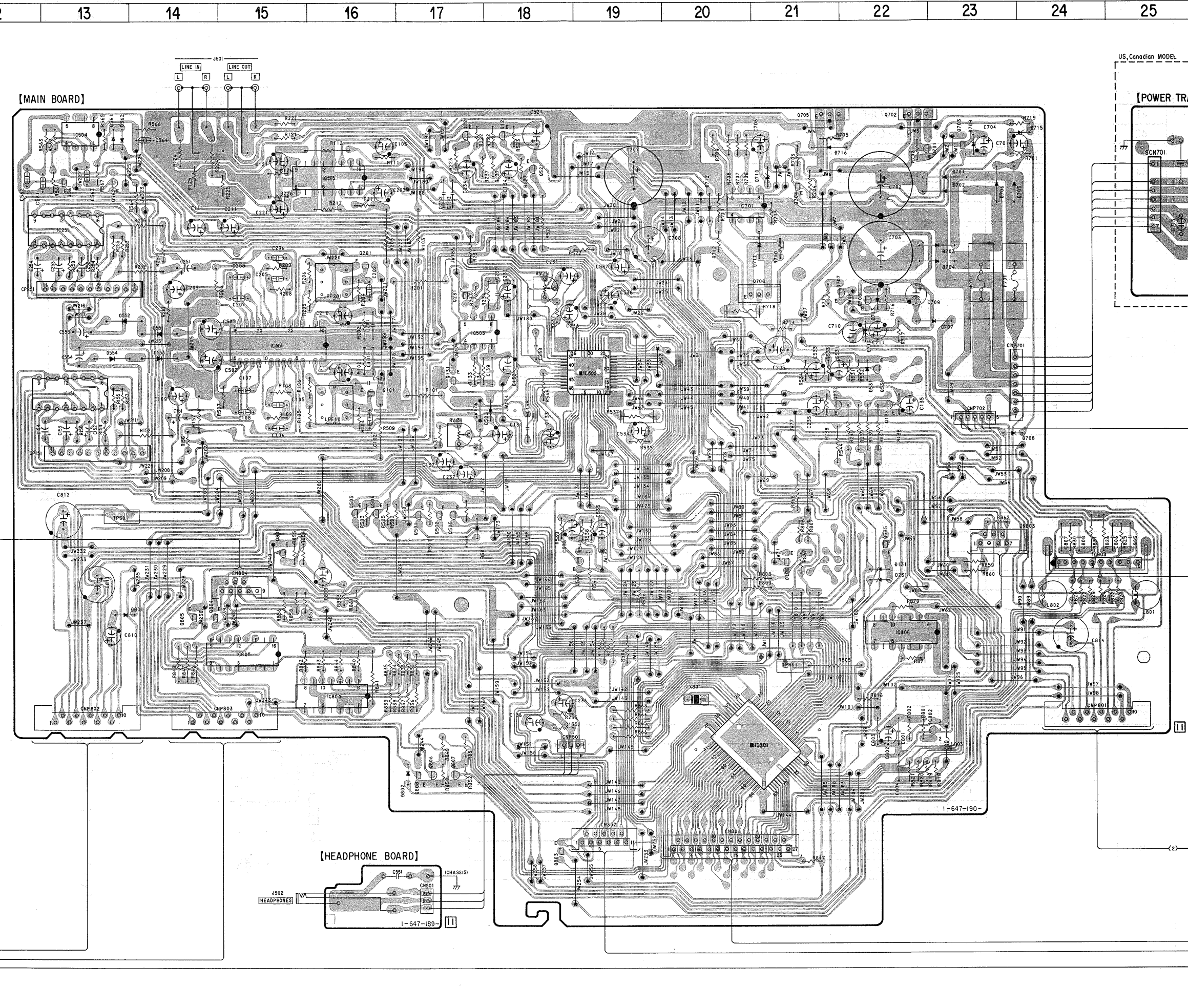
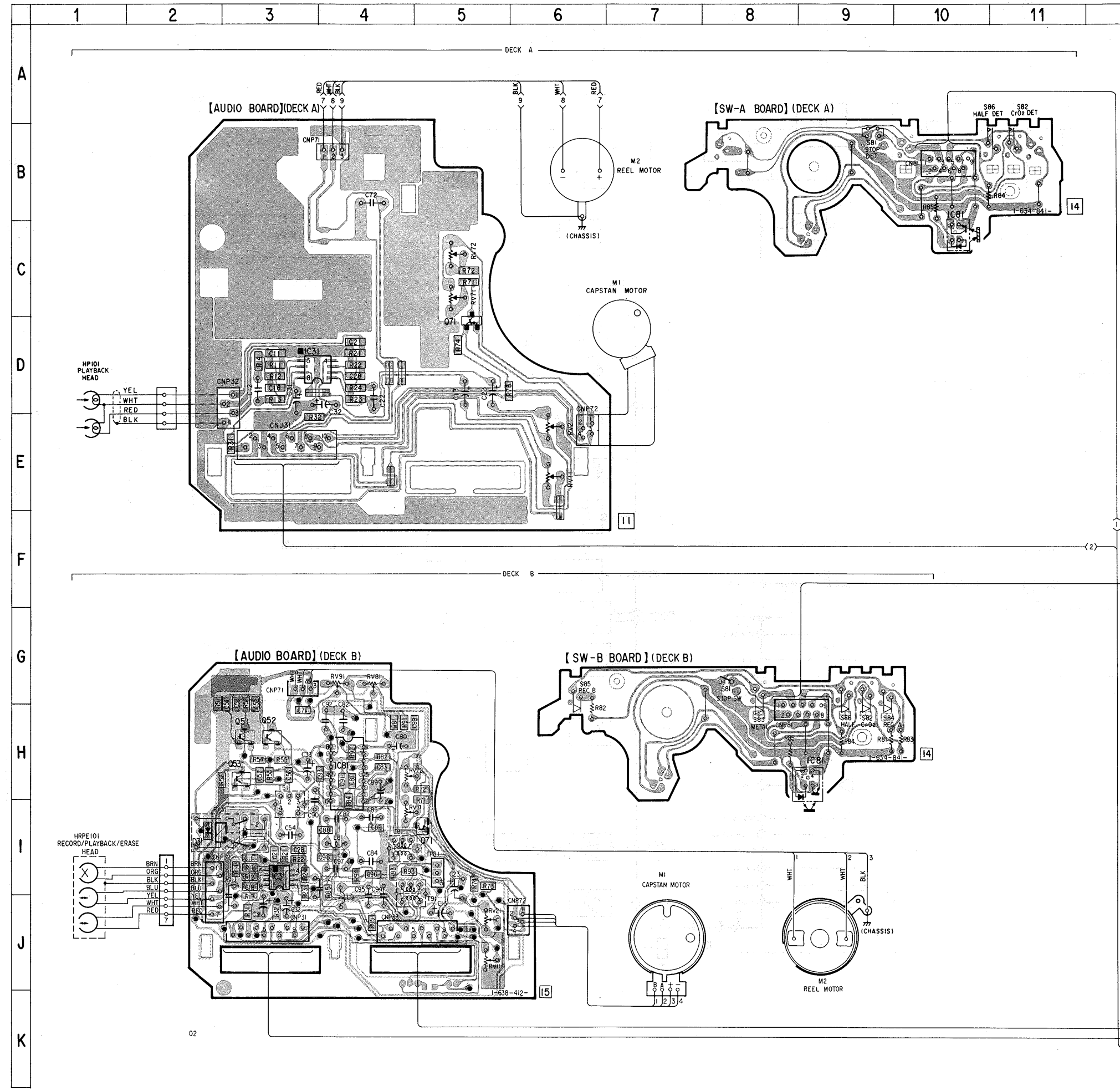
● SEMICONDUCTOR LOCATION (DECK B)

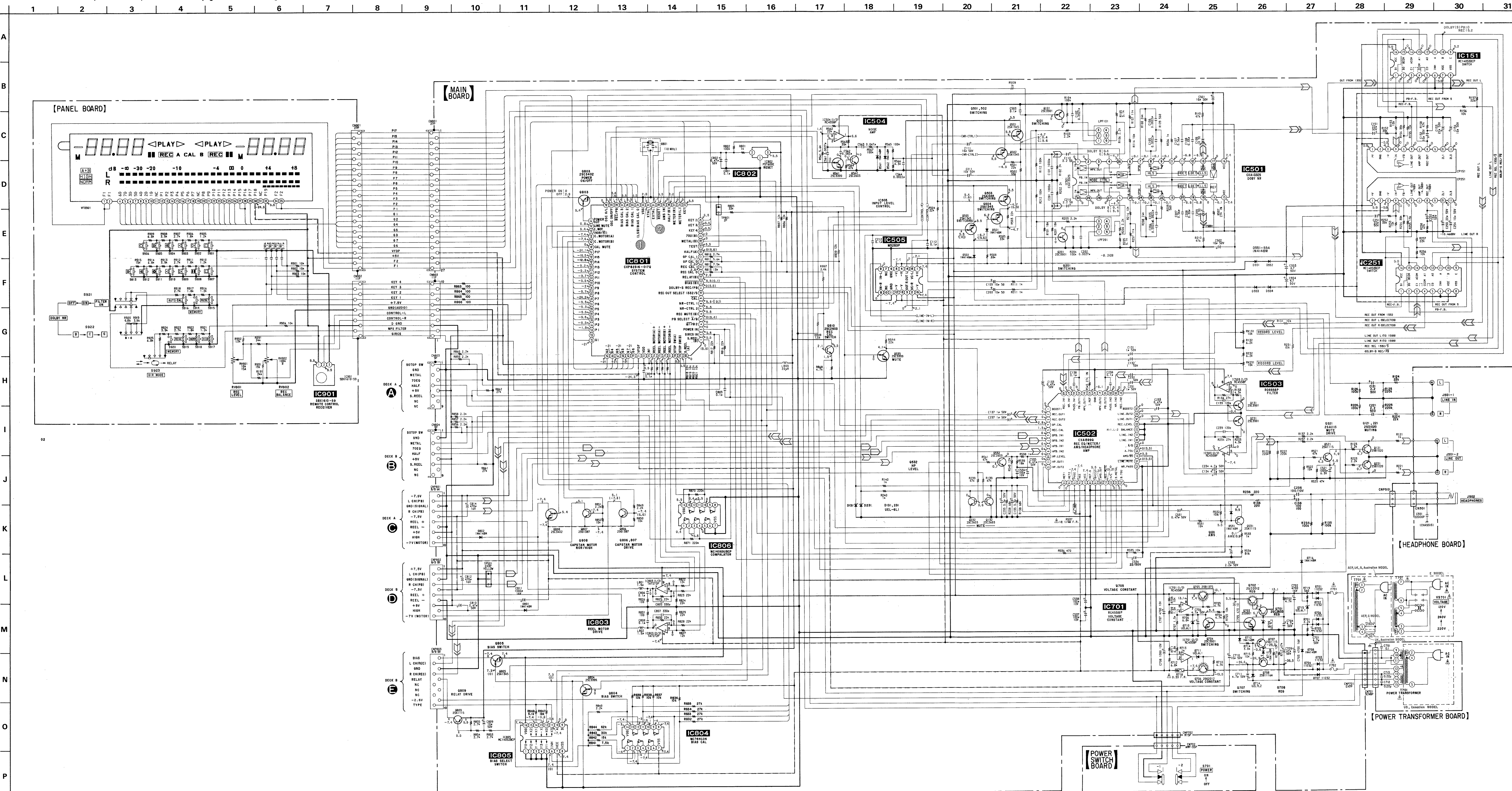
Ref. No.	Location
D31	I-2
IC31	I-2
IC81	H-4 (AUDIO)
	H-9 (SW-A)
Q51	H-3
Q52	H-3
Q53	H-3
Q71	I-5

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.
- : Chip components extracted from the rear side.
- G : Germany
- AUS : Australian

5-3. PRINTED WIRING BOARDS (MAIN SECTION) ● Refer to page 15 for Semiconductor Lead Layouts.

