

TC-WE475

SERVICE MANUAL

Ver. 1.7 2006.02

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



Dolby noise reduction extension manufactured under license from Dolby Laboratories Licensing Corporation.
HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	TC-WE435	
Transport Mechanism Type	DECK A	TCM-230ASR41A
	DECK B	TCM-230ASR41B

SPECIFICATIONS

System

Fast-winding time

Approx. 100 sec. (with Sony C-60 cassette)

Signal-to-noise ratio (at peak level and weighted with Dolby NR off)

55 dB, using Sony TYPE I cassette

57 dB, using Sony TYPE II cassette

58 dB, using Sony TYPE IV cassette

S/N ratio improvement

With Dolby B NR on:

Approx. 5 dB at 1 kHz, 10 dB at 5 kHz

With Dolby C NR on:

Approx. 15 dB at 500 Hz, 20 dB at 1 kHz

Harmonic distortion

0.4% (using Sony TYPE I cassette):

160 nWb/m 315 Hz, 3rd H.D.)

1.8% (using Sony TYPE IV cassette):

250 nWb/m 315 Hz, 3rd H.D.)

Frequency response (DOLBY NR OFF)

30-16,000 Hz (± 3 dB, IEC), 20-17,000 Hz

(± 6 dB), using Sony TYPE I cassette

30-17,000 Hz (± 3 dB, IEC), 20-18,000 Hz

(± 6 dB), using Sony TYPE II cassette

30-19,000 Hz (± 3 dB, IEC), 20-20,000 Hz

(± 6 dB), 30-13,000 Hz (± 3 dB, -4dB recording),

using Sony TYPE IV cassette

Wow and flutter

$\pm 0.15\%$ W. Peak (IEC)

0.1% W. RMS (NAB)

$\pm 0.2\%$ W. Peak (DIN)

Variable pitch range

Approx. -30 to +30 %

Inputs

Line inputs (phono jacks)

sensitivity 0.16 V, input impedance 47 kilohms

Outputs

Line outputs (phono jacks)

rated output level 0.5 V at a load impedance of

47 kilohms, load impedance over 10 kilohms

Headphones (stereo phone jack)

output level 0.25 mW at a load impedance of

32 ohms

— Continued on next page —

STEREO CASSETTE DECK

9-873-893-18

2006B02-1

© 2006.02

Sony Corporation

Home Audio Division

Published by Sony Techno Create Corporation

SONY®

General

Power requirements

U.S.A. and Canadian models:

120 V AC, 60Hz

European models:

230 V AC, 50/60Hz

Australian models:

240 V AC, 50/60Hz

Other models:

120/220/230-240 V AC, 50/60Hz

Adjustable with voltage selector

Power consumption

18 watts

Dimensions (w/h/d)

Approx. 430 × 120 × 300 mm

Mass

4.2 kg

Supplied accessories

Audio connecting cords (2)

Control A1II cable (1)*

*Supplied for Canadian models only

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks 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

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

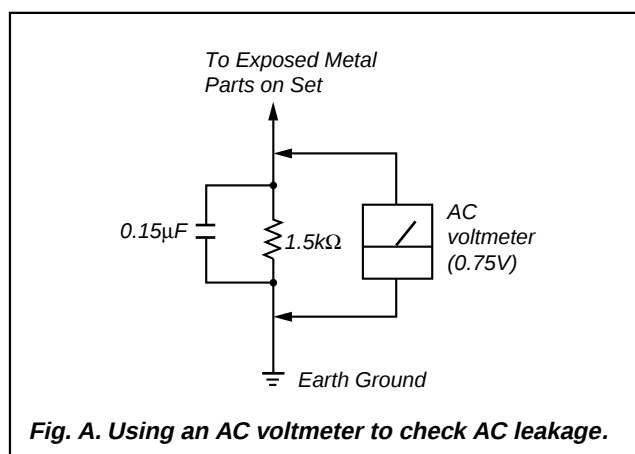


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

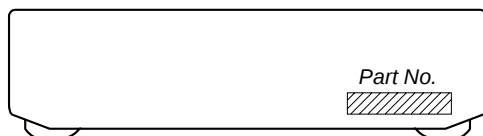
COMPONENTS IDENTIFIED BY MARK $\triangle$ OR DOTTED LINE WITH MARK $\triangle$ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE $\triangle$ 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.

MODEL IDENTIFICATION

–Back panel–



PARTS No.	MODEL
4-232-514-0□	US model
4-232-514-1□	CND model
4-232-514-2□	AEP model
4-232-514-3□	UK model
4-232-514-4□	SP model
4-232-514-5□	AUS model

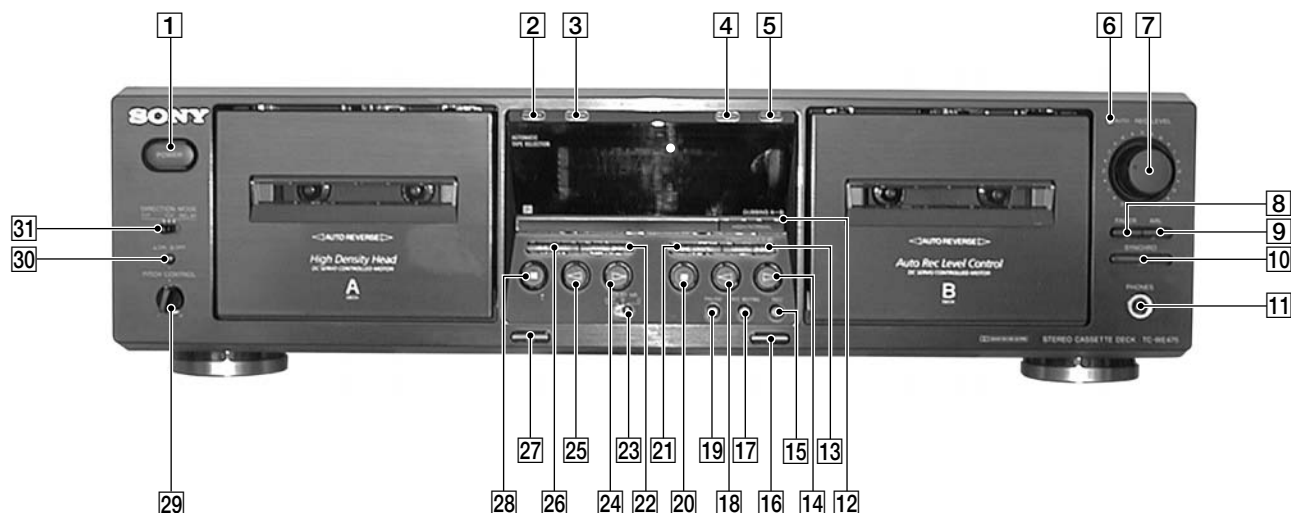
- Abbreviation
CND : Canadian model
SP : Singapore model
AUS : Australian model

TABLE OF CONTENTS

1. GENERAL	4
2. DISASSEMBLY	
2-1. Case	5
2-2. Front Panel Assy	5
2-3. Cassette Lid Assy (Deck A/B)	6
2-4. Mechanism Deck Assy (Deck A/B)	6
3. SERVICE MODE	7
4. MECHANICAL ADJUSTMENTS	8
5. ELECTRICAL ADJUSTMENTS	8
6. DIAGRAMS	
6-1. Circuit Boards Location	12
6-2. Printed Wiring Board – MAIN Section –	14
6-3. Schematic Diagram – MAIN (1/4) Section –	15
6-4. Schematic Diagram – MAIN (2/4) Section –	16
6-5. Schematic Diagram – MAIN (3/4) Section –	17
6-6. Schematic Diagram – MAIN (4/4) Section –	18
6-7. Printed Wiring Board – DECK A Section –	19
6-8. Schematic Diagram – DECK A Section –	19
6-9. Printed Wiring Board – DECK B Section –	19
6-10. Schematic Diagram – DECK B Section –	19
6-11. Schematic Diagram – DISPLAY Section –	20
6-12. Printed Wiring Board – DISPLAY Section –	21
6-13. Schematic Diagram – PANEL Section –	22
6-14. Printed Wiring Board – PANEL Section –	23
6-15. Schematic Diagram – POWER Section –	24
6-16. Printed Wiring Board – POWER Section –	25
6-17. IC PIN FUNCTION	26
7. EXPLODED VIEWS	
7-1. Case Section	27
7-2. Chassis Section	28
7-3. Cassette Holder Section	29
7-4. Front Panel Section	30
7-5. Tape Mechanism Section	31
8. ELECTRICAL PARTS LIST	32

SECTION 1 GENERAL

Front Panel



Location of Parts and Controls

- | | | | |
|----|---------------------------|----|---------------------------|
| 1 | POWER button | 17 | REC MUTING ○ button |
| 2 | RESET (Deck A) button | 18 | ◁ (Deck B) button |
| 3 | MEMORY (Deck A) button | 19 | PAUSE button |
| 4 | RESET (Deck B) button | 20 | ■ (Deck B) button |
| 5 | MEMORY (Deck B) button | 21 | ◀◀ (AMS) (Deck B) button |
| 6 | AUTO REC LEVEL indicator | 22 | (AMS) ►► (Deck A) button |
| 7 | REC LEVEL knob | 23 | DOLBY NR OFF B/C switch |
| 8 | FADER button | 24 | ▷ (Deck A) button |
| 9 | ARL button | 25 | ◁ (Deck A) button |
| 10 | SYNCHRO button | 26 | ◀◀ (AMS) (Deck A) button |
| 11 | PHONES jack | 27 | ⇄ (Eject) (Deck A) button |
| 12 | HIGH/NOMAL button | 28 | ■ (Deck A) button |
| 13 | (AMS) ►► (Deck B) button | 29 | PITCH CONTROL knob |
| 14 | ▷ (Deck B) button | 30 | PITCH CONTROL button |
| 15 | REC ● button | 31 | DIRECTION MODE switch |
| 16 | ⇄ (Eject) (Deck B) button | | |

• AMS is the abbreviation for Automatic Music Sensor.

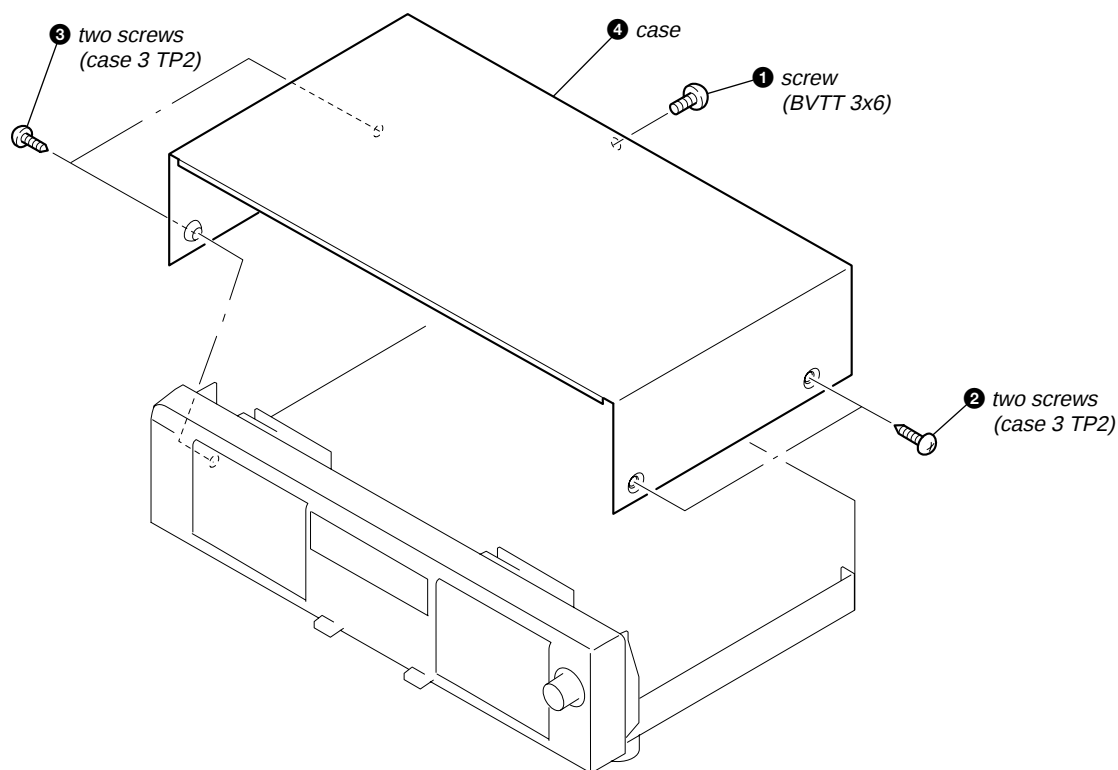
SECTION 2 DISASSEMBLY

- The equipment can be removed using the following procedure.

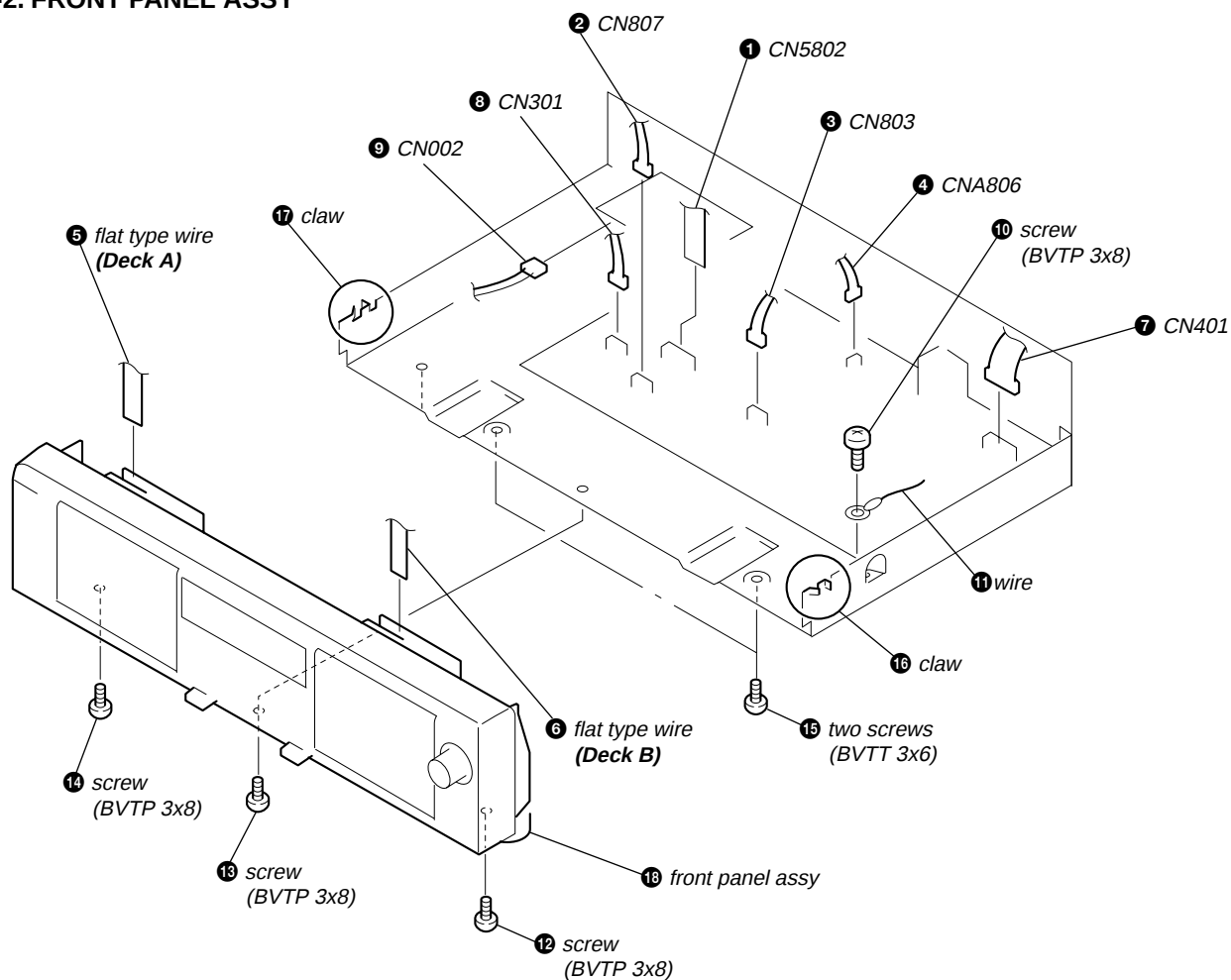
Set → Case → Front Panel Assy → Cassette Lid Assy (Deck A/B) → Mechanism Deck Assy (Deck A/B)

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

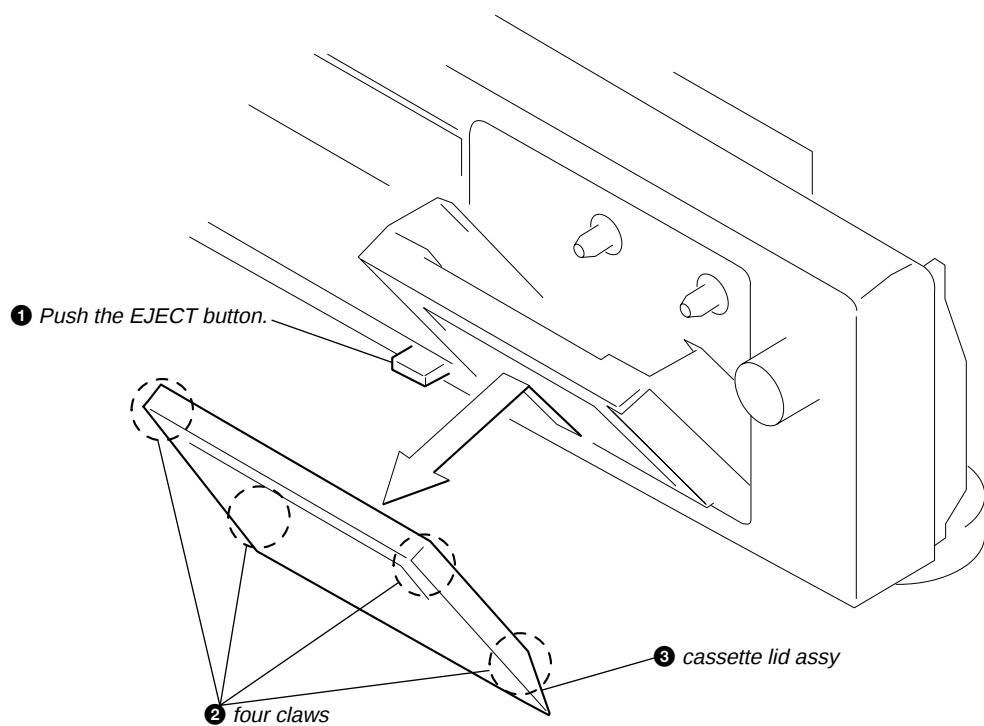
2-1. CASE



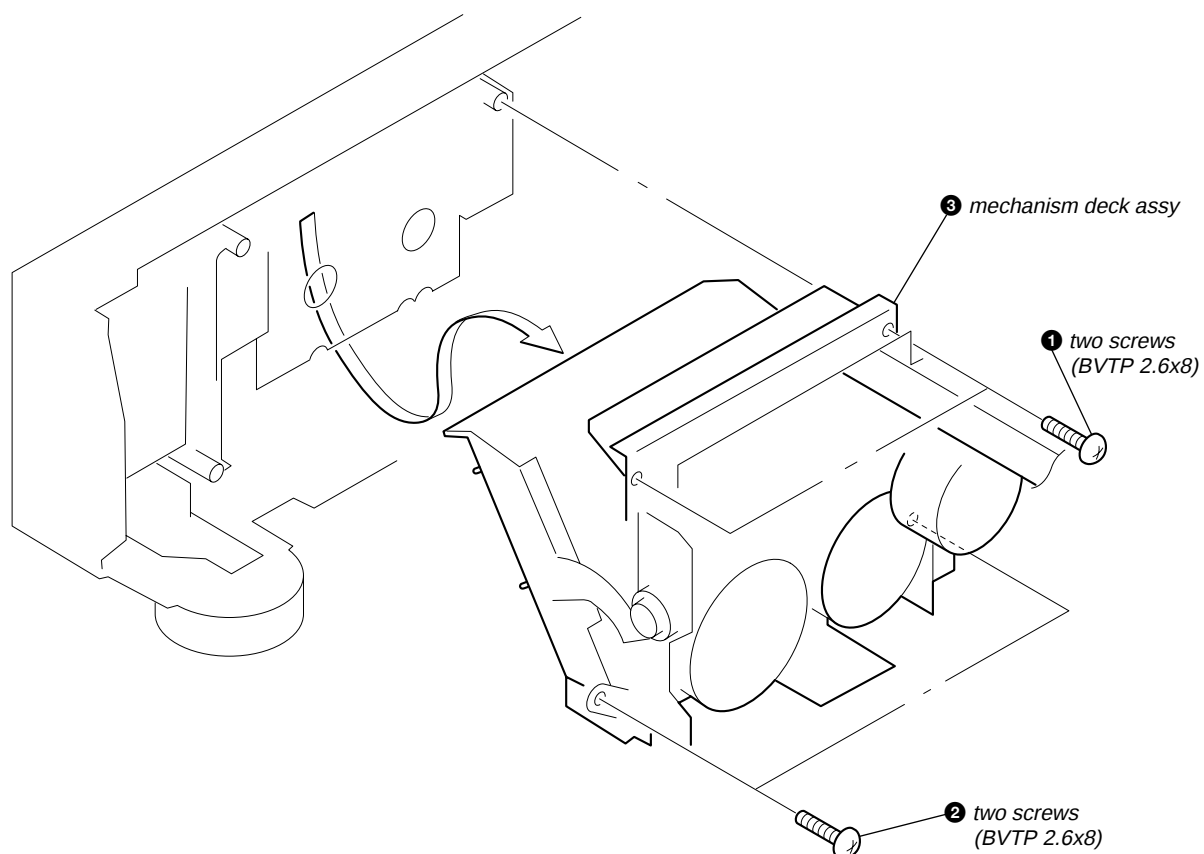
2-2. FRONT PANEL ASSY



2-3. CASSETTE LID ASSY (DECK A/B)

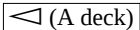


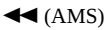
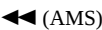
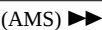
2-4. MECHANISM DECK ASSY (DECK A/B)



SECTION 3
SERVICE MODE

KEY CHECK & DISPLAY CHECK MODE

While pressing the  (A deck) and  buttons with the power off, press the  button to turn on the power. The fluorescent indicator tube displays the number or special message corresponding to the button pressed. The message displayed differs according to the position of the switch.

A deck side		B deck side	
Button	Display	Button	Display
RESET	0	RESET	0
MEMORY	1	MEMORY	1
 (AMS)	2	HIGH/NOMAL	2
(AMS) 	3	 (AMS)	3
	Grid check display (*1)	(AMS) 	4
	4		Segment check display (*2)
	5		5
DIRECTION MODE switch   RELAY			6
	PLAY	PAUSE 	7
		REC MUTING 	8
		REC 	9
		FADER	A
		ARL	b
		SYNCHRO	All lit
		DOLBY NR switch OFF B C	
			PLAY
			

Grit check display (*1)



Segment check display (*2)



SECTION 4 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.
- 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

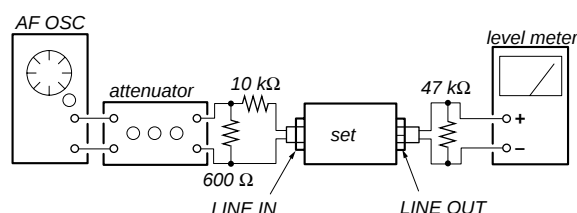
Mode	Torque meter	Meter reading
Forward	CQ-102C	30 to 65 g • cm (0.42 to 0.90 oz • inch)
Forward back tension	CQ-102C	DECK A : 1 to 6 g • cm (0.014 to 0.083 oz • inch) DECK B : 2 to 9 g • cm (0.028 to 0.125 oz • inch)
Reverse	CQ-102RC	30 to 65 g • cm (0.42 to 0.90 oz • inch)
Reverse back tension	CQ-102RC	1 to 6 g • cm (0.014 to 0.083 oz • inch)
FF/REW	CQ-201B	70 to 120 g • cm (0.97 to 1.67 oz • inch)

SECTION 5 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
DIRECTION MODE switch : $\rightleftarrows$
 - Standard record position :
Deliver the standard input signal level to input jack and set the **REC LEVEL** knob to obtain the standard output signal level as follows.

– Record Mode –



Standard Input Level

Input terminal	LINE IN
source impedance	10 kΩ
input signal level	0.5 V (–3.8 dBs)

Standard Output Level

Input terminal	LINE IN
source impedance	10 kΩ
input signal level	0.5 V (–3.8 dBs)

Test Tape

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

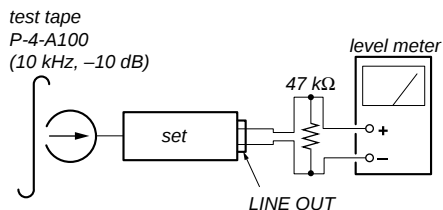
0 dBs = 0.775 V

Test Mode

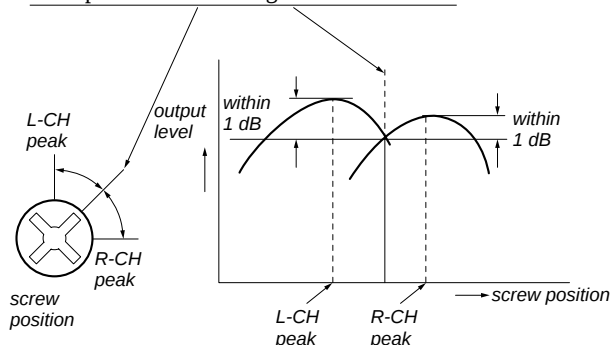
- While pressing the **▷ (DECK A)** and **REC MUTING ○** buttons with the power off, press the **①** button to turn on the power. The fluorescent display tube lights up for about one second, and the test mode is set. The test mode performs the following two special functions.
 - Playback speed switching function
Pressing the **HIGH/NORMAL** button switches the playback speed between standard/double speed.
 - Counter RESET & MEMORY function
Resets the counter when recording starts. When rewind with the **◀◀ (AMS)** button after recording, stops at the point where recording started.
- To release the test mode, turn OFF the power switch.

Record/Playback Head Azimuth Adjustment**DECK A DECK B****Procedure:**

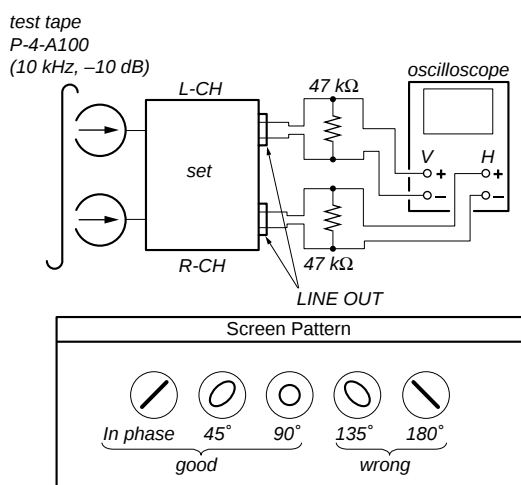
1. Forward Playback Mode



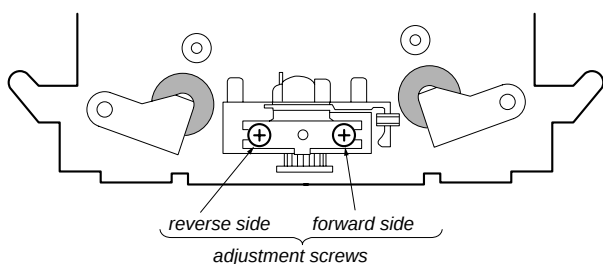
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



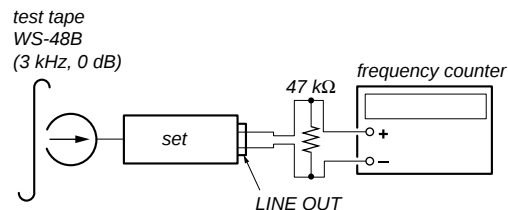
3. Playback Mode



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****Adjust DECK A first****Procedure:**

– Forward Playback Mode –



(High speed adjustment)

1. Press the **PITCH CONTROL** button to set to **OFF**.
2. Set to test mode. (Refer to page 11.)
3. Press the **▷** button to playback.
4. Press the **HIGH/NORMAL** button to playback at double speed.
5. Adjust RV316 (DECK A), RV416 (DECK B) so that the frequency counter reading becomes $5,980 \pm 180$ Hz.

(Normal speed adjustment)

6. Press the **▷** button to playback.
7. Press the **HIGH/NORMAL** button to playback at normal speed.
8. Adjust RV317 (DECK A), RV417 (DECK B) so that the frequency counter reading becomes $3,000 \pm 90$ Hz.

(Pitch control adjustment) (DECK A)

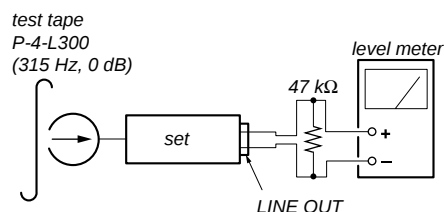
9. Press the **PITCH CONTROL** button to set to **ON**.
10. Set **PITCH CONTROL** knob to mechanical center.
11. Press the **▷** button to playback.
12. Adjust RV318 so that the frequency counter reading becomes $2,990 \pm 90$ Hz.

Adjustment Location: MAIN board (See page 14.)**Sample value of wow and flutter**

W.RMS (JIS) less than 0.3% .
(test tape : WS-48B)

Playback Level Adjustment**DECK A DECK B****Procedure:**

– Forward Playback Mode –



Adjust DECK A : RV111 (L-CH), RV211 (R-CH) and
DECK B : RV121 (L-CH), RV221 (R-CH) so the level meter reading becomes the adjustment limits below.

Adjustment Value:

LINE OUT level : $-7.7 \text{ dBs} \pm 0.5 \text{ dB}$ (0.301 to 0.338 V)

Level difference between channels : within 0.5 dB

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

Adjustment Location: MAIN board (See page 14.)

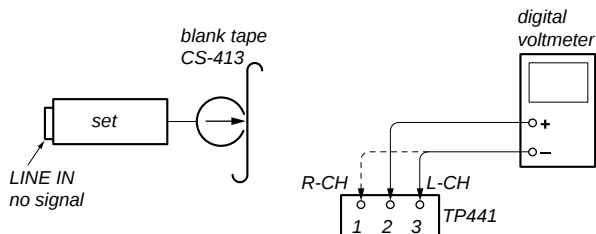
Bias Consumption Current Adjustment DECK B

This adjustment should be performed when replacing the head assy or the bias oscillator transformer (T141, T241).

Setting:

REC LEVEL knob : standard recording position (See page 11.)

Procedure:



1. Connect the digital voltmeter to test point TP441.
2. Set RV141 (L-CH), RV241 (R-CH) to mechanical center.
3. Press the ▶ button to playback.
4. Adjust T141 (L-CH), T241 (R-CH) so that the digital voltmeter reading becomes minimum.

Adjustment Value: Maximum 220 mV

Adjustment Location: MAIN board (See page 14.)

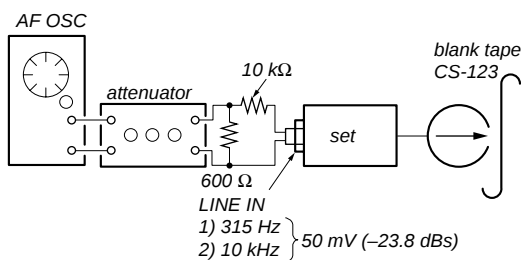
Record Bias Adjustment DECK B

Setting:

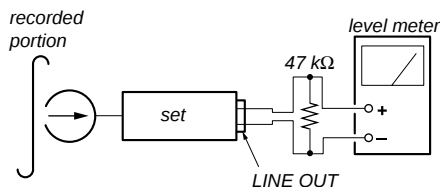
REC LEVEL knob : standard record position (See page 11.)

Procedure:

1. Set to test mode (See page 11.)
2. Insert a tape into deck B, press the REC ● button and then press the ▶ button to start recording.
3. Record Mode



4. Playback Mode



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
If the selevls do not adjustment level, adjust the RV141 (L-CH) and RV241 (R-CH) to repeat steps 3 and 4.

Adjustment level:

The palyback output of 10 kHz level difference against 315 Hz reference should be ± 0.5 dB.

Adjustment Location: MAIN board (See page 14.)

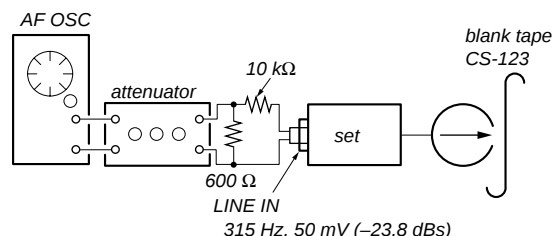
Record Level Adjustment DECK B

Setting:

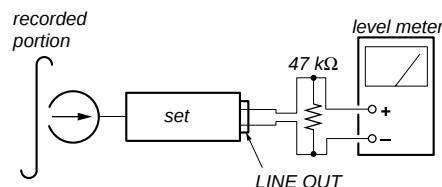
REC LEVEL knob : standard record position (See page 11.)

Procedure:

1. Set to test mode (See page 11.)
2. Insert a tpe into deck B, press the REC ● button and then press the ▶ button to start recording.
3. Record Mode



4. Playback Mode



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
If the selevls do not adjustment level, adjust the RV101 (L-CH) and RV201 (R-CH) to repeat steps 3 and 4.

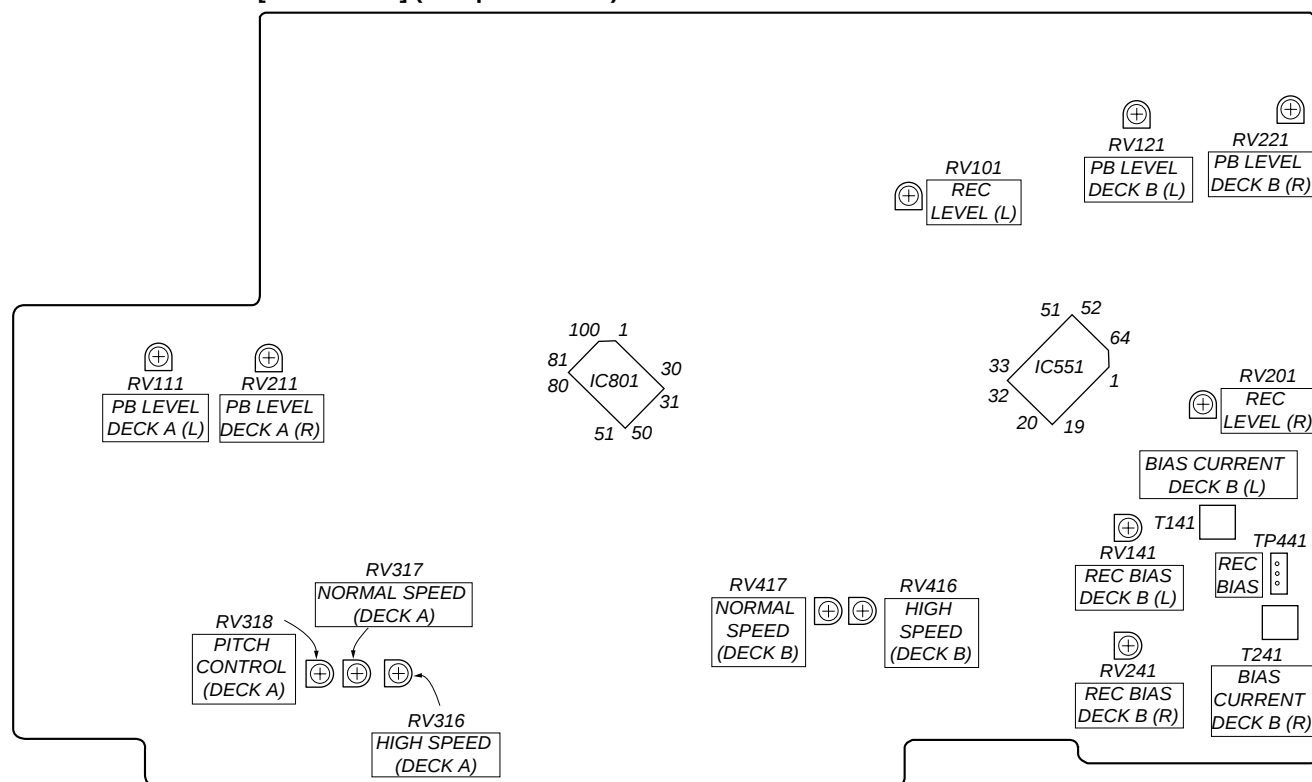
Adjustment Value:

LINE OUT level : -23.8 dBs ± 0.5 dB (47.2 to 53.0 mV)

Adjustment Location: MAIN board (See page 14.)

