TC-WE475

SERVICE MANUAL

Ver 1.0 2001.04

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 Icassette):
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
±0.15% W. Peak (IEC)
0.1% W. RMS (NAB)
±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

9-873-893-11
2001D0900-1

Sony Corporation
Home Audio Company
Shinagawa Tec Service Manual Production Group

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 microampers). Leakage current can be measured by any one of three methods.

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

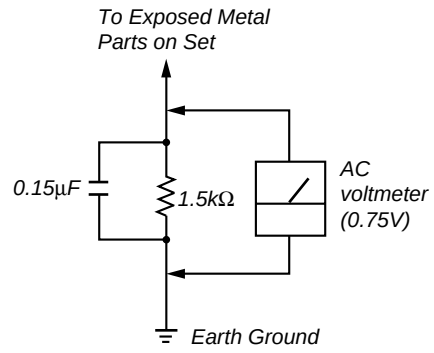


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

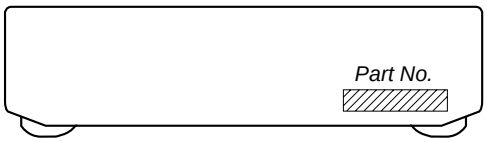
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

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

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

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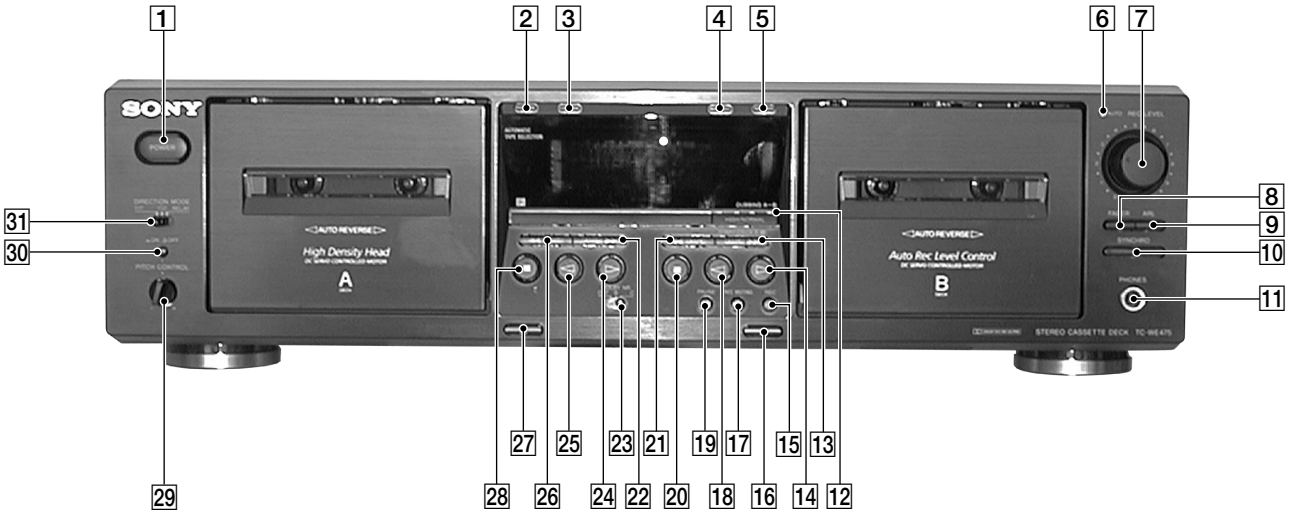
SECTION 1
GENERAL

Front Panel



Location of Parts and Controls

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

• AMS is the abbreviation for Automatic Music Sensor.

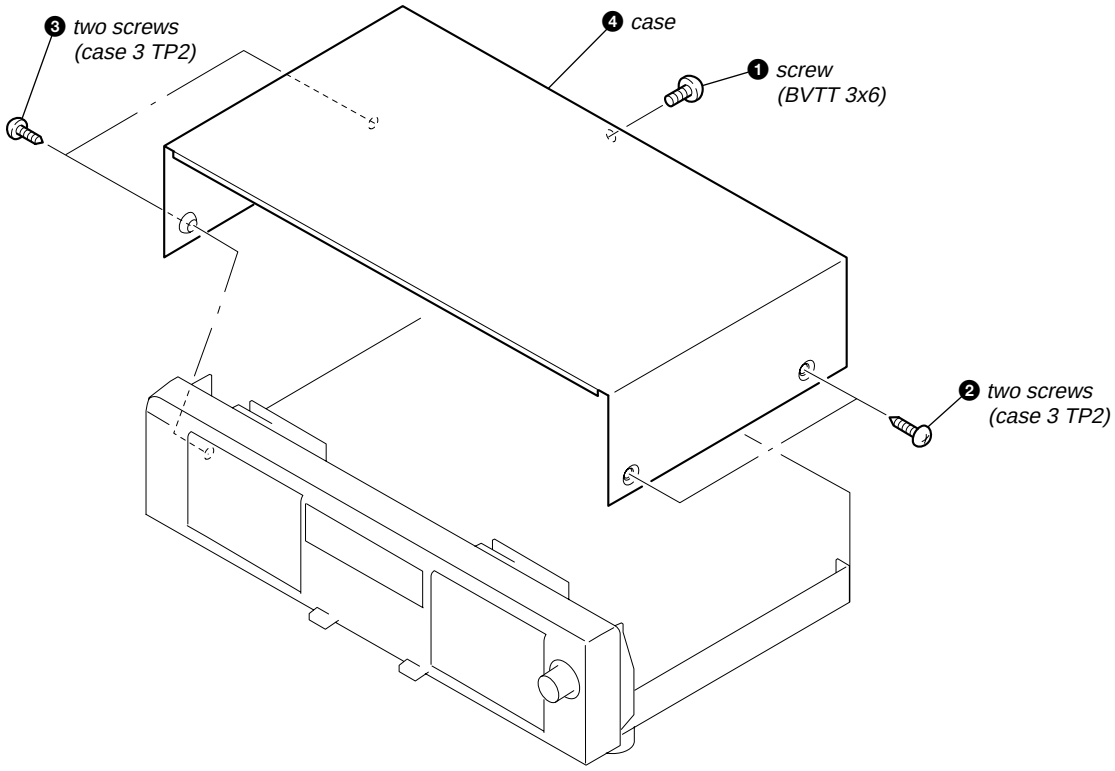
SECTION 2
DISASSEMBLY

• The equipment can be removed using the following procedure.

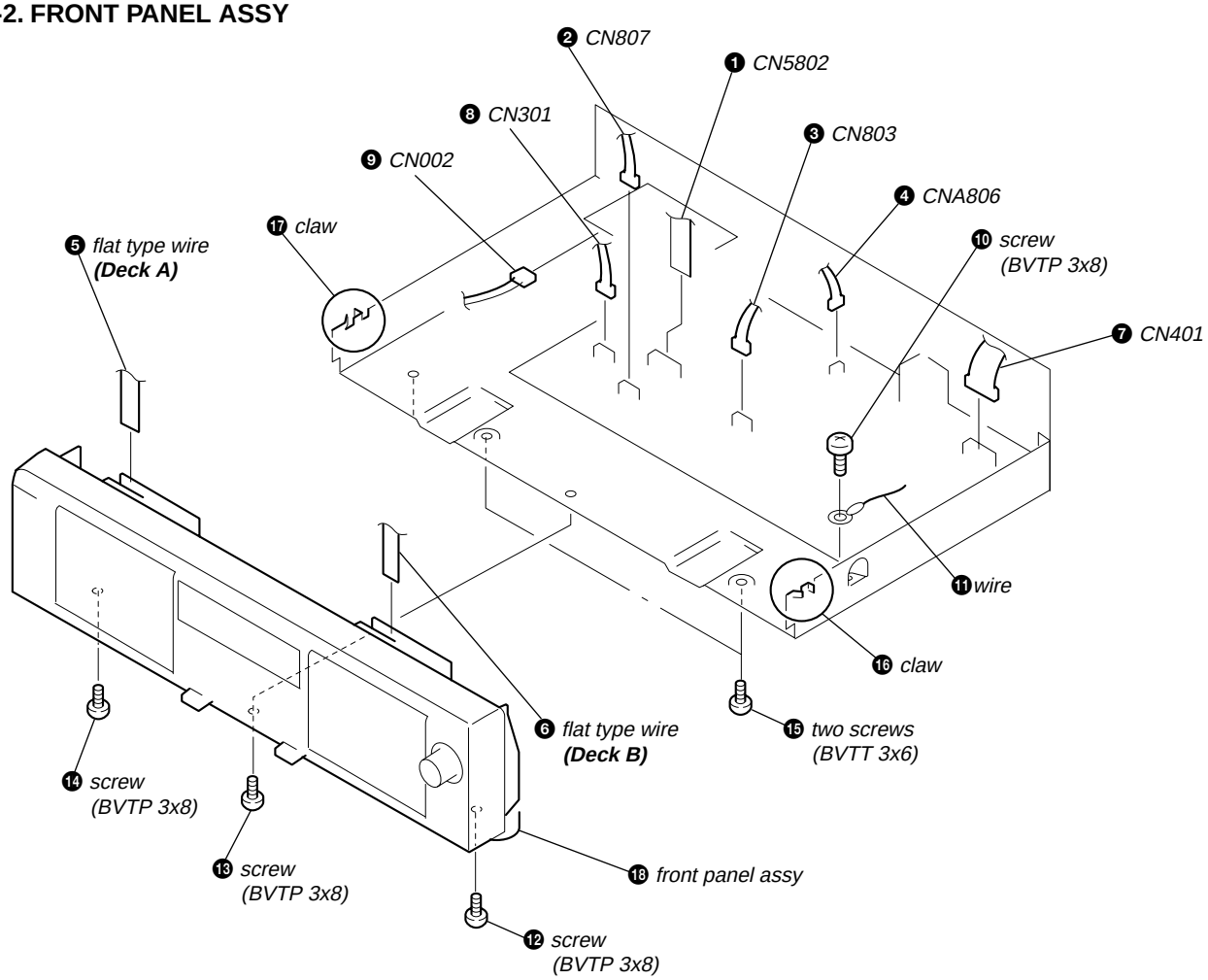
Set ➡ Case ➡ Front Panel Assy ➡ Cassette Lid Assy (Deck A/B) ➡ Mechanism Deck Assy (Deck A/B)

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

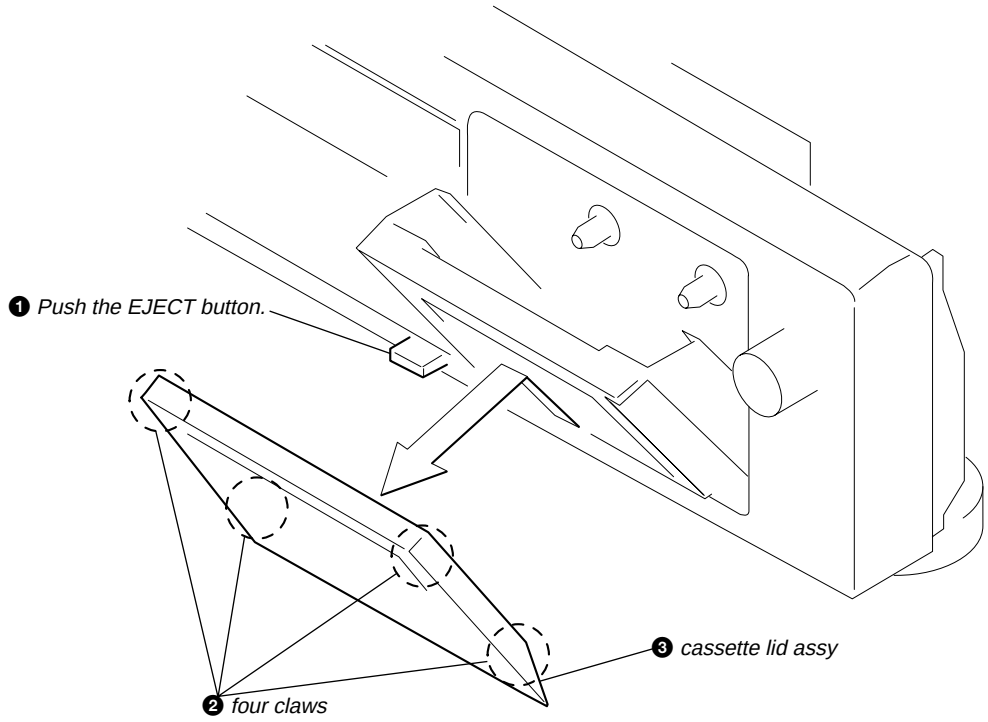
2-1. CASE



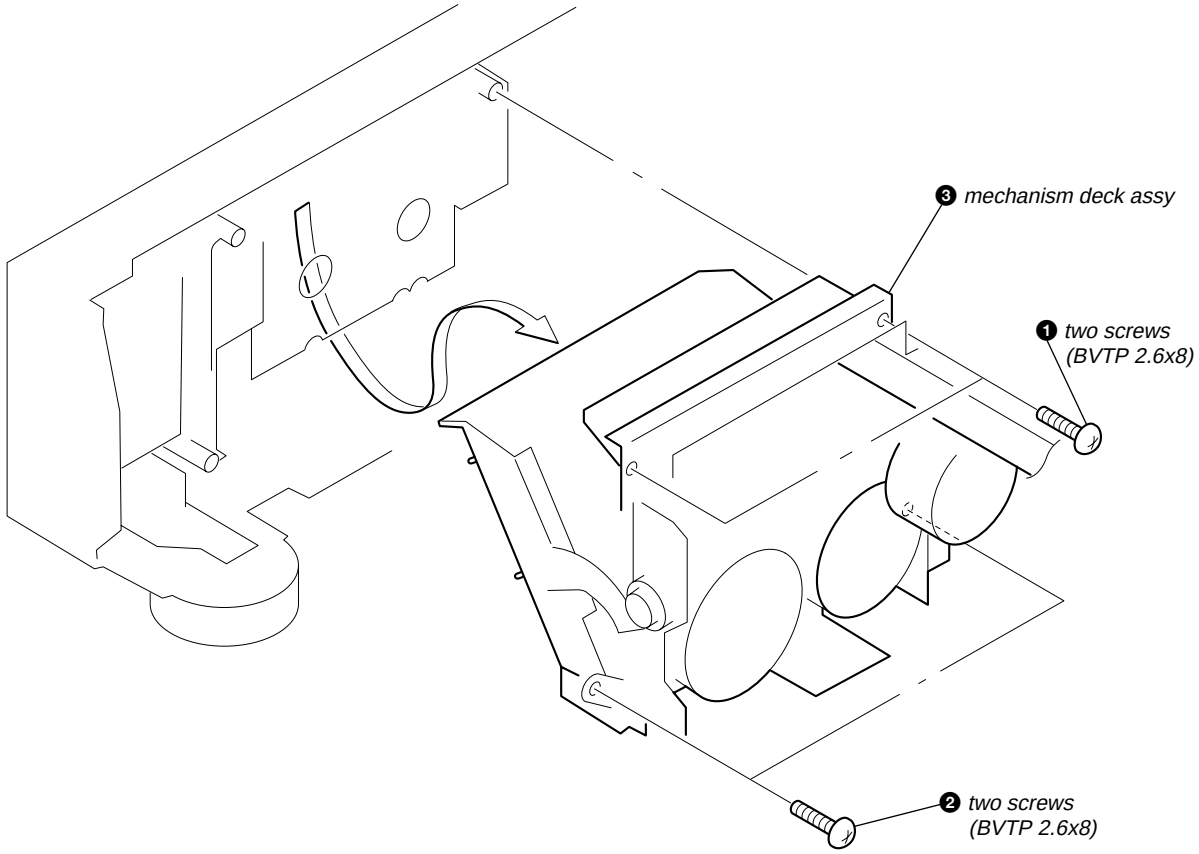
2-2. FRONT PANEL ASSY



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 REC MUTING ○ buttons with the power off, press the POWER 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	
Button	Display
RESET	0
MEMORY	1
◀◀ (AMS)	2
(AMS) ▶▶	3
■	Grid check display (*1)
◁	4
▷	5
DIRECTION MODE switch	
⇄	◁
↻	PLAY
RELAY	▷

B deck side	
Button	Display
RESET	0
MEMORY	1
HIGH/NOMAL	2
◀◀ (AMS)	3
(AMS) ▶▶	4
■	Segment check display (*2)
◁	5
▷	6
PAUSE ▮▮	7
REC MUTING ○	8
REC ●	9
FADER	A
ARL	b
SYNCHRO	All lit
DOLBY NR switch	
OFF	◁
B	PLAY
C	▷

Grit check display (*1)

Segment check display (*2)

SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab :
   record/playback/erase head　　pinch roller
   rubber belts　　capstan
   idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

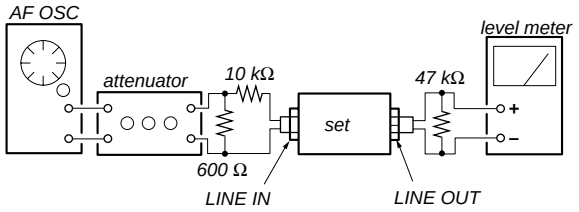
Mode	Torque meter	Meter reading
Forward	CQ-102C	30 to 65 g • cm (0.42 to 0.90 oz • inch)
Forward back tension	CQ-102C	DECK A : 1 to 6 g • cm (0.014 to 0.083 oz • inch) DECK B : 2 to 9 g • cm (0.028 to 0.125 oz • inch)
Reverse	CQ-102RC	30 to 65 g • cm (0.42 to 0.90 oz • inch)
Reverse back tension	CQ-102RC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

1. The adjustment should be performed in the publication.
   (Be sure to male playback adjustment at first.)
2. The adjustments and measurement should be performed for both L-CH and R-CH.
   • Switch position
   DOLBY NR switch : OFF
   DIRECTION MODE switch : ⇄
   • 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

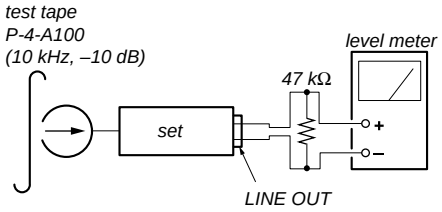
1. While pressing the [▷ (DECK A)] and [REC MUTING ⏺] buttons with the power off, press the [⏻] button to turn on the power. The fluorescent display tube lights up for about one second, and the test mode is set. The test mode performs the following two special functions.
   • Playback speed switching 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 rewound with the [◀◀ (AMS)] button after recording, stops at the point where recording started.
2. To release the test mode, turn OFF the power switch.