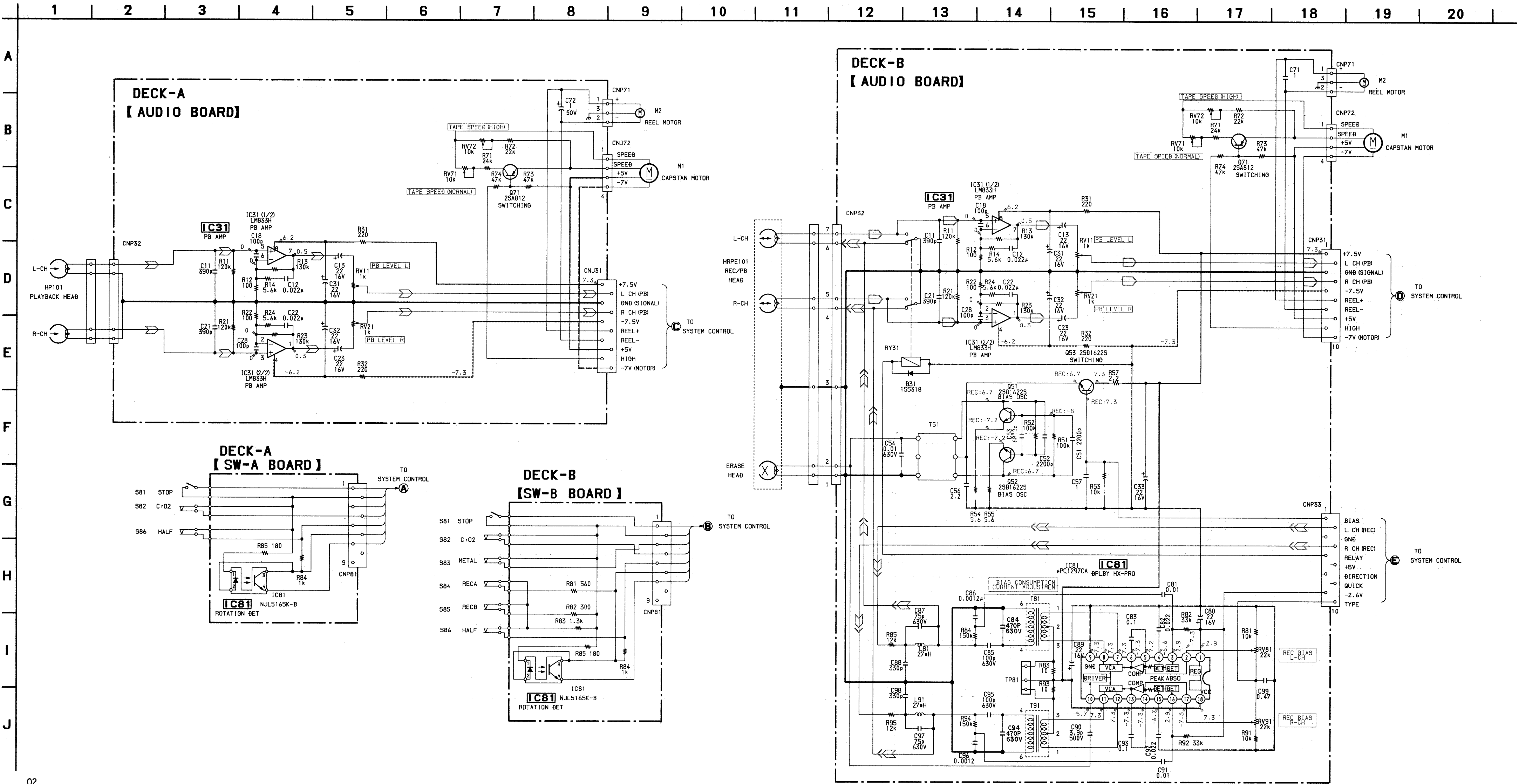




5-5. SCHEMATIC DIAGRAM (AUDIO SECTION)

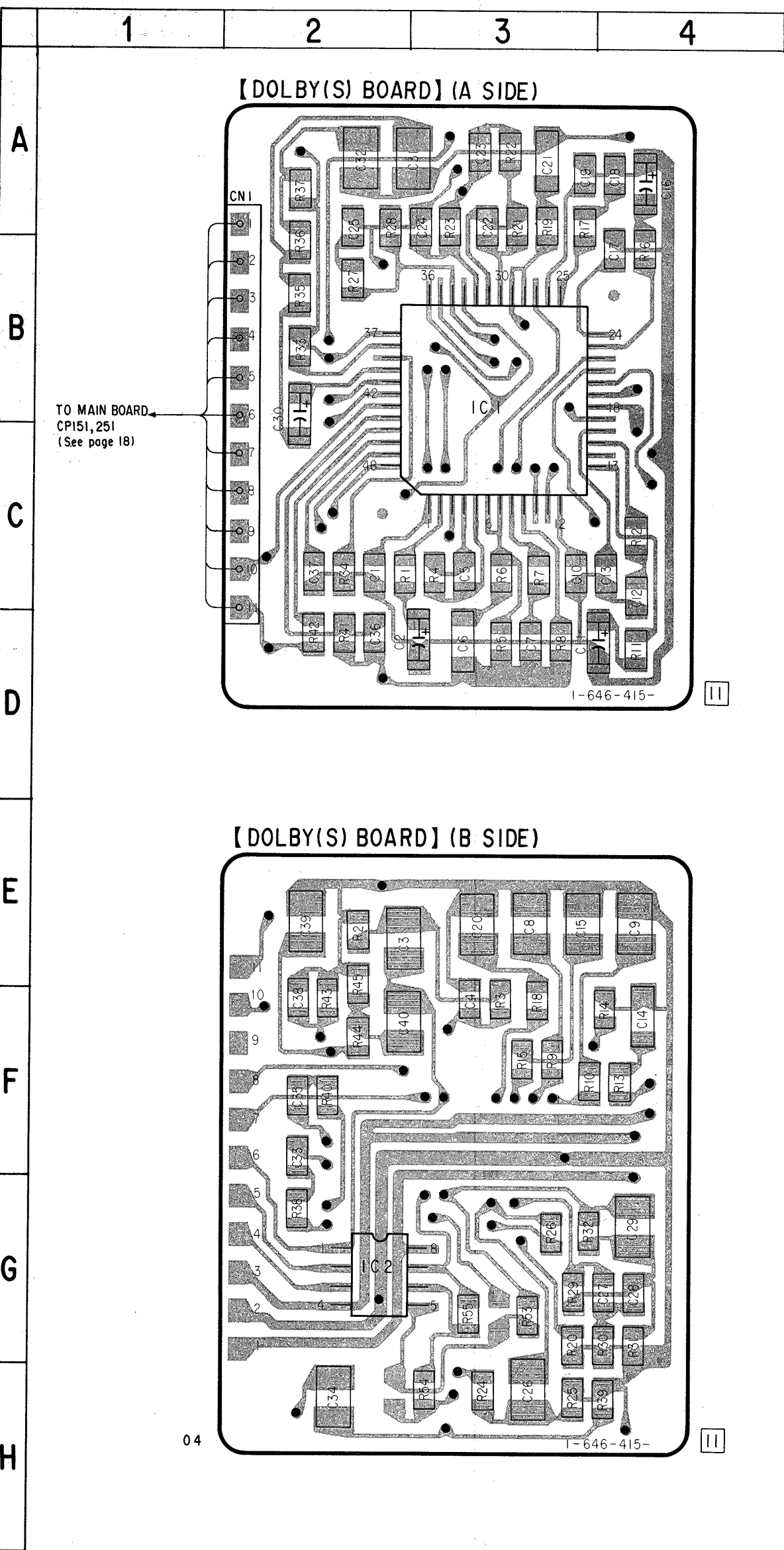
• Refer to page 21 for Note.

• Refer to page 33 for IC Block Diagrams.



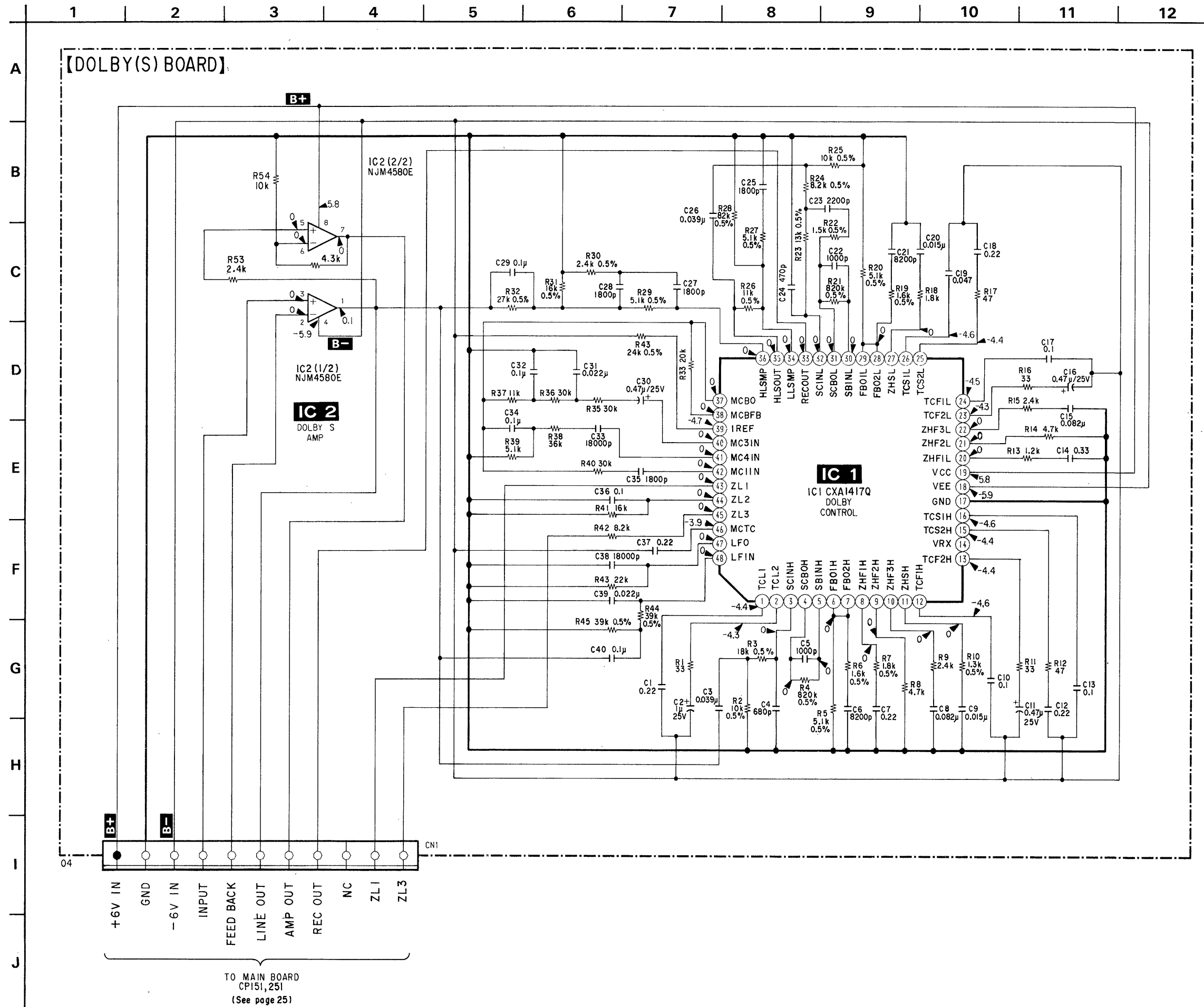
5-6. PRINTED WIRING BOARDS (DOLBY (S) BOARD)

• Refer to page 16 for Note.



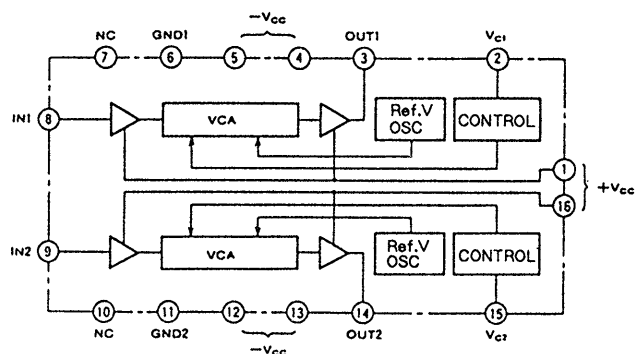
5-7. SCHEMATIC DIAGRAM (DOLBY (S) BOARD)

● Refer to page 21 for Note.