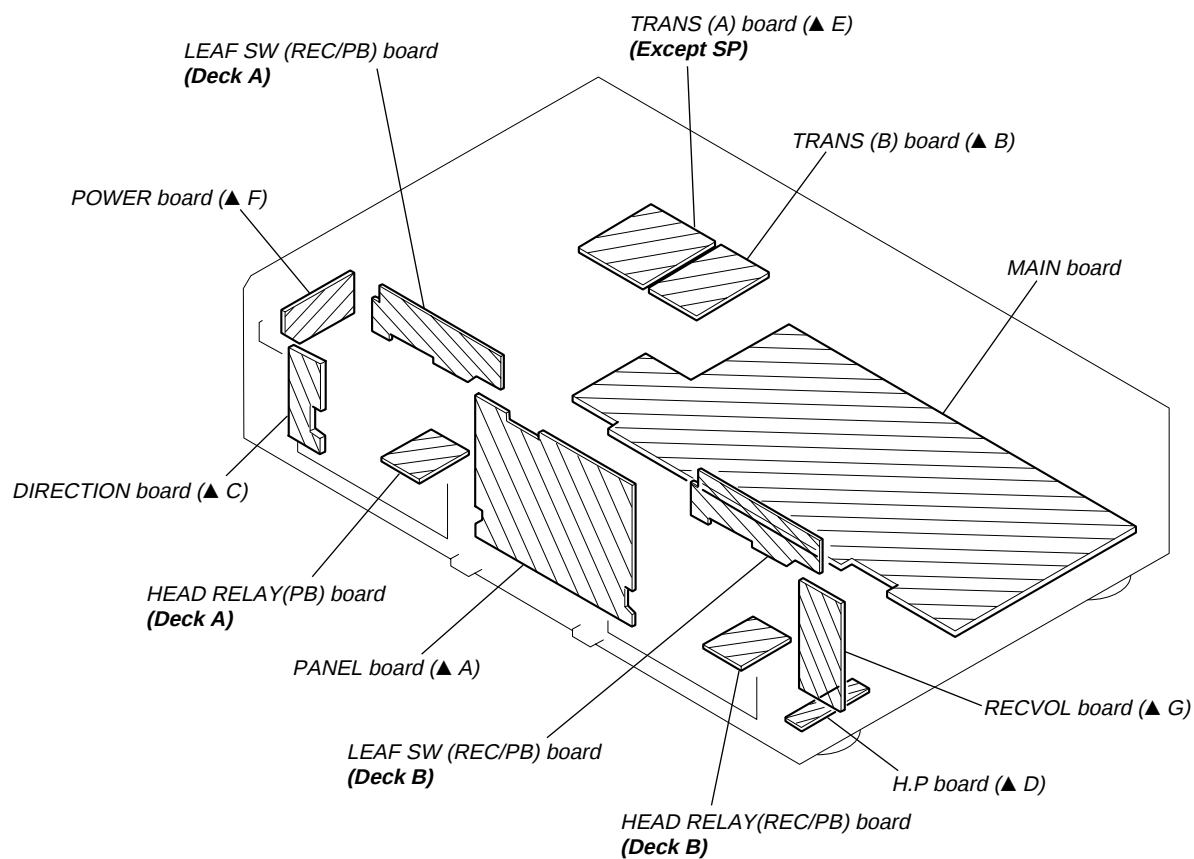
Adjustment Location: main board

[MAIN board] (Component side)



SECTION 6 DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION



- ▲A to ▲G are including into the mounted PANEL board.

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

- Note:**
- All capacitors are in μF unless otherwise noted. pF: μpF
 - 50 WV 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.
 -  : panel designation.

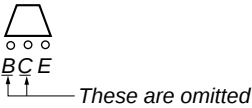
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
---	--

-  : B+ Line.
-  : B- Line.
-  : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
no mark : STOP
() : REC
< > : PB
* : Can not be measured.
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : PB
 : REC (DECK B)
- Abbreviation
CND : Canadian model.
AUS : Australian model.
SP : Singapore model.

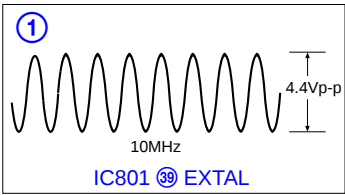
For printed wiring boards.

- Note:**
-  : parts extracted from the component side.
 -  : Pattern from the side which enables seeing.
 - Transistor of "B" and "C" indication is omitted.

• Indication of transistor



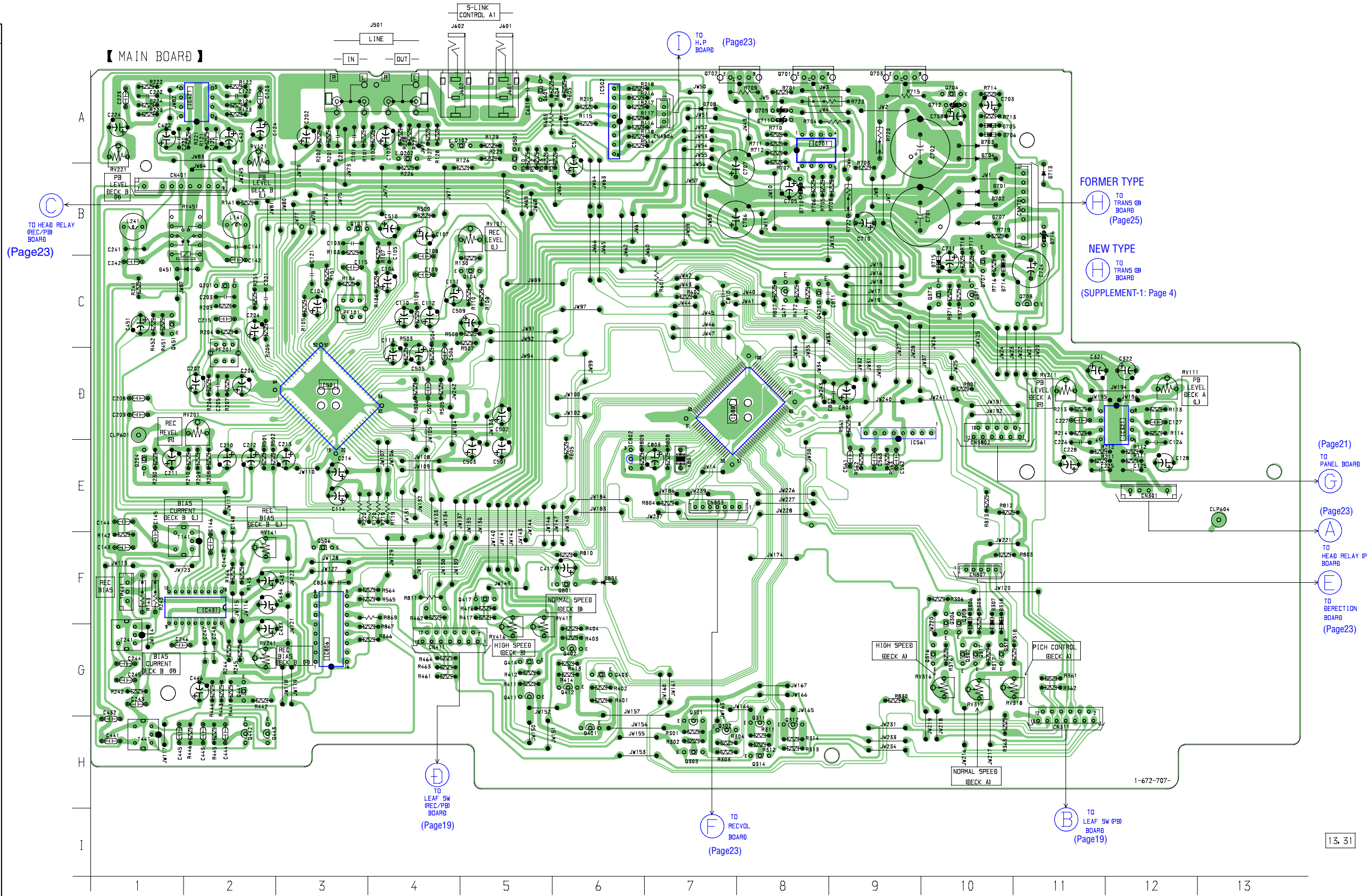
WAVEFORMS
– MAIN SECTION (3/4) –



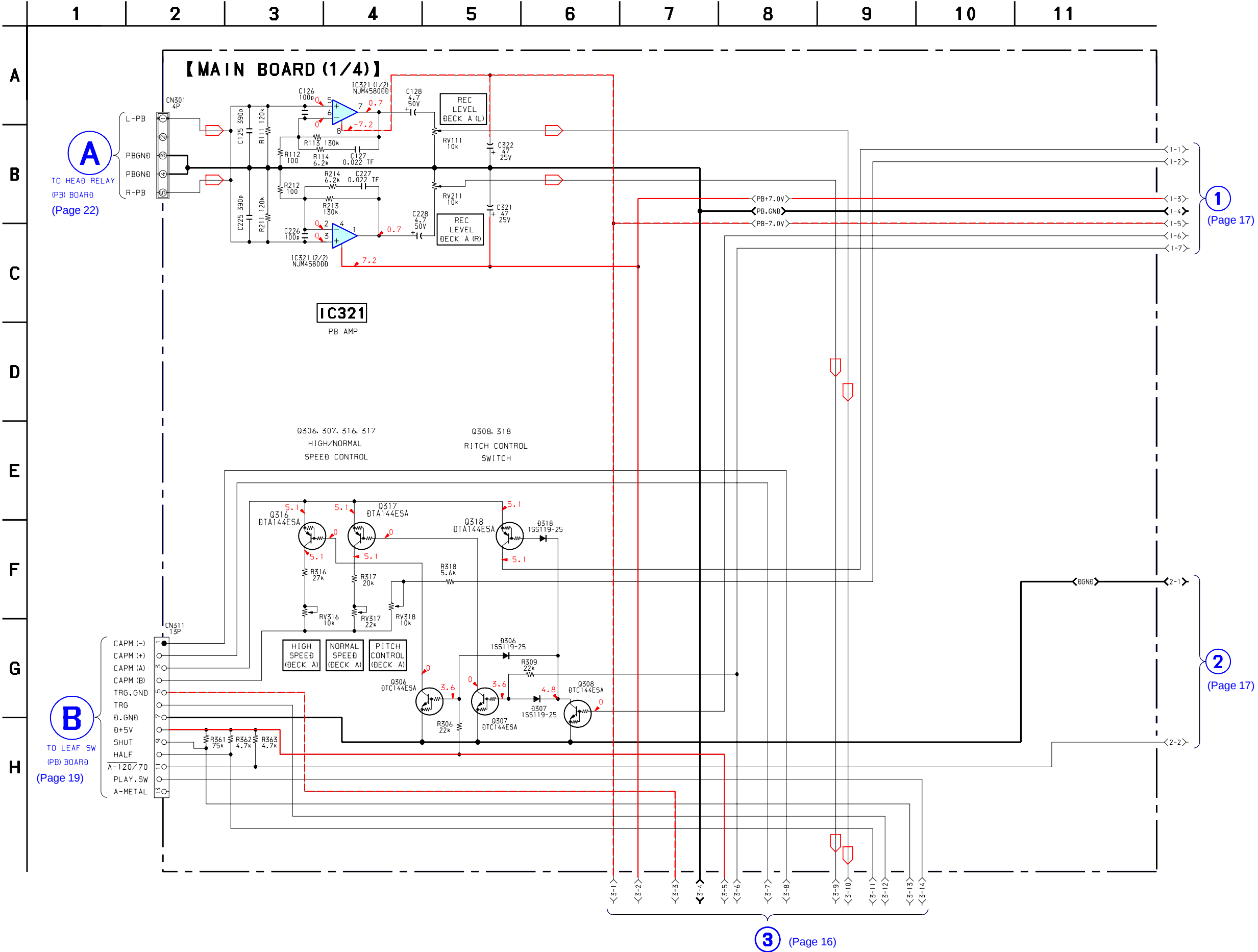
6-2. PRINTED WIRING BOARD – MAIN SECTION –
• See page 12 for Circuit Boards Location.

• Semiconductor
Location

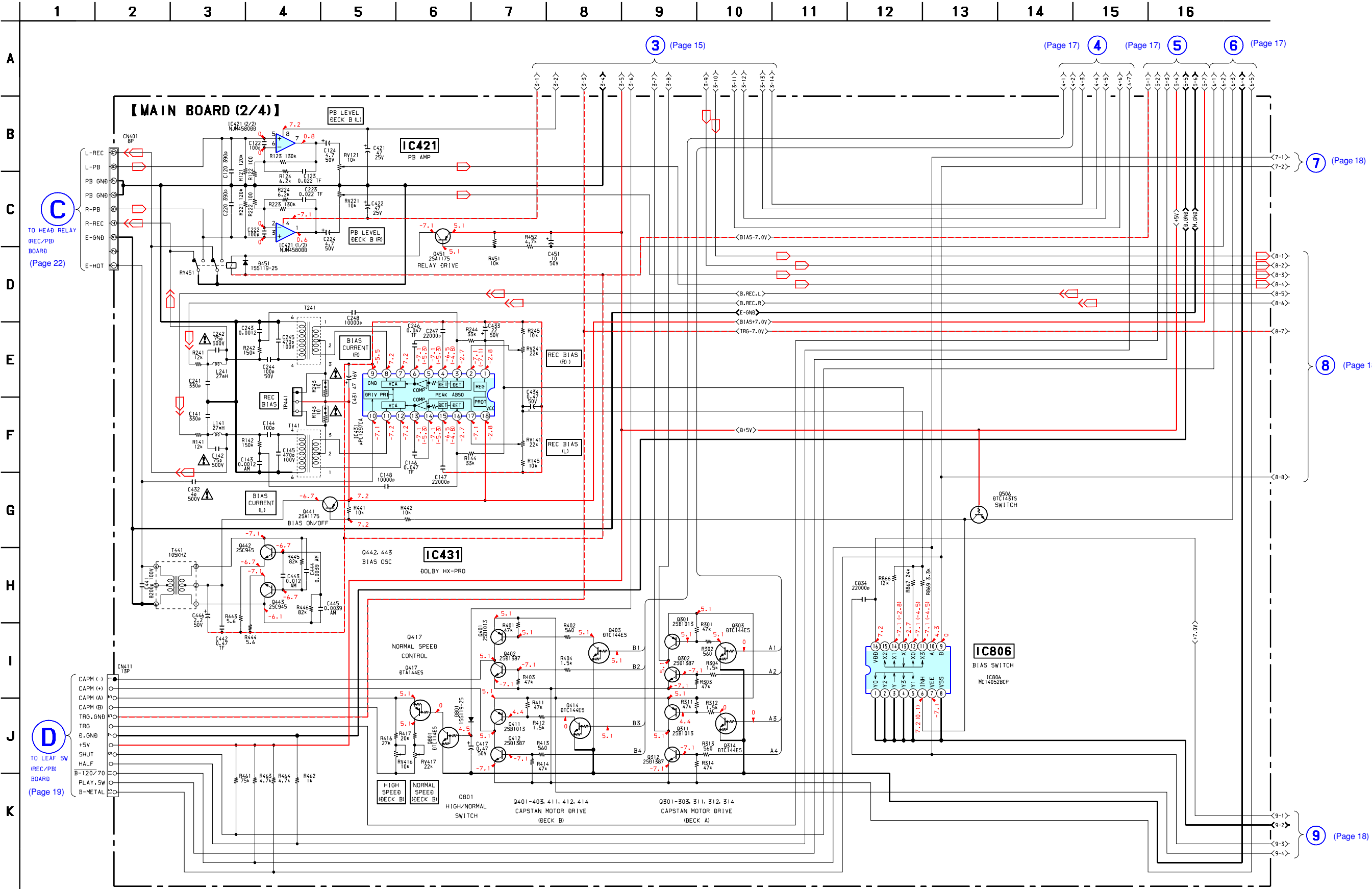
Ref. No.	Location
D306	G-10
D307	G-10
D318	G-10
D451	C-2
D601	A-6
D701	B-10
D702	B-10
D703	A-10
D704	A-10
D705	A-10
D706	A-10
D707	B-10
D708	A-7
D709	A-8
D710	B-8
D711	A-8
D712	A-10
D713	B-11
D714	C-10
D715	C-10
D716	B-11
D801	F-6
IC321	D-12
IC421	A-2
IC431	F-2
IC501	D-3
IC502	A-6
IC561	D-9
IC701	A-8
IC801	D-7
IC802	E-6
IC806	G-3
Q101	B-3
Q102	A-5
Q104	C-5
Q201	C-2
Q202	A-4
Q204	E-1
Q302	H-7
Q303	H-7
Q306	G-10
Q307	G-10
Q308	G-10
Q311	H-8
Q312	H-8
Q314	H-8
Q316	G-10
Q317	G-10
Q318	G-10
Q371	C-10
Q373	C-10
Q402	G-6
Q403	G-6
Q411	G-5
Q412	G-6
Q414	G-5
Q417	F-5
Q441	G-2
Q442	H-2
Q443	H-2
Q451	C-1
Q471	C-8
Q473	C-8
Q501	A-5
Q506	F-3
Q601	A-5
Q701	A-8
Q702	A-8
Q703	A-9
Q704	A-10
Q707	C-10
Q708	C-11
Q801	F-6



6-3. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –



6-4. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –
• See page 14 for Printed Wiring Board.



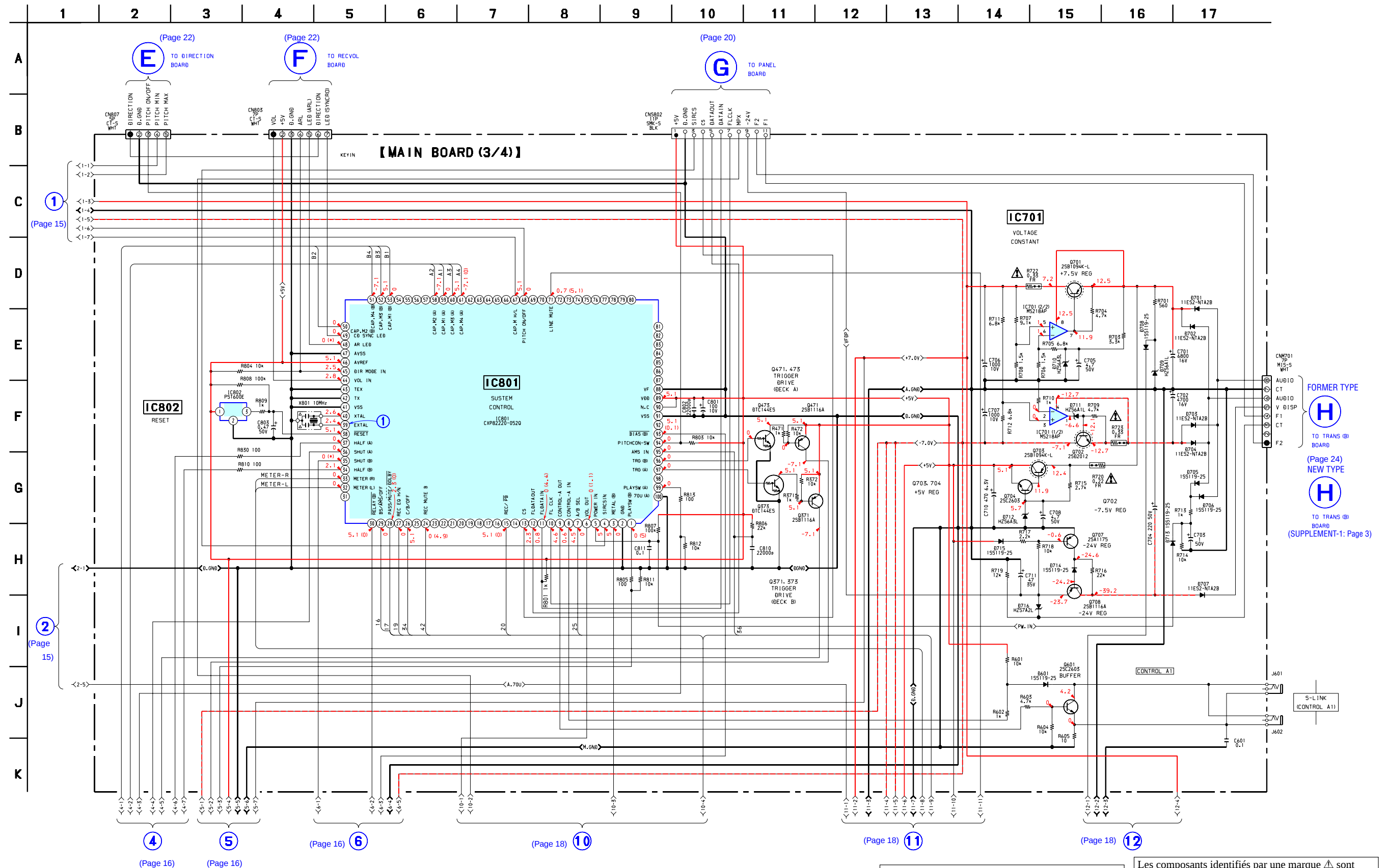
• Signal Path
◻ : PB
◻ : REC
(DECK B)

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.

6-5. SCHEMATIC DIAGRAM – MAIN (3/ 4) SECTION –

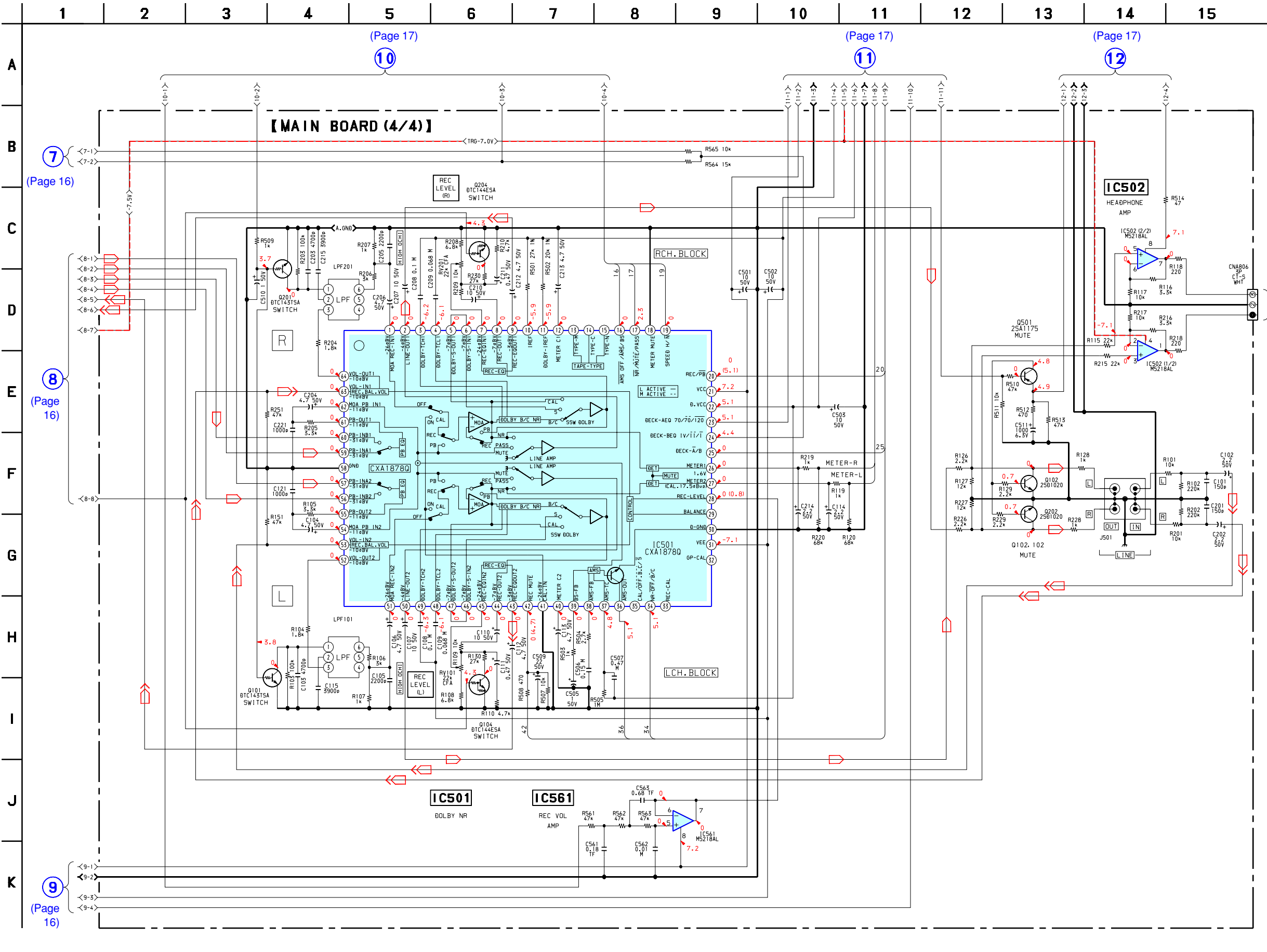
- See page 13 f or Wav ef orms.
- See page 14 f or Printed Wiring Board.
- See page 26 f or IC Pin Functions.



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

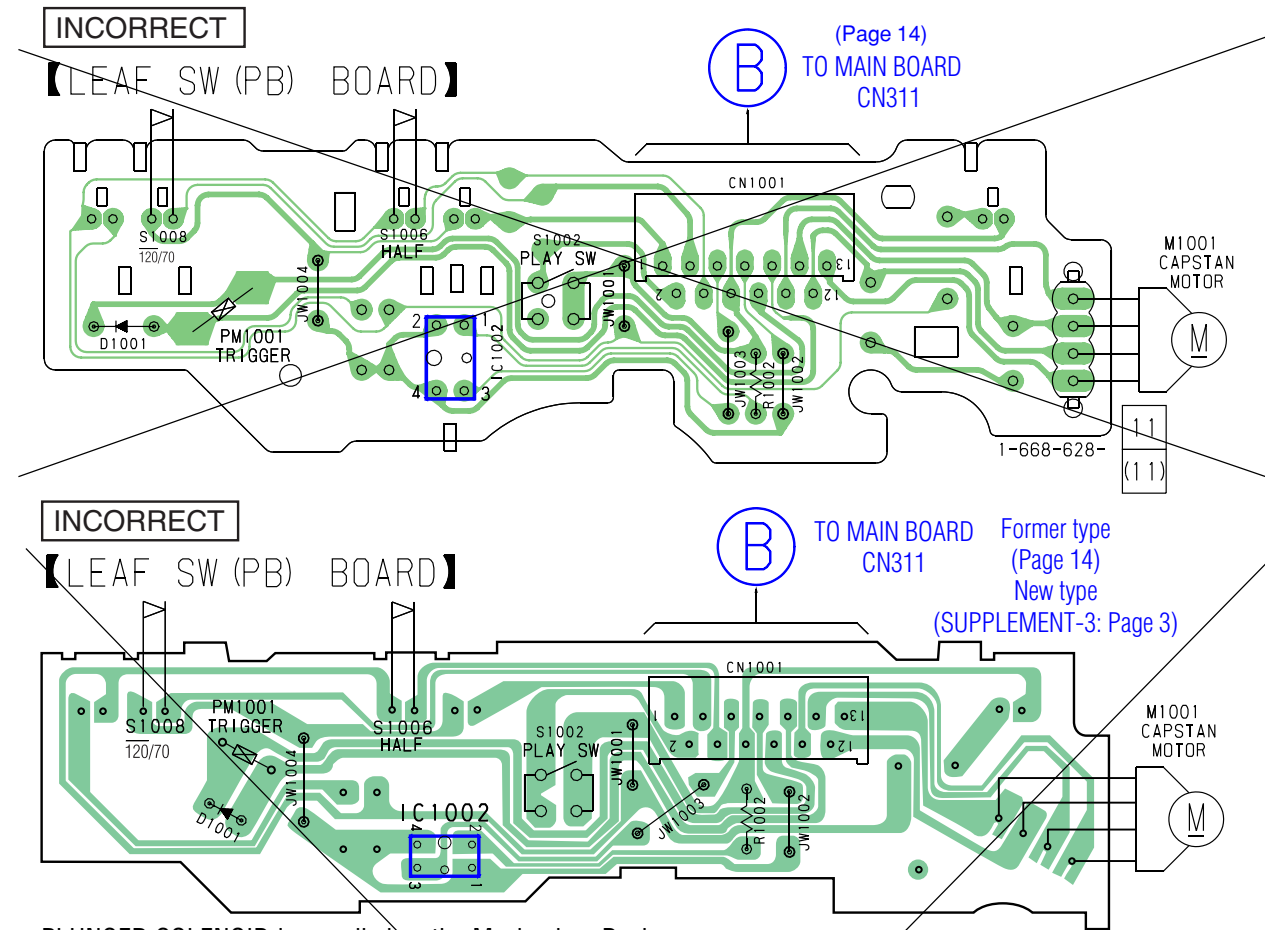
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-6. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –



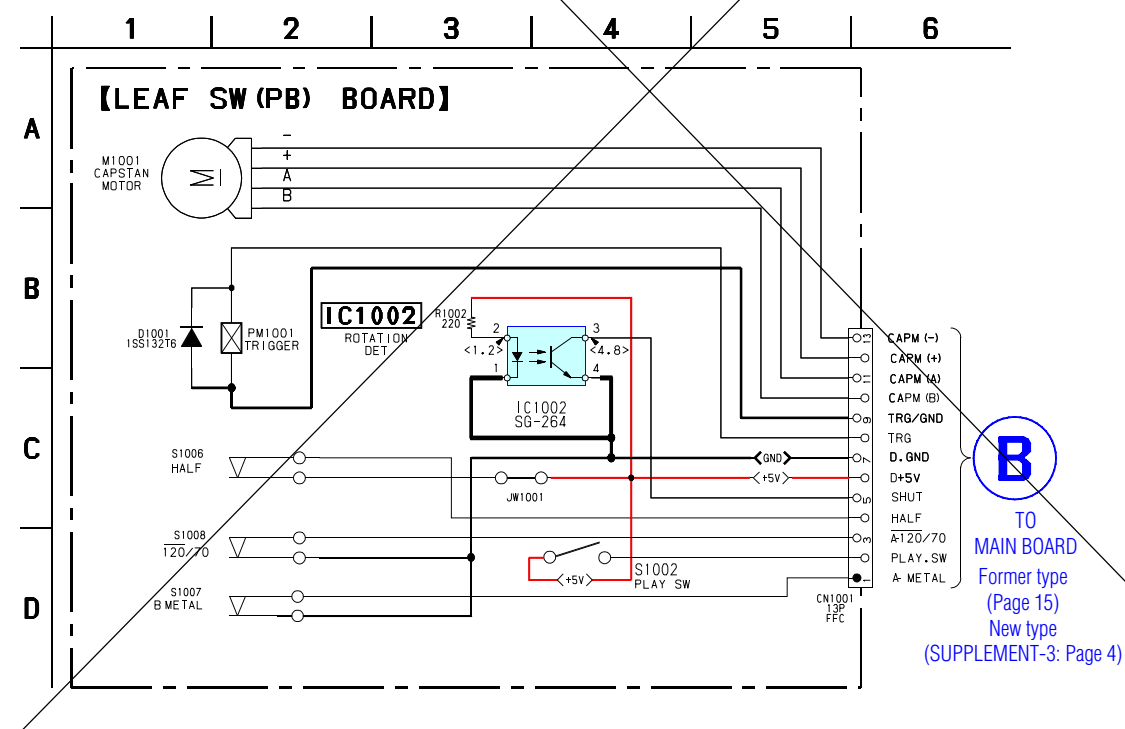
• Signal Path
□ : PB
▢ : REC (DECK B)

6-7. PRINTED WIRING BOARD – DECK A SECTION –
• See page 12 for Circuit Boards Location.

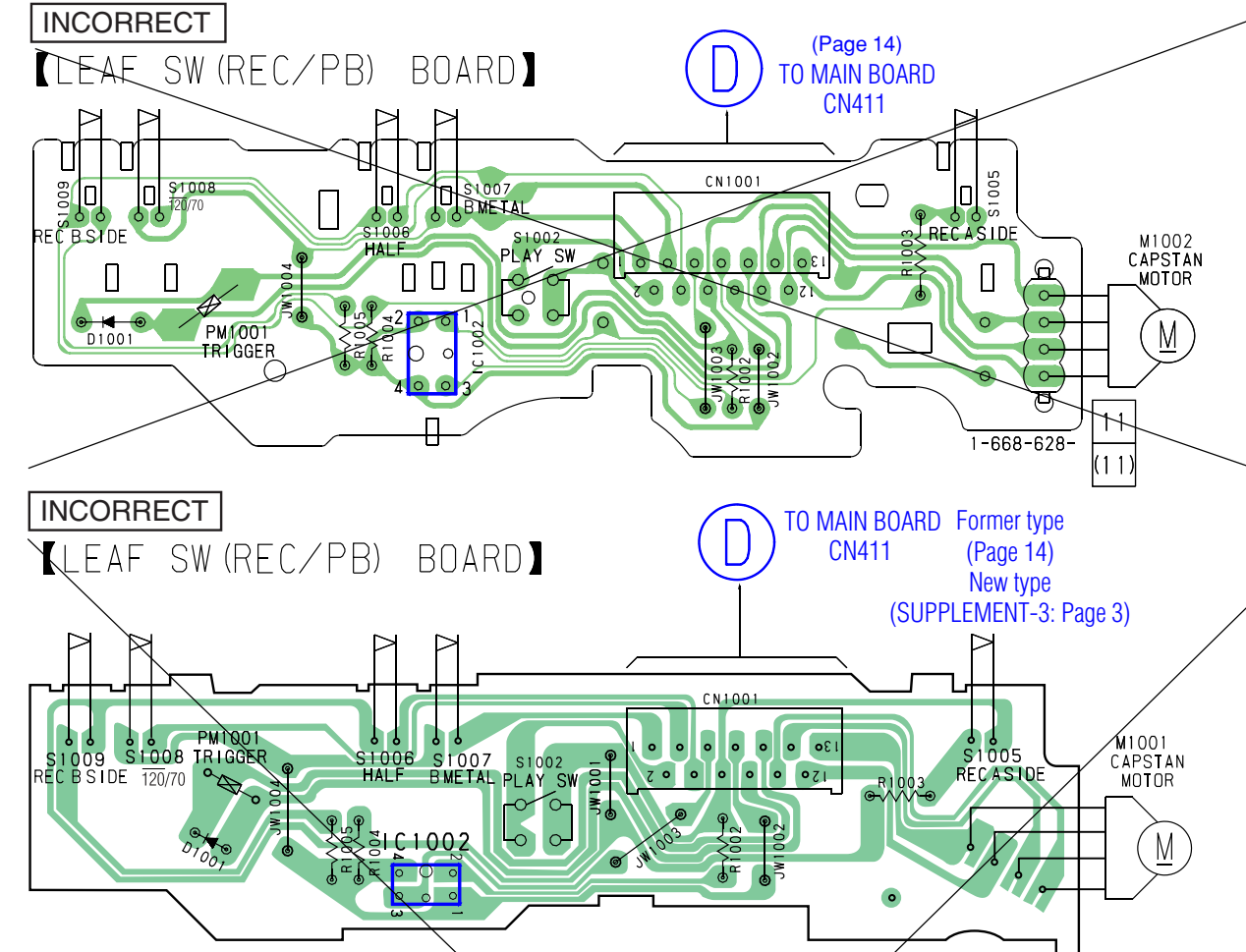


- PLUNGER SOLENOID is supplied as the Mechanism Deck (TCM-230ASR41A : A-2100-941-A).