Record/Playback Head Azimuth Adjustment

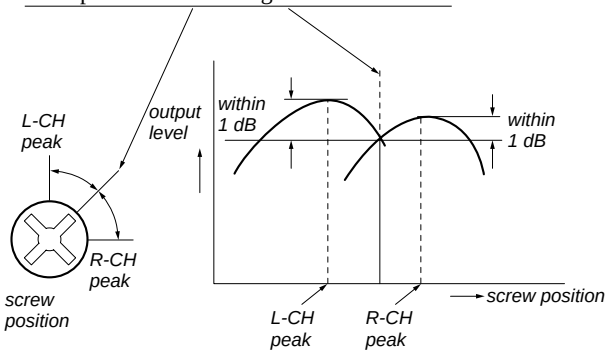
DECK A DECK B

Procedure:

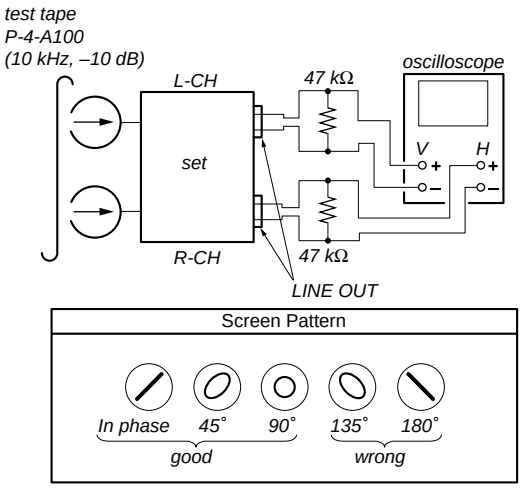
1. Forward Playback Mode



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.

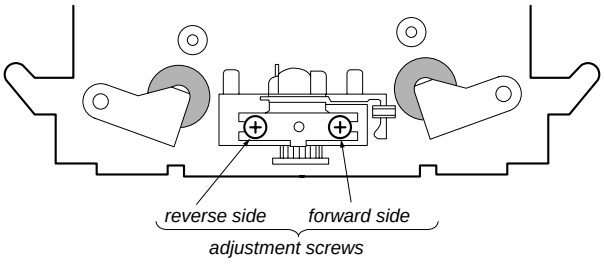


3. Playback Mode



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 –

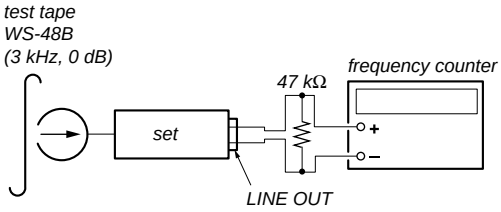


Tape speed Adjustment DECK A DECK B

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 ± 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 ± 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 ± 90 Hz.

Adjustment Location: MAIN board (See page 14.)

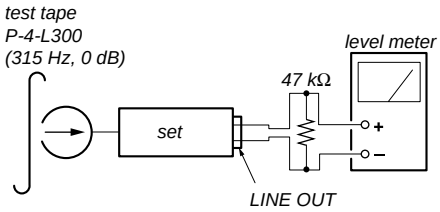
Sample value of wow and flutter

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 dBs ± 0.5 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.

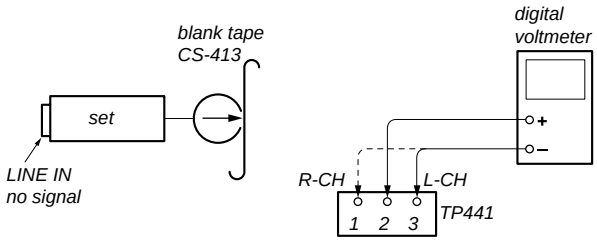
Adjustment Location: MAIN board (See page 14.)

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.

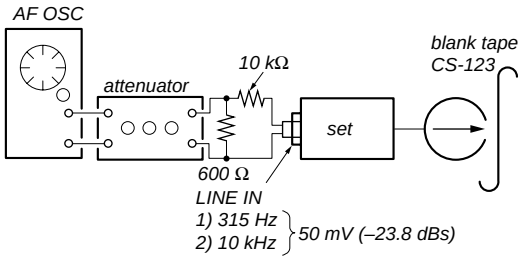
Adjustment Value: Maximum 220 mV

Adjustment Location: MAIN board (See page 14.)

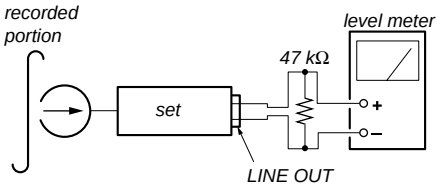
Record Bias Adjustment DECK B

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 selevels do not adjustment level, adjust the RV141 (L-CH) and RV241 (R-CH) to repeat steps 3 and 4.

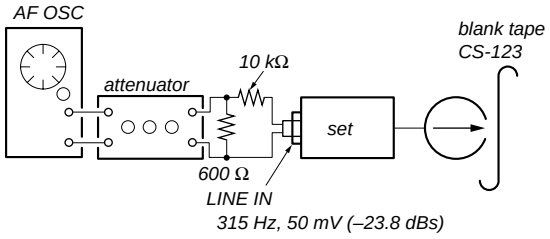
Adjustment level:
The palyback output of 10 kHz level difference against 315 Hz reference should be ± 0.5 dB.

Adjustment Location: MAIN board (See page 14.)

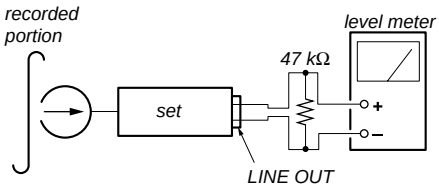
Record Level Adjustment DECK B

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

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



4. Playback Mode



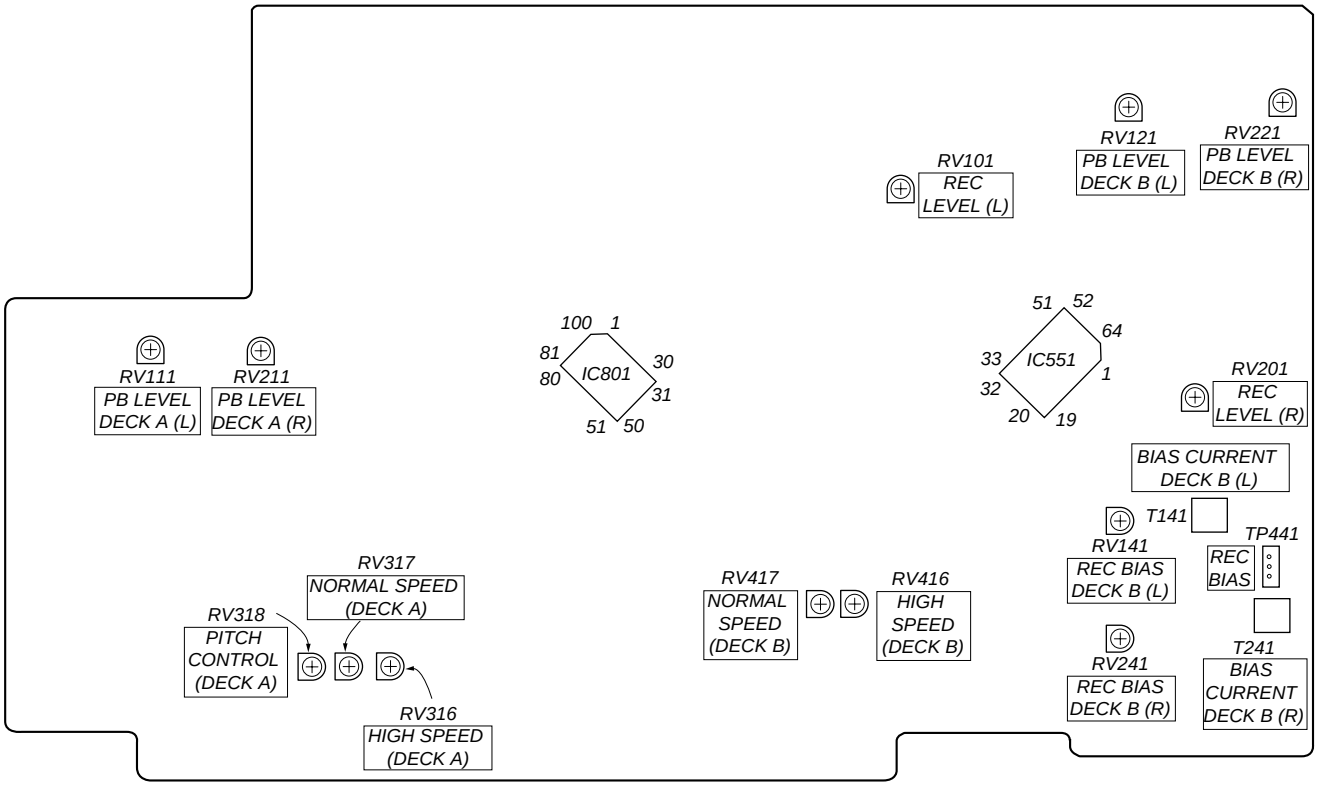
5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If the selevels do not adjustment level, adjust the RV101 (L-CH) and RV201 (R-CH) to repeat steps 3 and 4.

Adjustment Value:
LINE OUT level : –23.8 dBs ± 0.5 dB (47.2 to 53.0 mV)

Adjustment Location: MAIN board (See page 14.)

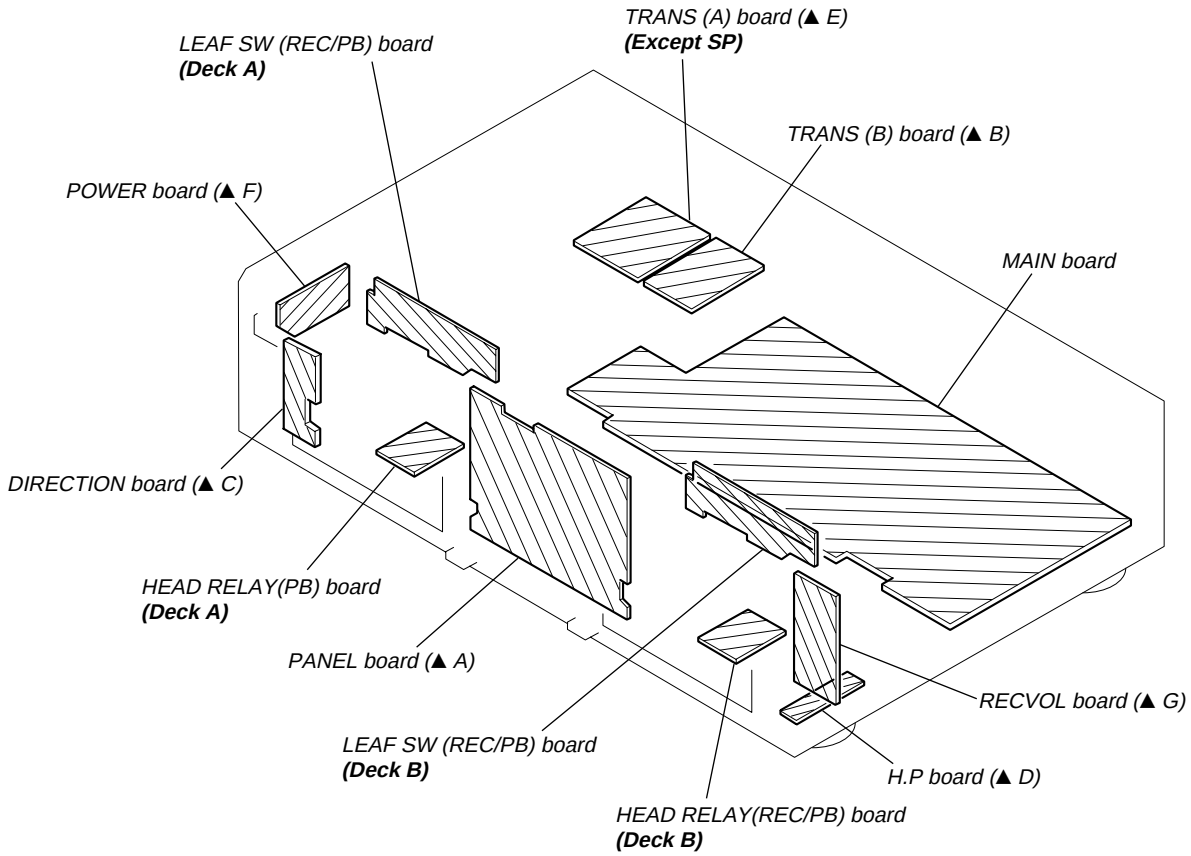
Adjustment Location: main board

[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: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : fusible resistor.
- : panel designation.

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

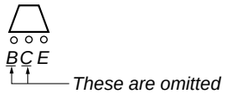
- : B+ Line.
- : B– Line.
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : STOP
  ( ) : REC
  < > : PB
  ✻ : Can not be measured.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production 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.

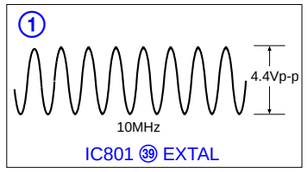
Note:

- : 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) –

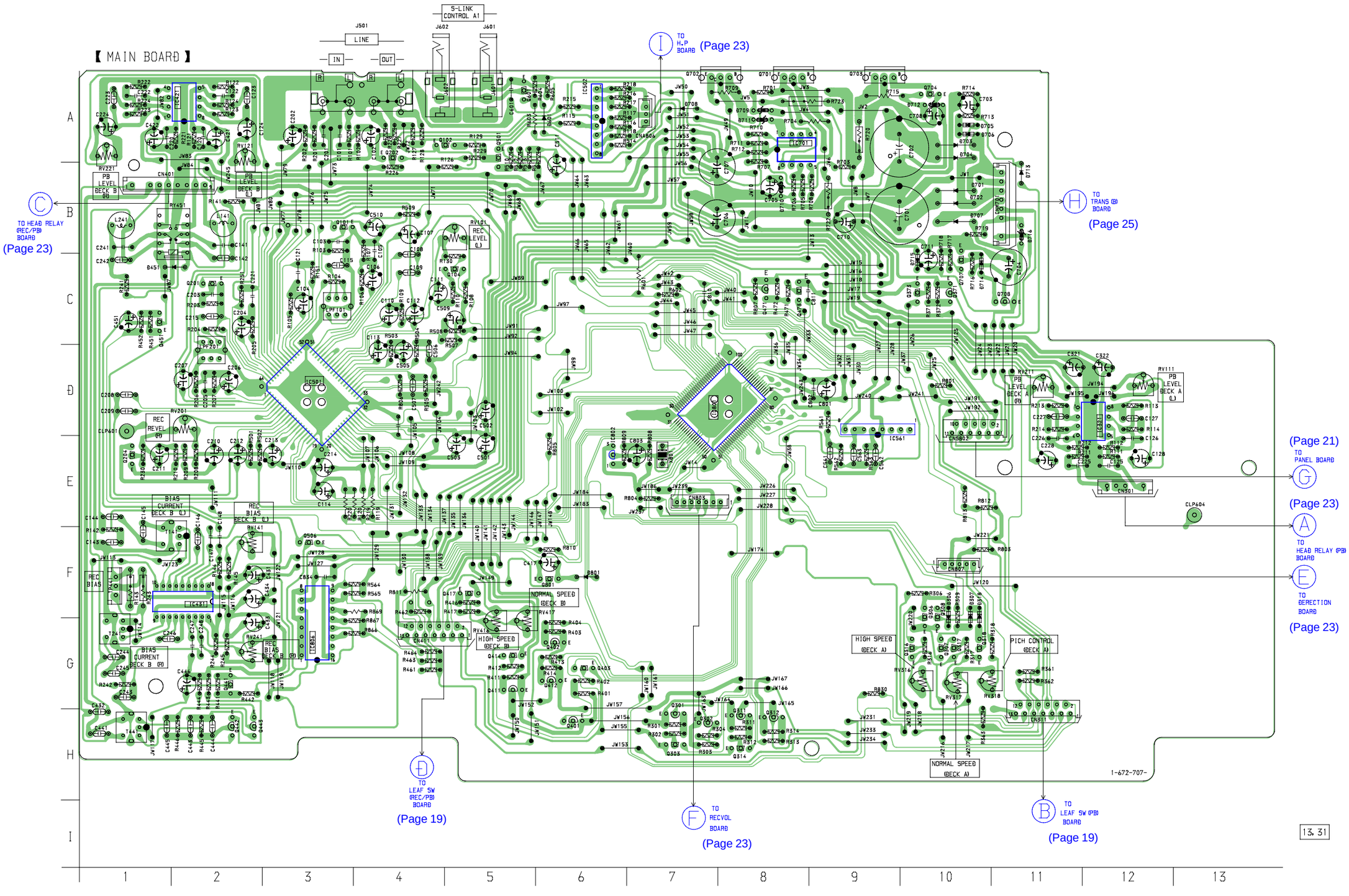


6-2. PRINTED WIRING BOARD – MAIN SECTION –

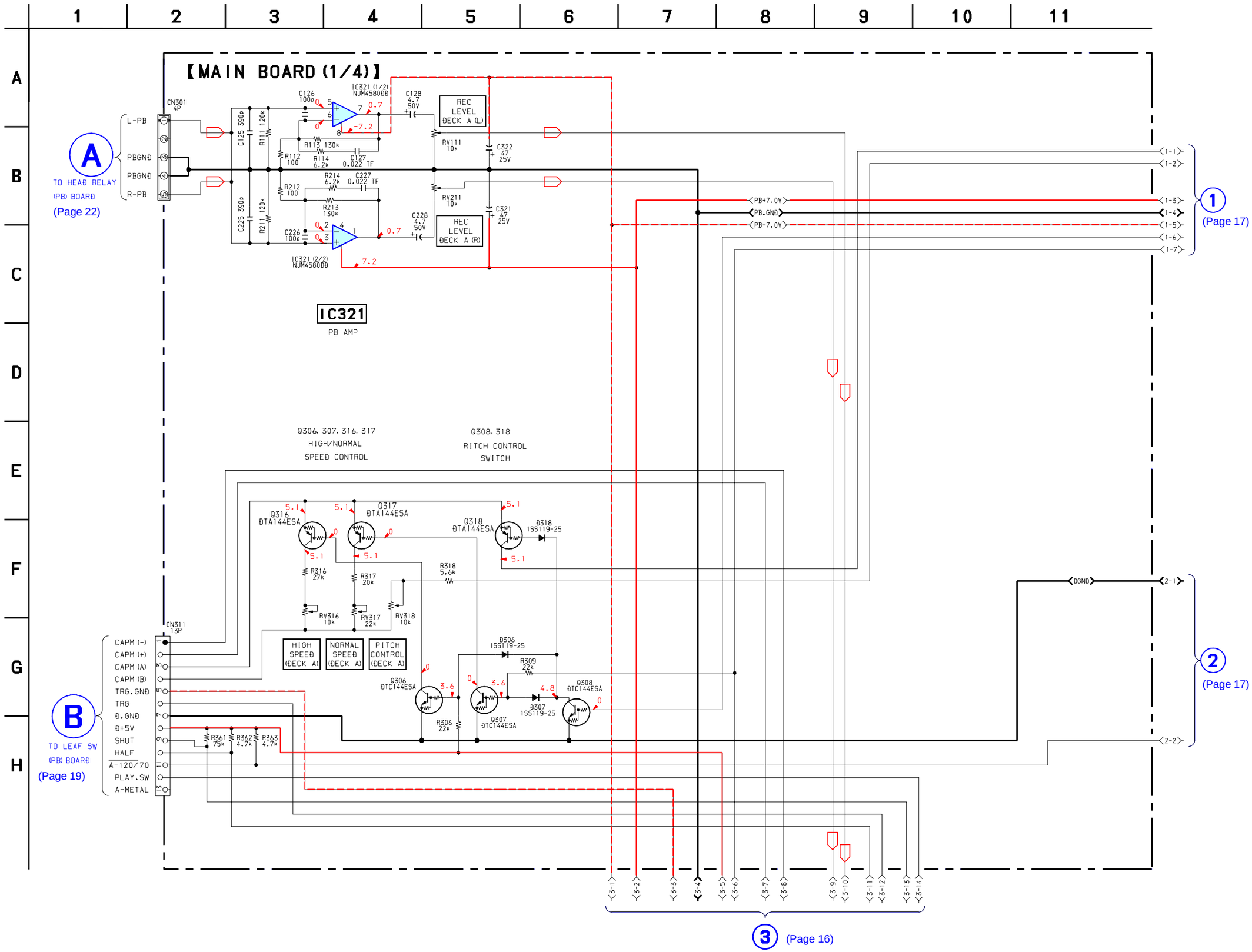
• See page 12 for Circuit Boards Location.

• **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

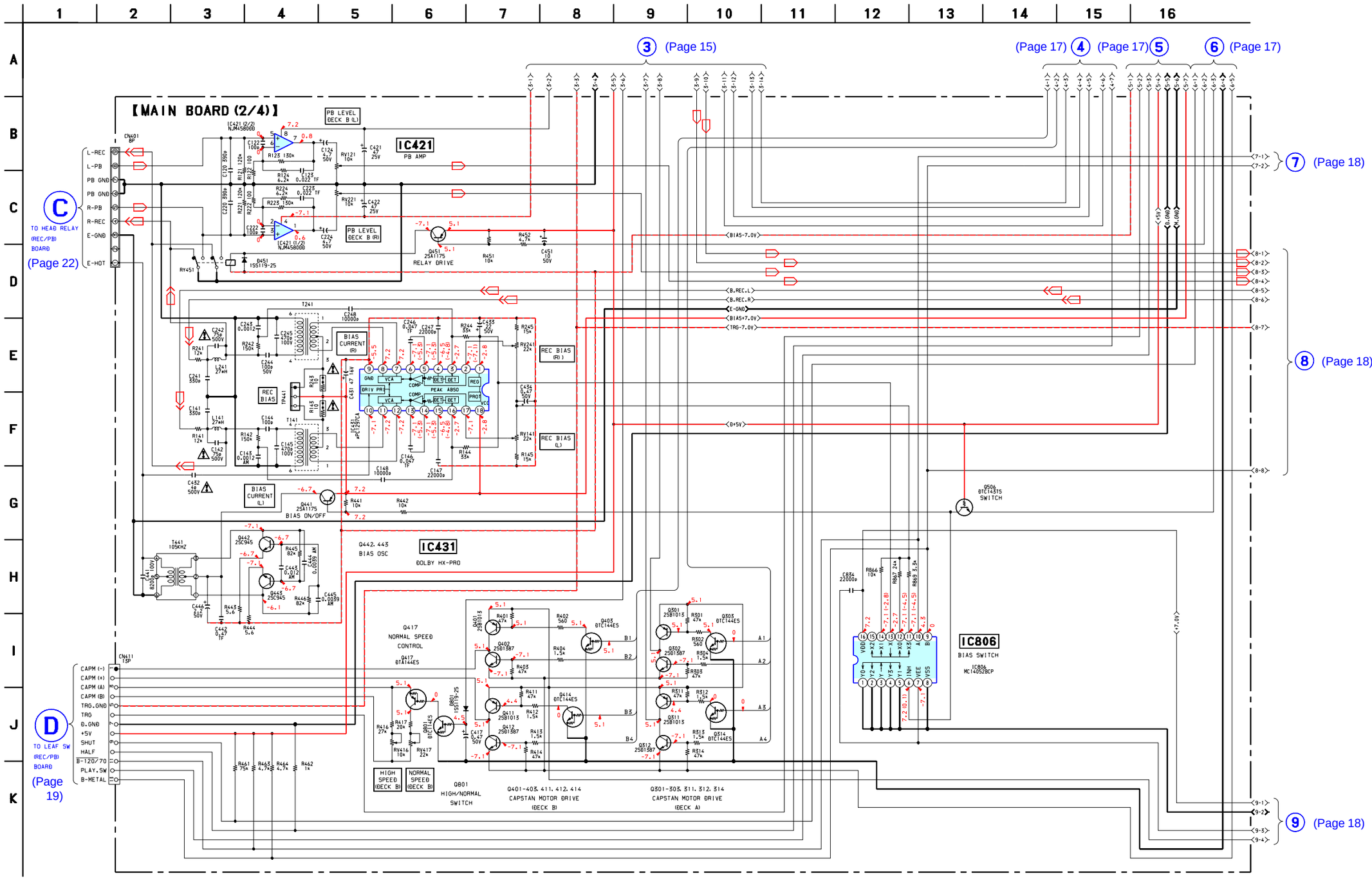


6-3. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –



6-4. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

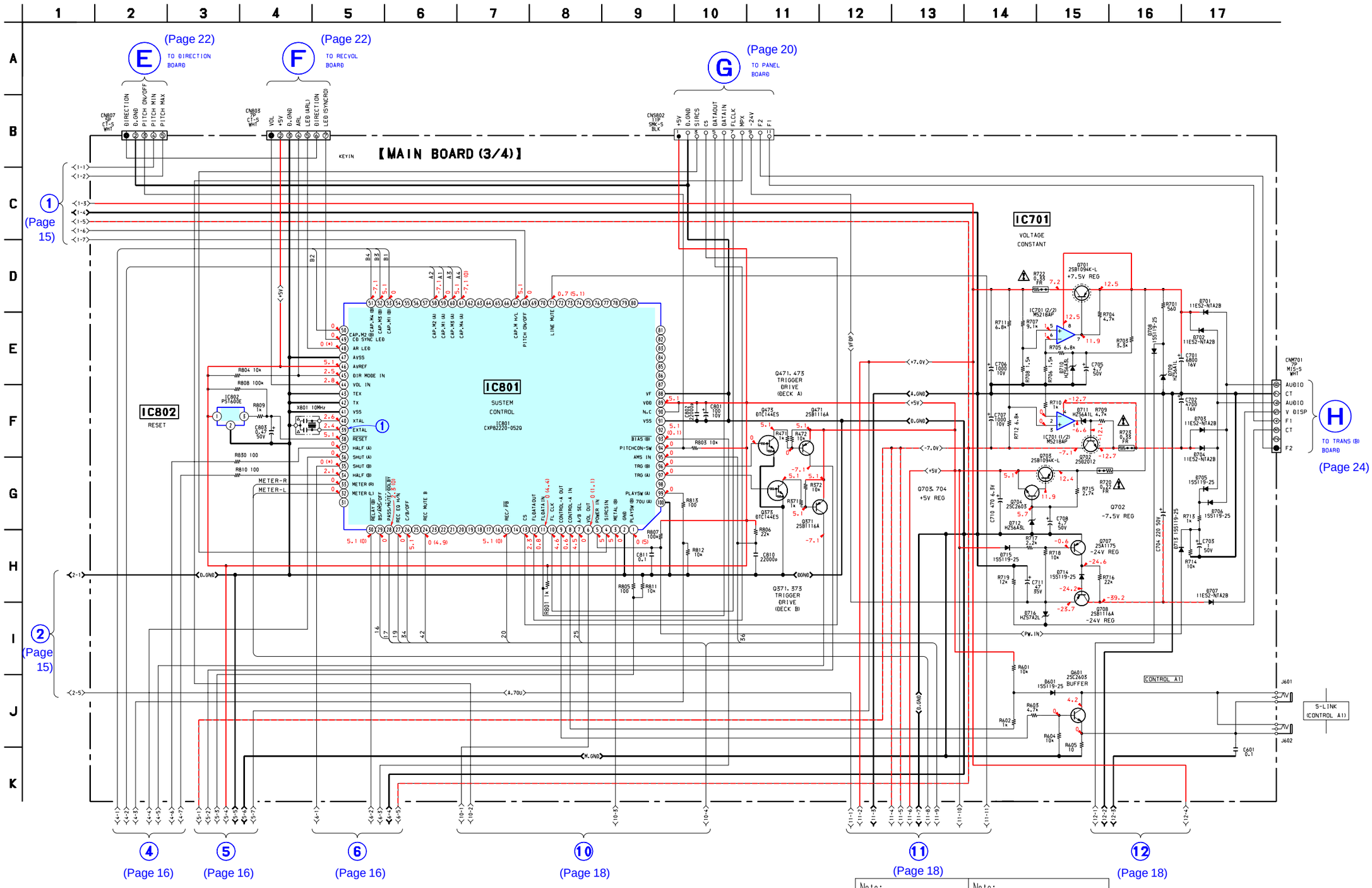
• See page 14 for Printed Wiring Board.



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

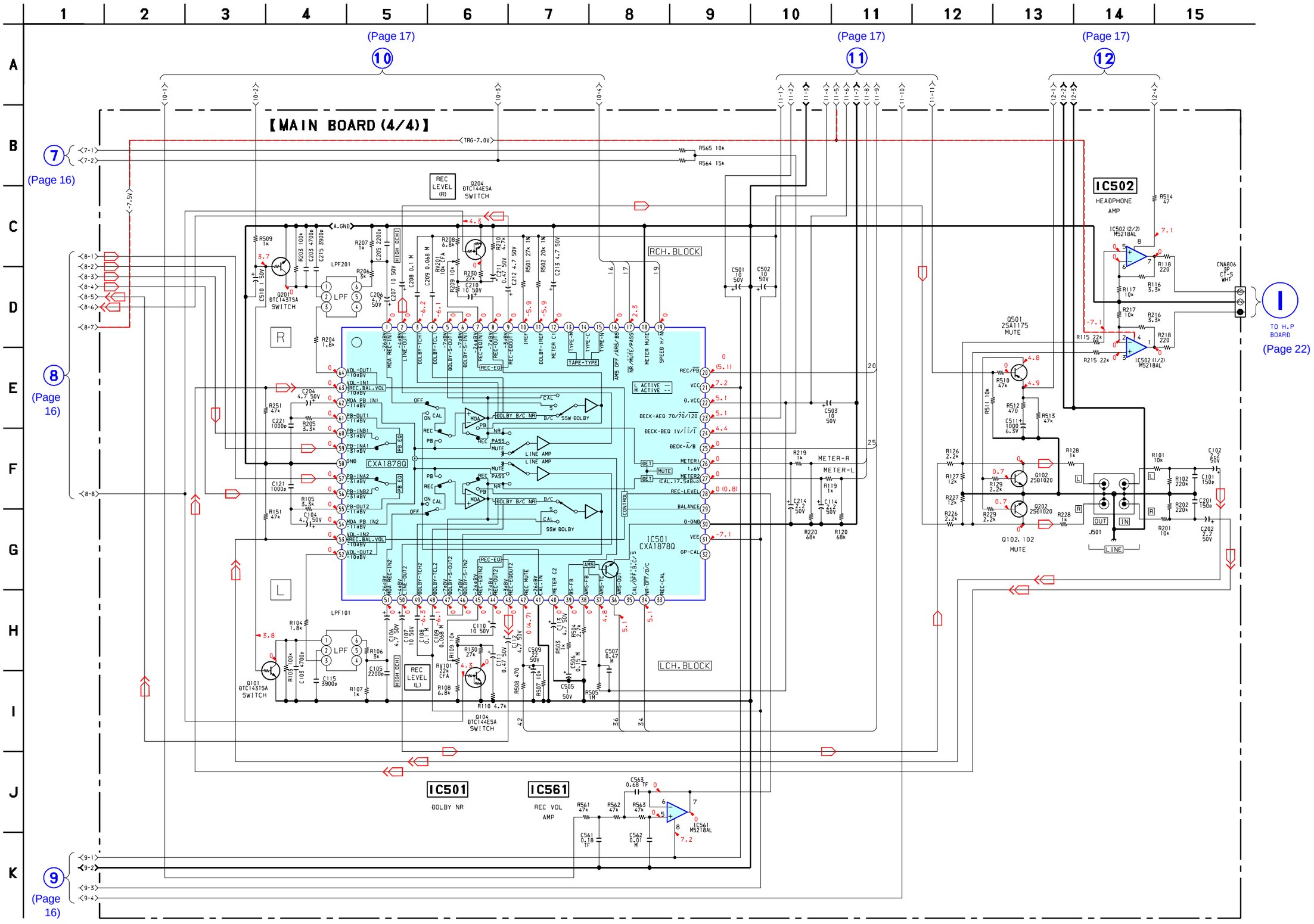
6-5. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

- **See page 13 for Waveforms.**
- **See page 14 for Printed Wiring Board.**
- **See page 26 for IC Pin Functions.**