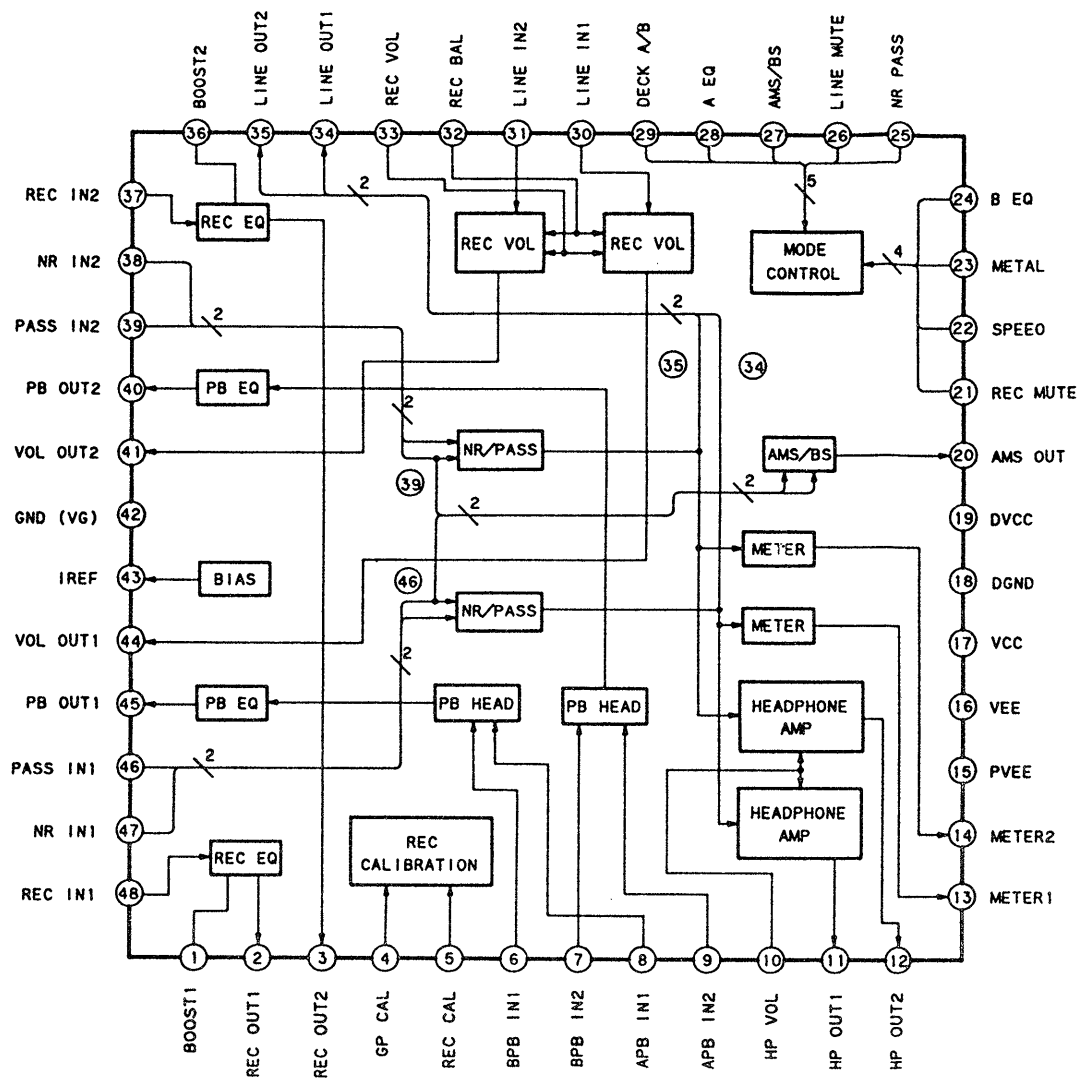


● IC BLOCK DIAGRAMS

IC505 M5283P



IC502 CXA1599Q



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 is given in the last of this parts list.

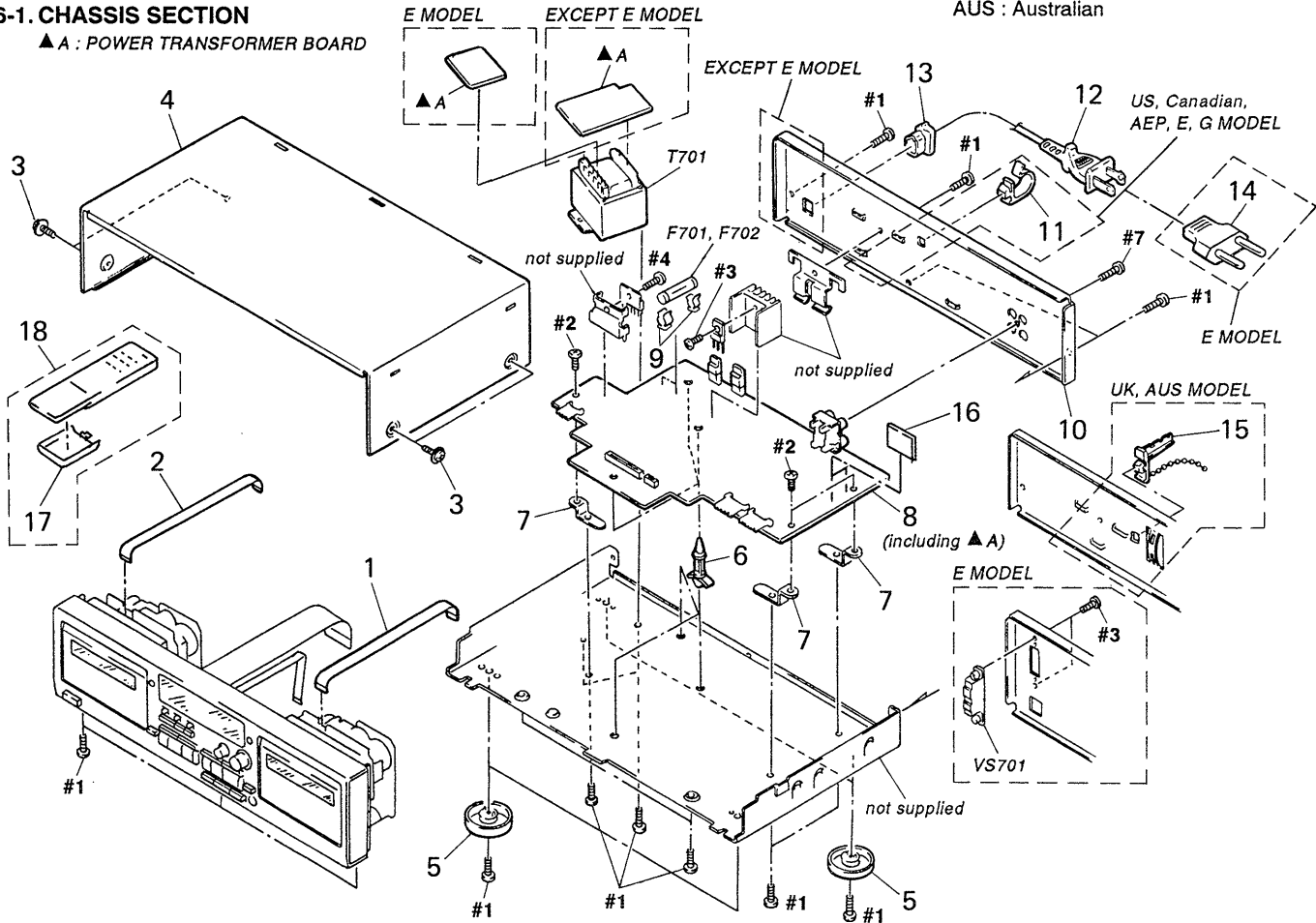
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

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

- G : Germany
AUS : Australian

6-1. CHASSIS SECTION

▲ A : POWER TRANSFORMER BOARD



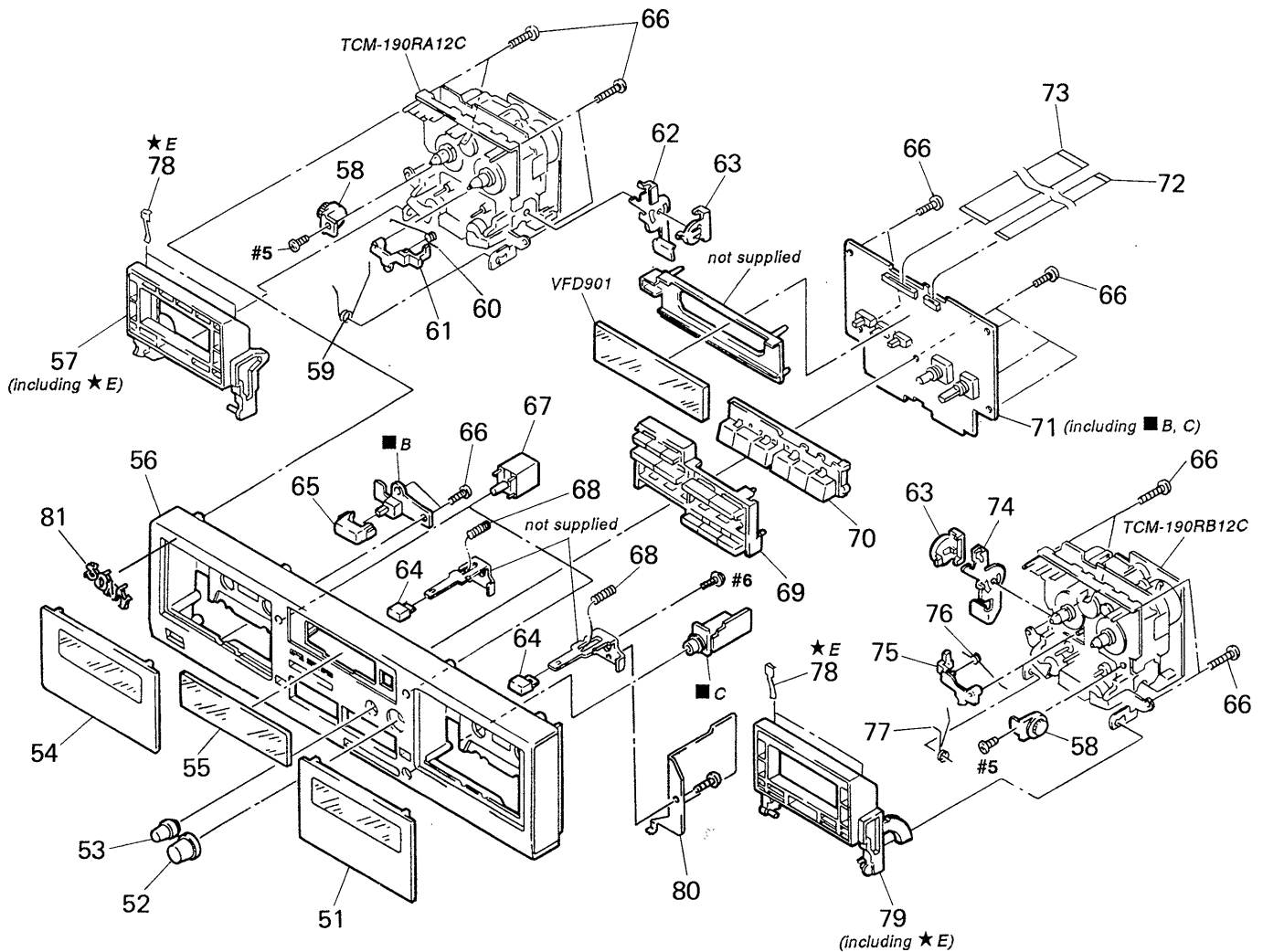
Ref. No.	Part No.	Description	Remark
1	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	
* 2	1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
3	3-704-366-01	SCREW (CASE) (M3X8)	
4	3-332-578-61	CASE	
5	4-943-148-32	FOOT (F58175SW) (US, Canadian)	
5	4-943-148-42	FOOT (F58175SW) (AEP, UK, G, E, AUS)	
* 6	3-346-265-11	HOLDER, PC BOARD	
* 7	3-332-563-01	BRACKET (P)	
* 8	A-2007-019-A	MAIN BOARD, COMPLETE (US, Canadian, AEP)	
* 8	A-2007-021-A	MAIN BOARD, COMPLETE (UK, AUS)	
* 8	A-2007-022-A	MAIN BOARD, COMPLETE (E)	
* 8	A-2007-059-A	MAIN BOARD, COMPLETE (G)	
* 9	1-533-293-11	FUSE HOLDER	
* 10	3-385-970-41	PANEL, BACK (US, Canadian)	
* 10	3-385-970-51	PANEL, BACK (AEP, G)	
* 10	3-385-970-61	PANEL, BACK (UK, AUS)	
* 10	3-385-970-71	PANEL, BACK (E)	
* 11	4-949-235-01	HOOK (US, Canadian, AEP, G, E)	
△12	1-551-188-XX	CORD, POWER (E)	