6-8. SCHEMATIC DIAGRAM – DECK A SECTION –

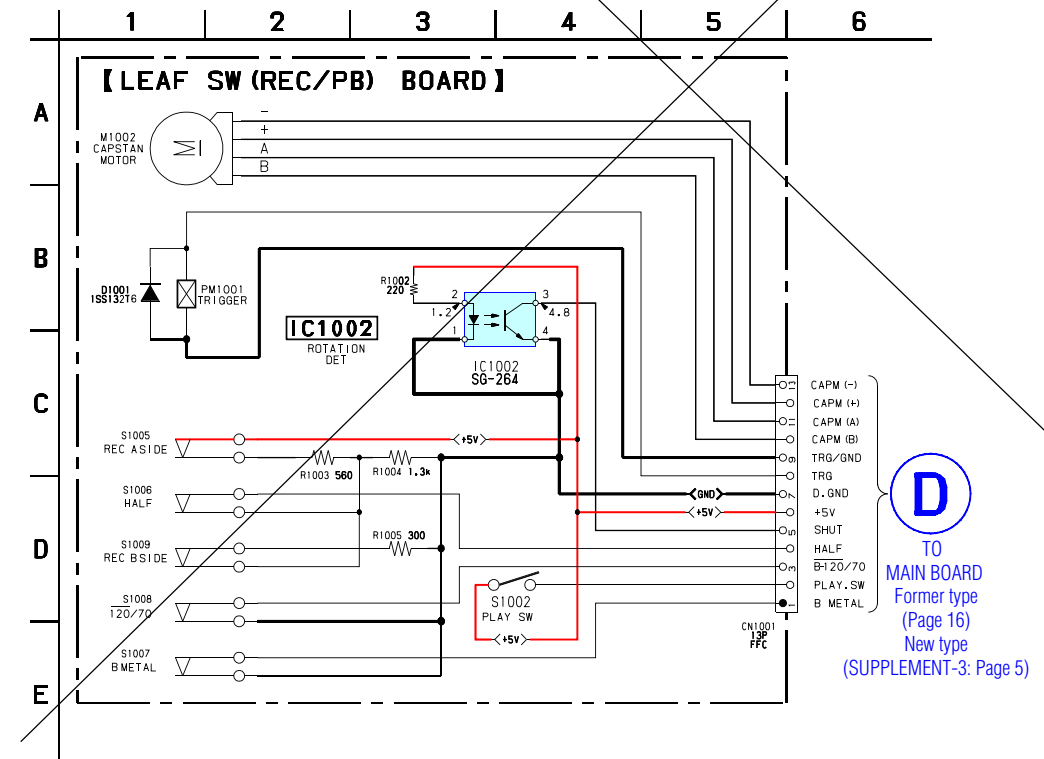


6-9. PRINTED WIRING BOARD – DECK B SECTION –
• See page 12 for Circuit Boards Location.



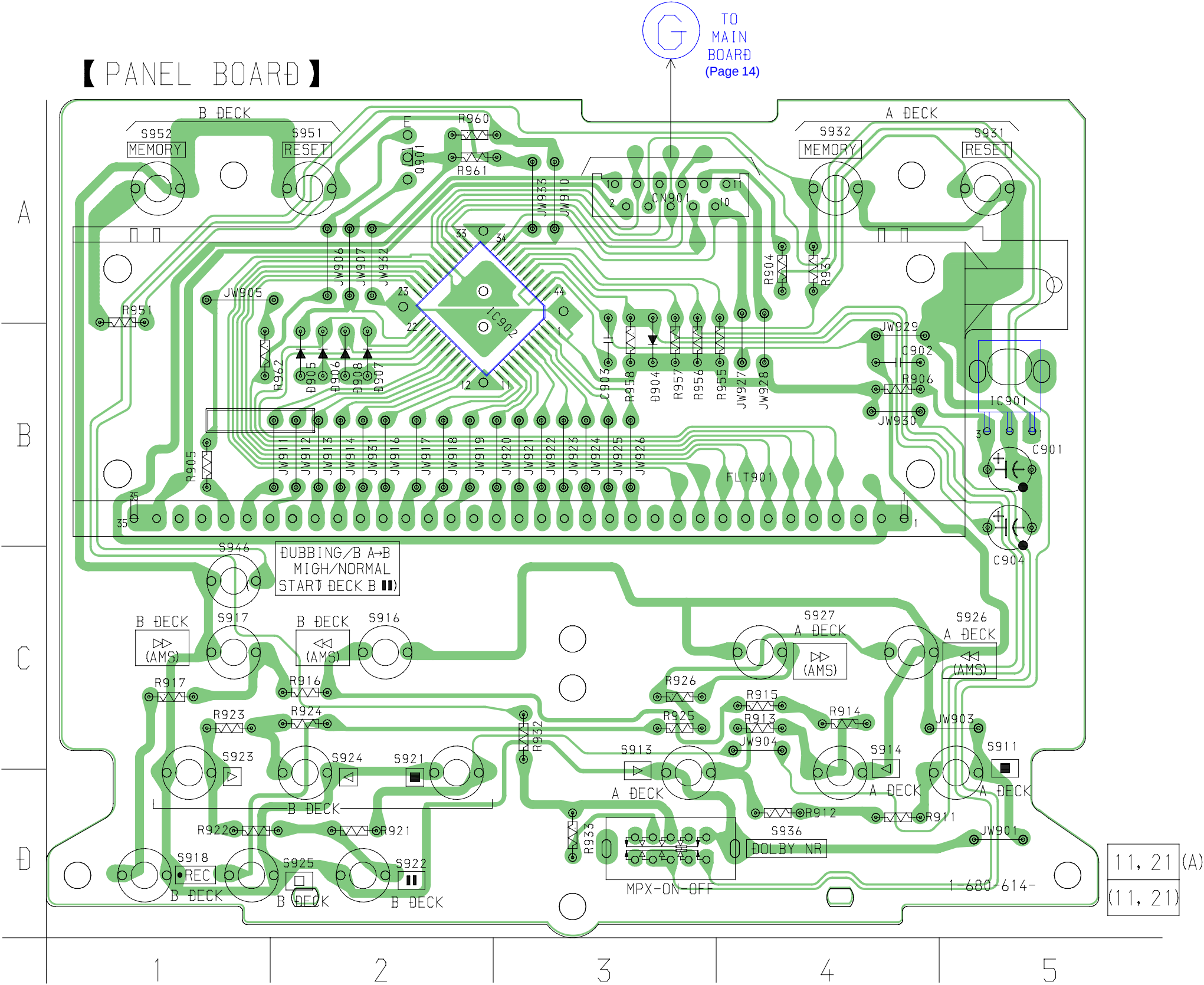
- PLUNGER SOLENOID is supplied as the Mechanism Deck (TCM-230ASR41B : A-2100-942-A).

6-10. SCHEMATIC DIAGRAM – DECK B SECTION –





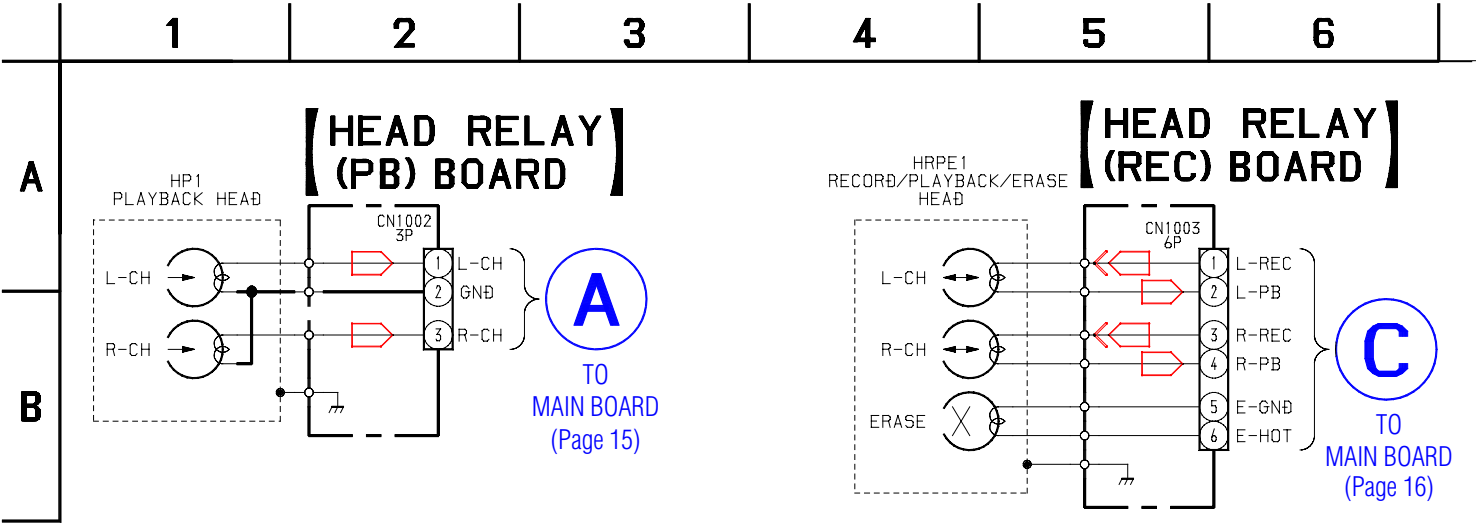
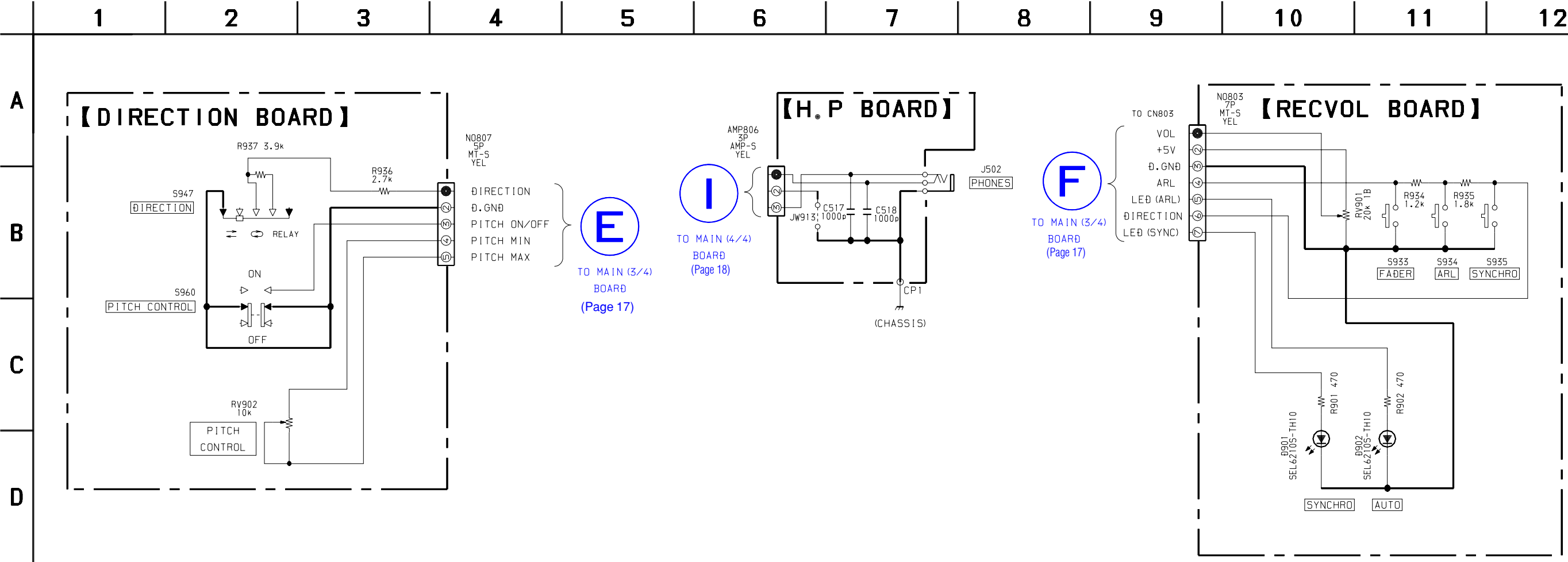
6-12. PRINTED WIRING BOARD – DISPLAY SECTION –
• See page 12 for Circuit Boards Location.



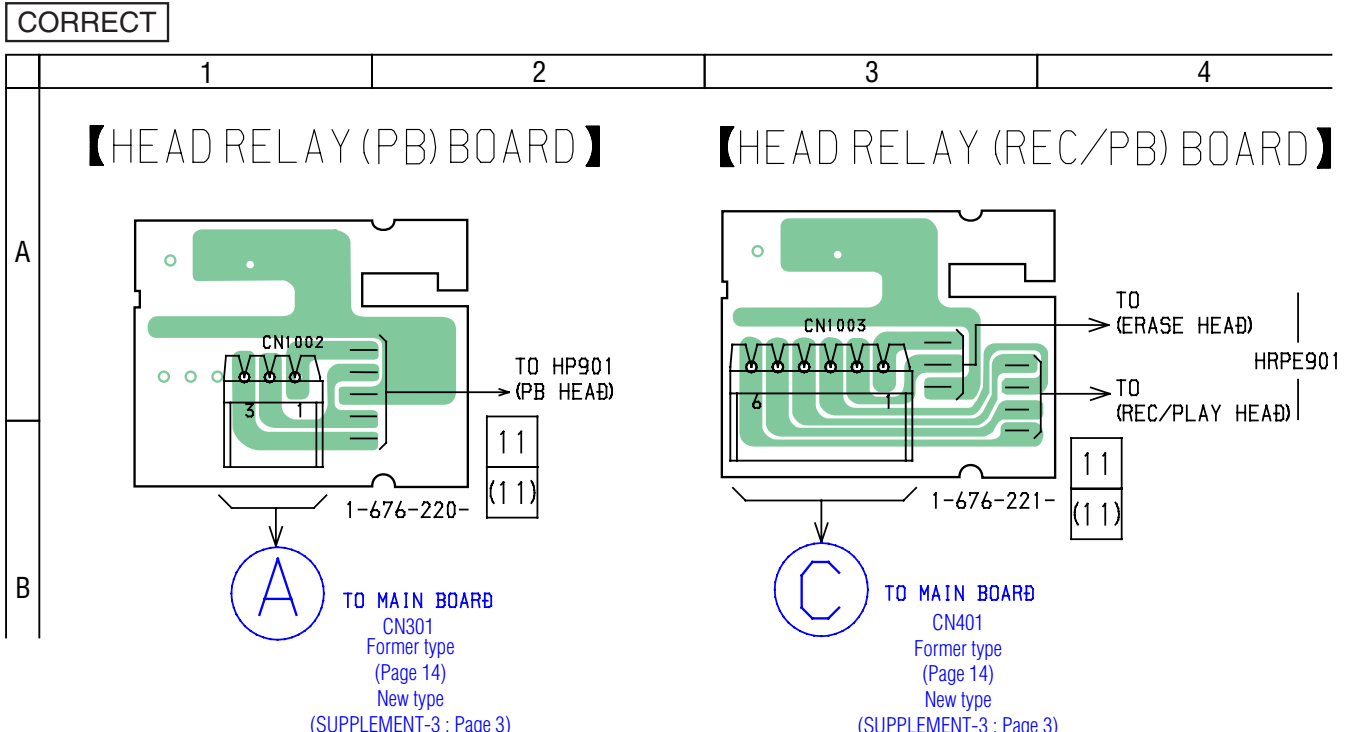
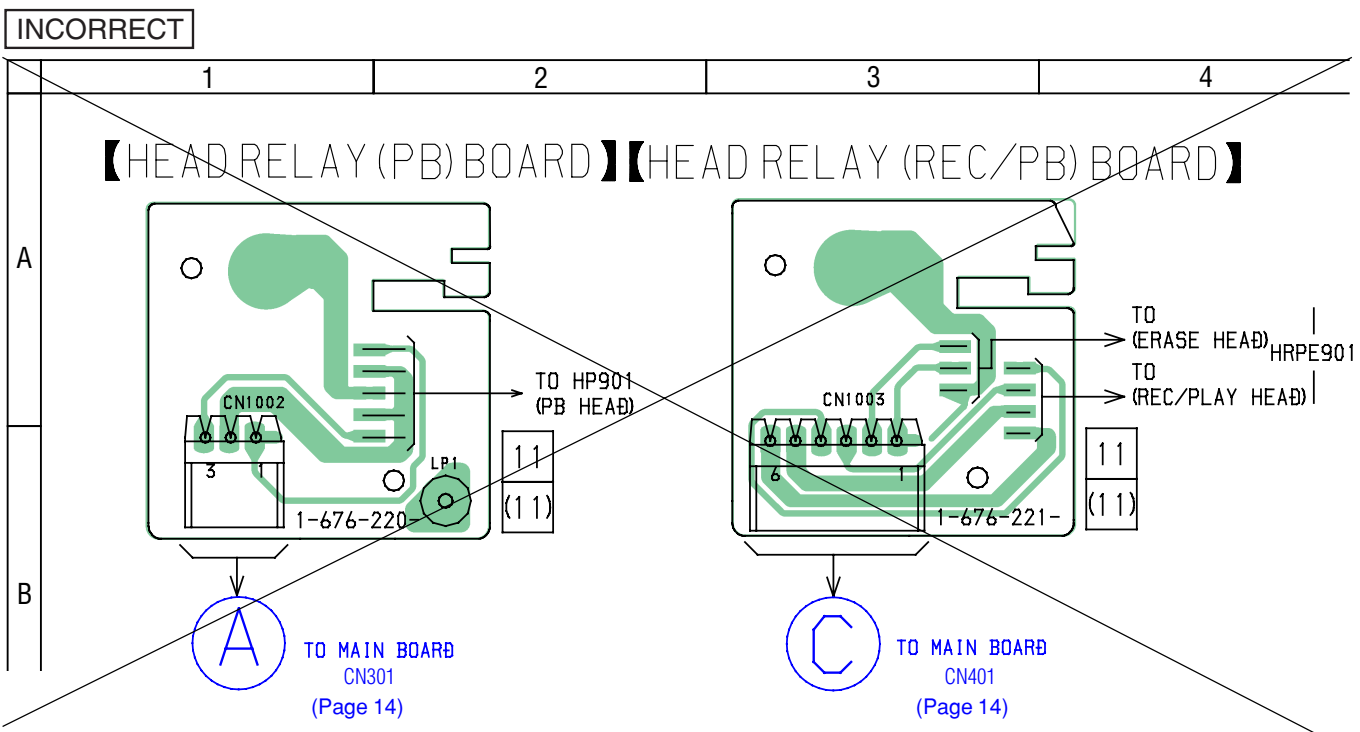
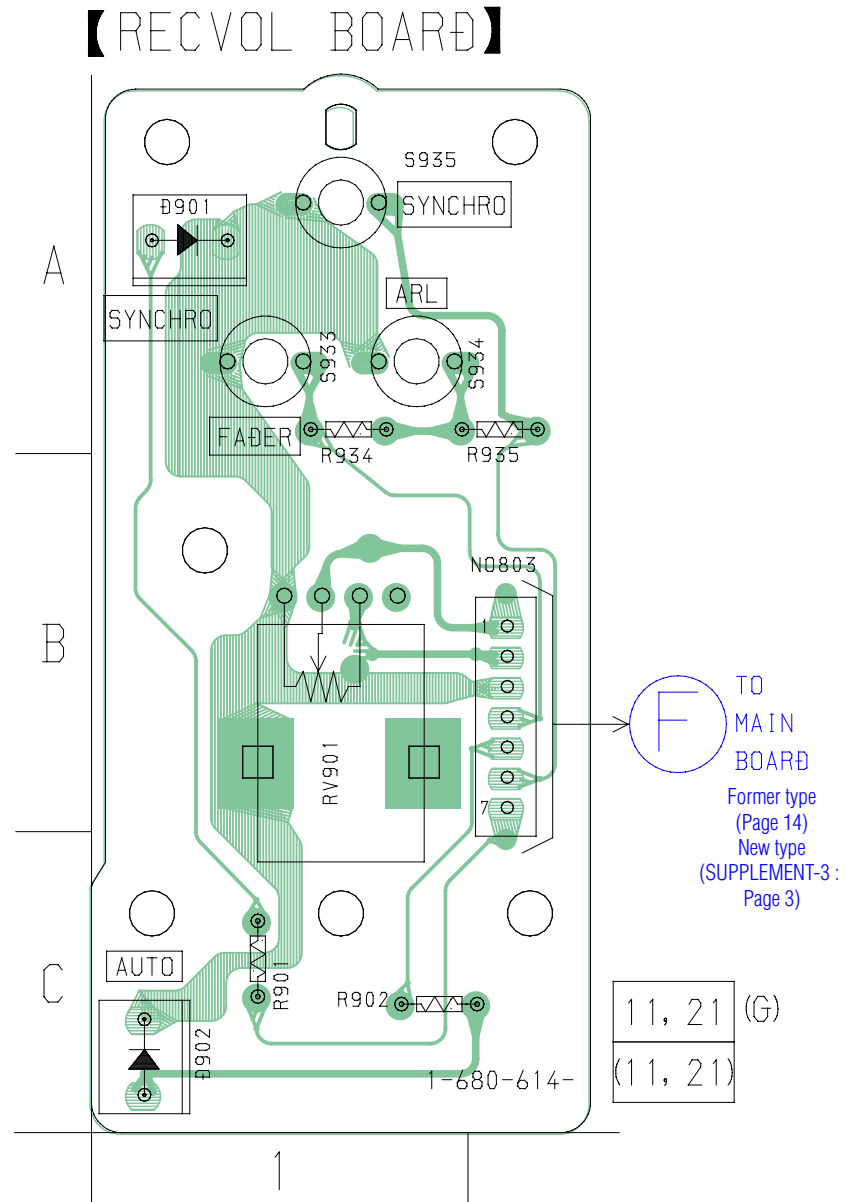
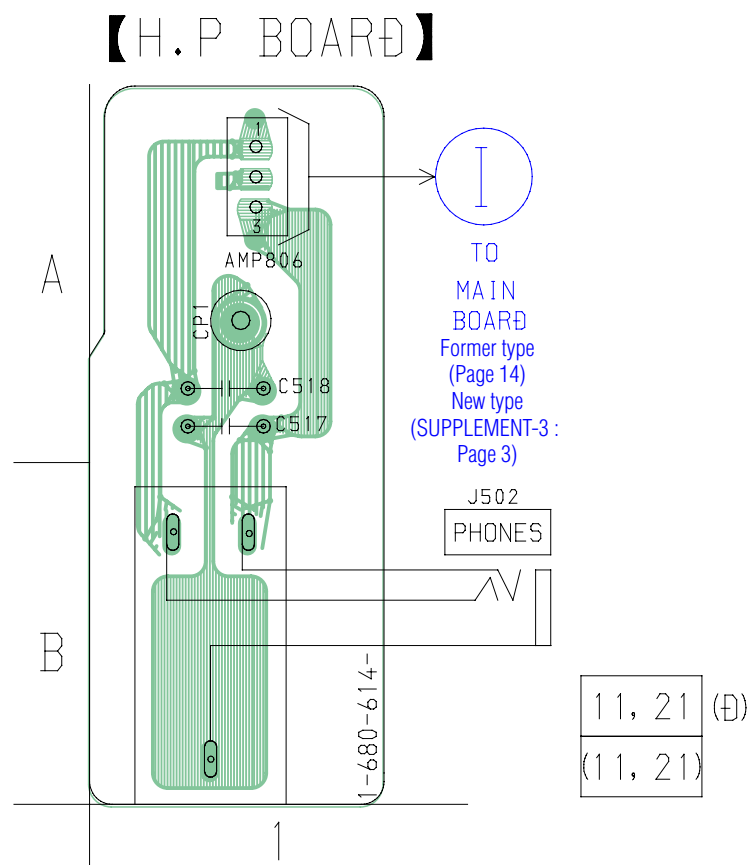
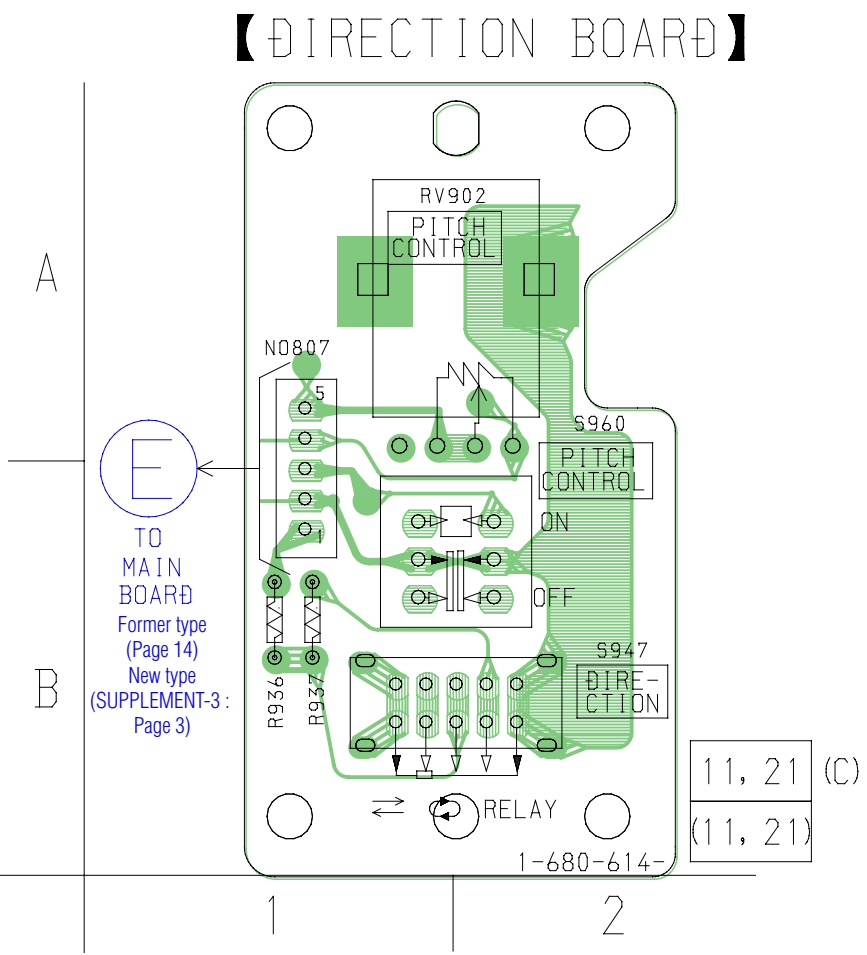
• Semiconductor Location

Ref. No.	Location
D904	B-3
D905	B-2
D906	B-2
D907	B-2
D908	B-2
IC901	B-5
IC902	A-2
Q901	A-2

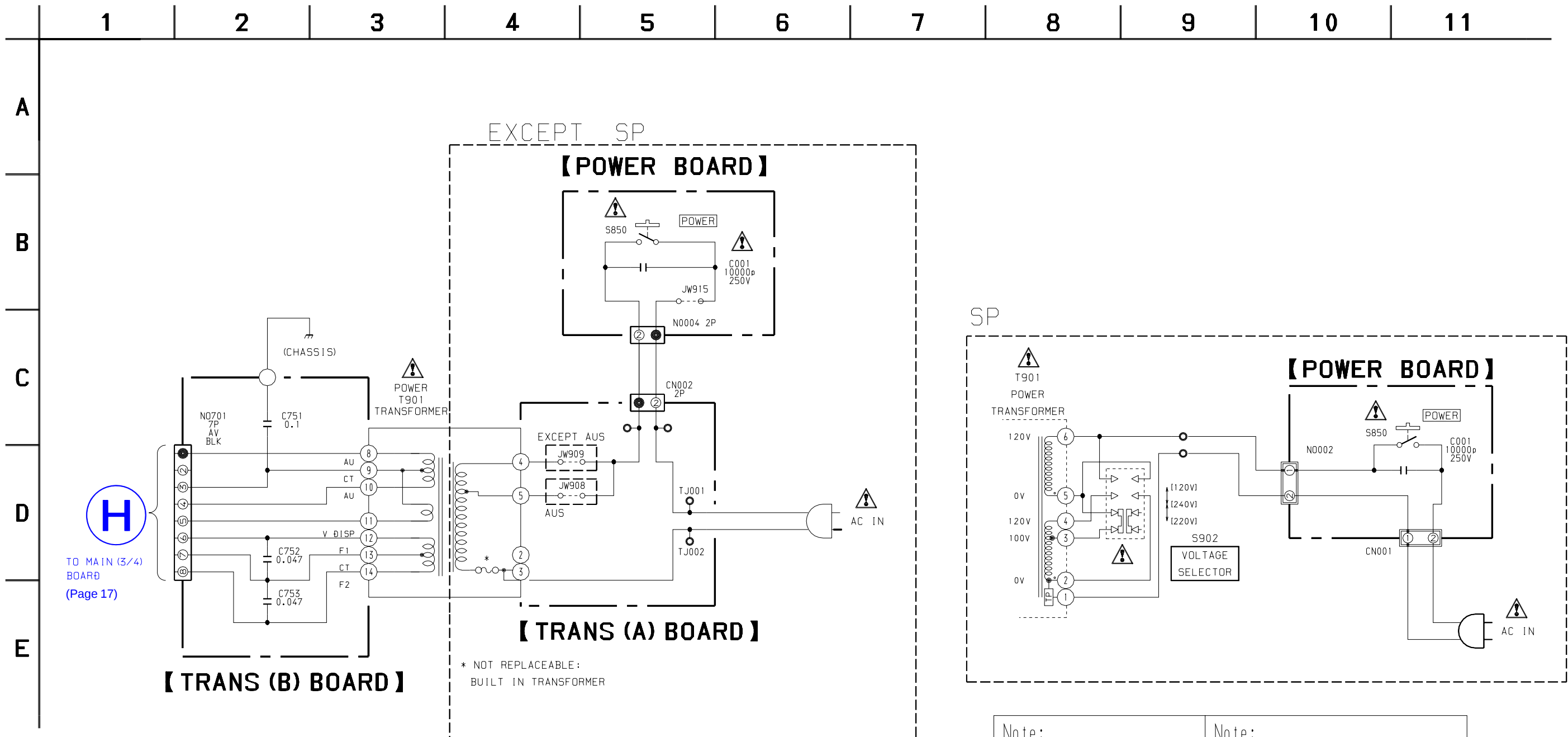
6-13. SCHEMATIC DIAGRAM – PANEL SECTION –



6-14. PRINTED WIRING BOARD – PANEL SECTION –
• See page 12 for Circuit Boards Location.



6-15. SCHEMATIC DIAGRAM – POWER SECTION –



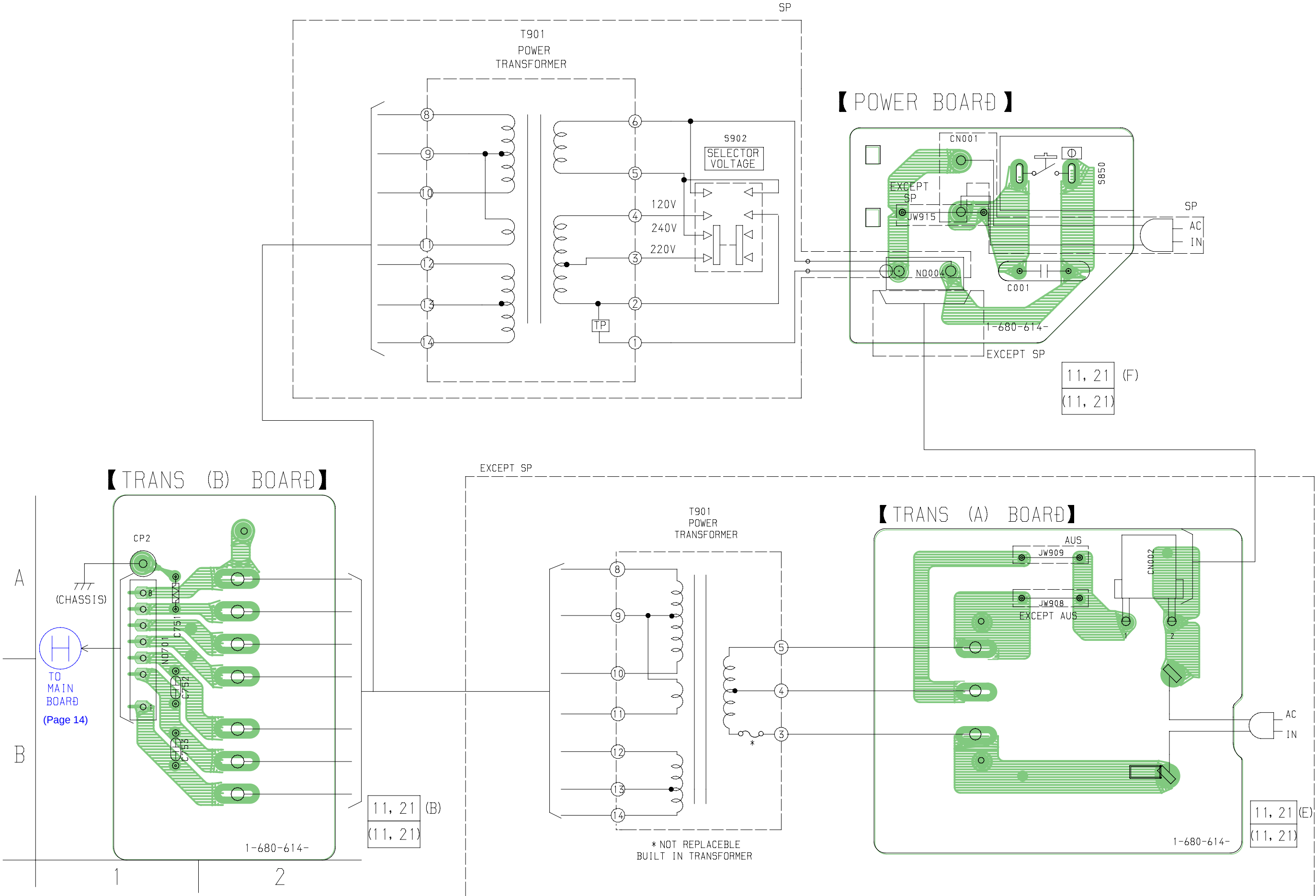
Note:
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

6-16. PRINTED WIRING BOARD – POWER SECTION –
• See page 12 for Circuit Boards Location.