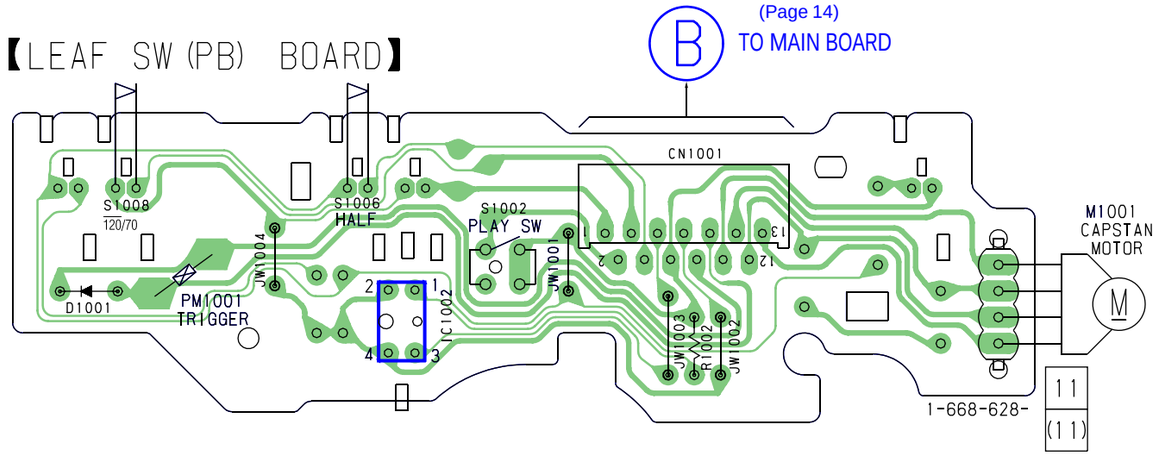
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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



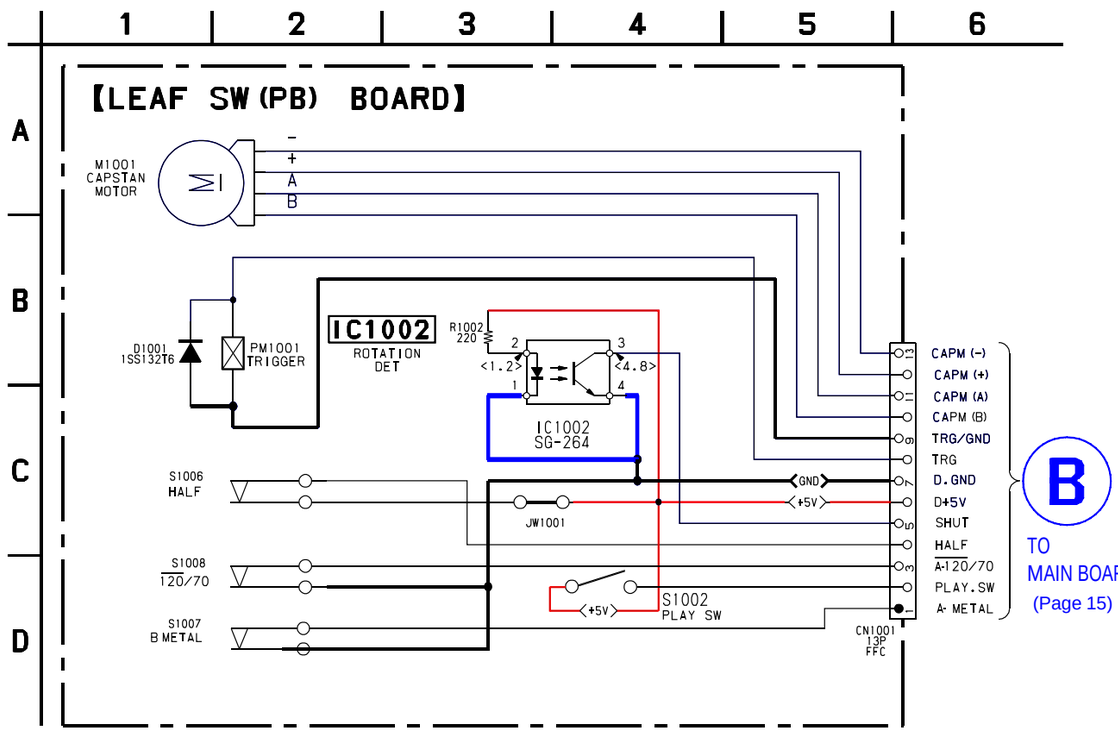
6-7. PRINTED WIRING BOARD – DECK A SECTION –

• See page 12 for Circuit Boards Location.



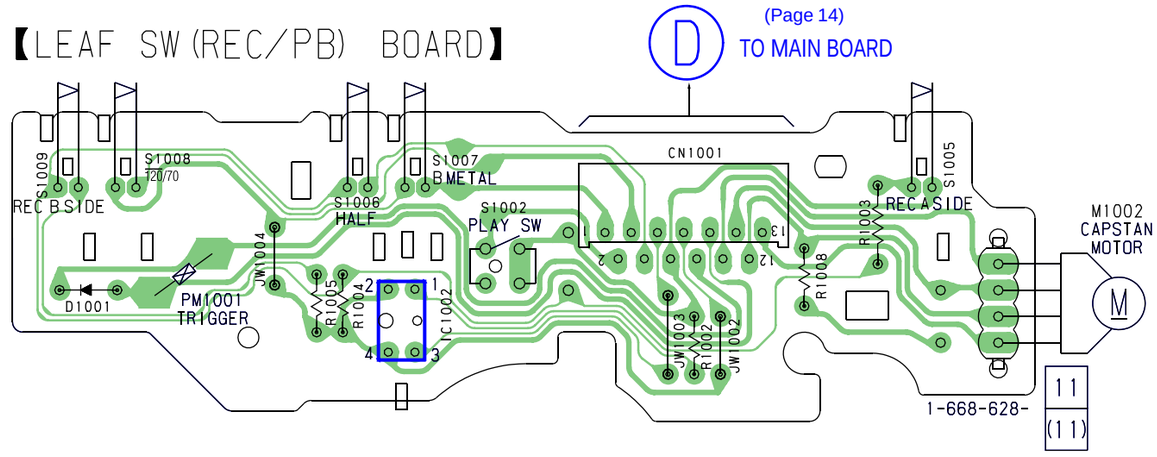
* PLUNGER SOLENOID is supplied as the Mechanism Deck (TCM-230ASR41A : A-2100-941-A).

6-8. SCHEMATIC DIAGRAM – DECK A SECTION –



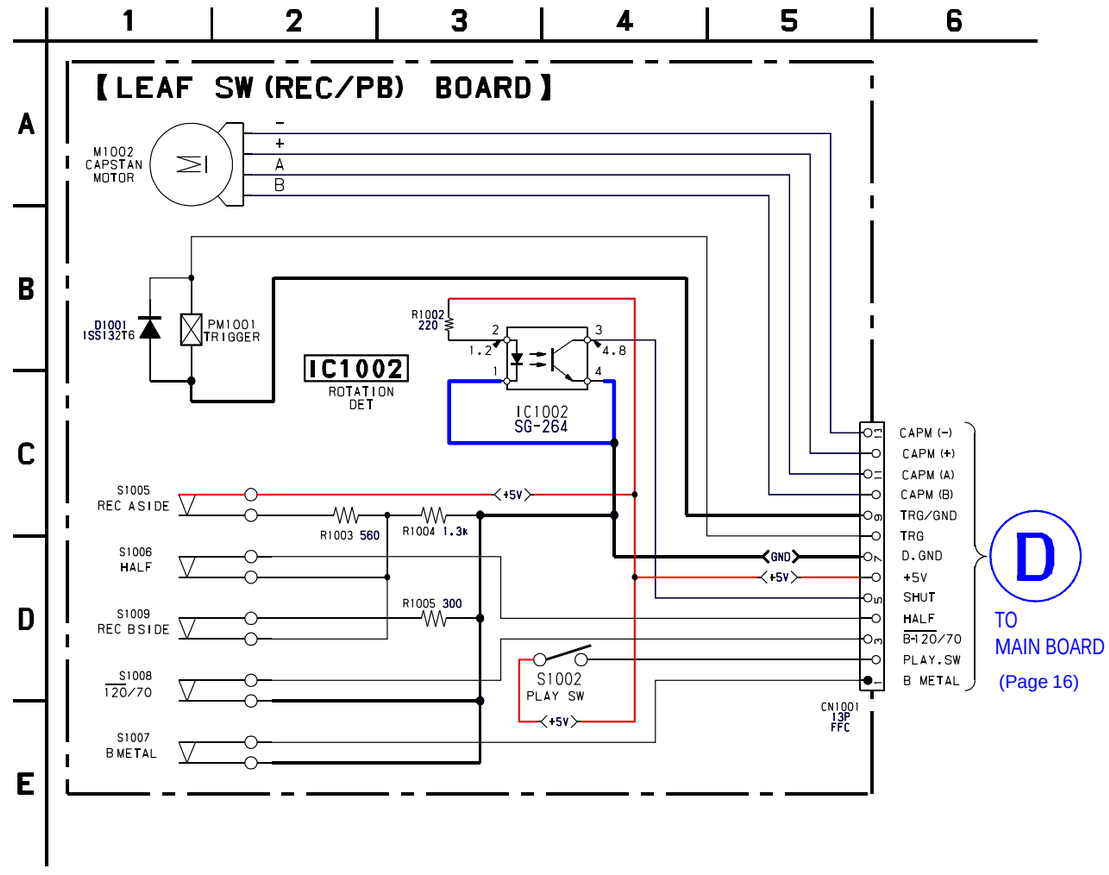
6-9. PRINTED WIRING BOARD – DECK B SECTION –

• See page 12 for Circuit Boards Location.

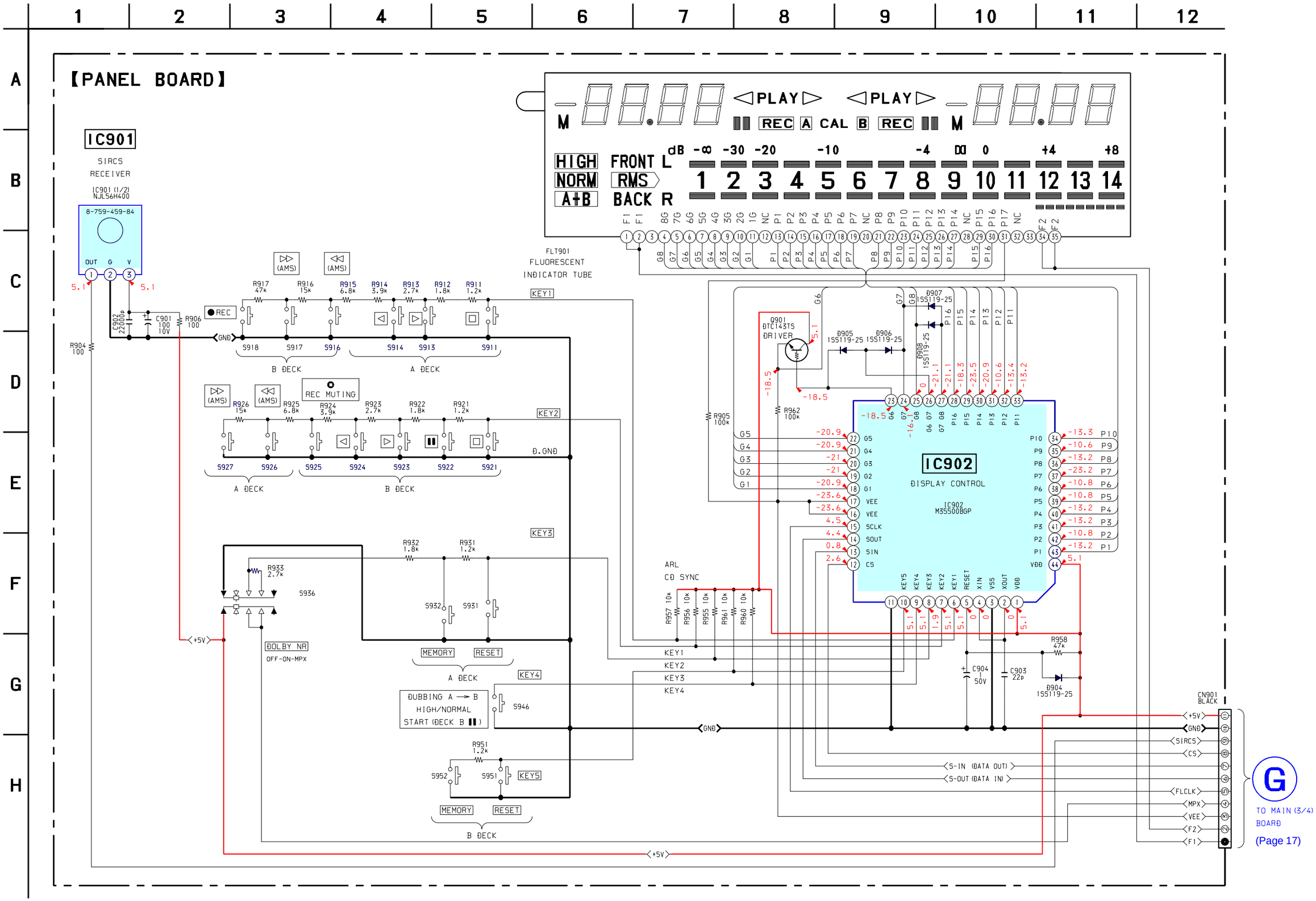


* PLUNGER SOLENOID is supplied as the Mechanism Deck (TCM-230ASR41B : A-2100-942-A).

6-10. SCHEMATIC DIAGRAM – DECK B SECTION –

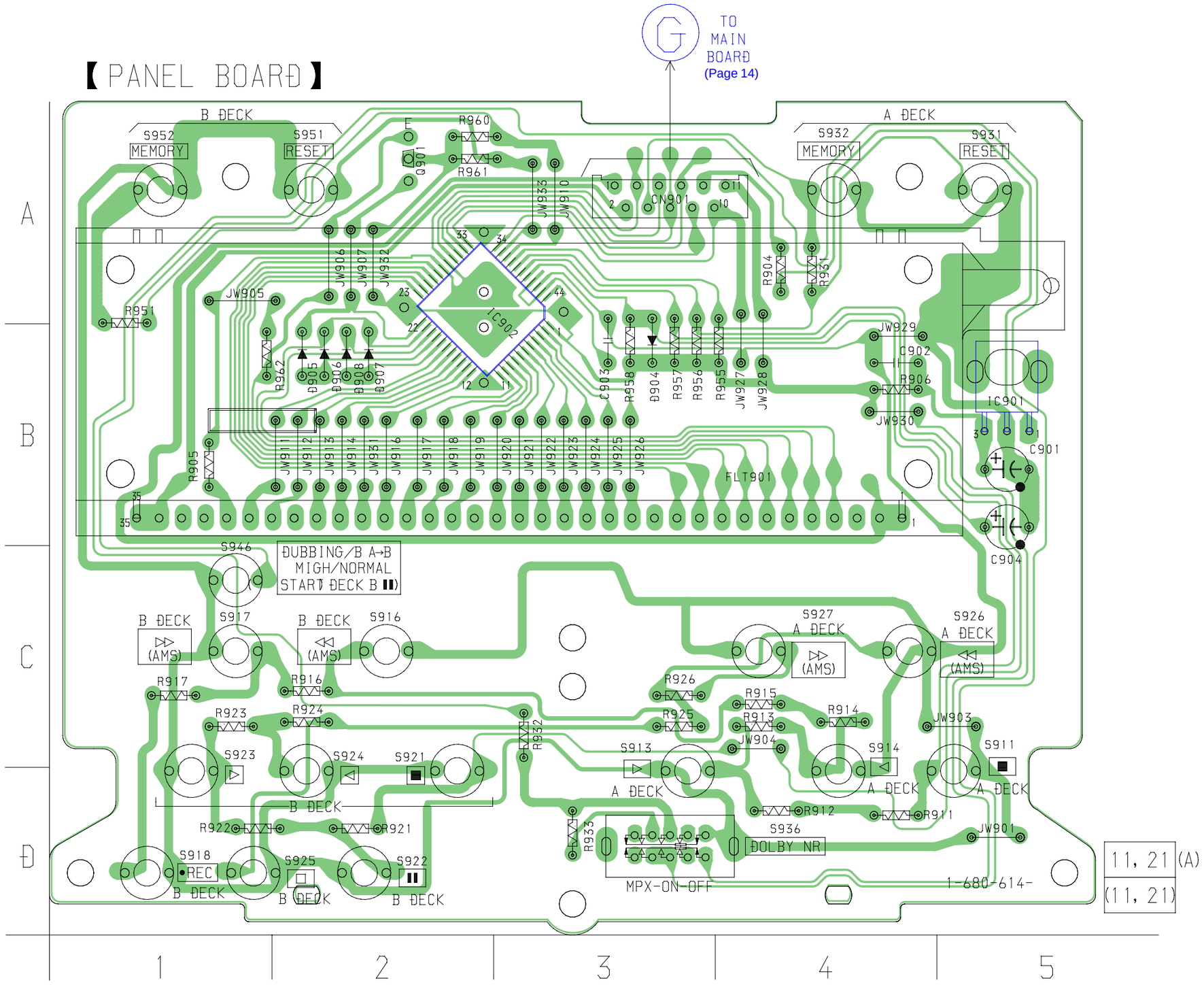


6-11. SCHEMATIC DIAGRAM – DISPLAY SECTION –



6-12. PRINTED WIRING BOARD – DISPLAY SECTION –

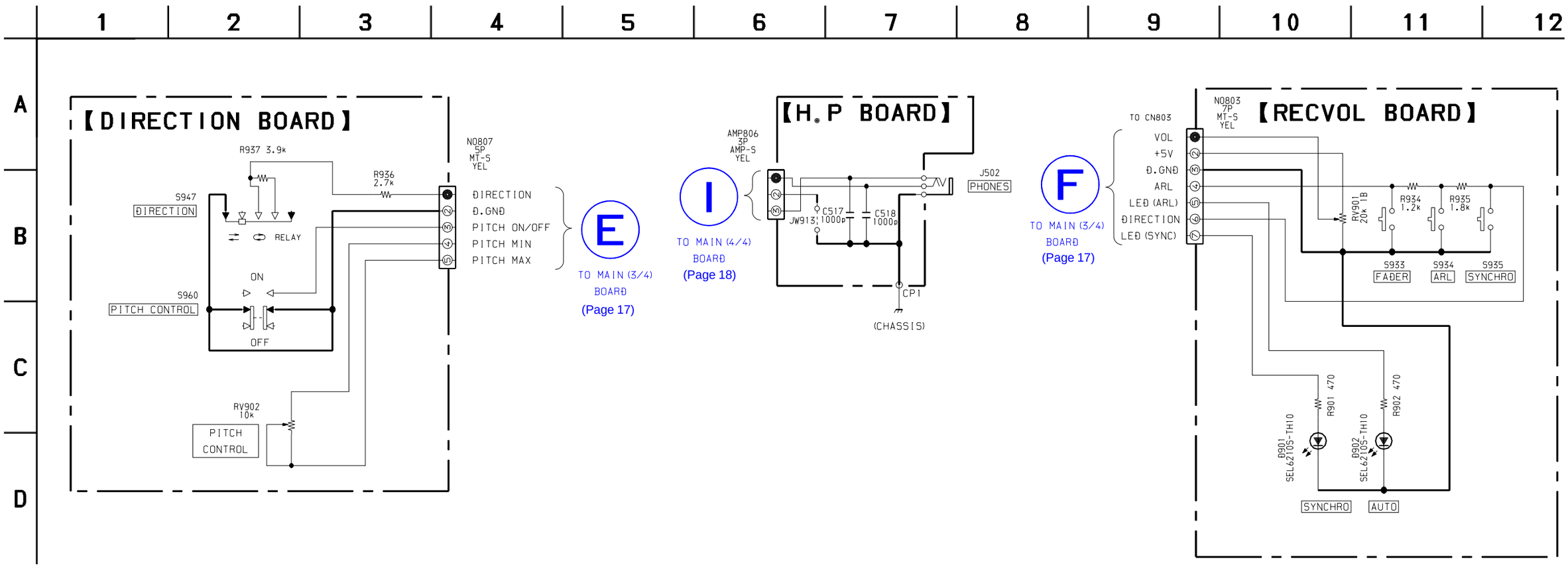
• See page 12 for Circuit Boards Location.