Ref. No.	Part No.	Description	Remark
△12	1-558-945-21	CORD, POWER (POLAR. SPT-1) (US, Canadian)	
△12	1-575-651-21	CORD, POWER (AEP, G)	
△12	1-696-586-11	CORD, POWER (UK)	
△12	1-696-845-11	CORD, POWER (AUS)	
* 13	3-703-244-00	BUSHING (2104), CORD (AEP, UK, G, AUS)	
* 13	3-703-571-11	BUSHING (S) (4516), CORD (US, Canadian, E)	
△14	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
* 15	4-956-370-02	BAND, PLUG FIXED (AUS)	
* 16	A-2006-954-A	DOLBY (S) BOARD, COMPLETE	
17	2-181-754-01	COVER, BATTERY (Canadian)	
18	1-465-738-11	REMOTE COMMANDER (Canadian)	
△F701	1-532-285-00	FUSE (1.250A) (AEP, UK, G, E, AUS)	
△F701	1-576-103-11	FUSE (1.600A) (US, Canadian)	
△F702	1-532-285-00	FUSE (1.250A) (AEP, UK, G, E, AUS)	
△F702	1-576-103-11	FUSE (1.600A) (US, Canadian)	
△T701	1-450-837-41	TRANSFORMER, POWER (US, Canadian)	
△T701	1-450-838-41	TRANSFORMER, POWER (AEP, UK, G, AUS)	
△T701	1-450-839-11	TRANSFORMER, POWER (E)	
△VS701	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE) (E)	

6-2. FRONT PANEL SECTION

■ B : POWER SWITCH BOARD

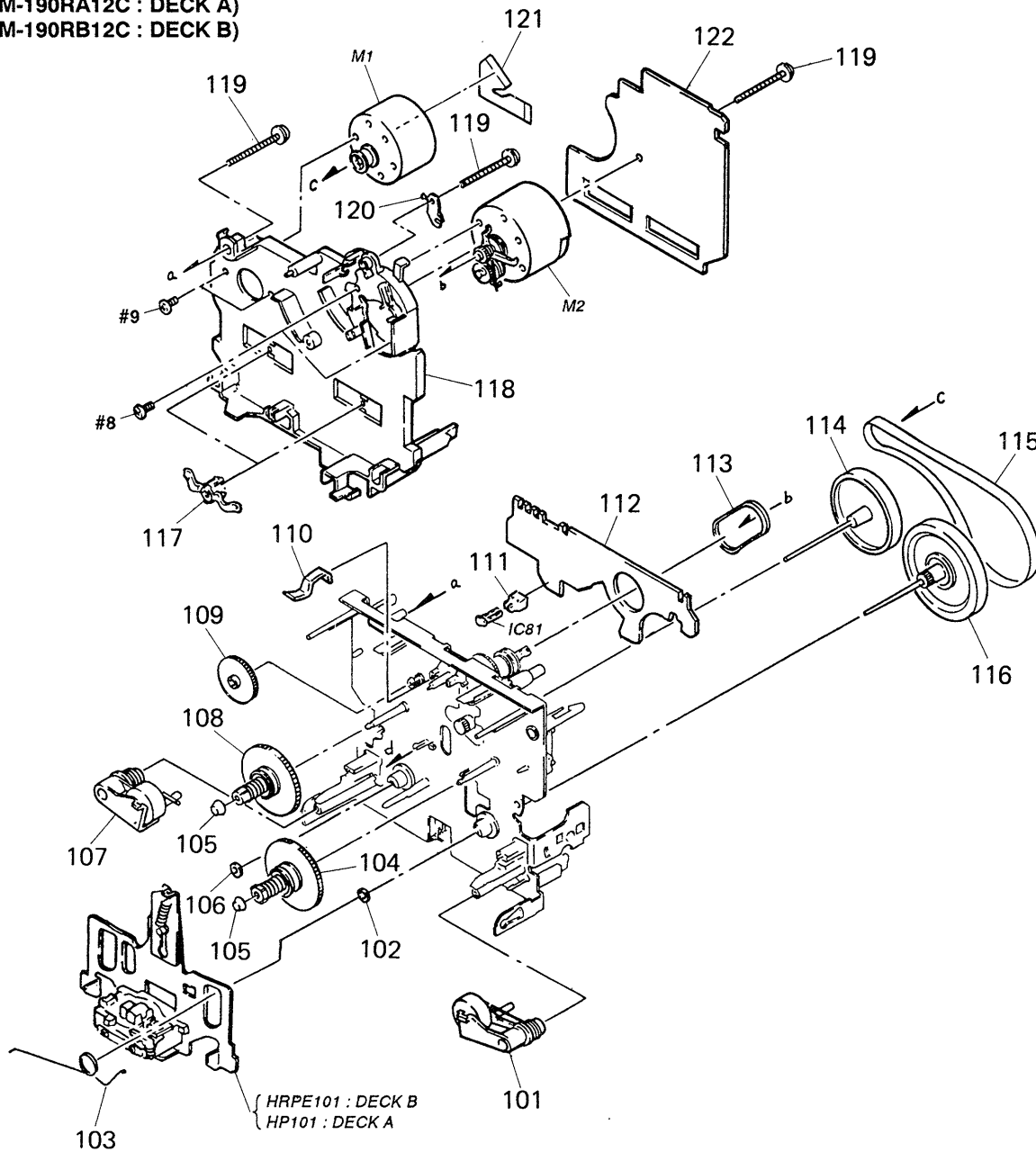
■ C : HEADPHONE BOARD



Ref. No.	Part No.	Description	Remark
51	X-3366-230-1	LID (B) ASSY, CASSETTE	
52	3-377-334-01	KNOB (REC)	
53	3-367-431-01	KNOB (BAL)	
54	X-3366-229-1	LID (A) ASSY, CASSETTE	
55	3-377-335-01	WINDOW (M) (US, AEP, UK, G, E, AUS)	
55	3-377-335-11	WINDOW (M) (Canadian)	
56	3-385-968-21	PANEL, FRONT (US, Canadian)	
56	3-385-968-31	PANEL, FRONT (AEP, UK, G, E, AUS)	
57	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
58	3-354-963-01	DAMPER	
59	3-354-960-01	SPRING (LOADING R), TORSION	
60	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
61	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
* 62	3-354-954-01	LEVER (LOCK LEVER R)	
63	3-354-957-01	JOINT (LOCK LEVER)	
64	3-377-328-01	BUTTON (EJECT)	
65	3-354-932-01	BUTTON (POWER)	

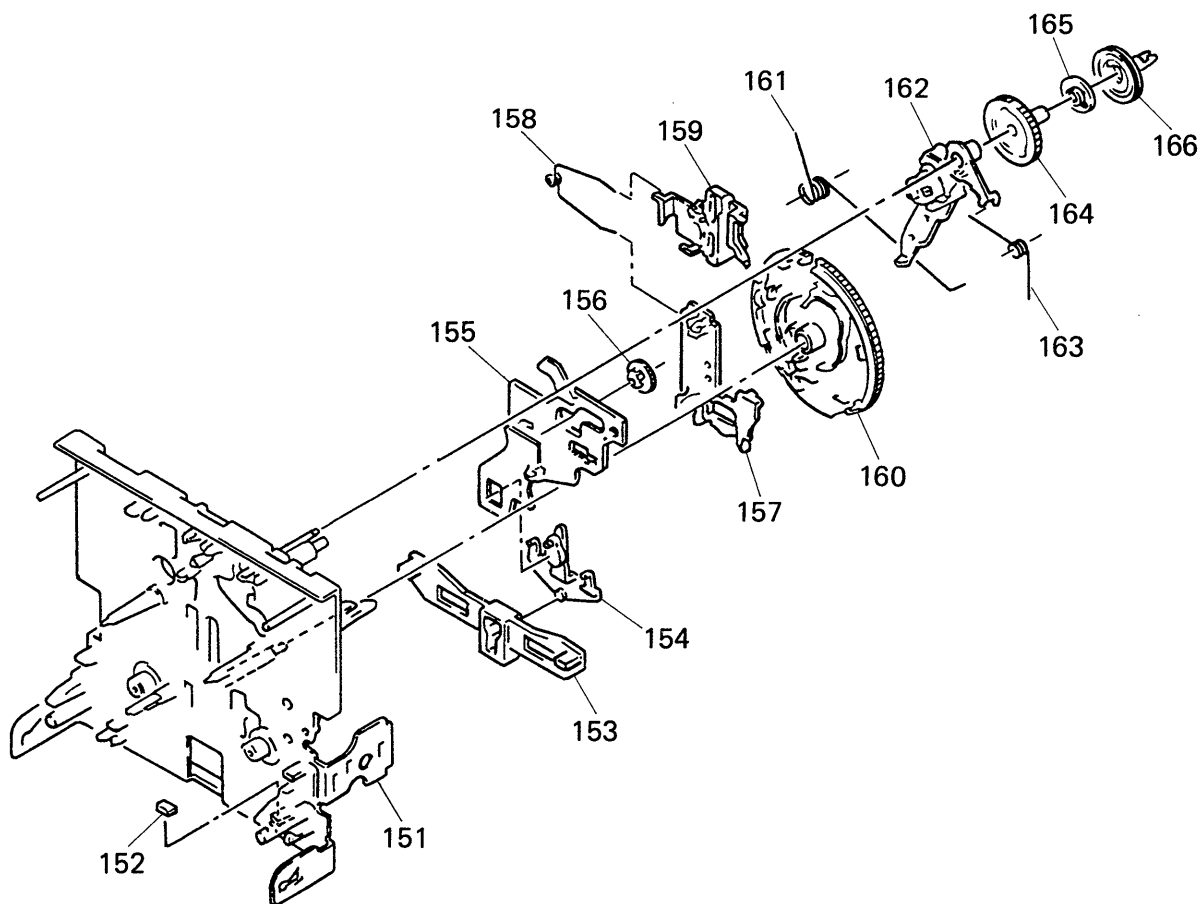
Ref. No.	Part No.	Description	Remark
66	4-951-620-01	SCREW (2.6X8), +BVTP	
67	3-377-329-11	BUTTON (COUNTER)	
68	3-382-382-01	SPRING, COMPRESSION	
69	3-377-342-11	BUTTON (WR)	
70	3-385-972-01	BUTTON (FR)	
* 71	A-2007-020-A	PANEL BOARD, COMPLETE	
72	1-690-911-11	WIRE (FLAT TYPE) (11 CORE)	
73	1-575-628-11	WIRE, FLAT TYPE (27 CORE)	
* 74	3-354-953-01	LEVER (LOCK LEVER L)	
75	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
76	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
77	3-354-959-01	SPRING (LOADING L), TORSION	
78	3-308-823-11	SPRING	
79	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
* 80	3-381-755-01	PLATE (HEAD LEAD), SHIELD	
81	4-925-334-11	EMBLEM (5-A), SONY	
VFD901	1-517-162-11	INDICATOR TUBE, FLUORESCENT	

6-3. MECHANISM SECTION 1
(TCM-190RA12C : DECK A)
(TCM-190RB12C : DECK B)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
101	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY		115	3-359-417-01	BELT (FLAT), CAPSTAN	
102	3-356-713-01	WASHER		116	X-3359-406-1	FLYWHEEL (FWD) ASSY	
103	3-359-455-01	SPRING, TORSION		117	3-575-321-00	RETAINER, THRUST, CAPSTAN	
104	X-3359-404-1	TABLE ASSY, REEL		* 118	3-359-436-01	BASE (THRUST RETAINER), FITTING	
105	3-362-308-01	CAP (REEL)		119	3-359-414-01	SCREW (+PTPHW 2X23)	
106	3-356-714-01	WASHER		121	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
107	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY		* 122	A-2006-399-A	AUDIO BOARD (RA12A), COMPLETE (DECK-A)	
108	X-3362-078-1	TABLE ASSY (B), REEL		* 122	A-2006-401-A	AUDIO BOARD (RB12A), COMPLETE (DECK-B)	
109	3-359-424-01	GEAR (REV GEAR)		HP101	A-2003-837-F	BASE ASSY, HEAD (PLAYBACK) (DECK-A)	
110	3-359-430-01	SPRING(CASSETTE RETAINER), LEAF		HRPE101	A-2003-838-A	DECK ASSY, HEAD (PLAYBACK/RECORD/ERASE) (DECK-B)	
111	3-343-419-01	HOLDER (S SENSER A)		IC81	8-719-710-03	DIODE NJL5165K-B	
* 112	1-634-841-14	SW-A BOARD (DECK-A)		M1	X-3359-417-1	MOTOR(CAPSTAN) ASSY	
* 112	1-634-841-14	SW-B BOARD (DECK-B)		M2	X-3363-501-1	MOTOR ASSY, REEL	
113	3-359-466-01	BELT (FR), SQUARE					
114	X-3359-410-1	FLYWHEEL (REV) ASSY					

6-4. MECHANISM SECTION 2
(TCM-190RA12C : DECK A)
(TCM-190RB12C : DECK B)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-3359-415-1	CHASSIS ASSY, 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)	

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.