6-17. IC PIN FUNCTION

• IC801 SYSTEM CONTROL (CXP82220-052Q) (MAIN board)

Pin No.	Pin Name	I/O	Function
1	PLAYSW (B)	I	Play switch input (DECK B)
2	GND	—	Ground
3	METAL (B)	I	METAL input (DECK B)
4	SIRCS IN	I	Sircs signal input
5	POWER IN	I	Power hold input
6	VOL OUT	O	Volume output
7	A/B SEL	I	Playback A/B selector input “L” : A, “H” : B
8	CONTROL-A IN	I	Control A signal input
9	CONTROL-A OUT	O	Control A signal output
10	FL CLK	I	FL CLK control input
11	FL DATA IN	I	Display control input
12	FL DATA OUT	O	Display control output
13	CS	I	Sircs signal input
14	NC	—	Not used
15	REC /PB	O	Record /playback dolby NR mode selector output “L” : Playback
16 to 23	NC	—	Not used
24	REC MUTE B	O	Recording mute output (DECK B)
25	NC	—	Not used
26	C/B/OFF	O	Dolby selector “H” : C, “Open” : B, “L” : Dolby off
27	REC EQ H/N	O	REC EQ high/normal selector output “L” : Dolby
28	PASS/MUTE/DOLBY	O	Audio selector “H” : Pass , “Open” : Mute, “L” : Recording
29	BS/AMS/OFF	O	AMS amp selector “H” : BS, “Open” : AMS, “L” : OFF
30	RELAY (B)	I	Relay swich input (DECK B)
31	NC	—	Not used
32	METER (L)	I	Meter L-CH input
33	METER (R)	I	Meter R-CH input
34	HALF (B)	I	Half swich input (DECK B)
35	SHUT (B)	I	Capstan motor rotation detection input (DECK B)
36	SHUT (A)	I	Capstan motor rotation detection input (DECK A)
37	HALF (A)	I	Half swich input (DECK A)
38	RESET	I	System reset input
39	EXTAL	O	System clock oscillator output (10 MHz)
40	XTAL	I	System clock oscillator input (10 MHz)
41	VSS	—	Ground
42	TX	—	
43	TEX	—	
44	VOL IN	I	Auto rec level control input
45	DIR MODE IN	I	Key input
46	AVREF	—	Connected to power supply
47	AV SS	—	Ground
48	AR LED	O	AUTO LED driver “H” : ON
49	CD SYNC LED	O	SYNCHRO LED driver “L” : ON
50	CAP, M2 (B)	O	Capstan motor driver (DECK B)
51	CAP, M4 (B)	O	
52	CAP, M3 (B)	O	
53	CAP, M1 (B)	O	
54 to 57	NC	—	Not used
58	CAP, M2 (A)	O	Capstan motor driver (DECK A)
59	CAP, M1 (A)	O	

Pin No.	Pin Name	I/O	Function
60	CAP, M3 (A)	O	Capstan motor driver (DECK A)
61	CAP, M4 (A)	O	
62 to 66	NC	—	Not used
67	CAP, M H/L	O	Capstan motor high/normal selector output “L” : ON
68	PITCH ON/OFF	O	Pitch control ON/OFF output
69 to 70	NC	—	Not used
71	LINE MUTE	O	Line mute ON/OFF control output
72 to 87	NC	—	Not used
88	VF	—	Ground
89	VDD	—	Power supply (+5V)
90	N.C	—	Not used
91	VSS	—	Ground
92	NC	—	Not used
93	BIAS (B)	O	Bias ON/OFF output (DECK B)
94	PITCH CON-SW	O	Pitch control ON/OFF control output “L” : ON
95	AMS IN	I	AMS amp selector
96	TRG (B)	O	Trigger control output (DECK B)
97	TRG (A)	O	Trigger control output (DECK A)
98	NC	—	Not used
99	PLAYSW (A)	I	Play swich input (DECK A)
100	70U	I	Ground

SECTION 7

EXPLODED VIEWS

NOTE:

- 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.

- Color Indication of Appearance Parts

Example:

Example:
KNOB, BALANCE (WHITE) . . . (RED)

Parts Color

↑
Cabinet's Color

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- Abbreviation

CND : Canadian model

SP : Singapore model

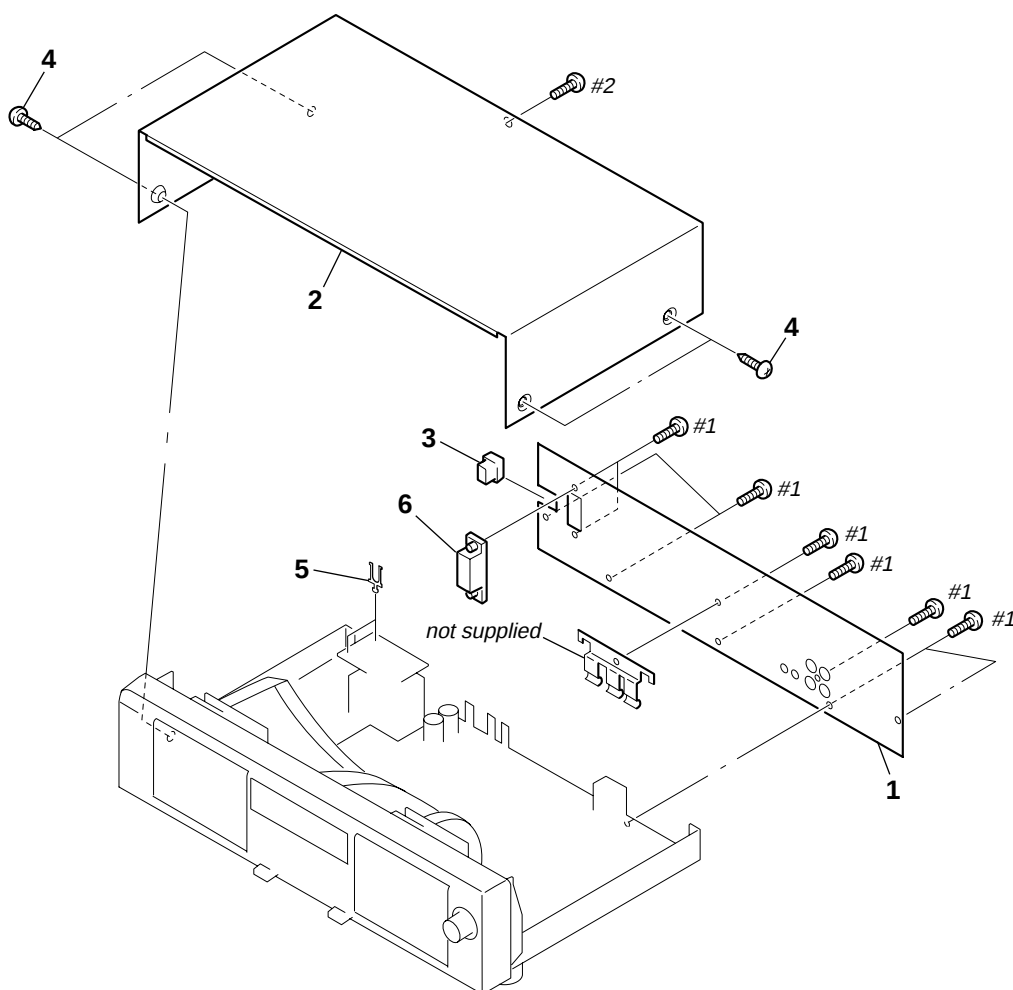
AUS : Australian model

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.

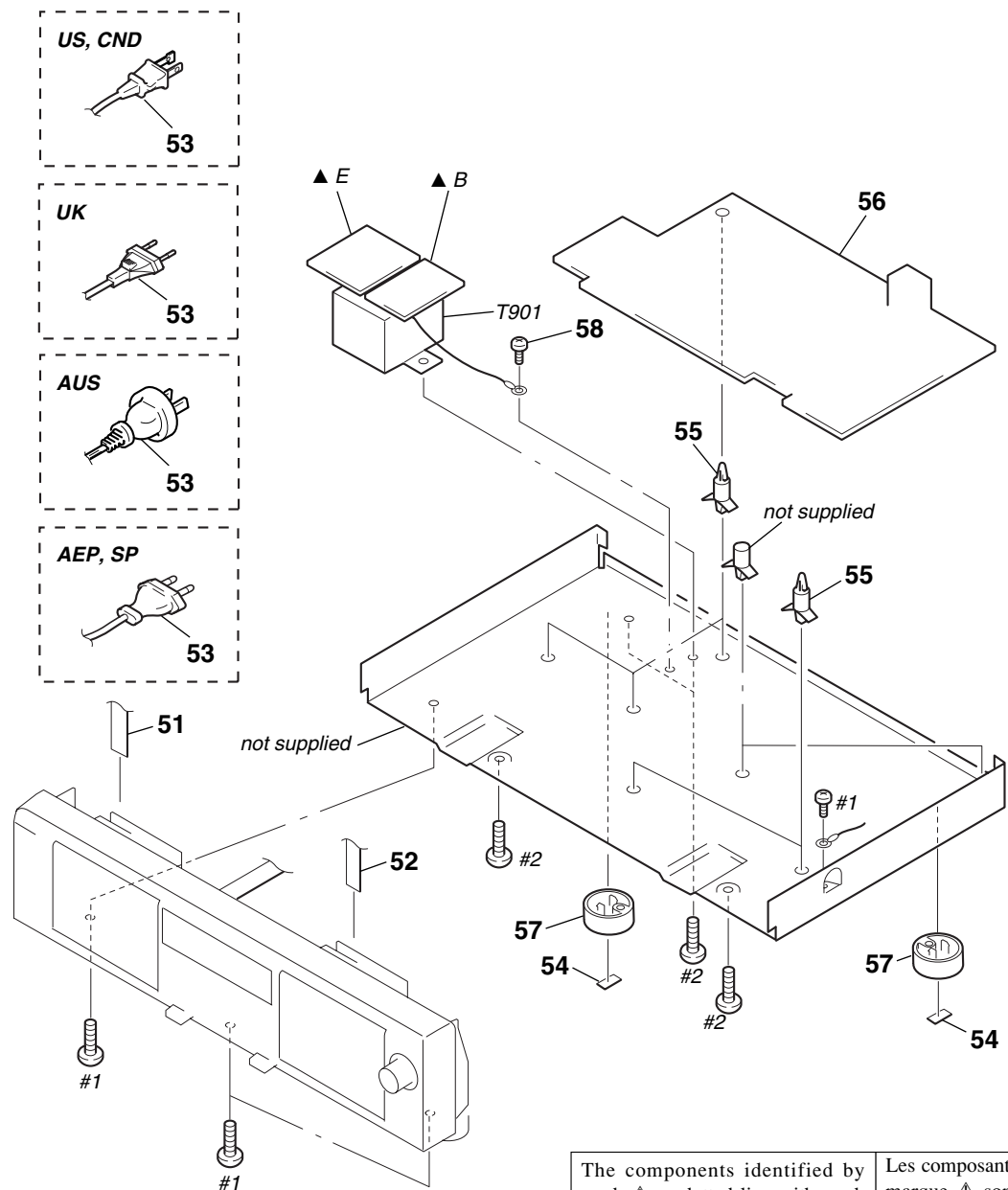
Ne les remplacer que par une
pièce portant le numéro spécifié.

7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-232-514-01	PANEL, BACK (US)		2	4-232-149-71	CASE(410726) (US,CND,AEP,UK,SP,AUS)	
1	4-232-514-11	PANEL, BACK (CND)		2	4-232-580-71	CASE(SILVER) (AEP)	
1	4-232-514-21	PANEL, BACK (AEP)		3	3-703-244-00	BUSHING (2104), CORD	
1	4-232-514-31	PANEL, BACK (UK)		4	3-363-099-01	SCREW(CASE 3 TP2) (US,CND,AEP,UK,SP,AUS)	
1	4-232-514-41	PANEL, BACK (SP)					
				4	4-210-291-11	SCREW(CASE 3 TP2) (SILVER) (AEP)	
1	4-232-514-51	PANEL, BACK (AUS)		5	1-535-688-11	TERMINAL	
				6	1-692-155-11	SELECTOR, POWER VOLTAGE (SP)	

7-2. CHASSIS SECTION



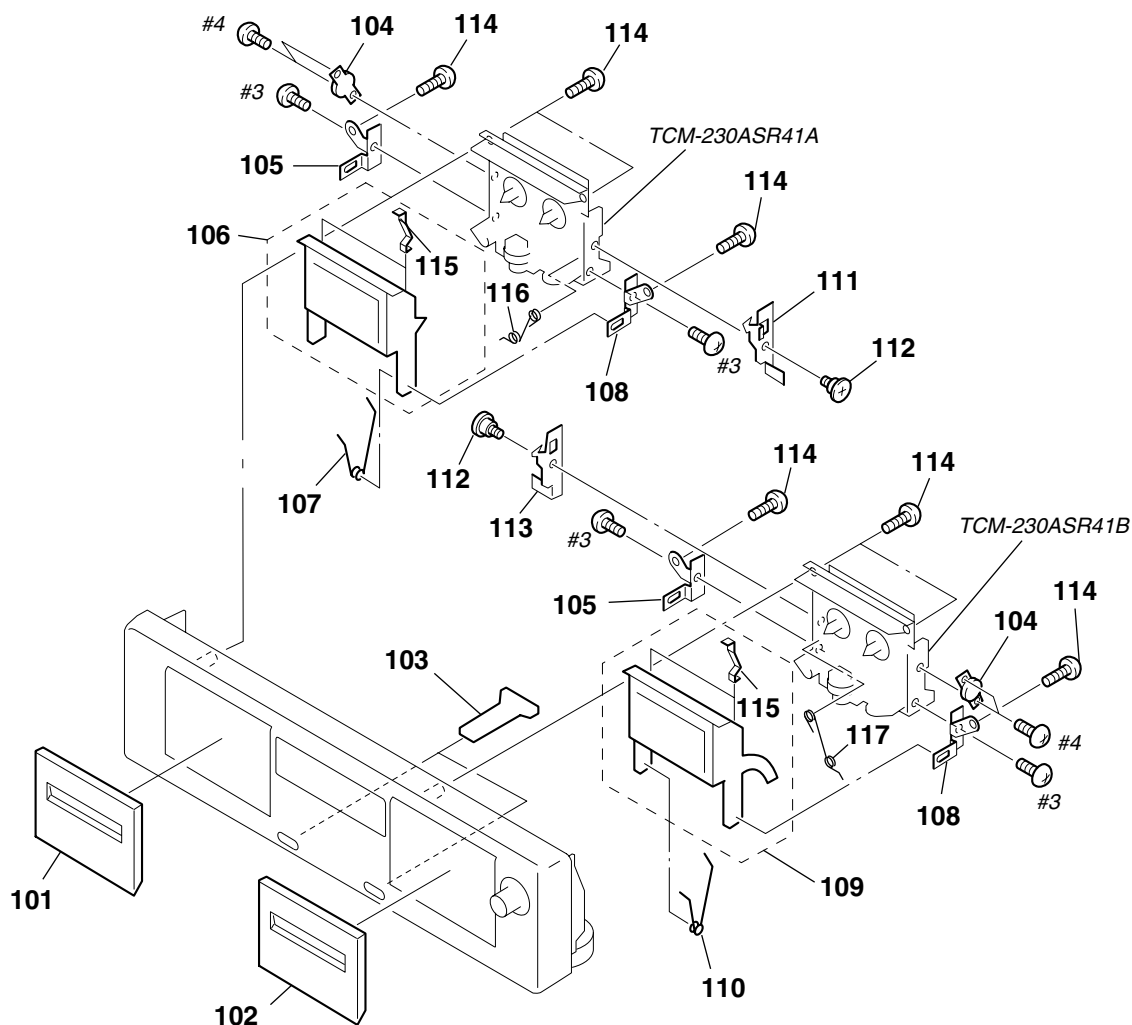
▲B and ▲E are including into the mounted PANEL board (Ref No. 160).
▲E TRANS (A) board (EXCEPT SP)
▲B TRANS (B) board

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
51	1-696-656-11	WIRE(FLAT TYPE) (13 CORE)	
52	1-769-976-11	WIRE(FLAT TYPE) (13 CORE)	
▲ 53	1-575-651-21	CORD, POWER (SP)	
▲ 53	1-751-535-11	CORD, POWER (UK)	
▲ 53	1-777-107-11	CORD, POWER (AEP)	
▲ 53	1-777-218-11	CORD, POWER (AUS)	
▲ 53	1-783-531-51	CORD, POWER (US,CND)	
* 54	4-978-398-21	CUSHION	
* 55	3-346-265-31	HOLDER, PC BOARD	
56	A-2007-860-A	MAIN BOARD, COMPLETE (US,CND,SP,AUS)	

Ref. No.	Part No.	Description	Remark
56	A-2007-862-A	MAIN BOARD, COMPLETE (AEP,UK)	
57	4-232-237-01	FOOT(DIA. 30)	
58	3-970-608-01	SUMITITE (B3), +BV	
▲ T901	1-431-786-12	TRANSFORMER, POWER (AEP,UK,AUS)	
▲ T901	1-431-788-12	TRANSFORMER, POWER (US,CND)	
▲ T901	1-431-789-12	TRANSFORMER, POWER (SP)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	

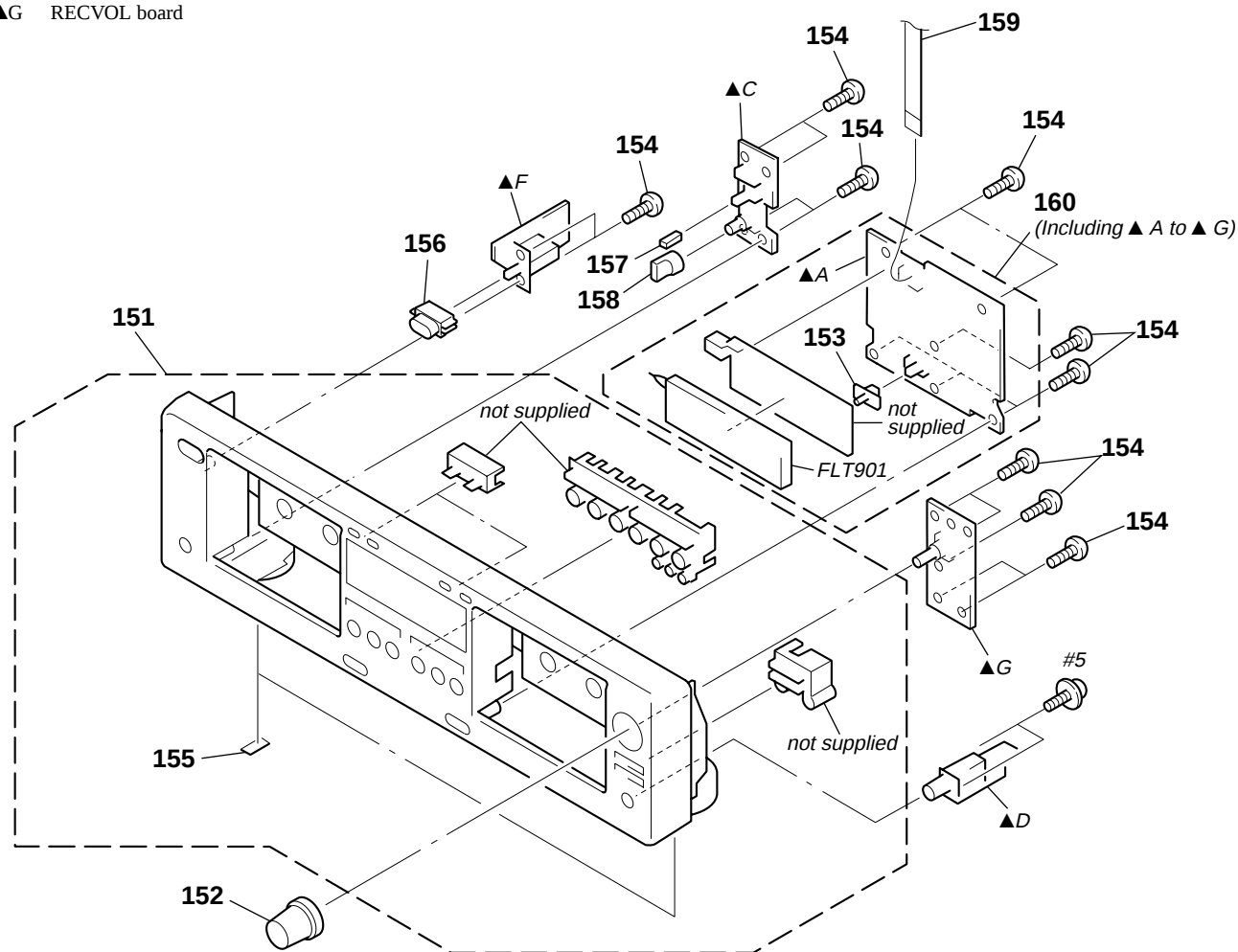
7-3. CASSETTE HOLDER SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-4953-501-1	LID(A) ASSY, CASSETTE (US,CND,AEP,UK,SP,AUS)		108	3-019-451-01	PLATE (R), FULCRUM	
101	X-4953-504-1	LID(A) ASSY, CASSETTE (SILVER) (AEP)		109	X-4953-542-1	HOLDER (R) ASSY, CASSETTE (US,CND,AEP,UK,SP,AUS)	
102	X-4953-497-1	LID(B) ASSY, CASSETTE (US,CND,AEP,UK,SP,AUS)		109	X-4953-551-1	HOLDER (R) ASSY, CASSETTE (SILVER) (AEP)	
102	X-4953-505-1	LID(B) ASSY, CASSETTE (SILVER) (AEP)		110	3-019-454-01	SPRING (L), LOADING	
103	4-232-407-01	BUTTON (EJECT) (US,CND,AEP,UK,SP,AUS)		111	3-019-453-01	LEVER (LOCK R)	
103	4-232-407-11	BUTTON (EJECT)(SILVER) (AEP)		112	3-019-456-01	SCREW, STEP	
104	3-022-410-01	DAMPER		113	3-019-452-01	LEVER (LOCK L)	
105	3-019-450-01	PLATE (L), FULCRUM		114	4-951-620-01	SCREW (2.6X8), +BVTP	
106	X-4953-543-1	HOLDER (L) ASSY, CASSETTE (US,CND,AEP,UK,SP,AUS)		115	4-959-229-11	DETENT, CASSETTE	
106	X-4953-552-1	HOLDER (L) ASSY, CASSETTE (SILVER) (AEP)		116	3-032-810-03	SPRING (R), TORSION	
107	3-019-455-01	SPRING (R), LOADING		117	3-032-809-03	SPRING (L), TORSION	
				#3	7-685-851-09	SCREW +BVTT 2X4 (S)	
				#4	7-685-852-04	SCREW +BVTT 2X5 (S)	

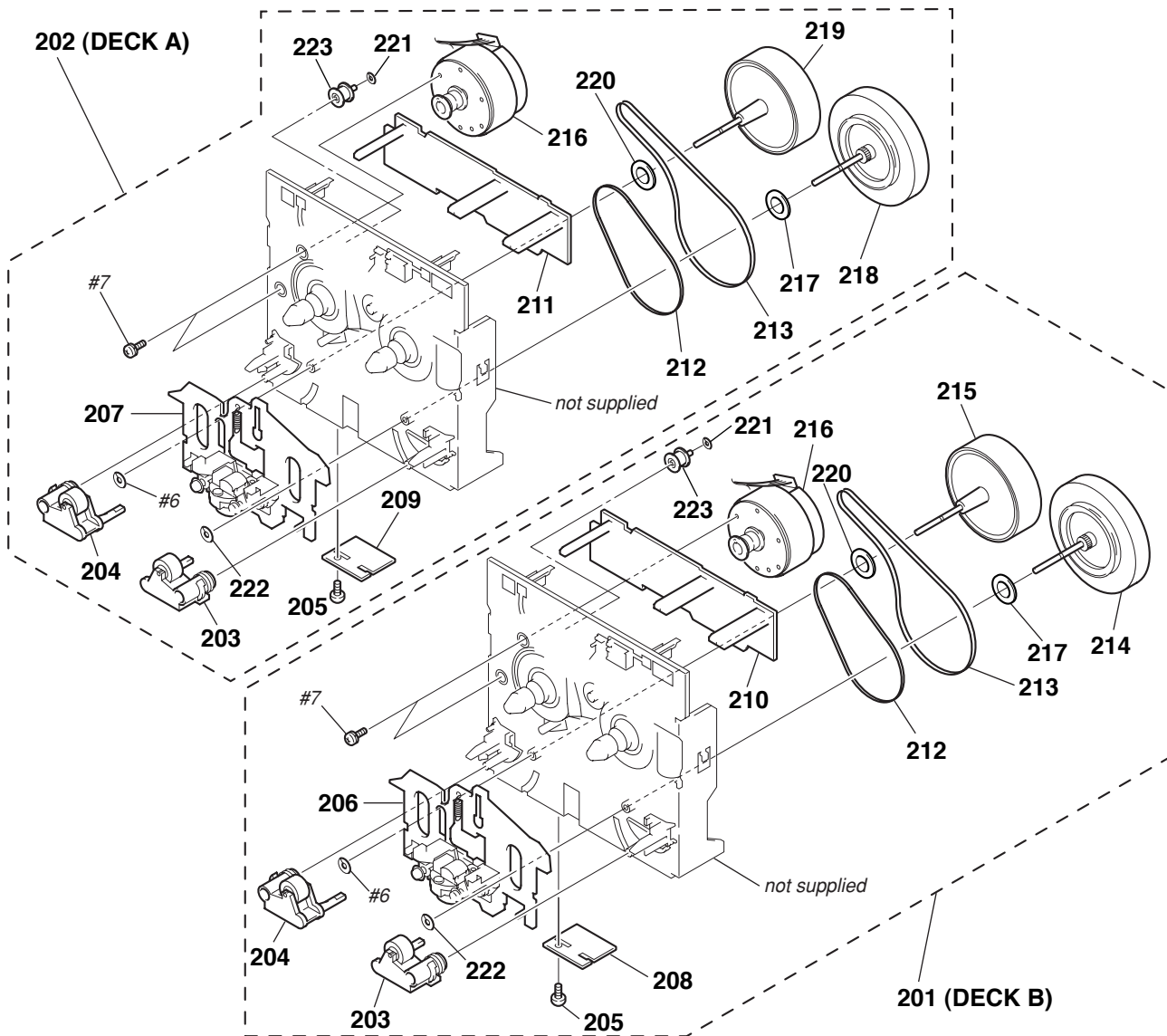
7-4. FRONT PANEL SECTION

- ▲A to ▲G are including into the mounted PANEL board (Ref No. 160).
- ▲A PANEL board
- ▲C DIRECTION board
- ▲D H.P board
- ▲F POWER board
- ▲G RECVOL board



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-4953-498-1	PANEL (US) ASSY, FRONT (US,CND)		156	4-231-973-11	BUTTON (POWER)(SILVER) (AEP)	
151	X-4953-499-1	PANEL (EU) ASSY, FRONT (AEP,UK,SP,AUS)		157	4-232-412-01	BUTTON (DIA 3.5) (US,CND,AEP,UK,SP,AUS)	
151	X-4953-502-1	PANEL (EU) ASSY, FRONT (SILVER) (AEP)		157	4-232-412-11	BUTTON (DIA 3.5)(SILVER) (AEP)	
152	4-232-409-01	KNOB (DIA. 21) (US,CND,AEP,UK,SP,AUS)		158	3-931-378-01	KNOB (F10) (US,CND,AEP,UK,SP,AUS)	
152	4-232-409-11	KNOB (DIA. 21)(SILVER) (AEP)		158	3-931-378-21	KNOB (F10)(SILVER) (AEP)	
153	4-232-410-01	KNOB (SLIDE) (US,CND,AEP,UK,SP,AUS)		159	1-769-950-11	WIRE (FLAT TYPE) (11 CORE)	
153	4-232-410-11	KNOB (SLIDE)(SILVER) (AEP)		160	A-2007-861-A	PANEL MOUNTED PC BOARD (US,CND)	
154	4-951-620-01	SCREW (2.6X8), +BVTP		160	A-2007-863-A	PANEL MOUNTED PC BOARD (AEP,UK)	
* 155	4-978-398-21	CUSHION		160	A-2007-864-A	PANEL MOUNTED PC BOARD (SP)	
156	4-231-973-01	BUTTON (POWER) (US,CND,AEP,UK,SP,AUS)		160	A-2007-865-A	PANEL MOUNTED PC BOARD (SILVER) (AEP)	
				160	A-2007-872-A	PANEL MOUNTED PC BOARD (AUS)	

(DECK A: TCM-230ASR41A)
(DECK B: TCM-230ASR41B)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	A-2100-942-A	MECHANISM DECK (DECK B)		214	X-3378-042-1	FLYWHEEL (B-FWD) ASSY	
202	A-2100-941-A	MECHANISM DECK (DECK A)		215	X-3378-043-1	FLYWHEEL (B-REV) ASSY	
203	X-3374-155-5	PINCH LEVER (FWD) ASSY					
204	X-3374-156-5	PINCH LEVER (REV) ASSY		216	A-2004-854-A	MOTOR ASSY, CAPSTAN	
205	4-227-872-11	SCREW (+PTT 2X4), GROUND POINT		217	3-359-464-01	WASHER (CAPSTAN)	
				218	X-4952-851-1	WHEEL (B-FWD) ASSY, FLY	
206	X-4953-986-1	BLOCK (B) ASSY, HEAD (DECK B)		219	X-4952-852-1	WHEEL (B-REV) ASSY, FLY	
207	X-4953-985-1	BLOCK (A) ASSY, HEAD (DECK A)		220	3-359-464-11	WASHER (CAPSTAN)	
208	A-4476-817-A	HEAD (B) BOARD, COMPLETE (DECK B)					
209	A-4476-815-A	HEAD (A) BOARD, COMPLETE (DECK A)		221	3-016-533-01	WASHER (FR), STOPPER	
210	A-4476-816-A	LEAF SW BOARD, COMPLETE (DECK B)		222	3-019-208-01	WASHER, STOPPER	
				223	3-040-580-02	PULLEY (TENSION)	
211	A-4476-814-A	LEAF SW BOARD, COMPLETE (DECK A)		#6	7-623-921-01	RING, RETAINING, CAPSTAN	
212	3-041-947-01	BELT (FR)		#7	7-628-254-05	SCREW +PS 2.6X5	
213	3-041-946-01	BELT (CAPSTAN B)					

SECTION 8 ELECTRICAL PARTS LIST

HEAD RELAY (PB)

HEAD RELAY (REC/PB)

LEAF SW (PB)

LEAF SW (REC/PB)

MAIN

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.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- 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
- Abbreviation
CND : Canadian model
SP : Singapore model
AUS : Australian model

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 name.

Ref. No.	Part No.	Description	Remark
	A-4476-815-A	HEAD RELAY (PB) BOARD *****	
		< CONNECTOR >	
* CN1002	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P *****	
	A-4476-817-A	HEAD RELAY (REC/PB) BOARD *****	
CN1003	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P *****	
	A-4476-814-A	LEAF SW (PB) BOARD, COMPLETE *****	
		< SWITCH >	
S3	1-771-333-11	SWITCH, LEAF (HALF)	
S4	1-771-205-11	SWITCH, LEAF (120/70)	
S6	1-570-953-11	SWITCH, PUSH (1 KEY)(PLAY SW) *****	
	A-4476-816-A	LEAF SW (REC/PB) BOARD, COMPLETE *****	
		< SWITCH >	
S1	1-771-205-11	SWITCH, LEAF (REC A SIDE)	
S2	1-771-205-11	SWITCH, LEAF (B METAL)	
S3	1-771-333-11	SWITCH, LEAF (HALF)	
S4	1-771-205-11	SWITCH, LEAF (120/70)	
S5	1-771-205-11	SWITCH, LEAF (REC B SIDE)	
S6	1-570-953-11	SWITCH, PUSH (1 KEY)(PLAY SW)	
LEAF SW (PB) BOARD and LEAF SW (REC/PB) BOARD changed on the way of production. Parts other than the switch are not supplied. Therefore, it becomes an exchange of mounted board when repairing.			