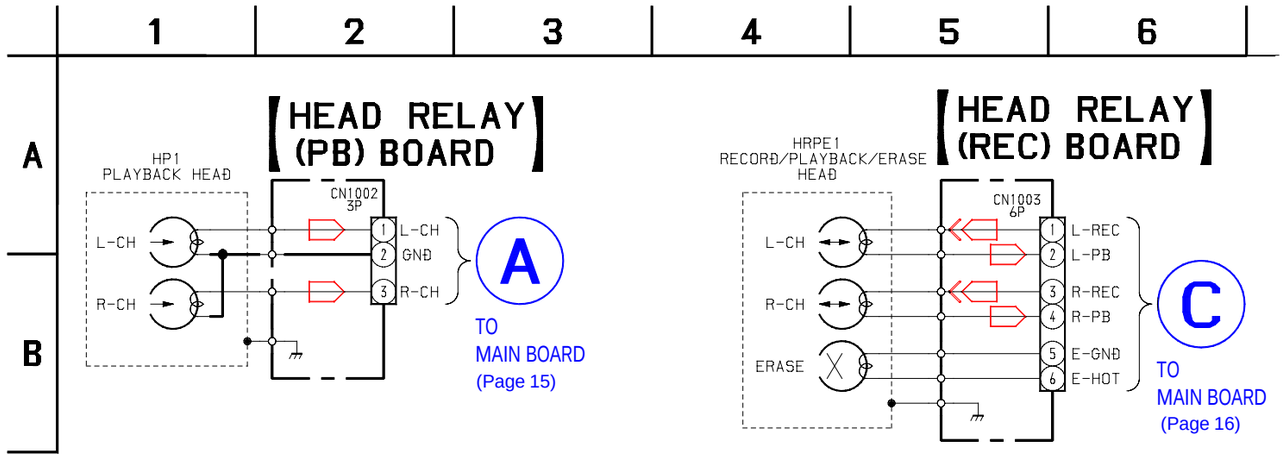


- **Semiconductor Location**

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 –

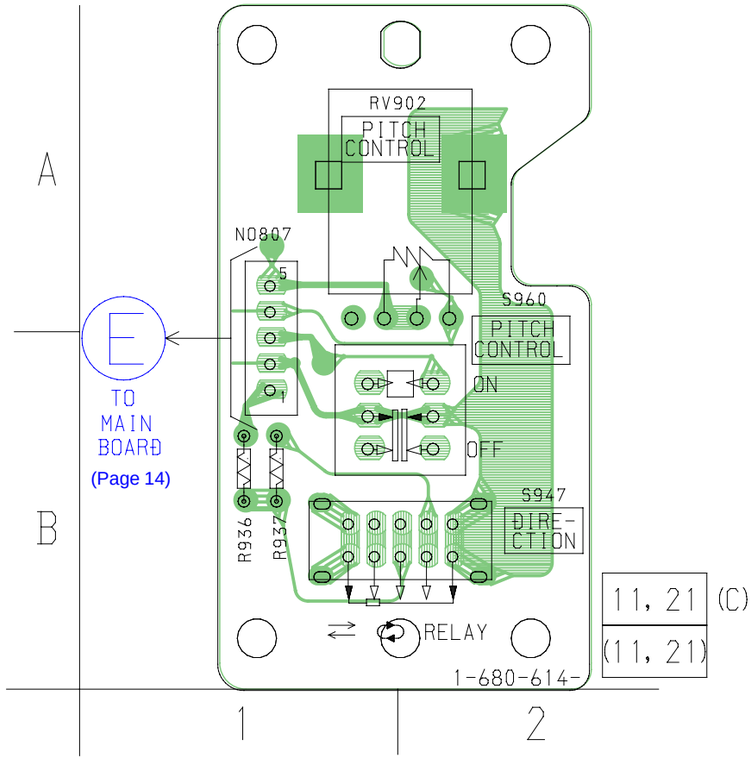




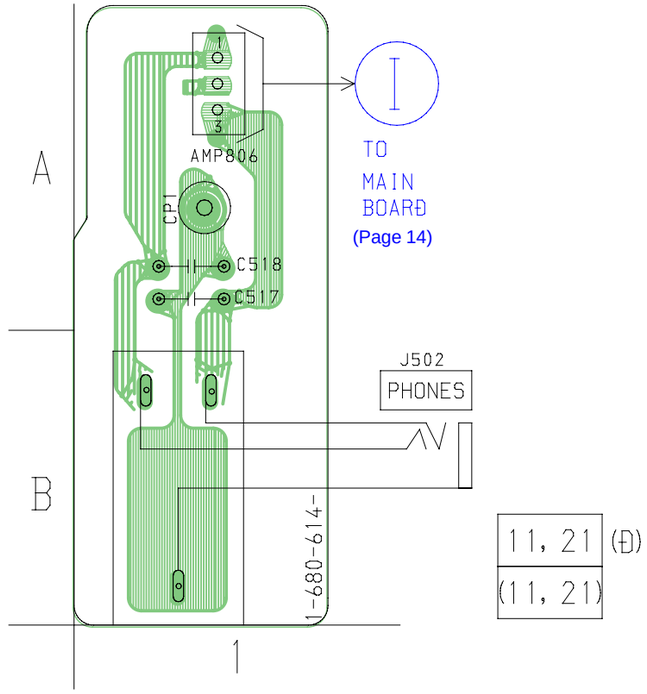
6-14. PRINTED WIRING BOARD – PANEL SECTION –

• See page 12 for Circuit Boards Location.

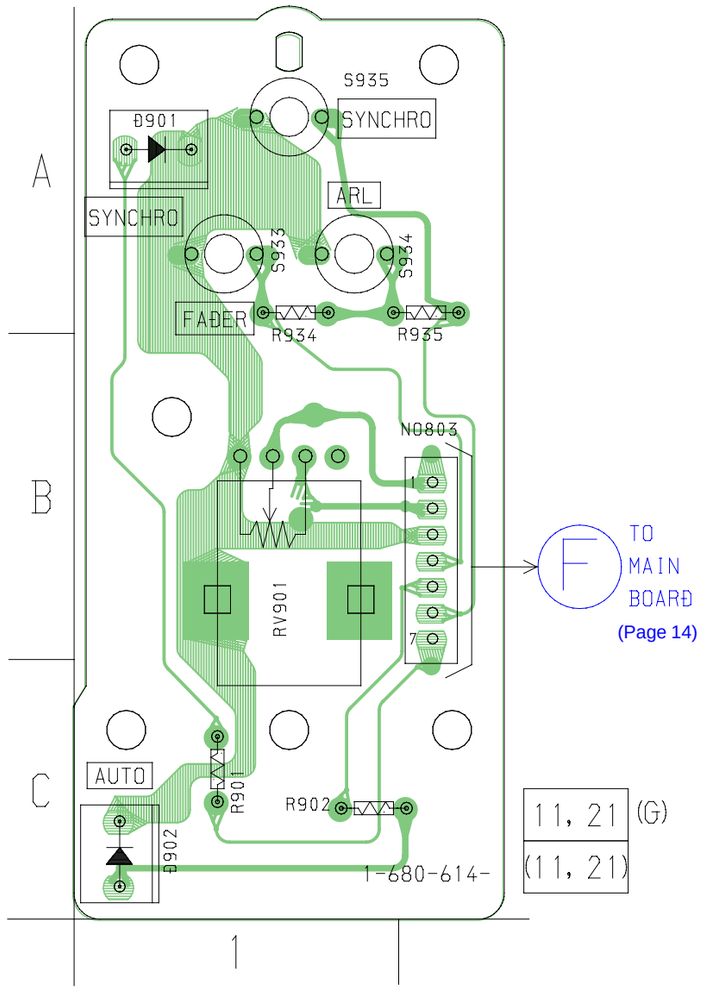
【DIRECTION BOARD】



【H.P BOARD】

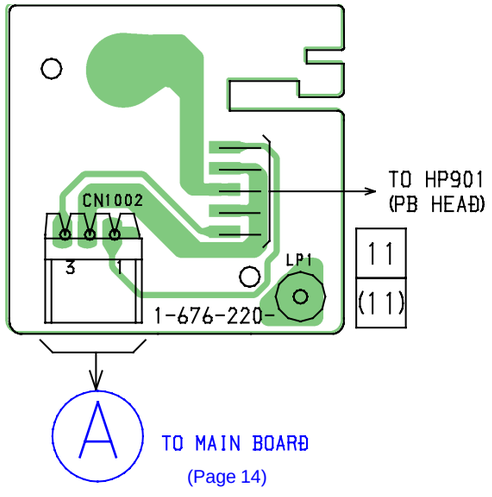


【RECVOL BOARD】

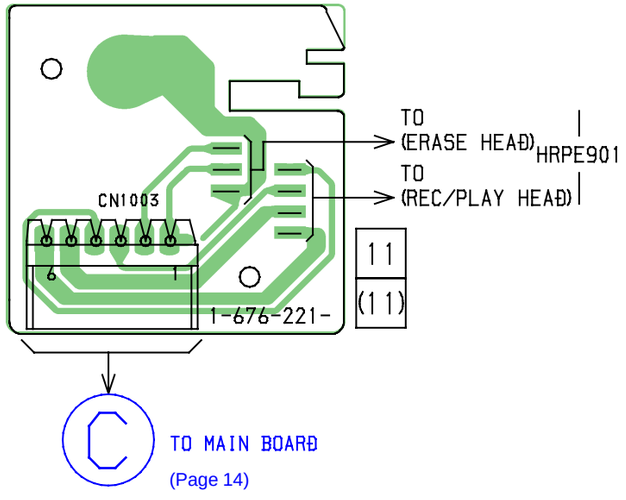


	1	2	3	4

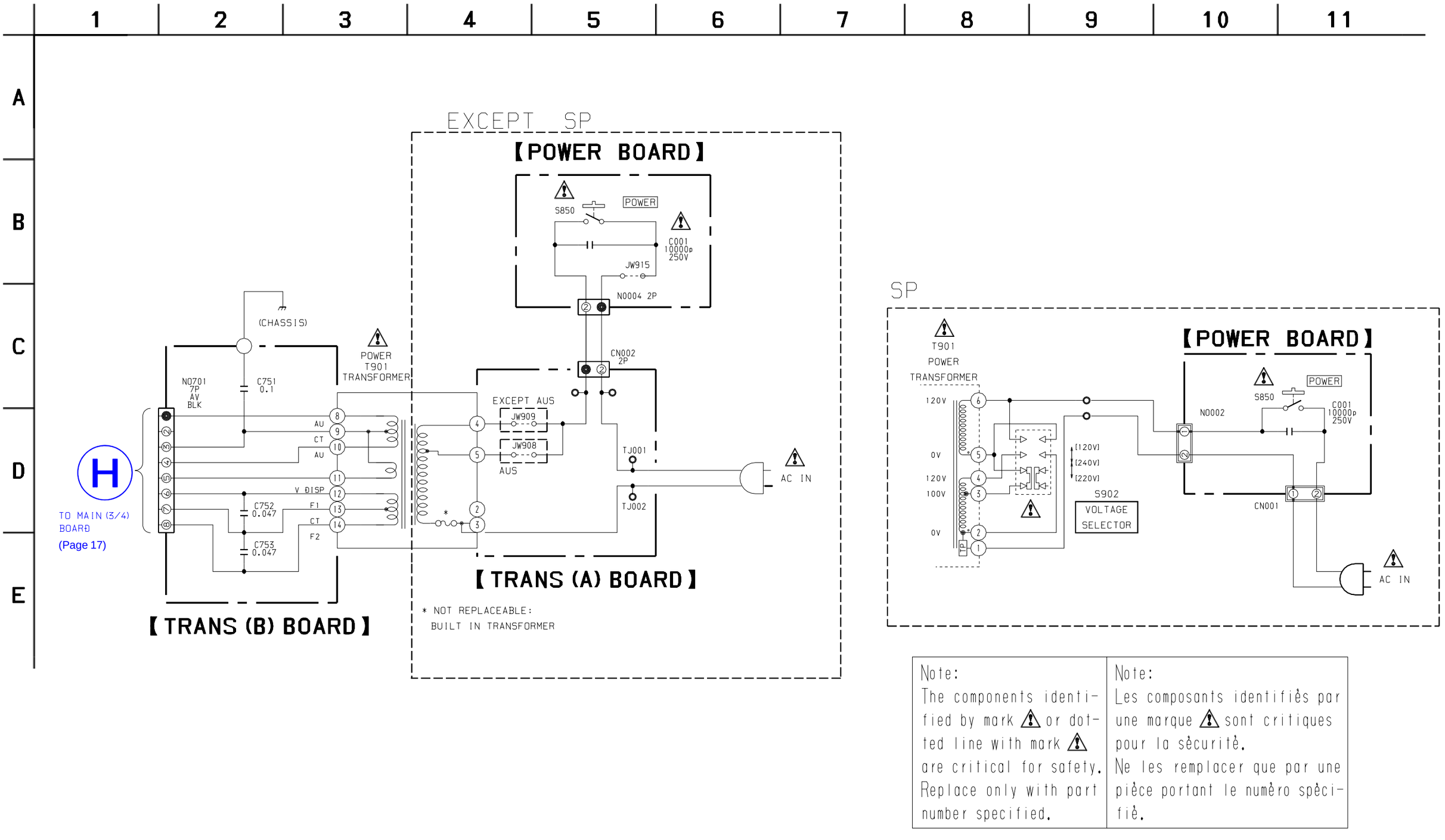
【HEAD RELAY (REC/PB) BOARD】



【HEAD RELAY (PB) BOARD】



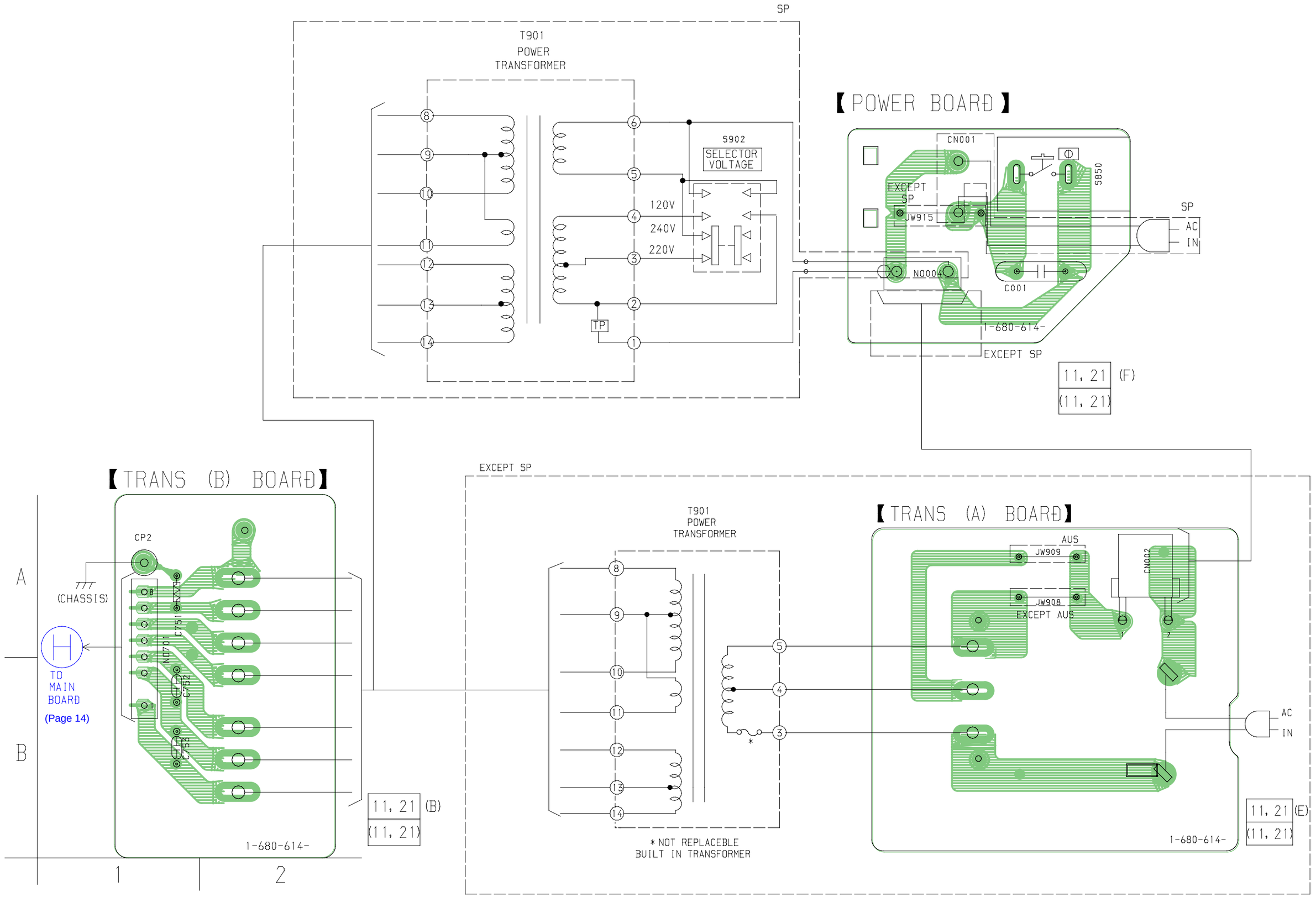
6-15. SCHEMATIC DIAGRAM – POWER SECTION –