- G : Germany
AUS : Australian

Ref.No.	Part No.	Description	Remark
*	A-2007-019-A	MAIN BOARD, COMPLETE (US, Canadian, AEP) *****	
*	A-2007-021-A	MAIN BOARD, COMPLETE (UK, AUS) *****	
*	A-2007-022-A	MAIN BOARD, COMPLETE (E) *****	
*	A-2007-059-A	MAIN BOARD, COMPLETE (G) *****	
*	1-533-293-11	FUSE HOLDER	
*	1-690-880-31	LEAD (WITH CONNECTOR)	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
	7-685-871-01	SCREW +BVTT 3X6 (S)	
< CAPACITOR >			
C101	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C102	1-130-476-00	MYLAR 0.0027uF 5% 50V	
C103	1-124-907-11	ELECT 10uF 20% 50V	
C105	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C106	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C107	1-136-174-00	FILM 0.56uF 5% 50V	
C108	1-136-171-00	FILM 0.33uF 5% 50V	
C109	1-124-907-11	ELECT 10uF 20% 50V	
C110	1-124-925-11	ELECT 2.2uF 20% 100V	
C111	1-124-907-11	ELECT 10uF 20% 50V	
C112	1-164-159-11	CERAMIC 0.1uF 50V	
C121	1-124-925-11	ELECT 2.2uF 20% 100V	
C131	1-124-903-11	ELECT 1uF 20% 50V	
C132	1-124-903-11	ELECT 1uF 20% 50V	
C133	1-124-902-00	ELECT 0.47uF 20% 50V	
C134	1-124-927-11	ELECT 4.7uF 20% 100V	
C135	1-123-382-00	ELECT 3.3uF 20% 100V	
C136	1-124-443-00	ELECT 100uF 20% 10V	
C137	1-124-903-11	ELECT 1uF 20% 50V	
C138	1-164-159-11	CERAMIC 0.1uF 50V	
C139	1-162-283-31	CERAMIC 120PF 10% 50V	
C151	1-124-925-11	ELECT 2.2uF 20% 100V	

Ref.No.	Part No.	Description	Remark
C152	1-124-907-11	ELECT 10uF 20% 50V	
C153	1-124-916-11	ELECT 22uF 20% 63V	
C154	1-124-907-11	ELECT 10uF 20% 50V	
C201	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C202	1-130-476-00	MYLAR 0.0027uF 5% 50V	
C203	1-124-907-11	ELECT 10uF 20% 50V	
C205	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C206	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C207	1-136-174-00	FILM 0.56uF 5% 50V	
C208	1-136-171-00	FILM 0.33uF 5% 50V	
C209	1-124-907-11	ELECT 10uF 20% 50V	
C210	1-124-925-11	ELECT 2.2uF 20% 100V	
C211	1-124-907-11	ELECT 10uF 20% 50V	
C212	1-164-159-11	CERAMIC 0.1uF 50V	
C221	1-124-925-11	ELECT 2.2uF 20% 100V	
C231	1-124-903-11	ELECT 1uF 20% 50V	
C232	1-124-903-11	ELECT 1uF 20% 50V	
C233	1-124-902-00	ELECT 0.47uF 20% 50V	
C234	1-124-927-11	ELECT 4.7uF 20% 100V	
C235	1-123-382-00	ELECT 3.3uF 20% 100V	
C236	1-124-443-00	ELECT 100uF 20% 10V	
C237	1-124-903-11	ELECT 1uF 20% 50V	
C238	1-164-159-11	CERAMIC 0.1uF 50V	
C239	1-162-283-31	CERAMIC 120PF 10% 50V	
C251	1-124-925-11	ELECT 2.2uF 20% 100V	
C252	1-124-907-11	ELECT 10uF 20% 50V	
C253	1-124-916-11	ELECT 22uF 20% 63V	
C254	1-124-907-11	ELECT 10uF 20% 50V	
C501	1-124-907-11	ELECT 10uF 20% 50V	
C502	1-124-907-11	ELECT 10uF 20% 50V	
C503	1-164-159-11	CERAMIC 0.1uF 50V	
C521	1-124-471-00	ELECT 1000uF 20% 6.3V	
C531	1-124-902-00	ELECT 0.47uF 20% 50V	
C533	1-124-925-11	ELECT 2.2uF 20% 100V	
C534	1-124-916-11	ELECT 22uF 20% 63V	

Ref. No.	Part No.	Description	Remark
C535	1-124-902-00	ELECT 0.47uF 20% 50V	
C536	1-124-443-00	ELECT 100uF 20% 10V	
C537	1-124-443-00	ELECT 100uF 20% 10V	
C538	1-124-443-00	ELECT 100uF 20% 10V	
C553	1-124-927-11	ELECT 4.7uF 20% 100V	
C554	1-124-927-11	ELECT 4.7uF 20% 100V	
C561	1-130-476-00	MYLAR 0.0027uF 5% 50V	
C562	1-136-164-00	FILM 0.082uF 5% 50V	
C563	1-136-161-00	FILM 0.047uF 5% 50V	
C564	1-130-475-00	MYLAR 0.0022uF 5% 50V	
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	
C712	1-136-169-00	FILM 0.22uF 5% 50V	
		<POWER TRANSFORMER BOARD>	
C713	1-136-169-00	FILM 0.22uF 5% 50V G	
		<POWER TRANSFORMER BOARD>	
C751	1-164-159-11	CERAMIC 0.1uF 50V	
		<POWER TRANSFORMER BOARD>	
C801	1-164-159-11	CERAMIC 0.1uF 50V	
C802	1-124-902-00	ELECT 0.47uF 20% 50V	
C803	1-164-159-11	CERAMIC 0.1uF 50V	
C804	1-164-159-11	CERAMIC 0.1uF 50V	
C805	1-162-288-31	CERAMIC 330PF 10% 50V	
C806	1-164-159-11	CERAMIC 0.1uF 50V	
C807	1-162-288-31	CERAMIC 330PF 10% 50V	
C808	1-164-159-11	CERAMIC 0.1uF 50V	
C809	1-124-907-11	ELECT 10uF 20% 50V	
C810	1-124-902-00	ELECT 0.47uF 20% 50V	
C811	1-124-360-00	ELECT 1000uF 20% 16V	
C812	1-126-103-11	ELECT 470uF 20% 16V	
C814	1-126-103-11	ELECT 470uF 20% 16V	
		< CONNECTOR >	
* CN801	1-568-842-11	SOCKET, CONNECTOR 27P	
* CN802	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN803	1-568-828-11	SOCKET, CONNECTOR 9P	
* CN804	1-568-828-11	SOCKET, CONNECTOR 9P	
		< CONNECTOR >	
CNP501	1-506-468-11	PIN, CONNECTOR 3P	

Ref. No.	Part No.	Description	Remark
* CNP701	1-564-510-11	PLUG, CONNECTOR 7P	
* CNP702	1-568-954-11	PIN, CONNECTOR 5P	
* CNP703	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
		(US, Canadian, AEP, UK, G, AUS)	
* CNP801	1-691-916-11	CONNECTOR, BOARD TO BOARD	
* CNP802	1-691-916-11	CONNECTOR, BOARD TO BOARD	
* CNP803	1-691-916-11	CONNECTOR, BOARD TO BOARD	
		< DIODE >	
D131	8-719-933-33	DIODE HZS6A1L	
D231	8-719-933-33	DIODE HZS6A1L	
D501	8-719-987-63	DIODE 1N4148M	
D502	8-719-987-63	DIODE 1N4148M	
D531	8-719-987-63	DIODE 1N4148M	
D551	8-719-200-82	DIODE 11ES2	
D552	8-719-200-82	DIODE 11ES2	
D553	8-719-200-82	DIODE 11ES2	
D554	8-719-200-82	DIODE 11ES2	
D561	8-719-987-63	DIODE 1N4148M	
D562	8-719-987-63	DIODE 1N4148M	
D701	8-719-200-82	DIODE 11ES2	
D702	8-719-200-82	DIODE 11ES2	
D703	8-719-200-82	DIODE 11ES2	
D704	8-719-200-82	DIODE 11ES2	
D705	8-719-200-82	DIODE 11ES2	
D706	8-719-200-82	DIODE 11ES2	
D707	8-719-200-82	DIODE 11ES2	
D708	8-719-987-63	DIODE 1N4148M	
D709	8-719-000-78	DIODE UZL-7L2	
D709	8-719-933-44	DIODE HZS7A2L	
D710	8-719-933-33	DIODE HZS6A1L	
D711	8-719-933-33	DIODE HZS6A1L	
D712	8-719-987-63	DIODE 1N4148M	
D713	8-719-987-63	DIODE 1N4148M	
D714	8-719-000-78	DIODE UZL-7L2	
D714	8-719-933-44	DIODE HZS7A2L	
D715	8-719-933-33	DIODE HZS6A1L	
D716	8-719-987-63	DIODE 1N4148M	
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC151	8-759-140-53	IC uPD4053BC	
IC251	8-759-140-53	IC uPD4053BC	
IC501	8-752-059-54	IC CXA1332S	
IC502	8-752-058-57	IC CXA1599Q	
IC503	8-759-145-58	IC uPC4558C	
IC504	8-759-145-58	IC uPC4558C	

MAIN

Ref.No.	Part No.	Description	Remark
IC505	8-759-635-26	IC M5283P	
IC701	8-759-145-58	IC uPC4558C	
IC801	8-752-843-99	IC CXP82316-017Q	
IC802	8-759-165-82	IC PST600E-T	
IC803	8-759-207-05	IC TA7272P	
< JACK >			
J501	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)	
< COIL >			
* L801	1-420-872-00	COIL, AIR CORE	
* L802	1-420-872-00	COIL, AIR CORE	
L803	1-410-513-11	INDUCTOR 22uH	
< 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	8-729-922-37	TRANSISTOR 2SD2144S	
Q131	8-729-900-74	TRANSISTOR DTC143TS	
Q132	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q221	8-729-922-37	TRANSISTOR 2SD2144S	
Q231	8-729-900-74	TRANSISTOR DTC143TS	
Q232	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q501	8-729-900-65	TRANSISTOR DTA144ES	
Q502	8-729-900-65	TRANSISTOR DTA144ES	
Q503	8-729-900-65	TRANSISTOR DTA144ES	
Q504	8-729-900-65	TRANSISTOR DTA144ES	
Q505	8-729-900-65	TRANSISTOR DTA144ES	
Q521	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q531	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q532	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q535	8-729-900-89	TRANSISTOR DTC144ES	
Q561	8-729-900-89	TRANSISTOR DTC144ES	
Q562	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-900-74	TRANSISTOR DTC143TS	
Q704	8-729-900-74	TRANSISTOR DTC143TS	
Q705	8-729-141-83	TRANSISTOR 2SA473	
Q706	8-729-209-15	TRANSISTOR 2SD2012	
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE	