Ref. No.	Part No.	Description	Remark
	A-2007-860-A	MAIN BOARD, COMPLETE (US,CND,SP,AUS)	
	A-2007-862-A	MAIN BOARD, COMPLETE (AEP,UK) *****	
		< CAPACITOR >	
C101	1-162-284-31	CERAMIC 150PF 10.00% 50V	
C102	1-126-961-11	ELECT 2.2uF 20.00% 50V	
C103	1-162-600-11	CERAMIC 0.0047uF 30.00% 16V	
C104	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C105	1-162-302-11	CERAMIC 0.0022uF 20.00% 16V	
C106	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C107	1-126-964-11	ELECT 10uF 20.00% 50V	
C108	1-130-495-00	MYLAR 0.1uF 5% 50V	
C109	1-137-375-11	MYLAR 0.068uF 5.00% 50V	
C110	1-126-964-11	ELECT 10uF 20.00% 50V	
C111	1-126-959-11	ELECT 0.47uF 20.00% 50V	
C112	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C113	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C114	1-126-961-11	ELECT 2.2uF 20.00% 50V	
C115	1-137-436-11	MYLAR 0.0039uF 5.00% 50V	
C120	1-162-289-31	CERAMIC 390PF 10.00% 50V	
C121	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C122	1-162-282-31	CERAMIC 100PF 10% 50V	
C123	1-137-372-11	MYLAR 0.022uF 5.00% 50V	
C124	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C125	1-162-289-31	CERAMIC 390PF 10.00% 50V	
C126	1-162-282-31	CERAMIC 100PF 10% 50V	
C127	1-137-372-11	MYLAR 0.022uF 5.00% 50V	
C128	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C141	1-162-288-31	CERAMIC 330PF 10% 50V	
Δ C142	1-107-609-11	CERAMIC 75PF 5.00% 500V	
C143	1-130-472-00	MYLAR 0.0012uF 5% 50V	
C144	1-102-973-00	CERAMIC 100PF 5% 50V	
C145	1-136-356-11	FILM 470PF 5.00% 100V	
C146	1-137-374-11	MYLAR 0.047uF 5.00% 50V	
C147	1-161-494-00	CERAMIC 0.022uF 25V	
C148	1-162-306-11	CERAMIC 0.01uF 30.00% 16V	
C201	1-162-284-31	CERAMIC 150PF 10.00% 50V	
C202	1-126-961-11	ELECT 2.2uF 20.00% 50V	
C203	1-162-600-11	CERAMIC 0.0047uF 30.00% 16V	

Ref. No.	Part No.	Description	Remark		Ref. No.	Part No.	Description	Remark	
C204	1-126-963-11	ELECT	4.7uF	20.00% 50V	C703	1-126-960-11	ELECT	1uF	20.00% 50V
C205	1-162-302-11	CERAMIC	0.0022uF	20.00% 16V	C704	1-126-969-11	ELECT	220uF	20.00% 50V
C206	1-126-963-11	ELECT	4.7uF	20.00% 50V	C705	1-126-963-11	ELECT	4.7uF	20.00% 50V
C207	1-126-964-11	ELECT	10uF	20.00% 50V	C706	1-126-926-11	ELECT	1000uF	20.00% 10V
C208	1-130-495-00	MYLAR	0.1uF	5% 50V	C707	1-126-926-11	ELECT	1000uF	20.00% 10V
C209	1-137-375-11	MYLAR	0.068uF	5.00% 50V	C708	1-126-963-11	ELECT	4.7uF	20.00% 50V
C210	1-126-964-11	ELECT	10uF	20.00% 50V	C710	1-126-935-11	ELECT	470uF	20.00% 6.3V
C211	1-126-959-11	ELECT	0.47uF	20.00% 50V	C711	1-126-947-11	ELECT	47uF	20.00% 35V
C212	1-126-963-11	ELECT	4.7uF	20.00% 50V	C801	1-104-665-11	ELECT	100uF	20.00% 10V
C213	1-126-963-11	ELECT	4.7uF	20.00% 50V	C802	1-161-494-00	CERAMIC	0.022uF	25V
C214	1-126-961-11	ELECT	2.2uF	20.00% 50V	C803	1-126-959-11	ELECT	0.47uF	20.00% 50V
C215	1-137-436-11	MYLAR	0.0039uF	5.00% 50V	C810	1-161-494-00	CERAMIC	0.022uF	25V
C220	1-162-289-31	CERAMIC	390PF	10.00% 50V	C811	1-164-159-11	CERAMIC	0.1uF	50V
C221	1-162-294-31	CERAMIC	0.001uF	10% 50V	C834	1-161-494-00	CERAMIC	0.022uF	25V
C222	1-162-282-31	CERAMIC	100PF	10% 50V	< CONNECTOR >				
C223	1-137-372-11	MYLAR	0.022uF	5.00% 50V	CN301	1-691-766-11	PLUG (MICRO CONNECTOR) 4P		
C224	1-126-963-11	ELECT	4.7uF	20.00% 50V	CN311	1-784-774-11	CONNECTOR, FFC 13P		
C225	1-162-289-31	CERAMIC	390PF	10.00% 50V	CN401	1-691-770-11	PLUG (MICRO CONNECTOR) 9P		
C226	1-162-282-31	CERAMIC	100PF	10% 50V	CN411	1-784-774-11	CONNECTOR, FFC 13P		
C227	1-137-372-11	MYLAR	0.022uF	5.00% 50V	* CN803	1-568-934-11	PIN, CONNECTOR 7P		
C228	1-126-963-11	ELECT	4.7uF	20.00% 50V	* CN807	1-568-954-11	PIN, CONNECTOR 5P		
C241	1-162-288-31	CERAMIC	330PF	10% 50V	CNA806	1-506-468-11	PIN, CONNECTOR 3P		
△ C242	1-107-609-11	CERAMIC	75PF	5.00% 500V	CNM701	1-691-769-11	PLUG (MICRO CONNECTOR) 8P		
C243	1-130-472-00	MYLAR	0.0012uF	5% 50V	CNS802	1-568-830-11	CONNECTOR, FFC 11P		
C244	1-102-973-00	CERAMIC	100PF	5% 50V	< DIODE >				
C245	1-136-356-11	FILM	470PF	5.00% 100V	D306	8-719-911-19	DIODE 1SS133		
C246	1-137-374-11	MYLAR	0.047uF	5.00% 50V	D307	8-719-911-19	DIODE 1SS133		
C247	1-161-494-00	CERAMIC	0.022uF	25V	D318	8-719-911-19	DIODE 1SS133		
C248	1-162-306-11	CERAMIC	0.01uF	30.00% 16V	D451	8-719-911-19	DIODE 1SS133		
C321	1-104-664-11	ELECT	47uF	20.00% 25V	D601	8-719-911-19	DIODE 1SS133		
C322	1-104-664-11	ELECT	47uF	20.00% 25V	D701	8-719-024-99	DIODE 11ES2-NTA2B		
C417	1-126-959-11	ELECT	0.47uF	20.00% 50V	D702	8-719-024-99	DIODE 11ES2-NTA2B		
C421	1-104-664-11	ELECT	47uF	20.00% 25V	D703	8-719-024-99	DIODE 11ES2-NTA2B		
C422	1-104-664-11	ELECT	47uF	20.00% 25V	D704	8-719-024-99	DIODE 11ES2-NTA2B		
C431	1-104-664-11	ELECT	47uF	20.00% 25V	D705	8-719-911-19	DIODE 1SS133		
△ C432	1-107-584-11	CERAMIC	4PF	0.25PF 500V	D706	8-719-911-19	DIODE 1SS133		
C433	1-126-965-11	ELECT	22uF	20.00% 50V	D707	8-719-024-99	DIODE 11ES2-NTA2B		
C434	1-126-959-11	ELECT	0.47uF	20.00% 50V	D708	8-719-911-19	DIODE 1SS133		
C441	1-136-293-11	FILM	0.0082uF	5.00% 100V	D709	8-719-933-33	DIODE HZS6A1L		
C443	1-130-299-00	MYLAR	0.012uF	5.00% 50V	D710	8-719-933-35	DIODE HZS6A3L		
C444	1-137-436-11	MYLAR	0.0039uF	5.00% 50V	D711	8-719-933-33	DIODE HZS6A1L		
C445	1-137-436-11	MYLAR	0.0039uF	5.00% 50V	D712	8-719-933-35	DIODE HZS6A3L		
C446	1-126-965-11	ELECT	22uF	20.00% 50V	D713	8-719-911-19	DIODE 1SS133		
C451	1-126-964-11	ELECT	10uF	20.00% 50V	D714	8-719-911-19	DIODE 1SS133		
C501	1-126-964-11	ELECT	10uF	20.00% 50V	D715	8-719-911-19	DIODE 1SS133		
C502	1-126-964-11	ELECT	10uF	20.00% 50V	D716	8-719-985-95	DIODE HZS7A2LTA		
C503	1-126-964-11	ELECT	10uF	20.00% 50V	D801	8-719-911-19	DIODE 1SS133		
C505	1-126-960-11	ELECT	1uF	20.00% 50V	< IC >				
C506	1-130-497-00	MYLAR	0.15uF	5% 50V	IC321	8-759-710-59	IC NJM4580D-D		
C507	1-136-173-00	MYLAR	0.47uF	5.00% 50V	IC421	8-759-710-59	IC NJM4580D-D		
C509	1-126-965-11	ELECT	22uF	20.00% 50V	IC431	8-759-106-56	IC uPC1297CA		
C510	1-126-960-11	ELECT	1uF	20.00% 50V	IC501	8-752-075-27	IC CXA1878Q		
C511	1-126-916-11	ELECT	1000uF	20.00% 6.3V	IC502	8-759-694-61	IC M5218AL		
C561	1-136-168-00	MYLAR	0.18uF	5.00% 50V					
C562	1-137-150-11	MYLAR	0.01uF	5.00% 50V					
C563	1-136-175-00	MYLAR	0.68uF	5.00% 50V					
C601	1-164-159-11	CERAMIC	0.1uF	50V					
C701	1-128-547-11	ELECT	6800uF	20.00% 16V					
C702	1-126-937-11	ELECT	4700uF	20.00% 16V					

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC561	8-759-694-61	IC M5218AL		Q704	8-729-620-05	TRANSISTOR 2SC2603-EF	
IC701	8-759-634-51	IC NJM4558D		Q707	8-729-119-76	TRANSISTOR 2SA1115TP-EF	
IC801	8-752-902-29	IC CXP82220-052Q					
IC802	8-759-165-82	IC PST600E-T		Q708	8-729-140-04	TRANSISTOR 2SB1116A-L	
IC806	8-759-000-48	IC MC14052BCP		Q801	8-729-029-66	TRANSISTOR DTC114ESA	
< JACK >				< RESISTOR >			
J501	1-770-614-12	JACK, PIN 4P		R101	1-249-429-11	CARBON 10K 5%	1/4W
* J601	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5)		R102	1-247-887-00	CARBON 220K 5%	1/4W
* J602	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5)		R103	1-249-441-11	CARBON 100K 5%	1/4W
< COIL >				R104	1-249-420-11	CARBON 1.8K 5%	1/4W F
L141	1-410-780-11	INDUCTOR 27MH		R105	1-247-843-11	CARBON 3.3K 5%	1/4W
L241	1-410-780-11	INDUCTOR 27MH		R106	1-247-842-11	CARBON 3K 5%	1/4W
< FILTER >				R107	1-249-417-11	CARBON 1K 5%	1/4W F
LPF101	1-233-271-11	FILTER, LOW PASS		R108	1-249-427-11	CARBON 6.8K 5%	1/4W F
LPF201	1-233-271-11	FILTER, LOW PASS		R109	1-249-429-11	CARBON 10K 5%	1/4W
< TRANSISTOR >				R110	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q101	8-729-029-94	TRANSISTOR DTC143TSA		R111	1-247-881-00	CARBON 120K 5%	1/4W
Q102	8-729-142-25	TRANSISTOR 2SD1020-HFE		R112	1-247-807-31	CARBON 100 5%	1/4W
Q104	8-729-030-02	TRANSISTOR DTC144ESA		R113	1-247-882-11	CARBON 130K 5%	1/4W
Q201	8-729-029-94	TRANSISTOR DTC143TSA		R114	1-247-850-11	CARBON 6.2K 5%	1/4W
Q202	8-729-142-25	TRANSISTOR 2SD1020-HFE		R115	1-249-433-11	CARBON 22K 5%	1/4W
Q204	8-729-030-02	TRANSISTOR DTC144ESA		R116	1-247-843-11	CARBON 3.3K 5%	1/4W
Q302	8-729-801-93	TRANSISTOR 2SD1387-3		R117	1-249-429-11	CARBON 10K 5%	1/4W
Q303	8-729-030-02	TRANSISTOR DTC144ESA		R118	1-249-409-11	CARBON 220 5%	1/4W F
Q306	8-729-030-02	TRANSISTOR DTC144ESA		R119	1-249-417-11	CARBON 1K 5%	1/4W F
Q307	8-729-030-02	TRANSISTOR DTC144ESA		R120	1-249-439-11	CARBON 68K 5%	1/4W
Q308	8-729-030-02	TRANSISTOR DTC144ESA		R121	1-247-881-00	CARBON 120K 5%	1/4W
Q311	8-729-801-84	TRANSISTOR 2SB1013-4		R122	1-247-807-31	CARBON 100 5%	1/4W
Q312	8-729-144-44	TRANSISTOR 2SD1513-K (AEP,AUS)		R123	1-247-882-11	CARBON 130K 5%	1/4W
Q312	8-729-801-93	TRANSISTOR 2SD1387-3 (AEP,AUS)		R124	1-247-850-11	CARBON 6.2K 5%	1/4W
Q314	8-729-030-02	TRANSISTOR DTC144ESA		R126	1-249-421-11	CARBON 2.2K 5%	1/4W F
Q316	8-729-029-56	TRANSISTOR DTA144ESA		R127	1-249-430-11	CARBON 12K 5%	1/4W
Q317	8-729-029-56	TRANSISTOR DTA144ESA		R128	1-249-417-11	CARBON 1K 5%	1/4W F
Q318	8-729-029-56	TRANSISTOR DTA144ESA		R129	1-249-421-11	CARBON 2.2K 5%	1/4W F
Q371	8-729-140-04	TRANSISTOR 2SB1116A-L		R130	1-249-434-11	CARBON 27K 5%	1/4W
Q373	8-729-030-02	TRANSISTOR DTC144ESA		R141	1-249-430-11	CARBON 12K 5%	1/4W
Q402	8-729-801-93	TRANSISTOR 2SD1387-3		R142	1-247-883-00	CARBON 150K 5%	1/4W
Q403	8-729-029-66	TRANSISTOR DTC114ESA		△ R143	1-219-153-11	FUSIBLE 10 5%	1/4W
Q411	8-729-801-84	TRANSISTOR 2SB1013-4		R144	1-249-435-11	CARBON 33K 5%	1/4W
Q412	8-729-801-93	TRANSISTOR 2SD1387-3 (AEP,AUS)		R145	1-249-429-11	CARBON 10K 5%	1/4W
Q414	8-729-029-66	TRANSISTOR DTC114ESA		R151	1-249-437-11	CARBON 47K 5%	1/4W
Q417	8-729-029-56	TRANSISTOR DTA144ESA		R201	1-249-429-11	CARBON 10K 5%	1/4W
Q441	8-729-119-76	TRANSISTOR 2SA1115TP-EF		R202	1-247-887-00	CARBON 220K 5%	1/4W
Q442	8-729-194-57	TRANSISTOR 2SC945-P		R203	1-249-441-11	CARBON 100K 5%	1/4W
Q443	8-729-194-57	TRANSISTOR 2SC945-P		R204	1-249-420-11	CARBON 1.8K 5%	1/4W
Q451	8-729-119-76	TRANSISTOR 2SA1115TP-EF		R205	1-247-843-11	CARBON 3.3K 5%	1/4W
Q471	8-729-140-04	TRANSISTOR 2SB1116A-L		R206	1-247-842-11	CARBON 3K 5%	1/4W
Q473	8-729-030-02	TRANSISTOR DTC144ESA		R207	1-249-417-11	CARBON 1K 5%	1/4W
Q501	8-729-119-76	TRANSISTOR 2SA1115TP-EF		R208	1-249-427-11	CARBON 6.8K 5%	1/4W
Q506	8-729-029-94	TRANSISTOR DTC143TSA		R209	1-249-429-11	CARBON 10K 5%	1/4W
Q601	8-729-620-05	TRANSISTOR 2SC2603-EF		R210	1-249-425-11	CARBON 4.7K 5%	1/4W
Q701	8-729-141-83	TRANSISTOR 2SB1375		R211	1-247-881-00	CARBON 120K 5%	1/4W
Q702	8-729-209-15	TRANSISTOR 2SD2012		R212	1-247-807-31	CARBON 100 5%	1/4W
Q703	8-729-141-83	TRANSISTOR 2SB1375		R213	1-247-882-11	CARBON 130K 5%	1/4W
				R214	1-247-850-11	CARBON 6.2K 5%	1/4W
				R215	1-249-433-11	CARBON 22K 5%	1/4W

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

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

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R216	1-247-843-11	CARBON	3.3K	5%	1/4W	R463	1-249-425-11	CARBON	4.7K	5%	1/4W
R217	1-249-429-11	CARBON	10K	5%	1/4W	R464	1-249-425-11	CARBON	4.7K	5%	1/4W
R218	1-249-409-11	CARBON	220	5%	1/4W						
R219	1-249-417-11	CARBON	1K	5%	1/4W	R471	1-249-417-11	CARBON	1K	5%	1/4W
R220	1-249-439-11	CARBON	68K	5%	1/4W	R472	1-249-429-11	CARBON	10K	5%	1/4W
						R501	1-215-455-00	METAL	27K	1%	1/4W
R221	1-247-881-00	CARBON	120K	5%	1/4W	R502	1-215-452-00	METAL	20K	1%	1/4W
R222	1-247-807-31	CARBON	100	5%	1/4W	R503	1-249-417-11	CARBON	1K	5%	1/4W
R223	1-247-882-11	CARBON	130K	5%	1/4W						
R224	1-247-850-11	CARBON	6.2K	5%	1/4W	R504	1-249-422-11	CARBON	2.7K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W	R505	1-247-903-00	CARBON	1M	5%	1/4W
						R507	1-249-429-11	CARBON	10K	5%	1/4W
R227	1-249-430-11	CARBON	12K	5%	1/4W	R508	1-249-413-11	CARBON	470	5%	1/4W
R228	1-249-417-11	CARBON	1K	5%	1/4W	R509	1-249-417-11	CARBON	1K	5%	1/4W
R229	1-249-421-11	CARBON	2.2K	5%	1/4W						
R230	1-249-434-11	CARBON	27K	5%	1/4W	R510	1-249-437-11	CARBON	47K	5%	1/4W
R241	1-249-430-11	CARBON	12K	5%	1/4W	R511	1-249-429-11	CARBON	10K	5%	1/4W
						R512	1-249-413-11	CARBON	470	5%	1/4W
R242	1-247-883-00	CARBON	150K	5%	1/4W	R513	1-249-437-11	CARBON	47K	5%	1/4W
△ R243	1-219-153-11	FUSIBLE	10	5%	1/4W	R514	1-249-401-11	CARBON	47	5%	1/4W
R244	1-249-435-11	CARBON	33K	5%	1/4W						
R245	1-249-429-11	CARBON	10K	5%	1/4W	R561	1-249-437-11	CARBON	47K	5%	1/4W
R251	1-249-437-11	CARBON	47K	5%	1/4W	R562	1-249-437-11	CARBON	47K	5%	1/4W
						R563	1-249-437-11	CARBON	47K	5%	1/4W
R301	1-249-437-11	CARBON	47K	5%	1/4W	R564	1-249-431-11	CARBON	15K	5%	1/4W
R302	1-249-414-11	CARBON	560	5%	1/4W	R565	1-249-429-11	CARBON	10K	5%	1/4W
R303	1-249-437-11	CARBON	47K	5%	1/4W						
R304	1-249-419-11	CARBON	1.5K	5%	1/4W	R601	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-433-11	CARBON	22K	5%	1/4W	R602	1-249-417-11	CARBON	1K	5%	1/4W
						R603	1-249-425-11	CARBON	4.7K	5%	1/4W
R309	1-249-433-11	CARBON	22K	5%	1/4W	R604	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-437-11	CARBON	47K	5%	1/4W	R605	1-249-393-11	CARBON	10	5%	1/4W
R312	1-249-419-11	CARBON	1.5K	5%	1/4W						
R313	1-249-414-11	CARBON	560	5%	1/4W	R701	1-249-414-11	CARBON	560	5%	1/4W
R314	1-249-437-11	CARBON	47K	5%	1/4W	R703	1-247-843-11	CARBON	3.3K	5%	1/4W
						R704	1-249-425-11	CARBON	4.7K	5%	1/4W
R316	1-249-434-11	CARBON	27K	5%	1/4W	R705	1-249-427-11	CARBON	6.8K	5%	1/4W
R317	1-249-433-11	CARBON	22K	5%	1/4W	R706	1-249-419-11	CARBON	1.5K	5%	1/4W
R318	1-249-426-11	CARBON	5.6K	5%	1/4W						
R361	1-247-876-11	CARBON	75K	5%	1/4W	R707	1-247-854-11	CARBON	9.1K	5%	1/4W
R362	1-249-425-11	CARBON	4.7K	5%	1/4W	R708	1-249-419-11	CARBON	1.5K	5%	1/4W
						R709	1-249-425-11	CARBON	4.7K	5%	1/4W
R363	1-249-425-11	CARBON	4.7K	5%	1/4W	R710	1-249-417-11	CARBON	1K	5%	1/4W
R371	1-249-417-11	CARBON	1K	5%	1/4W	R711	1-249-427-11	CARBON	6.8K	5%	1/4W
R372	1-249-429-11	CARBON	10K	5%	1/4W						
R401	1-249-437-11	CARBON	47K	5%	1/4W	R712	1-249-427-11	CARBON	6.8K	5%	1/4W
R402	1-249-414-11	CARBON	560	5%	1/4W	R713	1-249-417-11	CARBON	1K	5%	1/4W
						R714	1-249-429-11	CARBON	10K	5%	1/4W
R403	1-249-437-11	CARBON	47K	5%	1/4W	R715	1-249-422-11	CARBON	2.7K	5%	1/4W
R404	1-249-419-11	CARBON	1.5K	5%	1/4W	R716	1-249-433-11	CARBON	22K	5%	1/4W
R411	1-249-437-11	CARBON	47K	5%	1/4W						
R412	1-249-419-11	CARBON	1.5K	5%	1/4W	R717	1-249-421-11	CARBON	2.2K	5%	1/4W
R413	1-249-414-11	CARBON	560	5%	1/4W	R718	1-249-429-11	CARBON	10K	5%	1/4W
						R719	1-249-430-11	CARBON	12K	5%	1/4W
R414	1-249-437-11	CARBON	47K	5%	1/4W	△ R720	1-219-136-11	FUSIBLE	0.22	10%	1/4W
R416	1-249-434-11	CARBON	27K	5%	1/4W	△ R722	1-219-137-11	FUSIBLE	0.33	10%	1/4W
R417	1-249-433-11	CARBON	22K	5%	1/4W						
R441	1-249-429-11	CARBON	10K	5%	1/4W	△ R723	1-219-137-11	FUSIBLE	0.33	10%	1/4W
R442	1-249-429-11	CARBON	10K	5%	1/4W	R801	1-249-417-11	CARBON	1K	5%	1/4W
						R803	1-249-429-11	CARBON	10K	5%	1/4W
R443	1-249-390-11	CARBON	5.6	5%	1/4W	R804	1-249-429-11	CARBON	10K	5%	1/4W
R444	1-249-390-11	CARBON	5.6	5%	1/4W	R805	1-247-807-31	CARBON	100	5%	1/4W
R445	1-249-440-11	CARBON	82K	5%	1/4W						
R446	1-249-440-11	CARBON	82K	5%	1/4W	R806	1-249-433-11	CARBON	22K	5%	1/4W
R451	1-249-429-11	CARBON	10K	5%	1/4W	R807	1-249-441-11	CARBON	100K	5%	1/4W
						R808	1-249-441-11	CARBON	100K	5%	1/4W
R452	1-249-425-11	CARBON	4.7K	5%	1/4W	R809	1-249-417-11	CARBON	1K	5%	1/4W
R461	1-247-876-11	CARBON	75K	5%	1/4W	R810	1-247-807-31	CARBON	100	5%	1/4W
R462	1-249-417-11	CARBON	1K	5%	1/4W						

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

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

Ref. No.	Part No.	Description	Remark		
R811	1-249-429-11	CARBON	10K	5%	1/4W
R812	1-249-429-11	CARBON	10K	5%	1/4W
R813	1-247-807-31	CARBON	100	5%	1/4W
R830	1-247-807-31	CARBON	100	5%	1/4W
R866	1-249-430-11	CARBON	12K	5%	1/4W
R867	1-247-864-11	CARBON	24K	5%	1/4W
R869	1-249-424-11	CARBON	3.9K	5%	1/4W
< VARIABLE RESISTOR >					
RV101	1-241-765-11	RES, ADJ, CARBON	22K		
RV111	1-241-764-11	RES, ADJ, CARBON	10K		
RV121	1-241-764-11	RES, ADJ, CARBON	10K		
RV141	1-241-765-11	RES, ADJ, CARBON	22K		
RV201	1-241-765-11	RES, ADJ, CARBON	22K		
RV211	1-241-764-11	RES, ADJ, CARBON	10K		
RV221	1-241-764-11	RES, ADJ, CARBON	10K		
RV241	1-241-765-11	RES, ADJ, CARBON	22K		
RV316	1-241-764-11	RES, ADJ, CARBON	10K		
RV317	1-241-765-11	RES, ADJ, CARBON	22K		
RV318	1-241-764-11	RES, ADJ, CARBON	10K		
RV416	1-241-764-11	RES, ADJ, CARBON	10K		
RV417	1-241-765-11	RES, ADJ, CARBON	22K		
< RELAY >					
RY451	1-755-061-11	RELAY			
< TRANSFORMER >					
T141	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR			
T241	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR			
T441	1-429-222-11	TRANSFORMER, BIAS OSCILLATION			
< TEST PIN >					
TP441	1-766-276-11	PIN, CONNECTOR (PC BOARD) 3P			
< VIBRATOR >					
X801	1-579-175-21	VIBRATOR, CERAMIC (10MHz)			

A-2007-861-A PANEL BOARD, COMPLETE (US,CND)					
A-2007-863-A PANEL BOARD, COMPLETE (AEP,UK)					
A-2007-864-A PANEL BOARD, COMPLETE (SP)					
A-2007-865-A PANEL BOARD, COMPLETE (AEP)					
A-2007-872-A PANEL BOARD, COMPLETE (AUS)					

(TRANS (A), TRANS (B), DIRECTION, H.P, POWER, RECVOL BOARD are included.)					
< CAPACITOR >					
△ C001	1-113-925-11	CERAMIC	0.01uF	20.00%	250V
C517	1-162-294-31	CERAMIC	0.001uF	10%	50V
C518	1-162-294-31	CERAMIC	0.001uF	10%	50V
C751	1-164-159-11	CERAMIC	0.1uF		50V
C752	1-137-374-11	MYLAR	0.047uF	5.00%	50V
C753	1-137-374-11	MYLAR	0.047uF	5.00%	50V
C901	1-104-665-11	ELECT	100uF	20.00%	10V
C902	1-161-494-00	CERAMIC	0.022uF		25V
C903	1-162-207-31	CERAMIC	22PF	5%	50V
C904	1-126-960-11	ELECT	1uF	20.00%	50V

Ref. No.	Part No.	Description	Remark		
< CONNECTOR >					
* CN001	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P (SP)			
* CN002	1-568-226-11	PIN, CONNECTOR 2P (US,CND,AEP,UK,AUS)			
CN901	1-568-830-11	CONNECTOR, FFC 11P			
< DIODE >					
D901	8-719-313-43	DIODE	SEL6210S-TH10 (SYNCHRO)		
D902	8-719-313-43	DIODE	SEL6210S-TH10 (AUTO)		
D904	8-719-911-19	DIODE	1SS133		
D905	8-719-911-19	DIODE	1SS133		
D906	8-719-911-19	DIODE	1SS133		
D907	8-719-911-19	DIODE	1SS133		
D908	8-719-911-19	DIODE	1SS133		
< FLUORESCENT >					
FLT901	1-770-247-11	INDICATOR TUBE, FLUORESCENT			
< IC >					
IC901	8-759-827-70	IC	NJL64H400A-1		
IC902	8-759-547-59	IC	M35500BGP		
< JACK >					
J502	1-568-519-41	JACK, LARGE TYPE			
< TRANSISTOR >					
Q901	8-729-029-94	TRANSISTOR	DTC143TSA		
< RESISTOR >					
R901	1-249-413-11	CARBON	470	5%	1/4W
R902	1-249-413-11	CARBON	470	5%	1/4W
R904	1-247-807-31	CARBON	100	5%	1/4W
R905	1-249-441-11	CARBON	100K	5%	1/4W
R906	1-247-807-31	CARBON	100	5%	1/4W
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
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
R934	1-249-418-11	CARBON	1.2K	5%	1/4W
R935	1-249-420-11	CARBON	1.8K	5%	1/4W
R936	1-249-422-11	CARBON	2.7K	5%	1/4W
R937	1-249-424-11	CARBON	3.9K	5%	1/4W
R951	1-249-418-11	CARBON	1.2K	5%	1/4W
R955	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.
--	--

Ref. No.	Part No.	Description	Remark
R956	1-249-429-11	CARBON 10K 5%	1/4W
R957	1-249-429-11	CARBON 10K 5%	1/4W
R958	1-249-437-11	CARBON 47K 5%	1/4W
R960	1-249-429-11	CARBON 10K 5%	1/4W
R961	1-249-429-11	CARBON 10K 5%	1/4W
R962	1-249-441-11	CARBON 100K 5%	1/4W
< VARIABLE RESISTOR >			
RV901	1-225-707-11	RES, VAR, CARBON 20K	
RV902	1-225-619-11	RES, VAR, CARBON 10K	
< SWITCH >			
S850	1-762-581-11	SWITCH, AC POWER PUSH (1 KEY)	
S911	1-771-349-21	SWITCH, KEYBOARD (A DECK)(□)	
S913	1-771-349-21	SWITCH, KEYBOARD (A DECK)(▷)	
S914	1-771-349-21	SWITCH, KEYBOARD (A DECK)(◁)	
S916	1-771-349-21	SWITCH, KEYBOARD (B DECK)(◁◁ (AMS))	
S917	1-771-349-21	SWITCH, KEYBOARD (B DECK)(▷▷ (AMS))	
S918	1-771-349-21	SWITCH, KEYBOARD (B DECK)(● REC)	
S921	1-771-349-21	SWITCH, KEYBOARD (B DECK)(□)	
S922	1-771-349-21	SWITCH, KEYBOARD (B DECK)(■)	
S923	1-771-349-21	SWITCH, KEYBOARD (B DECK)(▷)	
S924	1-771-349-21	SWITCH, KEYBOARD (B DECK)(◁)	
S925	1-771-349-21	SWITCH, KEYBOARD (B DECK)(○)	
S926	1-771-349-21	SWITCH, KEYBOARD (A DECK)(◁◁ (AMS))	
S927	1-771-349-21	SWITCH, KEYBOARD (A DECK)(▷▷ (AMS))	
S931	1-771-349-21	SWITCH, KEYBOARD (RESET A)	
S932	1-771-349-21	SWITCH, KEYBOARD (MEMORY A)	
S933	1-771-349-21	SWITCH, KEYBOARD (FADER)	
S934	1-771-349-21	SWITCH, KEYBOARD (ARL)	
S935	1-771-349-21	SWITCH, KEYBOARD (CD SYNCHRO)	
S936	1-786-127-11	SWITCH, SLIDE (DOLBY NR)	
S946	1-771-349-21	SWITCH, KEYBOARD (HIGH/NORM)	
S947	1-762-609-11	SWITCH, SLIDE (DIRECTION) (US,CND,AEP,UK,SP,AUS)	
S947	1-762-609-21	SWITCH, SLIDE (DIRECTION)(AEP)	
S951	1-771-349-21	SWITCH, KEYBOARD (RESET B)	
S952	1-771-349-21	SWITCH, KEYBOARD (MEMORY B)	
S960	1-554-118-00	SWITCH, PUSH (1 KEY)(PITCH CONTROL)	

MISCELLANEOUS			

51	1-696-656-11	WIRE (FLAT TYPE) (13 CORE)	
52	1-769-976-11	WIRE (FLAT TYPE) (13 CORE)	
△ 53	1-575-651-21	CORD, POWER (SP)	
△ 53	1-751-535-11	CORD, POWER (UK)	
△ 53	1-777-107-11	CORD, POWER (AEP)	
△ 53	1-777-218-11	CORD, POWER (AUS)	
△ 53	1-783-531-51	CORD, POWER (US,CND)	
162	1-769-950-11	WIRE (FLAT TYPE) (11 CORE)	
△ T901	1-431-786-12	TRANSFORMER, POWER (AEP,UK,AUS)	
△ T901	1-431-788-12	TRANSFORMER, POWER (US,CND)	
△ T901	1-431-789-12	TRANSFORMER, POWER (SP)	

(PLUNGER SOLENOID is supplied as the Mechanism Deck (TCM-230ASR41A :

Ref. No.	Part No.	Description	Remark
A-2100-941-A and TCM-230ASR41B : A-2100-942-A)).			

ACCESSORIES & PACKING MATERIALS			

1-776-263-51		CORD, CONNECTION	
1-777-241-11		CORD, CONNECTION CONTROL A1II (CABLE) (CND)	
4-232-596-11		MANUAL, INSTRUCTION (ENGLISH)	
4-232-596-21		MANUAL, INSTRUCTION (FRENCH,SPANISH) (CND,AEP,SP)	
4-232-596-31		MANUAL, INSTRUCTION (GERMAN,DUTCH,SWEDISH,ITALIAN,POLISH)(AEP)	
4-232-596-71		MANUAL, INSTRUCTION (CHINESE)(SP)	

HARDWARE LIST			

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-685-851-09	SCREW +BVTT 2X4 (S)	
#4	7-685-852-04	SCREW +BVTT 2X5 (S)	
#5	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)	
#6	7-623-921-01	RING, RETAINING, CAPSTAN	
#7	7-628-254-05	SCREW +PS 2.6X5	

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-WE475

SONY

SERVICE MANUAL

Ver 1.3 2002.09

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

SUPPLEMENT - 1

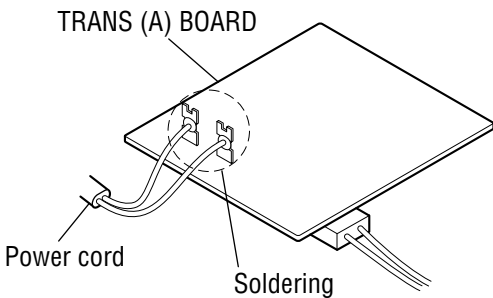
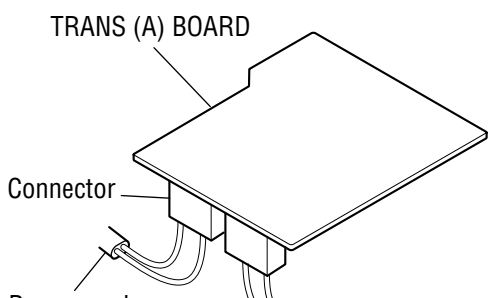
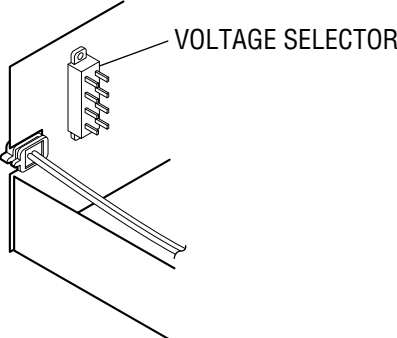
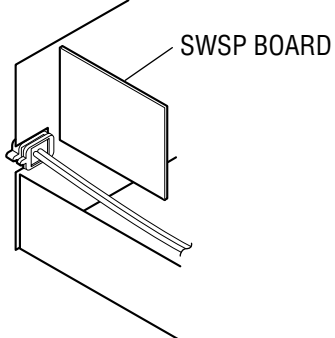
File this Supplement with the Service Manual.

Subject :

- CHANGE OF BOARDS
- EXPLODED VIEWS

NEW TYPE IDENTIFICATION

Printed wiring boards and exploded views has been changed.

	FORMER TYPE	NEW TYPE
Except SP model		
SP model		

• CHANGED ELECTRICAL PARTS LIST

MAIN (Service manual see page 32 to 36)

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.	FORMER TYPE	NEW TYPE
CN005 * CN006 CN007 $\triangle$ S1	A-2007-860-A MAIN BOARD, COMPLETE (US,CND,SP,AUS)	A-4730-003-A MAIN BOARD, COMPLETE (US,CND)
	A-2007-862-A MAIN BOARD, COMPLETE (AEP,UK)	A-4730-041-A MAIN BOARD, COMPLETE (AEP,UK)
	*****	A-4730-107-A MAIN BOARD, COMPLETE (SP)
	_____	A-4730-108-A MAIN BOARD, COMPLETE (AUS)
	_____	*****
	_____	SWSP BOARD (SP)
	_____	*****
	_____	1-564-321-11 PIN, CONNECTOR(3.96MM PITCH)2P (SP)
	_____	1-564-687-11 PIN, CONNECTOR(3.96MM PITCH)3P (SP)
	_____	1-568-106-11 PIN, CONNECTOR(3.96MM PITCH)4P (SP)
	_____	1-572-009-11 SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (SP)

PANEL (Service manual see page 36)

Ref.No.	FORMER TYPE	NEW TYPE
	A-2007-861-A PANEL BOARD, COMPLETE (US,CND)	A-4730-001-A PANEL BOARD, COMPLETE (US,CND,AUS)
	A-2007-863-A PANEL BOARD, COMPLETE (AEP,UK)	A-4730-042-A PANEL BOARD, COMPLETE (AEP,UK)
	A-2007-864-A PANEL BOARD, COMPLETE (SP)	A-4730-044-A PANEL BOARD, COMPLETE (SILVER) (AEP)
	A-2007-865-A PANEL BOARD, COMPLETE (AEP)	A-4730-045-A PANEL BOARD, COMPLETE (SP)
	A-2007-872-A PANEL BOARD, COMPLETE (AUS)	*****

	(TRANS (A), TRANS (B), DIRECTION, H.P, POWER, RECVOL BOARD are included.)	(DIRECTION, H.P, POWER, REC, VOL BOARD are included.)