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

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 /$\overline{\text{PB}}$	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/$\overline{\text{DOLBY}}$	O	Audio selector “H”: Pass , “Open”: Mute,“L”: Recording
29	BS/AMS/OFF	O	AMS amp selector “H”: BS, “Open”: AMS, “L”: OFF
30	$\overline{\text{RELAY (B)}}$	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	$\overline{\text{RESET}}$	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	
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	$\overline{\text{BIAS (B)}}$	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

26

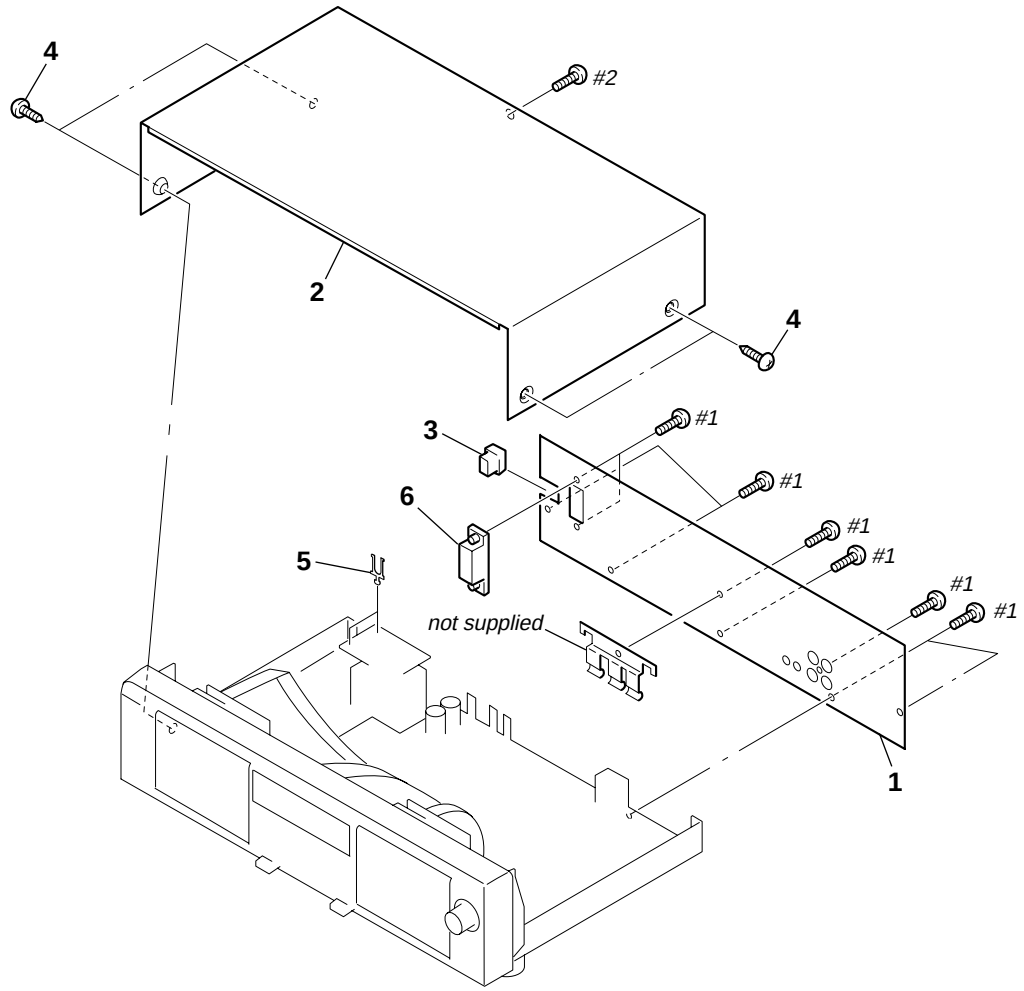
SECTION 7
EXPLODED VIEWS

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:
  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 piéce portant le numéro spécifié.

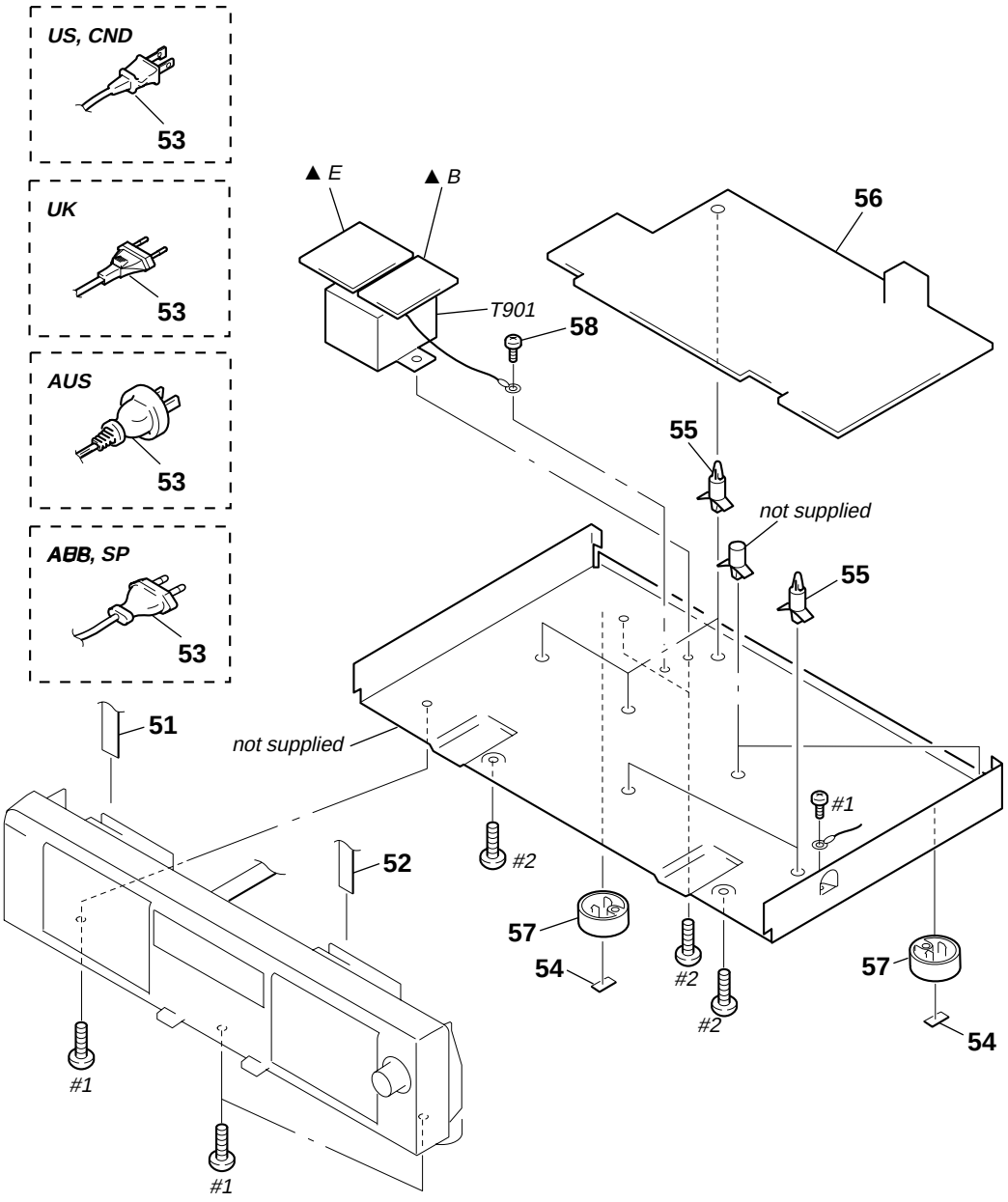
7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	4-232-514-01	PANEL, BACK (US)	
1	4-232-514-11	PANEL, BACK (CND)	
1	4-232-514-21	PANEL, BACK (AEP)	
1	4-232-514-31	PANEL, BACK (UK)	
1	4-232-514-41	PANEL, BACK (SP)	
1	4-232-514-51	PANEL, BACK (AUS)	

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

7-2. CHASSIS SECTION

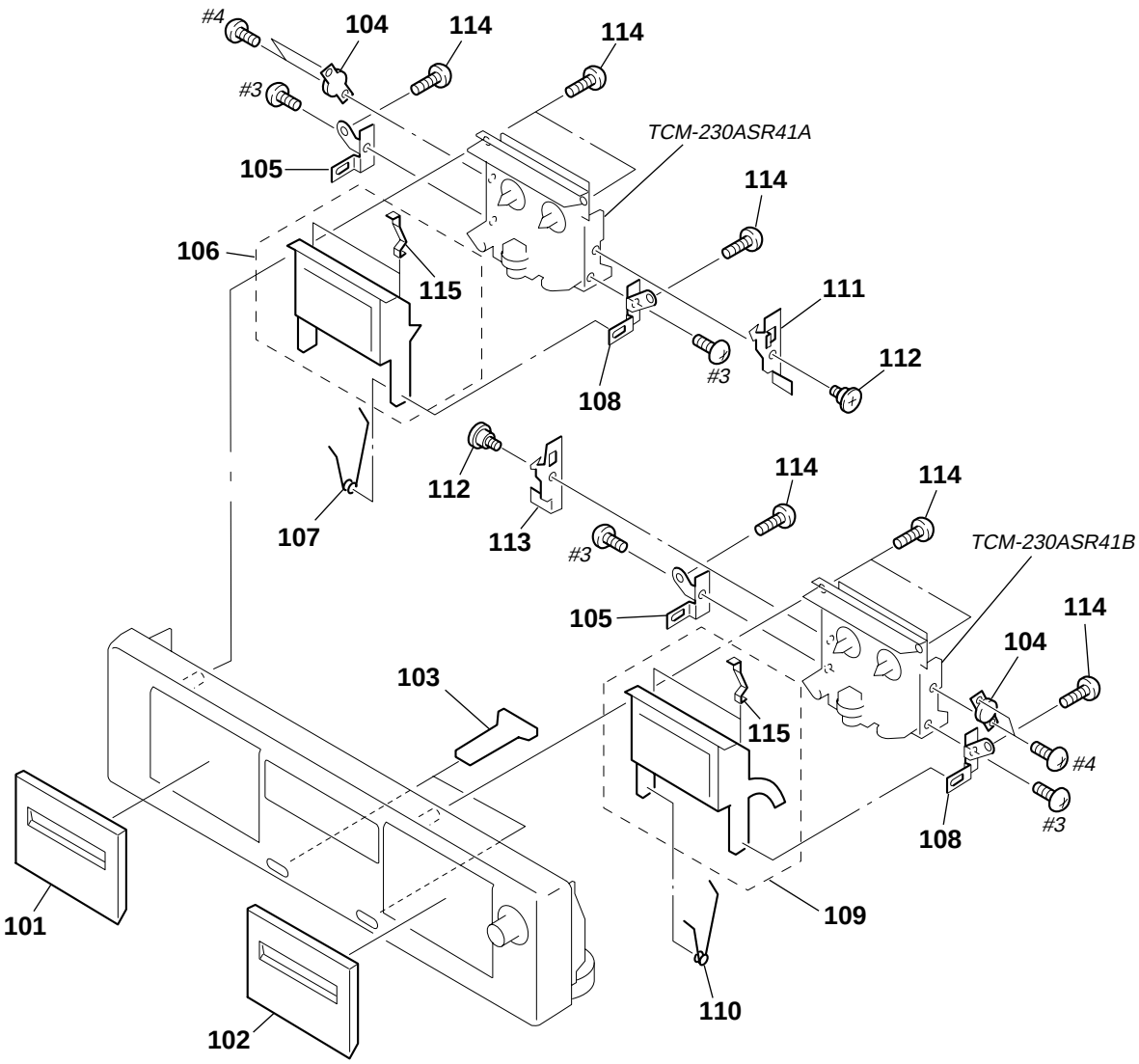


▲B and ▲E are including into the mounted PANEL board (Ref No. 160).
▲E TRANS (A) board (EXCEPT SP, MY)
▲B TRANS (B) board

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	MAINMOUNTED PC BOARD (US,CND,SP,AUS)	

Ref. No.	Part No.	Description	Remark
56	A-2007-862-A	MAINMOUNTED PC BOARD (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)	