Ref.No.	Part No.	Description	Remark
Q708	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q803	8-729-900-80	TRANSISTOR DTC114ES	
Q804	8-729-900-89	TRANSISTOR DTC144ES	
Q805	8-729-900-65	TRANSISTOR DTA144ES	
Q806	8-729-801-93	TRANSISTOR 2SD1387	
Q807	8-729-801-93	TRANSISTOR 2SD1387	
Q808	8-729-900-80	TRANSISTOR DTC114ES	
Q809	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q810	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R101	1-249-432-11	CARBON 18K 5% 1/4W	
R102	1-247-838-00	CARBON 2K 5% 1/4W	
R103	1-249-421-11	CARBON 2.2K 5% 1/4W	
R104	1-249-441-11	CARBON 100K 5% 1/4W	
R105	1-247-848-11	CARBON 5.1K 5% 1/4W	
R106	1-249-421-11	CARBON 2.2K 5% 1/4W	
R108	1-247-864-11	CARBON 24K 5% 1/4W	
R109	1-249-414-11	CARBON 560 5% 1/4W	
R110	1-249-437-11	CARBON 47K 5% 1/4W	
R111	1-249-417-11	CARBON 1K 5% 1/4W	
R112	1-249-441-11	CARBON 100K 5% 1/4W	
R121	1-249-417-11	CARBON 1K 5% 1/4W	
R122	1-247-887-00	CARBON 220K 5% 1/4W	
R123	1-249-421-11	CARBON 2.2K 5% 1/4W	
R124	1-249-433-11	CARBON 22K 5% 1/4W	
R125	1-247-887-00	CARBON 220K 5% 1/4W	
R126	1-249-441-11	CARBON 100K 5% 1/4W	
R131	1-249-429-11	CARBON 10K 5% 1/4W	
R132	1-247-850-11	CARBON 6.2K 5% 1/4W	
R133	1-247-846-11	CARBON 4.3K 5% 1/4W	
R134	1-249-434-11	CARBON 27K 5% 1/4W	
R135	1-249-441-11	CARBON 100K 5% 1/4W	
R136	1-249-409-11	CARBON 220 5% 1/4W	
R137	1-249-421-11	CARBON 2.2K 5% 1/4W	
R138	1-249-439-11	CARBON 68K 5% 1/4W	
R139	1-249-437-11	CARBON 47K 5% 1/4W	
R140	1-249-417-11	CARBON 1K 5% 1/4W	
R152	1-249-436-11	CARBON 39K 5% 1/4W	
R153	1-247-858-11	CARBON 13K 5% 1/4W	
R154	1-249-436-11	CARBON 39K 5% 1/4W	
R155	1-247-858-11	CARBON 13K 5% 1/4W	
R156	1-249-429-11	CARBON 10K 5% 1/4W	
R157	1-249-433-11	CARBON 22K 5% 1/4W	
R158	1-249-437-11	CARBON 47K 5% 1/4W	
R201	1-249-432-11	CARBON 18K 5% 1/4W	
R202	1-247-838-00	CARBON 2K 5% 1/4W	
R203	1-249-421-11	CARBON 2.2K 5% 1/4W	
R204	1-249-441-11	CARBON 100K 5% 1/4W	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R205	1-247-848-11	CARBON	5. 1K 5% 1/4W	R538	1-249-417-11	CARBON	1K 5% 1/4W
R206	1-249-421-11	CARBON	2. 2K 5% 1/4W	R539	1-249-432-11	CARBON	18K 5% 1/4W
R208	1-247-864-11	CARBON	24K 5% 1/4W	R540	1-249-430-11	CARBON	12K 5% 1/4W
R209	1-249-414-11	CARBON	560 5% 1/4W	R541	1-249-437-11	CARBON	47K 5% 1/4W
R210	1-249-437-11	CARBON	47K 5% 1/4W	R544	1-249-433-11	CARBON	22K 5% 1/4W
R211	1-249-417-11	CARBON	1K 5% 1/4W	R545	1-215-455-00	METAL	27K 1% 1/6W
R212	1-249-441-11	CARBON	100K 5% 1/4W	R561	1-249-426-11	CARBON	5. 6K 5% 1/4W
R221	1-249-417-11	CARBON	1K 5% 1/4W	R562	1-249-433-11	CARBON	22K 5% 1/4W
R222	1-247-887-00	CARBON	220K 5% 1/4W	R563	1-249-436-11	CARBON	39K 5% 1/4W
R223	1-249-421-11	CARBON	2. 2K 5% 1/4W	R564	1-249-437-11	CARBON	47K 5% 1/4W
R224	1-249-433-11	CARBON	22K 5% 1/4W	R565	1-249-441-11	CARBON	100K 5% 1/4W
R225	1-247-887-00	CARBON	220K 5% 1/4W	R566	1-247-846-11	CARBON	4. 3K 5% 1/4W
R226	1-249-441-11	CARBON	100K 5% 1/4W	R567	1-249-441-11	CARBON	100K 5% 1/4W
R231	1-249-429-11	CARBON	10K 5% 1/4W	R701	1-249-421-11	CARBON	2. 2K 5% 1/4W
R232	1-247-850-11	CARBON	6. 2K 5% 1/4W	R702	1-249-425-11	CARBON	4. 7K 5% 1/4W
R233	1-247-846-11	CARBON	4. 3K 5% 1/4W	R703	1-249-429-11	CARBON	10K 5% 1/4W
R234	1-249-434-11	CARBON	27K 5% 1/4W	R704	1-249-425-11	CARBON	4. 7K 5% 1/4W
R235	1-249-441-11	CARBON	100K 5% 1/4W	R705	1-249-425-11	CARBON	4. 7K 5% 1/4W
R236	1-249-409-11	CARBON	220 5% 1/4W	R706	1-249-427-11	CARBON	6. 8K 5% 1/4W
R237	1-249-421-11	CARBON	2. 2K 5% 1/4W	R707	1-249-419-11	CARBON	1. 5K 5% 1/4W
R238	1-249-439-11	CARBON	68K 5% 1/4W	R708	1-249-429-11	CARBON	10K 5% 1/4W
R239	1-249-437-11	CARBON	47K 5% 1/4W	R709	1-249-419-11	CARBON	1. 5K 5% 1/4W
R240	1-249-417-11	CARBON	1K 5% 1/4W	R710	1-249-425-11	CARBON	4. 7K 5% 1/4W
R252	1-249-436-11	CARBON	39K 5% 1/4W	R711	1-249-427-11	CARBON	6. 8K 5% 1/4W
R253	1-247-858-11	CARBON	13K 5% 1/4W	R712	1-249-427-11	CARBON	6. 8K 5% 1/4W
R254	1-249-436-11	CARBON	39K 5% 1/4W	R713	1-249-417-11	CARBON	1K 5% 1/4W
R255	1-247-858-11	CARBON	13K 5% 1/4W	R714	1-247-842-11	CARBON	3K 5% 1/4W
R256	1-249-429-11	CARBON	10K 5% 1/4W	R715	1-249-429-11	CARBON	10K 5% 1/4W
R257	1-249-433-11	CARBON	22K 5% 1/4W	R716	1-249-430-11	CARBON	12K 5% 1/4W
R258	1-249-437-11	CARBON	47K 5% 1/4W	R717	1-249-437-11	CARBON	47K 5% 1/4W
R501	1-249-433-11	CARBON	22K 5% 1/4W	△R718	1-219-137-11	FUSIBLE	0. 33 10% 1/4W F
R502	1-249-435-11	CARBON	33K 5% 1/4W	R719	1-249-414-11	CARBON	560 5% 1/4W
R503	1-249-433-11	CARBON	22K 5% 1/4W	R801	1-249-417-11	CARBON	1K 5% 1/4W
R504	1-249-433-11	CARBON	22K 5% 1/4W	R802	1-249-441-11	CARBON	100K 5% 1/4W
R505	1-249-435-11	CARBON	33K 5% 1/4W	R805	1-249-435-11	CARBON	33K 5% 1/4W
R506	1-249-417-11	CARBON	1K 5% 1/4W	R806	1-249-429-11	CARBON	10K 5% 1/4W
R507	1-215-455-00	METAL	27K 1% 1/6W	R807	1-249-430-11	CARBON	12K 5% 1/4W
R508	1-249-435-11	CARBON	33K 5% 1/4W	R808	1-247-852-11	CARBON	7. 5K 5% 1/4W
R509	1-249-417-11	CARBON	1K 5% 1/4W	R809	1-249-430-11	CARBON	12K 5% 1/4W
R521	1-249-437-11	CARBON	47K 5% 1/4W	R810	1-249-422-11	CARBON	2. 7K 5% 1/4W
R522	1-249-429-11	CARBON	10K 5% 1/4W	R811	1-249-426-11	CARBON	5. 6K 5% 1/4W
R523	1-249-437-11	CARBON	47K 5% 1/4W	R812	1-247-852-11	CARBON	7. 5K 5% 1/4W
R531	1-249-429-11	CARBON	10K 5% 1/4W	R813	1-247-858-11	CARBON	13K 5% 1/4W
R532	1-249-429-11	CARBON	10K 5% 1/4W	R816	1-249-433-11	CARBON	22K 5% 1/4W
R533	1-249-417-11	CARBON	1K 5% 1/4W	R817	1-249-433-11	CARBON	22K 5% 1/4W
R534	1-247-872-11	CARBON	51K 5% 1/4W	R818	1-249-433-11	CARBON	22K 5% 1/4W
R535	1-249-429-11	CARBON	10K 5% 1/4W	R819	1-249-429-11	CARBON	10K 5% 1/4W
R536	1-249-413-11	CARBON	470 5% 1/4W	R820	1-249-433-11	CARBON	22K 5% 1/4W
△R537	1-212-863-00	FUSIBLE	18 5% 1/4W F	R821	1-249-429-11	CARBON	10K 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**DOLBY(S)**

Ref.No.	Part No.	Description	Remark		
R822	1-249-430-11	CARBON	12K	5%	1/4W
R823	1-249-433-11	CARBON	22K	5%	1/4W
R824	1-249-433-11	CARBON	22K	5%	1/4W
R825	1-249-433-11	CARBON	22K	5%	1/4W
R826	1-249-405-11	CARBON	100	5%	1/4W
R827	1-249-430-11	CARBON	12K	5%	1/4W
R828	1-249-433-11	CARBON	22K	5%	1/4W
R829	1-249-433-11	CARBON	22K	5%	1/4W
R830	1-249-433-11	CARBON	22K	5%	1/4W
R831	1-249-405-11	CARBON	100	5%	1/4W
R832	1-249-434-11	CARBON	27K	5%	1/4W
R833	1-249-434-11	CARBON	27K	5%	1/4W
R834	1-249-434-11	CARBON	27K	5%	1/4W
R835	1-249-434-11	CARBON	27K	5%	1/4W
R836	1-249-429-11	CARBON	10K	5%	1/4W
R837	1-249-429-11	CARBON	10K	5%	1/4W
R838	1-249-429-11	CARBON	10K	5%	1/4W
R839	1-249-429-11	CARBON	10K	5%	1/4W
R840	1-249-421-11	CARBON	2. 2K	5%	1/4W
R841	1-247-874-11	CARBON	62K	5%	1/4W
R842	1-247-866-11	CARBON	30K	5%	1/4W
R843	1-249-431-11	CARBON	15K	5%	1/4W
R844	1-247-852-11	CARBON	7. 5K	5%	1/4W
R847	1-249-432-11	CARBON	18K	5%	1/4W
R848	1-247-848-11	CARBON	5. 1K	5%	1/4W
R849	1-249-421-11	CARBON	2. 2K	5%	1/4W
R850	1-249-429-11	CARBON	10K	5%	1/4W
R851	1-249-421-11	CARBON	2. 2K	5%	1/4W
R852	1-249-429-11	CARBON	10K	5%	1/4W
R853	1-249-422-11	CARBON	2. 7K	5%	1/4W
R854	1-249-422-11	CARBON	2. 7K	5%	1/4W
R855	1-249-422-11	CARBON	2. 7K	5%	1/4W
R856	1-249-421-11	CARBON	2. 2K	5%	1/4W
R857	1-249-421-11	CARBON	2. 2K	5%	1/4W
R858	1-249-421-11	CARBON	2. 2K	5%	1/4W
R859	1-249-421-11	CARBON	2. 2K	5%	1/4W
R860	1-249-421-11	CARBON	2. 2K	5%	1/4W
R861	1-249-434-11	CARBON	27K	5%	1/4W
R862	1-249-434-11	CARBON	27K	5%	1/4W
R863	1-249-405-11	CARBON	100	5%	1/4W
R864	1-249-405-11	CARBON	100	5%	1/4W
R865	1-249-405-11	CARBON	100	5%	1/4W
R866	1-249-405-11	CARBON	100	5%	1/4W
R867	1-247-840-00	CARBON	2. 4K	5%	1/4W
R868	1-249-425-11	CARBON	4. 7K	5%	1/4W
R870	1-247-887-00	CARBON	220K	5%	1/4W
R871	1-247-887-00	CARBON	220K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
< VARIABLE RESISTOR >					
RV131	1-241-630-11	RES, ADJ, CARBON 10K (REC LEVEL L)			
RV231	1-241-630-11	RES, ADJ, CARBON 10K (REC LEVEL R)			
< TEST PIN >					
* TP501	1-564-506-11	PLUG, CONNECTOR 3P			
* TP801	1-564-505-11	PLUG, CONNECTOR 2P			
< CRYSTAL >					
X801	1-577-377-11	VIBRATOR, CERAMIC (10MHz)			