TRANS(A) (Service manual see page 36)

Ref.No.	FORMER TYPE	NEW TYPE
CN002 * CN003	(TRANS (A) board is included in PANEL board)	1-685-973-12 TRANS (A) BOARD (EXCEPT SP)

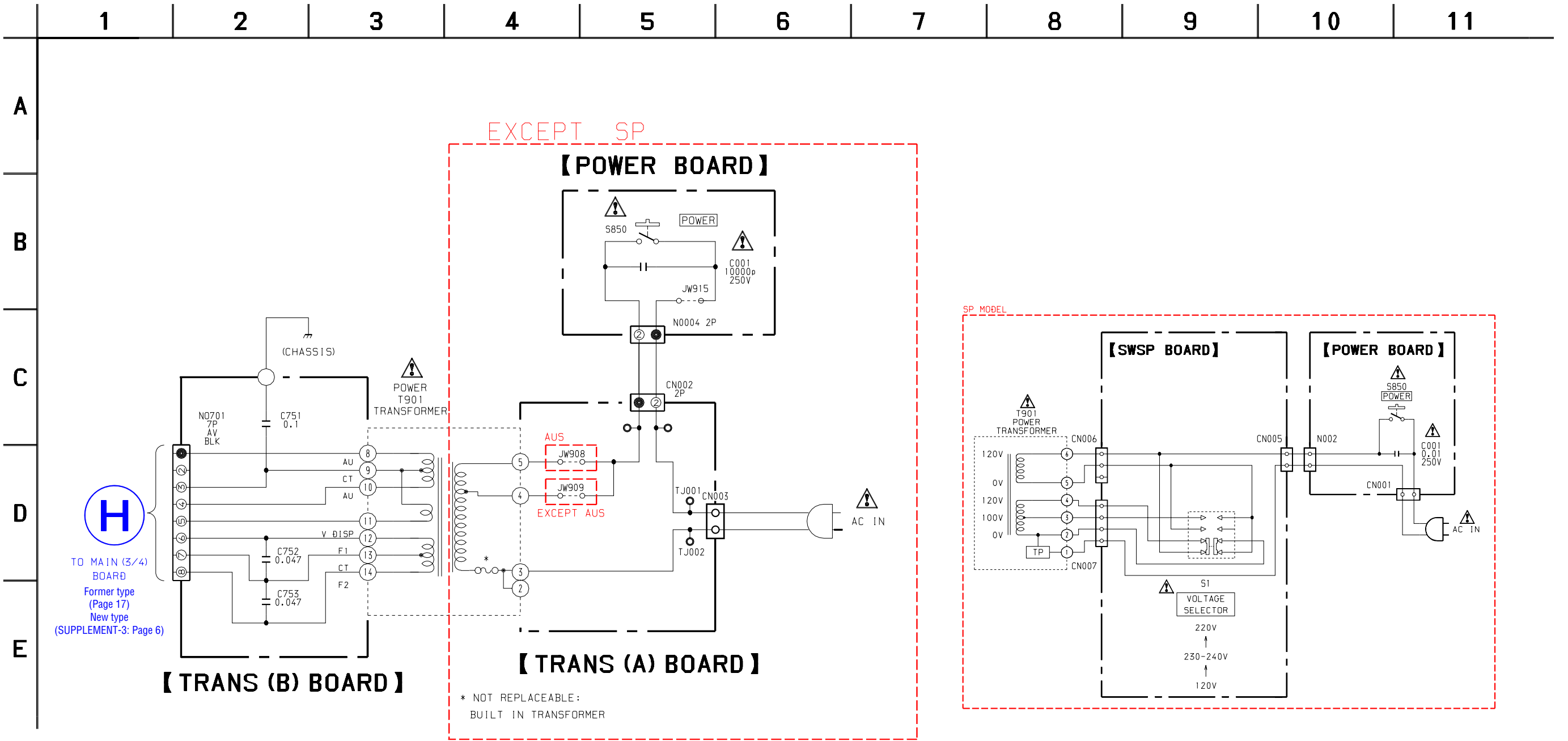
	*1-568-226-11 PIN, CONNECTOR 2P (EXCEPT SP)	1-564-321-11 PIN, CONNECTOR(3.96MM PITCH)2P (EXCEPT SP)
	_____	1-580-230-11 PIN, CONNECTOR (PC BOARD) 2P (EXCEPT SP)

TRANS(B) (Service manual see page 36)

Ref.No.	FORMER TYPE	NEW TYPE
	(TRANS (B) board is included in PANEL board)	1-685-974-12 TRANS (B) BOARD

SCHEMATIC DIAGRAM – POWER SECTION –

New Type

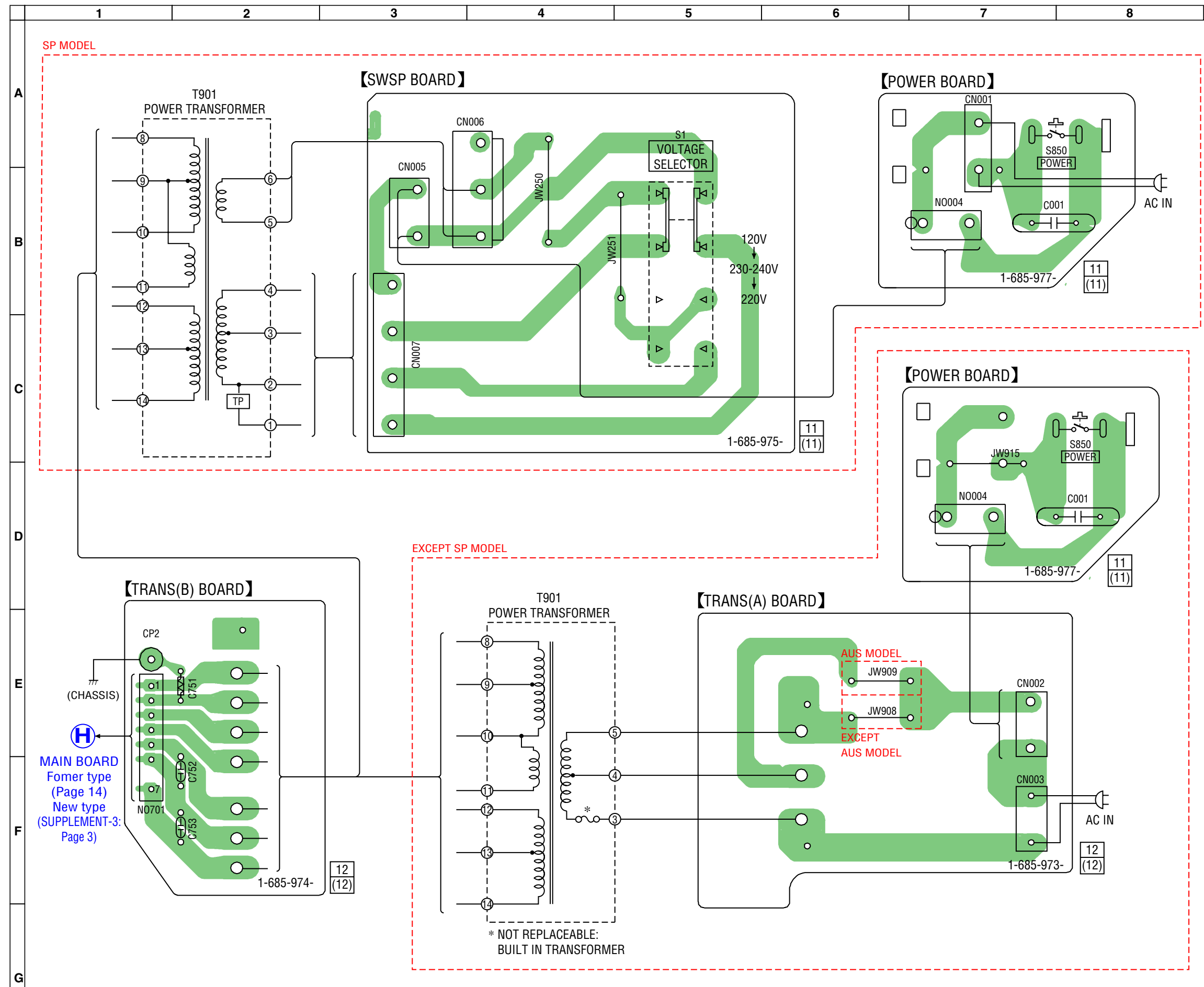


The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

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

PRINTED WIRING BOARD – POWER SECTION –
• See page 12 for Circuit Boards Location.

New Type



EXPLODED VIEWS

NOTE:

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

KNOB, BALANCE (WHITE) . . . (RED)

↑ ↑

Parts Color Cabinet's Color

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
CND : Canadian model
SP : Singapore model
AUS : Australian model

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

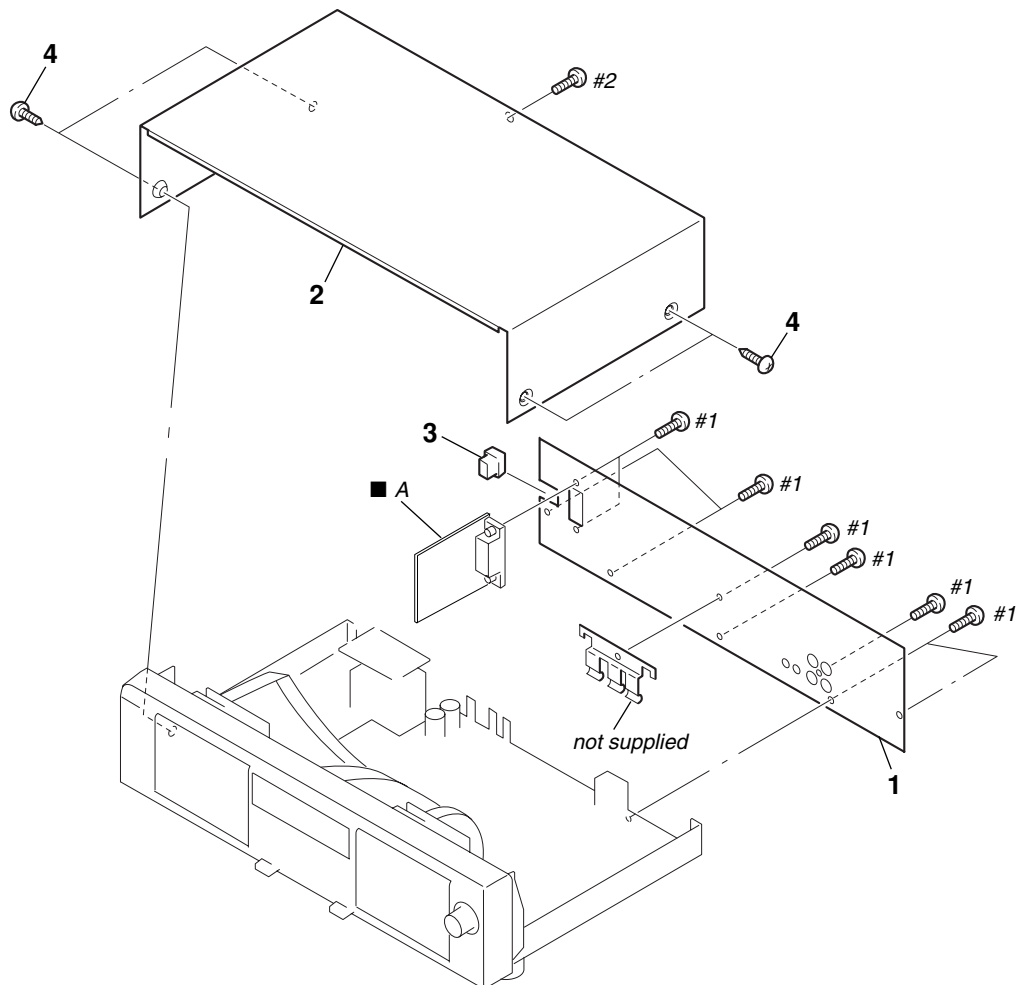
Les composants identifiés par une
marque sont critiques pour la
sécurité.

Ne les remplacer que par une
pièce portant le numéro spécifié.

New Type

CASE SECTION

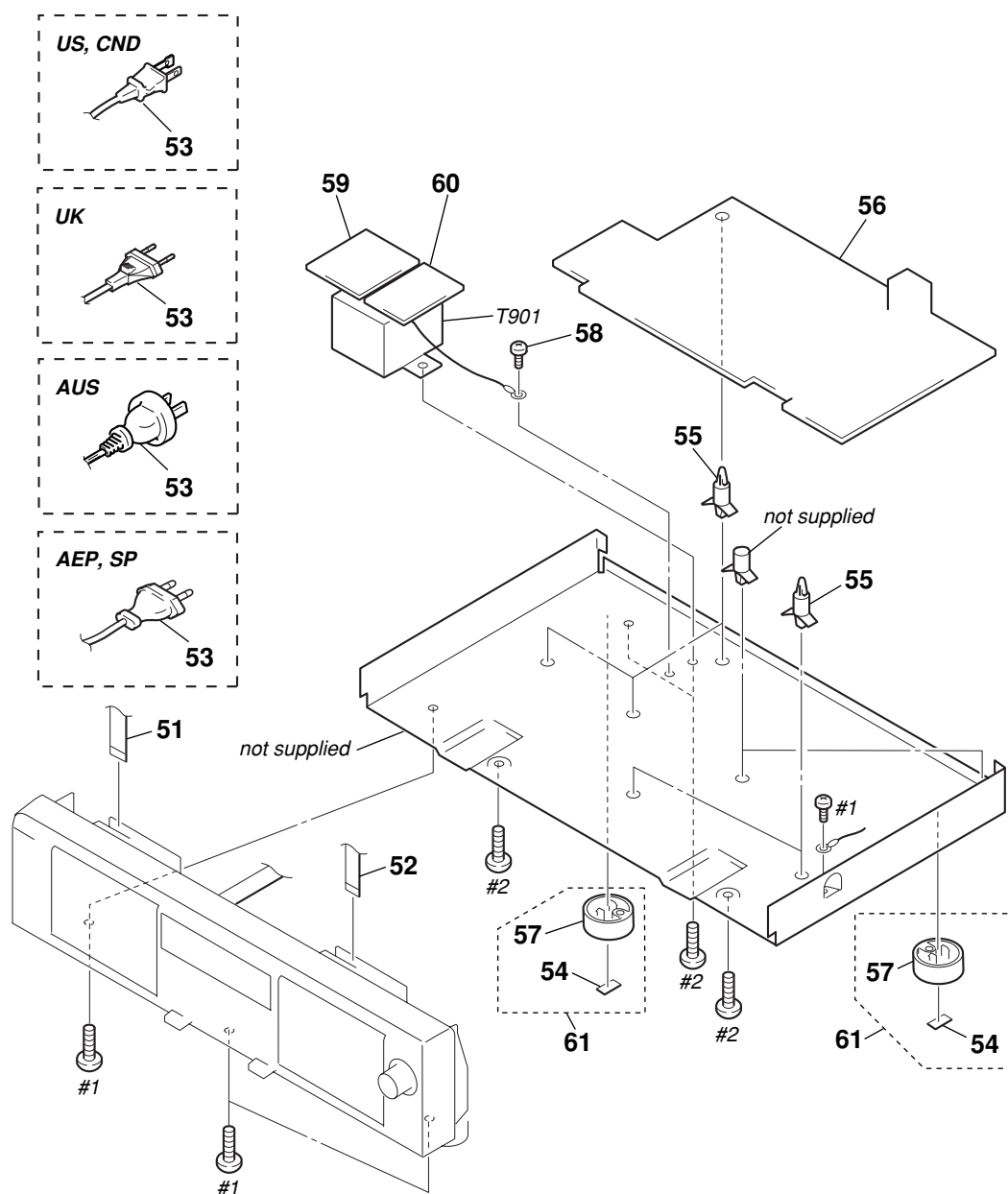
- A is included into the MAIN board (Ref No. 56).
- A : SWSP board (SP)



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
1	4-232-514-22	PANEL, BACK (AEP)		* 3	3-703-244-00	BUSHING (2104), CORD	
1	4-232-514-32	PANEL, BACK (UK)		4	3-363-099-02	SCREW (CASE 3 TP2) (BLACK)	
1	4-232-514-42	PANEL, BACK (SP)		4	3-363-099-11	SCREW (CASE 3 TP2) (SILVER) (AEP, UK)	
2	2-660-400-71	CASE (SILVER:for Hair-line Finish) (AEP, UK)		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
2	4-232-149-72	CASE (410726) (BLACK)					
				#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
2	4-232-580-72	CASE (SILVER) (AEP)					

New Type

CHASSIS SECTION

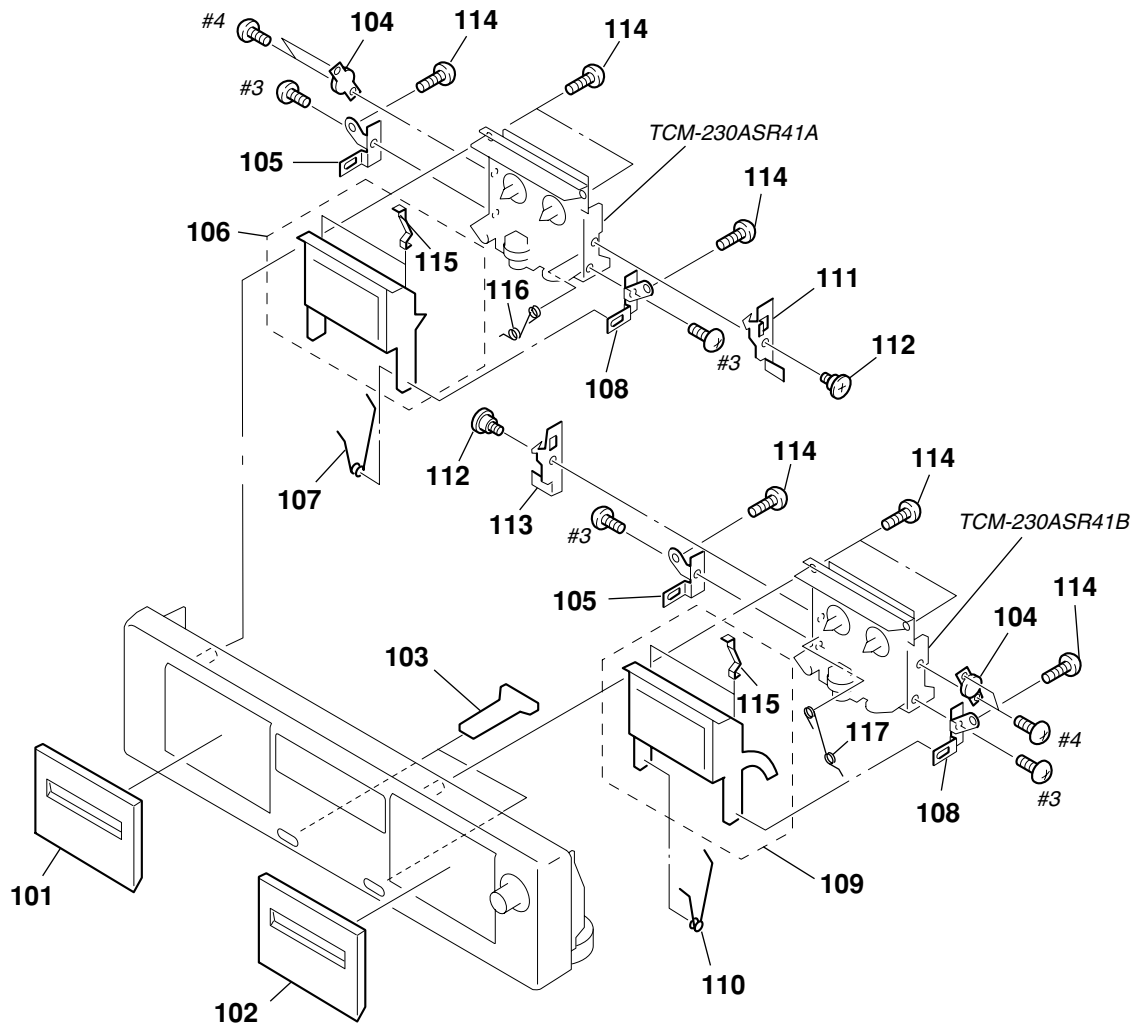


Ref. No.	Part No.	Description	Remark
51	1-696-656-11	WIRE (FLAT TYPE) (13 CORE) (180mm)	
52	1-769-976-11	WIRE (FLAT TYPE) (13 CORE) (140mm)	
△ 53	1-696-846-22	CORD, POWER (AUS)	
△ 53	1-751-522-21	CORD, POWER (UK)	
△ 53	1-775-787-91	CORD, POWER (AEP)	
△ 53	1-777-071-43	CORD, POWER (SP)	
△ 53	1-783-820-21	CORD, POWER (US, CND)	
54	4-977-358-01	CUSHION	
* 55	3-346-265-31	HOLDER, PC BOARD	
56	A-4730-003-A	MAIN BOARD, COMPLETE (US, CND)	
56	A-4730-041-A	MAIN BOARD, COMPLETE (AEP, UK)	
56	A-4730-107-A	MAIN BOARD, COMPLETE (SP)	

Ref. No.	Part No.	Description	Remark
56	A-4730-108-A	MAIN BOARD, COMPLETE (AUS)	
57	4-232-237-01	FOOT (DIA. 30)	
58	3-077-331-21	+BV3 (3-CR)	
59	1-685-973-12	TRANS (A) BOARD (EXCEPT SP)	
60	1-685-974-13	TRANS (B) BOARD	
61	X-4953-448-1	FOOT ASSY	
△ T901	1-427-782-21	TRANSFORMER, POWER (US, CND)	
△ T901	1-427-783-21	TRANSFORMER, POWER (AEP, UK, AUS)	
△ T901	1-427-784-21	TRANSFORMER, POWER (SP)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	

New Type

CASSETTE HOLDER SECTION



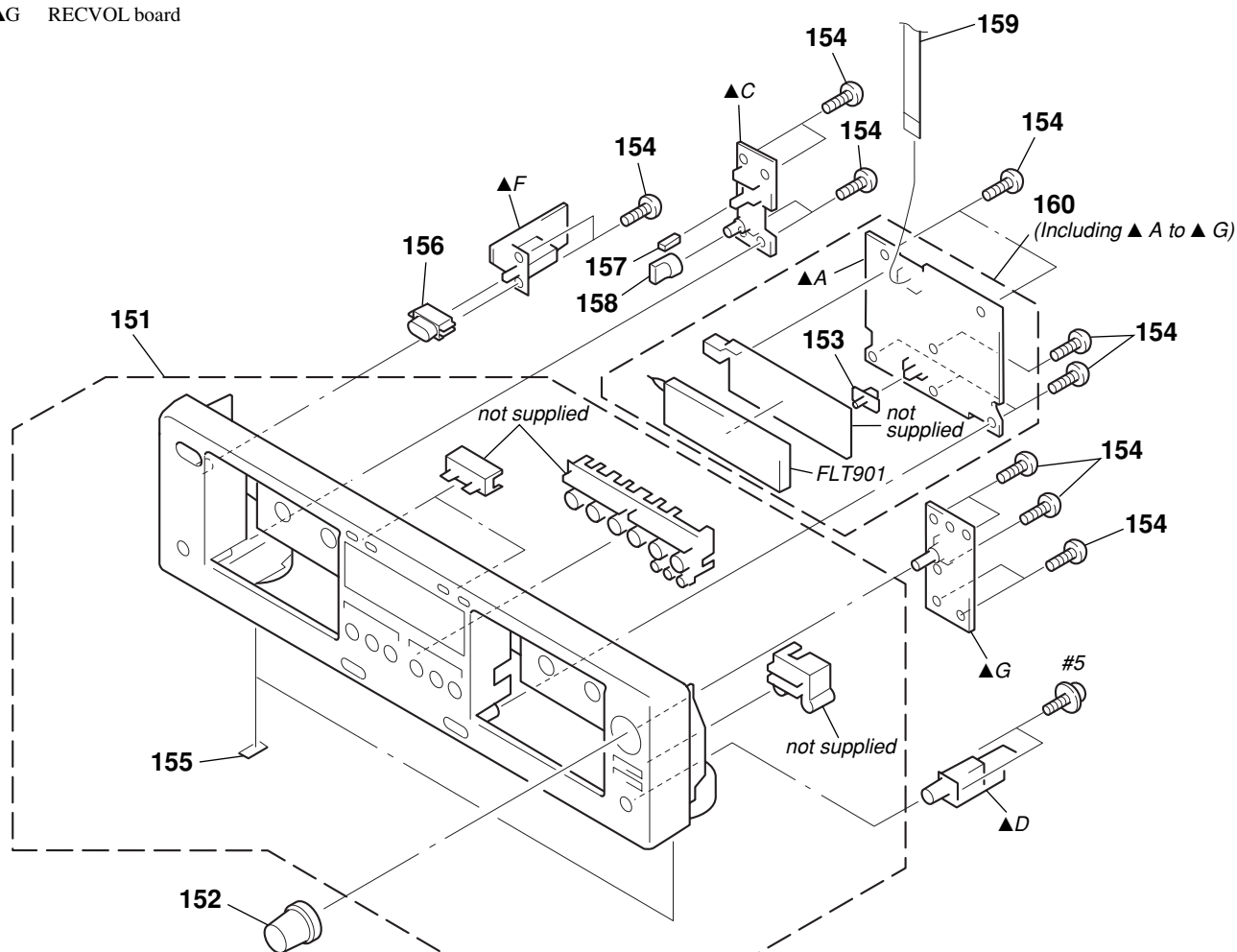
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-2103-109-1	LID (A) ASSY, CASSETTE (SILVER:Hair-line Finish) (AEP, UK)		106	X-4953-551-1	HOLDER (L) ASSY, CASSETTE (SILVER) (AEP, UK)	
101	X-4953-501-1	LID (A) ASSY, CASSETTE (BLACK)		107	3-019-455-01	SPRING (R), LOADING	
101	X-4953-504-2	LID (A) ASSY, CASSETTE (SILVER) (AEP)		108	3-019-451-02	PLATE (R), FULCRUM	
102	X-2103-110-1	LID (B) ASSY, CASSETTE (SILVER:Hair-line Finish) (AEP, UK)		109	X-4953-543-1	HOLDER (R) ASSY, CASSETTE (BLACK)	
102	X-4953-497-1	LID (B) ASSY, CASSETTE (BLACK)		109	X-4953-552-1	HOLDER (R) ASSY, CASSETTE (SILVER) (AEP, UK)	
102	X-4953-505-2	LID (B) ASSY, CASSETTE (SILVER) (AEP)		110	3-019-454-01	SPRING (L), LOADING	
103	4-232-407-01	BUTTON (EJECT) (BLACK)		111	3-019-453-02	LEVER (LOCK R)	
103	4-232-407-11	BUTTON (EJECT) (SILVER) (AEP)		112	3-019-456-12	SCREW, STEP	
103	4-232-407-21	BUTTON (EJECT) (SILVER:for Hair-line Finish) (AEP, UK)		113	3-019-452-02	LEVER (LOCK L)	
104	3-022-410-01	DAMPER		114	3-087-053-01	+BVTP2.6 (3CR)	
105	3-019-450-02	PLATE (L), FULCRUM		115	4-959-229-11	DETENT, CASSETTE	
106	X-4953-542-1	HOLDER (L) ASSY, CASSETTE (BLACK)		116	3-032-810-03	SPRING (R), TORSION	
				117	3-032-809-03	SPRING (L), TORSION	
				#3	7-685-851-09	SCREW +BVTT 2X4 (S)	
				#4	7-685-852-04	SCREW +BVTT 2X5 (S)	

New Type

FRONT PANEL SECTION

• ▲A to ▲G are including into the mounted PANEL board (Ref No. 160).

- ▲A PANEL board
- ▲C DIRECTION board
- ▲D H.P board
- ▲F POWER board
- ▲G RECVOL board



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-2103-108-1	PANEL (EU) ASSY, FRONT (SILVER:Hair-line Finish) (AEP, UK)		156	4-231-973-51	BUTTON (POWER) (SILVER:for Hair-line Finish) (AEP, UK)	
151	X-4953-498-5	PANEL (US) ASSY, FRONT (BLACK) (US, CND)		157	4-232-412-01	BUTTON (DIA. 3.5) (BLACK)	
151	X-4953-499-4	PANEL (EU) ASSY, FRONT (BLACK) (AEP, UK, SP, AUS)		157	4-232-412-11	BUTTON (DIA. 3.5) (SILVER) (AEP)	
151	X-4953-502-4	PANEL (EU) ASSY, FRONT (SILVER) (AEP)		157	4-232-412-21	BUTTON (DIA. 3.5) (SILVER:for Hair-line Finish) (AEP, UK)	
152	4-232-409-01	KNOB (DIA. 21) (BLACK)		158	3-931-378-11	KNOB (F10) (BLACK)	
152	4-232-409-11	KNOB (DIA. 21) (SILVER) (AEP)		158	3-931-378-61	KNOB (F10) (SILVER) (AEP)	
152	4-232-409-21	KNOB (DIA. 21) (SILVER:for Hair-line Finish) (AEP, UK)		158	3-931-378-71	KNOB (F10) (SILVER:for Hair-line Finish) (AEP, UK)	
153	4-232-410-01	KNOB (SLIDE) (BLACK)		159	1-769-950-11	WIRE (FLAT TYPE) (11 CORE)	
153	4-232-410-11	KNOB (SLIDE) (SILVER) (AEP)		160	A-4730-001-A	PANEL BOARD, COMPLETE (US, CND, AUS)	
153	4-232-410-21	KNOB (SLIDE) (SILVER:for Hair-line Finish) (AEP, UK)		160	A-4730-042-A	PANEL BOARD, COMPLETE (BLACK) (AEP, UK)	
154	3-087-053-01	+BVTP2.6 (3CR)		160	A-4730-044-A	PANEL BOARD, COMPLETE (SILVER) (AEP)	
155	4-977-358-01	CUSHION		160	A-4730-045-A	PANEL BOARD, COMPLETE (SP)	
156	4-231-973-01	BUTTON (POWER) (BLACK)		FLT901	1-517-263-11	INDICATOR TUBE, FLUORESCENT	
156	4-231-973-11	BUTTON (POWER) (SILVER) (AEP)		#5	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)	

MEMO

TC-WE475

SONY®

SERVICE MANUAL

Ver 1.4 2002.11

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

SUPPLEMENT - 2

File this Supplement with the Service Manual.

Subject :

- **TRANS (B) BOARD AND POWER TRANSFORMER CHANGE**
- **ARRANGEMENT OF THE POWER CORD**

TRANS (B) BOARD AND POWER TRANSFORMER CHANGE

Change the pattern of TRANS (B) board could conform to both power transformers of the new type and the former type.

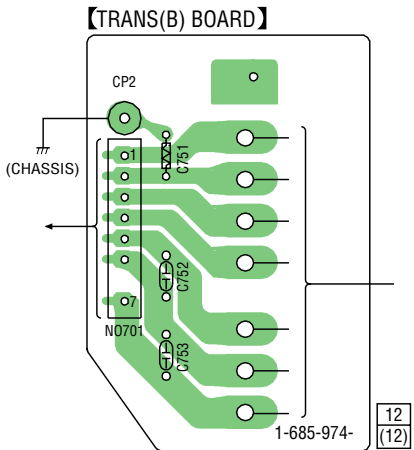
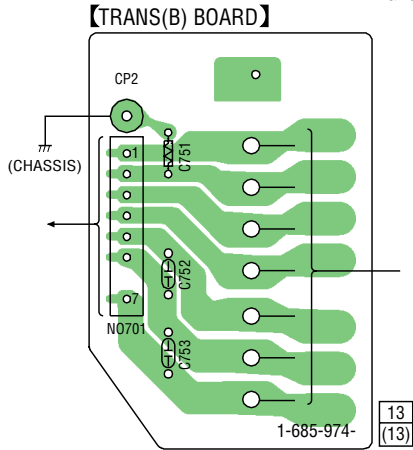
HOW TO DISTINGUISH A SET

Distinguish a power transformer by the part code that it is printed on the label.

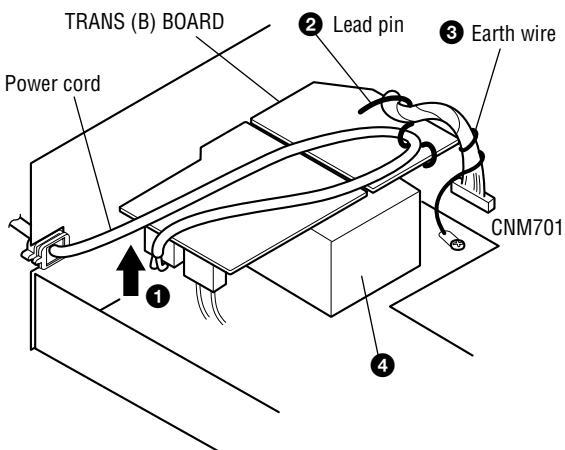
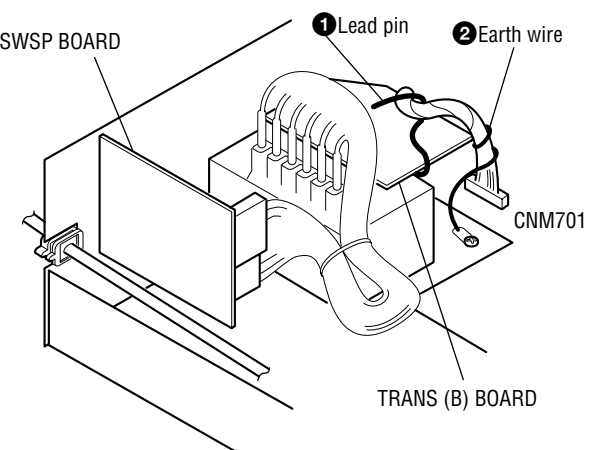
TRANS (B) Distinguish a circuit board in the difference of the pattern form.

- Abbreviation
- CND : Canadian model
- SP : Singapore model
- AUS : Australian model

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.	FORMER TYPE	NEW TYPE
60	1-685-974-12 TRANS (B) BOARD (Conforms only to the former type power transformer) 	1-685-974-13 TRANS (B) BOARD (Conforms to both power transformers of the new type and the former type) 
$\triangle$ T901 $\triangle$ T901 $\triangle$ T901	1-431-786-12 TRANSFORMER, POWER (AEP,UK,AUS) 1-431-788-12 TRANSFORMER, POWER (US,CND) 1-431-789-12 TRANSFORMER, POWER (SP) Caution : Replace a TRANS (B) board with the last digit -13 when replace a power transformer with the new type.	1-427-783-21 TRANSFORMER, POWER (AEP,UK,AUS) 1-427-782-21 TRANSFORMER, POWER (US,CND) 1-427-784-21 TRANSFORMER, POWER (SP)

ARRANGEMENT OF THE POWER CORD (AEP,UK,AUS,SP model)

AEP, UK, AUS model	SP model
1. Pull the power cord upward, and prevent looseness. 2. Catch power cord in the lead pin. 3. Wind the earth wire more than twice. 4. Leave the power cord and lead wires may not touch the power transformer. 	1. Catch the lead wires in the lead pin. 2. Wind the earth wire more than twice. 

TC-WE475

SONY®

SERVICE MANUAL

Ver. 1.5

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

SUPPLEMENT - 3

File this Supplement with the Service Manual.

Subject :

- **CHANGE OF MECHANISM DECK, MAIN BOARD AND PANEL BOARD**
- **DIAGRAMS**
- **EXPLODED VIEWS**
- **ELECTRICAL PARTS LIST**

CHANGE OF MECHANISM DECK, MAIN BOARD AND PANEL BOARD

Mechanism deck and main board and panel board has been changed.

Changed schematic diagram, printed wiring board, exploded views and electrical parts list are published in this SUPPLEMENT-3.

About the interchangeability of former and new parts

The mechanism deck of a new type and the boards of a new type should synchronize.