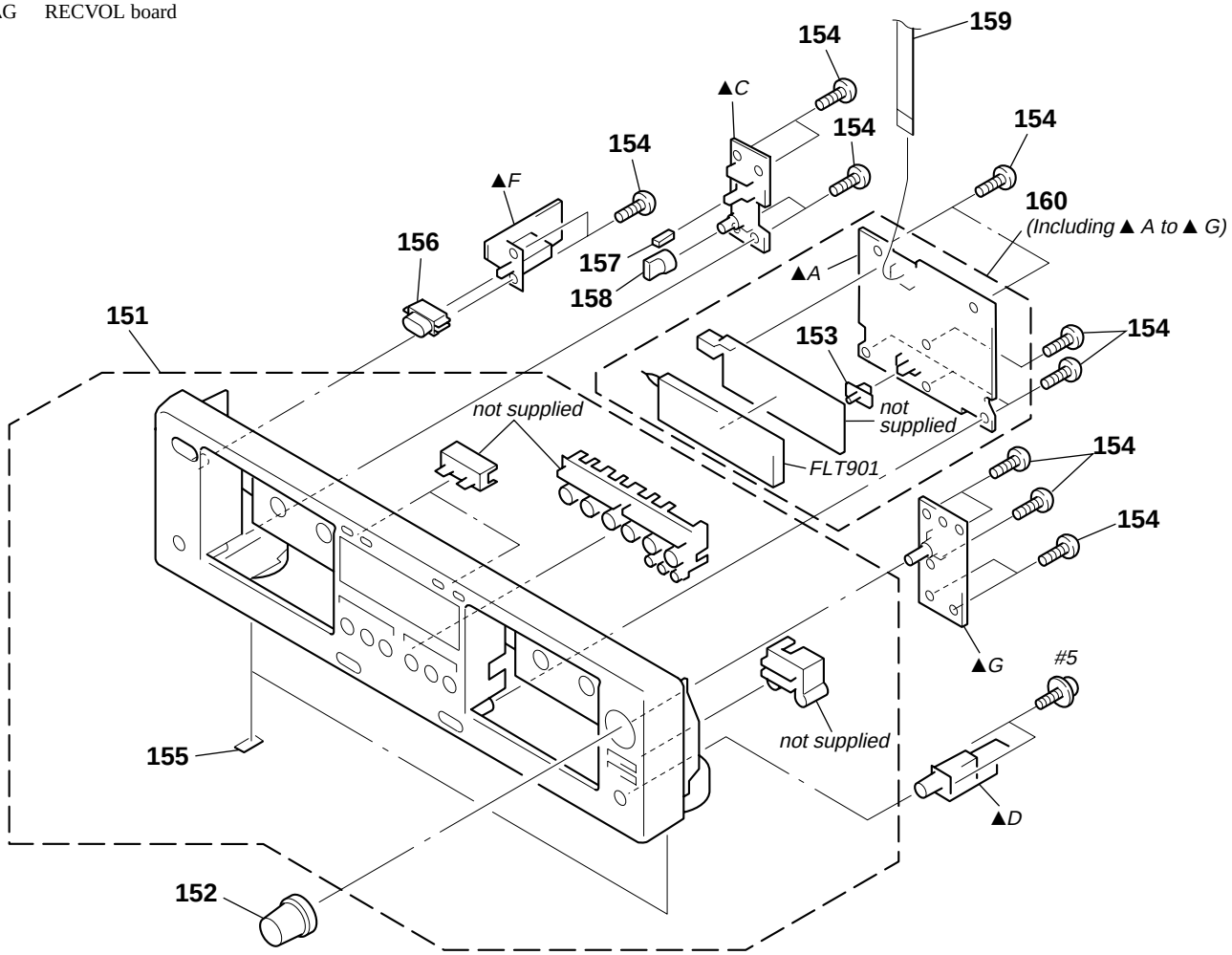
7-3. CASSETTE HOLDER SECTION



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

7-4. FRONT PANEL SECTION

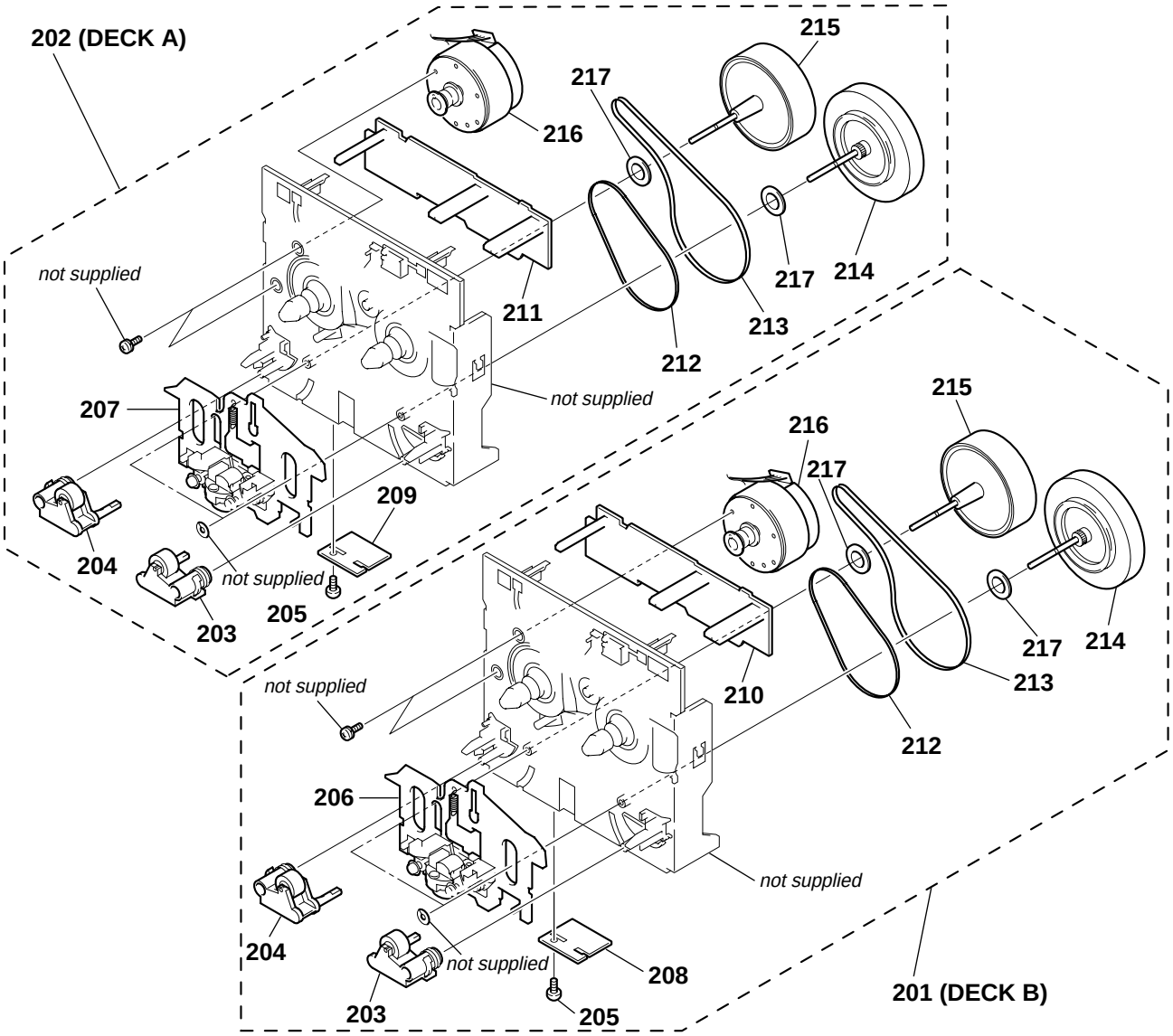
• ▲A to ▲G are including into the mounted PANEL board (Ref No. 160).
▲A PANEL board
▲C DIRECTION board
▲D H.P board
▲F POWER board
▲G RECVOL board



Ref. No.	Part No.	Description	Remark
151	X-4953-498-1	PANEL (US) ASSY, FRONT (US,CND)	
151	X-4953-499-1	PANEL (EU) ASSY, FRONT (AEP,UK,SP,AUS)	
151	X-4953-502-1	PANEL (EU) ASSY, FRONT (SILVER) (AEP)	
152	4-232-409-01	KNOB (DIA. 21) (US,CND,AEP,UK,SP,AUS)	
152	4-232-409-11	KNOB (DIA. 21)(SILVER) (AEP)	
153	4-232-410-01	KNOB (SLIDE) (US,CND,AEP,UK,SP,AUS)	
153	4-232-410-11	KNOB (SLIDE)(SILVER) (AEP)	
154	4-951-620-01	SCREW (2.6X8), +BVTP	
* 155	4-978-398-21	CUSHION	
156	4-231-973-01	BUTTON (POWER) (US,CND,AEP,UK,SP,AUS)	

Ref. No.	Part No.	Description	Remark
156	4-231-973-11	BUTTON (POWER)(SILVER) (AEP)	
157	4-232-412-01	BUTTON (DIA 3.5) (US,CND,AEP,UK,SP,AUS)	
157	4-232-412-11	BUTTON (DIA 3.5)(SILVER) (AEP)	
158	3-931-378-01	KNOB (F10) (US,CND,AEP,UK,SP,AUS)	
158	3-931-378-21	KNOB (F10)(SILVER) (AEP)	
159	1-769-950-11	WIRE (FLAT TYPE) (11 CORE)	
160	A-2007-861-A	PANEL MOUNTED PC BOARD (US,CND)	
160	A-2007-863-A	PANEL MOUNTED PC BOARD (AEP,UK)	
160	A-2007-864-A	PANEL MOUNTED PC BOARD (SP)	
160	A-2007-865-A	PANEL MOUNTED PC BOARD (SILVER) (AEP)	
160	A-2007-872-A	PANEL MOUNTED PC BOARD (AUS)	

7-5. TAPE MECHANISM SECTION
(DECK A: TCM-230ASR41A)
(DECK B: TCM-230ASR41B)



Ref. No.	Part No.	Description	Remark
201	A-2100-942-A	MECHANISM DECK (DECK B)	
202	A-2100-941-A	MECHANISM DECK (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 (+PTT2X4),GROUND POINT	
206	X-4953-986-1	BASE (B) ASSY, HEAD (DECK B)	
207	X-4953-985-1	BASE (B) ASSY, HEAD (DECK A)	
208	A-4476-817-A	HEAD (B) BOARD, COMPLETE(DECK B)	
209	A-4476-815-A	HEAD (A) BOARD, COMPLETE(DECK A)	
210	A-4476-816-A	LEAF SW BOARD, COMPLETED (DECK B)	

Ref. No.	Part No.	Description	Remark
211	A-4476-814-A	LEAF SW BOARD, COMPLETED (DECK A)	
212	3-041-947-01	BELT (FR)	
213	3-041-946-01	BELT (CAPSTAN B)	
214	X-4952-851-1	FLYWHEEL (B-FWD) ASSY	
215	X-4952-852-1	FLYWHEEL (B-REV) ASSY	
216	A-2004-854-A	MOTOR ASSY, CAPSTAN	
217	3-359-464-01	WASHER (CAPSTAN)	

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 ⚠ 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 piéce portant le numéro spécifié.

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

Ref. No.	Part No.	Description	Remark
	1-676-220-11	HEAD RELAY (PB) BOARD	
		**********	
		< CONNECTOR >	
* CN1002	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
**********			
	1-676-221-11	HEAD RELAY (REC/PB) BOARD	
		**********	
CN1003	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P	
**********			
	A-4476-814-A	LEAF SW (PB) BOARD, COMPLETE	
		**********	
		< CONNECTOR >	
CN1001	1-568-444-11	SOCKET, CONNECTOR 13P	
		< DIODE >	
D1001	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC1002	8-719-991-33	IC PHOTO INTERRUPTER SG-264	
		< RESISTOR >	
R1002	1-249-409-11	CARBON 220 5%	1/4W F
		< SWITCH >	
S1002	1-570-953-11	SWITCH, PUSH (1 KEY)(PLAY SW)	
S1006	1-771-333-11	SWITCH, LEAF (HALF)	
S1008	1-771-205-11	SWITCH, LEAF (120/70)	
**********			
	A-4476-816-A	LEAF SW (REC/PB) BOARD, COMPLETE	
		**********	
		< CONNECTOR >	
CN1001	1-568-444-11	SOCKET, CONNECTOR 13P	

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D1001	8-719-991-33	DIODE 1SS133T-77			
		< IC >			
IC1002	8-719-991-33	IC PHOTO INTERRUPTER SG-264			
		< RESISTOR >			
R1002	1-249-409-11	CARBON	220	5%	1/4W F
R1003	1-249-414-11	CARBON	560	5%	1/4W F
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W
R1005	1-247-818-91	CARBON	300	5%	1/4W
		< SWITCH >			
S1002	1-570-953-11	SWITCH, PUSH (1 KEY)(PLAY SW)			
S1005	1-771-205-11	SWITCH, LEAF (REC A SIDE)			
S1006	1-771-333-11	SWITCH, LEAF (HALF)			
S1007	1-771-205-11	SWITCH, LEAF (B METAL)			
S1008	1-771-205-11	SWITCH, LEAF (120/70)			
S1009	1-771-205-11	SWITCH, LEAF (REC B SIDE)			
**********					
	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

Ref. No.	Part No.	Description			Remark
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
⚠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
C204	1-126-963-11	ELECT	4.7uF	20.00%	50V
C205	1-162-302-11	CERAMIC	0.0022uF	20.00%	16V
C206	1-126-963-11	ELECT	4.7uF	20.00%	50V
C207	1-126-964-11	ELECT	10uF	20.00%	50V
C208	1-130-495-00	MYLAR	0.1uF	5%	50V
C209	1-137-375-11	MYLAR	0.068uF	5.00%	50V
C210	1-126-964-11	ELECT	10uF	20.00%	50V
C211	1-126-959-11	ELECT	0.47uF	20.00%	50V
C212	1-126-963-11	ELECT	4.7uF	20.00%	50V
C213	1-126-963-11	ELECT	4.7uF	20.00%	50V
C214	1-126-961-11	ELECT	2.2uF	20.00%	50V
C215	1-137-436-11	MYLAR	0.0039uF	5.00%	50V
C220	1-162-289-31	CERAMIC	390PF	10.00%	50V
C221	1-162-294-31	CERAMIC	0.001uF	10%	50V
C222	1-162-282-31	CERAMIC	100PF	10%	50V
C223	1-137-372-11	MYLAR	0.022uF	5.00%	50V
C224	1-126-963-11	ELECT	4.7uF	20.00%	50V
C225	1-162-289-31	CERAMIC	390PF	10.00%	50V
C226	1-162-282-31	CERAMIC	100PF	10%	50V
C227	1-137-372-11	MYLAR	0.022uF	5.00%	50V
C228	1-126-963-11	ELECT	4.7uF	20.00%	50V
C241	1-162-288-31	CERAMIC	330PF	10%	50V
⚠C242	1-107-609-11	CERAMIC	75PF	5.00%	500V
C243	1-130-472-00	MYLAR	0.0012uF	5%	50V
C244	1-102-973-00	CERAMIC	100PF	5%	50V
C245	1-136-356-11	FILM	470PF	5.00%	100V
C246	1-137-374-11	MYLAR	0.047uF	5.00%	50V
C247	1-161-494-00	CERAMIC	0.022uF		25V
C248	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C321	1-104-664-11	ELECT	47uF	20.00%	25V
C322	1-104-664-11	ELECT	47uF	20.00%	25V
C417	1-126-959-11	ELECT	0.47uF	20.00%	50V
C421	1-104-664-11	ELECT	47uF	20.00%	25V
C422	1-104-664-11	ELECT	47uF	20.00%	25V
C431	1-104-664-11	ELECT	47uF	20.00%	25V

Ref. No.	Part No.	Description			Remark
⚠C432	1-107-584-11	CERAMIC	4PF	0.25PF	500V
C433	1-126-965-11	ELECT	22uF	20.00%	50V
C434	1-126-959-11	ELECT	0.47uF	20.00%	50V
C441	1-136-293-11	FILM	0.0082uF	5.00%	100V
C443	1-130-299-00	MYLAR	0.012uF	5.00%	50V
C444	1-137-436-11	MYLAR	0.0039uF	5.00%	50V
C445	1-137-436-11	MYLAR	0.0039uF	5.00%	50V
C446	1-126-965-11	ELECT	22uF	20.00%	50V
C451	1-126-964-11	ELECT	10uF	20.00%	50V
C501	1-126-964-11	ELECT	10uF	20.00%	50V
C502	1-126-964-11	ELECT	10uF	20.00%	50V
C503	1-126-964-11	ELECT	10uF	20.00%	50V
C505	1-126-960-11	ELECT	1uF	20.00%	50V
C506	1-130-497-00	MYLAR	0.15uF	5%	50V
C507	1-136-173-00	MYLAR	0.47uF	5.00%	50V
C509	1-126-965-11	ELECT	22uF	20.00%	50V
C510	1-126-960-11	ELECT	1uF	20.00%	50V
C511	1-126-916-11	ELECT	1000uF	20.00%	6.3V
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
C703	1-126-960-11	ELECT	1uF	20.00%	50V
C704	1-126-969-11	ELECT	220uF	20.00%	50V
C705	1-126-963-11	ELECT	4.7uF	20.00%	50V
C706	1-126-926-11	ELECT	1000uF	20.00%	10V
C707	1-126-926-11	ELECT	1000uF	20.00%	10V
C708	1-126-963-11	ELECT	4.7uF	20.00%	50V
C710	1-126-935-11	ELECT	470uF	20.00%	6.3V
C711	1-126-947-11	ELECT	47uF	20.00%	35V
C801	1-104-665-11	ELECT	100uF	20.00%	10V
C802	1-161-494-00	CERAMIC	0.022uF		25V
C803	1-126-959-11	ELECT	0.47uF	20.00%	50V
C810	1-161-494-00	CERAMIC	0.022uF		25V
C811	1-164-159-11	CERAMIC	0.1uF		50V
C834	1-161-494-00	CERAMIC	0.022uF		25V

< CONNECTOR >

CN301	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN311	1-784-774-11	CONNECTOR, FFC 13P	
CN401	1-691-770-11	PLUG (MICRO CONNECTOR) 9P	
CN411	1-784-774-11	CONNECTOR, FFC 13P	
* CN803	1-568-934-11	PIN, CONNECTOR 7P	
* CN807	1-568-954-11	PIN, CONNECTOR 5P	
CNA806	1-506-468-11	PIN, CONNECTOR 3P	
CNM701	1-691-769-11	PLUG (MICRO CONNECTOR) 8P	
CNS802	1-568-830-11	CONNECTOR, FFC 11P	

< DIODE >

D306	8-719-911-19	DIODE	1SS133
D307	8-719-911-19	DIODE	1SS133
D318	8-719-911-19	DIODE	1SS133
D451	8-719-911-19	DIODE	1SS133
D601	8-719-911-19	DIODE	1SS133
D701	8-719-024-99	DIODE	11ES2-NTA2B

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 piéce portant le numéro spécifié.