*	A-2006-954-A	DOLBY(S) BOARD, COMPLATE			

< CAPACITOR >					
C1	1-164-222-11	CERAMIC CHIP	0. 22uF		25V
C2	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C3	1-104-558-91	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	1-104-558-91	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

DOLBY(S)**SW-A****AUDIO(DECK-A)**

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C33	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V	R32	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
C34	1-104-563-11	FILM CHIP	0.1uF	5%	16V	R33	1-216-080-00	METAL CHIP	20K	5%	1/10W
C35	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V	R34	1-216-684-11	METAL CHIP	24K	0.5%	1/10W
C36	1-165-319-11	CERAMIC CHIP	0.1uF		50V	R35	1-216-084-00	METAL CHIP	30K	5%	1/10W
C37	1-164-222-11	CERAMIC CHIP	0.22uF		25V	R36	1-216-084-00	METAL CHIP	30K	5%	1/10W
C38	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V	R37	1-216-074-00	METAL CHIP	11K	5%	1/10W
C39	1-104-555-11	FILM CHIP	0.022uF	5%	16V	R38	1-216-086-00	METAL GLAZE	36K	5%	1/10W
C40	1-104-563-11	FILM CHIP	0.1uF	5%	16V	R39	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
< CONNECTOR >						R40	1-216-084-00	METAL CHIP	30K	5%	1/10W
* CN1	1-537-473-11	TERMINAL (LEAD PIN)				R41	1-216-078-00	METAL GLAZE	16K	5%	1/10W
< IC >						R42	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
IC1	8-752-056-51	IC CXA1417Q				R43	1-216-081-00	METAL CHIP	22K	5%	1/10W
IC2	8-759-711-85	IC NJM4580E-D				R44	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
< RESISTOR >						R45	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R1	1-216-013-00	METAL CHIP	33	5%	1/10W	R53	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R2	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	R54	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R3	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	R55	1-216-666-11	METAL CHIP	4.3K	0.5%	1/10W
R4	1-218-774-11	METAL CHIP	820K	0.50%	1/10W	*****					
R5	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	* 1-634-841-14	SW-A BOARD (DECK A)				
R6	1-216-656-11	METAL CHIP	1.6K	0.5%	1/10W	*****					
R7	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	3-343-419-01	HOLDER (S SENSER A)				
R8	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	< CONNECTOR >					
R9	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W	* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P			
R10	1-216-654-11	METAL CHIP	1.3K	0.5%	1/10W	< IC >					
R11	1-216-013-00	METAL CHIP	33	5%	1/10W	IC81	8-719-710-03	DIODE	NJL5165K-B		
R12	1-216-017-00	METAL CHIP	47	5%	1/10W	< RESISTOR >					
R13	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	R84	1-249-417-11	CARBON	1K	5%	1/4W
R14	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R85	1-249-408-11	CARBON	180	5%	1/4W
R15	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W	< SWITCH >					
R16	1-216-013-00	METAL CHIP	33	5%	1/10W	S81	1-571-958-11	SWITCH, PUSH (STOP SW)			
R17	1-216-017-00	METAL CHIP	47	5%	1/10W	S82	1-571-281-21	SWITCH, LEAF (CrO ₂)			
R18	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	S86	1-571-281-21	SWITCH, LEAF (HALF)			
R19	1-216-656-11	METAL CHIP	1.6K	0.5%	1/10W	*****					
R20	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	* A-2006-399-A	AUDIO BOARD (RA12A), COMPLATE (DECK A)				
R21	1-218-774-11	METAL CHIP	820K	0.50%	1/10W	*****					
R22	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	< CAPACITOR >					
R23	1-216-678-11	METAL CHIP	13K	0.5%	1/10W	C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
R24	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	C12	1-136-157-00	FILM	0.022uF	5%	50V
R25	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	C13	1-124-234-00	ELECT	22uF	20%	16V
R26	1-216-676-11	METAL CHIP	11K	0.5%	1/10W	C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
R27	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
R28	1-216-697-11	METAL CHIP	82K	0.5%	1/10W						
R29	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W						
R30	1-216-660-11	METAL CHIP	2.4K	0.5%	1/10W						
R31	1-216-680-11	METAL CHIP	16K	0.5%	1/10W						

AUDIO(DECK-A)

SW-B

AUDIO(DECK-B)

Ref.No.	Part No.	Description	Remark
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 >			
* CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
* CNP72	1-580-411-11	SOCKET, CONNECTOR 4P	
< 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	8-729-602-36	TRANSISTOR 2SA1602	
< RESISTOR >			
R11	1-216-099-00	METAL CHIP 120K	5% 1/10W
R12	1-216-025-00	METAL CHIP 100	5% 1/10W
R13	1-216-100-00	METAL GLAZE 130K	5% 1/10W
R14	1-216-067-00	METAL CHIP 5.6K	5% 1/10W
R21	1-216-099-00	METAL CHIP 120K	5% 1/10W
R22	1-216-025-00	METAL CHIP 100	5% 1/10W
R23	1-216-100-00	METAL GLAZE 130K	5% 1/10W
R24	1-216-067-00	METAL CHIP 5.6K	5% 1/10W
R31	1-216-033-00	METAL CHIP 220	5% 1/10W
R32	1-216-033-00	METAL CHIP 220	5% 1/10W
R71	1-216-082-00	METAL GLAZE 24K	5% 1/10W
R72	1-216-081-00	METAL CHIP 22K	5% 1/10W
R73	1-216-089-00	METAL CHIP 47K	5% 1/10W
R74	1-216-089-00	METAL CHIP 47K	5% 1/10W
< VARIABLE RESISTOR >			
RV11	1-241-627-11	RES, ADJ, CARBON 1K (PB LEVEL L)	
RV21	1-241-627-11	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)	

Ref.No.	Part No.	Description	Remark
*	1-634-841-14	SW-B BOARD (DECK B)	*****
	3-343-419-01	HOLDER (S SENSER A)	
< CONNECTOR >			
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
< IC >			
IC81	8-719-710-03	DIODE NJL5165K-B	
< 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 (STOP SW)	
S82	1-571-281-21	SWITCH, LEAF (CRO2)	
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-2006-401-A	AUDIO BOARD (RB12A), COMPLETE (DECK B)	*****
< 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
C33	1-124-234-00	ELECT 22uF	20% 16V
C51	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C52	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C53	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
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
C71	1-164-346-11	CERAMIC CHIP 1uF	16V

AUDIO(DECK-B)

Ref.No.	Part No.	Description	Remark
C80	1-124-234-00	ELECT 22uF 20% 16V	
C81	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C82	1-136-157-00	FILM 0.022uF 5% 50V	
C83	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C84	1-136-478-11	FILM 470PF 5% 630V	
C85	1-136-433-11	FILM 100PF 5% 630V	
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	1-107-045-00	MICA 3.9PF 500V	
C91	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C92	1-136-157-00	FILM 0.022uF 5% 50V	
C93	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C94	1-136-478-11	FILM 470PF 5% 630V	
C95	1-136-433-11	FILM 100PF 5% 630V	
C96	1-163-143-00	CERAMIC CHIP 0.0012uF 5% 50V	
C97	1-136-273-91	FILM 75PF 5% 630V	
C98	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C99	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
< CONNECTOR >			
* CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P	
* CNP33	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
* CNP72	1-580-411-11	SOCKET, CONNECTOR 4P	
< DIODE >			
D31	8-719-016-74	DIODE 1SS352	
< IC >			
IC31	8-759-106-02	IC uPC4570G2	
IC81	8-759-106-56	IC uPC1297CA	
< COIL >			
L81	1-410-780-11	INDUCTOR 27mH	
L91	1-410-780-11	INDUCTOR 27mH	
< TRANSISTOR >			
Q51	8-729-808-01	TRANSISTOR 2SD1622-S	
Q52	8-729-808-01	TRANSISTOR 2SD1622-S	
Q53	8-729-808-01	TRANSISTOR 2SD1622-S	
Q71	8-729-216-22	TRANSISTOR 2SA1162	
< 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	

Ref.No.	Part No.	Description	Remark
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	1-216-089-00	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	
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	1-241-627-11	RES, ADJ, CARBON 1K (PB LEVEL L)	
RV21	1-241-627-11	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)	
RV81	1-241-122-11	RES, ADJ, CARBON 22K (RECORD BIAS L)	
RV91	1-241-122-11	RES, ADJ, CARBON 22K (RECORD BIAS R)	
< RELAY >			
RY31	1-515-913-11	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	
< TEST PIN >			
* TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	

PANEL

Ref. No.	Part No.	Description	Remark
*	A-2007-020-A	PANEL BOARD, COMPLETE *****	
	1-690-880-81	LEAD (WITH CONNECTOR)	
		< CAPACITOR >	
C551	1-161-494-00	CERAMIC 0.022uF 25V	<HEADPHONE BOARD>
C901	1-164-159-11	CERAMIC 0.1uF 50V	
C902	1-164-159-11	CERAMIC 0.1uF 50V	
C903	1-164-159-11	CERAMIC 0.1uF 50V	
C904	1-164-159-11	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
* CN901	1-568-869-11	SOCKET, CONNECTOR 27P	
* CN902	1-568-854-11	SOCKET, CONNECTOR 11P	
		< IC >	
IC901	8-741-100-48	IC SBX1610-59	
		< JACK >	
J502	1-507-796-71	JACK (HEADPHONES) <HEADPHONE BOARD>	
		< RESISTOR >	
R191	1-247-864-11	CARBON 24K 5% 1/4W	
R291	1-247-864-11	CARBON 24K 5% 1/4W	
R901	1-249-429-11	CARBON 10K 5% 1/4W	
R902	1-249-429-11	CARBON 10K 5% 1/4W	
R903	1-249-429-11	CARBON 10K 5% 1/4W	
R904	1-249-429-11	CARBON 10K 5% 1/4W	
R905	1-249-418-11	CARBON 1.2K 5% 1/4W	
R906	1-249-420-11	CARBON 1.8K 5% 1/4W	
R907	1-249-422-11	CARBON 2.7K 5% 1/4W	
R908	1-249-424-11	CARBON 3.9K 5% 1/4W	
R909	1-249-427-11	CARBON 6.8K 5% 1/4W	
R910	1-249-418-11	CARBON 1.2K 5% 1/4W	
R911	1-249-420-11	CARBON 1.8K 5% 1/4W	
R912	1-249-422-11	CARBON 2.7K 5% 1/4W	
R913	1-249-424-11	CARBON 3.9K 5% 1/4W	
R914	1-249-427-11	CARBON 6.8K 5% 1/4W	
R915	1-249-431-11	CARBON 15K 5% 1/4W	
R916	1-249-418-11	CARBON 1.2K 5% 1/4W	
R917	1-249-420-11	CARBON 1.8K 5% 1/4W	
R918	1-249-422-11	CARBON 2.7K 5% 1/4W	
R919	1-249-424-11	CARBON 3.9K 5% 1/4W	
R920	1-249-427-11	CARBON 6.8K 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	

Ref. No.	Part No.	Description	Remark
R924	1-249-424-11	CARBON 3.9K 5% 1/4W	
R925	1-249-427-11	CARBON 6.8K 5% 1/4W	
R951	1-249-431-11	CARBON 15K 5% 1/4W	
R952	1-249-419-11	CARBON 1.5K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV901	1-223-373-11	RES, VAR, CARBON 10K (REC LEVEL)	
RV902	1-223-372-11	RES, VAR, CARBON 100K (REC BALANCE)	
		< SWITCH >	
S701	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER) <POWER SWITCH BOARD>	
S901	1-554-303-21	SWITCH, TACTILE (■:DECK A)	
S902	1-554-303-21	SWITCH, TACTILE (▷:DECK A)	
S903	1-554-303-21	SWITCH, TACTILE (<:DECK A)	
S904	1-554-303-21	SWITCH, TACTILE (<<:DECK B)	
S905	1-554-303-21	SWITCH, TACTILE (▷▷:DECK B)	
S906	1-554-303-21	SWITCH, TACTILE (●:DECK B)	
S907	1-554-303-21	SWITCH, TACTILE (■:DECK B)	
S908	1-554-303-21	SWITCH, TACTILE (▣:DECK B)	
S909	1-554-303-21	SWITCH, TACTILE (▷:DECK B)	
S910	1-554-303-21	SWITCH, TACTILE (<:DECK B)	
S911	1-554-303-21	SWITCH, TACTILE (●:DECK B)	
S912	1-554-303-21	SWITCH, TACTILE (<<:DECK A)	
S913	1-554-303-21	SWITCH, TACTILE (▷▷:DECK A)	
S914	1-554-303-21	SWITCH, TACTILE (COUNTER MEMORY:DECK A)	
S915	1-554-303-21	SWITCH, TACTILE (COUNTER RESET:DECK A)	
S916	1-554-303-21	SWITCH, TACTILE (AUTO CAL)	
S917	1-554-303-21	SWITCH, TACTILE (HIGH)	
S918	1-554-303-21	SWITCH, TACTILE (NORMAL)	
S919	1-554-303-21	SWITCH, TACTILE (COUNTER RESET:DECK B)	
S920	1-554-303-21	SWITCH, TACTILE (COUNTER MEMORY:DECK B)	
S921	1-692-126-11	SWITCH, SLIDE (DOLBY NR ON/OFF)	
S922	1-692-126-11	SWITCH, SLIDE (DOLBY NR B/C)	
S923	1-692-126-11	SWITCH, SLIDE (DIR MODE)	
		<INDICATOR TUBE>	
VFD901	1-517-162-11	INDICATOR TUBE, FLUORESCENT	