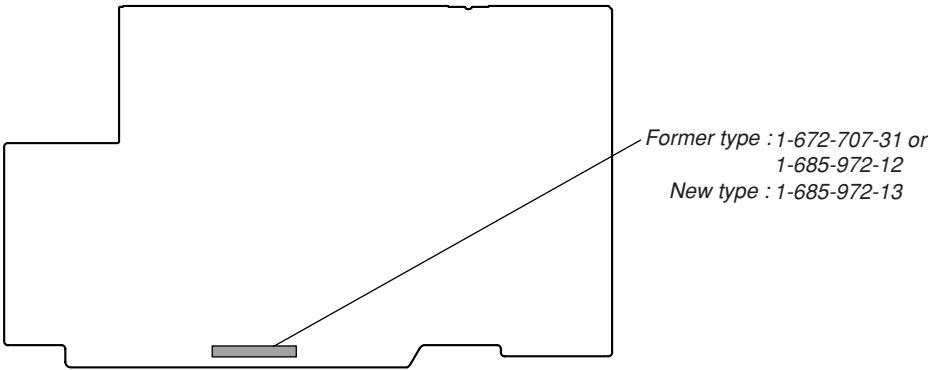
Therefore, it is not compatible in the mechanism deck and main board and panel board of former and new.

Please use parts of a new type referring to "NEW TYPE IDENTIFICATION" for the set of a new type.

NEW TYPE IDENTIFICATION

Please see the part code of the main board or the part code of the mechanism deck and distinguish former type or new type of the set.

【MAIN BOARD】-Component side-



【MECHANISM DECK】Refer to the label on the motor

	DECK A	DECK B
Former type	A-2100-941-A	A-2100-942-A
New type	A-2100-941-B	A-2100-942-B

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

LF : LEAD FREE MARK

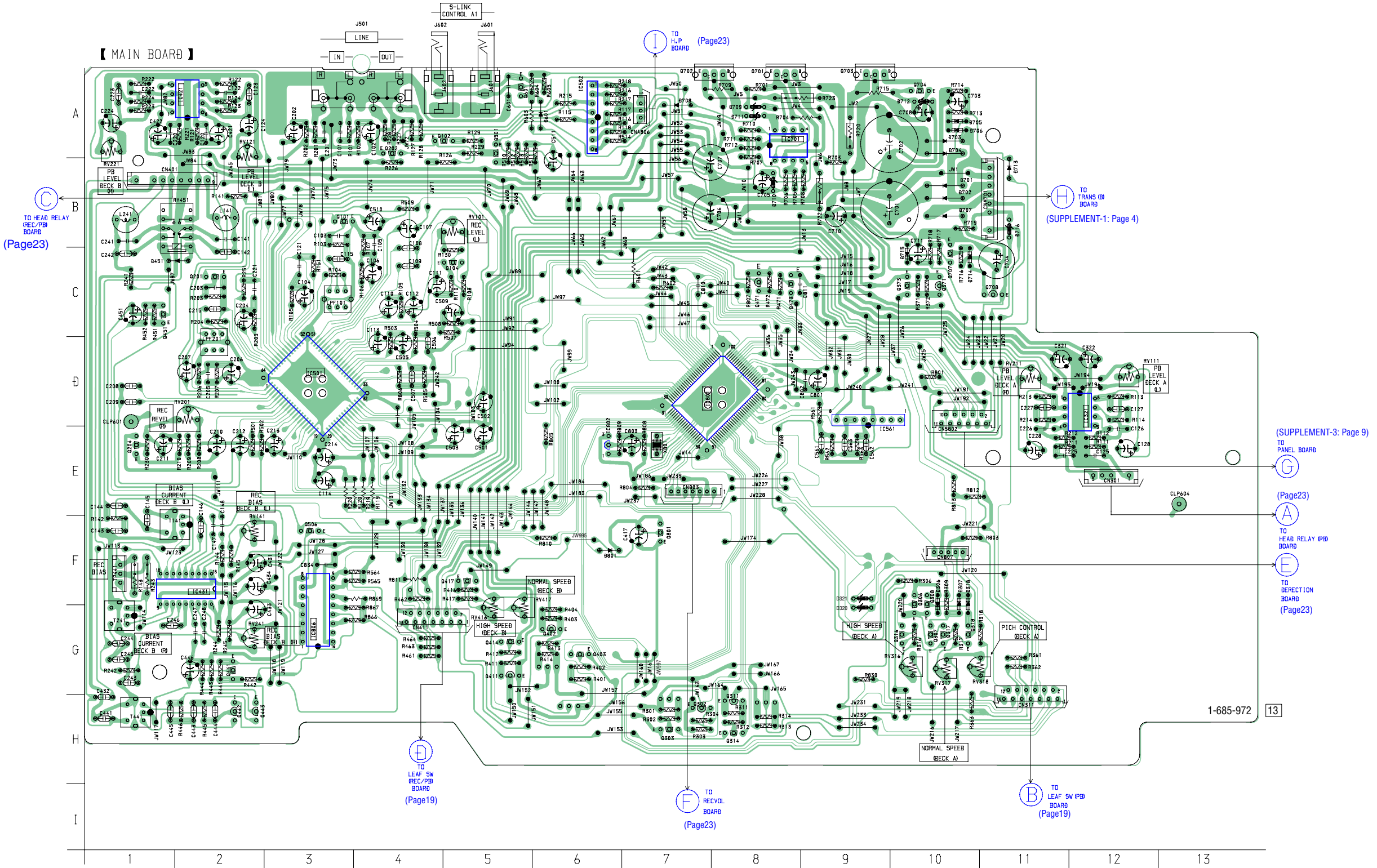
Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
Soldering irons using a temperature regulator should be set to about 350°C.
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

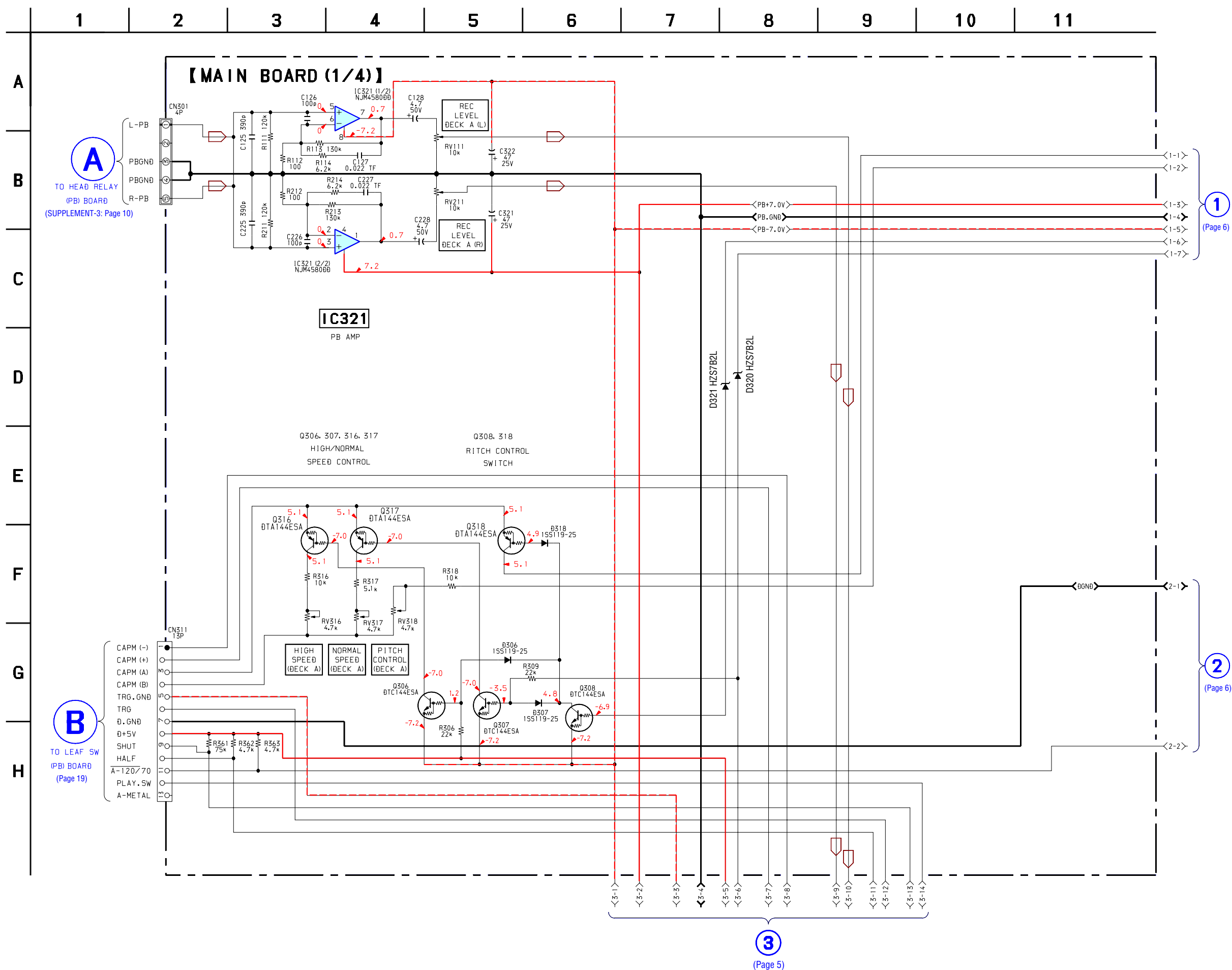
• Semiconductor Location

PRINTED WIRING BOARD – MAIN SECTION – Suffix -13 :Uses unleaded solder.

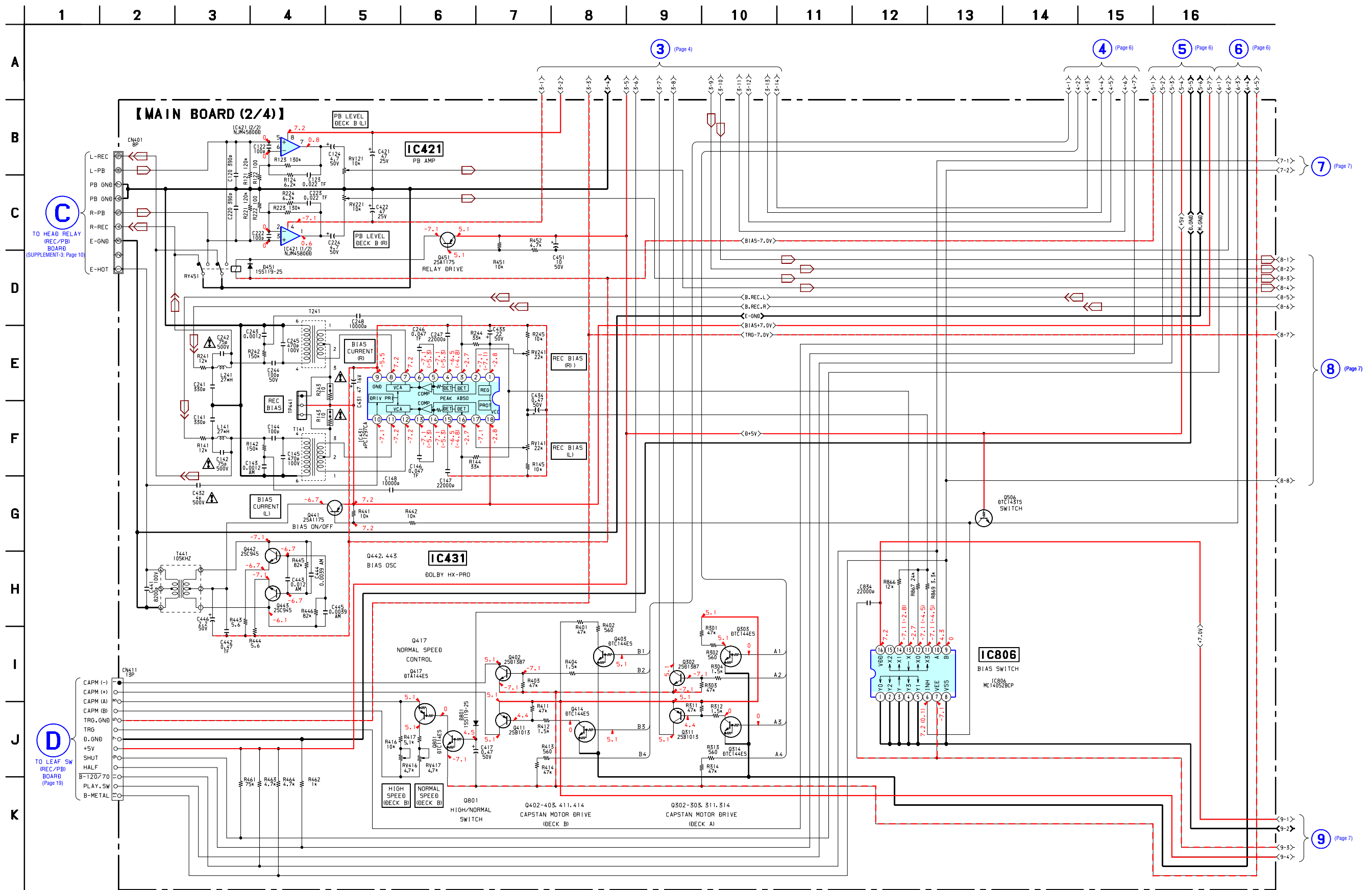
Ref. No.	Location
D306	G-10
D307	G-10
D318	G-10
D320	G-9
D321	F-9
D451	C-2
D601	A-6
D701	B-10
D702	B-10
D703	A-10
D704	A-10
D705	A-10
D706	A-10
D707	B-10
D708	A-7
D709	A-8
D710	B-8
D711	A-8
D712	A-10
D713	B-11
D714	C-10
D715	C-10
D716	B-11
D801	F-6
IC321	D-12
IC421	A-2
IC431	F-2
IC501	D-3
IC502	A-6
IC561	D-9
IC701	A-8
IC801	D-7
IC802	E-6
IC806	G-3
Q101	B-3
Q102	A-5
Q104	C-5
Q201	C-2
Q202	A-4
Q204	E-1
Q302	H-7
Q303	H-7
Q306	G-10
Q307	G-10
Q308	G-10
Q311	H-8
Q314	H-8
Q316	G-10
Q317	G-10
Q318	G-10
Q371	C-10
Q373	C-10
Q402	G-6
Q403	G-6
Q411	G-5
Q414	G-5
Q417	F-5
Q441	G-2
Q442	H-2
Q443	H-2
Q451	C-1
Q471	C-8
Q473	C-8
Q501	A-5
Q506	F-3
Q601	A-5
Q701	A-8
Q702	A-8
Q703	A-9
Q704	A-10
Q707	C-10
Q708	C-11
Q801	F-6

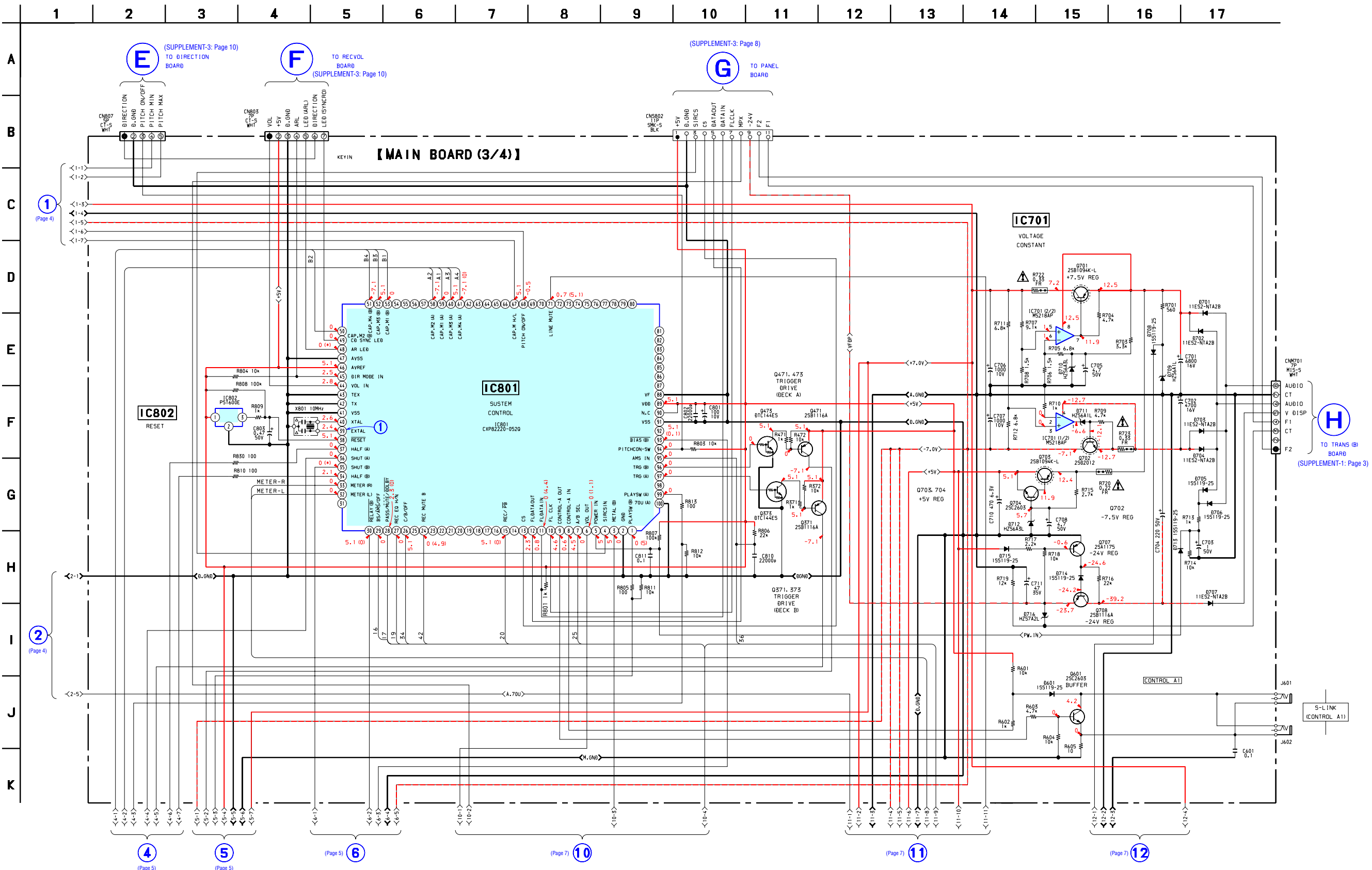


SCHEMATIC DIAGRAM – MAIN (1/4) SECTION – **Suffix –13**

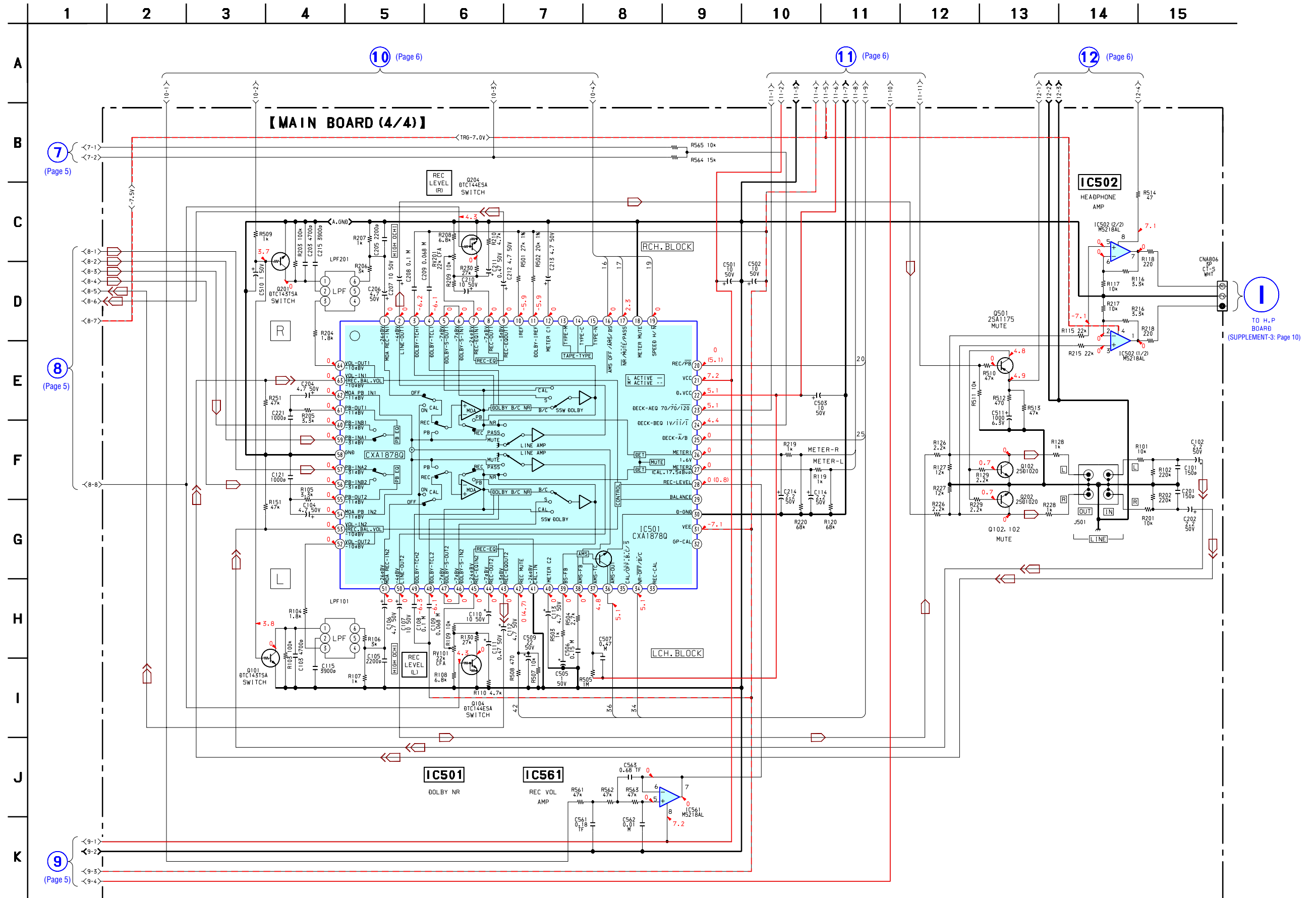


SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

Suffix –13



SCHEMATIC DIAGRAM – MAIN (4/4) SECTION – **Suffix –13**



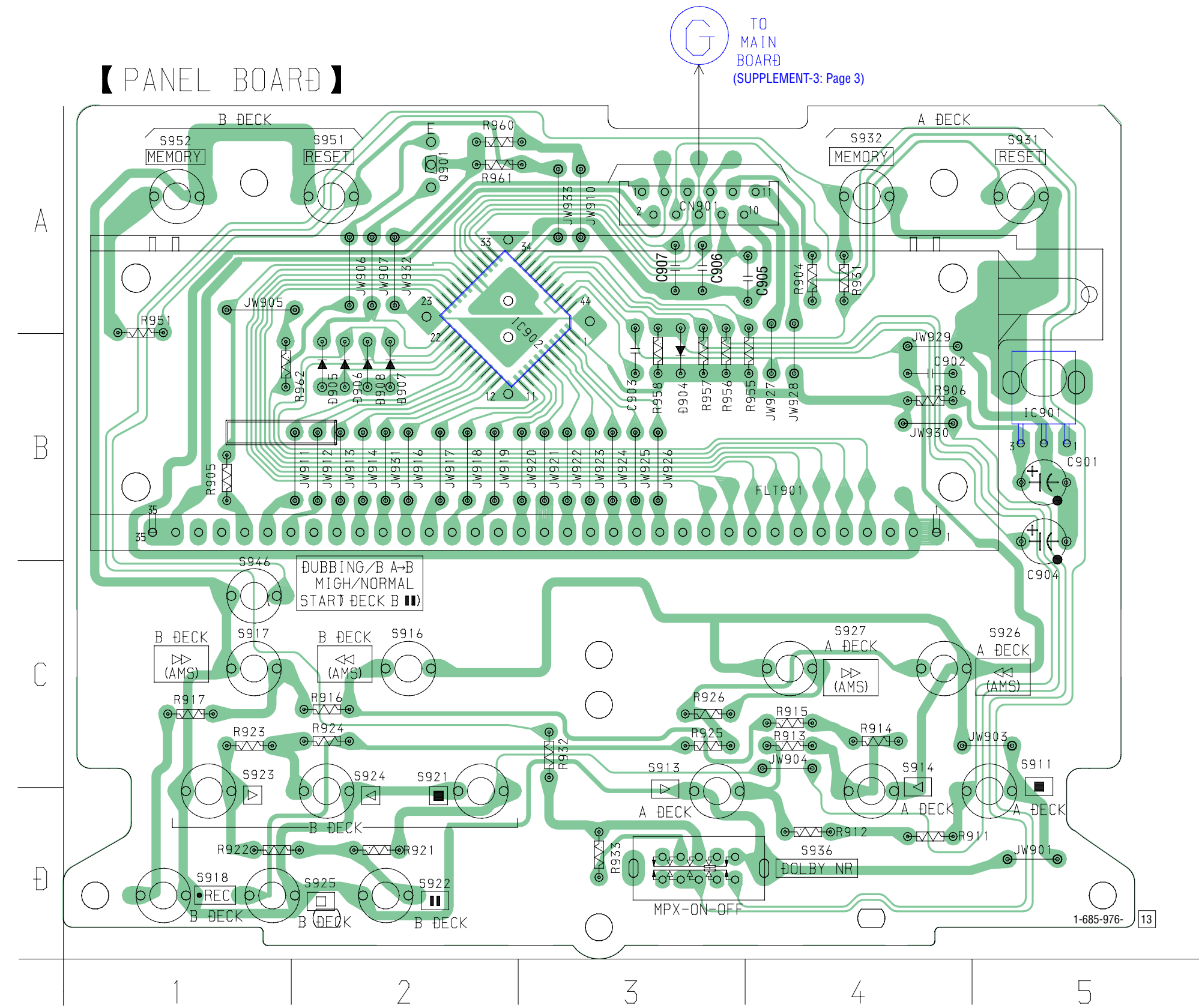


PRINTED WIRING BOARD – DISPLAY SECTION –

Suffix –13



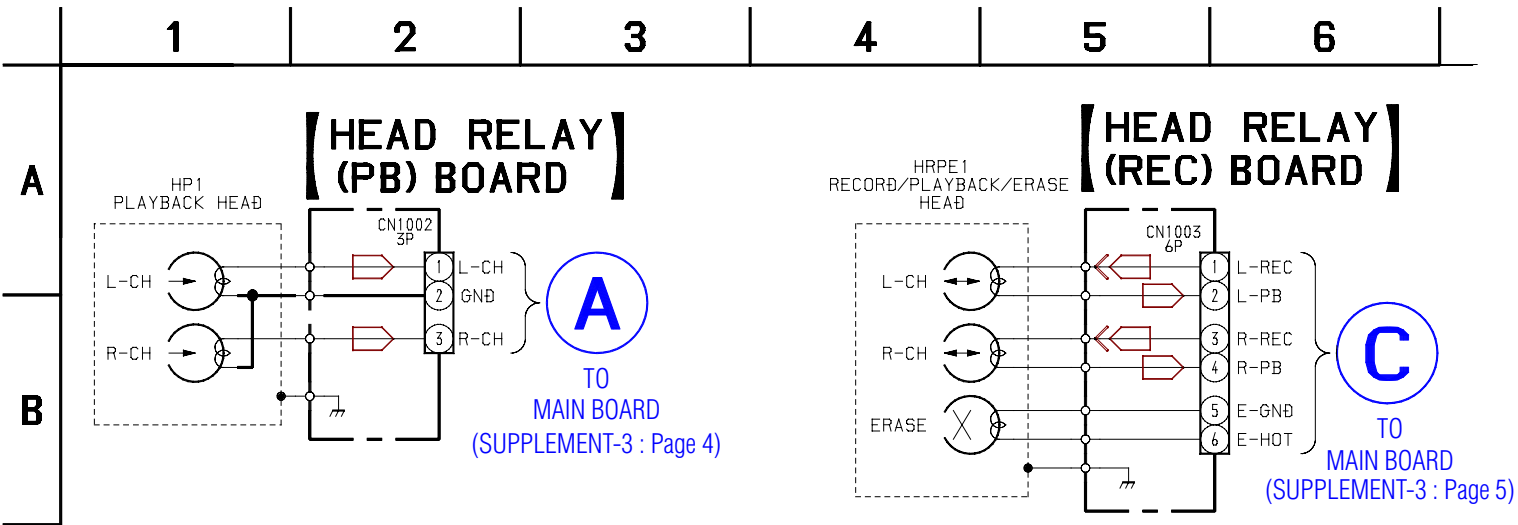
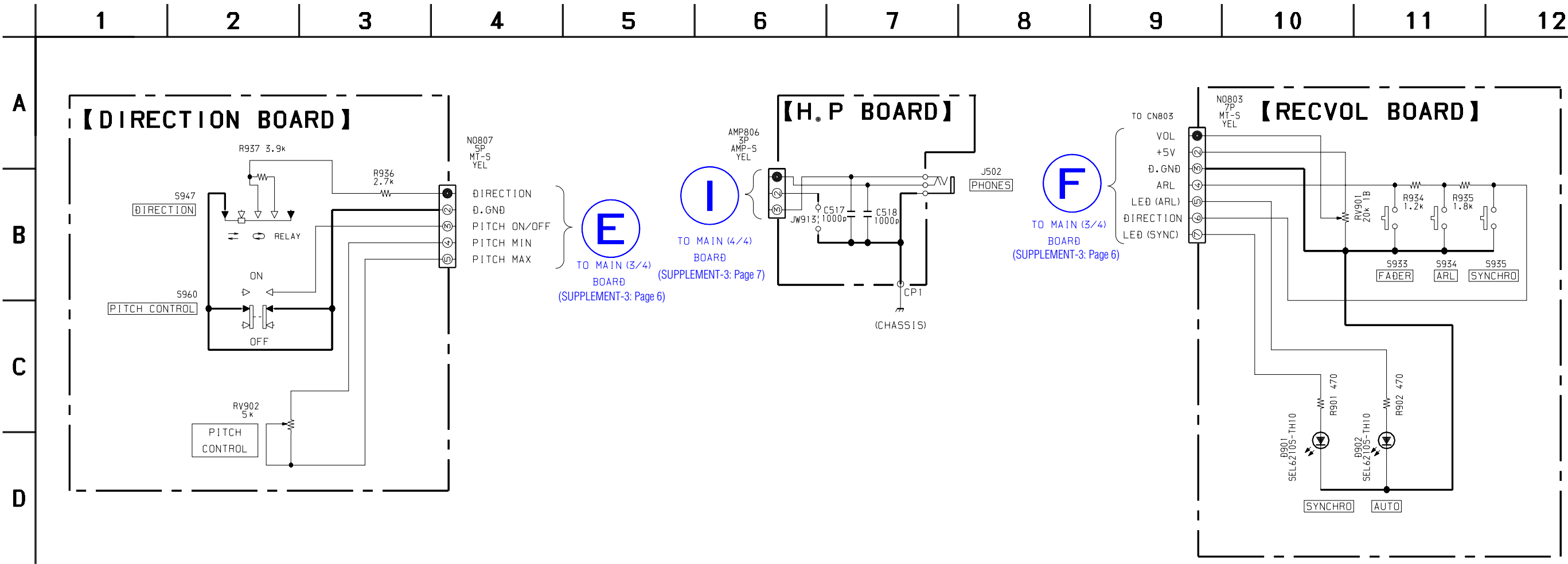
:Uses unleaded solder.