MAIN

Ref. No.	Part No.	Description		Remark
D702	8-719-024-99	DIODE	11ES2-NTA2B	
D703	8-719-024-99	DIODE	11ES2-NTA2B	
D704	8-719-024-99	DIODE	11ES2-NTA2B	
D705	8-719-911-19	DIODE	1SS133	
D706	8-719-911-19	DIODE	1SS133	
D707	8-719-024-99	DIODE	11ES2-NTA2B	
D708	8-719-911-19	DIODE	1SS133	
D709	8-719-933-33	DIODE	HZS6A1L	
D710	8-719-933-35	DIODE	HZS6A3L	
D711	8-719-933-33	DIODE	HZS6A1L	
D712	8-719-933-35	DIODE	HZS6A3L	
D713	8-719-911-19	DIODE	1SS133	
D714	8-719-911-19	DIODE	1SS133	
D715	8-719-911-19	DIODE	1SS133	
D716	8-719-985-95	DIODE	HZS7A2LTA	
D801	8-719-911-19	DIODE	1SS133	
		< IC >		
IC321	8-759-710-59	IC	NJM4580D-D	
IC421	8-759-710-59	IC	NJM4580D-D	
IC431	8-759-106-56	IC	uPC1297CA	
IC501	8-752-075-27	IC	CXA1878Q	
IC502	8-759-694-61	IC	M5218AL	
IC561	8-759-694-61	IC	M5218AL	
IC701	8-759-634-51	IC	NJM4558D	
IC801	8-752-902-29	IC	CXP82220-052Q	
IC802	8-759-165-82	IC	PST600E-T	
IC806	8-759-000-48	IC	MC14052BCP	
		< JACK >		
J501	1-770-614-12	JACK, PIN 4P		
* J601	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5)		
* J602	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5)		
		< COIL >		
L141	1-410-780-11	INDUCTOR	27MH	
L241	1-410-780-11	INDUCTOR	27MH	
		< FILTER >		
LPF101	1-233-271-11	FILTER, LOW PASS		
LPF201	1-233-271-11	FILTER, LOW PASS		
		< TRANSISTOR >		
Q101	8-729-029-94	TRANSISTOR	DTC143TSA	
Q102	8-729-142-25	TRANSISTOR	2SD1020-HFE	
Q104	8-729-030-02	TRANSISTOR	DTC144ESA	
Q201	8-729-029-94	TRANSISTOR	DTC143TSA	
Q202	8-729-142-25	TRANSISTOR	2SD1020-HFE	
Q204	8-729-030-02	TRANSISTOR	DTC144ESA	
Q302	8-729-801-93	TRANSISTOR	2SD1387-3	
Q303	8-729-030-02	TRANSISTOR	DTC144ESA	
Q306	8-729-030-02	TRANSISTOR	DTC144ESA	
Q307	8-729-030-02	TRANSISTOR	DTC144ESA	
Q308	8-729-030-02	TRANSISTOR	DTC144ESA	
Q311	8-729-801-84	TRANSISTOR	2SB1013-4	
Q312	8-729-144-44	TRANSISTOR	2SD1513-K (AEP,AUS)	
Q312	8-729-801-93	TRANSISTOR	2SD1387-3 (AEP,AUS)	
Q314	8-729-030-02	TRANSISTOR	DTC144ESA	

Ref. No.	Part No.	Description		Remark
Q316	8-729-029-56	TRANSISTOR	DTA144ESA	
Q317	8-729-029-56	TRANSISTOR	DTA144ESA	
Q318	8-729-029-56	TRANSISTOR	DTA144ESA	
Q371	8-729-140-04	TRANSISTOR	2SB1116A-L	
Q373	8-729-030-02	TRANSISTOR	DTC144ESA	
Q402	8-729-801-93	TRANSISTOR	2SD1387-3	
Q403	8-729-029-66	TRANSISTOR	DTC114ESA	
Q411	8-729-801-84	TRANSISTOR	2SB1013-4	
Q412	8-729-801-93	TRANSISTOR	2SD1387-3 (AEP,AUS)	
Q414	8-729-029-66	TRANSISTOR	DTC114ESA	
Q417	8-729-029-56	TRANSISTOR	DTA144ESA	
Q441	8-729-119-76	TRANSISTOR	2SA1115TP-EF	
Q442	8-729-194-57	TRANSISTOR	2SC945-P	
Q443	8-729-194-57	TRANSISTOR	2SC945-P	
Q451	8-729-119-76	TRANSISTOR	2SA1115TP-EF	
Q471	8-729-140-04	TRANSISTOR	2SB1116A-L	
Q473	8-729-030-02	TRANSISTOR	DTC144ESA	
Q501	8-729-119-76	TRANSISTOR	2SA1115TP-EF	
Q506	8-729-029-94	TRANSISTOR	DTC143TSA	
Q601	8-729-620-05	TRANSISTOR	2SC2603-EF	
Q701	8-729-141-83	TRANSISTOR	2SB1375	
Q702	8-729-209-15	TRANSISTOR	2SD2012	
Q703	8-729-141-83	TRANSISTOR	2SB1375	
Q704	8-729-620-05	TRANSISTOR	2SC2603-EF	
Q707	8-729-119-76	TRANSISTOR	2SA1115TP-EF	
Q708	8-729-140-04	TRANSISTOR	2SB1116A-L	
Q801	8-729-029-66	TRANSISTOR	DTC114ESA	
		< RESISTOR >		
R101	1-249-429-11	CARBON	10K 5% 1/4W	
R102	1-247-887-00	CARBON	220K 5% 1/4W	
R103	1-249-441-11	CARBON	100K 5% 1/4W	
R104	1-249-420-11	CARBON	1.8K 5% 1/4W	F
R105	1-247-843-11	CARBON	3.3K 5% 1/4W	
R106	1-247-842-11	CARBON	3K 5% 1/4W	
R107	1-249-417-11	CARBON	1K 5% 1/4W	F
R108	1-249-427-11	CARBON	6.8K 5% 1/4W	F
R109	1-249-429-11	CARBON	10K 5% 1/4W	
R110	1-249-425-11	CARBON	4.7K 5% 1/4W	F
R111	1-247-881-00	CARBON	120K 5% 1/4W	
R112	1-247-807-31	CARBON	100 5% 1/4W	
R113	1-247-882-11	CARBON	130K 5% 1/4W	
R114	1-247-850-11	CARBON	6.2K 5% 1/4W	
R115	1-249-433-11	CARBON	22K 5% 1/4W	
R116	1-247-843-11	CARBON	3.3K 5% 1/4W	
R117	1-249-429-11	CARBON	10K 5% 1/4W	
R118	1-249-409-11	CARBON	220 5% 1/4W	F
R119	1-249-417-11	CARBON	1K 5% 1/4W	F
R120	1-249-439-11	CARBON	68K 5% 1/4W	
R121	1-247-881-00	CARBON	120K 5% 1/4W	
R122	1-247-807-31	CARBON	100 5% 1/4W	
R123	1-247-882-11	CARBON	130K 5% 1/4W	
R124	1-247-850-11	CARBON	6.2K 5% 1/4W	
R126	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R127	1-249-430-11	CARBON	12K 5% 1/4W	
R128	1-249-417-11	CARBON	1K 5% 1/4W	F
R129	1-249-421-11	CARBON	2.2K 5% 1/4W	F

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Ref. No.	Part No.	Description			Remark
R130	1-249-434-11	CARBON	27K	5%	1/4W
R141	1-249-430-11	CARBON	12K	5%	1/4W
R142	1-247-883-00	CARBON	150K	5%	1/4W
⚠R143	1-219-153-11	FUSIBLE	10	5%	1/4W
R144	1-249-435-11	CARBON	33K	5%	1/4W
R145	1-249-429-11	CARBON	15K	5%	1/4W
R151	1-249-437-11	CARBON	47K	5%	1/4W
R201	1-249-429-11	CARBON	10K	5%	1/4W
R202	1-247-887-00	CARBON	220K	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W
R204	1-249-420-11	CARBON	1.8K	5%	1/4W F
R205	1-247-843-11	CARBON	3.3K	5%	1/4W
R206	1-247-842-11	CARBON	3K	5%	1/4W
R207	1-249-417-11	CARBON	1K	5%	1/4W F
R208	1-249-427-11	CARBON	6.8K	5%	1/4W F
R209	1-249-429-11	CARBON	10K	5%	1/4W
R210	1-249-425-11	CARBON	4.7K	5%	1/4W F
R211	1-247-881-00	CARBON	120K	5%	1/4W
R212	1-247-807-31	CARBON	100	5%	1/4W
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
R216	1-247-843-11	CARBON	3.3K	5%	1/4W
R217	1-249-429-11	CARBON	10K	5%	1/4W
R218	1-249-409-11	CARBON	220	5%	1/4W F
R219	1-249-417-11	CARBON	1K	5%	1/4W F
R220	1-249-439-11	CARBON	68K	5%	1/4W
R221	1-247-881-00	CARBON	120K	5%	1/4W
R222	1-247-807-31	CARBON	100	5%	1/4W
R223	1-247-882-11	CARBON	130K	5%	1/4W
R224	1-247-850-11	CARBON	6.2K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W F
R227	1-249-430-11	CARBON	12K	5%	1/4W
R228	1-249-417-11	CARBON	1K	5%	1/4W F
R229	1-249-421-11	CARBON	2.2K	5%	1/4W F
R230	1-249-434-11	CARBON	27K	5%	1/4W
R241	1-249-430-11	CARBON	12K	5%	1/4W
R242	1-247-883-00	CARBON	150K	5%	1/4W
⚠R243	1-219-153-11	FUSIBLE	10	5%	1/4W
R244	1-249-435-11	CARBON	33K	5%	1/4W
R245	1-249-429-11	CARBON	15K	5%	1/4W
R251	1-249-437-11	CARBON	47K	5%	1/4W
R301	1-249-437-11	CARBON	47K	5%	1/4W
R302	1-249-414-11	CARBON	560	5%	1/4W F
R303	1-249-437-11	CARBON	47K	5%	1/4W
R304	1-249-419-11	CARBON	1.5K	5%	1/4W F
R306	1-249-433-11	CARBON	22K	5%	1/4W
R309	1-249-433-11	CARBON	22K	5%	1/4W
R311	1-249-437-11	CARBON	47K	5%	1/4W
R312	1-249-419-11	CARBON	1.5K	5%	1/4W F
R313	1-249-414-11	CARBON	1.5K	5%	1/4W F
R314	1-249-437-11	CARBON	47K	5%	1/4W
R316	1-249-434-11	CARBON	27K	5%	1/4W
R317	1-249-433-11	CARBON	22K	5%	1/4W
R318	1-249-426-11	CARBON	5.6K	5%	1/4W
R361	1-247-876-11	CARBON	75K	5%	1/4W
R362	1-249-425-11	CARBON	4.7K	5%	1/4W F

Ref. No.	Part No.	Description			Remark
R363	1-249-425-11	CARBON	4.7K	5%	1/4W F
R371	1-249-417-11	CARBON	1K	5%	1/4W F
R372	1-249-429-11	CARBON	10K	5%	1/4W
R401	1-249-437-11	CARBON	47K	5%	1/4W
R402	1-249-414-11	CARBON	560	5%	1/4W F
R403	1-249-437-11	CARBON	47K	5%	1/4W
R404	1-249-419-11	CARBON	1.5K	5%	1/4W F
R411	1-249-437-11	CARBON	47K	5%	1/4W
R412	1-249-419-11	CARBON	1.5K	5%	1/4W F
R413	1-249-414-11	CARBON	1.5K	5%	1/4W F
R414	1-249-437-11	CARBON	47K	5%	1/4W
R416	1-249-434-11	CARBON	27K	5%	1/4W
R417	1-249-433-11	CARBON	22K	5%	1/4W
R441	1-249-429-11	CARBON	10K	5%	1/4W
R442	1-249-429-11	CARBON	10K	5%	1/4W
R443	1-249-390-11	CARBON	5.6	5%	1/4W F
R444	1-249-390-11	CARBON	5.6	5%	1/4W F
R445	1-249-440-11	CARBON	82K	5%	1/4W
R446	1-249-440-11	CARBON	82K	5%	1/4W
R451	1-249-429-11	CARBON	10K	5%	1/4W
R452	1-249-425-11	CARBON	4.7K	5%	1/4W F
R461	1-247-876-11	CARBON	75K	5%	1/4W
R462	1-249-417-11	CARBON	1K	5%	1/4W F
R463	1-249-425-11	CARBON	4.7K	5%	1/4W F
R464	1-249-425-11	CARBON	4.7K	5%	1/4W F
R471	1-249-417-11	CARBON	1K	5%	1/4W F
R472	1-249-429-11	CARBON	10K	5%	1/4W
R501	1-215-455-00	METAL	27K	1%	1/4W
R502	1-215-452-00	METAL	20K	1%	1/4W
R503	1-249-417-11	CARBON	1K	5%	1/4W F
R504	1-249-422-11	CARBON	2.7K	5%	1/4W F
R505	1-247-903-00	CARBON	1M	5%	1/4W
R507	1-249-429-11	CARBON	10K	5%	1/4W
R508	1-249-413-11	CARBON	470	5%	1/4W F
R509	1-249-417-11	CARBON	1K	5%	1/4W F
R510	1-249-437-11	CARBON	47K	5%	1/4W
R511	1-249-429-11	CARBON	10K	5%	1/4W
R512	1-249-413-11	CARBON	470	5%	1/4W F
R513	1-249-437-11	CARBON	47K	5%	1/4W
R514	1-249-401-11	CARBON	47	5%	1/4W F
R561	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
R564	1-249-431-11	CARBON	15K	5%	1/4W
R565	1-249-429-11	CARBON	10K	5%	1/4W
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R603	1-249-425-11	CARBON	4.7K	5%	1/4W F
R604	1-249-429-11	CARBON	10K	5%	1/4W
R605	1-249-393-11	CARBON	10	5%	1/4W F
R701	1-249-414-11	CARBON	560	5%	1/4W F
R703	1-247-843-11	CARBON	3.3K	5%	1/4W
R704	1-249-425-11	CARBON	4.7K	5%	1/4W F
R705	1-249-427-11	CARBON	6.8K	5%	1/4W F
R706	1-249-419-11	CARBON	1.5K	5%	1/4W F
R707	1-247-854-11	CARBON	9.1K	5%	1/4W
R708	1-249-419-11	CARBON	1.5K	5%	1/4W F

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MAIN PANEL

Ref. No.	Part No.	Description			Remark
R709	1-249-425-11	CARBON	4.7K	5%	1/4W F
R710	1-249-417-11	CARBON	1K	5%	1/4W F
R711	1-249-427-11	CARBON	6.8K	5%	1/4W F
R712	1-249-427-11	CARBON	6.8K	5%	1/4W F
R713	1-249-417-11	CARBON	1K	5%	1/4W F
R714	1-249-429-11	CARBON	10K	5%	1/4W
R715	1-249-422-11	CARBON	2.7K	5%	1/4W F
R716	1-249-433-11	CARBON	22K	5%	1/4W
R717	1-249-421-11	CARBON	2.2K	5%	1/4W F
R718	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-249-430-11	CARBON	12K	5%	1/4W
⚠R720	1-219-136-11	FUSIBLE	0.22	10%	1/4W
⚠R722	1-219-137-11	FUSIBLE	0.33	10%	1/4W
⚠R723	1-219-137-11	FUSIBLE	0.33	10%	1/4W
R801	1-249-417-11	CARBON	1K	5%	1/4W F
R803	1-249-429-11	CARBON	10K	5%	1/4W
R804	1-249-429-11	CARBON	10K	5%	1/4W
R805	1-247-807-31	CARBON	100	5%	1/4W
R806	1-249-433-11	CARBON	22K	5%	1/4W
R807	1-249-441-11	CARBON	100K	5%	1/4W
R808	1-249-441-11	CARBON	100K	5%	1/4W
R809	1-249-417-11	CARBON	1K	5%	1/4W F
R810	1-247-807-31	CARBON	100	5%	1/4W
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	1-249-429-11	CARBON	10K	5%	1/4W
R867	1-247-864-11	CARBON	24K	5%	1/4W
R869	1-249-424-11	CARBON	3.9K	5%	1/4W F
		< 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 20K			
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			

Ref. No.	Part No.	Description			Remark
		< 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	
		< 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 F	
R902	1-249-413-11	CARBON	470	5% 1/4W F	
R904	1-247-807-31	CARBON	100	5% 1/4W	

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Ref. No.	Part No.	Description			Remark
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 F
R912	1-249-420-11	CARBON	1.8K	5%	1/4W F
R913	1-249-422-11	CARBON	2.7K	5%	1/4W F
R914	1-249-424-11	CARBON	3.9K	5%	1/4W F
R915	1-249-427-11	CARBON	6.8K	5%	1/4W F
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 F
R922	1-249-420-11	CARBON	1.8K	5%	1/4W F
R923	1-249-422-11	CARBON	2.7K	5%	1/4W F
R924	1-249-424-11	CARBON	3.9K	5%	1/4W F
R925	1-249-427-11	CARBON	6.8K	5%	1/4W F
R926	1-249-431-11	CARBON	15K	5%	1/4W
R931	1-249-418-11	CARBON	1.2K	5%	1/4W F
R932	1-249-420-11	CARBON	1.8K	5%	1/4W F
R933	1-249-422-11	CARBON	2.7K	5%	1/4W F
R934	1-249-418-11	CARBON	1.2K	5%	1/4W F
R935	1-249-420-11	CARBON	1.8K	5%	1/4W F
R936	1-249-422-11	CARBON	2.7K	5%	1/4W F
R937	1-249-424-11	CARBON	3.9K	5%	1/4W F
R951	1-249-418-11	CARBON	1.2K	5%	1/4W F
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	1-249-437-11	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)			

Ref. No.	Part No.	Description	Remark
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)	

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MISCELLANEOUS

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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 : A-2100-941-A and TCM-230ASR41B : A-2100-942-A)).

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ACCESSORIES & PACKING MATERIALS

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	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)

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HARDWARE LIST

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#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)

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 piéce portant le numéro spécifié.

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.

Ver.	Date	Description of Revision
1.0	2001.04	New