		MISCELLANEOUS	

1	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	
* 2	1-575-781-11	WIRE, (FLAT TYPE) (9 CORE)	
△12	1-551-188-XX	CORD, POWER (E)	
△12	1-558-945-21	CORD, POWER (POLAR. SPT-1) (US, Canadian)	
△12	1-575-651-21	CORD, POWER (AEP, G)	
△12	1-696-586-11	CORD, POWER (UK)	
△12	1-696-845-11	CORD, POWER (AUS)	

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

Les composants identifiés par une marque $\triangle$ 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
△14	1-569-007-11	ADAPTER, CONVERSION 2P (E)		#7	7-621-849-00	SCREW (BV/RING)	
18	1-465-738-11	REMOTE COMMANDER (Canadian)		#8	7-627-556-08	SCREW +P 2.6X2.8	
72	1-690-911-11	WIRE (FLAT TYPE) (11 CORE)		#9	7-621-775-00	SCREW +B 2.6X3	
73	1-575-628-11	WIRE, FLAT TYPE (27 CORE)					
121	1-638-983-11	PC BOARD, MOTOR FLEXIBLE					
△F701	1-532-285-00	FUSE (1.250A) (AEP, UK, G, E, AUS)					
△F701	1-576-103-11	FUSE (1.600A) (US, Canadian)					
△F702	1-532-285-00	FUSE (1.250A) (AEP, UK, G, E, AUS)					
△F702	1-576-103-11	FUSE (1.600A) (US, Canadian)					
HP101	A-2003-837-F	BASE ASSY, HEAD (PLAYBACK) (DECK-A)					
HRPE101	A-2003-838-A	DECK ASSY, HEAD (PLAYBACK/RECORD/ERASE) (DECK-B)					
M1	X-3359-417-1	MOTOR (CAPSTAN) ASSY					
M2	X-3363-501-1	MOTOR ASSY, REEL					
△T701	1-450-837-41	TRANSFORMER, POWER (US, Canadian)					
△T701	1-450-838-41	TRANSFORMER, POWER (AEP, UK, G, AUS)					
△T701	1-450-839-11	TRANSFORMER, POWER (E)					
△VS701	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE) (E)					

ACCESSORIES & PACKING MATERIALS							

	1-558-271-11	CORD, CONNECTION					
	1-558-271-11	CORD, CONNECTION					
	1-696-170-11	CORD, CONNECTION					
*	3-376-446-01	CUSHION					
*	3-388-323-41	INDIVIDUAL CARTON					
	3-756-406-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGUES) (AEP, E)					
	3-756-406-22	MANUAL, INSTRUCTION (ENGLISH) (US, Canadian, UK, AUS)					
	3-756-406-31	MANUAL, INSTRUCTION (FRENCH) (Canadian)					
	3-756-406-41	MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN) (AEP)					
	3-756-406-51	MANUAL, INSTRUCTION (GERMAN) (G)					
	3-756-406-61	MANUAL, INSTRUCTION (CHINES) (E)					

HARDWARE LIST							

#1	7-682-548-09	SCREW +BVTT 3X8 (S)					
#2	7-682-548-04	SCREW +BVTT 3X8 (S)					
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3					
#4	7-685-871-01	SCREW +BVTT 3X6 (S)					
#5	7-621-773-95	SCREW +BVTT 2.6X6 (S)					
#6	7-685-134-19	SCREW (+ PTPWH) (2.6X8)					

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.

TC-WR635S

SONY[®] SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model*

SUPPLEMENT-1

File this Supplement with the Service Manual.

Subject : Circuit change
(MAIN BOARD 1-647-190-11 → 1-647-190-13)

Main Revised Point : Printed wiring added for DOLBY S CIRCUIT

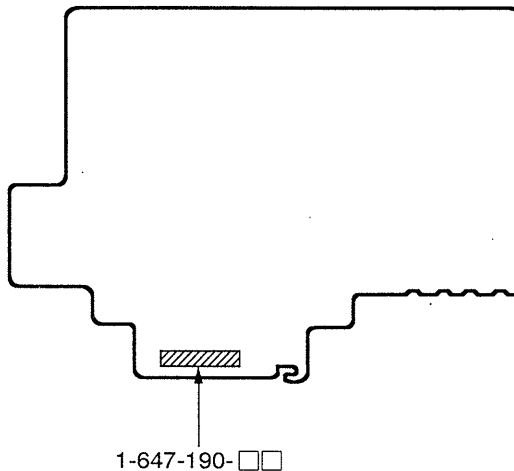


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● ELECTRICAL PARTS LIST (Service Manual See page 38 – 42)	2
● PRINTED WIRING BOARDS (Service Manual See page 17 – 20)	4
● SCHEMATIC DIAGRAM (Service Manual See page 21 – 25)	7

● ELECTRICAL PARTS LIST (Service Manual See page 34 – 42)

1-647-190-11  1-647-190-13

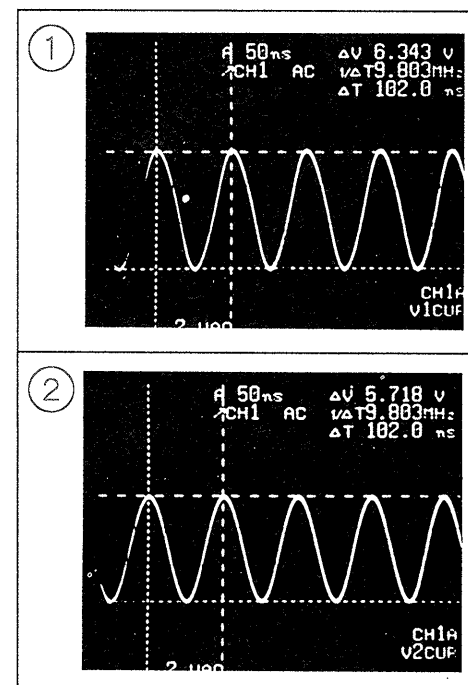
Ref. No.	Former Parts Description Parts No.	Parts No.	New Parts Description	Remarks
8 (Page 34, 38)	A-2007-019-A (US, Canadian, AEP)	A-2007-019-A A-2007-147-A	MAIN BOARD, COMPLETE (US, AEP) MAIN BOARD, COMPLETE (Canadian)	Changed
C133	1-124-902-00 0.47uF	1-124-252-00	ELECT CHIP 0.33uF 20 % 50V	Changed
C137	1-124-903-00 1uF	1-124-927-11	ELECT CHIP 4.7uF 20 % 50V	Changed
C140	_____	1-130-470-00	MYLAR CHIP 820pF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C141	_____	1-130-471-00	MYLAR CHIP 0.001uF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C142	_____	1-130-468-00	MYLAR CHIP 560pF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C143	_____	1-130-476-00	MYLAR CHIP 0.0027uF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C233	1-124-902-00 0.47uF	1-124-252-00	ELECT CHIP 0.33uF 20 % 50V	Changed
C237	1-124-903-00 1uF	1-124-927-11	ELECT CHIP 4.7uF 20 % 50V	Changed
C240	_____	1-130-470-00	MYLAR CHIP 820pF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C241	_____	1-130-471-00	MYLAR CHIP 0.001uF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C242	_____	1-130-468-00	MYLAR CHIP 560pF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C243	_____	1-130-476-00	MYLAR CHIP 0.0027uF 5 % 50V (COUNTERMEASURE DOLBY S BOARD)	Added
C712	1-136-169-00 0.22uF	1-136-169-00	FILM CHIP 0.22uF 5 % 50V (G) (POWER TRANSFORMER BOARD)	Changed
C713	1-136-169-00 0.22uF	1-136-169-00	FILM CHIP 0.22uF 5 % 50V (G) (POWER TRANSFORMER BOARD)	Changed
C815	_____	1-124-443-00	ELECT CHIP 100uF 20 % 10V	Added
CBP501	_____	* 1-764-267-11	PIN CONNECTOR (PC BOARD) (COUNTERMEASURE DOLBY S BOARD)	Added
D803	_____	8-719-987-63	DIODE IN4148M	Added
L803	1-140-513-11 22uH	1-140-513-11	INDUCTOR 22uH (G)	Changed
Q133	_____	8-729-900-89	TRANSISTOR DTC144ES (COUNTERMEASURE DOLBY S BOARD)	Added
Q233	_____	8-729-900-89	TRANSISTOR DTC144ES (COUNTERMEASURE DOLBY S BOARD)	Added
Q533	_____	8-729-900-89	TRANSISTOR DTC144ES	Added

Ref. No.	Former Parts Description Parts No.	Parts No.	New Parts Description	Remarks
Q534	_____	8-729-900-65	TRANSISTOR DTA144ES	Added
R140	1-249-417-11 1K	1-249-421-11	CARBON CHIP 2.2K 5% 1/4W	Changed
R159	_____	1-249-417-00	CARBON CHIP 1K 5% 1/4W (COUNTERMEASURE DOLBY S BOARD)	Added
R160	_____	1-249-434-11	CARBON CHIP 27K 5% 1/4W (COUNTERMEASURE DOLBY S BOARD)	Added
R161	_____	1-249-421-11	CARBON CHIP 2.2K 5% 1/4W (COUNTERMEASURE DOLBY S BOARD)	Added
R162	_____	1-249-436-11	CARBON CHIP 39K 5% 1/4W (COUNTERMEASURE DOLBY S BOARD)	Added
R240	1-249-417-11 1K	1-249-421-11	CARBON CHIP 2.2K 5% 1/4W	Changed
R259	_____	1-249-417-11	CARBON CHIP 1K 5% 1/4W F (COUNTERMEASURE DOLBY S BOARD)	Added
R260	_____	1-249-434-11	CARBON CHIP 27K 5% 1/4W (COUNTERMEASURE DOLBY S BOARD)	Added
R261	_____	1-249-421-11	CARBON CHIP 2.2K 5% 1/4W F (COUNTERMEASURE DOLBY S BOARD)	Added
R262	_____	1-249-436-11	CARBON CHIP 39K 5% 1/4W (COUNTERMEASURE DOLBY S BOARD)	Added
R543	_____	1-249-431-11	CARBON CHIP 15K 5% 1/4W	Added
R847	1-249-432-11 18K	1-249-433-11	CARBON CHIP 22K 5% 1/4W	Changed
R848	1-247-848-11 5.1K	1-247-852-11	CARBON CHIP 7.5K 5% 1/4W	Changed
R869	_____	1-249-436-11	CARBON CHIP 39K 5% 1/4W	Added

● Countermeasure DOLBY S BOARD (1-650-477-11) is included on the MAIN BOARD.

● SCHEMATIC DIAGRAM

● WAVEFORMS



Note:

• All capacitors are in μF unless otherwise noted. pF: μF F 50WV or less are not indicated except for electrolytics and tantalums.

• All resistors are in Ω and $\frac{1}{2}\text{W}$ or less unless otherwise specified.

• Δ : internal component.

• $\text{---}\text{W}\text{---}$: fusible resistor.

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

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

• $\text{---}\text{B}\text{---}$: B+ Line

• $\text{---}\text{B}\text{---}$: B- Line

• $\text{---}\text{A}\text{---}$: adjustment for repair.

• Voltage and waveforms are dc with respect to ground under no-signal conditions.

• no mark: STOP

• () : REC

• () : CAL SW ON

• 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.

• $\text{---}\text{PB}\text{---}$: PB (DECK A)

• $\text{---}\text{REC}\text{---}$: REC (DECK B)

• $\text{---}\text{PB}\text{---}$: PB (DECK B)

• G: Germany

AUS: Australian