• Semiconductor Location

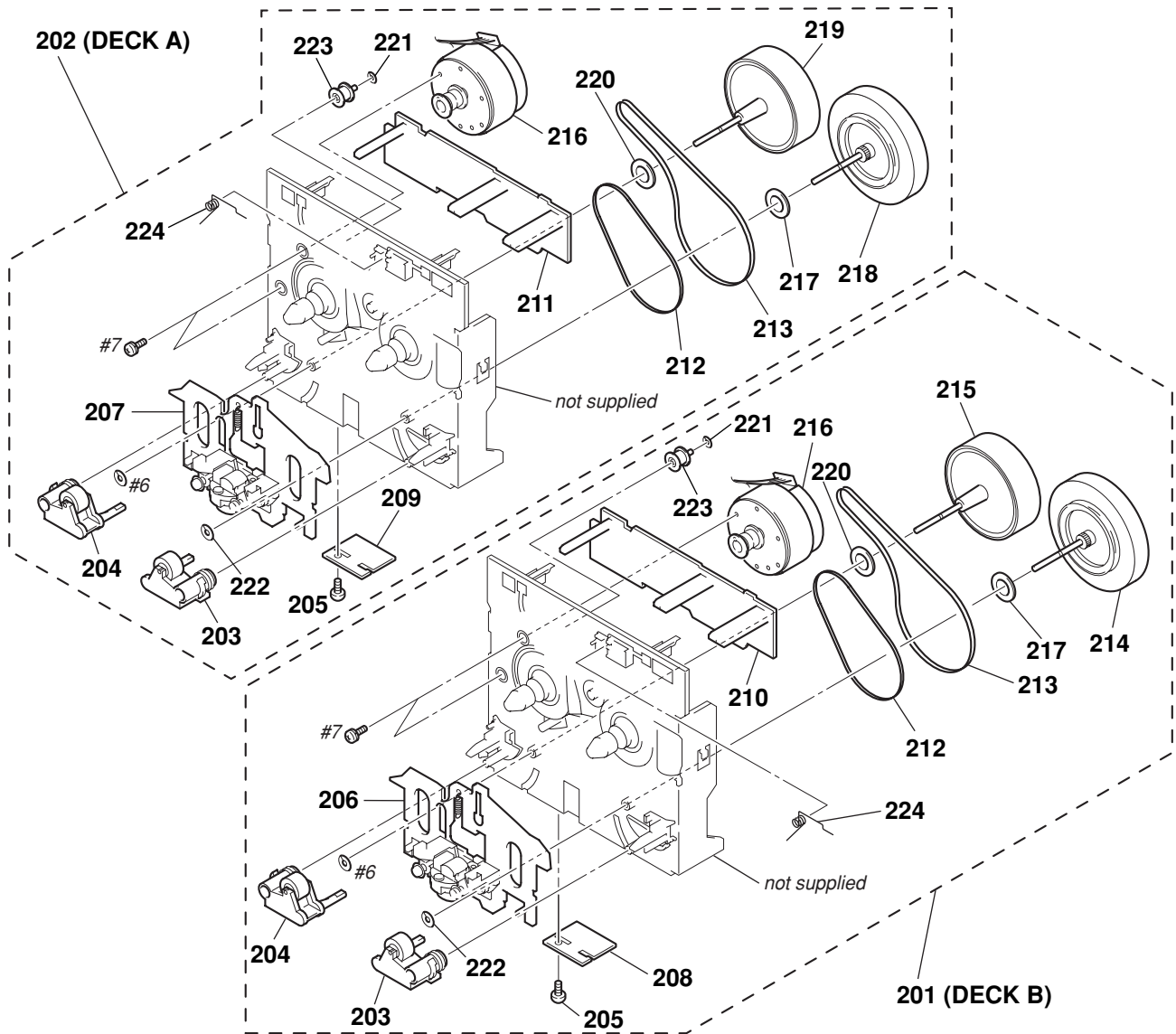
Ref. No.	Location
D904	B-3
D905	B-2
D906	B-2
D907	B-2
D908	B-2
IC901	B-5
IC902	A-2
Q901	A-2

SCHEMATIC DIAGRAM – PANEL SECTION – Suffix –13



New Type

TAPE MECHANISM SECTION
(DECK A: TCM-230ASR41A)
(DECK B: TCM-230ASR41B)



Ref. No.	Part No.	Description	Remark
201	A-2100-942-B	TCM-230ASR41B/C (NEW TYPE) (DECK B)	
202	A-2100-941-B	TCM-230ASR41A/C (NEW TYPE) (DECK A)	
203	X-3374-155-5	PINCH LEVER (FWD) ASSY	
204	X-3374-156-5	PINCH LEVER (REV) ASSY	
205	4-227-872-11	SCREW (+PTT 2X4), GROUND POINT	
206	X-4953-986-1	BLOCK (B) ASSY, HEAD	
207	X-4953-985-1	BLOCK (A) ASSY, HEAD	
208	A-4476-817-A	RELAY (R/P) BOARD, COMPLETE	
209	A-4476-815-A	RELAY (PB) BOARD, COMPLETE	
210	A-4476-816-A	SW , LEAF BOARD, COMPLETE (DECK B)	
211	A-4476-814-A	SW , LEAF BOARD, COMPLETE (DECK A)	
212	3-041-947-01	BELT (FR)	
213	3-041-946-01	BELT (CAPSTAN B)	
214	X-3378-042-1	FLYWHEEL (B-FWD) ASSY	

Ref. No.	Part No.	Description	Remark
215	X-3378-043-1	FLYWHEEL (B-REV) ASSY	
216	A-2004-854-B	MOTOR ASSY, CAPSTAN (NEW TYPE)	
217	3-359-464-01	WASHER (CAPSTAN)	
218	X-4952-851-1	WHEEL (B-FWD) ASSY, FLY	
219	X-4952-852-1	WHEEL (B-REV) ASSY, FLY	
220	3-359-464-11	WASHER (CAPSTAN)	
221	3-016-533-01	WASHER (FR), STOPPER	
222	3-019-208-01	WASHER, STOPPER	
223	3-040-580-02	PULLEY (TENSION)	
224	4-227-455-02	SPRING (HALF), TORSION	
#6	7-623-921-01	RING, RETAINING, CAPSTAN	
#7	7-628-254-05	SCREW +PS 2.6X5	

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.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- 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
- Abbreviation
CND : Canadian model
SP : Singapore model
AUS : Australian model

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 name.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-4730-003-A	MAIN BOARD, COMPLETE (US, CND)		C202	1-126-961-11	ELECT 2.2uF 20%	50V
	A-4730-041-A	MAIN BOARD, COMPLETE (AEP, UK)		C203	1-162-600-11	CERAMIC 0.0047uF 10%	16V
	A-4730-107-A	MAIN BOARD, COMPLETE (SP)					
	A-4730-108-A	MAIN BOARD, COMPLETE (AUS)		C204	1-126-963-11	ELECT 4.7uF 20%	50V
	*****			C205	1-162-302-11	CERAMIC 0.0022uF 20%	16V
	< CAPACITOR >			C206	1-126-963-11	ELECT 4.7uF 20%	50V
C101	1-162-284-31	CERAMIC 150PF 10%	50V	C207	1-126-964-11	ELECT 10uF 20%	50V
C102	1-126-961-11	ELECT 2.2uF 20%	50V	C208	1-130-495-00	MYLAR 0.1uF 5%	50V
C103	1-162-600-11	CERAMIC 0.0047uF 10%	16V	C209	1-137-375-11	MYLAR 0.068uF 5%	50V
C104	1-126-963-11	ELECT 4.7uF 20%	50V	C210	1-126-964-11	ELECT 10uF 20%	50V
C105	1-162-302-11	CERAMIC 0.0022uF 20%	16V	C211	1-126-959-11	ELECT 0.47uF 20%	50V
				C212	1-126-963-11	ELECT 4.7uF 20%	50V
C106	1-126-963-11	ELECT 4.7uF 20%	50V	C213	1-126-963-11	ELECT 4.7uF 20%	50V
C107	1-126-964-11	ELECT 10uF 20%	50V				
C108	1-130-495-00	MYLAR 0.1uF 5%	50V	C214	1-126-961-11	ELECT 2.2uF 20%	50V
C109	1-137-375-11	MYLAR 0.068uF 5%	50V	C215	1-137-436-11	MYLAR 0.0039uF 5%	50V
C110	1-126-964-11	ELECT 10uF 20%	50V	C220	1-162-289-31	CERAMIC 390PF 10%	50V
				C221	1-162-294-31	CERAMIC 0.001uF 10%	50V
C111	1-126-959-11	ELECT 0.47uF 20%	50V	C222	1-162-282-31	CERAMIC 100PF 10%	50V
C112	1-126-963-11	ELECT 4.7uF 20%	50V				
C113	1-126-963-11	ELECT 4.7uF 20%	50V	C223	1-137-372-11	MYLAR 0.022uF 5%	50V
C114	1-126-961-11	ELECT 2.2uF 20%	50V	C224	1-126-963-11	ELECT 4.7uF 20%	50V
C115	1-137-436-11	MYLAR 0.0039uF 5%	50V	C225	1-162-289-31	CERAMIC 390PF 10%	50V
				C226	1-162-282-31	CERAMIC 100PF 10%	50V
C120	1-162-289-31	CERAMIC 390PF 10%	50V	C227	1-137-372-11	MYLAR 0.022uF 5%	50V
C121	1-162-294-31	CERAMIC 0.001uF 10%	50V				
C122	1-162-282-31	CERAMIC 100PF 10%	50V	C228	1-126-963-11	ELECT 4.7uF 20%	50V
C123	1-137-372-11	MYLAR 0.022uF 5%	50V	C241	1-162-288-31	CERAMIC 330PF 10%	50V
C124	1-126-963-11	ELECT 4.7uF 20%	50V	Δ C242	1-107-609-11	CERAMIC 75PF 5%	500V
				C243	1-130-472-00	MYLAR 0.0012uF 5%	50V
C125	1-162-289-31	CERAMIC 390PF 10%	50V	C244	1-102-973-00	CERAMIC 100PF 5%	50V
C126	1-162-282-31	CERAMIC 100PF 10%	50V				
C127	1-137-372-11	MYLAR 0.022uF 5%	50V	C245	1-136-356-11	FILM 470PF 5%	100V
C128	1-126-963-11	ELECT 4.7uF 20%	50V	C246	1-137-374-11	MYLAR 0.047uF 5%	50V
C141	1-162-288-31	CERAMIC 330PF 10%	50V	C247	1-161-494-00	CERAMIC 0.022uF 25V	
				C248	1-162-306-11	CERAMIC 0.01uF 20%	16V
Δ C142	1-107-609-11	CERAMIC 75PF 5%	500V	C321	1-126-947-11	ELECT 47uF 20%	35V
C143	1-130-472-00	MYLAR 0.0012uF 5%	50V				
C144	1-102-973-00	CERAMIC 100PF 5%	50V	C322	1-126-947-11	ELECT 47uF 20%	35V
C145	1-136-356-11	FILM 470PF 5%	100V	C417	1-126-959-11	ELECT 0.47uF 20%	50V
C146	1-137-374-11	MYLAR 0.047uF 5%	50V	C421	1-126-947-11	ELECT 47uF 20%	35V
				C422	1-126-947-11	ELECT 47uF 20%	35V
C147	1-161-494-00	CERAMIC 0.022uF 25V		C431	1-126-947-11	ELECT 47uF 20%	35V
C148	1-162-306-11	CERAMIC 0.01uF 20%	16V				
C201	1-162-284-31	CERAMIC 150PF 10%	50V	Δ C432	1-107-584-11	CERAMIC 4PF 0.25PF 500V	
				C433	1-126-965-91	ELECT 22uF 20%	50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C434	1-126-959-11	ELECT	0.47uF 20% 50V	D702	8-719-024-99	DIODE 11ES2-NTA2B	
C441	1-136-293-11	FILM	0.0082uF 5% 100V	D703	8-719-024-99	DIODE 11ES2-NTA2B	
C443	1-130-299-00	MYLAR	0.012uF 5% 50V				
C444	1-137-436-11	MYLAR	0.0039uF 5% 50V	D704	8-719-024-99	DIODE 11ES2-NTA2B	
C445	1-137-436-11	MYLAR	0.0039uF 5% 50V	D705	8-719-991-33	DIODE 1SS133T-77	
C446	1-126-965-91	ELECT	22uF 20% 50V	D706	8-719-991-33	DIODE 1SS133T-77	
C451	1-126-964-11	ELECT	10uF 20% 50V	D707	8-719-024-99	DIODE 11ES2-NTA2B	
C501	1-126-964-11	ELECT	10uF 20% 50V	D708	8-719-991-33	DIODE 1SS133T-77	
C502	1-126-964-11	ELECT	10uF 20% 50V				
C503	1-126-964-11	ELECT	10uF 20% 50V	D709	8-719-933-33	DIODE HZS6A1L	
C505	1-126-960-11	ELECT	1uF 20% 50V	D710	8-719-933-35	DIODE HZS6A3L	
C506	1-130-497-00	MYLAR	0.15uF 5% 50V	D711	8-719-933-33	DIODE HZS6A1L	
C507	1-136-173-00	MYLAR	0.47uF 5% 50V	D712	8-719-933-35	DIODE HZS6A3L	
C509	1-126-965-91	ELECT	22uF 20% 50V	D713	8-719-991-33	DIODE 1SS133T-77	
C510	1-126-960-11	ELECT	1uF 20% 50V				
C511	1-126-916-11	ELECT	1000uF 20% 6.3V	D714	8-719-991-33	DIODE 1SS133T-77	
C561	1-136-168-00	MYLAR	0.18uF 5% 50V	D715	8-719-991-33	DIODE 1SS133T-77	
C562	1-137-150-11	FILM	0.01uF 5% 100V	D716	8-719-985-95	DIODE HZS7A2LTA	
				D801	8-719-991-33	DIODE 1SS133T-77	
C563	1-136-175-00	MYLAR	0.68uF 5% 50V			< IC >	
C601	1-164-159-11	CERAMIC	0.1uF 50V	IC321	8-759-710-59	IC NJM4580D-D	
C701	1-128-547-11	ELECT	6800uF 20% 16V	IC421	8-759-710-59	IC NJM4580D-D	
C702	1-126-937-11	ELECT	4700uF 20% 16V	IC431	8-759-106-56	IC uPC1297CA	
C703	1-126-960-11	ELECT	1uF 20% 50V	IC501	8-752-075-27	IC CXA1878Q	
				IC502	8-759-694-61	IC NJM4565L	
C704	1-126-969-11	ELECT	220uF 20% 50V				
C705	1-126-963-11	ELECT	4.7uF 20% 50V	IC561	8-759-694-61	IC NJM4565L	
C706	1-126-926-11	ELECT	1000uF 20% 10V	IC701	8-759-634-51	IC M5218AP	
C707	1-126-926-11	ELECT	1000uF 20% 10V	IC801	8-752-902-29	IC CXP82220-052Q	
C708	1-126-963-11	ELECT	4.7uF 20% 50V	IC802	8-759-165-82	IC PST600E-T	
				IC806	8-759-000-48	IC MC14052BCP	
C710	1-104-655-91	ELECT	470uF 20% 6.3V			< JACK >	
C711	1-126-947-11	ELECT	47uF 20% 35V				
C801	1-104-658-91	ELECT	100uF 20% 10V	J501	1-770-614-11	JACK, PIN 4P (LINE IN/OUT)	
C802	1-161-494-00	CERAMIC	0.022uF 25V	* J601	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5)	
C803	1-126-959-11	ELECT	0.47uF 20% 50V			(S-LINK CONTROL A1)	
C810	1-161-494-00	CERAMIC	0.022uF 25V	* J602	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5)	
C811	1-164-159-11	CERAMIC	0.1uF 50V			(S-LINK CONTROL A1)	
C834	1-161-494-00	CERAMIC	0.022uF 25V			< COIL >	
		< CONNECTOR >					
CN301	1-691-766-11	PLUG (MICRO CONNECTOR) 4P		L141	1-410-780-11	INDUCTOR 27mH	
CN311	1-784-774-11	CONNECTOR, FFC 13P		L241	1-410-780-11	INDUCTOR 27mH	
CN401	1-691-770-11	PLUG (MICRO CONNECTOR) 8P				< FILTER >	
CN411	1-784-774-11	CONNECTOR, FFC 13P		LPF101	1-233-271-12	FILTER, LOW PASS	
* CN803	1-568-934-11	PIN, CONNECTOR 7P		LPF201	1-233-271-12	FILTER, LOW PASS	
						< TRANSISTOR >	
* CN807	1-568-954-11	PIN, CONNECTOR 5P		Q101	8-729-029-94	TRANSISTOR DTC143TSA	
CNA806	1-506-468-11	PIN, CONNECTOR 3P		Q102	8-729-922-37	TRANSISTOR 2SD2144S-UVW	
CNM701	1-691-769-11	PLUG (MICRO CONNECTOR) 7P		Q104	8-729-030-02	TRANSISTOR DTC144ESA	
CNS802	1-568-830-11	CONNECTOR, FFC 11P		Q201	8-729-029-94	TRANSISTOR DTC143TSA	
				Q202	8-729-922-37	TRANSISTOR 2SD2144S-UVW	
		< DIODE >					
D306	8-719-991-33	DIODE 1SS133T-77		Q204	8-729-030-02	TRANSISTOR DTC144ESA	
D307	8-719-991-33	DIODE 1SS133T-77		Q302	8-729-801-93	TRANSISTOR 2SD1387-3	
D318	8-719-991-33	DIODE 1SS133T-77		Q303	8-729-030-02	TRANSISTOR DTC144ESA	
D320	8-719-933-47	DIODE HZS7B2L		Q306	8-729-030-02	TRANSISTOR DTC144ESA	
D321	8-719-933-47	DIODE HZS7B2L		Q307	8-729-030-02	TRANSISTOR DTC144ESA	
D451	8-719-991-33	DIODE 1SS133T-77					
D601	8-719-991-33	DIODE 1SS133T-77		Q308	8-729-030-02	TRANSISTOR DTC144ESA	
D701	8-719-024-99	DIODE 11ES2-NTA2B		Q311	8-729-801-84	TRANSISTOR 2SB1013-4	
				Q314	8-729-030-02	TRANSISTOR DTC144ESA	

TC-WE475

MAIN: Suffix -13

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
Q316	8-729-029-56	TRANSISTOR	DTA144ESA				R142	1-247-883-00	CARBON	150K	5%	1/4W	
Q317	8-729-029-56	TRANSISTOR	DTA144ESA				△ R143	1-219-153-11	FUSIBLE	10	5%	1/4W	
Q318	8-729-029-56	TRANSISTOR	DTA144ESA				R144	1-249-435-11	CARBON	33K	5%	1/4W	
Q371	8-729-140-04	TRANSISTOR	2SB1116A-L				R145	1-249-429-11	CARBON	10K	5%	1/4W	
Q373	8-729-030-02	TRANSISTOR	DTC144ESA				R151	1-247-871-91	CARBON	47K	5%	1/4W	
Q402	8-729-801-93	TRANSISTOR	2SD1387-3				R201	1-249-429-11	CARBON	10K	5%	1/4W	
Q403	8-729-029-66	TRANSISTOR	DTC114ESA				R202	1-247-887-00	CARBON	220K	5%	1/4W	
Q411	8-729-801-84	TRANSISTOR	2SB1013-4				R203	1-247-879-91	CARBON	100K	5%	1/4W	
Q414	8-729-029-66	TRANSISTOR	DTC114ESA				R204	1-249-420-11	CARBON	1.8K	5%	1/4W	
Q417	8-729-029-56	TRANSISTOR	DTA144ESA				R205	1-247-843-11	CARBON	3.3K	5%	1/4W	
Q441	8-729-119-76	TRANSISTOR	2SA1175-HFE				R206	1-247-842-11	CARBON	3K	5%	1/4W	
Q442	8-729-194-57	TRANSISTOR	2SC945-P				R207	1-247-831-91	CARBON	1K	5%	1/4W	
Q443	8-729-194-57	TRANSISTOR	2SC945-P				R208	1-249-427-11	CARBON	6.8K	5%	1/4W	
Q451	8-729-119-76	TRANSISTOR	2SA1175-HFE				R209	1-249-429-11	CARBON	10K	5%	1/4W	
Q471	8-729-140-04	TRANSISTOR	2SB1116A-L				R210	1-247-847-91	CARBON	4.7K	5%	1/4W	
Q473	8-729-030-02	TRANSISTOR	DTC144ESA				R211	1-247-881-00	CARBON	120K	5%	1/4W	
Q501	8-729-119-76	TRANSISTOR	2SA1175-HFE				R212	1-247-807-31	CARBON	100	5%	1/4W	
Q506	8-729-029-94	TRANSISTOR	DTC143TSA				R213	1-247-882-11	CARBON	130K	5%	1/4W	
Q601	8-729-620-05	TRANSISTOR	2SC2603-EF				R214	1-247-850-11	CARBON	6.2K	5%	1/4W	
Q701	8-729-209-60	TRANSISTOR	2SB1375				R215	1-247-863-91	CARBON	22K	5%	1/4W	
Q702	8-729-209-15	TRANSISTOR	2SD2012				R216	1-247-843-11	CARBON	3.3K	5%	1/4W	
Q703	8-729-209-60	TRANSISTOR	2SB1375				R217	1-249-429-11	CARBON	10K	5%	1/4W	
Q704	8-729-620-05	TRANSISTOR	2SC2603-EF				R218	1-249-409-11	CARBON	220	5%	1/4W	
Q707	8-729-119-76	TRANSISTOR	2SA1175-HFE				R219	1-247-831-91	CARBON	1K	5%	1/4W	
Q708	8-729-140-04	TRANSISTOR	2SB1116A-L				R220	1-249-439-11	CARBON	68K	5%	1/4W	
Q801	8-729-029-66	TRANSISTOR	DTC114ESA				R221	1-247-881-00	CARBON	120K	5%	1/4W	
< RESISTOR >							R222	1-247-807-31	CARBON	100	5%	1/4W	
R101	1-249-429-11	CARBON	10K	5%	1/4W		R223	1-247-882-11	CARBON	130K	5%	1/4W	
R102	1-247-887-00	CARBON	220K	5%	1/4W		R224	1-247-850-11	CARBON	6.2K	5%	1/4W	
R103	1-247-879-91	CARBON	100K	5%	1/4W		R226	1-249-421-11	CARBON	2.2K	5%	1/4W	
R104	1-249-420-11	CARBON	1.8K	5%	1/4W		R227	1-249-430-11	CARBON	12K	5%	1/4W	
R105	1-247-843-11	CARBON	3.3K	5%	1/4W		R228	1-247-831-91	CARBON	1K	5%	1/4W	
R106	1-247-842-11	CARBON	3K	5%	1/4W		R229	1-249-421-11	CARBON	2.2K	5%	1/4W	
R107	1-247-831-91	CARBON	1K	5%	1/4W		R230	1-249-434-11	CARBON	27K	5%	1/4W	
R108	1-249-427-11	CARBON	6.8K	5%	1/4W		R241	1-249-430-11	CARBON	12K	5%	1/4W	
R109	1-249-429-11	CARBON	10K	5%	1/4W		R242	1-247-883-00	CARBON	150K	5%	1/4W	
R110	1-247-847-91	CARBON	4.7K	5%	1/4W		△ R243	1-219-153-11	FUSIBLE	10	5%	1/4W	
R111	1-247-881-00	CARBON	120K	5%	1/4W		R244	1-249-435-11	CARBON	33K	5%	1/4W	
R112	1-247-807-31	CARBON	100	5%	1/4W		R245	1-249-429-11	CARBON	10K	5%	1/4W	
R113	1-247-882-11	CARBON	130K	5%	1/4W		R251	1-247-871-91	CARBON	47K	5%	1/4W	
R114	1-247-850-11	CARBON	6.2K	5%	1/4W		R301	1-247-871-91	CARBON	47K	5%	1/4W	
R115	1-247-863-91	CARBON	22K	5%	1/4W		R302	1-249-414-11	CARBON	560	5%	1/4W	
R116	1-247-843-11	CARBON	3.3K	5%	1/4W		R303	1-247-871-91	CARBON	47K	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W		R304	1-249-419-11	CARBON	1.5K	5%	1/4W	
R118	1-249-409-11	CARBON	220	5%	1/4W		R306	1-247-863-91	CARBON	22K	5%	1/4W	
R119	1-247-831-91	CARBON	1K	5%	1/4W		R309	1-247-863-91	CARBON	22K	5%	1/4W	
R120	1-249-439-11	CARBON	68K	5%	1/4W		R311	1-247-871-91	CARBON	47K	5%	1/4W	
R121	1-247-881-00	CARBON	120K	5%	1/4W		R312	1-249-419-11	CARBON	1.5K	5%	1/4W	
R122	1-247-807-31	CARBON	100	5%	1/4W		R313	1-249-414-11	CARBON	560	5%	1/4W	
R123	1-247-882-11	CARBON	130K	5%	1/4W		R314	1-247-871-91	CARBON	47K	5%	1/4W	
R124	1-247-850-11	CARBON	6.2K	5%	1/4W		R316	1-249-429-11	CARBON	10K	5%	1/4W	
R126	1-249-421-11	CARBON	2.2K	5%	1/4W		R317	1-247-848-11	CARBON	5.1K	5%	1/4W	
R127	1-249-430-11	CARBON	12K	5%	1/4W		R318	1-249-393-11	CARBON	10	5%	1/4W	
R128	1-247-831-91	CARBON	1K	5%	1/4W		R361	1-247-876-11	CARBON	75K	5%	1/4W	
R129	1-249-421-11	CARBON	2.2K	5%	1/4W		R362	1-247-847-91	CARBON	4.7K	5%	1/4W	
R130	1-249-434-11	CARBON	27K	5%	1/4W		R363	1-247-847-91	CARBON	4.7K	5%	1/4W	
R141	1-249-430-11	CARBON	12K	5%	1/4W		R371	1-247-831-91	CARBON	1K	5%	1/4W	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R372	1-249-429-11	CARBON	10K 5% 1/4W	R712	1-249-427-11	CARBON 6.8K 5% 1/4W	
R401	1-247-871-91	CARBON	47K 5% 1/4W	R713	1-247-831-91	CARBON 1K 5% 1/4W	
R402	1-249-414-11	CARBON	560 5% 1/4W	R714	1-249-429-11	CARBON 10K 5% 1/4W	
R403	1-247-871-91	CARBON	47K 5% 1/4W	R715	1-249-422-11	CARBON 2.7K 5% 1/4W	
R404	1-249-419-11	CARBON	1.5K 5% 1/4W	R716	1-247-863-91	CARBON 22K 5% 1/4W	
R411	1-247-871-91	CARBON	47K 5% 1/4W	R717	1-249-421-11	CARBON 2.2K 5% 1/4W	
R412	1-249-419-11	CARBON	1.5K 5% 1/4W	R718	1-249-429-11	CARBON 10K 5% 1/4W	
R413	1-249-414-11	CARBON	560 5% 1/4W	R719	1-249-430-11	CARBON 12K 5% 1/4W	
R414	1-247-871-91	CARBON	47K 5% 1/4W	△ R720	1-219-136-11	FUSIBLE 0.22 10% 1/4W	
R416	1-249-429-11	CARBON	10K 5% 1/4W	△ R722	1-219-137-11	FUSIBLE 0.33 10% 1/4W	
R417	1-247-848-11	CARBON	5.1K 5% 1/4W	△			
R441	1-249-429-11	CARBON	10K 5% 1/4W	R723	1-219-137-11	FUSIBLE 0.33 10% 1/4W	
R442	1-249-429-11	CARBON	10K 5% 1/4W	R801	1-247-831-91	CARBON 1K 5% 1/4W	
R443	1-249-390-11	CARBON	5.6 5% 1/4W	R803	1-249-429-11	CARBON 10K 5% 1/4W	
R444	1-249-390-11	CARBON	5.6 5% 1/4W	R804	1-249-429-11	CARBON 10K 5% 1/4W	
R445	1-249-440-11	CARBON	82K 5% 1/4W	R805	1-247-807-31	CARBON 100 5% 1/4W	
R446	1-249-440-11	CARBON	82K 5% 1/4W	R806	1-247-863-91	CARBON 22K 5% 1/4W	
R451	1-249-429-11	CARBON	10K 5% 1/4W	R807	1-247-879-91	CARBON 100K 5% 1/4W	
R452	1-247-847-91	CARBON	4.7K 5% 1/4W	R808	1-247-879-91	CARBON 100K 5% 1/4W	
R461	1-247-876-11	CARBON	75K 5% 1/4W	R809	1-247-831-91	CARBON 1K 5% 1/4W	
R462	1-247-831-91	CARBON	1K 5% 1/4W	R810	1-247-807-31	CARBON 100 5% 1/4W	
R463	1-247-847-91	CARBON	4.7K 5% 1/4W	R811	1-249-429-11	CARBON 10K 5% 1/4W	
R464	1-247-847-91	CARBON	4.7K 5% 1/4W	R812	1-249-429-11	CARBON 10K 5% 1/4W	
R471	1-247-831-91	CARBON	1K 5% 1/4W	R813	1-247-807-31	CARBON 100 5% 1/4W	
R472	1-249-429-11	CARBON	10K 5% 1/4W	R830	1-247-807-31	CARBON 100 5% 1/4W	
R501	1-215-455-00	METAL	27K 1% 1/4W	R866	1-249-430-11	CARBON 12K 5% 1/4W	
R502	1-215-452-00	METAL	20K 1% 1/4W	R867	1-247-864-11	CARBON 24K 5% 1/4W	
R503	1-247-831-91	CARBON	1K 5% 1/4W	R869	1-249-424-11	CARBON 3.9K 5% 1/4W	
R504	1-249-422-11	CARBON	2.7K 5% 1/4W	< VARIABLE RESISTOR >			
R505	1-247-903-00	CARBON	1M 5% 1/4W	RV101	1-241-765-11	RES, ADJ CERMET 22K (REC LEVEL (L))	
R507	1-249-429-11	CARBON	10K 5% 1/4W	RV111	1-241-764-11	RES, ADJ CERMET 10K (PB LEVEL DECK A (L))	
R508	1-249-413-11	CARBON	470 5% 1/4W	RV121	1-241-764-11	RES, ADJ CERMET 10K (PB LEVEL DECK B (L))	
R509	1-247-831-91	CARBON	1K 5% 1/4W	RV141	1-241-765-11	RES, ADJ CERMET 22K (REC BIAS DECK B (L))	
R510	1-247-871-91	CARBON	47K 5% 1/4W	RV201	1-241-765-11	RES, ADJ CERMET 22K (REC LEVEL (R))	
R511	1-249-429-11	CARBON	10K 5% 1/4W	RV211	1-241-764-11	RES, ADJ CERMET 10K (PB LEVEL DECK A (R))	
R512	1-249-413-11	CARBON	470 5% 1/4W	RV221	1-241-764-11	RES, ADJ CERMET 10K (PB LEVEL DECK B (R))	
R513	1-247-871-91	CARBON	47K 5% 1/4W	RV241	1-241-765-11	RES, ADJ CERMET 22K (REC BIAS DECK B (R))	
R514	1-249-401-11	CARBON	47 5% 1/4W	RV316	1-241-763-11	RES, ADJ CERMET 4.7K (HIGH SPEED (DECK A))	
R561	1-247-871-91	CARBON	47K 5% 1/4W	RV317	1-241-763-11	RES, ADJ CERMET 4.7K (NORMAL SPEED (DECK A))	
R562	1-247-871-91	CARBON	47K 5% 1/4W	RV318	1-241-763-11	RES, ADJ CERMET 4.7K (PITCH CONTROL (DECK A))	
R563	1-247-871-91	CARBON	47K 5% 1/4W	RV416	1-241-763-11	RES, ADJ CERMET 4.7K (HIGH SPEED (DECK B))	
R564	1-249-431-11	CARBON	15K 5% 1/4W	RV417	1-241-763-11	RES, ADJ CERMET 4.7K (NORMAL SPEED (DECK B))	
R565	1-249-429-11	CARBON	10K 5% 1/4W	< RELAY >			
R601	1-249-429-11	CARBON	10K 5% 1/4W	RY451	1-755-061-11	RELAY	
R602	1-247-831-91	CARBON	1K 5% 1/4W	< TRANSFORMER >			
R603	1-247-847-91	CARBON	4.7K 5% 1/4W	T141	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR (BIAS CURRENT DECK B (L))	
R604	1-249-429-11	CARBON	10K 5% 1/4W	T241	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR (BIAS CURRENT DECK B (R))	
R605	1-249-393-11	CARBON	10 5% 1/4W	T441	1-429-222-11	TRANSFORMER, BIAS OSCILLATION	
R701	1-249-414-11	CARBON	560 5% 1/4W				
R703	1-247-843-11	CARBON	3.3K 5% 1/4W				
R704	1-247-847-91	CARBON	4.7K 5% 1/4W				
R705	1-249-427-11	CARBON	6.8K 5% 1/4W				
R706	1-249-419-11	CARBON	1.5K 5% 1/4W				
R707	1-247-854-11	CARBON	9.1K 5% 1/4W				
R708	1-249-419-11	CARBON	1.5K 5% 1/4W				
R709	1-247-847-91	CARBON	4.7K 5% 1/4W				
R710	1-247-831-91	CARBON	1K 5% 1/4W				
R711	1-249-427-11	CARBON	6.8K 5% 1/4W				

TC-WE475

MAIN: Suffix -13

PANEL: Suffix -13

Ref. No.	Part No.	Description	Remark			
< TEST PIN >						
TP441	1-766-276-11	PIN, CONNECTOR (PC BOARD) 3P				
< VIBRATOR >						
X801	1-795-004-21	VIBRATOR, CERAMIC (10MHz)				

A-4730-001-A		PANEL BOARD, COMPLETE (US, CND, AUS)				
A-4730-042-A		PANEL BOARD, COMPLETE (BLACK) (AEP, UK)				
A-4730-044-A		PANEL BOARD, COMPLETE (SILVER) (AEP)				
A-4730-045-A		PANEL BOARD, COMPLETE (SP)				

(DIRECTION, H.P, POWER, REC VOL BOARD are included.)						
< CAPACITOR >						
△ C001	1-113-925-11	CERAMIC	0.01uF	20%	250V	
C517	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C518	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C901	1-104-658-91	ELECT	100uF	20%	10V	
C902	1-161-494-00	CERAMIC	0.022uF		25V	
C903	1-162-207-31	CERAMIC	22PF	5%	50V	
C904	1-126-960-11	ELECT	1uF	20%	50V	
C905	1-162-282-31	CERAMIC	100PF	10%	50V	
C906	1-162-282-31	CERAMIC	100PF	10%	50V	
C907	1-162-282-31	CERAMIC	100PF	10%	50V	
< CONNECTOR >						
* CN001	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P (SP)				
CN901	1-568-830-11	CONNECTOR, FFC 11P				
< DIODE >						
D901	8-719-313-43	DIODE SEL6210S-TH10				
D902	8-719-313-43	DIODE SEL6210S-TH10				
D904	8-719-991-33	DIODE 1SS133T-77				
D905	8-719-991-33	DIODE 1SS133T-77				
D906	8-719-991-33	DIODE 1SS133T-77				
D907	8-719-991-33	DIODE 1SS133T-77				
D908	8-719-991-33	DIODE 1SS133T-77				
< FLUORESCENT INDICATOR TUBE >						
FLT901	1-517-263-11	INDICATOR TUBE, FLUORESCENT				
< IC >						
IC901	8-759-827-70	IC NJL64H400A-1				
IC902	8-759-696-80	IC PT6355				
< JACK >						
J502	1-568-519-41	JACK, LARGE TYPE (PHONES)				
< TRANSISTOR >						
Q901	8-729-029-94	TRANSISTOR DTC143TSA				
< RESISTOR >						
R901	1-249-413-11	CARBON	470	5%	1/4W	
R902	1-249-413-11	CARBON	470	5%	1/4W	
R904	1-247-807-31	CARBON	100	5%	1/4W	

Ref. No.	Part No.	Description	Remark		
R905	1-247-879-91	CARBON	100K	5%	1/4W
R906	1-247-807-31	CARBON	100	5%	1/4W
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	1-247-871-91	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	1-771-349-21	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
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
R934	1-249-418-11	CARBON	1.2K	5%	1/4W
R935	1-249-420-11	CARBON	1.8K	5%	1/4W
R936	1-249-422-11	CARBON	2.7K	5%	1/4W
R937	1-249-424-11	CARBON	3.9K	5%	1/4W
R951	1-249-418-11	CARBON	1.2K	5%	1/4W
R955	1-249-429-11	CARBON	10K	5%	1/4W
R956	1-249-429-11	CARBON	10K	5%	1/4W
R957	1-249-429-11	CARBON	10K	5%	1/4W
R958	1-247-871-91	CARBON	47K	5%	1/4W
R960	1-249-429-11	CARBON	10K	5%	1/4W
R961	1-249-429-11	CARBON	10K	5%	1/4W
R962	1-247-879-91	CARBON	100K	5%	1/4W
< VARIABLE RESISTOR >					
RV901	1-225-707-11	RES, VAR, CARBON 20K (REC LEVEL)			
RV902	1-227-708-11	RES, VAR, CARBON 5K (PITCH CONTROL)			
< SWITCH >					
△ S850	1-762-581-11	SWITCH, AC POWER PUSH (1 KEY) (POWER)			
S911	1-771-349-21	SWITCH, KEYBOARD (■ CLEAR)			
S913	1-771-349-21	SWITCH, KEYBOARD (▷ FRONT (DECK A))			
S914	1-771-349-21	SWITCH, KEYBOARD (◁ BACK (DECK A))			
S916	1-771-349-21	SWITCH, KEYBOARD (◁◁ (AMS) (DECK B))			
S917	1-771-349-21	SWITCH, KEYBOARD (▷▷ (AMS) (DECK B))			
S918	1-771-349-21	SWITCH, KEYBOARD (● REC (DECK B))			
S921	1-771-349-21	SWITCH, KEYBOARD (■ (DECK B))			
S922	1-771-349-21	SWITCH, KEYBOARD (■■ PAUSE (DECK B))			
S923	1-249-422-11	SWITCH, KEYBOARD (▷ (DECK B))			
S924	1-771-349-21	SWITCH, KEYBOARD (◁ (DECK B))			
S925	1-771-349-21	SWITCH, KEYBOARD (○ REC MUTING (DECK B))			
S926	1-771-349-21	SWITCH, KEYBOARD (◁◁ (AMS) RMS- (DECK A))			
S927	1-771-349-21	SWITCH, KEYBOARD (▷▷ (AMS) RMS+ (DECK A))			
S931	1-771-349-21	SWITCH, KEYBOARD (RESET (DECK A))			
S932	1-771-349-21	SWITCH, KEYBOARD (MEMORY (DECK A))			
S933	1-771-349-21	SWITCH, KEYBOARD (FADER)			
S934	1-771-349-21	SWITCH, KEYBOARD (ARL)			
S935	1-771-349-21	SWITCH, KEYBOARD (SYNCHRO)			
S936	1-786-127-11	SWITCH, SLIDE (DOLBY NR OFF/ON/ON FILTER)			

Ref. No.	Part No.	Description	Remark
S946	1-771-349-21	SWITCH, KEYBOARD (DUBBING A→B HIGH/NORMAL (START (DECK B ■ ■)))	
S947	1-762-609-11	SWITCH, SLIDE (BLACK) (DIRECTION MODE ⇐⇒ / ⇐⇒ /RELAY)	
S947	1-762-609-21	SWITCH, SLIDE (SILVER) (AEP) (DIRECTION MODE ⇐⇒ / ⇐⇒ /RELAY)	
S951	1-771-349-21	SWITCH, KEYBOARD (RESET (DECK B))	
S952	1-771-349-21	SWITCH, KEYBOARD (MEMORY (DECK B))	
S960	1-554-118-00	SWITCH, PUSH (1 KEY) (PITCH CONTROL ON/OFF)	

REVISION HISTORY

Clicking the version allows you to jump to the revised page.

Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

[illegible]